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Remarks:
The *Plans Preparation Manual* M 22-31 has been revised. This manual will be converted to an electronic only published manual.

To download the *Plans Preparation Manual* go to:
http://www.wsdot.wa.gov/publications/manuals/fulltext/M22-31/PlansPreparation.pdf

The following divisions of the manual have been revised significantly:

- Division 6 - Contract Provisions
- Division 7 - Miscellaneous Contract Considerations
- Appendix A5 -Addendum Preparation

What else is changed?
Beside the above mentioned revisions, minor revisions have been made to Divisions 3, 4, and 5. A synopsis of the changes made in each of the division is provided below:

Division 3 – Right of Way Plan Std. Symbols & Conventions:
Alphabetic listing of R/W standard symbology is now under section 300.06
Graphic listing of R/W standard symbology is now under section 300.07
Graphic listing of R/W elements corrected per full size print requirements
Minor revisions to standard symbols including adjustments to font family, element examples, removal and addition of elements as appropriate per R/W standards requirement.

Division 4 – Contract Plans:

- Instructions for limiting information to that necessary for the contractor to properly bid and construct the project.
- Directions to designers to look for opportunities to consolidate and reduce plan sheets where appropriate.
- Encouragement to designers to use tables with a roadway section in order to reduce the number of plan sheets. Updated references to Plan Examples.

Contract Plans Examples: Updated plan sheet examples and provided link to supporting data set on CAE website .

Division 5 – PS & E Std. Symbols & Conventions:
Alphabetic listing of PS&E standard symbology is now under section 500.05
Graphic listing of PS&E standard symbology is now under section 500.06

Minor revisions to standard symbols including adjustments to font family, element examples, removal and addition of elements as appropriate per PS & E standards requirement.

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Washington State
Department of Transportation

TECHNICAL MANUAL

Plans Preparation Manual

M 22-31.02

December 2009

Environmental and Engineering Programs
Design Office

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Foreword

This manual is intended to provide instruction and guidance for the preparation of Right of Way Plans, Contract Plans, Special Provisions, and Estimate packages for a highway construction project. It also provides the standards used in the preparation of these plans using Computer-Aided Drafting and Design (CADD).

Updating this manual is a continuing process and revisions will be issued as required.

Questions, comments, improvement, and ideas are welcome. Use the comment form on the following page to transmit those issues.

/s/ Pasco Bakotich III

Pasco Bakotich III, P.E.
State Design Engineer

Contents

Division 1 Right of Way Plans 1-1

100.01 Introduction 1-1
100.02 Vicinity Map (or Vicinity Map and Total Parcel Details) 1-1
100.03 Plan Sheets 1-2
(1) Alignment 1-2
(2) Control Features 1-2
(3) Right of Way Details 1-2
(4) Access Control 1-4
(5) Access Approach Schedule 1-5
(6) Railroad Easement Details 1-5
(7) Drawing Standards 1-5
(8) Transmittal Requirements 1-7
(9) Headquarters Processing 1-8
100.04 Right of Way Acquisition Details 1-8
(1) Final Documentation 1-9
100.05 Access Report Plan 1-9
100.06 Access Hearing Plan 1-10
100.07 Special Right of Way Plans 1-11
(1) Court Exhibit Maps 1-11
(a) State Court 1-11
(b) Federal Court 1-12
(2) Right of Way Over Lands Controlled by the Bureau of Indian Affairs 1-12
(3) National Forest Land 1-12
(4) State Land Plats 1-12
(5) Washington State Ferries Facility Site Maps 1-13
(6) Hardship Acquisition Maps 1-13
100.08 Revisions to Approved Right of Way Plans 1-13
(1) Transmittal Requirements 1-14
(2) Headquarters Processing 1-15
100.09 Access Control Notes 1-15
(1) Instructions 1-15
(2) Access Approach Notes 1-15
(a) Type A Approach Note 1-15
(b) Type B Approach Note 1-16
(c) Type C Approach Note 1-16
(d) Type D Approach Note 1-16
(e) Type E Approach Note 1-16
(f) Type F Approach Note 1-16

(3) Supplementary Notes 1-16
(a) Offset Access Note – No. 1 1-16
(b) Joint Usage Note – No. 2 1-16
(c) Modified Access Control Note – No. 3 1-16
(d) Special Farm Equipment Note – No. 4 1-17
(e) Utilities Note – No. 5 1-17
(f) Grain Hauling Note – No. 6 1-17
(g) Tree Farm Note – No. 7 1-17
(h) Railway Access Note – No. 8 1-17
(i) Gate Restriction Note – No. 9 1-17
(j) Restricted Clearance Note – No. 10 1-17
(k) Pedestrian and Bicycle Trails Note – No. 11 1-17
(l) Trail Access Note – No. 12 1-17
(m) Utility Within Right of Way Maintained From Outside Right of Way Note – No. 21 1-18
(4) Miscellaneous Note 1-18
(a) Traffic Movement Note 1-18
100.10 Monumentation Map or Record of Survey 1-18
(1) References 1-18
(2) Region Responsibility 1-18
(3) English Units Only 1-18
(4) Alignment 1-18
(5) Control Features 1-19
(6) Monumentation Map or Record of Survey Details 1-19
(a) Map Requirements 1-19
(b) Equipment and Procedures Used 1-20
(c) Coordinates: Control Scheme Required 1-20
(d) Certificates Required 1-20
(e) Metric Equivalent 1-21
(f) Recording Coordinates 1-21
(g) Miscellaneous Items 1-21
(h) Drawing Standards 1-21
100.11 Submittal 1-21
100.12 Headquarters Processing 1-21

Division 2 Sundry Site Plans 2-1
200.01 General 2-1
200.02 Sundry Site Plans 2-1
(1) Site Selection 2-2
(2) Plan Submittal 2-2

Division 3 Right of Way Plans – Standard Symbols and Conventions 3-1
300.01 Introduction 3-1
(1) Purpose 3-1
(2) Drafting Standards 3-1
300.02 Standard Symbols and Conventions 3-2
300.03 Text Fonts and Sizes 3-2
300.04 Revision Process for Standard Symbols and Conventions 3-2
(1) Resource Updates 3-2
300.05 CAD Standard Process Conventions 3-4
(1) Property Lines and Ownership Dots 3-4
300.06 R/W Alphabetical Listing of Standard Symbols 3-5
300.07 R/W Standard Symbols 3-12

Division 4 Contract Plans 4-1
400.01 Introduction 4-1
(1) Contract Plans and Provisions 4-1
400.02 Project Manager's Responsibilities 4-2
(1) General 4-2
(2) Project Specifications 4-4
400.03 Headquarters Assistance/Review 4-5
400.04 Drafting Requirements 4-7
(1) General 4-7
(2) Plan Sheets 4-8
400.05 Plan Sheet Sizes and Layout Format 4-11
(1) Title Bar Information 4-11
400.06 Plan Sequence 4-13
(1) Assembling Plans 4-13
(a) Plan Sequence 4-13
(2) Plan Sheets 4-15
(3) Index 4-15
(4) Vicinity Map 4-16
(5) Summary of Quantities 4-18
(a) Groups 4-18
(b) Columns 4-19
(c) Quantities 4-19
(d) Standard Item Table 4-20
(e) Quantities 4-21
(f) Rounding of Quantities 4-22
(g) Unit Bid Prices 4-22
(6) Contract Reclamation Plans 4-22
(a) Contract Reclamation Plan Elements 4-23
(b) Contract Materials 4-23
(7) Roadway Sections 4-24
(a) Roadway Section Items 4-25
(b) Paving Depths 4-26

(8) Grading Sections 4-26
(9) Quantity Tabulation Plan Sheets 4-27
(a) Quantity Tabulation Plan Sheet Items 4-27
(b) Quantity Tabulation Plan Sheet Preparation 4-27
(c) Bid Items 4-28
(d) Plan Reference No. 4-28
(e) General Notes 4-29
(10) Alignment/Right of Way Plan 4-29
(a) Alignment/Right of Way Plan Series 4-30
(b) Right of Way Centerline 4-31
(c) Right of Way Stationing/Alignment 4-31
(d) Vicinity Map 4-32
(e) Construction Stationing 4-32
(f) Linear Equations 4-33
(11) Site Preparation 4-33
(12) Profiles 4-34
(a) Profile Sheets 4-34
(13) Structure Notes 4-35
(14) Drainage Plan 4-37
(15) Drainage Profiles 4-38
(a) Drainage Profile Information 4-39
(16) Utility Plan 4-39
(17) Interchange Contour Plan 4-41
(18) Paving/Pavement Marking Plan 4-41
(19) Wetlands, Mitigation Sites, and Detention/Retention Site Plans 4-42
(a) Wetlands 4-42
(b) Mitigation Sites 4-42
(c) Detention/Retention Sites 4-42
(20) Plan Detail Sheet 4-43
(21) Minor Structures 4-43
(22) Illumination Plan 4-43
(a) Illumination Plan Information 4-43
(b) Stationing and Offsets 4-44
(23) Traffic Signal Plan 4-44
(24) Intelligent Transportation System Plan 4-44
(25) Sign Specification Plan Sheet 4-44
(26) Signing Plan 4-45
(27) Signing Details 4-46
(28) Bridge Plan 4-46
(29) Traffic Control Plan 4-47
400.07 Plan Examples 4-48
(1) Example Plan Sheets 4-48
(2) Example Projects 4-48

Division 5 PS&E Plans – Standard Symbols and Conventions 5-1
500.01 Introduction 5-1
(1) Purpose 5-1
(2) Drafting Standards 5-1
500.02 Standard Symbols and Conventions 5-2
500.03 Text Fonts and Sizes 5-2
500.04 Revision Process for Standard Symbols and Conventions 5-2
(1) Resource Updates 5-2
500.05 PS&E Alphabetical Listing of Standard Symbols 5-4
500.06 PS&E Standard Symbols 5-41

Division 6 Contract Provisions 6-1
600.01 Introduction 6-1
(1) General 6-1
600.02 Amendments 6-3
(1) General 6-3
600.03 Special Provisions 6-3
(1) General 6-3
(2) GSPs 6-3
(3) RGSPs 6-4
(4) Project-Specific Provisions 6-4
600.04 Format 6-5
(1) General 6-5
(2) Description 6-6
(3) Materials 6-6
(4) Construction Requirements 6-7
(5) Measurement 6-7
(6) Payment 6-8
(7) Text 6-8
(a) General Guidelines 6-8

Division 7 Miscellaneous Contract Considerations 7-1
700.01 Hot Mix Asphalt (HMA) 7-1
(1) Anti-Stripping Additive 7-1
(2) HMA for Approach 7-1
(3) HMA for Preleveling 7-1
(4) HMA Quality Assurance 7-1
(5) HMA Price Adjustment 7-3
(6) Asphalt for Fog Seal 7-3
(7) Soil Residual Herbicide 7-3
700.02 Earthwork 7-3
(1) Aeration 7-3
(2) Borrow Material 7-3
(3) Clearing and Grubbing 7-4
(4) Earthwork for Guardrail Terminals 7-5
(5) Embankment In Place 7-5

(6) Earthwork Measurement 7-5
(7) Truck Measurement of Earthwork Quantities 7-5
(8) Geotechnical Project Documentation 7-6
700.03 Equal Employment Opportunity and Training 7-6
(1) DBE or M/WBE Goals 7-6
(2) Training Goals 7-7
700.04 Materials Sources 7-7
(1) Aggregate Stockpiles 7-7
(2) Amortization of Materials and Stockpile Sites 7-7
(3) Materials Sources and Waste Sites 7-8
700.05 Other Contract Considerations 7-8
(1) Fuel Cost Adjustments 7-8
(2) Steel Price Adjustment 7-8
(3) Buy America 7-8
(4) Other Price Adjustments 7-8
(5) Addenda 7-9
(6) Agreements 7-9
(7) Alternate/Cumulative Bids 7-10
(a) Alternate Bids 7-10
(b) Cumulative Alternative Bids 7-10
(8) Asbestos Removal 7-11
(9) Assign the Risk 7-11
(10) Combining Bid Items 7-11
(a) Example of a Good Combination 7-12
(b) Example of a Bad Combination 7-13
(c) Incorporating Combined Items 7-13
(11) Legal Relations and Responsibilities to the Public 7-13
(a) Decommissioning of Wells Procedure 7-14
(12) Equipment Acquisition Through Construction Contracts 7-14
(13) Force Account Work 7-14
(14) Haul Road and Detour Agreements 7-14
(15) Liquidated Damages 7-15
(a) HQ Construction Office Approval Required 7-15
(16) Lump Sum Bid Items 7-16
(17) Items a Designer “Might” Need 7-16
(18) Paths and Trails 7-16
(19) Permits 7-17
(20) Competitive Bidding, Proprietary Items, and Use of the Qualified Products List (QPL) 7-18
(a) Competitive Bidding 7-18
(b) Specifying Proprietary Items 7-18
(c) Using Proprietary Items in Contracts 7-19
(d) Using the Qualified Products List 7-20
(e) Removal of Pavement, Sidewalks, or Curbs 7-21

(21) Retaining Walls 7-21
(22) Roadside Considerations 7-22
(23) Royalties on Materials Sites 7-23
(24) Shoring or Extra Excavation 7-23
(25) Specialing Out Right of Way Parcels 7-23
(26) Standard Items 7-24
(27) Standard Plans 7-24
(28) State Force Work or State Furnished Materials 7-24
(a) RCW 47.28.030 7-24
(b) RCW 47.28.035 7-25
(c) Justifications 7-26
(d) Blanket Approval Items 7-26
(e) Exceptions 7-26
(f) Questions Asked by WSDOT and Answered by the Attorney General's Office (AGO) 7-27
(29) Strip Maps 7-28
(30) Temporary Erosion and Sediment Control Plans 7-29
(31) Truck Weighing Stations 7-30
(32) Vehicle Weight Limitations Within Project Boundaries 7-30
(33) Warranties and Guarantees 7-30
(34) Washington State Laws 7-31
(35) Washington State Patrol (WSP) Traffic Control Assistance 7-32
(36) Working Days 7-32

Division 8 Contract Estimate 8-1
800.01 Introduction 8-1
(1) Bid-Based Estimating 8-1
(2) Cost-Based Estimating 8-1
800.02 Estimate Content 8-1
800.03 Estimate Preparation 8-2
(1) Mobilization 8-2
(2) Engineering and Contingencies 8-3

Appendix 1 Structure Notes, Quantity Tabulation Sheets, and Sign Specification Sheets A1-1
(1) Electronic Spreadsheets A1-1
(2) Online Help A1-1

Appendix 2 User's Guide A2-1

Appendix 3 Transmittal Memorandums A3-1
(1) Contacting Project Support Offices A3-1
(2) PS&E Review Period A3-1

Appendix 4 Acronyms and Abbreviations A4-1

Appendix 5 Addendum Preparation A5-1
(1) General A5-1
(2) Notes to the Designer A5-1
(3) Guidelines for Preparing Addendum Plan Sheets A5-2
(a) Deletions A5-2
(b) Added/Replacement Sheets A5-2
(c) Revisions/Additions A5-2
(d) Addendum Cloud (for Plan/Profile/Section/Detail Sheets Only) A5-2
(e) Shading A5-3
(4) Examples A5-3
(a) Example 1 A5-3
(b) Example 2 A5-3
(c) Plans Sheets A5-3

Appendix 6 Determination of Contract Time A6-1
(1) Background A6-1
(2) Elements in Determining Contract Time A6-1
(3) Establishing Production Rates A6-2
(4) Factors That Influence Contract Time A6-2
(5) Adapting Production Rates to a Particular Project A6-3
(6) Computation of Contract Time: Developing a Progress Schedule A6-3
(7) Critical Path Method A6-4
(8) Other Factors That Influence Contract Time A6-5
(9) Production Rate Table A6-6

300.01 Introduction
300.02 Standards Symbols and Conventions
300.03 Text Fonts and Sizes
300.04 Revision Process for Standard Symbols and Conventions
300.05 CAD Standard Process Conventions
300.06 R/W Alphabetical Listing of Standard Symbols
300.07 R/W Standard Symbols

300.01 Introduction

(1) Purpose

Right of Way (R/W) Plans are used to describe the land boundaries for which the Washington State Department of Transportation (WSDOT) is responsible. This division describes Standard Symbols and Conventions for the production of R/W Plan sheets described in Division 1.

(a) The Standard Symbols and Conventions in this division are listed by two methods:

1. The *Alphabetical Listing of Symbols* contains an alphabetical index by symbol, indicating the category and group each symbol is associated with.
2. The *R/W Standard Symbols and Conventions* listing is organized by category and group and is comprised of three columns of symbology information.
   - The **left** column is the symbology name and level.
   - The **middle** column indicates the standard symbology attributes: line weight, line style, color, and whether it is a cell, line, or text element. If the symbology includes text, the font and text size are listed also.
   - The **right** column is a graphic representation of each symbol, with correct attributes available in the WSDOT Expanded Level environment.

(b) Unless otherwise noted:

- All measurements are in U.S. Survey Feet.
- The symbols and their measurements are shown at the correct size for plans plotted on 22-inch × 34-inch sheets.

(2) Drafting Standards

R/W Plans are created using the following established drafting standards. The Symbols and Conventions listed in this division are intended to comprise all of the standard symbols necessary for the preparation of R/W Plans for WSDOT. These standards apply to manually drafted plans as well as those prepared on Computer-Aided Drafting (CAD) equipment. Adherence to these standards is essential to ensure the uniformity of R/W Plans produced throughout the state.

There will be cases when custom symbols will need to be used, but every effort should be made to use the symbols listed herein in order to maintain the consistency of R/W Plans developed for state projects. If you think custom symbols are needed, confirm that need and their use with your WSDOT CAD Coordinator or Region Plans Office.

Any CAD or R/W Plan development questions, including the use of the WAESTATE.CEL and WAEDETAILS.CEL libraries, should first be forwarded to your Region CAD Coordinator and/or Headquarters (HQ) CAE Section.

300.02 Standard Symbols and Conventions

The various geometric and design features commonly used in drafting R/W Plans have been assigned to the different CAD levels. These levels are arranged by category (or "parent" code), then by subcategory (or "child" code), then by Item. Included are the CAD symbology names, with associated applicable cell name, CAD level, color, line style, and line weight. These symbols and conventions are available to the CAD operator for review or download at the WSDOT CAE Support web page, under "Resources" (www.wsdot.wa.gov/Design/CAE).

These R/W CAD standards must be followed in the production of R/W Plan sheets, whether by internal WSDOT personnel or by external WSDOT consultants.

300.03 Text Fonts and Sizes

The text fonts and sizes assigned to WSDOT CAD elements are set for readability, clarity, and consistency. The text font sizes and styles called out in the *R/W Standard Symbols and Conventions* listing maintain readability through the final Ad and Award printing process and after numerous copies. The text sizes indicated in this manual represent standards that will produce readable plans and should be considered the minimum accepted sizes. If a plan sheet becomes too crowded to place text at the minimum text size, a smaller text may be used at the discretion of your WSDOT Plan Review representative.

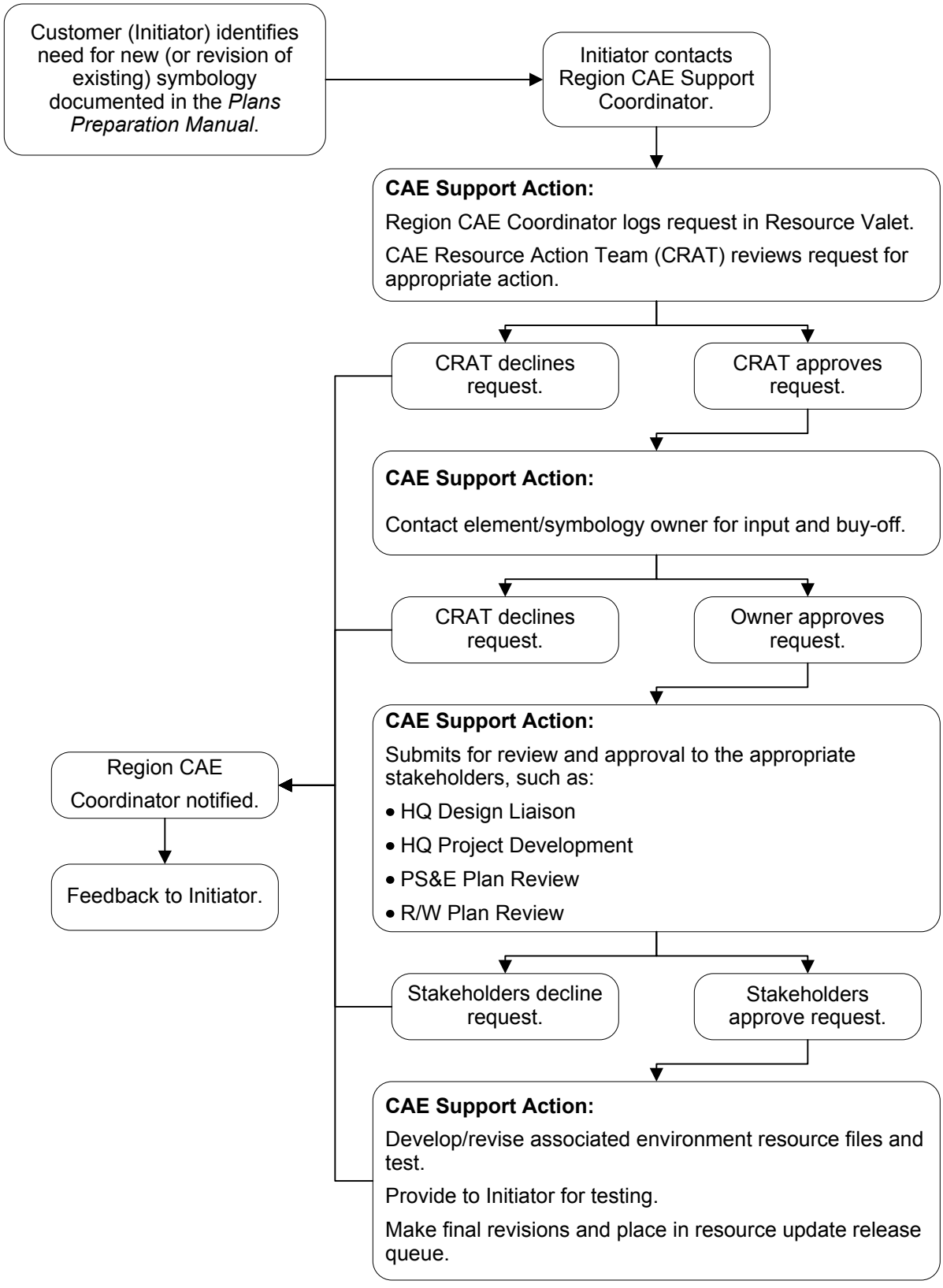
300.04 Revision Process for Standard Symbols and Conventions

There is a R/W CAD standard revision process that provides the opportunity for department-wide participation in the development, review, and implementation of new symbology and standards to be used in R/W Plan preparation.

Although this division specifically references R/W CAD, this procedure may be used to share other ideas relating to all types of CAD plan preparation (see Figure 300-1, CAD Standard Revision Process).

(1) Resource Updates

The Standard Symbols and Conventions shown are current at the time of the final printing of each manual revision. The HQ CAE Section may update the resources to correct, expand, or improve the standards and procedures of R/W Plans between *Plans Preparation Manual* updates. For more information, visit the WSDOT CAE web page (www.wsdot.wa.gov/Design/CAE) and contact HQ CAE Support.



CAD Standard Revision Process
Figure 300-1

300.05 CAD Standard Process Conventions

Some CAD symbology requires additional steps to accommodate *Plans Preparation Manual* standards. This may be due to the need for user input to place the symbology correctly or that there are multiple states of the same symbology that require modification.

This section provides additional steps to specific symbology in specific situations. For more information, contact your Region CAD Coordinator.

(1) Property Lines and Ownership Dots

When drawing property lines and ownership dots to show ownership on a R/W Plan, draw as follows:

- Draw the initial property line.
- Offset parallel that line 2.5 feet on a 1″=50′ scale or 25 feet on a 1″=500′ scale (Vicinity Map) in the direction of the ownership.
- Then, change the level and line code of the offset line to: RW_PA_OwnershipDots.

300.06 R/W Alphabetical Listing of Standard Symbols

The alphabetical listing below provides a complete list of standard Right of Way (R/W) symbology by element type. The name of the element type is prepended with a Category code and Group (or sub-category) code to help organize symbology. For example, a Culvert is in the Structores (ST) group ofthe Drainage (DR) category. Therefore the complete name as found in the WSDOT CAD naming scheme is DR_ ST _Culvert.

CATEGORY	GROUP	ELEMENT TYPE
SH	PR	Access Approach Sched Bottom
SH	PR	Access Approach Schedule Top
SH	PR	Access Notes Body Text
SH	PR	Access Notes Heading Text
SH	PR	Air Lease Schedule
SH	PR	Basis of Bearing
RW	SC	Bearings Text
SH	GI	Begin End Plan Arrow
SH	PR	Begin End Plan Text
RD	ED	Bike Path Edge
ST	BG	Bridge
ST	BG	Bridge New
ST	BG	Bridge Text
TP	MM	Building 2D
TP	MM	Canal
RW	SC	Center of Section
RW	SC	Center of Sections Text
RW	PA	City Names Text
RW	BD	City RW Bndry
RW	BD	City RW Bndry Sta Off Text
RW	PA	CLine Access Road
AL	RW	CLine Bike Path
AL	RW	CLine County Road
AL	RW	CLine Ped Path
AL	RW	CLine Private Road
AL	RW	CLine RW Cntrl
AL	RW	CLine RW Cntrl Bearings Text
AL	RW	CLine RW Cntrl Curve Pt Circle
AL	RW	CLine RW Cntrl Grade Int Text
AL	RW	CLine RW Cntrl Line Des Text
AL	RW	CLine RW Cntrl Major Sta Text
AL	RW	CLine RW Cntrl PCPIPT Text
AL	RW	CLine RW Cntrl PI to PI Line

The alphabetical listing below provides a complete list of standard Right of Way (R/W) symbology by element type. The name of the element type is prepended with a Category code and Group (or sub-category) code to help organize symbology. For example, a Culvert is in the Structores (ST) group ofthe Drainage (DR) category. Therefore the complete name as found in the WSDOT CAD naming scheme is DR_ ST _Culvert.

CATEGORY	GROUP	ELEMENT TYPE
AL	RW	CLine RW Cntrl SR No Text
AL	RW	CLine RW Cntrl Sta Equa Text
AL	RW	CLine RW Cntrl Station Text
AL	RW	CLine RW Cntrl Tics
AL	RW	CLine RW Non Cntrl Ex Name Text
AL	RW	CLine RW Non Cntrl Pr Name Text
AL	RW	CLine RW NonCntrl Ex
AL	RW	CLine RW NonCntrl Pr
AL	RW	CLine Trail
RW	SC	Closing Corner Found
RW	SC	Closing Corner Not Found
RW	GB	Corp Limit Line
RW	GB	County Line
RW	BD	County RW Bndry
RW	BD	County RW Bndry Sta Off Text
SH	PR	Cross Ref Note RW Plan Text
DR	ST	Culvert
TP	MM	Dam
RW	SC	Descriptions Text
SH	GI	Destination Arrows Text
TP	MM	Dike
TP	MM	Distance Tie
TP	MM	Distance Tie Text
RW	SC	Donation Land Claim
RW	SC	Donation Land Claims Text
DR	ST	Drainage Structures Text
DR	ST	Drainfield
RD	ED	Driveway Gravel Edge
RD	ED	Driveway Paved Edge
RW	PA	ER ParcelNumber
RW	ES	Esmnt Line
RW	ES	Esmnt Line New
RW	ES	Esmnt Line RR

The alphabetical listing below provides a complete list of standard Right of Way (R/W) symbology by element type. The name of the element type is prepended with a Category code and Group (or sub-category) code to help organize symbology. For example, a Culvert is in the Structores (ST) group ofthe Drainage (DR) category. Therefore the complete name as found in the WSDOT CAD naming scheme is DR_ ST _Culvert.

CATEGORY	GROUP	ELEMENT TYPE
RW	ES	Esmnt Permit Line Sta Off Text
RW	ES	Esmnt Permits Text
RW	ES	Esmnt Permits Text New
SH	PR	Exhibit A Note
RD	BR	Fence RW Plan
RW	GB	Forest Bndry
RW	GB	Govt Bndry Text
RW	SC	Govt Lot ID Text
TP	NT	High Water Line
RW	BD	Highway RW Bndry
RW	BD	Highway RW Bndry Coincident
RW	BD	Highway RW Bndry New
RW	BD	Highway RW Bndry SO Text New
RW	BD	Highway RW Bndry Sta Off Text
RW	PA	Interchange Names Text
RW	BD	LAccess Coincident RW Lt
RW	BD	LAccess Coincident RW Rt
SH	PR	Laccess Designation Note
SH	PR	Laccess Establish Note
RW	BD	LAccess Floating Lt New
RW	BD	LAccess Floating Rt New
RW	BD	LAccess Proposed RW Lt
RW	BD	LAccess Proposed RW Rt
SH	PR	Laccess Tentative Note
TP	NT	Lake Edge
TP	NT	Large Body of Water Edge
SH	PR	Legend Block
SH	PR	Legend Block With LAccess
RW	PA	Lot Line
RW	PA	Lot Numbering
TP	MM	Manmade Topography Text
SH	GI	Match Line
SH	GI	Match Line Text

The alphabetical listing below provides a complete list of standard Right of Way (R/W) symbology by element type. The name of the element type is prepended with a Category code and Group (or sub-category) code to help organize symbology. For example, a Culvert is in the Structores (ST) group ofthe Drainage (DR) category. Therefore the complete name as found in the WSDOT CAD naming scheme is DR_ ST _Culvert.

CATEGORY	GROUP	ELEMENT TYPE
RW	SC	Meander Corner Found
RW	SC	Meander Corner Not Found
RW	SC	Meander Line
RW	SC	Meander Line Text
RW	BD	Metes And Bounds RW Text
RW	BD	Metes And Bounds Sundry Text
PM	MN	Monument New
PM	MN	Monument Text New
RW	PA	NCR Parcel Number
SH	GI	North Arrow
RW	PA	NWR Parcel Number
RW	PA	OR Parcel Number
TP	MM	Orchard Or Vineyard
SH	PR	Ownership Block Bottom
SH	PR	OwnerShip Block Top
RW	PA	Ownership Dots
RW	PA	Ownership Tie
RW	PA	Parcel No Text
RW	GB	Park Bndry
RD	ED	Ped Path Edge
RW	ES	Permit Line
RW	ES	Permit Line New
TP	NT	Pond Edge
PM	MN	Primary Control Point
RW	PA	Property Line
RW	SC	Quarter Corner Found EW
RW	SC	Quarter Corner Found NS
RW	SC	Quarter Corner Not Found EW
RW	SC	Quarter Corner Not Found NS
RW	SC	Quarter Section Line
RW	SC	Range Line
RW	SC	Range Lines Text
RW	GB	Reservation Bndry

The alphabetical listing below provides a complete list of standard Right of Way (R/W) symbology by element type. The name of the element type is prepended with a Category code and Group (or sub-category) code to help organize symbology. For example, a Culvert is in the Structores (ST) group ofthe Drainage (DR) category. Therefore the complete name as found in the WSDOT CAD naming scheme is DR_ ST _Culvert.

CATEGORY	GROUP	ELEMENT TYPE
TP	MM	Reservoir
SH	PR	Revision Block
SH	GI	Revision Strike Through Line
SH	PR	Right of Way Sheet
TP	NT	River Edge
SH	PR	Road Approach Type A Note
SH	PR	Road Approach Type B Note
SH	PR	Road Approach Type C Note
SH	PR	Road Approach Type D Note
SH	PR	Road Approach Type E Note
RD	ED	Roadway ETW Gravel
RD	ED	Roadway ETW Paved
RD	MC	Roadway Names Text
TP	MM	RR Center Tracks
RW	BD	RR RW Bndry
RW	BD	RR RW Sta Off Text
ST	BG	RR Structure
TP	MM	RR Text
SH	PR	RW Curve Data Block
SH	PR	RW PLS Stamp
SH	PR	RW Total CurveData Block
SH	GI	Scale Bar 1 to 100
SH	GI	Scale Bar 1 to 1000
SH	GI	Scale Bar 1 to 20
SH	GI	Scale Bar 1 to 200
SH	GI	Scale Bar 1 to 2000
SH	GI	Scale Bar 1 to 50
SH	GI	Scale Bar 1 to 500
RW	PA	SCR Parcel Number
RW	SC	Section Corner Found
RW	SC	Section Corner Not Found
RW	SC	Section Corner Number Text
RW	SC	Section ID

The alphabetical listing below provides a complete list of standard Right of Way (R/W) symbology by element type. The name of the element type is prepended with a Category code and Group (or sub-category) code to help organize symbology. For example, a Culvert is in the Structores (ST) group ofthe Drainage (DR) category. Therefore the complete name as found in the WSDOT CAD naming scheme is DR_ ST _Culvert.

CATEGORY	GROUP	ELEMENT TYPE
RW	SC	Section Line
RD	ED	Shoulder Gravel Edge
RD	ED	Shoulder Paved Edge
RW	BD	Site RW Bndry
RW	BD	Site RW Bndry Coincident
RW	BD	Site RW Bndry New
RW	BD	Site RW Name Text
RW	BD	Site RW Sta Off Text
RW	SC	Sixteenth Section Line
RW	GB	State Bndry
SH	PR	State Plane Coord System
UT	CM	Steel Transmission Tower
EV	WL	Storm Water Trtmnt RW Plan
EV	WL	Storm Water Trtmnt RW Plan New
TP	NT	Stream NonScalable
TP	NT	Stream Scaleable Edge
ST	BG	Structure
RW	PA	Subdivision Bndry
RW	PA	Subdivisions Names Text
RW	ES	Subterranean Esmnt Line
RW	ES	Subterranean Esmnt Line New
SH	PR	Supplemental Access Note 1
SH	PR	Supplemental Access Note 2
SH	PR	Supplemental Access Note 21
SH	PR	Supplemental Access Note 3
SH	PR	Supplemental Access Note 4
SH	PR	Supplemental Access Note 5
SH	PR	Supplemental Access Note 9
RW	PA	SWR Parcel Number
RW	ES	Temp Constr Esmnt Line
RW	ES	Temp Constr Esmnt Line New
SH	PR	Title Block
SH	PR	Title Block Exhibit Map

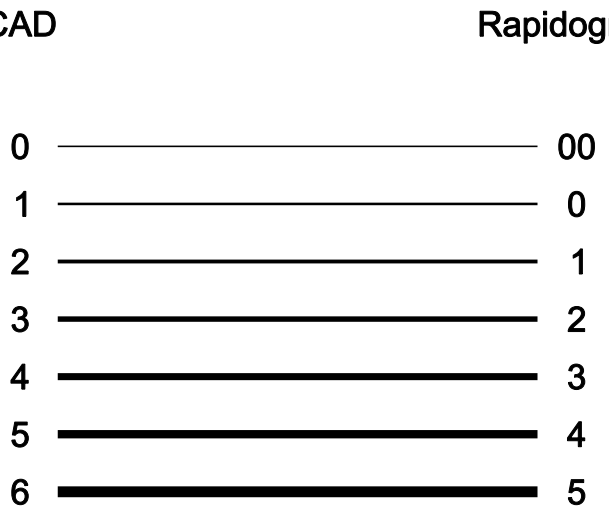
The alphabetical listing below provides a complete list of standard Right of Way (R/W) symbology by element type. The name of the element type is prepended with a Category code and Group (or sub-category) code to help organize symbology. For example, a Culvert is in the Structores (ST) group ofthe Drainage (DR) category. Therefore the complete name as found in the WSDOT CAD naming scheme is DR_ ST _Culvert.

CATEGORY	GROUP	ELEMENT TYPE
SH	PR	Title Block Sundry Site
SH	PR	Title Block Vicinity Map
RW	SC	Township Line
RW	SC	Township Range Line Text
SH	GI	Township Range Top Sheet Text
SH	GI	Traffic Mvmnt Arrow Lt 1 Lane
SH	GI	Traffic Mvmnt Arrow Rt 1 Lane
ST	BG	Tunnel
ST	BG	Tunnel Text
RW	BD	Turnback Line
RW	BD	Turnback Relinquish Text
RW	BD	Utility RW Bndry
RW	BD	Utility RW Bndry Coincident
RW	BD	Utility RW Bndry New
RW	BD	Utility RW Sta Off Text
SH	PR	Verification Notes
SH	PR	Vicinity Map Body Text
SH	PR	Vicinity Map Heading Text
TP	NT	Water Pond Lake Res Text
TP	NT	Water Tidal Shore Lg Body Text
TP	MM	Well
EV	WL	Wetland Mitigation RWP
EV	WL	Wetland Mitigation RWP New
EV	WL	Wetlands RW Text
UT	CM	Wooden Transmission Tower
RW	PA	WSDOT Parcel Number

300.07 R/W Standard Symbols

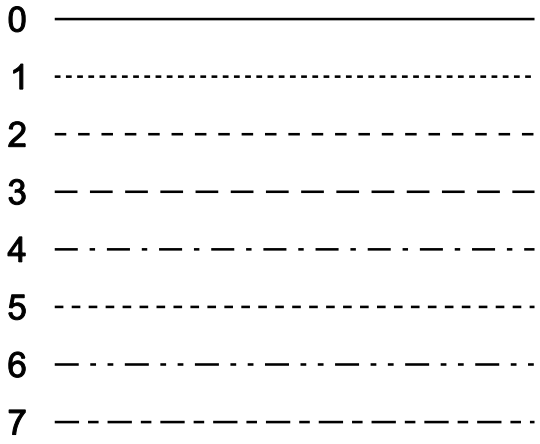
All items are shown at the size they will appear on an 22″×36″ R/W plot. All leader lines and line terminators will be placed on the same level as descriptive text unless otherwise noted.

WSDOT Standard Line Weights



WSDOT Base Line Styles

The following line styles/codes are used for linear elements unless a WSDOT custom linestyle is called out.



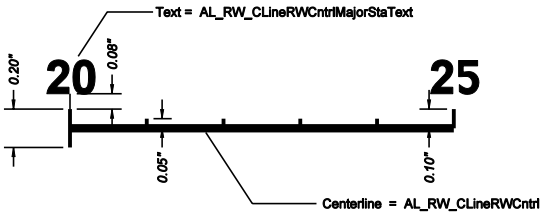
AL RW Alignment - Right of Way

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
CLine Bike Path (AL RW CLineBikePath)	2 | 3 114 | Line	
CLine County Road (AL RW CLineCountyRoad)	1 | Custom 18 | Line	
CLine Ped Path (AL RW CLinePedPath)	2 | 3 114 | Line	
CLine Private Road (AL RW CLinePrivateRoad)	2 | 3 114 | Line	
CLine RW Cntrl (AL RW CLineRWCntrl)	5 | 0 2 | Line	
CLine RW Cntrl Bearings Text (AL RW CLineRWCntrlBearingsText)	0 | 0 2 | Text	Text Size = 0.12 Font = 217 **N 2°35'59" E S 88°55'25" W**
CLine RW Cntrl Curve Pt Circle (AL RW CLineRWCntrlCurvePtCircle)	0 | 0 2 | Cell	○

AL RW Alignment - Right of Way

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
CLine RW Cntrl Grade Int Text (AL RW CLineRWCntrlGradeIntText)	0 | 0 2 | Text	Text Size = 0.12 Font = 200	GRADE INTERSECTION
CLine RW Cntrl Line Des Text (AL RW CLineRWCntrlLineDesText)	0 | 0 2 | Text	Text Size = 0.16 Font = 217	**L LINE**
CLine RW Cntrl Major Sta Text (AL RW CLineRWCntrlMajorStaText)	0 | 0 2 | Text	Text Size = 0.18 Font = 217	**10**
CLine RW Cntrl PCPIPT Text (AL RW CLineRWCntrlPCPIPTText)	0 | 0 34 | Text	Text Size = 0.12 Font = 200	B 10+68.42 P.C.
CLine RW Cntrl PI to PI Line (AL RW CLineRWCntrlPItoPILine)	0 | 2 2 | Line		- - - - - - - - - - - - - - - - -
CLine RW Cntrl SR No Text (AL RW CLineRWCntrlSRNoText)	0 | 0 2 | Text	Text Size = 0.18 Font = 217	**SR 104**
CLine RW Cntrl Sta Equa Text (AL RW CLineRWCntrlStaEquaText)	0 | 0 2 | Text	Text Size = 0.12 Font = 200	B 10+68.42 P.O.T. BK. =

AL RW Alignment - Right of Way

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
CLine RW Cntrl Station Text (AL RW CLineRWCntrlStationText)	0 | 0 2 | Text	Text Size = 0.12 Font = 200	B 10+68.42 P.C.
CLine RW Cntrl Tics (AL RW CLineRWCntrlTics)	2 | 0 2 | Line		
CLine RW NonCntrl Ex (AL RW CLineRWNonCntrlEx)	4 | Custom 82 | Line		
CLine RW Non Cntrl Ex Name Text (AL RW CLineRWNonCntrlExNameText)	0 | 0 82 | Text	Text Size = 0.16 Font = 200	L LINE
CLine RW NonCntrl Pr (AL RW CLineRWNonCntrlPr)	4 | Custom 82 | Line		
CLine RW Non Cntrl Pr Name Text (AL RW CLineRWNonCntrlPrNameText)	0 | 0 82 | Text	Text Size = 0.16 Font = 200	L LINE
CLine Trail (AL RW CLineTrail)	2 | 3 114 | Line		

DR ST Drainage - Structures

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Culvert (DR ST Culvert)	0 | 2 81 | Line		
Drainage Structures Text (DR ST DrainageStructuresText)	0 | 0 17 | Text	Text Size = 0.14 Font = 164	*CULVERT*
Drainfield (DR ST Drainfield)	2 | 0 145 | Line		

EV WL Environmental - Wetlands

Name (Level)	ByLevel Weight | ByLevel Style / byLevel Color | Element Type	Example
Storm Water Trtmnt RW Plan (EV WL StormWaterTrtmntRWPlan)	5 | 3 41 | Line	
Storm Water Trtmnt RW Plan New (EV WL StormWaterTrtmntRWPlanNew)	5 | 0 41 | Line	
Wetland Mitigation RWP (EV WL WetlandMitigationRWP)	5 | 3 41 | Line	
Wetland Mitigation RWP New (EV WL WetlandMitigationRWPNew)	5 | 0 41 | Line	
Wetlands RW Text (EV WL WetlandsRWText)	0 | 0 55 | Text	Text Size = 0.2 Font = 217

WETLANDS

PM MN Photo Control and Monuments - Monuments

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Monument New (PM MN MonumentNew)	0 | 0 44 | Cell		⊙
Monument Text New (PM MN MonumentTextNew)	0 | 0 44 | Text	Text Size = 0.12 Font = 217	GP 11395-6
Primary Control Point (PM MN PrimaryControlPoint)	1 | 0 28 | Cell		

RD BR Roadway Features - Barriers

Name (Level)	ByLevel Weight / ByLevel Style / byLevel Color / Element Type	Example
Fence RW Plan (RD BR FenceRWPlan)	0 / Custom / 157 / Line	

RD ED Roadway Features - Edges

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Bike Path Edge (RD ED BikePathEdge)	0 | 2 157 | Line	
Driveway Gravel Edge (RD ED DrivewayGravelEdge)	0 | 5 125 | Line	
Driveway Paved Edge (RD ED DrivewayPavedEdge)	0 | 2 125 | Line	
Ped Path Edge (RD ED PedPathEdge)	0 | 1 157 | Line	
Roadway ETW Gravel (RD ED RoadwayETWGravel)	0 | 5 29 | Line	
Roadway ETW Paved (RD ED RoadwayETWPaved)	0 | 2 29 | Line	
Shoulder Gravel Edge (RD ED ShoulderGravelEdge)	0 | 5 93 | Line	

RD ED Roadway Features - Edges

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Shoulder Paved Edge (RD ED ShoulderPavedEdge)	0 | 2 93 | Line	

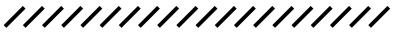
RD MC Roadway Features - Miscellaneous

Name (Level)	ByLevel Weight / ByLevel Style / byLevel Color / Element Type		Example
Roadway Names Text (RD MC RoadwayNamesText)	0 / 0 / 29 / Text	Text Size = 0.1 Font = 200	LAST CHANCE ROAD

RW BD Right of Way - RW Boundaries

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
City RW Bndry (RW BD CityRWBndry)	2 | 3 83 | Line		
City RW Bndry Sta Off Text (RW BD CityRWBndryStaOffText)	0 | 0 83 | Text	Text Size = 0.1 Font = 200	MR 10+88.03 (50' RT.)
County RW Bndry (RW BD CountyRWBndry)	2 | 3 83 | Line		
County RW Bndry Sta Off Text (RW BD CountyRWBndryStaOffText)	0 | 0 115 | Text	Text Size = 0.1 Font = 200	MR 10+88.03 (50' RT.)
Highway RW Bndry (RW BD HighwayRWBndry)	2 | Custom 19 | Line		
Highway RW Bndry Coincident (RW BD HighwayRWBndryCoincident)	5 | Custom 19 | Line		
Highway RW Bndry New (RW BD HighwayRWBndryNew)	5 | 0 3 | Line		

RW BD Right of Way - RW Boundaries

Name (Level)	ByLevel Weight / ByLevel Style / byLevel Color / Element Type		Example
Highway RW Bndry SO Text New (RW BD HighwayRWBndrySOTextNew)	0 / 0 / 3 / Text	Text Size = 0.1 Font = 200	MR 10+88.03 (50' RT.)
Highway RW Bndry Sta Off Text (RW BD HighwayRWBndryStaOffText)	0 / 0 / 19 / Text	Text Size = 0.1 Font = 200	MR 10+88.03 (50' RT.)
LAccess Coincident RW Lt (RW BD LAccessCoincidentRWLt)	5 / Custom / 35 / Line		
LAccess Coincident RW Rt (RW BD LAccessCoincidentRWRt)	5 / Custom / 35 / Line		
LAccess Floating Lt New (RW BD LAccessFloatingLtNew)	2 / Custom / 35 / Line		
LAccess Floating Rt New (RW BD LAccessFloatingRtNew)	2 / Custom / 35 / Line		
LAccess Proposed RW Lt (RW BD LAccessProposedRWLt)	5 / Custom / 35 / Line		

RW BD Right of Way - RW Boundaries

Name (Level)	ByLevel Weight / byLevel Color	ByLevel Style / Element Type		Example
LAccess Proposed RW Rt (RW BD LAccessProposedRWRt)	5	Custom Line		
Metes And Bounds RW Text (RW BD MetesAndBoundsRWText)	0 / 0	Text	Text Size = 0.1 Font = 200	R= 268.12' L= 412.34'
Metes And Bounds Sundry Text (RW BD MetesAndBoundsSundryText)	0 / 0	Text	Text Size = 0.12 Font = 200	352.11' N 88°12'13" W
RR RW Bndry (RW BD RRRWBndry)	2	Custom Line		
RR RW Sta Off Text (RW BD RRRWStaOffText)	0 / 0	Text	Text Size = 0.1 Font = 200	MR 10+88.03 (50' RT.)
Site RW Bndry (RW BD SiteRWBndry)	2	Custom Line		
Site RW Bndry Coincident (RW BD SiteRWBndryCoincident)	5	Custom Line		

RW BD Right of Way - RW Boundaries

Name (Level)	ByLevel Weight | ByLevel Style / byLevel Color | Element Type		Example
Site RW Bndry New (RW BD SiteRWBndryNew)	5 | 0 99 | Line		
Site RW Name Text (RW BD SiteRWNameText)	0 | 0 115 | Text	Text Size = 0.2 Font = 217	**PIT SITE**
Site RW Sta Off Text (RW BD SiteRWStaOffText)	0 | 0 147 | Text	Text Size = 0.12 Font = 200	MR 10+88.03 (50' RT.)
Turnback Line (RW BD TurnbackLine)	5 | 0 51 | Line		
Turnback Relinquish Text (RW BD TurnbackRelinquishText)	0 | 0 51 | Text	Text Size = 0.12 Font = 200	TURNBACK LINE
Utility RW Bndry (RW BD UtilityRWBndry)	3 | Custom 147 | Line		
Utility RW Bndry Coincident (RW BD UtilityRWBndryCoincident)	5 | Custom 131 | Line		

RW BD Right of Way - RW Boundaries

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Utility RW Bndry New (RW BD UtilityRWBndryNew)	3 | 0 131 | Line		
Utility RW Sta Off Text (RW BD UtilityRWStaOffText)	0 | 0 19 | Text	Text Size = 0.1 Font = 200	MR 10+88.03 (50' RT.)

RW ES Right of Way - Easements & Permits

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Esmnt Line (RW ES EsmntLine)	3 | 3 19 | Line		
Esmnt Line New (RW ES EsmntLineNew)	3 | 0 3 | Line		
Esmnt Line RR (RW ES EsmntLineRR)	5 | 0 51 | Line		
Esmnt Permit Line Sta Off Text (RW ES EsmntPermitLineStaOffText)	0 | 0 3 | Text	Text Size = 0.1 Font = 200	MR 10+88.03 (50' RT.)
Esmnt Permits Text (RW ES EsmntPermitsText)	0 | 0 19 | Text	Text Size = 0.12 Font = 200	EASEMENT
Esmnt Permits Text New (RW ES EsmntPermitsTextNew)	0 | 0 3 | Text	Text Size = 0.12 Font = 200	SLOPE EASEMENT
Permit Line (RW ES PermitLine)	3 | 0 83 | Line		

RW ES Right of Way - Easements & Permits

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Permit Line New (RW ES PermitLineNew)	3 | 0 67 | Line	
Subterranean Esmnt Line (RW ES SubterraneanEsmntLine)	3 | 3 115 | Line	
Subterranean Esmnt Line New (RW ES SubterraneanEsmntLineNew)	3 | 0 99 | Line	
Temp Constr Esmnt Line (RW ES TempConstrEsmntLine)	3 | 3 147 | Line	
Temp Constr Esmnt Line New (RW ES TempConstrEsmntLineNew)	3 | 0 131 | Line	

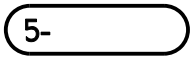
RW GB Right of Way - Government Boundaries

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Corp Limit Line (RW GB CorpLimitLine)	5 | Custom 19 | Line		
County Line (RW GB CountyLine)	5 | Custom 51 | Line		
Forest Bndry (RW GB ForestBndry)	4 | Custom 83 | Line		
Govt Bndry Text (RW GB GovtBndryText)	0 | 0 19 | Text	Text Size = 0.2 Font = 217	**STATE PARK**
Park Bndry (RW GB ParkBndry)	4 | Custom 115 | Line		
Reservation Bndry (RW GB ReservationBndry)	4 | Custom 147 | Line		
State Bndry (RW GB StateBndry)	5 | Custom 19 | Line		

RW PA Right of Way - Parcels

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
City Names Text (RW PA CityNamesText)	1 | 0 19 | Text	Text Size = 0.4 Font = 42	FIFE
CLine Access Road (RW PA CLineAccessRoad)	2 | 0 19 | Line		
ER ParcelNumber (RW PA ERParcelNumber)	2 | 0 19 | Cell		6-
Interchange Names Text (RW PA InterchangeNamesText)	1 | 0 19 | Text	Text Size = 0.3 Font = 42	INTERCHANGE
Lot Line (RW PA LotLine)	1 | 0 19 | Line		
Lot Numbering (RW PA LotNumbering)	0 | 0 19 | Text	Text Size = 0.1 Font = 200	2
NCR Parcel Number (RW PA NCRParcelNumber)	2 | 0 19 | Cell		2-

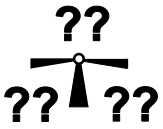
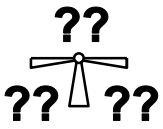
RW PA Right of Way - Parcels

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
NWR Parcel Number (RW PA NWRParcelNumber)	2 | 0 19 | Cell		
OR Parcel Number (RW PA ORParcelNumber)	2 | 0 19 | Cell		
Ownership Dots (RW PA OwnershipDots)	0 | Custom 19 | Line		
Ownership Tie (RW PA OwnershipTie)	1 | 0 19 | Cell		
Parcel No Text (RW PA ParcelNoText)	0 | 0 19 | Text	Text Size = 0.12 Font = 200	WSDOT
Property Line (RW PA PropertyLine)	1 | 0 19 | Line		
SCR Parcel Number (RW PA SCRParcelNumber)	2 | 0 19 | Cell		

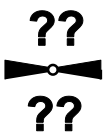
RW PA Right of Way - Parcels

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Subdivision Bndry (RW PA SubdivisionBndry)	2 | 0 51 | Line		
Subdivisions Names Text (RW PA SubdivisionsNamesText)	1 | 0 51 | Text	Text Size = 0.2 Font = 42	SUBDIVISION
SWR Parcel Number (RW PA SWRParcelNumber)	2 | 0 19 | Cell		4-
WSDOT Parcel Number* (RW PA WSDOTParcelNumber) Sized for a 100 scale drawing.	2 | 0 19 | Cell		WSDOT

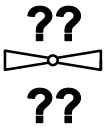
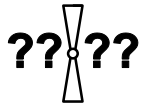
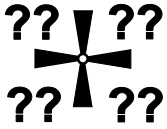
RW SC Right of Way - Section Information

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Bearings Text (RW SC BearingsText)	0 | 0 19 | Text	Text Size = 0.12 Font = 200	N 77°14'25" E
Center of Section (RW SC CenterofSection)	1 | 0 19 | Cell		
Center of Sections Text (RW SC CenterofSectionsText)	0 | 0 19 | Text	Text Size = 0.18 Font = 200	12
Closing Corner Found (RW SC ClosingCornerFound)	1 | 0 19 | Cell		
Closing Corner Not Found (RW SC ClosingCornerNotFound)	1 | 0 115 | Cell		
Descriptions Text (RW SC DescriptionsText)	0 | 0 19 | Text	Text Size = 0.1 Font = 200	1" DIA. IRON PIPE
Donation Land Claim (RW SC DonationLandClaim)	3 | Custom 147 | Line		

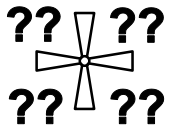
RW SC Right of Way - Section Information

Name (Level)	ByLevel Weight | ByLevel Style / byLevel Color | Element Type		Example
Donation Land Claims Text (RW SC DonationLandClaimsText)	0 | 0 147 | Text	Text Size = 0.18 Font = 217	J. JAY D.L.C. NO. 37
Govt Lot ID Text (RW SC GovtLotIDText)	0 | 0 147 | Text	Text Size = 0.18 Font = 217	GOV'T LOT 3
Meander Corner Found (RW SC MeanderCornerFound)	1 | 0 19 | Cell		
Meander Corner Not Found (RW SC MeanderCornerNotFound)	1 | 0 115 | Cell		
Meander Line (RW SC MeanderLine)	1 | Custom 147 | Line		
Meander Line Text (RW SC MeanderLineText)	0 | 0 19 | Text	Text Size = 0.12 Font = 200	GOV'T MEANDER LINE
Quarter Corner Found EW (RW SC QuarterCornerFoundEW)	1 | 0 19 | Cell		

RW SC Right of Way - Section Information

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Quarter Corner Found NS (RW SC QuarterCornerFoundNS)	1 | 0 115 | Cell	
Quarter Corner Not Found EW (RW SC QuarterCornerNotFoundEW)	1 | 0 19 | Cell	
Quarter Corner Not Found NS (RW SC QuarterCornerNotFoundNS)	1 | 0 19 | Cell	
Quarter Section Line (RW SC QuarterSectionLine)	3 | Custom 51 | Line	
Range Line (RW SC RangeLine)	5 | 0 115 | Line	
Range Lines Text (RW SC RangeLinesText)	2 | 0 115 | Text	Text Size = 0.25 Font = 217 **T.2N. R.1E. W.M.**
Section Corner Found (RW SC SectionCornerFound)	1 | 0 19 | Cell	

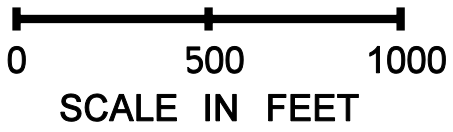
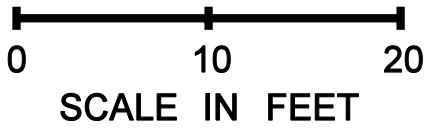
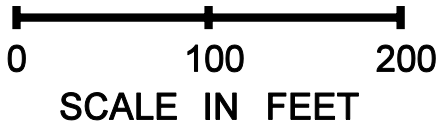
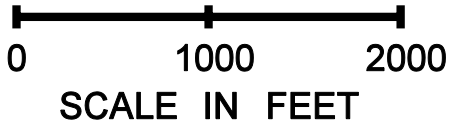
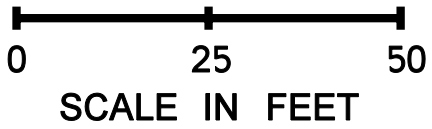
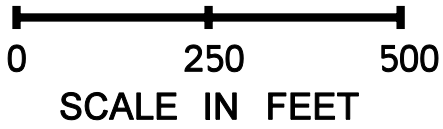
RW SC Right of Way - Section Information

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Section Corner Not Found (RW SC SectionCornerNotFound)	1 | 0 115 | Cell		
Section Corner Number Text (RW SC SectionCornerNumberText)	0 | 0 19 | Text	Text Size = 0.18 Font = 217	**24**
Section ID (RW SC SectionID)	3 | 0 19 | Cell		?? ¼ ?? ¼ **SEC. ??**
Section Line (RW SC SectionLine)	4 | Custom 19 | Line		
Sixteenth Section Line (RW SC SixteenthSectionLine)	2 | Custom 83 | Line		
Township Line (RW SC TownshipLine)	5 | 0 147 | Line		
Township Range Line Text (RW SC TownshipRangeLineText)	2 | 0 147 | Text	Text Size = 0.25 Font = 217	**T.2N. R.1E. W.M.**

SH GI Sheets - General Sheet Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Begin End Plan Arrow (SH GI BeginEndPlanArrow)	2 | 0 18 | Line		
Destination Arrows Text (SH GI DestinationArrowsText)	0 | 0 18 | Text	Text Size = 0.14 Font = 200	TO YELM
Match Line (SH GI MatchLine)	3 | 0 18 | Line		
Match Line Text (SH GI MatchLineText)	0 | 0 18 | Text	Text Size = 0.14 Font = 200	MATCH LINE SEE SHEET XX
North Arrow (SH GI NorthArrow) Example drawn at 50% actual size.	2 | 0 18 | Cell		N
Revision Strike Through Line (SH GI RevisionStrikeThroughLine)	0 | Custom 18 | Line		
Scale Bar 1 to 100 (SH GI ScaleBar1to100)	5 | 0 18 | Cell		0 50 100 SCALE IN FEET

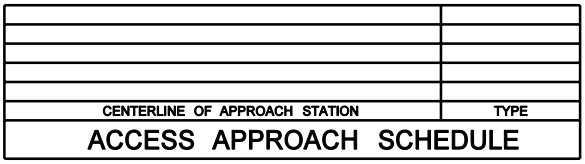
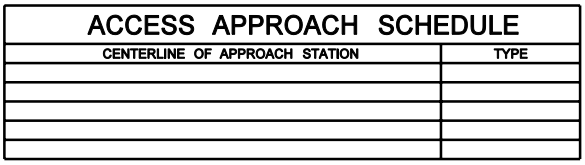
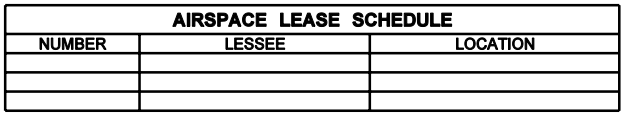
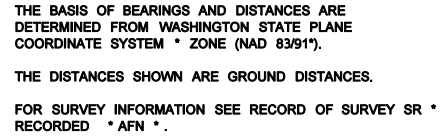
SH GI Sheets - General Sheet Items

Name (Level)	ByLevel Weight | ByLevel Style / byLevel Color | Element Type	Example
Scale Bar 1 to 1000 (SH GI ScaleBar1to1000)	5 | 0 18 | Cell	
Scale Bar 1 to 20 (SH GI ScaleBar1to20)	5 | 0 18 | Cell	
Scale Bar 1 to 200 (SH GI ScaleBar1to200)	5 | 0 18 | Cell	
Scale Bar 1 to 2000 (SH GI ScaleBar1to2000)	5 | 0 18 | Cell	
Scale Bar 1 to 50 (SH GI ScaleBar1to50)	5 | 0 18 | Cell	
Scale Bar 1 to 500 (SH GI ScaleBar1to500)	5 | 0 18 | Cell	
Township Range Top Sheet Text (SH GI TownshipRangeTopSheetText)	2 | 0 24 | Text	Text Size = 0.35 Font = 217 **T.2N. R.1E. W.M.**

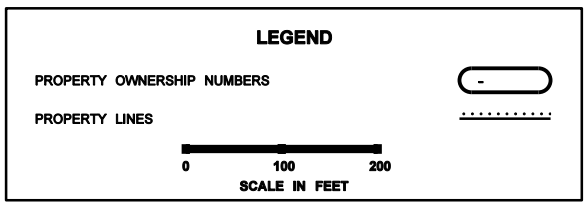
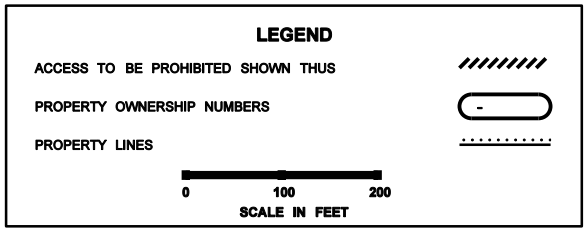
SH GI Sheets - General Sheet Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Traffic Mvmnt Arrow Lt 1 Lane (SH GI TrafficMvmntArrowLt1Lane)	1 | 0 18 | Cell	
Traffic Mvmnt Arrow Rt 1 Lane (SH GI TrafficMvmntArrowRt1Lane)	1 | 0 18 | Cell	

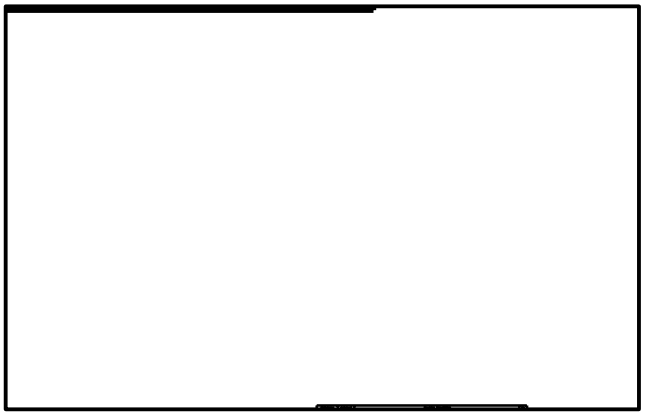
SH PR Sheets - Plansheets RW

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Access Approach Sched Bottom (SH PR AccessApproachSchedBottom) Example drawn at 50% actual size.	1 | 0 18 | Cell	
Access Approach Schedule Top (SH PR AccessApproachScheduleTop) Example drawn at 50% actual size.	1 | 0 18 | Cell	
Access Notes Body Text (SH PR AccessNotesBodyText)	0 | 0 18 | Text	Text Size = 0.1 Font = 200	BODY OF TEXT
Access Notes Heading Text (SH PR AccessNotesHeadingText)	0 | 0 18 | Text	Text Size = 0.14 Font = 200	ACCESS NOTES
Air Lease Schedule (SH PR AirLeaseSchedule) Example drawn at 50% actual size.	1 | 0 18 | Cell	
Basis of Bearing (SH PR BasisofBearing) Example drawn at 50% actual size.	2 | 0 18 | Cell	
Begin End Plan Text (SH PR BeginEndPlanText)	2 | 0 18 | Text	Text Size = 0.25 Font = 217	BEGINNING OF PLAN

PR Sheets - Plansheets RW

	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Ref Note RW Plan Text PR CrossRefNoteRWPlanText)	0 | 0 18 | Text	Text Size = 0.1 Font = 217	**FOR R/W SEE SR 507**
A Note PR ExhibitANote)	3 | 0 18 | Cell		**EXHIBIT A**
s Designation Note PR LaccessDesignationNote)	1 | 0 18 | Cell		Designated For Limited Access Control By Commission Resolution No.
s Establish Note PR LaccessEstablishNote) ple drawn at 75% actual size.	2 | 0 18 | Cell		LIMITED ACCESS ESTABLISHED BY THE ASSISTANT SECRETARY OF ENGINEERING AND REGIONAL OPERATIONS, FINDINGS AND ORDER ADOPTED _____ __, ____
s Tentative Note PR LaccessTentativeNote) ple drawn at 75% actual size.	2 | 0 18 | Cell		LIMITED ACCESS FEATURES SHOWN ARE TENTATIVELY APPROVED BY THE RIGHT OF WAY PLANS MANAGER.
Block PR LegendBlock) ple drawn at 50% actual size.	1 | 0 18 | Cell		
Block With LAccess PR LegendBlockWithLAccess) ple drawn at 50% actual size.	1 | 0 18 | Cell		

SH PR Sheets - Plansheets RW

Name (Level)	ByLevel Weight / ByLevel Style / byLevel Color / Element Type	Example
Ownership Block Bottom (SH PR OwnershipBlockBottom) Example drawn at 40% actual size.	1 / 0 18 / Cell	
OwnerShip Block Top (SH PR OwnerShipBlockTop) Example drawn at 40% actual size.	1 / 0 18 / Cell	
Revision Block (SH PR RevisionBlock) Example drawn at 40% actual size.	1 / 0 18 / Cell	
Right of Way Sheet (SH PR RightofWaySheet) Example drawn at 5% actual size.	1 / 0 18 / Cell	
Road Approach Type A Note (SH PR RoadApproachTypeANote)	2 / 0 18 / Cell	TYPE A APPROACH IS AN OFF AND ON APPROACH IN LEGAL MANNER, NOT TO EXCEED 30 FEET IN WIDTH, FOR SOLE PURPOSE OF SERVING A SINGLE FAMILY RESIDENCE. IT MAY BE RESERVED BY ABUTTING OWNER FOR SPECIFIED USE AT A POINT SATISFACTORY TO THE STATE AT OR BETWEEN DESIGNATED HIGHWAY STATIONS.

H PR Sheets - Plansheets RW

ame Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
d Approach Type B Note SH PR RoadApproachTypeBNote)	2 | 0 18 | Cell	TYPE B APPROACH IS AN OFF AND ON APPROACH IN LEGAL MANNER, NOT TO EXCEED 50 FEET IN WIDTH, FOR USE NECESSARY TO THE NORMAL OPERATION OF A FARM, BUT NOT FOR RETAIL MARKETING. IT MAY BE RESERVED BY ABUTTING OWNER FOR SPECIFIED USE AT A POINT SATISFACTORY TO THE STATE AT OR BETWEEN DESIGNATED HIGHWAY STATION.
d Approach Type C Note SH PR RoadApproachTypeCNote)	2 | 0 18 | Cell	TYPE C APPROACH IS AN OFF AND ON APPROACH IN LEGAL MANNER, FOR SPECIAL PURPOSE AND WIDTH TO BE AGREED UPON. IT MAY BE SPECIFIED AT A POINT SATISFACTORY TO THE STATE AT OR BETWEEN DESIGNATED HIGHWAY STATIONS.
d Approach Type D Note SH PR RoadApproachTypeDNote)	2 | 0 18 | Cell	TYPE D APPROACH IS AN OFF AND ON APPROACH IN A LEGAL MANNER NOT TO EXCEED 50 FEET IN WIDTH FOR USE NECESSARY TO THE NORMAL OPERATION OF A COMMERCIAL ESTABLISHMENT. IT MAY BE SPECIFIED AT A POINT SATISFACTORY TO THE STATE AT OR BETWEEN DESIGNATED HIGHWAY STATIONS.

SH PR Sheets - Plansheets RW

Name (Level)	ByLevel Weight / ByLevel Style / byLevel Color / Element Type	Example

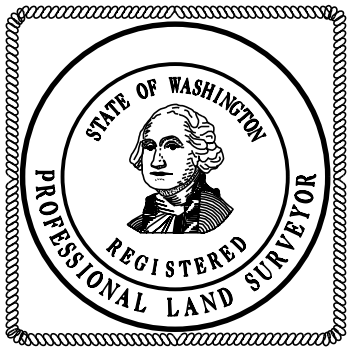
Road Approach Type E Note
(SH PR RoadApproachTypeENote)
2 / 0 / 18 / Cell

TYPE E APPROACH IS AN OFF AND ON APPROACH IN A LEGAL MANNER NOT TO EXCEED 30 FEET IN WIDTH FOR USE NECESSARY TO THE NORMAL OPERATION OF A COMMERCIAL ESTABLISHMENT. IT MAY BE SPECIFIED AT A POINT SATISFACTORY TO THE STATE AT OR BETWEEN DESIGNATED HIGHWAY STATIONS.

RW Curve Data Block
(SH PR RWCurveDataBlock)
Example drawn at 50% actual size.
1 / 0 / 18 / Cell

CURVE DATA				
P.I. STATION	DELTA	RADIUS	TANGENT	LENGTH

RW PLS Stamp
(SH PR RWPLSStamp)
0 / 0 / 18 / Cell



RW Total CurveData Block
(SH PR RWTotalCurveDataBlock)
Example drawn at 50% actual size.
1 / 0 / 18 / Cell

TOTAL CURVE DATA			CURVE DATA			SPIRAL DATA		
P.I. STATION	DELTA	TANGENT	DELTA	RADIUS	LENGTH	a	DE	Ls

State Plane Coord System
(SH PR StatePlaneCoordSystem)
Example drawn at 50% actual size.
1 / 0 / 18 / Cell

WASHINGTON STATE PLANE COORD. SYSTEM [METERS]			
GPS NUMBER	NORTHING	EASTING	CONV. ANGLE
GP10021-1	189 437.673	659 814.663	1° 36' 58.0"
GP10021-2	189 774.964	659 806.269	1° 36' 58.1"

H PR Sheets - Plansheets RW

ne vel)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
emental Access Note 1 PR SupplementalAccessNote1)	2 | 0 18 | Cell	NO. 1. THIS APPROACH IS TO BE USED TO TRAVEL ON RIGHT OF WAY AND ENTER PROPERTY AS SPECIFIED.
emental Access Note 2 PR SupplementalAccessNote2)	2 | 0 18 | Cell	NO. 2. THIS APPROACH IS TO BE USED TO SERVE MORE THAN ONE OWNER AND/OR UTILITY, FOR ONLY THOSE OWNERSHIPS LISTED ON THE ACCESS APPROACH SCHEDULE.
emental Access Note 21 PR SupplementalAccessNote21)	2 | 0 18 | Cell	NO. 21. THE PRIVILEGE OF ACCESS TO AREAS WITHIN THE RIGHT OF WAY IS PERMITTED FROM OUTSIDE THE RIGHT OF WAY TO THE USER DESIGNATED, SOLELY FOR USE AUTHORIZED BY AND SUBJECT TO THE CONDITIONS OF THE FRANCHISE, PERMIT, OR AGREEMENT SPECIFIED. NO ACCESS WILL BE ALLOWED TO THE TRAVELED HIGHWAY LANES OR RAMPS.
emental Access Note 3 PR SupplementalAccessNote3)	2 | 0 18 | Cell	NO. 3. THIS APPROACH MAY BE USED FOR ANY PURPOSE CONSISTENT WITH LOCAL ZONING. THE WIDTH IS TO BE DETERMINED BY WSDOT STANDARDS FOR THE TYPE OF USE INVOLVED.
emental Access Note 4 PR SupplementalAccessNote4)	2 | 0 18 | Cell	NO. 4. THIS APROACH MAY BE INCREASED IN WIDTH NOT TO EXCEED 80 FEET FOR USE BY SPECIAL FARM EQUIPMENT. DURING THE CROSSING OF THE HIGHWAY WITH FARM EQUIPMENT REQUIRING AN APPROACH EXCEEDING 50 FEET IN WIDTH, TRAFFIC ON THE HIGHWAY SHALL BE PROTECTED BY FLAGMEN PROVIDED BY THE OWNER AT HIS EXPENSE.

SH PR Sheets - Plansheets RW

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Supplemental Access Note 5 (SH PR SupplementalAccessNote5)	2 | 0 18 | Cell	NO. 5. THIS APPROACH IS TO BE USED FOR THE OPERATION, MAINTENANCE, AND REPAIR OF THE UTILITY SPECIFIED. THE APPROACH SHALL NOT EXCEED 50 FEET IN WIDTH.
Supplemental Access Note 9 (SH PR SupplementalAccessNote9)	2 | 0 18 | Cell	NO. 9. THIS APPROACH SHALL BE GATED AND LOCKED WHEN NOT IN USE.
Title Block (SH PR TitleBlock) Example drawn at 50% actual size.	1 | 0 18 | Cell	**SR** **TITLE** **COUNTY** **RIGHT OF WAY PLAN** **MP TO MP** **STATION TO STATION** **WASHINGTON STATE DEPARTMENT OF TRANSPORTATION** **OLYMPIA, WASHINGTON** **APPROVED AND ADOPTED** _____ _____ **RIGHT OF WAY PLANS MANAGER** **PROJECT ENGINEER** **SHEET OF SHEETS**

SH PR Sheets - Plansheets RW

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example

Title Block Exhibit Map
(SH PR TitleBlockExhibitMap)
Example drawn at 50% actual size.

1 | 0
18 | Cell

EXHIBIT MAP

SR

TITLE

COUNTY

PARCEL

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
OLYMPIA, WASHINGTON

DATE **SHEET** **OF** **SHEETS**

Title Block Sundry Site
(SH PR TitleBlockSundrySite)
Example drawn at 50% actual size.

1 | 0
18 | Cell

COUNTY
SUNDRY SITE PLANS

TITLE

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
OLYMPIA, WASHINGTON

APPROVED AND ADOPTED _____

RIGHT OF WAY PLANS MANAGER

PROJECT ENGINEER **SHEET**

SH PR Sheets - Plansheets RW

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example

SR

TITLE

COUNTY

VICINITY MAP
AND TOTAL PARCEL DETAILS
MP TO MP

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
OLYMPIA, WASHINGTON

APPROVED
AND ADOPTED _____

_____
RIGHT OF WAY PLANS MANAGER

PROJECT ENGINEER **SHEET** **OF** **SHEETS**

Title Block Vicinity Map
(SH PR TitleBlockVicinityMap)
Example drawn at 50% actual size.
1 | 0
18 | Cell

Verification Notes
(SH PR VerificationNotes)
2 | 0
18 | Cell

OWNERSHIP SHOULD BE VERIFIED.
PROPERTY RIGHTS SHOWN MAY NOT
HAVE BEEN ACQUIRED BY WSDOT.

Vicinity Map Body Text
(SH PR VicinityMapBodyText)
0 | 0
18 | Text

Text Size = 0.14
Font = 217

TOTAL LENGTH OF PLAN = 0.67 MILE

Vicinity Map Heading Text
(SH PR VicinityMapHeadingText)
2 | 0
18 | Text

Text Size = 0.3
Font = 217

VICINITY MAP

ST BG Structures - Bridges

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Bridge (ST BG Bridge)	0 | 1 23 | Line		
Bridge New (ST BG BridgeNew)	2 | 0 7 | Line		
Bridge Text (ST BG BridgeText)	0 | 0 23 | Text	Text Size = 0.14 Font = 164	*OVERCROSSING*
RR Structure (ST BG RRStructure)	0 | 1 119 | Line		
Structure (ST BG Structure)	0 | 1 55 | Line		
Tunnel (ST BG Tunnel)	0 | 1 87 | Line		
Tunnel Text (ST BG TunnelText)	0 | 1 23 | Text	Text Size = 0.14 Font = 200	OVERCROSSING

TP MM Topography - Manmade

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Building 2D (TP MM Building2D)	2 | 0 126 | Line		
Canal (TP MM Canal)	3 | 0 126 | Line		
Dam (TP MM Dam)	10 | 0 126 | Line		
Dike (TP MM Dike)	10 | 0 126 | Line		
Distance Tie (TP MM DistanceTie)	1 | 0 30 | Line		
Distance Tie Text (TP MM DistanceTieText)	0 | 0 30 | Text	Text Size = 0.1 Font = 200	48'
Manmade Topography Text (TP MM ManmadeTopographyText)	0 | 0 30 | Text	Text Size = 0.14 Font = 200	GABION WALL

TP MM Topography - Manmade

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Orchard Or Vineyard (TP MM OrchardOrVineyard)	1 | Custom 126 | Line		
Reservoir (TP MM Reservoir)	3 | 0 126 | Line		
RR Center Tracks (TP MM RRCenterTracks)	2 | Custom 62 | Line		
RR Text (TP MM RRText)	0 | 0 62 | Text	Text Size = 0.1 Font = 200	BNSF RAILWAY
Well (TP MM Well)	0 | 2 126 | Cell		

TP NT Topography - Natural

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
High Water Line (TP NT HighWaterLine)	3 | 0 30 | Line	
Lake Edge (TP NT LakeEdge)	3 | 0 126 | Line	
Large Body of Water Edge (TP NT LargeBodyofWaterEdge)	3 | 0 126 | Line	
Pond Edge (TP NT PondEdge)	3 | 0 126 | Line	
River Edge (TP NT RiverEdge)	3 | 0 126 | Line	
Stream NonScalable (TP NT StreamNonScalable)	3 | 0 126 | Line	
Stream Scaleable Edge (TP NT StreamScaleableEdge)	3 | 0 126 | Line	

TP NT Topography - Natural

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Water Pond Lake Res Text (TP NT WaterPondLakeResText)	0 | 0 126 | Text	Text Size = 0.14 Font = 200	GREEN RIVER
Water Tidal Shore Lg Body Text (TP NT WaterTidalShoreLgBodyText)	0 | 0 126 | Text	Text Size = 0.2 Font = 200	BUDD INLET

UT CM Utilities - Communications

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Steel Transmission Tower (UT CM SteelTransmissionTower)	1 | 0 21 | Cell	
Wooden Transmission Tower (UT CM WoodenTransmissionTower)	1 | 0 21 | Cell	

400.01 Introduction
400.02 Project Manager's Responsibilities
400.03 Headquarters Assistance/Review
400.04 Drafting Requirements
400.05 Plan Sheet Sizes and Layout Format
400.06 Plan Sequence
400.07 Plan Examples

400.01 Introduction

The contents of this manual can be applied to the majority of the projects a designer will encounter. It is understood that no two projects are the same and that it is not possible to provide information for every circumstance that may be encountered. There will be those projects, or portions of projects, that do not fit the standard applications. In those cases, the designer must be able to recognize the need to adjust the standards to best depict the work to be accomplished.

This manual is intended to show representative information and examples the designer can, and should, use as a basis to make decisions on what is to be included in the Plans, Specifications, and Estimates (PS&E), and how it is to be shown in the plans. The main responsibility of the designer is to assemble a package that contains the precise information required by a contractor to submit a responsible bid and for WSDOT to get an acceptable finished product. Providing too much information can, at times, cause as many problems as not providing enough. Contract Plans should include only that information necessary for the contractor to properly bid and construct. Information intended for WSDOT inspectors should not be included. In addition, designers should look for opportunities to consolidate and reduce plan sheets where appropriate. The designer must remember that projects requiring contractor surveying will require more detail and information than a project being surveyed by WSDOT.

(1) Contract Plans and Provisions

The Plans, Specifications, and Estimates are some of the documents required for the advertisement of a project.

The Contract Plans and Contract Provisions must set forth the work in a clear and concise manner to avoid misinterpretation.

The Contract Plans shall conform to the geometric design as documented in the Design Approval Package (DAP), the Project Definition (PD) package, and the Project File—specifically, the Design Documentation Package (DDP). (See the *Design Manual* for more information.) All plan details and Contract Provisions are to be specifically applicable to the project being developed. It is acceptable to use details and provisions from previous contracts. However, they should be examined closely and modified as required to ensure they are specifically applicable to the current project.

Deviations from Washington State Department of Transportation (WSDOT) policies and standard practices require approval by the appropriate approving authority, in accordance with the *Design Manual*, in advance of advertisement of the project.

The designer and the Headquarters (HQ) Bridge and Structures Office will coordinate design schedules when structures are involved to ensure the project will be completed in a timely manner.

The designer is to take every opportunity to reduce the volume of the plans by using logical combinations of plan series to best display the information. Avoid duplication whenever possible in the Contract Plans and Provisions. Because no two projects are exactly the same, the designer needs to examine the logical combinations of plan series for each project. Displaying too much information may cause confusion to the contractor bidding the project and could result in higher bid prices. On the other hand, a series of plan sheets with minimal information displayed on each sheet makes it difficult to determine the interrelationship of different items of work, which could also equate to increased prices by bidders estimating the project. A balance resulting in complete and accurate information on the correct series of plan sheets is what is necessary. For an example of how this can be accomplished, see the public WSDOT Computer-Aided Engineering (CAE) website under "Consultant Resources > Example Projects" (http://www.wsdot.wa.gov/design/cae).

The designer must remember that standards are not developed to stifle their ability to design, but instead to provide consistency across the state. We should strive for consistent use of state standards, regardless of where the project is located, recognizing that unique situations may require varying from the standards. When standard materials are called for, the contractors and the suppliers know what we're looking for and what to expect in the way of testing and approvals. When the same work is specified and represented in the plans the same way, the contractors develop an understanding of our expectations. Using standard items and construction methods is almost always more economical. Proprietary items should be avoided unless there is proper justification.

A tool available to the designer to help ensure required items are addressed during the PS&E preparation is the "PS&E Review Checklist," available on the WSDOT Internet/Intranet Home Page under the "Design / PS&E Review" heading (www.wsdot.wa.gov/Design/ProjectDev.) This checklist contains the type of information that will be examined during the Stewardship Process Review, conducted by Headquarters and the Federal Highway Administration (FHWA) at the end of the project.

400.02 Project Manager's Responsibilities

All projects must have formal approval action in order to be advertised. Refer to the Appendices of the *Advertisement and Award Manual* for a sample of the Memorandum "Approval for Advertising – HQ Ad & Award."

(1) General

The Project Manager has the following responsibilities:

(a) Prepare the PS&E in the basic format presented in this manual and in accordance with the geometric design documented in the Design Approval Package (DAP), the Project Definition (PD) package, and in the Project File—specifically, the Design Documentation Package (DDP). (See the *Design Manual* for more information.)

(b) Obtain permits, approvals, clearances, and certifications for which the region is responsible. The PS&E shall reflect the requirements of these documents.

(c) Provide and maintain accurate bid item quantities, reasonable and current unit prices, and backup data used to determine the estimated cost for lump sum bid items or other bid items that have little or no historical cost data. (See the program "BidTabs Pro" for current bid prices.)

(d) Maintain the cost of the project within the budgeted amount. Address budget issues through the appropriate authorities as warranted.

(e) Ensure the aggregate total cost of State Force Work and state-supplied materials are in accordance with RCW 47.28.030 and RCW 47.28.035 (see Division 7).

(f) Determine the sources for materials and locations of sundry sites furnished by WSDOT to verify the quality and quantity of material available at the provided sources.

(g) Verify that required new right of way will be secured prior to the need to occupy the property.

(h) Coordinate the HQ Bridge and Structures Office PS&E preparation with the region PS&E preparation. Provide the HQ Bridge and Structures Office with design and bridge site data in a timely manner.

(i) Ensure the reviews by the region and the appropriate Headquarters offices have been completed. Ensure the title block in the PS&E has the correct full names of the personnel, the design team has returned a brief written response to all review comments, and all appropriate changes have been incorporated into the PS&E prior to advertisement.

(j) Coordinate activities and review for projects on National Forest System land in accordance with "Highways Over National Forest Lands," a Memorandum of Understanding (NFS 00-MU-11060000-040) between WSDOT and the USDA Forest Service (USFS), Pacific Northwest Region.

(k) Provide a memorandum, with written justification, to the appropriate Assistant State Design Engineer (ASDE) for the approval and use of all proprietary items (see Division 7).

(l) Provide a memorandum, with written justification and estimated costs to use state-furnished materials, state labor, a mandatory materials source, and/or a mandatory waste site to the correct approving authority in accordance with the *Design Manual* (see Division 7).

(m) Coordinate with the region (Utilities Engineer, Right of Way, and so on) to obtain written construction permits and easements for work to be performed outside WSDOT right of way.

(n) Coordinate with region permitting offices (Utilities Engineer, Right of Way Engineer, Highways and Local Programs, Environmental, and so on) to obtain all required agreements to perform work under the contract for governmental agencies, private companies, and private individuals. These agreements shall include how the work is to be funded. There shall be substantiation that the benefit derived from the work is equal to or greater than the cost to WSDOT. Ensure all local/state/federal regulations have been addressed for the project.

(o) Provide justification and obtain approval from the HQ Transportation Data Office (TDO) for liquidated damages, including interim liquidated damages other than those specified in the *Standard Specifications for Road, Bridge, and Municipal Construction (Standard Specifications)* (see Division 7).

(p) Provide justification and obtain approval from the HQ Construction Office for incentive/disincentive pay and liquidated damages that revise Section 1-08.9 of the *Standard Specifications*.

(q) Provide justification for stockpiling materials for use on future construction contracts.

(r) Provide justification for not using all pipe alternates.

(s) Provide justification for the use of construction engineering percentages different from the percentages specified in Division 8.

(t) Ensure the project title on all deliverable documents exactly matches the latest official title as agreed to by the Region Program Management Office and the Region Plans Office at the time of their delivery. If for some reason the scope of the project has changed so dramatically that the official project title must be changed, the title change must be negotiated with and agreed to by the Region Program Management Office and the Region Plans Office.

(u) Provide justification and obtain approval from the HQ Construction Office or current delegated authority in each region for use of nonstandard time for project completion specifications.

(v) Provide justification and obtain approval from the HQ Construction Office or the delegated authority in each region for using project-specific specifications that alter the *Standard Specifications* and/or General Special Provisions (GSPs).

(w) Coordinate in a timely manner with the Region Traffic Office on the preparation of all signal, illumination, ITS, and other design elements needed to be incorporated in the PS&E preparation.

(x) Ensure the Contract Plans/Contract Provisions are stamped in accordance with WSDOT Executive Order E 1010.00, Certification of Documents by Licensed Professionals: wwwi.wsdot.wa.gov/docs/OperatingRulesProcedures/1010.pdf

(2) Project Specifications

The HQ Construction Office desires to maintain consistency, accuracy, and legality with project specifications. For this reason, a project designer should always try to use the specifications listed in the *Standard Specifications*. It is not uncommon for a project to have a method of work or a working window of time that differs from those listed in the *Standard Specifications*. There are also items of work that are region-specific and as such aren't covered in the *Standard Specifications*. In those cases where there is a nonstandard item of work in a project, the designer may write a project-specific Special Provision to describe the work. In the case of a region nonstandard item of work, the region may write Region General Special Provisions (RGSPs) to describe the work. If these project-specific Special Provisions or RGSPs change the content or wording of any specifications in the *Standard Specifications*, approval must be given by the HQ Construction Office or delegated authority. In some cases, the HQ Materials Lab must approve changes to Division 9 before project-specific Special Provisions or some RGSPs may be used in a project.

Once a Region GSP has been approved by the HQ Construction Office, it can then be used on future projects without being submitted to the HQ Construction Office for another approval, unless the Region GSP instructions state that approval is required for each project. However, project-specific Special Provisions, when approved by the HQ Construction Office, are only to be used on the project for which they were written. They cannot be used on another project without reacquiring the HQ Construction Office's approval. When referencing the *Standard Specifications* in the Special Provisions, the headings from the *Standard Specifications* are never to be changed. When a section of the *Standard Specifications* is "Vacant," the designer is **not** to use these sections for their Special Provisions.

It is essential that the Project Manager understands and ensures no alterations to plans or specifications are made by anyone but the person who submitted the plans or specifications under their personal PE stamp and signature. This includes HQ Bridge and Structures, Traffic, Architecture, Landscape Architecture, Surveying, or any other branch/unit that certifies design with a professional stamp.

The professional licensee who was directly responsible for the original documents shall certify all revisions to plans and specifications.

Changes regarding quantities, payment estimates, and time lines are not considered technical changes; therefore, they do not require certification by a Professional Engineer (PE). However, all changes in these areas shall be verified and documented by the original designer/submitter of that item of work and shall not be changed by the Project Manager without the specific permission of the original designer/submitter.

400.03 Headquarters Assistance/Review

Various offices of expertise are available for assistance if requested by the region. For examples of transmittal memos to Headquarters or region support offices, designers should contact their Region Plans Office for assistance.

(a) Many of the key Headquarters offices that are available to assist during PS&E preparation are listed below and can be found, along with other support offices, on the WSDOT internal website: wwwi.wsdot.wa.gov/SiteIndex/offices.htm

1. Real Estate Services Office
2. Design Office
   - Hydraulics
   - Highway Access Control
   - Right of Way Plans
   - Cost Risk Assessment (CRA)
   - Project Development
   - Roadside and Site Development
   - Utilities, Railroad, and Agreements
   - Design Standards (*Standard Plans*)
   - Computer-Aided Engineering
   - Design Policy
   - Project Management
   - Strategic Analysis Estimating
   - Value Engineering

3. Bridge and Structures Office
4. Construction Office
5. Traffic Operations
6. Materials Laboratory
7. Maintenance and Operations
8. Office of Equal Opportunity (OEO)

   One of the two units of the HQ Office of Equal Opportunity (OEO) is the External Civil Rights Office, which provides some of the following services, which are important in PS&E preparation and contract administration:

   - Implement the On-the-Job Training (OJT) programs under the Training Special Provisions (TSP) of USDOT-assisted construction contracts.
   - Implement the Disadvantaged Business Enterprises (DBE) program on USDOT-assisted contracts and procurements.
   - Set annual DBE goals.
   - Establish and monitor a DBE Supportive Services program.
   - Implement the Minority and Women Business Enterprise (MWBE) program on state-funded contracts and procurements.
   - Provide training and technical assistance to WSDOT and its subrecipients, as well as to contractors and consultants.
   - Develop and revise program implementation plans.
   - Investigate external civil rights complaints.
   - Implement the Title VI program, which requires nondiscrimination by recipients of federal financial assistance.

   Contact the OEO to establish DBE goals, obtain Special Training hours, and determine which WSDOT General Special Provision (GSP) is needed for your project.

9. Project Control and Reporting Office and Systems Analysis & Program Development Office

   - The HQ Project Control and Reporting Office (PCRO) establishes and manages project control and management procedures, including the change management process using project control reporting forms (PCRFs) and the execution procedures for authorization of work order expenditures (WOA).
   - The HQ Office of Systems Analysis & Program Development (SA&PD) focuses on building and managing WSDOT programs for future biennia. They establish program and subprogram funding levels and the process for federal-aid project authorizations. Designers should work through Region Program Management offices regarding these processes and requests. (See the *Project Control and Reporting Manual* for further guidance.)

(b) The following Headquarters offices can be found on the WSDOT public website: www.wsdot.wa.gov/

- Bridge and Structures
- Highway Maintenance
- Local Programs
- Traffic Operations
- Construction
- Materials Laboratory
- Design
- Contract Ad and Award

400.04 Drafting Requirements

(1) General

How the plan information is displayed on the plan sheets can have a great impact on the usefulness of the plans. To get the best possible bid and the best possible finished product, the plans must present the information clearly and concisely. Everyone who examines the plan should be able to determine what work is required and arrive at a single interpretation of the information.

To ensure a clear and singular interpretation, it is imperative that:

- Overcrowding of plan sheets is avoided by displaying only information relevant to the plan series.
- The plan is drawn with appropriate drafting standards as specified in this manual.

The designer will need to determine what information is required for the contractor to bid and construct the project and for WSDOT to administer the project. The requirements of other readers such as FHWA and various Headquarter offices also need to be considered. Many of the requirements in this manual, such as "Begin Federal Aid" and "End Federal Aid" Number and Section Lines shown on the Vicinity Map, may not be required to construct or administer the project but have value to other users of the Contract Plans.

The designer also needs to determine what information does not add value and only serves to clutter the plans and create confusion for the reader. Following are some examples of information that *should not* be included in plan sheets and some ways to help eliminate excess plan sheets:

- Alignment and R/W Plans where no changes in alignment and R/W are planned or where the alignment and R/W staking is being conducted and maintained by WSDOT.
- Quantity Tabulations for all items of work or where only a few items of work are listed.
- Right of way lines that have no ties add no value. If right of way needs to be shown, it should have ties showing where it is.
- Future alignments that have nothing to do with construction of the project can clutter a plan sheet making it hard to find the needed information.
- Showing existing pavement markings/edge of existing roadway on Paving Plans or Pavement Marking Plans.

- Showing anything that is slated for removal on a Site Preparation Plan and not anywhere else in the plans.
- Repeating plan sheets just to keep the same number of sheets in each series. Use break lines to eliminate sheets of nonchanging information. If there is no drainage code on a Drainage Plan sheet, the sheet shouldn't be included in the series. Also, for Paving Plans and Pavement Marking Plans, if nothing changes between intersections or interchanges, use break lines to eliminate sheets.
- Whenever possible, the designer shall avoid the practice of cross-hachuring, polka-dotting, or shading of large areas to represent areas to be paved, planed, or anything else. The roadway sections will adequately show the areas to be planed and paved. The use of large areas of cross-hachuring only hides or detracts from the rest of the information being displayed on the sheet.
- Profile sheets showing overlay, grinding and inlay, or paving exception areas of the project add no value. Show only the portions of the project that have a change in the vertical alignment of the roadway under construction. In the same way repeating information already shown on roadway sections on Paving Plans without showing dimensions adds no value to the contract.

If it does not provide needed information or add value to the plans—***REMOVE IT!***

(2) Plan Sheets

The designer, early in the design process, needs to give careful consideration to the different series of plan sheets that will be required and the information that will need to be displayed on each series.

The use of different levels of the computer-aided drafting and design (CADD) system allow the flexibility to provide additional series of plans easily and quickly if it turns out that more information is required than was originally anticipated. For this reason, it is important that all CADD work use the prescribed level scheme.

(a) Most of the drawings created by CADD users in a design office are 11-inch by 17-inch plan sheets for PS&E. Therefore, references will pertain to that size unless otherwise noted. In general, the plotting scale for 11-inch by 17-inch plan sheets is 1 inch equals 100 feet (1″=100′), except as indicated below. Set the plotting scale in MicroStation under the WSDOT pull down menu.

There may be occasions when the scale of a plan sheet needs to be increased to as much as 1″=40′ for an 11-inch by 17-inch plan sheet. When this is done, the designer needs to examine the sheet to be sure that required information is easily read. It may be necessary to resize some text or symbols to make them legible.

(b) Vicinity Maps are to be drawn at a scale appropriate to the size of the project and the detail required to show the appropriate information, as discussed in 400.06, Plan Sequence.

(c) Sheets requiring a larger scale to display a great deal of information in a small area should be drawn to an appropriate scale to allow all information to be easily read and understood.

(d) Strip maps are to be drawn at a scale appropriate to display the information clearly. For further details, see 700.05.

(e) Use cross-hachuring only for small, isolated areas of work such as pavement repair areas or butt joint planing locations that may get lost if not displayed in this manner. On occasion, with concurrence of the Region Plans Office, color may be used for clarity. Gray-area shading is reserved exclusively for use in an addendum to highlight changes to a plan sheet. (See the Appendices for Addendum Preparation.)

(f) Plan sheets may be plotted or be hand drafted. If hand drafted, use black ink on full-size Mylar sheets and then reduce at the time of submittal to the region.

(g) Sheets utilizing a combination of CADD-generated base maps and inked construction features will be considered hand-drafted sheets. No stick-ons are to be used on plan sheets.

(h) All screened (half-toned) portions of plan sheets shall be dark enough to adequately reproduce.

(i) Line weight, lettering height, and symbols for Contract Plans shall conform to the standards contained in Division 5. It is important to conform to these standards for consistency and for reproduction.

(j) Under most circumstances, lettering and dimensioning shall be placed so they may be read from either the bottom of the sheet or the right side of the sheet. Text shall not be placed across roadway centerlines or right of way lines. Text is to be clear of all lines and should normally be placed outside the drawing itself. Leader lines shall not cross one another or text. The two exceptions to the bottom and right reading text are:

1. All Section Corner and Township line numbers shall have their tops to the north, and Range Line numbers shall have their tops to the west, regardless of the orientation of north to the sheet.
2. All information identifying a centerline, such as line designation, stationing, tick marks, and bearings, shall be placed on top of the line and read left to right, with both the top of the line and left to right being based on the direction of the stationing.

(k) When lines are coincidental, the following order of precedence for placing them on the sheet shall be used:

1. Construction Centerline
2. Right of Way Centerline
3. Range/Township Line
4. Section Line
5. Corporate Limit Line
6. County Line

(l) When Corporate Limit lines coincide with other lines, the Corporate Limits will be labeled in an effort to clarify that the line is also the corporate limits.

(m) Each plan view sheet shall have a north arrow and a scale bar. The north arrow will normally be oriented towards either the top or right side of the sheet.

(n) All plan view sheets and profile sheets that physically show the Begin Project and End Project headings will identify these points as follows:

STATE-FUNDED PROJECTS:

Begin Project	End Project
SR XX, MP XX.XX	SR XX, MP XX.XX
STA XX+XX.XX	STA XX+XX.XX

FEDERALLY FUNDED PROJECTS:

Begin F.A. No.	End F.A. No.
Begin Project	End Project
SR XX MP XX.XX	SR XX MP XX.XX
STA XX+XX.XX	STA XX+XX.XX

(o) If the "Begin and/or End Federal Aid" are different than the "Begin and/or End Project," this information will be displayed similarly to the above on a separate leader line drawn to the appropriate location. Use "Begin Construction" and "End Construction" when work is being done on crossroads adjacent to the main line work or at ramp termini.

(p) Each series of plan view sheets (such as site preparation, drainage, paving, and others) shall have a legend of features applicable to that series, and the legend will appear on each plan sheet of that series.

(q) The legend is to contain all items that are shown on any of the individual plan sheets in that series. For example, if your Drainage Plan series consists of 15 plan sheets, and throughout these 15 plan sheets there are 12 items to be identified in the legend, all 15 of the drainage plan sheets in this series will have a legend that will have all 12 items listed and identified.

(r) If a sheet in the series is too crowded to include a legend, a note shall be added to the sheet to tell the reader on which sheet the legend may be found. The preferred method is to refer the reader to the legend on the preceding sheet.

(s) WSDOT Contract Plans show the slope of a line in several forms, such as ratio, percentage, and decimal. When a slope is shown in ratio form in WSDOT plans, it is shown as run over rise, which is opposite of mathematical standards in which a slope is always given as rise over run in ratio and fraction form. In WSDOT plans, a 4:1 slope means that the slope has a 4-foot horizontal run and a 1-foot vertical rise. Some WSDOT manuals further clarify the meaning of a 4:1 slope by adding a post text, such as 4H:1V, to further clarify that there are four units horizontal (run) and one unit vertical (rise). However, WSDOT Contract Plans will not carry such a post text.

(t) Plan sheets prepared by architects and engineers for building facilities and associated site improvements shall be exempt from the requirements of the drafting standards described in this chapter. Drafting standards for building facilities and associated site improvements shall be determined by the Facilities Administrator.

400.05 Plan Sheet Sizes and Layout Format

(a) The Advertisement set of plan sheets shall be on 11-inch by 17-inch paper.

(b) If the Contract Plans have more than 225 sheets or Contract Provisions have more than 225 pages, they will need to be separated into volumes, with no volume having more than 225 sheets or pages.

- The break for volumes is to be made at a logical point in the package, which may not be at 225 sheets or pages.
- If a project has 275 plan sheets, and the last 80 are bridge sheets, the logical break would be between the civil sheets and the bridge sheets.
- If multiple volumes are required for the Contract Provisions, the logical break would be at the end of a main section. For example, break between HOT MIX ASPHALT PAVEMENT and the following main section, CULVERTS.
- Do not place the break in the middle of a section.

(c) Stamping: WSDOT plans and specifications shall be stamped with a seal, signature, and the date signed; the expiration date of the license is optional. Licensees are directed to WSDOT Executive Order E 1010.00, RCW 18.43, and WAC 196 (Engineers and Land Surveyors); RCW 18.08 and WAC 308-12 (Architects); and RCW 18.96 and WAC 308-13 (Landscape Architects).

- The licensee's seal shall be placed on all plan sheets adjacent to the WSDOT logo, except for the Index to the plans, Vicinity Map, Summary of Quantities, and Quantity Tabulations. Bar-Lists are not required to be stamped. This space should be reserved during initial plan sheet layout.
- The following plan sheets prepared by WSDOT are not required to be stamped: index, Vicinity Map, Summary of Quantities, Quantity Tabulations, Bar-Lists, TESC sheets, and Traffic Control Plans.
- For plans prepared by consultant/developers, the Licensed Engineer's seal, signature, date signed (expiration date of license is optional), and logo is to be placed on all plan sheets adjacent to the WSDOT logo. The index to the plans, Vicinity Map, Summary of Quantities, Quantity Tabulations, and Bar-Lists are not required to be stamped. This space should be reserved during initial plan sheet layout.

(d) Construction notes shall be numbered consecutively within each plan sheet series of the project. However, only the construction notes that are applicable to a particular sheet shall be shown on that plan sheet. Once you have created a construction note 1, it will always be the same for that plan sheet series. Continue sequencing of construction notes consecutively as you add them. **DO NOT** resequence from one plan sheet to the next. Each plan sheet series will have consecutive construction notes.

(1) Title Bar Information

All plan sheets have a title bar on the bottom of the plan. Fill in the information according to the following instructions:

- PLOTTED BY: The first and last name of the person who created the plot.
- DESIGNED BY: The first and last name of the person who designed the sheet.

- ENTERED BY: The first and last name of the CADD operator who electronically entered the plan.
- CHECKED BY: The first and last name of the design team leader or person who checked the plan.
- PROJ. ENGR.: The first and last name of the design Project Engineer.
- REGIONAL ADM.: The first and last name of the Region Administrator.
- REVISION box: To be filled out when there is a revision made after the Advertisement Date. This is generally for the purpose of issuing an addendum

In the block labeled REVISION, give a brief description of the revision that was made.

- DATE: Enter the date in which the revision was made.
- BY: Enter the initials of the person who made the revision.
- REGION NO.: This is an FHWA number; 10 is for Washington State.
- STATE: This should always be WASH.
- JOB NUMBER: Enter the number used for the Estimate Bid Analysis System (EBASE) that is issued by the Region Plans Office.
- CONTRACT NO.: This field is left blank. The contract number is entered by hand at Headquarters after the contract has been awarded.
- FED. AID PROJ. NO.: Enter the Federal Aid Project Number if there is federal aid in the construction phase of the project. This number can be obtained from the Region Program Management Office.
- LOCATION NO.: Enter the preliminary engineering work order number.
- PE STAMP BOXES: All plans that are considered final and that will be part of the advertised contract must contain the seal/stamp of the licensee who prepared or directly supervised the work. Preliminary documents—those documents not considered final—shall be stamped by the licensee who prepared or directly supervised the work. For more direction, refer to Executive Order E 1010.00, WAC 196-23-020, and RCW 18.43.
- PROJECT TITLE BOX: This is the upper portion of the box that is directly to the right of the WSDOT logo. Enter the exact project name, as determined by the Region Plans Office.
- SHEET TITLE: This is the lower portion of the box that is directly to the right of the WSDOT logo. Enter the sheet name as it appears in the Title column of the Index.
- PLAN REFERENCE: This is the upper portion of the box farthest right on the title bar. This is an alpha/numeric number. The alpha portion is selected by the design team; it should be logical in nature, containing letters that refer to the type of plan. The numeric portion is sequential. The plan reference shall match the Plan Reference No. column of the Index. For suggested plan reference abbreviations, see the *Electronic Engineering Data Standards Manual*.
- SHEET NUMBER: This is the lower portion of the box farthest right on the title bar. This field is filled in on the plans that are advertised when the total number of sheets is fixed. Contact the Region Plans Office for instructions on filling in this field for the review of the plans.

400.06 Plan Sequence

(1) Assembling Plans

The following outline is the sequence to follow when assembling plans for a construction project. It is a list of possible plan sheets and is not intended to represent a project.

(a) **Plan Sequence**

1. Index.
2. Vicinity Map.
3. Summary of Quantities.
4. Borrow, pit, quarry, stockpile, waste sites, and reclamation plans.
5. Roadway sections: main roadway, ramps, frontage roads, detours, others.
6. Grading sections, if applicable.
7. Stage construction plans, if applicable.
8. Alignment or Alignment/Right of Way.
9. Quantity Tabulation sheets (Q-tabs). These sheets will be placed immediately prior to the plan sheets showing the work being tabulated, such as site preparation items, temporary erosion and sediment control (TESC) items, guardrail items, and traffic items.
10. Site Preparation. Existing topography and removal and demolition work may be shown on Alignment Plans; however, if extensive details are required and the plan sheet becomes too crowded, it should be on a separate series.
11. Existing Utilities. This is an extension of the Site Preparation Plan and is only required if the existing utilities are so extensive that they cannot be clearly shown on the Site Preparation Plan.
12. Roadway profiles—normally only required when grade is being revised.
13. TESC Plans—may not be required if work is minor and can be combined with Drainage Plans or other plan sheets. Refer to Division 7 for information on when a TESC Plan is required.
14. TESC details.
15. Drainage structure notes—will precede plan series showing drainage features.
16. Drainage Plans—may not be required if work is minor and can be combined with another series of plans.
17. Drainage profiles—will follow plan series showing drainage features.
18. Drainage details.

19. Utility Structure Note sheets—only required if there is work to be done by the contractor on existing utilities.
20. Utility Plans—only required if there is work to be done by the contractor on existing utilities.
21. Utility details—only required if there is work to be done by the contractor on existing utilities.
22. Irrigation Structure Note sheets.
23. Irrigation Plans.
24. Irrigation details.
25. Landscape, wetland, rest areas, and viewpoints.
26. Interchange contours.
27. Paving Plans are required for overlay projects when paving breaks, paving dimensions, intersection paving, taper lengths, dimensions of taper widths, and so on, can't be shown adequately on the roadway sections. In this case, the roadway sections, Paving Plans, and Paving Detail sheets are to be prepared in conjunction with each other to show all the paving work.
28. Paving details.
29. Minor structures such as retaining walls.
30. Illumination Plan s—may be shown on Paving Plans if illumination is minor and Paving Plan will not be too crowded.
31. Illumination details—will follow plan series showing illumination layout.
32. Traffic Signal Plans.
33. Traffic signal details.
34. Intelligent Transportation System (ITS) Plans.
35. ITS details.
36. Sign Specification sheets—will precede the plan series showing the signing.
37. Signing Plans—may be shown on Paving Plans if signing is minor and Paving Plans will not be too crowded.
38. Signing details—will follow plan series showing signing.
39. Bridges and other structures.
40. Building plans and details.
41. Traffic Control Plans.
42. Detour routes and detour signing. If the detour is simple and straightforward, this information may be shown on the Vicinity Map, as long as the additional information does not detract from the Vicinity Map.

(2) Plan Sheets

The designer is to determine the actual plan sheets required to best depict the project. Each project will require the designer to verify the order of plan sheets to determine what is or isn't required. A basic P1 paver will normally not require as many sheets as a project that has safety, mobility and paving work. When two or more projects are merged into one project, the plan sheet sequence will be followed. Even with logical combinations of plan sheet series, the following basic order of sheets shall be maintained:

- **Item information:** Quantity Tabulation/Structure Note/Sign Specification.
- **Plan series:** The series showing the items of work described on the Quantity Tabulation/Structure Note/Sign Specification sheets.
- **Details:** For work associated with items shown on the plan sheets.

(3) Index

See Contract Plan Examples 4-1 and 4-2.

An index is required for all projects with 30 or more plan sheets. A project with more than one volume of plan sheets shall have a complete project index in each volume, providing information on all volumes.

List the plan sheet titles exactly as they appear on the plan sheets. Avoid sheet titles such as "Miscellaneous Details." If a sheet contains guardrail and drainage details, use "Guardrail and Drainage Details" as the sheet title and in the index. Note that not everyone using the plans will be as familiar with them as the designer.

On small projects, and as scale permits, the index can be placed on the Vicinity Map plan sheet. However, DO NOT reduce your Vicinity Map size to allow you to combine the index and Vicinity Map as one plan sheet.

Regardless of the size of the project, it is recommended that Plan Reference Nos. be used on all projects in lieu of plan sheet numbers during the design phase.

Plan sheet numbers are not critical during the design phase of the project. Until the design team leader or region plans reviewer has all the plan sheets for all the separate series (such as paving, drainage, and signing) to be included in the project, the total number of plan sheets to be included in the contract is unknown.

There are several advantages to using Plan Reference Nos. to identify plan sheets for individual series during the design phase:

- The designer doesn't have to know the total number of plan sheets included in the contract.
- Once Plan Reference Nos. have been assigned to individual plan sheets included in a series, these numbers should not have to be changed. This makes referencing details on other plan sheets easy to do and should help eliminate the habit of forgetting to do this. Once the statement "FOR DETAIL, SEE SHEET D12" is placed on the plan sheet, this reference will almost always be correct unless plan sheet D12 is deleted from the contract.
- Plan sheets can be inserted or deleted within the series with slight modifications to reference number. For example, a plan sheet that needed to be inserted between D6 and D7 could be called D6a, which would allow it be placed between D6 and D7, without requiring the existing D plan series to have to renumber.

(4) Vicinity Map

See Contract Plan Examples 4-2, 4-3, 4-4, 4-5, and 4-6.

Every project will have a Vicinity Map plan sheet that shows and has labeled **all** construction centerlines, detours, and haul routes.

Projects may be broken into Sections (see Contract Plan Examples 4-3 and 4-4) when it is required or necessary to split the project into different areas.

This is the logical way of showing the work to be performed, listing quantities, and so on, when all the work involved is not conveniently located in one continuous area with no exceptions or gaps.

If the entire project is on one State Route (SR), but has breaks in the areas where work is to be performed between the Begin Project and End Project, these breaks should be labeled as "exceptions" or "exception areas." If there are numerous exceptions or exception areas, an alternate method of showing these exceptions is to label as "Sections" the areas where work is to be performed.

If the project has multiple SRs, where the work is definitely spread out, it is highly recommended that the work be broken into **Sections**. When multiple SRs are used in a title, the smallest SR number followed by et al. is used to shorten the title.

AN IMPORTANT REMINDER

If the project is broken into Sections, make sure all references to a Section are exactly the same throughout all plan sheet series (Summary of Quantities, Roadway Sections, Quantity Tabulation sheets, Structure Note sheets, Profile sheets, and so on) in the plan set for that Section. All exception work areas and gaps must be shown identically in all locations and references throughout the Contract Plans and Provisions.

(a) Project limits are to be referenced to State Route Mileposts (SRMP) based on the State Highway Log (TRIPS System).

(b) Stationing shall be stated at the Begin Project and End Project on the main line and the Begin Construction and End Construction for secondary crossroads.

(c) The Begin Project and End Project are defined as follows:

- For projects with one applicable State Route, the beginning and ending of any permanent work on the main line highway is assigned as Begin Project and End Project.

(d) If the project includes multiple SRs, there is still only one Begin Project and End Project location. Projects with multiple SRs may have a Begin Project on one SR but an End Project on a different SR. Begin Project is assigned to the beginning of permanent work at the most westerly or southerly portion of the project, and the End Project to the most easterly or northerly portion, determined by the general direction of the project activities.

(e) Begin Construction and End Construction are defined as follows:

- The limits of permanent work, such as signing, guardrail, striping, drainage, landscaping, and so on, to be performed on city, county, or state roadways not on the project main line, included in the contract.

(f) The Begin and End of Federal Funding shall be shown and referenced by Federal-Aid Number, milepost, and stationing. The federal funding limits will most often be the same as the project limits, but will cover all work.

(g) All equations and exceptions shall be shown on the Vicinity Map. If the scale of the Vicinity Map is such that equations can be shown with headers and leader lines to the approximate point where the equation is located (by stationing), this is the preferred method to identify the equation. If there is insufficient room on the Vicinity Map itself (because of scale) to clearly identify the equation and exception areas, they may be shown in tabular form (data box) on the Vicinity Map plan sheet.

(h) The distance in miles from the beginning of project (Begin Project) to the nearest city or town and in the opposite direction from the other end of the project (End Project) to the nearest city or town shall be shown. Do not use "local" descriptions such as "10 miles to EZ Corners." If the nearest city or town is shown on the WSDOT highway map, it should be recognizable enough to be used for this purpose. The city or town shall be one that is shown on the WSDOT highway map.

(i) The Vicinity Map is the only place in the plans where the overall layout of the main line, ramps, frontage roads, and street locations are shown. County roads and city streets shall be shown and labeled if they are important to the project. Do not show county roads and city streets just to "fill up" the sheet. As with all plan series, delete anything that does not add value to the plan sheet or that provides detail or information that your reader does not need. DO NOT LABEL LOCAL BUSINESSES ON THE VICINITY MAP.

(j) The scale of the Vicinity Map shall be large enough to easily identify all construction lines and appropriate local and private streets or roadways. A scale bar will be provided on the Vicinity Map. In addition to including the scale bar, the scale of the plan sheet, detail, and so on, will also be shown in text underneath the scale bar.

(k) Material sites, waste sites, stockpile sites, and haul routes will be shown. Do not reduce the scale of the Vicinity Map so that these sites can be shown to scale. If they are too far removed from the project to be shown at the scale appropriate for the Vicinity Map, they can be shown in a separate box in a corner of the Vicinity Map sheet at a smaller scale. The haul route from the site to the highway shall be shown, and the distance in miles from the site to the nearest point on the project will be shown or noted.

(l) Features such as railroads, waterways, and streams, as well as overcrossing and underpassing roadways, shall be shown and named. Railroads running parallel to the project and adjacent to the right of way are also to be shown. If the railroad crosses through the project, there is to be a clear indication of whether or not the intersection is at grade.

(m) Wetland and wetland mitigation sites are to be shown on the Vicinity Map. The designer may have to enlarge sections of the Vicinity Map in order to make wetland and wetland mitigation sites visible.

(n) Bridges within the project (construction) limits shall be identified by bridge number and as being either "INCLUDED IN PROJECT" or "NOT INCLUDED IN PROJECT." A bridge is "included" in the project if something is being physically done to the structure, such as traffic barrier modifications, deck overlay, widening, earthquake proofing, or expansion joint work. Work that is simply attaching things to the bridge, such as guardrail or conduits, or work that does not affect the bridge, such as striping, would not cause a bridge to be "included in project."

(o) Cadastral information (Township, Range, and Section) is to be shown on the Vicinity Map and any plan sheets that show dimensioned right of way and/or limited access.

(p) Township, Range, and Section information will be shown on the Vicinity Map as follows:

- Township and Range Lines will be shown and identified if they fall within the limits shown on the Vicinity Map.
- If Township and Range Lines do not fall within the limits shown on the Vicinity Map, Township and Range information will be shown at the top center of the Vicinity Map plan sheet.
- Section Lines will be shown with associated Section Corners, with Section Numbers. On small projects, or larger scale Vicinity Maps, this may require the use of break lines to bring the corners within the limits shown. If the corners are found, the ties to centerline are to be shown. If there are no Section Corners within the limits shown, a quarter or sixteenth Section Line can be shown and the cadastral information (Township, Range, and Section) given to indicate location.

(5) Summary of Quantities

See Contract Plan Examples 4-7, 4-8, and 4-9.

The Summary of Quantities sheet provides a complete tabulation of all bid items and pay quantities that have been determined by the designer/design team to be required for the project. Bid items and quantities are entered into the project estimate via EBASE. The Summary of Quantities Plan sheet is generated from the estimate database by requesting a Summary of Quantities report. Utilization of the program BidTabs Pro will give the designer access to current bid prices for use on the estimate.

The Summary of Quantities shall be divided into groups and columns within the groups.

(a) **Groups**

A separate group is required whenever:

- There is a change in program item number (PIN).
- There is a change in program or subprogram (I2, P1, P2, and so on).
- There is a change in funding: any change in funding participants, their individual participation rates, or their source of funding. Funding participants may be the FHWA, a state agency or other public agencies, a county, a city, or private organizations.
- There is a change in control section.

A separate state-funded group (one per project) is required for third-party damages. The bid item "Reimbursement for Third Party Damage" is included in this group; it will be a minimum of $5.00 (see the *EBASE User's Manual*).

(b) **Columns**

Each group is required to have at least one column associated with it. Additional columns within a group are required for the following:

1. Each bridge and structural retaining wall—those covered in Section 6-11 of the *Standard Specifications*—shall have its own column in order to identify materials quantities required to construct this item.
2. Each state-furnished pit site (mandatory or not) shall have its own column.

There are exceptions that will be allowed for item 1 above. For projects with a single wall, a single bridge, or both, the wall and bridge quantities may be entered into a single column or combined with another column. For projects with multiple walls, if the materials quantities required for each wall are clearly tabulated in the plans, these wall quantities may be entered into a single column or combined with another column in the Summary of Quantities.

In addition, when paving across multiple bridges, the paving quantities need not be separated out for each bridge and may be included in main line paving quantities in the Summary of Quantities.

The intent of item 1 above is to be able to identify the quantities of work at each wall or bridge during construction activities.

The designer is advised to use additional columns within groups to show quantity breakouts for individual construction lines. For example, by using separate columns for the main line, a frontage road, and each ramp, it is much easier to track and make quantity revisions during design, and much easier to track quantities for overruns or underruns during construction, than it is if all of the quantities are combined in a single column.

(c) **Quantities**

The quantities for the following types of items will typically appear only in the Summary of Quantities:

- Lump sum items: LS will appear on the Summary of Quantities for these items; the approximate quantity for lump sum items will appear in the Special Provisions.
- Force account items.
- Water.
- Aeration items.
- Structure items, such as bridges and structural retaining walls—although separate Quantity Tabulation sheets are desirable for structural retaining walls when there is more than one wall in a project.
- Borrow materials—unless the conditions noted in Division 7 apply.
- Surfacing materials.
- Paving materials.
- Sign covering.

- Sequential arrow sign.
- Contractor piloted traffic control.
- Traffic control labor.
- Construction Signs Class A.
- Traffic Control Supervisor.
- Traffic control vehicle.
- Spill Prevention Plan.
- ESC Lead.

Bid items shall be listed in the same order as they appear in the current Standard Item Table.

Bid items not listed in the Standard Item Table shall be intermixed, according to type of work, with the bid items that are listed.

Bid item names for nonstandard bid items shall be singular in form and close to similar nonstandard bid item names used in previous projects. This information can be found in BidTabs Pro. (See Division 7 for additional information on standard items.)

(d) Standard Item Table

The Standard Item Table provides useful information to the designer in the last column to the right (Item Use Message). Listed in this column is a statement that will tell the designer what, if anything, needs to be done if this bid item is used in the project. Some of the statements that are listed in this column are as follows, with a definition of the statement:

STANDARD ITEM
Indicates that this bid item is a standard item and is covered in the *Standard Specifications*. The designer may not need to do anything to revise or supplement the information provided in the *Standard Specifications*.

However, the designer must decide whether information concerning this bid item, as addressed in the *Standard Specifications*, is sufficient or whether more "project-specific" information is required.

REQUIRES SPECIAL PROV.
Indicates that the designer needs to do one of the following:

- Revise the appropriate section or sections in the *Standard Specifications*.
- Supplement the appropriate section or sections in the *Standard Specifications*.
- Write a "stand-alone" project-specific specification because the *Standard Specifications* does not contain information/direction for this item of work.

STD. ITEM, GSP REQUIRED
Indicates this bid item is a standard item, it is covered in the *Standard Specifications*, and there is a General Special Provision (GSP) that needs to be included in the contract Special Provisions when it is used. It is the designer's responsibility to ensure the GSP is applicable or "project-specific" to the contract.

GSP ITEM
Indicates that a GSP exists and must be included in the contract Special Provisions. It is the designer's responsibility to ensure this GSP is applicable or "project-specific" to the contract.

AMENDMENT ITEM
Indicates that an Amendment exists and must be included in the contract Special Provisions when this bid item is used.

REQ SPECIAL, HQ APPROVAL
Indicates that when this bid item is used, a project-specific Special Provision must be written and HQ Construction Office approval must be given prior to including this Special Provision in the contract.

HEADQUARTERS USE ONLY
Indicates this bid item will be included in contracts only when directed by the HQ Construction Office.

TECHNICAL SPECIFICATION
Indicates this bid item will require a technical Special Provision to be written. Architects generally write this type of Special Provision. These bid items are typically used only for architectural-type work (such as building facilities construction at ferry terminals and rest areas).

SUPERSTRUCTURE ITEM
Indicates this bid item is to be used in conjunction with Standard Bid Item 4300 ONLY. The 9000 series bid items are to be used only to provide lump sum breakout data for bid item 4300 "Superstructure – XXXXXX."

DO NOT use the 9000 series bid items as stand-alone bid items in your contract estimate.

(e) **Quantities**

A quantity shall not be duplicated within the body of the plans. The item totals shown in the Summary of Quantities shall be the sum of the quantities shown for the item throughout the plans. Quantities are typically listed in the Quantity Tabulation, Structure Note, and Profile Plan sheets. When quantities for an item appear in places other than where your reader would expect to find them, or when quantities for an item appear in two or more places throughout the plans, a cross-referencing statement, such as "FOR ADDITIONAL QUANTITIES – SEE SHEETS Qnn and Wnn," shall be included.

Quantities for work items such as pigmented sealer, whose cost is included in the cost of the associated concrete, are shown in the plans for the sole purpose of aiding the contractor in the bidding process and shall be accompanied by the note, "Informational Only."

Care must be taken when calculating quantities for surfacing and paving materials to ensure reasonable accuracy. The *Design Manual* contains units and conversion factors for estimating surfacing and paving quantities.

Quantities listed in the Summary of Quantities are intended to be representative of the work to be performed. Rounding will take place each time a quantity is placed on a Quantity Tabulation sheet, a Profile sheet, or another location in the plans. The total of the rounded quantities will be carried forward to the Summary of Quantities.

(f) **Rounding of Quantities**

The following general rules shall apply to the rounding of quantities:

1. Items having an estimated unit price of $9.99 or less will be shown to the highest multiple of 10; for example, 3,640 (not 3,637) units of haul at $0.50, and 560 (not 554) tons of ballast at $1.25.
2. Items with an estimated unit price of $10.00 to $99.99 will be shown to the nearest full digit; for example, 61 (not 60.5) cubic yards of concrete at $43.00.
3. Items with an estimated unit price of $100.00 or more will be shown to one decimal place; for example, 18.3 (not 18.25) acres of clearing at $1500.00.
4. Exceptions to numbers 1, 2, and 3 above:
   - Earthwork items, roadway excavation, embankment compaction, and borrow excavations are to be rounded to the nearest multiple of 10 units, regardless of price. The rounding for roadway excavation and embankment compaction will be made for each entry on the Profile sheets. The borrow quantities will be rounded to the nearest 10 units and placed on the Summary of Quantities. On a new construction project with extremely large earthwork quantities, the quantities could even be rounded to the nearest 50 units at each entry on the Profile sheets.
   - HMA and crushed surfacing items are to be rounded to the nearest 10 units.
   - Pipe items will be rounded to the nearest foot for each pipe run entered on the Structure Note sheets, regardless of price.

(g) **Unit Bid Prices**

Good sources to use for determining the estimated unit bid prices for quantities are BidTabs Pro and Unit Bid Analysis. If these are not available through your Region Intranet Home Page, they can be accessed via the WSDOT Project Development Home Page under the "Engineering Applications" heading: www.wsdot.wa.gov/Design/ProjectDev/

(6) Contract Reclamation Plans

See Contract Plan Example 4-10.

A Contract Reclamation Plan will clearly set forth all reclamation work to be accomplished in the contract.

A Contract Reclamation Plan is required for every WSDOT contract that contains a WSDOT furnished-material source. The Contract Reclamation Plan will be based on the Ultimate Reclamation Plan (ultimate REC plan). A reproducible (reverse-reading Mylar) of the approved ultimate REC plan can be obtained from the Region Materials Laboratory. This plan will be modified to create a Contract Reclamation Plan, which will be included in the Contract Plans.

By RCW 78.44, the approved ultimate REC plan must be followed or WSDOT is subject to fines for each incident. If the contract work requires deviation from the ultimate REC plan, a modification to the ultimate REC plan has to be submitted for Department of Natural Resources (DNR) approval prior to beginning work at the site.

In some cases, Contract Reclamation Plans need to be developed during Contract Plan preparation for sites that do not have ultimate REC plans. Materials sources located on federal land or sites smaller than 3 acres in area usually do not have ultimate REC plans.

(a) Contract Reclamation Plan Elements

1. The existing contour lines shown on the Ultimate Reclamation Plan when it was approved will be updated to show the topography as it exists immediately prior to the contract. Only the contours in the portion of the site affected by your project need be shown, not for the entire site.
2. The contractor's designated work area will be noted.
3. The available raw material will be indicated, or, when appropriate, a note may be added on the plan stating that sufficient raw material is available for the project.
4. A block detailing materials to be produced and reclamation items needed under this contract.
5. The interim and reclaimed slopes shall be no steeper than the slopes on the ultimate REC plan.
6. Specific directions for excavation will be added as a note; for example, "Excavation shall progress to full depth from the existing face of excavation toward the southeast."
7. Only notes on the ultimate REC plan that are applicable to work being performed under the contract are to be included on the Contract Reclamation Plan.
8. Other notes and information necessary to the specific contract will be added. It is the intent that the Contract Reclamation Plan stand alone for the work (reclamation) to be accomplished under the contract.

(b) Contract Materials

It is the designer's responsibility to verify with the Region Materials Laboratory that the quantity of available material is accurate and that it is possible to produce all the materials listed within WSDOT specifications. If the contractor will be required to perform some special or extra work to manufacture material that meets the specifications, the special or extra work requirements are to be included in the Special Provisions.

Quantities for stripping, clearing, and grubbing, and all other items of work to be performed within a site, shall be tabulated on the plan. For a nonmandatory site, the items of work shall be site-specific ("Clearing and Grubbing – Site QS-A-495"). For a mandatory site, the work will fall under the general contract work item ("Clearing and Grubbing"), but will be shown in a separate column.

Identification numbers for stockpile and waste sites are assigned by the Region Materials Laboratory. Although a Contract Reclamation Plan is not required for stockpile or waste sites, the plans shall indicate any restrictions on the use of such sites.

Access to the sites shall be shown. If an access road is to be built, rebuilt, or widened, indicate the width of right of way, and clearly identify all work to be performed by the contractor on the access roads as a part of the contract. How the contractor will be paid for the access road work will be outlined in the Contract Provisions.

Agreements are required with the owners of all roads that make up the haul route. These agreements will indicate WSDOT's and the contractor's responsibilities for returning the roadway to the "before hauling" condition.

(7) Roadway Sections

See Contract Plan Examples 4-11, 4-12, 4-13, 4-14, 4-15, and 4-16.

Roadway sections are to provide complete geometric information on the roadway cross section from the subgrade up and general information left and right of centerline. The information on the roadway sections will tie directly to the Paving Plans and the profiles if these series of plans are included in the project.

On federal-aid projects, future paving and surfacing depths required to bring the roadway to the ultimate design cross section shall be shown in order to qualify for future participation by the FHWA.

Roadway sections are required for every combination of surfacing and paving depths used on the main line, ramps, detours, frontage roads, road approaches, city streets, and so on.

Consider the use of tables with a section example in order to reduce the number of unnecessary plan sheets.

Roadway sections are to represent conditions from the subgrade up for the entire length of the construction line(s) (such as main line, ramps, detours, frontage roads, road approaches, and city streets) included in the project. Start at the beginning station on an alignment and identify all stationing to the end of line without gaps/overlaps.

When drawing roadway sections, it is recommended that proportional scaling be used to indicate lane widths and depths of materials to be placed. A 12-foot lane should be drawn so that it appears slightly larger than a 10-foot shoulder. A 0.15-foot lift of hot mix asphalt (HMA) should be drawn so that it appears approximately one quarter the thickness of a 0.60-foot lift of gravel base course.

Roadway sections should be drawn to reflect how the work is expected to be performed in the field. If HMA is to be placed in multiple lifts, draw the roadway section to reflect this fact by showing the number of lifts with the required depths of each lift. Show each lift with an edge line that would indicate where each lift would end left and right of centerline. **DO NOT** simply draw each lift of HMA to extend out into the shoulder unless this is exactly how the HMA is to be placed.

Variable dimensions (for example, Varies 2′ to 10′) may be used to represent differences in shoulder or lane widths, or transition areas, only if there is a Paving Plan that clearly shows, by stationing, the actual widths desired. If the project is a pavement overlay project and no Paving Plan is going to be provided, the use of variable horizontal dimensions is discouraged unless construction notes or a table is used to describe, by stationing, where the variable paving widths or transitions begin and end.

A generic roadway section for bridges must be provided to avoid having gaps in stationing. If the bridge is being overlaid, additional detail will be required; be sure the roadway section matches any bridge information in the plans. When a project has a structure on the main line or a secondary line that is not included in the project, a paving exception should be noted on the Roadway Section sheet.

Bridge approach slabs, if required, shall be shown as a separate roadway section.

Station equations, paving exceptions, and project exceptions are to be shown in proximity to the roadway section to which they apply.

(a) Roadway Section Items

Each roadway section in the project shall show the following applicable items:

1. Horizontal dimensions of the roadways, as approved in the Design Decision Summary.
2. Project-specific design details and required features such as curbs, sidewalks, or riprap.
3. The depths of surfacing and paving.
4. Station-to-station limits for each line represented by the roadway section.
5. The position of the profile grade, the pivot point for super transition, and the construction centerline.
6. The depth from profile grade to the roadway surface being constructed if the project does not include ultimate design surfacing. This depth shall be labeled "Future."
7. The type, width, and thickness of the existing surface if the characteristics of the existing surface will affect construction.
8. A general note indicating that all surfacing and paving depths are compacted depths and courses shall not exceed the depths defined in the *Standard Specifications*.
9. The roadway ditch depth shall meet the design criteria in the *Design Manual*. A slope table should be used when embankment and excavation heights vary enough to require different slope rates. Show sideslopes for embankment sections and inslopes and backslopes for excavation areas.
10. A section showing shoulder widening for guardrail. If shoulder widening for guardrail is isolated to one or two roadway sections, it can be shown as part of the particular section. If shoulder widening for guardrail applies to several roadway sections, a separate shoulder-widening section can be drawn and referenced from the applicable roadway sections.
11. A section showing the shoulder design on the outside of a curve (super elevation section) if the project involves constructing subgrade on the outside of curves (a standard CADD detail that need only be shown once).
12. A surfacing legend is to be shown on each sheet indicating the type of surfacing material, with the exact item name as found on the Summary of Quantities. For HMA, it is necessary to indicate the class of material used, but not the performance grade (PG), when only one grade is used for the entire project. However, if there are two or more performance grades used

on the project, they must all be detailed on the roadway sections. Each type of material shall be assigned an identifying number enclosed by a hexagon symbol.

13. Construction notes shall be numbered consecutively, but only the construction notes that are applicable to a particular sheet will be shown on the sheet. Once you have created a construction note 1, it will always be the same for that series. Continue the sequencing of construction notes consecutively as you add them. **DO NOT** resequence from one plan sheet to the next. For example:
    - Sheet R1 may have construction notes 1, 2, 3, and 4.
    - Sheet R2 may have construction notes 1, 3, and 5. (Notes 1 and 3 on sheet R2 would be identical to notes 1 and 3 on sheet R1, and note 5 on R2 is a new note, consecutively numbered).
14. If the total paving depth for a class of HMA exceeds the nominal compacted depth specified in the *Standard Specifications*, one of the following methods of indicating the paving requirements will be used:
    - Multiple lifts shall be drawn on the roadway section indicating the desired minimum compacted depth of each lift.
    - A construction note shall be provided for the roadway section specifying the number of lifts required and the maximum allowable compacted depth for any lift.

(b) **Paving Depths**

If you don't show paving depths in your roadway sections (as specified in the two methods above), and the paving depths for your project exceed normal depths (as shown in the *Standard Specifications*), you should take another look at Section 5-04.3(9) of the *Standard Specifications*. In part, it reads:

> **5-04.3(9) Spreading and Finishing**
>
> The mixture shall be laid upon an approved surface, spread, and struck off to the grade and elevation established. HMA pavers complying with Section 5-04.3(3) shall be used to distribute the mixture. **Unless otherwise directed by the Engineer, the nominal compacted depth of any layer of any course shall not exceed the following:**

The bold sentence in the preceding paragraph is where our plans can create problems if they are not in accordance with 14 above. When roadway sections show paving depths that exceed the allowable depths listed in the *Standard Specifications*, the depths shown in the plans will supersede the depths in the *Standard Specifications* (see Section 1-04.2) in accordance with the order of precedence.

(8) Grading Sections

See Contract Plan Example 4-17.

These plan sheets will show items such as: types of embankment; use of waste in slope flattening; drainage layers; composite sections; relief ditch details; slope tables; unsuitable stripping depth tables; controlled blasting slopes; wetland sections; horizontal drain details; surcharge details; large unsuitable foundation excavation and backfill areas; and soil stabilization details. Most projects will not require grading sections.

(9) Quantity Tabulation Plan Sheets

See Contract Plan Examples 4-20 and 4-32.

Quantity Tabulation Plan sheets are used to tabulate the locations, quantities, and notes pertaining to specific bid items. Quantity Tabulation Plan sheets may not be required on projects where the information is shown elsewhere in the contract.

(a) Quantity Tabulation Plan Sheet Items

The following types of items will normally appear on Quantity Tabulation sheets:

1. Removal items—except items paid by lump sum.
2. Asphalt concrete curb and asphalt concrete gutter.
3. Timber and lumber—except bridge items.
4. Cement concrete approach.
5. Cement concrete curbs, and curb and gutter.
6. Guardrail items, including anchors, terminals, and transition items.
7. Concrete barrier items.
8. Impact attenuators.
9. Guideposts.
10. Raised pavement markers, paint lines, and pavement marking items.
11. Conduit pipe—except bridge, illumination, and traffic signal system items.
12. Wildlife reflectors.
13. Steel reinforcing bars and wire mesh—except bridge structural retaining walls and drainage items.
14. Monument cases and covers.
15. Cement concrete sidewalk.
16. Asphalt concrete sidewalk.
17. Concrete slope protection.
18. Fencing items, including gates and end, corner, and pull posts.
19. Adjustment items.
20. Delineation lights.
21. Temporary Erosion and Sediment Control Devices.

(b) Quantity Tabulation Plan Sheet Preparation

Quantity Tabulation Plan sheets are to be prepared on 11-inch by 17-inch paper. The Quantity Tabulation spreadsheet program is available through the Region Plans Offices or the HQ Project Development Unit. For additional information and instructions for the Quantity Tabulation spreadsheet, see the Appendices).

Standard sheets have been prepared with the heading "Quantity Tabulation." A descriptive addition (see types of items above) may be added after the plan sheet heading "QUANTITY TABULATION – XXXXXXX XXXXXX" to indicate what type of work is included on this plan sheet.

Quantity Tabulation Plan sheets will be placed immediately preceding the plan sheets that contain the tabulated items. This will intersperse them throughout the plans.

For projects involving only a few items, the quantities may be placed in data boxes on appropriate plan sheets or on Profile sheets, eliminating the need for Quantity Tabulation Plan sheets. Data boxes should be laid out in the same manner as the Quantity Tabulation sheets.

Blank columns shall be provided between listed bid items, and blank rows shall be provided in station listing (about every fifth entry and a space or two between each reference sheet listed). This procedure allows for the addition of bid items and stationing with ease, even during the addendum phase.

(c) **Bid Items**

Bid items shall be placed from left to right in the same order in which they appear in the Summary of Quantities Estimate.

Bid items shall be identified on the Quantity Tabulation Plan sheets exactly as they appear in the *Standard Specifications* (spelling, punctuation, spacing, and so on) and in the same order as they appear on the Summary of Quantities.

If there are more bid items to be tabulated than will fit across the top of the sheet, with the appropriate blank spaces, additional Quantity Tabulation Plan sheets will be required. The station listing will be identical for the continued sheets. Likewise, if there are more station listings than will fit on a single sheet, with the required blank spaces, additional Quantity Tabulation Plan sheets will be required. The bid items across the top will be identical for the continued sheets.

Each time an item is used in a different location, it will have a separate quantity entry. Related items, however, may be included in a single entry if the station limits are the same. For example, a single entry could include the type of guardrail, required anchors, and transition types.

Each quantity entered on the Quantity Tabulation Plan sheet is to be rounded appropriately at the time of entry. Do not add up the unrounded quantities and round the total to carry forward to the Estimate/Summary of Quantities. (See the information on rounding in 400.06(3), Summary of Quantities.)

The bid item totals on the Quantity Tabulation sheets must be consistent with the bid item totals entered in the Summary of Quantities Estimate.

(d) **Plan Reference No.**

The **Code** column shall contain the Quantity Tabulation code number, which is made up of the Plan Reference No. and the number identifying the individual construction feature on the sheet (for example, P1-1, P1-2, … P1-6, P2-1, P2-2, … P2-26). The numbers shall be listed in the ascending order of plan sheets.

Bid items, identified by station(s) and quantity or quantities, on individual Quantity Tabulation Plan sheets are tied directly to the plan sheet series they are related to by the number immediately following the Plan Reference No. mentioned above. The related series sheet shall have its own consecutive series of numbers identifying construction features (octagonal enclosed numbers beginning with number 1) beginning in the top left corner of the sheet and

progressing across and down the sheet. A light, arrowless line shall be drawn from the octagon to the construction feature. When a construction feature is continued on more than one sheet, the octagon on the continued sheet shall be divided with a horizontal line, and the Plan Reference No. on which the construction feature first appears shall be inserted in the upper half and the first sheet individual identifying number shall be inserted in the lower half. If this is done, a larger-scale octagon may be used. The octagonal symbol shall not be used for any other purposes.

For items such as pavement markings that are continuous for the entire project, list the station limits and leave the code column blank.

(e) **General Notes**

The General Notes will include information required to complete the data for a particular construction feature, such as:

- Guidepost type and color.
- Guardrail placement case, terminal connection, alternate anchor type, and connection type when connecting transition to stiffer barrier like bridge rail.
- Acceptable impact attenuators for each location.
- References to applicable Special Provisions identify the Special Provision by the exact name.
- References to applicable details in the Contract Plans. Identify the exact plan sheet (using the Plan Reference No.) where the detail is located.
- Reference to applicable Standard Plan(s). Provide the Standard Plan number, which is located in the bottom right corner of the page.
- Type of curbing to be used.

If the quantities for an item appear on other plan sheets in addition to the Quantity Tabulation Plan sheets, cross-references shall be made to the sheets where the additional quantities can be found.

(10) Alignment/Right of Way Plan

See Contract Plan Examples 4-18 and 4-19.

The alignment and right of way (R/W) information will appear on the same series of plan sheets for most projects.

In the past, right of way was required to be shown for projects having work outside the existing toe of fills or existing bottom of ditches. Now, for the purpose of reducing the number of plans sheets, the designer should include Right of Way Plans only when they are necessary for contractors to perform their work.

If R/W information is not required (such as for a paving project), the alignment information could be shown on another plan series, such as the Site Preparation Plan series or the Paving Plan series, as long as the additional information does not cause overcrowding of the plan sheet.

Site preparation information may appear with the Alignment Plans, but only if there is minimal existing topography and minimal site preparation work to be shown. If there is considerable topography or a great deal of site preparation work to be shown, the information is to be placed on a separate plan series.

(a) Alignment/Right of Way Plan Series

The following information will normally appear on the Alignment/Right of Way Plan series:

1. Construction centerlines for all roadways being constructed.
2. All stationing, bearings, and curve data associated with each construction centerline. For new construction, ramp stationing will always run in the same direction as the main line stationing.
3. Right of way centerline—not always required (see discussion below).
4. Right of way lines. All WSDOT R/W Boundary Lines (proposed and existing), *without exception*, will always be solid lines on the Contract Plans.
5. Ties of all right of way breaks to either the right of way or construction centerlines—show both station and offset distance.
6. Construction permits with private citizens, and all easements, identified by type and use.
7. Ties of all construction permits and all easements to either the right of way or construction centerline—show both station and offset distance.
8. Township and Range Lines that cross centerline, with appropriate descriptive information (such as bearing and distance to found corners), including centerline stationing at intersection point.
9. Limited access hachures when appropriate. Hachures need to be drawn to the correct stationing, but the stationing of the ends or breaks in limited access does not have to be identified on the construction plans.
10. Found Section Corners and monuments, with station and offset ties to construction centerline.
11. Station and offset ties to railroads and railroad rights of way that intersect the project or are affected by the project.
12. Corporate limit and county lines with station identification where they cross the construction centerline.
13. Names of rivers, streams, bays, and inlets, their direction of flow and meander lines, and the ordinary high tide or high-water lines of navigable waterways.
14. On all projects that include grading, the slope catch lines shall be shown. It may be desirable to show slope catch lines on the Drainage Plan; however, if this is done, the right of way line must also be shown on the Drainage Plan.
15. The outline of sand drainage blankets, unsuitable foundation excavation, and toxic waste excavation areas.
16. Show all found property corners along WSDOT R/W lines with a note stating "Per RCW 58.09.130, any monument or corner disturbed by the Contractor's operation shall be replaced at no cost to the Contracting Agency."

(b) **Right of Way Centerline**

When the right of way centerline is coincidental with the construction centerline, an equation shall be provided at the Begin Project and End Project to show the relationship between the official right of way stationing and the construction centerline stationing. An equation will be provided to show relationship between the construction centerline and the right of way centerline at the location of Right of Way Plan equations. All right of way offsets and associated stationing will then be referenced to the construction centerline.

When the right of way centerline is **not** coincidental with the construction centerline, the same procedure described in the previous paragraph may be used. The offset distance between the right of way and construction centerlines shall be shown at the Begin Project and End Project. In addition to the equations at the Begin Project and End Project, equations shall be shown at all points where the right of way and construction centerlines cross and at the location of Right of Way Plan equations.

(c) **Right of Way Stationing/Alignment**

The official Right of Way Plans may be included in the Contract Plans under the following circumstances:

- The official right of way stationing runs the opposite direction of the construction stationing.
- The right of way alignment is substantially different than the construction alignment and is not easily tied. For example, the right of way alignment has numerous curves that do not exist in the construction centerline and the right of way would have to be described using metes and bounds as opposed to offsets from the construction centerline.

If either of the two circumstances above exists, the designer needs to contact the HQ Right of Way Plans Section and request that it prepare the existing Right of Way Plans to be included in the Contract Plans. The designer will have to provide the HQ Right of Way Plans Section with the equation relating the Begin Project and End Project construction centerline to the existing R/W stationing. If this option is used, the HQ Right of Way Plans Section needs to be notified early in the design process so that the work can be added to its schedule, to ensure the plans can be prepared within the PS&E schedule.

If the project requires that Profile sheets be included in the Contract Plans, the layout of the Alignment Plan sheet must take into account that the station limits on each Profile Plan sheet are to match exactly the station limits of each Alignment Plan sheet. Horizontal alignment and steep grades can each affect the matching of stationing limits between the Alignment and Profile sheets, so they must be examined together. The alignment and profile may be shown on the same plan sheet by showing both the plan and profile on same sheet.

(d) Vicinity Map

Township and Range information is to be shown on the Vicinity Map. It does not have to be shown on the Alignment Plans unless one or both of the following cases occurs:

- The Township or Range Lines cross the centerline, in which case the line will be shown with the station of the intersection identified.
- Right of way boundary lines are shown WITH dimensions from the roadway alignment.

Section Lines only have to be shown on the Alignment Plans if the Section Corners are found, requiring that the ties to centerline be shown.

The following information will be shown for all horizontal alignments:

1. Line identification, using alpha designation and stationing (M 5+50).
2. Station ticks shown on the top side of the alignment line—top as related to the direction of the stationing.
3. Tangent bearings.
4. Point of intersection (PI), point of curvature (P.C.), point of tangency (P.T.), point on tangent (POT), point on curve (POC), point of compound curve (PCC), point of reverse curve (PRC) and point on semitangent (POST) for all horizontal alignment where applicable.
5. Angle points (A.P.) in horizontal alignments.
6. Curve data box showing:
   - Station of the point of intersection (P.I.) of bearings for each curve.
   - Delta for each curve: deflection angle between intersecting bearings.
   - Radius of each curve.
   - Tangent length for each: distance from P.C. and P.T. to the P.I.
   - Length of curve for each curve: distance from P.C. to P.T. along the horizontal curve.
   - Full super rate for each horizontal curve.

(e) Construction Stationing

Construction stationing shall increase from the beginning of the project to the end, and shall run from south to north on odd-numbered highways, and west to east on even-numbered highways.

All ramp stationing for new construction shall increase in the same direction as the main line stationing.

Ramp stationing should begin at station 10+00 to avoid negative stationing due to alignment changes.

Offset equations shall be shown as follows:

- The secondary line (ramp, crossroad, or right of way centerline) designation and station is listed first.
- The main line (construction centerline) designation and station, perpendicular distance, and left or right is listed next. The direction (left or right) is referenced from main line looking ahead on line.

(f) **Linear Equations**

Linear equations should not be an issue if the designer establishes construction stationing for the project instead of using right of way stationing. If linear equations are present, the designer must make sure that they are gap equations and not overlap equations. Overlap equations cause confusion because of the duplication of stationing caused by the overlap. To convert an overlap equation to a gap equation, a 1 can be added in front of the Ahead station (5+00 would become 15+00), or the first digit of the Ahead station can be increased by 1 (110+00 would become 210+00).

Examples:

1. Overlap equation 10+00 BK =
   5+00 AHD

   add 1 in front of the Ahead station would become

   Gap equation 10+00 BK =
   15+00 AHD

2. Overlap equation 150+00 BK =
   110+00 AHD

   add 1 to the first digit of the Ahead station would become

   Gap equation 150+00 BK =
   210+00 AHD

When showing the equation in the plans, the BACK station goes on the back-side of the equation line and the AHEAD station goes on the ahead-side of the equation line.

(11) Site Preparation

See Contract Plan Example 4-21.

The Site Preparation Plan series is where all existing topography within your project limits is to be shown, as well as all the project removal and demolition work.

If there is very little topography to be shown and very little removal and demolition work to be performed, this information can be shown on the Alignment/Right of Way Plan series as long as it does not compromise the information required on the Alignment/Right of Way Plans.

The construction centerlines will be shown on the Site Preparation Plans; however, lanes, shoulders, and other features being constructed are not to be shown.

Removal and demolition of existing features, paid as separate items, are to be identified using the General Notes in the Quantity Tabulation sheets.

Items included in the lump sum price for "Removal of Structures and Obstructions," are to be identified with notes located directly on the appropriate plan sheet. For example, removal of wire fence should be identified with a note such as "wire fence to be removed." Items of work (such as removal of guideposts) included in the lump sum price for "Removal of Structures and Obstructions" that cover the entire project do not have to be identified on the plan. Items of work being paid as "Removal of Structures and Obstructions" will not appear on Quantity Tabulation sheets.

If large, complete areas of pavement, sidewalk, or curbs and gutters are being removed, it is best not to use cross-hachuring to identify these areas. Large areas of cross-hachuring actually detract from the plans and often hide important information. It will suffice to show the limits of the removal and identify the area with a General Note on the Quantity Tabulation sheet, or note on the plan sheet "begin pavement removal/end pavement removal." If there are a number of small, isolated areas of pavement removal, cross-hachuring may be used to identify these areas.

(12) Profiles

See Contract Plan Example 4-22.

Roadway profiles are required only when there is a change in the vertical alignment of the roadway under construction. If only a section of the vertical alignment is changed, a profile is required only for that section.

The station-to-station limits shown on each Profile sheet match exactly the station-to-station limits shown on the corresponding Alignment sheet.

(a) Profile Sheets

The following information is required on Profile sheets:

1. The limits of roadway sections will appear with arrows. These are always to be the topmost entry on the Profile sheets.
2. Super elevation diagrams. These should be shown on a separate sheet if they cause crowding of other required information.
3. The finished profile grade line will be shown as CADD weight 5 solid line style.
4. The datum symbol and information shall be shown on all sheets. North American Vertical Datum (NAVD) 88 is the desirable vertical datum. However, National Geodetic Vertical Datum (NGVD) 29 is acceptable in certain situations. If there is a need to use NGVD 29 datum on a project, the HQ Right of Way Plans Section, Land Survey Support, needs to be contacted for concurrence for use.
5. Show all vertical control, including benchmarks that exist in the area of the alignment profiled on the sheet—both temporary and permanent. Be sure to include all pertinent information associated with vertical control points such as location, offset, stationing, elevation, and so on.
6. Beginning station and elevation (BVC) and ending station and elevation (EVC) of each vertical curve will be shown. Elevations and stations through each vertical curve will be shown on even stations at intervals not shorter than 50 feet but not greater than 200 feet.
7. The station and elevation of the point of intersection of the gradients (VPI) will be shown.
8. Gradients between vertical curves—shown as a percentage, carried out to a sufficient number of places so that the calculation from the elevation at one VPI on the given gradient will give the elevation at the next VPI.
9. Length of each vertical curve.

10. Elevation and station at each break—angle point; AP—in gradient with elevation shown to 0.01 foot.
11. The existing ground line will be shown as a dashed line.
12. Areas of work or quantities will be shown, with arrows, between the station-to-station limits of the work, or at 10 station (1,000′) totals if the work extends beyond 10 station totals, or at other logical breaks such as bridges or group breaks. If these logical breaks are slightly more or less than 1,000 feet apart, it would be appropriate to have a 1,300-foot total or a 700-foot total.
13. Quantities to be shown will be, but will not be limited to roadway excavation; controlled blasting; vertical sand drains; unsuitable foundation excavation; toxic waste excavation; embankment compaction; special backfill; clearing and grubbing; seeding; compost; topsoil; and fertilizing and mulching.
14. The use of the term "embankment" by itself is permitted only when Method A compaction is specified. In this instance, it must be noted that embankment quantities are shown for informational purposes only.
15. Details showing sideslopes for unsuitable foundation excavation and toxic waste excavation shall be shown on the profiles or detailed on separate sheets. The bottom of unsuitable foundation excavation and toxic waste excavation will be shown, but should be shown as a squiggly line to indicate that the actual bottom elevation of the excavation is unknown.

The designer needs to give some thought to the layout of the Profile sheets prior to placing information, because the layout is to be the same on each Profile sheet in the series. All quantity arrows are to be placed in the same position on each sheet to allow quantities to be located easily.

If there is only minor grading on the project, and Profile sheets are not used, 10 station totals, or similar quantity breakdowns, will be shown on a Quantity Tabulation sheet.

(13) Structure Notes

See Contract Plan Examples 4-23 and 4-28.

All of the information shown on the Structure Note sheet and the Drainage Plans and Profiles will meet the requirements contained in the *Hydraulics Manual* and the *Standard Plans for Road, Bridge, and Municipal Construction (Standard Plans)*.

(a) Structure Note sheets are used to tabulate locations, bid items, quantities, and notes pertaining to drainage items, utilities, water lines, and so on.

(b) The Structure Note sheets are to be on 11-inch by17-inch paper. The Structure Note spreadsheet is available through Region Plans Offices or the HQ Project Development Unit. For additional information and instructions for this microcomputer spreadsheet, see the Appendices.

(c) Standard sheets have been prepared with the heading "Structure Notes." A descriptive addition such as "Utilities" or "Irrigation" shall be added after the heading "STRUCTURE NOTES – XXXXXXX XXXXXX" to indicate what type of work is included on the plan sheet. Structure Note sheets are to be placed immediately preceding the plan sheets that contain the features being tabulated.

(d) For those projects involving only a few drainage bid items at a few locations, the information normally provided on Structure Note sheets may be provided on the appropriate plan sheets, in either a tabular form in data boxes, or placed in a convenient location on the sheet, with a leader line used to connect the information with the corresponding drainage feature.

(e) Blank columns shall be provided between listed bid items, and blank rows shall be provided in station listing—about every fifth entry and a space or two between each reference sheet listed. This procedure allows for the addition of bid items and stationing with ease, even during the addendum phase.

(f) The bid items shall be placed from left to right in the same order in which they appear in the Summary of Quantities Estimate.

Bid items will be identified on the Structure Note Plan sheets exactly (spelling, punctuation, and spacing) as they appear in the WSDOT Standard Item Table.

(g) If there are more bid items to be tabulated than will fit across the top of the sheet, with the appropriate blank spaces, additional tabulation sheets will be required. The station listing will be identical for the continued sheets. Likewise, if there are more station listings than will fit on a single sheet, with the required blank spaces, additional tabulation sheets will be required. The bid items across the top will be identical for the continued sheets.

(h) Each time an item is used in a different location, it will have a separate quantity entry. Related items, however, may be included in a single entry if the station limits are the same. For example, a single entry could include a catch basin, pipe, structure excavation, and riprap.

(i) Each quantity entered on the Structure Note Plan sheet is to be rounded appropriately at the first point of entry. Do not add up the unrounded quantities and then round the total to carry forward to the Summary of Quantities Estimate. (See the information on rounding in 400.06(3).)

(j) The Code column shall contain the structure code number, which is made up of the Plan Reference No. and the number identifying the drainage features on the sheet (for example, D1-1, D1-2, … D1-6, D2-1, D2-2, … D2-26). The numbers shall be listed in ascending order of plan sheets.

(k) Indicate the construction centerline stationing on the Structure Note sheet for cross culverts, and indicate station and offset for each end of longitudinal pipe installations. If a sanitary or storm sewer line stationing is used, the sewer line stationing will be used on the Structure Note sheet, and the plan sheets will indicate the appropriate ties to the construction centerline.

(l) The bid item for storm sewer pipe will be "Schedule ___Storm Sewer Pipe ___ In. Diam." A table indicating the acceptable pipe alternates is included in Section 7-04 of the *Standard Specifications*. There will be times when not all of the pipes shown as acceptable alternates in the table will be acceptable because of conditions on a specific project. When there are pipes not acceptable for a specific project, the designer will include a General Note on the Structure Note sheet identifying the unacceptable pipe type. The *Hydraulics Manual* contains a complete discussion on storm sewer pipes and is to be used for guidance.

(m) When WSDOT does sanitary sewer pipe work, it is usually to extend or replace a system affected by the highway work. The utility or local agency will normally specify the type of pipe, or specify that the pipe extension or replacement be in kind. The system owner's request for pipe type is to be placed in the P&SE portion of the Project File to serve as backup justification. The bid item will be the pipe type requested by the owner, and the General Note on the Structure Note Plan sheet will read either "no acceptable alternates" or "replace in kind," whichever is appropriate.

(n) The General Notes will include information required to complete the data for a particular drainage feature, such as:

- Acceptable or unacceptable pipe alternates for drain, underdrain, and culvert pipes.
- Unacceptable alternates for culvert and storm sewer pipes bid on a schedule basis.
- The appropriate treatment for pipes, except when the treatment is described by the bid item name.
- The corrugation dimension for corrugated steel pipe when a size other than the standard size corrugation is required.
- Specific vertical elongation where elliptical-shaped steel or aluminum pipes are required, whether the elliptical pipe is specified in the bid item or as an alternate.
- Procedures or instructions necessary to complete construction of the drainage feature.
- Required features, such as beveled end sections, safety bars, and other improvements.
- References to applicable details in the Contract Plans. Identify the exact plan sheet using the Plan Reference No. where the detail is located.
- References to applicable *Standard Plans*, with the full Standard Plan number.
- References to applicable Special Provisions. Identify the Special Provision by the exact name.

The bid item totals on the Structure Note sheets must be consistent with the bid item totals entered in the Summary of Quantities Estimate.

(o) If the quantities for an item appear on other plan sheets in addition to the Structure Note sheets, cross-references shall be made to the sheets where the additional quantities can be found.

(14) Drainage Plan

See Contract Plan Example 4-24.

Each plan sheet will have its own consecutive series of numbers identifying drainage features. The numbers (beginning with number 1 enclosed in circles) will begin in the top left corner of the sheet and progress across and down the sheet. A light, arrowless line will be drawn from the circle to the drainage feature or features. These numbers relate directly back to the Structure Note plan sheets.

When a drainage feature is continued on more than one sheet, the circle will be divided with a horizontal line. The plan sheet reference number on which the drainage feature first appears will be inserted in the upper half and the individual identifying number will be inserted in the lower half. A larger-scale circle may be used if this is done. The circle symbol is reserved for the purpose of identifying drainage features and is not to be used for any other purpose.

If a sanitary or storm sewer line stationing is used, the plan sheets will indicate the appropriate ties to the construction centerline.

Each cross pipe will have a separate code number, which will include any attached drainage structure and any riprap, quarry spalls, or other end treatment being constructed in conjunction with the pipe.

Each run of pipe in a closed sewer system will have a separate code number, which will include the pipe and the drainage structure on the inlet end of the run of pipe.

If multiple pipes are to be placed in the same trench, they may be combined under a single structure code.

The skew angle for all skewed cross pipes shall be indicated on the plan sheets, unless both ends are controlled by station and offset and the stations and offsets appear on the Structure Note sheet.

A roadway ditch that is shown as part of a roadway section does not need to be shown on the Drainage Plans. This roadway ditch is included in the earthwork for Roadway Excavation Incl. Haul. This roadway ditch shall not be assigned a Structure Note number. When a ditch is constructed based on a drainage profile in the Drainage Plans, then this ditch shall be assigned a Structure Note number and the excavation is included in the bid item Ditch Excavation.

(15) Drainage Profiles

See Contract Plan Examples 4-25 and 4-26.

The established scale controls the drainage profiles vertically. There is usually no horizontal scale for the drainage profiles, but it is recommended that distances represented be drawn proportionately. Each profile will be drawn in proportion horizontally for the length of the profile (the space representing 10 feet will appear the same for the length of the profile, and it will appear to be approximately two times a space, representing 5 feet).

The profiles can be made visually easier to follow by using an elongated triangle to represent manholes and an elongated rectangle to represent other drainage structures (such as catch basins or inlets). The distance shown between drainage structures is not the length of pipe but the horizontal distance from center of structure to center of structure. If it happens to appear to be the same as the length of pipe shown in the Structure Note Plan sheet, it is merely coincidental.

Pipe diameters are to be drawn with proportionate scale, so a 12-inch-diameter pipe will be drawn half the size of a 24-inch-diameter pipe.

The drainage profiles are to be drawn as a straight line representation of the path the water will take as it flows through the system, without regard for the actual plan view direction the pipes are running. The designer does not have to break the profile because a system that had been running parallel to the centerline has turned ninety degrees at a catch basin and crossed the roadway.

At locations where two or more pipes bring water to a drainage structure and one pipe carries the water away, there will have to be breaks in the profiles. One profile will continue through the common drainage structure and show the water leaving the structure, while the other profiles will stop or start at the common structure. There will be a leader line drawn between the representations of the common drainage structure with the note "same catch basin," which is the tie between the profiles and completes each without having to draw the exit pipe a number of times. The information for the common structure will only be shown on one profile, usually the one that shows the outlet pipe.

(a) **Drainage Profile Information**

The following information is to appear on the drainage profiles:

1. Inlet and outlet flow line elevations of pipes—shown below the pipe profile. Inlet and Outlet flow line elevations are those elevations derived from pipe slopes carried to the center of drainage structure.
2. Outflow treatments such as riprap, quarry spalls, and, if the ditch is other than a roadway or median ditch, ditch profiles.
3. Debris deflectors, standpipes, and headwalls.
4. The type of drainage structure and station and offset location of the structure—shown above the structure.
5. The rim elevation of manholes, catch basins, inlets, or other drainage structures—shown above the structure.
6. The horizontal distance between adjacent drainage structures from center of structure to center of structure.
7. The size of pipe in each run—you do not have to include the type of pipe.
8. The pipe slope—carried out to sufficient decimal places so that when the calculation is made from the indicated inlet flow line, on the given grade, for the given distance, the result will be the outlet flow line indicated.
9. Finished ground line above the pipe.
10. Original ground line if pipes will be placed prior to embankment construction or if original ground differs from the finished ground line.

(16) Utility Plan

See Contract Plan Example 4-29.

When the contractor is to work on the existing utilities as part of the contract, plan sheets for utility structure notes, plans, and details will be required. These shall follow the same general guidelines as specified for Drainage Structure Notes/ Plans/Details.

To locate utilities in areas where only a few utilities exist, consider using tables with stations and offsets in lieu of creating additional plan sheets.

RCW 19.122.040 requires WSDOT to identify and locate known underground utilities in our contracts. The designer should make every effort to also identify and locate aboveground utilities.

RCW 19.122.040 "Underground facilities identified in bid or contract – Excavator's duty of reasonable care – Liability for damages – Attorneys' fees," reads as follows:

> (1) Project owners shall indicate in bid or contract documents the existence of underground facilities known by the project owner to be located within the proposed area of excavation. The following shall be deemed changed or differing site conditions:
>
> (a) An underground facility not identified as required by this chapter or other provision of law; and
>
> (b) An underground facility not located, as required by this chapter or other provision of law, by the project owner or excavator if the project owner or excavator is also a utility.
>
> (2) An excavator shall use reasonable care to avoid damaging underground facilities. An excavator shall:
>
> (a) Determine the precise location of underground facilities which have been marked;
>
> (b) Plan the excavation to avoid damage to or minimize interference with underground facilities in and near the excavation area; and
>
> (c) Provide such support for underground facilities in and near the construction area, including during backfill operations, as may be reasonably necessary for the protection of such facilities.
>
> (3) If an underground facility is damaged and such damage is the consequence of the failure to fulfill an obligation under this chapter, the party failing to perform that obligation shall be liable for any damages. Any clause in an excavation contract which attempts to allocate liability, or requires indemnification to shift the economic consequences of liability, different from the provisions of this chapter is against public policy and unenforceable. Nothing in this chapter prevents the parties to an excavation contract from contracting with respect to the allocation of risk for changed or differing site conditions.
>
> (4) In any action brought under this section, the prevailing party is entitled to reasonable attorneys' fees.
>
> [1984 c 144 § 4.]

Identified utilities are to be shown in the bid or contract documents as stated in the RCW. The Site Preparation Plan series is where they would normally be shown (see 400.06(11), Site Preparation). If the project is in an area with many utilities, as well as many other topographical features, it may be necessary to separate the utilities on a separate series of plans following the Site Preparation Plan series. The best available information as to the location of underground and overhead utilities is to be used. Contract Plan Example 4-19 shows how utilities are typically shown on a plan sheet.

Do not forget to include WSDOT utilities, such as traffic signal, illumination, and ITS conduits and fixtures.

The required amount of detail related to utility location is directly proportional to the amount of underground work involved in the contract and the proximity to the utility. A simple paver should require less utility detail than a project with excavation at or near a 24-inch natural gas line or a 96-inch sewer line.

(17) Interchange Contour Plan

Interchange Contour Plans provide finished ground contours for interchange areas. These plans require the Region Landscape Architect's stamp (or the HQ Landscape Architect's stamp for regions without a Landscape Architect), regardless of whether they are prepared by the design team or the landscape section. (See the *Design Manual* for more information.)

(18) Paving/Pavement Marking Plan

See Contract Plan Examples 4-27, 4-30, 4-31, and 4-33.

Paving and pavement marking information will normally be combined on a single series of plans.

If the project requires the paving information to be separate from the pavement marking information, the Paving Plan will show the total roadway and shoulder widths described by the roadway sections, not lane widths. The Pavement Marking Plans will show the lane configuration and widths. The information is not to be repeated on both series of plans.

The Paving/Pavement Marking Plan series may be necessary when the work cannot be shown adequately on the roadway sections. If the roadway sections adequately describe most of the project, only the areas requiring more detailed or specific information need be shown in Paving/Pavement Marking Plans.

Pavement marking will conform to the requirements shown in the *Design Manual* and the pavement marking applications shown in the *Standard Plans*. Pavement marking layout information is not required in the plans if the required pavement markings are as shown in the *Standard Plans*. Pavement marking quantities are to be tabulated on Quantity Tabulation sheets if not accurately shown elsewhere.

When Paving/Pavement Marking Plans are included, they will show all lane and shoulder widths, information on pavement taper lengths and widths, widening for guardrail, and the locations of concrete barrier, guardrail, impact attenuators, and traffic islands. The various areas and types of pavement marking will be identified by General Notes in the Quantity Tabulation sheets; if there is only minor pavement marking, the beginning and ending stations could be shown in the plan for each type in the area.

The only existing information that will appear on the Paving/Pavement Marking Plans will be the existing roadways and approaches beyond the point where the new construction begins or ends to show the tie between the new and existing. The "old" roadway and lane lines through the construction area are not to be shown.

If there is only minor drainage, signing, or illumination work on the project, it can be shown on the Paving/Pavement Marking Plans, provided it does not compromise the clarity of the paving and pavement marking information being shown.

Paving or pavement marking details, such as the layout of a traffic island, may be required at a larger scale to provide sufficient information or required dimensioning to clearly show the construction. These details will follow immediately after the Paving/Pavement Marking Plan series.

(19) Wetlands, Mitigation Sites, and Detention/Retention Site Plans

(a) Wetlands

All wetlands, whether inside the right of way or not, that **could be** impacted by the construction work shall be shown on the construction plans, using standard symbols found in Division 5.

Wetlands may be either delineated or inventoried. Delineated wetlands will, in most cases, have buffer zones associated with them, which must also be shown in the plans. The buffer zone is established by the local jurisdiction and may not always be identified on the permit. For each wetland identified within a project area, the designer will have to check with the Region Environmental Office to get the buffer zone information. Inventoried wetlands have been identified by a visual survey of the area and the required buffer zones are included in the inventoried boundaries.

The wetland and buffer zone shown in the plans is to represent the area, but does not have to be plotted point for point from the delineation information in the permit. The station and offset information required to delineate the site is not to be included in the Contract Plans. When the wetland is being surveyed, the information is to be taken directly from the permit.

The wetlands are to be shown on the Vicinity Map and all other plan sheets, such as those showing cut/fill lines, drainage, or other features that could impact them.

(b) Mitigation Sites

A wetland mitigation site is a wetland area that has been or is being created, restored, enhanced, or preserved to compensate for wetlands impacted by construction.

All wetland mitigation sites shall be shown on the construction plans and identified as either “existing” or “to be constructed.” A mitigation site, whether existing or to be constructed, is always identified as a mitigation site on plan sheets. Mitigation sites do not get reclassified as a wetland at a future time.

If a contractor is allowed to work within an existing wetland, wetland buffer zone, or, in rare circumstances, a mitigation site, the allowable work area shall be delineated by the cut and fill line. The contractor shall possess a permit identifying each wetland in which work is allowed.

(c) Detention/Retention Sites

All facilities related to the detention, retention, and treatment, filtration, or drainage of stormwater or surface water, whether existing or to be constructed, shall be shown on the construction plans and labeled as Stormwater Treatment Areas. It is important to identify stormwater treatment areas so they will not be misconstrued to be wetlands or mitigation areas in the future.

Designer’s should contact the HQ Engineering Records and Imaging Office with the Township and Range, Section, State Route (SR) and Mileposts (MP) of their project, to obtain copies of the Sundry Site Plans that show any existing mitigation sites that are on record.

(20) Plan Detail Sheet

Details specific to the project being developed will have to be provided by the designer to ensure the contractor has a clear picture of the work to be performed.

The plan details are to be organized on plan sheets so they are grouped according to plan series. The detail sheets will then be placed as the last set of plans in the plan series. For example, all of the drainage details will be grouped on the appropriate number of sheets and will become the last sheets in the Drainage Plan series—normally following the drainage profiles.

It is important that details be complete, meaningful, and necessary. It is also important that details be drawn at a scale that will clearly show the information when reduced and placed on the 11-inch by 17-inch plan sheets.

Plan details are not to be a redrawn Standard Plan. Many times, however, it is necessary to draw details showing a project-specific modification to a Standard Plan. In these instances, sufficient detail is to be provided to indicate the modification, but all of the information on the Standard Plan that is still applicable is not to be redrawn. Instead, a note stating "FOR INFORMATION NOT SHOWN, SEE STANDARD PLAN X-XX" is to be included on the detail.

Details that are not associated with a Standard Plan must be complete, because the contractor is only obligated to provide what is shown on the detail.

Division 5 contains the STATE.CEL library, which is a number of generic or standard details found in the CADD system. Many of these details can be used as is, or they may be modified to fit requirements for a specific application. Use of these details can save both the designer and the CADD operator considerable time over developing and inputting details from scratch.

(21) Minor Structures

Projects with quantities for minor structures, such as nonstructural retaining walls (see Section 8-24 of the *Standard Specifications*) or other like items of work, shall have these quantities shown in the plans in one of the following methods:

- Quantities shall be shown on Quantity Tabulation sheet(s).
- Quantities shall be shown in tabular form (in data boxes) on the individual plan sheet(s).

(22) Illumination Plan

See Contract Plan Example 4-34 and 4-35.

The design of illumination systems will conform to guidelines in the *Design Manual*.

If the illumination work is minor adjustments to an existing system or the installation of a small system (one or two luminaires) at an intersection, it can often be shown on another series of plans.

(a) Illumination Plan Information

The following information is required for Illumination Plans:

1. The location of light standards: new and existing.
2. The light standard number for new luminaires.

3. The location of the power source: whether new or existing.
4. The layout of the conduit and electrical circuitry.
5. The mounting height for new luminaires: for existing if being relocated.
6. The mast arm length for new luminaires: for existing if being relocated.
7. Base requirements, fixed or slip, for new luminaires: for existing if being relocated.
8. Conduit size and fill for new installation: for existing affected by, or affecting, the project.
9. Service cabinet requirements for new: or modifications to existing.
10. Junction box locations and types for new: for existing affected by, or affecting, the project.
11. Luminaire light source, distribution, and voltage for new luminaires.
12. All other features unique to the specific project.

(b) **Stationing and Offsets**

Stationing and offsets, shown in the foundation schedule for light standard locations, are to be reasonably accurate to ensure the design light levels are achieved.

(23) Traffic Signal Plan

Traffic Signal Plans are normally provided by either the Region Traffic Office or the HQ Traffic Office, and the designer simply incorporates them into the project. The Traffic Signal Plans will follow the guidelines in the *Design Manual*.

(24) Intelligent Transportation System Plan

See Contract Plan Example 4-36.

The Region Traffic Office normally provides Intelligent Transportation Systems (ITS) Plans, and the designer simply incorporates them into the project. ITS Plans will follow the guidelines in the *Design Manual*.

Even though the designer is not responsible for the design of the Intelligent Transportation System, the designer is responsible for providing the appropriate base maps to the HQ Traffic Office. The base map information provided to the traffic designer will show the locations of all new and existing features, such as utilities, drainage pipes, and structures, so that these features can be taken into account during the initial design. It is also the designers' responsibility to keep the traffic designer aware of all design revisions made to the plans from the time the initial layout was given to the traffic designer.

(25) Sign Specification Plan Sheet

See Contract Plan Examples 4-37, 4-38, and 4-39.

Sign Specification Plan sheets are to be prepared on 11-inch by 17-inch paper sheets plotted from CADD or an Excel program.

A separate Sign Specification Plan sheet will normally be prepared for the installation of new signs, the removal of signs, and the relocation of signs. If the signing work is minor, it is permissible to combine the different types of work on a single sheet, but there should be a distinct, identifiable section of the sheet for each type of work presented.

There will be a separate sign-numbering system for each of the three types of signing work, and each will be continuous from the beginning of the project to the end.

The Sign Specification Plan sheets are to be completely filled out.

Remember that the material stock used for the signs comes in 48-inch by 96-inch sheets, so sign sizes need to be adjusted to make the most efficient use of the stock material. The following guidelines should be used:

- For signs having a horizontal dimension of 48 inches or less, all dimensions shall be specified in inches.
- For signs having a horizontal dimension of greater than 48 inches, all dimensions shall be specified in feet and inches.

Wood posts can be called out as 4 × 4 (the common name for a 3½″ × 3½″ piece of lumber), 4 × 6, and so on, as long as there is no reference to inches.

When a sign installation requires multiple steel posts, the designer will have to specify which base type is to be used (see the *Standard Plans* for each multiple-post installation).

(26) Signing Plan

See Contract Plan Examples 4-40 and 4-41.

The Signing Plans will follow the guidelines in the *Design Manual*.

Signing will always be shown in a plan view; however, the designer needs to assess the need for the Signing Plan series. In many cases, there are not sufficient signs to require a separate series of plans. In these cases the signing information can be combined with another series, such as the Paving/Pavement Marking Plan series, without affecting the clarity of the overall plan.

Where deemed appropriate, consider using the standard Traffic Control Plans in the *Standard Plans* or the *Work Zone Traffic Control Guidelines*, or using the guidance in the *Manual on Uniform Traffic Control Devices* (MUTCD).

Signing Plans do not normally require a great deal of roadway detail. The centerline and edge of the roadway is normally all that is required for two-lane highways. For multilane highways, additional detail and roadway information may be required.

For region-wide signing projects, where an extensive area is covered, a smaller scale (even a strip map) can be used for directional sign placements. However, even in these instances, larger-scale details may be required to show sign installations at intersections and other areas where there are numerous signs being installed in a small area.

There is never to be a light standard within 50 feet of the front of an overhead sign installation.

Signs will be located in the plans and identified using the plan sign number. For new installations, the plan sign number will be enclosed in an oval. The plan sign number for sign removals will be enclosed in a rectangle and "R-" will preceded the number. Sign relocations will show both the original and relocated locations of the sign and the plan sign number will be enclosed in a square. There will be a leader line from the plan sign number to the sign location. Sign relocations will have two leader lines: a dashed line from the plan sign number to the original location and a solid line from the plan sign number to the relocated location.

The Signing Plans will show the following:

- Construction centerlines—all that is required for signing, such as destination and speed limit.
- Basic roadway layout in areas where detail is required, such as intersections with considerable signing.
- Sign locations.
- Small-scale layout of directional and special signs, showing required details, such as where upper- and lower-case lettering is to be used, location of directional arrows, and so on. Details may be placed on a separate sheet to avoid overcrowding of the plan.
- Small-scale layout of standard control signs may be shown in the plans. This can be very helpful to both the contractor and the inspector.
- Plan sign number with leader line pointing to sign location.
- WSDOT Sign Fabrication code number adjacent to plan sign number.
- Signs to be installed.
- Signs to be removed.
- Signs to be relocated. Show the sign locations for both the original, using a dashed leader line, and the relocated, using a solid leader line.
- Power source for all illuminated signs. If the source is coincidental to an illumination or traffic signal system and shown on those plans, a construction note referencing the sheet where the source is identified will suffice.

(27) Signing Details

When overhead signs are being installed on a sign bridge or cantilever structure, the Sign Specification and/or Sign Detail needs to show the following information:

- Simple drawing of the new structure and signs
- Distance between signs
- Distance between signs and end supports or posts
- Location of overhead signs in relation to lanes
- Sign light spacing
- Maintenance walkway position
- Other data called for in the plans

(28) Bridge Plan

Bridge Plans are prepared by the HQ Bridge and Structures Office. The designer may be required to provide field information for use by the HQ Bridge and Structures Office during the design. Required data/guidelines are shown in the *Design Manual*.

Most projects with bridge construction will have items of work required because of the bridge work, but are indicated on the Bridge Plans as "not included in bridge quantities." The designer is to provide the required PS&E information for these items.

Following are some of the items typically "not included in bridge quantities":

- Drains
- Gravel backfill for drain
- Gravel backfill for wall
- Underdrain pipe behind or around abutments or walls
- Drain pipe in embankments at bridge ends
- Utility conduits and anchorage
- Slope protection
- Concrete barrier
- Guardrail connections

The bridge designer will provide the designer with a list of items that are not included in the bridge work.

(29) Traffic Control Plan

As required in the Federal-Aid Policy Guide, 23 CFR Part 630.1010(2), every project shall have project-specific Traffic Control Plans. "Traffic Control Plans" is the common name for site-specific work zone Traffic Control Plans. Primary consideration should be given to worker safety within the work zone while providing for the safe and efficient passage of traffic.

The designer may consider the use of standard Traffic Control Plans in the *Standard Plans*, plans in the *Work Zone Traffic Control Guidelines*, and guidance in the *Manual for Uniform Traffic Control Devices* (MUTCD). On smaller projects, such as a two-lane paver, the designer may consider the use of an item for contractor-prepared Traffic Control Plans in lieu of providing plans in the contract.

It is important for the designer of the Traffic Control Plans to remember that when the contractor uses the traffic control layouts shown in the plans, WSDOT is in a high-liability position should anything go wrong when the traffic control called for is in place. Because of the high liability, this portion of the plan needs to be developed with a great deal of thought, by someone with an understanding of the project as well as an understanding of traffic control requirements.

The size and color of all traffic control signs are to be shown on the plan. Warning (W series) signs are required by WSDOT policy to be a minimum of 48 inches by 48 inches, but this information still has to be on the plan. Traffic control signing is laid out in respect to the distance from the work area. These distances, from the work area and between signs, are to be shown as plus/minus (+/-) distances. For example, if the required spacing between signs is 150 feet, it will appear on the plan sheet as 150′+/-. This does not mean the sign can be put any place the contractor chooses within the 150-foot range; it means the sign is to be placed at 150 feet unless there is an engineering reason to move it slightly. (See "Work Zone Safety and Mobility" in the *Design Manual* for additional items to be included in these plans.)

Tables have been developed for sign spacing, taper lengths, pavement marking, device spacing, and buffer zone data that establish criteria for a variety of speeds. It is recommended that these tables be utilized for consistency and to eliminate the possibility of errors in calculations.

The guidance in the *Standard Specifications* allows the contractor to develop Traffic Control Plans or revise those furnished in the contract (see "Traffic Control Plans" in the *Standard Specifications*).

Traffic Control Plans may contain certain required items, not supplied by WSDOT, for which bid items will be provided in the project. The Traffic Control Plans shall be reviewed to ensure all items required for traffic control and bidding are shown as either separate bid items or included in bid items for a lump sum bid—if approved by the proper delegated authority.

When Traffic Control Plans are prepared by the Region Traffic Office, the designer must work closely with the Traffic Office to ensure the Traffic Control Plans are compatible with the rest of the project and project staging. The Region Traffic Office, in many cases, is not as familiar with the entire project as the designer, so the designer should review the Traffic Control Plans thoroughly.

400.07 Plan Examples

In order to help illustrate the intent of WSDOT contract plan sheets, examples of typical plan sheets and electronic data files are available. These examples are strictly for informational purposes. Final approval of plan sheets will be in accordance with this manual and the WSDOT Plan Review Office.

(1) Example Plan Sheets

This section provides examples of typical PS&E plan sheets showing general plan requirements.

(2) Example Projects

Additional plan examples may be viewed from the following public WSDOT Computer Aided Engineering (CAE) website under "Consultant Resources":
http://www.wsdot.wa.gov/design/cae

These plans represent an informational only example of a complete project plan set. This project shows the relationship between "Base" information, plan view sheets, section view sheets, profile view sheets and other spreadsheet based sheets per the *Plans Preparation Manual* and *Electronic Engineering Data Standards* (EEDS) manual.

Plans may be viewed in PDF format from the website, or downloaded in native MicroStation (dgn) and Microsoft Excel (xls) file format compressed by WinZIP (zip).

INDEX

SHEET NO.	PLAN REFERENCE NO.	TITLE
1 - 2	IN1 - IN2	INDEX
3	VP1	VICINITY MAP
-	SQ	SUMMARY OF QUANTITIES
-	RC	RECLAMATION PLAN
4 - 17	RS1 - RS14	ROADWAY SECTION
-	GS	GRADING SECTION
-	SU	STAGING PLAN
18 - 25	AL1 - AL8	ALIGNMENT AND RIGHT OF WAY
26 - 27	QTSP1 - QTSP2	QUANTITY TABULATION - SITE PREPARATION
28 - 35	SP1 - SP8	SITE PREPARATION PLAN
-	EU	EXISTING UTILITIES PLAN
36 - 44	RP1 - RP9	ROADWAY PROFILE
-	QTEC	QUANTITY TABULATION - TESC
45 - 52	EC1 - EC8	TESC PLAN
-	EC	TESC DETAIL
53 - 62	NTDR1 - NTDT10	STRUCTURE NOTES - DRAINAGE
63 - 70	DR1 - DR8	DRAINAGE PLAN
71 - 86	DP1 - DP16	DRAINAGE PROFILES
-	DR	DRAINAGE DETAIL
87 - 92	NTUT1 - NTUT6	STRUCTURE NOTES - UTILITIES
93 - 96	UT3, UT6 - UT8	UTILITY PLAN
-	UT	UTILITY DETAIL
-	NTIR	STRUCTURE NOTES - IRRIGATION

INDEX (CONTINUED)

SHEET NO.	PLAN REFERENCE NO.	TITLE
-	IR	IRRIGATION PLAN
-	IR	IRRIGATION DETAIL
-	LS	LANDSCAPE PLAN
-	CN	INTERCHANGE CONTOUR PLAN
97 - 106	PV1 - PV10	PAVING PLAN
-	PV	PAVING DETAIL
107 - 114	QTPM1 - QTPM8	QUANTITY TABULATION - PAVEMENT MARKING
115 - 124	PM1 - PM10	PAVEMENT MARKING PLAN
-	PM	PAVEMENT MARKING DETAIL
-	ST	MINOR STRUCTURES
125 - 132	IL1 - IL8	ILLUMINATION PLAN
-	IL9	ILLUMINATION SCHEDULE
-	IL9	ILLUMINATION DETAIL
-	SG	TRAFFIC SIGNAL PLAN
-	SG	TRAFFIC SIGNAL DETAIL
133 - 134	TS3, TS7	ITS PLAN
-	TS	ITS DETAIL

NOTE TO DESINGER

FOR ANY CONTRACT THAT CONSIST OF 30 OR MORE PLAN SHEETS, AN INDEX IS REQUIRED ALSO ANY CONTRACT WITH MUNTIBLE VALUMS WELL HAVE A COMPLETE INDEX IN EACH VOLUMN

THE FEDERAL AID NUMBER IS REQUIRED ON THE FIRST SHEET OF THE PLANS, WHETHER IT IS THE INDEX OR VICINITY MAP

PLAN REFERENCE NUMBERS SHALL NOT BE REPEATED

THE LIMIT OF PLAN SHEETS PER VOLUMN IS 225. BREAK VOLUMNS AT THE END OF A PLAN SET.

PLAN REFERENCE NO.

SHEET OF SHEETS

NOTE: ALL SHEET REFERENCES, FIRST NOS. OF STRUCTURE CODE DESIGNATIONS AND MATCH LINE SHEET REFERENCES, ETC., THROUGHOUT THE PLANS, REFER TO THE ENTRY IN THE PLAN REFERENCE NUMBER BOX.

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div4_PS_IN.dgn				REGION NO.	STATE	FED.AID PROJ.NO.
TIME	2:26:23 PM				10	WASH	NH-0000(000)
DATE	10/7/2009				JOB NUMBER		
PLOTTED BY	kerrt				00Z000		
DESIGNED BY	DESIGNER				CONTRACT NO.		LOCATION NO.
ENTERED BY	CAD OPERATOR						XL-1234
CHECKED BY	TEAM LEAD						
PROJ. ENGR.	PROJECT ENGINEER						
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY			

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

EXAMPLE 4-1
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

INDEX

Plot 1

PLAN REF. NO. **IN1**

SHEET OF SHEETS

INDEX

SHEET NO.	PLAN REFERENCE NO.	TITLE
1	VM1	INDEX/VICINITY MAP
2-3	SQ1-SQ2	SUMMARY OF QUANTITIES
4	RS1	ROADWAY SECTIONS
5-6	PV1-PV2	PAVING AND PAVEMENT MARKING
7-8	RA1-RA2	ROAD APPROACH DETAILS
9	PL1	PLANING DETAILS
10	PD1	PAVING DETAILS
11-16	QT1-QT6	QUANTITY TABULATION-TRAFFIC
17	MD1	PAVEMENT MARKING DETAILS
18	MD1	MONUMENT DETAILS
19	DL1	DETECTOR LOOP REPLACEMENT PLAN
20-23	SS1-SS4	SIGN SPECIFICATIONS
24-25	S1-S2	SIGN PLANS
26	AV1	ADVANCED WARNING SIGN PLAN
27-39	TC1-TC13	TRAFFIC CONTROL PLAN

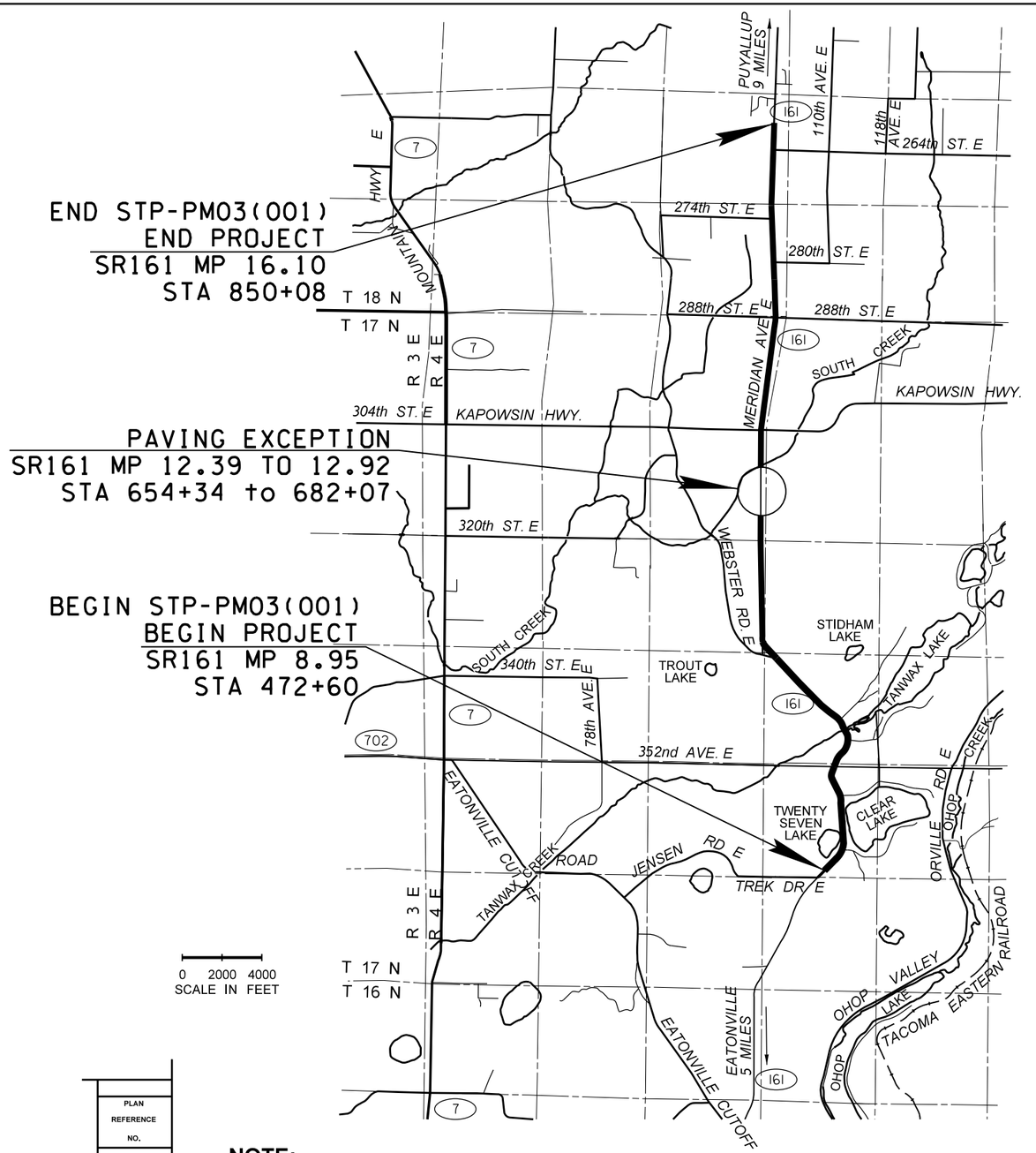
NOTE TO DESIGNER:

THIS IS AN EXAMPLE OF COMBINING THE INDEX AND VICINITY MAP ON A SMALL PROJECT.

FOR ANY CONTRACT THAT CONSISTS OF 30 OR MORE PLAN SHEETS, AN INDEX IS REQUIRED.

THE FEDERAL AID NUMBER IS REQUIRED ON THE FIRST SHEET OF THE PLANS, WHETHER IT IS THE INDEX OR VICINITY MAP.

PLAN REFERENCE NOS. SHALL NOT BE REPEATED.



PLAN REFERENCE NO.

SHEET OF SHEETS

NOTE:

ALL SHEET REFERENCES, FIRST NOS. OF STRUCTURE CODE DESIGNATIONS AND MATCH LINE SHEET REFERENCES, ETC., THROUGHOUT THE PLANS, REFER TO THE ENTRY IN THE PLAN REFERENCE NUMBER BOX.

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div_4_ATL.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NH-0000(000)		Plot 2
TIME	3:35:27 PM								VM1
DATE	10/7/2009				JOB NUMBER 00Z000				
PLOTTED BY	kerrt								SHEET
DESIGNED BY	DESIGNER								OF
ENTERED BY	CAD OPERATOR								SHEETS
CHECKED BY	TEAM LEADER				CONTRACT NO.		LOCATION NO. XL-1234		
PROJ. ENGR.	PROJECT ENGINEER								
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY					

P.E. STAMP BOX — DATE

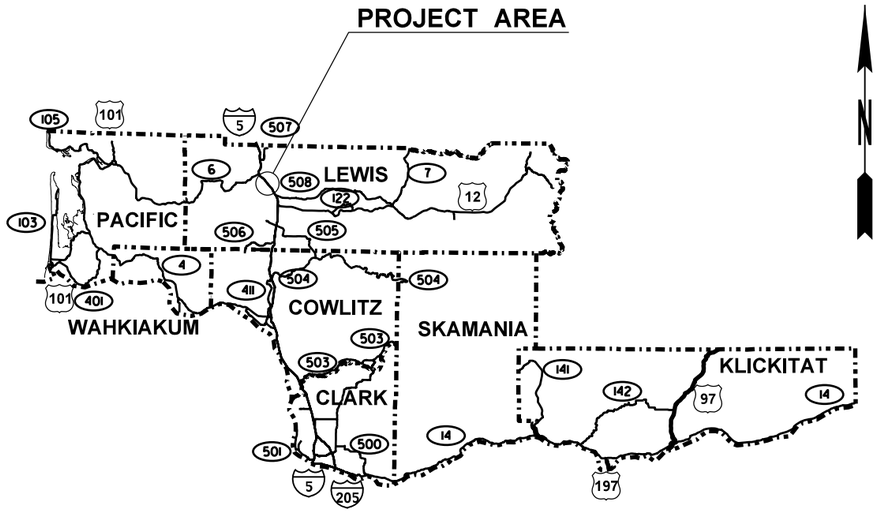
P.E. STAMP BOX — DATE

Washington State Department of Transportation

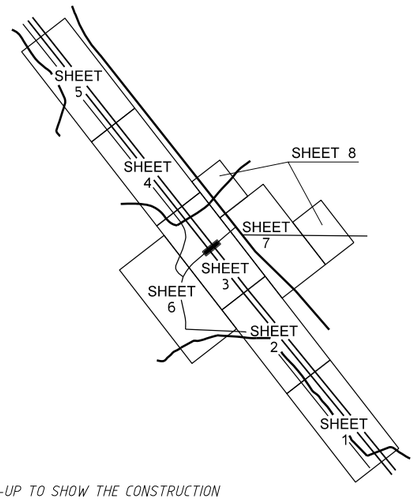
EXAMPLE 4-2

INDEX / VICINITY MAP

T. 13N. R. 2W. W.M.



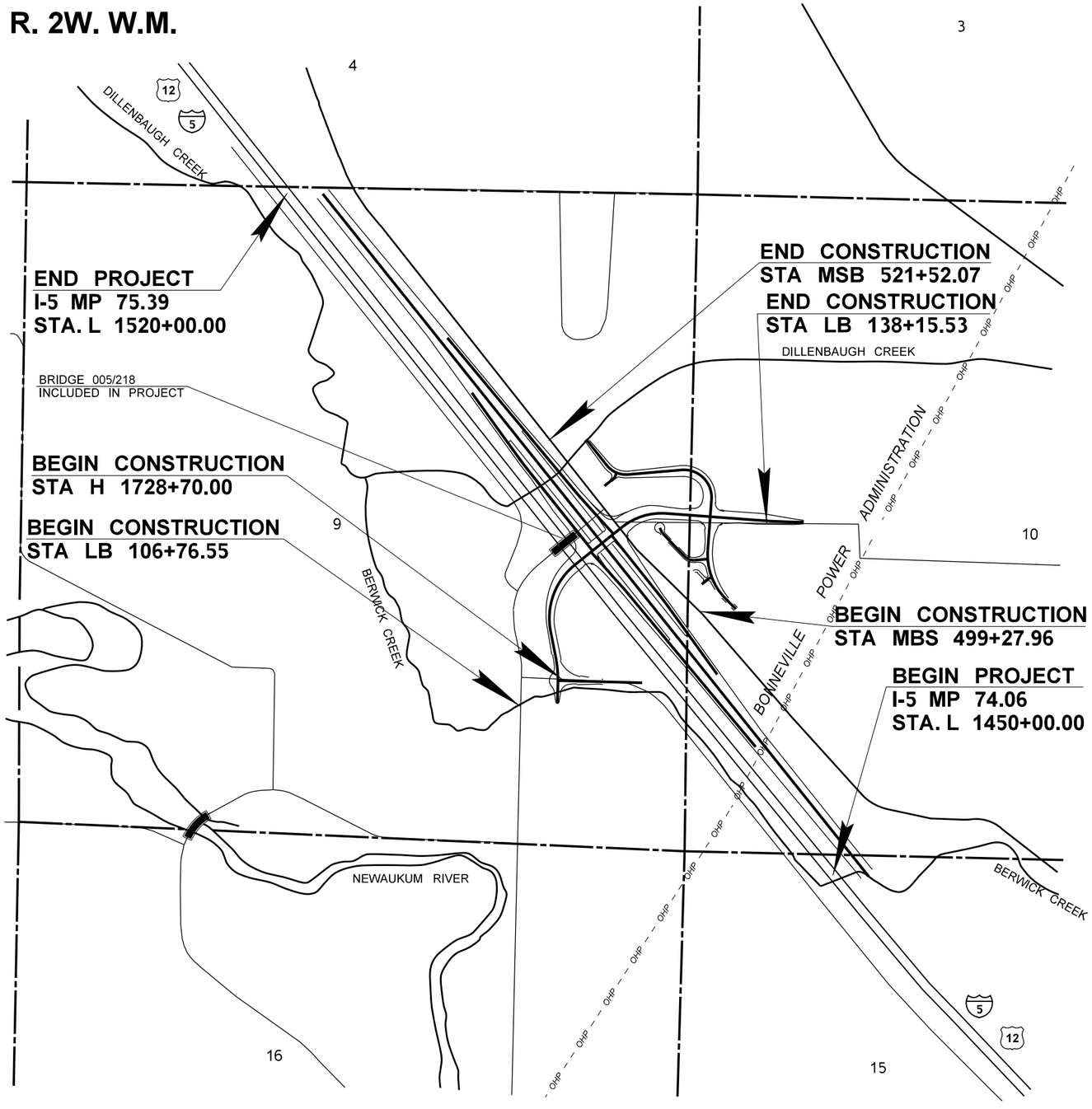
SOUTHWEST REGION



NOTE TO DESIGNER

THIS EXAMPLE USES A BLOW-UP TO SHOW THE CONSTRUCTION LIMITS ON I-5.

A SHEET MAP CAN BE VERY ON MORE COMPLEX CONTRACT TO IDENTIFY THE RELATION BETWEEN PLAN SHEET LOCATIONS.



FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div4_PS_VM.dgn				REGION NO.	STATE	FED.AID PROJ.NO.		Plot 1
TIME	2:24:39 PM				10	WASH	NH-0000(000)		PLAN REF NO VM1
DATE	10/7/2009				JOB NUMBER 00Z000				
PLOTTED BY	kerrt				CONTRACT NO.		LOCATION NO. XL-1234		SHEET OF SHEETS
DESIGNED BY	DESIGNER								
ENTERED BY	CAD OPERATOR								
CHECKED BY	TEAM LEAD								
PROJ. ENGR.	PROJECT ENGINEER								
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY					

P.E. STAMP BOX — DATE

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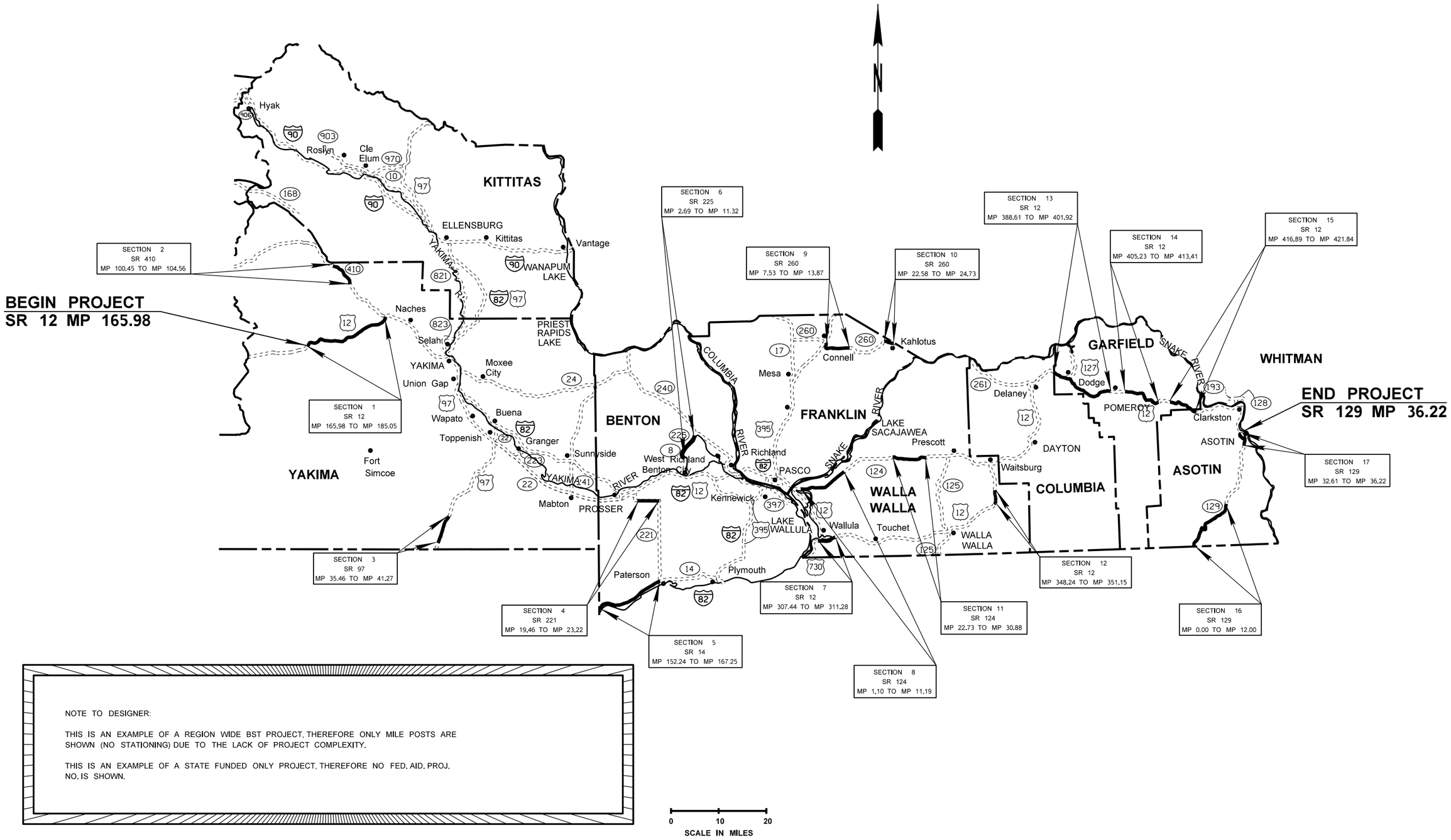
Washington State Department of Transportation

EXAMPLE 4-3
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

VICINITY MAP



NOTE TO DESIGNER:

THIS IS AN EXAMPLE OF A REGION WIDE BST PROJECT, THEREFORE ONLY MILE POSTS ARE SHOWN (NO STATIONING) DUE TO THE LACK OF PROJECT COMPLEXITY.

THIS IS AN EXAMPLE OF A STATE FUNDED ONLY PROJECT, THEREFORE NO FED. AID. PROJ. NO. IS SHOWN.

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div_4_ATL.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NH-0000(000)		Plot 4
TIME	3:35:34 PM								VM1
DATE	10/7/2009				JOB NUMBER 00Z000				SHEET OF SHEETS
PLOTTED BY	kerrt								
DESIGNED BY	DESIGNER				CONTRACT NO.		LOCATION NO. XL-1234		
ENTERED BY	CAD OPERATOR								
CHECKED BY	TEAM LEADER								
PROJ. ENGR.	PROJECT ENGINEER								
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY					

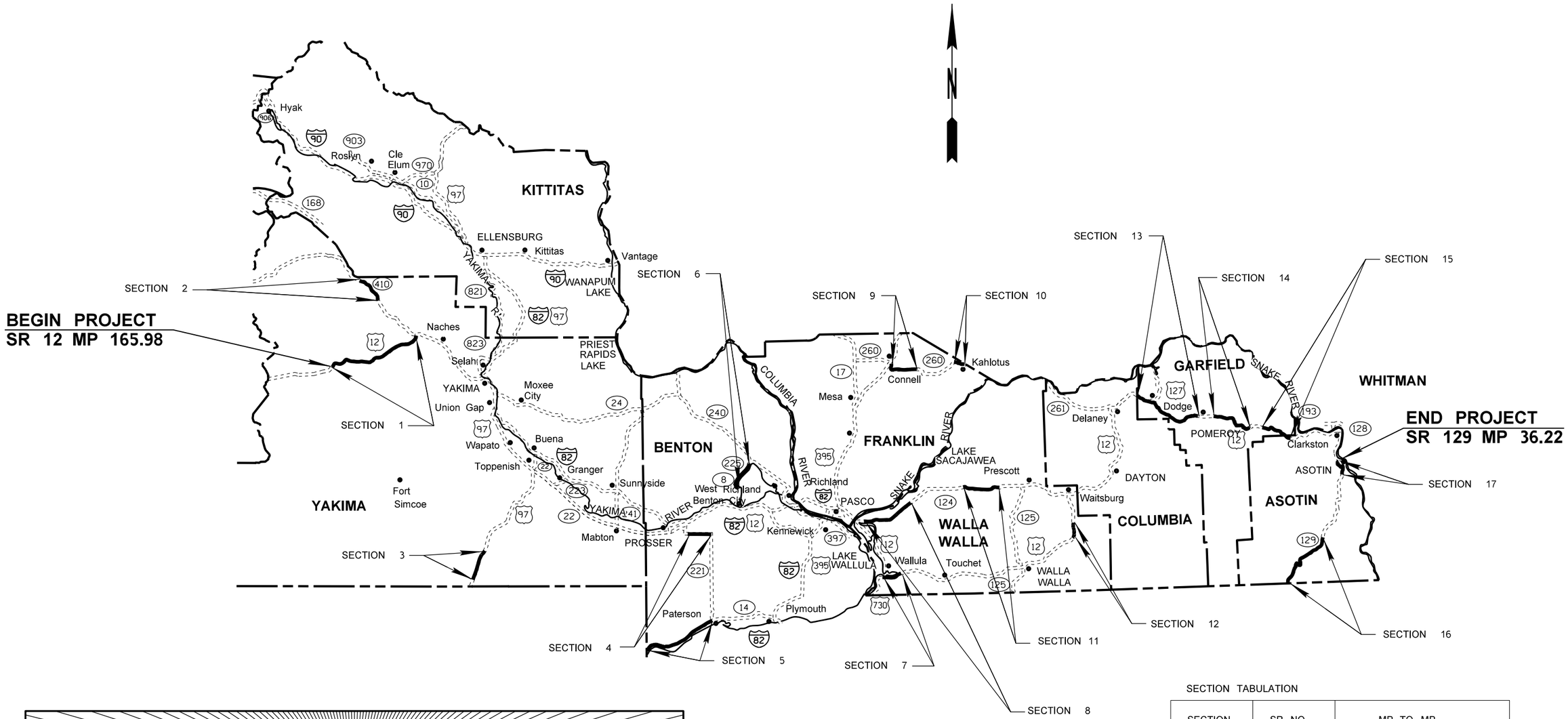
P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

EXAMPLE 4-4

VICINITY MAP



SECTION TABULATION

SECTION	SR NO.	MP TO MP
1	12	169.98 TO 185.05
2	410	100.45 TO 104.56
3	97	35.46 TO 41.27
4	221	19.46 TO 23.22
5	14	152.24 TO 167.25
6	225	2.69 TO 11.32
7	12	307.44 TO 311.28
8	124	1.10 TO 11.19
9	260	7.53 TO 13.87
10	260	22.58 TO 24.73
11	124	22.73 TO 30.88
12	12	348.24 TO 351.15
13	12	388.61 TO 401.92
14	12	405.23 TO 413.41
15	12	416.89 TO 421.84
16	129	0.00 TO 12.00
17	129	32.61 TO 36.22

0 10 20
SCALE IN MILES

NOTE TO DESIGNER:

THIS IS AN ALTERNATIVE METHOD OF EXAMPLE 4-3, THE SAME REGION WIDE BST PROJECT. SECTION IDENTIFICATION IS IN TABULAR FORMAT (SEE TABLE).

THIS IS AN EXAMPLE OF A STATE FUNDED ONLY PROJECT, THEREFORE NO FED. AID. PROJ. NO. IS SHOWN.

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div_4_ATL.dgn				REGION NO. 10 / STATE WASH	FED.AID PROJ.NO. NH-0000(000)
TIME	3:35:41 PM				JOB NUMBER 00Z000	
DATE	10/7/2009				CONTRACT NO.	LOCATION NO. XL-1234
PLOTTED BY	kerrt					
DESIGNED BY	DESIGNER					
ENTERED BY	CAD OPERATOR					
CHECKED BY	TEAM LEADER					
PROJ. ENGR.	PROJECT ENGINEER					
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY		

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

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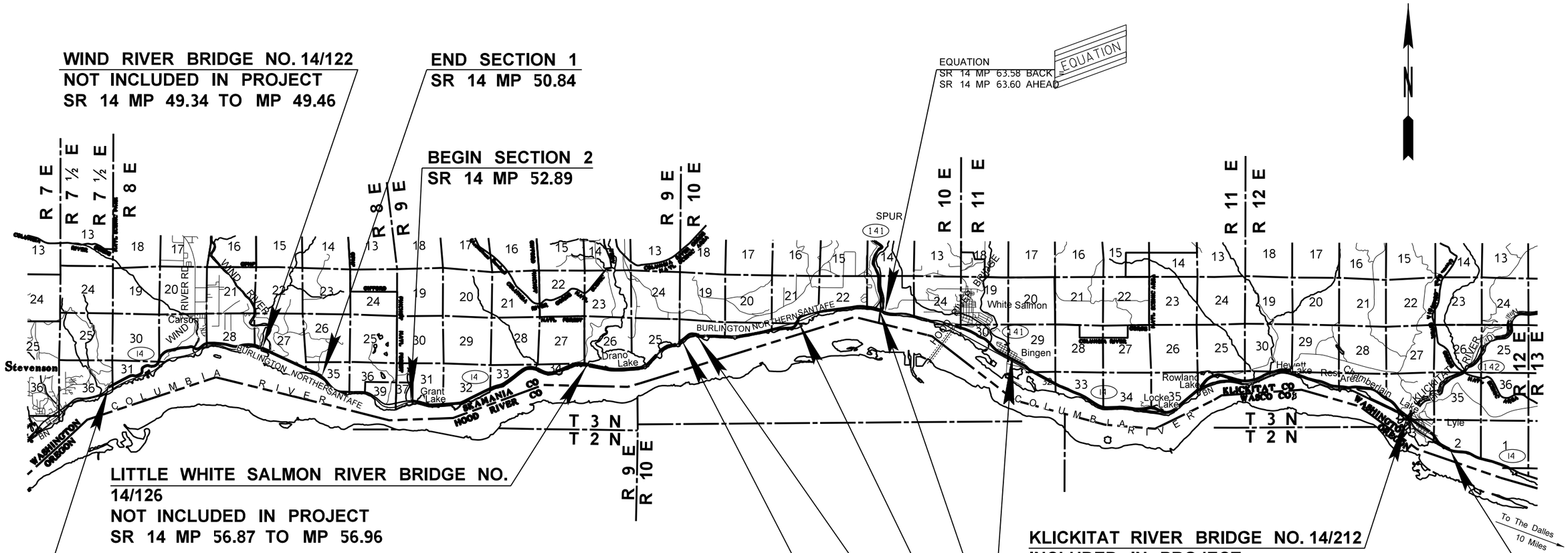
EXAMPLE 4-5

VICINITY MAP

Plot 5

VM1

SHEET OF SHEETS



WIND RIVER BRIDGE NO. 14/122
NOT INCLUDED IN PROJECT
SR 14 MP 49.34 TO MP 49.46

END SECTION 1
SR 14 MP 50.84

BEGIN SECTION 2
SR 14 MP 52.89

LITTLE WHITE SALMON RIVER BRIDGE NO. 14/126
NOT INCLUDED IN PROJECT
SR 14 MP 56.87 TO MP 56.96

BEGIN STP-PM00(001)
BEGIN PROJECT
BEGIN SECTION 1
SR 14 MP 45.80

GULCH BRIDGE NO. 14/131
INCLUDED IN PROJECT
SR 14 MP 59.03 TO MP 59.07

BN RR/Xing BRIDGE NO. 14/132
INCLUDED IN PROJECT
SR 14 MP 59.44 TO MP 59.46

KLICKITAT RIVER BRIDGE NO. 14/212
INCLUDED IN PROJECT
SR 14 MP 75.76 TO MP 75.81

PAVING EXCEPTION
SR 14 MP 63.45 TO MP 66.50

BROUGHTON BRIDGE NO. 14/137
INCLUDED IN PROJECT
SR 14 MP 61.62 TO MP 61.65

END STP-PM00(001)
END PROJECT
END SECTION 2
SR 14 MP 76.93

NOTE TO DESIGNER:

THIS IS AN EXAMPLE OF A SIMPLE PAVER UTILIZING MILE POSTS ONLY. IF STATIONING IS USED IN THE PLANS, THEN STATIONING MUST BE SHOWN ON THE VICINITY MAP.

THIS EXAMPLE SHOWS HOW PAVING EXCEPTIONS ARE SHOWN ON A VICINITY MAP.

THIS EXAMPLE ALSO SHOWS HOW BRIDGES ARE TO BE SHOWN ON A VICINITY MAP WHEN THEIR LOCATION IS WITHIN PROJECT THE LIMITS.

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div_4_ATL.dgn				REGION NO. / STATE	FED.AID PROJ.NO.	Plot 6
TIME	3:35:49 PM				10 / WASH	NH-0000(000)	VM1
DATE	10/7/2009				JOB NUMBER		
PLOTTED BY	kerrt				00Z000		SHEET
DESIGNED BY	DESIGNER				CONTRACT NO.	LOCATION NO.	OF
ENTERED BY	CAD OPERATOR					XL-1234	SHEETS
CHECKED BY	TEAM LEADER						
PROJ. ENGR.	PROJECT ENGINEER						
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY			

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

EXAMPLE 4-6

VICINITY MAP

SUMMARY OF QUANTITIES

ITEM NO	TOTAL QUANTITY	SUB-TOTAL * SECTION I-07.2(1) OF STANDARD SPECS	SUB-TOTAL ** SECTION I-07.2(2) OF STANDARD SPECS	STD. ITEM NO.	UNIT	ITEM	GROUP 1 SR77 49+00.00 TO 70+85.00	GROUP 1 DB6 LINE 9+00.00 TO 29+85.00	GROUP 1 MC-N LINE 10+00.00 TO 17+18.64	GROUP 1 MC-S LINE 10+00.00 TO 13+59.65	GROUP 1 W-NS LINE 10+00.00 TO 17+74.53	GROUP 1 NS-W LINE 9+00.00 TO 18+19.15	GROUP 1 BRIDGE NO. 77/10	GROUP 2 E-NS LINE 10+00.00 TO 18+83.05	GROUP 2 NS-E LINE 9+00.00 TO 22+36.98	GROUP 2 SR77 70+85.00 TO 95+00.00	GROUP 3 DB6 LINE 7+65.00 TO 9+00.00	GROUP 4 DB6 LINE 29+85.00 TO 31+20.00	GROUP 5 THIRD PARTY DAMAGES			
						PREPARATION																
1	LUMP SUM		LUMP SUM	0001	L.S.	MOBILIZATION	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.							
2	14.50		14.50	0025	ACRE	CLEARING AND GRUBBING	0.90	4.20	1.00	0.40	1.20	1.00		1.70	2.10	2.00						
3	6.00		6.00	0049	EACH	REMOVING DRAINAGE STRUCTURE	1.00	5.00														
4	25517.00	700.00	24817.00	0120	S.Y.	REMOVING ASPHALT CONC. PAVEMENT	5,679.00	3,057.00	5,219.00	2,238.00	221.00				221.00	8,182.00	700.00					
5	930.00		930.00	0170	L.F.	REMOVING GUARDRAIL			580.00			170.00		180.00								
6	4.00		4.00	0182	EACH	REMOVING GUARDRAIL ANCHOR			2.00			1.00		1.00								
7	LUMP SUM		LUMP SUM	0215	L.S.	REMOVING MISCELLANEOUS TRAFFIC ITEM	L.S.	L.S.	L.S.	L.S.												
8	350.00		350.00	0230	L.F.	REMOVING WIRE FENCE		150.00			200.00											
						GRADING																
9	61810.00	60.00	61750.00	0310	C.Y.	ROADWAY EXCAVATION INCL. HAUL	1,590.00	1,320.00	5,640.00	1,130.00	11,040.00	7,160.00		11,500.00	15,810.00	6,560.00	60.00					
10	1250.00		1250.00	0330	C.Y.	ROADWAY EXCAVATION INCL. HAUL - AREA POND A			1,250.00													
11	1850.00		1850.00	0330	C.Y.	ROADWAY EXCAVATION INCL. HAUL - AREA POND B						1,850.00										
12	7000.00		7000.00	0330	C.Y.	ROADWAY EXCAVATION INCL. HAUL - AREA POND C		7,000.00														
13	109850.00	130.00	109720.00	0408	TON	SELECT BORROW INCL. HAUL	3,150.00	78,980.00	20,470.00	1,970.00	1,000.00	790.00		1,010.00	1,340.00	1,010.00	90.00	40.00				
14	62080.00	70.00	62010.00	0470	C.Y.	EMBANKMENT COMPACTION	1,710.00	42,690.00	11,070.00	1,070.00	950.00	630.00		1,110.00	2,240.00	540.00	50.00	20.00				
						DRAINAGE																
15	1513.00		1513.00	1030	C.Y.	DITCH EXCAVATION INCL. HAUL	784.00	511.00			6.00	212.00										
16	3.00		3.00	1054	EACH	GRATE INLET TYPE 2	1.00	2.00														
17	4100.00		4100.00	1086	TON	QUARRY SPALLS	2.00	30.00	11.00	2.00	617.00	315.00		846.00	2,277.00							
18	228.00		228.00	1161	L.F.	UNDERDRAIN PIPE 8 IN. DIAM.		228.00														
19	660.00		660.00	1182	L.F.	SCHEDULE A CULV. PIPE 18 IN. DIAM.	24.00	161.00	126.00	98.00		89.00		83.00	79.00							
20	61.00		61.00	1272	L.F.	CL. IV REINF. CONC. CULV. PIPE 18 IN. DIAM.					61.00											
						STORM SEWER																
21	4.00		4.00	3090	EACH	CATCH BASIN TYPE 2 - 54 IN. DIAM. WITH FLOW RESTRITOR	1.00	1.00	1.00			1.00										
22	1.00		1.00	3091	EACH	CATCH BASIN TYPE 1		1.00														
23	505.00		505.00	3151	L.F.	TESTING STORM SEWER PIPE	178.00	188.00	78.00			61.00										
24	230.00		230.00	3541	L.F.	SCHEDULE A STORM SEWER PIPE 12 IN. DIAM.	51.00	40.00	78.00			61.00										
25	127.00		127.00	3582	L.F.	SOLID WALL PVC STORM SEWER PIPE 24 IN. DIAM.	127.00															
26	148.00		148.00	3602	L.F.	CORRUGATED POLYETHYLENE STORM SEWER PIPE 12 IN. DIAM.		148.00														
						STRUCTURE																
27	600.00		600.00	4006	C.Y.	STRUCTURE EXCAVATION CLASS A INCL. HAUL							600.00									
28	LUMP SUM		LUMP SUM	4013	L.S.	SHORING OR EXTRA EXCAVATION CL. A							L.S.									
29	141.00		141.00	4025	C.Y.	GRAVEL BACKFILL FOR WALL							141.00									
30	4.00		4.00	4060	EACH	FURNISHING AND DRIVING CONCRETE TEST PILE							4.00									
31	1900.00		1900.00	4070	L.F.	FURNISHING CONC. PILING 24 INCH DIAM.							1,900.00									
32	50.00		50.00	4080	EACH	DRIVING CONC. PILE 24 INCH DIAM.							50.00									
33	54.00		54.00	8376	EACH	FURNISHING STEEL PILE TIP OR SHOE							54.00									
34	119600.00		119600.00	4149	LB.	ST. REINF. BAR FOR BRIDGE							119,600.00									
35	700.00		700.00	4322	C.Y.	CONC. CLASS 4000 FOR BRIDGE							700.00									
36	1.00		1.00	4219	DOL	DEFICIENT STRENGTH CONC. PRICE ADJUSTMENT							1.00									
37	LUMP SUM		LUMP SUM	4300	L.S.	SUPERSTRUCTURE BRIDGE 8/15							L.S.									
38	1688.00		1688.00	4352	L.F.	CONDUIT PIPE 2 IN. DIAM.							1,688.00									
39	854.00		854.00	4415	L.F.	TRAFFIC BARRIER							854.00									

GROUP LEGEND :

GROUP NUMBER	SR	CONTROL SECTION	TAX SCHEDULE	FUND PARTICIPANTS
1	77	140801	**	STATE,FEDERAL AID
2	77	140800	**	STATE,FEDERAL AID
3	77	1400CT	*	STATE,FEDERAL AID
4	77	1400CY	*	STATE,FEDERAL AID
5	77	140800	**	STATE

DATE	REVISION	BY

REGION	STATE
10	WA

JOB NUMBER **04H321/1**

CONTRACT NO **000000**

FEDERAL AID PROJECT. NO.
NH-0077(000)

Washington State
Department of Transportation

SR 77
EXAMPLE 4-7

SUMMARY OF QUANTITIES

SQ1

SUMMARY OF QUANTITIES

ITEM NO	TOTAL QUANTITY	SUB-TOTAL * SECTION I-07.2(1) OF STANDARD SPECS	SUB-TOTAL ** SECTION I-07.2(2) OF STANDARD SPECS	STD. ITEM NO.	UNIT	ITEM	GROUP 1 SR77 49+00.00 TO 70+85.00	GROUP 1 DB6 LINE 9+00.00 TO 29+85.00	GROUP 1 MC-N LINE 10+00.00 TO 17+18.64	GROUP 1 MC-S LINE 10+00.00 TO 13+59.65	GROUP 1 W-NS LINE 10+00.00 TO 17+74.53	GROUP 1 NS-W LINE 9+00.00 TO 18+19.15	GROUP 1 BRIDGE NO. 77/10	GROUP 2 E-NS LINE 10+00.00 TO 18+83.05	GROUP 2 NS-E LINE 9+00.00 TO 22+36.98	GROUP 2 SR77 70+85.00 TO 95+00.00	GROUP 3 DB6 LINE 7+65.00 TO 9+00.00	GROUP 4 DB6 LINE 29+85.00 TO 31+20.00	GROUP 5 THIRD PARTY DAMAGES			
						SURFACING																
40	20634.00	375.00	20259.00	5100	TON	CRUSHED SURFACING BASE COURSE	2,676.00	4,515.00	1,910.00	900.00	1,680.00	1,570.00		1,780.00	2,600.00	2,628.00	375.00					
						LIQUID ASPHALT																
41	10028.00	206.00	9822.00	5334	DOL	ANTI-STRIPPING ADDITIVE	1,333.00	2,313.00	923.00	425.00	760.00	690.00		765.00	1,020.00	1,593.00	178.00	28.00				
						ASPHALT CONCRETE PAVEMENT																
42	180.00	180.00		5711	S.Y.	PLANING BITUMINOUS PAVEMENT												180.00				
43	20045.00	410.00	19635.00	5767	TON	HMA CL. 1/2 IN. PG 58-22	2,665.00	4,625.00	1,845.00	850.00	1,520.00	1,380.00		1,530.00	2,035.00	3,185.00	355.00	55.00				
44	21046.00	431.00	20615.00	5830	DOL	JOB MIX COMPLIANCE PRICE ADJUSTMENT	2,798.00	4,856.00	1,937.00	893.00	1,596.00	1,450.00		1,606.00	2,135.00	3,344.00	373.00	58.00				
45	9962.00	204.00	9758.00	5835	DOL	COMPACTION PRICE ADJUSTMENT	1,325.00	2,299.00	917.00	422.00	755.00	686.00		760.00	1,011.00	1,583.00	176.00	28.00				
						EROSION CONTROL AND PLANTING																
46	36.00		36.00	6403	DAY	ESC LEAD	36.00															
47	2.80		2.80	6414	ACRE	SEEDING, FERTILIZING, AND MULCHING	1.60	0.33		0.28	0.21	0.13			0.25							
48	4279.00	31.00	4248.00	6438	C.Y.	COMPOST	662.00	870.00	551.00	127.00	742.00	640.00		175.00	481.00		31.00					
49	252.00		252.00	6468	S.Y.	STABILIZED CONSTRUCTION ENTRANCE					252.00											
50	3790.00		3790.00	6373	L.F.	SILT FENCE	1,295.00	1,480.00	625.00			390.00										
51	20000.00		20000.00	6490	DOL	EROSION/WATER POLLUTION CONTROL	20,000.00															
52	3740.00		3740.00	6410	C.Y.	TOPSOIL TYPE B		1,400.00			2,340.00											
						TRAFFIC																
53	1530.00		1530.00	6727	L.F.	EXTRUDED CURB		1,130.00	215.00			185.00										
54	522.00		522.00	6748	L.F.	BEAM GUARDRAIL TYPE 1 - 8 FT. LONG POST	522.00															
55	1894.00		1894.00	6751	L.F.	BEAM GUARDRAIL TYPE 1	930.00	964.00														
56	4.00		4.00	6760	EACH	BEAM GUARDRAIL TRANSITION SECTION TYPE D		4.00														
57	4.00		4.00	6716	EACH	BEAM GUARDRAIL FLARED TERMINAL	2.00	2.00														
58	4.00		4.00	6774	EACH	BEAM GUARDRAIL ANCHOR TYPE 4	2.00	2.00														
59	1600.00		1600.00	6781	L.F.	TEMPORARY CONC. BARRIER	1,600.00															
60	4.00		4.00	7440	EACH	TEMPORARY IMPACT ATTENUATOR	4.00															
61	7400.00		7400.00	7444	DOL	REPAIR IMPACT ATTENUATOR	7,400.00															
62	1.00		1.00	7447	EACH	TRUCK MOUNTED IMPACT ATTENUATOR		1.00														
63	60.00		60.00	7449	HOUR	OPERATION OF TRUCK MOUNTED IMPACT ATTENUATOR	60.00															
64	166.00		166.00	6832	EACH	FLEXIBLE GUIDE POST	44.00	14.00	23.00	14.00	17.00	18.00		14.00	22.00							
65	24320.00	910.00	23410.00	6806	L.F.	PAINT LINE	3,590.00	5,890.00	1,500.00	780.00	1,280.00	1,180.00		1,420.00	2,270.00	5,500.00	510.00	400.00				
66	210.00		210.00	6807	L.F.	PLASTIC LINE	210.00															
67	3070.00		3070.00	6818	L.F.	PLASTIC WIDE LINE	830.00				250.00	360.00		200.00	270.00	1,160.00						
68	2580.00		2580.00	6854	L.F.	PAINTED BARRIER LINE			1,340.00	620.00	160.00	150.00		150.00	160.00							
69	100.00		100.00	6859	L.F.	PLASTIC STOP LINE		40.00	30.00	30.00												
70	6.00		6.00	6833	EACH	PLASTIC TRAFFIC ARROW			2.00	2.00	1.00			1.00								
71	27.00		27.00	6881	EACH	PLASTIC DRAINAGE MARKING	6.00	9.00	2.00	2.00	2.00	2.00		2.00	2.00							
72	54.00		54.00		EACH	PLASTIC JUNCTION BOX MARKING	10.00	2.00	5.00	4.00	5.00	5.00		5.00	7.00	11.00						
73	4.00		4.00	6882	HUND	RAISED PAVEMENT MARKER TYPE 1	2.00									2.00						
74	3.25		3.25	6884	HUND	RAISED PAVEMENT MARKER TYPE 2	1.43	0.28	0.18	0.08	0.28	0.31		0.28	0.41							
75	11000.00		11000.00	6888	L.F.	TEMPORARY PAVEMENT MARKING	2,400.00		4,550.00	2,400.00						1,650.00						
76	LUMP SUM		LUMP SUM	6890	L.S.	PERMANENT SIGNING	L.S.															
77	LUMP SUM		LUMP SUM	6904	L.S.	ILLUMINATION SYSTEM SCD 2641	L.S.	L.S.				L.S.				L.S.						

GROUP LEGEND :

GROUP NUMBER	SR	CONTROL SECTION	TAX SCHEDULE	FUND PARTICIPANTS
1	77	140801	**	STATE,FEDERAL AID
2	77	140800	**	STATE,FEDERAL AID
3	77	1400CT	*	STATE,FEDERAL AID
4	77	1400CY	*	STATE,FEDERAL AID
5	77	140800	**	STATE

SUMMARY OF QUANTITIES

ITEM NO	TOTAL QUANTITY	SUB-TOTAL * SECTION I-07.2(1) OF STANDARD SPECS	SUB-TOTAL ** SECTION I-07.2(2) OF STANDARD SPECS	STD. ITEM NO.	UNIT	ITEM	GROUP 1 SR77 49+00.00 TO 70+85.00	GROUP 1 DB6 LINE 9+00.00 TO 29+85.00	GROUP 1 MC-N LINE 10+00.00 TO 17+18.64	GROUP 1 MC-S LINE 10+00.00 TO 13+59.65	GROUP 1 W-NS LINE 10+00.00 TO 17+74.53	GROUP 1 NS-W LINE 9+00.00 TO 18+19.15	GROUP 1 BRIDGE NO. 77/10	GROUP 2 E-NS LINE 10+00.00 TO 18+83.05	GROUP 2 NS-E LINE 9+00.00 TO 22+36.98	GROUP 2 SR77 70+85.00 TO 95+00.00	GROUP 3 DB6 LINE 7+65.00 TO 9+00.00	GROUP 4 DB6 LINE 29+85.00 TO 31+20.00	GROUP 5 THIRD PARTY DAMAGES			
78	LUMP SUM		LUMP SUM	6904	L.S.	ILLUMINATION SYSTEM SCD 2642	L.S.	L.S.			L.S.					L.S.						
79	LUMP SUM		LUMP SUM	6904	L.S.	ILLUMINATION SYSTEM SCX 2643	L.S.															
80	LUMP SUM		LUMP SUM	9380	L.S.	TEMPORARY TRAFFIC CONTROL DEVICES	L.S.															
81	2.00		2.00		EACH	TEMPORARY PAINTED TRAFFIC ARROW	2.00															
82	900.00		900.00	6979	HOUR	TRAFFIC CONTROL LABOR	900.00															
83	1000.00		1000.00	6972	HOUR	TRAFFIC CONTROL SUPERVISOR	1,000.00															
84	1085.00		1085.00	6982	S.F.	CONSTRUCTION SIGNS CLASS A	1,085.00															
						OTHER ITEMS																
85	1740.00		1740.00	7006	C.Y.	STRUCTURE EXCAVATION CLASS B INCL. HAUL	580.00	390.00	320.00	110.00	40.00	150.00		80.00	70.00							
86	6550.00		6550.00	7008	S.F.	SHORING OR EXTRA EXCAVATION CLASS B	750.00	1,140.00	1,670.00	670.00	270.00	1,040.00		530.00	480.00							
87	12.00		12.00	7014	C.Y.	GRAVEL BACKFILL FOR DRAIN		12.00														
88	700.00		700.00	7018	mGAL	WATER	120.00	290.00	90.00	20.00	40.00	40.00		40.00	60.00							
89	1.00		1.00	7029	EACH	PLUGGING EXISTING PIPE			1.00													
90	LUMP SUM		LUMP SUM	7037	L.S.	STRUCTURE SURVEYING							L.S.									
91	5.00		5.00	7045	EACH	MONUMENT CASE AND COVER		2.00		1.00				1.00	1.00							
92	593.00		593.00	7065	S.Y.	CONC. SLOPE PROTECTION	593.00															
93	320.00		320.00	7110	L.F.	WIRE FENCE TYPE 1		320.00														
94	LUMP SUM		LUMP SUM	7350	L.S.	CLEANING EXISTING DRAINAGE STRUCTURE	L.S.															
95	1200.00		1200.00	7400	HOUR	TRAINING	1,200.00															
96	2000.00		2000.00	7480	DOL	ROADSIDE CLEANUP	2,000.00															
97	LUMP SUM		LUMP SUM	7490	L.S.	TRIMMING AND CLEANUP	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.		L.S.	L.S.							
98	5.00		5.00	7725	DOL	REIMBURSEMENT FOR THIRD PARTY DAMAGE													5.00			
99	-1.00		-1.00	7728	DOL	MINOR CHANGE	-1.00															
100	LUMP SUM		LUMP SUM	7736	L.S.	SPCC PLAN	L.S.															
101	LUMP SUM		LUMP SUM	7500	L.S.	FIELD OFFICE BUILDING		L.S.														
102	120.00		120.00	7550	S.Y.	CONSTRUCTION GEOTEXTILE FOR UNDERGROUND DRAINAGE		80.00	20.00			20.00										
103	4220.00		4220.00	7552	S.Y.	CONSTRUCTION GEOTEXTILE FOR SOIL STABILIZATION					650.00	330.00		880.00	2,360.00							
104	1.00		1.00	7562	EACH	MAILBOX SUPPORT TYPE 1		1.00														

GROUP LEGEND :

GROUP NUMBER	SR	CONTROL SECTION	TAX SCHEDULE	FUND PARTICIPANTS
1	77	140801	**	STATE,FEDERAL AID
2	77	140800	**	STATE,FEDERAL AID
3	77	1400CT	*	STATE,FEDERAL AID
4	77	1400CY	*	STATE,FEDERAL AID
5	77	140800	**	STATE

DATE	REVISION	BY

REGION	STATE	FEDERAL AID PROJECT. NO.
10	WA	NH-0077(000)

JOB NUMBER **04H321/1**

CONTRACT NO **000000**

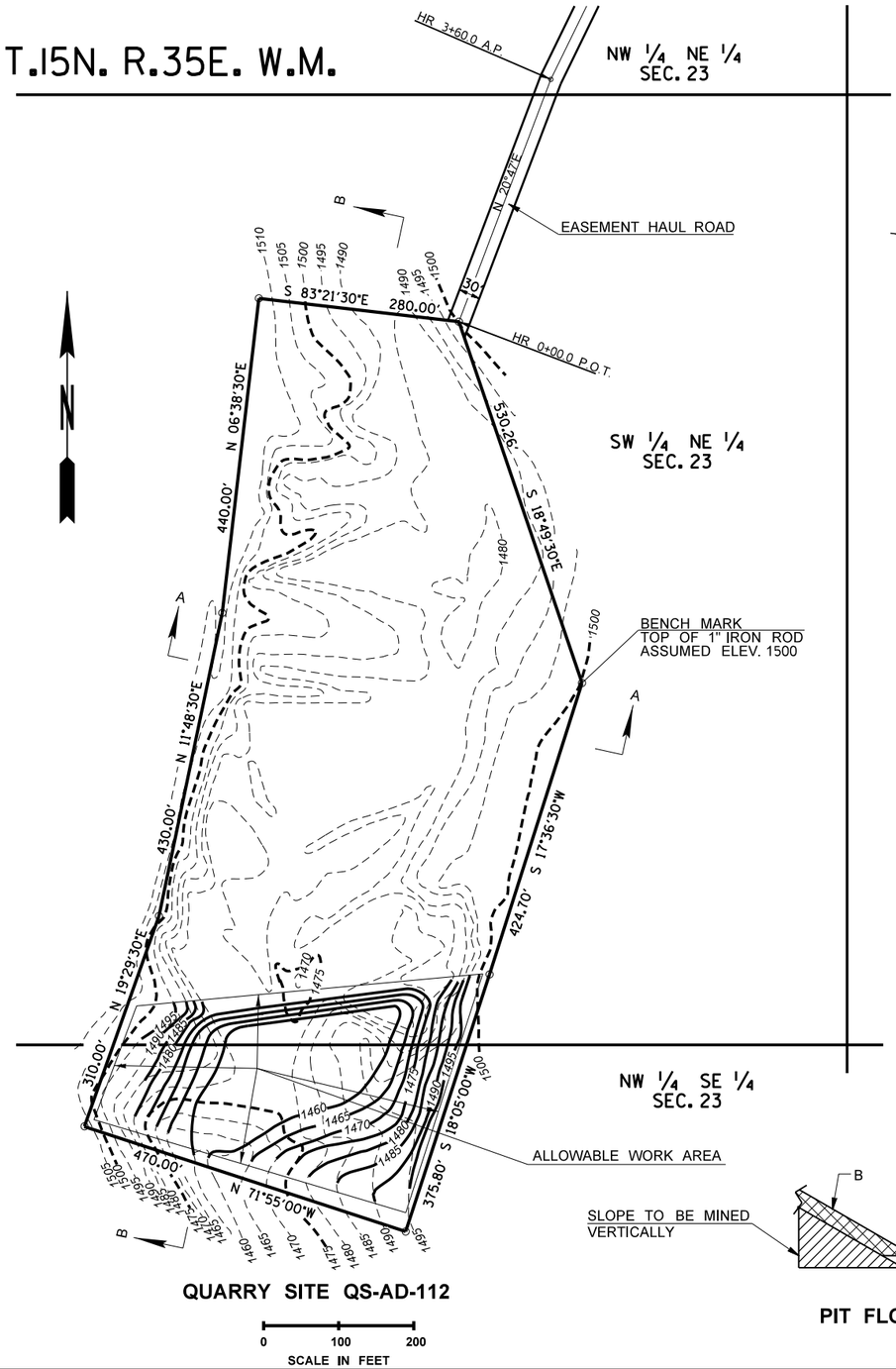
Washington State
Department of Transportation

SUMMARY OF QUANTITIES

SQ3

SHEET 5 OF 117 SHEETS

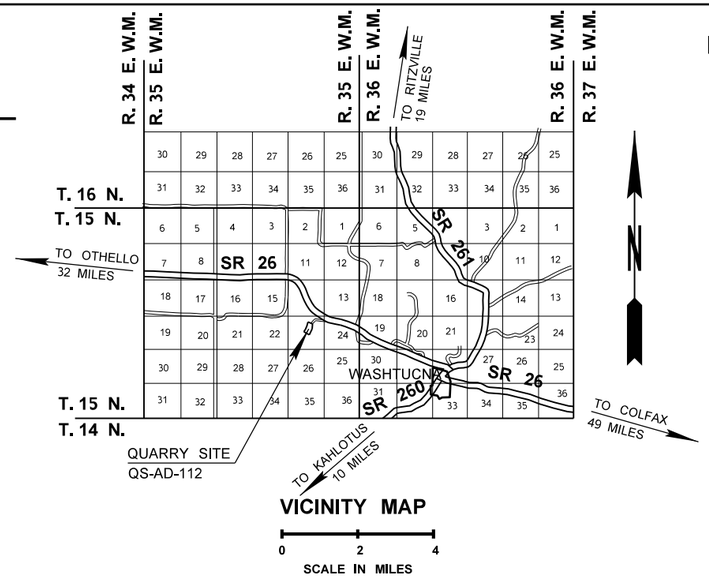
T.15N. R.35E. W.M.



QUARRY SITE QS-AD-112

0 100 200

SCALE IN FEET



VICINITY MAP

0 2 4

SCALE IN MILES

QUARRY SITE QS-AD-112

There is sufficient material in this quarry for this project

SOURCE OF MATERIAL FOR PRODUCTION OF:

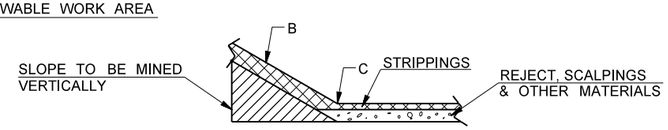
BALLAST
CRUSHED SURFACING TOP COURSE
CRUSHED SCREENING ½ INCH TO ¼ INCH
CRUSHED SCREENING ¼ INCH TO 0
PRIME COAT AGGREGATE
MINERAL AGGREGATE FOR ASPHALT CONCRETE
PAVEMENT CLASS B

STRIPPING INCLUDING HAUL SITE QS-AD-112

LEGEND

A	Natural Area 10' Minimum
B	2:1 Slope Maximum
C	Rounding For Natural Appearance
D	Vertical Slope 30' Maximum
E	Bench 30' Minimum

Existing Contours
Ultimate Contours
Area For Additional Borrow Material
Contract Work Area
Contour Interval 5'



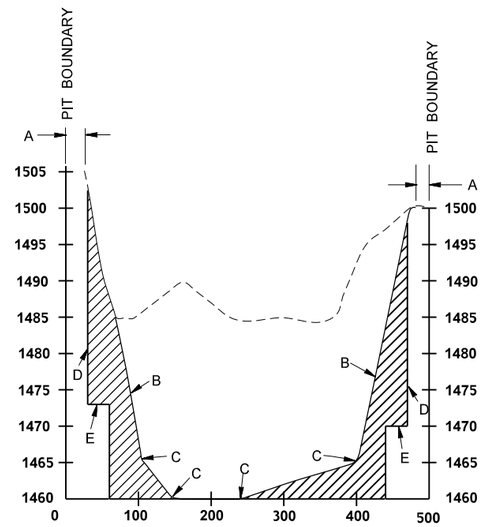
PIT FLOOR DETAIL

NOTES:

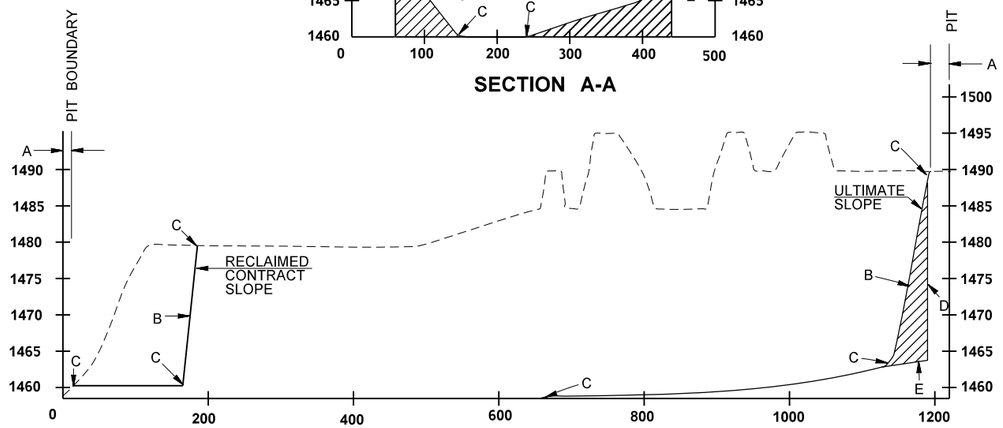
1. Quarry QS-AD-112 is owned by the Washington State Department of Transportation.
2. All slope intersections shall be rounded for natural appearance.
3. No contaminates are anticipated.
4. When all mining is completed in this quarry site, all disturbed areas shall be seeded, fertilized, and mulched with special erosion control mix.
5. Drainage shall be towards the south end of the site.
6. Scalpings shall be used on the quarry floor and on the sides to obtain the side slope. It may be necessary to haul additional borrow material into site to construct the side slopes for ultimate reclamation.
7. All pit boundaries shall be fenced with Type 2 wire fencing including a 20 foot wide gate at the haul road as first order of work.

NOTE TO DESIGNER:
MAKE SURE THAT ALL NOTES ARE PROJECT SPECIFIC.

THE CONTRACT RECLAMATION PLAN IS DEVELOPED FROM THE ULTIMATE RECLAMATION PLAN ON FILE WITH THE REGIONAL MATERIALS LABORATORY.



SECTION A-A



SECTION B-B

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TIME	3:36:20 PM				JOB NUMBER 00Z000		
DATE	10/7/2009				CONTRACT NO.	LOCATION NO. XL-1234	
PLOTTED BY	kerrt						
DESIGNED BY	DESIGNER						
ENTERED BY	CAD OPERATOR						
CHECKED BY	TEAM LEADER						
PROJ. ENGR.	PROJECT ENGINEER						
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY			

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

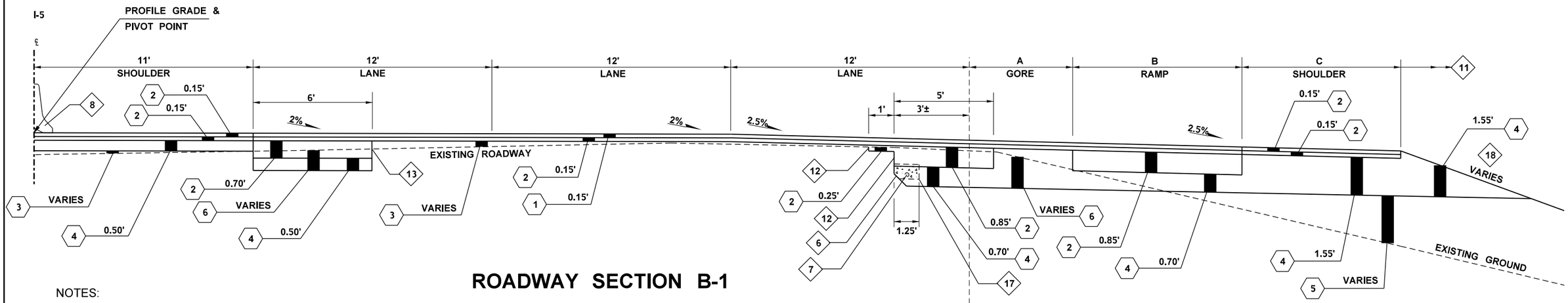
EXAMPLE 4-10

RECLAMATION PLAN

Plot 10

RC1

SHEET OF SHEETS



NOTES:

6. DO NOT MAKE VERTICAL CUT BELOW PCCP PANEL USE 1:1
7. 4" CORRUGATED PLASTIC UNDERDRAIN PIPE TO BE REMOVED AS PART OF ROADWAY EXCAVATION INCL. HAUL.
8. SEE STAGING AND TESC PLANS FOR BARRIER TYPE AND PLACEMENT
11. SEE SHOULDER DETAILS, REFERENCE SHEET R16
12. SAW CUT OR GRIND EDGE TO BE WITHIN 1" OF EDGE OF EXISTING CONC. PANEL EDGE
13. SAW CUT OR GRIND EDGE
14. SINGLE SLOPE BARRIER PRE-CAST TYPE SEE STANDARD PLAN C-13
16. CONCRETE SLOPE PROCTION SEE STANDARD PLAN A-30.10
18. SEE SHOULDER SCHEDULE, REFERENCE SHEET RS15, RS16 FOR SHOULDER SLOPE

ALL DEPTHS ARE COMPACTED DEPTHS
NST = NOT STEEPER THAN

LEGEND

1. HMA CL. ½ IN. PG 70-22
2. HMA CL. ½ IN. PG 64-22
3. HMA FOR PRELEVELING CL.½ IN. PG 64-22
4. CRUSHED SURFACING BASE COURSE
5. SPECIAL BORROW INCL. HAUL
6. ROADWAY EXCAVATION INCL. HAUL
7. PLANING BITUMINOUS PAVEMENT
8. TOPSOIL TYPE B

ROADWAY SECTION B-1

STATION RANGE	A	B	C
L 1450+25.14 (RT) TO L 1464+01.08 (RT)	0'	0'	10'
L 1461+01.08 (RT) TO L 1464+40.90 (RT)	0'	0' - 2'	10' - 8'
L 1464+40.90 (RT) TO L 1467+01.44 (RT)	0'	2' - 15'	8'
L 1467+01.44 (RT) TO L 1470+20.00 (RT)	0' - 16'	15'	8'
L 1504+76.00 (RT) TO L 1510+75.44 (RT)	12' - 0'	15'	8'
L 1510+75.44 (RT) TO L 1517+26.18 (RT)	0'	15' - 2'	8'
L 1517+26.18 (RT) TO L 1518+26.09 (RT)	0'	2' - 0'	8' - 10'
L 1518+26.09 (RT) TO L 1520+00.00 (RT)	0'	0'	10'

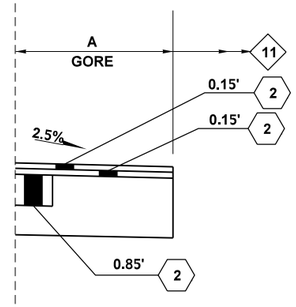
ROADWAY SECTION B-2

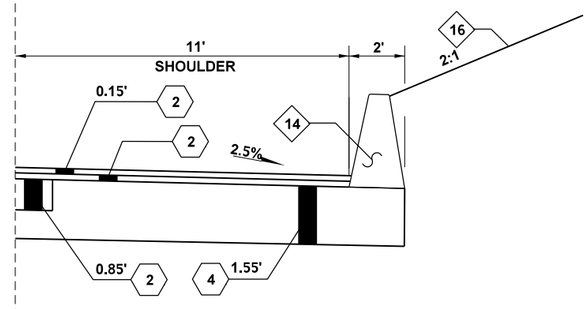
STATION RANGE	A
L 1470+20.00 (RT) TO L 1473+01.49 (RT)	16' - 11'
L 1495+17.30 (RT) TO L 1504+76.00 (RT)	11' - 12'

ROADWAY SECTION B-3

STATION RANGE
L 1473+01.49 (RT) TO L 1481+70.54 (RT)
L 1489+28.13 (RT) TO L 1495+17.30 (RT)

AL LINE
BL LINE





NOT TO SCALE

FILE NAME							
TIME							
DATE							
PLOTTED BY							
DESIGNED BY	DESIGNER						
ENTERED BY	CAD OPERATOR						
CHECKED BY	TEAM LEAD						
PROJ. ENGR.	PROJECT ENGINEER						
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY			

REGION NO.	STATE
10	WASH

JOB NUMBER: 00Z000
CONTRACT NO.

FED.AID PROJ.NO.: NH-0000(000)
LOCATION NO.: XL-1234

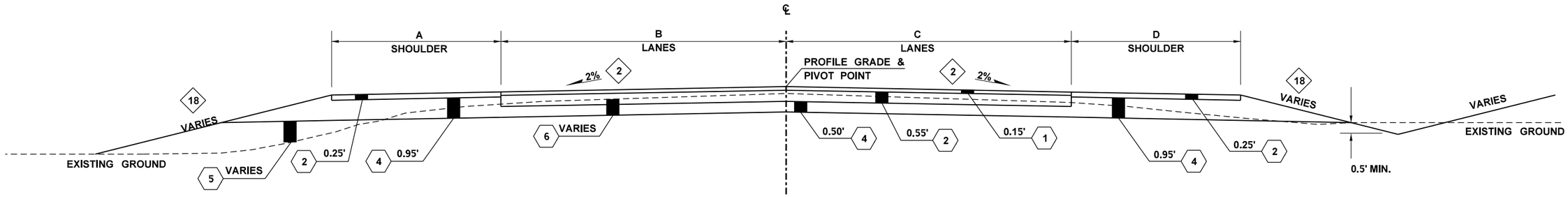
P.E. STAMP BOX — DATE
P.E. STAMP BOX — DATE

Washington State Department of Transportation

EXAMPLE 4-11
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

ROADWAY SECTION

Plot 3
PLAN REF NO: RS3
SHEET
OF
SHEETS



ROADWAY SECTION I-1

STATION RANGE	A	B	C	D
H 1728+69.89 TO H 1728+91.89	8.4'	11.3'	10.7'	9.4'
H 1728+91.89 TO H 1729+09.20	8.4'	11.3'	10.7' - 12.9'	9.4' - 10.3'
H 1729+09.20 TO H 1729+40.28	8.3' - 10.3'	11.3'	12.9' - 17'	10.3'
H 1729+40.28 (RT) TO H 1730+52.76 (RT)			17' - 32.2'	10.3'
H 1729+40.28 (LT) TO H 1730+75.77 (LT)	10.3' - 10.6'	11.3' - 17.8'		

NOTES:

2 CROSS SLOPES VARY, SEE SUPERELEVATION DIAGRAMS

9 CEMENT CONCRETE TRAFFIC CURB SEE STANDARD PLAN F-10.12

10 CEMENT CONCRETE TRAFFIC CURB AND GUTTER. SEE STANDARD PLAN F-10.12

15 ROUNDABOUT TRUCK APRON CEMENT CONCRETE CURB SEE STANDARD PLAN F-10.12

18 SEE SHOULDER SCHEDULE, REFERENCE SHEET RS15, RS16 FOR SHOULDER SLOPE

ALL DEPTHS ARE COMPACTED DEPTHS
NST = NOT STEEPER THAN

LEGEND

1 HMA CL. ½ IN. PG 70-22

2 HMA CL. ½ IN. PG 64-22

3 HMA FOR PRELEVELING CL.½ IN. PG 64-22

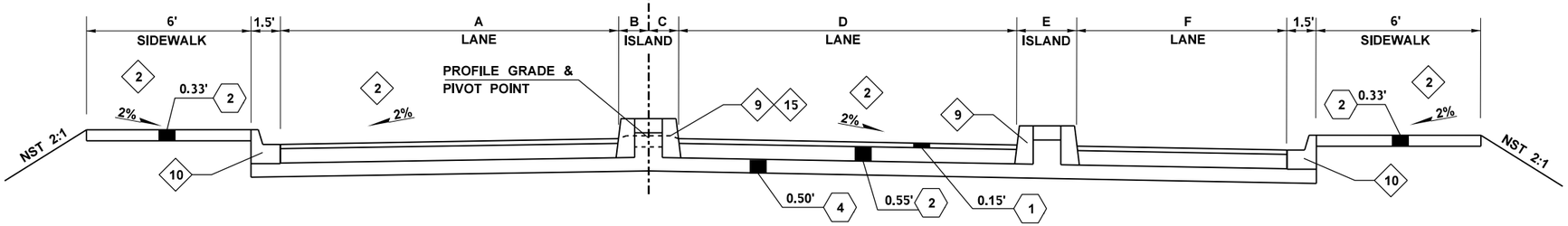
4 CRUSHED SURFACING BASE COURSE

5 SPECIAL BORROW INCL. HAUL

6 ROADWAY EXCAVATION INCL. HAUL

7 PLANING BITUMINOUS PAVEMENT

8 TOPSOIL TYPE B



ROADWAY SECTION I-2

STATION RANGE	A	B	C	D	E	F
H 1730+52.76 (RT) TO H 1730+81.15 (RT)			1.3'	20.5'	0'	19.7'
H 1730+81.15 (RT) TO H 1730+92.13 (RT)			1.3' - 1.5'	20.5' - 22.2'	0'	19.7' - 21.2'
H 1730+92.13 (RT) TO H 1731+61.78 (RT)			1.5' - 11.9'	20.1' - 22'	5' - 23.6'	19'
H 1730+75.77 (LT) TO H 1730+81.15 (LT)	21' - 21.2'	0'				
H 1730+81.15 (LT) TO H 1731+60.15 (LT)	19.2' - 20.3'	2' - 11.5'				

NOT TO SCALE

FILE NAME					REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NH-0000(000)
TIME							
DATE							
PLOTTED BY					JOB NUMBER 00Z000		
DESIGNED BY	DESIGNER						
ENTERED BY	CAD OPERATOR				CONTRACT NO.		LOCATION NO. XL-1234
CHECKED BY	TEAM LEAD						
PROJ. ENGR.	PROJECT ENGINEER						
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY			

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

EXAMPLE 4-12
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

ROADWAY SECTION

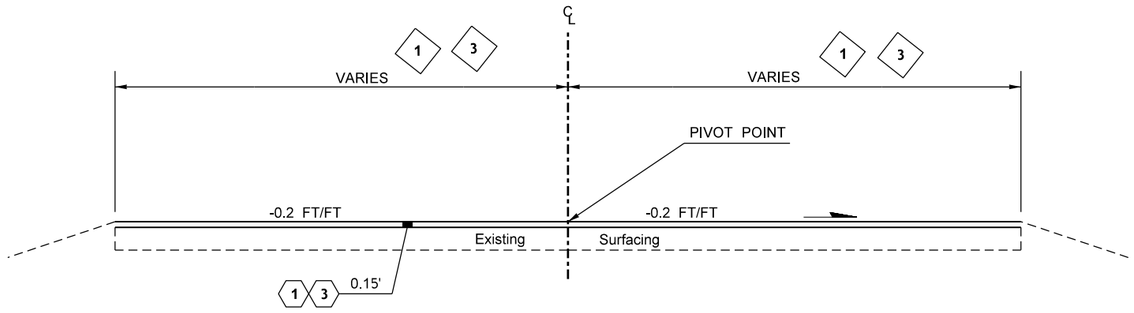
Plot 13

PLAN REF NO RS13

SHEET

OF

SHEETS

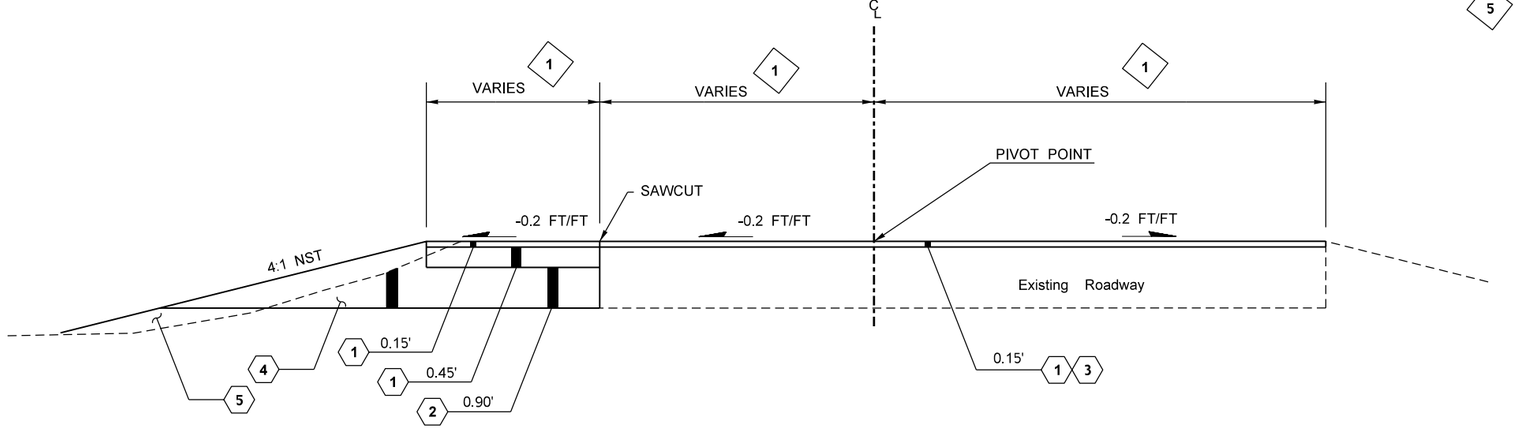


ROADWAY SECTION A

STA. L 461+50.00 TO STA. L 465+36.00
STA. L 468+18.00 TO STA. L 471+61.00

CONSTRUCTION NOTES

1. SEE PAVING PLANS
2. SEE SITE PREPARATION PLANS
3. BRIDGE NO. 241/010 AND APPROACH SLABS NOT INCLUDED IN PROJECT STA. L465+36.00 TO STA. L468+18.00
4. ALL PAVEMENT AND SURFACING DEPTHS SHOWN ARE COMPACTED DEPTHS (SEE STD. SPEC. 5-04.3(9) FOR MAXIMUM DEPTHS PER LAYER)
5. NST - NOT STEEPER THAN



ROADWAY SECTION B

STA. L 471+61.00 TO STA. L 473+00.00

LEGEND

1. ASPHALT CONCRETE PAVEMENT CLASS A PG. 64-28
2. CRUSHED SURFACING BASE COURSE
3. PLANING BITUMINOUS PAVEMENT
4. ROADWAY EXCAVATION INCL. HAUL
5. EMBANKMENT COMPACTION

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div_4_ATL.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NH-0000(000)
TIME	3:36:54 PM						
DATE	10/7/2009						
PLOTTED BY	kerrt				JOB NUMBER 00Z000		
DESIGNED BY	DESIGNER						
ENTERED BY	CAD OPERATOR						
CHECKED BY	TEAM LEADER				CONTRACT NO.		LOCATION NO. XL-1234
PROJ. ENGR.	PROJECT ENGINEER						
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY			

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

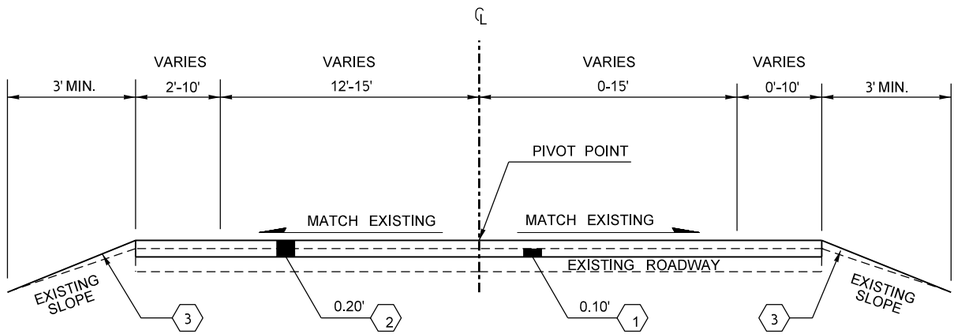
EXAMPLE 4-13

ROADWAY SECTION

Plot 13

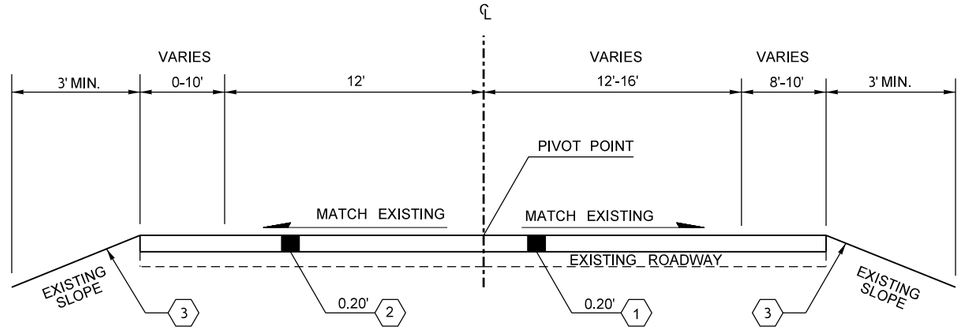
RS2

SHEET OF SHEETS



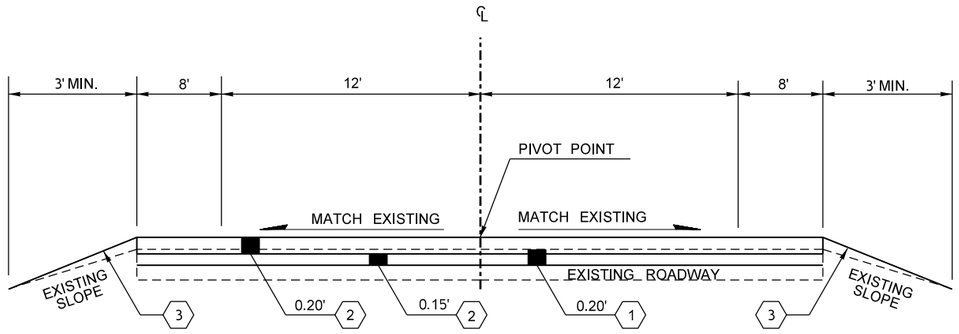
ROADWAY SECTION A

STATION	TO	STATION
L 10+00.00		L 31+11.37
L 34+74.70		L 46+96.00
C 318+92.80		C 327+22.80



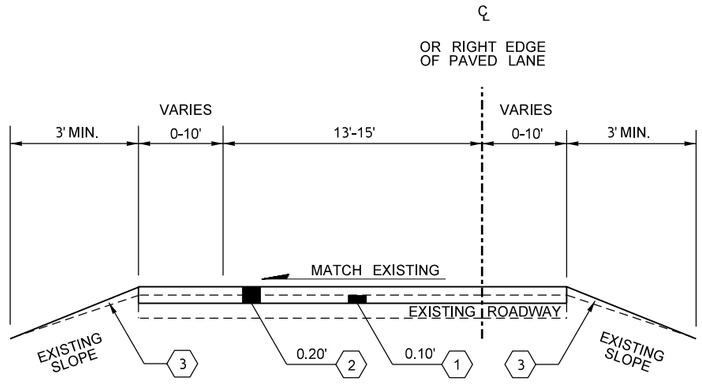
ROADWAY SECTION B

STATION	TO	STATION
L 46+96.00		L 64+38.40
L 77+58.40		L 239+15.20
L 241+79.20		L 242+84.80
CEW 13+00.00		CEW 30+06.93



ROADWAY SECTION C

STATION	TO	STATION
L 64+38.40		L 77+58.40
L 239+15.20		L 241+79.20



ROADWAY SECTION D

STATION	TO	STATION
C 327+22.80		C 333+01.65
C 327+22.80		L 39+27.95

LEGEND

1. PLANING BITUMINOUS PAVEMENT
2. HMA CL. ½ IN. PG
3. SHOULDER FINISHING

NOTES:

1. ALL DEPTHS SHOWN ARE COMPACTED DEPTHS
2. SEE PAVING PLAN FOR VARIABLE WIDTHS
3. BRIDGE 12/612 IS INCLUDED IN THIS PROJECT (STATION L 31+11.37 TO L34+74.70)

NOT TO SCALE

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div_4_ATL.dgn				REGION NO.	STATE	FED.AID PROJ.NO.		Plot 14
TIME	3:36:59 PM				10	WASH	NH-0000(000)		RS3
DATE	10/7/2009				JOB NUMBER				
PLOTTED BY	kerrt				00Z000				SHEET
DESIGNED BY	DESIGNER				CONTRACT NO.		LOCATION NO.		OF
ENTERED BY	CAD OPERATOR						XL-1234		SHEETS
CHECKED BY	TEAM LEADER								
PROJ. ENGR.	PROJECT ENGINEER								
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY					

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

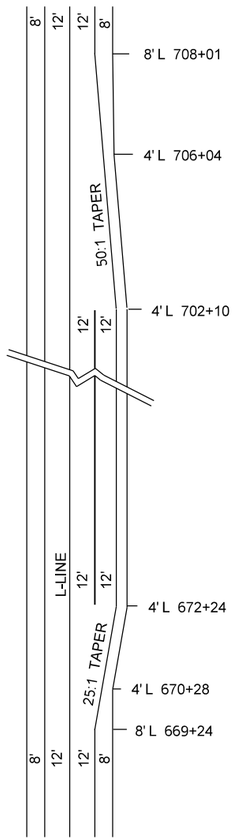
Washington State Department of Transportation

EXAMPLE 4-14

ROADWAY SECTION

NOTE TO DESIGNER:

THIS SHEET SHOWS TWO WAYS OF USING ROADWAY SECTIONS TO DESCRIBE THE SITUATION BELOW.



AUXILIARY PASSING LANE

CONSTRUCTION NOTES:

1. AUXILIARY PASSING LANE
   LANE VARIES FROM 0' AT L 669+29 TO 12' AT L 672+24, AND FROM 12' AT L702+10 TO 0' AT L 708+01
2. RIGHT SHOULDER
   SHOULDER VARIES FROM 8' AT L 699+29 TO 4' AT L 670+28, AND FROM 4' AT L 706+04 TO 8' AT L 708+01

LEGEND

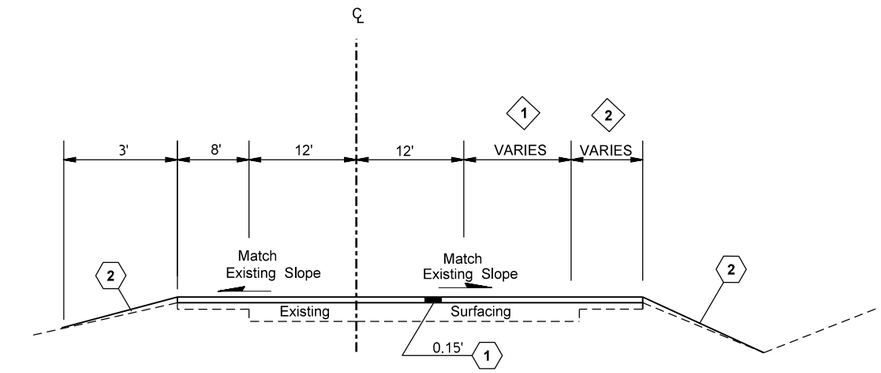
1. ASPHALT CONC. PAVEMENT CL. B - 0.15' COMP. DEPTH
2. CRUSHED SURFACING TOP COURSE - VARIES COMP. DEPTH

THE AUXILIARY PASSING LANE DETAIL IS SHOWN HERE FOR YOUR USE IN SEEING WHAT ROADWAY SECTION C IS ACCOMPLISHING WITHOUT THE USE OF A PAVING OR CHANNELIZATION PLAN ON A SIMPLE PAVING PROJECT.

THE TWO ROADWAY SECTION C's ARE DISPLAYED AS AN EXAMPLE OF DIFFERENT WAYS OF SHOWING THE SAME THING.

EVEN THOUGH THE SHOULDER DOESN'T SPECIFY TAPERING EXACTLY AS SHOWN IN THE PLAN DETAIL IT IS SUFFICIENT FOR AN OVERLAY PROJECT WHERE THE PAVING IN THE FIELD WILL BE DONE TO THE EXISTING CONDITION AND THE CONTRACTOR CAN STILL OBTAIN A REASONABLE QUANTITY TAKE-OFF FROM IT.

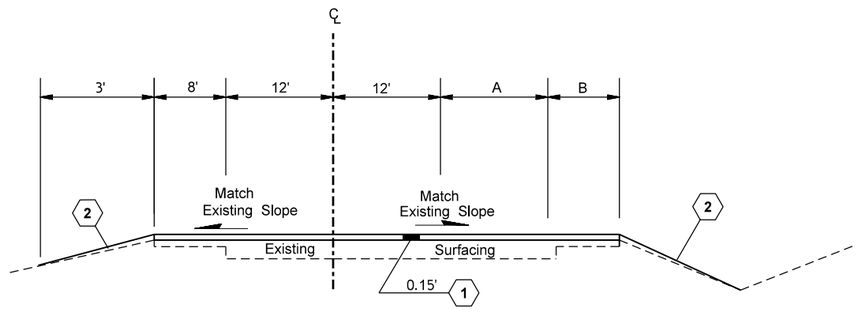
L-LINE



ROADWAY SECTION C

L 505+25 TO L 997+38

L-LINE



ROADWAY SECTION C

STATION	A	B
L 505+25 TO L 669+29	0	8'
L 669+29 TO L 672+24	0-12'	8'-4'
L 672+24 TO L 702+10	12'	4'
L 702+10 TO L 708+01	12'-0	4'-8'
L 708+01 TO L 997+38	0	8'

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div_4_ATL.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NH-0000(000)
TIME	3:37:06 PM						
DATE	10/7/2009						
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DESIGNED BY	DESIGNER						
ENTERED BY	CAD OPERATOR						
CHECKED BY	TEAM LEADER				CONTRACT NO.		LOCATION NO. XL-1234
PROJ. ENGR.	PROJECT ENGINEER						
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY			

DATE
P.E. STAMP BOX

DATE
P.E. STAMP BOX

Washington State Department of Transportation

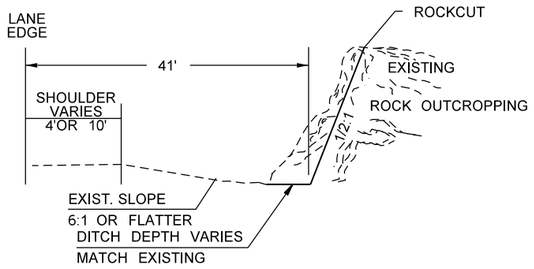
EXAMPLE 4-15

ROADWAY SECTION

Plot 15

RS4

SHEET OF SHEETS



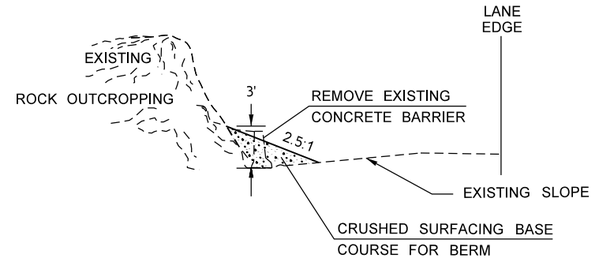
ROCKCUT DETAIL (TYPICAL)

LL 1118+92 to 1126+00 MED.
LL 1177+50 to 1192+50 MED.

LL 1119+75 to 1140+50 LT.
LL 1176+50 to 1193+00 LT.
LL 1203.50 to 1205+00 LT.

LR 1112+50 to 1115+00 MED.
LR 1128+10 to 1146+70 MED.
LR 1152+70 to 1155+50 MED.

LR 1134+50 to 1138+50 RT.
LR 1178+00 to 1179+25 RT.
LR 1182+00 to 1194+40 RT.

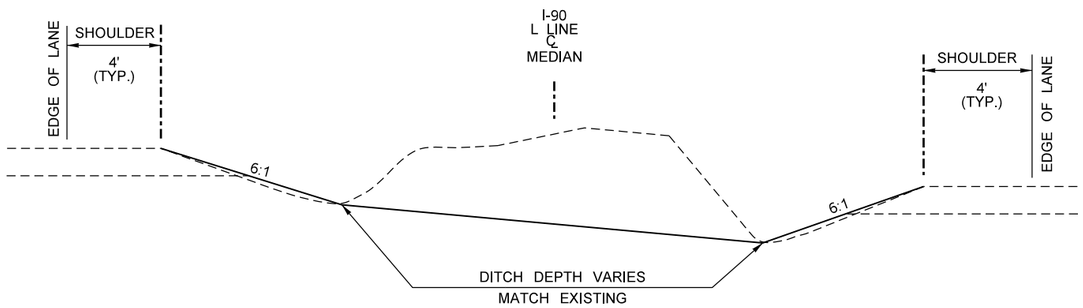


MEDIAN BERM DETAIL (TYPICAL)

LL 1225+45 to 1228+50 MED.
LL 1240+00 to 1250+20 MED.

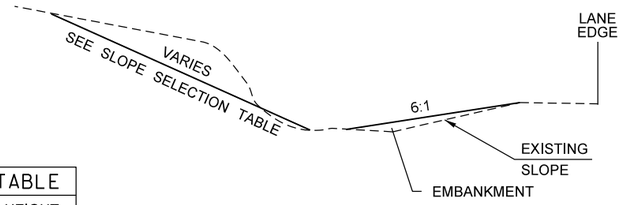
LL 1220+00 to 1222+50 LT.
LL 1376+00 to 1382+50 LT.

LR 1092+50 to 1105+50 MED.
LR 1220+00 to 1254+00 MED.
LR 1275+50 to 1281+00 MED.



MEDIAN CUT DETAIL (TYPICAL)

LR 1274+50 to 1276+00
LR 1332+50 to 1341+00



SLOPE SELECTION TABLE		
HEIGHT OF CUT	SLOPE NOT STEEPER THAN	HEIGHT OF FILL
0-5	6:1	0-10 +
	4:1	10-20
5-20	3:1	20-30
OVER 20	2:1	OVER 30

SLOPE FLATTENING DETAIL (TYPICAL)

LR 1199+50 to 1203+75 MED.
LR 1588+10 to 1598+00 MED.
LR 1691+50 to 1710+00 MED.

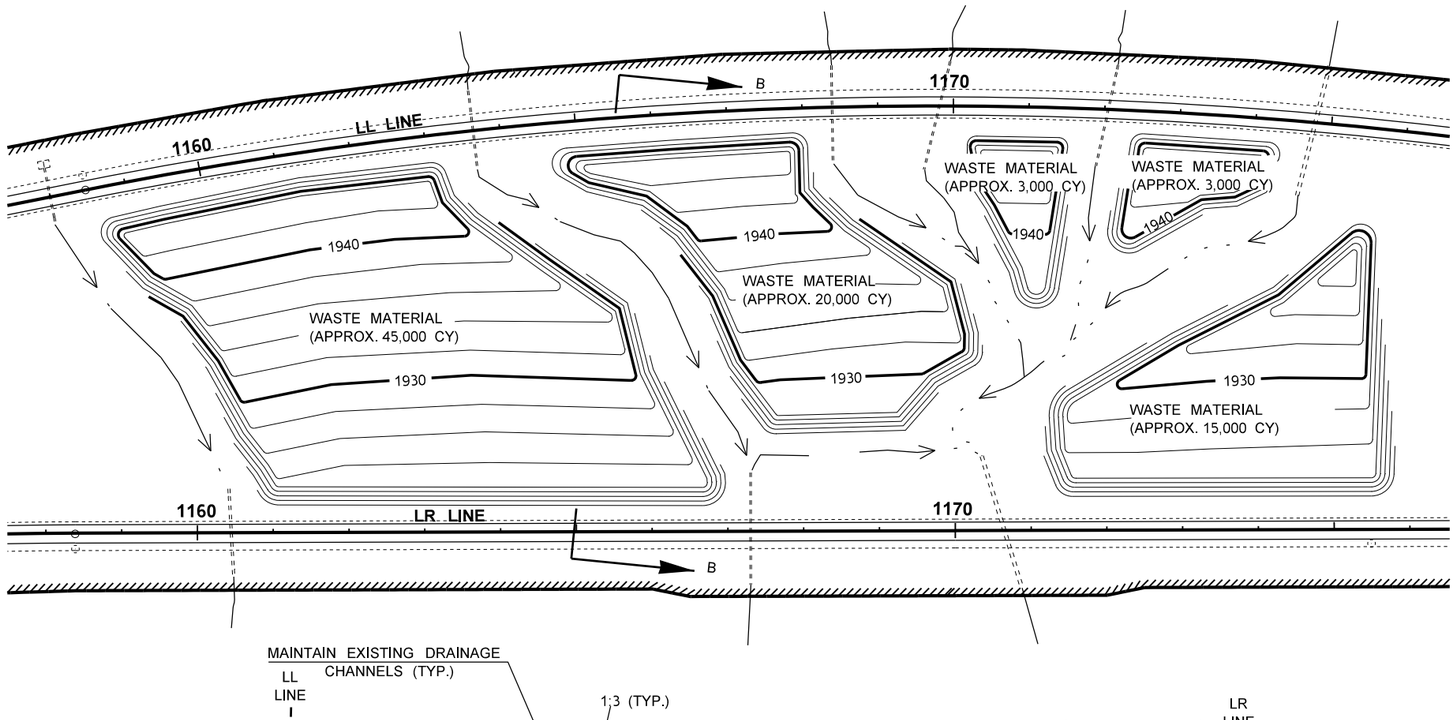
LR 1134+00 to 1138+00 RT.
LR 1333+50 to 1338+00 RT.
LR 1372+50 to 1376+00 RT.

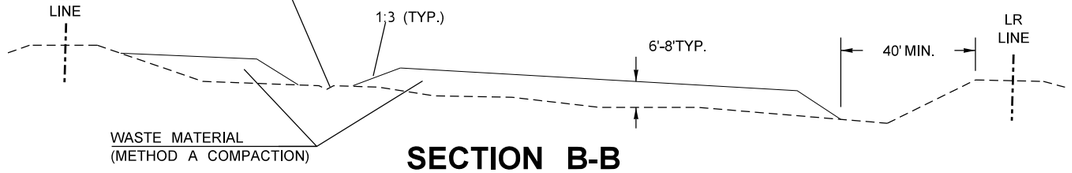
LL 1094+50 to 1097+00 MED.
LL 1177+50 to 1192+50 MED.
LL 1344+25 to 1353+50 MED.

LL 1135+50 to 1140+50 LT.
LL 1214+50 to 1220+00 LT.
LL 1241+00 to 1254+50 LT.

NOT TO SCALE

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div_4_ATL.dgn				REGION NO. / STATE: 10 WASH	FED.AID PROJ.NO.: NH-0000(000)	Washington State Department of Transportation	EXAMPLE 4-16 / Plot 16
TIME	3:37:14 PM				JOB NUMBER: 00Z000			RS6
DATE	10/7/2009				CONTRACT NO.	LOCATION NO.: XL-1234		SHEET OF SHEETS
PLOTTED BY	kerrt					P.E. STAMP BOX / DATE		ROADWAY SECTION
DESIGNED BY	DESIGNER							
ENTERED BY	CAD OPERATOR							
CHECKED BY	TEAM LEADER							
PROJ. ENGR.	PROJECT ENGINEER							
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY				



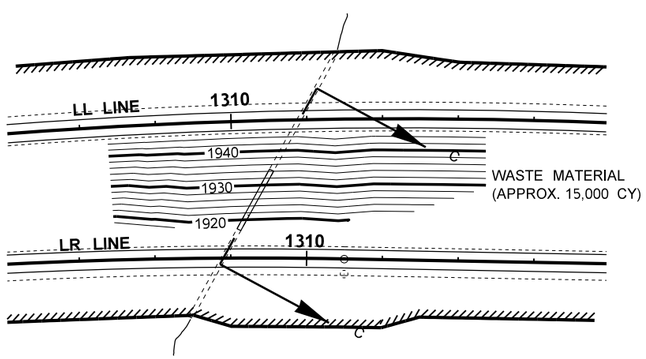


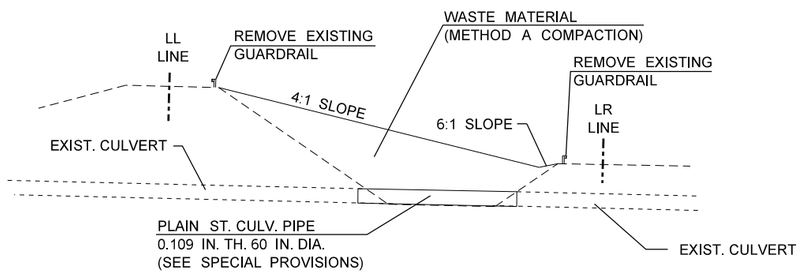
SECTION B-B

SEE SPECIAL PROVISIONS

NOTE:
BITUMINOUS MATERIAL SHALL NOT BE DEPOSITED AT THIS SITE.

NOT TO SCALE





SECTION C-C

SEE SPECIAL PROVISIONS

NOTE:
BITUMINOUS MATERIAL SHALL NOT BE DEPOSITED AT THIS SITE.

NOT TO SCALE

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div_4_ATL.dgn				REGION NO. / STATE	FED.AID PROJ.NO.	Plot 17
TIME	3:37:21 PM				10 / WASH	NH-0000(000)	CG1
DATE	10/7/2009				JOB NUMBER		
PLOTTED BY	kerrt				00Z000		SHEET
DESIGNED BY	DESIGNER				CONTRACT NO.	LOCATION NO.	OF
ENTERED BY	CAD OPERATOR					XL-1234	SHEETS
CHECKED BY	TEAM LEADER						
PROJ. ENGR.	PROJECT ENGINEER						
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY			

DATE
P.E. STAMP BOX

DATE
P.E. STAMP BOX

Washington State Department of Transportation

EXAMPLE 4-17

CONTOUR GRADING

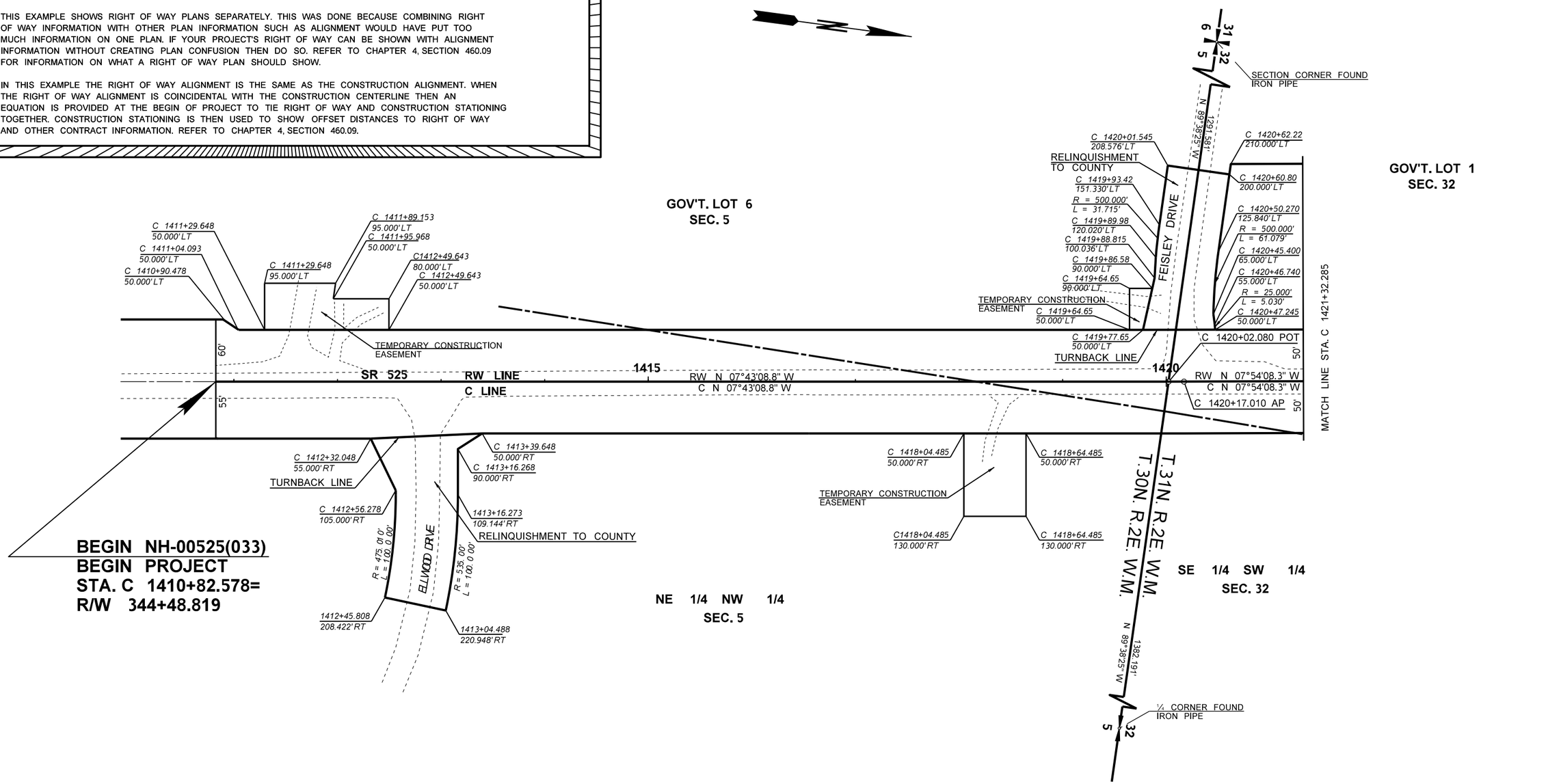
T. 30 N., R. 2 E. W.M.

NOTE TO DESIGNER:

THE NEED FOR THIS PLAN IS TO SHOW RIGHT OF WAY BOUNDARIES AND PROVIDE DATA FOR SURVEYING IN RIGHT OF WAY

THIS EXAMPLE SHOWS RIGHT OF WAY PLANS SEPARATELY. THIS WAS DONE BECAUSE COMBINING RIGHT OF WAY INFORMATION WITH OTHER PLAN INFORMATION SUCH AS ALIGNMENT WOULD HAVE PUT TOO MUCH INFORMATION ON ONE PLAN. IF YOUR PROJECT'S RIGHT OF WAY CAN BE SHOWN WITH ALIGNMENT INFORMATION WITHOUT CREATING PLAN CONFUSION THEN DO SO. REFER TO CHAPTER 4, SECTION 460.09 FOR INFORMATION ON WHAT A RIGHT OF WAY PLAN SHOULD SHOW.

IN THIS EXAMPLE THE RIGHT OF WAY ALIGNMENT IS THE SAME AS THE CONSTRUCTION ALIGNMENT. WHEN THE RIGHT OF WAY ALIGNMENT IS COINCIDENTAL WITH THE CONSTRUCTION CENTERLINE THEN AN EQUATION IS PROVIDED AT THE BEGIN OF PROJECT TO TIE RIGHT OF WAY AND CONSTRUCTION STATIONING TOGETHER. CONSTRUCTION STATIONING IS THEN USED TO SHOW OFFSET DISTANCES TO RIGHT OF WAY AND OTHER CONTRACT INFORMATION. REFER TO CHAPTER 4, SECTION 460.09.



FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div_4_ATL.dgn				REGION NO.	STATE	FED.AID PROJ.NO.		Plot 18
TIME	3:37:30 PM				10	WASH	NH-0000(000)		RW1
DATE	10/7/2009				JOB NUMBER				
PLOTTED BY	kerrt				00Z000				
DESIGNED BY	DESIGNER				CONTRACT NO.		LOCATION NO.		SHEET
ENTERED BY	CAD OPERATOR						XL-1234		OF
CHECKED BY	TEAM LEADER								SHEETS
PROJ. ENGR.	PROJECT ENGINEER								
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY					

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

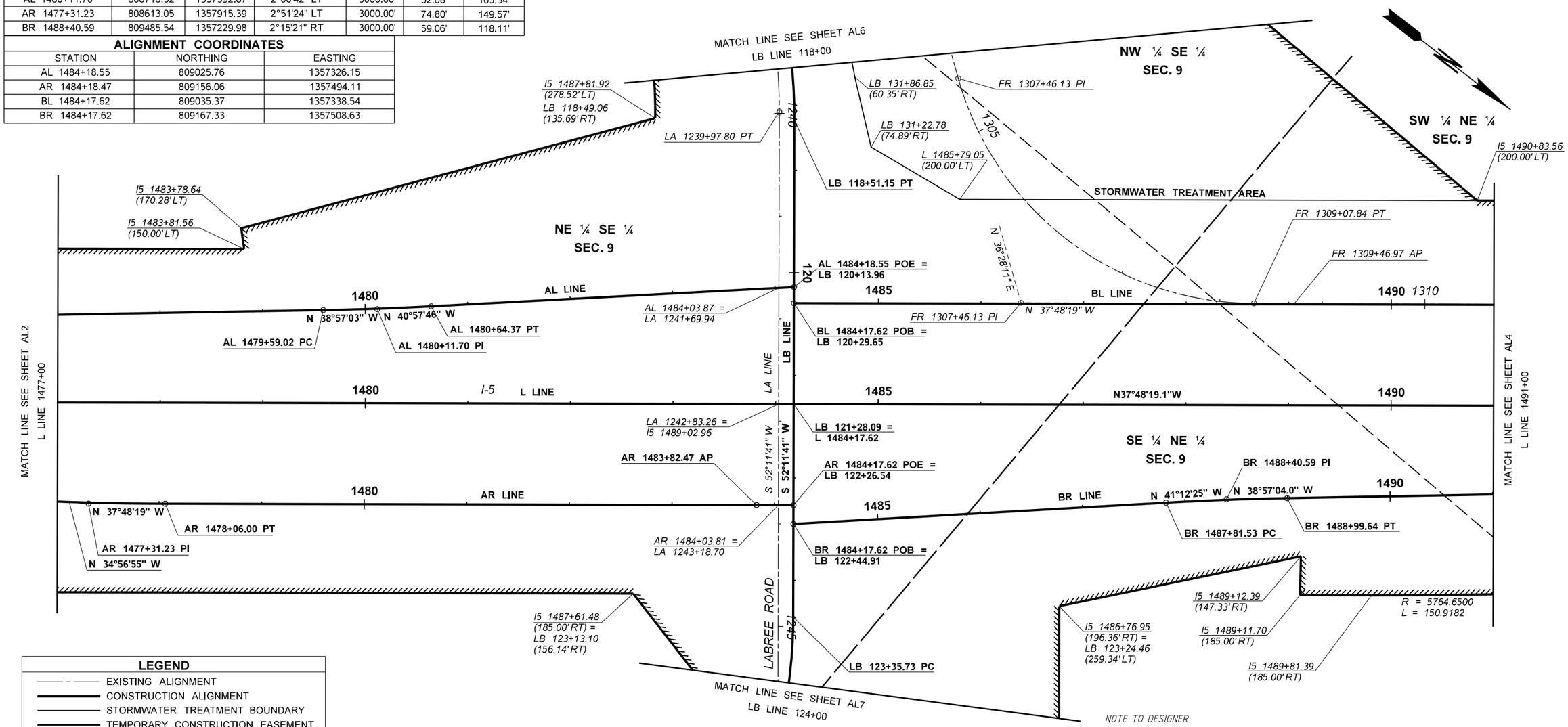
EXAMPLE 4-18

RIGHT OF WAY

T. 13N. R. 2W. W.M.

CURVE DATA						
P.I. STATION	NORTHING	EASTING	DELTA	RADIUS	TANGENT	LENGTH
FR 1307+46.13	809209.67	1357202.23	74°16'30" LT	300.00'	227.20'	388.90'
AL 1480+11.70	808718.52	1357592.87	2°00'42" LT	3000.00'	52.68'	105.34'
AR 1477+31.23	808613.05	1357915.39	2°51'24" LT	3000.00'	74.80'	149.57'
BR 1488+40.59	809485.54	1357229.98	2°15'21" RT	3000.00'	59.06'	118.11'

ALIGNMENT COORDINATES		
STATION	NORTHING	EASTING
AL 1484+18.55	809025.76	1357326.15
AR 1484+18.47	809156.06	1357494.11
BL 1484+17.62	809035.37	1357338.54
BR 1484+17.62	809167.33	1357508.63



LEGEND

- EXISTING ALIGNMENT
- CONSTRUCTION ALIGNMENT
- STORMWATER TREATMENT BOUNDARY
- TEMPORARY CONSTRUCTION EASEMENT
- UTILITY EASEMENT
- HIGHWAY RIGHT OF WAY
- LIMITED ACCESS RIGHT OF WAY
- COUNTY RIGHT OF WAY
- TURN BACK LINE
- SIXTEENTH SECTION LINE
- QUARTER SECTION LINE
- SECTION LINE

THE BASIS OF BEARINGS AND DISTANCES ARE DETERMINED FROM WASHINGTON STATE PLANE COORDINATE SYSTEM SOUTH ZONE (NAD 83/91)

THE DISTANCES SHOWN ARE GROUND DIMENSIONS. TO OBTAIN THE GRID DIMENSIONS, MULIPLY THE GROUND DIMENSION BY THE COMBINED FACTOR OF 0.999953732. THE COMBINED FACTOR IS DERIVED BY MULITIPLING THE ELEVATION FACTOR OF 0.99998687 BY THE SCALE FACTOR OF 0.99998159.

0 50 100
SCALE IN FEET

NOTE TO DESIGNER:

THE NEED FOR THIS PLAN IS TO SHOW ALIGNMENT INFORMATION, RIGHT OF WAY BOUNDARIES AND PROVIDE DATA FOR SURVEYING IN RIGHT OF WAY. WHEN USING CONTRACTOR SURVEYING, INCLUDE THE NECESSARY STATIONING DETAIL.

IN MOST SITUATIONS, ALIGNMENT INFORMATION WILL BE COMBINED WITH RIGHT OF WAY INFORMATION ON ONE PLAN SHEET UNLESS SHOWING BOTH WOULD CREATE TOO MUCH CONGESTION ON THE PLANS, OR OTHER CONDITIONS LISTED IN SECTION 460.09 ARE MET.

IN THIS EXAMPLE THE RIGHT OF WAY ALIGNMENT IS THE SAME AS THE CONSTRUCTION ALIGNMENT. WHEN THE RIGHT OF WAY ALIGNMENT IS COINCIDENTAL WITH THE CONSTRUCTION CENTERLINE THEN AN EQUATION IS PROVIDED AT THE BEGIN OF PROJECT TO TIE RIGHT OF WAY AND CONSTRUCTION STATIONING TOGETHER. CONSTRUCTION STATIONING IS THEN USED TO SHOW OFFSET DISTANCES TO RIGHT OF WAY AND OTHER CONTRACT INFORMATION.

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div4_PS_ALRW.dgn				REGION NO.	STATE	FED.AID PROJ.NO.
TIME	2:17:50 PM				10	WASH	NH-0000(000)
DATE	10/7/2009				JOB NUMBER		
PLOTTED BY	kerrt				00Z000		
DESIGNED BY	DESIGNER				CONTRACT NO.		LOCATION NO.
ENTERED BY	CAD OPERATOR						XL-1234
CHECKED BY	TEAM LEAD						
PROJ. ENGR.	PROJECT ENGINEER						
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY			

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

EXAMPLE 4-19
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

ALIGNMENT AND RIGHT OF WAY PLAN

Plot 3

PLAN REF NO
AL3

SHEET OF SHEETS

QUANTITY TABULATION - SITE PREPARATION

NOTE:
THE FIRST NUMBER OF THE "CODE" BELOW REFERS TO THE SHEET NO. OR THE SHEET REFERENCE NO. SHOWING THE CONSTRUCTION FEATURE.

THE SECOND NUMBER REFERS TO THE CONSTRUCTION FEATURE FOUND ON THAT SHEET.

CODE	LOCATION ↓ \ UNIT OF MEASURE →	REMOVAL OF STRUCTURE AND OBSTRUCTION L.S.	REMOVING CONC. BARRIER L.F.	REMOVE ASPHALT CONC. PAVEMENT S.Y.		REMOVING GAURDRAIL L.F.	REMOVING GAURDRAIL ANCHOR EACH	REMOVING CHAINLINK FENCE L.F.	REMOVING WIRE FENCE L.F.								SEE GENERAL NOTES
SP1-1	L 1450+00 (RT) TO L 1457+45 (RT)					745	1										
SP1-2	L 1458+11 (LT) TO L 1482+50 (RT)					2439	1										
SP2-1	L 1468+59 (117 RT) TO L 1483+81 (115 RT)								1522								
SP2-2	L 1471+21 (169 RT) TO L 1472+58 (185 RT)								146								
SP2-3	L 1475+02 (173 RT) TO L 1475+28 (147 RT)								105								
SP2-4	L 1475+38 (185 RT) TO L 1475+74 (114 RT)								110								
SP3-1	L 1478+79 (150 LT) TO L 1483+81 (117 LT)								510								
SP3-2	L 1479+99 (147 LT) TO L 1480+52 (217 LT)								87								
SP3-3	L 1481+13 (175 LT)	1															
SP3-4	LB 116+23 (116 RT) TO LB 119+78.68 (115 LT)								310								
SP3-5	LB 116+76 (40 RT) TO LB 120+12 (36 RT)					325	1										
SP3-6	LB 117+33 (11 LT) TO LB 120+11 (8 LT)					275	1										
SP3-7	L 1484+26 (115 LT) TO L 1520+00 (71 LT)								3575								
SP3-8	FR 1300+08 (90 RT) TO FR 1346+23 (15 RT)			14753													
SP3-9	LB 108+85 (84 RT) TO LB 119+28 (662 LT)								1476								
SP3-10	L 1490+79 (200 LT) TO L 1492+21 (199 LT)								142								
SP3-11	L 1482+50 (2 RT) TO L 1490+51 (2 RT)		301														
SP3-12	L 1490+51 (2 LT) TO L 1520+00 (2 RT)					3449											
SP3-13	L 1487+88 (71 RT) TO L 1489+32 (60 RT)					150	2										
SP3-14	LB 122+44 (36 RT) TO LB 123+77 (39 RT)					125	1										
SP3-15	LB 122+44 (5 LT) TO LB 123+70 (12 LT)					125	1										
SP3-16	L 1484+24 (116 RT) TO L 1489+10 (110 RT)								3607								
SP3-17	LB 123+06 (254 LT) TO LB 124+50 (278 LT)							204									
SP3-18	L 1486+71 (178 RT) TO L 1487+57 (180 RT)							86									
SP4-1	L 1492+99 (188 LT) TO L 1520+00 (188 LT)								2739								
SP6-1	HAM 1729+56 (75 RT) TO HAM 1731+80 (41 RT)								220								
SP6-2	HAM 1730+73 (47 RT) TO HAM 1730+83 (93 RT)	1															
SP6-3	HAM 1730+90 (76 RT) TO HAM 1731+06 (84 RT)	1															
SP6-4	H 1730+67 TO H 1732+14			486													
SP6-5	LB 106+75 TO LB 110+80			1127													
	SHEET TOTAL	3	301	16366		7633	8	290	14549								

GENERAL NOTES:

1. See Special Provision, "FILLING OF CULVERTS AND SEWER PIPE".
2. See Special Provision "REMOVING DRAINAGE STRUCTURE".
3. See Special Provision, "REMOVAL OF STRUCTURES AND OBSTRUCTIONS".
4. See Special Provision, "TEMPORARY TRAFFIC CONTROL".
5. Culverts in the median that must be filled are to remain functional until no longer needed for Stage 1 drainage.
6. Culvert must remain functional until Structure Code DR8-34 & DR8-35 are operational.
7. Remove enough of this culvert to construct shoring for Wall #1 Overexcavation

					REGION NO.	STATE	FED. AID PROJ. NO.
					10	WASH	
DESIGNED BY	DESIGNER						
ENTERED BY	CAD OPERATOR	05/27/09			JOB NUMBER		NH-0000(000)
CHECKED BY	TEAM LEAD				00Z000		
PROJ. ENGR.	PROJECT ENGINEER				CONTRACT NO.		
REGION ADM.	REGIONAL ADM.						
		DATE	DATE	REVISION	BY		

Washington State Department of Transportation

EXAPLE 4-20
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

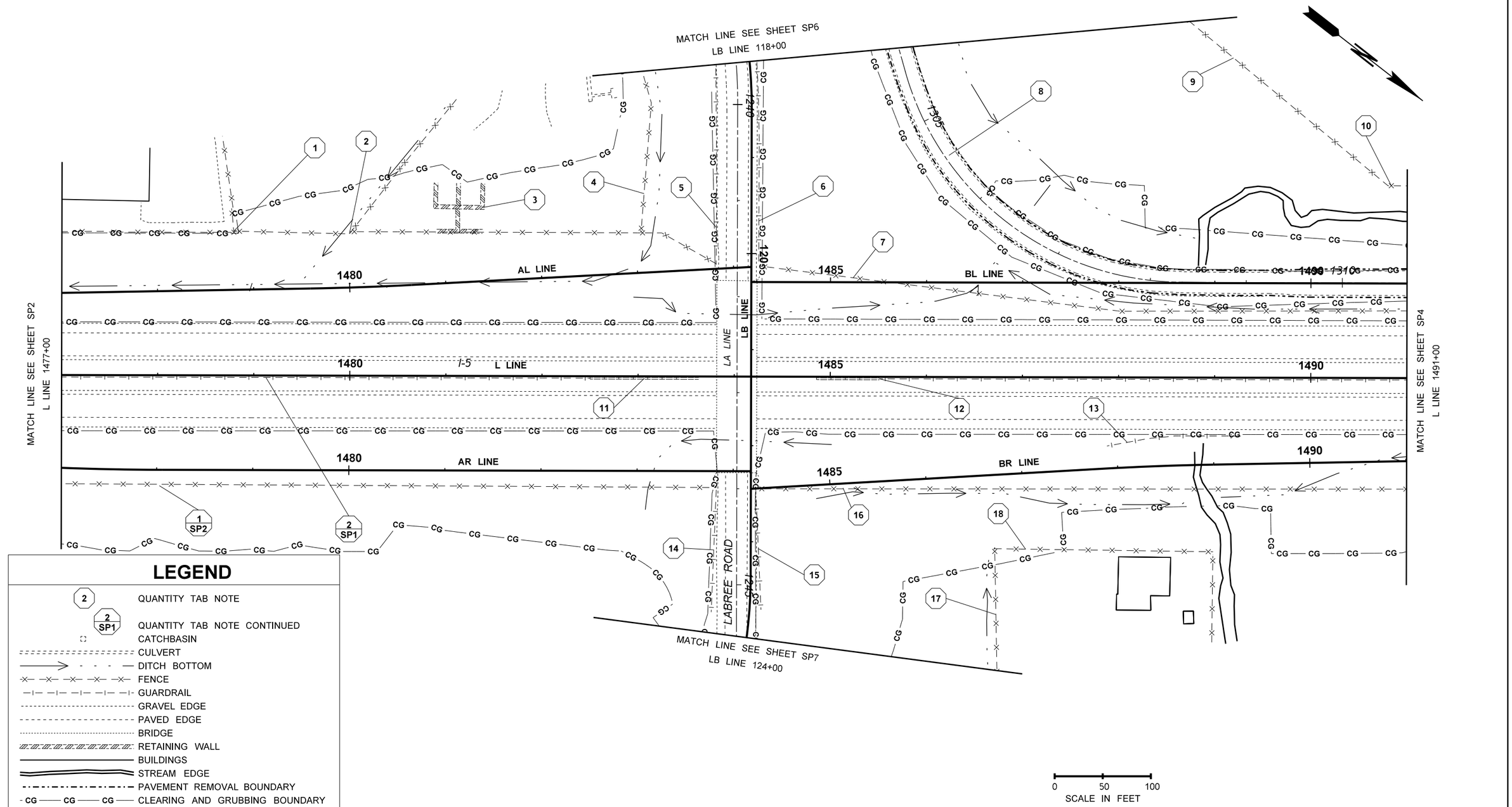
QUANTITY TABULATION - SITE PREPARATION

QT

SHEET

OF

SHEETS



LEGEND

- 2 — QUANTITY TAB NOTE
- 2 SP1 — QUANTITY TAB NOTE CONTINUED
- CATCHBASIN
- CULVERT
- DITCH BOTTOM
- FENCE
- GUARDRAIL
- GRAVEL EDGE
- PAVED EDGE
- BRIDGE
- RETAINING WALL
- BUILDINGS
- STREAM EDGE
- PAVEMENT REMOVAL BOUNDARY
- CLEARING AND GRUBBING BOUNDARY

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div4_PS_SP.dgn
TIME	2:16:58 PM
DATE	10/7/2009
PLOTTED BY	kerrt
DESIGNED BY	DESIGNER
ENTERED BY	CAD OPERATOR
CHECKED BY	TEAM LEAD
PROJ. ENGR.	PROJECT ENGINEER
REGIONAL ADM.	REGIONAL ADM.

REVISION	DATE	BY

REGION NO. 10 | STATE WASH
JOB NUMBER 00Z000
CONTRACT NO.

FED.AID PROJ.NO. NH-0000(000)
LOCATION NO. XL-1234

P.E. STAMP BOX — DATE
P.E. STAMP BOX — DATE

Washington State Department of Transportation

EXAMPLE 4-21
I-5 AND LABREE RD INTERCHANGE SAMPLE PROJECT

SITE PREPARATION PLAN

Plot 3
PLAN REF NO SP3
SHEET OF SHEETS

ROADWAY SECTION U

ROADWAY SECTION V

ROADWAY SECTION T

5.00% LT

5.00% LT

LB LINE

CENTERLINE PROFILE GRADE & PIVOT POINT

MA LINE (MAURIN RD)

-2.00% LT & RT

-2.00% LT & RT

-2.00% LT & RT

-5.00% RT

-5.00% RT

LB 105+59.00 END NORMAL CROWN

LB 106+35.00 REVERSE CROWN

LB 106+91.00 BEGIN FULL SUPER

LB 112+21.00 END FULL SUPER

LB 113+08.00 REVERSE CROWN

LB 114+24.00 BEGIN NORMAL CROWN

LB 116+33.00 END NORMAL CROWN

LB 117+37.00 REVERSE CROWN

LB 118+13.00 BEGIN FULL SUPER

LB 120+85.00 END FULL SUPER

LB 122+10.00 REVERSE CROWN

LB 123+78.00 BEGIN NORMAL CROWN

DATUM

(NAVD) 88

240

230

220

210

200

LB LINE (LABREE RD)

+4.0537%

-0.1765%

+2.1029%

-2.1030%

+1.7315%

+0.6049%

-0.5861%

+0.8322%

EL. 204.13'

EL. 232.59'

EL. 234.55'

EL. 222.78'

EL. 222.85'

EL. 225.98'

EL. 227.02'

EL. 226.37'

100.00 VC

50.00 VC

125.00 VC

150.00 VC

150.00 VC

150.00 VC

150.00 VC

CENTERLINE PROFILE GRADE

EXISTING GROUND

LB 103+80.08 EL. 204.48'

LB 105+80.00 BVC EL. 204.13'

LB 106+80.00 VPI EL. 203.95'

LB 107+80.00 EVC EL. 208.00'

LB 113+25.10 BVC EL. 230.10'

LB 113+75.10 VPI EL. 232.13'

LB 114+25.10 EVC EL. 233.18'

LB 114+34.26 BVC EL. 233.37'

VPI 115+59.26 EL. 236.00'

LB 116+84.26 EVC EL. 233.37'

LB 121+33.00 BVC EL. 223.93'

LB 122+83.00 VPI EL. 220.78'

LB 124+33.00 EVC EL. 223.38'

BVC 125+11.90 EL. 224.73'

LB 125.85.90 VPI EL. 226.03'

LB 126+60.90 EVC EL. 226.48'

LB 127+60.90 BVC EL. 226.79'

LB 127+83.84 VPI EL. 227.24'

LB 128+61.38 EVC EL. 226.80'

LB 129+10.42 BVC EL. 226.51'

LB 129+89.50 VPI EL. 226.07'

LB 130+61.10 EVC EL. 226.70'

LB 132+46.68 EL. 228.35'

CLEARING AND GRUBBING	2.29 ACRE
ROADWAY EMBANKMENT INCL. HAUL	9453 C.Y.
EMBANKMENT COMPACTION	43463 C.Y.
SPECIAL BORROW INCL. HAUL	49982 C.Y.
SEEDING, FERTILIZING AND MULCHING	2.25 ACRE

CLEARING AND GRUBBING	1.41 ACRE
ROADWAY EXCAVATION INCL. HAUL	10435 C.Y.
EMBANKMENT COMPACTION	30285 C.Y.
SPECIAL BORROW INCL. HAUL	34827 C.Y.
SEEDING, FERTILIZING AND MULCHING	1.30 ACRE

CLEARING AND GRUBBING	1.38 ACRE
ROADWAY EXCAVATION INCL. HAUL	2791 C.Y.
EMBANKMENT COMPACTION	193 C.Y.
SPECIAL BORROW INCL. HAUL	222 C.Y.
SEEDING, FERTILIZING AND MULCHING	1.20 ACRE

104+00 106+00 108+00 110+00 112+00 114+00 116+00 118+00 120+00 122+00 124+00 126+00 128+00 130+00 132+00

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div4_PR_RP.dgn
TIME	2:16:19 PM
DATE	10/7/2009
PLOTTED BY	kerrt
DESIGNED BY	DESIGNER
ENTERED BY	CAD OPERATOR
CHECKED BY	TEAM LEAD
PROJ. ENGR.	PROJECT ENGINEER
REGIONAL ADM.	REGIONAL ADM.

REVISION	DATE	BY

REGION NO.	STATE
10	WASH

JOB NUMBER 00Z000

CONTRACT NO.

FED.AID PROJ.NO. NH-0000(000)

LOCATION NO. XL-1234

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

EXAMPLE 4-22
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

ROADWAY PROFILE

Plot 8

PLAN REF. NO. RP8

SHEET OF SHEETS

STRUCTURE NOTES - DRAINAGE

NOTE:
THE FIRST NUMBER OF THE "CODE DESIGNATION" BELOW REFERS TO THE SHEET NO. OR THE SHEET REFERENCE NO. SHOWING THE DRAINAGE FEATURE.

THE SECOND NUMBER REFERS TO THE DRAINAGE FEATURE FOUND ON THAT SHEET.

CODE	LOCATION ↘ \ UNIT OF MEASURE ➢	REMOVING DRAINAGE STRUCTURE EACH	DITCH EXCAVATION INCL. HAUL C.Y.	GRATE INLET TYPE 2 EACH	QUARRY SPALLS TON	DRAIN PIPE 6 IN. DIAM. L.F.		SCHEDULE A CULV. PIPE 12 IN. DIAM. L.F.	SCHEDULE A CULV. PIPE 18 IN. DIAM. L.F.	SCHEDULE A CULV. PIPE 24 IN. DIAM. L.F.	CL. V REINF. CONC. CULV. PIPE 36 IN. DIAM. L.F.		BORING AND JACKING 30 IN. PLAIN STEEL CULVERT PIPE L.F.	CATCH BASIN TYPE 1L EACH	CATCH BASIN TYPE 2 54 IN. DIAM. EACH	TESTING STORM SEWER PIPE L.F.	SEE GENERAL NOTES
DR1-1	L 1455+04.87 (0.85 LT)																14
DR1-2	L 1455+04.17 (79.95 LT) TO L 1455+03.20 (133.85 LT)							29									1, 9, 11
DR1-3	L 1459+98.73 (0.85 LT)																14
DR1-4	L 1459+96.86 (82.68 LT) TO L 1459+95.44 (132.75 LT)							36									1, 9, 11
DR2-1	L 1463+98.25 (2.3 LT)	1															14
DR2-2	L 1463+97.62 (92.6 LT) TO L 1463+97.05 (138.04 LT)							33									1, 9, 11
DR2-3	L 1467+85.76 (112.37 RT) TO L 1467+95.68 (137.79 LT)												233				9
DR2-4	L 1467+97.54 (92.63 RT) TO L 1467+97.76 (6.85 RT)																7
DR2-5	L 1467+98.72 (0.59 RT)	2															
DR2-6	L 1467+98.72 (0.59 RT) TO L 1467+97.98 (105.43 LT)																7
DR2-7	AR 1473+96.44 (48.51 RT)																
DR2-8	L 1473+97.88 (1.56 LT) TO L 1473+96.63 (86.41 LT)																14
DR2-9	L 1473+96.63 (86.41 LT) TO L 1473+95.06 (130.6 LT)																1, 9, 11
DR2-10	AL 1473+99.78 (54.89 LT) TO AL 1483+00.88 (175.45 LT)							43									
DR3-1	LB 131+60.14 (127.07 LT) TO LB 135+86.41 (73.55 RT)																
DR3-2	LB 131+60.14 (126.23 LT) TO LB 131+60.57 (83.61 LT)										56						1, 9, 11
DR3-3	LB 131+61.67 (68.75 RT) TO LB 131+62.04 (147.96 RT)										102						1, 9, 11
DR3-4	LB 129+94.43 (34.79 LT)	1															
DR3-5	LB 129+92.29 (2.64 RT)	1															
DR3-6	LB 129+73.18 (59.08 LT) TO LB 129+72.24 (66.57 RT)													1		98	1, 2, 6, 14
DR3-7	BL 1484+84.19 (1.89 LT) TO BL 1484+73.14 (47.06 LT)														1	56	1, 2, 8, 14
DR3-8	BL 1484+73.14 (47.06 LT) TO BL 1486+47.76 (23.12 LT)														1	176	1, 2, 8, 14
DR3-9	BL 1486+47.76 (23.12 LT) TO BL 1486+47.13 (42.3 RT)															65	1, 2, 13
DR3-10	BL 1484+86.92 (25.36 RT) TO BL 1486+63.71 (93.74 LT)					213											1, 9
DR3-11	BL 1486+74.22 (25.5 LT) TO BL 1487+11.74 (80.07 LT)																7
DR3-12	L 1478+97.01 (0.66 LT) TO L 1478+94.00 (87.83 LT)	1															7
DR3-13	L 1478+96.83 (54.5 LT) TO L 1479+97.17 (54.5 LT)													1		100	1, 2, 6, 14
DR3-14	L 1479+97.17 (54.5 LT) TO L 1480+97.21 (54.5 LT)													1		100	1, 2, 6, 14
DR3-15	L 1480+97.21 (54.5 LT) TO L 1481+97.21 (54.5 LT)													1		100	1, 2, 6, 14
DR3-16	L 1481+97.21 (54.5 LT) TO L 1482+97.26 (54.5 LT)													1		100	1, 2, 6, 14
DR3-17	L 1482+97.26 (54.5 LT) TO L 1485+97.23 (54.51 LT)													1		300	1, 2, 6, 14
DR3-18	L 1485+97.23 (54.51 LT) TO L 1486+47.12 (56.15 LT)													1		50	1, 2, 6, 14
DR3-19	L 1486+47.12 (56.15 LT) TO L 1488+72.27 (54.5 LT)													1		224	1, 2, 6, 14
	SHEET TOTAL	6				213		141			158		233	8	2	1369	

GENERAL NOTES:

1. SEE PIPE ZONE BEDDING AND BACKFILL - STANDARD PLAN B-55.20-00.
2. SEE CATCH BASIN TYPE 1L - STANDARD PLAN B-5.40-00.
3. SEE GRATE INLET TYPE 2 - STANDARD PLAN B-35.40-00.
4. SEE FRAME AND DUAL VANED GRATED FOR GRATE INLET TYPE 2 - STANDARD PLAN B-40.40-00 ROTATED INSTALLATION.
5. SEE CATCH BASIN TYPE 2 - STANDARD PLAN B-10.20-00.
6. SEE RECTANGULAR FRAME (REVERSIBLE) - STANDARD PLAN B-30.10-00
7. EXISTING PIPE OR CULVERT TO BE REMOVED.
8. SEE RECTANGULAR VANED GRATE - STANDARD PLAN B-30.30-00.
9. SEE BEVELED END SECTIONS - STANDARD PLAN B-70.20-00.
10. SEE SPECAIL PROVION, "FILLING OF CULVERTS AND SEWER PIPE".
11. CONNECTION DETAILS FOR DISSIMILAR CULVERT PIPE - STANDARD PLAN B-60.20-00.
12. CULVERTS IN THE MEDIAN THAT MUST BE FILLED ARE TO REMAIN FUNCTIONAL UNTIL NO LONGER NEEDED FOR STAGE 1 DRAINAGE.
13. SEE MANHOLE TYPE 1 - STANDARD PLAN B-15.20-00.
14. SEE STORM DRAIN INLET PROTECTION - STANDARD PLAN I-7.
15. SEE SPECAIL PROVION, "ROMOVING DRAINAGE STRUCTURE".
16.
17. CLASS 3000 CONCRETE TO BE SUBSTITUTED FOR GRAVEL BACKFILL FOR PIPE ZONE BEDDING.
18.
19. SEE SPLASH PAD DETAILS ON SHEET DD13.

						REGION NO.	STATE	FED. AID PROJ. NO.			
						10	WASH				
DESIGNED BY	DESIGNER					JOB NUMBER		NH-0000(000)			
ENTERED BY	CAD OPERATOR					00Z000					
CHECKED BY	TEAM LEAD					CONTRACT NO.					
PROJ. ENGR.	PROJECT ENGINEER										
REGION ADM.	REGIONAL ADM.										
		DATE	DATE	REVISION	BY						

Washington State Department of Transportation

EXAMPLE 4-23
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

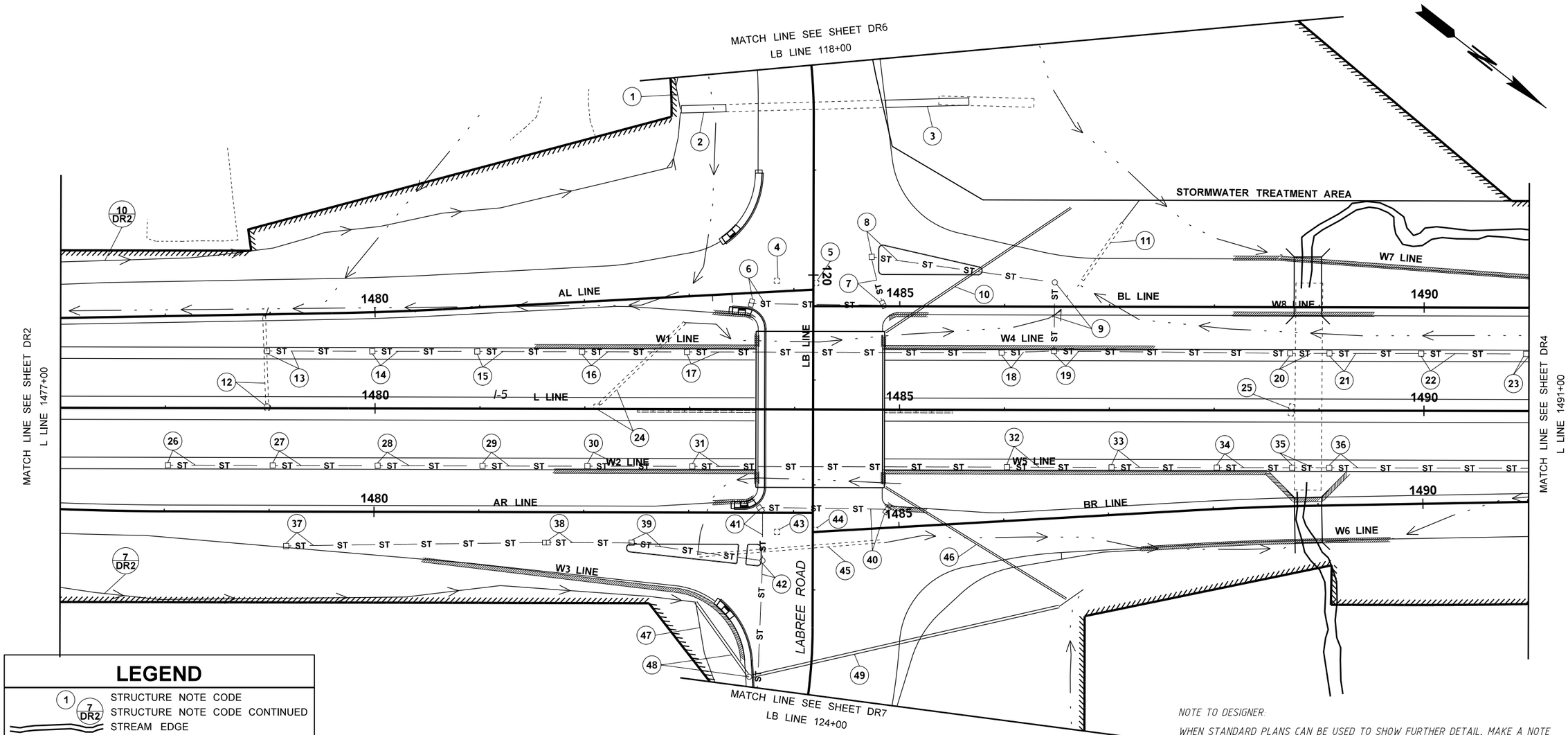
STRUCTURE NOTES - DRAINAGE

NT 1

SHEET

OF

SHEETS



LEGEND

- STRUCTURE NOTE CODE
- STRUCTURE NOTE CODE CONTINUED
- STREAM EDGE
- EXISTING DITCH BOTTOM
- EXISTING CATCH BASIN
- EXISTING CULVERT
- DITCH BOTTOM
- STORM SEWER LINE
- BOX CULVERT
- CULVERT
- CATCH BASIN
- GRATE INLET
- MANHOLE

0 50 100
SCALE IN FEET

NOTE TO DESIGNER.

WHEN STANDARD PLANS CAN BE USED TO SHOW FURTHER DETAIL, MAKE A NOTE ON PLAN DIRECTING THE READER TO THEM.

USE YOUR PLANS AND QUANTITY TABULATIONS IN CONJUNCTION WITH EACH OTHER TO ASSIST THE PLAN READER IN LAYING OUT WORK.

IN THIS EXAMPLE THE QUANTITY TABS ALONG WITH STANDARD PLANS ARE USED TO PROVIDE OTHER PERTINENT INFORMATION WHICH REDUCES THE NEED TO DUPLICATE THE INFORMATION ON THE PLAN SHEET.

TRAFFIC CODES ON THE PLAN SHEET CORRESPOND WITH THE CODE NUMBERS ON THE TRAFFIC QUANTITY TABULATION SHEET. THE QUANTITY TABULATION SHEETS PROVIDES THE STATIONING AND OFFSET DISTANCES AND QUANTITY OF THE ITEM, AND THEY ALSO PROVIDE OTHER PERTINENT INFORMATION IN THE GENERAL NOTES SECTION TO ASSIST THE READER.

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div4_PS_DR.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NH-0000(000)
TIME	2:15:19 PM						
DATE	10/7/2009						
PLOTTED BY	kerrt				JOB NUMBER 00Z000		
DESIGNED BY	DESIGNER						
ENTERED BY	CAD OPERATOR				CONTRACT NO.		LOCATION NO. XL-1234
CHECKED BY	TEAM LEAD						
PROJ. ENGR.	PROJECT ENGINEER						
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY			

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

EXAMPLE 4-24
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

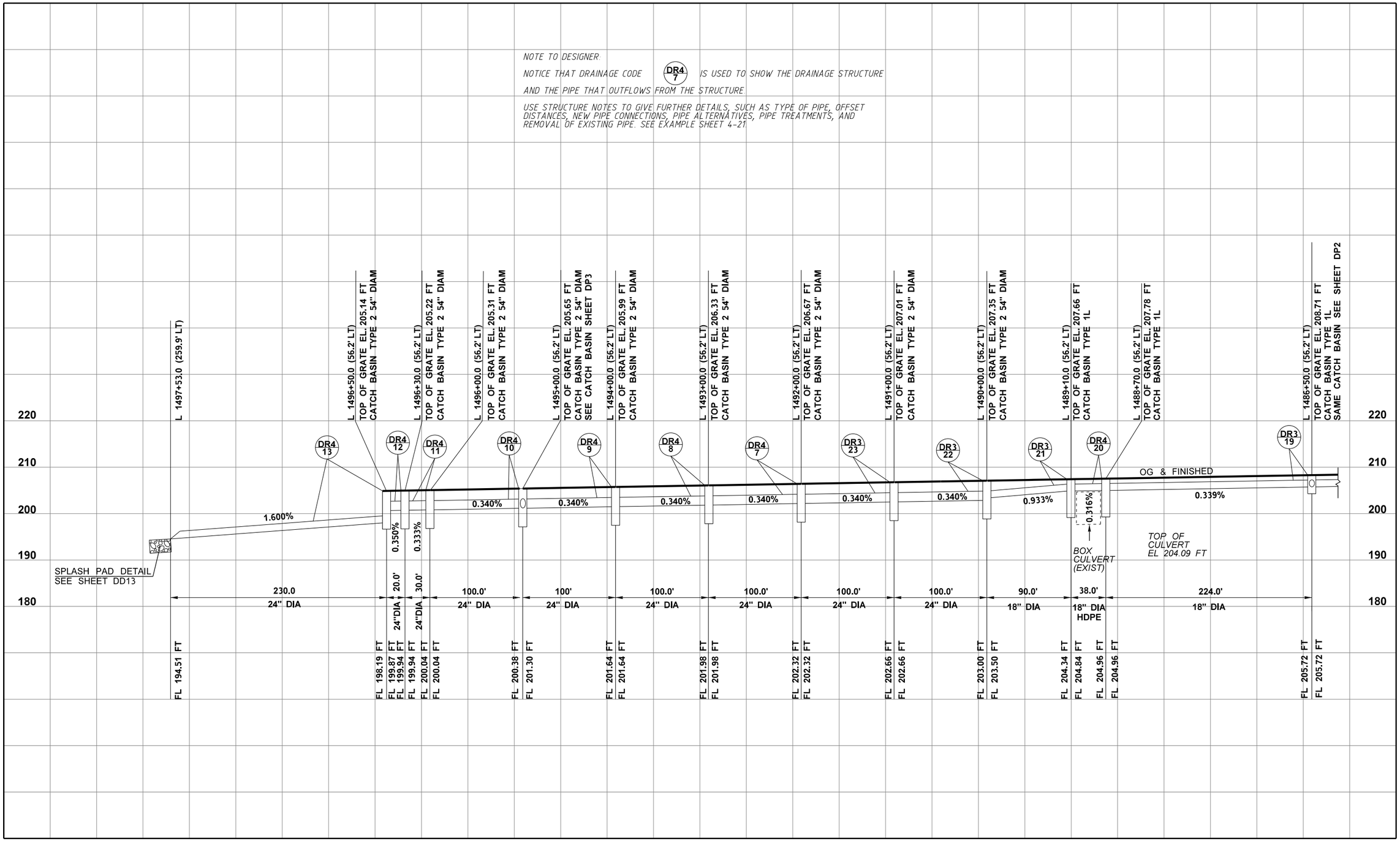
Drainage Plan

Plot 3
PLAN REF NO DR3
SHEET
OF
SHEETS

NOTE TO DESIGNER.

NOTICE THAT DRAINAGE CODE DR4 7 *IS USED TO SHOW THE DRAINAGE STRUCTURE AND THE PIPE THAT OUTFLOWS FROM THE STRUCTURE.*

USE STRUCTURE NOTES TO GIVE FURTHER DETAILS, SUCH AS TYPE OF PIPE, OFFSET DISTANCES, NEW PIPE CONNECTIONS, PIPE ALTERNATIVES, PIPE TREATMENTS, AND REMOVAL OF EXISTING PIPE. SEE EXAMPLE SHEET 4-21



FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div4_PR_DP.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NH-0000(000)	Washington State Department of Transportation	EXAMPLE 4-25 I-5 AND LABREE RD INTERCHANGE SAMPLE PROJECT
TIME	2:14:25 PM				JOB NUMBER 00Z000				
DATE	10/7/2009				CONTRACT NO.		LOCATION NO. XL-1234		DRAINAGE PROFILE
PLOTTED BY	kerrt								
DESIGNED BY	DESIGNER								
ENTERED BY	CAD OPERATOR								
CHECKED BY	TEAM LEAD								
PROJ. ENGR.	PROJECT ENGINEER								
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY					

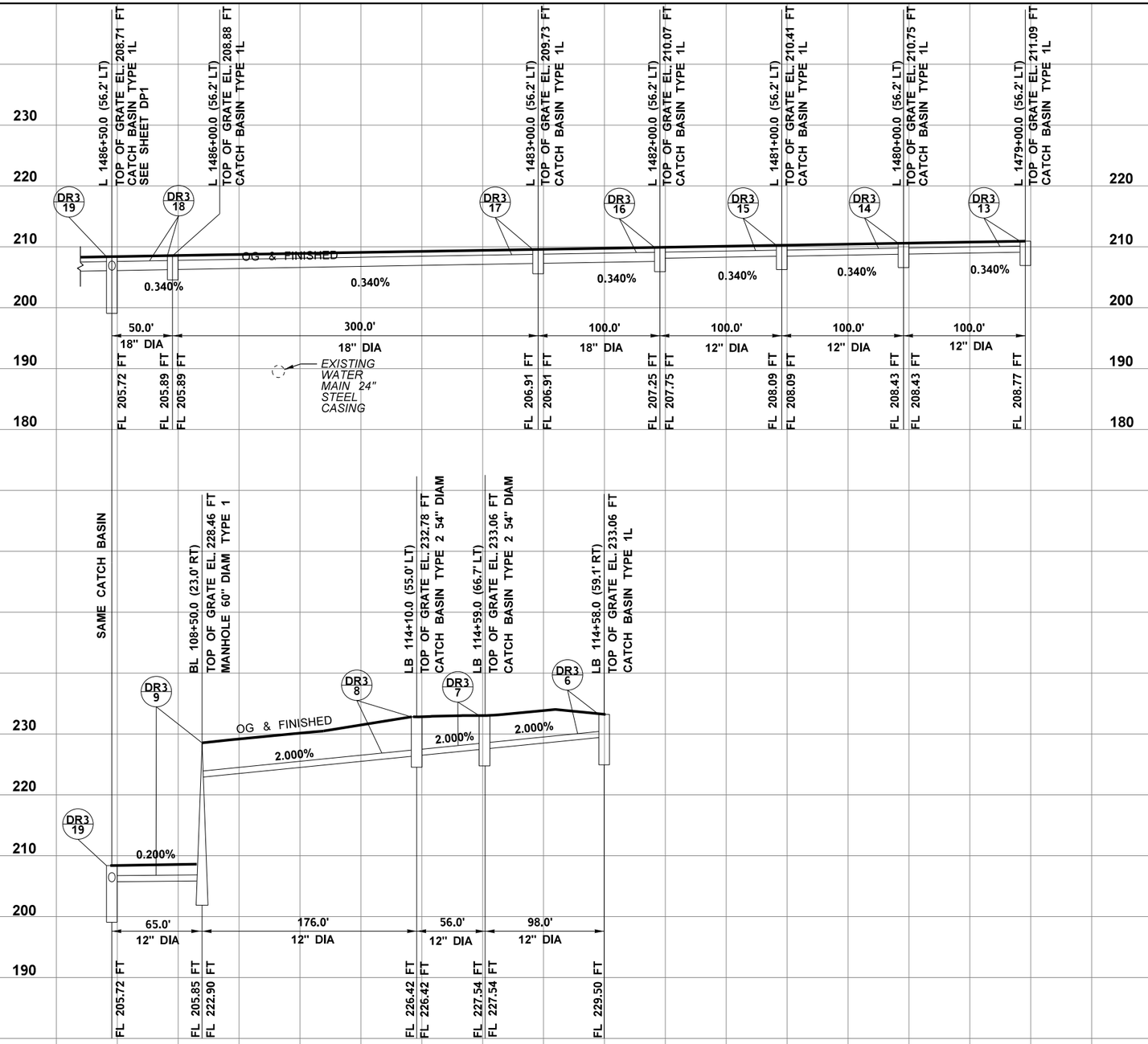
P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Plot 2

PLAN REF. NO. DP2

SHEET OF SHEETS



FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div4_PR_DP.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NH-0000(000)	Washington State Department of Transportation
TIME	2:14:32 PM				JOB NUMBER 00Z000			EXAMPLE 4-26 I-5 AND LABREE RD INTERCHANGE SAMPLE PROJECT
DATE	10/7/2009				CONTRACT NO.	LOCATION NO. XL-1234		DRAINAGE PROFILE
PLOTTED BY	kerrt							Plot 3
DESIGNED BY	DESIGNER							PLAN REF. NO. DP3
ENTERED BY	CAD OPERATOR							SHEET OF SHEETS
CHECKED BY	TEAM LEAD							
PROJ. ENGR.	PROJECT ENGINEER							
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY				

P.E. STAMP BOX — DATE

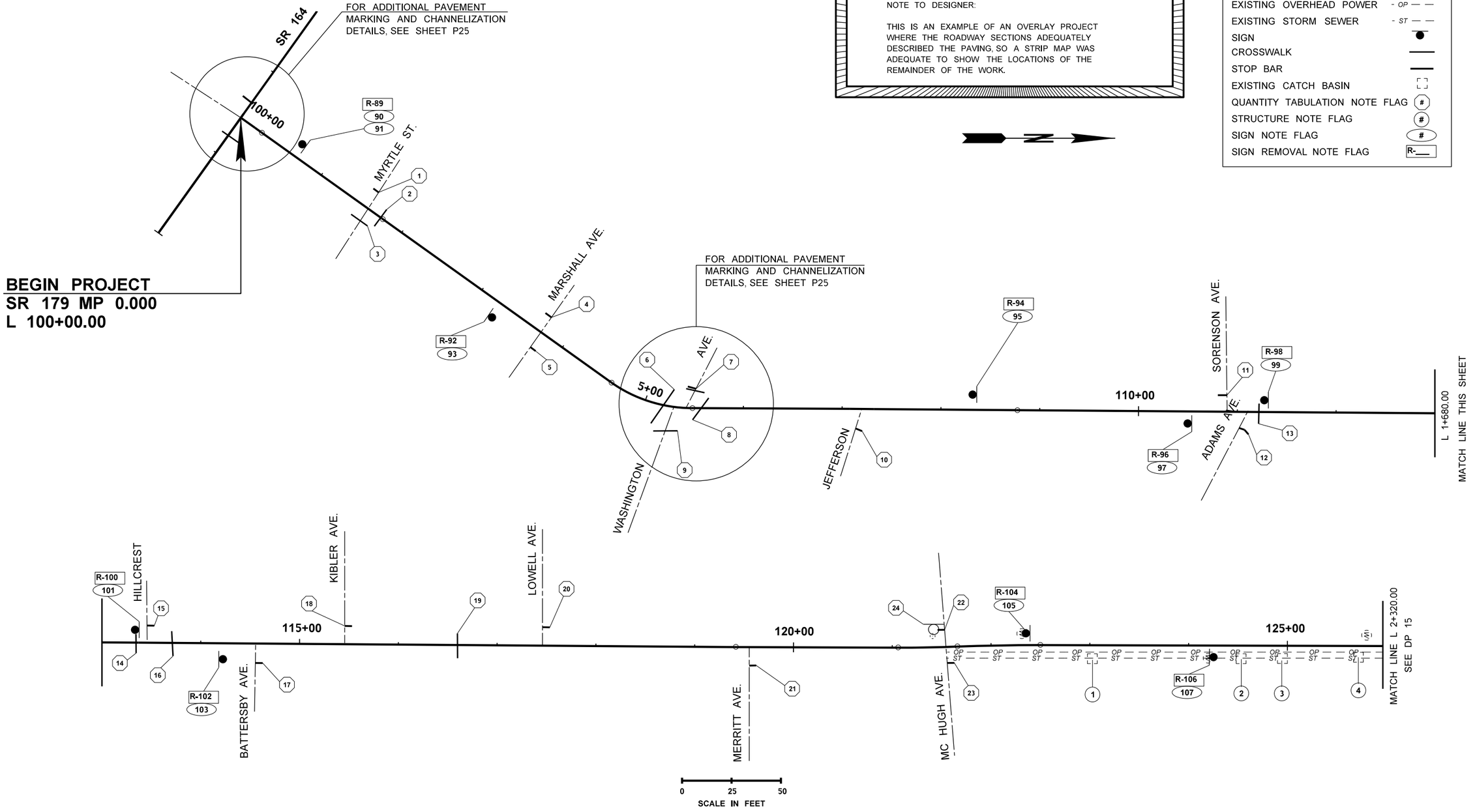
P.E. STAMP BOX — DATE

NOTE TO DESIGNER:

THIS IS AN EXAMPLE OF AN OVERLAY PROJECT WHERE THE ROADWAY SECTIONS ADEQUATELY DESCRIBED THE PAVING, SO A STRIP MAP WAS ADEQUATE TO SHOW THE LOCATIONS OF THE REMAINDER OF THE WORK.

LEGEND

- EXISTING MONUMENT
- EXISTING OVERHEAD POWER - OP — —
- EXISTING STORM SEWER - ST — —
- SIGN
- CROSSWALK
- STOP BAR
- EXISTING CATCH BASIN
- QUANTITY TABULATION NOTE FLAG (#)
- STRUCTURE NOTE FLAG (#)
- SIGN NOTE FLAG (#)
- SIGN REMOVAL NOTE FLAG R-__



FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div_4_ATL.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NH-0000(000)	Plot 26
TIME	3:37:50 PM							DP1
DATE	10/7/2009				JOB NUMBER 00Z000			SHEET OF SHEETS
PLOTTED BY	kerrt							
DESIGNED BY	DESIGNER				CONTRACT NO.		LOCATION NO. XL-1234	
ENTERED BY	CAD OPERATOR							
CHECKED BY	TEAM LEADER							
PROJ. ENGR.	PROJECT ENGINEER							
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY				

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

EXAMPLE 4-27

DRAINAGE/SIGNING/PAVEMENT MARKING

STRUCTURE NOTES - UTILITY

NOTE:
THE FIRST NUMBER OF THE "CODE DESIGNATION" BELOW REFERS TO THE SHEET NO. OR THE SHEET REFERENCE NO. SHOWING THE DRAINAGE FEATURE.

THE SECOND NUMBER REFERS TO THE DRAINAGE FEATURE FOUND ON THAT SHEET.

CODE	LOCATION ↘ \ UNIT OF MEASURE ➢	BORING AND JACKING 42 IN. PLAIN STEEL CULVERT PIPE	JACKING PIT FOR 42 IN. PLIAN STEEL CULVERT PIPE	SLIPLINING 42 IN. STEEL CASING WITH 30 IN. HDPE PIPE	HIGH DENSITY POLYETHYLENE PIPE 12 IN. DIAM.		HIGH DENSITY POLYETHYLENE PIPE 30 IN. DIAM.	HSS 16.00 STEEL PIPE	CAPPING SANITARY SEWER MANHOLE	MONITORING SANITARY SEWER LINE		SEWER CLEANOUT	TESTING SEWER PIPE	PVC SANITARY SEWER PIPE 6 IN. DIAM.	PVC SANITARY SEWER PIPE 12 IN. DIAM.		SEE GENERAL NOTES
		L.F.	EACH	L.F.	L.F.		L.F.	EACH	EACH	EACH		EACH	L.F.	L.F.	L.F.		
UT3-1	75																
UT3-2	L 1478+06 (147 RT) TO L 1481+60 (157 RT)																1
UT3-3	L 1481+60 (157 RT) TO L 1482+82 (156 RT)								1	20							1, 5, 7
UT3-4	L 1482+82 (156 RT) TO L 1485+55 (154 RT)								1								1, 5
UT3-5	L 1485+55 (154 RT) TO L 1487+62 (155 RT)								1								1, 5
UT3-6	L 1478+06.01 (147.33 RT) TO L 1478+15.88 (157.44 RT)						14						14				2
UT3-7	L 1478+15.88 (157.44 RT) TO L 1481+92.25 (167.73 RT)						337						337				2
UT3-8	L 1481+92.25 (167.73 RT) TO L 1487+46.88 (167.47 RT)	487	1	487			497						497				2
UT3-9	L 1487+46.88 (167.47 RT) TO L 1487+62.56 (155.66 RT)						14						14				2, 3, 4, 6
UT3-10	L 1487+62.56 (155.66 RT)																
UT3-11	LB 118+71 (119 LT)																
UT3-12	LB 118+57 (115 LT) TO LB 118+72 (75 LT)																
UT3-13	LB 118+54(75 LT)																10
UT3-14	LB 118+72 (75 LT) TO LB 120+15 (51 LT)				709												8
UT3-15	LB 120+44 (62 LT) TO LB 120+48 (70 RT)																
UT3-16	LB 120+51 (79 LT)																
UT3-17	LB 120+15 (51 LT) TO LB 122+18 (51 LT)							142									9
UT3-18	LB 122+110 (63 LT) TO LB 122+06 (63 RT)																
UT3-19	LB 122+07 (72 LT)																
UT3-20	LB 122+18 (51 LT) TO LB 125+37 (74 LT)																
UT6-1	HAM 1729+34.45 (30.85 LT)																
UT6-2	HAM 1729+34.45 (30.85 LT) TO HAM 1731+60.60 (44.61 LT)																
UT6-3	LB 108+09 (70 RT) TO LB 106+76 (23 RT)																
UT6-4	LB 106+76 (23 RT)																
UT6-5	LB 106+28 (52 LT) TO LB 108+09 (70 RT)																
UT6-6	LB 109+28 (52 LT)																
UT6-7	LB 110+10 (36 LT)																
UT6-8	LB 110+99 (52 LT) TO LB 110+86 (71 RT)																
UT6-9	LB 113+89 (44 LT) TO LB 144+06 (117 RT)																
UT6-10	LB 116+24.(65 LT) TO LB 115+79 (127 RT)																
UT7-1	OB 600+62.54 (60.31 LT) TO OB 602+91.84 (23.73 RT)														250		
UT7-2	OB 602+91.84 (23.73 RT) TO OB 602+91.36 (43.01 RT)											1		20			
UT7-3	LB 129+48 (62 RT)																10
UT7-4	LB 129+48 (62 RT) TO LB 129+52 (10 RT)																
UT7-5	LB 127+02 (95 RT) TO LB 126+94 (89 RT)																10
	SHEET TOTAL	487	1	487	709		862	142	3	20		1	862	20	250		

GENERAL NOTES:

1. SEE SPECIAL PROVISION "FILLING OF CULVERTS AND SEWER PIPE."

2. SEE SPEIAL PROVISION "HIGH DENSITY POLYETHYLINE PIPE."

3. SEE SPECIAL PROVISION " BORING AND JACKING CULVERT PIPE."

4. SEE SPECIAL PROVISION " JACKING PIT."

5. SEE SPECIAL PROVISION "CAPPING SANITARY SEWER MANHOLE."

6. SEE SPECAIL PROVISION "SLIPPING."

7. SEE SPECIAL PROVISION "MONITORING SANITARY SEWER LINES."

8. SEE SPECAIL PROVISION "VALVES FOR WATER MAINS."

9. SEE SPECIAL PROVISION "HSS 16,00 STEEL PIPE."

10. SEE "CEMENT CONCRETE SIDEWALK @ FIRE HYDRANT" DETAIL FOR CONCRETE SIDEWALK THICKNESS.

								REGION NO.	STATE	FED. AID PROJ. NO.									
								10	WASH										
DESIGNED BY	DESIGNER																		
ENTERED BY	CAD OPERATOER							JOB NUMBER		NH-0000(000)									
CHECKED BY	TEAM LEAD							00Z000											
PROJ. ENGR.	PROJECT ENGINEER							CONTRACT NO.											
REGION ADM.	REIONAL ADM.																		
		DATE	**DATE**	**REVISION**			**BY**												

Washington State Department of Transportation

EXAMPLE 4-28
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

STRUCTURE NOTES - UTILITY

SNUT 1

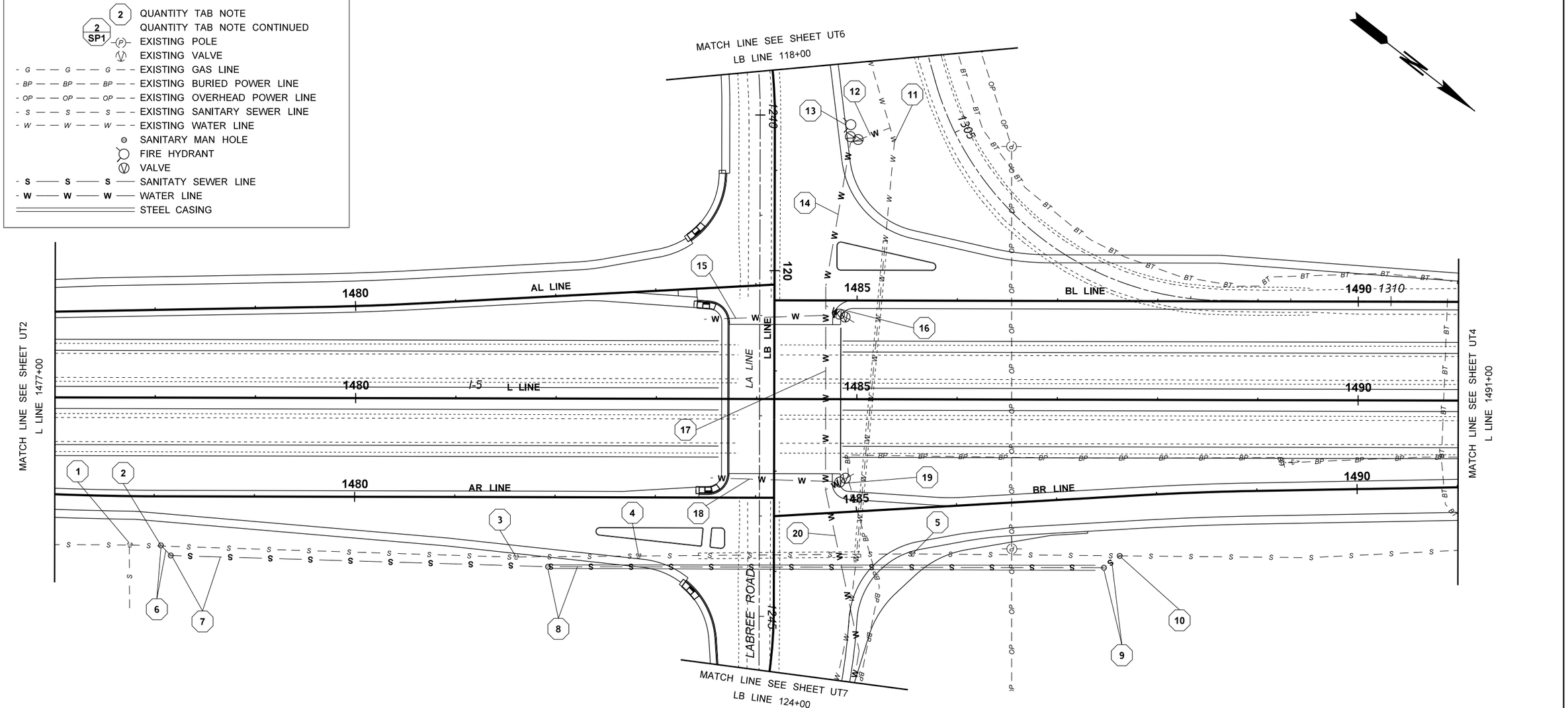
SHEET

OF

SHEETS

LEGEND

- 2 — QUANTITY TAB NOTE
- 2 / SP1 — QUANTITY TAB NOTE CONTINUED
- (P) — EXISTING POLE
- (V) — EXISTING VALVE
- G — G — G — EXISTING GAS LINE
- BP — BP — BP — EXISTING BURIED POWER LINE
- OP — OP — OP — EXISTING OVERHEAD POWER LINE
- S — S — S — EXISTING SANITARY SEWER LINE
- W — W — W — EXISTING WATER LINE
- SANITARY MAN HOLE
- FIRE HYDRANT
- (V) — VALVE
- S — S — S — SANITATY SEWER LINE
- W — W — W — WATER LINE
- STEEL CASING



0 50 100
SCALE IN FEET

SHEETS UT1 AND UT2 INTENTIONALLY OMITTED FROM PLAN SET

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div4_PS_UT.dgn				REGION NO. / STATE	FED.AID PROJ.NO.	Plot 3
TIME	11:18:43 AM				10 WASH	NH-0000(000)	PLAN REF NO UT3
DATE	10/12/2009				JOB NUMBER 00Z000		
PLOTTED BY	kerrt				CONTRACT NO.	LOCATION NO. XL-1234	SHEET OF SHEETS
DESIGNED BY	DESIGNER						
ENTERED BY	CAD OPERATOR						
CHECKED BY	TEAM LEAD						
PROJ. ENGR.	PROJECT ENGINEER						
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY			

P.E. STAMP BOX — DATE

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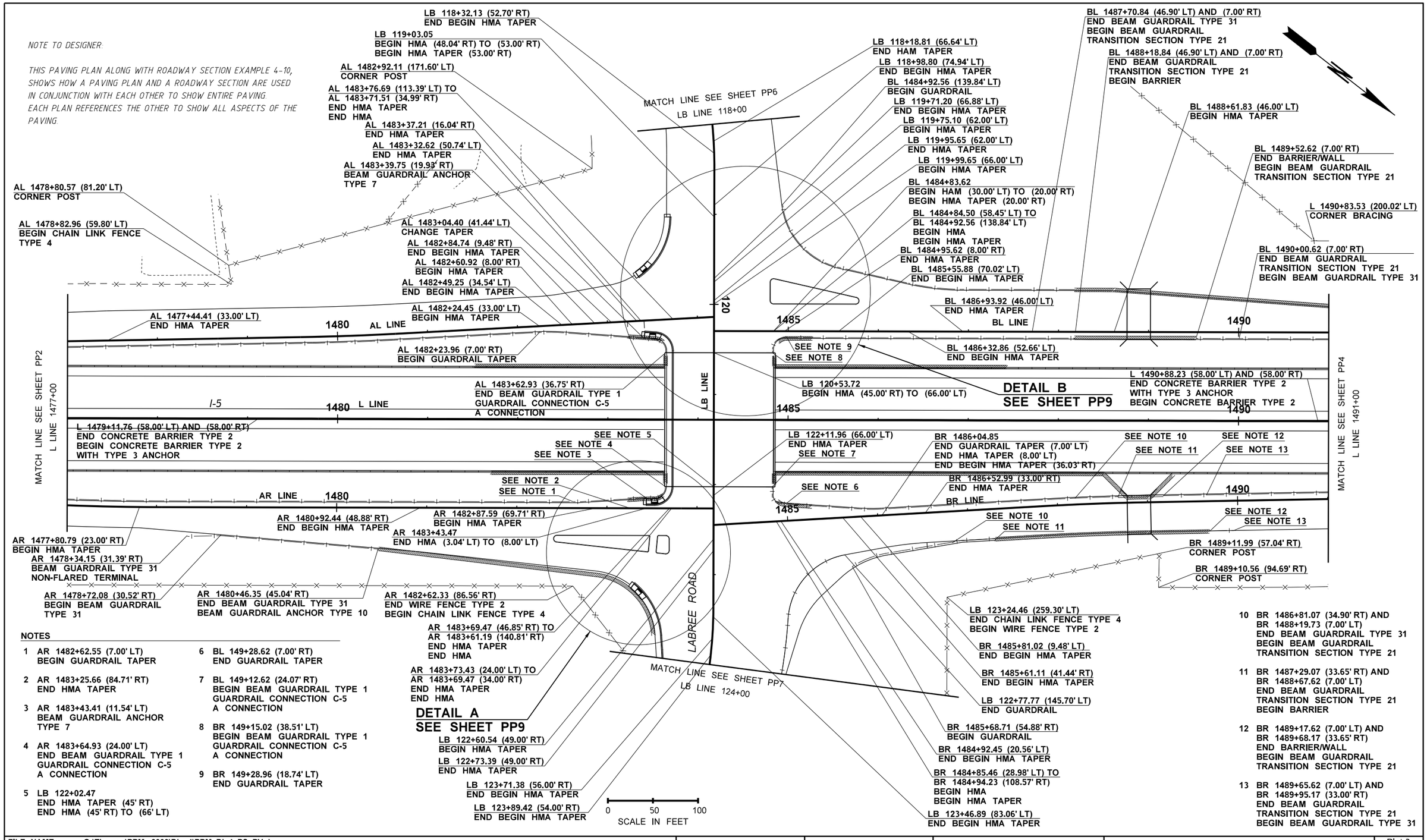
Washington State Department of Transportation

EXAMPLE 4-29
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

UTILITY PLAN

NOTE TO DESIGNER:

THIS PAVING PLAN ALONG WITH ROADWAY SECTION EXAMPLE 4-10, SHOWS HOW A PAVING PLAN AND A ROADWAY SECTION ARE USED IN CONJUNCTION WITH EACH OTHER TO SHOW ENTIRE PAVING. EACH PLAN REFERENCES THE OTHER TO SHOW ALL ASPECTS OF THE PAVING.



NOTES

1. AR 1482+62.55 (7.00' LT)
   BEGIN GUARDRAIL TAPER
2. AR 1483+25.66 (84.71' RT)
   END HMA TAPER
3. AR 1483+43.41 (11.54' LT)
   BEAM GUARDRAIL ANCHOR
   TYPE 7
4. AR 1483+64.93 (24.00' LT)
   END BEAM GUARDRAIL TYPE 1
   GUARDRAIL CONNECTION C-5
   A CONNECTION
5. LB 122+02.47
   END HMA TAPER (45' RT)
   END HMA (45' RT) TO (66' LT)
6. BL 149+28.62 (7.00' RT)
   END GUARDRAIL TAPER
7. BL 149+12.62 (24.07' RT)
   BEGIN BEAM GUARDRAIL TYPE 1
   GUARDRAIL CONNECTION C-5
   A CONNECTION
8. BR 149+15.02 (38.51' LT)
   BEGIN BEAM GUARDRAIL TYPE 1
   GUARDRAIL CONNECTION C-5
   A CONNECTION
9. BR 149+28.96 (18.74' LT)
   END GUARDRAIL TAPER
10. BR 1486+81.07 (34.90' RT) AND
    BR 1488+19.73 (7.00' LT)
    END BEAM GUARDRAIL TYPE 31
    BEGIN BEAM GUARDRAIL
    TRANSITION SECTION TYPE 21
11. BR 1487+29.07 (33.65' RT) AND
    BR 1488+67.62 (7.00' LT)
    END BEAM GUARDRAIL
    TRANSITION SECTION TYPE 21
    BEGIN BARRIER
12. BR 1489+17.62 (7.00' LT) AND
    BR 1489+68.17 (33.65' RT)
    END BARRIER/WALL
    BEGIN BEAM GUARDRAIL
    TRANSITION SECTION TYPE 21
13. BR 1489+65.62 (7.00' LT) AND
    BR 1489+95.17 (33.00' RT)
    END BEAM GUARDRAIL
    TRANSITION SECTION TYPE 21
    BEGIN BEAM GUARDRAIL TYPE 31

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div4_PS_PV.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NH-0000(000)	Plot 3
TIME	11:21:19 AM							PLAN REF NO PP3
DATE	10/12/2009				JOB NUMBER 00Z000			
PLOTTED BY	kerrt							SHEET
DESIGNED BY	DESIGNER				CONTRACT NO.		LOCATION NO. XL-1234	OF
ENTERED BY	CAD OPERATOR							SHEETS
CHECKED BY	TEAM LEAD							
PROJ. ENGR.	PROJECT ENGINEER							
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY				

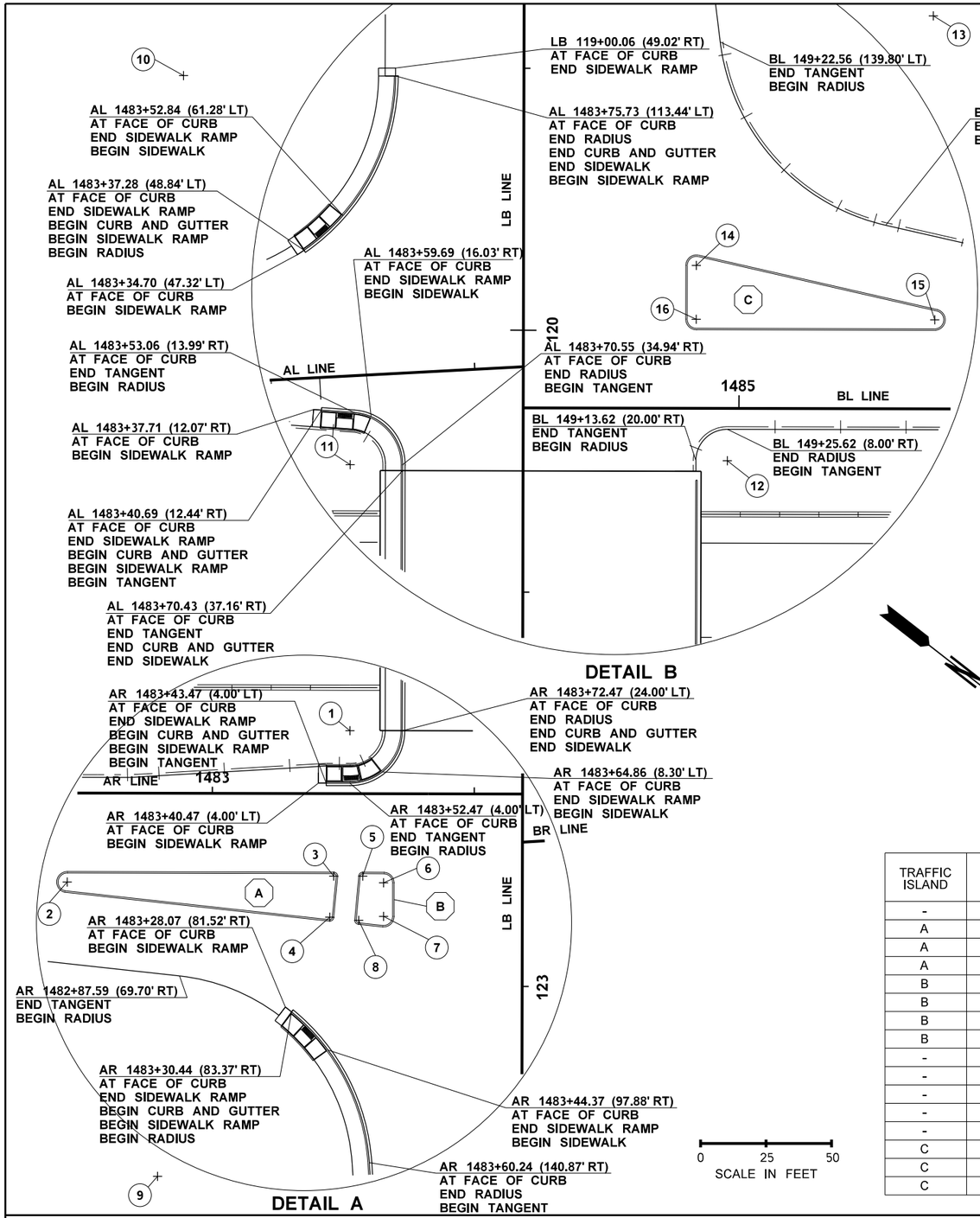
P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

EXAMPLE 4-30
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

PAVING PLAN



TRAFFIC ISLAND	RADIUS POINT	STATION & OFFSET	RADIUS AT FACE OF CURB	RADIUS AT BACK OF CURB	RADIUS AT SIDEWALK
-	1	AR 1483+52.47 (24.00' LT)	20.00'	19.46'	13.46'
A	2	AR 1482+44.63 (34.00' RT)	4.00'	3.46'	-
A	3	AR 1483+46.42 (31.50' RT)	1.50'	.96'	-
A	4	AR 1483+44.95 (47.18' RT)	1.50'	.96'	-
B	5	AR 1483+57.47 (31.50' RT)	1.50'	.96'	-
B	6	AR 1483+65.47 (34.00' RT)	4.00'	3.46'	-
B	7	AR 1483+65.47 (46.85' RT)	4.00'	3.46'	-
B	8	AR 1483+55.99 (48.36' RT)	1.50'	.96'	-
-	9	AR 1482+79.42 (146.28' RT)	81.00'	80.46'	74.46'
-	10	AL 1482+94.85 (117.84' LT)	81.00'	80.46'	74.46'
-	11	AL 1483+50.58 (33.84' RT)	20.00'	19.46'	13.46'
-	12	BL 149+25.62 (20.00' RT)	20.00'	-	-
-	13	BL 150+03.92 (150.02' LT)	90.00'	-	-
C	14	BL 149+13.62 (54.54' LT)	4.00'	3.46'	-
C	15	BL 150+04.71 (34.00' LT)	4.00'	3.46'	-
C	16	BL 149+13.62 (34.00' LT)	4.00'	3.46'	-

TRAFFIC ISLAND	RADIUS POINT	STATION & OFFSET	RADIUS AT FACE OF CURB	RADIUS AT BACK OF CURB	RADIUS AT SIDEWALK
-	17	MSB 506+32.78 (124.06' RT)	66.00'	65.46'	59.46'
-	18	MSB 506+34.57 (99.30' LT)	66.00'	65.46'	59.46'
-	19	MSB 508+59.91 (136.55' LT)	70.00'	-	-
-	20	MSB 508+59.91 (136.55' LT)	66.00'	64.46'	59.46'
D	21	MSB 506+49.83 (26.00' RT)	4.00'	3.46'	-
D	22	MSB 506+91.83 (23.50' RT)	1.50'	.96'	-
D	23	MSB 506+91.83 (39.84' RT)	1.50'	.96'	-
E	24	MSB 506+91.83 (39.84' RT)	1.50'	.96'	-
E	25	MSB 507+06.57 (26.00' RT)	4.00'	3.46'	-
E	26	MSB 507+06.57 (41.20' RT)	4.00'	3.46'	-
E	27	MSB 507+02.83 (42.79' RT)	1.50'	.96'	-
F	28	MSB 507+86.57 (50.05' LT)	4.00'	3.46'	-
F	29	MSB 508+53.14 (38.31' LT)	4.00'	3.46'	-
F	30	MSB 507+86.57 (38.31' LT)	4.00'	3.46'	30.00'

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div4_PS_PV.dgn				REGION NO.	STATE	FED.AID PROJ.NO.	Plot 9
TIME	11:21:58 AM				10	WASH	NH-0000(000)	PLAN REF NO PP9
DATE	10/12/2009				JOB NUMBER			
PLOTTED BY	kerrt				00Z000			SHEET OF SHEETS
DESIGNED BY	DESIGNER				CONTRACT NO.		LOCATION NO.	
ENTERED BY	CAD OPERATOR						XL-1234	
CHECKED BY	TEAM LEAD							
PROJ. ENGR.	PROJECT ENGINEER							
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY				

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

EXAMPLE 4-31
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

PAVING PLAN

QUANTITY TABULATION - PAVEMENT MARKING

NOTE:
THE FIRST NUMBER OF THE "CODE" BELOW REFERS TO THE SHEET NO. OR THE SHEET REFERENCE NO. SHOWING THE CONSTRUCTION FEATURE.

THE SECOND NUMBER REFERS TO THE CONSTRUCTION FEATURE FOUND ON THAT SHEET.

CODE	LOCATION ↓ \ UNIT OF MEASURE →	FLEXABLE GUIDE POST EACH	PAINT LINE L.F.	PLASTIC LINE	PAINTED WIDE LINE L.F.	PLASTIC WIDE LINE L.F.		PLASTIC CROSSWALK LINE S.F.	PLASTIC STOP LINE L.F.	PLASTIC TRAFFIC ARROW EACH	PAINTED DRAINAGE MARKINGS EACH	SHOULDER RUMBLE STRIP TYPE MI.		RAISED PAVEMENT MARKER TYPE 1 HUND			SEE GENERAL NOTES
PM1-1	L 1450+00.00 (47 LT) TO 1463+75.00 (74 LT)		1375														
PM1-2	L 1450+00.00 (35 LT) TO L 1520+00.00 (35 LT)		7000														
PM1-3	L 1450+00.00 (23 LT) TO L 1520+00.00 (23 LT)		7000														
PM1-4	L 1450+00.00 (11 LT) TO L 1520+00.00 (11LT)		7000														
PM1-5	L 1450+00.00 (11 LT) TO L 1520+00.00 (11 LT)		7000														
PM1-6	L 1450+00.00 (23 LT) TO L 1520+00.00 (23 LT)		7000														
PM1-7	L 1450+00.00 (35 LT) TO L 1520+00.00 (35 LT)		7000														
PM1-8	L 1450+00.00 (47 LT) TO 1470+20.00 (78RT)		2020														
PM1-9	L 1455+04 (61 LT)										1						
PM1-10	L 1457+75.26 (47 LT) TO L 1460+75.32 (53 LT)		300														
PM1-11	L 1459+97 (70 LT) AND (7 LT)										2						
PM1-12	L 1460+75.32 (53 LT) TO 1463+75.00 (74 LT)				300												
PM1-13	L 1460+75.32 (47 LT) TO L 1495+17.27 (47 LT)		3442														
PM2-1	AL 1463+75.30 (15 LT) TO AL 1483+46.29 (50.6 LT)			1970													
PM2-2	AL 1463+75.30 (0 RT) TO AL 1474+75.23 (0RT)					1100											
PM2-3	AL 1463+98 (19 LT)										1						
PM2-4	AL 1467+94 (19 LT)										1						
PM2-5	AL 1473+97 (22 LT)										1						
PM2-6	AL 1474+75.23 (0 RT) TO AL 1483+49.86 (11.4 RT)			875													
PM2-7	L 1463+98 (7 LT)										1						
PM2-8	L 1467+01.44 (47 RT) TO L 1475+21.64 (47 RT)				820												
PM2-9	L 1467+01.44 (47 RT) TO L 1470+20.00 (63 RT)		318														
PM2-10	L 1467+87 (70 RT)										1						
PM2-11	L 1473+99 (7 LT)										1						
PM2-12	L 1474+21.64 (47 RT) TO L 1507+75.45 (47 RT)		3254														
PM2-13	AR 1470+20.74 (0 LT) TO AR 1474+21.45 (0 LT)					400											
PM2-14	AR 1470+20.74 (15 RT) TO AR 1483+38.56 (88.74 RT)			1317													
PM2-15	AR 1474+21.45 (0 LT) TO1483+52.89 (1.91 LT)			931													
PM3-1	AL 1477+44.51 (12.5 LT) TO AL 1483+38.00 (12.5 LT)			593													
PM3-2	AL 1483+46.3 (50.6 LT) TO AL 1483+49.9 (11.4 RT)							144									7
PM3-3	L 1478+03 (51 RT)										1						
PM3-4	L 1478+97 (50 LT) AND 1479+02 (50 RT)										2						
PM3-5	L 1479+99 (50 LT) AND L 1480+03 (50 RT)										2						
	SHEET TOTAL		52709	5686	1120	1500		144			14						

GENERAL NOTES:

1. SEE STANDARD PLANS "M-24.40-01" TYPE 1S
2. SEE STANDARD PLANS "M-24.40-01" TYPE 2SL
3. SEE STANDARD PLANS "M-24.40-01" TYPE 2SR
4. SEE STANDARD PLANS "M-24.40-01" TYPE 3SL
5. SEE STANDARD PLANS "M-24.40-01" TYPE 3SR
6. SEE STANDARD PLANS "M-24.60.06"
7. SEE STANDARD PLANS "M-15.10-01"

					REGION NO.	STATE	FED. AID PROJ. NO.
					10	WASH	
DESIGNED BY	DESIGNER						
ENTERED BY	CAD OPERATOR				JOB NUMBER		NH-0000(000)
CHECKED BY	TEAM LEAD				00Z000		
PROJ. ENGR.	PROJECT ENGINEER				CONTRACT NO.		
REGION ADM.	REGIONAL ADM.						
		DATE	**DATE**	**REVISION**	**BY**		

Washington State Department of Transportation

EXAMPLE 4-32
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

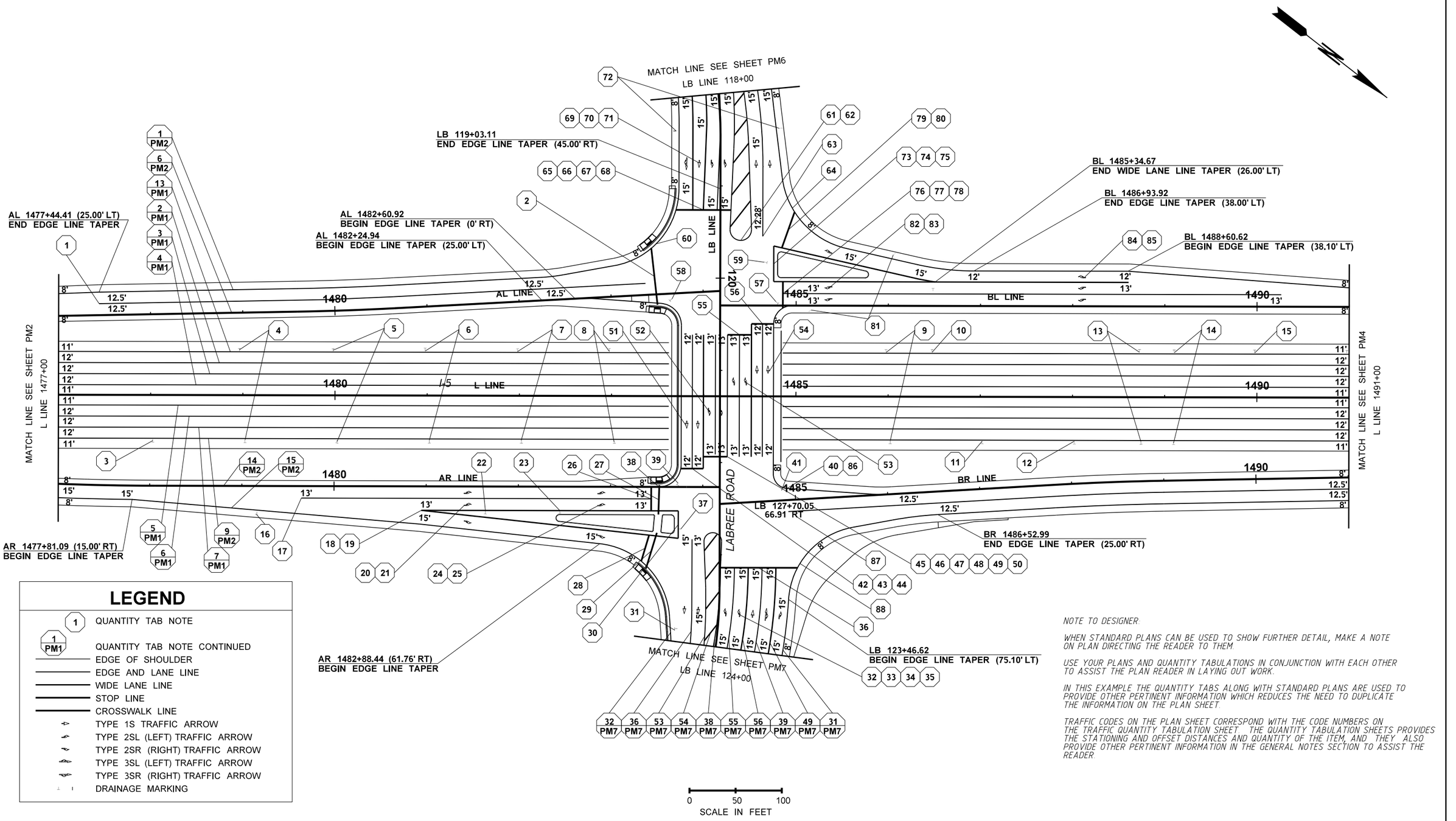
QUANTITY TABULATION - PAVEMENT MARKING

QTPM 1

SHEET

OF

SHEETS



LEGEND

- 1 — QUANTITY TAB NOTE
- 1 PM1 — QUANTITY TAB NOTE CONTINUED
- EDGE OF SHOULDER
- EDGE AND LANE LINE
- WIDE LANE LINE
- STOP LINE
- CROSSWALK LINE
- TYPE 1S TRAFFIC ARROW
- TYPE 2SL (LEFT) TRAFFIC ARROW
- TYPE 2SR (RIGHT) TRAFFIC ARROW
- TYPE 3SL (LEFT) TRAFFIC ARROW
- TYPE 3SR (RIGHT) TRAFFIC ARROW
- DRAINAGE MARKING

NOTE TO DESIGNER:

WHEN STANDARD PLANS CAN BE USED TO SHOW FURTHER DETAIL, MAKE A NOTE ON PLAN DIRECTING THE READER TO THEM.

USE YOUR PLANS AND QUANTITY TABULATIONS IN CONJUNCTION WITH EACH OTHER TO ASSIST THE PLAN READER IN LAYING OUT WORK.

IN THIS EXAMPLE THE QUANTITY TABS ALONG WITH STANDARD PLANS ARE USED TO PROVIDE OTHER PERTINENT INFORMATION WHICH REDUCES THE NEED TO DUPLICATE THE INFORMATION ON THE PLAN SHEET.

TRAFFIC CODES ON THE PLAN SHEET CORRESPOND WITH THE CODE NUMBERS ON THE TRAFFIC QUANTITY TABULATION SHEET. THE QUANTITY TABULATION SHEETS PROVIDES THE STATIONING AND OFFSET DISTANCES AND QUANTITY OF THE ITEM, AND THEY ALSO PROVIDE OTHER PERTINENT INFORMATION IN THE GENERAL NOTES SECTION TO ASSIST THE READER.

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div4_PS_PM.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NH-0000(000)	Plot 3
TIME	11:29:42 AM							PLAN REF NO PM3
DATE	10/12/2009				JOB NUMBER 00Z000			
PLOTTED BY	kerrt							SHEET
DESIGNED BY	DESIGNER				CONTRACT NO.		LOCATION NO. XL-1234	OF
ENTERED BY	CAD OPERATOR							SHEETS
CHECKED BY	TEAM LEAD							
PROJ. ENGR.	PROJECT ENGINEER							
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY				

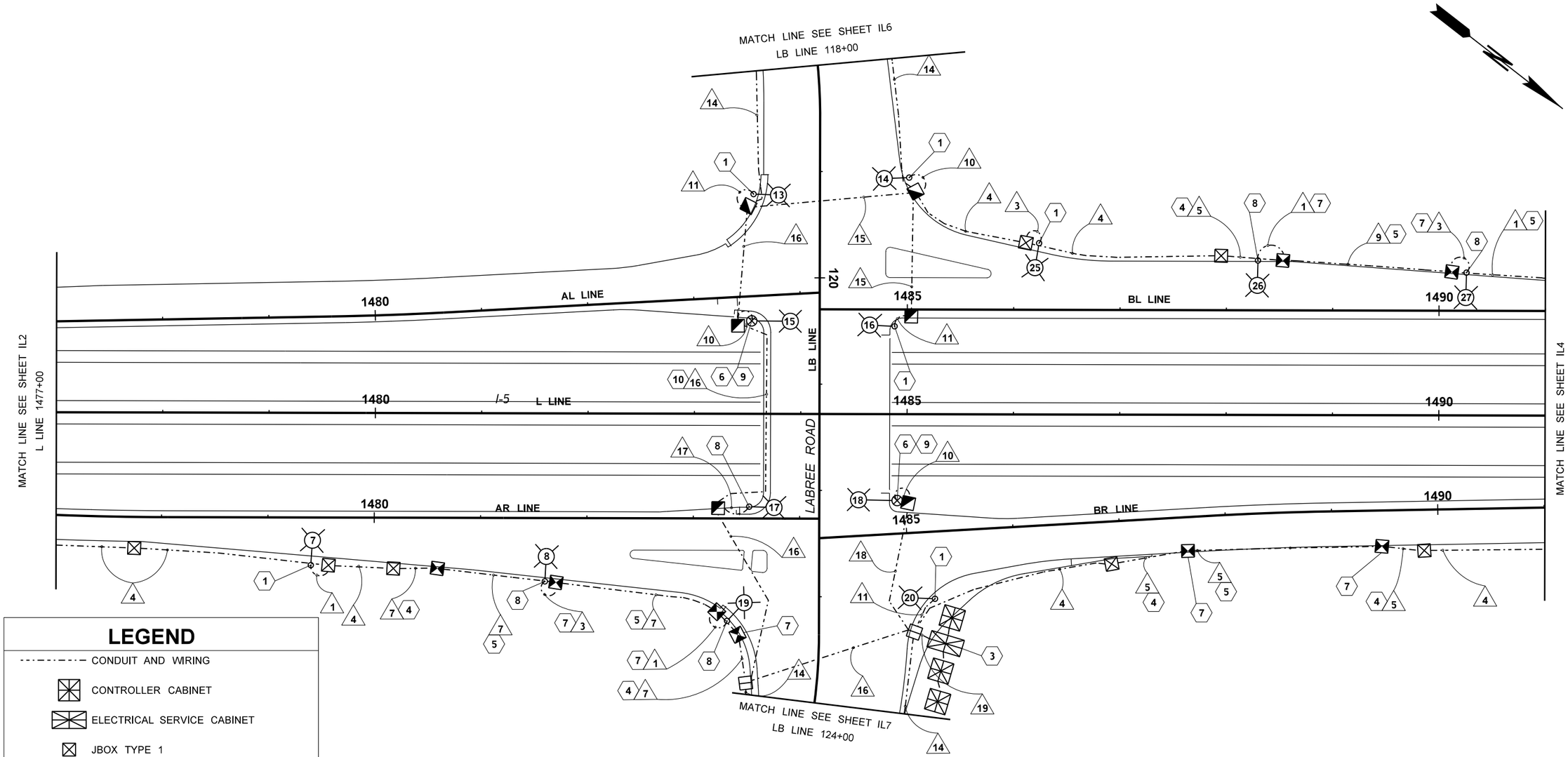
P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

EXAMPLE 4-33
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

PAVEMENT MARKING PLAN



LEGEND

- CONDUIT AND WIRING
- CONTROLLER CABINET
- ELECTRICAL SERVICE CABINET
- JBOX TYPE 1
- JBOX TYPE 2
- JBOX TYPE 7 NO LOCK
- JBOX NEMA
- LIGHT STD SINGLE METAL - SEE LUMINAIRE SCHEDULE
- WIRE SCHEDULE NOTE
- CONSTRUCTION NOTE

0 50 100
SCALE IN FEET

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div4_PS_IL.dgn				REGION NO. / STATE	FED.AID PROJ.NO.	Plot 3
TIME	11:27:51 AM				10 WASH	NH-0000(000)	PLAN REF NO IL3
DATE	10/12/2009				JOB NUMBER 00Z000		
PLOTTED BY	kerrt				CONTRACT NO.	LOCATION NO. XL-1234	SHEET OF SHEETS
DESIGNED BY	DESIGNER						
ENTERED BY	CAD OPERATOR						
CHECKED BY	TEAM LEAD						
PROJ. ENGR.	PROJECT ENGINEER						
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY			

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

EXAMPLE 4-34
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

ILLUMINATION PLAN

LUMINAIRE SCHEDULE — SERVICE NO. S*** ****

LUMINAIRE NUMBER	CIRCUIT	LOCATION STATION	LOCATION OFFSET	TYPE - DISTRIBUTION - WATTAGE	MAST ARM	H1	BASE TYPE	COMMENTS
1	*	L 1453+06.4	68.6' LT	III - MED CUTOFF - 400 HPS	16'	40'	SLIP	
2	*	L 1455+44.3	73.4' LT	III - MED CUTOFF - 400 HPS	16'	40'	SLIP	
3	*	L 1466+85.4	77.1' LT	III - MED CUTOFF - 400 HPS	16'	40'	SLIP	
4	*	L 1469+17.5	89.0' RT	III - MED CUTOFF - 400 HPS	16'	40'	SLIP	
5	*	AL 1473+78.4	33.6' LT	III - MED CUTOFF - 400 HPS	16'	40'	SLIP	
6	*	AL 1476+10.4	38.4' LT	III - MED CUTOFF - 310 HPS	16'	40'		
7	*	AR 1479+40.4	44.8' RT	III - MED CUTOFF - 310 HPS	16'	40'		
8	*	AR 1481+60.6	59.6' RT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	ON WALL
9	*	LB 115+59.2	51.9' RT	III - MED CUTOFF - 310 HPS	16'	40'		
10	*	LB 115+51.7	51.7' LT	III - MED CUTOFF - 310 HPS	16'	40'		
11	*	LB 117+39.2	57.3' RT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
12	*	LB 117+31.7	69.9' LT	III - MED CUTOFF - 310 HPS	16'	40'		
13	*	LB 119+12.8	55.5' RT	III - MED CUTOFF - 310 HPS	16'	40'		
14	*	LB 119+05.5	83.8' LT	III - MED CUTOFF - 310 HPS	16'	40'		
15	*	LB 120+40.6	63.9' RT	III - MED CUTOFF - 310 HPS	16'	40'		ON SIGNAL STANDARD
16	*	LB 120+45.5	70.4' LT	III - MED CUTOFF - 310 HPS	16'	40'		
17	*	LB 122+15.4	65.9' RT	III - MED CUTOFF - 310 HPS	16'	40'		
18	*	LB 121+87.2	74.5' LT	III - MED CUTOFF - 310 HPS	16'	40'		ON SIGNAL STANDARD
19	*	LB 123.22.9	86.5' RT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	ON WALL
20	*	LB 123+01.7	109.0' LT	III - MED CUTOFF - 310 HPS	16'	40'		
21	*	LB 125+59.8	57.3' RT	III - MED CUTOFF - 310 HPS	16'	40'		
22	*	LB 124+54.9	85.7' LT	III - MED CUTOFF - 310 HPS	16'	40'		
23	*	LB 126+04.3	53.5' RT	III - MED CUTOFF - 400 HPS	16'	40'	FIXED	
24	*	LB 126+06.8	75.2' LT	III - MED CUTOFF - 400 HPS	16'	40'	FIXED	
25	*	BL 1486+23.8	62.7' LT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
26	*	BL 1488+29.6	46.9' LT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	ON WALL
27	*	BL 1490+25.7	35.9' LT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	ON WALL
28	*	BR 1492+42.2	38.2' RT	III - MED CUTOFF - 400 HPS	16'	40'	SLIP	
29	*	BR 1494+74.2	33.7' RT	III - MED CUTOFF - 400 HPS	16'	40'	SLIP	
30	*	L 1501+13.8	88.9' LT	III - MED CUTOFF - 400 HPS	16'	40'	SLIP	
31	*	L 1503+45.8	77.3' LT	III - MED CUTOFF - 400 HPS	16'	40'	SLIP	
32	*	L 1513+09.8	73.3' LT	III - MED CUTOFF - 400 HPS	16'	40'	SLIP	
33	*	L 1515+41.9	68.7' LT	III - MED CUTOFF - 400 HPS	16'	40'	SLIP	
34	*	MSB 503+79.5	47.9' RT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
35	*	MSB 505+16.8	46.4' RT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
36	*	MSB 506+39.9	67.4' RT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
37	*	LB 127+56.5	56.4' LT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
38	*	LB 127+56.4	56.5' RT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
39	*	LB 129+03.3	56.4' LT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
40	*	LB 128+99.6	57.8' LT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
41	*	LB 130+02.7	62.4' RT	III - MED CUTOFF - 310 HPS	16'	40'		ON SIGNAL STANDARD
42	*	LB 130+21.4	50.4' LT	III - MED CUTOFF - 310 HPS	16'	40'		ON SIGNAL STANDARD
43	*	MSB 508+15.9	59.6' RT	III - MED CUTOFF - 310 HPS	16'	40'		ON SIGNAL STANDARD
44	*	MSB 508+36.4	88.3' LT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
45	*	MSB 510+11.1	66.4' LT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
46	*	MSB 509+93.9	39.6' RT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
47	*	MSB 512+02.1	61.7' LT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
48	*	MSB 512+00.4	41.6' RT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
49	*	LB 132+39.4	47.1' RT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
50	*	LB 132+33.0	63.8' LT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
51	*	LB 134+35.5	39.6' RT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
52	*	LB 134+23.5	63.6' LT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
53	*	LB 111+77.0	28.0' LT	III - MED CUTOFF - 310 HPS	16'	40'		
54	*	LB 111+72.6	42.1' RT	III - MED CUTOFF - 310 HPS	16'	40'		
55	*	LB 110+00.9	44.4' RT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
56	*	LB 109+48.5	34.3' LT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
57	*	LB 107+55.1	34.6' LT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
58	*	LB 107+55.2	33.4' RT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	

LUMINAIRE SCHEDULE — SERVICE NO. S*** ****

LUMINAIRE NUMBER	CIRCUIT	LOCATION STATION	LOCATION OFFSET	TYPE - DISTRIBUTION - WATTAGE	MAST ARM	H1	BASE TYPE	COMMENTS
59	*	H 1731+32.5	34.6' LT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
60	*	H 1731+22.5	30.3' RT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	
61	*	H 1729+86.8	27.2' LT	III - MED CUTOFF - 310 HPS	16'	40'	FIXED	

WIRING SCHEDULE — SERVICE NO. __ __

△ NO.	CONDUIT SIZE	CONDUCTORS EXISTING	CONDUCTORS NEW	CIRCUIT	COMMENTS
1	1"		2-#8	A	ILLUMINATION
2	1½"		2-#8	A	ILLUMINATION
3	1"		2-#8	B	ILLUMINATION
4	1½"		4-#8	A,B	ILLUMINATION
5	2"		4-#8	A,B	ILLUMINATION
	2"		SPARE	—	FUTURE
6	1½"		2-#8	B	ILLUMINATION
7	2"		4-#8	A,B	ILLUMINATION
8	2"		SPARE	—	FUTURE
9	2"		2-#8	B	ILLUMINATION
	2"		---	—	SEE SIGNAL PLANS
10	1"		2-#8	C	ILLUMINATION
11	1"		2-#8	D	ILLUMINATION
12	1½"		2-#8	C	ILLUMINATION
13	1½"		2-#8	D	ILLUMINATION
14	1½"		4-#8	C,D	ILLUMINATION
15	2"		2-#8	D	ILLUMINATION
	2"		SPARE	—	FUTURE
16	2"		8-#8	A,B,C,D	ILLUMINATION
	2"		SPARE	—	FUTURE
17	2"		2-#8	D	ILLUMINATION
18	2"		2-#8	C	ILLUMINATION
	2"		SPARE	—	FUTURE
19	2"		8-#8	A,B,C,D	ILLUMINATION
	2-2"		SPARE	—	FUTURE
20	1"		2-#8	A	ILLUMINATION
21	2"		2-#8	A	ILLUMINATION
22	1"		2-#8	B	ILLUMINATION
23	2"		4-#8	A,B	ILLUMINATION
24	2"		2-#8	B	ILLUMINATION
25	1"		2-#8	C	ILLUMINATION
26	2"		2-#8	C	ILLUMINATION
27	1"		2-#8	D	ILLUMINATION
28	2"		4-#8	C,D	ILLUMINATION
29	2"		2-#8	D	ILLUMINATION
30	2"		8-#8	A,B,C,D	ILLUMINATION
	2"		SPARE	---	FUTURE
31	2"		8-#8	A,B,C,D	ILLUMINATION
	2"		SPARE	---	FUTURE
32	2"		2-#6	F	SIGNAL POWER

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div4_PS_IL.dgn				REGION NO.	STATE	FED.AID PROJ.NO.	Plot 9
TIME	11:34:48 AM				10	WASH	NH-0000(000)	PLAN REF NO IL9
DATE	10/12/2009				JOB NUMBER			
PLOTTED BY	kerrt				00Z000			SHEET
DESIGNED BY	DESIGNER				CONTRACT NO.		LOCATION NO.	OF
ENTERED BY	CAD OPERATOR						XL-1234	SHEETS
CHECKED BY	TEAM LEAD							
PROJ. ENGR.	PROJECT ENGINEER							
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY				

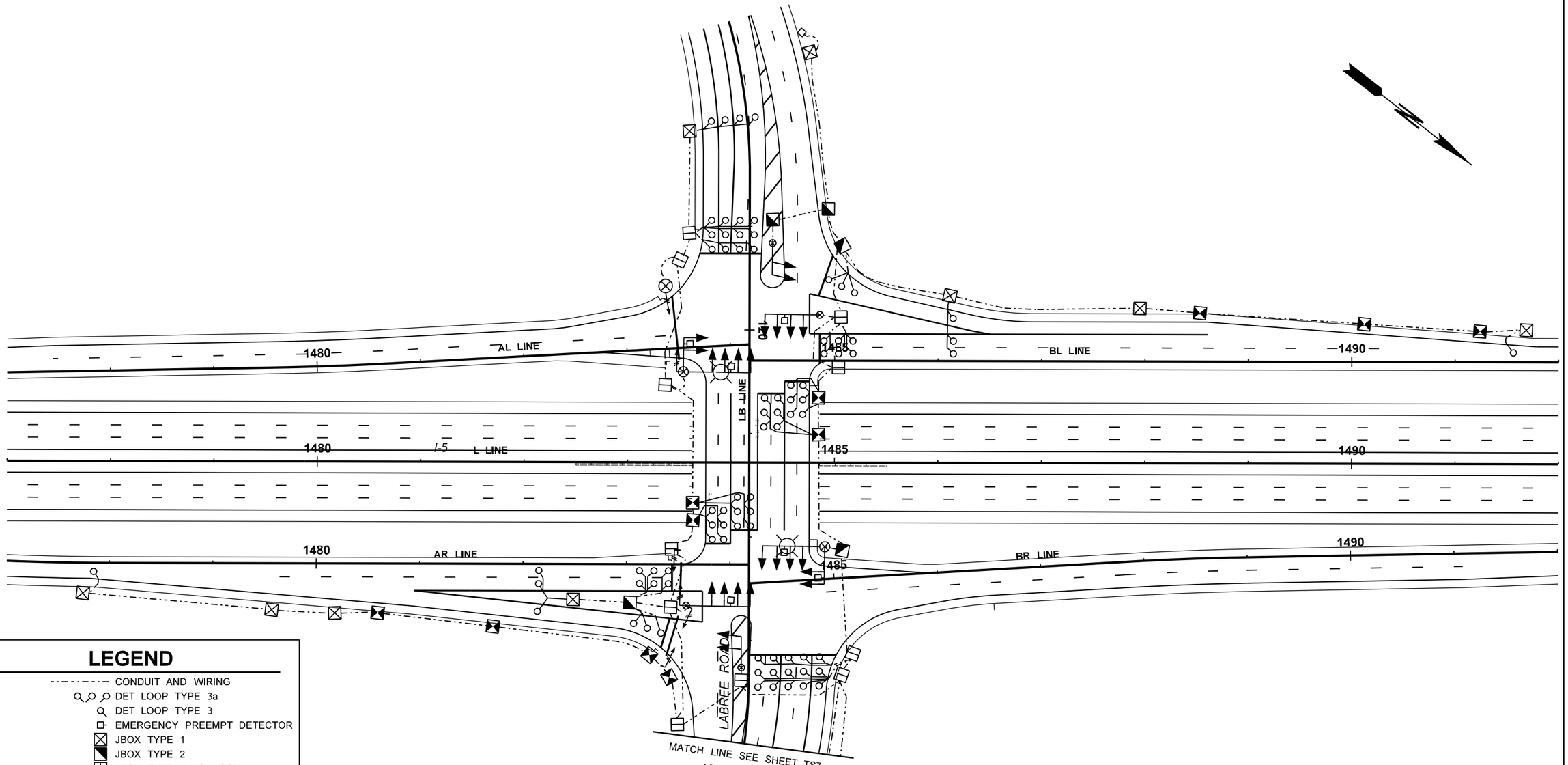
P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

EXAMPLE 4-35
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

ILLUMINATION SCHEDULE



LEGEND

- CONDUIT AND WIRING
- DET LOOP TYPE 3a
- DET LOOP TYPE 3
- EMERGENCY PREEMPT DETECTOR
- JBOX TYPE 1
- JBOX TYPE 2
- JBOX TYPE 7 NO LOCK
- JBOX NEMA
- PED PUSH BUTTON POST
- PED SIGNAL HEAD LEFT
- PED SIGNAL HEAD RIGHT
- PED SIGNAL HEAD STRAIGHT
- SIGNAL HEAD
- SIGNAL STD TYPE 1 OR 4
- SIGNAL STD TYPE 3

0 50 100
SCALE IN FEET

SHEETS TS1 AND TS2 INTENTIONALLY OMITTED FROM PLAN SET

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div4_PS_TS.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NH-0000(000)		Plot 3
TIME	11:33:19 AM				JOB NUMBER 00Z000				PLAN REF NO TS3
DATE	10/12/2009				CONTRACT NO.		LOCATION NO. XL-1234		SHEET OF SHEETS
PLOTTED BY	kerrt								
DESIGNED BY	DESIGNER								
ENTERED BY	CAD OPERATOR								
CHECKED BY	TEAM LEAD								
PROJ. ENGR.	PROJECT ENGINEER								
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY					

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

EXAMPLE 4-36
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

ITS PLANS

SIGN REMOVAL SPECIFICATIONS

SIGN NO.	SIGN CODE (DESCRIPTION)	LOCATION	SIGN SIZE X	SIGN SIZE Y	POST MATERIAL	POST SIZE	REMARKS	SIGN NO.	SIGN CODE (DESCRIPTION)	LOCATION	SIGN SIZE X	SIGN SIZE Y	POST MATERIAL	POST SIZE	REMARKS
R-1	R1-1 STOP	MP 9.03 RT	36"	36"	WOOD	4"x4"		R-36	D10-201(11) MILE	MP 11.00 RT	14"	27"	---	---	SIGN ONLY
R-2	D3-101 STREET NAME	—	30"	6"	—	---	ABOVE R-1	R-37	W2-3(225 DEG.) SIDE RD	MP 11.15 RT	30"	30"	WOOD	4"x4"	
R-3	D3-101 STREET NAME	—	30"	6"	—	---	BEHIND R-2	R-38	W2-3(135 DEG.) SIDE RD	MP 11.15 LT	30"	30"	WOOD	4"x4"	
R-4	W2-2L SIDE ROAD SYMBOL	MP 9.13 LT	30"	30"	WOOD	4"x4"		R-39	R1-1 STOP	MP 11.30 LT	36"	36"	WOOD	4"x4"	
R-5	D3-201 SIDE ROAD NAME	—	36"	12"	—	---	BELOW R-4	R-40	W1-8L CHEVRON	—	24"	30"	---	---	BEHIND R-39
R-6	R1-1 STOP	MP 9.29 RT	36"	36"	WOOD	4"x4"		R-41	W-SPEC. CURVE LEFT	MP 11.35 LT	36"	36"	WOOD	4"x4"	
R-7	D3-101 STREET NAME	—	30"	6"	—	---	ABOVE R-6	R-42	D3-201 SIDE ROAD NAME	—	60"	9"	---	---	BELOW R-41
R-8	D3-101 STREET NAME	—	30"	6"	—	---	BEHIND R-7	R-43	W1-2L CURVE LEFT	MP 11.45 LT	30"	30"	WOOD	4"x4"	
R-9	W11-2 ADVANCE PED XING	MP 9.53 LT	36"	36"	—	---	SIGN ONLY	R-44	W8-6 TRUCK CROSSING	MP 12.39 RT	36"	36"	WOOD	4"x4"	
R-10	W-SPEC. CURVE RIGHT	MP 9.61 LT	36"	36"	WOOD	4"x4"		R-45	D7-7701 RECREATION	MP 12.74 RT	96"	60"	WOOD	6"x6"	2 POSTS
R-11	W1-2R CURVE RIGHT	MP 9.62 RT	36"	36"	WOOD	4"x4"		R-46	E7-1 MILEAGE	MP 12.92 LT	144"	48"	WOOD	4"x6"	2 POSTS
R-12	W13-1(45) MPH	—	24"	24"	—	---	BELOW R-11	R-47	D10-201(13) MILE	MP 13.00 RT	10"	27"	METAL	2"x2"	
R-13	W2-2L SIDE ROAD SYMBOL	MP 9.66 RT	30"	30"	WOOD	4"x4"		R-48	D7-7701 RECREATION	MP 13.38 LT	96"	60"	WOOD	4"x6"	2 POSTS
R-14	D3-201 SIDE ROAD NAME	—	48"	9"	—	---	BELOW R-13	R-49	E7-1 MILEAGE	MP 13.44 RT	84"	36"	WOOD	4"x6"	
R-15	R1-1 STOP	MP 9.80 LT	30"	30"	WOOD	4"x4"		R-50	W2-1 CROSSROAD SYMBOL	MP 14.09 RT	36"	36"	WOOD	4"x4"	
R-16	D3-103 STREET NAME	—	24"	6"	—	---	ABOVE R-15	R-51	D3-201 CROSSROAD NAME	—	36"	9"	---	---	BELOW R-50
R-17	D1-201 DESTINATION	MP 9.80 RT	60"	48"	WOOD	6"x6"		R-52	R1-1 STOP	MP 14.19 LT	36"	36"	WOOD	4"x4"	
R-18	W1-2L CURVE LEFT	MP 9.81 LT	30"	30"	WOOD	4"x4"		R-53	R1-1 STOP	MP 14.19 RT	36"	36"	WOOD	4"x4"	
R-19	W13-1(40) MPH	—	18"	18"	—	---	BELOW R-18	R-54	W2-1 CROSSROAD SYMBOL	MP 14.28 LT	36"	36"	WOOD	4"x4"	
R-20	W1-2R CURVE RIGHT	MP 9.83 Rt	30"	30"	WOOD	4"x4"		R-55	D3-201 CROSSROAD NAME	—	36"	9"	---	---	BELOW R-54
R-21	W13-1(45) MPH	—	18"	18"	—	---	BELOW R-20	R-56	W14-3 DO NOT PASS	MP 14.39 RT	48"	36"	WOOD	4"x4"	
R-22	W1-2L CURVE LEFT	MP 9.95 LT	30"	30"	WOOD	4"x4"		R-57	W2-2L SIDE ROAD SYMBOL	MP 14.82 LT	30"	30"	WOOD	4"x4"	
R-23	W13-1(45) MPH	—	18"	18"	—	---	BELOW R-22	R-58	D3-201 SIDE ROAD NAME	—	36"	9"	---	---	BELOW R-57
R-24	D10-2(10) MILE	MP 10.00 RT	10"	27"	WOOD	4"x4"		R-59	D3-302 CROSSROAD W/CHEVRON	MP 15.00 RT	60"	12"	WOOD	4"x4"	
R-25	D10-2(10) MILE	—	10"	27"	—	---	BEHIND R-24	R-60	D10-2(15) MILE	—	10"	27"	---	---	BELOW R-59
R-26	R1-1 STOP	MP 10.09 RT	30"	30"	WOOD	4"x4"		R-61	D10-2(15) MILE	—	10"	27"	---	---	BEHIND R-60
R-27	W2-2L SIDE ROAD SYMBOL	MP 10.16 LT	30"	30"	WOOD	4"x4"		R-62	R1-1 STOP	MP 15.09 LT	30"	30"	WOOD	4"x4"	
R-28	W2-2R SIDE ROAD SYMBOL	MP 10.20 RT	30"	30"	WOOD	4"x4"		R-63	W2-2R SIDE ROAD SYMBOL	MP 15.20 LT	30"	30"	WOOD	4"x4"	
R-29	D3-201 SIDE ROAD NAME	—	42"	9"	—	---	BELOW R-28	R-64	D3-201 SIDE ROAD NAME	—	30"	6"	---	---	BELOW R-63
R-30	R1-1 STOP	MP 10.27 RT	30"	30"	WOOD	4"x4"		R-65	W2-2R SIDE ROAD SYMBOL	MP 15.60 RT	36"	36"	WOOD	4"x4"	
R-31	D3-103 STREET NAME	—	24"	6"	—	---	ABOVE R-30	R-66	D3-201 SIDE ROAD NAME	—	36"	9"	---	---	BELOW R-65
R-32	W2-3(315 DEG.) SIDE RD	MP 10.95 RT	36"	36"	WOOD	4"x4"		R-67	R1-1 STOP	MP 15.70 RT	36"	36"	WOOD	4"x4"	
R-33	D3-201 SIDE ROAD NAME	—	40"	9"	—	---	BELOW R-32	R-68	D3-101 STREET NAME	—	24"	6"	---	---	ABOVE R-67
R-34	M1-601(161) ROUTE MARKER	MP 10.95 LT	24"	24"	WOOD	4"x4"		R-69	D3-101 STREET NAME	—	24"	6"	---	---	BEHIND R-68
R-35	M3-3 SOUTH	—	24"	12"	—	---	ABOVE R-34								

NOTES:

STATION LOCATIONS AND POST SIZES SHOWN ARE APPROXIMATE ONLY.

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div_4_ATL.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NH-0000(000)	P.E. STAMP BOX / DATE	Washington State Department of Transportation
TIME	11:40:11 AM				JOB NUMBER 00Z000				EXAMPLE 4-37
DATE	10/12/2009								
PLOTTED BY	kerrt								
DESIGNED BY	DESIGNER								
ENTERED BY	CAD OPERATOR								
CHECKED BY	TEAM LEADER				CONTRACT NO.		LOCATION NO. XL-1234	P.E. STAMP BOX / DATE	SIGN SPECIFICATIONS
PROJ. ENGR.	PROJECT ENGINEER								
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY					

Plot 37 | SS1 | SHEET OF SHEETS

SIGN SPECIFICATIONS

ROADSIDE SIGN STRUCTURES

SIGN NO.	SIGN CODE (DESCRIPTION)	LOCATION	SIGN SIZE X	SIGN SIZE Y	SHEETING TYPE	LETTER SIZE OR CODE	POST MATERIAL	POST SIZE	POST LENGTH H 1	POST LENGTH H 2	POST LENGTH H 3	POST LENGTH H 4	CLEARANCE V	CLEARANCE W	REMARKS
1	R1-1 STOP	MP 9.03 RT	36"	36"	III or IV		WOOD	4"x6"	16'				7'	20'	
2	D3-103 STREET NAME	—	72"	16"	*	6" C	—	---	---				10'	—	INSTALL ABOVE SIGN NO. 1
3	W2-2L SIDE ROAD SYMBOL	MP 9.13 LT	36"	36"	II		WOOD	4"x6"	20'				7'	13'	
4	D3-201 SIDE ROAD NAME	—	60"	9"	II	5" C	—	---	---				6.25'	—	INSTALL BELOW SIGN NO. 3
5	R1-1 STOP	MP 9.29 RT	36"	36"	III or IV		WOOD	4"x6"	16'				7'	20'	
6	D3-103 STREET NAME	—	72"	16"	*	6" C	—	---	---				10'	—	INSTALL ABOVE SIGN NO. 5
7	W11-2 ADVANCE PED XING	MP 9.53 LT	36"	36"	II		—	---	---				7'	—	INSTALL ON EXISTING METAL 2"X2" POST
8	W-SPEC. CURVE RIGHT	MP 9.61 LT	36"	36"	II		WOOD	4"x6"	16'				7'	11'	
9	D3-201 SIDE ROAD NAME	—	60"	9"	II	5" C	—	---	---				6.25'	—	INSTALL BELOW SIGN NO. 8
10	W1-2R CURVE RIGHT	MP 9.62 RT	36"	36"	II		WOOD	4"x6"	18'				8'	9'	
11	W13-1(45) MPH	—	24"	24"	II		—	---	---				6'	—	INSTALL BELOW SIGN NO. 10
12	W2-2L SIDE ROAD SYMBOL	MP 9.66 RT	36"	36"	II		WOOD	4"x6"	16'				7'	9'	
13	D3-201 SIDE ROAD NAME	—	48"	9"	II	5" D	—	---	---				6.25'	—	INSTALL BELOW SIGN NO. 12
14	R1-1 STOP	MP 9.80 LT	36"	36"	III or IV		WOOD	4"x6"	16'				7'	27'	
15	D3-103 STREET NAME	—	54"	16"	*	6" D	—	---	---				10'	—	INSTALL ABOVE SIGN NO. 14
16	D1-201 DESTINATION	MP 9.80 RT	60"	48"	*	6" C/6" D	WOOD	6"X8"	16'				7'	14'	
17	W1-2L CURVE LEFT	MP 9.81 LT	36"	36"	II		WOOD	4"x6"	18'				8'	12'	
18	W13-1(40) MPH	—	24"	24"	II		—	---	---				6'	—	INSTALL BELOW SIGN NO. 17
19	W1-2R CURVE RIGHT	MP 9.83 RT	36"	36"	II		WOOD	4"x6"	18'				8'	14'	
20	W13-1(45) MPH	—	24"	24"	II		—	---	---				6'	—	INSTALL BELOW SIGN NO. 19
21	W2-2R SIDE ROAD SYMBOL	MP 9.88 LT	36"	36"	II		WOOD	4"x6"	16'				7'	16'	
22	D3-201 SIDE ROAD NAME	—	48"	9"	II	5" D	—	---	---				6.25'	—	INSTALL BELOW SIGN NO. 21
23	W1-2L CURVE LEFT	MP 9.95 LT	36"	36"	II		WOOD	4"x6"	18'				8.5'	8'	
24	W13-1(45) MPH	—	24"	24"	II		—	---	---				6.5'	—	INSTALL BELOW SIGN NO. 23
25	D10-201(10) MILE	MP 10.00 RT	14"	27"	II		WOOD	4"x4"	10'				4'	15'	
26	R1-1 STOP	MP 10.09 RT	36"	36"	III or IV		WOOD	4"x6"	16'				7'	20'	
28	W2-2L SIDE ROAD SYMBOL	MP 10.16 LT	36"	36"	II		WOOD	4"x6"	16'				7'	10'	
29	D3-201 SIDE ROAD NAME	—	48"	9"	II	5" C	—	---	---				6.25'	—	INSTALL BELOW SIGN NO. 28
30	W2-2R SIDE ROAD SYMBOL	MP 10.20 RT	36"	36"	II		WOOD	4"x6"	16'				7'	10'	
31	D3-201 SIDE ROAD NAME	—	48"	9"	II	5" C	—	---	---				6.25'	—	INSTALL BELOW SIGN NO. 30
32	R1-1 STOP	MP 10.27 RT	36"	36"	III or IV		WOOD	4"x6"	16'				7'	30'	
33	D3-103 STREET NAME	—	60"	16"	✳	6" D	—	---	---				10'	—	INSTALL ABOVE SIGN NO. 32
34	W2-3(315 DEG.) SIDE ROAD	MP 10.95 RT	36"	36"	II		WOOD	4"x6"	16'				7'	13'	
35	D3-201 SIDE ROAD NAME	—	48"	9"	II	5" D	—	---	---				6.25'	—	INSTALL BELOW SIGN NO. 34
36	M1-701(SOUTH 161) ROUTE	MP 10.95 LT	24"	36"	II		WOOD	4"x4"	14'				7'	15'	
37	D10-201(11) MILE	MP 11.00 RT	14"	27"	II		—	---	---				4'	—	INSTALL ON EXISTING METAL 2"X2" POST

NOTES:

POST LENGTHS SHOWN ARE APPROXIMATE. FINAL VALUES SHALL BE DETERMINED IN THE FIELD PRIOR TO FABRICATION.
STEEL POST SIZES SHOWN ARE AASHTO M183. FOR STRUCTURE AND MOUNTING DETAILS SEE STANDARD PLAN SHEET SERIES G.
FOR CODE REFERENCES AND STANDARD SIGN LAYOUT DETAILS SEE WASHINGTON STATE "SIGN FABRICATION MANUAL".
TYPE II FOR BACKGROUNDS; TYPE III OR IV FOR LETTERS, BORDERS & SYMBOLS.

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div_4_ATL.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NH-0000(000)
TIME	11:40:47 AM				JOB NUMBER 00Z000		
DATE	10/12/2009				CONTRACT NO.	LOCATION NO. XL-1234	
PLOTTED BY	kerrt						
DESIGNED BY	DESIGNER						
ENTERED BY	CAD OPERATOR						
CHECKED BY	TEAM LEADER						
PROJ. ENGR.	PROJECT ENGINEER						
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY			

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

EXAMPLE 4-38

SIGN SPECIFICATIONS

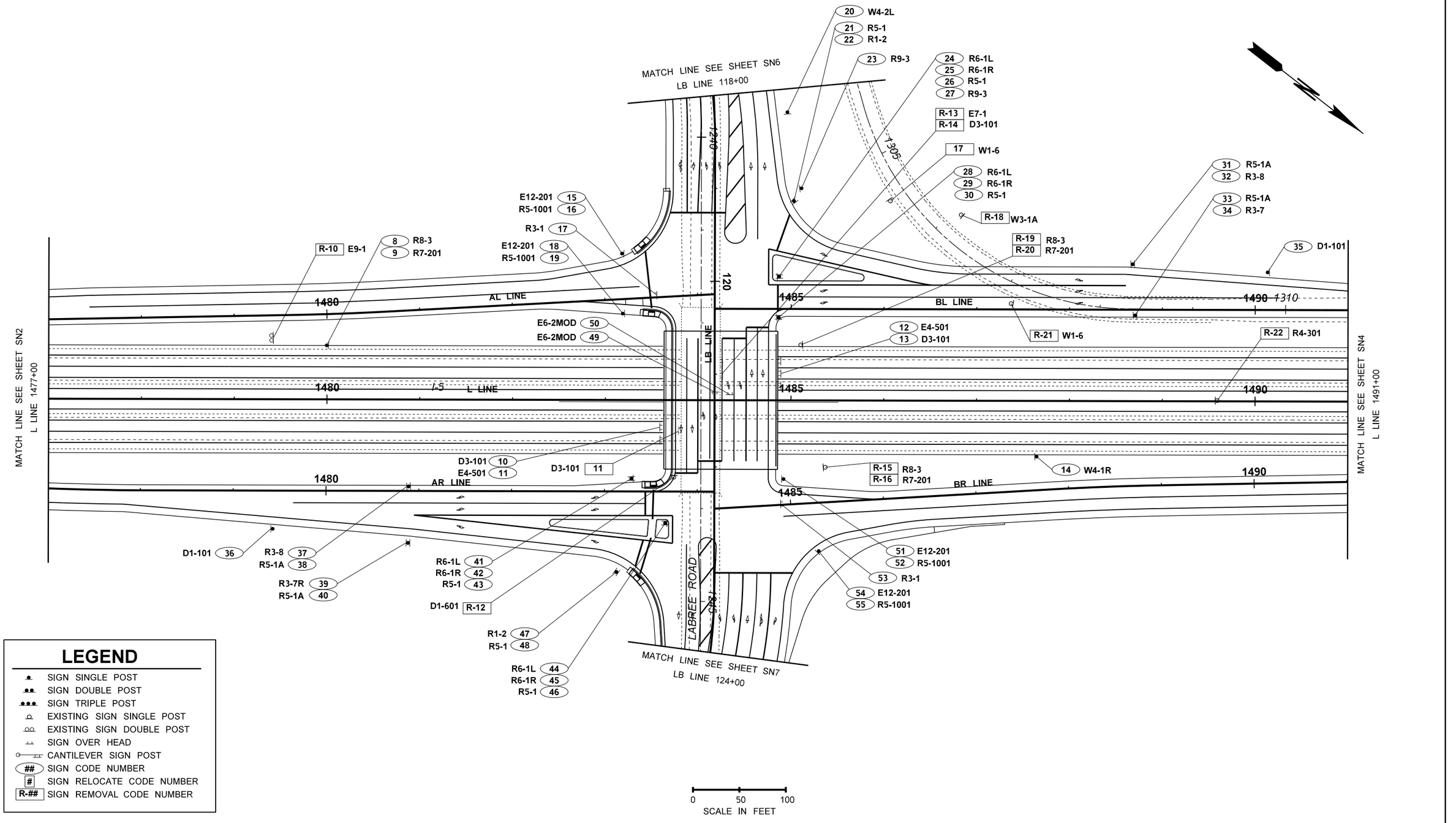
Plot 38

SS2

SHEET OF SHEETS

SIGN RELOCATION SPECIFICATIONS

SIGN NO.	SIGN CODE (DESCRIPTION)	EXISTING LOCATION	PROPOSED LOCATION	SIGN SIZE		POST MATERIAL	POST SIZE	POST LENGTH				CLEARANCE		REMARKS
				X	Y			H 1	H 2	H 3	H 4	V	W	
27	D3-103 STREET NAME	MP 10.09 RT	MP 10.09 RT	30"	6"	—	---	---				10'	—	RELOCATE ABOVE SIGN NO. 26
42	D3-103 STREET NAME	MP 11.30 LT	MP 11.30 LT	48"	9"	—	---	---				10'	—	RELOCATE ABOVE SIGN NO. 40
58	D3-103 STREET NAME	MP 14.19 LT	MP 14.19 LT	48"	12"	—	---	---				10'	—	RELOCATE ABOVE SIGN NO. 57
60	D3-101 STREET NAME	MP 14.19 RT	MP 14.19 RT	48"	12"	—	---	---				10'	—	RELOCATE ABOVE SIGN NO. 59
61	D3-101 STREET NAME	—	---	48"	12"	—	---	---				10'	—	RELOCATE BEHIND SIGN NO. 60
70	D3-103 STREET NAME	MP 15.09 LT	MP 15.09 LT	48"	12"	—	---	---				10'	—	RELOCATE ABOVE SIGN NO. 69



LEGEND

- SIGN SINGLE POST
- SIGN DOUBLE POST
- SIGN TRIPLE POST
- EXISTING SIGN SINGLE POST
- EXISTING SIGN DOUBLE POST
- SIGN OVER HEAD
- CANTILEVER SIGN POST
- (##) SIGN CODE NUMBER
- [#] SIGN RELOCATE CODE NUMBER
- [R-##] SIGN REMOVAL CODE NUMBER

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div4_PS_SN.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NH-0000(000)
TIME	11:42:56 AM				JOB NUMBER 00Z000		
DATE	10/12/2009				CONTRACT NO.		LOCATION NO. XL-1234
PLOTTED BY	kerrt						
DESIGNED BY	DESIGNER						
ENTERED BY	CAD OPERATOR						
CHECKED BY	TEAM LEAD						
PROJ. ENGR.	PROJECT ENGINEER						
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY			

P.E. STAMP BOX — DATE

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Washington State Department of Transportation

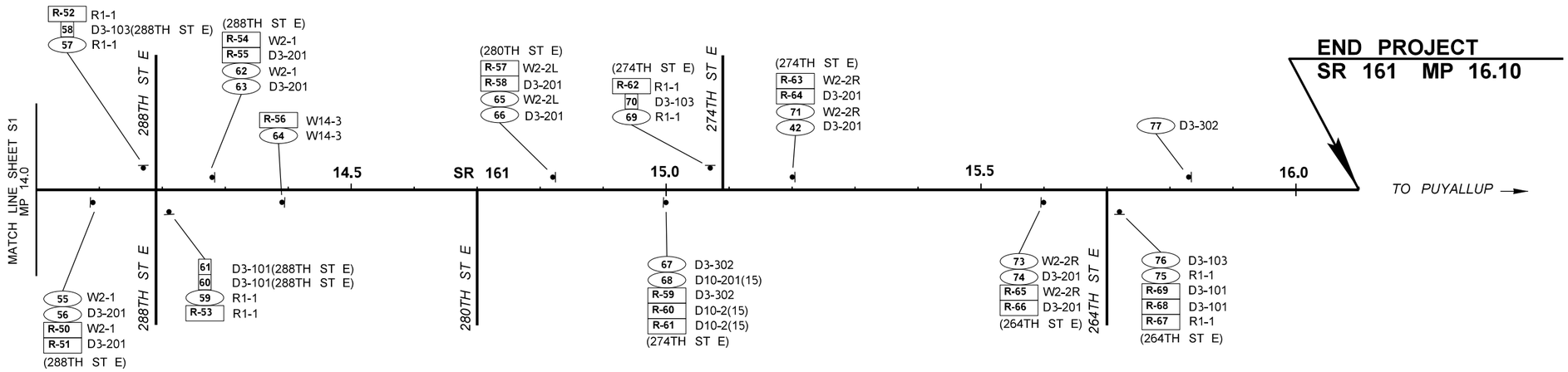
EXAMPLE 4-40
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

SIGN PLAN

Plot 3

PLAN REF NO **SN3**

SHEET OF SHEETS



SIGN NO. 2

CLEAR LAKE RD S

SIGN NO. 4

CLEAR LAKE RD S

BLACK ON YELLOW

SIGN NO. 6

W CLEAR LK RD E

SIGN NO. 9

CLEAR LAKE RD N

BLACK ON YELLOW

SIGN NO. 8

BLACK ON YELLOW

SIGN NO. 13, 22

352ND ST E

BLACK ON YELLOW

SIGN NO. 15

352ND ST E

SIGN NO. 16

TANWAX LAKE } 6"C
PUYALLUP } 6"D
CLEAR LAKE } 6"C
EATONVILLE } 6"C

6"X9" ARROWS

SIGN NO. 29

THOMAS RD E

BLACK ON YELLOW

SIGN NO. 31

TANWAX DR E

BLACK ON YELLOW

SIGN NO. 33

TANWAX DR E

SIGN NO. 35

BENSTON RD

BLACK ON YELLOW

SIGN NO. 43

BLACK ON YELLOW

SIGN NO. 44

BARNEY LARSON RD

BLACK ON YELLOW

SIGN NO. 48

BENBOW REC FACILITIES NEXT RIGHT			
D9-3A	D7-1101	D7-1301	D7-2201

SIGN NO. 49

NW Trek	4
Eatonville	10
Mt Rainier	38

SIGN NO. 53

BENBOW REC FACILITIES NEXT LEFT			
D9-3A	D7-1101	D7-1301	D7-2201

SIGN NO. 54

Graham	5
Puyallup	16

SIGN NO. 56, 63

288TH ST E

BLACK ON YELLOW

SIGN NO. 66

280TH ST E

BLACK ON YELLOW

SIGN NO. 67

274TH ST E

SIGN NO. 72

274TH ST E

BLACK ON YELLOW

SIGN NO. 74

264TH ST E

BLACK ON YELLOW

SIGN NO. 76

264TH ST E

Sign No. 77

264TH ST E

LEGEND

? — NEW SIGN ASSEMBLY

R-___ — EXIST. SIGN ASSEMBLY TO BE REMOVED

? — EXIST. SIGN TO BE RELOCATED

NOT TO SCALE

FILE NAME	G:\Thomas\PPM 2009\Div 4\PPM_Div_4_ATL.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NH-0000(000)
TIME	11:41:24 AM				JOB NUMBER 00Z000		
DATE	10/12/2009				CONTRACT NO.		LOCATION NO. XL-1234
PLOTTED BY	kerrt						
DESIGNED BY	DESIGNER						
ENTERED BY	CAD OPERATOR						
CHECKED BY	TEAM LEADER						
PROJ. ENGR.	PROJECT ENGINEER						
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY			

P.E. STAMP BOX — DATE

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Washington State Department of Transportation

EXAMPLE 4-41

SIGN PLANS

Plot 40

SP2

SHEET OF SHEETS

500.01 Introduction
500.02 Standard Symbols and Conventions
500.03 Text Fonts and Sizes
500.04 Revision Process for Standard Symbols and Conventions
500.05 PS&E Alphabetical Listing of Standard Symbols
500.06 PS&E Standard Symbols

500.01 Introduction

(1) Purpose

Plans, Specifications, and Estimates (PS&E) Plans are used for Washington State Department of Transportation (WSDOT) construction projects. This division describes Standard Symbols and Conventions for the production of the PS&E Plan sheets described in Division 4.

(a) The Standard Symbols and Conventions in this division are listed by two methods:

1. The *Alphabetical Listing of Symbols* contains an alphabetical index by symbol, indicating the category and group each symbol is associated with.
2. The *PS&E Standard Symbols and Conventions* listing is organized by category and group and is comprised of three columns of symbology information.
   - The **left** column is the symbology name and level.
   - The **middle** column indicates the standard symbology attributes: line weight, line style, color, and whether it is a cell, line, or text element. If the symbology includes text, the font and text size are listed also.
   - The **right** column is a graphic representation of each symbol, with correct attributes available in the WSDOT Expanded Level environment.

(b) Unless noted otherwise:

- All measurements are in U.S. Survey Feet.
- The symbols and their measurements shown in this division are the correct size for plans plotted on 11-inch × 17-inch sheets.

(2) Drafting Standards

PS&E Plan, Sundry Sites, Reclamation, and photogrammetric mapping are created using the following established drafting standards. The Symbols and Conventions listed in this division are intended to comprise all of the standard symbols necessary for the preparation of PS&E Plans for WSDOT. These standards apply to manually drafted plans as well as those prepared on Computer-Aided Drafting (CAD) equipment. Adherence to these standards is essential to ensure the uniformity of PS&E Plans produced throughout the state.

There will be cases when custom symbols will need to be used, but every effort should be made to use the symbols listed herein in order to maintain the consistency of R/W Plans developed for state projects. If you think custom symbols are needed, confirm that need and their use with your WSDOT CAD Coordinator or Region Plans Office.

Any CAD or PS&E Plan development questions, including the use of the WAESTATE.CEL and WAEDETAILS.CEL libraries, should first be forwarded to your Region CAD Coordinator and/or Headquarters (HQ) CAE Section.

500.02 Standard Symbols and Conventions

The various geometric and design features commonly used in drafting PS&E plans have been assigned to the different CAD levels. These levels are arranged by category (or "parent" code), then by subcategory (or "child" code), then by Item. Included are the CAD symbology names, with associated applicable cell name, CAD level, color, line style, and line weight. These symbols and conventions are available to the CAD operator for review or download at the WSDOT CAE Support web page, under "Resources" (www.wsdot.wa.gov/Design/CAE).

These PS&E CAD standards must be followed in the production of PS&E Plan sheets, whether by internal WSDOT personnel or by external WSDOT consultants.

500.03 Text Fonts and Sizes

The text fonts and sizes assigned to WSDOT CAD elements are set for readability, clarity, and consistency. The text font sizes and styles called out in the *PS&E Standard Symbols and Conventions* listing maintain readability through the final Ad and Award printing process and after numerous copies. The text sizes indicated in this manual represent standards that will produce readable plans and should be considered the minimum accepted sizes. If a plan sheet becomes too crowded to place text at the minimum text size, a smaller text may be used at the discretion of your WSDOT Plan Review representative.

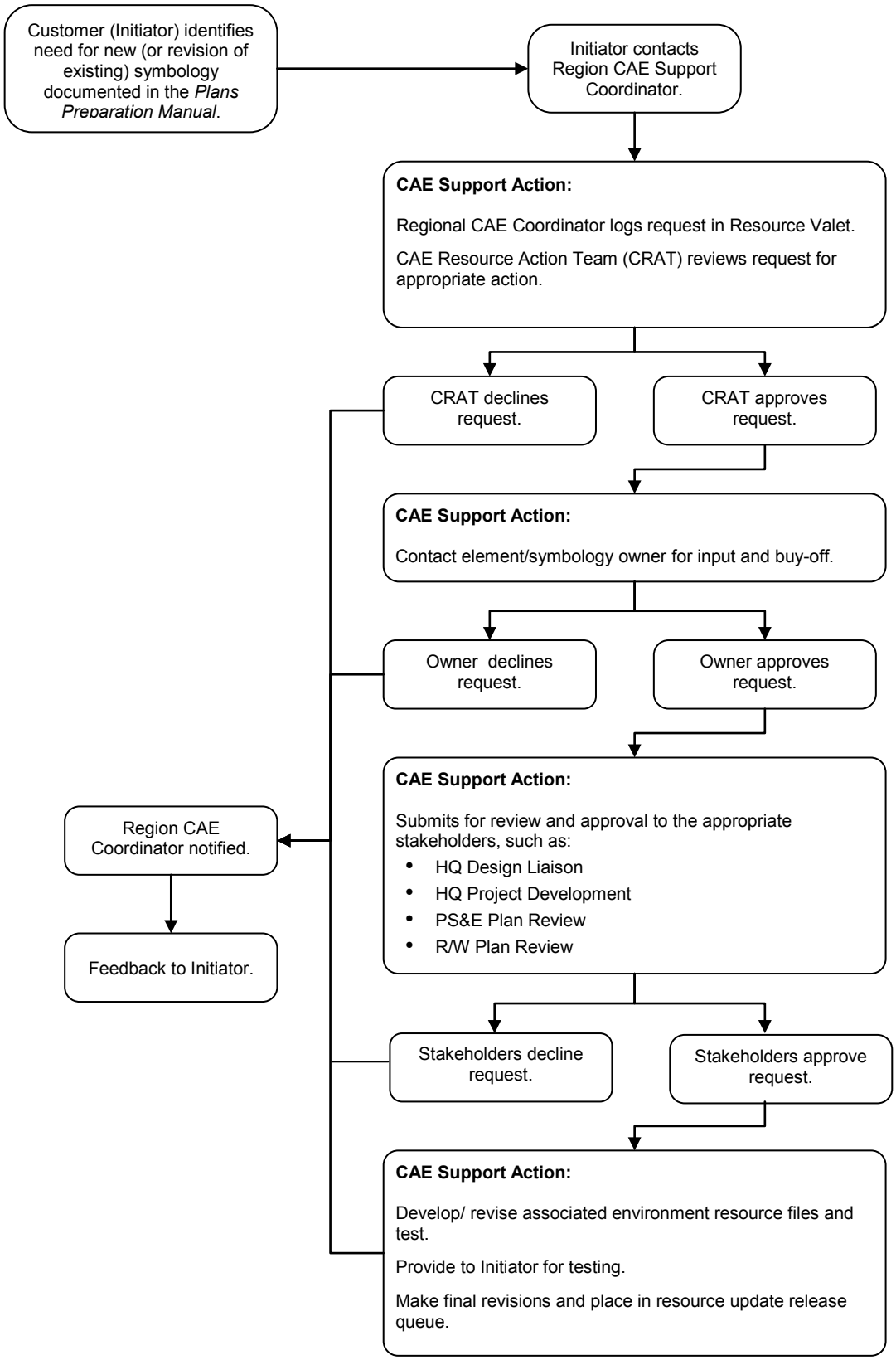
500.04 Revision Process for Standard Symbols and Conventions

There is a PS&E CAD standard revision process provides the opportunity for department-wide participation in the development, review, and implementation of new procedures and standards to be used in PS&E Plan preparation.

Although this division specifically references PS&E CAD, this procedure may be used to share other ideas relating to all types of CAD plan preparation (see Figure 500-1, CAD Standard Revision Process).

(1) Resource Updates

The Standard Symbols and Conventions shown are current at the time of the final printing of each manual revision. The HQ CAE Section may update the resources to correct, expand, or improve the standards and procedures of PS&E Plans between any *Plans Preparation Manual* updates. For more information, visit the WSDOT CAE web page (www.wsdot.wa.gov/Design/CAE) and contact HQ CAE Support.



CAD Standard Revision Process
Figure 500-1

500.05 PS&E Alphabetical Listing of Standard Symbols

The alphabetical listing below provides a complete list of standard Right of Way (R/W) symbology by element type. The name of the element type is prepended with a Category code and Group (or sub-category) code to help organize symbology. For example, a Catch Basin is found in the Drainage (DR) category under the Structures (ST) group. Therefore the complete name as found in the WSDOT CAD naming scheme is DR_ST_CatchBasin.

CATEGORY	GROUP	ELEMENT TYPE
SH	TI	3 Signal Head Detail
SH	TI	3 Signal Head Detail and Notes
TR	SG	3 Signal Head Left New
TR	SG	3 Signal Head Mast Left New
TR	SG	3 Signal Head Mast New
TR	SG	3 Signal Head New
SH	TI	4 Signal Head Detail
SH	TI	4 Signal Head Detail and Notes
TR	SG	4 Signal Head Mast New
TR	SG	4 Signal Head New
UT	GU	Above Ground Utility Line
UT	GU	Above Ground Utility Point
UT	CM	AbvGnd Cable TV
UT	CM	AbvGnd Cable TV New
UT	PW	AbvGnd Hi Tens Power Line
UT	PW	AbvGnd Hi Tens Power Line New
UT	CM	AbvGnd Optic Fiber Cable
UT	CM	AbvGnd Optic Fiber Cable New
UT	PW	AbvGnd Power
UT	PW	AbvGnd Power New
UT	CM	AbvGnd Telephone Line
UT	CM	AbvGnd Telephone Line New
UT	MT	AbvGnd Utilities Multi
UT	MT	AbvGnd Utilities Multi New
SH	GI	Addendum Cloud
SH	GI	Addendum Shading
TR	TS	Advanced Warning Sign
TR	TS	Advanced Warning Sign New
RD	MK	Aerial SurvInc Mark Full
RD	MK	Aerial SurvInc Mark Full New
RD	MK	Aerial SurvInc Mark Half
RD	MK	Aerial SurvInc Mark Half New
SH	DT	APPRCH Intersect Paving Detail

The alphabetical listing below provides a complete list of standard Right of Way (R/W) symbology by element type. The name of the element type is prepended with a Category code and Group (or sub-category) code to help organize symbology. For example, a Catch Basin is found in the Drainage (DR) category under the Structures (ST) group. Therefore the complete name as found in the WSDOT CAD naming scheme is DR_ST_CatchBasin.

CATEGORY	GROUP	ELEMENT TYPE
SH	DT	APPRCH Intersection Schedule
SH	TI	Approved Traffic Engineer
SH	DT	APRCH Inter Pvng Det Ex Shldrs
SH	DT	APRCH Inter Pvng Det Incl Shldrs
SH	DT	APRCH Profile
SH	DT	APRCH Schedule
SH	DT	APRCH Schedule Detail
TP	MM	Area Under Constr
TR	WZ	Arrow Detour Route
TR	WZ	Arrow Left Str Right Turn
TR	WZ	Arrow Left Turn
TR	WZ	Arrow Right Turn
TR	WZ	Arrow Straight
TR	WZ	Arrow Straight Left Turn
TR	WZ	Arrow Straight Right Turn
TR	WZ	Auto Flagger Assist Device
ST	BG	Back of Pvmnt Seat
TR	SN	Barricade
TR	WZ	Barricade Type 2
TR	WZ	Barricade Type 3
TR	WZ	Barrier Attenuator
RD	BR	Barrier Center
RD	BR	Barrier Center New
RD	BR	Barrier Center Temporary
TR	WZ	Barrier Double Face
TR	WZ	Barrier Drum
TR	WZ	Barrier Drum Pattern 12
TR	WZ	Barrier Drum Pattern 18
TR	WZ	Barrier Drum Pattern 24
TR	WZ	Barrier Pole Sign Mount
TR	WZ	Barrier Quick Move
TR	WZ	Barrier Single Face
RD	BR	Barrier Text

The alphabetical listing below provides a complete list of standard Right of Way (R/W) symbology by element type. The name of the element type is prepended with a Category code and Group (or sub-category) code to help organize symbology. For example, a Catch Basin is found in the Drainage (DR) category under the Structures (ST) group. Therefore the complete name as found in the WSDOT CAD naming scheme is DR_ST_CatchBasin.

CATEGORY	GROUP	ELEMENT TYPE
RD	BR	Barrier Text New
RW	SC	Bearings Text
SH	PS	Begin End Constr Text
SH	GI	Begin End Plan Arrow
SH	GI	Begin End Project Text
TP	MM	Bench
RD	BM	Berm Text
RD	BM	Berm Text New
RD	ED	Bike Path Edge
RD	ED	Bike Path Edge New
RD	MK	Bike Symb
RD	MK	Bike Symb Arrow
RD	MK	Bike Symb Arrow New
RD	MK	Bike Symb New
EV	WL	Biofiltration Swale
EV	WL	Biofiltration Swale New
SH	RS	Body Existing Text
SH	RS	Body Text New
RD	BR	Bollard
RD	BR	Bollard New
TP	MM	Bore Hole or Drill Hole
TP	MM	Bore Hole or Drill Hole New
DR	ST	Box Culvert
DR	ST	Box Culvert New
SH	TI	Breaker Schedule Type B
SH	TI	Breaker Schedule Type D
SH	TI	Breaker Schedule Type E
ST	BG	Bridge
ST	BG	Bridge New
ST	BG	Bridge Text
ST	BG	Bridge Text New
EV	EC	Brush Barrier New
TP	NT	Brush Line

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CATEGORY	GROUP	ELEMENT TYPE
SH	TI	Buffer Data Note
TP	MM	Building 2D
RD	BR	Cable Barrier
RD	BR	Cable Barrier New
TR	TS	Cable Vault
TR	TS	Cable Vault New
TP	MM	Canal
DR	ST	Catch Basin
DR	ST	Catch Basin New
TR	TS	CCTV Camera
TR	TS	CCTV Camera New
TR	TS	CCTV Control Cabinet
TR	TS	CCTV Control Cabinet New
SH	RS	Center Line
SH	TI	Chan Spacing 25 to 45 Note
SH	TI	Chan Spacing 25 to 70 Note
SH	TI	Chan Spacing 35 to 45 Note
SH	TI	Chan Spacing 35 to 70 Note
SH	TI	Chan Spacing 50 to 70 Note
RW	PA	City Names Text
AL	HW	CLine PSE
AL	HW	CLine PSE Bearings Text
AL	HW	CLine PSE Curve Pt Circle
AL	HW	CLine PSE Line Des Text
AL	HW	Cline PSE Major Sta Text
AL	HW	CLine PSE New
AL	HW	CLine PSE New Bearings Text
AL	HW	CLine PSE New Curve Pt Circle
AL	HW	CLine PSE New Line Des Text
AL	HW	CLine PSE New Major Sta Text
AL	HW	CLine PSE New PCPIPT Text
AL	HW	CLine PSE New PI to PI Line
AL	HW	CLine PSE New SR No Text

The alphabetical listing below provides a complete list of standard Right of Way (R/W) symbology by element type. The name of the element type is prepended with a Category code and Group (or sub-category) code to help organize symbology. For example, a Catch Basin is found in the Drainage (DR) category under the Structures (ST) group. Therefore the complete name as found in the WSDOT CAD naming scheme is DR_ST_CatchBasin.

CATEGORY	GROUP	ELEMENT TYPE
AL	HW	CLine PSE New Sta Equa Text
AL	HW	CLine PSE New Sta Equation
AL	HW	CLine PSE New Station Text
AL	HW	CLine PSE New Tics
AL	HW	CLine PSE PCPIPT Text
AL	HW	CLine PSE PI to PI Line
AL	HW	CLine PSE SR No Text
AL	HW	CLine PSE Sta Equa Text
AL	HW	CLine PSE Sta Equation
AL	HW	CLine PSE Station Text
AL	HW	CLine PSE Tics
AL	RW	CLine RW for PSE
AL	RW	CLine RW for PSE Bearings Text
AL	RW	CLine RW for PSE Crve Pt Circle
AL	RW	CLine RW for PSE Line Des Text
AL	RW	CLine RW for PSE Major Sta Text
AL	RW	CLine RW for PSE PCPIPT Text
AL	RW	CLine RW for PSE PI to PI Line
AL	RW	CLine RW for PSE SR No Text
AL	RW	CLine RW for PSE Sta Equa Text
AL	RW	CLine RW for PSE Sta Equation
AL	RW	CLine RW for PSE Station Text
AL	RW	CLine RW for PSE Tics
AL	SA	CLine Wall New
AL	SA	CLine Wall New Bearings Text
AL	SA	CLine Wall New Curve Pt Circle
AL	SA	CLine Wall New Line Des Text
AL	SA	CLine Wall New Major Sta Text
AL	SA	CLine Wall New PCPIPT Text
AL	SA	CLine Wall New PI to PI Line
AL	SA	CLine Wall New SR No Text
AL	SA	CLine Wall New Sta Equa Text
AL	SA	CLine Wall New Sta Equation

The alphabetical listing below provides a complete list of standard Right of Way (R/W) symbology by element type. The name of the element type is prepended with a Category code and Group (or sub-category) code to help organize symbology. For example, a Catch Basin is found in the Drainage (DR) category under the Structures (ST) group. Therefore the complete name as found in the WSDOT CAD naming scheme is DR_ST_CatchBasin.

CATEGORY	GROUP	ELEMENT TYPE
AL	SA	CLine Wall New Station Text
AL	SA	CLine Wall New Tics
RW	SC	Closing Corner Found
RW	SC	Closing Corner Not Found
UT	CM	Communication Util Text
UT	CM	Communication Util Text New
TR	TS	Communications Hub
TR	TS	Communications Hub New
EV	EC	Compost Berm New
EV	EC	Compost Filler Sock New
TR	WZ	Concrete Barrier
TR	WZ	Concrete Barrier New
TR	WZ	Concrete Divider Basic
DR	ST	Concrete Inlet
DR	ST	Concrete Inlet New
TP	MM	Concrete Slab
TP	MM	Concrete Slope Protection
TR	IL	Conduit and Wiring
TR	SG	Conduit and Wiring
TR	SG	Conduit and Wiring New
TR	IL	Conduit and Wiring New
TR	TS	Conduit and Wiring TS
TR	TS	Conduit and Wiring TS New
EV	EC	Constr Entrance New
EV	EC	Constr Entrance Tire Wash New
EV	EC	Constr Fence New
SH	RS	Construction Note Flag
TR	IL	Construction Note Flag
TR	SG	Construction Note Flag
TR	SN	Construction Signs
TR	SG	Controller Cabinet
TR	IL	Controller Cabinet
TR	IL	Controller Cabinet New

The alphabetical listing below provides a complete list of standard Right of Way (R/W) symbology by element type. The name of the element type is prepended with a Category code and Group (or sub-category) code to help organize symbology. For example, a Catch Basin is found in the Drainage (DR) category under the Structures (ST) group. Therefore the complete name as found in the WSDOT CAD naming scheme is DR_ST_CatchBasin.

CATEGORY	GROUP	ELEMENT TYPE
TR	SG	Controller Cabinet New
RW	GB	Corp Limit Line
RW	GB	County Line
SH	PR	Cross Reference Notes Text
DR	ST	Culvert
DR	ST	Culvert New
RD	CG	Curb Face
RD	CG	Curb Face New
RD	CG	Curb Gutter Sidewalk Text
RD	CG	Curb Gutter Sidewalk Text New
TP	CN	Cut Line New
TP	MM	Dam
SH	TI	Dbl Signal Head Detail
SH	TI	Dbl Signal Head Detail Notes1
SH	TI	Dbl Signal Head Detail Notes2
TP	MM	Deck
RW	SC	Descriptions Text
SH	GI	Destination Arrow
SH	GI	Destination Arrows Text
TR	SG	Det Loop Diamond
TR	SG	Det Loop Diamond New
TR	SG	Det Loop Type 1 6x15
TR	SG	Det Loop Type 1 6x15 New
TR	SG	Det Loop Type 1 6x30
TR	SG	Det Loop Type 1 6x30 New
TR	SG	Det Loop Type 1 6x50
TR	SG	Det Loop Type 1 6x50 New
TR	SG	Det Loop Type 2 6x6
TR	SG	Det Loop Type 2 6x6 New
TR	SG	Det Loop Type 3
TR	SG	Det Loop Type 3 New
TR	SG	Det Loop Type 3a
TR	SG	Det Loop Type 3a New

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CATEGORY	GROUP	ELEMENT TYPE
SH	DE	Detail Body 1 Text
SH	DE	Detail Body 2 Text
SH	DE	Detail Heading 1 Text
SH	DE	Detail Heading 2 Text
SH	DE	Detail Heading 3 Text
SH	DE	Detail Level 1
SH	DE	Detail Level 2
SH	DE	Detail Level 3
SH	DE	Detail Level 4
SH	DE	Detail Level 5
SH	DE	Detail Level 6
SH	DE	Detail Level 7
SH	DE	Detail Level 8
SH	DE	Detail Level 9
DR	PP	Detention Pond
DR	PP	Detention Pond Bottom
DR	PP	Detention Pond Bottom New
DR	PP	Detention Pond New
EV	EC	Dewatering Area New
TP	MM	Dike
SH	RS	Dimension Lines
TP	MM	Distance Tie
TP	MM	Distance Tie Text
DR	PP	Ditch Bottom
DR	PP	Ditch Bottom New
TP	MM	Dock
TR	WZ	Double 2 Way Arrow
UT	GU	Down Guy Anchor
UT	GU	Down Guy Anchor New
DR	PP	Drain Line
DR	PP	Drain Line New
DR	PP	Drain Pipe
DR	PP	Drain Pipe New

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CATEGORY	GROUP	ELEMENT TYPE
DR	PP	Drainage Pipes Text
DR	PP	Drainage Pipes Text New
DR	ST	Drainage Structures Text
DR	ST	Drainage Structures Text New
DR	ST	Drainfield
RD	ED	Driveway Edge
RD	ED	Driveway Edge New
RD	ED	Driveway Gravel Edge
RD	ED	Driveway Paved Edge
DR	ST	Drop Inlet
DR	ST	Drop Inlet New
DR	ST	Dry Well
DR	ST	Dry Well New
EV	EC	Ecology Ditch New
EV	EC	Ecology Embankment New
UT	PW	Elect Box
UT	PW	Elect Box New
TR	SG	Elect Service Cabinet
TR	SG	Elect Service Cabinet New
TR	IL	Electrical Service Cab
TR	IL	Electrical Service Cab New
SH	RP	Elevation Labels Text
SH	DP	ElevationsLabelsText
TR	SG	Emerg Preempt Det
TR	SG	Emerg Preempt Det New
TR	SG	Emerg Preempt Indicator
TR	SG	Emerg Preempt Indicator New
EV	WL	Env Resource Area Bndry
RW	PA	ER ParcelNumber
EV	EC	Erosion Control Text
EV	EC	Erosion Control Text New
RW	ES	Esmnt Line New
EV	WL	Est ITidal Hi Salt Marsh

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CATEGORY	GROUP	ELEMENT TYPE
EV	WL	Est ITidal Hi Salt Marsh New
EV	WL	Est STidal Lo Salt Marsh
EV	WL	Est STidal Lo Salt Marsh New
TR	IL	Expan Fit AX DX New
TR	SG	Expan Fit AX DX New
TR	IL	Expan Fit DX New
TR	SG	Expan Fit DX New
RD	BR	Fence
RD	BR	Fence New
TP	MM	Field Line
TP	CN	Fill Line New
SH	DP	Finish Ground Profile
UT	WT	Fire Hydrant
UT	WT	Fire Hydrant New
TP	MM	Flag Pole
TR	WZ	Flagging Station
TR	SG	Flashing Beacon
TR	SG	Flashing Beacon New
TP	NT	Flow Arrow
SH	DP	Flowline Text
SH	DP	Flowline Text New
TR	IL	Fluorescent Light
TP	NT	Forest
RW	GB	Forest Bndry
TP	MM	Foundation
ST	WA	Gabion Wall
ST	WA	Gabion Wall New
UT	GS	Gas Line
UT	GS	Gas Line New
UT	GS	Gas Meter Box
TP	MM	Gas Tank
UT	GS	Gas Utilities Text
UT	GS	Gas Utilities Text New

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CATEGORY	GROUP	ELEMENT TYPE
RD	BR	Gate
RD	BR	Gate New
SH	GI	General Notes Body Text
SH	GI	General Notes Heading Text
UT	GU	General Utilities Text
UT	GU	General Utilities Text New
EV	EC	Generic Check Dam New
EV	EC	Geo Check Dam New
RW	GB	Govt Bndry Text
RW	SC	Govt Lot ID Text
DR	ST	Grate Inlet
DR	ST	Grate Inlet New
EV	EC	Gravel Filter Berm New
TP	MM	Gravel Parking Area
UT	PW	Ground Rod
TR	WZ	Guardrail
RD	BR	Guardrail
RD	BR	Guardrail New
RD	BR	Guide Post
RD	BR	Guide Post New
TR	WZ	Guide Post New
TR	WZ	Guide Post Temp
TR	SN	Guide Signs
UT	GU	Guy Pole
UT	GU	Guy Pole New
UT	GU	Guy Wire
UT	GU	Guy Wire New
TP	MM	HandRail
TR	TS	HAR Control Cabinet
TR	TS	HAR Control Cabinet New
TR	TS	HAR Sign
TR	TS	HAR Sign New
TR	TS	HAR Transmitter

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CATEGORY	GROUP	ELEMENT TYPE
TR	TS	HAR Transmitter New
RD	MK	HCap Parking Symb
RD	MK	HCap Parking Symb New
DR	ST	Head Wall
SH	RS	Heading 1 Text
SH	RS	Heading 2 Text
SH	RS	Heading 3 Text
TP	MM	Hedge
EV	EC	High Vis Const Fencing New
TP	NT	High Water Line
RW	BD	Highway RW Bndry PSE
RW	BD	Highway RW Bndry PSE SO Text
RD	MK	HOV Symb
RD	MK	HOV Symb New
SH	TI	Illum Schedule Large
SH	TI	Illum Schedule Medium
SH	TI	Illum Schedule Small
TR	IL	Illum Text
TR	IL	Illum Text New
SH	TI	Illum Wire Schedule Large
SH	TI	Illum Wire Schedule Small
RD	BR	Impact Attenuator
TR	WZ	Impact Attenuator 40 mph
TR	WZ	Impact Attenuator 60 mph
RD	BR	Impact Attenuator New
TR	WZ	Impact Attenuator Temp
TP	CN	Index Contour
TP	CN	Index Contour New
TP	CN	Index Contour Text New
TP	CN	Index Contours Text
TR	TS	Induction Loop Type 2 Mod
TR	TS	Induction Loop Type 2 Mod New
EV	EC	Infiltration Trench New

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CATEGORY	GROUP	ELEMENT TYPE
EV	EC	Inlet Cover
EV	EC	Inlet Cover New
EV	EC	Inlet Filter
EV	EC	Inlet Filter New
EV	EC	Inlet Insert
EV	EC	Inlet Insert New
EV	EC	Interceptor Dike New
EV	EC	Interceptor Swale New
RW	PA	Interchange Names Text
TP	CN	Intermed Contour Text New
TP	CN	Intermediate Contour
TP	CN	Intermediate Contour New
TP	CN	Intermediate Contours Text
TP	NT	Intermittent Stream
TR	SN	Interstate Shield
EV	WL	Inventory Wetland Bndry New
EV	IR	Irrig Line Lateral
EV	IR	Irrig Line Lateral New
EV	IR	Irrig Line Main
EV	IR	Irrig Line Main New
EV	IR	Irrig Meter
EV	IR	Irrig Meter New
EV	IR	Irrig Sprinkler Head 75
EV	IR	Irrig Sprinkler Head 75 New
EV	IR	Irrig Sprinkler Head Full
EV	IR	Irrig Sprinkler Head Full New
EV	IR	Irrig Sprinkler Head Half
EV	IR	Irrig Sprinkler Head Half New
EV	IR	Irrig Text
EV	IR	Irrig Text New
EV	IR	Irrig Valve
EV	IR	Irrig Valve New
TR	IL	JBox 1

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CATEGORY	GROUP	ELEMENT TYPE
TR	SG	JBox 1
TR	TS	JBox 1
TR	IL	JBox 1 New
TR	SG	JBox 1 New
TR	TS	JBox 1 New
TR	SG	JBox 2
TR	TS	JBox 2
TR	IL	JBox 2
TR	IL	JBox 2 New
TR	SG	JBox 2 New
TR	TS	JBox 2 New
TR	IL	JBox 3
TR	SG	JBox 3
TR	TS	JBox 4 (Traffic-bearing)
TR	SG	JBox 4 (Traffic-bearing)
TR	IL	JBox 4 (Traffic-bearing)
TR	SG	JBox 4 (Traffic-bearing) New
TR	IL	JBox 4 (Traffic-bearing) New
TR	TS	JBox 4 (Traffic-bearing) New
TR	SG	JBox 5 (Traffic-bearing)
TR	IL	JBox 5 (Traffic-bearing)
TR	TS	JBox 5 (Traffic-bearing)
TR	TS	JBox 5 (Traffic-bearing) New
TR	IL	JBox 5 (Traffic-bearing) New
TR	SG	JBox 5 (Traffic-bearing) New
TR	SG	JBox 6 (Traffic-bearing)
TR	TS	JBox 6 (Traffic-bearing)
TR	IL	JBox 6 (Traffic-bearing)
TR	SG	JBox 6 (Traffic-bearing) New
TR	TS	JBox 6 (Traffic-bearing) New
TR	IL	JBox 6 (Traffic-bearing) New
TR	SG	JBox 7 (No lock)
TR	IL	JBox 7 (No lock)

The alphabetical listing below provides a complete list of standard Right of Way (R/W) symbology by element type. The name of the element type is prepended with a Category code and Group (or sub-category) code to help organize symbology. For example, a Catch Basin is found in the Drainage (DR) category under the Structures (ST) group. Therefore the complete name as found in the WSDOT CAD naming scheme is DR_ST_CatchBasin.

CATEGORY	GROUP	ELEMENT TYPE
TR	TS	JBox 7 (No lock)
TR	TS	JBox 7 (No lock) New
TR	SG	JBox 7 (No lock) New
TR	IL	JBox 7 (No lock) New
TR	IL	JBox 8 (With lock)
TR	TS	JBox 8 (With lock)
TR	SG	JBox 8 (With lock)
TR	SG	JBox 8 (With lock) New
TR	TS	JBox 8 (With lock) New
TR	IL	JBox 8 (With lock) New
TR	SG	JBox Aerial
TR	IL	JBox Aerial
TR	TS	JBox Aerial
TR	SG	JBox Aerial New
TR	TS	JBox Aerial New
TR	IL	JBox Aerial New
TR	SG	JBox Nema
TR	IL	JBox Nema
TR	TS	JBox Nema
TR	SG	JBox Nema New
TR	TS	JBox Nema New
TR	IL	JBox Nema New
TR	SG	JBox Unknown
TR	IL	JBox Unknown
TR	TS	JBox Unknown
RW	BD	LAccess Floating Lt New
RW	BD	LAccess Floating Rt New
RW	BD	LAccess Proposed RW Lt
RW	BD	LAccess Proposed RW Rt
TP	NT	Lake Edge
EV	LS	Landscape Text
EV	LS	Landscape Text New
RD	ED	Lane Edge New

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CATEGORY	GROUP	ELEMENT TYPE
TP	NT	Large Body of Water Edge
TR	WZ	Law Enforcement Flagger
SH	GI	Legend Template
EV	EC	Level Spreader New
TR	IL	Light Pole
TR	IL	Light Std Cell With Number New
TR	SG	Light Std Cell With Number New
TR	SG	Light Std Dbl Metal
TR	IL	Light Std Dbl Metal
TR	IL	Light Std Dbl Metal New
TR	SG	Light Std Dbl Metal New
TR	SG	Light Std Dbl Timber
TR	IL	Light Std Dbl Timber
TR	SG	Light Std Dbl Timber New
TR	IL	Light Std Dbl Timber New
TR	SG	Light Std Generic
TR	IL	Light Std Generic
TR	IL	Light Std Generic New
TR	SG	Light Std Generic New
TR	SG	Light Std Quad Metal
TR	IL	Light Std Quad Metal
TR	IL	Light Std Quad Metal New
TR	SG	Light Std Quad Metal New
TR	IL	Light Std Six Metal
TR	SG	Light Std Six Metal
TR	IL	Light Std Six Metal New
TR	SG	Light Std Six Metal New
TR	SG	Light Std Sngl Metal
TR	IL	Light Std Sngl Metal
TR	IL	Light Std Sngl Metal New
TR	SG	Light Std Sngl Metal New
TR	SG	Light Std Sngl Timber
TR	IL	Light Std Sngl Timber

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CATEGORY	GROUP	ELEMENT TYPE
TR	SG	Light Std Sngl Timber New
TR	IL	Light Std Sngl Timber New
TR	SG	Light Std Timber Temp New
TR	IL	Light Std Timber Temp New
TR	IL	Light Std Tri Metal
TR	SG	Light Std Tri Metal
TR	IL	Light Std Tri Metal New
TR	SG	Light Std Tri Metal New
RD	MK	Line Crosswalk
RD	MK	Line Crosswalk New
SH	RP	Line Designation Text
RD	MK	Line Generic
RD	MK	Line Generic New
RD	MK	Line Raised Pvmnt Marker
RD	MK	Line Raised Pvmnt Marker New
RD	MK	Line Skip Center
RD	MK	Line Skip Center New
RD	MK	Line Stop
RD	MK	Line Stop New
RD	MK	Line Wide
RD	MK	Line Wide New
TR	WZ	Local Law Enforcement
TR	IL	Luminaire Dbl Underdeck
TR	IL	Luminaire Dbl Underdeck New
SH	PS	Luminaire Schedule 40
TR	IL	Luminaire Underdeck
TR	IL	Luminaire Underdeck New
TP	MM	Mail Box
TP	MM	Mail Box New
DR	ST	Manhole
DR	ST	Manhole New
TP	MM	Manmade Topography Text
TP	NT	Marsh Edge

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CATEGORY	GROUP	ELEMENT TYPE
TR	SG	Mast Arm Sign
TR	SG	Mast Arm Sign New
TR	SG	Mast Arm Tenon New
SH	GI	Match Line
SH	GI	Match Line Text
SH	RS	Material ID Block
SH	RS	Material ID Flag
SH	TI	Min Taper Length 25 to 35 Note
SH	TI	Min Taper Length 25 to 40 Note
SH	TI	Min Taper Length 25 to 45 Note
SH	TI	Min Taper Length 25 to 50 Note
SH	TI	Min Taper Length 25 to 55 Note
SH	TI	Min Taper Length 25 to 60 Note
SH	TI	Min Taper Length 25 to 70 Note
SH	TI	Min Taper Length 40 to 70 Note
SH	TI	Min Taper Length 45 to 70 Note
SH	TI	Min Taper Length 55 to 70 Note
SH	TI	Min Taper Length Full Note
SH	DT	MISC Control Module Box Detail
SH	DT	MISC Erosion Control Blanket
SH	DT	MISC Gabion Cribbing Detail
SH	DT	MISC Gravel Sack Barrier
SH	DT	MISC Inlet Basin Temp Cover
SH	DT	MISC Mailbox Turnout Detail
SH	DT	MISC Matting Overlap
SH	DT	MISC Pit or Quarry Floor Detail
SH	DT	MISC Potable H2O Station Plan
SH	DT	MISC Quarry Spall Section
SH	DT	MISC Storm Drain Protection
SH	DT	MISC Straw Bale Barrier
SH	DT	MISC Thrie Beam Rail Detail
TR	SN	Monotube Cantilever
TR	SN	Monotube Cantilever New

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CATEGORY	GROUP	ELEMENT TYPE
TR	SN	Monotube Sign Bridge New
PM	MN	Monument
PM	MN	Monument Case and Cover
PM	MN	Monument Case and Cover New
PM	MN	Monument New
TR	WZ	Motorist Vehicle
EV	EC	Mulching and Matting New
UT	MT	Multi Utilities Text
UT	MT	Multi Utilities Text New
SH	GI	NAD Datum Symbol
TP	NT	Natural Topography Text
TR	IL	Navigation Light
TR	IL	Navigation Light New
RW	PA	NCR Parcel Number
ST	WA	Noise Wall
ST	WA	Noise Wall New
SH	GI	North Arrow
RW	PA	NWR Parcel Number
UT	GS	Oil Line
UT	GS	Oil Line New
TP	MM	Oil Tank
RD	MK	Only Symbol
RD	MK	Only Symbol New
RW	PA	OR Parcel Number
TP	MM	Orchard Or Vineyard
EV	EC	Ordinary High Water Line
SH	RP	Original Ground Profile
SH	DP	Original Ground Profile
TR	SN	Overhead Sign
TR	SN	Overhead Sign New
EV	WL	Pal Emergent Fresh Marsh
EV	WL	Pal Emergent Fresh Marsh New
EV	WL	Pal Forested

The alphabetical listing below provides a complete list of standard Right of Way (R/W) symbology by element type. The name of the element type is prepended with a Category code and Group (or sub-category) code to help organize symbology. For example, a Catch Basin is found in the Drainage (DR) category under the Structures (ST) group. Therefore the complete name as found in the WSDOT CAD naming scheme is DR_ST_CatchBasin.

CATEGORY	GROUP	ELEMENT TYPE
EV	WL	Pal Forested New
EV	WL	Pal Open Fresh Pond
EV	WL	Pal Open Fresh Pond New
EV	WL	Pal Scrub Shrub
EV	WL	Pal Scrub Shrub New
RW	GB	Park Bndry
TP	MM	Patio
TP	MM	Paved Area
RD	ED	Paved Area New
TP	MM	Paved Parking Area
RD	ED	Paved Parking Area New
RD	MK	Pavement Markings Text
RD	MK	Pavement Markings Text New
RD	ED	Ped Path Edge
RD	ED	Ped Path Edge New
TR	SG	Ped PushButton
TR	SG	Ped PushButton New
TR	SG	Ped PushButton Post
TR	SG	Ped PushButton PostNew
TR	SG	Ped Signal Head Dbl
TR	SG	Ped Signal Head Dbl New
TR	SG	Ped Signal Head L
TR	SG	Ped Signal Head L New
TR	SG	Ped Signal Head R
TR	SG	Ped Signal Head R New
TR	SG	Ped Signal Head ST
TR	SG	Ped Signal Head ST New
SH	TI	Pedestrian Head Detail
TR	SG	Pedestrian Light New
EV	EC	Perm Seeding and Planting New
RW	ES	Permit Line New
TR	WZ	Permitted Contractor Access
SH	TI	Phase Diagram

The alphabetical listing below provides a complete list of standard Right of Way (R/W) symbology by element type. The name of the element type is prepended with a Category code and Group (or sub-category) code to help organize symbology. For example, a Catch Basin is found in the Drainage (DR) category under the Structures (ST) group. Therefore the complete name as found in the WSDOT CAD naming scheme is DR_ST_CatchBasin.

CATEGORY	GROUP	ELEMENT TYPE
PM	PH	Photo Center
PM	PH	Photo Control Points Text
PM	PH	Photo Grid Tic
PM	PH	Photo HorVert Control Point
PM	PH	Photo Vert Control Point
TP	MM	Piezometer
TP	MM	Piezometer New
TP	MM	Piling
TP	MM	Pipe
SH	DP	Pipe
SH	DP	Pipe New
EV	EC	Pipe Slope Drain New
TR	IL	Pitchfork Light
TR	IL	Pitchfork Light New
EV	EC	Plastic Covering New
TR	IL	Pole
TR	SG	Pole
TR	SG	Pole New
TR	IL	Pole New
TR	IL	Pole Note Flag
TR	SG	Pole Note Flag
SH	TI	Pole Schedule
TP	NT	Pond Bottom
TP	NT	Pond Edge
TR	WZ	Portable Change Message Sign
TR	WZ	Portable Light Standard
TR	WZ	Portable Sign Mount
TR	WZ	Portable Signal System
TP	MM	Post Metal
TP	MM	Post Wood
UT	PW	Power Box
UT	PW	Power Box New
UT	PW	Power Manhole

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CATEGORY	GROUP	ELEMENT TYPE
UT	PW	Power Manhole New
UT	PW	Power Meter Box
UT	PW	Power Pole
UT	PW	Power Pole New
UT	PW	Power Utilities Text
UT	PW	Power Utilities Text New
SH	TI	Preemption Schedule
PM	MN	Primary Control Point
SH	PS	PSE Corps of Engineers Sheet
SH	PS	PSE Curve Data Block
SH	PS	PSE Index Sheet
SH	GI	PSE PE Stamp
SH	PS	PSE Plan Profile Sheet
SH	PS	PSE Plan Sheet
SH	PS	PSE Profile Sheet
SH	GI	PSE Structural Eng Stamp
SH	PS	PSE Total CurveData Block
TR	IL	Pull Box
TR	TS	Pull Box
TR	IL	Pull Box New
TR	TS	Pull Box New
SH	RP	Quantity Breakout Hor Lines
SH	DP	Quantity Breakout Horz Lines
SH	DP	Quantity Breakout Text
SH	RP	Quantity Breakout Text
SH	RP	Quantity Breakout Vert Lines
SH	DP	Quantity Breakout Vert Lines
SH	PS	Quantity Tab Note Flag
SH	PS	Quantity Tab Note Flag Cont
TP	MM	Quarry Bndry
TP	MM	Quarry Symb
RW	SC	Quarter Corner Found EW
RW	SC	Quarter Corner Found NS

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CATEGORY	GROUP	ELEMENT TYPE
RW	SC	Quarter Corner Not Found EW
RW	SC	Quarter Corner Not Found NS
RW	SC	Quarter Section Line
RD	MK	Raised Pvmnt Marker Type 1
RD	MK	Raised Pvmnt Marker Type 1 New
RD	MK	Raised Pvmnt Marker Type 2
RD	MK	Raised Pvmnt Marker Type 2 New
RD	MK	Raised Pvmnt Marker Type 3
RD	MK	Raised Pvmnt Marker Type 3 New
TR	SG	Ramp Meter Signal
TR	SG	Ramp Meter Signal LT
TR	SG	Ramp Meter Signal LT New
TR	SG	Ramp Meter Signal New
TR	SG	Ramp Meter Signal RT
TR	SG	Ramp Meter Signal RT New
RW	SC	Range Line
RW	SC	Range Lines Text
SH	DT	RDSEC BCTC Paving Section
SH	DT	RDSEC Bridge Deck Overlay
SH	DT	RDSEC BST Section
SH	DT	RDSEC Curb Overlay Section
SH	DT	RDSEC Divided MultiLane Hiway
SH	DT	RDSEC Overlay Section
SH	DT	RDSEC Overlay Section No Ditch
SH	DT	RDSEC Overlay Shoulder Slope
SH	DT	RDSEC Overlay Wide Shldr 1
SH	DT	RDSEC Overlay Wide Shldr 2
SH	DT	RDSEC Subgrade Section
SH	DT	RDSEC Surfacing Paving Section
SH	DT	RDSEC Undivided MultiLane Hiway
SH	DT	RDSEC Widening Channel WCurb
SH	VM	Region Cell ER
SH	VM	Region Cell NC

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CATEGORY	GROUP	ELEMENT TYPE
SH	VM	Region Cell NW
SH	VM	Region Cell Oly
SH	VM	Region Cell SC
SH	VM	Region Cell SW
TR	SN	Regulatory Signs
RD	ED	Removal Pavement Bndry
RW	GB	Reservation Bndry
TP	MM	Reservoir
ST	WA	Retaining Wall
ST	WA	Retaining Wall New
SH	GI	Revision Strike Through Line
TP	MM	Rip Rap Edge
TP	NT	River Edge
RD	ED	Roadway Edges Text
RD	ED	Roadway Edges Text New
RD	ED	Roadway ETW Gravel
RD	ED	Roadway ETW Gravel New
RD	ED	Roadway ETW Paved
RD	ED	Roadway ETW Paved New
RD	MK	Roadway Marking Text
RD	MK	Roadway Marking Text New
RD	MC	Roadway Names Text
SH	RP	Roadway Section Horz Lines
SH	GI	Roadway Section Legend
SH	RP	Roadway Section Text
SH	RP	Roadway Section Vert Lines
SH	RS	Roadway Surface Existing
SH	RS	Roadway Surface New
EV	EC	Rock Check Dam New
TP	MM	RR Center Tracks
TP	MM	RR Center Tracks New
RW	BD	RR RW Bndry
ST	BG	RR Structure

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CATEGORY	GROUP	ELEMENT TYPE
ST	BG	RR Structure New
RD	MK	RR Symb
RD	MK	RR Symb New
TP	MM	RR Text
TP	MM	Ruins 2D
RD	MK	Rumble Strip
RD	MK	Rumble Strip New
UT	SS	San Sewer CleanOut
UT	SS	San Sewer Line
UT	SS	San Sewer Line New
UT	SS	San Sewer Manhole
UT	SS	San Sewer Manhole New
UT	SS	San Sewer Utilities Text
UT	SS	San Sewer Utilities Text New
EV	EC	Sand Bag or Sack New
EV	EC	Sand Check Dam New
RD	ED	Sawcut New
RD	ED	Sawcut Text New
SH	GI	Scale Bar 1 to 100
SH	GI	Scale Bar 1 to 1000
SH	GI	Scale Bar 1 to 20
SH	GI	Scale Bar 1 to 200
SH	GI	Scale Bar 1 to 2000
SH	GI	Scale Bar 1 to 50
SH	GI	Scale Bar 1 to 500
TR	WZ	Scale Terminal End Section
TR	TS	SCDI Box
TR	TS	SCDI Box New
RW	PA	SCR Parcel Number
RW	SC	Section Corner Found
RW	SC	Section Corner Not Found
RW	SC	Section Line
EV	EC	Sediment Trap New

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CATEGORY	GROUP	ELEMENT TYPE
TR	SN	Seq Arrow Sign Both New
TR	SN	Seq Arrow Sign Lt New
TR	SN	Seq Arrow Sign Rt New
TR	WZ	Sequential Arrow Type B
TR	WZ	Sequential Arrow Type C
SH	DT	SHLDR Design Inside Curve
SH	DT	SHLDR Design Outside Curve
SH	DT	SHLDR Flat Bottom Ditch
SH	DT	SHLDR Rock Lined Ditch Section
SH	DT	SHLDR Rounding Detail
SH	DT	SHLDR Widening 1
SH	DT	SHLDR Widening 2
RD	ED	Shoulder BST Edge
RD	ED	Shoulder Gravel Edge
RD	ED	Shoulder Gravel Edge New
RD	ED	Shoulder Paved Edge
RD	ED	Shoulder Paved Edge New
RD	CG	Sidewalk
RD	CG	Sidewalk New
TR	WZ	Sign
TR	SN	Sign
TR	SN	Sign BBoard Multi Post
TR	SN	Sign BBoard Sngl Post
TR	SN	Sign Dble Post
TR	SN	Sign Dble Post New
SH	TI	Sign Dimension Note
TR	SN	Sign Flush Wall
TR	SN	Sign Flush Wall New
TR	SN	Sign Four Post
TR	SN	Sign From Wall
TR	SN	Sign From Wall New
TR	IL	Sign Light
TR	IL	Sign Light New

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CATEGORY	GROUP	ELEMENT TYPE
TR	WZ	Sign Mount Tripod
TR	WZ	Sign New
TR	SN	Sign New
TR	SN	Sign Note Flag
TR	SN	Sign Note Flag Lt
TR	SN	Sign Note Flag Rt
TR	SN	Sign Relocation Note Flag
TR	SN	Sign Removal Note Flag
TR	SN	Sign Removal Note Flag Lt
TR	SN	Sign Removal Note Flag Rt
TR	SN	Sign Sngl Post
TR	SN	Sign Sngl Post New
SH	TI	Sign Spacing 25 to 40 Note
SH	TI	Sign Spacing 25 to 65 Note
SH	TI	Sign Spacing 35 to 55 Note
SH	TI	Sign Spacing 35 to 70 Note
SH	TI	Sign Spacing 45 to 70 Note
SH	TI	Sign Spacing 55 to 70 Note
SH	TI	Sign Spacing 60 to 70 Note
SH	TI	Sign Spacing Note
TR	SN	Sign Triple Post
TR	SN	Sign Triple Post New
TR	SG	Signal Box Unknown
TR	SG	Signal Head
TR	SG	Signal Head Future New
TR	SG	Signal Head Horiz
TR	SG	Signal Head Horiz New
TR	SG	Signal Head New
SH	TI	Signal Legend
TR	SG	Signal Loop Unknown
TR	SG	Signal Pole Unknown
TR	SG	Signal Std Type 1 or 4
TR	SG	Signal Std Type 1 or 4 New

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CATEGORY	GROUP	ELEMENT TYPE
TR	SG	Signal Std Type 2
TR	SG	Signal Std Type 2 New
TR	SG	Signal Std Type 3
TR	SG	Signal Std Type 3 New
TR	SG	Signal Std Type 5
TR	SG	Signal Std Type 5 New
TR	TS	Signal Type 1
TR	TS	Signal Type 1 New
TR	TS	Signal Type 2
TR	TS	Signal Type 2 New
TR	SG	Signals Text
TR	SG	Signals Text New
TR	SN	Signing Text
TR	SN	Signing Text New
EV	EC	Silt Fence New
SH	RS	Slope Arrow Left
SH	RS	Slope Arrow Right
SH	DP	Slope Text
EV	EC	Sodding New
EV	EC	Soil BinderTacking Agent New
TP	CN	Spot Elevation
TP	CN	Spot Elevation New
TP	CN	Spot Elevation Text New
TP	CN	Spot Elevations Text
TR	WZ	Spotter Location
TP	MM	Stair
RW	GB	State Bndry
TR	SN	State Route Shield
SH	RP	Station Labels Text
SH	DP	Station Offset Text
UT	PW	Steel Transmission Tower
UT	CM	Steel Transmission Tower
DR	ST	Storm Sewer CleanOut

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CATEGORY	GROUP	ELEMENT TYPE
DR	PP	Storm Sewer Line
DR	PP	Storm Sewer Line New
EV	WL	Storm Water Trtmnt
EV	WL	Storm Water Trtmnt New
EV	EC	Straw Bale Barrier New
EV	WL	Stream Buffer
TP	NT	Stream NonScalable
TP	NT	Stream Scaleable Bottom
TP	NT	Stream Scaleable Edge
TR	IL	Strn Pole Anchor
TR	SG	Strn Pole Anchor
TR	IL	Strn Pole Anchor New
TR	SG	Strn Pole Anchor New
TP	MM	Structure
SH	DP	Structure
ST	BG	Structure
SH	DP	Structure New
ST	BG	Structure New
SH	DP	Structure Note Flag
DR	ST	Structure Note Flag
SH	DP	Structure Note Flag Continue
DR	ST	Structure Note Flag Continue
SH	DP	Structure Note Flag Continue Lg
DR	ST	Structure Note Flag Continue Lg
SH	DP	Structure Text
TP	NT	Stump
RW	PA	Subdivisions Names Text
RW	ES	Subterranean Esmnt Line New
SH	RP	Superelevation Cline
SH	RP	Superelevation Ex Lines
SH	RP	Superelevation Lines
SH	RP	Superelevation Text
RW	PA	SWR Parcel Number

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CATEGORY	GROUP	ELEMENT TYPE
SH	RS	Table Grid Lines
TP	MM	Tank
TP	MM	TankLine
UT	CM	Telephone Booth
UT	CM	Telephone Booth New
UT	CM	Telephone Box
UT	CM	Telephone Box New
UT	CM	Telephone Manhole
UT	CM	Telephone Manhole New
UT	CM	Telephone Pole
UT	CM	Telephone Pole New
UT	CM	Telephone Riser
RW	ES	Temp Constr Esmnt Line New
PM	MN	Temp Control Point
EV	EC	Temp Sediment Pond New
EV	EC	Temp Seeding New
TR	TS	Terminal Cabinet
TR	TS	Terminal Cabinet New
SH	TI	TIA Approved List 40 MPH Note
SH	TI	TIA Approved List 50 MPH Note
SH	TI	TIA Approved List 60 MPH Note
SH	TI	TIA Approved List 70 MPH Note
SH	TI	TIA Approved List Note
TP	NT	Tidal Shoreline
TR	IL	Timber Pole
TR	SG	Timber Pole
TR	IL	Timber Pole New
TR	SG	Timber Pole New
SH	GI	Title Block Names Text
SH	TI	TMA Required Note
EV	EC	Topsoiling New
RW	SC	Township Line
RW	SC	Township Range Line Text

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CATEGORY	GROUP	ELEMENT TYPE
SH	GI	Township Range Top Sheet Text
RD	MK	Traffic Arrow Type 1 S
RD	MK	Traffic Arrow Type 1 S New
RD	MK	Traffic Arrow Type 2 L
RD	MK	Traffic Arrow Type 2 L New
RD	MK	Traffic Arrow Type 2 R
RD	MK	Traffic Arrow Type 2 R New
RD	MK	Traffic Arrow Type 3 LS
RD	MK	Traffic Arrow Type 3 LS New
RD	MK	Traffic Arrow Type 3 RS
RD	MK	Traffic Arrow Type 3 RS New
RD	MK	Traffic Arrow Type 4 LR
RD	MK	Traffic Arrow Type 4 LR New
RD	MK	Traffic Arrow Type 5 Big S New
RD	MK	Traffic Arrow Type 5 Big S
RD	MK	Traffic Arrow Type 6 L
RD	MK	Traffic Arrow Type 6 L New
RD	MK	Traffic Arrow Type 6 R
RD	MK	Traffic Arrow Type 6 R New
RD	MK	Traffic Arrow Type 7 LRS
RD	MK	Traffic Arrow Type 7 LRS New
RD	MK	Traffic Button
SH	GI	Traffic Mvmnt Arrow Lt 1 Lane
SH	GI	Traffic Mvmnt Arrow Lt 2 Lane
SH	GI	Traffic Mvmnt Arrow Lt 3 Lane
SH	GI	Traffic Mvmnt Arrow Opposing
SH	GI	Traffic Mvmnt Arrow Rt 1 Lane
SH	GI	Traffic Mvmnt Arrow Rt 2 Lane
SH	GI	Traffic Mvmnt Arrow Rt 3 Lane
TR	WZ	Traffic Safety Cone
TR	WZ	Traffic Safety Cone 28
TR	WZ	Traffic Safety Cone Tall
TR	WZ	Traffic Safety Drum

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CATEGORY	GROUP	ELEMENT TYPE
TR	WZ	Traffic Safety Drum 2
TR	TS	Traffic Systems Text
TR	TS	Traffic Systems Text New
TP	MM	Trail
TR	SG	Transformer
TR	TS	Transformer Cabinet
TR	TS	Transformer Cabinet New
TR	SG	Transformer New
TP	NT	Tree By Center
TP	NT	Tree Line
TR	WZ	Truck Buffer
TR	WZ	Truck Mount Attenuator
TR	SN	Truss Cantilever
TR	SN	Truss Sign Bridge
TR	SN	Truss Sign Bridge New
TR	WZ	Tubular Marker
ST	BG	Tunnel
ST	BG	Tunnel New
ST	BG	Tunnel Text
ST	BG	Tunnel Text New
DR	PP	Under Drain Line
DR	PP	Under Drain Line New
UT	GU	Under Ground Utility Line
UT	CM	UndGnd Cable Box
UT	CM	UndGnd Cable Box New
UT	CM	UndGnd Cable TV
UT	CM	UndGnd Cable TV New
UT	CM	UndGnd Communicat Vault New
UT	CM	UndGnd Communication Vault
UT	CM	UndGnd Fiber Optic
UT	CM	UndGnd Fiber Optic New
UT	PW	UndGnd Power Line
UT	PW	UndGnd Power Line New

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CATEGORY	GROUP	ELEMENT TYPE
UT	PW	UndGnd Power Vault
UT	PW	UndGnd Power Vault New
UT	WT	UndGnd Tank
UT	CM	UndGnd Telephone Box
UT	CM	UndGnd Telephone Box New
UT	CM	UndGnd Telephone Cable
UT	CM	UndGnd Telephone Cable New
UT	MT	UndGnd Utilities Multi
UT	MT	UndGnd Utilities Multi New
UT	WT	UndGnd Water Vault
UT	WT	UndGnd Water Vault New
TR	SN	US Route Shield
UT	MT	Utilities Multi Types 1
UT	MT	Utilities Multi Types 2
UT	MT	Utilities Multi Types 3
UT	MT	Utilities Multi Types 4
UT	MT	Utilities Multi Types 5
UT	MT	Utilities Multi Types 6
UT	MT	Utilities Multi Types 7
UT	MT	Utilities Multi Types 8
UT	MT	Utilities Multi Types 9
UT	PW	Utilities Text
UT	PW	Utilities Text New
UT	GU	Utility Box
UT	GU	Utility Box New
TR	SG	Utility Company Pedestal
TR	SG	Utility Company Pedestal New
UT	GU	Utility Manhole
UT	GU	Utility Manhole New
UT	GU	Utility Pole
UT	GU	Utility Pole New
UT	GU	Utility Vault
UT	GU	Utility Vault New

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CATEGORY	GROUP	ELEMENT TYPE
UT	GS	Valve Box Gas
UT	GS	Valve Box Gas New
UT	SS	Valve Box San Sewer
UT	SS	Valve Box San Sewer New
UT	WT	Valve Box Water
UT	WT	Valve Box Water New
UT	WT	Valve Release
UT	GU	Valvebox
UT	GU	Valvebox New
EV	EC	Vegetative Filter Strip New
UT	GU	Vent
TR	TS	VMS Control Cabinet
TR	TS	VMS Control Cabinet New
TR	TS	VMS Overhead
TR	TS	VMS Overhead New
TR	TS	VMS Shoulder
TR	TS	VMS Shoulder New
SH	RP	VPI Circle
SH	RP	VPI Circle New
SH	RP	VPI Lines
SH	RP	VProf Grade Text
SH	RP	VProf Line
SH	RP	VProf Station Equation
SH	RP	VProf Station Equation New
SH	RP	VProf Text
ST	WA	Wall Text
ST	WA	Wall Text New
TR	IL	Wallpack Light
TR	IL	Wallpack Light New
TR	WZ	Warning Beacon
TR	WZ	Warning Flag
TR	WZ	Warning Flare
TR	SN	Warning Signs

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CATEGORY	GROUP	ELEMENT TYPE
TR	SN	Washington Shield
UT	WT	Water Line
UT	WT	Water Line New
UT	WT	Water Manhole
UT	WT	Water Manhole New
UT	WT	Water Meter Box
TP	NT	Water Pond Lake Res Text
TP	MM	Water Tank
TP	NT	Water Tidal Shore Lg Body Text
UT	WT	Water Utilities Text
UT	WT	Water Utilities Text New
EV	EC	Wattle New
TP	MM	Well
EV	WL	Wetland Bndry
EV	WL	Wetland Bndry New
EV	WL	Wetland Flag
EV	WL	Wetland Mitigation Buffer
EV	WL	Wetland Symb
EV	WL	Wetland Text New
DR	ST	Wing Wall
TR	SG	Wire Note Flag
TR	IL	Wire Note Flag
SH	TI	Wire Schedule (No Power)
SH	TI	Wire Schedule (Power)
UT	CM	Wooden Transmission Tower
UT	PW	Wooden Transmission Tower
TR	WZ	WorkZone Details
SH	GI	WSDOT Logo
SH	GI	WSDOTSoundTransitLogo
TR	WZ	WSP
TR	WZ	WSP2
SH	DT	WZ Barrier Mount Detail
SH	DT	WZ Concrete Barrier Post Detail

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CATEGORY	GROUP	ELEMENT TYPE
SH	DT	WZ Guardrail Post Detail
SH	DT	WZ PCMS Block 2 Sequence Detail
SH	DT	WZ Roadway Section Typical Detail
SH	DT	WZ Shoulder Width Detail
TP	MM	Yard Light
RD	MK	Yield Ahead Symb Type 1
RD	MK	Yield Ahead Symb Type 1 New
RD	MK	Yield Ahead Symb Type 2
RD	MK	Yield Ahead Symb Type 2 New
RD	MK	Yield Symb Type 1
RD	MK	Yield Symb Type 1 New
RD	MK	Yield Symb Type 2
RD	MK	Yield Symb Type 2 New

500.06 PS&E Standard Symbols

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

AL HW Alignment - Highway

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
CLine PSE (AL HW CLinePSE)	1 | Custom 18 | Line		
CLine PSE Bearings Text (AL HW CLinePSEBearingsText)	0 | 0 18 | Text	Text Size = 0.07 Font = 164	*S 88°55'25" W*
CLine PSE Curve Pt Circle (AL HW CLinePSECurvePtCircle)	0 | 0 18 | Cell		○
CLine PSE Line Des Text (AL HW CLinePSELineDesText)	0 | 0 18 | Text	Text Size = 0.07 Font = 164	*L LINE*
Cline PSE Major Sta Text (AL HW CLinePSEMajorStaText)	0 | 0 18 | Text	Text Size = 0.09 Font = 164	*10*
CLine PSE New (AL HW CLinePSENew)	5 | 0 2 | Line		
CLine PSE New Bearings Text (AL HW CLinePSENewBearingsText)	0 | 0 2 | Text	Text Size = 0.07 Font = 217	**S 88°55'25" W**

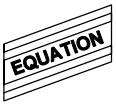
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

AL HW Alignment - Highway

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
CLine PSE New Curve Pt Circle (AL HW CLinePSENewCurvePtCircle)	1 | 0 2 | Cell		○
CLine PSE New Line Des Text (AL HW CLinePSENewLineDesText)	0 | 0 2 | Text	Text Size = 0.07 Font = 217	L LINE
CLine PSE New Major Sta Text (AL HW CLinePSENewMajorStaText)	0 | 0 2 | Text	Text Size = 0.09 Font = 217	10
CLine PSE New PCPIPT Text (AL HW CLinePSENewPCPIPTText)	0 | 0 34 | Text	Text Size = 0.07 Font = 217	B 10+68.42 P.C.
CLine PSE New PI to PI Line (AL HW CLinePSENewPItoPILine)	1 | 3 2 | Line		- - - - - - - - - - - - - - - - - - - -
CLine PSE New SR No Text (AL HW CLinePSENewSRNoText)	0 | 0 2 | Text	Text Size = 0.09 Font = 217	SR 104
CLine PSE New Sta Equa Text (AL HW CLinePSENewStaEquaText)	0 | 0 2 | Text	Text Size = 0.07 Font = 217	B 10+68.42 P.O.T. BK.=

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

AL HW Alignment - Highway

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
CLine PSE New Sta Equation (AL HW CLinePSENewStaEquation)	1 | 0 2 | Cell		
CLine PSE New Station Text (AL HW CLinePSENewStationText)	0 | 0 2 | Text	Text Size = 0.07 Font = 217	**B 10+68.42 P.C.**
CLine PSE New Tics (AL HW CLinePSENewTics)	2 | 0 2 | Line		
CLine PSE PCPIPT Text (AL HW CLinePSEPCPIPTText)	0 | 0 18 | Text	Text Size = 0.07 Font = 164	*B 10+68.42 P.C.*
CLine PSE PI to PI Line (AL HW CLinePSEPItoPILine)	0 | 3 18 | Line		
CLine PSE SR No Text (AL HW CLinePSESRNoText)	0 | 0 18 | Text	Text Size = 0.09 Font = 164	*SR 104*
CLine PSE Sta Equa Text (AL HW CLinePSEStaEquaText)	0 | 0 18 | Text	Text Size = 0.07 Font = 164	*B 10+68.42 P.O.T. BK.=*

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

AL HW Alignment - Highway

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
CLine PSE Sta Equation (AL HW CLinePSEStaEquation)	1 | 3 18 | Cell		
CLine PSE Station Text (AL HW CLinePSEStationText)	0 | 0 18 | Text	Text Size = 0.07 Font = 164	*B 10+68.42 P.C.*
CLine PSE Tics (AL HW CLinePSETics)	1 | 0 18 | Line		

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

AL RW Alignment - Right of Way

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
CLine RW for PSE (AL RW CLineRWforPSE)	1 | Custom 50 | Line		
CLine RW for PSE Bearings Text (AL RW CLineRWforPSEBearingsText)	0 | 0 50 | Text	Text Size = 0.07 Font = 164	*S 88°55'25" W*
CLine RW for PSE Crve Pt Circle (AL RW CLineRWforPSECrvePtCircle)	0 | 0 50 | Cell		○
CLine RW for PSE Line Des Text (AL RW CLineRWforPSELineDesText)	0 | 0 50 | Text	Text Size = 0.07 Font = 164	*L LINE*
CLine RW for PSE Major Sta Text (AL RW CLineRWforPSEMajorStaText)	0 | 0 50 | Text	Text Size = 0.09 Font = 164	*10*
CLine RW for PSE PCPIPT Text (AL RW CLineRWforPSEPCPIPTText)	0 | 0 50 | Text	Text Size = 0.07 Font = 164	*RW 10+68.42 P.C.*
CLine RW for PSE PI to PI Line (AL RW CLineRWforPSEPItoPILine)	0 | 3 50 | Line		

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

AL RW Alignment - Right of Way

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
CLine RW for PSE SR No Text (AL RW CLineRWforPSESRNoText)	0 | 0 50 | Text	Text Size = 0.07 Font = 164	*SR 104*
CLine RW for PSE Sta Equa Text (AL RW CLineRWforPSEStaEquaText)	0 | 0 50 | Text	Text Size = 0.07 Font = 164	*RW 10+68.42 P.O.T. BK.=*
CLine RW for PSE Sta Equation (AL RW CLineRWforPSEStaEquation)	0 | 3 50 | Cell		
CLine RW for PSE Station Text (AL RW CLineRWforPSEStationText)	0 | 0 50 | Text	Text Size = 0.07 Font = 164	*RW 10+68.42 P.C.*
CLine RW for PSE Tics (AL RW CLineRWforPSETics)	1 | 0 50 | Line		

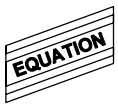
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

AL SA Alignment - Structure Alignments

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
CLine Wall New (AL SA CLineWallNew)	5 | 0 2 | Line		
CLine Wall New Bearings Text (AL SA CLineWallNewBearingsText)	0 | 0 2 | Text	Text Size = 0.07 Font = 217	S 88°55'25" W
CLine Wall New Curve Pt Circle (AL SA CLineWallNewCurvePtCircle)	1 | 0 2 | Cell		○
CLine Wall New Line Des Text (AL SA CLineWallNewLineDesText)	0 | 0 2 | Text	Text Size = 0.07 Font = 217	L LINE
CLine Wall New Major Sta Text (AL SA CLineWallNewMajorStaText)	0 | 0 2 | Text	Text Size = 0.09 Font = 217	10
CLine Wall New PCPIPT Text (AL SA CLineWallNewPCPIPTText)	0 | 0 34 | Text	Text Size = 0.07 Font = 217	B 10+68.42 P.C.
CLine Wall New PI to PI Line (AL SA CLineWallNewPItoPILine)	1 | 3 2 | Line		

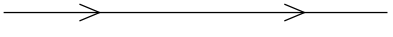
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

AL SA Alignment - Structure Alignments

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
CLine Wall New SR No Text (AL SA CLineWallNewSRNoText)	0 | 0 2 | Text	Text Size = 0.09 Font = 217	SR 104
CLine Wall New Sta Equa Text (AL SA CLineWallNewStaEquaText)	0 | 0 2 | Text	Text Size = 0.07 Font = 217	B 10+68.42 P.O.T. BK.=
CLine Wall New Sta Equation (AL SA CLineWallNewStaEquation)	1 | 0 2 | Cell		
CLine Wall New Station Text (AL SA CLineWallNewStationText)	0 | 0 2 | Text	Text Size = 0.07 Font = 217	B 10+68.42 P.C.
CLine Wall New Tics (AL SA CLineWallNewTics)	2 | 0 2 | Line		

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

DR PP Drainage - Pipes And Ditches

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Detention Pond (DR PP DetentionPond)	3 | 3 81 | Line	
Detention Pond Bottom (DR PP DetentionPondBottom)	3 | 3 81 | Line	
Detention Pond Bottom New (DR PP DetentionPondBottomNew)	3 | 0 65 | Line	
Detention Pond New (DR PP DetentionPondNew)	3 | 0 65 | Line	
Ditch Bottom (DR PP DitchBottom)	1 | Custom 17 | Line	
Ditch Bottom New (DR PP DitchBottomNew)	1 | Custom 1 | Line	
Drainage Pipes Text (DR PP DrainagePipesText)	0 | 0 17 | Text	Text Size = 0.07 Font = 164

CULVERT

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

DR PP Drainage - Pipes And Ditches

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Drainage Pipes Text New (DR PP DrainagePipesTextNew)	0 | 0 1 | Text	Text Size = 0.07 Font = 217	CULVERT
Drain Line (DR PP DrainLine)	0 | Custom 145 | Line		- D — — D — — D — — D — — D — –
Drain Line New (DR PP DrainLineNew)	0 | Custom 129 | Line		- D —— D —— D —— D —— D ——
Drain Pipe (DR PP DrainPipe)	0 | Custom 81 | Line		- DP — — DP — — DP — — DP — — DP — –
Drain Pipe New (DR PP DrainPipeNew)	2 | Custom 65 | Line		- DP —— DP —— DP —— DP —— DP ——
Storm Sewer Line (DR PP StormSewerLine)	0 | Custom 49 | Line		- ST — — ST — — ST — — ST — — ST — –
Storm Sewer Line New (DR PP StormSewerLineNew)	0 | Custom 33 | Line		- ST —— ST —— ST —— ST —— ST ——

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

DR PP Drainage - Pipes And Ditches

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Under Drain Line (DR PP UnderDrainLine)	0 | Custom 113 | Line	
Under Drain Line New (DR PP UnderDrainLineNew)	0 | Custom 97 | Line	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

DR ST Drainage - Structures

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Box Culvert (DR ST BoxCulvert)	0 | 2 81 | Line	
Box Culvert New (DR ST BoxCulvertNew)	2 | 0 65 | Line	
Catch Basin (DR ST CatchBasin)	0 | 0 49 | Cell	
Catch Basin New (DR ST CatchBasinNew)	0 | 0 33 | Cell	
Concrete Inlet (DR ST ConcreteInlet)	0 | 0 49 | Cell	
Concrete Inlet New (DR ST ConcreteInletNew)	0 | 0 33 | Cell	
Culvert (DR ST Culvert)	0 | 2 81 | Line	

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DR ST Drainage - Structures

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Culvert New (DR ST CulvertNew)	1 | 0 65 | Line		
Drainage Structures Text (DR ST DrainageStructuresText)	0 | 0 17 | Text	Text Size = 0.07 Font = 164	*CULVERT*
Drainage Structures Text New (DR ST DrainageStructuresTextNew)	0 | 0 1 | Text	Text Size = 0.07 Font = 217	**CULVERT**
Drainfield (DR ST Drainfield)	2 | 0 145 | Line		
Drop Inlet (DR ST DropInlet)	0 | 0 49 | Cell		
Drop Inlet New (DR ST DropInletNew)	0 | 0 33 | Cell		
Dry Well (DR ST DryWell)	0 | 0 145 | Cell		DW

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DR ST Drainage - Structures

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Dry Well New (DR ST DryWellNew)	0 | 0 129 | Cell	
Grate Inlet (DR ST GrateInlet)	0 | 0 49 | Cell	
Grate Inlet New (DR ST GrateInletNew)	0 | 0 33 | Cell	
Head Wall (DR ST HeadWall)	0 | 0 81 | Line	
Manhole (DR ST Manhole)	0 | 0 49 | Cell	
Manhole New (DR ST ManholeNew)	0 | 0 33 | Cell	
Storm Sewer CleanOut (DR ST StormSewerCleanOut)	0 | 0 145 | Cell	

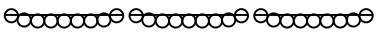
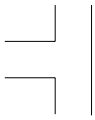
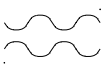
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

DR ST Drainage - Structures

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Structure Note Flag (DR ST StructureNoteFlag)	0 | 0 1 | Cell	
Structure Note Flag Continue (DR ST StructureNoteFlagContinue)	0 | 0 1 | Cell	
Structure Note Flag Continue Lg (DR ST StructureNoteFlagContinueLg)	0 | 0 1 | Cell	
Wing Wall (DR ST WingWall)	0 | 0 81 | Line	

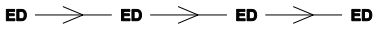
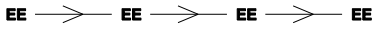
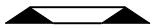
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

EV EC Environmental - Erosion Control

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Brush Barrier New (EV EC BrushBarrierNew)	2 | Custom 9 | Line	
Compost Berm New (EV EC CompostBermNew)	2 | Custom 9 | Line	
Compost Filler Sock New (EV EC CompostFillerSockNew)	2 | Custom 9 | Line	
Constr Entrance New (EV EC ConstrEntranceNew)	0 | 0 9 | Cell	
Constr Entrance Tire Wash New (EV EC ConstrEntranceTireWashNew)	0 | 0 9 | Cell	
Constr Fence New (EV EC ConstrFenceNew)	0 | Custom 9 | Line	
Dewatering Area New (EV EC DewateringAreaNew)	0 | 0 9 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

EV EC Environmental - Erosion Control

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Ecology Ditch New (EV EC EcologyDitchNew)	0 | Custom 9 | Line		
Ecology Embankment New (EV EC EcologyEmbankmentNew)	0 | Custom 9 | Line		
Erosion Control Text (EV EC ErosionControlText)	0 | 0 23 | Text	Text Size = 0.07 Font = 164	*EROSION*
Erosion Control Text New (EV EC ErosionControlTextNew)	0 | 0 9 | Text	Text Size = 0.07 Font = 217	**EROSION**
Generic Check Dam New (EV EC GenericCheckDamNew)	2 | 0 9 | Cell		
Geo Check Dam New (EV EC GeoCheckDamNew)	2 | 0 9 | Cell		
Gravel Filter Berm New (EV EC GravelFilterBermNew)	0 | Custom 9 | Line		

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EV EC Environmental - Erosion Control

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
High Vis Const Fencing New (EV EC HighVisConstFencingNew)	0 | Custom 0 | Line	
Infiltration Trench New (EV EC InfiltrationTrenchNew)	0 | Custom 9 | Line	
Inlet Cover (EV EC InletCover)	0 | 0 23 | Cell	
Inlet Cover New (EV EC InletCoverNew)	0 | 0 9 | Cell	
Inlet Filter (EV EC InletFilter)	0 | 0 23 | Cell	
Inlet Filter New (EV EC InletFilterNew)	0 | 0 9 | Cell	
Inlet Insert (EV EC InletInsert)	0 | 0 23 | Cell	

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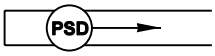
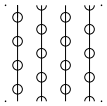
EV EC Environmental - Erosion Control

Name (Level)	ByLevel Weight / byLevel Color	ByLevel Style / Element Type	Example
Inlet Insert New (EV EC InletInsertNew)	1	0 Cell	
	9		
Interceptor Dike New (EV EC InterceptorDikeNew)	2	0 Cell	ID
	9		
Interceptor Swale New (EV EC InterceptorSwaleNew)	2	0 Cell	IS
	9		
Level Spreader New (EV EC LevelSpreaderNew)	2	0 Cell	
	9		
Mulching and Matting New (EV EC MulchingandMattingNew)	0	0 Cell	
	9		
Ordinary High Water Line (EV EC OrdinaryHighWaterLine)	0	0 Custom Line	OHW OHW OHW OHW OHW
	0		
Perm Seeding and Planting New (EV EC PermSeedingandPlantingNew)	0	0 Cell	
	9		

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

EV EC Environmental - Erosion Control

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Pipe Slope Drain New (EV EC PipeSlopeDrainNew)	2 | 0 9 | Cell	
Plastic Covering New (EV EC PlasticCoveringNew)	0 | 0 9 | Cell	
Rock Check Dam New (EV EC RockCheckDamNew)	2 | 0 9 | Cell	
Sand Bag or Sack New (EV EC SandBagorSackNew)	2 | Custom 9 | Line	
Sand Check Dam New (EV EC SandCheckDamNew)	2 | 0 9 | Cell	
Sediment Trap New (EV EC SedimentTrapNew)	2 | 0 9 | Cell	
Silt Fence New (EV EC SiltFenceNew)	2 | Custom 9 | Line	

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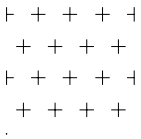
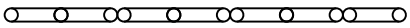
EV EC Environmental - Erosion Control

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Sodding New (EV EC SoddingNew)	0 | 0 9 | Cell	
Soil BinderTacking Agent New (EV EC SoilBinderTackingAgentNew)	0 | 0 9 | Cell	
Straw Bale Barrier New (EV EC StrawBaleBarrierNew)	2 | Custom 9 | Line	
Temp Sediment Pond New (EV EC TempSedimentPondNew)	0 | 0 9 | Cell	
Temp Seeding New (EV EC TempSeedingNew)	0 | 0 9 | Cell	
Topsoiling New (EV EC TopsoilingNew)	0 | 0 9 | Cell	
Vegetative Filter Strip New (EV EC VegetativeFilterStripNew)	0 | Custom 9 | Line	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

EV EC Environmental - Erosion Control

Name (Level)	ByLevel Weight / ByLevel Style / byLevel Color / Element Type	Example
Wattle New (EV EC WattleNew)	2 / Custom / 9 / Line	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

EV IR Environmental - Irrigation

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Irrig Line Lateral (EV IR IrrigLineLateral)	1 | 2 23 | Line	
Irrig Line Lateral New (EV IR IrrigLineLateralNew)	1 | 0 9 | Line	
Irrig Line Main (EV IR IrrigLineMain)	3 | 2 23 | Line	
Irrig Line Main New (EV IR IrrigLineMainNew)	3 | 0 9 | Line	
Irrig Meter (EV IR IrrigMeter)	0 | 0 23 | Cell	M
Irrig Meter New (EV IR IrrigMeterNew)	0 | 0 9 | Cell	M
Irrig Sprinkler Head 75 (EV IR IrrigSprinklerHead75)	0 | 0 23 | Cell	

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EV IR Environmental - Irrigation

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Irrig Sprinkler Head 75 New (EV IR IrrigSprinklerHead75New)	0 | 0 9 | Cell		
Irrig Sprinkler Head Full (EV IR IrrigSprinklerHeadFull)	0 | 0 23 | Cell		
Irrig Sprinkler Head Full New (EV IR IrrigSprinklerHeadFullNew)	0 | 0 9 | Cell		
Irrig Sprinkler Head Half (EV IR IrrigSprinklerHeadHalf)	0 | 0 23 | Cell		
Irrig Sprinkler Head Half New (EV IR IrrigSprinklerHeadHalfNew)	0 | 0 9 | Cell		
Irrig Text (EV IR IrrigText)	0 | 0 23 | Text	Text Size = 0.07 Font = 164	*SPRINKLER*
Irrig Text New (EV IR IrrigTextNew)	0 | 0 9 | Text	Text Size = 0.07 Font = 217	**SPRINKLER**

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

EV IR Environmental - Irrigation

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Irrig Valve (EV IR IrrigValve)	0 | 0 23 | Cell	
Irrig Valve New (EV IR IrrigValveNew)	0 | 0 9 | Cell	

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EV LS Environmental - Landscape

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Landscape Text (EV LS LandscapeText)	0 | 0 87 | Text	Text Size = 0.07 Font = 164	*Landscape*
Landscape Text New (EV LS LandscapeTextNew)	0 | 0 73 | Text	Text Size = 0.07 Font = 217	**Landscape**

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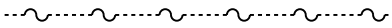
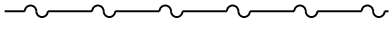
EV WL Environmental - Wetlands

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Biofiltration Swale (EV WL BiofiltrationSwale)	2 | Custom 55 | Line	
Biofiltration Swale New (EV WL BiofiltrationSwaleNew)	2 | Custom 41 | Line	
Env Resource Area Bndry (EV WL EnvResourceAreaBndry)	0 | Custom 55 | Line	
Est ITidal Hi Salt Marsh (EV WL EstITidalHiSaltMarsh)	2 | 3 87 | Line	
Est ITidal Hi Salt Marsh New (EV WL EstITidalHiSaltMarshNew)	2 | 0 73 | Line	
Est STidal Lo Salt Marsh (EV WL EstSTidalLoSaltMarsh)	2 | 3 87 | Line	
Est STidal Lo Salt Marsh New (EV WL EstSTidalLoSaltMarshNew)	2 | 3 73 | Line	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

EV WL Environmental - Wetlands

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Inventory Wetland Bndry New (EV WL InventoryWetlandBndryNew)	0 | Custom 41 | Line	
Pal Emergent Fresh Marsh (EV WL PalEmergentFreshMarsh)	2 | 3 119 | Line	
Pal Emergent Fresh Marsh New (EV WL PalEmergentFreshMarshNew)	2 | 0 105 | Line	
Pal Forested (EV WL PalForested)	2 | 3 119 | Line	
Pal Forested New (EV WL PalForestedNew)	2 | 0 105 | Line	
Pal Open Fresh Pond (EV WL PalOpenFreshPond)	2 | 3 119 | Line	
Pal Open Fresh Pond New (EV WL PalOpenFreshPondNew)	2 | 0 105 | Line	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

EV WL Environmental - Wetlands

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Pal Scrub Shrub (EV WL PalScrubShrub)	2 | 3 119 | Line	
Pal Scrub Shrub New (EV WL PalScrubShrubNew)	2 | 0 105 | Line	
Storm Water Trtmnt (EV WL StormWaterTrtmnt)	2 | 3 55 | Line	
Storm Water Trtmnt New (EV WL StormWaterTrtmntNew)	2 | 0 41 | Line	
Stream Buffer (EV WL StreamBuffer)	0 | Custom 0 | Line	
Wetland Bndry (EV WL WetlandBndry)	3 | 3 55 | Line	
Wetland Bndry New (EV WL WetlandBndryNew)	3 | 0 41 | Line	

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EV WL Environmental - Wetlands

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Wetland Flag (EV WL WetlandFlag)	0 | 0 55 | Cell		
Wetland Mitigation Buffer (EV WL WetlandMitigationBuffer)	0 | Custom 41 | Line		
Wetland Symb (EV WL WetlandSymb)	0 | 0 55 | Cell		
Wetland Text New (EV WL WetlandTextNew)	0 | 0 41 | Text	Text Size = 0.07 Font = 217	**Wetlands**

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PM MN Photo Control and Monuments - Monuments

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Monument (PM MN Monument)	0 | 0 60 | Cell	
Monument Case and Cover (PM MN MonumentCaseandCover)	0 | 0 60 | Cell	
Monument Case and Cover New (PM MN MonumentCaseandCoverNew)	0 | 0 44 | Cell	
Monument New (PM MN MonumentNew)	0 | 0 44 | Cell	
Primary Control Point (PM MN PrprimaryControlPoint)	1 | 0 28 | Cell	
Temp Control Point (PM MN TempControlPoint)	1 | 0 28 | Cell	

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PM PH Photo Control and Monuments - Control Points

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Photo Center (PM PH PhotoCenter)	1 | 0 92 | Cell		
Photo Control Points Text (PM PH PhotoControlPointsText)	0 | 0 92 | Text	Text Size = 0.07 Font = 164	*TARGET INFO*
Photo Grid Tic (PM PH PhotoGridTic)	1 | 0 92 | Cell		
Photo HorVert Control Point (PM PH PhotoHorVertControlPoint)	1 | 0 92 | Cell		
Photo Vert Control Point (PM PH PhotoVertControlPoint)	0 | 0 92 | Cell		

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RD BM Roadway Features - Berms

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Berm Text (RD BM BermText)	0 | 0 29 | Text	Text Size = 0.07 Font = 164	*OVERCROSSING*
Berm Text New (RD BM BermTextNew)	0 | 0 13 | Text	Text Size = 0.07 Font = 217	**OVERCROSSING**

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

RD BR Roadway Features - Barriers

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Barrier Center (RD BR BarrierCenter)	0 | Custom 29 | Line		
Barrier Center New (RD BR BarrierCenterNew)	0 | Custom 13 | Line		
Barrier Center Temporary (RD BR BarrierCenterTemporary)	0 | Custom 13 | Line		
Barrier Text (RD BR BarrierText)	0 | 0 61 | Text	Text Size = 0.07 Font = 164	*OVERCROSSING*
Barrier Text New (RD BR BarrierTextNew)	0 | 0 45 | Text	Text Size = 0.07 Font = 217	**OVERCROSSING**
Bollard (RD BR Bollard)	0 | 0 93 | Cell		
Bollard New (RD BR BollardNew)	0 | 0 77 | Cell		

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RD BR Roadway Features - Barriers

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Cable Barrier (RD BR CableBarrier)	0 | Custom 125 | Line	
Cable Barrier New (RD BR CableBarrierNew)	0 | Custom 109 | Line	
Fence (RD BR Fence)	0 | Custom 157 | Line	
Fence New (RD BR FenceNew)	0 | Custom 141 | Line	
Gate (RD BR Gate)	0 | 0 157 | Cell	
Gate New (RD BR GateNew)	0 | 0 141 | Cell	
Guardrail (RD BR Guardrail)	0 | Custom 125 | Line	

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RD BR Roadway Features - Barriers

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Guardrail New (RD BR GuardrailNew)	0 | Custom 109 | Line	
Guide Post (RD BR GuidePost)	0 | 0 93 | Cell	
Guide Post New (RD BR GuidePostNew)	1 | 0 77 | Cell	
Impact Attenuator (RD BR ImpactAttenuator)	0 | 0 125 | Cell	
Impact Attenuator New (RD BR ImpactAttenuatorNew)	0 | 0 109 | Cell	

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RD CG Roadway Features - Curb, Gutter, Sidewalk

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Curb Face (RD CG CurbFace)	0 | 4 61 | Line		
Curb Face New (RD CG CurbFaceNew)	1 | 0 45 | Line		
Curb Gutter Sidewalk Text (RD CG CurbGutterSidewalkText)	0 | 0 61 | Text	Text Size = 0.07 Font = 164	*EDGE OF LANE*
Curb Gutter Sidewalk Text New (RD CG CurbGutterSidewalkTextNew)	0 | 0 45 | Text	Text Size = 0.07 Font = 217	**EDGE OF LANE**
Sidewalk (RD CG Sidewalk)	0 | 3 29 | Line		
Sidewalk New (RD CG SidewalkNew)	1 | 0 13 | Line		

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RD ED Roadway Features - Edges

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Bike Path Edge (RD ED BikePathEdge)	0 | 2 157 | Line	
Bike Path Edge New (RD ED BikePathEdgeNew)	1 | 0 141 | Line	
Driveway Edge (RD ED DrivewayEdge)	0 | 2 125 | Line	
Driveway Edge New (RD ED DrivewayEdgeNew)	1 | 0 109 | Line	
Driveway Gravel Edge (RD ED DrivewayGravelEdge)	0 | 5 125 | Line	
Driveway Paved Edge (RD ED DrivewayPavedEdge)	0 | 2 125 | Line	
Lane Edge New (RD ED LaneEdgeNew)	1 | 0 45 | Line	

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RD ED Roadway Features - Edges

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Paved Area New (RD ED PavedAreaNew)	1 | 0 141 | Line		
Paved Parking Area New (RD ED PavedParkingAreaNew)	1 | 0 141 | Line		
Ped Path Edge (RD ED PedPathEdge)	0 | 1 157 | Line		
Ped Path Edge New (RD ED PedPathEdgeNew)	1 | 0 141 | Line		
Removal Pavement Bndry (RD ED RemovalPavementBndry)	1 | 0 77 | Line		
Roadway Edges Text (RD ED RoadwayEdgesText)	0 | 0 29 | Text	Text Size = 0.07 Font = 164	*EDGE OF LANE*
Roadway Edges Text New (RD ED RoadwayEdgesTextNew)	0 | 0 13 | Text	Text Size = 0.07 Font = 217	**EDGE OF LANE**

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

RD ED Roadway Features - Edges

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Roadway ETW Gravel (RD ED RoadwayETWGravel)	0 | 5 29 | Line		
Roadway ETW Gravel New (RD ED RoadwayETWGravelNew)	1 | 0 13 | Line		
Roadway ETW Paved (RD ED RoadwayETWPaved)	0 | 2 29 | Line		
Roadway ETW Paved New (RD ED RoadwayETWPavedNew)	1 | 0 13 | Line		
Sawcut New (RD ED SawcutNew)	0 | Custom 141 | Line		SAW SAW SAW
Sawcut Text New (RD ED SawcutTextNew)	0 | 0 141 | Text	Text Size = 0.07 Font = 217	SAW CUT
Shoulder BST Edge (RD ED ShoulderBSTEdge)	0 | 2 93 | Line		

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RD ED Roadway Features - Edges

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Shoulder Gravel Edge (RD ED ShoulderGravelEdge)	0 | 5 93 | Line	
Shoulder Gravel Edge New (RD ED ShoulderGravelEdgeNew)	1 | 0 77 | Line	
Shoulder Paved Edge (RD ED ShoulderPavedEdge)	0 | 2 93 | Line	
Shoulder Paved Edge New (RD ED ShoulderPavedEdgeNew)	1 | 0 77 | Line	

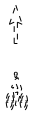
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

RD MC Roadway Features - Miscellaneous

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Roadway Names Text (RD MC RoadwayNamesText)	0 | 0 29 | Text	Text Size = 0.05 Font = 200	LAST CHANCE ROAD

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

RD MK Roadway Features - Markings

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Aerial Survlnc Mark Full (RD MK AerialSurvlncMarkFull)	0 | 0 0 | Cell	
Aerial Survlnc Mark Full New (RD MK AerialSurvlncMarkFullNew)	0 | 0 0 | Cell	
Aerial Survlnc Mark Half (RD MK AerialSurvlncMarkHalf)	0 | 0 0 | Cell	
Aerial Survlnc Mark Half New (RD MK AerialSurvlncMarkHalfNew)	0 | 0 0 | Cell	
Bike Symb* (RD MK BikeSymb) Sized for a 40 scale drawing.	0 | 2 0 | Cell	
Bike Symb Arrow* (RD MK BikeSymbArrow) Sized for a 40 scale drawing.	0 | 2 0 | Cell	
Bike Symb Arrow New* (RD MK BikeSymbArrowNew) Sized for a 40 scale drawing.	0 | 0 0 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

RD MK Roadway Features - Markings

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Bike Symb New* (RD MK BikeSymbNew) Sized for a 40 scale drawing.	0 | 0 0 | Cell	
HCap Parking Symb* (RD MK HCapParkingSymb) Sized for a 40 scale drawing.	0 | 0 0 | Cell	
HCap Parking Symb New* (RD MK HCapParkingSymbNew) Sized for a 40 scale drawing.	0 | 0 0 | Cell	
HOV Symb* (RD MK HOVSymb) Sized for a 40 scale drawing.	0 | 0 0 | Cell	
HOV Symb New* (RD MK HOVSymbNew) Sized for a 40 scale drawing.	1 | 0 0 | Cell	
Line Crosswalk (RD MK LineCrosswalk)	4 | 2 29 | Line	
Line Crosswalk New (RD MK LineCrosswalkNew)	4 | 0 0 | Line	

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RD MK Roadway Features - Markings

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Line Generic (RD MK LineGeneric)	1 | 3 29 | Line	
Line Generic New (RD MK LineGenericNew)	2 | 0 0 | Line	
Line Raised Pvmnt Marker (RD MK LineRaisedPvmntMarker)	1 | Custom 0 | Line	
Line Raised Pvmnt Marker New (RD MK LineRaisedPvmntMarkerNew)	2 | Custom 0 | Line	
Line Skip Center* (RD MK LineSkipCenter) Sized for a 40 scale drawing.	1 | Custom 29 | Line	
Line Skip Center New* (RD MK LineSkipCenterNew) Sized for a 40 scale drawing.	2 | Custom 4 | Line	
Line Stop (RD MK LineStop)	4 | 2 29 | Line	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

RD MK Roadway Features - Markings

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Line Stop New (RD MK LineStopNew)	4 | 0 0 | Line		
Line Wide* (RD MK LineWide) Sized for a 100 scale drawing.	3 | 2 29 | Line		
Line Wide New* (RD MK LineWideNew) Sized for a 100 scale drawing.	3 | 0 0 | Line		
Only Symbol* (RD MK OnlySymbol) Sized for a 40 scale drawing.	0 | 0 29 | Cell		ONLY
Only Symbol New* (RD MK OnlySymbolNew) Sized for a 100 scale drawing.	0 | 0 13 | Cell		ONLY
Pavement Markings Text (RD MK PavementMarkingsText)	0 | 0 29 | Text	Text Size = 0.07 Font = 164	*EDGE OF LANE*
Pavement Markings Text New (RD MK PavementMarkingsTextNew)	0 | 0 13 | Text	Text Size = 0.07 Font = 217	**EDGE OF LANE**

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

RD MK Roadway Features - Markings

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Raised Pvmnt Marker Type 1 (RD MK RaisedPvmntMarkerType1)	0 | 0 29 | Cell		
Raised Pvmnt Marker Type 1 New (RD MK RaisedPvmntMarkerType1New)	1 | 0 13 | Cell		
Raised Pvmnt Marker Type 2 (RD MK RaisedPvmntMarkerType2)	0 | 0 29 | Cell		
Raised Pvmnt Marker Type 2 New (RD MK RaisedPvmntMarkerType2New)	1 | 0 13 | Cell		
Raised Pvmnt Marker Type 3 (RD MK RaisedPvmntMarkerType3)	0 | 0 29 | Cell		
Raised Pvmnt Marker Type 3 New (RD MK RaisedPvmntMarkerType3New)	1 | 0 13 | Cell		
Roadway Marking Text (RD MK RoadwayMarkingText)	0 | 0 29 | Text	Text Size = 0.07 Font = 164	*EDGE OF LANE*

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RD MK Roadway Features - Markings

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Roadway Marking Text New (RD MK RoadwayMarkingTextNew)	0 | 0 13 | Text	Text Size = 0.07 Font = 217	EDGE OF LANE
RR Symb* (RD MK RRSymb) Sized for a 40 scale drawing.	0 | 2 0 | Cell		
RR Symb New* (RD MK RRSymbNew) Sized for a 40 scale drawing.	1 | 0 0 | Cell		
Rumble Strip (RD MK RumbleStrip)	0 | Custom 29 | Line		
Rumble Strip New (RD MK RumbleStripNew)	0 | Custom 13 | Line		
Traffic Arrow Type 1 S (RD MK TrafficArrowType1S)	0 | 0 0 | Cell		
Traffic Arrow Type 1 S New (RD MK TrafficArrowType1SNew)	0 | 0 0 | Cell		

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RD MK Roadway Features - Markings

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Traffic Arrow Type 2 L (RD MK TrafficArrowType2L)	0 | 0 0 | Cell	
Traffic Arrow Type 2 L New (RD MK TrafficArrowType2LNew)	0 | 0 0 | Cell	
Traffic Arrow Type 2 R (RD MK TrafficArrowType2R)	0 | 0 0 | Cell	
Traffic Arrow Type 2 R New (RD MK TrafficArrowType2RNew)	0 | 0 0 | Cell	
Traffic Arrow Type 3 LS (RD MK TrafficArrowType3LS)	0 | 0 0 | Cell	
Traffic Arrow Type 3 LS New (RD MK TrafficArrowType3LSNew)	0 | 0 0 | Cell	
Traffic Arrow Type 3 RS (RD MK TrafficArrowType3RS)	0 | 0 0 | Cell	

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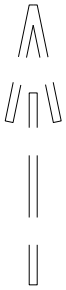
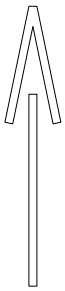
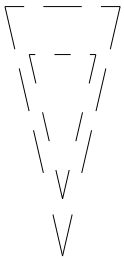
RD MK Roadway Features - Markings

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Traffic Arrow Type 3 RS New (RD MK TrafficArrowType3RSNew)	0 | 0 0 | Cell	
Traffic Arrow Type 4 LR (RD MK TrafficArrowType4LR)	0 | 0 0 | Cell	
Traffic Arrow Type 4 LR New (RD MK TrafficArrowType4LRNew)	0 | 0 0 | Cell	
Traffic Arrow Type 5 Big S (RD MK TrafficArrowType5BigS)	0 | 0 0 | Cell	
Traffic Arrow Type 5 Big S New (RD MK TrafficArrowType5BigSNew)	0 | 0 0 | Cell	
Traffic Arrow Type 6 L (RD MK TrafficArrowType6L)	0 | 0 0 | Cell	
Traffic Arrow Type 6 L New (RD MK TrafficArrowType6LNew)	0 | 0 0 | Cell	

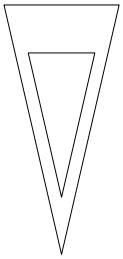
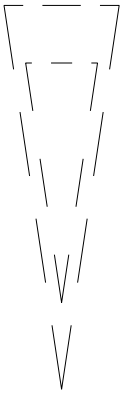
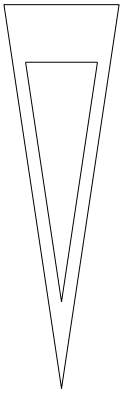
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

RD MK Roadway Features - Markings

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Traffic Arrow Type 6 R (RD MK TrafficArrowType6R)	0 | 0 0 | Cell	
Traffic Arrow Type 6 R New (RD MK TrafficArrowType6RNew)	0 | 0 0 | Cell	
Traffic Arrow Type 7 LRS (RD MK TrafficArrowType7LRS)	0 | 0 0 | Cell	
Traffic Arrow Type 7 LRS New (RD MK TrafficArrowType7LRSNew)	0 | 0 0 | Cell	
Traffic Button (RD MK TrafficButton)	0 | 0 0 | Cell	
Yield Ahead Symb Type 1* (RD MK YieldAheadSymbType1) Sized for a 100 scale drawing.	0 | 0 0 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

RD MK Roadway Features - Markings

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Yield Ahead Symb Type 1 New* (RD MK YieldAheadSymbType1New) Sized for a 100 scale drawing.	1 | 0 0 | Cell	
Yield Ahead Symb Type 2* (RD MK YieldAheadSymbType2) Sized for a 100 scale drawing.	0 | 0 0 | Cell	
Yield Ahead Symb Type 2 New* (RD MK YieldAheadSymbType2New) Sized for a 100 scale drawing.	1 | 0 0 | Cell	
Yield Symb Type 1* (RD MK YieldSymbType1) Sized for a 50 scale drawing.	0 | 0 0 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

RD MK Roadway Features - Markings

Name (Level)	ByLevel Weight | ByLevel Style / byLevel Color | Element Type	Example
Yield Symb Type 1 New* (RD MK YieldSymbType1New) Sized for a 50 scale drawing.	1 | 0 / 0 | Cell	
Yield Symb Type 2* (RD MK YieldSymbType2) Sized for a 50 scale drawing.	0 | 0 / 0 | Cell	
Yield Symb Type 2 New* (RD MK YieldSymbType2New) Sized for a 50 scale drawing.	1 | 0 / 0 | Cell	

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RW BD Right of Way - RW Boundaries

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Highway RW Bndry PSE (RW BD HighwayRWBndryPSE)	5 | 0 19 | Line		
Highway RW Bndry PSE SO Text (RW BD HighwayRWBndryPSESOText)	0 | 0 19 | Text	Text Size = 0.07 Font = 164	*MR 10+88.03 (50' RT.)*
LAccess Floating Lt New (RW BD LAccessFloatingLtNew)	2 | Custom 35 | Line		
LAccess Floating Rt New (RW BD LAccessFloatingRtNew)	2 | Custom 35 | Line		
LAccess Proposed RW Lt (RW BD LAccessProposedRWLt)	5 | Custom 35 | Line		
LAccess Proposed RW Rt (RW BD LAccessProposedRWRt)	5 | Custom 35 | Line		
RR RW Bndry (RW BD RRRWBndry)	2 | Custom 147 | Line		

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

RW ES Right of Way - Easements & Permits

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Esmnt Line New (RW ES EsmntLineNew)	3 | 0 3 | Line	
Permit Line New (RW ES PermitLineNew)	3 | 0 67 | Line	
Subterranean Esmnt Line New (RW ES SubterraneanEsmntLineNew)	3 | 0 99 | Line	
Temp Constr Esmnt Line New (RW ES TempConstrEsmntLineNew)	3 | 0 131 | Line	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

RW GB Right of Way - Government Boundaries

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Corp Limit Line (RW GB CorpLimitLine)	5 | Custom 19 | Line		
County Line (RW GB CountyLine)	5 | Custom 51 | Line		
Forest Bndry (RW GB ForestBndry)	4 | Custom 83 | Line		
Govt Bndry Text (RW GB GovtBndryText)	0 | 0 19 | Text	Text Size = 0.1 Font = 217	**STATE PARK**
Park Bndry (RW GB ParkBndry)	4 | Custom 115 | Line		
Reservation Bndry (RW GB ReservationBndry)	4 | Custom 147 | Line		
State Bndry (RW GB StateBndry)	5 | Custom 19 | Line		

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

RW PA Right of Way - Parcels

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
City Names Text (RW PA CityNamesText)	1 | 0 19 | Text	Text Size = 0.2 Font = 42	FIFE
ER ParcelNumber (RW PA ERParcelNumber)	2 | 0 19 | Cell		6-
Interchange Names Text (RW PA InterchangeNamesText)	1 | 0 19 | Text	Text Size = 0.15 Font = 42	INTERCHANGE
NCR Parcel Number (RW PA NCRParcelNumber)	2 | 0 19 | Cell		2-
NWR Parcel Number (RW PA NWRParcelNumber)	2 | 0 19 | Cell		1-
OR Parcel Number (RW PA ORParcelNumber)	2 | 0 19 | Cell		3-
SCR Parcel Number (RW PA SCRParcelNumber)	2 | 0 19 | Cell		5-

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

RW PA Right of Way - Parcels

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Subdivisions Names Text (RW PA SubdivisionsNamesText)	1 | 0 51 | Text	Text Size = 0.1 Font = 42	SUBDIVISION
SWR Parcel Number (RW PA SWRParcelNumber)	2 | 0 19 | Cell		4-

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

RW SC Right of Way - Section Information

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Bearings Text (RW SC BearingsText)	0 | 0 19 | Text	Text Size = 0.06 Font = 200	N 77°14'25" E
Closing Corner Found (RW SC ClosingCornerFound)	1 | 0 19 | Cell		?? ?? ??
Closing Corner Not Found (RW SC ClosingCornerNotFound)	1 | 0 115 | Cell		?? ?? ??
Descriptions Text (RW SC DescriptionsText)	0 | 0 19 | Text	Text Size = 0.05 Font = 200	1" DIA. IRON PIPE
Govt Lot ID Text (RW SC GovtLotIDText)	0 | 0 147 | Text	Text Size = 0.09 Font = 217	GOV'T LOT 3
Quarter Corner Found EW (RW SC QuarterCornerFoundEW)	1 | 0 19 | Cell		?? ??
Quarter Corner Found NS (RW SC QuarterCornerFoundNS)	1 | 0 115 | Cell		?? ??

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

RW SC Right of Way - Section Information

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Quarter Corner Not Found EW (RW SC QuarterCornerNotFoundEW)	1 | 0 19 | Cell		?? ??
Quarter Corner Not Found NS (RW SC QuarterCornerNotFoundNS)	1 | 0 19 | Cell		?? ??
Quarter Section Line (RW SC QuarterSectionLine)	3 | Custom 51 | Line		
Range Line (RW SC RangeLine)	5 | 0 115 | Line		
Range Lines Text (RW SC RangeLinesText)	2 | 0 115 | Text	Text Size = 0.13 Font = 217	**T.2N. R.1E. W.M.**
Section Corner Found (RW SC SectionCornerFound)	1 | 0 19 | Cell		?? ?? ?? ??
Section Corner Not Found (RW SC SectionCornerNotFound)	1 | 0 115 | Cell		?? ?? ?? ??

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

RW SC Right of Way - Section Information

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Section Line (RW SC SectionLine)	4 | Custom 19 | Line		
Township Line (RW SC TownshipLine)	5 | 0 147 | Line		
Township Range Line Text (RW SC TownshipRangeLineText)	2 | 0 147 | Text	Text Size = 0.13 Font = 217	**T.2N. R.1E. W.M.**

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH DE Sheets - Detail Sheets

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Detail Body 1 Text (SH DE DetailBody1Text)	0 | 0 0 | Text	Text Size = 0.08 Font = 217	BODY 1
Detail Body 2 Text (SH DE DetailBody2Text)	0 | 0 0 | Text	Text Size = 0.07 Font = 217	BODY 2
Detail Heading 1 Text (SH DE DetailHeading1Text)	0 | 0 0 | Text	Text Size = 0.12 Font = 217	**Heading 1**
Detail Heading 2 Text (SH DE DetailHeading2Text)	0 | 0 0 | Text	Text Size = 0.11 Font = 217	**Heading 2**
Detail Heading 3 Text (SH DE DetailHeading3Text)	0 | 0 0 | Text	Text Size = 0.09 Font = 217	**Heading 3**
Detail Level 1 (SH DE DetailLevel1)	0 | 0 0 | Line		
Detail Level 2 (SH DE DetailLevel2)	0 | 0 0 | Line		

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH DE Sheets - Detail Sheets

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Detail Level 3* (SH DE DetailLevel3) Sized for a 100 scale drawing.	0 | 0 0 | Line	
Detail Level 4 (SH DE DetailLevel4)	0 | 0 0 | Line	
Detail Level 5 (SH DE DetailLevel5)	0 | 0 0 | Line	
Detail Level 6 (SH DE DetailLevel6)	0 | 0 0 | Line	
Detail Level 7 (SH DE DetailLevel7)	0 | 0 0 | Line	
Detail Level 8 (SH DE DetailLevel8)	0 | 0 0 | Line	
Detail Level 9 (SH DE DetailLevel9)	0 | 0 0 | Line	

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SH DP Sheets - Drainage Profiles

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
ElevationsLabelsText (SH DP ElevationsLabelsText)	0 | 0 18 | Text	Text Size = 0.09 Font = 217	**Elevations**
Finish Ground Profile (SH DP FinishGroundProfile)	3 | 0 0 | Line		
Flowline Text (SH DP FlowlineText)	0 | 0 18 | Text	Text Size = 0.07 Font = 164	*Flowline*
Flowline Text New (SH DP FlowlineTextNew)	0 | 0 18 | Text	Text Size = 0.07 Font = 217	**Flowline**
Original Ground Profile (SH DP OriginalGroundProfile)	1 | 3 0 | Line		
Pipe (SH DP Pipe)	0 | 2 24 | Line		
Pipe New (SH DP PipeNew)	0 | 0 24 | Line		

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SH DP Sheets - Drainage Profiles

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Quantity Breakout Horz Lines (SH DP QuantityBreakoutHorzLines)	0 | 0 1 | Line		
Quantity Breakout Text (SH DP QuantityBreakoutText)	0 | 0 17 | Text	Text Size = 0.07 Font = 217	Quantity
Quantity Breakout Vert Lines (SH DP QuantityBreakoutVertLines)	0 | 0 0 | Line		
Slope Text (SH DP SlopeText)	0 | 0 18 | Text	Text Size = 0.07 Font = 217	Slope
Station Offset Text (SH DP StationOffsetText)	0 | 0 18 | Text	Text Size = 0.07 Font = 217	Station Offset
Structure (SH DP Structure)	0 | 2 24 | Line		
Structure New (SH DP StructureNew)	0 | 0 24 | Line		

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SH DP Sheets - Drainage Profiles

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Structure Note Flag (SH DP StructureNoteFlag)	0 | 0 0 | Cell		
Structure Note Flag Continue (SH DP StructureNoteFlagContinue)	0 | 0 0 | Cell		
Structure Note Flag Continue Lg (SH DP StructureNoteFlagContinueLg)	0 | 0 0 | Cell		
Structure Text (SH DP StructureText)	0 | 0 18 | Text	Text Size = 0.07 Font = 217	**Structure**

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SH DT Sheets - Details Cells

Name (Level)	ByLevel Weight / byLevel Color	ByLevel Style / Element Type	Example

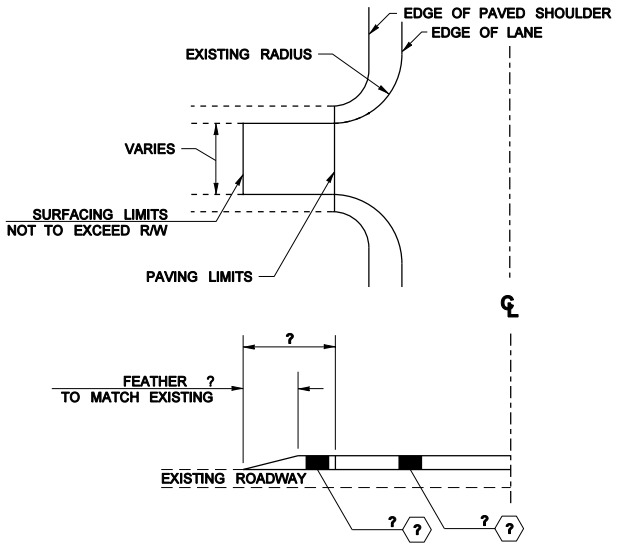
APPRCH Intersection Schedule
(SH DT APPRCHIntersectionSchedule)
Example drawn at 50% actual size.

0 | 0
0 | Cell

INTERSECTION SCHEDULE			
STATION	WIDTH		INTERSECTION DETAIL
	LEFT	RIGHT	

APPRCH Intersect Paving Detail
(SH DT APPRCHIntersectPavingDetail)
Example drawn at 75% actual size.

0 | 0
0 | Cell



INTERSECTION PAVING DETAIL ?

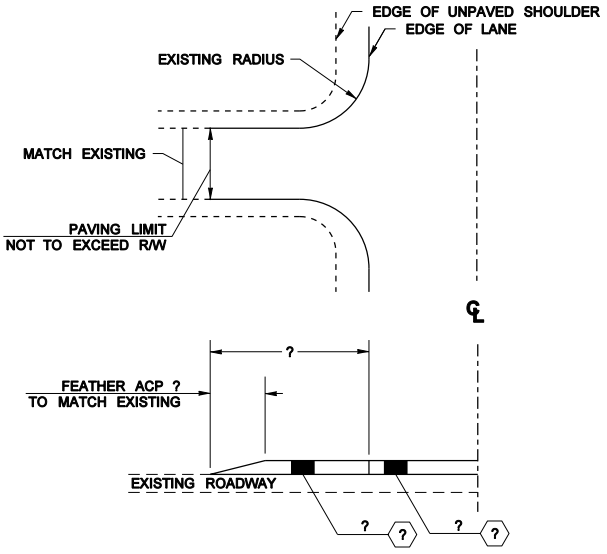
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH DT Sheets - Details Cells

Name (Level)	ByLevel Weight | ByLevel Style / byLevel Color | Element Type	Example

APRCH Inter Pvng Det Ex Shldrs
(SH DT APRCHInterPvngDetExShldrs)
Example drawn at 75% actual size.

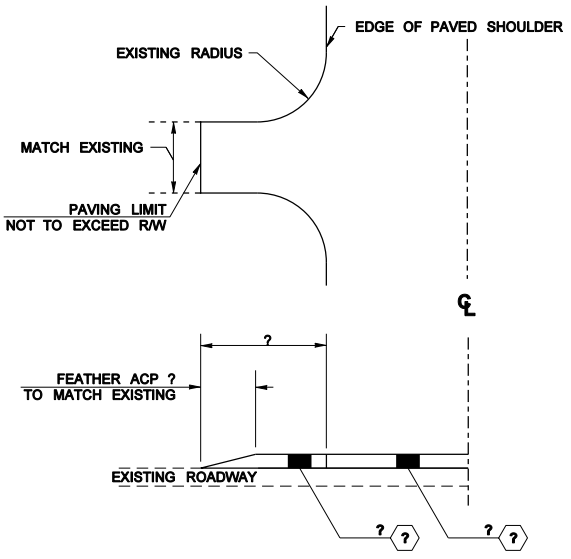
0 | 0
0 | Cell



INTERSECTION PAVING DETAIL ?

APRCH Inter Pvng Det Incl Shldrs
(SH DT APRCHInterPvngDetInclShldrs)
Example drawn at 75% actual size.

0 | 0
0 | Cell



INTERSECTION PAVING DETAIL ?

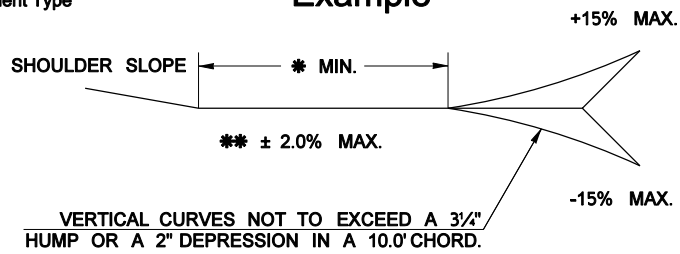
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH DT Sheets - Details Cells

Name (Level)

ByLevel Weight | ByLevel Style
byLevel Color | Element Type

Example



APRCH Profile
(SH DT APRCHProfile)

0 | 0
0 | Cell

** DIFFERENCE FROM SHOULDER SLOPE.

APPROACH PROFILE

STA.	LT./RT.	*

APRCH Schedule
(SH DT APRCHSchedule)
Example drawn at 50% actual size.

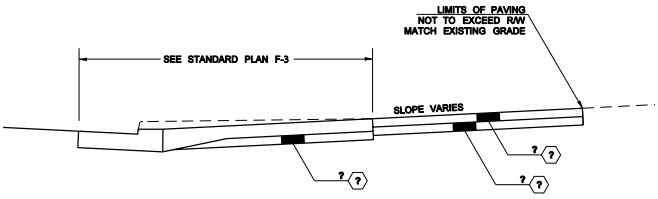
0 | 0
0 | Cell

APPROACH SCHEDULE				
STATION	WIDTH		APPROACH DETAIL	ASPHALT CONC. APPROACH CL. ? TON
	LEFT	RIGHT		

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH DT Sheets - Details Cells

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example



APRCH Schedule Detail
(SH DT APRCHScheduleDetail)
Example drawn at 50% actual size.

0 | 0
0 | Cell

APPROACH DETAIL ?
(SEE STANDARD PLAN)

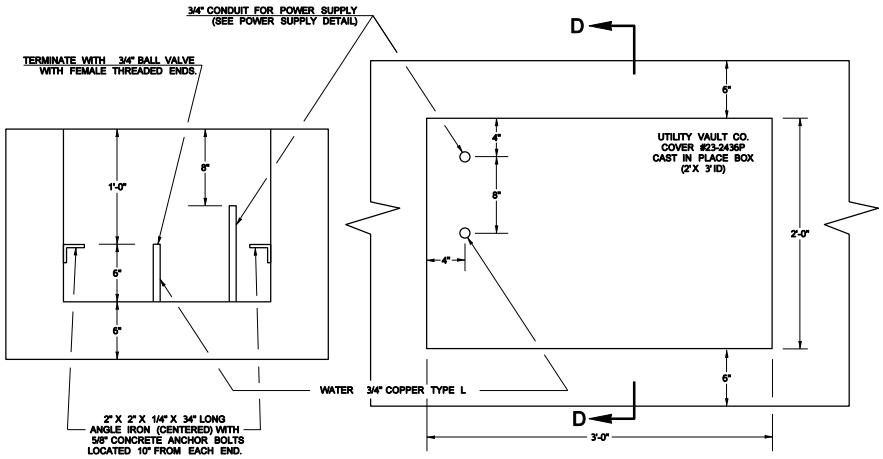
APPROACH SCHEDULE				
STATION	WIDTH	ASPHALT CONC. APPROACH CL. ? (TON)	CRUSHED SURFACING TOP COURSE (TON)	CEMENT CONC. APPROACH ?-DAY (S.Y.)

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH DT Sheets - Details Cells

Name (Level)	ByLevel Weight / byLevel Color	ByLevel Style / Element Type	Example

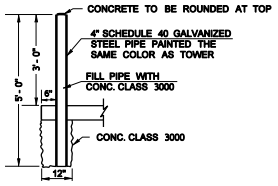
MISC Control Module Box Detail 0 | 0 / 0 | Cell
(SH DT MISCControlModuleBoxDetail)
Example drawn at 50% actual size.



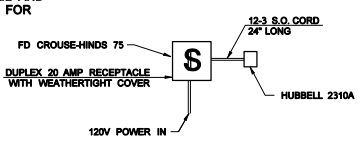
SECTION D-D

CONTROL MODULE BOX DETAIL

DRAIN PIPE AND 3" X 12" ABS LONG TURN 90 NOT SHOWN. SEE RV DUMP STATION ISLAND DETAIL AND RV POTABLE WATER STATION ISLAND DETAIL FOR LOCATIONS.



PROTECTIVE POST DETAIL



POWER SUPPLY DETAIL
UTILITY VAULT #2436

RV DUMP STATION

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH DT Sheets - Details Cells

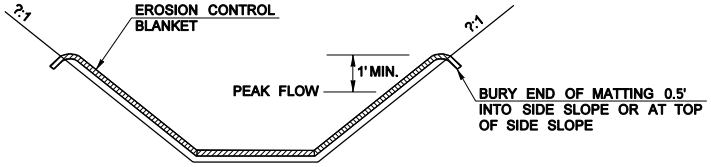
Name
(Level)

ByLevel Weight | ByLevel Style
byLevel Color | Element Type

Example

MISC Erosion Control Blanket
(SH DT MISCErosionControlBlanket)
Example drawn at 75% actual size.

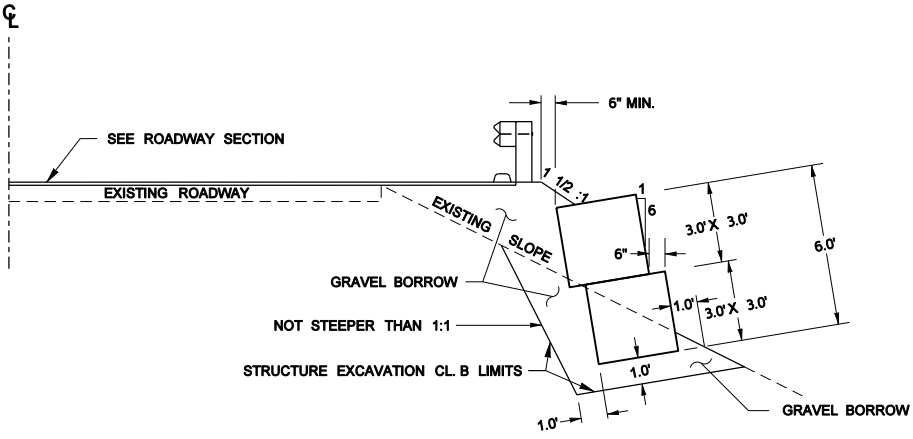
0 | 0
0 | Cell



EROSION CONTROL BLANKET
TYPICAL SECTION

MISC Gabion Cribbing Detail
(SH DT MISCGabionCribbingDetail)
Example drawn at 75% actual size.

0 | 0
0 | Cell



GABION CRIBBING DETAIL

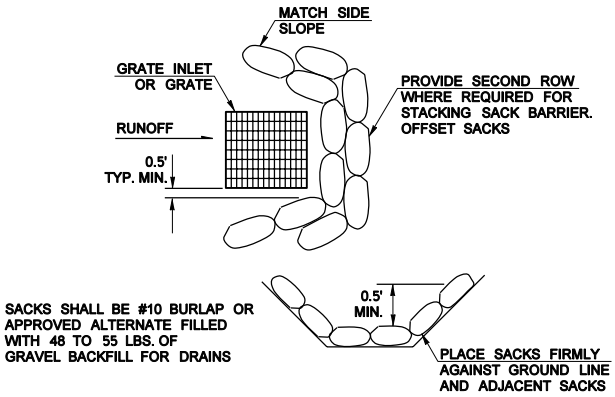
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH DT Sheets - Details Cells

Name (Level)	ByLevel Weight | ByLevel Style / byLevel Color | Element Type	Example

MISC Gravel Sack Barrier
(SH DT MISCGravelSackBarrier)
Example drawn at 75% actual size.

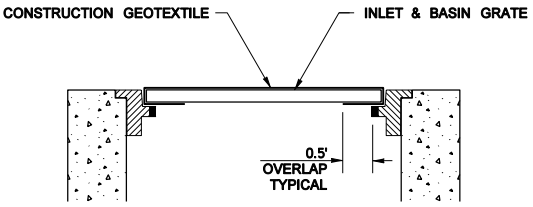
0 | 0
0 | Cell



GRAVEL SACK BARRIER

MISC Inlet Basin Temp Cover
(SH DT MISCInletBasinTempCover)
Example drawn at 75% actual size.

0 | 0
0 | Cell



INLET & BASIN
TEMPORARY COVER DETAIL

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH DT Sheets - Details Cells

Name (Level)

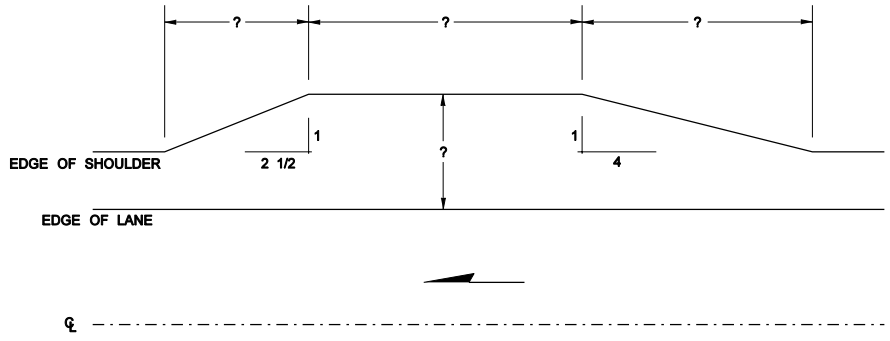
ByLevel Weight | ByLevel Style
byLevel Color | Element Type

Example

MISC Mailbox Turnout Detail

(SH DT MISCMailboxTurnoutDetail)
Example drawn at 75% actual size.

0 | 0
0 | Cell

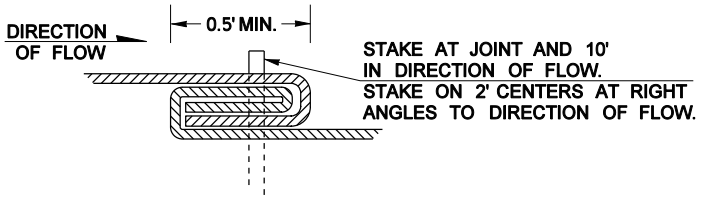


MAILBOX TURNOUT DETAIL
(SEE SPECIAL PROVISIONS AND STANDARD PLANS)
STA. ?

MISC Matting Overlap

(SH DT MISCMattingOverlap)

0 | 0
0 | Cell



MATTING OVERLAP

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

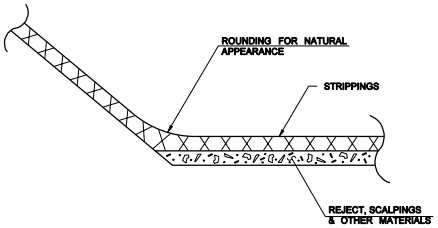
SH DT Sheets - Details Cells

Name
(Level)

ByLevel Weight | ByLevel Style
byLevel Color | Element Type

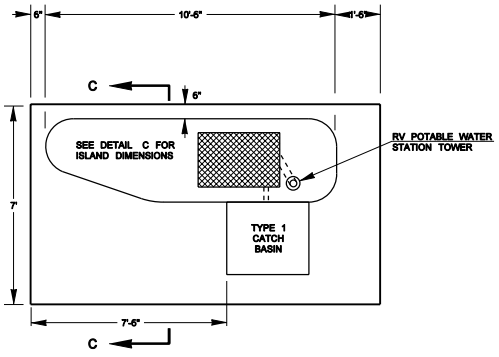
Example

MISC Pit or Quarry Floor Detail 0 | 0
(SH DT MISCPitorQuarryFloorDetail) 0 | Cell
Example drawn at 50% actual size.

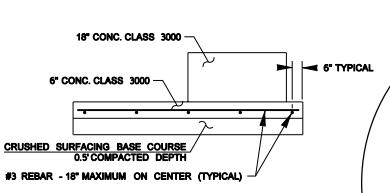


PIT OR QUARRY FLOOR DETAIL

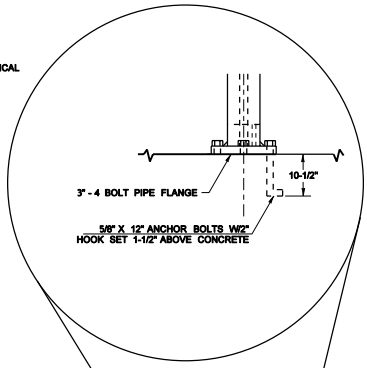
MISC Potable H2O Station Plan 0 | 0
(SH DT MISCPotableH2OStationPlan) 0 | Cell
Example drawn at 50% actual size.

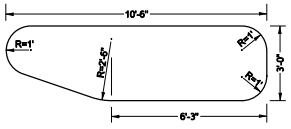


POTABLE WATER STATION PLAN VIEW

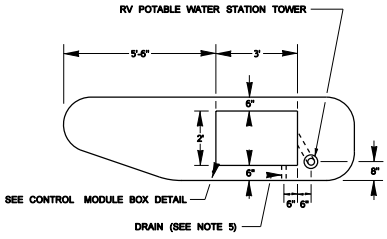


SECTION C-C

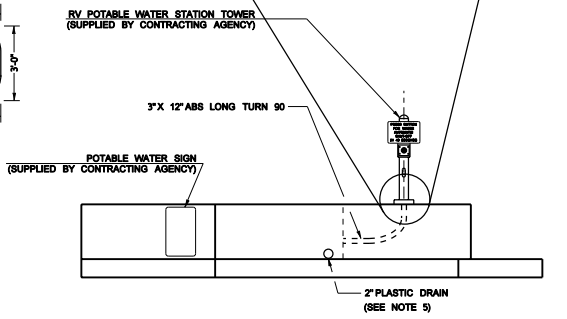




DETAIL C



POTABLE WATER STATION ISLAND DETAIL
SEE DETAIL C FOR ISLAND DIMENSIONS.



POTABLE WATER STATION FRONT ELEVATION

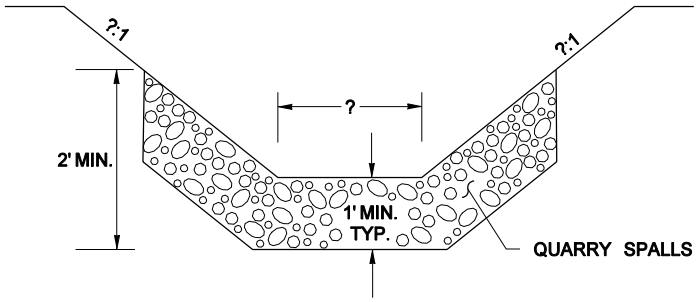
RV DUMP STATION

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH DT Sheets - Details Cells

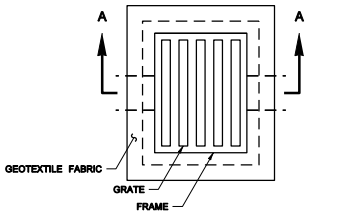
Name (Level)	ByLevel Weight | ByLevel Style / byLevel Color | Element Type	Example

MISC Quarry Spall Section (SH DT MISCQuarrySpallSection) 0 | 0 / 0 | Cell

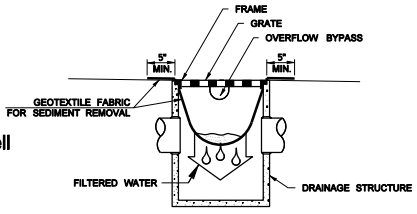


QUARRY SPALL SECTION

MISC Storm Drain Protection (SH DT MISCStormDrainProtection) 0 | 0 / 0 | Cell
Example drawn at 50% actual size.

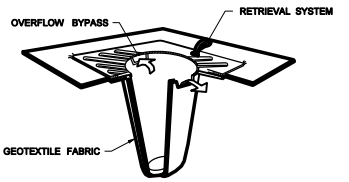


PLAN VIEW



STORM DRAIN PROTECTION INSERT

STORM DRAIN PROTECTION INSERT
SECTION A-A
NTS



STORM DRAIN PROTECTION INSERT

ISOMETRIC VIEW (TYP.)
NTS

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH DT Sheets - Details Cells

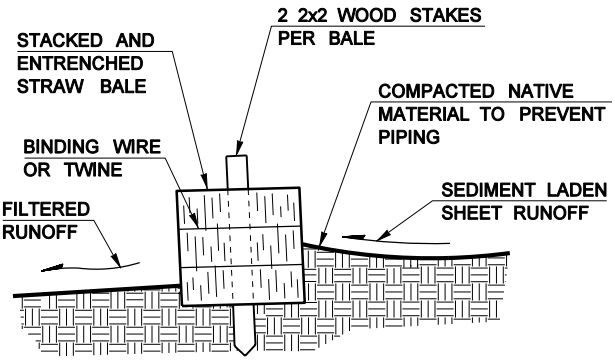
Name
(Level)

ByLevel Weight | ByLevel Style
byLevel Color | Element Type

MISC Straw Bale Barrier
(SH DT MISCStrawBaleBarrier)

0 | 0
0 | Cell

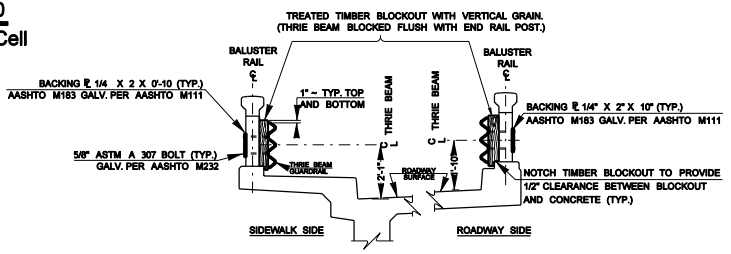
Example



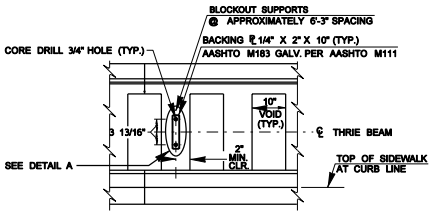
STRAW BALE BARRIER

MISC Thrie Beam Rail Detail
(SH DT MISCThrieBeamRailDetail)
Example drawn at 50% actual size.

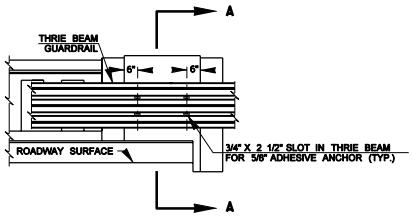
0 | 0
0 | Cell



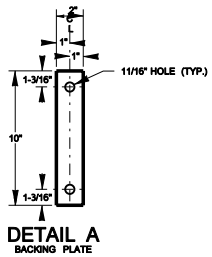
TYPICAL SECTION ~ BALUSTER RAIL RETROFIT WITH THRIE BEAM



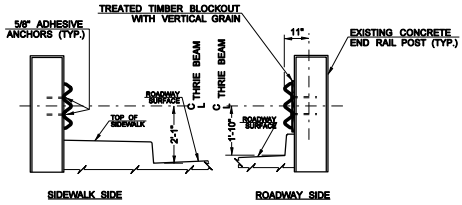
BALUSTER ~ OUTSIDE ELEVATION



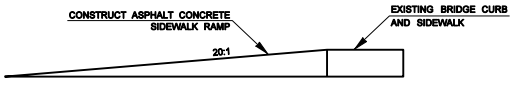
END RAIL - INSIDE ELEVATION



DETAIL A
BACKING PLATE



SECTION A-A



ASPHALT CONCRETE SIDEWALK RAMP DETAIL

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH DT Sheets - Details Cells

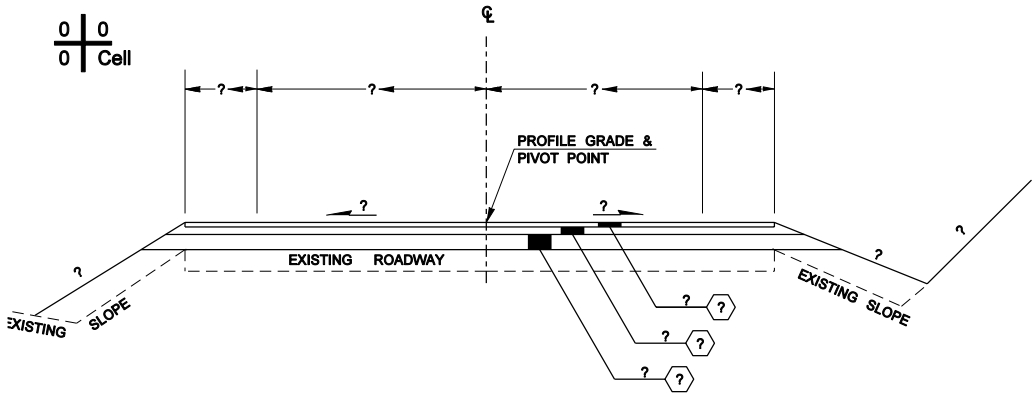
Name (Level)

ByLevel Weight | ByLevel Style
byLevel Color | Element Type

Example

RDSEC BCTC Paving Section

(SH DT RDSECBCTCPavingSection)
Example drawn at 75% actual size.

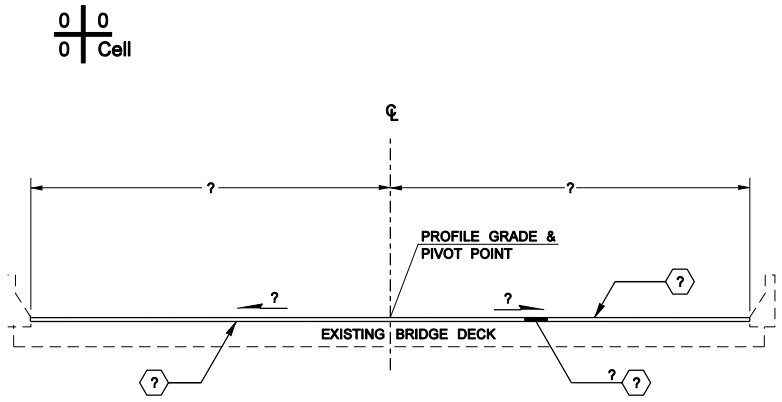


RDSEC Bridge Deck Overlay

(SH DT RDSECBridgeDeckOverlay)
Example drawn at 75% actual size.

ROADWAY SECTION ?

STA. ? TO STA. ?



ROADWAY SECTION ?

BRIDGE: ?/?

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH DT Sheets - Details Cells

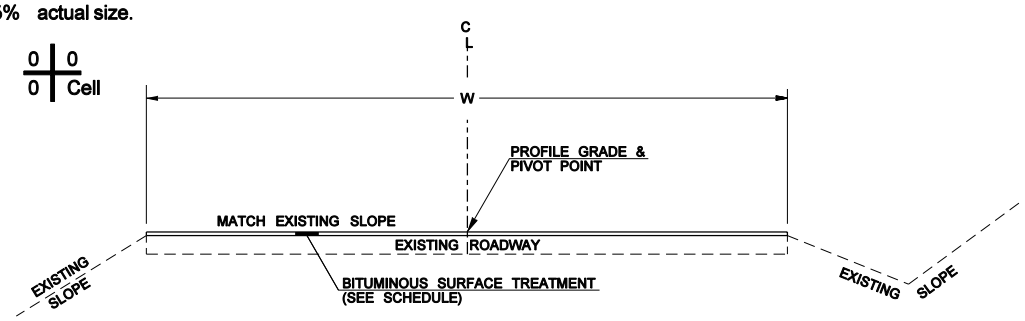
Name (Level)	ByLevel Weight / ByLevel Style / byLevel Color / Element Type	Example

RDSEC BST Section

(SH DT RDSECBSTSection)

Example drawn at 75% actual size.

0 | 0
0 | Cell



ROADWAY SECTION ?

VARIABLE WIDTH BITUMINOUS SURFACE TREATMENT

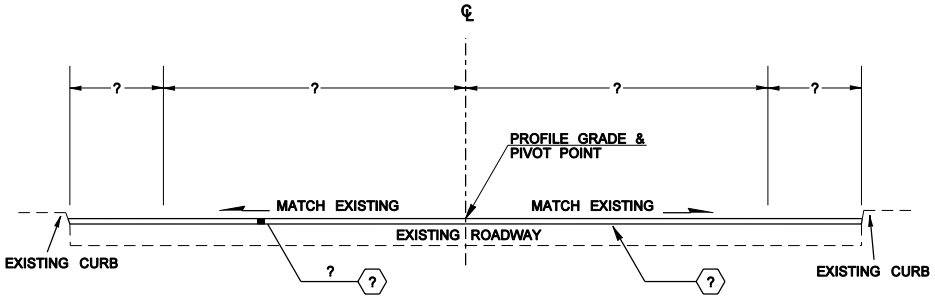
SECTION	SR	MP	TO	MP	W	CLASS
?	?	?	?	?	?	?

RDSEC Curb Overlay Section

(SH DT RDSECCurbOverlaySection)

Example drawn at 75% actual size.

0 | 0
0 | Cell



ROADWAY SECTION ?

STA. ? TO STA. ?

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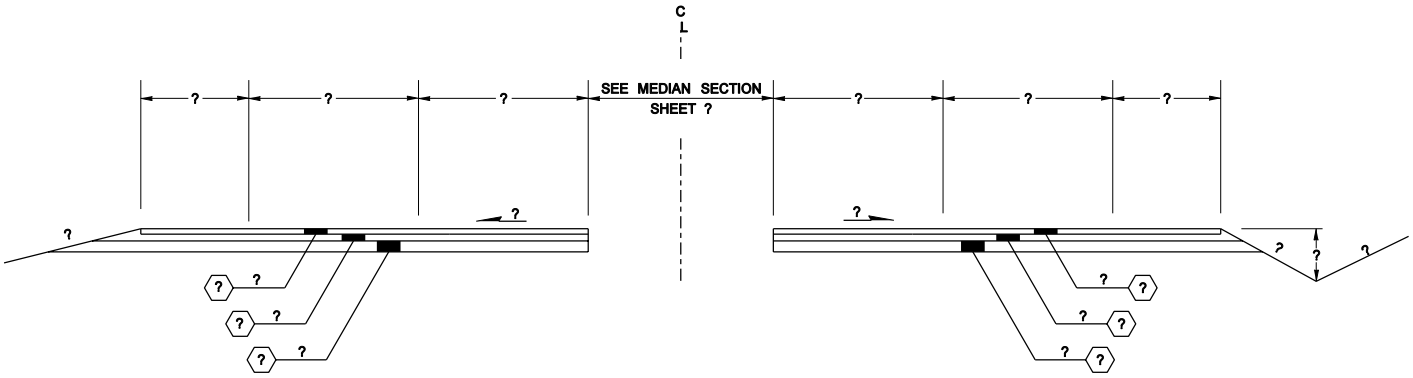
SH DT Sheets - Details Cells

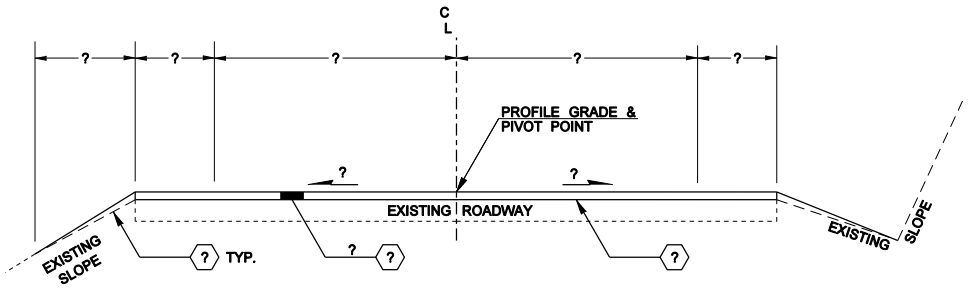
Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example

RDSEC Divided MultiLane Hiway 0 | 0 / 0 | Cell
(SH DT RDSECDividedMultiLaneHiway)
Example drawn at 75% actual size.



ROADWAY SECTION ?
STA. ? TO STA. ?

RDSEC Overlay Section 0 | 0 / 0 | Cell
(SH DT RDSECOverlaySection)
Example drawn at 75% actual size.



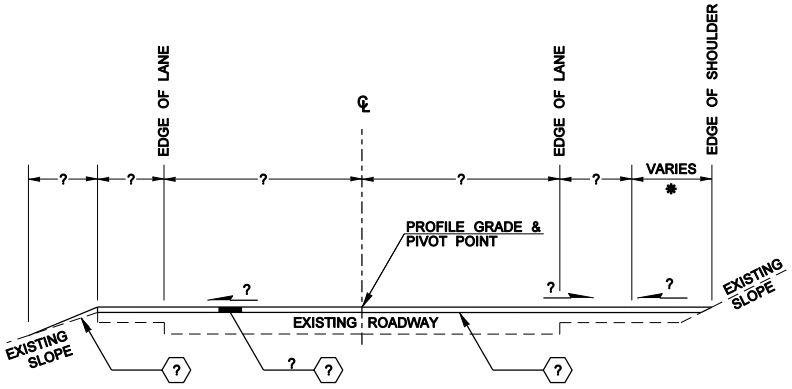
ROADWAY SECTION ?
STA. ? TO STA. ?

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH DT Sheets - Details Cells

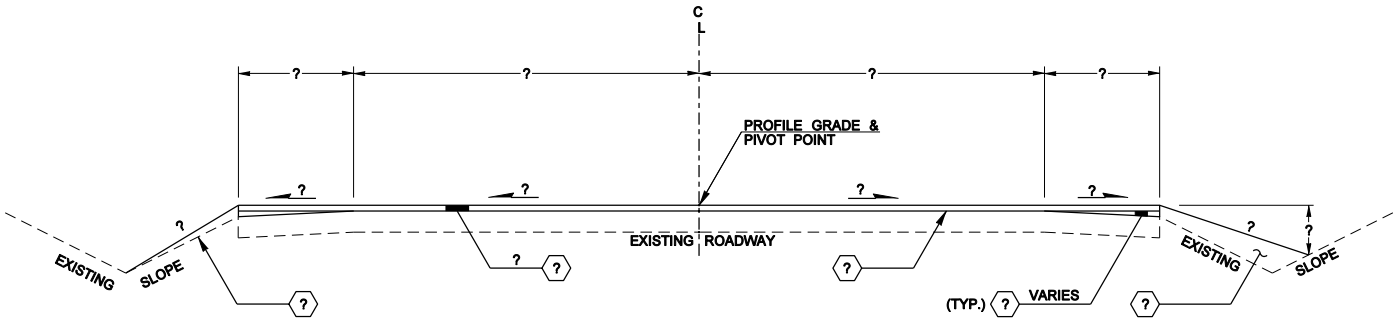
Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example

RDSEC Overlay Section No Ditch 0 | 0 / 0 | Cell
(SH DT RDSECOverlaySectionNoDitch)
Example drawn at 75% actual size.



ROADWAY SECTION ?
STA. ? TO STA. ? ✱ ?

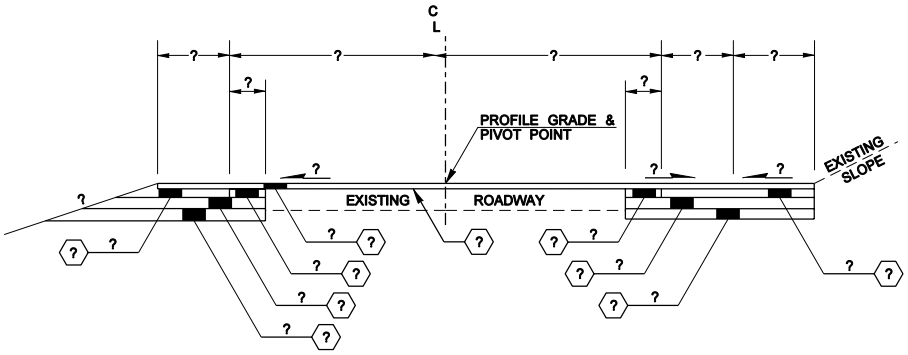
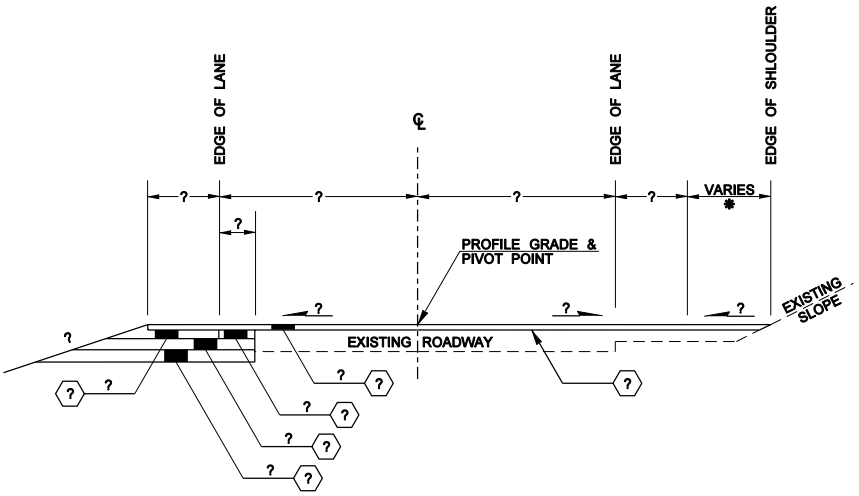
RDSEC Overlay Shoulder Slope 0 | 0 / 0 | Cell
(SH DT RDSECOverlayShoulderSlope)
Example drawn at 75% actual size.



ROADWAY SECTION ?
STA. ? TO STA. ?

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH DT Sheets - Details Cells

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
RDSEC Overlay Wide Shldr 1 (SH DT RDSECOverlayWideShldr1) Example drawn at 75% actual size.	0 | 0 0 | Cell	
RDSEC Overlay Wide Shldr 2 (SH DT RDSECOverlayWideShldr2) Example drawn at 75% actual size.	0 | 0 0 | Cell	

ROADWAY SECTION ?
STA. ? TO STA. ?

ROADWAY SECTION ?
STA. ? TO STA. ? ✱ ?

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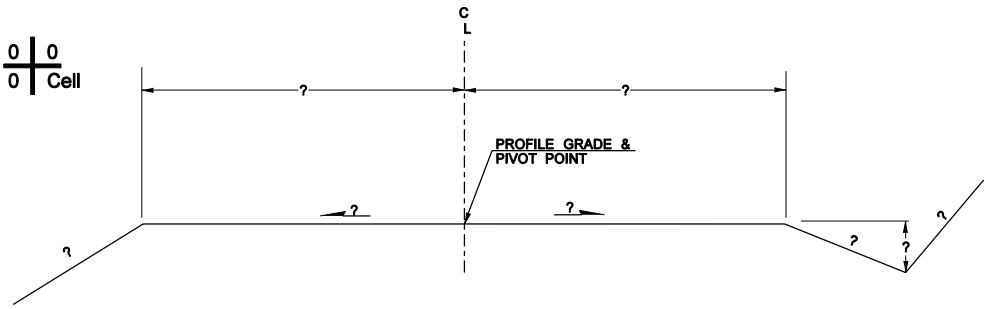
SH DT Sheets - Details Cells

Name (Level)	ByLevel Weight | ByLevel Style / byLevel Color | Element Type	Example

RDSEC Subgrade Section
(SH DT RDSECSubgradeSection)
Example drawn at 75% actual size.

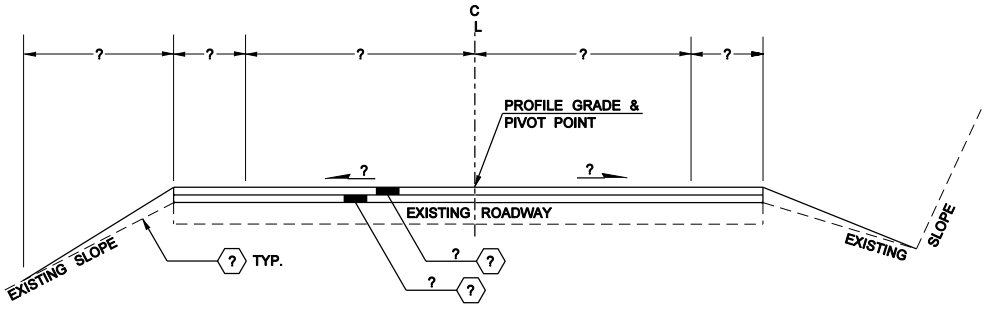
0 | 0
0 | Cell



ROADWAY SECTION ?
STA. ? TO STA. ?

RDSEC Surfacing Paving Section
(SH DT RDSECSurfacingPavingSection)
Example drawn at 75% actual size.

0 | 0
0 | Cell



ROADWAY SECTION ?
STA. ? TO STA. ?

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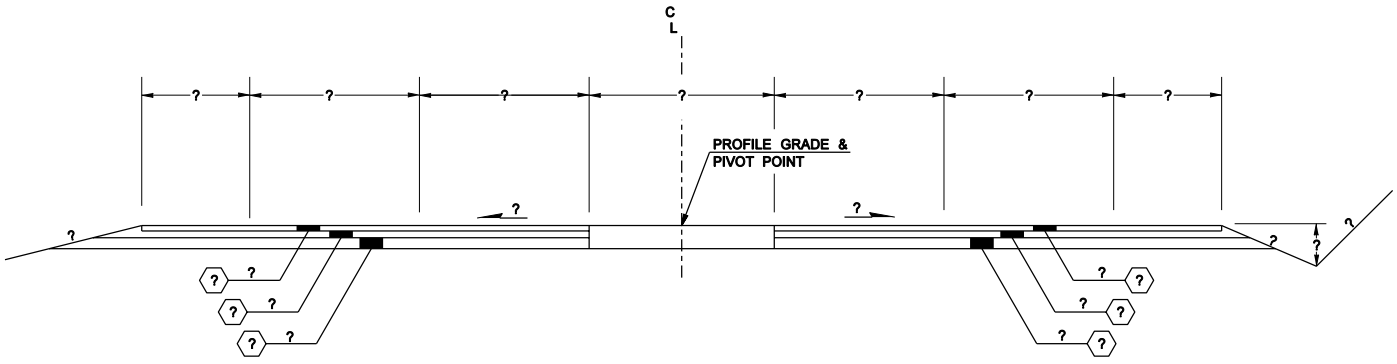
SH DT Sheets - Details Cells

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example

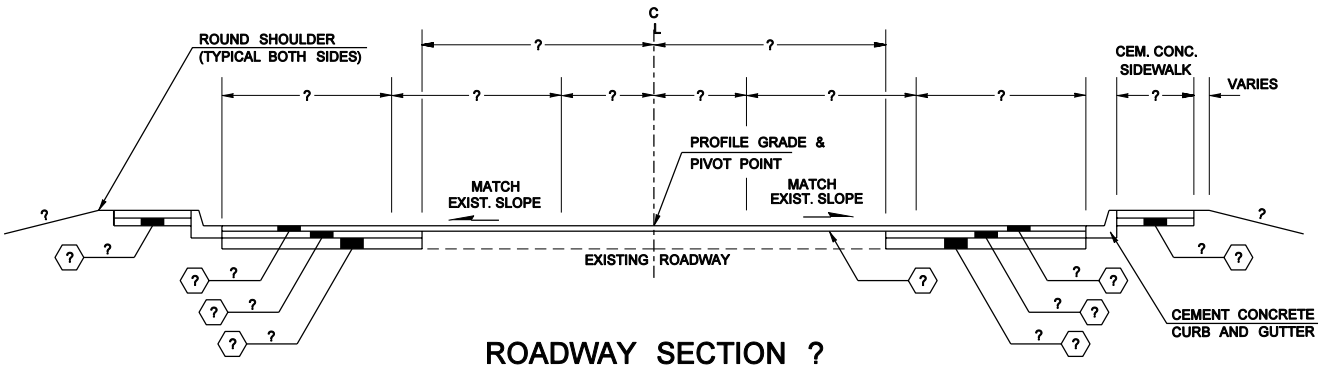
RDSEC Undivided MultiLane Hiway 0 | 0
(SH DT RDSECUndividedMultiLaneHiway) 0 | Cell
Example drawn at 75% actual size.



ROADWAY SECTION ?

STA. ? TO STA. ?

RDSEC Widening Channel WCurb 0 | 0
(SH DT RDSECWideningChannelWCurb) 0 | Cell
Example drawn at 75% actual size.



ROADWAY SECTION ?

STA. ? TO STA. ?

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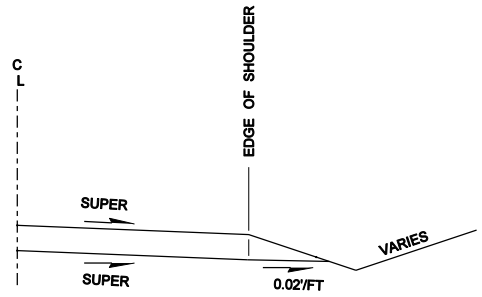
SH DT Sheets - Details Cells

Name (Level)	ByLevel Weight | ByLevel Style / byLevel Color | Element Type	Example

SHLDR Design Inside Curve
(SH DT SHLDRDesignInsideCurve)
Example drawn at 75% actual size.

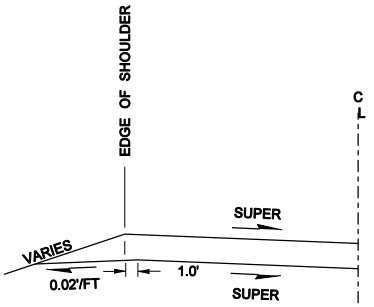
0 | 0
0 | Cell



SHOULDER DESIGN
INSIDE OF CURVE

SHLDR Design Outside Curve
(SH DT SHLDRDesignOutsideCurve)
Example drawn at 75% actual size.

0 | 0
0 | Cell



SHOULDER DESIGN
OUTSIDE OF CURVE

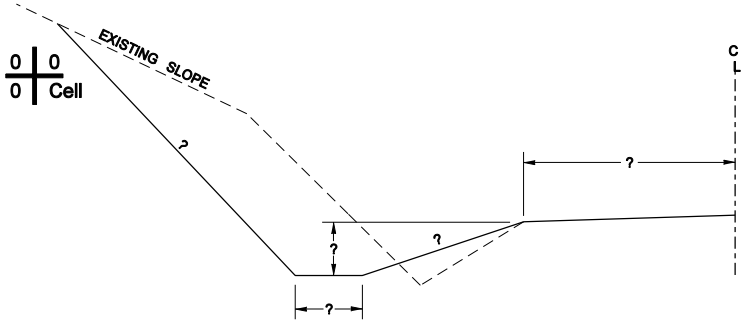
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH DT Sheets - Details Cells

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example

SHLDR Flat Bottom Ditch
(SH DT SHLDRFlatBottomDitch)
Example drawn at 75% actual size.

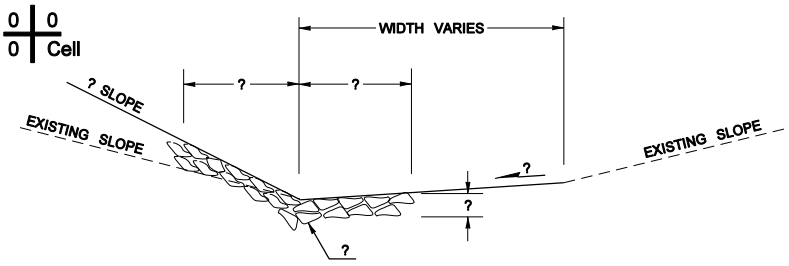
0 | 0
0 | Cell



FLAT BOTTOM DITCH SECTION

SHLDR Rock Lined Ditch Section
(SH DT SHLDRRockLinedDitchSection)
Example drawn at 75% actual size.

0 | 0
0 | Cell



ROCK LINED DITCH SECTION

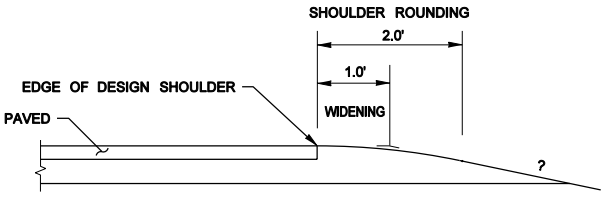
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH DT Sheets - Details Cells

Name (Level)	ByLevel Weight / byLevel Color	ByLevel Style / Element Type	Example

SHLDR Rounding Detail
(SH DT SHLDRRoundingDetail)
Example drawn at 75% actual size.

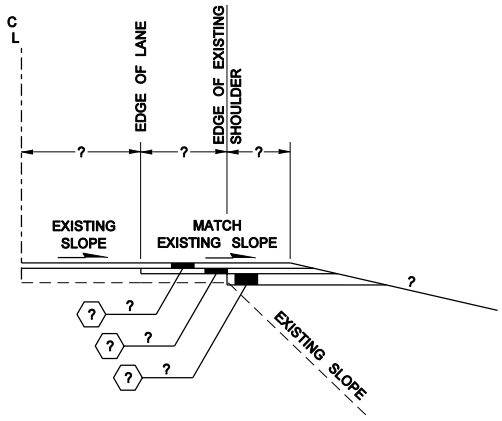
0 | 0
0 | Cell



SHOULDER ROUNDING DETAIL

SHLDR Widening 1
(SH DT SHLDRWidening1)
Example drawn at 75% actual size.

0 | 0
0 | Cell



ROADWAY SECTION ?

STA. ? TO STA. ?

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH DT Sheets - Details Cells

Name (Level)

ByLevel Weight | ByLevel Style
byLevel Color | Element Type

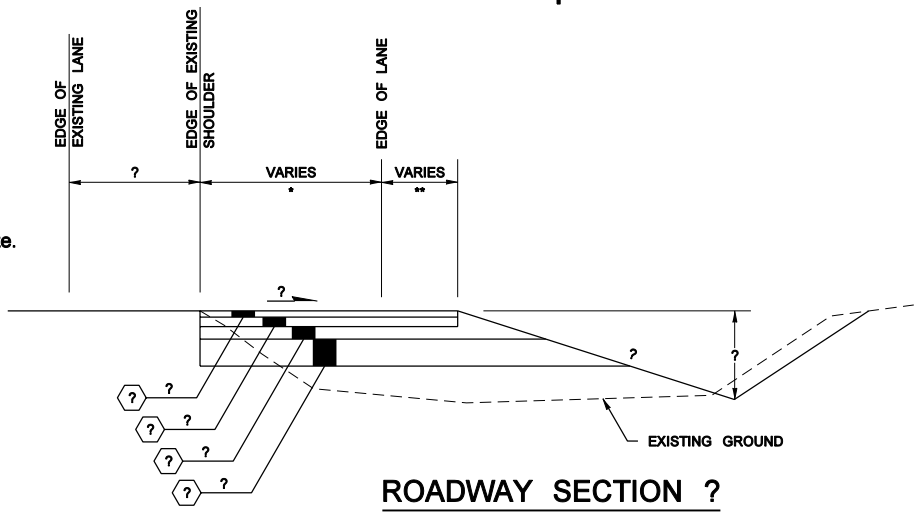
Example

SHLDR Widening 2

(SH DT SHLDRWidening2)

Example drawn at 75% actual size.

0 | 0
0 | Cell



ROADWAY SECTION ?

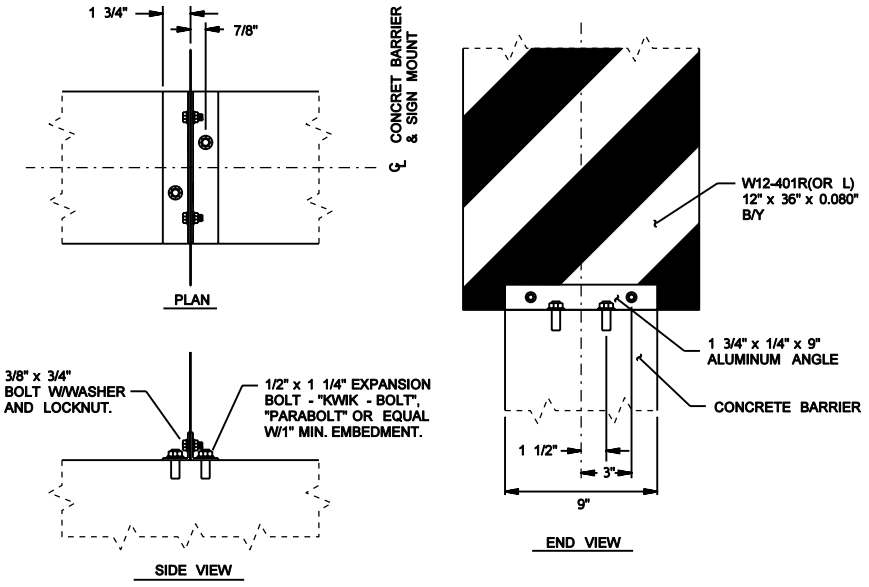
STA. ? TO STA. ?	* ?	** ?
STA. ? TO STA. ?	* ?	** ?
STA. ? TO STA. ?	* ?	** ?
STA. ? TO STA. ?	* ?	** ?

WZ Barrier Mount Detail

(SH DT WZBarrierMountDetail)

Example drawn at 75% actual size.

1 | 0
0 | Cell



MATERIAL SPECIFICATIONS

ALLUMINUM ANGLE - ASTM B209 6061-T6
ALLUMINUM BOLTS - ASTM B209 2024-T4
ALLUMINUM WASHERS - ASTM B209 2024-T4
ALLUMINUM LOCKNUTS - ASTM B211 2017-T4

NOTE: THIS SIGN ATTACHMENT BRACKET IS DESIGNED FOR USE ON ANY CAST IN PLACE CONCRETE TRAFFIC BARRIER WHERE THE BARRIER POST METHOD OF SIGN ATTACHMENT IS NOT APPLICABLE.

CONCRETE BARRIER SIGN MOUNT DETAIL

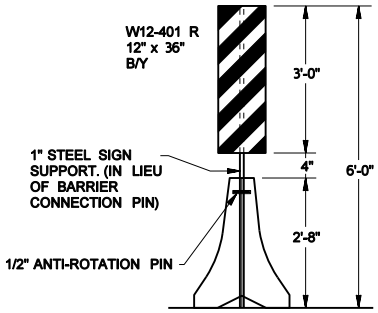
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH DT Sheets - Details Cells

Name (Level)	ByLevel Weight | ByLevel Style / byLevel Color | Element Type	Example

WZ Concrete Barrier Post Detail
(SH DT WZConcreteBarrierPostDetail)
Example drawn at 75% actual size.

1 | 0
0 | Cell

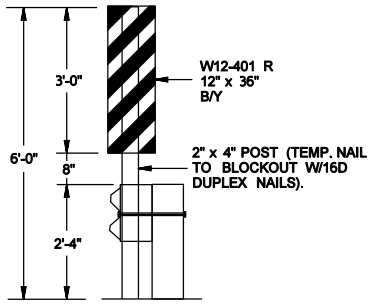


CONCRETE BARRIER POST DETAIL

NOTE: CLEARANCE MARKERS SHALL BE USED IN AREAS OF REDUCED SHOULDER WIDTH, AND AS SHOWN ON THE TEMPORARY CHANNELIZATION PLANS.

WZ Guardrail Post Detail
(SH DT WZGuardrailPostDetail)
Example drawn at 75% actual size.

1 | 0
0 | Cell



GUARDRAIL POST DETAIL

(FOR GROUND MOUNT USE 8' MIN. 2"X4" POST WITH 2' MIN. GROUND PENETRATION.)

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SH DT Sheets - Details Cells

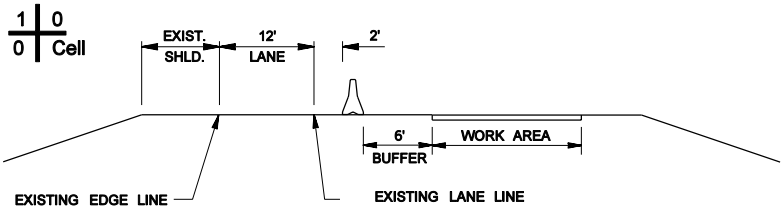
Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example

WZ PCMS Block 2 Sequence Detail (1 | 0 / 0 | Cell)
(SH DT WZPCMSBlock2SequenceDetail)

PCMS MESSAGE #1	
PHASE 1	PHASE 2
1.5 SEC	1.5 SEC

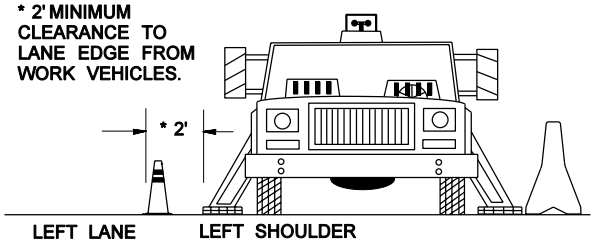
FIELD LOCATE 1 MILE (+-) IN ADVANCE OF LANE CLOSURE

WZ Roadway Section Typical Detail (1 | 0 / 0 | Cell)
(SH DT WZRoadwaySectionTypicalDetail)
Example drawn at 75% actual size.



TYPICAL ROADWAY SECTION A-A

WZ Shoulder Width Detail (1 | 0 / 0 | Cell)
(SH DT WZShoulderWidthDetail)



SHOULDER WIDTH DETAIL

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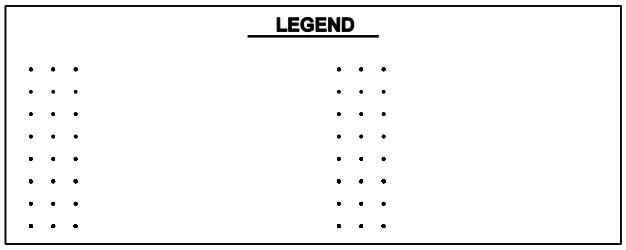
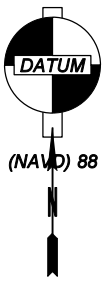
SH GI Sheets - General Sheet Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Addendum Cloud (SH GI AddendumCloud)	5 | 0 15 | Line		
Addendum Shading (SH GI AddendumShading)	0 | 0 240 | Line		
Begin End Plan Arrow (SH GI BeginEndPlanArrow)	2 | 0 18 | Line		
Begin End Project Text (SH GI BeginEndProjectText)	2 | 0 18 | Text	Text Size = 0.13 Font = 217	BEGIN PROJECT
Destination Arrow (SH GI DestinationArrow)	2 | 0 18 | Cell		
Destination Arrows Text (SH GI DestinationArrowsText)	0 | 0 18 | Text	Text Size = 0.07 Font = 200	TO YELM
General Notes Body Text (SH GI GeneralNotesBodyText)	0 | 0 18 | Text	Text Size = 0.07 Font = 200	Body of Text

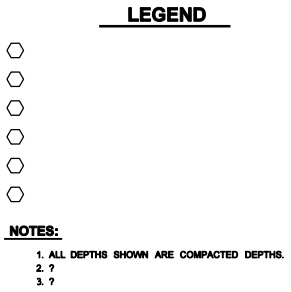
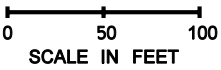
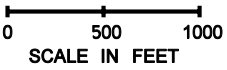
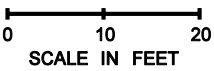
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH GI Sheets - General Sheet Items

Name (Level)	ByLevel Weight | ByLevel Style / byLevel Color | Element Type	Example
General Notes Heading Text (SH GI GeneralNotesHeadingText)	0 | 0 18 | Text Text Size = 0.09 Font = 200	Notes
Legend Template (SH GI LegendTemplate) Example drawn at 50% actual size.	0 | 0 18 | Cell	
Match Line (SH GI MatchLine)	3 | 0 18 | Line	
Match Line Text (SH GI MatchLineText)	0 | 0 18 | Text Text Size = 0.07 Font = 200	MATCH LINE SEE SHEET XX
NAD Datum Symbol (SH GI NADDatumSymbol)	1 | 0 18 | Cell	
North Arrow (SH GI NorthArrow) Example drawn at 50% actual size.	2 | 0 18 | Cell	

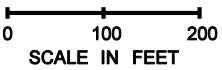
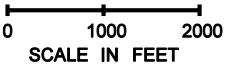
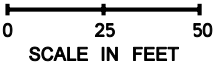
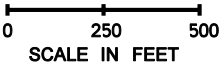
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH GI Sheets - General Sheet Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
PSE PE Stamp (SH GI PSEPEStamp)	0 | 0 2 | Cell	
PSE Structural Eng Stamp (SH GI PSEStructuralEngStamp)	0 | 0 2 | Cell	
Revision Strike Through Line (SH GI RevisionStrikeThroughLine)	0 | Custom 18 | Line	
Roadway Section Legend (SH GI RoadwaySectionLegend) Example drawn at 50% actual size.	0 | 0 18 | Cell	
Scale Bar 1 to 100 (SH GI ScaleBar1to100)	5 | 0 18 | Cell	
Scale Bar 1 to 1000 (SH GI ScaleBar1to1000)	5 | 0 18 | Cell	
Scale Bar 1 to 20 (SH GI ScaleBar1to20)	5 | 0 18 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH GI Sheets - General Sheet Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Scale Bar 1 to 200 (SH GI ScaleBar1to200)	5 | 0 18 | Cell		
Scale Bar 1 to 2000 (SH GI ScaleBar1to2000)	5 | 0 18 | Cell		
Scale Bar 1 to 50 (SH GI ScaleBar1to50)	5 | 0 18 | Cell		
Scale Bar 1 to 500 (SH GI ScaleBar1to500)	5 | 0 18 | Cell		
Title Block Names Text (SH GI TitleBlockNamesText)	0 | 0 0 | Text	Text Size = 0.08 Font = 217	**Designed By**
Township Range Top Sheet Text (SH GI TownshipRangeTopSheetText)	2 | 0 24 | Text	Text Size = 0.18 Font = 217	**T.2N. R.1E. W.M.**
Traffic Mvmnt Arrow Lt 1 Lane (SH GI TrafficMvmntArrowLt1Lane)	1 | 0 18 | Cell		

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH GI Sheets - General Sheet Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Traffic Mvmnt Arrow Lt 2 Lane (SH GI TrafficMvmntArrowLt2Lane)	1 | 0 18 | Cell	
Traffic Mvmnt Arrow Lt 3 Lane (SH GI TrafficMvmntArrowLt3Lane)	1 | 0 18 | Cell	
Traffic Mvmnt Arrow Opposing (SH GI TrafficMvmntArrowOpposing)	1 | 0 18 | Cell	
Traffic Mvmnt Arrow Rt 1 Lane (SH GI TrafficMvmntArrowRt1Lane)	1 | 0 18 | Cell	
Traffic Mvmnt Arrow Rt 2 Lane (SH GI TrafficMvmntArrowRt2Lane)	1 | 0 18 | Cell	
Traffic Mvmnt Arrow Rt 3 Lane (SH GI TrafficMvmntArrowRt3Lane)	1 | 0 18 | Cell	
WSDOT Logo (SH GI WSDOTLogo)	2 | 0 161 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH GI Sheets - General Sheet Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
WSDOTSoundTransitLogo (SH GI WSDOTSoundTransitLogo)	0 | 0 0 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH PR Sheets - Plansheets RW

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Cross Reference Notes Text (SH PR CrossReferenceNotesText)	0 | 0 18 | Text	Text Size = 0.07 Font = 200	See Sheet XX

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH PS Sheets - Plansheets PSE

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example

Begin End Constr Text
(SH PS BeginEndConstrText)

2 | 0
18 | Text

Text Size = 0.13
Font = 217

Begin Construction

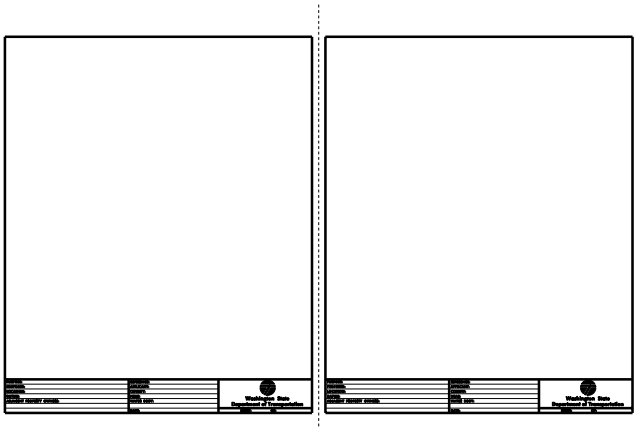
Luminaire Schedule 40
(SH PS LuminaireSchedule40)
Example drawn at 50% actual size.

0 | 0
18 | Cell

LUMINAIRE NO.	CIRCUIT NO.	DISTRIBUTION WATTS

PSE Corps of Engineers Sheet
(SH PS PSECorpsofEngineersSheet)
Example drawn at 20% actual size.

1 | 0
18 | Cell



PSE Curve Data Block
(SH PS PSECurveDataBlock)

1 | 0
18 | Cell

CURVE DATA					
P.I. STATION	DELTA	RADIUS	TANGENT	LENGTH	S

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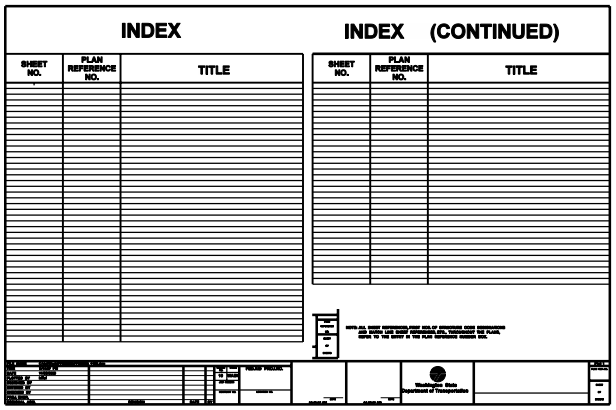
SH PS Sheets - Plansheets PSE

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example

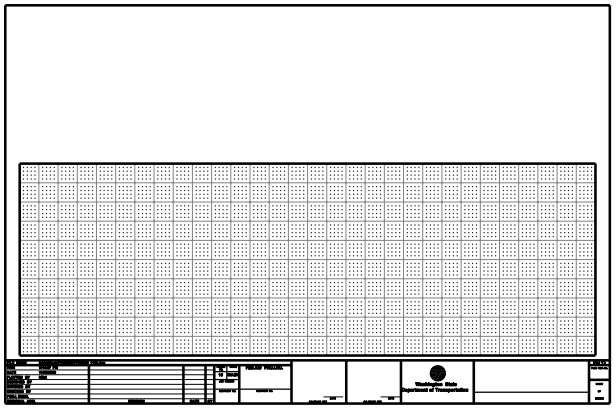
PSE Index Sheet
(SH PS PSEIndexSheet)
Example drawn at 20% actual size.

1 | 0
18 | Cell



PSE Plan Profile Sheet
(SH PS PSEPlanProfileSheet)
Example drawn at 20% actual size.

1 | 0
18 | Cell



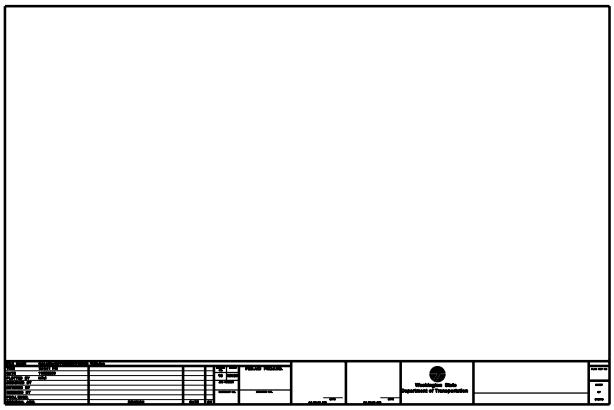
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH PS Sheets - Plansheets PSE

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example

PSE Plan Sheet
(SH PS PSEPlanSheet)
Example drawn at 20% actual size.

1 | 0
18 | Cell



PSE Profile Sheet
(SH PS PSEProfileSheet)
Example drawn at 20% actual size.

1 | 0
18 | Cell

PSE Total CurveData Block
(SH PS PSETotalCurveDataBlock)
Example drawn at 50% actual size.

1 | 0
18 | Cell

TOTAL CURVE DATA			CURVE DATA				SPIRAL DATA		
P.I. STATION	DELTA	TANGENT	DELTA	RADIUS	LENGTH	S	s	DE	Ls

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH PS Sheets - Plansheets PSE

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Quantity Tab Note Flag (SH PS QuantityTabNoteFlag)	0 | 0 18 | Cell	
Quantity Tab Note Flag Cont (SH PS QuantityTabNoteFlagCont)	0 | 0 18 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH RP Sheets - Roadway Profiles

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Elevation Labels Text (SH RP ElevationLabelsText)	0 | 0 18 | Text	Text Size = 0.09 Font = 217	**100**
Line Designation Text (SH RP LineDesignationText)	0 | 0 18 | Text	Text Size = 0.09 Font = 217	**L Line**
Original Ground Profile (SH RP OriginalGroundProfile)	1 | Custom 0 | Line		
Quantity Breakout Hor Lines (SH RP QuantityBreakoutHorLines)	1 | 0 1 | Line		
Quantity Breakout Text (SH RP QuantityBreakoutText)	0 | 0 17 | Text	Text Size = 0.07 Font = 217	**100 Yds**
Quantity Breakout Vert Lines (SH RP QuantityBreakoutVertLines)	3 | 0 1 | Line		
Roadway Section Horz Lines (SH RP RoadwaySectionHorzLines)	2 | 0 1 | Line		

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH RP Sheets - Roadway Profiles

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Roadway Section Text (SH RP RoadwaySectionText)	0 | 0 17 | Text	Text Size = 0.07 Font = 217	Roadway Section
Roadway Section Vert Lines (SH RP RoadwaySectionVertLines)	3 | 0 1 | Line		
Station Labels Text (SH RP StationLabelsText)	0 | 0 18 | Text	Text Size = 0.09 Font = 217	10
Superelevation Cline (SH RP SuperelevationCline)	5 | 0 2 | Line		
Superelevation Ex Lines (SH RP SuperelevationExLines)	1 | 3 2 | Line		
Superelevation Lines (SH RP SuperelevationLines)	4 | 0 2 | Line		
Superelevation Text (SH RP SuperelevationText)	0 | 0 18 | Text	Text Size = 0.07 Font = 217	0.02

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH RP Sheets - Roadway Profiles

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
VPI Circle (SH RP VPICircle)	0 | 0 0 | Cell		○
VPI Circle New (SH RP VPICircleNew)	1 | 0 2 | Cell		○
VPI Lines (SH RP VPILines)	1 | 3 2 | Line		– – – – – – – – – – – – – – – – – – – –
VProf Grade Text (SH RP VProfGradeText)	0 | 0 18 | Text	Text Size = 0.07 Font = 217	**0.02**
VProf Line (SH RP VProfLine)	5 | 0 2 | Line		———————
VProf Station Equation (SH RP VProfStationEquation)	1 | 0 18 | Cell		EQUATION
VProf Station Equation New (SH RP VProfStationEquationNew)	1 | 0 18 | Cell		EQUATION

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH RP Sheets - Roadway Profiles

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
VProf Text (SH RP VProfText)	0 | 0 18 | Text	Text Size = 0.07 Font = 217	L Line

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH RS Sheets - Roadway Sections

Name (Level)	ByLevel Weight | ByLevel Style / byLevel Color | Element Type		Example
Body Existing Text (SH RS BodyExistingText)	0 | 0 18 | Text	Text Size = 0.07 Font = 164	*BODY EXIST*
Body Text New (SH RS BodyTextNew)	0 | 0 18 | Text	Text Size = 0.07 Font = 217	**BODY NEW**
Center Line (SH RS CenterLine)	3 | 7 18 | Line		
Construction Note Flag (SH RS ConstructionNoteFlag)	1 | 0 18 | Cell		?
Dimension Lines (SH RS DimensionLines)	0 | 0 18 | Line		
Heading 1 Text (SH RS Heading1Text)	2 | 0 18 | Text	Text Size = 0.15 Font = 217	**Heading 1**
Heading 2 Text (SH RS Heading2Text)	0 | 0 18 | Text	Text Size = 0.12 Font = 217	**Heading 2**

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH RS Sheets - Roadway Sections

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Heading 3 Text (SH RS Heading3Text)	0 | 0 18 | Text	Text Size = 0.09 Font = 217	**Heading 3**
Material ID Block (SH RS MaterialIDBlock)	30 | 0 18 | Line		
Material ID Flag (SH RS MaterialIDFlag)	1 | 0 18 | Cell		??
Roadway Surface Existing (SH RS RoadwaySurfaceExisting)	1 | 3 0 | Line		
Roadway Surface New (SH RS RoadwaySurfaceNew)	2 | 0 18 | Line		
Slope Arrow Left (SH RS SlopeArrowLeft)	0 | 0 18 | Cell		?:?
Slope Arrow Right (SH RS SlopeArrowRight)	0 | 0 18 | Cell		?:?

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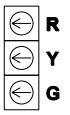
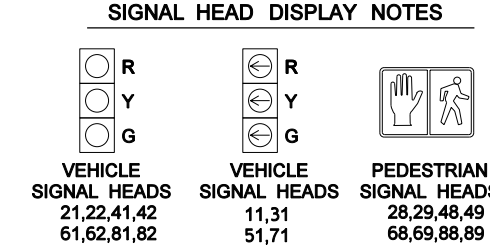
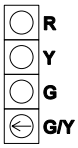
SH RS Sheets - Roadway Sections

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Table Grid Lines (SH RS TableGridLines)	1 | 0 18 | Line	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH TI Sheets - Traffic Items

Name (Level)	ByLevel Weight | ByLevel Style / byLevel Color | Element Type	Example
3 Signal Head Detail (SH TI 3SignalHeadDetail)	0 | 0 18 | Cell	
3 Signal Head Detail and Notes (SH TI 3SignalHeadDetailandNotes)	0 | 0 18 | Cell	 1. ALL VEHICLE HEADS SHALL HAVE 12" LENSES. ALL VEHICLE HEADS SHALL HAVE LED LIGHT SOURCES. 2. ALL VEHICLE HEADS SHALL BE INSTALLED ON TYPE "M" MOUNTING. 3. ALL PED HEADS SHALL BE THE LED TYPE. 4. DOUBLE PED HEADS SHALL BE INSTALLED ON TYPE "A" MOUNTING. SINGLE PED HEADS SHALL BE INSTALLED ON TYPE "D" MOUNTING. 5. ALL VEHICLE HEADS SHALL HAVE BACKPLATES.
4 Signal Head Detail (SH TI 4SignalHeadDetail)	0 | 0 18 | Cell	

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SH TI Sheets - Traffic Items

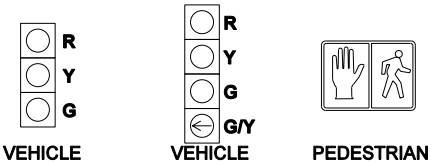
Name (Level)	ByLevel Weight | ByLevel Style / byLevel Color | Element Type	Example

4 Signal Head Detail and Notes

(SH TI 4SignalHeadDetailandNotes)

0 | 0 / 18 | Cell

SIGNAL HEAD DISPLAY NOTES



VEHICLE SIGNAL HEADS	VEHICLE SIGNAL HEADS	PEDESTRIAN SIGNAL HEADS
22,42,62,82	11/61,51/21 31/81,71/41	28,29,48,49 68,69,88,89

1. ALL VEHICLE HEADS SHALL HAVE 12" LENSES. THE G/Y FOURTH SECTION SHALL BE FIBER OPTIC. ALL OTHER VEHICLE HEADS SHALL HAVE LED LIGHT SOURCES.
2. ALL VEHICLE HEADS SHALL BE INSTALLED ON TYPE "M" MOUNTING.
3. ALL PED HEADS SHALL BE THE LED TYPE.
4. DOUBLE PED HEADS SHALL BE INSTALLED ON TYPE "A" MOUNTING. SINGLE PED HEADS SHALL BE INSTALLED ON TYPE "B" MOUNTING.
5. ALL VEHICLE HEADS SHALL HAVE BACKPLATES.

Approved Traffic Engineer

(SH TI ApprovedTrafficEngineer)

1 | 0 / 18 | Cell

APPROVED

TRAFFIC ENGINEER

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SH TI Sheets - Traffic Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example

Breaker Schedule Type B
(SH TI BreakerScheduleTypeB)

0 | 0
18 | Cell

BREAKER SCHEDULE SUA ***
TYPE B SERVICE 120/240V

CIRCUIT	CIRCUIT	DESCRIPTION	BREAKER RATING	CONTACTOR RATING	VOLTAGE	LOAD (KVA)
—	—	MAIN	200 AMP	—	—	—
A	A	ILLUMINATION A	X	30 AMP	240	X
B	B	ILLUMINATION B	X	30 AMP	240	X
C	C	SPARE	20 AMP	N/A	240	0.0
D	D	SIGNAL	X	N/A	120	X
E	E	GFCI	20 AMP	N/A	120	1.8
F	F	PHOTOCELL	15 AMP	N/A	120	0.001
BUSSWORK SHALL BE RATED AT 250 AMP MINIMUM				PEAK		X
				CONTINUOUS		X

Breaker Schedule Type D
(SH TI BreakerScheduleTypeD)

0 | 0
18 | Cell

BREAKER SCHEDULE SUA ***
TYPE D SERVICE 120/240V

CIRCUIT	CIRCUIT	DESCRIPTION	BREAKER RATING	CONTACTOR RATING	VOLTAGE	LOAD (KVA)
—	—	MAIN	200 AMP	—	—	—
A	A	ILLUMINATION A	X	30 AMP	240	X
B	B	ILLUMINATION B	X	30 AMP	240	X
C	C	ILLUMINATION C	X	30 AMP	240	X
D	D	ILLUMINATION D	X	30 AMP	240	X
E	E	ILLUMINATION E	X	30 AMP	240	X
F	F	SPARE	20 AMP	N/A	240	0.0
G	G	SPARE	20 AMP	N/A	240	0.0
H	H	SIGNAL	X	N/A	120	X
I	I	GFCI	20 AMP	N/A	120	1.8
J	J	HEAT STRIP	15 AMP	N/A	120	0.1
K	K	PHOTOCELL	15 AMP	N/A	120	0.001
BUSSWORK SHALL BE RATED AT 250 AMP MINIMUM				PEAK		X
				CONTINUOUS		X

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SH TI Sheets - Traffic Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example

Breaker Schedule Type E
(SH TI BreakerScheduleTypeE)
Example drawn at 50% actual size.

0 | 0
18 | Cell

BREAKER SCHEDULE SUA ***
TYPE E SERVICE 240/480V

CIRCUIT	DESCRIPTION	BREAKER RATING	CONTACTOR RATING	VOLTAGE	LOAD (KVA)
—	MAIN	200 AMP	—	—	—
A	ILLUMINATION A	X	30 AMP	480	X
B	ILLUMINATION B	X	30 AMP	480	X
C	ILLUMINATION C	X	30 AMP	480	X
D	ILLUMINATION D	X	30 AMP	480	X
E	ILLUMINATION E	X	30 AMP	480	X
F	EXTERNAL TRANSFORMER	X	N/A	480	X
G	SPARE	20 AMP	N/A	480	0.0
H	SPARE	20 AMP	N/A	480	0.0
I	INTERNAL TRANSFORMER	20 AMP	N/A	480	—
II	TRANSFORMER SECONDARY	35 AMP	N/A	120	—
I-1	GFCI	20 AMP	N/A	120	1.8
I-2	HEAT STRIP	15 AMP	N/A	120	0.1
I-3	PHOTOCELL	15 AMP	N/A	120	0.001
BUSSWORK SHALL BE RATED AT 250 AMP MINIMUM			PEAK		X
			CONTINUOUS		X

Buffer Data Note
(SH TI BufferDataNote)

1 | 0
18 | Cell

BUFFER DATA

LONGITUDINAL BUFFER SPACE = B

SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

PROTECTIVE VEHICLE WITH TMA ROLL AHEAD DISTANCE

TYPICAL PROTECTIVE VEHICLE TYPE WITH TMA	TYPICAL PROTECTIVE VEHICLE (WITH TMA) LOADED WEIGHT (LBS)	STATIONARY OPERATION (feet)
4 YARD DUMP TRUCK, SERVICE TRUCK, FLAT BED, ETC.	MINIMUM WEIGHT 15,000 LBS. (MAXIMUM WEIGHT SHALL BE IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS)	30

ROLL AHEAD STOPPING SIGHT DISTANCE ASSUMES DRY PAVEMENT

* A PROTECTIVE VEHICLE IS RECOMMENDED REGARDLESS IF A TMA IS AVAILABLE. IF NO TMA IS USED, THE PROTECTIVE VEHICLE SHALL BE STRATEGICALLY LOCATED IN THE FIELD TO SHIELD WORKERS, NO ROLL AHEAD DISTANCE IS SPECIFIED.

* * A SECOND ATTENUATOR TRUCK SHALL BE USED TO PROTECT THE OPERATOR FOR REMOVAL AND PLACING OF RPM'S.

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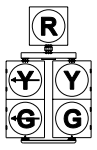
SH TI Sheets - Traffic Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Chan Spacing 25 to 45 Note (SH TI ChanSpacing25to45Note)	1 | 0 18 | Cell	CHANNELIZATION DEVICE SPACING (feet) MPH | TAPER | TANGENT 35/45 | 30 | 60 25/30 | 20 | 40
Chan Spacing 25 to 70 Note (SH TI ChanSpacing25to70Note)	1 | 0 18 | Cell	CHANNELIZATION DEVICE SPACING (feet) MPH | TAPER | TANGENT 50/70 | 40 | 80 35/45 | 30 | 60 25/30 | 20 | 40
Chan Spacing 35 to 45 Note (SH TI ChanSpacing35to45Note)	1 | 0 18 | Cell	CHANNELIZATION DEVICE SPACING (feet) MPH | TAPER | TANGENT 35/45 | 30 | 60
Chan Spacing 35 to 70 Note (SH TI ChanSpacing35to70Note)	1 | 0 18 | Cell	CHANNELIZATION DEVICE SPACING (feet) MPH | TAPER | TANGENT 50/70 | 40 | 80 35/45 | 30 | 60
Chan Spacing 50 to 70 Note (SH TI ChanSpacing50to70Note)	1 | 0 18 | Cell	CHANNELIZATION DEVICE SPACING (feet) MPH | TAPER | TANGENT 50/70 | 40 | 80
Dbl Signal Head Detail (SH TI DblSignalHeadDetail)	0 | 0 18 | Cell	

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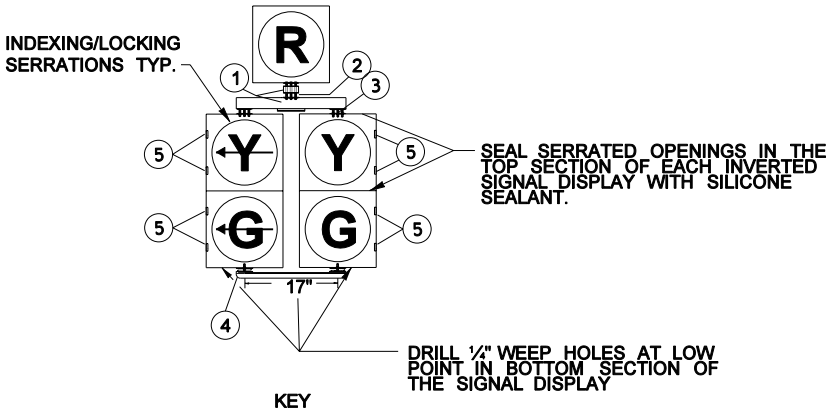
SH TI Sheets - Traffic Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example

Dbl Signal Head Detail Notes1

(SH TI DblSignalHeadDetailNotes1)

0 | 0
18 | Cell



KEY

1. THREE BOLT MOUNTING WASHER ASSEMBLY
2. ELEVATOR PLUMBIZER
3. TOP BRACKET CASTING (ENGINEERED CASTING INC. PART NO. 2022 OR EQUIVALENT)
4. BOTTOM BRACKET (ENGINEERED CASTING INC. PART NO. 2021 OR EQUIVALENT)
5. ASSEMBLE SECTIONS W/HINGES ON OUTSIDE

CLUSTER MOUNTING DETAIL

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SH TI Sheets - Traffic Items

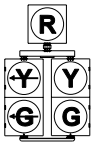
Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example

Dbl Signal Head Detail Notes2

(SH TI DblSignalHeadDetailNotes2)

0 | 0
18 | Cell

SIGNAL HEAD DISPLAY NOTES



VEHICLE SIGNAL HEADS
11/61,51/21
31/81,71/41



PEDESTRIAN SIGNAL HEADS
28,29,48,49
68,69,88,89

1. ALL VEHICLE HEADS SHALL HAVE 12" LENSES. ALL VEHICLE HEADS SHALL HAVE LED LIGHT SOURCES.
2. ALL VEHICLE HEADS SHALL BE INSTALLED ON TYPE "M" MOUNTING.
3. ALL PED HEADS SHALL BE THE LED TYPE.
4. DOUBLE PED HEADS SHALL BE INSTALLED ON TYPE "A" MOUNTING. SINGLE PED HEADS SHALL BE INSTALLED ON TYPE "B" MOUNTING.
5. ALL VEHICLE HEADS SHALL HAVE BACKPLATES.

Illum Schedule Large

(SH TI IllumScheduleLarge)

Example drawn at 50% actual size.

0 | 0
18 | Cell

LUMINAIRE SCHEDULE — SERVICE NO. S*** ****

LUMINAIRE NUMBER	CIRCUIT	LOCATION STATION	LOCATION OFFSET	TYPE - DISTRIBUTION - WATTAGE	MAST ARM	H1	BASE TYPE	COMMENTS
•	•	00+00	0.00	III - MED CUTOFF - 400 HPS	•	•	•	

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SH TI Sheets - Traffic Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example

Illum Schedule Medium
(SH TI IllumScheduleMedium)
Example drawn at 50% actual size.

0 | 0
18 | Cell

LUMINAIRE SCHEDULE								SERVICE NO. S*** ****
LUMINAIRE NUMBER	CIRCUIT	LOCATION STATION	LOCATION OFFSET	TYPE - DISTRIBUTION - WATTAGE	MAST ARM	H1	BASE TYPE	COMMENTS
*	*	00+00	0.00	III - MED CUTOFF - 400 HPS	*	*	*	

Illum Schedule Small
(SH TI IllumScheduleSmall)
Example drawn at 50% actual size.

0 | 0
18 | Cell

LUMINAIRE SCHEDULE								SERVICE NO. S*** ****
LUMINAIRE NUMBER	CIRCUIT	LOCATION STATION	LOCATION OFFSET	TYPE - DISTRIBUTION - WATTAGE	MAST ARM	H1	BASE TYPE	COMMENTS
*	*	00+00	0.00	III - MED CUTOFF - 400 HPS	*	*	*	

Illum Wire Schedule Large
(SH TI IllumWireScheduleLarge)
Example drawn at 50% actual size.

0 | 0
18 | Cell

WIRING SCHEDULE					SERVICE NO.
NO.	CONDUIT SIZE	CONDUCTORS EXISTING	CONDUCTORS NEW	CIRCUIT	COMMENTS
1					

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SH TI Sheets - Traffic Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example

Illum Wire Schedule Small — 0 | 0 / 18 | Cell
(SH TI IllumWireScheduleSmall)
Example drawn at 50% actual size.

WIRING SCHEDULE					SERVICE NO.
NO.	CONDUIT SIZE	CONDUCTORS EXISTING	CONDUCTORS NEW	CIRCUIT	COMMENTS
1					

Min Taper Length 25 to 35 Note — 1 | 0 / 18 | Cell
(SH TI MinTaperLength25to35Note)
Example drawn at 50% actual size.

MINIMUM TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	-	-	-	-	-	-	-
11	115	165	225	-	-	-	-	-	-	-
12	125	180	245	-	-	-	-	-	-	-

Min Taper Length 25 to 40 Note — 1 | 0 / 18 | Cell
(SH TI MinTaperLength25to40Note)
Example drawn at 50% actual size.

MINIMUM TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	-	-	-	-	-	-
11	115	165	225	295	-	-	-	-	-	-
12	125	180	245	320	-	-	-	-	-	-

Min Taper Length 25 to 45 Note — 1 | 0 / 18 | Cell
(SH TI MinTaperLength25to45Note)
Example drawn at 50% actual size.

MINIMUM TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	-	-	-	-	-
11	115	165	225	295	495	-	-	-	-	-
12	125	180	245	320	540	-	-	-	-	-

Min Taper Length 25 to 50 Note — 1 | 0 / 18 | Cell
(SH TI MinTaperLength25to50Note)
Example drawn at 50% actual size.

MINIMUM TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	-	-	-	-
11	115	165	225	295	495	550	-	-	-	-
12	125	180	245	320	540	600	-	-	-	-

Min Taper Length 25 to 55 Note — 1 | 0 / 18 | Cell
(SH TI MinTaperLength25to55Note)
Example drawn at 50% actual size.

MINIMUM TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	-	-	-
12	125	180	245	320	540	600	660	-	-	-

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SH TI Sheets - Traffic Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example

Min Taper Length 25 to 60 Note
(SH TI MinTaperLength25to60Note)
Example drawn at 50% actual size.
1 | 0
18 | Cell

MINIMUM TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	-	-

Min Taper Length 25 to 70 Note
(SH TI MinTaperLength25to70Note)
Example drawn at 50% actual size.
1 | 0
18 | Cell

MINIMUM TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	-	-	-
11	115	165	225	295	495	550	605	660	-	-
12	125	180	245	320	540	600	660	720	780	840

Min Taper Length 40 to 70 Note
(SH TI MinTaperLength40to70Note)
Example drawn at 50% actual size.
1 | 0
18 | Cell

MINIMUM TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	-	-	-	270	450	500	550	-	-	-
11	-	-	-	295	495	550	605	660	-	-
12	-	-	-	320	540	600	660	720	780	840

Min Taper Length 45 to 70 Note
(SH TI MinTaperLength45to70Note)
Example drawn at 50% actual size.
1 | 0
18 | Cell

MINIMUM TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	-	-	-	-	450	500	550	-	-	-
11	-	-	-	-	495	550	605	660	-	-
12	-	-	-	-	540	600	660	720	780	840

Min Taper Length 55 to 70 Note
(SH TI MinTaperLength55to70Note)
Example drawn at 50% actual size.
1 | 0
18 | Cell

MINIMUM TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	-	-	-	-	-	-	550	-	-	-
11	-	-	-	-	-	-	605	660	-	-
12	-	-	-	-	-	-	660	720	780	840

Min Taper Length Full Note
(SH TI MinTaperLengthFullNote)
Example drawn at 50% actual size.
1 | 0
18 | Cell

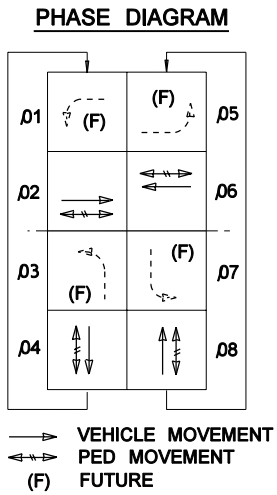
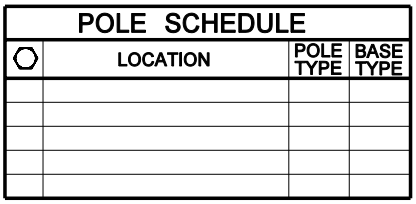
MINIMUM TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
6	63	90	125	165	270	300	330	360	390	420
8	84	120	162	210	360	405	450	480	525	570
10	105	150	205	270	450	500	550	600	660	705
11	115	165	225	295	495	550	605	660	715	770
12	125	180	245	320	540	600	660	720	780	840

Pedestrian Head Detail
(SH TI PedestrianHeadDetail)
0 | 0
18 | Cell



Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH TI Sheets - Traffic Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Phase Diagram (SH TI PhaseDiagram)	0 | 0 18 | Cell	
Pole Schedule (SH TI PoleSchedule)	0 | 0 18 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH TI Sheets - Traffic Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example

Preemption Schedule
(SH TI PreemptionSchedule)

0 | 0
18 | Cell

PREEMPTION SCHEDULE

CIRCUIT	PHASE(S)	MODEL NO.
A	2 & 5	521
B	4 & 7	521
C	6 & 1	521
D	8 & 3	521

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SH TI Sheets - Traffic Items

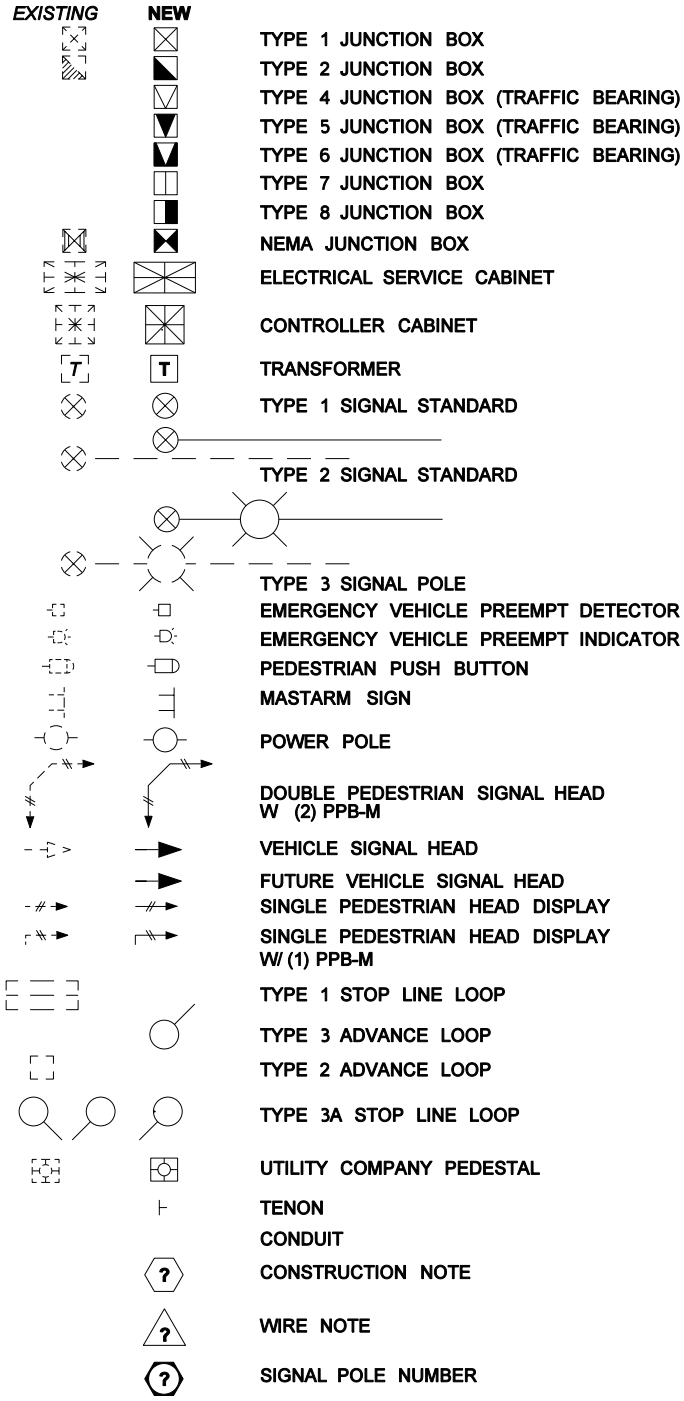
Name (Level)

ByLevel Weight | ByLevel Style
byLevel Color | Element Type

Signal Legend
(SH TI SignalLegend)

0 | 0
18 | Cell

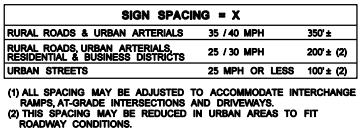
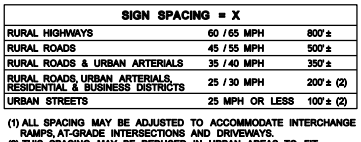
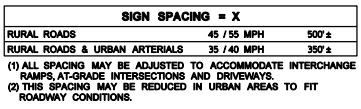
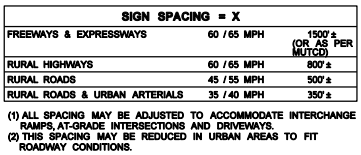
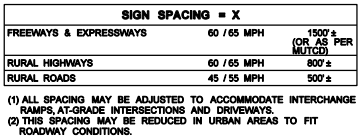
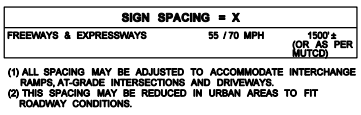
LEGEND



Example

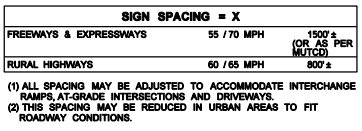
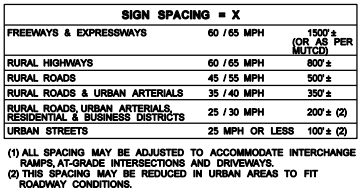
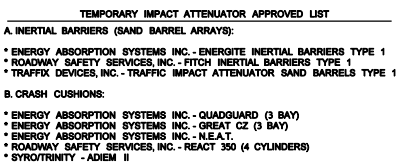
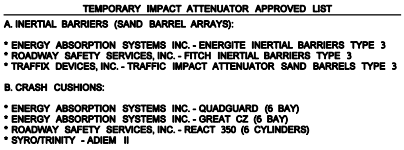
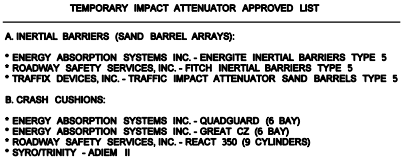
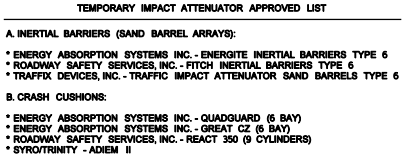
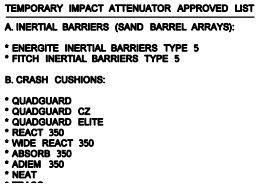
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH TI Sheets - Traffic Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Sign Dimension Note (SH TI SignDimensionNote)	1 | 0 18 | Cell	ALL SIGNS ARE 48"x48" BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED
Sign Spacing 25 to 40 Note (SH TI SignSpacing25to40Note) Example drawn at 50% actual size.	1 | 0 18 | Cell	 SIGN SPACING = X RURAL ROADS & URBAN ARTERIALS 35 / 40 MPH 350'± RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS 25 / 30 MPH 200'± (2) URBAN STREETS 25 MPH OR LESS 100'± (2) (1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS. (2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.
Sign Spacing 25 to 65 Note (SH TI SignSpacing25to65Note) Example drawn at 50% actual size.	1 | 0 18 | Cell	 SIGN SPACING = X RURAL HIGHWAYS 60 / 65 MPH 800'± RURAL ROADS 45 / 55 MPH 500'± RURAL ROADS & URBAN ARTERIALS 35 / 40 MPH 350'± RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS 25 / 30 MPH 200'± (2) URBAN STREETS 25 MPH OR LESS 100'± (2) (1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS. (2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.
Sign Spacing 35 to 55 Note (SH TI SignSpacing35to55Note) Example drawn at 50% actual size.	1 | 0 18 | Cell	 SIGN SPACING = X RURAL ROADS 45 / 55 MPH 500'± RURAL ROADS & URBAN ARTERIALS 35 / 40 MPH 350'± (1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS. (2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.
Sign Spacing 35 to 70 Note (SH TI SignSpacing35to70Note) Example drawn at 50% actual size.	1 | 0 18 | Cell	 SIGN SPACING = X FREEWAYS & EXPRESSWAYS 60 / 65 MPH 1500'± (OR AS PER MUTCD) RURAL HIGHWAYS 60 / 65 MPH 800'± RURAL ROADS 45 / 55 MPH 500'± RURAL ROADS & URBAN ARTERIALS 35 / 40 MPH 350'± (1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS. (2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.
Sign Spacing 45 to 70 Note (SH TI SignSpacing45to70Note) Example drawn at 50% actual size.	1 | 0 18 | Cell	 SIGN SPACING = X FREEWAYS & EXPRESSWAYS 60 / 65 MPH 1500'± (OR AS PER MUTCD) RURAL HIGHWAYS 60 / 65 MPH 800'± RURAL ROADS 45 / 55 MPH 500'± (1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS. (2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.
Sign Spacing 55 to 70 Note (SH TI SignSpacing55to70Note) Example drawn at 50% actual size.	1 | 0 18 | Cell	 SIGN SPACING = X FREEWAYS & EXPRESSWAYS 55 / 70 MPH 1500'± (OR AS PER MUTCD) (1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS. (2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH TI Sheets - Traffic Items

Name (Level)	ByLevel Weight | ByLevel Style / byLevel Color | Element Type	Example
Sign Spacing 60 to 70 Note (SH TI SignSpacing60to70Note) Example drawn at 50% actual size.	1 | 0 18 | Cell	
Sign Spacing Note (SH TI SignSpacingNote) Example drawn at 50% actual size.	1 | 0 18 | Cell	
TIA Approved List 40 MPH Note (SH TI TIAApprovedList40MPHNote) Example drawn at 50% actual size.	1 | 0 18 | Cell	
TIA Approved List 50 MPH Note (SH TI TIAApprovedList50MPHNote) Example drawn at 50% actual size.	1 | 0 18 | Cell	
TIA Approved List 60 MPH Note (SH TI TIAApprovedList60MPHNote) Example drawn at 50% actual size.	1 | 0 18 | Cell	
TIA Approved List 70 MPH Note (SH TI TIAApprovedList70MPHNote) Example drawn at 50% actual size.	1 | 0 18 | Cell	
TIA Approved List Note (SH TI TIAApprovedListNote) Example drawn at 50% actual size.	1 | 0 18 | Cell	

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SH TI Sheets - Traffic Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example

TMA Required Note
(SH TI TMARequiredNote)
1 | 0
18 | Cell

TMA - REQUIRED

Wire Schedule (No Power)
(SH TI WireSchedule(NoPower))
0 | 0
18 | Cell

WIRING SCHEDULE						SERVICE NO.	
△ NO.	CONDUIT SIZE	P / V DETECT 2C(S)	E. V. DETECT 3C(S)	VEH HEAD 5C	PED HEAD 5C	POWER #6	COMM CABLE 6PR
1	41	1	1	1	1	1	1

Wire Schedule (Power)
(SH TI WireSchedule(Power))
0 | 0
18 | Cell

WIRING SCHEDULE							SERVICE NO.	
△ NO.	CONDUIT SIZE	P / V DETECT 2C(S)	E. V. DETECT 3C(S)	VEH HEAD 5C	PED HEAD 5C	POWER ILLUM #6	POWER #2	6PR COMM. CABLE
1	41	1	1	1	1	1		

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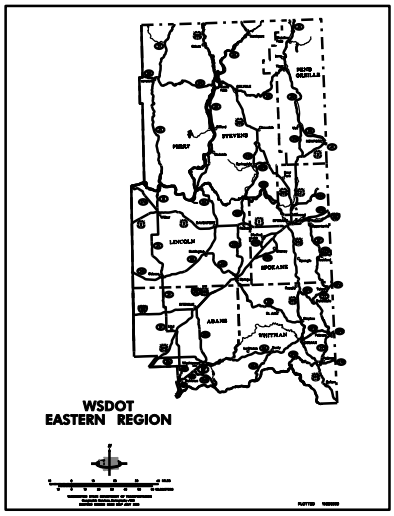
SH VM Sheets - Vicinity Maps

Name (Level)	ByLevel Weight | ByLevel Style / byLevel Color | Element Type	Example

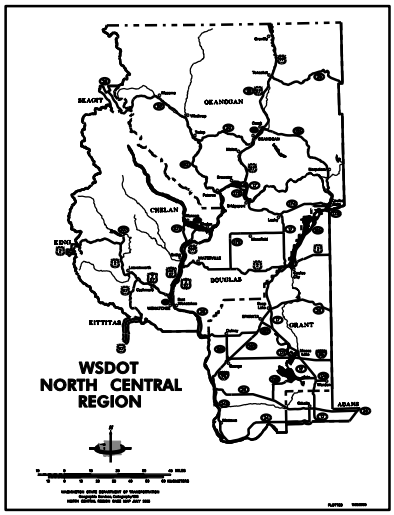
Region Cell ER
(SH VM RegionCellER)
Example drawn at 25% actual size.

0 | 0
0 | Cell



Region Cell NC
(SH VM RegionCellNC)
Example drawn at 25% actual size.

0 | 0
0 | Cell

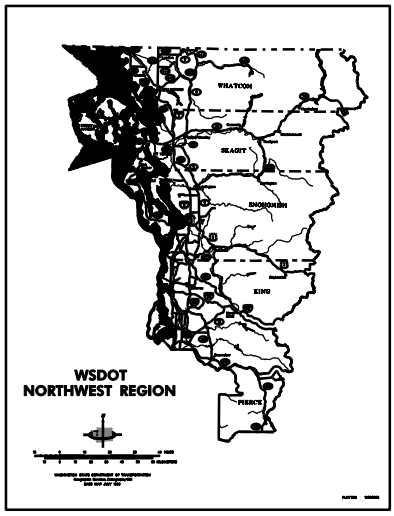


Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

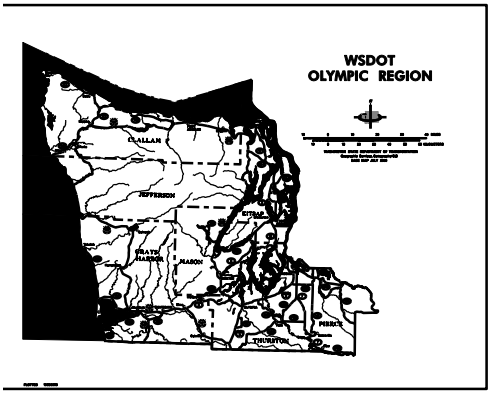
SH VM Sheets - Vicinity Maps

Name (Level)	ByLevel Weight / ByLevel Style / byLevel Color / Element Type	Example

Region Cell NW
(SH VM RegionCellNW)
Example drawn at 25% actual size.



Region Cell Oly
(SH VM RegionCellOly)
Example drawn at 25% actual si



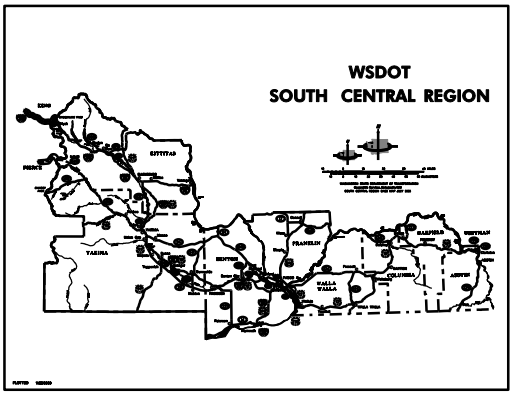
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

SH VM Sheets - Vicinity Maps

Name (Level)	ByLevel Weight | ByLevel Style / byLevel Color | Element Type	Example

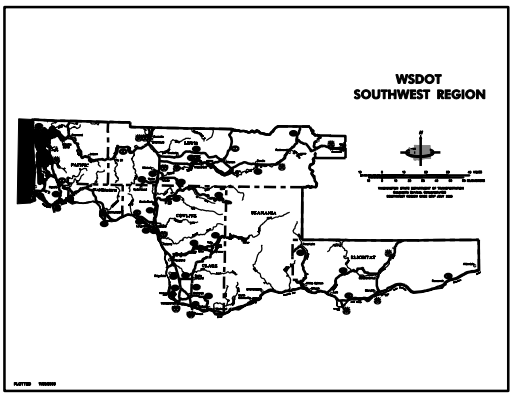
Region Cell SC
(SH VM RegionCellSC)
Example drawn at 25% actual size.

0 | 0
0 | Cell



Region Cell SW
(SH VM RegionCellSW)
Example drawn at 25% actual size.

0 | 0
0 | Cell



Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

ST BG Structures - Bridges

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Back of Pvmnt Seat (ST BG BackofPvmntSeat)	0 | 0 151 | Line		
Bridge (ST BG Bridge)	0 | 1 23 | Line		
Bridge New (ST BG BridgeNew)	2 | 0 7 | Line		
Bridge Text (ST BG BridgeText)	0 | 0 23 | Text	Text Size = 0.07 Font = 164	*OVERCROSSING*
Bridge Text New (ST BG BridgeTextNew)	0 | 0 7 | Text	Text Size = 0.07 Font = 217	**OVERCROSSING**
RR Structure (ST BG RRStructure)	0 | 1 119 | Line		
RR Structure New (ST BG RRStructureNew)	2 | 0 103 | Line		

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

ST BG Structures - Bridges

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Structure (ST BG Structure)	0 | 1 55 | Line		
Structure New (ST BG StructureNew)	2 | 0 39 | Line		
Tunnel (ST BG Tunnel)	0 | 1 87 | Line		
Tunnel New (ST BG TunnelNew)	2 | 0 71 | Line		
Tunnel Text (ST BG TunnelText)	0 | 1 23 | Text	Text Size = 0.07 Font = 200	OVERCROSSING
Tunnel Text New (ST BG TunnelTextNew)	0 | 0 7 | Text	Text Size = 0.07 Font = 217	OVERCROSSING

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

ST WA Structures - Walls

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Gabion Wall (ST WA GabionWall)	1 | Custom 55 | Line		
Gabion Wall New (ST WA GabionWallNew)	0 | Custom 39 | Line		
Noise Wall (ST WA NoiseWall)	1 | Custom 87 | Line		
Noise Wall New (ST WA NoiseWallNew)	0 | Custom 71 | Line		
Retaining Wall (ST WA RetainingWall)	0 | Custom 23 | Line		
Retaining Wall New (ST WA RetainingWallNew)	0 | Custom 7 | Line		
Wall Text (ST WA WallText)	0 | 0 23 | Text	Text Size = 0.07 Font = 164	*BARBWIRE FENCE*

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

ST WA Structures - Walls

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Wall Text New (ST WA WallTextNew)	0 | 0 7 | Text	Text Size = 0.07 Font = 217	BARBWIRE FENCE

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TP CN Topography - Contours

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Cut Line New (TP CN CutLineNew)	0 | Custom 110 | Line		– CUT ——— CUT ——— CUT ——
Fill Line New (TP CN FillLineNew)	0 | Custom 142 | Line		– FILL ——— FILL ——— FILL ——
Index Contour (TP CN IndexContour)	4 | 3 30 | Line		- - - - - - - - - - - - - - - - - - - -
Index Contour New (TP CN IndexContourNew)	4 | 0 14 | Line		———————————
Index Contours Text (TP CN IndexContoursText)	0 | 0 30 | Text	Text Size = 0.07 Font = 164	*13*
Index Contour Text New (TP CN IndexContourTextNew)	0 | 0 14 | Text	Text Size = 0.07 Font = 217	**13**
Intermed Contour Text New (TP CN IntermedContourTextNew)	0 | 0 46 | Text	Text Size = 0.07 Font = 217	**13**

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TP CN Topography - Contours

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Intermediate Contour (TP CN IntermediateContour)	0 | 3 62 | Line		
Intermediate Contour New (TP CN IntermediateContourNew)	0 | 0 46 | Line		
Intermediate Contours Text (TP CN IntermediateContoursText)	0 | 0 62 | Text	Text Size = 0.07 Font = 164	*13*
Spot Elevation (TP CN SpotElevation)	0 | 0 94 | Cell		
Spot Elevation New (TP CN SpotElevationNew)	0 | 0 78 | Cell		
Spot Elevations Text (TP CN SpotElevationsText)	0 | 0 94 | Text	Text Size = 0.07 Font = 164	*35*
Spot Elevation Text New (TP CN SpotElevationTextNew)	0 | 0 78 | Text	Text Size = 0.07 Font = 217	**35**

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TP MM Topography - Manmade

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Area Under Constr (TP MM AreaUnderConstr)	0 | 0 126 | Line	
Bench (TP MM Bench)	0 | 2 126 | Line	
Bore Hole or Drill Hole (TP MM BoreHoleorDrillHole)	1 | 0 158 | Cell	
Bore Hole or Drill Hole New (TP MM BoreHoleorDrillHoleNew)	1 | 0 142 | Cell	
Building 2D (TP MM Building2D)	2 | 0 126 | Line	
Canal (TP MM Canal)	3 | 0 126 | Line	
Concrete Slab (TP MM ConcreteSlab)	0 | 2 126 | Line	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TP MM Topography - Manmade

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Concrete Slope Protection (TP MM ConcreteSlopeProtection)	0 | 0 126 | Line		
Dam (TP MM Dam)	10 | 0 126 | Line		
Deck (TP MM Deck)	0 | 2 126 | Line		
Dike (TP MM Dike)	10 | 0 126 | Line		
Distance Tie (TP MM DistanceTie)	1 | 0 30 | Line		
Distance Tie Text (TP MM DistanceTieText)	0 | 0 30 | Text	Text Size = 0.05 Font = 200	48'
Dock (TP MM Dock)	0 | 0 126 | Line		

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TP MM Topography - Manmade

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Field Line (TP MM FieldLine)	1 | 3 158 | Line	
Flag Pole (TP MM FlagPole)	0 | 0 126 | Cell	
Foundation (TP MM Foundation)	0 | 2 126 | Line	
Gas Tank (TP MM GasTank)	2 | 2 126 | Cell	
Gravel Parking Area (TP MM GravelParkingArea)	0 | 2 62 | Line	
HandRail (TP MM HandRail)	0 | 2 126 | Line	
Hedge (TP MM Hedge)	0 | Custom 126 | Line	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TP MM Topography - Manmade

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Mail Box (TP MM MailBox)	1 | 0 126 | Cell		
Mail Box New (TP MM MailBoxNew)	1 | 0 110 | Cell		
Manmade Topography Text (TP MM ManmadeTopographyText)	0 | 0 30 | Text	Text Size = 0.07 Font = 200	GABION WALL
Oil Tank (TP MM OilTank)	2 | 2 126 | Cell		
Orchard Or Vineyard (TP MM OrchardOrVineyard)	1 | Custom 126 | Line		
Patio (TP MM Patio)	0 | 2 126 | Line		
Paved Area (TP MM PavedArea)	0 | 2 94 | Line		

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TP MM Topography - Manmade

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Paved Parking Area (TP MM PavedParkingArea)	0 | 2 94 | Line	
Piezometer (TP MM Piezometer)	0 | 0 158 | Cell	
Piezometer New (TP MM PiezometerNew)	0 | 0 142 | Cell	
Piling (TP MM Piling)	0 | 0 126 | Cell	
Pipe (TP MM Pipe)	0 | 3 126 | Line	
Post Metal (TP MM PostMetal)	0 | 0 126 | Cell	
Post Wood (TP MM PostWood)	0 | 0 126 | Cell	

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TP MM Topography - Manmade

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Quarry Bndry (TP MM QuarryBndry)	1 | 3 126 | Line		
Quarry Symb (TP MM QuarrySymb)	1 | 0 126 | Cell		
Reservoir (TP MM Reservoir)	3 | 0 126 | Line		
Rip Rap Edge (TP MM RipRapEdge)	0 | 0 126 | Line		
RR Center Tracks (TP MM RRCenterTracks)	2 | Custom 62 | Line		
RR Center Tracks New (TP MM RRCenterTracksNew)	2 | Custom 46 | Line		
RR Text (TP MM RRText)	0 | 0 62 | Text	Text Size = 0.05 Font = 200	BNSF RAILWAY

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TP MM Topography - Manmade

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Ruins 2D (TP MM Ruins2D)	2 | 0 126 | Line	
Stair (TP MM Stair)	0 | 2 126 | Line	
Structure (TP MM Structure)	2 | 0 126 | Line	
Tank (TP MM Tank)	0 | 0 126 | Cell	
TankLine (TP MM TankLine)	2 | 2 126 | Line	
Trail (TP MM Trail)	0 | 0 126 | Line	
Water Tank (TP MM WaterTank)	2 | 2 126 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TP MM Topography - Manmade

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Well (TP MM Well)	0 | 2 126 | Cell	
Yard Light (TP MM YardLight)	0 | 0 126 | Cell	

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TP NT Topography - Natural

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Brush Line (TP NT BrushLine)	0 | Custom 30 | Line	
Flow Arrow (TP NT FlowArrow)	2 | 0 30 | Cell	
Forest (TP NT Forest)	0 | Custom 94 | Line	
High Water Line (TP NT HighWaterLine)	3 | 0 30 | Line	
Intermittent Stream (TP NT IntermittentStream)	0 | 0 94 | Line	
Lake Edge (TP NT LakeEdge)	3 | 0 126 | Line	
Large Body of Water Edge (TP NT LargeBodyofWaterEdge)	3 | 0 126 | Line	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TP NT Topography - Natural

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Marsh Edge (TP NT MarshEdge)	3 | 1 62 | Line		
Natural Topography Text (TP NT NaturalTopographyText)	0 | 0 30 | Text	Text Size = 0.07 Font = 164	*FIR TREE*
Pond Bottom (TP NT PondBottom)	3 | 0 126 | Line		
Pond Edge (TP NT PondEdge)	3 | 0 126 | Line		
River Edge (TP NT RiverEdge)	3 | 0 126 | Line		
Stream NonScalable (TP NT StreamNonScalable)	3 | 0 126 | Line		
Stream Scaleable Bottom (TP NT StreamScaleableBottom)	3 | 0 126 | Line		

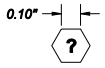
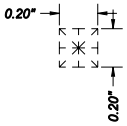
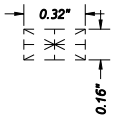
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TP NT Topography - Natural

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Stream Scaleable Edge (TP NT StreamScaleableEdge)	3 | 0 126 | Line		
Stump (TP NT Stump)	0 | 0 30 | Cell		
Tidal Shoreline (TP NT TidalShoreline)	3 | 0 126 | Line		
Tree By Center (TP NT TreeByCenter)	0 | 0 94 | Cell		
Tree Line (TP NT TreeLine)	0 | Custom 94 | Line		
Water Pond Lake Res Text (TP NT WaterPondLakeResText)	0 | 0 126 | Text	Text Size = 0.07 Font = 200	GREEN RIVER
Water Tidal Shore Lg Body Text (TP NT WaterTidalShoreLgBodyText)	0 | 0 126 | Text	Text Size = 0.1 Font = 200	BUDD INLET

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TR IL Traffic - Illumination

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Conduit and Wiring (TR IL ConduitandWiring)	0 | 6 86 | Line	
Conduit and Wiring New (TR IL ConduitandWiringNew)	2 | 6 70 | Line	
Construction Note Flag (TR IL ConstructionNoteFlag)	0 | 0 6 | Cell	
Controller Cabinet (TR IL ControllerCabinet)	0 | 0 22 | Cell	
Controller Cabinet New (TR IL ControllerCabinetNew)	2 | 0 6 | Cell	
Electrical Service Cab (TR IL ElectricalServiceCab)	0 | 0 22 | Cell	
Electrical Service Cab New (TR IL ElectricalServiceCabNew)	2 | 0 6 | Cell	

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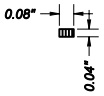
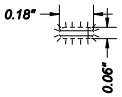
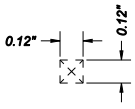
TR IL Traffic - Illumination

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Expan Fit AX DX New (TR IL ExpanFitAXDXNew)	2 | 0 134 | Cell		
Expan Fit DX New (TR IL ExpanFitDXNew)	2 | 0 134 | Cell		
Fluorescent Light (TR IL FluorescentLight)	0 | 0 150 | Cell		
Illum Text (TR IL IllumText)	0 | 0 22 | Text	Text Size = 0.07 Font = 164	*PVC CONDUIT*
Illum Text New (TR IL IllumTextNew)	0 | 0 6 | Text	Text Size = 0.07 Font = 217	**PVC CONDUIT**
JBox 1 (TR IL JBox1)	0 | 0 22 | Cell		
JBox 1 New (TR IL JBox1New)	2 | 0 6 | Cell		

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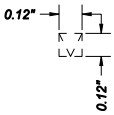
TR IL Traffic - Illumination

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
JBox 2 (TR IL JBox2)	0 | 0 22 | Cell	
JBox 2 New (TR IL JBox2New)	2 | 0 6 | Cell	
JBox 3 (TR IL JBox3)	0 | 0 22 | Cell	
JBox 4 (Traffic-bearing) (TR IL JBox4(Traffic-bearing))	0 | 0 22 | Cell	
JBox 4 (Traffic-bearing) New (TR IL JBox4(Traffic-bearing)New)	2 | 0 6 | Cell	
JBox 5 (Traffic-bearing) (TR IL JBox5(Traffic-bearing))	0 | 0 22 | Cell	
JBox 5 (Traffic-bearing) New (TR IL JBox5(Traffic-bearing)New)	2 | 0 6 | Cell	

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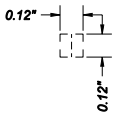
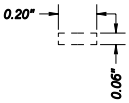
TR IL Traffic - Illumination

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
JBox 6 (Traffic-bearing) (TR IL JBox6(Traffic-bearing))	0 | 0 22 | Cell	
JBox 6 (Traffic-bearing) New (TR IL JBox6(Traffic-bearing)New)	2 | 0 6 | Cell	
JBox 7 (No lock) (TR IL JBox7(Nolock))	0 | 0 22 | Cell	
JBox 7 (No lock) New (TR IL JBox7(Nolock)New)	2 | 0 6 | Cell	
JBox 8 (With lock) (TR IL JBox8(Withlock))	0 | 0 22 | Cell	
JBox 8 (With lock) New (TR IL JBox8(Withlock)New)	2 | 0 6 | Cell	
JBox Aerial (TR IL JBoxAerial)	0 | 0 22 | Cell	

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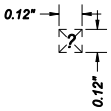
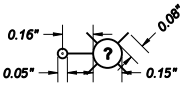
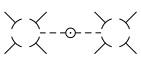
TR IL Traffic - Illumination

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
JBox Aerial New (TR IL JBoxAerialNew)	2 | 0 6 | Cell	
JBox Nema (TR IL JBoxNema)	0 | 0 22 | Cell	
JBox Nema New (TR IL JBoxNemaNew)	2 | 0 6 | Cell	
JBox Unknown (TR IL JBoxUnknown)	0 | 0 22 | Cell	
Light Pole (TR IL LightPole)	0 | 0 54 | Cell	
Light Std Cell With Number New* (TR IL LightStdCellWithNumberNew) Sized for a 100 scale drawing.	2 | 0 38 | Cell	
Light Std Dbl Metal* (TR IL LightStdDblMetal) Sized for a 100 scale drawing.	0 | 0 54 | Cell	

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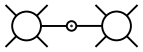
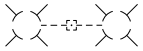
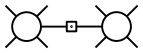
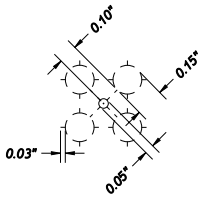
TR IL Traffic - Illumination

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Light Std Dbl Metal New* (TR IL LightStdDblMetalNew) Sized for a 100 scale drawing.	2 | 0 38 | Cell	
Light Std Dbl Timber* (TR IL LightStdDblTimber) Sized for a 100 scale drawing.	0 | 0 54 | Cell	
Light Std Dbl Timber New* (TR IL LightStdDblTimberNew) Sized for a 100 scale drawing.	2 | 0 38 | Cell	
Light Std Generic* (TR IL LightStdGeneric) Sized for a 100 scale drawing.	0 | 0 54 | Cell	
Light Std Generic New* (TR IL LightStdGenericNew) Sized for a 100 scale drawing.	2 | 0 38 | Cell	
Light Std Quad Metal* (TR IL LightStdQuadMetal) Sized for a 100 scale drawing.	0 | 0 54 | Cell	

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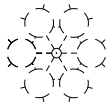
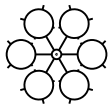
TR IL Traffic - Illumination

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Light Std Quad Metal New* (TR IL LightStdQuadMetalNew) Sized for a 100 scale drawing.	2 | 0 38 | Cell	
Light Std Six Metal* (TR IL LightStdSixMetal) Sized for a 100 scale drawing.	0 | 0 54 | Cell	
Light Std Six Metal New* (TR IL LightStdSixMetalNew) Sized for a 100 scale drawing.	2 | 0 38 | Cell	
Light Std Sngl Metal* (TR IL LightStdSnglMetal) Sized for a 100 scale drawing.	0 | 0 54 | Cell	

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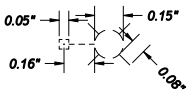
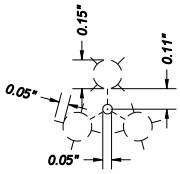
TR IL Traffic - Illumination

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Light Std Sngl Metal New* (TR IL LightStdSnglMetalNew) Sized for a 100 scale drawing.	2 | 0 38 | Cell	
Light Std Sngl Timber* (TR IL LightStdSnglTimber) Sized for a 100 scale drawing.	0 | 0 54 | Cell	
Light Std Sngl Timber New* (TR IL LightStdSnglTimberNew) Sized for a 100 scale drawing.	2 | 0 38 | Cell	
Light Std Timber Temp New* (TR IL LightStdTimberTempNew) Sized for a 100 scale drawing.	2 | 0 38 | Cell	
Light Std Tri Metal* (TR IL LightStdTriMetal) Sized for a 100 scale drawing.	0 | 0 54 | Cell	

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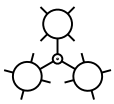
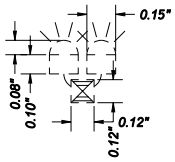
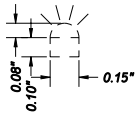
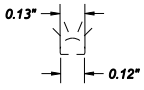
TR IL Traffic - Illumination

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Light Std Tri Metal New* (TR IL LightStdTriMetalNew) Sized for a 100 scale drawing.	2 | 0 38 | Cell	
Luminaire Dbl Underdeck (TR IL LuminaireDblUnderdeck)	0 | 0 150 | Cell	
Luminaire Dbl Underdeck New (TR IL LuminaireDblUnderdeckNew)	2 | 0 134 | Cell	
Luminaire Underdeck (TR IL LuminaireUnderdeck)	0 | 0 150 | Cell	
Luminaire Underdeck New (TR IL LuminaireUnderdeckNew)	2 | 0 134 | Cell	
Navigation Light (TR IL NavigationLight)	0 | 0 150 | Cell	

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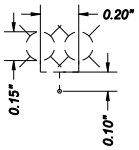
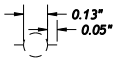
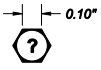
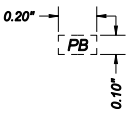
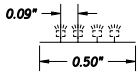
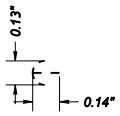
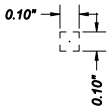
TR IL Traffic - Illumination

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Navigation Light New (TR IL NavigationLightNew)	2 | 0 134 | Cell	
Pitchfork Light (TR IL PitchforkLight)	0 | 0 150 | Cell	
Pitchfork Light New (TR IL PitchforkLightNew)	2 | 0 134 | Cell	
Pole (TR IL Pole)	0 | 0 118 | Cell	
Pole New (TR IL PoleNew)	2 | 0 102 | Cell	
Pole Note Flag (TR IL PoleNoteFlag)	2 | 0 102 | Cell	
Pull Box (TR IL PullBox)	0 | 0 150 | Cell	

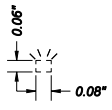
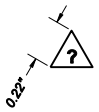
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TR IL Traffic - Illumination

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Pull Box New (TR IL PullBoxNew)	2 | 0 134 | Cell	
Sign Light (TR IL SignLight)	0 | 0 150 | Cell	
Sign Light New (TR IL SignLightNew)	2 | 0 134 | Cell	
Strn Pole Anchor (TR IL StrnPoleAnchor)	2 | 0 118 | Cell	
Strn Pole Anchor New (TR IL StrnPoleAnchorNew)	2 | 0 102 | Cell	
Timber Pole (TR IL TimberPole)	0 | 0 150 | Cell	
Timber Pole New (TR IL TimberPoleNew)	2 | 0 134 | Cell	

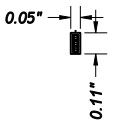
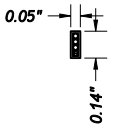
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TR IL Traffic - Illumination

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Wallpack Light (TR IL WallpackLight)	0 | 0 150 | Cell	
Wallpack Light New (TR IL WallpackLightNew)	2 | 0 134 | Cell	
Wire Note Flag (TR IL WireNoteFlag)	2 | 0 6 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
3 Signal Head Left New (TR SG 3SignalHeadLeftNew)	2 | 0 6 | Cell	
3 Signal Head Mast Left New (TR SG 3SignalHeadMastLeftNew)	2 | 0 6 | Cell	
3 Signal Head Mast New (TR SG 3SignalHeadMastNew)	2 | 0 6 | Cell	
3 Signal Head New (TR SG 3SignalHeadNew)	2 | 0 6 | Cell	
4 Signal Head Mast New (TR SG 4SignalHeadMastNew)	2 | 0 6 | Cell	
4 Signal Head New (TR SG 4SignalHeadNew)	2 | 0 6 | Cell	
Conduit and Wiring (TR SG ConduitandWiring)	0 | 6 54 | Line	

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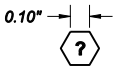
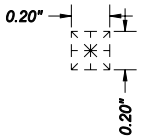
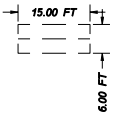
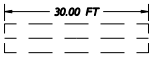
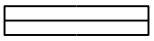
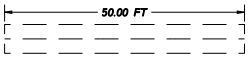
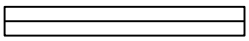
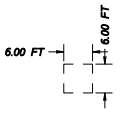
TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Conduit and Wiring New (TR SG ConduitandWiringNew)	2 | 6 38 | Line	
Construction Note Flag (TR SG ConstructionNoteFlag)	2 | 0 6 | Cell	
Controller Cabinet (TR SG ControllerCabinet)	0 | 0 54 | Cell	
Controller Cabinet New (TR SG ControllerCabinetNew)	2 | 0 38 | Cell	
Det Loop Diamond* (TR SG DetLoopDiamond) Sized for a 40 scale drawing.	0 | 0 150 | Cell	
Det Loop Diamond New* (TR SG DetLoopDiamondNew) Sized for a 40 scale drawing.	2 | 0 134 | Cell	
Det Loop Type 1 6x15* (TR SG DetLoopType16x15) Sized for a 40 scale drawing.	0 | 0 150 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Det Loop Type 1 6x15 New* (TR SG DetLoopType16x15New) Sized for a 40 scale drawing.	2 | 0 134 | Cell	
Det Loop Type 1 6x30* (TR SG DetLoopType16x30) Sized for a 40 scale drawing.	0 | 0 150 | Cell	
Det Loop Type 1 6x30 New* (TR SG DetLoopType16x30New) Sized for a 40 scale drawing.	2 | 0 134 | Cell	
Det Loop Type 1 6x50* (TR SG DetLoopType16x50) Sized for a 40 scale drawing.	0 | 0 150 | Cell	
Det Loop Type 1 6x50 New* (TR SG DetLoopType16x50New) Sized for a 40 scale drawing.	2 | 0 134 | Cell	
Det Loop Type 2 6x6* (TR SG DetLoopType26x6) Sized for a 40 scale drawing.	0 | 0 150 | Cell	
Det Loop Type 2 6x6 New* (TR SG DetLoopType26x6New) Sized for a 40 scale drawing.	2 | 0 134 | Cell	

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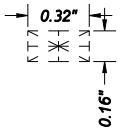
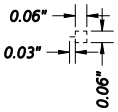
TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Det Loop Type 3* (TR SG DetLoopType3) Sized for a 40 scale drawing.	0 | 0 150 | Cell	
Det Loop Type 3a* (TR SG DetLoopType3a) Sized for a 40 scale drawing.	0 | 0 150 | Cell	
Det Loop Type 3a New* (TR SG DetLoopType3aNew) Sized for a 40 scale drawing.	2 | 0 134 | Cell	
Det Loop Type 3 New* (TR SG DetLoopType3New) Sized for a 40 scale drawing.	2 | 0 134 | Cell	
Elect Service Cabinet (TR SG ElectServiceCabinet)	0 | 0 54 | Cell	
Elect Service Cabinet New (TR SG ElectServiceCabinetNew)	2 | 0 38 | Cell	
Emerg Preempt Det (TR SG EmergPreemptDet)	0 | 0 22 | Cell	

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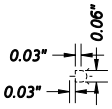
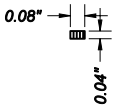
TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Emerg Preempt Det New (TR SG EmergPreemptDetNew)	2 | 0 6 | Cell	
Emerg Preempt Indicator (TR SG EmergPreemptIndicator)	0 | 0 22 | Cell	
Emerg Preempt Indicator New (TR SG EmergPreemptIndicatorNew)	2 | 0 6 | Cell	
Expan Fit AX DX New (TR SG ExpanFitAXDXNew)	2 | 0 38 | Cell	
Expan Fit DX New (TR SG ExpanFitDXNew)	2 | 0 38 | Cell	
Flashing Beacon (TR SG FlashingBeacon)	0 | 0 22 | Cell	
Flashing Beacon New (TR SG FlashingBeaconNew)	2 | 0 6 | Cell	

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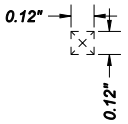
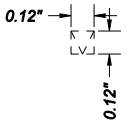
TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style / byLevel Color | Element Type	Example
JBox 1 (TR SG JBox1)	0 | 0 54 | Cell	
JBox 1 New (TR SG JBox1New)	2 | 0 38 | Cell	
JBox 2 (TR SG JBox2)	0 | 0 54 | Cell	
JBox 2 New (TR SG JBox2New)	2 | 0 38 | Cell	
JBox 3 (TR SG JBox3)	0 | 0 54 | Cell	
JBox 4 (Traffic-bearing) (TR SG JBox4(Traffic-bearing))	0 | 0 54 | Cell	
JBox 4 (Traffic-bearing) New (TR SG JBox4(Traffic-bearing)New)	2 | 0 38 | Cell	

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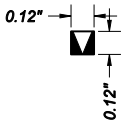
TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
JBox 5 (Traffic-bearing) (TR SG JBox5(Traffic-bearing))	0 | 0 54 | Cell	
JBox 5 (Traffic-bearing) New (TR SG JBox5(Traffic-bearing)New)	2 | 0 38 | Cell	
JBox 6 (Traffic-bearing) (TR SG JBox6(Traffic-bearing))	0 | 0 54 | Cell	
JBox 6 (Traffic-bearing) New (TR SG JBox6(Traffic-bearing)New)	2 | 0 38 | Cell	
JBox 7 (No lock) (TR SG JBox7(Nolock))	0 | 0 54 | Cell	
JBox 7 (No lock) New (TR SG JBox7(Nolock)New)	2 | 0 38 | Cell	
JBox 8 (With lock) (TR SG JBox8(Withlock))	0 | 0 54 | Cell	

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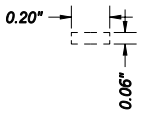
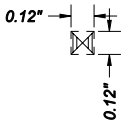
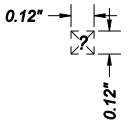
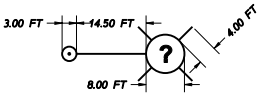
TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
JBox 8 (With lock) New (TR SG JBox8(Withlock)New)	2 | 0 38 | Cell	
JBox Aerial (TR SG JBoxAerial)	0 | 0 54 | Cell	
JBox Aerial New (TR SG JBoxAerialNew)	2 | 0 38 | Cell	
JBox Nema (TR SG JBoxNema)	0 | 0 54 | Cell	
JBox Nema New (TR SG JBoxNemaNew)	2 | 0 38 | Cell	
JBox Unknown (TR SG JBoxUnknown)	0 | 0 54 | Cell	
Light Std Cell With Number New* (TR SG LightStdCellWithNumberNew) Sized for a 40 scale drawing.	2 | 0 70 | Cell	

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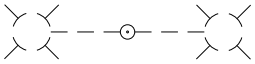
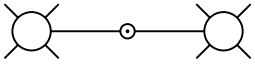
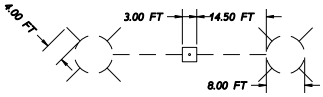
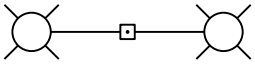
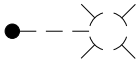
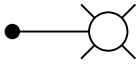
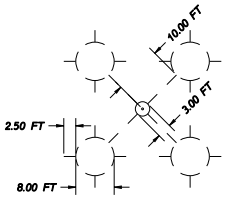
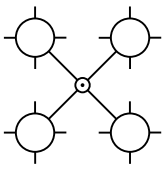
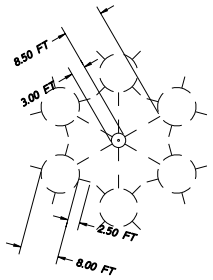
TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Light Std Dbl Metal* (TR SG LightStdDblMetal) Sized for a 40 scale drawing.	0 | 0 86 | Cell	
Light Std Dbl Metal New* (TR SG LightStdDblMetalNew) Sized for a 40 scale drawing.	2 | 0 70 | Cell	
Light Std Dbl Timber* (TR SG LightStdDblTimber) Sized for a 40 scale drawing.	0 | 0 86 | Cell	
Light Std Dbl Timber New* (TR SG LightStdDblTimberNew) Sized for a 40 scale drawing.	2 | 0 70 | Cell	
Light Std Generic* (TR SG LightStdGeneric) Sized for a 40 scale drawing.	0 | 0 86 | Cell	
Light Std Generic New* (TR SG LightStdGenericNew) Sized for a 40 scale drawing.	2 | 0 70 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Light Std Quad Metal* (TR SG LightStdQuadMetal) Sized for a 40 scale drawing.	0 | 0 86 | Cell	
Light Std Quad Metal New* (TR SG LightStdQuadMetalNew) Sized for a 40 scale drawing.	2 | 0 70 | Cell	
Light Std Six Metal* (TR SG LightStdSixMetal) Sized for a 40 scale drawing.	0 | 0 86 | Cell	

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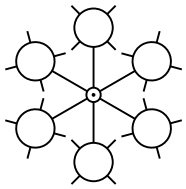
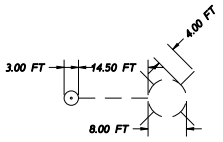
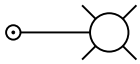
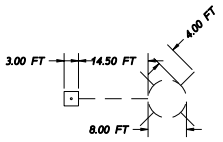
TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Light Std Six Metal New* (TR SG LightStdSixMetalNew) Sized for a 40 scale drawing.	2 | 0 70 | Cell	
Light Std Sngl Metal* (TR SG LightStdSnglMetal) Sized for a 40 scale drawing.	0 | 0 86 | Cell	
Light Std Sngl Metal New* (TR SG LightStdSnglMetalNew) Sized for a 40 scale drawing.	2 | 0 70 | Cell	
Light Std Sngl Timber* (TR SG LightStdSnglTimber) Sized for a 40 scale drawing.	0 | 0 86 | Cell	

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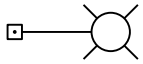
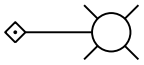
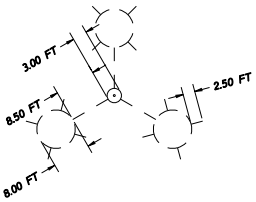
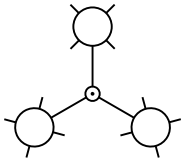
TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Light Std Sngl Timber New* (TR SG LightStdSnglTimberNew) Sized for a 40 scale drawing.	2 | 0 70 | Cell	
Light Std Timber Temp New* (TR SG LightStdTimberTempNew) Sized for a 40 scale drawing.	2 | 0 70 | Cell	
Light Std Tri Metal* (TR SG LightStdTriMetal) Sized for a 40 scale drawing.	0 | 0 86 | Cell	
Light Std Tri Metal New* (TR SG LightStdTriMetalNew) Sized for a 40 scale drawing.	2 | 0 70 | Cell	
Mast Arm Sign (TR SG MastArmSign)	0 | 0 22 | Cell	

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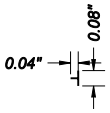
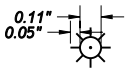
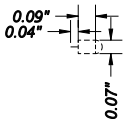
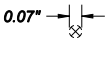
TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Mast Arm Sign New (TR SG MastArmSignNew)	2 | 0 6 | Cell	
Mast Arm Tenon New (TR SG MastArmTenonNew)	2 | 0 6 | Cell	
Pedestrian Light New (TR SG PedestrianLightNew)	2 | 0 102 | Cell	
Ped PushButton (TR SG PedPushButton)	0 | 0 118 | Cell	
Ped PushButton New (TR SG PedPushButtonNew)	2 | 0 102 | Cell	
Ped PushButton Post (TR SG PedPushButtonPost)	0 | 0 118 | Cell	
Ped PushButton PostNew (TR SG PedPushButtonPostNew)	2 | 0 102 | Cell	

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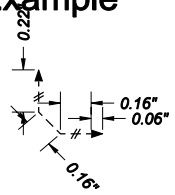
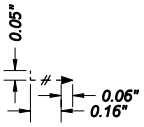
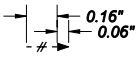
TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Ped Signal Head Dbl (TR SG PedSignalHeadDbl)	1 | 0 118 | Cell	
Ped Signal Head Dbl New (TR SG PedSignalHeadDblNew)	2 | 0 102 | Cell	
Ped Signal Head L (TR SG PedSignalHeadL)	1 | 0 118 | Cell	
Ped Signal Head L New (TR SG PedSignalHeadLNew)	2 | 0 102 | Cell	
Ped Signal Head R (TR SG PedSignalHeadR)	1 | 0 118 | Cell	
Ped Signal Head R New (TR SG PedSignalHeadRNew)	2 | 0 102 | Cell	
Ped Signal Head ST (TR SG PedSignalHeadST)	1 | 0 118 | Cell	

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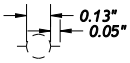
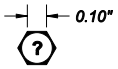
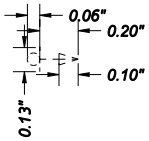
TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Ped Signal Head ST New (TR SG PedSignalHeadSTNew)	2 | 0 102 | Cell	
Pole (TR SG Pole)	0 | 0 54 | Cell	
Pole New (TR SG PoleNew)	2 | 0 38 | Cell	
Pole Note Flag (TR SG PoleNoteFlag)	2 | 0 6 | Cell	
Ramp Meter Signal (TR SG RampMeterSignal)	0 | 0 22 | Cell	
Ramp Meter Signal LT (TR SG RampMeterSignalLT)	0 | 0 22 | Cell	
Ramp Meter Signal LT New (TR SG RampMeterSignalLTNew)	2 | 0 6 | Cell	

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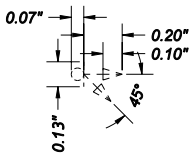
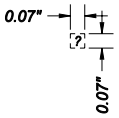
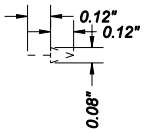
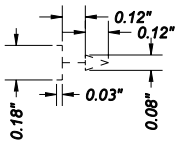
TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Ramp Meter Signal New (TR SG RampMeterSignalNew)	2 | 0 6 | Cell	
Ramp Meter Signal RT (TR SG RampMeterSignalRT)	0 | 0 22 | Cell	
Ramp Meter Signal RT New (TR SG RampMeterSignalRTNew)	2 | 0 6 | Cell	
Signal Box Unknown (TR SG SignalBoxUnknown)	0 | 0 54 | Cell	
Signal Head (TR SG SignalHead)	0 | 0 22 | Cell	
Signal Head Future New (TR SG SignalHeadFutureNew)	2 | 0 6 | Cell	
Signal Head Horiz (TR SG SignalHeadHoriz)	0 | 0 22 | Cell	

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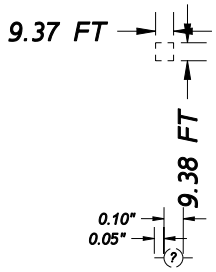
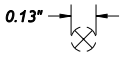
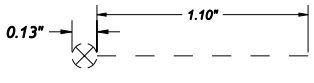
TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Signal Head Horiz New (TR SG SignalHeadHorizNew)	2 | 0 6 | Cell	
Signal Head New (TR SG SignalHeadNew)	2 | 0 6 | Cell	
Signal Loop Unknown* (TR SG SignalLoopUnknown) Sized for a 40 scale drawing.	0 | 0 22 | Cell	
Signal Pole Unknown (TR SG SignalPoleUnknown)	0 | 0 22 | Cell	
Signal Std Type 1 or 4 (TR SG SignalStdType1or4)	0 | 0 22 | Cell	
Signal Std Type 1 or 4 New (TR SG SignalStdType1or4New)	2 | 0 6 | Cell	
Signal Std Type 2 (TR SG SignalStdType2)	0 | 0 22 | Cell	

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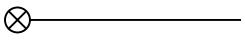
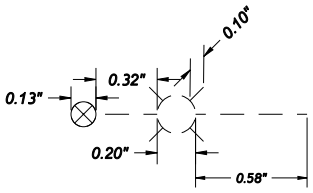
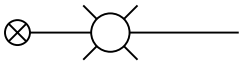
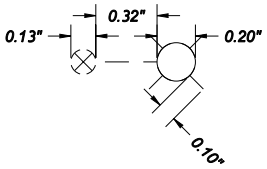
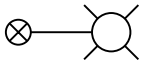
TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Signal Std Type 2 New (TR SG SignalStdType2New)	2 | 0 6 | Cell		
Signal Std Type 3 (TR SG SignalStdType3)	0 | 0 22 | Cell		
Signal Std Type 3 New (TR SG SignalStdType3New)	2 | 0 6 | Cell		
Signal Std Type 5 (TR SG SignalStdType5)	0 | 0 22 | Cell		
Signal Std Type 5 New (TR SG SignalStdType5New)	2 | 0 6 | Cell		
Signals Text (TR SG SignalsText)	0 | 0 22 | Text	Text Size = 0.07 Font = 164	*PVC CONDUIT*
Signals Text New (TR SG SignalsTextNew)	0 | 0 6 | Text	Text Size = 0.07 Font = 217	**PVC CONDUIT**

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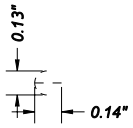
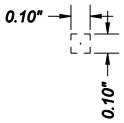
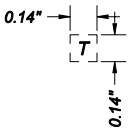
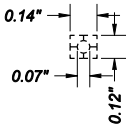
TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Strn Pole Anchor (TR SG StrnPoleAnchor)	0 | 0 22 | Cell	
Strn Pole Anchor New (TR SG StrnPoleAnchorNew)	2 | 0 6 | Cell	
Timber Pole (TR SG TimberPole)	0 | 0 22 | Cell	
Timber Pole New (TR SG TimberPoleNew)	2 | 0 6 | Cell	
Transformer (TR SG Transformer)	0 | 0 54 | Cell	
Transformer New (TR SG TransformerNew)	2 | 0 38 | Cell	
Utility Company Pedestal (TR SG UtilityCompanyPedestal)	1 | 0 54 | Cell	

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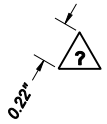
TR SG Traffic - Signals

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Utility Company Pedestal New (TR SG UtilityCompanyPedestalNew)	2 | 0 38 | Cell	
Wire Note Flag (TR SG WireNoteFlag)	2 | 0 6 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TR SN Traffic - Signing

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Barricade (TR SN Barricade)	1 | 0 54 | Line	
Construction Signs (TR SN ConstructionSigns)	0 | 0 0 | Line	
Guide Signs (TR SN GuideSigns)	0 | 0 0 | Line	
Interstate Shield (TR SN InterstateShield)	2 | 0 54 | Cell	
Monotube Cantilever (TR SN MonotubeCantilever)	0 | 0 0 | Cell	
Monotube Cantilever New (TR SN MonotubeCantileverNew)	0 | 0 0 | Cell	
Monotube Sign Bridge New (TR SN MonotubeSignBridgeNew)	0 | 0 0 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TR SN Traffic - Signing

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Overhead Sign (TR SN OverheadSign)	0 | 0 0 | Cell	
Overhead Sign New (TR SN OverheadSignNew)	0 | 0 0 | Cell	
Regulatory Signs (TR SN RegulatorySigns)	0 | 0 0 | Line	
Seq Arrow Sign Both New (TR SN SeqArrowSignBothNew)	0 | 0 102 | Cell	
Seq Arrow Sign Lt New (TR SN SeqArrowSignLtNew)	0 | 0 102 | Cell	
Seq Arrow Sign Rt New (TR SN SeqArrowSignRtNew)	0 | 0 102 | Cell	
Sign (TR SN Sign)	1 | 0 22 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TR SN Traffic - Signing

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Sign BBoard Multi Post (TR SN SignBBoardMultiPost)	0 | 0 86 | Cell	
Sign BBoard Sngl Post (TR SN SignBBoardSnglPost)	0 | 0 86 | Cell	
Sign Dble Post (TR SN SignDblePost)	0 | 0 0 | Cell	
Sign Dble Post New (TR SN SignDblePostNew)	0 | 0 0 | Cell	
Sign Flush Wall (TR SN SignFlushWall)	0 | 0 0 | Cell	
Sign Flush Wall New (TR SN SignFlushWallNew)	0 | 0 0 | Cell	
Sign Four Post (TR SN SignFourPost)	0 | 0 0 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TR SN Traffic - Signing

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Sign From Wall (TR SN SignFromWall)	0 | 0 0 | Cell		
Sign From Wall New (TR SN SignFromWallNew)	0 | 0 0 | Cell		
Signing Text (TR SN SigningText)	0 | 0 22 | Text	Text Size = 0.07 Font = 164	*SR 101*
Signing Text New (TR SN SigningTextNew)	0 | 0 6 | Text	Text Size = 0.07 Font = 217	**SR 101**
Sign New (TR SN SignNew)	1 | 0 6 | Cell		
Sign Note Flag (TR SN SignNoteFlag)	0 | 0 6 | Cell		
Sign Note Flag Lt (TR SN SignNoteFlagLt)	0 | 0 0 | Cell		

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TR SN Traffic - Signing

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Sign Note Flag Rt (TR SN SignNoteFlagRt)	0 | 0 0 | Cell	
Sign Relocation Note Flag (TR SN SignRelocationNoteFlag)	0 | 0 6 | Cell	
Sign Removal Note Flag (TR SN SignRemovalNoteFlag)	0 | 0 6 | Cell	
Sign Removal Note Flag Lt (TR SN SignRemovalNoteFlagLt)	0 | 0 0 | Cell	
Sign Removal Note Flag Rt (TR SN SignRemovalNoteFlagRt)	0 | 0 0 | Cell	
Sign Sngl Post (TR SN SignSnglPost)	0 | 0 0 | Cell	
Sign Sngl Post New (TR SN SignSnglPostNew)	0 | 0 0 | Cell	

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TR SN Traffic - Signing

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Sign Triple Post (TR SN SignTriplePost)	0 | 0 0 | Cell	
Sign Triple Post New (TR SN SignTriplePostNew)	0 | 0 0 | Cell	
State Route Shield (TR SN StateRouteShield)	1 | 0 54 | Cell	
Truss Cantilever (TR SN TrussCantilever)	0 | 0 0 | Cell	
Truss Sign Bridge (TR SN TrussSignBridge)	0 | 0 0 | Cell	
Truss Sign Bridge New (TR SN TrussSignBridgeNew)	0 | 0 0 | Cell	
US Route Shield (TR SN USRouteShield)	1 | 0 54 | Cell	

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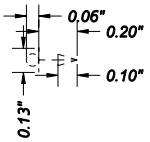
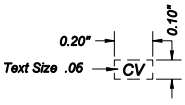
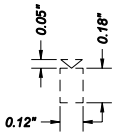
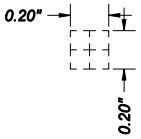
TR SN Traffic - Signing

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Warning Signs (TR SN WarningSigns)	0 | 0 0 | Line	
Washington Shield (TR SN WashingtonShield)	1 | 0 54 | Cell	

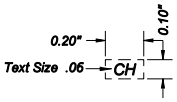
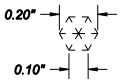
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TR TS Traffic - Traffic Systems

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Advanced Warning Sign (TR TS AdvancedWarningSign)	0 | 0 86 | Cell	
Advanced Warning Sign New (TR TS AdvancedWarningSignNew)	2 | 0 70 | Cell	
Cable Vault (TR TS CableVault)	0 | 0 54 | Cell	
Cable Vault New (TR TS CableVaultNew)	2 | 0 38 | Cell	
CCTV Camera (TR TS CCTVCamera)	0 | 0 150 | Cell	
CCTV Camera New (TR TS CCTVCameraNew)	2 | 0 134 | Cell	
CCTV Control Cabinet (TR TS CCTVControlCabinet)	0 | 0 150 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TR TS Traffic - Traffic Systems

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
CCTV Control Cabinet New (TR TS CCTVControlCabinetNew)	2 | 0 134 | Cell	
Communications Hub (TR TS CommunicationsHub)	0 | 0 54 | Cell	
Communications Hub New (TR TS CommunicationsHubNew)	2 | 0 38 | Cell	
Conduit and Wiring TS (TR TS ConduitandWiringTS)	0 | 6 86 | Line	
Conduit and Wiring TS New (TR TS ConduitandWiringTSNew)	2 | 6 70 | Line	
HAR Control Cabinet (TR TS HARControlCabinet)	0 | 0 86 | Cell	
HAR Control Cabinet New (TR TS HARControlCabinetNew)	2 | 0 70 | Cell	

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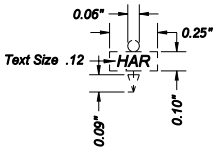
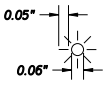
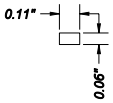
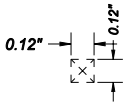
TR TS Traffic - Traffic Systems

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
HAR Sign (TR TS HARSign)	0 | 0 86 | Cell	
HAR Sign New (TR TS HARSignNew)	2 | 0 70 | Cell	
HAR Transmitter (TR TS HARTransmitter)	0 | 0 86 | Cell	
HAR Transmitter New (TR TS HARTransmitterNew)	2 | 0 70 | Cell	
Induction Loop Type 2 Mod (TR TS InductionLoopType2Mod)	0 | 0 54 | Cell	
Induction Loop Type 2 Mod New (TR TS InductionLoopType2ModNew)	2 | 0 38 | Cell	
JBox 1 (TR TS JBox1)	0 | 0 22 | Cell	

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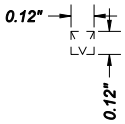
TR TS Traffic - Traffic Systems

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
JBox 1 New (TR TS JBox1New)	2 | 0 6 | Cell	
JBox 2 (TR TS JBox2)	0 | 0 22 | Cell	
JBox 2 New (TR TS JBox2New)	2 | 0 6 | Cell	
JBox 4 (Traffic-bearing) (TR TS JBox4(Traffic-bearing))	0 | 0 22 | Cell	
JBox 4 (Traffic-bearing) New (TR TS JBox4(Traffic-bearing)New)	2 | 0 6 | Cell	
JBox 5 (Traffic-bearing) (TR TS JBox5(Traffic-bearing))	0 | 0 22 | Cell	
JBox 5 (Traffic-bearing) New (TR TS JBox5(Traffic-bearing)New)	2 | 0 6 | Cell	

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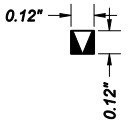
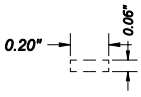
TR TS Traffic - Traffic Systems

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
JBox 6 (Traffic-bearing) (TR TS JBox6(Traffic-bearing))	0 | 0 22 | Cell	
JBox 6 (Traffic-bearing) New (TR TS JBox6(Traffic-bearing)New)	2 | 0 6 | Cell	
JBox 7 (No lock) (TR TS JBox7(Nolock))	0 | 0 22 | Cell	
JBox 7 (No lock) New (TR TS JBox7(Nolock)New)	2 | 0 6 | Cell	
JBox 8 (With lock) (TR TS JBox8(Withlock))	0 | 0 22 | Cell	
JBox 8 (With lock) New (TR TS JBox8(Withlock)New)	2 | 0 6 | Cell	
JBox Aerial (TR TS JBoxAerial)	0 | 0 22 | Cell	

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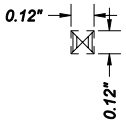
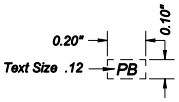
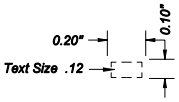
TR TS Traffic - Traffic Systems

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
JBox Aerial New (TR TS JBoxAerialNew)	2 | 0 6 | Cell	
JBox Nema (TR TS JBoxNema)	0 | 0 22 | Cell	
JBox Nema New (TR TS JBoxNemaNew)	2 | 0 6 | Cell	
JBox Unknown (TR TS JBoxUnknown)	0 | 0 22 | Cell	
Pull Box (TR TS PullBox)	0 | 0 54 | Cell	
Pull Box New (TR TS PullBoxNew)	2 | 0 38 | Cell	
SCDI Box (TR TS SCDIBox)	0 | 0 86 | Cell	

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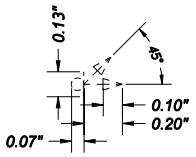
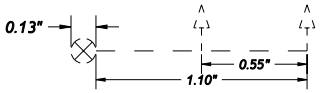
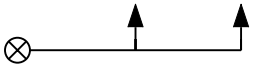
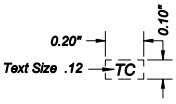
TR TS Traffic - Traffic Systems

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
SCDI Box New (TR TS SCDIBoxNew)	2 | 0 70 | Cell	
Signal Type 1 (TR TS SignalType1)	0 | 0 54 | Cell	
Signal Type 1 New (TR TS SignalType1New)	2 | 0 38 | Cell	
Signal Type 2 (TR TS SignalType2)	0 | 0 54 | Cell	
Signal Type 2 New (TR TS SignalType2New)	2 | 0 38 | Cell	
Terminal Cabinet (TR TS TerminalCabinet)	0 | 0 54 | Cell	
Terminal Cabinet New (TR TS TerminalCabinetNew)	2 | 0 38 | Cell	TC

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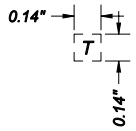
TR TS Traffic - Traffic Systems

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Traffic Systems Text (TR TS TrafficSystemsText)	0 | 0 22 | Text	Text Size = 0.07 Font = 164	*DYNAMIC MESSAGE SIGN*
Traffic Systems Text New (TR TS TrafficSystemsTextNew)	0 | 0 6 | Text	Text Size = 0.07 Font = 217	**DYNAMIC MESSAGE SIGN**
Transformer Cabinet (TR TS TransformerCabinet)	0 | 0 54 | Cell		
Transformer Cabinet New (TR TS TransformerCabinetNew)	2 | 0 38 | Cell		
VMS Control Cabinet (TR TS VMSControlCabinet)	0 | 0 118 | Cell		
VMS Control Cabinet New (TR TS VMSControlCabinetNew)	2 | 0 102 | Cell		

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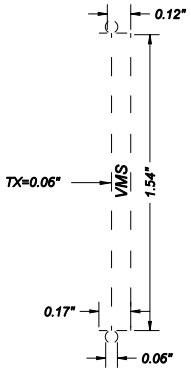
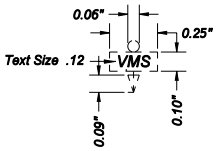
TR TS Traffic - Traffic Systems

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
VMS Overhead (TR TS VMSOverhead)	0 | 0 118 | Cell	
VMS Overhead New (TR TS VMSOverheadNew)	2 | 0 102 | Cell	
VMS Shoulder (TR TS VMSShoulder)	0 | 0 118 | Cell	

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TR TS Traffic - Traffic Systems

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
VMS Shoulder New (TR TS VMSShoulderNew)	2 | 0 102 | Cell	

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TR WZ Traffic - Work Zone

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Arrow Detour Route (TR WZ ArrowDetourRoute)	4 | 0 6 | Cell	
Arrow Left Str Right Turn (TR WZ ArrowLeftStrRightTurn)	1 | 0 6 | Cell	
Arrow Left Turn (TR WZ ArrowLeftTurn)	1 | 0 6 | Cell	
Arrow Right Turn (TR WZ ArrowRightTurn)	1 | 0 6 | Cell	
Arrow Straight (TR WZ ArrowStraight)	1 | 0 6 | Cell	
Arrow Straight Left Turn (TR WZ ArrowStraightLeftTurn)	1 | 0 6 | Cell	
Arrow Straight Right Turn (TR WZ ArrowStraightRightTurn)	1 | 0 6 | Cell	

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TR WZ Traffic - Work Zone

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Auto Flagger Assist Device (TR WZ AutoFlaggerAssistDevice)	1 | 0 134 | Cell	
Barricade Type 2 (TR WZ BarricadeType2)	1 | 0 38 | Cell	
Barricade Type 3 (TR WZ BarricadeType3)	1 | 0 38 | Cell	
Barrier Attenuator (TR WZ BarrierAttenuator)	1 | 0 38 | Cell	
Barrier Double Face (TR WZ BarrierDoubleFace)	1 | 0 38 | Cell	
Barrier Drum (TR WZ BarrierDrum)	1 | 0 38 | Cell	
Barrier Drum Pattern 12 (TR WZ BarrierDrumPattern12)	1 | Custom 38 | Line	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TR WZ Traffic - Work Zone

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Barrier Drum Pattern 18 (TR WZ BarrierDrumPattern18)	1 | Custom 38 | Line	
Barrier Drum Pattern 24 (TR WZ BarrierDrumPattern24)	1 | Custom 38 | Line	
Barrier Pole Sign Mount (TR WZ BarrierPoleSignMount)	1 | 0 38 | Cell	
Barrier Quick Move (TR WZ BarrierQuickMove)	1 | Custom 38 | Line	
Barrier Single Face (TR WZ BarrierSingleFace)	1 | 0 38 | Cell	
Concrete Barrier (TR WZ ConcreteBarrier)	1 | Custom 54 | Line	
Concrete Barrier New (TR WZ ConcreteBarrierNew)	1 | Custom 38 | Line	

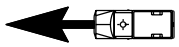
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TR WZ Traffic - Work Zone

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Concrete Divider Basic (TR WZ ConcreteDividerBasic)	1 | 0 38 | Cell	
Double 2 Way Arrow (TR WZ Double2WayArrow)	1 | 0 6 | Cell	
Flagging Station (TR WZ FlaggingStation)	1 | 0 134 | Cell	
Guardrail (TR WZ Guardrail)	1 | 0 38 | Cell	
Guide Post New (TR WZ GuidePostNew)	1 | 0 70 | Cell	
Guide Post Temp (TR WZ GuidePostTemp)	1 | 0 70 | Cell	
Impact Attenuator 40 mph (TR WZ ImpactAttenuator40mph)	1 | 0 38 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TR WZ Traffic - Work Zone

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Impact Attenuator 60 mph (TR WZ ImpactAttenuator60mph)	1 | 0 38 | Cell	
Impact Attenuator Temp (TR WZ ImpactAttenuatorTemp)	1 | 0 38 | Cell	
Law Enforcement Flagger (TR WZ LawEnforcementFlagger)	1 | 0 134 | Cell	
Local Law Enforcement (TR WZ LocalLawEnforcement)	1 | 0 134 | Cell	
Motorist Vehicle (TR WZ MotoristVehicle)	1 | 0 134 | Cell	
Permitted Contractor Access (TR WZ PermittedContractorAccess)	1 | 0 134 | Cell	
Portable Change Message Sign (TR WZ PortableChangeMessageSign)	1 | 0 102 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TR WZ Traffic - Work Zone

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Portable Light Standard (TR WZ PortableLightStandard)	1 | 0 134 | Cell	
Portable Signal System (TR WZ PortableSignalSystem)	1 | 0 102 | Cell	
Portable Sign Mount (TR WZ PortableSignMount)	1 | 0 102 | Cell	
Scale Terminal End Section (TR WZ ScaleTerminalEndSection)	1 | 0 38 | Cell	
Sequential Arrow Type B (TR WZ SequentialArrowTypeB)	1 | 0 102 | Cell	
Sequential Arrow Type C (TR WZ SequentialArrowTypeC)	1 | 0 102 | Cell	
Sign (TR WZ Sign)	1 | 0 118 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TR WZ Traffic - Work Zone

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Sign Mount Tripod (TR WZ SignMountTripod)	1 | 0 102 | Cell	
Sign New (TR WZ SignNew)	1 | 0 102 | Cell	
Spotter Location (TR WZ SpotterLocation)	1 | 0 134 | Cell	
Traffic Safety Cone (TR WZ TrafficSafetyCone)	1 | 0 38 | Cell	
Traffic Safety Cone 28 (TR WZ TrafficSafetyCone28)	1 | 0 38 | Cell	
Traffic Safety Cone Tall (TR WZ TrafficSafetyConeTall)	1 | 0 38 | Cell	
Traffic Safety Drum (TR WZ TrafficSafetyDrum)	1 | 0 38 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

TR WZ Traffic - Work Zone

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Traffic Safety Drum 2 (TR WZ TrafficSafetyDrum2)	1 | 0 38 | Cell	
Truck Buffer (TR WZ TruckBuffer)	1 | 0 134 | Cell	
Truck Mount Attenuator (TR WZ TruckMountAttenuator)	1 | 0 38 | Cell	
Tubular Marker (TR WZ TubularMarker)	1 | 0 38 | Cell	
Warning Beacon (TR WZ WarningBeacon)	1 | 0 102 | Cell	
Warning Flag (TR WZ WarningFlag)	1 | 0 102 | Cell	
Warning Flare (TR WZ WarningFlare)	1 | 0 102 | Cell	

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TR WZ Traffic - Work Zone

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
WorkZone Details (TR WZ WorkZoneDetails)	0 | 0 0 | Line	
WSP (TR WZ WSP)	1 | 0 134 | Cell	
WSP2 (TR WZ WSP2)	1 | 0 134 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT CM Utilities - Communications

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
AbvGnd Cable TV (UT CM AbvGndCableTV)	0 | Custom 21 | Line		- OTV – – OTV – – OTV – – OTV – – OTV – –
AbvGnd Cable TV New (UT CM AbvGndCableTVNew)	0 | Custom 5 | Line		- OTV — OTV — OTV — OTV — OTV —
AbvGnd Optic Fiber Cable (UT CM AbvGndOpticFiberCable)	0 | Custom 21 | Line		- OF — — OF — — OF — — OF — — OF — –
AbvGnd Optic Fiber Cable New (UT CM AbvGndOpticFiberCableNew)	0 | Custom 5 | Line		- OF —— OF —— OF —— OF —— OF ——
AbvGnd Telephone Line (UT CM AbvGndTelephoneLine)	0 | Custom 21 | Line		- OT — — OT — — OT — — OT — — OT — –
AbvGnd Telephone Line New (UT CM AbvGndTelephoneLineNew)	0 | Custom 5 | Line		- OT —— OT —— OT —— OT —— OT ——
Communication Util Text (UT CM CommunicationUtilText)	0 | 0 21 | Text	Text Size = 0.07 Font = 164	*UTILITIES*

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT CM Utilities - Communications

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Communication Util Text New (UT CM CommunicationUtilTextNew)	0 | 0 5 | Text	Text Size = 0.07 Font = 217	UTILITIES
Steel Transmission Tower (UT CM SteelTransmissionTower)	1 | 0 21 | Cell		
Telephone Booth (UT CM TelephoneBooth)	0 | 0 21 | Cell		
Telephone Booth New (UT CM TelephoneBoothNew)	1 | 0 5 | Cell		
Telephone Box (UT CM TelephoneBox)	0 | 0 21 | Cell		
Telephone Box New (UT CM TelephoneBoxNew)	1 | 0 5 | Cell		
Telephone Manhole (UT CM TelephoneManhole)	0 | 0 21 | Cell		

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT CM Utilities - Communications

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Telephone Manhole New (UT CM TelephoneManholeNew)	1 | 0 5 | Cell	
Telephone Pole (UT CM TelephonePole)	0 | 0 21 | Cell	
Telephone Pole New (UT CM TelephonePoleNew)	1 | 0 5 | Cell	
Telephone Riser (UT CM TelephoneRiser)	0 | 0 21 | Cell	
UndGnd Cable Box (UT CM UndGndCableBox)	0 | 0 21 | Cell	
UndGnd Cable Box New (UT CM UndGndCableBoxNew)	1 | 0 5 | Cell	
UndGnd Cable TV (UT CM UndGndCableTV)	0 | Custom 21 | Line	BTV BTV BTV BTV BTV

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UT CM Utilities - Communications

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
UndGnd Cable TV New (UT CM UndGndCableTVNew)	0 | Custom 5 | Line	
UndGnd Communication Vault (UT CM UndGndCommunicationVault)	0 | 0 21 | Cell	
UndGnd Communicat Vault New (UT CM UndGndCommunicatVaultNew)	1 | 0 5 | Cell	
UndGnd Fiber Optic (UT CM UndGndFiberOptic)	0 | Custom 21 | Line	
UndGnd Fiber Optic New (UT CM UndGndFiberOpticNew)	0 | Custom 5 | Line	
UndGnd Telephone Box (UT CM UndGndTelephoneBox)	0 | 0 21 | Cell	
UndGnd Telephone Box New (UT CM UndGndTelephoneBoxNew)	1 | 0 5 | Cell	

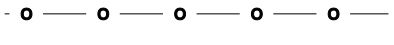
Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT CM Utilities - Communications

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
UndGnd Telephone Cable (UT CM UndGndTelephoneCable)	0 | Custom 21 | Line	
UndGnd Telephone Cable New (UT CM UndGndTelephoneCableNew)	0 | Custom 5 | Line	
Wooden Transmission Tower (UT CM WoodenTransmissionTower)	1 | 0 21 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT GS Utilities - Gas

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Gas Line (UT GS GasLine)	0 | Custom 53 | Line		
Gas Line New (UT GS GasLineNew)	0 | Custom 37 | Line		
Gas Meter Box (UT GS GasMeterBox)	0 | 0 53 | Cell		
Gas Utilities Text (UT GS GasUtilitiesText)	0 | 0 53 | Text	Text Size = 0.07 Font = 164	*UTILITIES*
Gas Utilities Text New (UT GS GasUtilitiesTextNew)	0 | 0 37 | Text	Text Size = 0.07 Font = 217	**UTILITIES**
Oil Line (UT GS OilLine)	0 | Custom 53 | Line		
Oil Line New (UT GS OilLineNew)	0 | Custom 37 | Line		

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT GS Utilities - Gas

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Valve Box Gas (UT GS ValveBoxGas)	0 | 0 53 | Cell	
Valve Box Gas New (UT GS ValveBoxGasNew)	1 | 0 37 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT GU Utilities - General Utilities Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Above Ground Utility Line (UT GU AboveGroundUtilityLine)	0 | Custom 0 | Line		
Above Ground Utility Point (UT GU AboveGroundUtilityPoint)	0 | 0 0 | Cell		
Down Guy Anchor (UT GU DownGuyAnchor)	0 | 0 0 | Cell		
Down Guy Anchor New (UT GU DownGuyAnchorNew)	1 | 0 0 | Cell		
General Utilities Text (UT GU GeneralUtilitiesText)	0 | 0 53 | Text	Text Size = 0.07 Font = 164	*UTILITIES*
General Utilities Text New (UT GU GeneralUtilitiesTextNew)	0 | 0 37 | Text	Text Size = 0.07 Font = 217	**UTILITIES**
Guy Pole (UT GU GuyPole)	0 | 0 0 | Cell		

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT GU Utilities - General Utilities Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Guy Pole New (UT GU GuyPoleNew)	1 | 0 0 | Cell	
Guy Wire (UT GU GuyWire)	0 | 0 0 | Line	
Guy Wire New (UT GU GuyWireNew)	1 | 0 0 | Line	
Under Ground Utility Line (UT GU UnderGroundUtilityLine)	0 | Custom 0 | Line	
Utility Box (UT GU UtilityBox)	0 | 0 0 | Cell	
Utility Box New (UT GU UtilityBoxNew)	1 | 0 0 | Cell	
Utility Manhole (UT GU UtilityManhole)	0 | 0 0 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT GU Utilities - General Utilities Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Utility Manhole New (UT GU UtilityManholeNew)	1 | 0 0 | Cell	
Utility Pole (UT GU UtilityPole)	0 | 0 0 | Cell	
Utility Pole New (UT GU UtilityPoleNew)	1 | 0 0 | Cell	
Utility Vault (UT GU UtilityVault)	0 | 0 0 | Cell	
Utility Vault New (UT GU UtilityVaultNew)	1 | 0 0 | Cell	
Valvebox (UT GU Valvebox)	0 | 0 0 | Cell	
Valvebox New (UT GU ValveboxNew)	1 | 0 0 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT GU Utilities - General Utilities Items

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Vent (UT GU Vent)	0 | 0 0 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT MT Utilities - Multiple Types

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
AbvGnd Utilities Multi (UT MT AbvGndUtilitiesMulti)	0 | Custom 149 | Line		
AbvGnd Utilities Multi New (UT MT AbvGndUtilitiesMultiNew)	0 | Custom 133 | Line		
Multi Utilities Text (UT MT MultiUtilitiesText)	0 | 0 149 | Text	Text Size = 0.07 Font = 164	*UTILITIES*
Multi Utilities Text New (UT MT MultiUtilitiesTextNew)	0 | 0 133 | Text	Text Size = 0.07 Font = 217	**UTILITIES**
UndGnd Utilities Multi (UT MT UndGndUtilitiesMulti)	0 | Custom 149 | Line		
UndGnd Utilities Multi New (UT MT UndGndUtilitiesMultiNew)	0 | Custom 133 | Line		
Utilities Multi Types 1 (UT MT UtilitiesMultiTypes1)	0 | Custom 149 | Line		

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT MT Utilities - Multiple Types

Name (Level)	ByLevel Weight / byLevel Color	ByLevel Style / Element Type	Example
Utilities Multi Types 2 (UT MT UtilitiesMultiTypes2)	0 / 149	Custom / Line	
Utilities Multi Types 3 (UT MT UtilitiesMultiTypes3)	0 / 149	Custom / Line	
Utilities Multi Types 4 (UT MT UtilitiesMultiTypes4)	0 / 149	Custom / Line	
Utilities Multi Types 5 (UT MT UtilitiesMultiTypes5)	0 / 149	Custom / Line	
Utilities Multi Types 6 (UT MT UtilitiesMultiTypes6)	0 / 149	Custom / Line	
Utilities Multi Types 7 (UT MT UtilitiesMultiTypes7)	0 / 149	Custom / Line	
Utilities Multi Types 8 (UT MT UtilitiesMultiTypes8)	0 / 149	Custom / Line	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT MT Utilities - Multiple Types

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Utilities Multi Types 9 (UT MT UtilitiesMultiTypes9)	0 | Custom 149 | Line	U9 — — U9 — — U9 — — U9 — — U9 — –

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT PW Utilities - Power

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
AbvGnd Hi Tens Power Line (UT PW AbvGndHiTensPowerLine)	0 | Custom 117 | Line	OHP OHP OHP OHP OHP
AbvGnd Hi Tens Power Line New (UT PW AbvGndHiTensPowerLineNew)	0 | Custom 101 | Line	OHP OHP OHP OHP OHP
AbvGnd Power (UT PW AbvGndPower)	0 | Custom 117 | Line	OP OP OP OP OP
AbvGnd Power New (UT PW AbvGndPowerNew)	0 | Custom 101 | Line	OP OP OP OP OP
Elect Box (UT PW ElectBox)	0 | 0 117 | Cell	E
Elect Box New (UT PW ElectBoxNew)	1 | 0 101 | Cell	E
Ground Rod (UT PW GroundRod)	0 | 0 117 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT PW Utilities - Power

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Power Box (UT PW PowerBox)	0 | 0 117 | Cell	
Power Box New (UT PW PowerBoxNew)	1 | 0 101 | Cell	
Power Manhole (UT PW PowerManhole)	0 | 0 117 | Cell	
Power Manhole New (UT PW PowerManholeNew)	1 | 0 101 | Cell	
Power Meter Box (UT PW PowerMeterBox)	0 | 0 117 | Cell	
Power Pole (UT PW PowerPole)	0 | 0 117 | Cell	
Power Pole New (UT PW PowerPoleNew)	1 | 0 101 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT PW Utilities - Power

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Power Utilities Text (UT PW PowerUtilitiesText)	0 | 0 117 | Text	Text Size = 0.07 Font = 164	*UTILITIES*
Power Utilities Text New (UT PW PowerUtilitiesTextNew)	0 | 0 101 | Text	Text Size = 0.07 Font = 217	**UTILITIES**
Steel Transmission Tower (UT PW SteelTransmissionTower)	1 | 1 117 | Cell		STT
UndGnd Power Line (UT PW UndGndPowerLine)	0 | Custom 117 | Line		BP BP BP BP BP
UndGnd Power Line New (UT PW UndGndPowerLineNew)	0 | Custom 101 | Line		BP BP BP BP BP
UndGnd Power Vault (UT PW UndGndPowerVault)	0 | 0 117 | Cell		P
UndGnd Power Vault New (UT PW UndGndPowerVaultNew)	1 | 0 101 | Cell		P

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT PW Utilities - Power

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Utilities Text (UT PW UtilitiesText)	0 | 0 117 | Text	Text Size = 0.07 Font = 164	*UTILITIES*
Utilities Text New (UT PW UtilitiesTextNew)	0 | 0 101 | Text	Text Size = 0.07 Font = 217	**UTILITIES**
Wooden Transmission Tower (UT PW WoodenTransmissionTower)	1 | 0 117 | Cell		

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT SS Utilities - Sanitary Sewer

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
San Sewer CleanOut (UT SS SanSewerCleanOut)	0 | 0 149 | Cell		
San Sewer Line (UT SS SanSewerLine)	0 | Custom 149 | Line		
San Sewer Line New (UT SS SanSewerLineNew)	0 | Custom 133 | Line		
San Sewer Manhole (UT SS SanSewerManhole)	0 | 0 149 | Cell		
San Sewer Manhole New (UT SS SanSewerManholeNew)	1 | 0 133 | Cell		
San Sewer Utilities Text (UT SS SanSewerUtilitiesText)	0 | 0 149 | Text	Text Size = 0.07 Font = 164	*UTILITIES*
San Sewer Utilities Text New (UT SS SanSewerUtilitiesTextNew)	0 | 0 133 | Text	Text Size = 0.07 Font = 217	**UTILITIES**

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT SS Utilities - Sanitary Sewer

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Valve Box San Sewer (UT SS ValveBoxSanSewer)	0 | 0 149 | Cell	
Valve Box San Sewer New (UT SS ValveBoxSanSewerNew)	1 | 0 133 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT WT Utilities - Water

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type	Example
Fire Hydrant (UT WT FireHydrant)	0 | 0 85 | Cell	
Fire Hydrant New (UT WT FireHydrantNew)	1 | 0 69 | Cell	
UndGnd Tank (UT WT UndGndTank)	0 | 0 85 | Cell	
UndGnd Water Vault (UT WT UndGndWaterVault)	0 | 0 85 | Cell	
UndGnd Water Vault New (UT WT UndGndWaterVaultNew)	1 | 0 69 | Cell	
Valve Box Water (UT WT ValveBoxWater)	0 | 0 85 | Cell	
Valve Box Water New (UT WT ValveBoxWaterNew)	1 | 0 69 | Cell	

Examples are shown at the correct size for all drawing scales printed to 11″× 17″ PS&E sheet, unless otherwise noted. Items flagged with an asterisk (*) are True Size items that always measure the same in ground units and their size on a print changes with the drawing scale. The scales of the True Size item examples are noted.

UT WT Utilities - Water

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Valve Release (UT WT ValveRelease)	0 | 0 85 | Cell		
Water Line (UT WT WaterLine)	0 | Custom 85 | Line		
Water Line New (UT WT WaterLineNew)	0 | Custom 69 | Line		
Water Manhole (UT WT WaterManhole)	0 | 0 85 | Cell		
Water Manhole New (UT WT WaterManholeNew)	1 | 0 69 | Cell		
Water Meter Box (UT WT WaterMeterBox)	0 | 0 85 | Cell		
Water Utilities Text (UT WT WaterUtilitiesText)	0 | 0 85 | Text	Text Size = 0.07 Font = 164	*UTILITIES*

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UT WT Utilities - Water

Name (Level)	ByLevel Weight | ByLevel Style byLevel Color | Element Type		Example
Water Utilities Text New (UT WT WaterUtilitiesTextNew)	0 | 0 69 | Text	Text Size = 0.07 Font = 217	UTILITIES

600.01 Introduction
600.02 Amendments
600.03 Special Provisions
600.04 Format

600.01 Introduction

Contract Provisions are legally enforceable specifications to contracts formed between the Washington State Department of Transportation (WSDOT) and contractors.

(1) General

Contract Provisions consist of the following:

1. Notice to Planholders
   - Project Engineer's name, address, and phone number
2. Table of Contents
3. Amendments
   - Revisions to the *Standard Specifications for Road, Bridge, and Municipal Construction (Standard Specifications)*
4. Special Provisions
   - A combination of the General Special Provisions (GSPs) and project-specific provisions
5. Boring Logs
   - For bridge or structures projects, provided by the Headquarters (HQ) Bridge and Structures Office
6. Federal-Aid Provisions
   - For federal-aid projects
7. Prevailing Minimum Hourly Wage Rates
   - State, federal, or both, depending on project funding
8. Proposal (informational copy)
   - Subcontractor List
   - Signature Page
   - Declaration of Non-Collusion
   - Certification for Federal-Aid Contractors
9. Appendices to the Special Provisions.

10. Forest Service Provisions (if applicable)
11. Railroad Insurance Forms (if applicable)
12. Other Documents

This section will discuss the Amendments, GSPs, and project-specific provisions.

The Amendment and Special Provisions sections of the Contract Provisions are created using the WSDOT "PS&E Word Program" (see the Appendices for a User's Guide). Each Amendment and GSP is given a unique file name. That file name is a number that corresponds to the section of the *Standard Specifications* being supplemented or revised by the document. Project-specific provisions are assigned a unique file name by the writer of the document.

The designer makes a list, called the run-list, of the applicable file names, and the computer system compiles the actual documents in the order requested on the run-list.

The PS&E Word Program allows the designer to access the Amendments and GSPs through the region's computer network system and enables designers to:

- Read the documents.
- Compile the run-list.
- Write the project-specific information.
- Insert the information in the run-list.
- Compile the completed Contract Provisions.
- Create the Table of Contents.

WSDOT offices, consultants, and local agencies not connected to the WSDOT computer network system can download the PS&E Word program, Amendments, and GSPs from the Internet. Access this information on the WSDOT Project Development – Specifications, Amendments, and GSPS website at:
www.wsdot.wa.gov/Design/ProjectDev/Specifications.htm

For program compatibility issues, contact the WSDOT HQ Strategic Analysis Estimating Office (SAEO) for help.

The Internet information is updated on the same schedule as the WSDOT system, so the information is always current. It is the user's responsibility to regularly check for program, Amendment, and GSP updates at the Project Development Specifications website (see above) or by signing up for e-mail alerts at:
http://service.govdelivery.com/service/subscribe.html?code=WADOT_75

Assistance with the PS&E Word Program and the Amendment and GSP information is available through the HQ Strategic Analysis Estimating Office (SAEO) at:
www.wsdot.wa.gov/Design/ProjectDev/Specifications.htm

For complete instructions on how to use the PS&E Word Program, access the User's Guide for PS&E Support Contract Provisions at:
www.wsdot.wa.gov/publications/fulltext/projectdev/manuals/PS&EManual.pdf

600.02 Amendments

(1) General

The Amendments are revisions to the *Standard Specifications* that occur between printings. They are distributed by the HQ SAEO.

It is important for all designers to have the opportunity to see the Amendments when they are distributed so they are aware of changes in requirements, materials, and how work is being measured and paid. Too often, the most recent Amendments are included in a project and they conflict with information in the Special Provisions, the plans, or both, because the designer did not stay current with the changes. These conflicts can be costly.

The Index to the Amendments contains the file name, section heading, date of last revision, and instructions for use.

The Amendments file name identifies the section of the *Standard Specifications* being amended. For example, 10.AP1 indicates that Section 1-10 is being amended. When you create a Table of Contents using the program, the Amendment file name will be shown to the left of the section heading. When using the program, the Amendment filenames will automatically add to your run-list based on the options you choose.

It is recommended that you develop a system for marking your copy of the *Standard Specifications* to indicate the areas that have been revised by Amendment. When writing Special Provisions, this system makes it easy for you to determine whether the information in the book is the latest or it has been revised by an Amendment.

600.03 Special Provisions

(1) General

The Special Provisions consist of the General Special Provisions (GSPs), Region General Special Provisions (RGSPs), and the project-specific provisions.

(2) GSPs

GSPs are provisions that are written to cover legal and construction requirements that may occur on a project. They supplement or revise the *Standard Specifications* and are written to provide statewide standardization for the work covered. The State Construction Engineer is the approving authority for all changes made to the *Standard Specifications*, including GSPs. Consequently, after approval, these are available for use, in their original state, for multiple projects.

The Index to the GSPs contains the file name, section heading, date of last revision, and instructions for use.

The GSP file names are directly related to the divisions in the *Standard Specifications*. For example, 0103.GR8 would be a GSP that either revises or supplements Section 8-01.3. The extension GR (General Roadway) is followed by the division number of the Standard Specification. The file name 0103 refers to the section (01) and subsection (03) in the division.

A GSP is to be used, as is, if it is applicable to the project being developed. HQ Construction Office approval is needed for any revisions to GSPs.

(3) RGSPs

RGSPs are provisions that are written to cover the legal and construction requirements that occur on projects that differ from region to region. They supplement or revise the *Standard Specifications* and are written to provide regionwide standardization for the work covered.

RGSPs are approved for region use by the State Construction Engineer. After initial approval, no justification needs to be submitted to the State Construction Engineer to incorporate an RGSP into your contract package. Any modifications to an already approved RGSP will require resubmittal to the State Construction Engineer.

The Index to the RGSPs contains the file name with a region identifier, section heading, date of last revision, and instructions for use.

The RGSP file extension has a region identifier assigned to each region after the file name. The identifier is .DT1 through .DT6 depending on what region is applicable. For example, 0108.DT1 would be for the Northwest Region.

(4) Project-Specific Provisions

The project-specific provisions are written by the designer to supplement or revise information in the *Standard Specifications* and Amendments to make them fit the project being developed. Project-specific provisions are not to duplicate information contained in the *Standard Specifications*, Amendments, GSPs, or plans.

Approval of project-specific specifications that alter the *Standard Specifications* (WSDOT Spec. book) is required prior to inclusion in your contract. All project-specific specifications are to be sent, along with justification, to the State Construction Engineer for concurrence and approval. Special provisions prepared by a support group must be reviewed to ensure they fit within the specifications/Special Provisions of the project. Any changes to a support group Special Provision must have concurrence and approval prior to sending it to the State Construction Engineer.

Project-specific provisions should be thought of as "project-specific Amendments." In order to know what information needs to be added to supplement the information in the *Standard Specifications*, or what information in the *Standard Specifications* needs to be revised to be applicable to the project, you have to be familiar with the information in the *Standard Specifications*. No one is expected to memorize it, but you are expected to read the applicable information and Amendments before you start writing. The field inspector will be using the *Standard Specifications* to construct the project, so it is reasonable that you use it as a design tool and the basis for every project-specific provision you write.

Project-specific provisions will be preceded by six asterisks in parentheses (******). The asterisks are to be placed after Standard Specification headings and ahead of the project-specific information that either supplements or revises the Standard Specification, as follows:

ROADWAY EXCAVATION AND EMBANKMENT (Spec. book heading)

Construction Requirements (Spec. book section)

Roadway Ditches (Spec. book subsection)
Section 2-03.3(9) is supplemented with the following:

(******)
Project-specific information goes here

If the designer has written a new project-specific subsection, the asterisks would go after the Standard Specification section heading and ahead of the new subsection heading, as follows:

ROADWAY EXCAVATION AND EMBANKMENT (Spec. book heading)

Construction Requirements (Spec. book section)

Roadway Ditches (Spec. book subsection)
Section 2-03.3(9) is supplemented with the following:

(******)
Rock Fallout Ditches (new, project-specific subsection)
Project-specific information goes here.

Refer to the Appendices for a User's Guide to the PS&E Word Program.

600.04 Format

(1) General

The Special Provisions will follow the format found in the *Standard Specifications*. Most of the information will appear under the same main headings as the division headings in the *Standard Specifications*.

Generally, Divisions 2 through 8 in the *Standard Specifications* each have the following five sections:

1. Description
2. Materials
3. Construction Requirements
4. Measurement
5. Payment

There will be occasions when the work being performed does not fall under one of the divisions in the *Standard Specifications*, and the designer will have to write a complete new specification called a Stand Alone. However, the format will remain the same and the designer will simply be responsible for providing all of the information. In these types of specials, the designer does not write what division they are supplementing, revising, and so on, in the special.

Because the *Standard Specifications* are the beginning point for every GSP and project-specific provision, before writing anything, you need to first explore the *Standard Specifications* and determine which sections need to be supplemented or revised to get the desired work performed.

If the information is adequately covered in the *Standard Specifications*, then there is nothing to write. The most difficult part of writing good Special Provisions is providing the proper amount of information—not too much, not too little—to get the desired results.

(2) Description

The description is a brief statement of what the work is, written in the following format example:

> "This work shall consist of removing and disposing of concrete inlets."

If the work is "furnishing and installing modified catch basins," a description would not be required, since the description in Section 7-05 of the *Standard Specifications* covers the construction of all kinds of manholes, inlets, and catch basins. The writer could move on to the materials section and explain any differences in the materials for the modified catch basin.

If a description is required, it will **not** contain:

- Detailed information, such as station limits of the work or quantities.
- Phrases like "as detailed in the Plans," "as shown in the Plans," or "as directed by the Engineer."

If there is a detail in the plans, save this information for the construction requirements section.

It is the designer's responsibility to show the location of every item of work in the plans. It is not necessary to keep stating this in the Special Provisions.

Engineers do not direct the work on the project—they administer the project. The only work that is "directed" by the Engineer is force account work and work that is done off the project; for example, "the Contractor shall deliver the salvaged material to the maintenance site and stack it as directed by the Engineer."

(3) Materials

The Materials section will normally reference the appropriate section of the *Standard Specifications* or the appropriate section of a nationally recognized material specification such as AASHTO or ASTM.

All materials information is to be in the Materials section of the Special Provisions. If a detail in the plans has materials information on it, it is not necessary to repeat the information in the Special Provisions. However, there will have to be a reference in the Special Provisions to let the reader know where to find the information. A statement such as "Materials requirements for (whatever it is) are on the detail in the Plans" is all that is required to get the reader to the information. Do not indicate a specific plan sheet number, but rather reference a series of plans (such as Drainage Plans or Drainage Details) using the same wording as shown on the Index sheet, so the information can be easily found.

The *Standard Specifications* defines the requirements for materials used in road and bridge construction. There may be occasions when the regions have the need to change these requirements by Special Provision. The regions are to notify the Construction Materials Engineer at the HQ Materials Laboratory and request concurrence with the specification change prior to including the Special Provision in the contract documents.

In some situations, the regions may have a need to reduce the testing frequency of certain materials. This can be accomplished by one of the two following methods:

- Before construction: Contact the Construction Materials Engineer at the HQ Materials Laboratory and request concurrence with the frequency change prior to reducing the testing frequency.
- During construction: Follow the guidance in Section 9-5.2B of the *Construction Manual*, Reducing Frequency of Testing.

To change the testing requirements of a material, such as testing aggregate by visual inspection, request and obtain approval from the HQ Construction Materials Engineer.

When writing a materials specification that includes a revision to Division 9 materials requirements, include the materials requirements within the Special Provision it pertains to—do not place the materials specification in Division 9.

(4) Construction Requirements

The construction requirements must be written to clearly describe what needs to be done. Define the work that the contractor is to perform, and provide any specific requirements that need to be completed or met in order to complete the work. Do not specify *how* to do it or explain *why* the work needs to be done.

Construction requirements are to be shown in the order in which the work is to be performed.

If there is a detail in the plans, this is where a statement would tell the contractor to "construct the (whatever it is) as detailed in the Plans."

Construction requirements are to be placed in the Special Provisions where they are enforceable.

(5) Measurement

The measurement statement will be written to describe how the work or material will be measured, not the pay item name. For example, write "measure the removal of drainage structures," not "Removing Drainage Structures," (pay item name), or "measure culvert pipe," not "Schedule A Culv. Pipe 12 In. Diam." (pay item name).

It is important to read the measurement statement found in the *Standard Specifications*, because many times it will apply to items that would seem to be project-specific. For example, if the project has the item "Special Culv. Pipe 12 In. Diam.," the measurement statement found in the *Standard Specifications* applies to all culvert pipe: standard, special, modified, and so on.

To be complete, the measurement statement needs to include not only the unit of measure, but information as to when and where the measurement will be made. For example, "The length of culvert pipe or pipe arch will be the number of linear feet of completed installation measured along the invert."

(6) Payment

The payment statement needs to be written in quotes and followed by the unit of measure. The bid item has to have the exact same name found in the Summary of Quantities; for example, "Adjust Catch Basin", per each. Generally this is all that would be required for the payment statement.

If there is additional work associated with the item, the payment statement needs to also describe the work included. For example:

> "Removing Manhole", per each.
>
> The unit contract price per each for "Removing Manhole" shall include all costs for sawcutting existing pavement associated with the removal.

There should be no surprises in the payment statement. If sawcutting is required and is to be included in the cost of the catch basin removal, it has to have been discussed in some other section of the Special Provision. It will not just show up in the payment statement as being required and included in the cost of the item.

(7) Text

(a) General Guidelines

Special Provisions and the plans shall adhere to several general guidelines:

1. Write in a clear, concise, and complete manner.
2. Avoid the use of nonstandard words or numerous cross-references to other specifications.
3. When cross-referencing is necessary, ensure the provision is capable of standing alone as an explanatory document.
4. Place punctuation outside the quotation marks used with a bid item.
5. Capitalize the following words within the text: Contractor, Engineer, Plans, Section (referring to a specific section of the *Standard Specifications*), Special Provisions, *Standard Specifications*, *Standard Plans*, State, and Contracting Agency.
6. Use "all costs" or "all expenses," but not both.
7. Use "as shown in the Plans" rather than "as shown on the Plans."
8. Avoid repetition of information available from other parts of the contract document, including the *Standard Specifications*.
9. Avoid abbreviations, except for those included within a bid item name.
10. Use the word "shall" to denote work to be done by the Contractor.
11. Use the word "will" to denote something the State is to do.
12. Do not use "Incidental to and included in" as a combination phrase. "Incidental to" refers to a general type of work, such as earthwork or paving, whereas "included in" links payment to a specific item of work.

13. Avoid “As directed by the Engineer.” Both “As designated by the Engineer” or “As staked by the Engineer” are applicable within the project limits.
14. Avoid using “ to the satisfaction of the Engineer.” If enough information is available to describe a standard of work, the description is preferable.
15. Avoid “and/or” where possible. For example, “steel, wood, or both” is preferable to “steel and/or wood.”
16. Avoid “as per” as a substitute for “in accordance with.”
17. Use alpha notation when referring to a number of things; for example, install two catch basins.
18. Express all measurement units in Arabic numerals; for example, 6 inches, 20 feet, 1.5 miles, and so on.
19. Express counted numbers as follows:
    - Spell out numbers 1 through 10 (for example, six working days, seven catch basins, and so on).
    - Use Arabic numerals for numbers larger than 10 (for example, 35 working days, 24 hours, and so on).
    - Spell out all numbers that begin a sentence. If your sentence starts with a large number, try to reconfigure your sentence.
    - **Do not use Arabic and spelled-out numbers together.**

Division 7 Miscellaneous Contract Considerations

700.01 Hot Mix Asphalt (HMA)
700.02 Earthwork
700.03 Equal Employment Opportunity and Training
700.04 Materials Sources
700.05 Other Contract Considerations

700.01 Hot Mix Asphalt (HMA)

(1) Anti-Stripping Additive

A bid item for "Anti-Stripping Additive" shall be included in all projects with bituminous surface treatment (BST) using cut-back (not emulsified) asphalts, HMA, and asphalt treated base (ATB).

The estimated force account dollar amount for "Anti-Stripping Additive" can be calculated at $1 per ton of HMA or ATB. Round the total estimated amount to the nearest $10.

(2) HMA for Approach

The item "HMA for Approach Cl.____ PG____" is to be used when there are road approaches to be paved on the project.

This is not to be confused with county roads and city street intersections. County road and city street intersections shall be included in main line paving quantities.

Road approaches will be identified by approach sections in the roadway section sheets, and on the Paving Plans, if they are present, so the contractor is aware of the number, locations, and paving requirements.

(3) HMA for Preleveling

The bid item for "HMA for Preleveling Cl. ____ PG ____" is to be provided when a project requires preleveling of the existing roadway surface.

The quantity of preleveling is to be based on a survey of field conditions. In some regions, this survey may be made by the Materials Laboratory and it may provide the prelevel rate or quantity.

The roadway sections should show in the typical sections where and what type of prelevel is to be completed (wheel rutting or on a lane to correct a super rate issue) so that the contractor knows how to bid and what equipment is expected to be used.

(4) HMA Quality Assurance

As an incentive for contractors to provide superior quality HMA, the Washington State Department of Transportation (WSDOT) will pay a bonus up to 5% of the unit bid price of the HMA. The bonus is comprised of 3% for the mixture and 2% for compaction.

When a project calls for paving with HMA, the item "Job Mix Compliance Price Adjustment" (JMCPA) will be required. For HMA accepted by non-statistical or commercial evaluation, this item is only used when there is nonconforming mix resulting in a credit. For HMA accepted by non-statistical or commercial evaluation, the JMCPA will be -$1 for the estimate. For HMA accepted by statistical evaluation, the JMCPA will be calculated using the following formula:

JMCPA = (0.03) (TEC)

Where:
TEC = Summation of the Total Estimated Cost of HMA accepted by statistical evaluation.

Example:

Description Quantity Unit Price Est. Cost
HMA Cl. ½ IN. PG_ (2,600 tons) ($70.00) = $182,000
HMA for Preleveling Cl. ½ IN. PG_ (1,500 tons) ($135.00) = N/A (commercial evaluation)
HMA Cl. ⅜ IN. PG_ (1,100tons) ($82.00) = N/A (non-statistical evaluation)
Summation of Total Est. Costs (TEC) = $182,000
JMCPA = (0.03)($182,000)
JMCPA = $5,460
Use $5,500 for "Job Mix Compliance Price Adjustment"

When a project calls for paving with HMA, the item "Compaction Price Adjustment" (CPA) will be required, regardless of the tonnage, if the total compacted depth for a Class of HMA placed in the traffic lanes is greater than 0.10 foot.

The price adjustment will be calculated using the following formula:

CPA = (0.02) (TWTEC)

Where:
TWTEC = Travel Way Total Estimated Cost of HMA with a total depth greater than 0.10 foot.

Note: If the same compaction effort is required on the shoulders, the shoulders will be included in the calculations for "Compaction Price Adjustment." For example, where the shoulders are currently being constructed full depth because they will become a driving lane in the future or where shoulder driving is going to be allowed. There would also have to be a Special Provision written specifying that the same compaction effort is required on the shoulders as the traveled way.

Example:

HMA Cl. ½ IN. PG_:
Length: 500'
Width: 2 lanes @ 12' and 2 shoulders @ 10.0'
Depth: 1 lift @ 0.20' depth
Unit Price: $40/ton
Conversion factor: 2.05 t/cy

TWTEC = (500')(24')(0.20')(2.05t/cy)($40/ton)
(27ft3/cy)

TWTEC = $7,288.89

HMA CL ½ IN. PG_:
Length: 300'
Width: 2 lanes @ 12' and 2 shoulders @ 4'
Depth: 1 lift @0.15' depth
Unit Price: $42/ton

TWTEC = (300')(24')(0.15')(2.05t/cy)($42/ton)
(27ft3/cy)

TWTEC = $3,444.00

Travel Way Total Est. Cost
(TWTEC) = $10,732.89

CPA = (0.02)($10,732.89) = $214.66

Use $220 for "Compaction Price Adjustment"

(5) HMA Price Adjustment

Check with the Construction Office to verify whether this item is required for the project.

(6) Asphalt for Fog Seal

The item "Asphalt for Fog Seal" is normally associated with bituminous surface treatment (BST) projects, the shoulders of paving projects that only place HMA in the traffic lanes, and is required on all open graded HMA projects as well.

(7) Soil Residual Herbicide

There are no criteria established for when soil residual herbicide is to be used in conjunction with HMA, asphalt concrete sidewalks, bike paths, or parking lots. The designer is to check with the Maintenance Supervisor responsible for the area for a recommendation regarding whether or not soil residual herbicide is required.

700.02 Earthwork

(1) Aeration

If it is found necessary or desirable to include the bid item "Aeration" in a project, approval by the Headquarters (HQ) Construction Office is required. A copy of this written approval is to be included in the PS&E portion of the Project File.

(2) Borrow Material

Because WSDOT is committed to conserving valuable mineral resources, it is imperative that careful consideration be given to the earthwork portion of every project, to ensure the most efficient and cost-effective use of the material from roadway excavations.

If there is insufficient roadway excavation material due to a shortage of on-site material or because all, or a portion of, the on-site material is known to be unacceptable for constructing embankments, material will have to be imported, and a borrow item will need to be included in the project.

If the borrow is required because the roadway excavation material is not acceptable for embankment construction, the Special Provisions shall identify the locations of the unacceptable roadway excavation material. Consult with the Region Plans Office on how this information is to be presented.

If a single type of borrow material is required to supplement the quantity of roadway excavation material, it will be the contractor's responsibility to determine the most efficient and cost-effective means and operations of using the on-site material and the borrow to construct the embankments. In this situation, the borrow material quantities will appear only on the Summary of Quantities, and they will not be shown as a quantity on the roadway profile sheets.

If the borrow material is being used only at specific, well-defined locations on the project (bridge end embankments, for example), the exact locations are to be identified on the roadway profile by showing the quantity arrow, indicating the station-to-station limits and quantity of borrow material needed for the embankment construction. If profiles are not included in the project, the Special Provisions are to contain a statement such as, "Gravel borrow shall be used to construct the bridge end embankments, L X+XX to L X+XX."

If two or more types of borrow material are required, the specific locations for all but one of the types of borrow shall be identified on the profiles, or in the Special Provisions, as described above. For example:

- If gravel borrow is required for the construction of bridge end embankments, and common borrow is required to supplement the roadway excavation material to construct other embankments, the station-to-station limits of the gravel borrow material are to be shown on the profiles, or in the Special Provisions. It will remain the contractor's responsibility to determine the most efficient and cost-effective way to use the common borrow and the roadway excavation material to construct the remaining embankments. Therefore, show the common borrow quantity only in the Summary of Quantities.

In all cases, the quantities for roadway excavation and embankment shall appear on the Summary of Quantities and on the Profile sheets or, on smaller projects, tabulated on Quantity Tabulation sheets.

(3) Clearing and Grubbing

For estimating purposes, clearing is to be calculated as being performed 10 feet, and grubbing 7 feet, beyond the toe of slope for embankments and the upper limit of slope treatment in cuts. Coordinate with the region Landscape and Environmental office on the proposed limits and show these limits on the proper plan sheets..

If clearing requires the cutting of merchantable timber amounting to at least one log truck load (approximately 5,000 board feet) from within the right of way, the General Special Provision (GSP) for Timber Export Restrictions is to be included in the contract provisions. This GSP notifies the contractor that they will be required to pay to the Department of Revenue the forest excise tax on the harvested lumber.

(4) Earthwork for Guardrail Terminals

It is important that the designer include the earthwork quantities required to construct widening needed for proper installation of guardrail terminals. It is easy to assume that these seemingly minor quantities will have little, if any, impact on the final quantities, so they are often left out of the final quantities.

There have been many projects where the earthwork quantities overran, and the reason for the overrun was because the designer had not included the required earthwork quantities for the construction of guardrail widening areas. As minor as these quantities may seem at the time of design, they can have a big impact on the construction project if not accounted for in the contract.

If, after the final guardrail locations are set, a final earthwork run is not made to account for the earthwork quantity in the flare construction, the designer needs to add the quantity to account for these spot widenings.

If the project is basically a paver, with isolated areas of widening for guardrail or slope flattening, and profiles are not required for the paving, the earthwork quantities are to be presented in tabular form for each area or some other logical breakout.

(5) Embankment In Place

This bid item is to be used on projects where earthwork consists mainly of borrow excavation. It provides payment for acquiring, excavating, hauling, placing, and compacting borrow materials to construct the embankment.

If there are minor quantities of roadway excavation included in the project, this work can be included in the item "Embankment In Place." Measurement for payment will be by the cubic yard volume between the original ground line and the neat lines of the embankment template. No allowance is made for subsidence or settlement.

The use of this item requires a Special Provision and approval by the HQ Construction Office. Include the following information when requesting to use this item:

- Assurance that the foundation on which the embankment material is to be placed is unyielding.
- Estimated quantities of excavation, embankment compaction, and roadway excavation.

(6) Earthwork Measurement

Measurement of earthwork other than as specified in the *Standard Specifications for Road, Bridge, and Municipal Construction (Standard Specifications)* requires the approval of the HQ Construction Office. (See Division 6 for more information on developing a Special Provision.)

(7) Truck Measurement of Earthwork Quantities

Truck measurement can be utilized on projects with 5,000 cubic yards or less of embankment to be constructed or when the project consists of numerous small embankment areas where cross-sectioning is not practical.

(8) Geotechnical Project Documentation

(a) The Region Project Development Office or Terminal Engineering Department for WSF is responsible for notifying the HQ Geotechnical Services Division at least 12 to 14 weeks in advance of the Ad or Shelf Date, when the final project geotechnical documentation is due for each pertinent project.

(b) When a Plans, Specifications, and Estimates (PS&E) document is near completion, all of the geotechnical design memorandums and materials source reports are compiled to form the Final Geotechnical Project Documentation, to be published for the use of prospective bidders.

(c) The Region Project Development Office or Terminal Engineering Department for the Washington State Ferries (WSF) will identify who they have designated to receive, handle, and continue the publication process of the report.

(d) It is desirable that the final geotechnical documentation be available for printing 10 weeks prior to the Ad or Shelf Date, but it absolutely *must* be available no later than two Fridays prior to the Ad or Shelf Date.

(e) When transmitting the final project geotechnical documentation, the HQ Geotechnical Services Division will explicitly identify the geotechnical documentation as **final** and camera-ready. Likewise, the region materials section will concurrently send a camera-ready **final** copy of region-generated reports, to be included as part of the geotechnical documentation for the project.

(f) For Headquarters Ad and Award projects, when the region has received the report, the Region Project Development Office sends the complete package to the HQ Printing Services Office for final publication and to be made available to prospective bidders for purchasing. For Washington State Ferries' projects, WSF's Contracts/Legal Services Office is responsible for copying and making the report available to prospective bidders.

(g) The HQ Contract Ad and Award Office will issue a notice indicating the availability of the geotechnical documentation to bidders.

(h) In addition, some geotechnical information shall be included as part of the contract and will generally consist of the final project boring logs and/or a Summary of Geotechnical Conditions when applicable. Both of these items are provided by the HQ Geotechnical Services Division.

700.03 Equal Employment Opportunity and Training

(1) DBE or M/WBE Goals

Disadvantaged Business Enterprise (DBE) goals for federally funded projects are **condition of award goals**. In order for the bid to be considered responsive, the low bidder must either meet the established goal or demonstrate Good Faith Efforts in meeting the goal. The HQ External Civil Rights Branch establishes these goals and monitors DBE participation. Minority and Women's Business Enterprise (M/WBE) goals for state-funded projects are voluntary; however, the outreach efforts to provide M/WBEs maximum practicable opportunities are not. On state-funded projects, prime contractors shall submit an M/WBE Participation Plan as part of their responsibility, before work begins.

(2) Training Goals

The bid item for "Training" is to be provided on most federal-aid projects. For projects with federal-aid dollars, 23 CFR Part 230.111 requires all state highway agencies to review projects to determine their ability to support the inclusion of "Training Special Provisions" hours. The training goals, in terms of the total number of training hours required, are established by the HQ External Civil Rights Office. The amounts of training hours, if assigned to a project, are based on the following:

- Total estimated project labor hours
- Availability of minorities, women, and other disadvantaged individuals
- Potential for effective training
- Duration of the contract
- Dollar value of the contract
- Anticipated workforce size
- Project location
- Scopes of work

The region may submit a training recommendation for consideration by the HQ External Civil Rights Office. If the region is submitting a training recommendation, it needs to provide an estimation of total projected project labor hours.

Note: If you have any questions regarding either of the two programs referred to above, please contact the WSDOT Office of Equal Opportunity at 360-705-7090.

700.04 Materials Sources

(1) Aggregate Stockpiles

Under the construction contract, the regions are authorized to spend M5 funds for acquisition of aggregates, provided the region's biennial M5 allocation is not exceeded.

The following Headquarters offices need to be advised by the region of all M5 aggregate stockpile acquisitions made under a construction contract:

- Administrative Services Office, Purchasing and Inventory Branch
- Comptroller's Office, Budget Management Branch
- Program Management Office, Program Manager
- Pre-Contract Administration Office

(2) Amortization of Materials and Stockpile Sites

If a state source of materials is provided, the project report form is to include the dollar amount to be amortized, providing the region intends that amortization be included in the project.

The estimate will include the dollar amount so that federal-aid participation can be obtained on federal-aid projects, or so that proper accounting procedures can be followed when only state funds are involved.

(3) Materials Sources and Waste Sites

Materials sources provided by the contracting agency can be either mandatory or nonmandatory sites.

When mandatory materials sources or waste sites are specified, the region shall provide a memorandum of justification, in accordance with 23 CFR 635.407, showing a definite finding that it is in the public's best interest to require the use of the mandatory sites furnished or designated by the contracting agency. The use of mandatory sites can also be designated based on environmental considerations, provided the environment would be substantially enhanced without excessive cost. The memorandum of justification is to be placed in the PS&E portion of the Project File. The contractor is required to use the mandatory site.

When nonmandatory sites are specified, the contracting agency makes the site available to the contractor, but the contractor has the option to use, or not use, the site.

Bid items for work to be performed within a nonmandatory site are to be site-specific; for example, "Wire Fence Type 1 – QS-X-XX." (See the GSP for State Furnished Material Sources for more information.) This allows the contractor the opportunity to bid zero for these site-specific items if they do not intend to use the site. If the contractor decides later to use the site, the work specified by the site-specific items will be performed, and the contractor will be paid at the bid amount of $0.00.

Site-specific items are not required for work to be performed on mandatory sites.

A separate column, under the appropriate group, is to be set up for each material source or waste site provided by the contracting agency. This allows the contractor to easily identify the work to be performed within a site and also allows for easy accounting of the work by WSDOT.

The region shall prepare a Haul Road Agreement if the haul route to or from the site is other than a state highway.

700.05 Other Contract Considerations

(1) Fuel Cost Adjustments

Check with the Construction Office to verify whether or not this item is required for the project.

(2) Steel Price Adjustment

Check with the Construction Office to verify whether or not this item is required for the project.

(3) Buy America

Check with the Construction Office to verify whether or not this item is required for the project.

(4) Other Price Adjustments

Check with the Construction Office to verify whether or not any other price adjustments are required for the project.

(5) Addenda

Addenda are revisions to the plans and contract provisions that are made **during** the advertising period. Addenda are only to be issued when the revision will affect the contractor's ability to provide a responsible bid. Consult with the Region Plans Office to coordinate preparation and notification to plan holders.

Items to be considered for preparing addenda, which would affect the scope of work and the contractor's ability to accurately bid the project, might include:

- Material specification changes.
- New bid item(s).
- A substantial quantity revision (generally a 25% or greater increase or decrease) for an item in the bid documents.
- A revision to a legal requirement in the contract.
- A new supplement or a revision to the Special Provisions.

Small adjustments to quantities, spelling, punctuation, design changes that do not affect quantity, and relocating items of work within the project will not normally require an addendum because they will not affect the way the contractor bids the project. These items are not to be ignored, but the information, in the form of revised plan sheets, need only be passed along to the office of the construction project engineer, so they can be incorporated into the project and given to the contractor that is awarded the project.

For example:

- **Not required for addenda:** The advertised project has 23 catch basins to be installed, and it is discovered that an additional catch basin, not shown on the plans, will be required. This would not warrant an addendum if this were the **only change** being made. The small change in quantity will not impact the contractor's bid. This can be handled under construction as any other increase in quantity.
- **Addenda required:** The addition of the one catch basin causes the 18-inch-diameter pipe item to increase from 985 feet to 1,250 feet. This increase in pipe length is greater than 125% of the original, which could cause this item to be renegotiated under the contract, so the addendum would be justified. Since the addendum is required for the pipe, the additional catch basin would also be included in the addendum.

For instructions and procedures on preparing addenda, see the Appendices.

(6) Agreements

All agreements necessary for the project should be complete and signed prior to the project going to Ad. If this cannot be accomplished, it is the responsibility of the region to determine the risk involved in going to Ad without the completed agreement, in accordance with the WSDOT *Advertisement and Award Manual*. Particular attention is to be paid to the following:

- The quantities, bid item names, units of measurement, and prices in the agreement should to be the same as those in the PS&E.
- Another party may be financially responsible for some of the work in WSDOT's contract, such as the construction of sidewalks, utility installations, signal systems, pavement markings, intersection improvements, and so on.

- Though not common, some participating agreements will contain an "out clause," which allows the outside agency to withdraw the work if the bid prices are not favorable. When an out clause is included in the agreement, there is a GSP titled "Award Of Contract" that needs to be included in the contract provisions.

For agreements with an out clause, each bid item needs to be set up with a separate bid item name and placed in a separate group in the Summary of Quantities, and a Special Provision needs to address each bid item.

When preparing the estimate of cost for an agreement for work under the contract that is the financial responsibility of an outside agency, mobilization, engineering, and contingencies are to be included.

Additionally, agreements that include work that WSDOT's contractor will perform, or work performed by others that WSDOT will reimburse a third party for, should be clearly stated in the project Special Provisions.

For more information on Agreements, see the WSDOT *Agreements Manual* or contact the HQ Utilities, Railroad, and Agreements Section.

(7) Alternate/Cumulative Bids

(a) Alternate Bids

It is, at times, desirable to solicit bids using alternates for specific bid items for work to be performed under the contract. The contract Estimate, Proposal, and Summary of Quantities will be divided into sections. One section will contain the base information, and there will be a section for each of the alternates. This requires the contractor to bid the base portion of the project and to bid the alternates as required by the Special Provisions. By comparing the base bid plus the alternate bids, WSDOT is able to determine the most economical combination.

One of the conditions of setting up a project in this manner is that WSDOT has to treat each of the alternates as equal, and make the decision which is the best bid based on the lowest cost alternate plus base bid.

This is different than allowing the contractor the latitude to choose between different material options available for a contract item.

For additional information concerning alternates, refer to the *EBASE User's Guide*.

(b) Cumulative Alternative Bids

Use in contracts when the award process is modified to include cumulative Alternates. The region shall determine and notify the Ad and Award Office of the Funds Available. The bid items shall be segregated into a Base Bid and Alternates as appropriate. Fill-ins consist of a brief description of the portion of the project or of the work that is included in the noted Alternates. The specification language may be adjusted to suit the number of Alternates.

For further information on how this is to be used in a project, see Division 1 02.6, General Special Provisions.

(8) Asbestos Removal

When the removal of asbestos or items containing asbestos is required or suspected, the specifications shall include sufficient information and detail to inform the contractor of the nature and location of the asbestos. There are GSPs that are to be included in the contract provisions. The WSDOT *Asbestos Abatement Manual* is to be used to determine whether there are special conditions or requirements that should be included in the contract provisions. (You can access a copy of the *Asbestos Abatement Manual* through the WSDOT Library at: www.wsdot.wa.gov/library or send them an e-mail at: library@wsdot.wa.gov.)

(9) Assign the Risk

It is important that the contractor be able to determine whether the risks on the project will be its responsibility or will be borne by WSDOT. In most cases, it is best to assign the risk to WSDOT. This keeps the contractor from having to inflate bid prices to offset the possible risks of doing the work. These inflated prices cost WSDOT extra dollars when the problem does not materialize.

For example, do not say "the contractor may encounter obstructions during the excavation." The contractor has to assume that obstructions will be encountered and that they will be the contractor's problem when they are. The unit price for the excavation will include the cost of obstruction removal, and WSDOT will pay for the removal even if there are no obstructions encountered.

It would be much better to say, "If obstructions are encountered during excavation, the Engineer will pay for the removal of the obstruction in accordance with Section 1-09.4 of the *Standard Specifications*." Now the contractor can bid the actual cost of doing the excavation work and be confident that if something out of the ordinary is encountered, the cost of removal will be dealt with fairly, and if there are no obstructions encountered, there is no cost to WSDOT.

(10) Combining Bid Items

In an effort to streamline projects to make them easier for WSDOT to manage, as well as easier for the contractors to bid, some thought should be given on each project to doing similar, or associated, work under a single bid item instead of having two or more items under which to work.

The lump sum item "Removal of Structure and Obstruction" has always been made up of a combination of various removal items, and this will not change. This item is not governed by an estimated cost limit for work that can be included. As long as each different removal item is precisely described as to the actual work to be performed, the locations of the work, and the estimated quantity of work, there are no limits to the removal work that can be combined in the single "Removal of Structure and Obstruction" item. (See 700.05(12) for additional discussion on lump sum items.)

Work that is measurable—estimated cost of $5,000 or greater—will be a separate bid item. However, if the work is minor—estimated cost less than $5,000— and there is a logical item of work with which to associate the minor work, the items may be combined and the cost of the minor work included in the cost of the associated work. A nonstandard bid item is created to capture all of the work involved when combining bid items.

The designer must remember that if items of work are combined, additional information will be required to describe the work involved, to clearly identify what items are being combined, and that the quantities provided for the combined items need be more accurately calculated.

For example, do not combine the cost of structure excavation with the cost of the pipe without giving a reasonably accurate estimated quantity for the structure excavation required for each pipe. Giving the **total** estimated quantity for the structure excavation does not provide the contractor a clear enough picture of the work required to make a responsible bid.

Accuracy of estimating quantities is also important because it can be difficult to address overruns, underruns, or added work when only one portion of the item combination is involved in the overrun or underrun, or work is added to only one of the items of work.

Care must be taken to ensure that by combining the items of work, additional problems will not be encountered during construction because of changes in conditions or work methods.

Items being combined shall relate to each other well and the quantities shall be dependent on each other, so if one changes in the field, the associated quantities would be affected uniformly.

(a) **Example of a Good Combination**

If the project had a few locations where culverts were to be installed, it would be acceptable to include the cost of structure excavation in with the per-foot price for the size and type of culvert pipes. This is a good combination because the items are closely associated and the quantities are dependent on one another. The quantity for structure excavation is dependent on the amount of pipe installed and will increase or decrease as the length of pipe actually installed increases or decreases.

- Even though this combination of items is logical, it is imperative that the quantities for the structure excavation be calculated to a higher degree of accuracy then if the two items were separate.
- This higher accuracy of the structure excavation quantity is necessary because once the quantity is calculated for the planned length of pipe, that relationship of cubic foot of structure excavation per foot of pipe never changes. If the calculated structure excavation quantity is too high, the contracting agency is overpaying for the work actually performed. If the calculated structure excavation quantity is too low, the contractor is not being fairly compensated for the work performed. In either case, there is no way to make adjustments to the structure excavation.
- If there was a separate pay item for the structure excavation, and the quantity for the item was miscalculated, the contractor will be paid for the actual work performed, so the estimated quantity is a basis for the contractor's bid only.
- The structure excavation quantity will appear on the Structure Note sheet as "informational only" for each associated structure code.

(b) **Example of a Bad Combination**

Do not combine clearing and grubbing with embankment compaction, even though the plan is to clear and grub only where the embankments are to be constructed. The Special Provisions will have to specify the areas and approximate acres to be cleared and grubbed, so the contractor can include that cost with the cubic yard price for embankment compaction. This is a bad combination of items, because the two items are not closely associated with one another. The quantity for either of these items could be increased or decreased without impacting the quantity of the other item.

- If the items above are combined under a cubic yard pay item, and during construction it is determined additional slope flattening is necessary within the original clearing and grubbing limits, it would be difficult to determine and justify and increase. The difficulty lies in the fact that clearing and grubbing is generally around $6,000 per acre, whereas embankment compaction is around $2.00 per cubic yard. In this case, the contractor would be receiving a premium price for the additional embankment.
- If the items above are combined under a per acre pay item and during construction it is determined additional clearing, grubbing, and embankment compaction is necessary, again, it would be difficult to determine and justify an increase. The problem is, how is a square acre converted to a cubic measurement?

(c) **Incorporating Combined Items**

To maintain consistency in the combining of items statewide, the HQ Plans Liaison Engineer for the region is to be consulted **in advance** of incorporating combined items into projects. In addition to consistency, this will provide a single office to monitor which items are routinely being combined and which item combinations work and which do not, allowing for responsible decisions in the future.

Note: Two items that cannot, by law, be combined with any other item of work are "Shoring or Extra Excavation Class A" and "Shoring or Extra Excavation Class B."

(11) Legal Relations and Responsibilities to the Public

Section 1-07.1 of the *Standard Specifications* requires the contractor to comply with all federal, state, or local laws and regulations that affect work under the contract. These laws and regulations do not need to be identified in the contract. However, certain project-specific regulations that may come in the form of permits, agreements, MOUs, licenses, variances, or others need to be identified in the contract. Examples of such regulations with conditions that need to be part of the contract are: HPA, EIS, Noise Variance, Shoreline Permit, Department of Ecology MOU, and other documents that would affect or restrict work on the contract.

In many cases, the GSPs will trigger the need for the text of such documents to be listed in the Special Provision either as a fill-in or as an appendix. When construction activities require the need for a permit, variance, agreement, MOU, or other regulations, the designer should always discuss the need for such documents to be put in the contract with the appropriate region support personnel.

(a) **Decommissioning of Wells Procedure**

The water well abandonment procedure shall adhere to the Washington State Department of Ecology (Ecology) regulations for abandonment of water wells following the guidelines in WAC 173-160-460 and RCW 18.104.048. Notice shall be given at least seventy-two hours in advance of commencing work. The notice shall be submitted on forms provided by Ecology, with the proper fees.

(12) Equipment Acquisition Through Construction Contracts

The practice of WSDOT acquiring, through a construction contract, items that would normally be acquired or purchased through the equipment fund, is to be avoided. This practice circumvents the state's procedures and purchasing rules.

Specific examples of these items are: survey equipment, computers and other IT equipment, vehicles, maintenance equipment, radios, workboats, and truck-mounted impact attenuators.

(13) Force Account Work

Standard Item Number 7715, "Force Account ____," has been created to monitor the total amount of money spent on force account work. This standard item, with the appropriate fill-in information, is to be used for all force account bid items, except for those already having a standard item number.

If work can be measured and clearly identified, the design should use existing standard bid items. If the work is not quantifiable or cannot be easily measureable, the use of this item may be appropriate.

The use of this standard item number does not preclude the need for a project-specific provision to describe the work to be accomplished.

The force account item is to be placed in the appropriate section on the Summary of Quantities. (A force account removal item would be placed with the other removal items; a force account structure item would be placed with the other structure items.)

(14) Haul Road and Detour Agreements

When the project provides a materials source, or requires traffic to be detoured from the state highway, the region may be required to acquire agreements with the owners of the roads that will be used as the haul road or the detour route. (See the Haul Road/Detour Agreements chapter in the *Agreements Manual* for guidance.) The process of generating an agreement should be started as early in the design phase as possible. Discuss with region personnel responsible for processing agreements. The lack of a completed agreement may cause a project Ad date to be delayed. It is the responsibility of the region to determine the risk involved in going to Ad without the completed agreement, in accordance with the *Advertisement and Award Manual*.

The agreement will normally provide compensation to the owner of the haul road or detour for damage done to the road by the hauling equipment or by the extra traffic placed on the roadway. The compensation may be in the form of work to be done under the contract to bring the roads back to precontract conditions, or the owner may be paid a cash settlement and would be responsible for making the repairs.

All haul roads and detours are to be clearly shown and labeled on the vicinity map.

(15) Liquidated Damages

(a) HQ Construction Office Approval Required

Liquidated damages are monies assessed or withheld from the contractor's payment for failure to complete the project within a specified period of time. Liquidated damages are not to be considered a penalty, but reimbursement for the costs to the contracting agency for the contractor's failure to perform within the time frame of the project. There are two types of liquidated damages to be considered for a project.

1. **Contract Time-Related Liquidated Damages**

   Liquidated damages for Physical Completion are calculated in accordance with the formula in Section 1-08.9 of the *Standard Specifications*. This formula actually calculates the estimated cost to WSDOT to continue engineering the project beyond the allotted contract time, but is presented in the contract as compensation for any and all damage resulting from an unexcused extended duration. The designer must avoid double-charging through both the Standard Specification and a separate Special Provision for the same extended days. This situation may arise when an interim completion milestone is violated after all contract time has expired. Only the contract time-related liquidated damages may be assessed.

   The designer must be able to identify and document the cost(s) associated with the damage. All liquidated damages that are different from the Standard Specification require the approval of the HQ Construction Office or the delegated region official. Submit the proposed provision and the calculations supporting the damage amount to the HQ Construction Office.

2. **Interim Completion of Phases (Staging)**

   Interim liquidated damages are monies assessed or withheld from the contractor's payment for failure to complete a part (phase or stage) of the project within a specific period of time identified in the Special Provisions.

   Large or complex projects often have interim completion times, with liquidated damages for such things as failure to open a closed lane(s), ramp(s), or detour(s) to all traffic by a specified time or for completion of all work identified for a specific stage or phase of a project as defined in the Special Provisions. These types of liquidated damages can be assessed in time increments that range from 15-minute to full-day segments. Liquidated damages assessed for failure to have a lane open to traffic at the specified time are an estimate of the actual cost to the contracting agency and the traveling public for not having the lane available. The HQ Transportation Data Office (TDO) has a computer program that calculates the cost, based on traffic counts. This is the only acceptable way of calculating these costs.

   Once the designer has received these calculated costs from the TDO, the region must make the determination whether or not the damages represent a sufficient benefit to the state to put them in the contract.

   Interim liquidated damages for two or more separate reasons can be additive for the same time period.

A copy of the data used to justify liquidated damages and a copy of the Traffic Data Office (TDO) information are to be placed in the PS&E portion of the Project File.

(16) Lump Sum Bid Items

A lump sum bid item may include several items of work or the same item of work at different locations. The Special Provisions must cover the complete item of work, including the description of work, materials, construction requirements (which includes the approximate quantities for bidding purposes), and payment statements. The quantities listed should be double-checked to avoid contractor claims.

Only work that can be easily defined by quantity, amount of effort, and equipment and labor requirements is to be included in lump sum items. If any of these items are unknown/uncertain, payment at unit prices or by force account would be more appropriate.

The backup data used to determine the estimated cost for lump sum bid items is to be placed in the PS&E portion of the Project File.

The designer must decide whether each lump sum bid item is to be prorated or whether individual Summary of Quantities column costs are to be assigned for each lump sum bid item.

(17) Items a Designer "Might" Need

The designer is advised to avoid including items in the project they think "might" be needed. This is particularly important for items such as borrow or excavation below grade, because the contractor bids, at a high price, the small quantity shown, and then finds a way to use a considerable quantity of the item on the project.

If it is unknown whether or not the item is required, it is best to leave it out of the project and let the Construction Office add the item by change order if necessary. History shows that this is the easiest, most cost-effective way of handling these items.

There will be times when including items that might be needed may be appropriate. In these rare cases, it should be included as a force account item, so the Engineer has complete control of the work.

(18) Paths and Trails

WSDOT tracks expenditures for pedestrian and bicycle facility improvements so this information can be reported to the Legislature and the public, per RCW 47.30. The information is also used to measure the performance of WSDOT's transportation system.

Features that are specifically for pedestrian and/or bicycle facilities need to be included in the paths and trails calculations. Overlaying an existing shoulder with HMA or bituminous surface treatment (BST) does not constitute the need for paths and trails calculations. Widening of a shoulder(s) that is part of a larger roadway-widening project is not to be included in the paths and trails calculations.

The following are examples of the types of work that are to be included in the paths and trails calculations. Refer to the *Design Manual* for definitions of terminology and additional information.

- Shared-Use Path
- Structures (specifically for non-motorized use)
- Sidewalk
- Bike Lane
- New Curb Ramp
- Curb Extension
- Pedestrian Refuge Island
- Buffer Strip (only a planter strip that is a minimum 3 feet wide between the sidewalk and curb can be included)

Signing and pavement markings associated with pedestrian and bicycle facilities, following MUTCD guidelines, may include:

- Crosswalks
- School Crossings
- In-Pavement Flashing Warning Devices
- Preferential Lane Symbols and Signing
- Pedestrian Signals/Detectors
- Bicycle Specific Signals/Detectors
- Pedestrian Scale Lighting
- Bicycle Facilities Lighting

For these types of features, the paths and trails calculations shall include the entire cost to complete the work of each feature.

Constructing a dedicated bicycle or pedestrian facility is always preferable to widening shoulders, especially in urban or urbanizing areas. However, paths and trails calculations for bicycle and pedestrian facility improvements shall be calculated for roadway shoulders when all of the following conditions are met:

- The route is identified in a local, regional, or state plan as a priority bicycle connection.
- The widening of a shoulder(s) is a stand-alone project to benefit bicycling and walking and is not part of a larger roadway-widening project or done to achieve other goals.
- The existing shoulder is widened to at least the minimum widths outlined in the *Design Manual* for accommodating bicyclists and pedestrians.
- The paths and trails calculations for this shoulder-widening work shall be 50% of all the costs included to complete the shoulder widening.

If further clarification is needed on what should or should not be included in the paths and trails calculations, contact the HQ Highways and Local Programs Office at 360 705-7372.

(19) Permits

A conscientious effort shall be made to ensure all permits necessary for the project are completed and signed prior to the project going to Ad. However, in the event this cannot be accomplished, it is the responsibility of the region to determine the risk involved in going to Ad without the completed permit, in accordance with the *Advertisement and Award Manual*.

(20) Competitive Bidding, Proprietary Items, and Use of the Qualified Products List (QPL)

(a) Competitive Bidding

The WSDOT uses competitively acquired products to fulfill the requirements of a contract whenever feasible. This helps achieve the lowest prices, the best product quality, and the most efficient use of resources.

There are several ways to specify bid items or materials in a contract that create a competitive bidding environment. Following are three different methods, listed in order of preference:

1. **Specifying by Standard or Nonstandard Bid Items**

   This method doesn't use brand names. The contractor is allowed to choose the product, as long as it meets the requirements of the *Standard Specifications* and contract provisions. This method fosters a competitive bidding environment and does not require approval for proprietary items.

2. **Specifying Brand Names and Allowing for Approved Equals**

   When brand name specifying, the designer is providing the bidder with options by naming at least two products or manufacturers that are acceptable and allowing for "approved equals" followed by a performance specification. When this is done, no approval is required for usage; it is not considered a proprietary item.

   A good specification for brand name specifying will read as follows:

   The (type of product) furnished shall be (brand name, model), (brand name, model), or an approved equal having the following features (functions):

   a. (feature)

   b. (functions)

   c. (feature)

   In order to find the two acceptable items, the designer had to be looking for certain features or functions. These features or functions are the ones that need to be clearly identified in the Special Provision.

3. **Specifying at Least Three Brand Names**

   Listing a reasonable number (three or more) of brand names/models that are acceptable is a competitive bidding environment also, which doesn't require approval. A performance specification is not required.

(b) Specifying Proprietary Items

There are instances in which competitive bidding may not or cannot be provided and a specific proprietary product is allowed. This applies to temporary items/materials as well as permanent items/materials incorporated into the project. Specifying proprietary items will be allowed when the designer can document, to the satisfaction of the Region Assistant State Design Engineer (ASDE) and the Federal Highway Administration (FHWA), that, even though there are other acceptable products, the specifying of one particular product is in the public interest.

By the FHWA Stewardship Agreement, WSDOT has adopted the Code of Federal Regulations (CFR) for approval of proprietary items on all projects. Specific guidelines regarding the use and approval of proprietary items are provided in 23 CFR Part 635.411. The CFR guidelines state that a proprietary item will not be approved for use in a project unless one or more of the following applies:

1. It is purchased or obtained through competitive bidding with equally suitable other items (the three methods found above).
2. It is certified that the proprietary item is essential for synchronization with existing highway facilities:
   - A specific product (or manufacturer) is to be used because the product (or manufacturer) is essential to the existing highway. A product could be essential due to the fact that it has been tested with other components and is documented to work with existing components or that it is a one-of-a-kind item. A product or manufacturer could be essential because using anything else would require replacing other components of the existing highway system.

   No other equally suitable alternative exists:
   - The product (or manufacturer) is one of a kind.
   - Other workable alternative products or manufacturers are not equal in longevity, cost, delivery, durability, compatibility, warranty, and so on.
3. It is used for research or for a distinctive type of construction on relatively short sections of road. It is for experimental purposes to obtain experimental information on a product or manufacturer for the public good. When requesting this type of usage, approval documentation showing the scheduling, monitoring, results, and conclusion are required with the request (www.wsdot.wa.gov/design/projectdev/ProprietaryItems.htm).
4. All proprietary item use must be deemed as being in the public interest; the following criteria need to be met:
   - If a significant investment has been made in a product through training, parts, maintenance familiarity, equipment, and warranties, approval may be granted that retaining the product is in the public interest.
   - If the product (or manufacturer) is needed for coordination of systems between agencies such as police, fire, hospitals, WSDOT emergency services, and others, approval may be granted that retaining the product (or manufacturer) is in the public interest.

(c) Using Proprietary Items in Contracts

Prior to advertisement, the designer needs to request and receive written approval for any proprietary material, work, manufacturer, or product included in a project. It is the designer's responsibility to submit a memorandum of justification, which includes a statement that the proprietary item is in the public interest, to the Assistant State Design Engineer in sufficient time for it to be reviewed and acted upon (sent to FHWA if required), and for adjustments to be made to the contract should the use be denied. All approvals received need to be filed with the Design Documentation Package; include a copy of a blanket approval if used for the project.

There are two basic types of requests that can be submitted for approval:

- Use of the proposed proprietary item will be allowed for region or statewide use or referred to as a blanket approval (this is usually valid for a biennium).
- Use of the proposed proprietary item will be allowed for a specific project only (just for the duration of the project).

1. **Approval Levels**

   a. FHWA approval is required for any proposed proprietary item that will be made available for either **region** or **statewide** use, or when the project is identified as being an Interstate – New/Reconstruction project.

   b. Approval by the Assistant State Design Engineer assigned to the region is required for NHS and non-NHS projects; proprietary item use must be approved prior to advertisement.

An example of the memorandum of justification and a shell document can be seen at: www.wsdot.wa.gov/design/projectdev/proprietaryitems.htm. As shown in the example, a brief description of the project, what constitutes the requirement for the proprietary item, and justification for the use of the proprietary item (see the 23 CFR 635.411 guidelines above for justifiable reasons) shall include why the department believes the use of the proprietary item is in the public interest.

Approval of a proprietary item does not override the federal specification for foreign steel (Buy America) or the applicable General Special Provisions (GSP, Division 1).

When a proprietary item has been approved, the designer will, in the Special Provisions, give the product manufacturer, model, model number, and any additional information required to ensure only the specified item will be furnished. There will usually be only one item named in the Special Provisions when listing a proprietary item. The phrase "or approved equal" will **never** follow the naming of a proprietary item in a Special Provision. There are no options allowed. The contractor's bid is to reflect the one item specified.

(d) Using the Qualified Products List

There is a definite difference between proprietary item specifying and brand name specifying, and the Qualified Products List has nothing to do with either proprietary or brand name specifying.

The Qualified Products List (QPL) is a list of products and materials that have been preapproved for use on WSDOT projects. If the contractor chooses to provide items listed in the QPL, there is no need to submit a Request for Approval of Manufacturer (RAM). For some products or materials on the QPL list, there is no requirement to submit the items for testing prior to using the product or material on the project.

The preapproval of items in the QPL does not mean they are the only products or materials that will be allowed. The contractor can provide any product or material that meets the specifications, whether they are listed in the QPL or not.

(e) **Removal of Pavement, Sidewalks, or Curbs**

When looking at work requiring removal of pavement, sidewalk, or curb, the method of measuring and paying for the work is determined on where work is occurring: within or outside the limits of an excavation area.

1. **Outside**

   When pavement, sidewalk, or curb removal is required **outside the limits** of an excavation area, it can be included in the lump sum price for "Removal of Structures and Obstructions," or separate bid items may be established for the work.

   If the work is included as part of the lump sum item, the Special Provisions will indicate the approximate locations and quantities. If separate bid items for removal are established, the individual items will appear on the Quantity Tabulation sheets, where the approximate locations and quantities will be indicated. In either case, the locations of the removal items will be indicated on the plans as well.

2. **Within**

   When pavement, sidewalk, or curb removal is required **within the limits** of an excavation area, nothing is required on the plans or in the Special Provisions. All costs for the removal of the pavement, sidewalk, or curb are included in the excavation work, and no additional compensation is made to the contractor.

   The other possibility is that, for some reason, the designer wants the contractor to remove the pavement, sidewalk, or curb that lies within an excavation area prior to performing the excavation. In this case, the work would be handled as described above for removal outside an excavation area.

(21) Retaining Walls

When a project contains standard retaining walls, as detailed in the *Standard Plans for Road, Bridge, and Municipal Construction (Standard Plans)*, the Contract Plans shall include:

- A plan and profile of the wall, with original and proposed ground profiles at the front and back faces of the wall.
- All existing utilities in the vicinity of the wall.
- Wall geometry.
- Right of way limits.
- Construction sequence and stage construction sequence requirements.
- Highest permissible elevation for foundation construction.
- Location, depth, and extent of unsuitable material.
- Quantities for the wall and backfill materials.
- Details of wall appurtenances such as traffic barriers; coping; wall face treatment and limits of treatment; drain outlets; and location of signs and lighting, including conduit locations.

In general, a site that will support a standard cantilever retaining wall will also support a proprietary retaining wall. If the region decides to provide preapproved proprietary retaining wall systems as an alternate, the HQ Materials Laboratory Foundation Engineer and the HQ Bridge and Structures Office Bridge Project Engineer need to be consulted on the selection of suitable wall systems for the conditions. In order to evaluate aesthetic considerations, a rough site plan shall be submitted to the HQ Bridge Project Engineer for review.

The region will be required to contact the suppliers of the selected retaining wall systems to confirm the adequacy of the systems for the given situation. The HQ Materials Laboratory Foundation Engineer is to be contacted to provide assistance in evaluating the systems for overall stability and to provide soil criteria for design.

The HQ Bridge and Structures Office will prepare the Special Provisions for preapproved proprietary retaining walls, including design criteria. The HQ Foundation Engineer will be consulted for establishing the criteria for design. The Special Provisions will require the proprietary wall manufacturer selected by the contractor to submit shop plans, design criteria, and calculations to the HQ Foundation Engineer for approval. The HQ Bridge and Structures Office will then review the design submitted by the preapproved proprietary wall manufacturer.

In addition, keep in mind that these retaining wall alternates may be selected by the contractor and that all of these alternates are proprietary. On all federal-aid projects, two alternates must be selected or reasons for using fewer alternates must be submitted for approval to the Assistant State Design Engineer assigned to the region. Proprietary retaining wall systems are preapproved for certain heights. Walls that exceed the preapproved height will be considered special designs and each must be submitted to the HQ Bridge and Structures Office for review and approval.

(22) Roadside Considerations

The roadside blends the highway facility into the natural and built environment and provides operational, visual, and environmental functions. For all projects requiring work outside the shoulders, it is important that the designer consider the various functions and how the elements that meet these functions relate to each other. Contact the Region Landscape Architect or HQ Landscape Architect (for regions without one) to assist in meeting the functions and to determine whether there are ways to minimize impacts to the roadside.

Earthwork can spread noxious and invasive species of weeds if these exist in the project vicinity. Long term weed control issues within the roadside should be discussed with the area maintenance staff. If there are areas of noxious weed stands within the project limits, the designer should arrange to have WSDOT maintenance forces treat these prior to earth-moving activities, or the project should include weed control prior to this work. For projects that last through multiple seasons, weed control during the duration of the project should be considered for all areas within the right of way. If the project needs weed control (outside of planting areas), the separate weed control standard pay item must be included.

It is important to preserve existing desirable vegetation and to minimize disturbance and compaction of existing soils as much as possible. This will minimize water runoff, reduce erosion during the project, and reduce impacts that require restoration and mitigation.

The *Roadside Classification Plan* outlines requirements, based on project type, for revegetation, permanent erosion control, irrigation, and landscape planting. The Landscape Architect can assist the designer in fulfilling these requirements. The Roadside Restoration Worksheet should be referenced to determine the impacts and restoration needs that were determined for the project during the scoping process.

Consider the various elements of the project that are viewed by the highway user and from adjacent areas. Elements such as lighting standards, sign bridge types, traffic barriers, bridge and wall design, textures and colors, contour grading, stormwater treatment and storage facilities, and vegetation blend the project into the context of the environment and provide a unified visual experience through the corridor. The Landscape Architect can provide expertise to identify and blend visual elements.

Pedestrian facilities must be designed to be accessible by incorporating ADA standards.

(23) Royalties on Materials Sites

If the contracting agency furnishes a materials site owned by others, and the owner requires that a royalty be paid for materials removed from the site, the dollar amount of the royalty, and who will be responsible to pay the royalty, will be specified in the Special Provisions. FHWA has authorized federal-aid participation in royalty payments.

(24) Shoring or Extra Excavation

All excavation 4 feet or more in depth shall be shored, protected by cofferdams, or shall meet the open-pit requirements specified in the *Standard Specifications*.

RCW 39.04.180 requires that a separate bid item for shoring or extra excavation be included in the estimate and proposal. In no case shall the costs for shoring or extra excavation be included in other bid items.

(25) Specialing Out Right of Way Parcels

It may be necessary to identify right of way parcels that are unavailable to the contractor for construction at the time the contract is awarded.

The Special Provisions shall be specific regarding the location of the parcels and the estimated dates of availability to the contractor. Region Real Estate Services can provide a reasonable availability date to go in the Special Provisions. There is no problem if the property becomes available early, but there can be major problems if the property is not available by the date promised.

Right of way parcels that are “specialed out” must also be indicated on the Right of Way or Alignment/Right of Way Plans by drawing in the appropriate property lines and by cross-hachuring the parcels. The plans shall indicate that the cross-hachured parcels are unavailable and there will be a note referencing the Special Provisions.

When right of way is being specialed out, the order of work has to be examined to ensure the project sequencing is not adversely affected because portions of the right of way are not available for immediate use.

(26) Standard Items

The Standard Bid Item Table is not a complete listing of standard items. It is a list of the bid items being tracked in the Unit Bid Analysis (UBA) system. Code numbers, which are referred to as Standard Item Numbers, track them.

Standard items are those items that appear in the payment statements in the *Standard Specifications*. Many of these payment statements, like the following, are written with blanks:

- "HMA for Preleveling Cl. ____ PG ____", per ton.
- "Catch Basin Type ____", per each.
- "Manhole Additional Height ____ In. Diam. Type ____", per foot.

If the blanks are filled in with the expected information and the information in the *Standard Specifications* applies, they are standard items even though they may be a size, type, or class not shown in the Standard Bid Item Table.

Minor revisions that have little or no impact on the cost can be made to the material or construction requirements in the *Standard Specifications*, and they can remain standard items. Care must be taken, however, not to mislead the contractor by making major revisions that could substantially affect the cost of the item and calling it the standard item. In these cases, it is best to develop a nonstandard item.

(27) Standard Plans

WSDOT's *Standard Plans* are made a part of contracts by reference in the Special Provisions. Plan details that duplicate details in the *Standard Plans* are not to be drawn, and the designer is not to redesign a Standard Plan by detail in the project. It is important that standard work be done the standard way, and that standard materials be used whenever possible; in almost all cases, standard materials cost less.

(28) State Force Work or State Furnished Materials

The State Force Work referenced is any and all state force labor, state-supplied materials, and/or state-supplied equipment to be paid utilizing construction dollars unless specifically excluded as mentioned below (see Figure 700-1).

The designer shall provide written justification for all state-furnished materials and all State Force Work to be performed on all projects, in accordance with RCW 47.28.030 and RCW 47.28.035.

(a) **RCW 47.28.030**

The complete RCW reads as follows:

Contracts – State forces – Monetary limits – Small businesses, minority, and women contractors – Rules.

A state highway shall be constructed, altered, repaired, or improved, and improvements located on property acquired for right of way purposes may be repaired or renovated pending the use of such right of way for highway purposes, by contract or state forces.

The work or portions thereof may be done by state forces when the estimated costs thereof is [are] less than fifty thousand dollars and effective July 1, 2005, sixty thousand dollars: PROVIDED, That when delay of performance of such work would jeopardize a state highway or constitute a danger to the traveling public, the work may be done by state forces when the estimated cost thereof

is less than eighty thousand dollars and effective July 1, 2005, one hundred thousand dollars.

When the department of transportation determines to do the work by state forces, it shall enter a statement upon its records to that effect, stating the reasons therefore.

To enable a larger number of small businesses, and minority, and women contractors to effectively compete for department of transportation contracts, the department may adopt rules providing for bids and award of contracts for the performance of work, or furnishing equipment, materials, supplies, or operating services whenever any work is to be performed and the engineer's estimate indicates the cost of the work would not exceed eighty thousand dollars and effective July 1, 2005, one hundred thousand dollars.

The rules adopted under this section:

(1) Shall provide for competitive bids to the extent that competitive sources are available except when delay of performance would jeopardize life or property or inconvenience the traveling public; and

(2) Need not require the furnishing of a bid deposit nor a performance bond, but if a performance bond is not required then progress payments to the contractor may be required to be made based on submittal of paid invoices to substantiate proof that disbursements have been made to laborers, material men, mechanics, and subcontractors from the previous partial payment; and

(3) May establish prequalification standards and procedures as an alternative to those set forth in RCW 47.28.070, but the prequalification standards and procedures under RCW 47.28.070 shall always be sufficient.

The department of transportation shall comply with such goals and rules as may be adopted by the office of minority and women's business enterprises to implement RCW 39.19 with respect to contracts entered into under this chapter.

The department may adopt such rules as may be necessary to comply with the rules adopted by the office of minority and women's business enterprises under RCW 39.19.

[1999 c 15 § 1; 1984 c 194 § 1; 1983 c 120 § 15; 1977 ex.s. c 225 § 3; 1973 c 116 § 1; 1971 ex.s. c 78 § 1; 1969 ex.s. c 180 § 2; 1967 ex.s. c 145 § 40; 1961 c 233 § 1; 1961 c 13 § 47.28.030.

Prior: 1953 c 29 § 1; 1949 c 70 § 1, part; 1943 c 132 § 1, part; 1937 c 53 § 41, part; Rem. Supp. 1949 § 6400-41, part.]

(b) **RCW 47.28.035**

The complete RCW reads as follows:

Cost of project, defined.

The cost of any project for the purposes of RCW 47.28.030 shall be the aggregate of all amounts to be paid for labor, material, and equipment on one continuous or interrelated project where work is to be performed simultaneously. The department shall not permit the construction of any project by state forces by dividing a project into units of work or classes of work to give the appearance of compliance with RCW 47.28.030.

[1984 c 194 § 2.]

(c) Justifications

If the project is new/reconstruction on the Interstate, the justification for state-furnished materials and for State Force Work requires FHWA approval.

RCW 47.28.030 requires that WSDOT have documentation on file for all State Force Work/Supplied Materials. The justification and estimate for work to be done by state forces and state-furnished materials is to be processed per region policy in sufficient time to allow for review and approval prior to advertising of the project. When FHWA approval is required, the justification must also include a request for federal funding participation.

The justification for both state-furnished materials and State Force Work must show that it is economically cost-effective to provide the materials or to perform the work with state forces. It does not matter how or when the state-supplied material was purchased or whether it was purchased through competitive bidding or not, the cost of the state-supplied material is to be incorporated into the State Force Work/Materials total costs, and the limitations per RCW 47.28.030 apply. Once an item is purchased and supplied to another contract, that item becomes state-supplied material. Refer to Figure 700-1 and the *EBASE User's Guide* for guidelines when engineering and contingencies are used (when other state agencies do the State Force Work) or when engineering and contingencies are not used (when WSDOT state forces do the work) in regard to State Force Work and for state-furnished materials.

The maximum total dollar value of work done by state forces, including labor, materials, and equipment, as of July 1, 2005, is $60,000 or up to $100,000 if it is an emergency, as stated in RCW 47.28.030, per construction project. An increase in the dollar amounts in the RCW must go before the state Legislature; currently, there are no additional increases built into the law.

(d) Blanket Approval Items

There are a few items of work that have received a blanket approval to be performed by state forces and receive FHWA funding participation. They are striping, pavement marking, second-stage fertilizing, and one-way piloted traffic control. With blanket approval items, WSDOT must still have documentation on file, and the dollar limitations also apply to this work.

(e) Exceptions

When the state provides materials and/or equipment and there is NO state labor performed by state forces on the project, the dollar limitation per RCW 47.28.030 does not apply. For example, if WSDOT provides a $90,000 sign bridge, as long as there is **no** state force labor, this dollar amount can be approved. If there is **any** state force labor (even for unrelated work such as removal of silt fence) on the project that is going to be a below-the-line item, then the aggregate total of materials and labor would exceed the $60,000 per RCW 47.28.030 and therefore cannot be approved.

Work performed off the state roadway right of way **may not** be subject to RCW 47.28.030; therefore, no limit on state-supplied materials or state force labor would apply. If work is done outside the WSDOT transportation corridor (state right of way, fence line to fence line), and state force thresholds in

RCW 47.28 do not apply (wetland mitigation sites, sundry sites, and other capital facilities), then RCW 39.04 applies. This applies only to those areas outside of and unattached to existing state highway right of way.

Work that is **not** to be considered State Force Work includes inspection of any type, material testing, surveying, monitoring, public relations work, or any kind of investigation or research. If state forces do these types of work, they are to be included in the engineering and contingencies. If the cost of this work is substantial, it can be used as justification to increase the engineering and contingency percentage to offset the costs.

Inspection is defined as work performed to ensure that material or contractor installation meets the specifications outlined in the contract **after** the contract has been awarded. Inspection **does not** include work performed to correct the deficiency or failure to meet specifications.

Surveying is part of the inspection requirements. It shall be considered as construction engineering and is not subject to state force thresholds.

Material testing is defined as work performed prior to contract award or prior to the material being delivered to the contractor for ensuring the material meets the specifications outlined in the contract. Material testing includes diagnostic testing and/or modifications to the material or equipment to ensure compatibility and interoperability with the existing infrastructure. For example, when electronic equipment is procured, material testing would include assembling the equipment into a system and modifying software or hardware components as necessary to ensure the system operates as specified and is compatible with existing electronic equipment and/or software (see Figure 700-1, State Force Work/Materials).

(f) Questions Asked by WSDOT and Answered by the Attorney General's Office (AGO)

1. **WSDOT:** If work is not related, but on the same project, does the RCW limit apply to each unrelated item of State Force Work or is all the unrelated State Force Work added together for the aggregate total for the project?

   AGO: All State Force Work activities (labor, equipment, and materials), related or not, are included in the aggregate total and are subject to state force thresholds.

2. **WSDOT:** Has the Legislature looked at the excessive increase in costs and considered raising the dollar limitation in the RCW accordingly?

   AGO: In 1999 the Legislature was approached about raising the limit for State Force Work to $250,000. Under this request, the limit was raised by $10,000 only, with a few step raises in the RCW in later years. The state Legislature would prefer work to be contracted out and the dollar limit on State Force Work kept low.

3. **WSDOT:** How does the RCW apply to contractually purchased materials used by state maintenance labor and equipment—for example, on BST projects where the aggregate is purchased through contract and stockpiled, State Force Work is requested for the labor and equipment to place the BST, and the labor and equipment is less than the dollar limitation?

AGO: If Maintenance purchases materials (such as crushed rock), regardless whether this material is purchase through a competitive bidding process or not, it is considered to be from a supplier and is not considered a WSDOT construction contract. Therefore, the material is included in the aggregate total of labor, equipment, and materials and is subject to state force cost thresholds.

4. **WSDOT:** What determines a contractor versus a supplier? If we have a competitively bid contract for rock chips for chip seal jobs that we can use whenever we need to in a one-year or two-year period, is this a contractor or a supplier?

   AGO: A supplier.

5. **WSDOT:** If there is no state labor, does the RCW dollar limit apply?

   AGO: If there is **no** state labor in the project and only state-supplied materials are being purchased, the dollar limitation per RCW 47.28.030 does not apply. If there is **any** State Force Work labor on the project, whether or not it is relevant to the material acquisition, then the RCW 47.28.030 dollar limitations apply to the **aggregate** total.

6. **WSDOT:** If there are overruns during State Force Work on labor, material, or equipment costs that are covered under the State Force Work request and that exceed the RCW dollar limitation, is this a violation of the law? Should this be documented and, if so, how?

   AGO: A good faith effort is required to justify and document the state force request during the project development phase. If, during construction, the actual costs exceed the estimated costs, this is considered an incremental increase. If this happens on a consistent basis, the original estimate will not be considered a good faith effort and the law has not been followed.

7. **WSDOT:** Who has the authority to authorize State Force Work in excess of the monetary limit set in RCW 47.28?

   AGO: No one outside the Legislature has the authority to approve State Force Work in excess of the monetary limit set in RCW 47.28.030. Exceeding the RCW is a violation of the law. **The law would have to be changed by the Legislature to increase the monetary limit in RCW 47.28.**

8. **WSDOT:** When does State Force Work have to be documented and kept on file?

   AGO: Per the law, all State Force Work must have documentation on file justifying the work. RCW 47.28.030 states, "When the department of transportation determines to do the work by state forces, it shall enter a statement upon its records to that effect, stating the reasons therefore" (see Figure 700-1, State Force Work/Materials).

(29) Strip Maps

Strip maps may be used on projects such as overlays, fog seal, BST, stockpiling, signing, safety, and similar projects when a great deal of detail is not required.

Many times a strip map can be used for a series of plans within a set of plans, such as for the signing series, if the signing is simple destination-type signing and requires no real detail. In most cases, by simply showing the construction centerline with

stationing and the required signing information, it is possible to stack the information on the sheet such that twice the information can be displayed on each sheet. Remember that most of the information shown on strip maps is not really alignment-dependent; that is, a curve in the highway is not going to affect the showing of a sign at the correct station, so the centerline can appear as a straight line on the strip map.

The use of strip maps when possible is not only an option, but is also a recommended procedure to help reduce the total number of plan sheets in the project.

The use of photographic strip maps is allowed if the work can be shown adequately and if a clear copy can be assured.

(30) Temporary Erosion and Sediment Control Plans

The *Highway Runoff Manual* provides detailed information on Temporary Erosion and Sediment Control (TESC) planning. The goal of a TESC Plan is to prevent erosion damage to projects and sediment-laden runoff that can harm the environment and waters of the state. A TESC Plan shall describe the erosion risks associated with the project and list the best management practices (BMPs) selected to reduce or eliminate the identified risks. A BMP is a design, procedural, or physical practice that prevents erosion or traps sediment.

A TESC Plan must be prepared if a construction project adds or replaces (removal of existing road surface down to base course) 2,000 square feet or more of impervious surface or disturbs 7,000 square feet or more of soil. Projects that don't meet these thresholds must address erosion control, but a stand-alone TESC Plan is optional.

In order for the TESC Plan to be effective, it must be contractually enforceable. The tools available are Division 8-01 of the *Standard Specifications*, the *Standard Plans*, General Special Provisions (GSP), and Special Provisions. In addition to the plan sheets, the selected specifications must be included in the contract. The contractually enforceable tools contained in the plan shall address the direct details the contractor will be responsible for, such as items of work; types of materials; duration; maintenance and removal of items; and measurement and payment of nonstandard items, as applicable to the specific contract. The plan sheets or Special Provisions shall show or list the locations of the BMPs.

WSDOT staff are required to attend the Construction Site Erosion & Sediment Control Course before they prepare a TESC Plan. Multiple resources for plan preparation exist, including the *Highway Runoff Manual*, *Design Manual*, *Roadside Manual*, *Hydraulics Manual*, *Construction Site Erosion and Sediment Control Course Manual*, the *Standard Specifications* (Section 8-01), and the *Standard Plans*.

WSDOT has a TESC Planning Tool that helps designers create thorough and contractually enforceable TESC Plans. The designer reviews requirements, selects BMPs, and identifies contractual tools to ensure enforcement of TESC Plans. The TESC Planning Tool helps ensure consistency in plan format as it automatically organizes and writes the TESC Plan narrative. It also greatly accelerates the process for TESC Plan review. A brief training is recommended prior to use and is available through ATMS (course code CAY).

A TESC template is available for consultant use and those who don't have access to the TESC Planning Tool. The template provides step-by-step guidance on preparing the narrative and is available online under the Guidance Materials heading at: www.wsdot.wa.gov/Environment/WaterQuality/ErosionControl.htm. Other resources

include Region Water Quality/Hydraulics Office staff, Environmental Office staff, and the Statewide Erosion Control Coordinator.

Some regions require that TESC Plans prepared by the project office be routed through the Region Water Quality/Hydraulics Office or Environmental Office for review. Once complete, the TESC Plan is incorporated into the contract documents.

(31) Truck Weighing Stations

The components of a truck weigh station for which federal funds can be used are:

- Additional right of way.
- The construction of access lanes and vehicle standing and storage areas.
- The illumination of access lanes and vehicle standing and storage areas.

The construction of the scale house and its service facilities, scale pit, and scale are not eligible for federal-aid participation.

For additional information on truck weigh stations, see the *Design Manual*.

(32) Vehicle Weight Limitations Within Project Boundaries

The designer is to review each individual project to determine whether the vehicles employed in the construction that exceed the gross weight limitations, per RCW 46.44, can be tolerated.

When existing bridges or major drainage structures are involved, overweight clearance is obtained from the HQ Bridge and Structures Office. The clearance information provided by the HQ Bridge and Structures Office is to be included in the PS&E portion of the Project File.

The designer is to use the information in the *Standard Specifications*, or include the appropriate GSP in the contract provisions, to inform the contractor of the load limit restrictions for the project.

(33) Warranties and Guarantees

WSDOT may choose to include warranty clauses in federal-aid highway construction contracts as specified in Code of Federal Regulations, Title 23, Volume 1, revised April 1, 2001, under Subpart D – General Material Requirements Sec 635.413, Guaranty and Warranty Clauses. An excerpt from the CFR text reads as follows:

The STD may include warranty provisions in National Highway System (NHS) construction contracts in accordance with the following:

- Warranty provisions shall be for a specific construction product or feature. Items of maintenance not eligible for Federal participation shall not be covered.
- All warranty requirements and subsequent revisions shall be submitted to the Division Administrator for advance approval.
- No warranty requirement shall be approved which, in the judgment of the Division Administrator, may place an undue obligation on the contractor for items over which the contractor has no control.
- An STD may follow its own procedures regarding the inclusion of warranty provisions in non-NHS Federal-aid contracts.

There may be occasions when the regions have the need to include warranty and/or guarantee clauses in state-funded contracts. The region will notify the Construction Materials Engineer at the HQ Materials Laboratory and request concurrence with the specification prior to including the Special Provision in the contract documents.

The contractor is required to pass along to WSDOT all manufacturers' normal guarantees and warranties for products and equipment installed on the project.

(34) Washington State Laws

Following is a partial listing of laws that are frequently used in the administration of WSDOT contracts:

1. RCW 4.24.360: Any clause in a construction contract that disallows a contractor, subcontractor, or supplier any damages due to unreasonable delays in performance caused by WSDOT is void and unenforceable.
2. RCW 18.104.048: Prior notice of well construction, reconstruction, or decommissioning of wells is required (see 700.05(7)(a)).
3. RCW 18.27.090: Contractors are exempt from contractor registration laws provided they are prequalified by WSDOT.
4. RCW 19.122.040: This subject deals with existing utility locations. (See 400.06 for the contents of this RCW.)
5. RCW 39.12: This subject concerns wages. (See Section 1-07.9 of the *Standard Specifications*.)
6. RCW 39.19: See the GSP concerning minority and women's businesses.
7. RCW 46.44: Vehicle Weight Limitations Within Project Boundaries.
8. RCW 47.28.030: This subject deals with State Force Work and materials (see 700.05(25)).
9. RCW 47.28.035: This subject is related to RCW 47.28.030, State Force Work and materials (see 700.05(25)).
10. RCW 47.28.070: This subject concerns prequalification of contractors. (See Sections 1-02.1 of the *Standard Specifications*.)
11. RCW 47.28.100: Contractors are allowed 20 days after award to execute a contract. WSDOT may extend this time no more than an additional 20 days. (See Sections 1-03.3 and 1-03.5 of the *Standard Specifications*.)
12. RCW 47.28.120: Contractors must file their claims within 180 days after acceptance. (See Section 1-09.9 of the *Standard Specifications*.)
13. RCW 47.30: Requirements for paths and trails.
14. RCW 49.28: Wages – overtime.
15. RCW 60.28.010: WSDOT must hold 5% of the contract amount in reserve for material and worker claims. Contractors can post a bond in lieu of reserve fund. (See Section 1-09.9 of the *Standard Specifications*.)
16. RCW 78.44: A Contract Reclamation Plan is required for every WSDOT contract that contains a WSDOT-furnished materials source (see 400.06).

Some of the laws are referenced in the *Standard Specifications* or the GSPs; some are not. In either case, these laws are not to be altered. All Special Provisions that appear to be altered should be questioned.

(35) Washington State Patrol (WSP) Traffic Control Assistance

The following factors are to be considered when evaluating the need to include WSP traffic control assistance in the project:

- What type of construction is being done?
- How complex is the traffic control?
- Are there possibilities of speed reductions?
- What are the traffic volumes?
- Is there nighttime work?
- Are there special geometric conditions?

Refer to the *Traffic Manual* for recommended enhanced enforcement in the work zone.

If it is decided that WSP traffic control assistance is warranted, the Region Program Manager must be contacted to set up the work order and to verify that funds are available in the master GC 9131 agreement. The Region Program Manager will contact the HQ Traffic Office, Field Operations Support Service Center, to obtain a Task Order number, and will then prepare and execute the Task Order in the normal manner and submit it to the HQ Program Manager for action.

The designer will include the money in the project estimate as a below-the-line item.

(36) Working Days

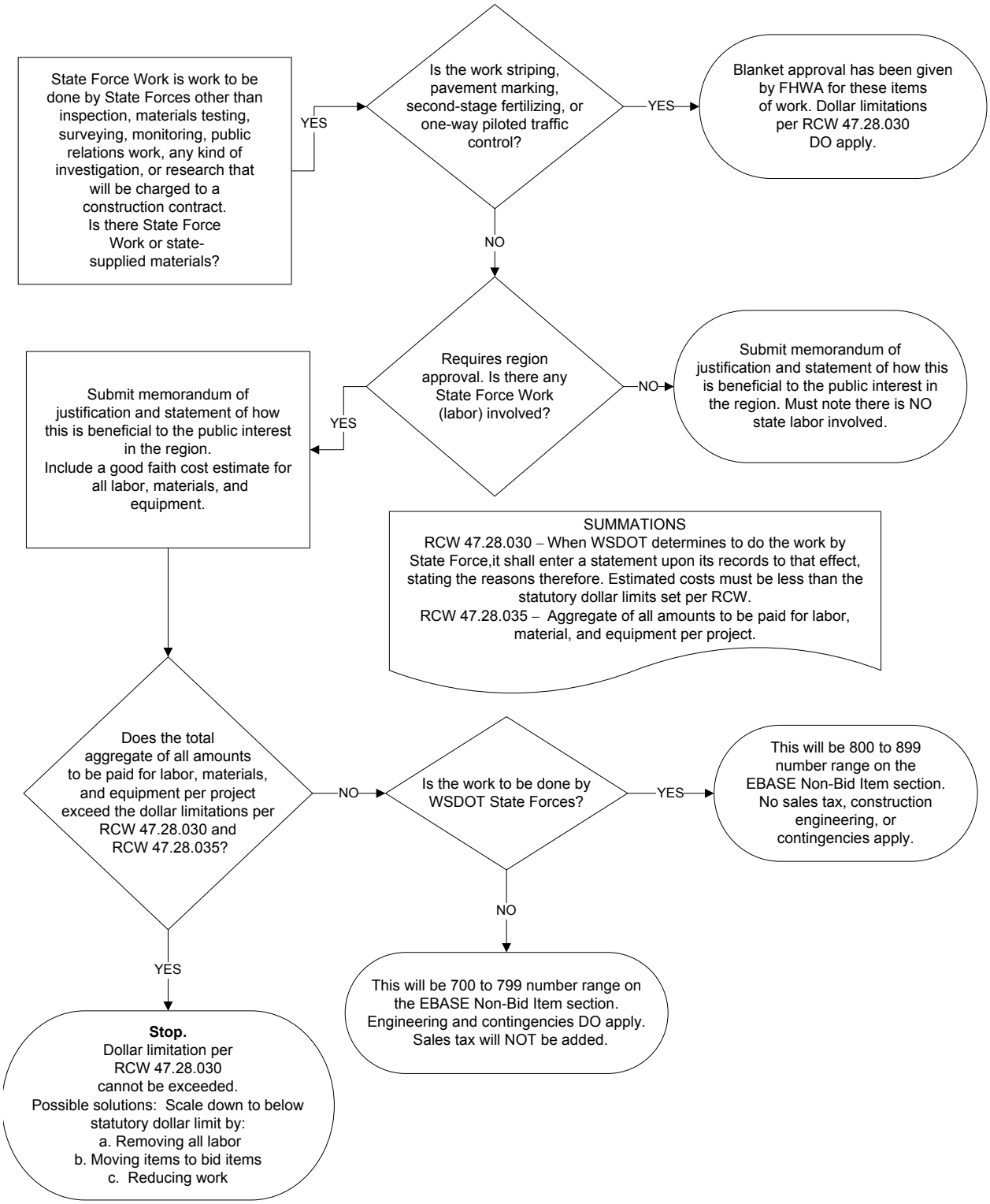
The designer needs to give careful consideration to the number of working days allowed for a project. Too many working days can cause as many problems as not enough working days.

The determination of working days for the different work items is to be based on production rates and other considerations (see the Appendices). Using the time required for the individual work items, the Critical Path Method (CPM) is then used to determine how the project work will fit together, and the total number of working days will be determined.

The working days required for bridge construction are to be coordinated with the working days required for the other construction.

The CPM will be placed in the PS&E portion of the Project File.

STATE FORCE WORK/MATERIALS



State Force Work/Materials
Figure 700-1

Appendix 5 Addendum Preparation

(1) General

When addenda are needed, they should be numbered chronologically as they are compiled and sent to bidders/planholders so the number of addenda sent can be tracked. Designers need to work closely with their Region Plans Office in preparing addenda. Great care should be used to ensure all plan sheets affected by an addendum are identified and included in the addendum; one minor change can have a ripple effect on other sheets.

Contract specification revisions or new contract specifications, created while a contract is on Ad, shall be stamped by the engineer directly responsible for the work. Those stamped specifications shall be filed in the Project File for the project. The addendum, which transmits revised or new specifications, does not need to show the stamp, provided the stamped originals are in the Project File. Plan revisions or new plans (in accordance with Division 400) sent out by an addendum need to be stamped by the engineer, and copies of those stamped plans will be sent out with the addendum.

(2) Notes to the Designer

The following paragraph shall to be placed on all addenda:

> *Bidders shall furnish the Secretary of Transportation with evidence of the receipt of this addendum. This addendum will be incorporated in the contract when awarded and formally executed.*

The following paragraph should be placed on an addendum when changes are made to the Proposal and the addendum does not transmit a new Proposal as an attachment to the bidders:

> *Bidders are instructed to revise pages ___ and ___ of the Proposal as revised pages have not been prepared for attachment to this addendum. If the bidder fails to make these corrections on the Proposal, the items will be corrected by the Department.*

The following example shows how to notify the bidder that the contract wage rates are to be deleted and replaced in an addendum:

> *Wage Rates:*
>
> *Federal Wage Determination WA_____, Modification___, page___, is deleted and replaced with WA02000___, Modification____, page___.*

This statement shows how the wage rate addendum would be worded when the wage rate determination is an attachment:

> *Attachment:*
>
> *Federal Wage Determination WA_____, Modification___, page___. (Rev. February___, 2002)*

(3) Guidelines for Preparing Addendum Plan Sheets

(a) Deletions

The item, line, figure, or detail to be deleted is completely removed from the sheet. The area where the deletion occurred shall NOT contain any addendum clouds. The deletion is to be noted in the revision block and shall be shaded. When a plan sheet requires a P.E.'s stamp, the revision block date is to be dated on or before the date it is signed by the P.E. authorizing the change.

On Summary of Quantity, Qtabs, Structure Notes, and Sign Specification sheets, delete the line item(s), but leave the row or column in place as a blank placeholder.

(b) Added/Replacement Sheets

An added sheet is a sheet that previously did not exist. It is to be numbered and inserted in its proper location, adding an alphabetical character to its sheet designation; for example, the "A" in 67, 67A, 68.

A replacement sheet is a sheet on which the changes are so massive, a cloud(s) would cover a substantial portion (over 50%) of the sheet, or the changes could not be clearly defined with a cloud(s).

These sheets are noted in the revision block by the note "Added Sheet" or "Replacement Sheet," whichever is applicable. Only the revision block shall be shaded.

(c) Revisions/Additions

The revision/addition note shall be placed in the revision block, and all revisions, including additions, shall be shaded.

(d) Addendum Cloud (for Plan/Profile/Section/Detail Sheets Only)

On CAD-produced sheets (plan view, profile view, sections view, and detail), use the cloud line tool to identify an item(s) or area(s) to be changed. To cloud an addendum, in MicroStation version V8, from the WSDOT MENU, browse to "Sheet Items > GI General Sheet Items," select "Addendum Cloud," and draw a boundary line around the item(s) or area(s) to be changed.

Addendum cloud line attributes will have an arc radius of 0.1, arc angle of 145°, line style of 1, line weight of 5, and line color of 15 (RBG value = R:120, B:120, G:120).

Refer any questions about addendum cloud(s) to your region CAD coordinator or the HQ CAE Office.

(e) **Shading**

On Summary of Quantity, Qtabs, Structure Notes, and Sign Specification sheets, shade the cell(s) and revision block with a gray color Red, Green, Blue (RGB) value = R:120, B:120, G:120).

All PS&E submittals for Contract Advertisement and addenda shall be only original plots from printers that use stippling to produce gray.

Reproductions or photocopies will not be allowed as they make poor quality prints when reproduced. Some variation in shade density may be noticed when comparing output from various printers.

(4) Examples

The following addendum examples are provided to show several of the many possible addenda that may need to be sent to amend a project once it has been advertised (Ad).

(a) **Example 1**

This example, titled "SR 161, Jovita Blvd. to SR 18 Widening – Stage 1, Addendum No. 3" is an actual addendum that amended the Special Provisions, the Proposal, and the Wage Rates of a past contract while it was on Ad. The example provides notes to the designer/reader (see explanations in parentheses) to inform the designer of how the changes need to be explained or shown on various documents, in order to provide the necessary information to the bidders/planholders. Note: In this example, the proposal, plans, and wage rate attachments showing the changes are not included.

(b) **Example 2**

This example, titled "SR 520 Bike Path – Bellevue to Redmond, Addendum No 1" is an actual addendum that amended the Special Provisions, the Plans, and the Proposal of a past contract while it was on Ad. In this example, only the addendum letter and proposal are included.

(c) **Plans Sheets**

1. **Example A5-1**

   This example shows how a Structure Note sheet would use addendum shading. This same type of shading would also be used in Summary of Quantity, Qtabs, and Sign Specification sheets.

2. **Example A5-2**

   This example shows the addendum cloud on a Drainage Plan sheet.

3. **Example A5-3**

   This example shows the addendum cloud on a Paving Plan sheet.

STRUCTURE NOTES - DRAINAGE

NOTE:
THE FIRST NUMBER OF THE "CODE DESIGNATION" BELOW REFERS TO THE SHEET NO. OR THE SHEET REFERENCE NO. SHOWING THE DRAINAGE FEATURE.

THE SECOND NUMBER REFERS TO THE DRAINAGE FEATURE FOUND ON THAT SHEET.

CODE	LOCATION ↓ \ UNIT OF MEASURE →	REMOVING DRAINAGE STRUCTURE	DITCH EXCAVATION INCL. HAUL	GRATE INLET TYPE 2	QUARRY SPALLS	DRAIN PIPE 6 IN. DIAM.		SCHEDULE A CULV. PIPE 12 IN. DIAM.	SCHEDULE A CULV. PIPE 18 IN. DIAM.	SCHEDULE A CULV. PIPE 24 IN. DIAM.	CL. V REINF. CONC. CULV. PIPE 36 IN. DIAM.		BORING AND JACKING 30 IN. PLAIN STEEL CULVERT PIPE	CATCH BASIN TYPE 1L	CATCH BASIN TYPE 2 54 IN. DIAM.	TESTING STORM SEWER PIPE	SEE GENERAL NOTES
		EACH	C.Y.	EACH	TON	L.F.		L.F.	L.F.	L.F.	L.F.		L.F.	EACH	EACH	L.F.	
DR7-18	MSB 506+04.34 (50.6 RT) TO MSB 506+07.13 (36.28 LT)							123									1, 9
DR7-19	LB 125+96.94 (48.46 LT) TO LB 124+63.76 (42.9 LT)														1	120	1, 5, 8, 14
DR7-20	LB 124+63.76 (42.9 LT) TO LB 122+75.35 (44.12 LT)			1												173	1, 5, 8, 14
DR7-21	LB 122+75.35 (44.12 LT) TO LB 122+39.29 (39.3 LT)														1	36	1, 5, 8, 14
DR7-22	LB 122+39.29 (39.3 LT) TO LB 122+03.81 (37.89 LT)			1												36	1, 5, 8, 14
DR7-23	LB 122+03.81 (37.89 LT) TO LB 121+71.23 (37.81 LT)			1												36	1, 5, 8, 14
DR7-24	LB 121+71.23 (37.81 LT) TO LB 122+17.97 (166.91 RT)				2										1	211	1, 5, 8, 14, 19
DR7-25	LB 121+31.77 (35.34 LT) TO LB 121+71.23 (37.81 LT)			1												36	1, 5, 8, 9, 14
DR7-26	LB 121+31.82 (39.09 LT) TO LB 121+32.03 (48.7 LT)															10	1, 9
DR7-27	LB 123+43.66 (100.53 LT) TO LB 123+96.57 (34.18 LT)																7
DR7-28	LB 123+28.78 (31.64 RT) TO LB 123+54.91 (26.48 RT)																7
DR7-29	LB 123+22.00 (32.47 RT) TO LB 123+38.69 (65.28 RT)																7
DR7-30	MSB 508+35.08 (56.43 RT) TO MSB 508+50.87 (33.9 LT)																
DR7-31	MSB 508+50.87 (33.9 LT) TO MSB 508+58.91 (74.81 LT)								90								1, 2, 6, 9, 14
DR7-32	MSB 508+59.94 (80.69 LT) TO MSB 512+99.19 (75.23 LT)		#						63					1			1, 9
DR7-33	MSB 512+99.19 (75.23 LT) TO MSB 513+20.43 (135.99 LT)				2				35								9, 19
DR7-34	MSB 516+48.08 (124.73 LT) TO LB 124+81.64 (223.3 RT)								11								9, 12
DR7-35	LB 124+81.64 (223.3 RT) TO MSB 517+28.35 (121.55 LT)								116								9
DR7-36	MSB 511+65.59 (48.21 RT) TO MSB 518+74.87 (35.38 RT)		#														
DR8-1	LB 111+91.04 (25.6 LT) TO LB 118+83.81 (134.08 LT)		#														
DR8-2	LB 111+84.47 (22.71 RT) TO LB 118+78.01 (94.39 RT)		#														
DR8-3	JL 800+59.42 (15.46 LT) TO JL 800+57.18 (26.79 RT)																
	SHEET TOTAL			4	4			123	315					1	3	658	
	PROJECT TOTAL	21	6	7	11	416		346	650	64	158		233	28	15	5900	

GENERAL NOTES:

						REGION NO.	STATE	FED. AID PROJ. NO.
DESIGNED BY	DESIGNER					10	WASH	NH-0000(000)
ENTERED BY	CAD OPERATOR					**JOB NUMBER**		
CHECKED BY	TEAM LEAD					00Z000		
PROJ. ENGR.	PROJECT ENGINEER					**CONTRACT NO.**		
REGION ADM.	REGIONAL ADM.		07/25/09	AD1 - QUANTITY CHANGE	TK			
		DATE	**DATE**	**REVISION**	**BY**			

Washington State Department of Transportation

EXAMPLE A5-1
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

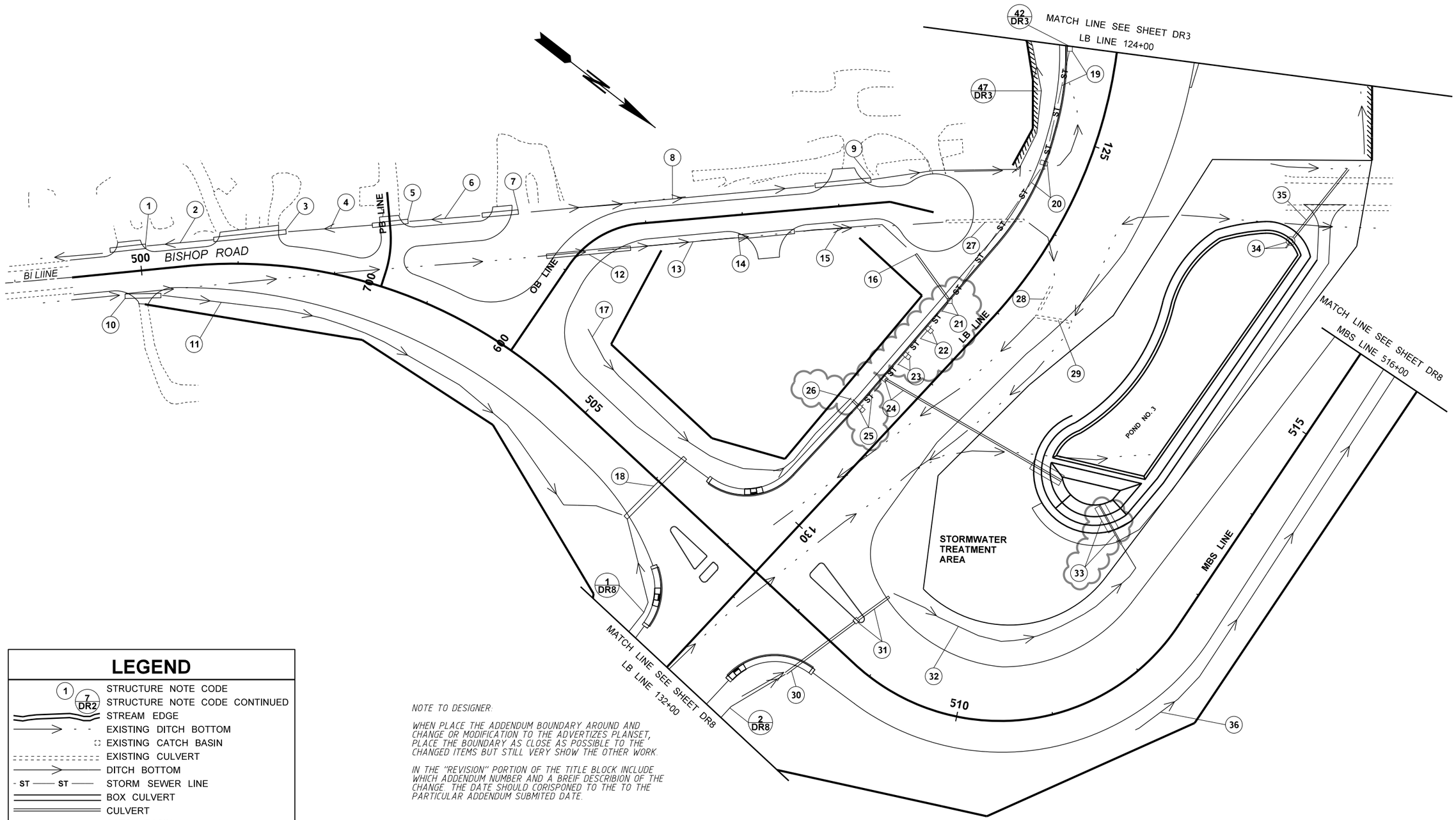
STRUCTURE NOTES - DRAINAGE

NT 9

SHEET

OF

SHEETS



LEGEND

- 1 — STRUCTURE NOTE CODE
- 7 DR2 — STRUCTURE NOTE CODE CONTINUED
- STREAM EDGE
- EXISTING DITCH BOTTOM
- EXISTING CATCH BASIN
- EXISTING CULVERT
- DITCH BOTTOM
- ST —— ST —— STORM SEWER LINE
- BOX CULVERT
- CULVERT
- CATCH BASIN
- GRATE INLET
- MANHOLE

NOTE TO DESIGNER.

WHEN PLACE THE ADDENDUM BOUNDARY AROUND AND CHANGE OR MODIFICATION TO THE ADVERTIZES PLANSET, PLACE THE BOUNDARY AS CLOSE AS POSSIBLE TO THE CHANGED ITEMS BUT STILL VERY SHOW THE OTHER WORK.

IN THE "REVISION" PORTION OF THE TITLE BLOCK INCLUDE WHICH ADDENDUM NUMBER AND A BREIF DESCRIBION OF THE CHANGE. THE DATE SHOULD CORISPONED TO THE TO THE PARTICULAR ADDENDUM SUBMITED DATE.

FILE NAME	C:\AAWork\PPM\2009 Div 4\PPM_Div4_PS_DR_AD1.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NH-0000(000)
TIME	7:54:33 AM						
DATE	11/23/2009						
PLOTTED BY	kerrt				JOB NUMBER 00Z000		
DESIGNED BY	DESIGNER						
ENTERED BY	CAD OPERATOR				CONTRACT NO.		LOCATION NO. XL-1234
CHECKED BY	TEAM LEAD						
PROJ. ENGR.	PROJECT ENGINEER	AD1 - DRAINAGE SYSTEM CHANGE	07/25/2009	TK			
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY			

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

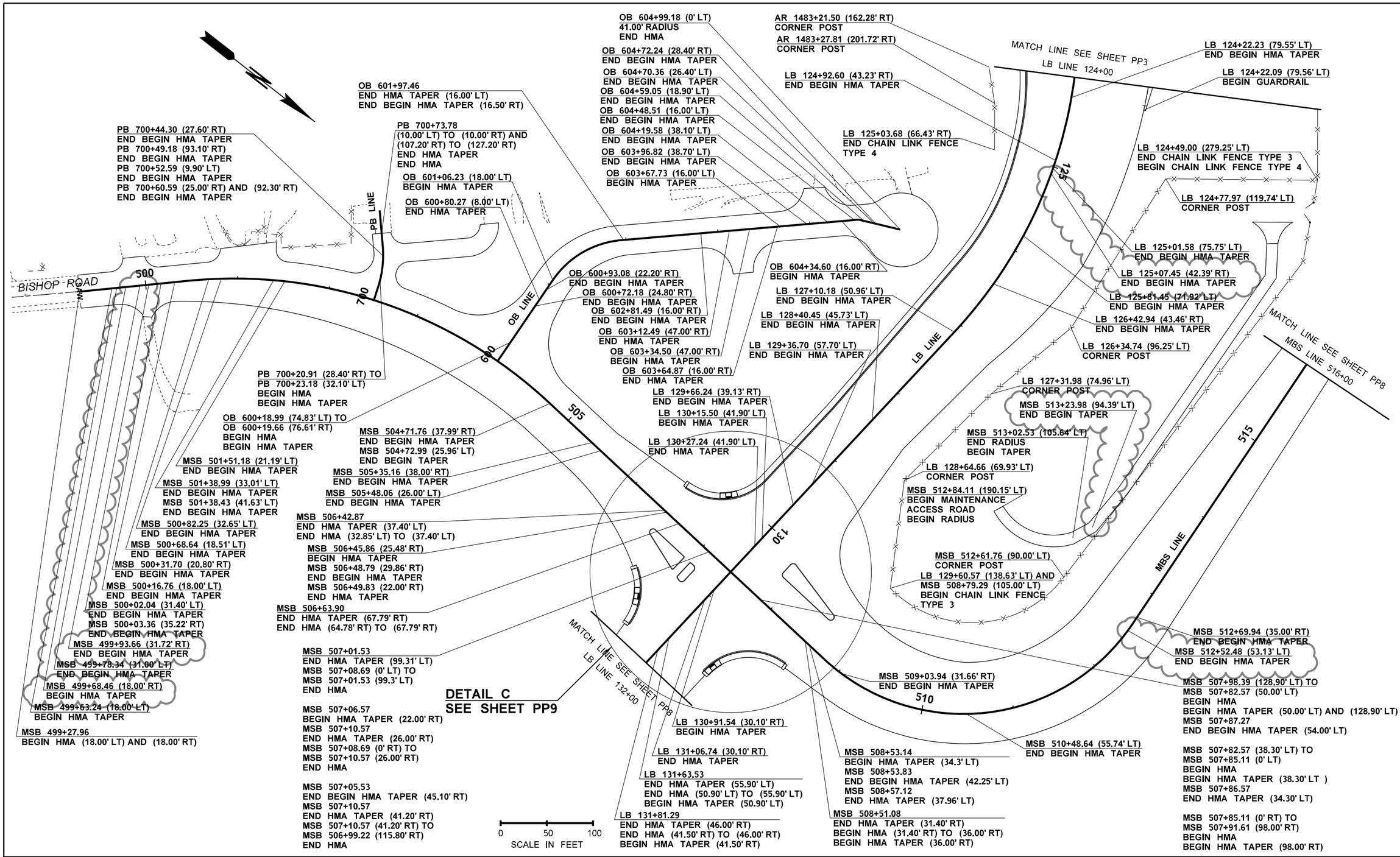
EXAMPLE A5-2
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

DRAINAGE PLAN

Plot 7

PLAN REF NO DR7

SHEET OF SHEETS



FILE NAME	C:\AAWork\PPM\2009 Div 4\PPM_Div4_PS_PV_AD1.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO. NH-0000(000)	Plot 7
TIME	7:55:28 AM							PLAN REF NO PP7
DATE	11/23/2009							
PLOTTED BY	kerrt				JOB NUMBER 00Z000			
DESIGNED BY	DESIGNER							SHEET
ENTERED BY	CAD OPERATOR							OF
CHECKED BY	TEAM LEAD				CONTRACT NO.		LOCATION NO. XL-1234	SHEETS
PROJ. ENGR.	PROJECT ENGINEER	AD1 - TAPER MODIFICATION	07/25/2009	TK				
REGIONAL ADM.	REGIONAL ADM.	REVISION	DATE	BY				

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

EXAMPLE A5-3
I-5 AND LABREE RD INTERCHANGE
SAMPLE PROJECT

PAVING PLAN