

Standards Committee

Meeting Agenda

Wednesday, May 1, 2024, at 9:00am

Meeting Location: 1334 Smith Street, Charleston, WV in Lower-Level Conference

Also meeting virtually via Google Meet. E-mail distribution includes instruction.

Call to Order

Roll Call of Attendees

Approval of Minutes of 3-13-2024 Meeting

Unfinished Business – Standards discussed at last Committee meeting.

TITLE	Champion
<p>2nd time to Committee. Discussed in March. <i>Design Directive (DD)-202 Field and Office Reviews for Initial Engineering, Preliminary Engineering and Final Design.</i> Two new additions for Right of Way (R/W) to the submission checklist</p> <ul style="list-style-type: none">• R/W 1&2 Plans & Questionnaire Checklist• R/W 3 Plans Checklist <p>Updated per comments at the last meeting.</p> <p><i>Approval expected in May</i></p>	K. Parsons
<p>2nd time to Committee. Discussed in March. <i>DD-301 Right of Way Plan Development.</i> Entire section updated. Two copies are included.</p> <ul style="list-style-type: none">• Redline copy showing the proposed revisions to DD-301• Clean copy of proposed DD-301 <p>Updated per comments at the last meeting.</p> <p><i>Approval expected in May</i></p>	K. Parsons

New Business

TITLE	Champion
<p>1st time to Committee. <i>Design Directive (DD)-202 Field and Office Reviews for Initial Engineering, Preliminary Engineering and Final Design.</i> DD-202 Plan Distribution Schedule. Updated to add additional Traffic Engineering personnel. It is a redline copy showing the revisions.</p> <p>Note: This list isn't required to go through Standards Committee for updates, but we've included so that others can provide input or further updates, if needed.</p>	T. Whitmore

<p>1st time to Committee. <i>Structure Directive (SD)-1045 Foundation Types.</i> Updates the approval requirements of Intermediate Geomaterial. It is a redline copy showing the revisions.</p>	R. Scites
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Next Meeting Date: Wednesday, July 3, 2024.

Deadline for submissions: June 12, 2024.

Adjournment

Standards Committee
Meeting Minutes
March 13, 2024

Call to Order: The meeting was called to order by Acting Chair Steve Boggs shortly after 9:00 AM.

Attendees: See Attendee List for a list of attendees.

Minutes: Minutes of the 1-3-2024 Meeting were reviewed; there were no comments on them.

Unfinished Business: Items which were discussed at prior meeting are listed below:

- I. None

New Business: Items discussed for the first time at committee meeting are listed below:

- II. *Design Directive (DD)-202 Field and Office Reviews for Initial Engineering, Preliminary Engineering and Final Design.* Two new additions for Right of Way (R/W) to the submission checklist

- R/W 1&2 Plans & Questionnaire Checklist
- R/W 3 Plans Checklist

Comment from Barrett Neeley on items listed in checklist. Hope to approve at the next meeting.

- III. *DD-301 Right of Way Plan Development.* Entire section updated.

Comment from Barrett Neeley on items listed in DD. Hope to approve at the next meeting.

Next Meeting: The next meeting is on Wednesday, May 1, 2024. Deadline for submissions April 10, 2024.

Adjournment: The meeting was adjourned.

Manuals Committee
Meeting Minutes
March 13, 2024

Call to Order: The meeting was called to order by Acting Chair Steve Boggs shortly after conclusion of Standards Committee meeting.

Attendees: See Attendee List for a list of attendees.

Unfinished Business: Items which were discussed at prior meeting are listed below:

- I. *Contract Award Manual.* This is an update of the 2021 manual; the revisions include changes to 2023 Standard Specifications and for special provision updates for Disadvantage Business Enterprises.

The manual was reviewed with minimal discussion. Contract Award Manual was approved at the meeting. Vote 5-0.

New Business: Items which were discussed for the first time at the committee meeting are listed below:

- II. None

Next Meeting: The next meeting is on Wednesday, May 1, 2024. Deadline for submissions April 10, 2024.

Adjournment: The meeting was adjourned.

November Standards & Manuals Committee Meeting
Wednesday, March 13, 2024
Attendee List

Virtual Meeting Attendees

- | | |
|-----------------------|--|
| 1. Crane, John | CAWV |
| 2. Cummings, John | WVDOH – MCS&T Division |
| 3. Danberry, Sasha | WVDOH – Contract Administration Division |
| 4. Elkins, Jerry | Terradon |
| 5. Gillispie, Adam | WVDOH – MCS&T Division |
| 6. Hanson, Calvin | ADS Pipe |
| 7. Hevener, Wes | AMT Engineering |
| 8. Lough, Eric | WVDOH – Operations Division |
| 9. Mongi, Ahmed | HDR |
| 10. Scites, RJ | WVDOH – Engineering Division |
| 11. Varney, Billy | TRC Company |
| 12. Whitmore, Ted | WVDOH – Traffic Engineering Division |
| 13. Williamson, Steve | MBI |

In Person Meeting Attendees

- | | |
|---------------------|--|
| 1. Adkins, Janie | WVDOH – Technical Support Division |
| 2. Boggs, Steve | WVDOH – Technical Support Division |
| 3. Darby, Whit | WVDOH – District 1 |
| 4. Hastings, Katie | WVDOH – Engineering Division |
| 5. Joseph Neeley | WVDOH – District 1 |
| 6. Parsons, Katrena | WVDOH – Engineering Division |
| 7. Schrader, Cecil | WVDOH – Right of Way Division |
| 8. Smith, Shawn A | WVDOH – Contract Administration Division |
| 9. Toney, Chad | WVDOH – Right of Way Division |

TOTAL ATTENDEES: 22

DRAFT

Project Name

State & Federal Project Numbers

District

County

Reviewed By

Legend: X = Correction/Addition Needed

TITLE SHEET

Title Area (Upper center)

- ____ State & Federal Project Numbers
- ____ Project Route Number
- ____ Tax District & County
- ____ Project Name
- ____ R/W Project Length (table at bottom)

District Map (Upper right)

- ____ Districts outlined & numbered
- ____ County of work shaded
- ____ Project Information Block complete

Location Map (Upper left)

- ____ Indicate project site (county or urban map)
- ____ Project limitssite noted
- ____ Scale & North Arrow

Utilities (Under Location Map)

- ____ List all utilities w/ service type
- ____ List Railroads

Layout Map (Center of sheet)

- ____ All Roadways and Railroads
- ____ All Route Numbers
- ____ Proposed Centerline(s) w/ stationing
- ____ North Arrow
- ____ Scale
- ____ Sheet Layout Index
- ____ Nearest City, Town, or Major Route, at each end of Project (w/ arrows)
- ____ Begin & End R/W Project Stations
- ____ Begin & End Construction Project Stations
- ____ Begin & End Bridge Stations (if known)
- ____ Waterways Labeled (w/ flow arrows)
- ____ County Lines (w/ labels)
- ____ Corporation District Lines (w/ labels)
- ____ Tax District Lines (w/ labels)

Other:

- ____ Plan & Profile scales (center left)
- ____ Conventional Signs (lower left)
- ____ Project Numbers (lower left corner)
- ____ Submission date (lower left corner)
- ____ Index to Sheets (center bottom)
- ____ R/W Submission number (under District Map)
- ____ Controlled Access note (center right)
- ____ Signature (lower right)
- ____ Current Signature Block (DD-702) (lower right)
- ____ Consultant's Logo Block
- ____ Design Designation Block

OWNERSHIP AND UTILITY INDEX SHEET

Ownership Index

- ____ Project Information Block complete
- ____ Parcel Numbers for all involved properties
- ____ Parcel Numbers for affected Railroads
- ____ Parcel Numbers for all private utilities
- ____ Tract Numbers for takes on parcels (if applicable)
- ____ Corresponding Plan Sheet numbers
- ____ Titleholders for all parcels
- ____ Deed Book & Page Numbers for all parcels
- ____ Will Book & Page Numbers (if applicable)
- ____ Areas of Take for all tracts (in proper columns)
- ____ Total Taken Areas for all parcels
- ____ Parcel Totals for all parcels
- ____ Total Remaining Area for all parcels
- ____ Major Mineral Ownership (in Remarks Column if different than surface ownership and if known)

Utilities Index

- ____ Identified by Station & Sheet Number
- ____ Description of existing facilities

Demolition Table

- ____ Demolition Table matching Construction Plans (see DD-709)

PROPERTY MAPS

- ____ Project Information Block complete
- ____ North Arrow
- ____ Map Scale (adequate & labeled)
- ____ Proposed Centerline(s) w/ stationing
- ____ Nearest City, Town, or Major Route, at each end of Project, (w/ arrows)
- ____ Existing Roadways (Private and Public)
- ____ Existing Bridges (w/ disposition, if known)
- ____ Route Numbers
- ____ Existing Road & Street Names (if applicable)
- ____ Existing R/W & Permanent Easements (w/ reference to source, i.e. statutory, etc.)
- ____ Existing Private R/W (w/ labels)
- ____ Railroads (w/ R/W and Names)
- ____ Railroad Centerline(s) w/ Valuation Stationing
- ____ Begin & End R/W Project Stations
- ____ Begin & End Construction Project Stations
- ____ Begin & End Bridge Stations (if known)
- ____ Waterways Labeled (w/ flow arrows)
- ____ Proposed R/W (w/ labels)
- ____ Proposed Easements (w/ labels as to type & use)
- ____ Subdivision Name w/ lot lines & labels

R/W-1&2 PLANS & QUESTIONNAIRE CHECK LIST

DRAFT

Project Name

District County

State & Federal Project Numbers

Reviewed By

Legend: X = Correction/Addition Needed

PROPERTY MAPS (cont'd)

- Bearings & Distances shown inside Property Lines
Property Lines labeled PL
Property Lines with Land Ties not labeled PL
Parcel Numbers (DD-301)
Tract Numbers (if applicable, per DD-301)
Existing property access, such as roads or trails
Entire Property Map of all involved properties
Major buildings and improvements
Existing Major Drainage
Proposed Major Drainage (if known)
Existing major utility transmission lines (above and below ground, w/ labels)
Existing Utility Easements (w/ labels)
Identify Underground storage tanks & hazardous waste sites
County Lines (w/ labels)
Corporation District Lines (w/ labels)
Tax District Lines (w/ labels)
Cemeteries
All Mines (Deep & Surface) include roads, entrances, air shafts, structures, etc.
Gas, Oil and Salt Wells and Lines (identify w/ owner's names and API well tag numbers)

PLAN SHEETS

- Project Information Block complete
North Arrow
Map Scale (adequate & labeled)
All Topographic features (screen contour lines)
Proposed Centerline(s) w/ stationing
Curve points on Centerline, w/ Curve Data
Bearings on Proposed Centerline(s)
Begin & End R/W Project Stations
Begin & End Construction Project Stations
Begin & End Bridge Stations
Route Numbers
Nearest City, Town, or Major Route, at each end of Project, (w/ arrows)
Existing Roadways (Private and Public)
Existing Bridges (w/ disposition, if known)
Existing Road & Street Names (if applicable)
Existing R/W & Permanent Easements (w/ reference to source, i.e. statutory, etc.)
Existing Private R/W (w/ labels)
Existing property access, such as roads or trails
Existing Driveways (w/ type)
Railroads (w/ R/W and Names)

PLAN SHEETS (cont'd)

- Railroad Centerline(s) w/ Valuation Stationing
Waterways Labeled (w/ flow arrows)
Proposed R/W (w/ labels)
Proposed Easements (w/ labels as to type & use)
Subdivision Name w/ lot lines & labels
Property Lines labeled PL
Property Lines with Land Ties not labeled PL
Bearings & Distances inside Property Lines
Parcel Numbers (DD-301)
Tract Numbers (if applicable, per DD-301)
C/A Fence
Construction Limits (incl. Temp. Detour)
All property improvements (including houses, sheds, pools, satellite dishes, etc. w/ labels)
Parking Lots, type labeled (gravel, concrete, etc.)
Proposed Driveway Reconnections (if known)
Proposed Bridge(s) (if known)
All Public Utilities (w/ labels & service lines)
Existing Private Septic Systems (include tanks, leach fields, etc. w/ labels)
Existing Private Water Systems (include wells, pump houses, etc. w/ labels)
Existing Drainage w/ size, type and flow direction
Proposed Drainage w/ size, type and flow direction (if known)
All Private Utilities w/ Parcel Numbers, pipe size(s) and type(s) along with service lines
Existing Major Utility transmission lines (above and below ground, w/ labels)
Existing Utility Easements (w/ labels)
Building Demolition Item Numbers
Building Demolition Easement Lines
Special Signs, Poles, Traverse Points, Benchmarks, etc.
Identify Underground storage tanks & hazardous waste sites
County Lines (w/labels)
Corporation District Lines (w/ labels)
Tax District Lines (w/ labels)
Cemeteries
All Mines (Deep & Surface) include roads, entrances, air shafts, structures, etc.
Gas, Oil and Salt Wells and Lines (identify w/ owner's names, API well tag numbers & disposition)
Stations & Offsets at all R/W line breakpoints

DRAFT

Project Name

District County

State & Federal Project Numbers

Reviewed By

Legend: X = Correction/Addition Needed

PLAN SHEETS (cont'd)

- ____ Stations & Offsets at all Easement line
breakpoints and at intersection points w/ R/W
- ____ Stations & Offsets at all Property Corners within
R/W and Easements
- ____ Stations & Offsets at all points where Property
Lines intersect R/W & Easement lines
- ____ Stations & Offsets where Existing R/W intersects
Property Lines, Proposed R/W and Easements
- ____ Railroad Valuation Stations & Offsets on
Proposed Railroad takes

TYPICAL SECTIONS

- ____ Project Information Block completed
- ____ Mainline & connector roads

PROFILE SHEETS

- ____ Project Information Block completed
- ____ Profile Scales
- ____ All roads & driveways
- ____ Begin & End Bridge Stations (if known)
- ____ Begin & End R/W Project Stations
- ____ Begin & End Construction Project Stations

RIGHT OF WAY QUESTIONNAIRE (Form 5.01)

- ____ One Form for each WVDOH (not Tax) Parcel
- ____ All requested information lines completed
- ____ Copy of Latest Deed
- ____ Copy of Will (& supporting data, if applicable)
- ____ Deed or Will Book & Page Numbers legible
- ____ Copy of Out Conveyance Deeds (if applicable)
- ____ Signed by Titleholder and Interviewer

ADDITIONAL INFORMATION

- ____ Copy of Subdivision Map(s), if applicable
- ____ Copy of Railroad Valuation Map(s), if applicable
- ____ Copy of Existing R/W Plan(s) and information
- ____ Copy of Tax Map(s)
- ____ Copy of Forestry Map(s), if applicable
- ____ Property Discrepancy Report, if applicable

R/W-3 PLANS CHECK LIST

DRAFT

Project Name

State & Federal Project Numbers

District

County

Reviewed By

Legend: X = Correction/Addition Needed

TITLE SHEET

Title Area (Upper center)

- ____ State & Federal Project Numbers
- ____ Project Route Number
- ____ Tax District & County
- ____ Project Name
- ____ R/W Project Length (table at bottom)

District Map (Upper right)

- ____ Districts outlined & numbered
- ____ County of work shaded
- ____ Project Information Block complete

Location Map (Upper left)

- ____ Indicate project site (county or urban map)
- ____ Project limitssite noted
- ____ Scale & North Arrow

Utilities (Under Location Map)

- ____ List all utilities w/service type
- ____ List Railroads

Layout Map (Center of sheet)

- ____ All Roadways and Railroads
- ____ All Route Numbers
- ____ Proposed Centerline(s) w/ stationing
- ____ North Arrow
- ____ Scale
- ____ Sheet Layout Index
- ____ Nearest City, Town, or Major Route, at each end of Project (w/ arrows)
- ____ Begin & End R/W Project Stations
- ____ Begin & End Construction Project Stations
- ____ Begin & End Bridge Stations
- ____ Waterways Labeled (w/ flow arrows)
- ____ County Lines (w/ labels)
- ____ Corporation District Lines (w/ labels)
- ____ Tax District Lines (w/ labels)

Other:

- ____ Plan & Profile scales (center left)
- ____ Conventional Signs (lower left)
- ____ Project Numbers (lower left corner)
- ____ Submission date (lower left corner)
- ____ Index to Sheets (center bottom)
- ____ R/W Submission number (under District Map)
- ____ Controlled Access note (center right)
- ____ Signature (lower right)
- ____ Current Signature Block (DD-702) (lower right)
- ____ Consultant's Logo Block
- ____ Design Designation Block

OWNERSHIP AND UTILITY INDEX SHEET

Ownership Index

- ____ Project Information Block complete
- ____ Parcel Numbers for all involved properties
- ____ Parcel Numbers for affected Railroads
- ____ Parcel Numbers for all private utilities
- ____ Tract Numbers for takes on parcels (if applicable)
- ____ Corresponding Plan Sheet numbers
- ____ Titleholders for all parcels
- ____ Deed Book & Page Numbers for all parcels
- ____ Will Book & Page Numbers (if applicable)
- ____ Areas of Take for all tracts (in proper columns)
- ____ Total Taken Areas for all parcels
- ____ Parcel Totals for all parcels
- ____ Total Remaining Area for all parcels
- ____ Remarks (if applicable)
- ____ Major Mineral Ownership (in Remarks Column if different than surface ownership and if known)

Utilities Index

- ____ Identified by Station & Sheet Number
- ____ Description of existing facilities
- ____ Disposition of existing facilities

Demolition Table

- ____ Demolition Table matching Construction Plans (see DD-709)

PROPERTY MAPS

- ____ Project Information Block complete
- ____ North Arrow
- ____ Map Scale (adequate & labeled)
- ____ Proposed Centerline(s) w/ stationing
- ____ Nearest City, Town, or Major Route, at each end of Project, (w/ arrows)
- ____ Existing Roadways (Private and Public)
- ____ Existing Bridges (w/ disposition)
- ____ Route Numbers
- ____ Existing Road & Street Names (if applicable)
- ____ Existing R/W & Permanent Easements (w/ reference to source, i.e. statutory, etc.)
- ____ Existing Private R/W (w/ labels)
- ____ Railroads (w/ R/W and Names)
- ____ Railroad Centerline(s) w/ Valuation Stationing
- ____ Begin & End R/W Project Stations
- ____ Begin & End Construction Project Stations
- ____ Begin & End Bridge Stations
- ____ Waterways Labeled (w/ flow arrows)
- ____ Proposed R/W (w/ labels)

R/W-3 PLANS CHECK LIST

DRAFT

Project Name _____

District _____ County _____

State & Federal Project Numbers _____

Reviewed By _____

Legend: X = Correction/Addition Needed

PROPERTY MAPS (cont'd)

- _____ Proposed Easements (w/ labels as to type & use)
- _____ Subdivision Name w/ lot lines & labels
- _____ Bearings & Distances shown inside Property Lines
- _____ Property Lines labeled PL
- _____ Property Lines with Land Ties not labeled PL
- _____ Parcel Numbers (DD-301)
- _____ Tract Numbers (if applicable, per DD-301)
- _____ Existing property access, such as roads or trails
- _____ Entire Property Map of all involved properties
- _____ Major buildings and improvements
- _____ ~~Existing Major Drainage~~
- _____ ~~Proposed Major Drainage~~
- _____ Existing major utility transmission lines (above and below ground, w/ labels)
- _____ Existing Utility Easements (w/ labels)
- _____ Identify Underground storage tanks & hazardous waste sites
- _____ County Lines (w/ labels)
- _____ Corporation District Lines (w/ labels)
- _____ Tax District Lines (w/ labels)
- _____ Cemeteries
- _____ All Mines (Deep & Surface) include roads, entrances, air shafts, structures, etc.
- _____ Gas, Oil and Salt Wells and Lines (identify w/ owner's names and API well tag numbers)

PLAN SHEETS

- _____ Project Information Block complete
- _____ North Arrow
- _____ Map Scale (adequate & labeled)
- _____ All Topographic features (screen contour lines)
- _____ Proposed Centerline(s) w/ stationing
- _____ Curve points on Centerline, ~~w/ Curve Data~~
- _____ Bearings on Proposed Centerline(s)
- _____ Begin & End R/W Project Stations
- _____ Begin & End Construction Project Stations
- _____ Begin & End Bridge Stations
- _____ Route Numbers
- _____ Nearest City, Town, or Major Route, at each end of Project, (w/ arrows)
- _____ Existing Roadways (Private and Public)
- _____ Existing Bridges (w/ disposition)
- _____ Existing Road & Street Names (if applicable)
- _____ Existing R/W & Permanent Easements (w/ reference to source, i.e. statutory, etc.)
- _____ Existing Private R/W (w/ labels)

PLAN SHEETS (cont'd)

- _____ Existing property access, such as roads or trails
- _____ Existing Driveways (w/ type)
- _____ Railroads (w/ R/W and Names)
- _____ Railroad Centerline(s) w/ Valuation Stationing
- _____ Waterways Labeled (w/ flow arrows)
- _____ Proposed R/W (w/ labels)
- _____ Proposed Easements (w/ labels as to type & use)
- _____ Right of Way Markers
- _____ Subdivision Name w/ lot lines & labels
- _____ Property Lines labeled PL
- _____ Property Lines with Land Ties not labeled PL
- _____ Bearings & Distances inside Property Lines
- _____ Parcel Numbers (DD-301)
- _____ Tract Numbers (if applicable, per DD-301)
- _____ C/A Fence
- _____ Construction Limits (incl. Temp. Detour)
- _____ All property improvements (including houses, sheds, pools, satellite dishes, etc. w/ labels)
- _____ Parking Lots, type labeled (gravel, concrete, etc.)
- _____ Proposed Driveway Reconnections (w/ type)
- _____ Proposed Bridge(s)
- _____ **Permanent** Barricades at replaced bridge site(s), if applicable
- _____ All Public Utilities (w/ labels & service lines)
- _____ Disposition of Public Utilities
- _____ Existing Private Septic Systems (include tanks, leach fields, etc. w/ labels)
- _____ Existing Private Water Systems (include wells, pump houses, etc. w/ labels)
- _____ Existing Drainage w/ size, type and flow direction
- _____ Proposed Drainage w/ size, type and flow direction
- _____ All Private Utilities w/ Parcel Numbers, pipe size(s) and type(s) along with service lines
- _____ Existing Major Utility transmission lines (above and below ground, w/ labels)
- _____ Existing Utility Easements (w/ labels)
- _____ Building Demolition Item Numbers
- _____ Building Demolition Easement Lines
- _____ Special Signs, Poles, Traverse Points, Benchmarks, etc.
- _____ Identify Underground storage tanks & hazardous waste sites
- _____ County Lines (w/labels)
- _____ Corporation District Lines (w/ labels)
- _____ Tax District Lines (w/ labels)

R/W-3 PLANS CHECK LIST

DRAFT

Project Name

District County

State & Federal Project Numbers

Reviewed By

Legend: X = Correction/Addition Needed

PLAN SHEETS (cont'd)

- _____ Cemeteries
- _____ All Mines (Deep & Surface) include roads, entrances, air shafts, structures, etc.
- _____ Gas, Oil and Salt Wells and Lines (identify w/ owner's names, API well tag numbers & disposition)
- _____ Stations & Offsets at all R/W line breakpoints
- _____ Stations & Offsets at all Easement line breakpoints and at intersection points w/ R/W
- _____ Stations & Offsets at all Property Corners within R/W and Easements
- _____ Stations & Offsets at all points where Property Lines intersect R/W & Easement lines
- _____ Stations & Offsets where Existing R/W intersects Property Lines, Proposed R/W and Easements
- _____ Railroad Valuation Stations & Offsets on Proposed Railroad takes

TYPICAL SECTIONS

- _____ Project Information Block completed
- _____ Mainline & Connector Roads
- _____ Frontage & Access Roads
- _____ Driveways & Reconnections
- _____ Detour Roads (if applicable)

PROFILE SHEETS

- _____ Project Information Block completed
- _____ Profile Scales
- _____ All roads & driveways
- _____ Begin & End Bridge Stations
- _____ Begin & End R/W Project Stations
- _____ Begin & End Construction Project Stations

ADDITIONAL INFORMATION

- _____ RW-1&2 (or RW-2) WVDOH redlined plans

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

DRAFT

DESIGN DIRECTIVE 301
RIGHT OF WAY PLAN DEVELOPMENT
March 13, 2024
Supersedes January 28, 2021

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10 GENERAL:

10.1 Introduction: Right of way plans are used by engineers, attorneys, appraisers, negotiators, and are presented to property owners. Although the information should not conflict with the plans for construction, right of way plans are **not** construction plans and serve a different purpose.

10.2 Purpose: Right of Way plans are used to:

- a. Determine the right of way necessary to construct and maintain the roadway;
- b. Show property boundaries and current ownership;
- c. Show existing and proposed ingress and egress;
- d. Determine the value of the acquisition;
- e. Write the necessary descriptions, and;
- f. Negotiate and acquire the necessary right of way.

10.3 Process:

10.3.1 Determine Boundaries and Ownership: The location is set for the proposed project and the project area is mapped. Preliminary right of way limits are established to determine areas for acquisition. The ownership and boundaries of these areas are determined from courthouse records, field evidence and interviews.

10.3.2 Right of Way Questionnaires: Each affected property owner is interviewed and a completed right of way questionnaire is obtained for each property to be acquired. This information is used to verify ownership and use, property lines, identify public and private utilities and improvements. (See Section 20.1.2.3)

10.3.3 Develop Right of Way Plans: The submission and approval process that is to be followed on projects shall be one of the two processes described below and shall be determined by the Project Manager and included in the Scope of Work minutes. Development of right of way plans will typically utilize one of the following submission and approval processes. The submissions will follow the approved project CPM schedule.

10.3.3.1 Combined Process (Typical): This process involves the combining of the RW-1 and RW-2 submission per Section 40.4 of this design directive. It should only be used on small bridge replacement or roadway improvement projects where the final alignment can be approximately predicted during the early phases of design. Multi-lane highway projects on new alignment, large bridge replacement projects, or highway projects involving new roadway would normally use the Alternate Process and would be identified during the scope of work meeting.

10.3.3.2 Noncombined Process (Alternate): This process involves the separate submission, review, and approval of RW-1, RW-2, RW-3, and RW-4 plans as described below and in Section 40 of this design directive. The “Typical Process” shall be utilized on all projects unless approval is given by the Project Manager to utilize the “Alternate Process.” The “Alternative Process” shall be utilized when identified during the scope of work meeting where there is anticipated involvement of a large number of real estate parcels, or it can reasonably be expected that design revisions may occur during early phases of the plan development regardless of the number of anticipated real estate parcels.

10.3.4 RW-1 Plans: The first submission of right of way plans is used to review the documents of ownership, the plotting of the property lines and existing right of way. They may also be used to estimate preliminary right of way, for abstracting, and utility relocation cost and scheduling purposes. This RW-1 submission consists of the Title Sheet, Ownership and Utilities Index Sheet(s), Property Map Sheet(s), and RW-1 Plan Sheet(s). Copies of the R/W Questionnaires and supporting documents are to be included (See Section 40.2).

10.3.5 RW-2 Plans: This submission is used to estimate right of way and utility relocations and to review the proposed right of way and easement limits, determine the effect of the project on landowners, and to initiate abstracting. These plans consist of the contents listed above for RW-1 plans plus completely developed Right of Way Plan Sheet(s), Profile Sheet(s), and Typical Section Sheet(s) (See Section 40.3) and shall reflect resolution of RW-1, PFR and Slope Review.

10.3.6 RW-3 Plans: This submission is for appraisals, negotiations, writing descriptions and acquisition, and shall reflect resolution of all RW-2 and Final Field Review comments (See Section 40.8).

10.3.7 RW-4 Plans: This submission is a master set of right of way plans submitted after acquisition is complete and shall reflect the acquired right of way (See Section 40.10).

20 PLAN DEVELOPMENT:

20.1 Considerations: The development of right of way plans must be coordinated with and in conjunction with development of the construction plans. When establishing right of way limits on each project, consideration must be given to the following:

20.1.1 Right of Way Limits: Right of way lines must be set beyond the construction limits and to allow for future maintenance of the highway.

In rural areas, on major roadway projects, construction activities and equipment will require approximately 30 feet beyond the construction limits for the construction and maintenance of the slopes, ditches, culverts, fencing, guardrail, etc. This distance may be reduced or increased after careful review, taking into account the nature of the terrain, the magnitude and stability of the cut or fill, drainage, and/or land value.

In an urbanized area, right of way limits shall be set so as to minimize the area to be acquired and to minimize damage to adjacent properties. Measures to reduce right of way limits, such as the use of a temporary construction easement, realignment of fencing, etc., can often be taken to reduce right of way damages and help facilitate the acquisition process.

Right of Way Division may request adjustment in the final location of right of way lines during negotiations.

20.1.2 Property Ownership and Property Lines: Existing property ownership, property lines and areas must be established from courthouse records, deeds or wills of record, aerial maps, subdivision maps, surveys and plats, and information obtained from field evidence and the Right of Way Questionnaire.

20.1.2.1 Tax Maps: Tax maps may be used only as guidance for boundaries and in reconnaissance reports and as an aid in the development of the right of way plans.

20.1.2.2 Titleholders, Deed and Will Information: It is absolutely necessary that the name(s) of the titleholder(s), and deed book and page number of the full (100%) interest owner(s) be correctly determined for each parcel. Deed and/or will research must be performed for all properties affected by the project. The deed for each parcel is obtained and plotted to establish property lines. The project parcel number is to be shown in a circle in the upper right corner of each deed. It is necessary to research previous deeds until a plottable description is obtained. If a plottable description is not available, the designer shall prepare a "Property Line Discrepancy Report" per Section 40.2(c) of this directive.

If property has been distributed by virtue of a will, it is also necessary to obtain a copy of the last recorded source deed(s) with a full (100%) interest in the property. During the development of the plans, land transfers are to be current (within 6 months) at the time of the initial submission of RW-3 plans. Later revisions, due to land transfers, may be requested by Right of Way Division.

20.1.2.3 Right of Way Questionnaire (Form 5.01): A separate Right of Way Questionnaire for each project parcel is to be completed in full, based on courthouse records **and an actual interview with the property owner(s), tenants, or other knowledgeable sources.** For example, Parcels 2-1 and 2-2 would require separate questionnaires with supporting data attached. The assigned project parcel number is to be placed in the top right-hand field of the questionnaire. This form is to be signed and dated by both the person being

interviewed and by the interviewer. If the owner refuses to sign or provide information, state such on the form. This two-page form, which includes instructions for completing, is available from the Right of Way Division and on the transportation.wv.gov website.

Information requested on the right of way questionnaire may be obtained from non-resident owners by telephone contact and so noted on the questionnaire. If the owner cannot be contacted, get an address (i.e.: from the tax ticket) and provide a note with the questionnaire describing all of the methods used in trying to contact the owner.

If information requested on the questionnaire is not applicable, place "N/A" on that line to indicate that it has not been overlooked. Do not use "N/A" to indicate that the information is unknown.

While obtaining the information for the questionnaires, the interviewer shall look for and ask about property line discrepancies, storage tanks, sewage tanks, drain fields, water or gas/oil wells and lines, old graves and cemeteries on the subject or adjacent property, life estate or land contract interests, etc. There is an area provided on the reverse side of the questionnaire for additional information and sketches to locate existing features such as those listed above.

If a property is in heirship, this information must also be indicated on the questionnaire, along with a list of the heirs and addresses of each. Minor heirs, if any, shall be identified. If a property has been distributed by virtue of a will, the will book and page number must be provided, along with a reference to the last recorded deed (full interest) in the chain of title, and, when obtainable, copies of all applicable death certificates shall also be included with the questionnaire packet. (See Section 40.2.e for additional information.)

20.1.2.4 Field Evidence: A reasonable search is to be conducted in the field for any evidence of property lines or corners particularly in the area of proposed take. Such evidence, if found, is to be located by survey and identified on the plans.

20.1.3 Existing Improvements: An improvement is any addition to land intended to make the property more valuable and/or usable. All above and below ground improvements, within or in close proximity to the proposed right of way limits are to be shown and clearly labeled as to type. Each improvement (dwelling, garage, barn, storage shed, storage tank, well, sewage system, etc.) must be evaluated with particular emphasis on those improvements lying in the fringe areas of construction. The Designer shall adjust the construction and right of way limits to avoid such improvements, if feasible, without jeopardizing sound design standards.

All properties that are improved with buildings that are, or could be, utilized as inhabited dwellings or commercial establishments are assumed to have all utility services and facilities until otherwise verified. These facilities could include a

sanitary sewer line connection to a public sewer, a private sewage system such as a tank and drainage field, an “outhouse,” or “shotgun sewer” lines. When the project construction is in close proximity to such a property, each system must be completely shown.

All underground storage tanks and all known or possible hazardous waste sites must be shown and identified on the plans. Avoidance of these sites shall be given full consideration in the final approval of project location. Strict adherence with “Guidelines For Identifying And Dealing With Hazardous Waste On Highway Projects” is required (See “Hazardous Waste”, DD-302).

20.1.4 Potential Slide Areas: When a geotechnical report indicates an area as a “Potential Slide Area”, the limits shall be shown and labeled as such. When new construction will not remove the entire critical area, consideration shall be given to the acquisition of additional area beyond the normal right of way limits, particularly if the road construction might increase the probability of slide development. If the potential slide area will not be worsened by the road construction, it should not be acquired.

20.1.5 Access Control: For projects having grade separation interchanges and/or at-grade intersections, the controlled access line is placed to include the entire interchange area and shall be continuous throughout the entire controlled access project. The controlled access line is to be set at a minimum of 100 feet beyond the ramp radius return in urban areas and a minimum of 300 feet in rural areas.

The radius return is defined as that point on the ramp or intersection return where the radius or flare joins the tangent line of the edge of pavement of the intersecting roadway. In the case of a future widening of the intersecting roadway, the point shall be determined on the basis of the ultimate design width, even though its construction may be some years hence.

If access is to be provided under bridges or other structures, it shall be noted on the applicable plan sheets. Consideration should be given to providing an alternate access to abutting properties, such as where a frontage or access road may be utilized to prevent landlocking properties. For additional information refer to the Right of Way Manual.

The controlled access line may be located so as to facilitate maintenance of the roadway. It is not necessary for the controlled access line to follow the right of way line or to be located so as to include all construction features.

20.1.6 Legibility: Features must be prominently displayed and easily located, including centerline, stations and offsets, property lines, parcel and tract numbers, construction limits, and existing and proposed right of way and easement lines. Plan presentation shall have weights and symbology as shown on the Title Sheet conventional signs.

20.2 General Specifications: A standard sheet size (22"x 34", including border area) shall be utilized on all right of way plans. A 1 ¼" border on the left and a ½" border on all other sides is to be used. The plan sheets shall be in accordance with the WVDOH Engineering Division CADD Standards. The plan sheet cells are located in the WVDOT_Sheet Borders.cel file in the WVDOH Workspace and are titled PLAN_SHEET_X, with X being their respective scale.

20.3 Plan Content: Right of Way Plans shall consist of, and be in the following order:

- a. Title Sheet (See Section 30.1)
- b. Ownership, Utilities Index, and Demolition Table Sheet(s)(See Section 30.2)
- c. Property Map Sheet(s) (See Section 30.3)
- d. Right of Way Plan Sheet(s) (See Section 30.4)
- e. Cemetery Detail Sheet(s), if applicable (See Section 30.4.20)
- f. Reference Point Sheet(s) (See Section 30.5) (If available) Including Survey Marker Table
- g. Geometric Layout Sheet(s) (If available) (See Section 30.6)
- h. Typical Sections Sheet(s) (See Section 30.7)
- i. Profile Sheet(s), including detours, side roads, driveways, etc. (See Section 30.8)

20.4 Plan Limits: On all projects, additional features outside the project limits, consistent with the contract plan development, are to be shown on both ends of the project. Topography, houses, garages, existing right of way lines, roadways, utility facilities, and other improvements, along with any projected right of way lines for adjoining projects, if they are designed or currently in design but not yet constructed, shall be shown.

20.5 Project Numbers: Notes shall be placed on appropriate sheets indicating the construction project number and limits of work for the corresponding construction project. Right of Way Project termini and right of way project numbers for current adjacent right of way projects shall be indicated on the Title Sheet, Property Map Sheet(s) and Plan Sheet(s).

20.6 Text: All text should be of a minimum height and weight so as to be legible when half-size copies of plans are used in condemnation proceedings and when requested by Project Managers. Text should not be upside down or on top of other text or topography.

20.7 Submission/Revision Date: All sheets shall have the submission/revision date indicated near the lower left border. The type of submission should be listed with the date and any previous submission dates shall remain and be struck through if a revision is required to that sheet.

30 RIGHT OF WAY PLAN CONTENT:

30.1 Title Sheet: The Title Sheet border shall be in accordance with the CADD standard. The Title Sheet cell is located in the WVDOT_Sheet Borders.cel file in the WVDOT Workspace and is titled TITLE_SHEET.

30.1.1. Contents: The Title Sheet shall contain the following:

1. Standard Title Block
2. Project Identification Block
3. State District Map with respective county hatched, not shaded
4. State & Federal Project Numbers (inside lower left border of sheet and center top, and Project Identification Block).
5. Department Signature Block (See current DD-702)
6. Route Numbers and Type
7. Tax District or Corporation and County Name
8. Project Limits, R/W Project Limits and Construction Contract Section Limits
9. Type of Right of Way Plan Submission (under State District Map)
10. Vicinity Map from the WVDOH County Maps (Project Location and Extents)
11. List of all utilities and railroads encountered (See current DD-303)
12. Layout Map with North Arrow, graphic scale, plan sheet outline, and Right of Way Project Termini
13. Controlled Access Note, if applicable
14. Index to Sheets
15. Revision Block
16. Consultants Seal Block sealed by a PE registered in West Virginia, if applicable
17. Horizontal and Vertical Scale and Conventional Signs Legend
18. Submission date (Outside lower left corner)
19. Design Designation Block

30.1.2 Utilities Encountered: Indicate the type of service provided, in parenthesis, after the name. Example: Ridge Public Service District (Water).

30.1.3 Layout Map: The layout map shall show existing and proposed road alignments with the superimposed project centerline showing the relative plan sheet coverage by sheet number. All roads are to be labeled with names and route numbers, with directional arrows to the nearest community or intersecting routes. Include streams, corporation, county, state lines, right of way and construction project numbers and work limits, railways, and large industrial or commercial structures and plazas and Right of Way and Construction Project Termini.

30.1.4 Controlled Access Note: All projects with controlled access or partially controlled access shall define the locations of access on the Title Sheet of the Right of Way and Construction Plans. A “Fully Controlled Access Project” shall include a note on the Title Sheet stating the following: “This project is a fully controlled access facility with only vehicular access allowed as shown in these plans.” “A Partially

Controlled Access Project” shall have a note on the Title Sheet stating the following: “This project is a partially controlled access facility with access allowed only at the following locations: Sta ____ Lt, Sta ____ Rt, etc.”

30.2 Ownership & Utilities Index: The Ownership and Utilities Index must be in accordance with the excel spreadsheet on the www.transportation.wv.gov/highways/right-of-way website.

30.2.1 Names of Titleholders: Correct spelling of each property owner’s names is imperative. Use the name and spelling of the name as shown in the deed when different spellings appear on other documents. Revisions will then be made if corrections are later found. Holders of Life Estates are to be included in the Ownership Index.

30.2.2 Parcel Numbers: An individual parcel number shall be assigned to each property to be acquired and to each private utility. Parcel numbers may not be changed or reassigned once they have been assigned or reused if deleted. The parcels shall be numbered consecutively, starting with Number 1, and shall be placed in the index in numerical order. No Parcel Numbers are to be reserved for future use.

Property under the same ownership must meet all three of the following conditions before a single parcel number is assigned to the entire property: (1) Same Ownership, (2) Same Use, and (3) Contiguity. Noncontiguous parcels having the same ownership shall be identified with the same parcel number utilizing a numerical suffix. Examples of this are: 1-1, 1-2, 1-3, 2-1, 2-2, etc. **NOTE:** Existing highway or railroad right of way will separate a property into noncontiguous parcels.

Deleted parcels are to remain on the Ownership Index, Property Map and Plan Sheets for information only. A solid horizontal line is to be drawn through the parcel number, name, areas of take and remaining removed, “0” shown in the Total Taken column, and “No Take” entered in the “Remarks” column. A line is also to be drawn through the parcel number on the Property Map and Plan Sheets.

30.2.3 Tract Numbers: Tract numbers shall be assigned numerically for each parcel from which more than one tract of land is to be acquired. The tract numbers must begin anew for each individual parcel and are assigned consecutively in accordance with the type of acquisition, by priority; i.e., controlled access, noncontrolled access, permanent easements, and temporary easements. All tract numbers shall be complete for each classification before moving to the next classification (Example: Controlled Access – Tracts 1, 2, and 3; Noncontrolled Access – Tracts 4 and 5; Permanent Drainage Easement – Tracts 6 and 7; Permanent Ponding Easement – Tracts 8 and 9; Temporary Construction Easement – Tracts 10 and 11, etc.).

30.2.4 Recording Data: Deed and/or Will Book Numbers and Page Numbers must be shown in the “Recorded” column, with the appropriate references all the way back to

the deed which conveys a full interest in the title. If a will has a codicil, show its Book Number and Page Number.

Only the current ownership deeds and/or wills, etc. are to be shown on the ownership index. Deeds involved as part of the chain of ownership are to be attached to the back of the deed and questionnaire.

30.2.5 Type of Take: Columns for indicating the area and type of take are provided for “Controlled Access” right of way, and “Noncontrolled Access” right of way. The “Easement” column has subheadings for “Type” and “Area”.

30.2.6 Easements: All easements shall be identified in the Ownership Index as to type. Various types of easements and their use are discussed more fully in Section 30.4.4 below.

30.2.7 Areas: The areas of the various tracts to be acquired shall be shown on the Ownership Index in the appropriate column. Areas must be completed for all right of way takes and easements. “Remaining Left”, “Remaining Right”, “Total Remaining”, “Total Taken”, and “Parcel Total” are to be shown on the top line of the parcel listing.

Areas of take less than one acre shall be shown in square feet, rounded to the nearest square foot. Areas one acre or more, shall be shown in acres, to the nearest one-hundredth acre. If a parcel has areas of take less than one acre and a Parcel Total shown in acres, dual units (acres and square feet) are to be shown only for the take areas that are less than one acre. All parcels in urban areas and defined lots in subdivided areas shall show calculated areas in square feet.

All permanent easement areas excluding Permanent Aerial Easements will be included in the “Total Taken” column. Temporary easement areas are **not** to be included in the “Total Taken” column. If any portion or all of a residual area will be landlocked after construction, a note “Landlocked” shall be added in the Remarks Column.

The “Parcel Total” should, if possible, show the deed area. Otherwise, the parcel area will be calculated and denoted by “(C)” after the “Parcel Total” area. If the calculated total area is significantly different than the recorded deed area, use the calculated area and show the deed area in the “Remarks” Column, along with an explanation, **if needed**. For a parcel with an area greater than one acre do not show the parcel total in square feet unless shown as such in the deed.

All areas of acquisition from any agency of the Federal Government shall be the result of a computer calculation or by actual closed survey (See Section 30.4.21).

For noncontiguous parcels, such as parcels that have been split by right of way, the areas shall be calculated and the deed area shall be shown in the remarks column.

- 30.2.8 Remarks:** The Remarks column should be reserved for notes such as the aforementioned. Other notes, such as landlocked areas, areas purchased as uneconomic remnants, billboard permit numbers, or special notes as requested will be shown in the Remarks column.
- 30.2.9 Uneconomic Remnants:** When the value of a remnant is small, a determination as to declare it “uneconomic” will be made by Right of Way Division. Uneconomic Remnants will not be added to the plans until acquisition of a parcel is complete.
- 30.2.10 Utility Index:** All utilities encountered by the project shall be listed on the Utilities Index by correct company legal name, type and size and location of facility, with station/offset and sheet number. The disposition of the utility when clearly known is to be listed and updated as needed, i.e.: “To be relocated by owner”, “To be abandoned in place”, “To remain in service”, “To be relocated by DOH”, etc.
- 30.2.11 Private Utilities:** Utilities are typically considered to be private when the utility is not regulated by the public service commission, such as privately owned oil and gas wells or a water line that does not serve the public. Private utilities are not to be listed in the Utilities Index. A private utility shall be assigned a parcel number and be listed in the Ownership Index, and no areas of take will be shown. A note in the Remarks column shall identify the type of improvement involved. Private utilities under the same ownership as the involved parcel of real estate will use the same parcel number, differentiating it by the use of a letter suffix, i.e., Parcels 14-A, 14-B, 21-A, 21-B, etc.
- 30.2.12 Private Water and/or Sewer:** Partial acquisitions shall be carefully reviewed to ascertain whether private water and/or sewage systems will be taken. Water wells and sewage systems will not be allowed to remain inside areas of proposed right of way.
- 30.2.13 Billboards:** Each affected billboard is to be identified by owner and permit number. This information should be on the tag attached to the billboard. A note shall be provided on the Right of Way questionnaire if no information tag is found. Billboards are to be assigned a parcel number, which is the underlying owner’s parcel number plus an alpha suffix, i.e., Parcel 13-A, Parcel 24-A.
- 30.2.14 Railroads:** Easements to be acquired from railroads are to be identified with a parcel number and listed in the Ownership Index with the railroad valuation map reference placed in the “Remarks” column.
- 30.2.15 Division of Natural Resources:** When the centerline of a project crosses over a stream, the State of West Virginia, Department of Commerce, Division of Natural Resources is to be shown as the titleholder on the Ownership Index. Types and areas of take are to be shown, however, no deed reference or “Parcel Total” is given. The

name of the affected stream is placed in the “Remarks” column. (See Section 30.4.18.)

30.2.16 Demolition Table: The demolition table that is included in the construction plan set shall be included in the right of way plan set. (See DD-709)

30.3 Property Maps:

30.3.1 Property Map Sheet(s): These sheets must show a north arrow, proposed centerlines, route numbers and names of all existing streets and roads and other topographic features, existing and proposed right of way lines, easements of record, entire property boundaries, project parcel and tract numbers (not tax parcel number), major structures, existing utility transmission lines (above and below ground), cemeteries, and other topographic features. Each right of way line must be labeled frequently enough to clearly delineate the type of line. The Project Manager may require the major contours to be shown.

All underground storage tanks and potentially hazardous waste sites located within or in close proximity to the existing and/or proposed right of way lines shall be shown. Matching property map sheet numbers and stations are to be shown outside the matchlines. The property maps must be complete and include all corrections and comments presented at field and office reviews. Property Maps may be combined with the Ownership Index on small projects.

All existing right of way shall provide a reference of their source, i.e., “Project Number”, statutory right of way, old Virginia turnpikes, etc. as determined by existing plans and records.

30.3.2 Parcels: The entirety of all parcels affected by the project are to be shown on the property maps, with the appropriate parcel and tract numbers affixed. Deed tract numbers are to be shown in parenthesis. Names or deed references are not to be shown on the property maps unless the property involves the U.S. Government.

For those parcels that are too large to show the entirety on a property map, an inset or supplemental sheets, at an appropriate indicated scale, must be utilized showing the parcel in its entirety. When using an inset, include properly labeled match or inset lines. If the scale does not facilitate labeling each property line, use a table format to list the property line information. Supplemental inset sheets, including sheets used for tables, are to be placed at the end of the Property Maps.

30.3.3 Property Lines: Property lines shall be labeled on the inside of the applicable property line, with deed bearings and distances shown in parentheses for each line. Use a land hook (land tie) symbol to identify interior deed tract lines. If records do not indicate metes and bounds, the distance along the property line shall be scaled and labeled to the nearest whole foot and indicated as such by adding the letter “(s)”, in parenthesis, after the scaled distance. A calculated or project bearing shall not be

shown. If deed distance is significantly different than scaled distance, show both the deed and scaled distances.

30.3.4 Existing Features: Existing features include the following:

- 1) North arrow.
- 2) Private and public roads, streets, and alleys with identifying names and route numbers (where applicable) and old Virginia turnpikes.
- 3) Existing right of way and easement lines for all roadways, utilities, and private right of ways.
- 4) Access to all parcels.
- 5) Directional arrows, with distance to the nearest city, town, major route, or major intersection at each end of the project and/or existing road.
- 6) Bridges and major drainage structures.
- 7) Railroads with names, valuation centerlines, stationing, and right of way lines.
- 8) Corporation and tax district lines and names.
- 9) Streams with names and flow arrows.
- 10) Subdivisions with name, bearing and distances (in parenthesis), block numbers, street and road names, lot lines, lot numbers and lot dimensions.
- 11) Public utility and major private utility transmission lines with company name and type of facility.
- 12) Deep mines, surface mines and mine roads, including mine entrances and air shafts.
- 13) Entire property boundary lines of each parcel with property line symbols, deed tract numbers or lot numbers (in parenthesis), and deed bearings and distances (in parenthesis).
- 14) Land ties on interior deed tract lines.
- 15) Gas, oil and salt wells and lines along with owner's names and American Petroleum Institute (API) well tag number.
- 16) Outlines of structures (residential, commercial, schools, churches, and public buildings). (labels are not necessary)
- 17) Cemeteries.

30.3.5 Proposed Construction Features: Include the following:

- 1) Project centerline or baseline of all access roads, frontage roads, connector roads and temporary detours, with names.
- 2) Stationing labeled at 500 feet intervals, with 100 feet tic marks.
- 3) Right of Way project limits with stations.
- 4) Project Limits, R/W Project Limits and Construction Contract Section Limits
- 5) Parcel and tract numbers for all property to be acquired, with landlocked residues labeled.
- 6) Stream relocations or channel changes.
- 7) Structures such as bridges, major drainage structures, culverts, retaining walls, etc.

- 8) All proposed areas of permanent and temporary take.
- 9) Label any road to be terminated or abandoned as such.
- 10) Show all proposed access points.

30.3.6 Landlocked Areas and Vehicular Access: On a controlled access facility, all residual areas for which no vehicular or pedestrian access is provided shall be identified as “landlocked”. This shall only be done if the residual area was landlocked as a result of activity of the road project.

On a noncontrolled access facility where restoring vehicular access is impractical, a note shall be added to the ownership index, property map(s) and plans, “No vehicular access provided”. Resident areas abutting public roads other than the proposed controlled access facility, should not be identified as “Landlocked”.

30.3.7 Subdivisions: All recorded subdivisions will be shown, complete with the name of the subdivision, street names, alleys, block numbers and lot numbers. If the involved streets are privately owned, a parcel number must be assigned and a titleholder identified. Lot numbers shall be shown in parenthesis to differentiate them from parcel numbers. A copy of each subdivision map is to be included with the RW-1 submission.

30.4 Right of Way Plan Sheets: The right of way plan sheets may be a duplicate of the construction plan sheets with the addition of the required parcel, tract, and property line information. However, it may be necessary to turn off certain layers of construction specific information in order to make the right of way plans legible. Contours are to be screened. Matchline stations and sheet numbers are to be shown on each sheet.

30.4.1 Centerline: The centerline or baseline layout shall be identical to that shown on the construction plans. All tangent portions of the centerline shall be identified with a bearing and all curve geometry shall be readily visible on each plan sheet. Stations should typically progress from West to East and/or from South to North, and match exactly those shown on the construction plans.

All station equations and the P.I., P.C., P.T., T.S., S.C., C.S., and S.T., etc. of each curve shall be shown. Curves are to be labeled on each sheet in which it appears on the inside of the curve. The centerline of new construction is to be designated as project centerline.

Beginning and Ending stations shall be shown for the Right of Way, Construction and/or Work. These stations should be at the furthest reaches of take along the centerline for stand-alone projects. For abutting projects, the right of way project limits will be at the centerline, preferably on a property line crossing, to avoid overlaps and gaps.

30.4.2 Construction Limits: The cut and fill slopes, as designated on the construction plans with standard symbols, are to be reproduced identically on the right of way plan sheets.

30.4.3 Right of Way Lines: Existing right of way lines are to be screened. All screened features must be legible. Plans with illegible features may be rejected. The proposed right of way lines shall be placed outside the construction limits, as indicated in Section 20.1.1. All existing and proposed right of way labels shall be shown on the inside of the line.

Proposed right of way lines (controlled or noncontrolled) shall consist of a series of tangent lines having directional changes when necessary to avoid excess acquisition. In establishing the breakpoints of the tangent right of way lines, consideration shall be given to the value of the property versus other factors which may be involved (See Section 20.1.1).

Each breakpoint or change in direction of the right of way lines (controlled and noncontrolled access) or easement lines shall be identified by station and offset distance, and both set to the nearest foot.

When an interest in railroad property is to be acquired, each highway station and offset must be equated to the railroad valuation station and offset distance. The actual railroad valuation centerline, with stationing, must be shown throughout the immediate area of involvement.

30.4.4 Easements: The future needs of the Division of Highways shall be considered: first, by covering all permanent construction areas with right of way, and then, by utilizing easements, permanent and/or temporary, where additional areas are necessary for a specific use. Easement lines should also consist of a series of tangent lines.

All easements shall be identified on the plan sheets as to tract number and type. The reason for the necessity of the easement must be clearly shown on the plans.

A **permanent easement** is defined as an area that is necessary for future maintenance of the highway.

A **temporary easement** is an area that will be used for a limited period of time during construction, and no future maintenance in, or access to, that area will be required. The topographical features of a temporary easement are to be returned, as nearly as possible, to their original condition.

Examples and descriptions of typical easements acquired include, but are not limited to, the following:

Permanent Drainage Easement (PDE): An area, outside normal right of way, where entry upon the land may be required from time to time to maintain or clean the pipe, ditch, channel, etc. The surface owner cannot construct any structure within this area that may affect the free flow of the water or ponding water.

Permanent Ponding Easement (PPE): An area, outside normal right of way, on the upstream end of a drainage structure, where ponding of water may occur during storms. Limits will be determined by the high water contour, as applicable. There are no provisions for entry on the land, just ponding of water.

Permanent Aerial Easement (PAE): Provides for the construction and maintenance of a structure above the owner's land, while allowing the owner to utilize the land under the structure in any manner that does not interfere with the functioning of the structure. A PAE provides no surface rights. This easement is frequently used at grade separations with a railroad. PAE's are NOT included in the Total Taken column.

Permanent Crossing Easement (PCE): Normally used only with railroads, this easement provides permission for a highway to cross a railroad right of way with an at-grade intersection.

Permanent Roadway Easement (PRE): Provides for construction and maintenance of a roadway and supporting structure on owner's land, while not obtaining full right of way. This type of easement is common when a roadway or embankment is located on railway property and the railway desires to grant permission for the roadway without disposing of the land.

Temporary Construction Easement (TCE): Provides work area for the temporary use of land outside normal right of way that is necessary for construction of the project. The use of this land will be for a specific time period and the purpose of the TCE must be clearly shown on the plans. Permanent grading changes are **not** normally performed on areas acquired as TCE. However, TCE's are commonly used for access points where minimum grade changes are necessary to tie existing roads or driveways back in.

30.4.5 Parcels and Tract Numbers: All parcels affected by the project are to be shown on the Right of Way Plan Sheet, with parcel numbers and tract numbers. Names or deed references are not to be shown on the property unless the acquisition involves an agency of the U.S. Government.

30.4.6 Property Lines: Each property line shall be labeled, with deed bearings and distances shown in parenthesis, inside the applicable property line. If records do not include metes and bounds descriptions, the distances along the property lines shall be scaled to the nearest whole foot, labeled, and indicated as such by adding the letter

“(s)”, in parenthesis, after the scaled distance. All found field evidence for property lines and corners shall be shown and labeled. If the plan sheets are of a scale that does not allow for property lines to be clearly labeled, the bearings and distances may be omitted at the request of the Project Manager.

If a property line described in a deed follows the center of a road, or crosses or enters existing right of way, the property line should be terminated at the existing right of way.

Property line intersections with existing or proposed right of way lines or easement lines are to be identified and labeled by station and offset, set to the nearest foot. Only those points necessary to describe the property to be acquired need to be labeled.

Station and offset labeling of all points and lines should be clearly placed in an area where other text or symbols do not interfere with the legibility of the data. Station and offset labels should be located on the same side of the road as the point and labeled horizontally in the order of occurrence.

30.4.7 Subdivisions: All recorded subdivisions must be shown. Information to be shown includes name of the subdivision, street names, alleys, block numbers, lot numbers, etc. Lot lines, not designated as property lines, must be shown with a “land tie” designation in lieu of property line symbology. The deed bearing and distance of each lot line is to be shown in parenthesis, inside each property line. Lot numbers shall be shown in parentheses to differentiate them from parcel numbers. Special diligence is required for the determination of ownership of the streets, which may be owned by a homeowner’s association. If such is the case, a parcel number shall be assigned to the street.

30.4.8 Existing Features: All existing above and below ground topography that may affect the value of a property shall be shown on the Right of Way Plan Sheets. These features include all those existing features listed under Property Maps (Section 30.3.4), plus the following:

- 1) Dwellings, barns, sheds, outbuildings, commercial buildings, industrial buildings and conveyors, walls, wells, etc. along with a label indicating type of structure and use.
- 2) Edge of roads, driveways, trails, and parking lots labeled with type of surface.
- 3) Property corner monuments (iron pins, concrete, etc.) and deed tract and/or lot numbers (in parenthesis).
- 4) Screened contour lines.
- 5) Forested areas.
- 6) Major trees and shrubs with size and name.
- 7) Sewage systems and sanitary sewer service mains and size.
- 8) Septic tank and drain or leach field.
- 9) Utility transmission and distribution lines, with company ID numbers (See Section 30.4.10).

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- 10) Satellite dish antenna.
- 11) Parcel number for each private utility.
- 12) Bridges, culverts, and retaining walls.
- 13) Playgrounds and equipment that are affixed.
- 14) Potential hazardous material or sites and type.
- 15) Fences and retaining walls.
- 16) Advertising signs. Show owner's name(s) and permit ID number.
- 17) Private improvements that are not permitted within existing right of way are to be labeled "Encroachment".

30.4.9 Underground Storage Tanks and Hazardous Waste Facilities: Special attention is called to underground storage facilities since it is imperative that these improvements be shown on the plans to allow consideration of their value during preparation of appraisals. All underground storage tanks must be shown and identified as to the size, type and material stored therein, to allow timely testing of the immediate area for leakage and the identification of hazardous wastes. For specific guidelines see "Hazardous Waste", DD 302.

30.4.10 Utilities: The type, size, location, and company name and identification numbers of all private and public utilities, including service lines, which may be affected by project construction, are to be shown on the plans. Include those utilities providing service that lie in close proximity to the project right of way limits, but from which no acquisition is necessary. In the case of total takings in built-up areas, where it is obvious that all properties have full utility service, a note stating this fact may be used in lieu of placing the individual lines on the plans. Utilities located within easements or rights of way shall be shown along with the defined easement or right of way limits.

Properties not served by a public water supply may have water wells or springs as their sole source of water. These wells or springs, including any pumps and associated service lines, must be located and shown on the plans.

The disposition of utility transmission and distribution lines shall be specifically shown for each location. Use notes indicating disposition of the facility (Not required for RW-1 submissions), such as the following:

- 1) To be relocated by owner
- 2) To remain in service
- 3) To be abandoned in place
- 4) To be relocated by DOH

30.4.11 Proposed Construction Features: Proposed construction features will include all those listed under Property Maps (Section 30.3.5), plus the following:

- 1) Construction limits labeled cut (- C -) or fill (- F -).
- 2) Geometric curve data, centerline bearings and equations.

- 3) Label all P.I., P.C., P.T., T.S., S.C., C.S., S.T., etc.
- 4) Label centerlines and baselines to match construction plans.
- 5) Station and offset, to the nearest foot, for each corner or break in the right of way and easement lines.
- 6) Right of Way markers and fencing.
- 7) Demolition item numbers on all structures taken.
- 8) Pavement, curbs, sidewalks, drop curbs.
- 9) Sedimentation control ponds.
- 10) Drainage with type, size, length, flow direction and invert elevations.
- 11) Drop inlets, manholes, etc.
- 12) Ditches and channel changes with flow arrows.
- 13) Vehicle turnarounds.
- 14) High water contour, as applicable.
- 15) Major temporary features that are to be removed (such as sediment basins, temporary construction features, etc.) label "To Be Removed".

30.4.12 Proposed Structures: All proposed structures, such as bridges, culverts, pipes, guardrail, lighting, etc., are to be indicated on the plans to provide the appraiser with relevant information for determination of value. Appropriate high water elevation contours are to be shown for major drainage backwater.

30.4.13 Demolition Numbers: See DD-709 "Numbering of Buildings, Septic Tanks, Wells or other structures" for assigning an identification number to buildings, wells, septic tanks, and other affixed structures.

30.4.14 Sidewalks: In an urban area where a sidewalk is to be constructed as a part of the highway facility, careful consideration shall be given to the placement of the right of way line. If minimal change in the ground line topography is made, the right of way line may be placed two feet back of the sidewalk with adequate temporary construction easement shown beyond that line to allow sufficient room to construct the project. If significant changes are to be made on a permanent basis, then a normal placement of the right of way line outside the construction limits shall be made. The placement of all easements and/or right of way lines in urban areas shall be the result of a prudent study, giving consideration to the effects on the remaining property.

30.4.15 Fencing: Where fencing is included in the construction plans, it must also be shown in the right of way plans. Generally, the fence will run parallel with, and one foot inside, the controlled access line. Refer to the current "Fencing Controlled Access Highways", DD-309, for specific criteria.

30.4.16 Right of Way Markers: Right of Way markers are required whether or not fencing is used and shall be shown on the Right of Way Plan Sheets at the outermost corners of the proposed right of way lines. For example, if a right of way line is outside a controlled access line, only the right of way (or outermost) line will be monumented. Marker locations shall be indicated by the right of way marker symbol, as shown in the DOH symbol library as "RWM". Markers shall be placed at all right

of way line breakpoints and changes in direction, except where physically impractical, such as on steep bluffs, in streambeds, etc. Markers are not required at the corners of permanent or temporary easements.

30.4.17 Railroad Property Acquisition: Railroad valuation centerline, with stationing, must be shown throughout the area of involvement. Each highway station and offset must be equated to the railroad valuation station and offset for points on the railroad parcel. All surface drainage shall be shown as “Permanent Drainage Easement”, and the area included in the “Total Taken” column. When establishing proposed right of way lines, within existing railroad right of way, the designer shall coordinate with the Railroad and Utilities Section of Right of Way Division concerning location and type of acquisition.

If the area includes an existing railroad crossing or bridge, indicate the DOT number. The DOT number is on the signals or cross bucks for at grade crossings and for grade separation structures it can be found on the Bridge Inspection Report or by contacting the Railroad and Utilities Section of Right of Way Division.

30.4.17.1 Railroad Grade Separations: The area of the Permanent Aerial Easement shall **not** be included in the “Total Taken” columns of the Ownership Index. Surface drainage shall be shown beneath the aerial easement as “Permanent Drainage Easement”, and the area included in the “Total Taken” column. All other permanent areas of right of way and/or easement shall be included in the “Total Taken” column. Piers and abutments shall be located on a permanent take.

On all controlled access projects involving railroad grade separations, the controlled access line will be carried across the railroad right of way and will be designated and marked as follows: “Controlled access line – aerial easement subject to railroad right of way.”

30.4.17.2 Railroad Grade Crossings: The area of the “Permanent Crossing Easement” is to be included in the “Total Taken” column. Only the area of proposed PCE should be included in the “Total Taken” column. Existing PCE should not be included.

30.4.18 Division of Natural Resources (DNR): The Division of Natural Resources (DNR) acts as the titleholder of the beds and all the material beneath them for all navigable or floatable waters within West Virginia. DNR is the agency which provides right of entry or a right of way agreement for all construction activity in a stream.

When any roadway centerline of a project crosses over a stream, the DNR is to be shown as a titleholder on the Ownership Index.

When right of way is obtained from an owner, on whose property is located a navigable, floatable, or named stream, the surface owner holds the interest in the surface, while the DNR holds the interest in the streambed. The streambed is normally defined by the normal pool elevation. The common area is to be included in both the DNR take and the surface owner's take and will have two parcel numbers assigned: one for the surface owner and one for the DNR.

The area over the stream that falls within proposed right of way is shown as "Permanent Easement" and any temporary take is shown as "Temporary Easement". Each type of take is to be shown on the appropriate plan sheet(s) by a different hatch pattern and indicated on the sheet(s) by a legend identifying owner: State of West Virginia, Department of Commerce, Division of Natural Resources, stream name, Parcel Number, Tract Number (if applicable), and the type and area of take.

DNR easements are not required for areas within existing right of way.

30.4.19 Special Design Features: All items, not heretofore mentioned, which may affect negotiations with the property owner(s), or which may have a direct effect on the market value of the property to be acquired, shall be indicated on the plans. Such items may be walls, steps, etc., that are to be replaced or reconstructed as a part of the project.

30.4.20 Cemeteries: Every reasonable effort should be made to avoid cemeteries. All cemeteries, whether public or private, shall be shown, with the name of the cemetery, on the Right of Way Plan Sheets and the Property Maps. A Cemetery Detail Sheet (CADD Standards cell "CEMTRY_SHT", see Section 20.2) shall be added to the plans, following the Right of Way Plan Sheets. The cemetery location as shown on the Property Maps and Plan Sheets will be identified by the cemetery name and be tied by survey to the project centerline. A note will be added referencing the plan reader to specific sheets in the set of plans for a detail of the cemetery itself. This detail or individual plan of the cemetery will show the actual cemetery boundary and its relationship to the project centerline, construction limits and right of way lines. Temporary exhumation easements shall be shown if the right of way line divides cemetery plots and leaves parts of graves outside the take area, but still necessary for relocation.

A number shall be assigned to all existing graves that shall be located by survey and identified on the plan, complete with headstone and/or footstone. If no stones are in evidence, the gravesite itself shall be shown without identifying markers. In established cemeteries with burial lot layouts, all grave lots will be numbered according to the recorded maps regardless of whether it is occupied or not. The improvements around the cemeteries, such as fencing, walls, flag poles, etc., shall also be shown. Roadways, walkways, etc., will be included in the layout. The cemetery perimeter will be accurately located and shown on the plans. If the cemetery is suspected of having unmarked graves, a complete matrix probe, using a

five-foot matrix interval or grid, of the cemetery and immediate surrounding area is to be performed.

For cemeteries with undefined perimeters, a cemetery limit line shall be set around the entire cemetery to allow proper documents to be prepared through eminent domain procedures to grant right of entry to the cemetery for matrix probe as well as exhumation purposes.

All known and unknown gravesites are to be numbered consecutively and shown on the detailed cemetery layout. These numbers will also appear on an Interment Index (CADD standards cell "CEMTRY_SHT", see Section 20.2) complete with an identification of each decedent. The complete name of the decedent is necessary. If unknown, it shall be so noted. Intensive research shall be made to identify all unknown decedents. In addition, the Interment Index shall provide necessary columns for reinterment data for each grave, including columns for the name of the reinterment cemetery, location of the cemetery, date of reinterment, lot, block, section numbers, etc., also shown by sketch, or stated to be of record and where found. These indices shall be completed in the RW-4 submission. Samples of these indices are available in the Right of Way Division. Right of Way Division must be provided with all documentation of the research and findings for each cemetery, including copies of work diaries verifying efforts to identify unknown decedents. The survey books locating all graves shall also be submitted with the RW-3 plans. For additional information refer to the Right of Way Manual.

30.4.21 Federal Lands: Projects requiring the acquisition of right of way from an agency of the U.S. Government shall portray that proposed acquisition by procedures as outlined in the Federal-Aid Policy Guide. These procedures include, but are not limited to, the requirement of providing bearings and distances for the entire area to be acquired, whether right of way or easement. State Plane Coordinates may be required for all corners. A standard note listing the U.S. parcels to be transferred shall be placed on all sheets where those parcel numbers appear. Examples of U.S. agencies are U.S. Forest Service, U.S. Corps of Engineers, U.S. Department of Interior, etc.

30.5 Reference Point Sheet(s): Reference Point Sheet(s) shall be provided to allow layout of the centerline, and Right of Way Limits.

30.6 Geometric Layout Sheet(s): Geometric Layout Sheet(s), from the construction plans, shall be provided to aid in the layout of the Right of Way.

30.7 Typical Sections: Typical Section Sheet(s) shall be provided for the proposed mainline, detours, connector roads, frontage roads, access roads, relocated roads, driveways, etc.

30.8 Profile Sheet(s): Profile Sheet(s) shall be provided for all proposed mainline, detours, connector roads, frontage roads, access roads, relocated roads, driveways, bridges, etc.

Profiles for bridges will show the abutments and piers and include the clearance information.

30.9 Cross Sections: Cross sections are not a formal part of right of way plans but a set is required with the RW-3 submission. See DD-202 for distribution.

40 SUBMISSION OF PLANS:

40.1 Submission Distribution: Submissions shall be in accordance with the “Plan Distribution Schedule” of the current design directive “Field And Office Reviews For Initial Engineering And Final Design”, DD 202,

40.2 RW-1 Plans: This submission is to be made as shown on the approved project CPM and as soon as the information below is assembled by the Designer. It normally occurs prior to the Preliminary Field Review. The submission may be requested in a roll format. All supporting documents shall be labeled with the state project number.

The following information shall be provided as a minimum:

- a. **Title Sheet:** Showing project numbers, project name, layout map, latest signature block, and list of public utilities and railroads involved.
- b. **Ownership and Utilities Index:** Include all parcel numbers, names of owners, deed or will references, and only “Parcel Total” areas are required.
- c. **Property Maps:** Refer to Section 30.3, for required content. The proposed right of way lines shall be shown based upon the best information available at the time of submission. A Property Line Discrepancy Report is to be prepared when there are significant gaps and overlaps in property lines. The report should show how these discrepancies were resolved. Problems are to be identified, and the method of resolution presented. Information submitted should include weight given to conflicting evidence, and work plots of each parcel plotted per deed with **NO** adjustments are to be a part of the report.
- d. **RW-1 Plan Sheets:** The proposed Right of Way Plan Sheets shall be provided with the following information.
 - Existing Property Lines
 - Existing Right of Way Lines
 - Existing Topographic and Physical Features
 - Preliminary Roadway Centerline with stations shown
 - Major Contours
- e. **Right of Way Questionnaire and Supporting Documents:** One Right of Way questionnaire and deeds/wills (current within 6 months), properly collated, are to be

provided. Include copies of all plats or maps referenced in deeds. If a plat does not exist, make note "Not Found" on deed, adjacent to plat reference, and sign and date.

All supporting documents shall be sorted and combined into one pdf document with each corresponding questionnaire, with a file name indicating the project parcel number. Each severed parcel, i.e., Parcel 4-1 and Parcel 4-2, requires an individual questionnaire with all supporting data included.

A copy of pertinent subdivision maps, railroad valuation maps, and the appropriate tax map(s) are also to be included. Include existing right of way plans or documentation of the statutory right of way width, determined by existing plans and records.

After review, a pdf set of redlined (marked or highlighted) plans, indicating corrections and additional information needed shall be returned to the designer. No additional writing is to be added to these redlined plans by the designer. This redlined set of plans is to accompany the RW-2 submission.

40.3 RW-2 Plans: The primary purpose of this submission is to enable the review of the right of way and easement limits, the effect of the project right of way on the properties and landowners, and to initiate abstracting of the affected parcels. It is necessary to label the stations and offsets of the right of way line breaks on this submission. The RW-2 submission shall be made after the slope review and in conjunction with the submission of preliminary field review plans.

This submission shall be in accordance with the "Plan Distribution Schedule" of the current "Field And Office Reviews For Initial Engineering And Final Design", DD 202, and shall include the returned redlined RW-1 plans. These plans are to be virtually complete in every detail, with the contents as listed in Section 20.3, including type and area of take, and area remaining. An electronic copy of the spreadsheet used to create the Ownership Index shall also be included as part of the submission.

The most important items on these plans are the centerline(s) and baseline(s), property lines, existing and proposed right of way lines, easement lines and construction limits, proposed major drainage structures, parcel and tract numbers, and property lines. The construction limits shall be accurately depicted, and all topographic features shall be current and verified as of the specified date of submission.

Within two weeks of the preliminary field review the District Right of Way shall provide markups and comments to the reviewer assuring all items of real value are identified, generally located correctly, and properly labeled for estimation and value determination, as well as verifying the correct owners have been identified and property lines, private utilities, accesses, etc. are shown properly. After reviews are complete, a pdf of the comments shall be provided by the Project Manager on one set of redlined (marked) RW-2 plans, indicating revisions and additional information needed. No additional writing is

to be added to these redlined plans by the designer. These redlined plans are to be returned with the RW-3 submission.

40.4 RW-1 & RW-2 Combined Plan Submission: The Project Manager may choose to combine RW-1 and RW-2 submissions into one submission. When this combined submission is requested, all of the requirements for Sections 40.2 and 40.3 must be met. Generally, a combined RW-1 & RW-2 submission should not be used on large projects or projects where revisions are likely in the early phases of design. See Section 10.3.3 of this design directive for further guidance on utilizing a combined RW-1 and RW-2 submission. This submission is generally made at or prior to the Preliminary Field Review, however, it shall be in accordance with the approved CPM Schedule for the project.

40.5 RW-2 Revisions: After the RW-2 submission, but before the RW-3 is requested, changes that affect the number of parcels involved are to be forwarded with each affected sheet, consisting of a new reproducible; and a pdf highlighted in color, showing all changes since the last revision. Revised sheets are to be identical size and borders of previous submissions. These revisions shall be forwarded with a transmittal letter listing and explaining the parcel changes or corrections, along with questionnaires and deeds for any added parcels. **After RW-2 plans have been submitted, no changes in parcel numbers will be allowed.**

40.6 Advanced Acquisition Plats: These plats may be requested by Right of Way Division to acquire “hardship case or protective buy” parcels. Examples of these plats and other required supporting documents are available from the Project Manager.

40.7 Whole Take Plats: Prior to the submission of RW-3 tracings, when it becomes obvious or apparent that a substantial number of parcels will be taken in total, RW-3 plats for “Whole Takes Only” for specific parcels may be requested to initiate the acquisition process. Such plans shall meet all criteria and requirements as listed below for an RW-3 submission.

40.8 RW-3 Plans: The purpose of this submission is to review property descriptions, perform appraisals, and begin acquisition of the right of way necessary for the project, and shall reflect the resolution of all RW-2 and final field review comments. The RW-3 Title Sheet shall be submitted with the seal of the designer. An electronic copy of the spreadsheet used to create the Ownership Index shall also be included as part of the submission. Property descriptions shall also be included with this submission. This submission is normally made prior to the Final Office Review; however, it shall be in accordance with the approved CPM Schedule for the project.

Where construction limits or right of way lines for a particular parcel are uncertain or unknown, omit the areas of take and remaining on the Ownership Index and show only the total area of the property. Place a “Hold Acquisition” note in the “Remarks Column” with the reason. In general, changes to right of way limits after the RW-3 submission are not acceptable.

40.9 R/W-3 Revisions: RW-3 Plan revisions should be held to a minimum since the appraisal and acquisition processes will have begun. Requests for changes to right of way limits by District or Central Office Right of Way staff should be approved by the District Right of Way Manager and the Director of Right of Way, as applicable, prior to consideration for plan revisions. **Verify with the Project Manager whether a particular parcel has been appraised or acquired before submitting revisions.** Revisions to the RW-3 plans shall contain one pdf of only the revised sheets and one pdf of only the revised sheets with the changes highlighted in color.

All revisions shall be forwarded with a transmittal letter listing and explaining, in parcel order or sheet number, the changes or corrections. Examples describing the area changes are available from the Project Manager. Revised sheets are to be submitted in the same pdf sheet size as the original submission.

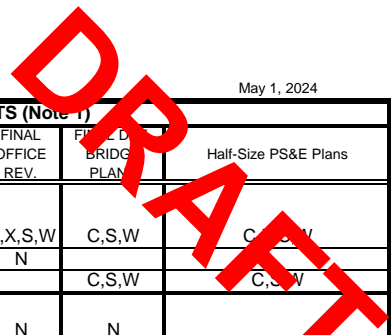
When additional tracts are added as a revision to the RW-3 plans, the added tracts shall be placed in the proper order. The original tract numbering shall not be changed after an offer has been made to the property owner. The status of acquisition can be obtained from the Project Manager.

40.10 RW-4 Plans: This submission is a full-size master set of right of way plans in pdf format and shall be submitted only after acquisition is essentially complete and will reflect the acquired right of way. This information can be obtained from the Project Manager and will be supplied upon request for the RW-4 plans. These plans shall be identical with the working RW-3 plans and the transmittal letter shall certify that these right of way plans agree with the construction plans in every aspect, with the exception of minor construction details. The RW-4 Title Sheet with the seal of the designer and current date shall accompany this submission. The remaining signature blocks shall be removed from the RW-4 Title Sheet.

This submission becomes the record set of “As Acquired” right of way.

DD-202 PLAN DISTRIBUTION SCHEDULE

May 1, 2024



DIVISION/AGENCY	ELECTRONIC SUBMITTAL	LABEL	DESIGN REP.			CONTRACT PLAN DEVELOPMENT PROJECTS (Note 1)											
			FIELD REV.	OFFICE REV.	RW-1	PREL. FIELD REV.	RW-1 & RW-2 Comb.	SPAN ARR.	SLOPE REV.	COMB. TS&L	RW-2	FINAL FIELD REV.	RW-3	REV. RW-3 (Note 2)	FINAL OFFICE REV.	FINAL DESIGN PLAN	Half-Size PS&E Plans
FHWA (concurrence & nonexempt projects)	FHWA Area Engineers	FHWA-Area	C,X	C,X	R	C,X	R	C	C,X	C	R	C,X			C,X,S,W	C,S,W	C,S,W
Area Engineers																	
ROW Section	Jeffrey.Robinette@dot.gov	FHWA-R/W	N	N		N						N			N		
Division Bridge Engineer	Bert.Buchanan@dot.gov	FHWA-Br.						C		C						C,S,W	C,S,W
Engineering Division	Raymond.J.Scites@wv.gov																
Engineering Division	David.P.Bodnar@wv.gov	DD	C,X	C,X		C,X		C	N	N		N	N		N	N	
Roadway	Feras.Tolaymat@wv.gov	DDR/DDI(Road)	C,X	C,X	R	C,X	R	C	C,X	C	R	C,X	R	R	C,X,S,W	C,S,W	C,X,S,W
PS&E	Michael.Carter@wv.gov	DDR (PS&E)															C, X, S, W
Bridge Review	Robert.L.Douglas@wv.gov	DDI						C		C		C, X			C,X,S,W	C,S,W	C, X, S, W
Bridge (If applicable)	Tim.A.Hermansdorfer@wv.gov	DDI(Br.)	C	C		C		C		C		C			C,S,W	C,S,W	C,S,W
Right-of-Way (Note 4)	Katrena.J.Parsons@wv.gov	DDR(R/W)			R	N	R				R	N	R,A	R	N		
Consultant Services	Erika.J.Carroll@wv.gov	DDC	C, N	C, N													
Initial Design	Mark.J.White@wv.gov	DDD	C, N	C, N													C
Traffic Engineering Division																	
Division Director	Ted.J.Whitmore@wv.gov	OS-Design	C	C		C						C					
Design	Rubina.Tabassum@wv.gov	OS-Design	C	C		C				C		C			C		C
Operations		OS-Operations	C	C		C						C					
Safety	Donna.J.Hardy@wv.gov	OS-Safety	C	C		C						C					
Traffic Services	Danny.G.Young@wv.gov	OS-Traffic Serv										C					
Technical Support Division																	
Geotechnical	Mark.A.Nettleton@wv.gov	DSG	C,X	C,X		C,X		C	C,X	C		C,X			C,X	C	
Environmental	Ben.L.Hark@wv.gov	DSE	C	C		C,X		C		C		C,X			C,X	C	C
Permitting	Jessica.J.Boggs@wv.gov	DSE	C	C		C		C		C		C			C	C	
Publications Section	Steve.D.Boggs@wv.gov	DSP													C, N,S	C, N,S	C
Right-of-Way Division																	
Division Director	Chad.J.Toney@wv.gov	DR	N	N	N	N	N				N	N	N	N	N		
Estimator		DR-Est.	C	C		C						C,X			C		
Utilities	Sarah.L.Runyon@wv.gov	DR(Util.)	C	C		C				C		C			C		
Contract Administration Division	Shawn.A.Smith@wv.gov	FC				C,X		C		C		C,X			C,X,S,W	C,S,W	C,X,S,W
Materials Control, Soils, Testing Div	Ron.L.Stanevich@wv.gov	FM													C,S	C,S	
Programming Division	Kenneth.T.Given@wv.gov	PP	C	C		C						C					C, E
Planning Division	Elwood.C.Penn@wv.gov	PR	C	C		C						C					
Chief Engineer Construction	Stephen.T.Rumbaugh@wv.gov	HF	C, N	C, N		N						N			N		N
Chief Engineer Development	Jason.C.Foster@wv.gov	HD	C, N	C, N		N						N			N		N
Chief Engineer Operations	Joseph.M.Pack@wv.gov	HO	N	N		N			N			N			N		
Operations Division	Stephen.G.Johnson@wv.gov	OM				N						N			N		
District																	
District Engineer/Manager	Division of Highways Districts	D#-E/M	C,X	C,X		C		C		C		C			C,S,W	C,S,W	
District Development Engineer		D#-Devel	C,X	C,X		C		C		C		C					
Dist. Right-of-Way Agent		D#-R/W	C	C		C						C			C		
Dist. Bridge Eng.(If appl.)		D#-Bridge	C	C		N		C		C		N			N	C,S,W	
Dist. Const. Engineer		D#-Const.				C,X		C		C		C,X			C,X,S	C,S	
Dist. Util. Supervisor		D#-Util.				C						C			C		
Dist. Traffic Engineer		D#-Traffic	C	C								C			C		
DEP-Office of Water Resources		DEP Water Resources Map	DEP-OWR	C	C		C,X						C,X				
DNR Wildlife Resources	DNR Wildlife Resources Map	DNR-WR	2C	2C		2C,2X						2C,2X					
U. S. Army Corps of Engineers	sarah.m.workman@usace.army.mil	US-COE	C	C		C		C		C		C					
Railroad Company (If appl.)	Sarah.L.Runyon@wv.gov	DDR-RR	4C,4X			4C,4X				4C		4C,4X			4C,4X	4C	
Utility Companies Encountered	Utility Contact List	Util. Co. Name				C,X						C,X			C,X		
Other Appropriate Agencies			C	C		C						C			C	C	
Commissioner's Office of Econ. Dev	Perry.J.Keller@wv.gov	CD	C	C		C											

NOTE 1: C = Const. plans or Design Report; R = R/W plans; N = Notification by PM; X = Cross sections; S = Project-specific special provisions; W = Working-time chart;

E = All electronic plans in CADD format with electronic alignment files on acceptable media; A = Copy of asbestos inspection request memo to DDC+A1

NOTE 2: Right of Way Plans (3R) shall include 1R with changes highlighted in red NOTE 3: All Corr. "H" & Rt. "9" projects contact CH(CR) for environmental agency distribution list NOTE 4: Submit in PDF format

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

DRAFT

STRUCTURE DIRECTIVE 1045
FOUNDATION TYPES

May 4, 2022-May 1, 2024
First Edition-Superseded May 4, 2022

All feasible foundation types must be considered in the preliminary phases of the project. The WVDOH's policy is to find all new bridge foundations on rock. However, bridges may be allowed to be supported on Intermediate Geomaterial (IGM) at the ~~discretion of the Geotechnical Engineer~~ approval of the State Bridge Engineer.

1045.1-SPREAD FOOTING

Spread footings have been found to be economical for depths to twenty (20) feet. Preferably, spread footings should be founded on rock. However, spread footing foundations may be supported on Geosynthetic Reinforced Soil-Integrated Bridge Systems or MSE retaining wall backfill where allowed by the State Bridge Engineer.

In situations where a cofferdam may be required for the construction of a spread footing, the cost of the cofferdam shall be included when comparing foundation options. Spread footing foundations shall be placed below the scour depth. Other concerns to consider include the stability of approach embankments, differential settlement, etc.

1045.2-PILING

Piling must be designed for both axial and lateral loads as appropriate. As a minimum, piling shall be sized using a wave equation program such as GRLWEAP. Loads may include external (non-structure related) as well as structural loads. For example, pile foundations might be used to enhance stability of the approach embankment if the embankment factor of safety is questionable.

Piling to competent rock will normally be designed as end bearing and driven to refusal. Additional loading from negative skin friction (downdrag forces), resulting from embankment settlement, must be added to that from structural loads and any other external loads. Battered piles may be required to help resist lateral loads but shall be avoided wherever possible. Pile tips shall be used for refusal on rock. The cost for pile tips shall be included in the cost estimate for the pile foundation.

With permission of the Bridge Project Manager, friction piles and end bearing piles on non-competent rock strata may be considered when site-specific conditions warrant and when all other concerns (such as settlement or scour) are addressed.

The minimum piling length shall be ten (10) feet. See SD 2120.3 for further discussion.

For integral abutments, single-line piling systems shall be used, predrilled fifteen (15.0) feet deep using one (1.0) foot diameter for soil or two (2.0) foot diameter for rock.

Foundations supported on piling should be placed below the scour depth. When the bridge scour computations indicate that the steel piling may be exposed due to scour, then the piling cap placement must be designed in accordance with SD 2120.3.

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1045.3-ROCK SOCKETED DRILLED SHAFTS

Rock socketed drilled shafts provide superior scour protection versus traditional steel piling, greater resistance against high lateral and uplift loads, and accommodation of site concerns associated with the pile driving process (vibrations, interference due to battered piles, etc.), and in some cases exclude the need of cofferdams. In addition, rock socketed drilled shafts may eliminate the need of caisson caps, for certain configurations such as single or multiple column piers.

Rock socketed drilled shafts shall be designed using soil-structure intersection software such as LPILE. The rock socket length shall be determined as to the second node that crosses the zero-deflection line in the service limit state. For strong rock both end and side resistance can be added directly. For soft rock, such as claystone and soft siltstone, only end resistance shall be used.

Construction techniques shall be in accordance with the Standard Specifications. These include testing by the Division of: pre-installation core holes, wet or dry hole condition, plumbness, shaft sidewall and bottom cleanliness, and concrete inspection. Results from the testing may require remedial action from the Contractor.