

Project Development Process (PDP) – An Overview

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Engineer



TPMI 2016

Project Development Process

- Definition
- Background
- Methodology
- Challenges
- Opportunities
- Interactive Discussion

Definition - PDP

- **The Project Development Process is the use of multi-disciplinary concurrent efforts to develop transportation projects from inception to construction.**
 - **Work is accomplished in parallel rather than in series**
 - **Requires the active involvement of all project development players throughout each of the development phases**
 - **Concurrent efforts bring about the design in its final form**
 - **Maintains commitment of concurrent design activities established in 1998**
 - **This concept accelerates project development, but comes with serious and potentially costly risks, cost of re-work being the most significant**

Background

- **2010 Performance Audit Action Item #26:**

“Develop a project-specific risk assessment methodology that should be a required task in the project planning phase. The project risk assessment should provide the basis for concluding that a low-risk project would not be subject to certain control reviews such as the review of signed and sealed plans by Central Office Location and Design...”

- **I&IM 249.4 implements a two-tier project system addressing Item #26.**

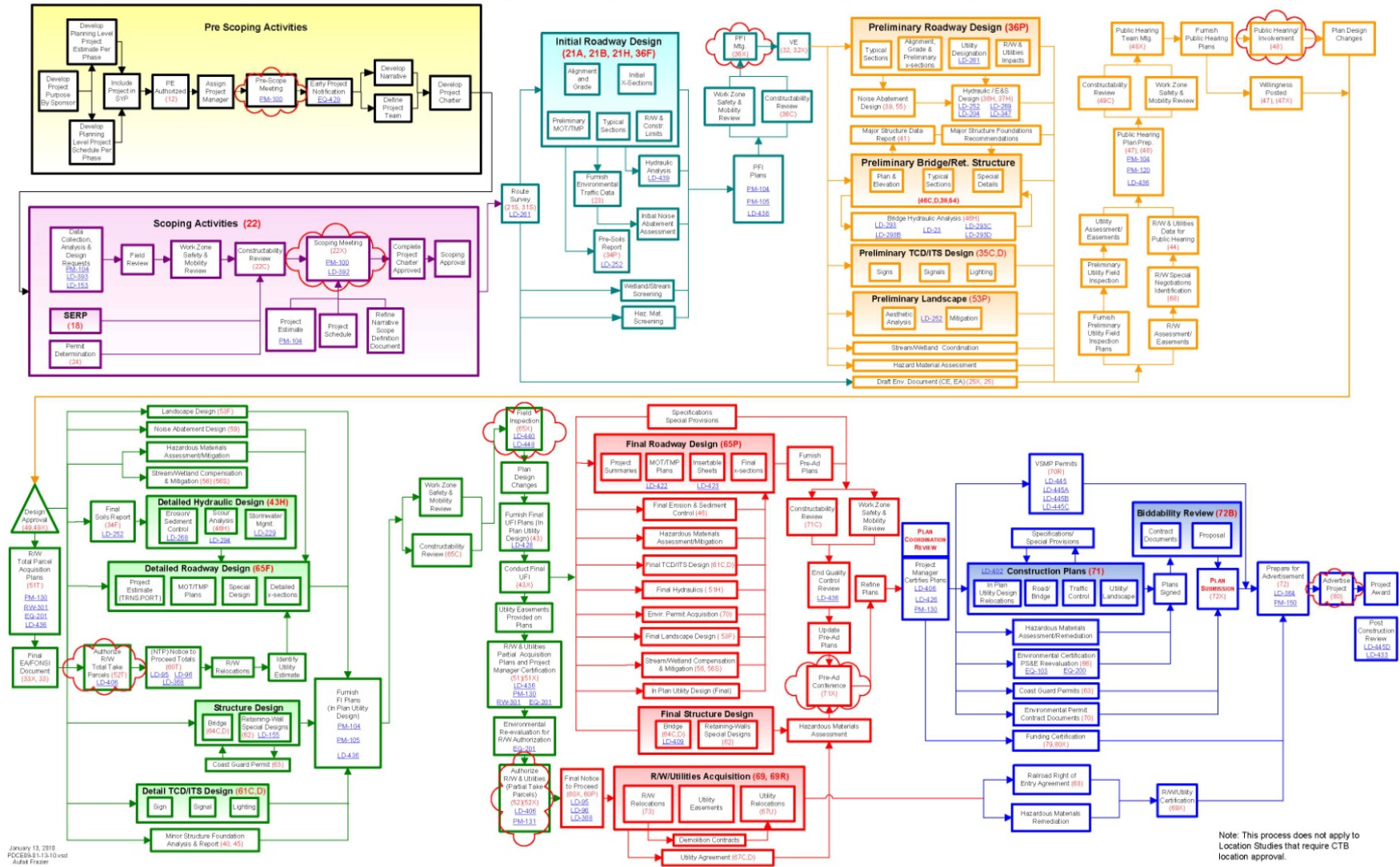
- ***Tier 1* = routine maintenance and operations projects (regardless of cost), SAAPs, all NFO preventative maintenance and construction Projects < \$5M Construction Cost**
- ***Tier 2* = all FO (now PoDI/PoCIs) construction, operations or maintenance projects, all NFO > \$5M construction cost, and all projects designated as Design Build at the Scoping stage**

The Process

- **The Project Development Process**
 - **VDOT's Approved Process**
 - **Focus on Teamwork and Risk Management**
 - **Based on 5 Phases**
 - **Scoping**
 - **Preliminary Design**
 - **Detailed Design**
 - **Final Design and ROW Acquisition**
 - **Advertisement**

The Old Process

Project Development Concurrent Engineering Process – January 13, 2010 (Total & Partial R/W Takes)



January 13, 2010
 POC:BSA1-13-10.vsd
 Aulak Frazer

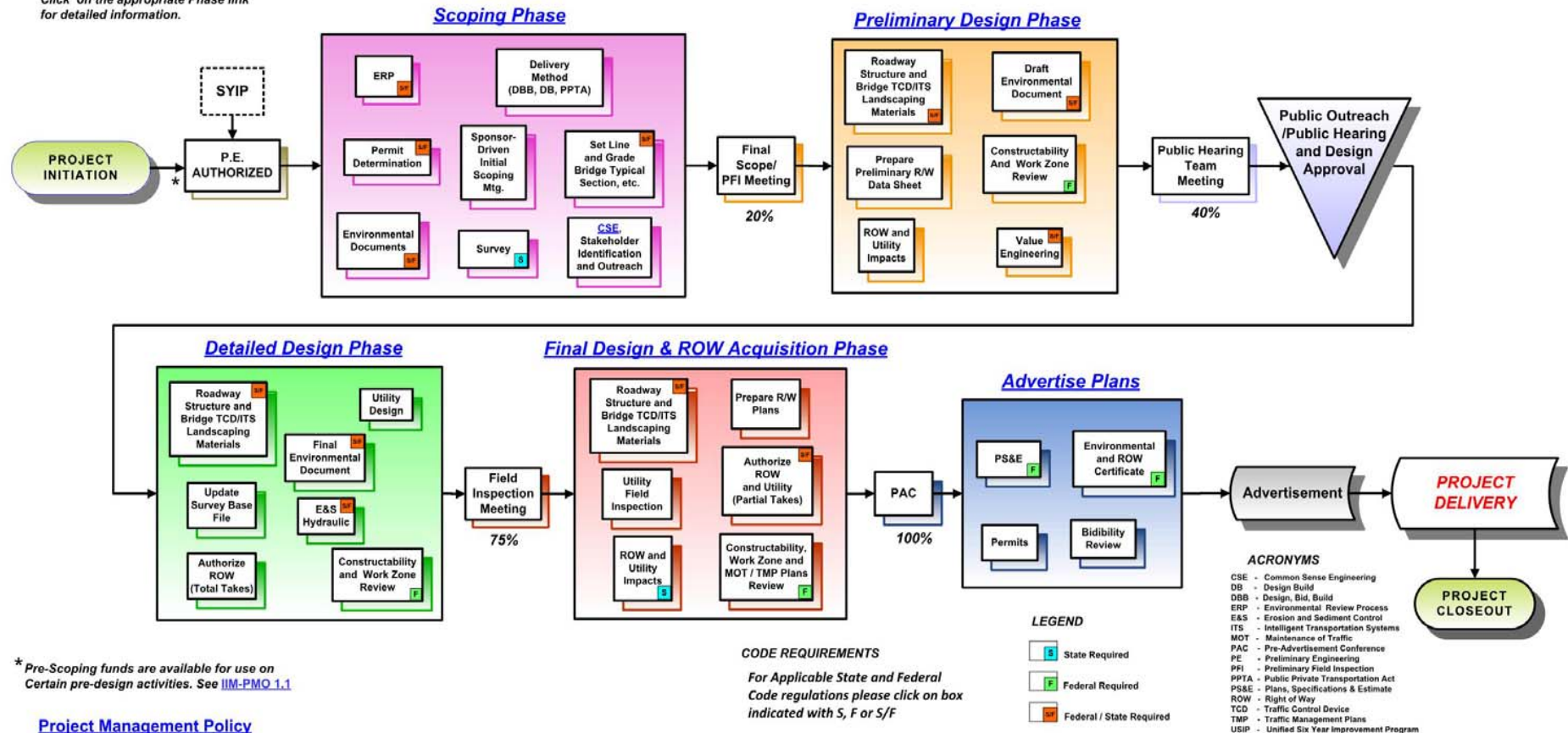
Note: This process does not apply to Location Studies that require CTB location approval.

The New Process

Thursday, October 29, 2015

VDOT Project Development Process

Click on the appropriate Phase link for detailed information.



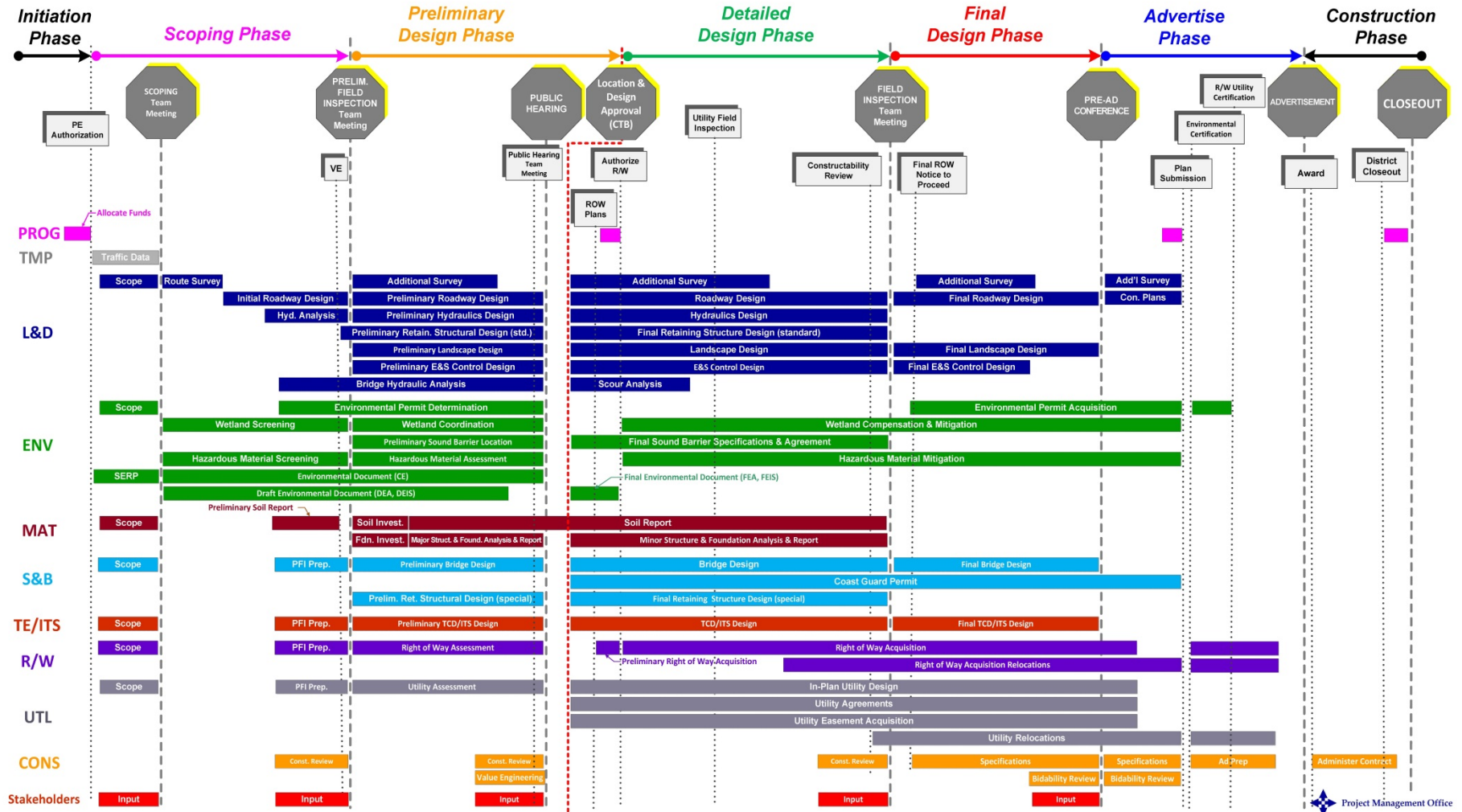
* Pre-Scoping funds are available for use on Certain pre-design activities. See IIM-PMO 1.1

[Project Management Policy](#)

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The New Process

VDOT Project Development Process By Division July 10, 2013



The Process

What the PDP isn't:

Completely rigid or inflexible

BUT BE CAREFUL!!!!

Many of the steps are legal requirements....

Legal Hierarchy - Federal

Code of Federal Regulations (CFR)

CFR Sections that pertain to Highways

- **Title 23 – Highways – FHWA**
- **Title 33 – Navigation and Navigable Waters – Corps of Engineers, Coast Guard**
- **Title 36 – Parks, Forests, and Public Property**
- **Title 40 – Protection of the Environment – Environmental Protection Agency, Council on Environmental Quality / NEPA**

The Bottom Line



**Place a penny of federal money on a project
and instantly “federalize” it**

Legal Hierarchy – Commonwealth of Virginia

State Constitution

Code of Virginia – Statutes

Virginia Administrative Code
– Regulations

Local Code/Ordinance
<http://www.municode.com/>



**Road Building is a “Concurrent Power”
(Responsibility) between national, state and local
governments**

The Reality

A roadway project developed by the State, utilizing both Federal and State funding sources, must be developed in accordance with Federal and State Law

VDOT's Chief Engineer and Chief Financial Officer have directed that the construction, maintenance and operations programs be developed so as to meet Federal Obligation Authority targets

The Legislative History - Federal

- **Code of Federal Regulations**
 - **Total**
 - April 1, 2000 – 138,049 pages
 - April 1, 2014 – 175,496 pages (+27%)
 - **Title 23 – Highways**
 - April 1, 1999 – 561 pages
 - April 1, 2013 – 629 pages (+12%)
 - **Title 33 – Navigation**
 - July 1, 1999 – 2,024pages
 - Sept.1, 2015 – 2,698 pages (+33%)
 - **Title 36 – Parks & Public Property**
 - July 1, 1999 – 1,558 pages
 - July 1, 2015 – 1,888 pages (+22%)
 - **Title 40 – Protection of the Environment**
 - July 1, 1999 – 24 Volumes, 16,221 pages
 - July 1, 2013 – 34 Volumes, 25,954 pages (+60%)

The Legislative History - Virginia

- **Code of Virginia**
 - **Highway Laws of Virginia**
 - June 30, 1998 – 646 pages
 - June 30, 2014 – 1112 pages (+72%)
- **Virginia Administrative Code**
 - **Title 24 – Transportation and Motor Vehicles**
 - **Agency 30 – Department of Transportation**
 - 42 Chapters

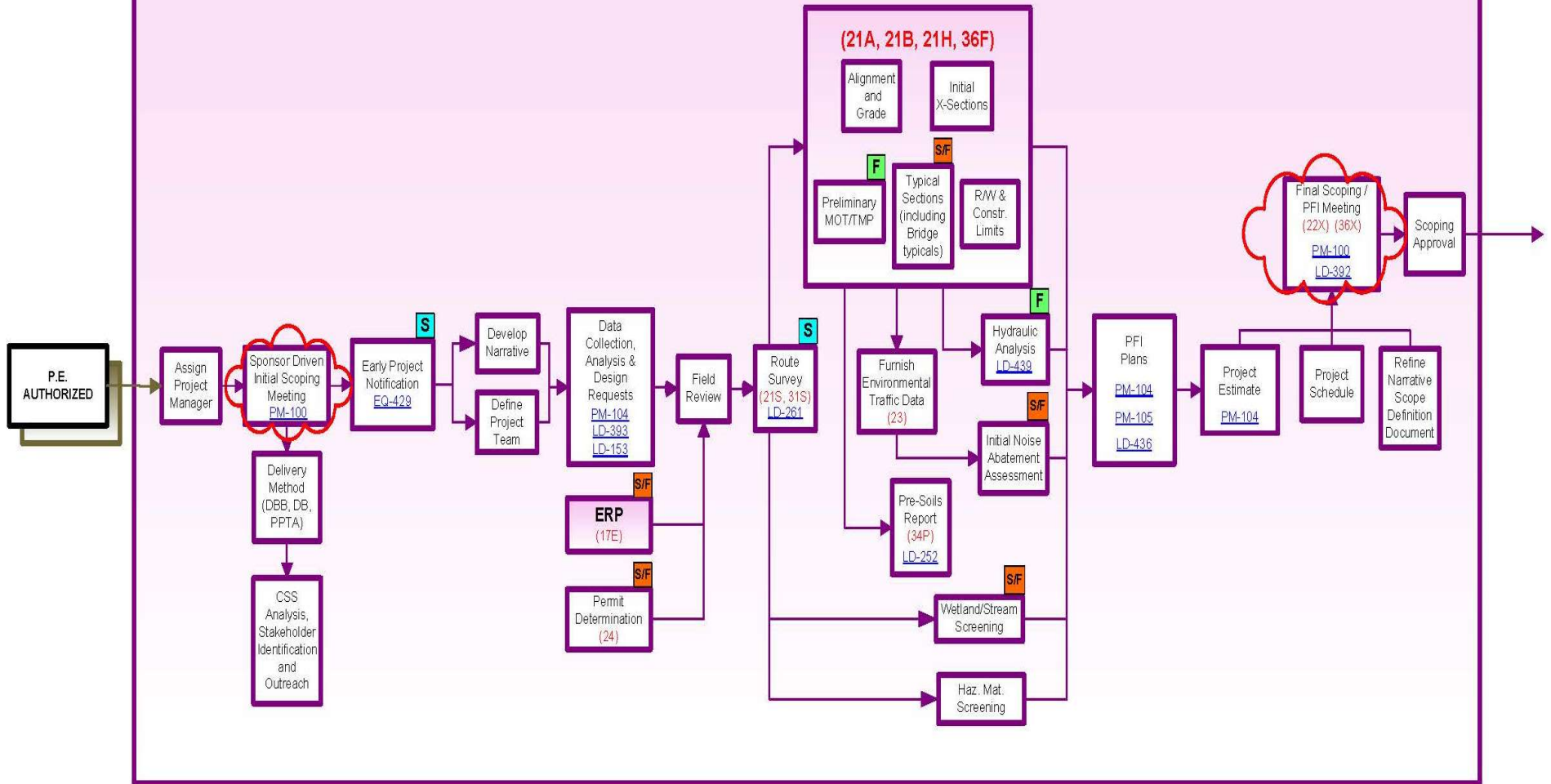
The Bottom Line



As our legal/governance systems become increasingly complex, we must constantly strive to educate ourselves in order to navigate them effectively

The PDP – Scoping Phase

Scoping Phase



The PDP – Scoping Phase

Interstate Access Points

23 U.S.C 111- Interstate Access (IJR/IMR)

Limited Access Highways

§ 33.2-400 to 404

Project Delivery Method

23 CFR 636 – Design Build Contracting

§ 2.2-4306 - Design Build Procurement

§ 33.2-1800 to 1824 – Public-Private Transportation Act of 1995

The PDP – Scoping Phase

Bicycle and Pedestrian Accommodations

23 CFR 652 Pedestrian and Bicycle Accommodations

§ 33.2-354 – Statewide Pedestrian Policy

§ 33.2-112 – Sidewalks and Walkways

March 18, 2004 - CTB Policy for Implementing Bicycle and Pedestrian Accommodations

Design Standards for Secondary Roads

§ 33.2-327

Paving of Unpaved Roads

§ 33.2-332

Scoping Regulations

FEDERAL & STATE REQUIREMENTS			
Phase	Step in Process	Federal Requirement	State Requirement
Scoping	Early Project Notification		Section 10.1-1188
	Environmental Review Process (ERP)	23 CFR 771,	§ 10.1-1188B
	Permit Determination	33 USC 1344, 33 USC 401, Section 26A of the TVA Act	§ 62.1-44.15:20 4 VAC 20-333-10 et seq, 9 VAC 25-210 and 9VAC 25.680
	Route Survey		§ 33.2-104, §33.2-208
	Preliminary MOT/TMP	23 CFR 630 Subpart J	
	Typical Sections (including Bridge typical Bike & Peds)	23 CFR 652; 23 USC 217(e) 23 USC 109 (m)	§33.2-354 24VAC30-151-600 24VAC30-91-110
	Hydraulic Analysis	23 CFR 650.117	
	Initial Noise Abatement Assessment	23 CFR 772	§ 33.2-215, § 33.1-12, VDOT Policy
	Wetland/Stream Screening	33 USC 1344	§ 62.1-44.15

The PDP – Scoping Phase



- Embrace Context Sensitive Solutions (CSS) to engage stakeholders and manage expectations
- Embrace Common Sense Engineering to develop good, not perfect, projects and save money
- Determine public involvement strategy
- Determine project delivery method
- Determine tier level
- Discuss the scope and get buy-in from team members
- Include bicycle and pedestrian components from the start
- Include all necessary schedule activities
- IJR and IMR are to be completed in this phase
- Phase ends with Preliminary Field Inspection and Approved Scope

The PDP – Scoping Phase

What's Missing at this Stage of the Game?

NEPA

National Environmental Policy Act

42 U.S.C. 4321-4347

23 CFR 771

49 CFR 662

4VAC25-130-740.4

Tier 1 Exercise - Scoping



Tier 1 Exercise - Scoping



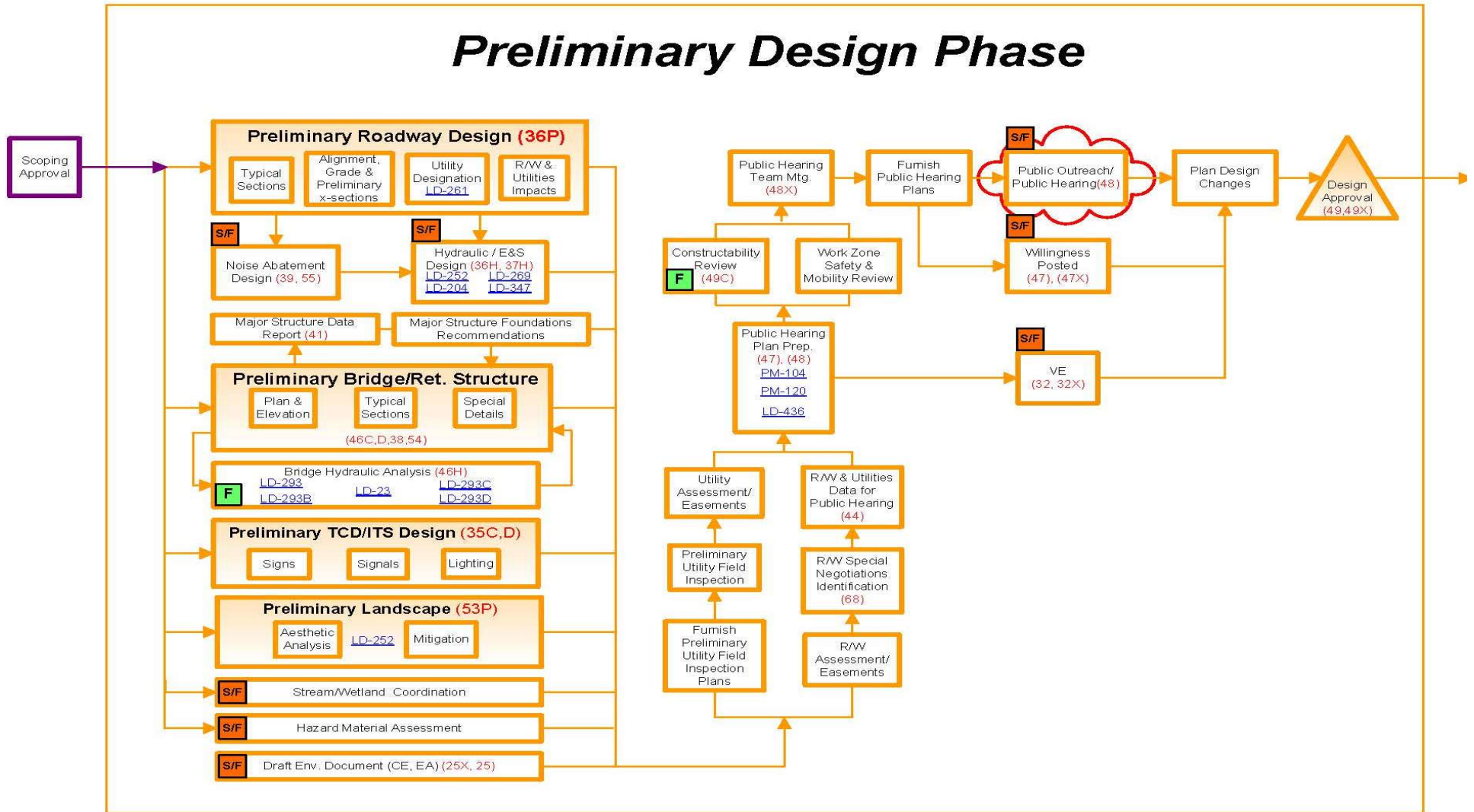
Tier 1 Exercise - Scoping

- Secondary Road Bridge Replacement
- Functional Class: Rural Major Collector
- Traffic Count: 545 VPD
- Posted Speed: Not Posted
- Bridge Width: 24'
- What issues do you need to think about as you prepare to scope the project?

Tier 1 Exercise - Scoping

- Environmental Impacts
- Road Closure or Staged Construction?
- Utility Impacts
- Typical Section
- Coast Guard Permit?
- Others?

The PDP – Preliminary Design Phase



The PDP – Design Phase

Preliminary MOT/TMP

23 CFR 630.1012 – Project-level Procedures - Refers to Traffic Management Plans and requires state to develop a Temporary Traffic Control (TTC) plan, a Traffic Operations (TO) and a Public Involvement (PI) plan

Value Engineering

23 CFR 627.1 – Value Engineering – All NHS projects above \$25M in total cost

§ 33.2-261 – Value Engineering required in certain projects – Any project, any highway system more than \$5M in construction cost

Access Management

§ 33.2-245 - Access Management Standards

24 VAC 30-73 - Access Management Regulations for Principal Arterials, Minor Arterials and Collectors

The PDP –Preliminary Design Phase

Initial Noise Abatement Design

23 CFR 772.11 - Noise Abatement

§ 33.2-276 – Noise Abatement Practices and Technologies

Public Involvement

23 U.S.C. 128 – Public Hearings

23 CFR 771.111 h(1) –

“Each State must have procedures approved by the FHWA to carry out a Public Involvement/Public Hearing program pursuant to 23 U.S.C. 28 and 40 CFR 15 parts 1500 through 1508.”

§ 33.2-208B – Location of Routes

24 VAC 30-380-10 – Public Participation Guidelines

“The publication of a notice of willingness to hold a public hearing, with no public request for a hearing by the expiration date will satisfy any public hearing requirements.”

The PDP – Preliminary Design Phase

Limited Access Control Changes

§ 33.2-400 – Power and Authority of the Board to establish, modify or extinguish limited access

Tier 1 or Tier 2 Projects: By Commonwealth Transportation Board

Location Approval

§ 33.2-1701.14 – General Powers of Board – Vacate or change the location of any portion of any public highway.

Tier 1 or Tier 2 Projects: By Commonwealth Transportation Board

Design Approval

Tier 1 Projects: By VDOT District Project Development Engineer

Tier 2 Projects: By VDOT Chief Engineer

23 CFR 771.111 h(2-vi) – “Submission to the FHWA of a transcript of each public hearing and a certification that a required hearing or hearing opportunity was offered.”

Preliminary Design Regulations

FEDERAL & STATE REQUIREMENTS			
Phase	Step in Process	Federal Requirement	State Requirement
Preliminary Design	Noise Abatement Design	23 CFR 772	§ 33.2-276
	Hydraulic/E&S Design	23 CFR 650 Subpart 4 23 CFR 650.201	§62.1-44, 15:52
	Bridge Hydraulic Analysis	23 CFR 650.115	
	Stream/Wetland Coordination	33 USC 1344 Section 404	9 VAC 25-660 § 62.1-44.15-20
	Draft Environmental Document (CE, EA, EIS)	23 CFR 771	
	Public Outreach/Public Hearing/Willingness Posting	23 USC 128 23 CFR 771 40 CFR 1506	§33.2-208 §33.2-338 §33.2-1701 24 VAC 30-11-10, & 24VAC30-380
	Access Management		§ 33.2-245 24VAC30-73
	Value Engineering	23 CFR 627.1	§ 33.2-261

The PDP – Preliminary Design Phase



- **Maintenance of Traffic and Sequence of Construction plans do not make up a Traffic Management Plan (TMP). They are just one component of the TMP. Transportation Operations and Public Involvement are the other components.**
- **The State VE requirements are more rigid than the Federal.**
- **Noise abatement design (potential sound walls) work should begin as soon as scoping is approved.**
- **Changes to Limited Access Control are to be completed in this phase**

The PDP – Preliminary Design Phase



- **Opportunity for public involvement is a state and federal requirement on projects that require regulatory action. This does not necessarily mean that you must conduct a public hearing, you may just post a willingness for a hearing.**
- **Regulatory action includes, but is not limited to, acquisition of property, approval of a NEPA document, establishing or changing a limited access freeway.**
- **Some exceptions apply for Emergency, Maintenance and Operations projects.**
- **Phase ends with Design Approval**

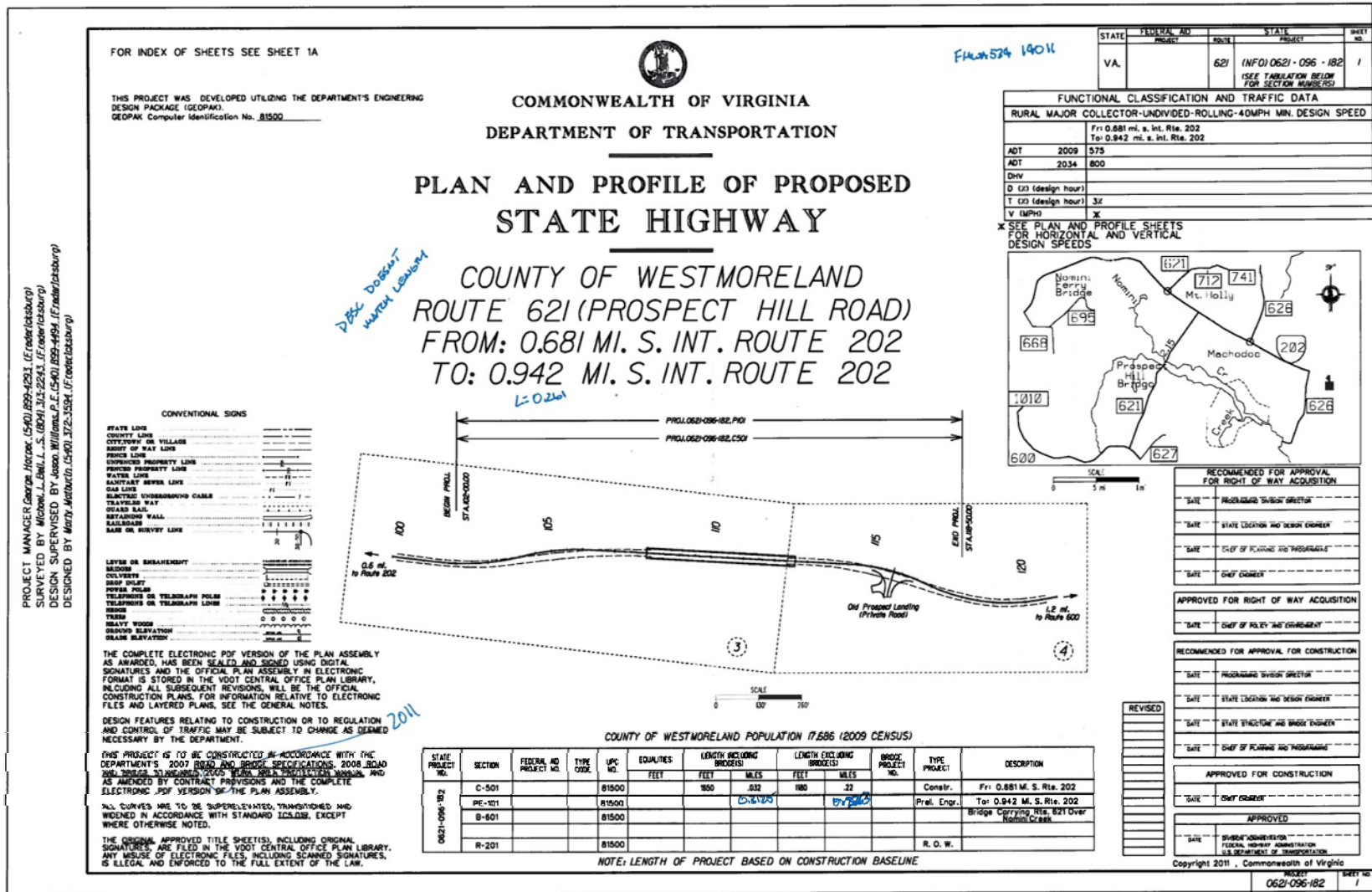
Tier 1 Exercise – Prelim. Design



Tier 1 Exercise-Prelim. Design

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Tier 1 Exercise – Prelim. Design

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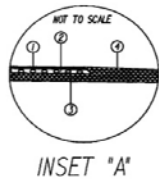
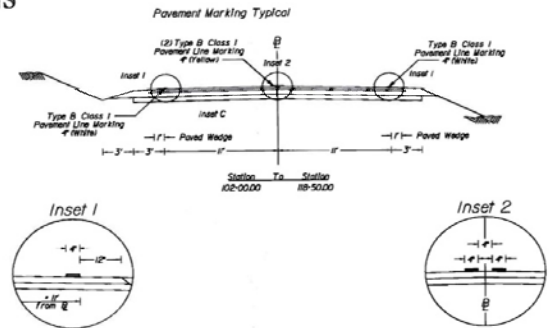
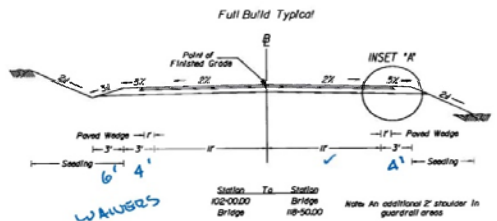
PROJECT MANUAL #A-Support 04-078-2006
DESIGNED BY: J.A. Smith 04-078-2006
DESIGNED BY: J.A. Smith 04-078-2006
DESIGNED BY: J.A. Smith 04-078-2006

FREDERICKSBURG DISTRICT DESIGN UNIT

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

REVISION	DATE	PREPARED BY	APPROVED BY	PROJECT	ROUTE	FILE NO.
		VA		621		0621-096-182, CS01, RW201

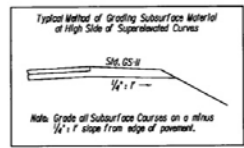
TYPICAL SECTIONS



- ① ASPHALT CONCRETE SURFACE COURSE TYPE SW-95A @ 220 LBS PER SQ YD
- ② ASPHALT CONCRETE TYPE IN-95A @ 220 LBS PER SQ YD
- ③ 6" AGGREGATE BASE MATERIAL TYPE I NO 218 (FOR SUBBASE)
- ④ 12" (AND VARIABLE) AGGREGATE BASE MATERIAL TYPE I NO 218 (FOR SUBBASE)

Prime shall be a Liquid Asphalt Material RC-70, MC-70 or RC-250 applied at the rate of 1.25 L/SqYd (13.4 Gal/SqYd). When subjected to public traffic, the primed area shall be covered with Fine Aggregate Grading B Sand (Natural or Manufactured) or No. 10 Aggregate at the rate of 8.0 L/SqYd (65 Lb/SqYd).

* 0.9 L/SqYd (8.2 Gal/SqYd) when used with cement stabilized subbase or subgrade and lime stabilized subgrade.



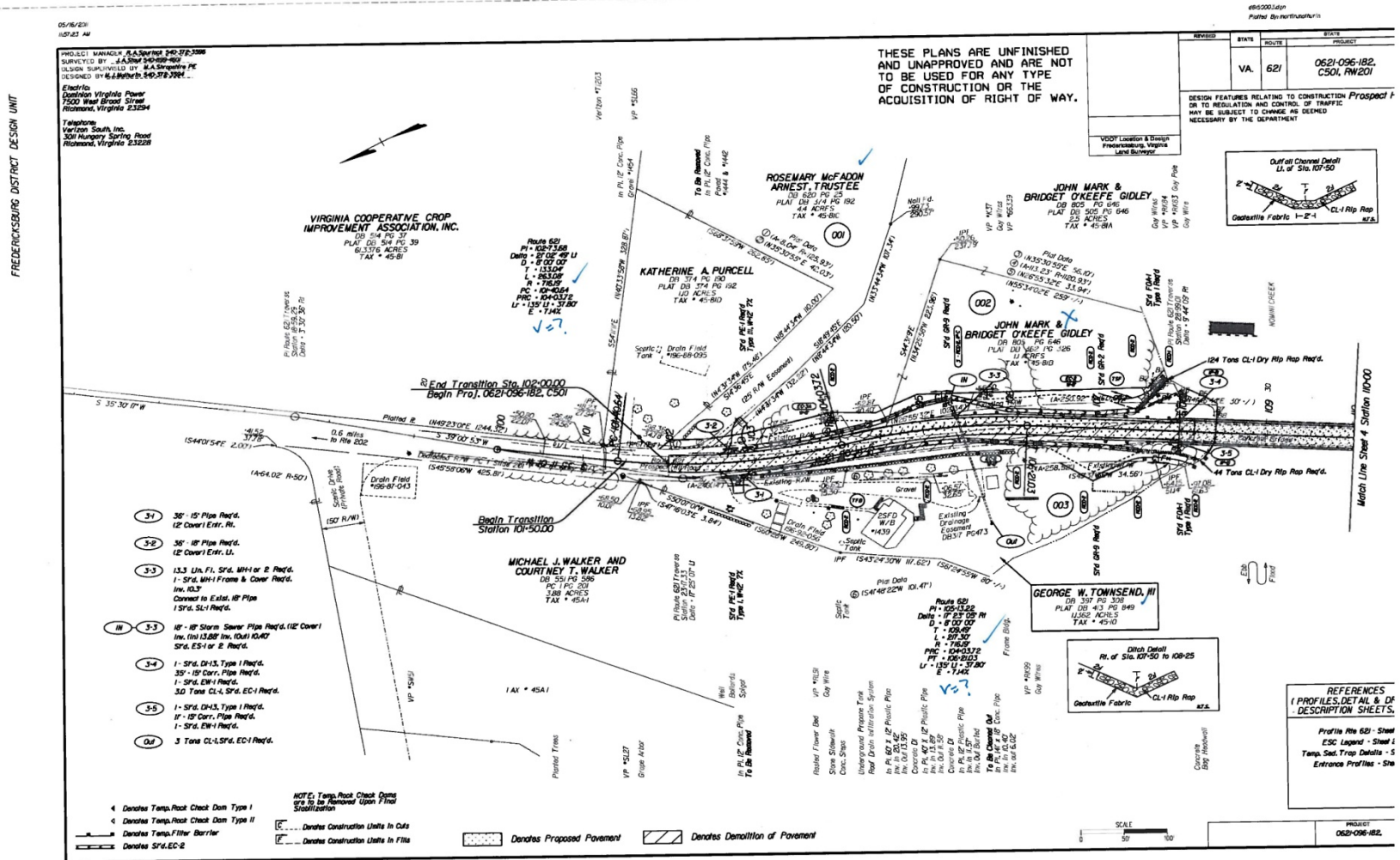
PRIVATE AND COMMERCIAL ENTRANCES

- TYPE I
Crusher Run Aggr.
6" Crusher Run Aggr. 25 or 26
- TYPE II
Concrete
Concrete Entrance Pavement
7" HES
4" Aggr. Base Mat'l, T.Y. 1
No. 21A or 21B
- TYPE III
Asphalt
Asphalt Conc. Type
SW-95A or SW-95D @ 220 Lbs. per S.Y.
4" Aggr. Base Mat'l, T.Y. 1
No. 21A or 21B
- NOT TO SCALE
- TYPE IV
Asphalt Commercial
Asphalt Conc. Type
SW-95A or SW-95D @ 185 Lbs. per S.Y.
4" Asphalt Conc. Base Course
BM-25D
6" Aggr. Base Mat'l, T.Y. 1
No. 21A or 21B

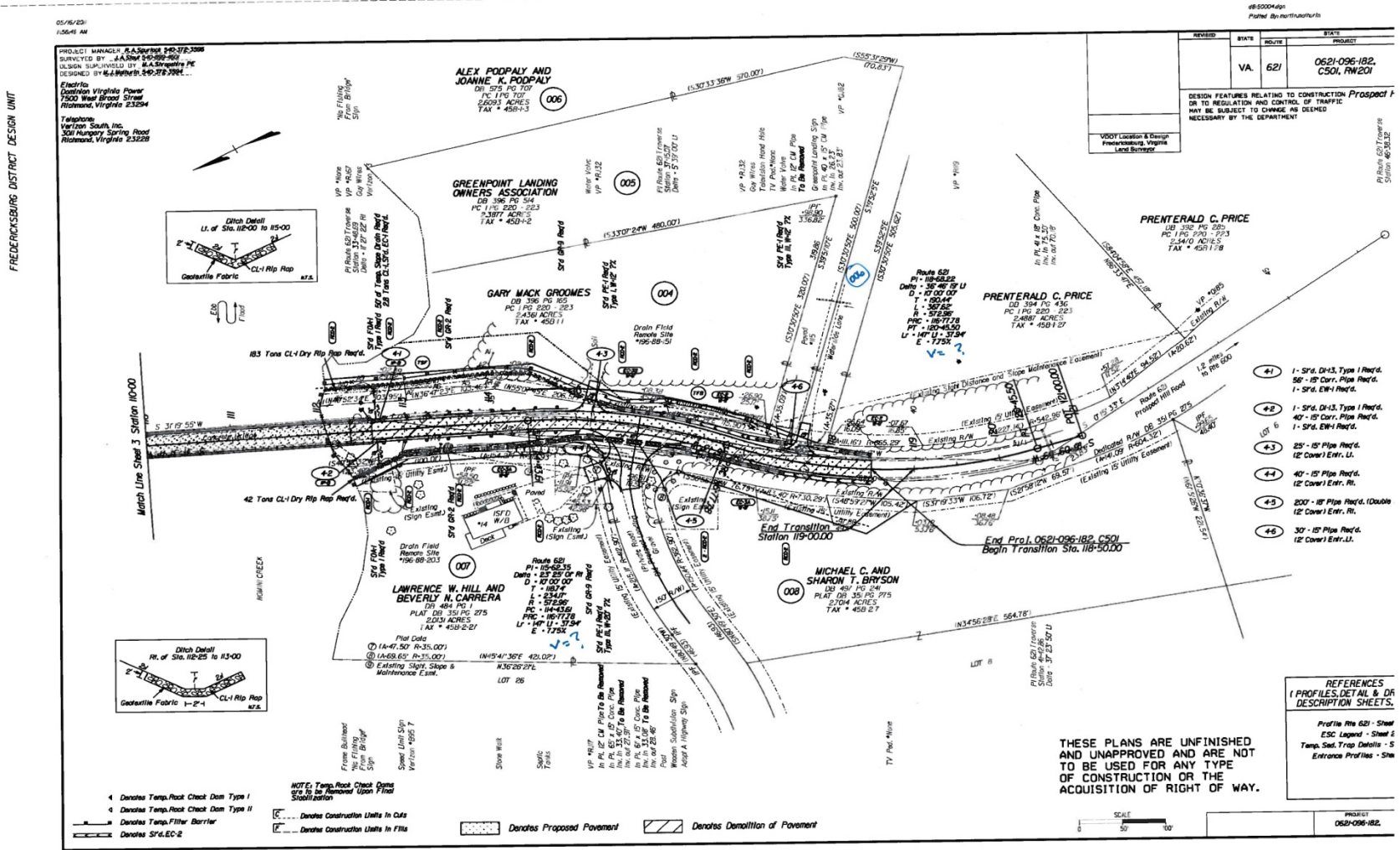
The type of entrance (I, II, III, IV) to be constructed will be determined by the existing condition of the line of construction.

PLAN NO.	PROJECT	FILE NO.
	0621-096-182	

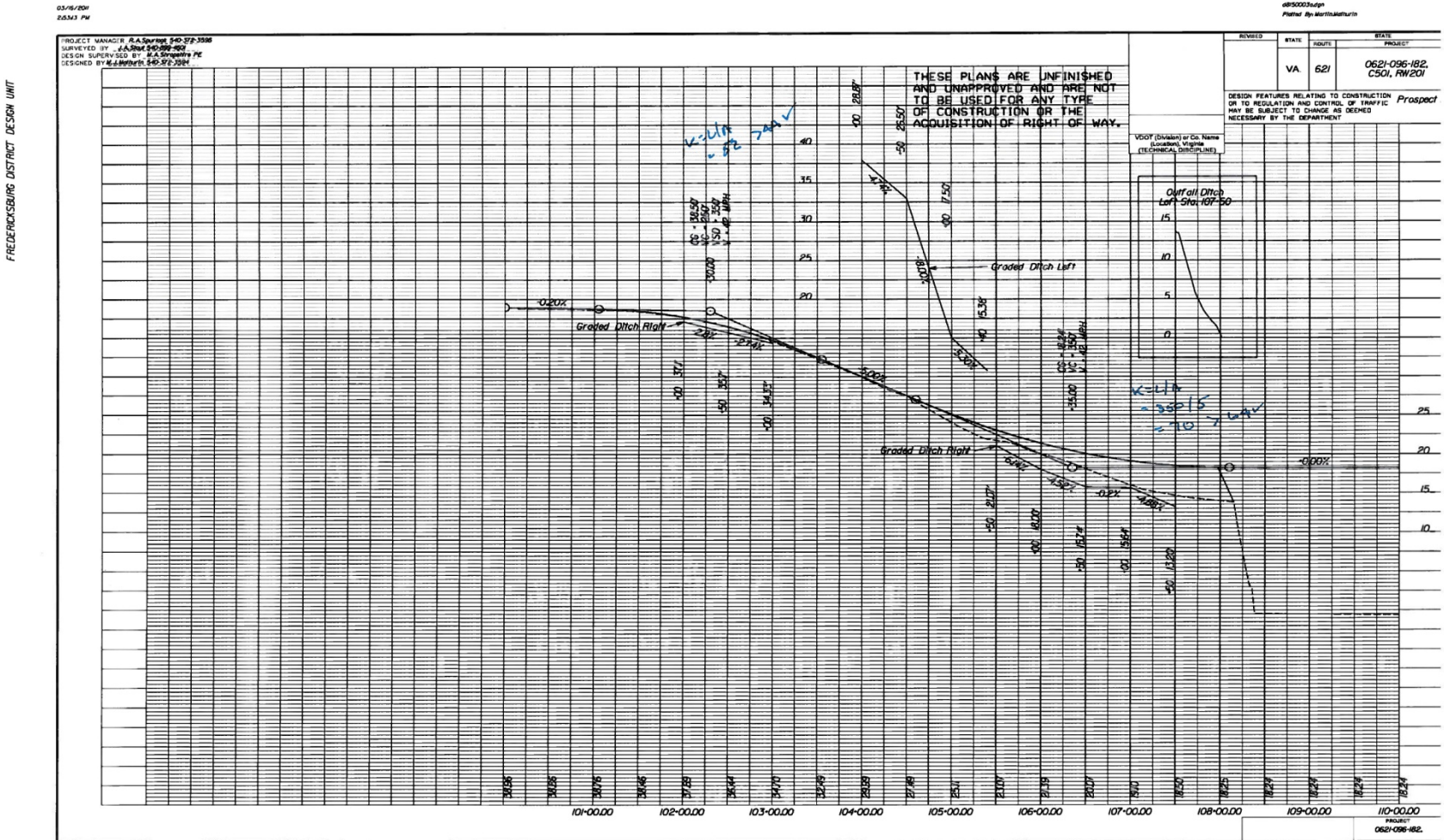
Tier 1 Exercise – Prelim. Design



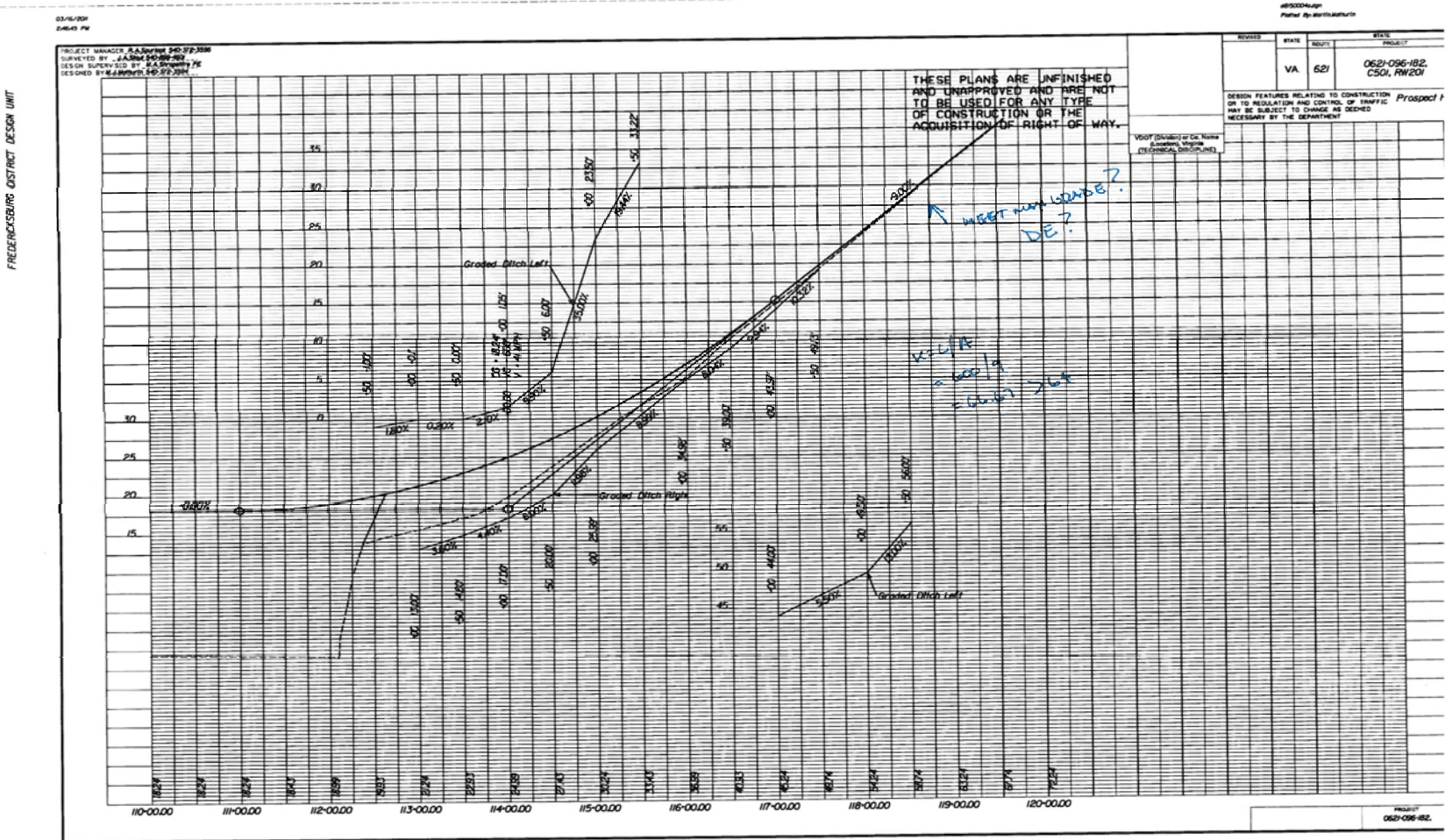
Tier 1 Exercise – Prelim. Design



Tier 1 Exercise – Prelim. Design



Tier 1 Exercise Prelim. Design



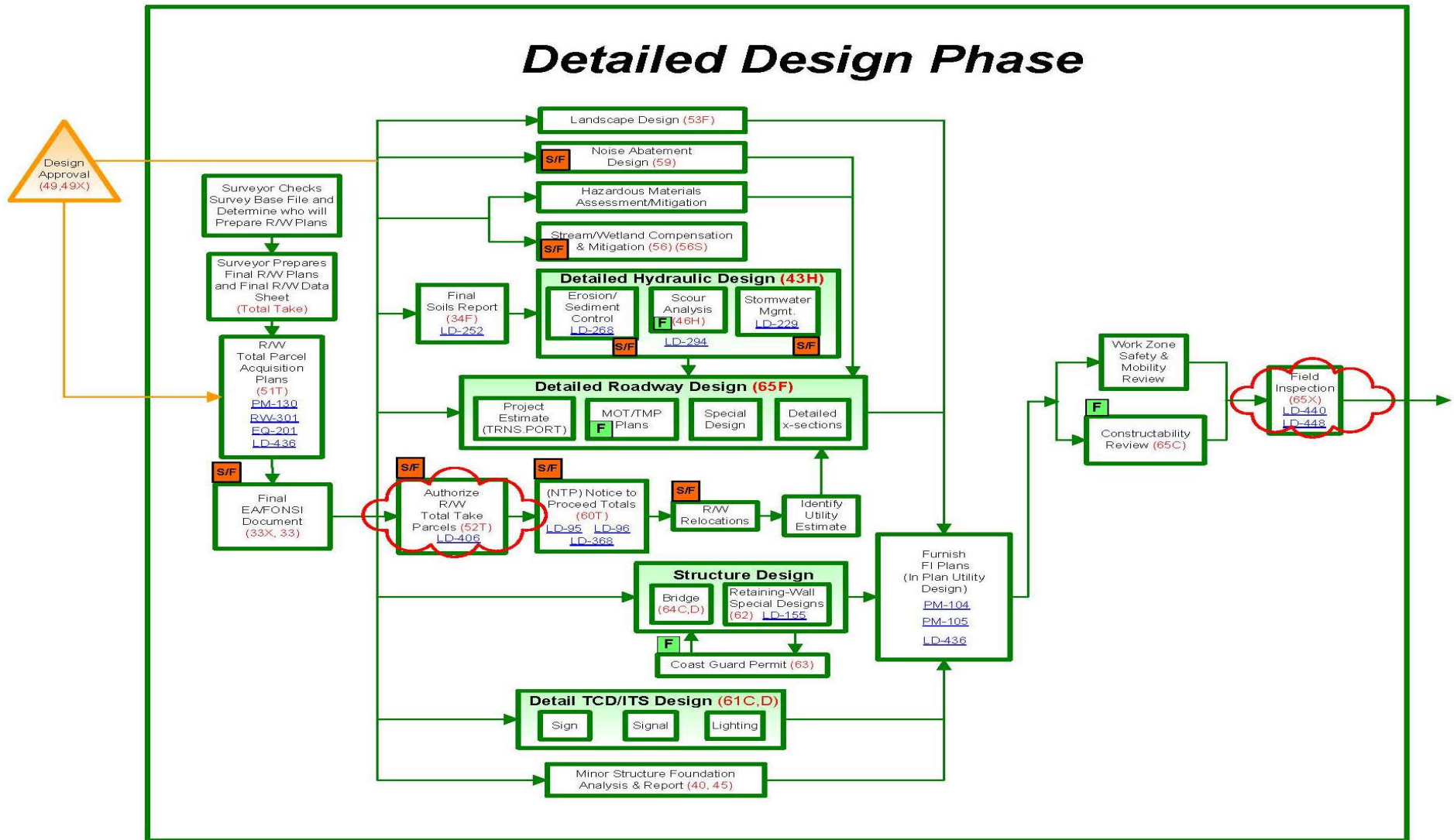
Tier 1 Exercise – Prelim. Design

- Held Public Hearing on this design.
- What could go wrong?

Tier 1 Exercise – Prelim. Design

- Landowners at each end objected to land taking.
- Landowners got politicians involved.
- Forced to redesign.

The PDP – Detailed Design Phase



The PDP – Detailed Design Phase

Final EA/FONSI (Finding of No Significant Impact)

23 CFR 771.119 &.121 – Include provisions for review of public hearing documents and recommendations of the applicant.

Final EIS/ROD (Record of Decision)

23 CFR 771.123 &.127 – Include provisions for review of public hearing documents and recommendations of the applicant.

Authorize Right-of-Way – Total Take Parcels

§ 25.1-417.9 – General Provisions of Conduct of Acquisition – “If the acquisition of only part of a property would leave its owner with an uneconomic remnant, the agency concerned shall offer to acquire the entire property.”

23 CFR 710.501/503 – Early Acquisition/Hardship Acquisition – allows for early acquisition if a hardship or a protective purchase. NEPA must be complete.

Detailed Design Regulations

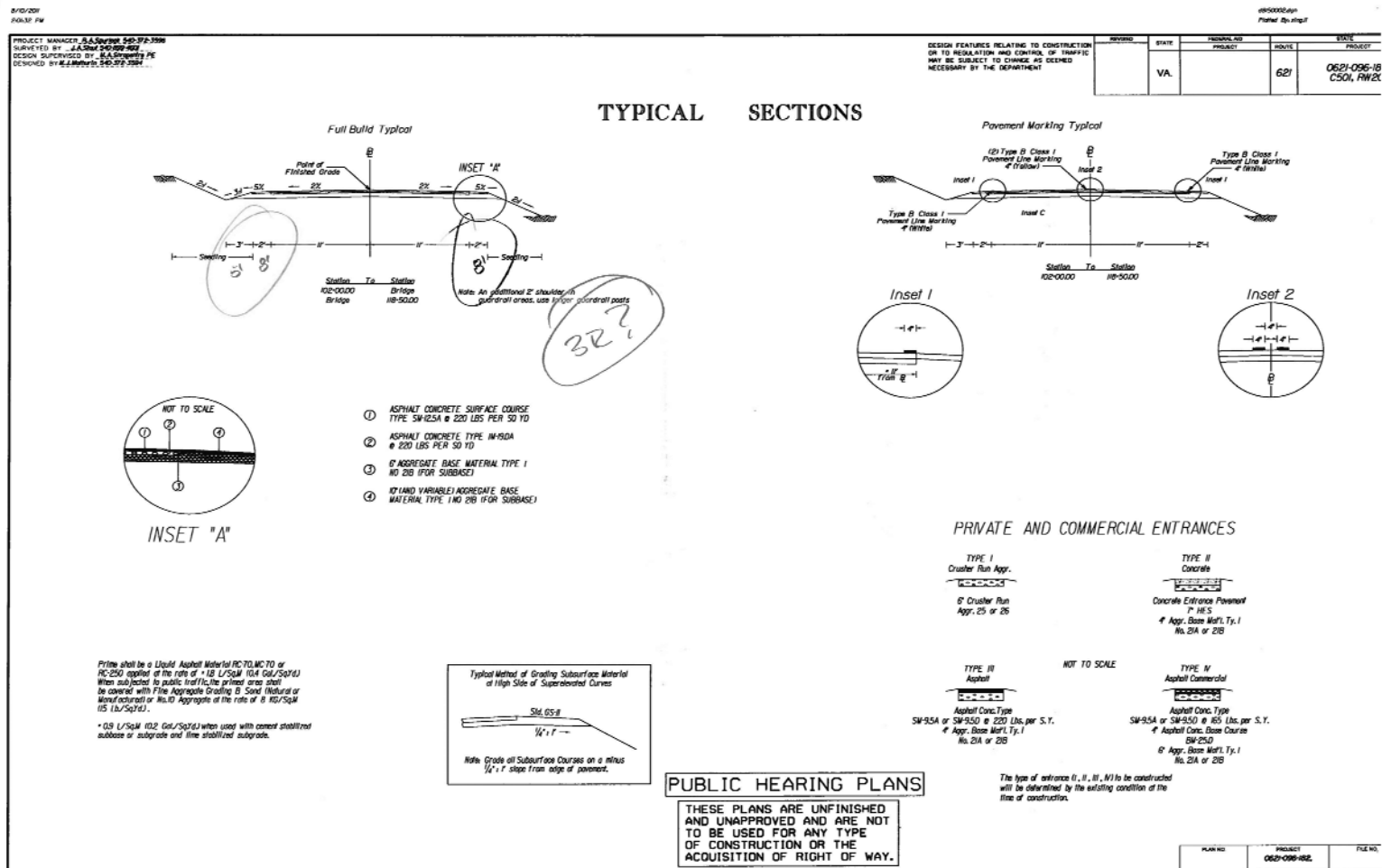
FEDERAL & STATE REQUIREMENTS			
Phase	Step in Process	Federal Requirement	State Requirement
Detailed Design	Final Environmental Document (Fonsi/Rod)	23 CFR 771	
	Authorize R/W Total Take Parcels	49 CFR 24.102 , 23 CFR 710 , 23 CFR 710.501/503	§ 33.2-1001 , §33.2-1004 , §33.2-1005 , §25.1-417 , §33.2-1704
	Notice to Proceed Totals	49 CFR 24-162	§33.2-1007
	R/W Relocations	49 CFR 24.201-208	24VAC 30-41
	Noise Abatement Design	23 CFR 772	§33.2-276 VDOT Policy
	Stream / Wetland Compensation & Mitigation	33 USC 1344	9 VAC 25-210 §33.2-247 §10.1-561 , §62.1-15.52
	Erosion & Sediment Control	23 CFR 650.203	§ 10.1-561 , §62.144.15.2 9VAC25-840
	Scour Analysis	23 CFR 650 subpart A	
	Stormwater Management	40 CFR 130.6 40 CFR 122.26	VDOT Policy , §15.2-2114 §62.144.15.25 9VAC25-870
	MOT/TMP Plans	23 CFR 630 Subpart J	
	Coast Guard Permit	33 CFR 115 23 CFR 650 Subpart H	

The PDP – Detailed Design Phase

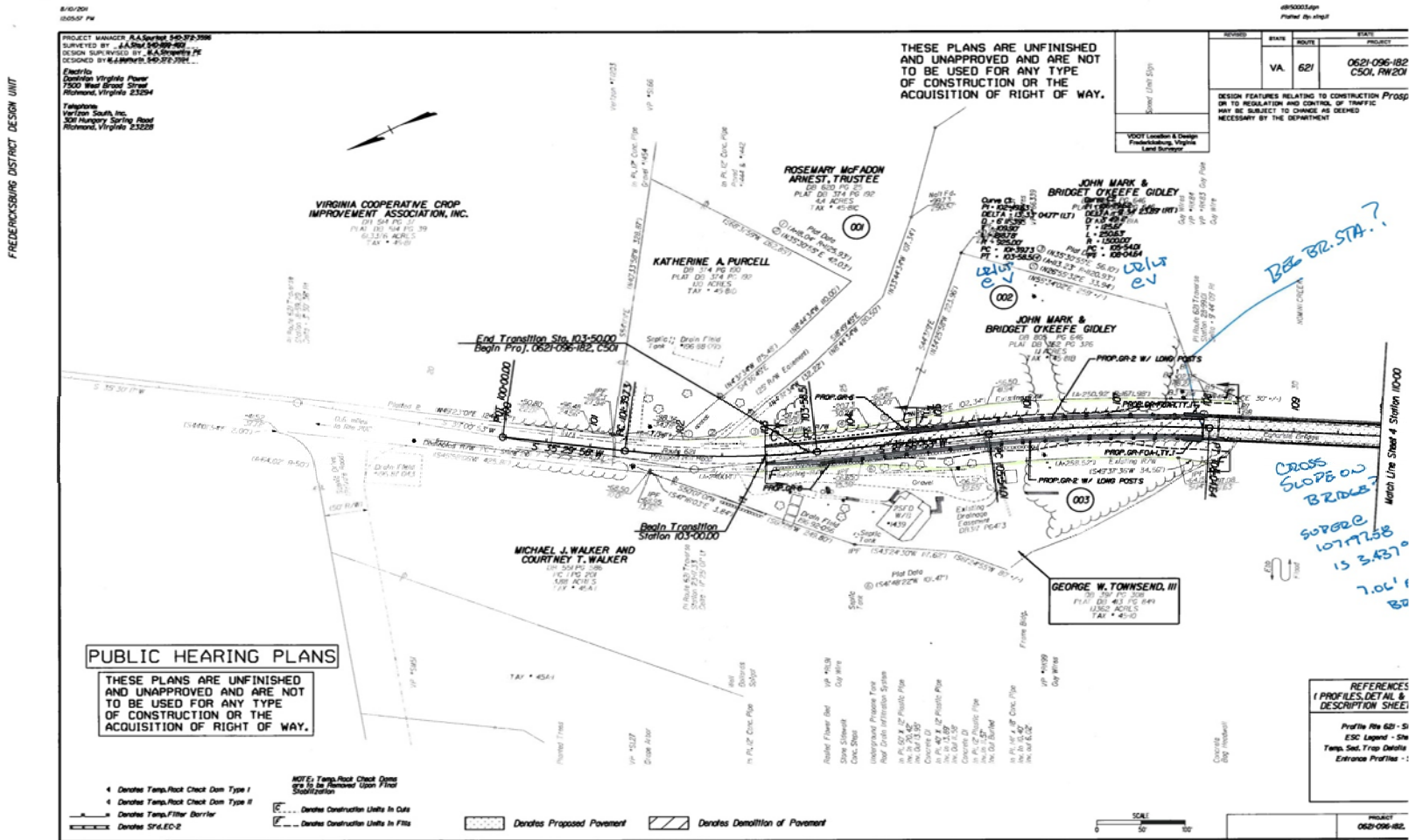


- Approval to acquire right-of-way is a fairly lengthy process, starting with public involvement, design approval, NEPA document approval, and state and federal acquisition authorization.
- Regulatory action includes, but is not limited to, acquisition of property, approval of NEPA document, establishing or changing a limited access freeway
- Phase ends with Field Inspection

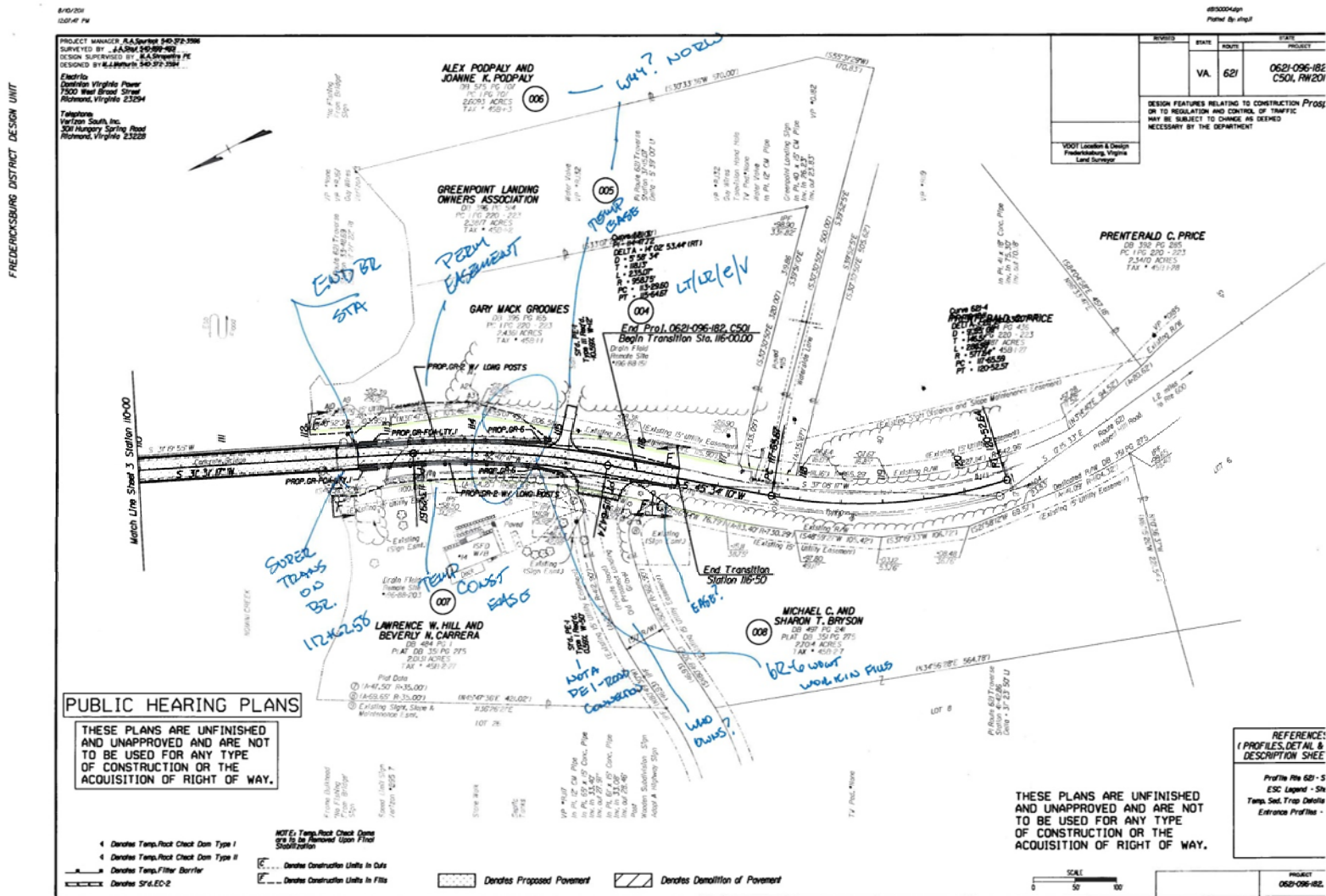
Tier 1 Exercise – Detailed Design



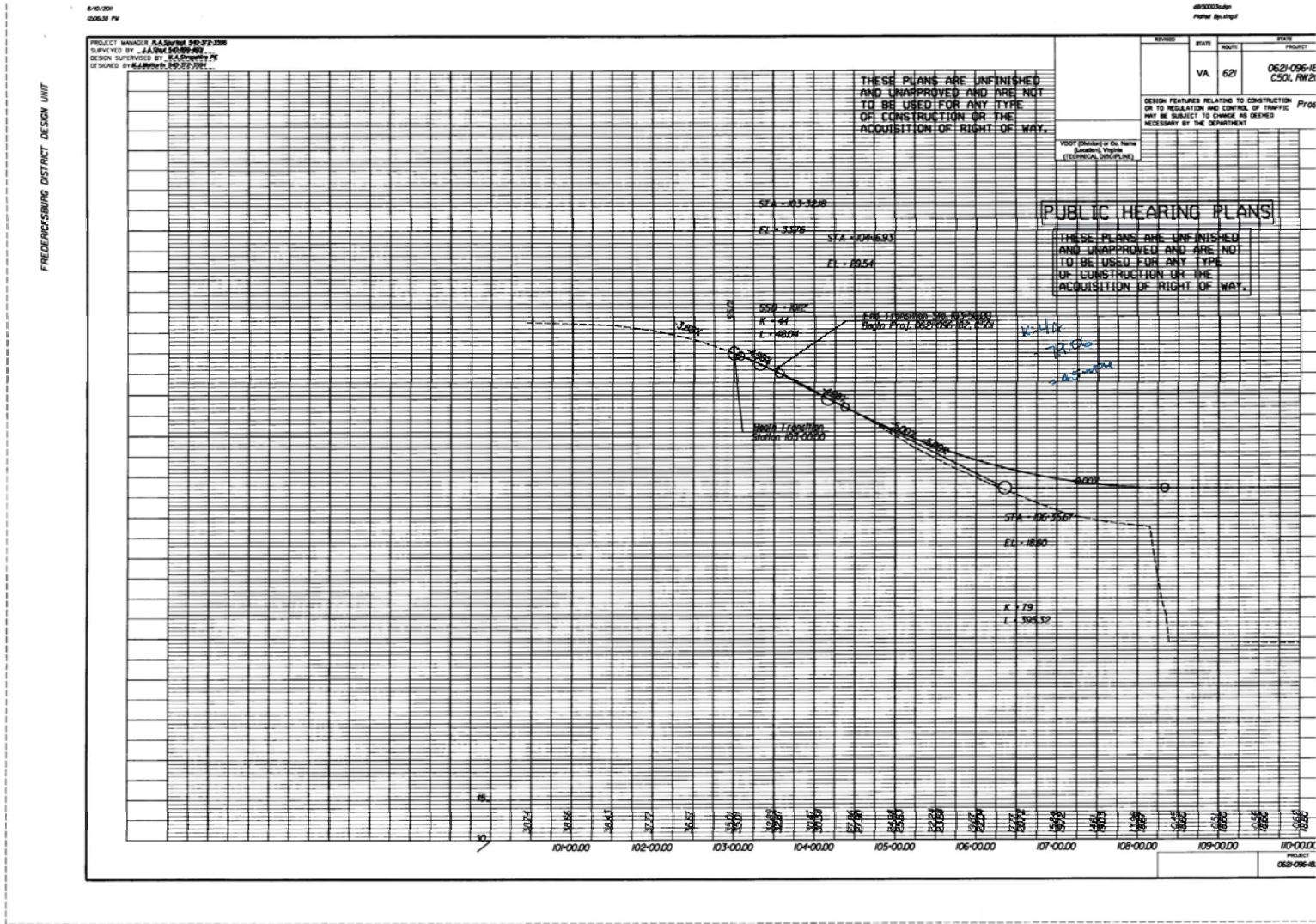
Tier 1 Exercise – Detailed Design



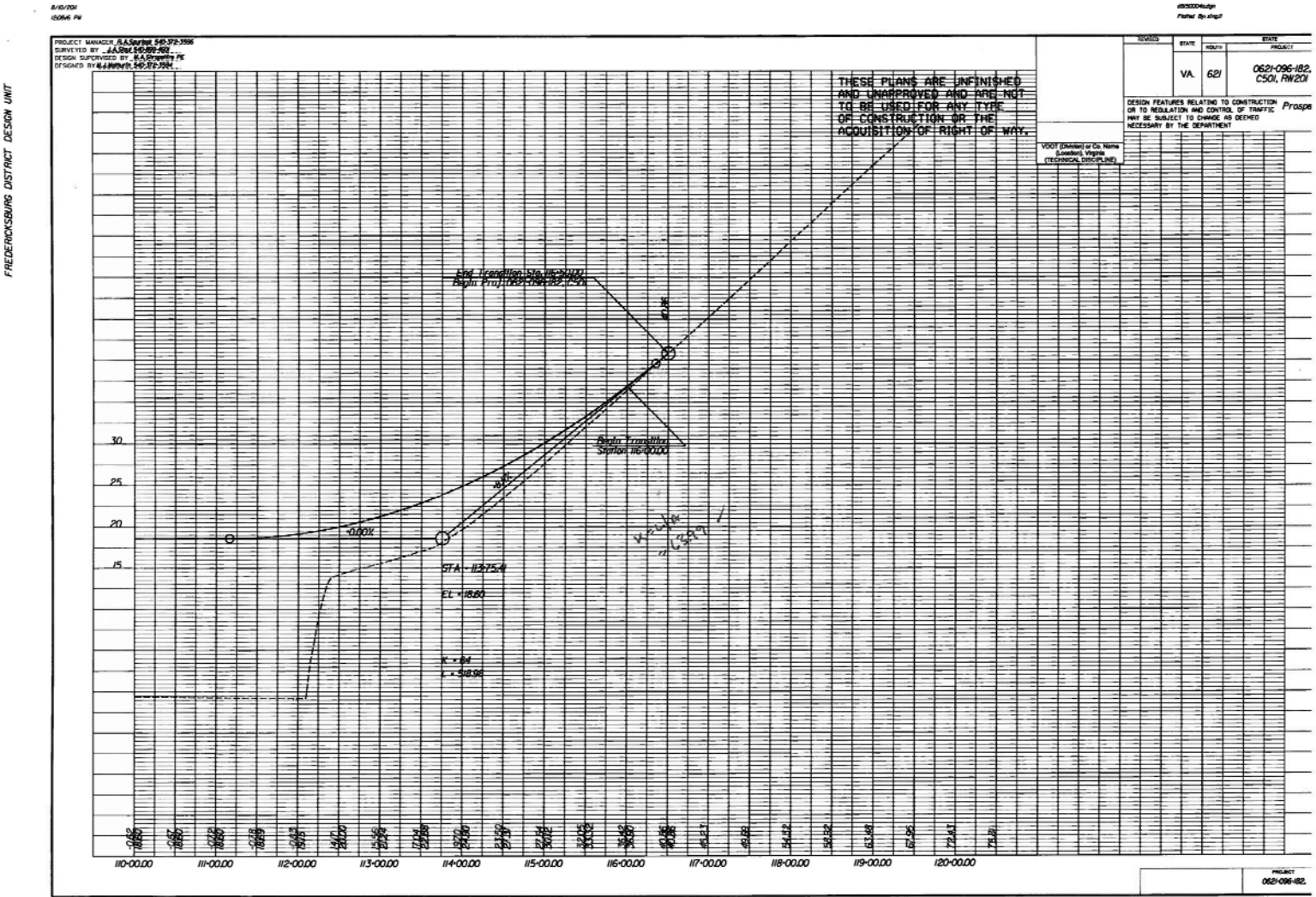
Tier 1 Exercise – Detailed Design



Tier 1 Exercise – Detailed Design



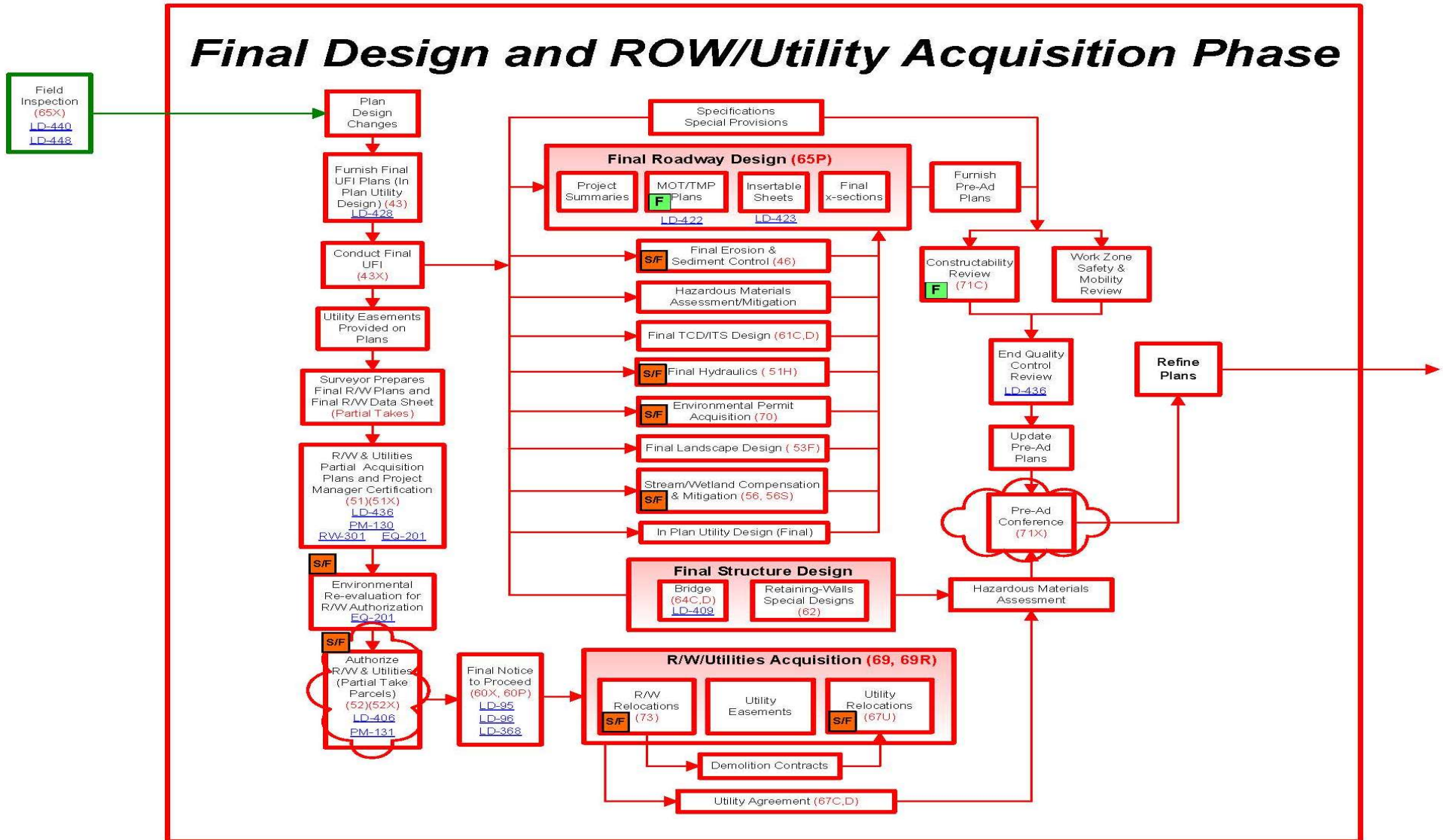
Tier 1 Exercise – Detailed Design



Tier 1 Exercise-Detailed Design

- Plans Ready for Right of Way Acquisition?
- Any foreseeable problems?

The PDP – Final Design & ROW Acquisition Phase



The PDP – Final Design & ROW Acquisition Phase

Right-of-Way Acquisition

23 CFR 710 – Right-of-Way and Real Estate

49 CFR 24 – Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally Assisted Programs

§ 25.1 and 33.2-1001 - Eminent Domain

§ 33.2-1704 – Condemnation of Property

§ 25.1-417 and 33.2-1004 & 1005– Acquisition of Property

The PDP – Final Design & ROW Acquisition Phase

Utility Agreements and Relocations

23 CFR 645 – Utilities – prescribes policies, procedures and reimbursement provisions for adjustment and relocation of utilities on federal aid projects

§ § 33.2-307, 308, 330 – Relocation or removal of utility facilities within projects on Interstate System; Relocation or removal of utility facilities within projects on Interstate System; additional provisions; Relocation or removal of utility facilities within projects on Secondary System;

The PDP – Final Design & ROW Acquisition Phase

Stormwater Management and Erosion and Sediment Control

§ 62.1-44.15:24 - State Water Control Board (SWCB) shall permit, regulate, and control stormwater runoff in the Commonwealth.

§ 62.1-44.15:52 - SWCB shall develop regulations for the effective control of soil erosion, sediment deposition, and nonagricultural runoff that shall be met to prevent the unreasonable degradation of properties, stream channels, waters, and other natural resources

9 VAC 25-870-10 - Virginia Stormwater Management Program (VSMP) regulations

9 VAC 25-850 - Erosion and Sediment Control and Stormwater Management Certification regulations

The PDP –Final Design & ROW Acquisition Phase

FEDERAL & STATE REQUIREMENTS			
Phase	Step in Process	Federal Requirement	State Requirement
Final Design and ROW Acquisition	Environmental Re-evaluation for R/W Authorization	23 CFR 771	
	Authorize R/W & Utilities (Partial Take Parcels)	23 CFR 710 23 CFR 645	§33.2-100.5
	MOT/TMP Plans	23 CFR 630 Subpart J	
	Final Erosion & Sediment Control	23 CFR 650.207-211	9VAC25-840 § 62.1-44, 15:52
	Final Hydraulics	23 CFR 650.115	
	Environmental Permit Acquisition	33 USC 1344 33 US C 401, Section 26A of The TVA Act	§ 32.2-258 § 62.1-44, 15:6 4 VAC 20-333-10 et seq, 9 VAC 25-210, 9VAC25-680
	Stream/Wetland Compensation & Mitigation	23 CFR 777 16 USC 13.01	9VAC25-210-45
	R/W Relocations	49 CFR 24 Subpart B	§ 25.1-400-417
	Utility Relocations	23 CFR 645	§ 33.2-307-308, 330

The PDP – Final Design & ROW Acquisition Phase



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- Regulatory action includes, but is not limited to, acquisition of property, approval of NEPA document, establishing or changing a limited access freeway

The PDP – Final Design & ROW Acquisition Phase



- There are significant rules and requirements when dealing with public and franchise utility relocations. *VDOT's Right of Way and Utilities Manual, Vol. 2* is an excellent source for relocation requirements.
- Phase ends with the Pre-Advertisement Conference.

Tier 1 Exercise-Final Design

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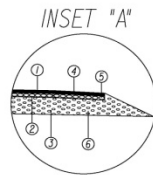
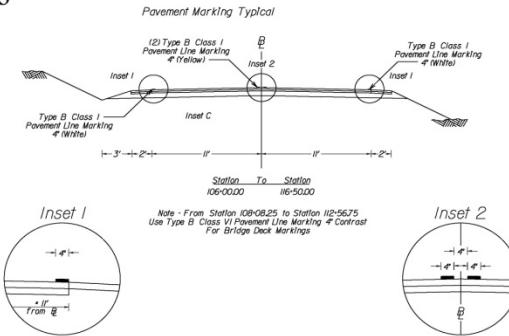
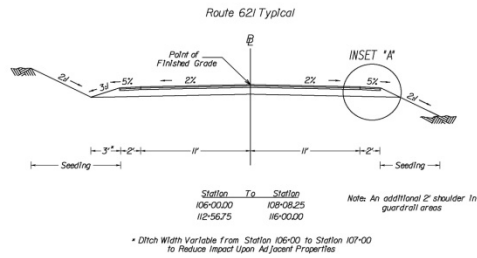
PROJECT MANAGER: R.A. Sparrow 540-654-2373
SURVEYED BY: J.C. Gonyea 540-899-4464
DESIGN SUPERVISED BY: J.C. Williams PE
DESIGNED BY: M.J. Williams 540-372-3584

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

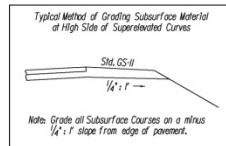
REVISED	STATE	FEDERAL AID	ROUTE	STATE PROJECT	SHEET NO.
	VA.		621	0621-096-1B2, C501, RW201	2A

FREDERICKSBURG DISTRICT DESIGN UNIT

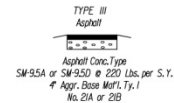
TYPICAL SECTIONS



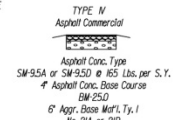
- ① ASPHALT CONCRETE SURFACE COURSE TYPE SM-12.5A @ 220 LBS PER SQ YD
- ② ASPHALT CONCRETE TYPE IM-19DA @ 220 LBS PER SQ YD
- ③ 6" AGGREGATE BASE MATERIAL TYPE I NO 21B (FOR SUBBASE)
- ④ ASPHALT CONCRETE SURFACE COURSE TYPE SM-12.5A @ 220 LBS PER SQ YD
- ⑤ ASPHALT CONCRETE TYPE IM-19DA @ 220 LBS PER SQ YD
- ⑥ 6" (AND VARIABLE) AGGREGATE BASE MATERIAL TYPE I NO 21B (FOR SUBBASE)



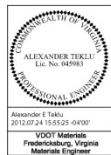
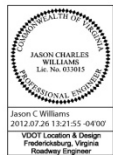
PRIVATE AND COMMERCIAL ENTRANCES



NOT TO SCALE

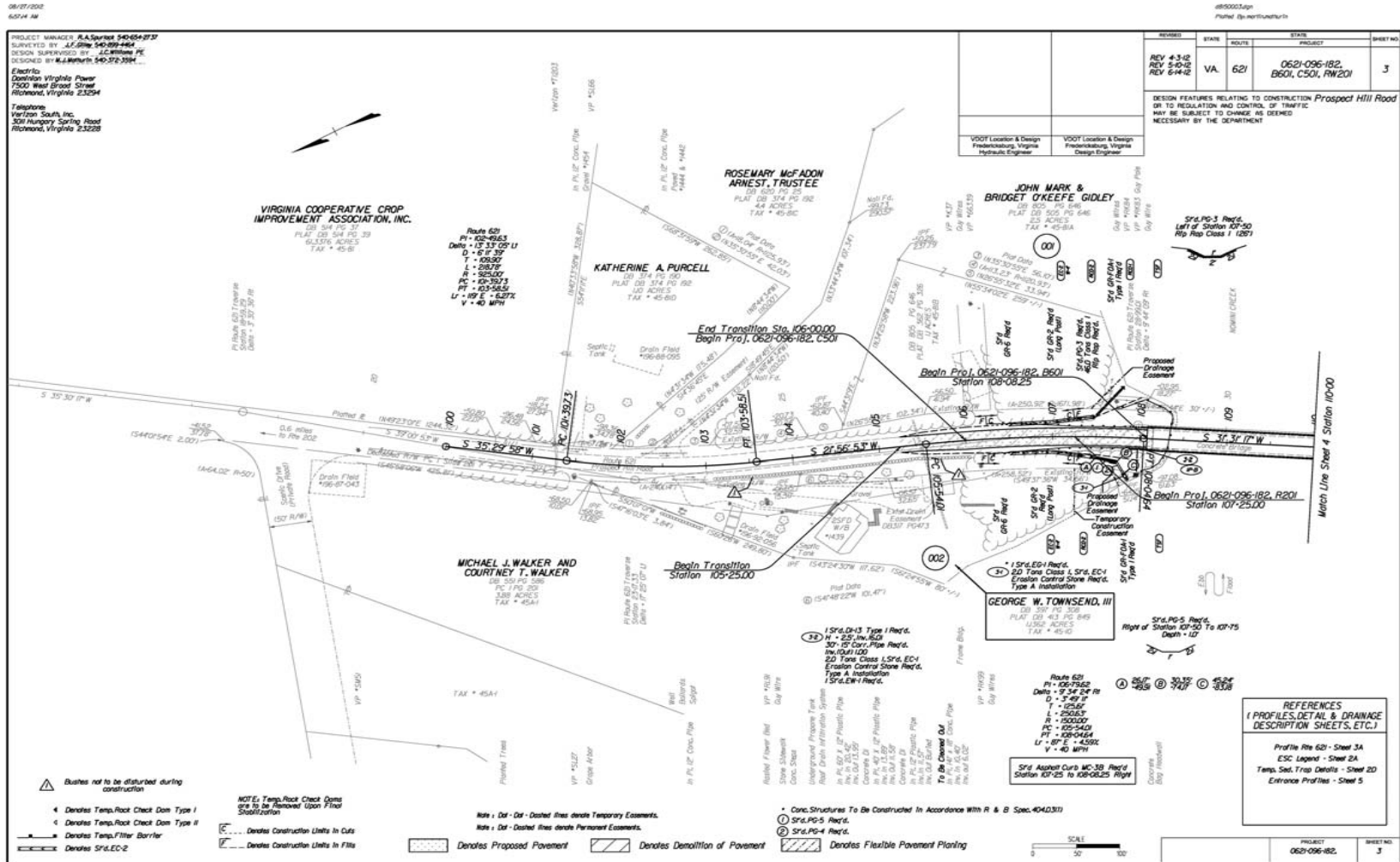


The type of entrance (I, II, III, IV) to be constructed will be determined by the existing condition of the time of construction.



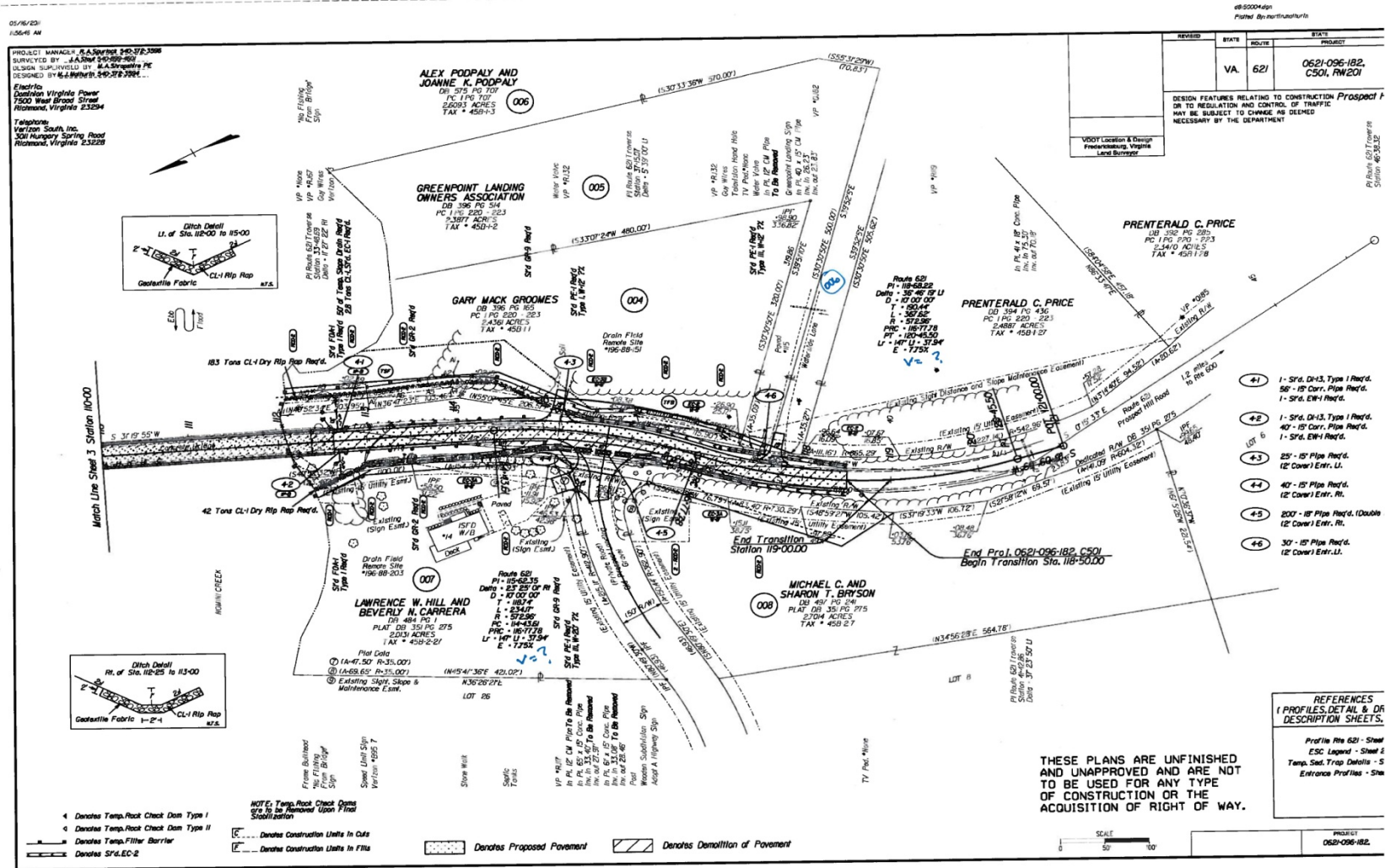
PLAN NO.	PROJECT	FILE NO.	SHEET NO.
	0621-096-1B2		2A

Tier 1 Exercise-Final Design



Tier 1 Exercise-Final Design

FREDERICKSBURG DISTRICT DESIGN UNIT



Tier 1 Exercise-Final Design

07/15/2012
2:00:50 PM

0650003.sdg
Plotted: 06/28/2012 10:11:11 AM

PROJECT MANAGER: **B.A. Spivack** 540-554-2737
 SURVEYED BY: **J.C. Stone** 540-554-4947
 DESIGN SUPERVISED BY: **J.C. Williams** PE
 DESIGNED BY: **M.J. Whelan** 540-572-3594

Elevations Based on NAVD 88 Datum

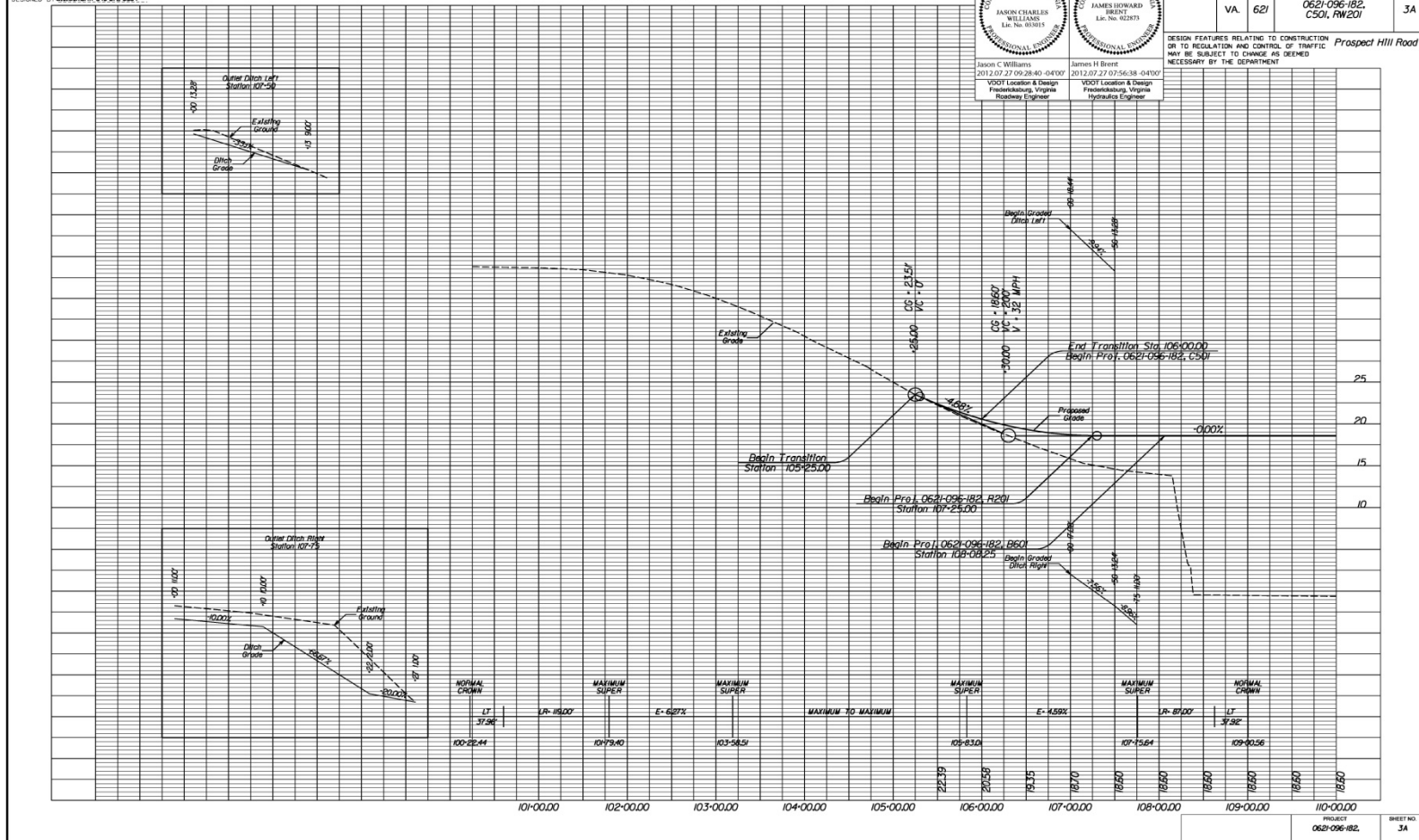
<p>JASON CHARLES WILLIAMS Lic. No. 613815 PROFESSIONAL ENGINEER</p>	<p>JAMES HOWARD BRENT Lic. No. 623873 PROFESSIONAL ENGINEER</p>
<p>Jason C Williams 2012.07.27 09:28:40 -04'00' "000" Location: E Design Fredericksburg, Virginia Roadway Engineer</p>	<p>James H Brent 2012.07.27 07:56:38 -04'00' "000" Location: E Design Fredericksburg, Virginia Hydraulics Engineer</p>

REVISED	STATE	ROUTE	STATE	PROJECT	SHEET NO.
	VA	621		0621-096-1B2, CS01, RW201	3A

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Prospect Hill Road

FREDERICKSBURG DISTRICT DESIGN UNIT



Tier 1 Exercise-Final Design

FREDERICKSBURG DISTRICT DESIGN UNIT

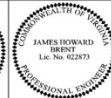
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PROJECT MANAGER: B.A. Spurr
SURVEYED BY: J.F. Gilling
DESIGN SUPERVISED BY: J.C. Williams
DESIGNED BY: M.L. Durkin



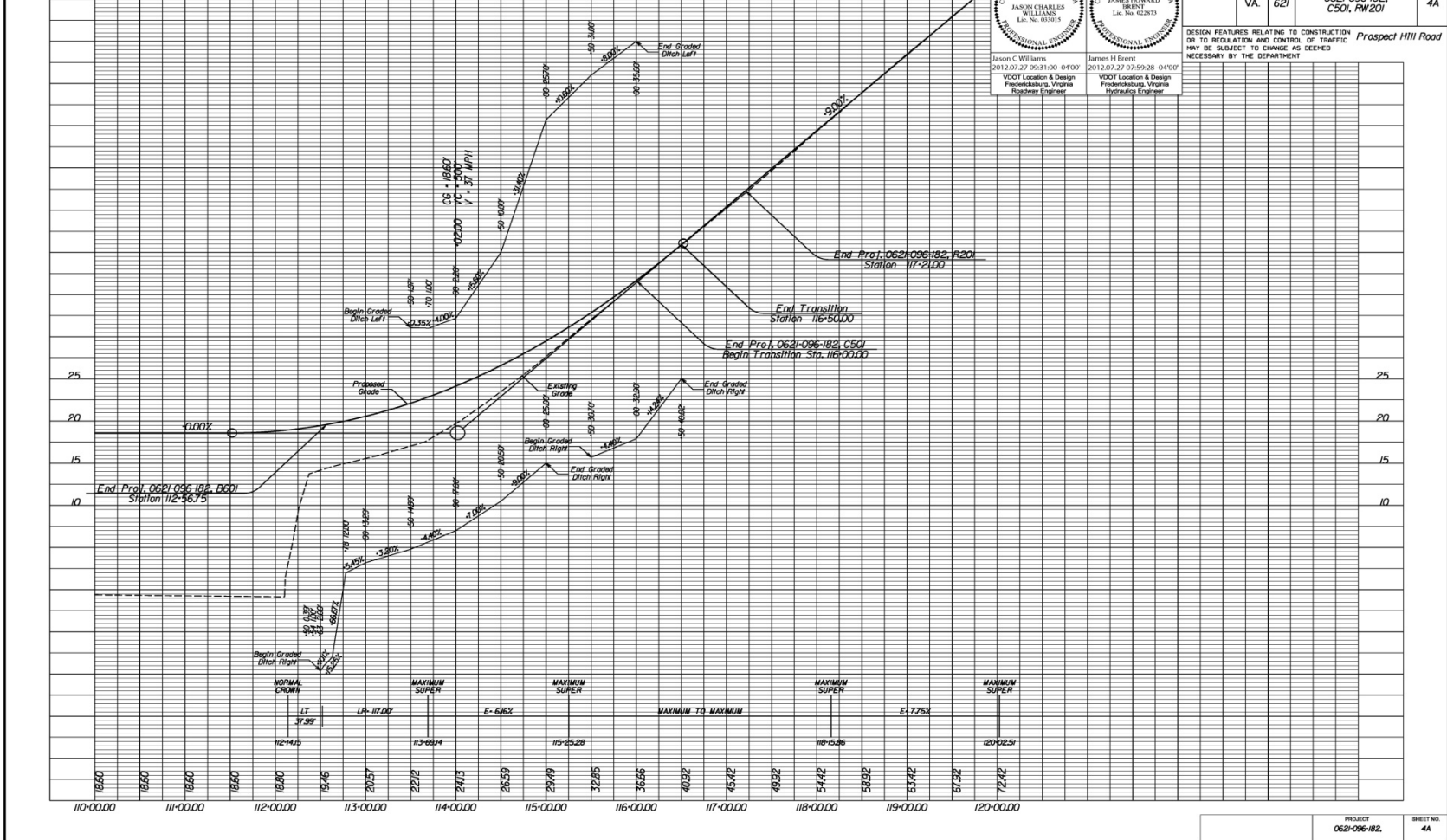
Jason C Williams
2012.07.27 09:31:00 - 04:00
VDOT Location & Design
Fredericksburg, Virginia
Roadway Engineer



James H Brent
2012.07.27 07:59:28 - 04:00
VDOT Location & Design
Fredericksburg, Virginia
Hydraulic Engineer

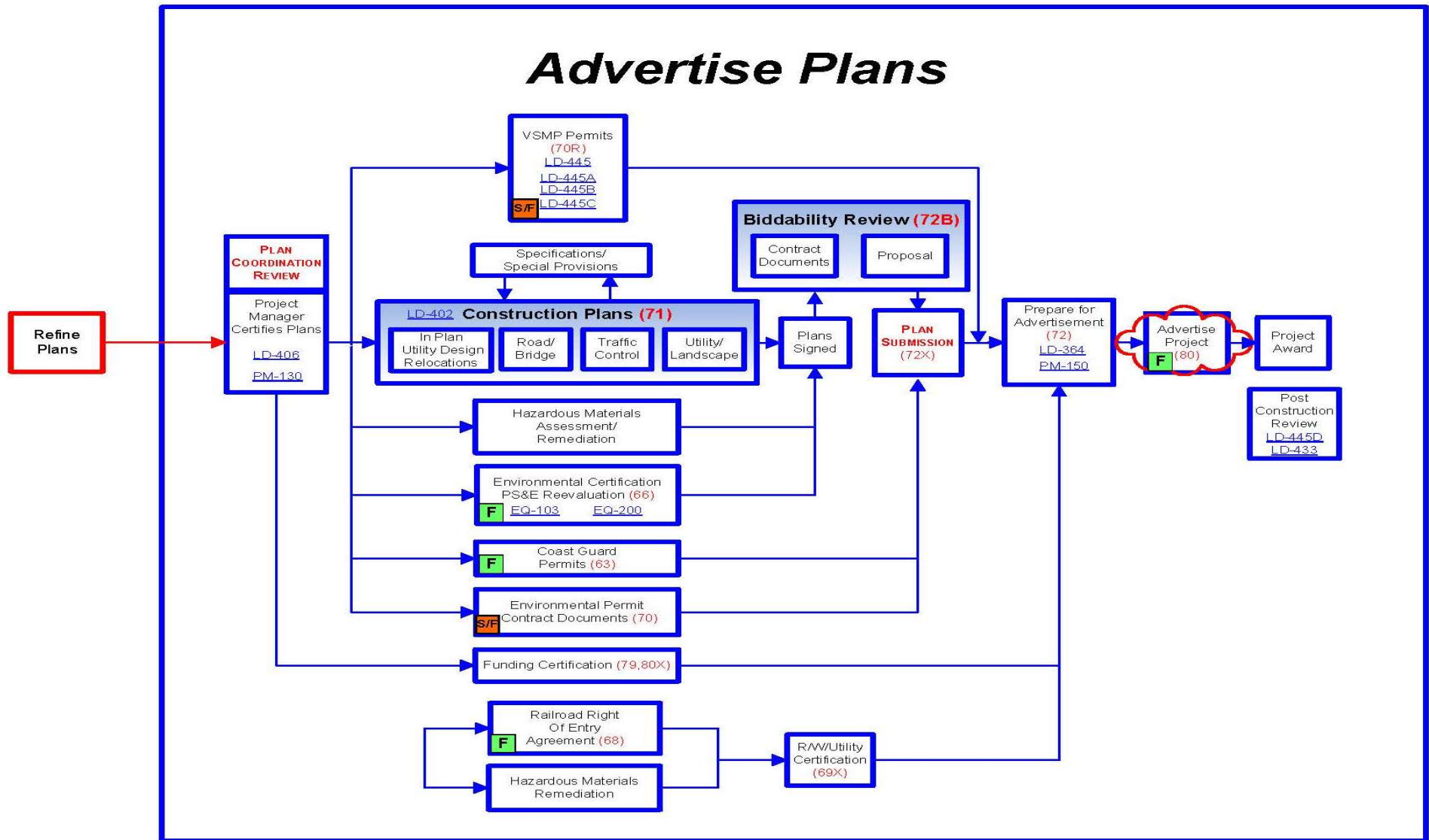
REVISED	STATE	ROUTE	STATE	PROJECT	SHEET NO.
	VA	621		0621-096-1B2, C501, RW201	4A

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT



PROJECT: 0621-096-1B2
SHEET NO.: 4A

The PDP – Advertisement Phase



The PDP – Advertisement Phase

Environmental PS&E Re-Evaluation

23 CFR 771.129(c) – After approval of the EIS, FONSI, or CE designation, the applicant shall consult with the Administration prior to requesting any major approvals or grants to establish whether or not the approved environmental document or CE designation remains valid for the requested Administration action. These consultations will be documented when determined necessary by the Administration.

Prepare for Advertisement

23 CFR 630 – Preconstruction Procedures – Subpart B – Plans, Specifications, and Estimates (PS&E) – Requires that the PS&E assembly be submitted to FHWA for their review on federal aid projects.

Advertisement for Bids

23 CFR 635 – Advertising for Bids and Proposals

§ 32.2-235 - Advertisement for Bids

Advertisement Regulations

FEDERAL & STATE REQUIREMENTS			
Phase	Step in Process	Federal Requirement	State Requirement
Advertise Plans	VPDES (Old VSMP) Permits Construction		§10.1-603.2:1 §62.1-44.15:25 9VAC25-870
	Environmental Certification/PS&E Reevaluation	23 CFR 771	
	Coast Guard Permits	23 CFR 650 Subpart H 33 CFR 115	
	Railroad Right of Entry Agreement	23 CFR 646	
	Advertise Project	23 CFR 635	§32.2 -235

The PDP – Advertisement Phase



- **NEPA does not stop after the public hearing. Assurance of compliance with all previously attained approvals is a must to reach construction approval.**
- **FHWA reviews all PS&E's on federal oversight projects. They have been treating all ARRA funded projects as federal oversight as well.**
- **Virginia Stormwater Management Program (VSMP) permits must be acquired for all projects with 1 acre (2500 Sq. Ft. in Chesapeake Bay locales) of disturbed area**
- **Phase ends with Advertisement**

The PDP - Challenges

- **Global economic and fiscal uncertainty**
- **Legislative and programmatic changes**
- **Expanding federal and state regulations**
- **Increasing project complexity and/or difficult and challenging project contexts**
- **Dynamic environment with fluid priorities**
- **Projects competing for limited resources**
- **Public Interest / External Stakeholder involvement**
- **Federal Obligation strategies**

The PDP - Opportunities

- **Utilize project management methodology and techniques to increase predictability and control and improve project team effectiveness**
- **Streamlined and/or tailored project development processes**
- **Strengthen stakeholder partnership (involvement and communication)**
- **Increase stakeholder and customer satisfaction**
- **Agility, creativity, and innovation driven solutions that employ flexible designs (Common Sense Engineering)**

The PDP – Risk Management

- Required by May 2014 CTB Resolution
- Identify, analyze and respond to project risks
- Applicable to all Tier II and other projects deemed high risk by the Commissioner
- Deeply interwoven into the PDP
- Controlled by policies, procedures and statutory requirements

The PDP – Risk Management

Examples of Risks

- Environmental Approvals
- Geotechnical Conditions
- Right of Way/Utility Issues
- Permit Acquisition
- Third Parties (Localities, Railroads, Elected Officials, Citizen Support/Opposition)
- Funding

The PDP – Risk Management

Process

At each stage of the PDP:

- Identify potential risks
- Assess impact on Scope, Schedule and Budget
- Assess probability of occurrence
- Develop risk matrix

The PDP – Risk Management

Overall Risk Rating

Impact of occurrence	3 High	3	6	9
	2 Medium	2	4	6
	1 Low	1	2	3
	P X I	1 Low	2 Medium	3 High
		Probability of Occurrence		

The PDP – Risk Management

Risk Response Development (only 4 options)

- Accept the Risk
- Mitigate the Risk (apply controls that reduce the impact or probability)
- Transfer the Risk (to another entity)
- Avoid the risk (try another way)
- Complete Risk Analysis Matrix and gain approval from District Management and Chief Engineer
- High Risk items must be presented to the CTB

The PDP – Interactive Discussion

- **Issues hindering full implementation of PDP**
 - **Cultural / Corporate**
 - **Financial**
 - **Professional**
 - **Personal / Individual**

The PDP – Interactive Discussion

- **Potential Implementation Techniques**
 - **Contact Points / Communication Points**
 - **Critical Information Exchanges (What is it? Why do I need to know it? How do I need to use it to further develop the project? Who do I need to share it with?)**
 - **Decision Points / Outcomes**
 - **PDP Phase Coordination**

Project Development Process (PDP) – An Overview

Richard Worssam, P.E.

Assistant State Location & Design
Engineer



TPMI 2016