Project Cost Estimating System
RIGHT-OF-WAY ESTIMATE

Project & PPMS Numbers :

VDOT Construction District :

Select Project Area Real Estate Costs : Average

Define Project Land Use Characteristics :

Agricultural :	50%
Residential :	40%
Industrial :	0%
Commercial :	10%
	100%

Instructions: Please fill-in all applicable White Boxes or make a choice from the Drop-down Lists

Enter the Approximate Number of Parcels on the Project : <<

Select *Computed* or User Defined Costs : ***Computed Costs***

1. LAND VALUE

Prop. Right-of-Way

Total Right-of-Way Project Length (ML + Connections)	15,840	ft	*Computed RW Cost per sq ft =*	***$0.57***
Average width of Existing RW	160	ft	Enter Right-of-Way Estimator's Right-of-Way Cost per sq ft :	
Average width of Proposed RW	240	ft		
Total area of all additional Prop. Right-of-Way	661,198	sf	1,928,398 sq ft = 44.270 Ac.	
Approx. % of Prop. CL within	40	ft	of Exist. CL	100%
Approx. % of Prop. CL between	40	ft	& 200 ft of Exist. CL	0%
Approx. % of Prop. CL greater than	200	ft	from Exist. CL	0%

Temp. Ease.

Average Width of parallel Temporary Easements Left	20	ft	*Comp. Temp. Ease. Cost / sq ft =*	***$0.14***
Total Length of parallel Temporary Easements Left	15,840	ft	Enter Right-of-Way Estimator's Temp. Ease. Cost per sq ft :	
Average Width of parallel Temporary Easements Right	20	ft		
Total Length of parallel Temporary Easements Right	15,840	ft	633,600 sq ft = 14.545 Ac.	

Perm. Util. Ease.

This Box Must Be Empty >	792,000	sf	*Comp. Utility Ease. Cost / sq ft =*	***$0.00***
This Box Must Be Empty >			RW Est's. Utility Ease. Cost per sq ft :	**$0.22**
			792,000 sq ft = 18.182 Ac.	
This Box Must Be Empty >	0	ea	*Comp. Perm. Ease. Cost / sq ft =*	***$0.46***
			RW Est's. Perm. Ease. Cost per sq ft :	
Total area of All Permanent Easements	792,000	sf	792,000 sq ft = 18.182 Ac.	

COST OF LAND (Item # 1) $1,725,800 (Computed Costs)

2. BUILDING VALUE

Based upon comparison to similar, occupied **Residential Dwellings in the Project Area**, enter the Number of:

		Computed:
A. Low Cost Residential Dwellings :		*$0*
B. Moderately Low Cost Dwellings :		*$0*
C. Average Cost Residential Dwellings :	6	*$675,000*
D. Moderately High Cost Dwellings :		*$0*
E. High Cost Residential Dwellings :		*$0*
Computed Total Residential Dwelling Costs :		***$675,000***
Estimator's Total Residential Dwelling Costs :		**$675,000**

Enter the total estimated cost of ALL **COMMERCIAL & INDUSTRIAL BUILDINGS** to be taken:

Note: No Computed Costs Available. Use User Defined Costs Below:

Estimator's Total Commercial / Industrial Buildings Costs : $1,080,000 <<

3. OTHER IMPROVEMENTS

Enter the estimated cost of ALL **OTHER IMPROVEMENTS** on the Project:

Computed Total Other Improvements Costs :	***$314,300***
Estimator's Total Other Improvements Costs :	**$314,300**

4. DAMAGES

Anticipated % of Parcels Affected by Damages to Remainder :	50%
Anticipated Relative Cost Impact of Damages to Remainder :	Moderate
Approximate Number of Parcels Affected :	0
Computed Cost of Damages to Remainder :	***$0***
Estimator's Total Cost of Damages to Remainder :	**$117,000**

TOTAL ACQUISITIONS (Items # 1 - 4) $3,795,100 (Computed Costs)

5. ADMINISTRATIVE SETTLEMENTS

Anticipated % of Parcels Affected by Administrative Settlements :	100%
Anticipated Relative Cost Impact of Administrative Settlements :	Moderate
Approximate Number of Parcels Affected :	0
Computed Cost of Administrative Settlements :	*$0*
Estimator's Total Cost of Administrative Settlements :	$251,850

6. CONDEMNATION INCREASES

Anticipated % of Parcels Affected by Condemnation Increases :	30%
Anticipated Relative Cost Impact of Condemnation Increases :	Moderate
Approximate Number of Parcels Affected :	0
Computed Cost of Condemnation Increases :	*$0*
Estimator's Total Cost of Condemnation Increases :	$141,750

7. ADMINISTRATIVE COSTS & INCIDENTAL EXPENSES

Anticipated Relative Cost Impact of Admin. Costs & Incidental Expenses :	Moderate
Computed Administrative Costs & Incidental Expenses :	*$0*
Estimator's Total Administrative Costs & Incidental Expenses :	$39,675

8. DEMOLITION CONTRACTS

Anticipated Relative Cost Impact of Demolition Contracts :	Moderate
Computed Costs of Demolition Contracts :	*$87,750*
Estimator's Total Cost of Demolition Contracts :	$87,750

9. HAZARDOUS MATERIALS REMOVAL

Anticipated Number of Demolished Buildings Requiring Asbestos Removal :	
Anticipated Relative Cost of Asbestos Removal from Demolished Buildings :	
Anticipated Number of Other Hazardous Materials Removal Sites :	3
Anticipated Relative Cost Impact of Other Hazardous Materials Removal :	Moderate
Computed Cost of Hazardous Materials Removal :	*$270,000*
Estimator's Total Costs of Hazardous Materials Removal :	$270,000

10. PROPERTY MANAGEMENT

Anticipated Relative Cost Impact of Property Management :	
Computed Costs of Property Management :	*$0*
Estimator's Total Cost of Property Management :	

TOTAL OTHER ITEMS (Items # 5 - 10) $357,800 (Computed Costs)

11. RELOCATION ASSISTANCE

Residential Relocation Costs:

Anticipated Relative Cost Impact of Residential Relocation Expenses :	Moderate
Computed Residential Relocation Costs :	*$167,000*
Estimator's Total Residential Relocation Costs :	$167,000

Commercial Relocation Costs:

Note: No Computed Costs Available. Use User Defined Costs Below:	
Estimator's Total Comm/Indust Relocation Costs :	$0

Total Displacements:	6	Farms:	2
Families:	4	Non-Profit:	
Businesses:	6	Personal Property Only:	

TOTAL RELOCATION ASSISTANCE (Item # 11) $167,000 (Computed Costs)

12. YEAR OF RIGHT-OF-WAY AUTHORIZATION		2015	
SUB-TOTAL RIGHT-OF-WAY COSTS	*(Computed Costs)*	*$6,159,100*	*Totals*
UTILITY COSTS TO RIGHT-OF-WAY PROJECT *		*$390,700*	*Include*
TOTAL RIGHT-OF-WAY COSTS		*$6,549,800*	*Inflation*

*** Utility Data display requires completion of Utilities Estimate Worksheet (tab below)**

COMMENTS:

RW-238 Data :

Right-of-Way Estimate Date : **08/02/04**

Based on Approved / Unapproved Plans ? : **Unapproved Plans**

Participating Cost / Non-Participating Cost ? :

Today's Date : **11/16/05**

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Revised 12/08/03 RDW

Version 2.0

Project Cost Estimating System
UTILITIES ESTIMATE

A. ELECTRICAL

Transmission

	Computed or User	RW or Const	Type of Pole	No Entry Required	Number of Poles	Rural or Urban	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
A	Computed	RW					100%	$0	$0	$0
B	Computed	RW					100%	$0	$0	$0
C	Computed	RW					100%	$0	$0	$0
D	Computed	RW					100%	$0	$0	$0
								$0	$0	$0

Distribution - Aerial

	Computed or User	RW or Const	Type of Pole	No Entry Required	Number of Poles	Rural or Urban	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
E	Computed	RW					100%	$0	$0	$0
F	Computed	RW	Three Phase		12	Rural	50%	$96,000	$48,000	$0
G	Computed	RW					100%	$0	$0	$0
H	Computed	RW	Three Phase		0	Urban	100%	$0	$0	$0
I	Computed	RW					100%	$0	$0	$0
J	Computed	RW					100%	$0	$0	$0
								$96,000	$48,000	$0

Distribution - Underground - by Linear Foot

	Computed or User	RW or Const	Type of Service	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
K	Computed	RW				100%	$0	$0	$0
L	Computed	RW	Three Phase		1,600	50%	$272,000	$136,000	$0
M	Computed	RW				100%	$0	$0	$0
N	Computed	RW				100%	$0	$0	$0
							$272,000	$136,000	$0

Distribution - Underground - by Pole Equivalent

	Computed or User	RW or Const	Equivalent Type of Pole	No Entry Required	Equiv. # of Poles	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
O	Computed	RW				100%	$0	$0	$0
P	Computed	RW				100%	$0	$0	$0
Q	Computed	RW				100%	$0	$0	$0
R	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Distribution - Conduit for Underground Electrical

	Computed or User	RW or Const	Type of Service	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
S	Computed	RW				0%	$0	$0	$0
T	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Distribution - Underground - Manholes

	Computed or User	RW or Const	Size / Price Range of Manhole	No Entry Required	Number of MH's	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
U	Computed	RW				100%	$0	$0	$0
V	Computed	RW				100%	$0	$0	$0
W	Computed	RW				100%	$0	$0	$0
X	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Misc. Electrical Costs

Y	Misc. Electrical Costs Charged to RW Project:	$5,000
Z	Misc. Electrical Costs Charged to Const. Project:	$5,000

TOTAL ELECTRICAL	Total to RW Proj	Total to Const Proj
$378,000	$189,000	$5,000

B. TELEPHONE

Aerial - Copper Wire

	Computed or User	RW or Const	Type of Cable (Pair Cable)	No Entry Required	Number of Poles	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
A	Computed	RW				100%	$0	$0	$0
B	Computed	RW	300		12	50%	$43,200	$21,600	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$43,200	$21,600	$0

Aerial - Fiber Optic

	Computed or User	RW or Const	Type of Cable (Optical Fiber)	No Entry Required	Number of Poles	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
E	Computed	RW				100%	$0	$0	$0
F	Computed	RW				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Underground - Copper Wire

	Computed or User	RW or Const	Type of Cable (Pair Cable)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
I	Computed	RW				100%	$0	$0	$0
J	Computed	RW	300		2,000	50%	$28,000	$14,000	$0
K	Computed	RW				100%	$0	$0	$0
L	Computed	RW				100%	$0	$0	$0
							$28,000	$14,000	$0

Underground - Fiber Optic

	Computed or User	RW or Const	Type of Cable (Optical Fiber)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
M	Computed	RW				100%	$0	$0	$0
N	Computed	RW				100%	$0	$0	$0
O	Computed	RW				100%	$0	$0	$0
P	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Underground - Copper Wire - In Conduit

	Computed or User	RW or Const	Type of Cable (Pair Cable)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
Q	Computed	RW				100%	$0	$0	$0
R	Computed	RW				100%	$0	$0	$0
S	Computed	RW				100%	$0	$0	$0
T	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Underground - Fiber Optic - In Conduit

	Computed or User	RW or Const	Type of Cable (Optical Fiber)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
U	Computed	RW				100%	$0	$0	$0
V	Computed	RW				100%	$0	$0	$0
W	Computed	RW				100%	$0	$0	$0
X	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Manholes for UG Telephone Service

	Computed or User	RW or Const	Item	No Entry Required	Quantity	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
Y	Computed	RW	Telephone Manhole			100%	$0	$0	$0
Z	Computed	RW	Telephone Manhole			100%	$0	$0	$0

Misc. Telephone Costs

AA Misc. Telephone Costs Charged to RW Project:

BB Misc. Telephone Costs Charged to Const. Project:

TOTAL TELEPHONE	Total to RW Proj	Total to Const Proj
$71,200	$35,600	$0

C. CATV

Aerial CATV

	Computed or User	RW or Const	Type of Service	No Entry Required	Number of Pole Att'mnts	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
A	Computed	RW				100%	$0	$0	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Underground CATV

	Computed or User	RW or Const	Type of Service	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
E	Computed	RW				100%	$0	$0	$0
F	Computed	RW	1.00 Coax		1,000	100%	$16,000	$16,000	$0
G	Computed	RW	12 Fiber		500	100%	$11,000	$11,000	$0
H	Computed	RW				100%	$0	$0	$0
							$27,000	$27,000	$0

Power Units

	Computed or User	RW or Const	Item	No Entry Required	Quantity	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
I	Computed	RW	CATV Power Supply			100%	$0	$0	$0
J	Computed	RW	CATV Power Supply			100%	$0	$0	$0

Misc. CATV Costs

Misc. CATV Costs Charged to RW Project:

Misc. CATV Costs Charged to Const. Project:

TOTAL CATV	Total to RW Proj	Total to Const Proj
$27,000	$27,000	$0

D. WATER

Water Line

	Computed or User	RW or Const	Diameter of Water Pipe (in)	Loaded $ per foot	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
A	User	RW				50%	$0	$0	$0
B	Computed	Const	8		1,000	50%	$125,000	$0	$62,500
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$125,000	$0	$62,500

Misc. Water Costs

E Misc. Water Costs Charged to Const. Project: $25,000

F Misc. Water Costs Charged to RW Project:

TOTAL WATER	Total to RW Proj	Total to Const Proj
$150,000	$0	$87,500

E. SANITARY SEWER

Sewer Line

	Computed or User	RW or Const	Diameter of Sewer Pipe (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
A	Computed	Const				100%	$0	$0	$0
B	Computed	Const	8		1,000	75%	$70,000	$0	$52,500
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$70,000	$0	$52,500

Misc. Sewer Costs

E Misc. Sewer Costs Charged to Const. Project: $25,000

F Misc. Sewer Costs Charged to RW Project:

TOTAL SEWER	Total to RW Proj	Total to Const Proj
$95,000	$0	$77,500

F. NATURAL GAS / PROPANE

Distribution

	Computed or User	RW or Const	Diameter of Gas Line (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
A	Computed	RW				100%	$0	$0	$0
B	Computed	RW	4		1,000	50%	$45,000	$22,500	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$45,000	$22,500	$0

Transmission

	Computed or User	RW or Const	Diameter of Gas Line (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
E	Computed	RW				100%	$0	$0	$0
F	Computed	RW				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Misc. Natural Gas / Propane Costs

I Misc. Gas / Pro Costs Charged to RW Project:

J Misc. Gas / Pro Costs Charged to Const. Project:

TOTAL GAS / PROPANE	Total to RW Proj	Total to Const Proj
$45,000	$22,500	$0

G. PETROLEUM

Transmission

	Computed or User	RW or Const	Diameter of Gas Line (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	$ to RW Project	$ to Const Project
A	Computed	RW				100%	$0	$0	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$0	$0	$0

Misc. Petroleum Costs

E Misc. Petroleum Costs Charged to RW Project:

F Misc. Petroleum Costs Charged to Const. Project:

TOTAL PETROLEUM	Total to RW Proj	Total to Const Proj
$0	$0	$0

H. CELLULAR

Cellular Telephone Costs

A Total Cellular Costs Charged to RW Project:

B Total Cellular Costs Charged to Const. Project:

TOTAL CELLULAR	Total to RW Proj	Total to Const Proj
$0	$0	$0

I. ADDITIONAL COSTS

Additional Utility Costs to Right-of-Way Project : $0

Comments:

Additional Utility Costs to Construction Project : $0

Comments:

Additional Utility Costs to Utility Owners/Others : $0

Comments:

TOTAL UTILITY COST - RIGHT-OF-WAY PROJECT	$274,000
TOTAL UTILITY COST - CONSTRUCTION PROJECT	$170,000
TOTAL UTILITY COST - UTILITY OWNER / OTHERS	$322,100
GRAND TOTAL UTILITY COSTS	**$766,100**

Project Cost Estimating System
COMMENTS

	General / Miscellaneous Comments from CONST, RW, & UTILITY Worksheets:	Team Member and Section:	Date Entered:
1	Cost estimates are for comparative purposes with regards to Tier 1 improvements and do not include all items that might be	Gannett Fleming	08/04/04
2	needed for final project construction, such as existing pavement rehabilitation.		
3			
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Project Cost Estimating System

SUMMARY PAGE

DISTRICT	Bristol, Salem & Staunton
PROJECT NUMBER	I-81 Study(Single Pt.Urb.Int.)
PPMS NUMBER	n/a
AD DATE	2005
PROJECT MANAGER / DESIGNER	Chris Collins/VHB
Data Source for Construction Estimate:	CES
Data Source for Right-of-Way Estimate:	CES
Data Source for Utilities Estimate:	CES
DATE	*11/16/2005*

THE FOLLOWING DATA WILL BE PROVIDED UPON COMPLETION OF THE REMAINDER OF THE WORKBOOK, WHICH IS ACCESSED BY SELECTING THE **CONST**, **RW**, & **UTIL** TABS BELOW

CONSTRUCTION ESTIMATE	*$48,346,000*
PRELIMINARY ENGINEERING ESTIMATE	*$5,120,000*
RIGHT-OF-WAY & UTILITIES ESTIMATE	*$5,324,000*
TOTAL PROJECT ESTIMATE	*$58,790,000*

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Revised 12/08/03 RDW

Estimate Class: PFI

Version 2.0

Project Cost Estimating System
CONSTRUCTION / BRIDGE / PE

Project / PPMS #				
Interstate Project ?	YES			
Route Number	81		Interstate Highway	
Geometric Standard	Interstate	*	Principal Arterial - Freeway	
Ad Date	2005		Design Year =	2027
Design Year ADT	30,000	*	Project Terrain	Rolling
Box Must Be Empty			Approx. DHV = Minimum	4,500
Enter Design Speed (MPH) (Enter 60 or 70)	70	*	Design Speed =	70 MPH
Box Must Be Empty				
Box Must Be Empty				
Project Length (mi.)	2.20	*	*Number of Additional Lanes:*	*Length of Add'l. Lanes (mi.):*
Total Length -Adding or Building Two Lanes (mi.)	3.21	*	*+ One Add'l. Lane*	*0.55*
Total Length - Adding or Building Four Lanes (mi.)	0.26	*	*+ One Add'l. Lane*	*0.20*
Total Length - Building Ramps and Loops (mi.)	1.26	*	*+ One Add'l. Lane*	*0.77*
Box Must Be Empty	C&G			
Box Must Be Empty			Normal Lane Width (ft.)	12
Box Must Be Empty			Total Alignment Miles Computed (Required for LD-430 Scoping Report)	6.20
Length - Curb & Gutter - Left PLUS Right Side (ft.)	1,542	*		
Length - Sidewalk - Left PLUS Right Side (ft.)	1,542	*		
Box Must Be Empty	1,026			
Number of Right Turn Lanes - Left PLUS Right Side	0	*		
Box Must Be Empty			*95%*	*Project Location: SALEM of Statewide Avg.*
Number of New Traffic Signals Required	1	*		
Number of Traffic Signals Requiring Adjustment	0	*	Base Estimate	*$34,015,000*
Cost of Large Drainage Structures ($)	$1,567,000	*	*Constr. Engr.*	*$3,741,650*
In-Plan Utility Costs	*$170,000*		Const. Est. (Today)	*$37,756,650*
Adjustment for Unusual Construction Costs ($)	$18,520,000	*		
Examples - Add $'s for: Bicycle Facilities, Landscaping, Retaining Walls, Lighting, Wetlands Mitigation Sites, etc.			Construction Estimate in Mid- 2005	*$40,056,000*

Continued on Next Page