UPC: ****

Project Cost Estimating System

SUMMARY PAGE

DISTRICT	CULPEPER		
PROJECT NUMBER	Alternative A-1		
CONSTRUCTION END YEAR	FY2018	UPC	****
AD YEAR	FY2015	RATE OF INFLATION TO AD	1.80%
ESTIMATE YEAR	FY2014	INFLATION RATE DURING CN	2.96%
Date of previous estimate	N/A		
PROJECT MANAGER / DESIGNER	RDA		
Preliminary Engineering Estimate:	MANUAL		
Construction Estimate:	MANUAL		
Right-of-Way Estimate:	MANUAL		
Utilities Estimate:	PCES		
DATE	*11/10/2014*		

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	*$120,453,482*
PRELIMINARY ENGINEERING ESTIMATE	*$13,791,000*
RIGHT-OF-WAY & UTILITIES ESTIMATE	*$7,000,344*
TOTAL PROJECT ESTIMATE	*$141,244,826*

Revised 06/20/13

Estimate Class: Blank

Version 3.10

Alternative A-1

Price	Item #	Description	Units	Est. Quantity	Unit Price	Extended Amount
VDOT	0100	MOBILIZATION	LS	1.00	$3,312,142.60	$3,312,142.60
VDOT	00101	CONST. SURVEYING	LS	1.00	$649,929.23	$649,929.23
VDOT	00110	CLEARING AND GRUBBING	ACRE	0.65	$24,591.72	$15,984.62
			Earthwork			
		REGULAR EXCATION (MSE WALLS)	LS	1.00		$1,000,000.00
			Bridge			
		Single Peir Structure	SF	31515	$325.00	$10,242,375.00
		Double Peir Substructure	SF	235575	$130.00	$30,624,750.00
		Double Peir Superstructure	SF	57585	$195.00	$11,229,075.00
			Roadway			
VDOT	16395	ASPH. CONC.BASE CR. TY. BM-25.0A	TON	579.53	$78.93	$45,742.07
VDOT	16242	AGGR. BASE MAT'L NO. 21-B	TON	598.19	$27.72	$16,581.72
VDOT	16373	INTERMEDIATE MIX IM-19.0A	TON	130.63	$101.31	$13,234.24
VDOT	16335	ASPHALT CONCRETE TY. SM-9.5A	TON	139.04	$72.61	$10,095.69
VDOT	68315	Milling 1.5" Depth	SY	497.78	$55.00	$27,377.78
VDOT	13220	HYDR. CEMENT CONC. SIDEWALK 4"	SY	1490.00	$36.94	$55,040.60
VDOT	14120	REMOVAL OF COMB. CURB AND GUTTER	LF	2700.00	$9.74	$26,298.00
VDOT	14440	SAW CUT	LF	2700.00	$3.00	$8,100.00
VDOT	21020	MEDIAN STRIP MS-1	SY	3350.00	$147.35	$493,622.50
VDOT	14416	STD. CURB CG-6	LF	2700.00	$54.00	$145,800.00
		MSE (Mechanically Stable Earth Walls)	SF	12600.00	$100.00	$1,260,000.00
VDOT	27505	Silt Fence	LF	8500.00	$2.83	$24,055.00
VDOT	13502	SI-1 - SIGN ISLAND	SY	130.00	$77.72	$10,103.60
PCES		BRIDGE SIGN	LS	1.00		$212,272.41
			Drainage			
VDOT	01246	24" STORM SEWER PIPE	LF	4224.00	$65.00	$274,560.00
VDOT	06819	DROP INLET DI-3B, L=8'	EA	30.00	$4,096.79	$122,903.70
		STORMWATER FACILITIES	LS	1.00		$1,000,000.00
			Traffic			
PCES		ILLUMINATION	LS	1.00		$518,888.12
		SIGNALIZATION	LS	1.00		$800,000.00
			Maintenance of Traffic			
		MOT	LS	1.00		$6,000,000.00
			Utilities			
PCES		UTILITIES (CONSTR.)	LS	1.00		$816,062.72
			Incidentals			
		Incidentals (20%)	LS	1.00	$13,128,570.40	$13,128,570.40
					SUBTOTAL:	$82,083,565.01
				Contingency (20%)	$16,416,713.00	
				CEI (20%)	$16,416,713.00	
				TOTAL	$114,916,991.01	

UPC: ****

Project Cost Estimating System
UTILITIES ESTIMATE

Project No.: ** *MISSING DATA* **

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	H-Conc/Steel		2	Rural	100%	$301,308	$301,308	$0
B	Computed	RW				Rural	100%	$0	$0	$0
C	Computed	RW				Rural	100%	$0	$0	$0
D	Computed	RW				Rural	100%	$0	$0	$0
								$301,308	$301,308	$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	Three Phase		6	Rural	100%	$66,531	$66,531	$0
F	Computed	RW	Dual Three Phase		15	Rural	100%	$228,690	$228,690	$0
G	Computed	RW				Rural	100%	$0	$0	$0
H	Computed	RW				Rural	100%	$0	$0	$0
I	Computed	RW				Rural	100%	$0	$0	$0
J	Computed	RW				Rural	100%	$0	$0	$0
								$295,221	$295,221	$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	Three Phase		3,420	100%	$699,909	$699,909	$0
L	Computed	RW				100%	$0	$0	$0
M	Computed	RW				100%	$0	$0	$0
N	Computed	RW				100%	$0	$0	$0
							$699,909	$699,909	$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				100%	$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:	
Z	Misc. Electrical Costs Charged to Const. Project:	

TOTAL ELECTRICAL	Total to RW Proj	Total to Const Proj
$1,296,438	$1,296,438	$0

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	900		21	100%	$106,302	$106,302	$0
B	Computed	RW	600		10	100%	$47,002	$47,002	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$153,304	$153,304	$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	144		42	100%	$516,340	$516,340	$0
F	Computed	RW				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$516,340	$516,340	$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				100%	$0	$0	$0
K	Computed	RW				100%	$0	$0	$0
L	Computed	RW				100%	$0	$0	$0
							$0	$0	$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	900		3,400	100%	$86,035	$86,035	$0
R	Computed	RW				100%	$0	$0	$0
S	Computed	RW				100%	$0	$0	$0
T	Computed	RW				100%	$0	$0	$0
							$86,035	$86,035	$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	144		3,400	100%	$475,346	$475,346	$0
V	Computed	RW				100%	$0	$0	$0
W	Computed	RW				100%	$0	$0	$0
X	Computed	RW				100%	$0	$0	$0
							$475,346	$475,346	$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
$1,231,025	$1,231,025	$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	.650 Coax		63	100%	$41,742	$41,742	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$41,742	$41,742	$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	.650 Coax		3,400	100%	$57,357	$57,357	$0
F	Computed	RW				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$57,357	$57,357	$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
$99,099	$99,099	$0

D. WATER

Water Line

	Computed or User	RW or Const	Diameter of Water Pipe (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	to RW Project	to Const Project
A	Computed	Const	16		3,400	100%	$792,922	$0	$792,922
B	Computed	Const				100%	$0	$0	$0
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$792,922	$0	$792,922

Misc. Water Costs

E Misc. Water Costs Charged to Const. Project:

F Misc. Water Costs Charged to RW Project:

TOTAL WATER	Total to RW Proj	Total to Const Proj
$792,922	$0	$792,922

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	12		200	100%	$23,140	$0	$23,140
B	Computed	Const				100%	$0	$0	$0
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$23,140	$0	$23,140

Misc. Sewer Costs

E Misc. Sewer Costs Charged to Const. Project:

F Misc. Sewer Costs Charged to RW Project:

TOTAL SEWER	Total to RW Proj	Total to Const Proj
$23,140	$0	$23,140

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	6		3,400	100%	$225,390	$225,390	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$225,390	$225,390	$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

			TOTAL GAS / PROPANE	Total to RW Proj	Total to Const Proj
I	Misc. Gas / Pro Costs Charged to RW Project:		$225,390	$225,390	$0
J	Misc. Gas / Pro Costs Charged to Const. Project:				

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

			TOTAL PETROLEUM	Total to RW Proj	Total to Const Proj
E	Misc. Petroleum Costs Charged to RW Project:		$0	$0	$0
F	Misc. Petroleum Costs Charged to Const. Project:				

H. CELLULAR

Cellular Telephone Costs

			TOTAL CELLULAR	Total to RW Proj	Total to Const Proj
A	Total Cellular Costs Charged to RW Project:		$0	$0	$0
B	Total Cellular Costs Charged to Const. Project:				

I. ADDITIONAL COSTS

	Additional Utility Costs to Right-of-Way Project :	
Comments:		
	Additional Utility Costs to Construction Project :	
Comments:		
	Additional Utility Costs to Utility Owners/Others :	
Comments:		

TOTAL UTILITY COST - RIGHT-OF-WAY PROJECT	*$2,851,952*
TOTAL UTILITY COST - CONSTRUCTION PROJECT	*$816,063*
TOTAL UTILITY COST - UTILITY OWNER / OTHERS	*$0*
GRAND TOTAL UTILITY COSTS (PCES)	*$3,668,015*

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UPC: ****

Project Cost Estimating System
MANUAL ESTIMATE

	DATE	PE	RW	CN
EXPENDITURES		$0	$0	$0
RUMS			$0	
TRNS*PORT				$0
AWARD				$0
PROJECTION				$0

ESTIMATE YEAR		AD YEAR
FY2014	1.80%	FY2015
$13,791,000	PE	$13,791,000
$7,000,344	RW	$7,000,344
$114,916,991	CN	$116,985,497
$135,708,335	TOTAL	$137,776,841

Job #	Phase	Comment	Estimate
	PE	12% of CN Cost	$13,791,000
	RW	Relocations/Total Takes	$581,440
	RW	Utility Relocations	$2,851,952
	RW	RW Acquisition	$3,566,952
	CN	From Quantity Take-off Estimate	$114,916,991

Right of Way					
Qty.	Unit	R/W Type	Unit Price	Multiplier	Cost
59619	SF	Fee Taking (Commercial)	$21.30	2.75	$3,492,182.93
4235	SF	Fee Taking (Residential)	$6.42	2.75	$74,768.93
0	LS	Utility RW Project	$0.00	1.00	$2,851,952.36
1	EA	Total Take (Commercial)	$0.00	1.00	$581,440.00
				Total	$7,000,344.21

	% PE	CN	PE Cost
PE Estimate	12%	114916991	$13,791,000.00

Assumptions:

Storm Drop Inlet every 300 LF

24" storm sewer pipe for entire length of project

UPC: ****

Project Cost Estimating System

SUMMARY PAGE

DISTRICT	CULPEPER		
PROJECT NUMBER	Alternative A-2		
CONSTRUCTION END YEAR	FY2016	UPC	****
AD YEAR	FY2015	RATE OF INFLATION TO AD	1.80%
ESTIMATE YEAR	FY2014	INFLATION RATE DURING CN	N/A
Date of previous estimate	N/A		
PROJECT MANAGER / DESIGNER	RDA		
Preliminary Engineering Estimate:	MANUAL		
Construction Estimate:	PCES		
Right-of-Way Estimate:	MANUAL		
Utilities Estimate:	PCES		
DATE	*11/10/2014*		

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	*$3,744,793*
PRELIMINARY ENGINEERING ESTIMATE	*$823,855*
RIGHT-OF-WAY & UTILITIES ESTIMATE	*$4,508,527*
TOTAL PROJECT ESTIMATE	*$9,077,175*

Revised 06/20/13

Estimate Class: Blank

Version 3.10

UPC: ****

Project Cost Estimating System
CONSTRUCTION / BRIDGE / PE

Project No.	** MISSING DATA **			
Interstate Project ?	No	*		
Maintenance Project ?	No	*		
Route Number		*		
Geometric Standard	GS-5	*	Urban Principal Arterial System	
Ad Date	2015			
Design Year ADT		*	Project Terrain	Rolling
OR				
Current (Recent) ADT		*		
			Minimum	
Enter Design Speed (MPH) (30, 40, 45, 50 or 60)	45	*	Design Speed =	
Box Must Be Empty	No			
Box Must Be Empty	No			
Project Length (mi.)	0.28	*	*Number of Additional Lanes:*	*Length of Add'l. Lanes (mi.):*
Total Length -Adding or Building Two Lanes (mi.)	0.11	*	*None*	
Total Length - Adding or Building Four Lanes (mi.)		*	*None*	
Total Length - Building Ramps and Loops (mi.)	0.17	*	*None*	
Shoulder or Curb & Gutter ? (Select S or C&G)	C&G	*	Enter Lane Width (ft) >	
Median Type - Graded, Raised, or None ?	N	*	Normal Lane Width(ft)	12
Number of Crossovers (Divided Highways ONLY)	0	*		
Length - Curb & Gutter - Left PLUS Right Side (ft.)	2,820			
Length - Sidewalk - Left PLUS Right Side (ft.)		*		
Bike / Pedestrian Type	None			
Total Length - Raised Median (ft.)	350			
Number of Right Turn Lanes - Left PLUS Right Side		*		
Number of Left Turn Lanes - (Undivided Only)		*		

CULPEPER

90% *Cost Factor used*

		Construction Costs	
Signals, ITS, Signs and Lighting Costs*	$348,871	Base #1 (PCES)	*$3,171,189*
Cost of Large Drainage Structures	*$0*	Base #2	*$0*
In-Plan Utility Costs*	*$734,456*	Enter Const CE Cost >	*$0*
Adjustment for Unusual Construction Costs	*$450,000*	CE (16%)	*$507,390*
** Totals include district factor calculations*		Estimate (2014)	*$3,678,579*

Additional (or Unusual) P. E. Costs			
Select % of PE to be performed by Consultants	100%	PE Cost	*$845,797*

Note: Do Not Include Bridge P. E. Costs Here

Roadway P. E. / Roadway Const. = 22.6%

Revised 06/20/13

Today's Date: **11/10/14**

Version 3.10

UPC: ****

Project Cost Estimating System
Miscellaneous Cost Estimates

COST OF LARGE DRAINAGE STRUCTURES

Job#	Description	Cost ()
		$0

ADJUSTMENT FOR UNUSUAL CONSTRUCTION COSTS

Type	Description	Cost ()
Other	Stormwater Management (SWM Facilities)	$250,000
Maintenance of Traffic	MOT Costs	$200,000
		$450,000

Version 3.10

SIGNALS, ITS, SIGNS and LIGHTING COST WORKSHEET

Stand Alone Traffic Project:	No

UPC: ****

SIGNALS

Permanent Signals

	Location/Description	New/ Mod.	Intersection Type	Major Direction	Major Lanes	Major Direction	Major Lanes	Cross Direction	Cross Lanes	Cross Direction	Cross Lanes	Poles	Detection	Pre-emption	Cost
1	River Rd	New	Tee	North	1	South	1	East	2	West	0	Comb. M.A. Lighting	Video	Yes	$191,260
2	Rte. 250/E. High St.	Mod.	Four-way	East	4	West	4	North	3	South	2	Comb. M.A. Lighting	Video	Yes	$136,807
3															$0
4															$0
5															$0
6															$0
7															$0
8															$0
9															$0
10															$0

	Quantity	Cost
Temporary Signals - New Equipment		$0
Temporary Signals - Modified Equipment		$0

		Location/Description	Cost
MISCELLANEOUS	1		
SIGNAL WORK	2		

Signals Construction Subtotal $328,067

ITS

		Location/Description	Cost
ITS WORK	1		
	2		

ITS Construction Subtotal $0

MAJOR SIGN STRUCTURES

	Type of Sign	Comment	Quantity	Unit	Lighted Y/N	Included in Roadway Lighting? yes/no	Cost/Sign	Extended Cost
1	Cantilever	For Loop	1	Ea.	Yes	No	59,568	$59,568
2				Ea.				
3				Ea.				
4				Ea.				
5				Ea.				
6				Ea.				
7				Ea.				

		Location/Description	Cost
MISCELLANEOUS	1		
SIGN WORK	2		

Signs Construction Subtotal $59,568

LIGHTING

Continuous Roadway

	Urban Type of Lighting	Comments	No. Lanes	Number of Miles	Cost
1					$0

	Freeway Type of Lighting	Comments	No. Lanes	Number of Miles	Cost
1					$0

Interchange

	Interchange Type	Type of Lighting	Number of Interchanges	Cost
1				$0
2				$0
3				$0

Miscellaneous

	Location/Description	Cost
1		
2		

Lighting Construction Subtotal $0

CONSTRUCTION TOTAL $387,635

District factor will be applied when the total cost is passed to the const-1 worksheet

PROJECT COMMENTS

Prepared by: Date Prepared/Modified:

Version 3.10

UPC: ****

Project Cost Estimating System
UTILITIES ESTIMATE

Project No.: ** *MISSING DATA* **

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				Rural	100%	$0	$0	$0
B	Computed	RW				Rural	100%	$0	$0	$0
C	Computed	RW				Rural	100%	$0	$0	$0
D	Computed	RW				Rural	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	Single Phase		1	Rural	100%	$5,544	$5,544	$0
F	Computed	RW	Two Phase		1	Rural	100%	$8,316	$8,316	$0
G	Computed	RW	Three Phase		3	Rural	100%	$33,266	$33,266	$0
H	Computed	RW	Dual Three Phase		4	Rural	100%	$60,984	$60,984	$0
I	Computed	RW				Rural	100%	$0	$0	$0
J	Computed	RW				Rural	100%	$0	$0	$0
								$108,109	$108,109	$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				100%	$0	$0	$0
M	Computed	RW				100%	$0	$0	$0
N	Computed	RW				100%	$0	$0	$0
							$0	$0	$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				100%	$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:	
Z	Misc. Electrical Costs Charged to Const. Project:	

TOTAL ELECTRICAL	Total to RW Proj	Total to Const Proj
$108,109	$108,109	$0

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	900		3	100%	$15,186	$15,186	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$15,186	$15,186	$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	144		6	100%	$73,763	$73,763	$0
F	Computed	RW				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$73,763	$73,763	$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				100%	$0	$0	$0
K	Computed	RW				100%	$0	$0	$0
L	Computed	RW				100%	$0	$0	$0
							$0	$0	$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
$88,949	$88,949	$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	.650 Coax		32	100%	$21,202	$21,202	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$21,202	$21,202	$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				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$0	$0	$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
$21,202	$21,202	$0

D. WATER

Water Line

	Computed or User	RW or Const	Diameter of Water Pipe (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	to RW Project	to Const Project
A	Computed	Const	8		840	100%	$108,834	$0	$108,834
B	Computed	Const				100%	$0	$0	$0
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$108,834	$0	$108,834

Misc. Water Costs

E Misc. Water Costs Charged to Const. Project:

F Misc. Water Costs Charged to RW Project:

TOTAL WATER	Total to RW Proj	Total to Const Proj
$108,834	$0	$108,834

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	8		840	100%	$85,042	$0	$85,042
B	Computed	Const				100%	$0	$0	$0
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$85,042	$0	$85,042

Misc. Sewer Costs

E Misc. Sewer Costs Charged to Const. Project:

F Misc. Sewer Costs Charged to RW Project:

TOTAL SEWER	Total to RW Proj	Total to Const Proj
$85,042	$0	$85,042

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	2		840	100%	$30,373	$30,373	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$30,373	$30,373	$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

		TOTAL GAS / PROPANE	Total to RW Proj	Total to Const Proj
I	Misc. Gas / Pro Costs Charged to RW Project:	$30,373	$30,373	$0
J	Misc. Gas / Pro Costs Charged to Const. Project:			

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

		TOTAL PETROLEUM	Total to RW Proj	Total to Const Proj
E	Misc. Petroleum Costs Charged to RW Project:	$0	$0	$0
F	Misc. Petroleum Costs Charged to Const. Project:			

H. CELLULAR

Cellular Telephone Costs

		TOTAL CELLULAR	Total to RW Proj	Total to Const Proj
A	Total Cellular Costs Charged to RW Project:	$0	$0	$0
B	Total Cellular Costs Charged to Const. Project:			

I. ADDITIONAL COSTS

Additional Utility Costs to Right-of-Way Project :

Comments:

Additional Utility Costs to Construction Project :

Comments:

Additional Utility Costs to Utility Owners/Others :

Comments:

TOTAL UTILITY COST - RIGHT-OF-WAY PROJECT	$248,634
TOTAL UTILITY COST - CONSTRUCTION PROJECT	$193,875
TOTAL UTILITY COST - UTILITY OWNER / OTHERS	$0
GRAND TOTAL UTILITY COSTS (PCES)	$442,509

Version 3.10

UPC: ****

Project Cost Estimating System
MANUAL ESTIMATE

	DATE	PE	RW	CN
EXPENDITURES		$0	$0	$0
RUMS			$0	
TRNS*PORT				$0
AWARD				$0
PROJECTION				$0

ESTIMATE YEAR		AD YEAR
FY2014	1.80%	FY2015
$823,855	PE	$823,855
$4,508,527	RW	$4,508,527
$0	CN	$0
$5,332,381	TOTAL	$5,332,381

Job #	Phase	Comment	Estimate
	PE	PE Cost Estimate [22% (rounded) of CN]	$823,855
	RW	Relocations/Total Takes	
	RW	R/W Total Costs	$1,656,574
	RW	Utilities to be included in the right of way estimate	$2,851,952

Relocations input from ROW Dept 0 takes

	SF	Cost/SF	Multiplier	Cost
SF of Commercial	23,879	$25.06	2.75	$1,645,621
SF of Residential	9,052	$0.44	2.75	$10,953
			TOTAL	$1,656,574

	CN	PE %	PE
PE Cost Calc	$3,744,793	22%	$823,854.55

UPC: ****

Project Cost Estimating System

SUMMARY PAGE

DISTRICT	CULPEPER		
PROJECT NUMBER	Alternative B - Paved Trail		
CONSTRUCTION END YEAR	FY2017	UPC	****
AD YEAR	FY2015	RATE OF INFLATION TO AD	1.80%
ESTIMATE YEAR	FY2014	INFLATION RATE DURING CN	N/A
Date of previous estimate	N/A		
PROJECT MANAGER / DESIGNER	RDA		
Preliminary Engineering Estimate:	MANUAL		
Construction Estimate:	MANUAL		
Right-of-Way Estimate:	MANUAL		
Utilities Estimate:	PCES		
DATE	*11/10/2014*		

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	*$10,291,315*
PRELIMINARY ENGINEERING ESTIMATE	*$1,718,589*
RIGHT-OF-WAY & UTILITIES ESTIMATE	*$519,371*
TOTAL PROJECT ESTIMATE	*$12,529,275*

Revised 06/20/13

Estimate Class: Blank

Version 3.10

Alternative B - Paved Trail Option

Price	Item #	Description	Units	Est. Quantity	Unit Price	Extended Amount
VDOT	0100	MOBILIZATION	LS	1.00	$318,094.88	$318,094.88
VDOT	00101	CONST. SURVEYING	LS	1.00	$57,048.49	$57,048.49
VDOT	00110	CLEARING AND GRUBBING	ACRE	25.50	$24,591.72	$627,088.86
		Earthwork				
VDOT	00125	REGULAR EXCAVATION	CY	22556.00	$19.56	$441,195.36
		Trail				
VDOT	16242	AGGR. BASE MAT'L NO. 21-B	TON	7723.58	$27.72	$214,097.75
VDOT	16335	ASPHALT CONCRETE TY. SM-9.5A	TON	2248.89	$72.61	$163,291.82
VDOT	27505	Silt Fence	LF	36320.00	$2.83	$102,785.60
		Bridge over Rivanna				
VDOT		Trail Bridge (445' x 15")	SF	6675.00	$250.00	$1,668,750.00
		Parking Lot				
VDOT	16242	AGGR. BASE MAT'L NO. 21-B	TON	797.54	$27.72	$22,107.92
VDOT	16335	ASPHALT CONCRETE TY. SM-9.5A	TON	174.17	$72.61	$12,646.24
VDOT	16373	ASPHALT CONCRETE TY. IM-19.0A	TON	232	101.31	$23,526.43
VDOT	12600	STD. COMB. CURB & GUTTER CG-6	LF	500	17.23	$8,615.00
		Drainage				
		STORMWATER FACILITIES	LS	1.00	$500,000.00	$500,000.00
		CULVERT EXTENSIONS	EA	6.00	$100,000.00	$600,000.00
		DOUBLE BOX CULVERT	LS	1.00	$1,000,000.00	$1,000,000.00
		Traffic				
VDOT	54042	TY. B PAVEMENT LINE MARKING 24"	LF	100.00	$4.96	$496.00
		HAWK TRAFFIC SIGNALIZATION	LS	1.00	$200,000.00	$200,000.00
		Maintenance of Traffic				
		MOT	LS	1.00	$100,000.00	$100,000.00
		Utilities				
PCES		UTILITIES (CONSTR.)	LS	1.00	$0.00	$20,248.08
		Incidentals				
		Incidentals (20%)	LS	1.00	$1,140,969.81	$1,140,969.81
					SUBTOTAL:	$7,220,962.25
				Contingency (20%)	$1,444,192.45	
				CEI (20%)	$1,444,192.45	
				TOTAL	$10,109,347.14	

UPC: ****

Project Cost Estimating System
UTILITIES ESTIMATE

Project No.: ** *MISSING DATA* **

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				Rural	100%	$0	$0	$0
B	Computed	RW				Rural	100%	$0	$0	$0
C	Computed	RW				Rural	100%	$0	$0	$0
D	Computed	RW				Rural	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	Single Phase		1	Rural	100%	$5,544	$5,544	$0
F	Computed	RW				Rural	100%	$0	$0	$0
G	Computed	RW				Rural	100%	$0	$0	$0
H	Computed	RW				Rural	100%	$0	$0	$0
I	Computed	RW				Rural	100%	$0	$0	$0
J	Computed	RW				Rural	100%	$0	$0	$0
								$5,544	$5,544	$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	Single Phase		200	100%	$18,769	$18,769	$0
L	Computed	RW				100%	$0	$0	$0
M	Computed	RW				100%	$0	$0	$0
N	Computed	RW				100%	$0	$0	$0
							$18,769	$18,769	$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				100%	$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:

Z — Misc. Electrical Costs Charged to Const. Project:

TOTAL ELECTRICAL	Total to RW Proj	Total to Const Proj
$24,313	$24,313	$0

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	900		3	100%	$15,186	$15,186	$0
B	Computed	RW	600		4	100%	$18,801	$18,801	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$33,987	$33,987	$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	144		2	100%	$24,588	$24,588	$0
F	Computed	RW				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$24,588	$24,588	$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	900		200	100%	$4,340	$4,340	$0
J	Computed	RW	600		200	100%	$3,978	$3,978	$0
K	Computed	RW				100%	$0	$0	$0
L	Computed	RW				100%	$0	$0	$0
							$8,317	$8,317	$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	144		200	100%	$22,659	$22,659	$0
N	Computed	RW				100%	$0	$0	$0
O	Computed	RW				100%	$0	$0	$0
P	Computed	RW				100%	$0	$0	$0
							$22,659	$22,659	$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
$89,550	$89,550	$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				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$0	$0	$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
$0	$0	$0

D. WATER

Water Line

	Computed or User	RW or Const	Diameter of Water 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				100%	$0	$0	$0
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$0	$0	$0

Misc. Water Costs

E Misc. Water Costs Charged to Const. Project:

F Misc. Water Costs Charged to RW Project:

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

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	8		200	100%	$20,248	$0	$20,248
B	Computed	Const				100%	$0	$0	$0
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$20,248	$0	$20,248

Misc. Sewer Costs

E Misc. Sewer Costs Charged to Const. Project:

F Misc. Sewer Costs Charged to RW Project:

TOTAL SEWER	Total to RW Proj	Total to Const Proj
$20,248	$0	$20,248

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				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$0	$0	$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

		TOTAL GAS / PROPANE	Total to RW Proj	Total to Const Proj
I	Misc. Gas / Pro Costs Charged to RW Project:			
J	Misc. Gas / Pro Costs Charged to Const. Project:	$0	$0	$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

		TOTAL PETROLEUM	Total to RW Proj	Total to Const Proj
E	Misc. Petroleum Costs Charged to RW Project:			
F	Misc. Petroleum Costs Charged to Const. Project:	$0	$0	$0

H. CELLULAR

Cellular Telephone Costs

		TOTAL CELLULAR	Total to RW Proj	Total to Const Proj
A	Total Cellular Costs Charged to RW Project:			
B	Total Cellular Costs Charged to Const. Project:	$0	$0	$0

I. ADDITIONAL COSTS

Additional Utility Costs to Right-of-Way Project :

Comments:

Additional Utility Costs to Construction Project :

Comments:

Additional Utility Costs to Utility Owners/Others :

Comments:

TOTAL UTILITY COST - RIGHT-OF-WAY PROJECT	$113,863
TOTAL UTILITY COST - CONSTRUCTION PROJECT	$20,248
TOTAL UTILITY COST - UTILITY OWNER / OTHERS	$0
GRAND TOTAL UTILITY COSTS	$134,111

Version 3.10

UPC: ****

Project Cost Estimating System
MANUAL ESTIMATE

	DATE	PE	RW	CN
EXPENDITURES		$0	$0	$0
RUMS			$0	
TRNS*PORT				$0
AWARD				$0
PROJECTION				$0

ESTIMATE YEAR		AD YEAR
FY2014	1.80%	FY2015
$1,718,589	PE	$1,718,589
$519,371	RW	$519,371
$10,109,347	CN	$10,291,315
$12,347,307	TOTAL	$12,529,275

Job #	Phase	Comment	Estimate
	PE	17% of Construction	$1,718,589
	RW	RW Acquisition	$405,507
	RW	Utility Relocation	$113,863
	CN	Quantity Takeoff Estimate - Paved	$10,109,347

Right of Way					
Qty.	Unit	R/W Type	Unit Price	Multiplier	Cost
335130	SF	Fee Taking (Commercial)	$0.44	2.75	$405,507.30
0	SF	Fee Taking (Residential)	$0.50	2.75	$0.00
1	LS	Utility RW Project	$0.00	1.00	$113,863.22
0	EA	Total Take (Commercial)	$0.00	1.00	$0.00
				Total	$519,370.52

	% PE	CN	PE Cost
PE Estimate	17%	$10,109,347.14	$1,718,589.01

Assumptions:

50 space paved commuter lot expandable to 100 spaces
6" of regular excavation required over length of project and parking lot
2" of surface pavement and 6" of aggregate for paved trail section
Silt Fence required over length of project

UPC: ****

Project Cost Estimating System

SUMMARY PAGE

DISTRICT	CULPEPER		
PROJECT NUMBER	Alternative B - Stone Dust Trail		
CONSTRUCTION END YEAR	FY2017	UPC	****
AD YEAR	FY2015	RATE OF INFLATION TO AD	1.80%
ESTIMATE YEAR	FY2014	INFLATION RATE DURING CN	N/A
Date of previous estimate	N/A		
PROJECT MANAGER / DESIGNER	RDA		
Preliminary Engineering Estimate:	MANUAL		
Construction Estimate:	MANUAL		
Right-of-Way Estimate:	MANUAL		
Utilities Estimate:	PCES		
DATE	*11/10/2014*		

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	*$9,675,231*
PRELIMINARY ENGINEERING ESTIMATE	*$1,710,748*
RIGHT-OF-WAY & UTILITIES ESTIMATE	*$519,371*
TOTAL PROJECT ESTIMATE	*$11,905,350*

Revised 06/20/13

Estimate Class: Blank

Version 3.10

Alternative B - Stone Dust Trail Option

Price	Item #	Description	Units	Est. Quantity	Unit Price	Extended Amount
VDOT	0100	MOBILIZATION	LS	1.00	$300,776.28	$300,776.28
VDOT	00101	CONST. SURVEYING	LS	1.00	$53,619.07	$53,619.07
VDOT	00110	CLEARING AND GRUBBING	ACRE	25.50	$24,591.72	$627,088.86
		Earthwork				
VDOT	00120	REGULAR EXCAVATION	CY	22556.00	$19.56	$441,195.36
		Trail				
VDOT	16242	AGGR. BASE MAT'L NO. 21-B	TON	7723.58	$27.72	$214,097.75
VDOT	10041	CO. MAT. FINE AGGR. OR AGGR. NO. 10	TON	766.67	$91.76	$70,349.33
VDOT	27505	Silt Fence	LF	36320.00	$2.83	$102,785.60
		Bridge over Rivanna				
VDOT		Trail Bridge (445' x 15")	SF	6675.00	$250.00	$1,668,750.00
		Parking Lot				
VDOT	16242	AGGR. BASE MAT'L NO. 21-B	TON	797.54	$27.72	$22,107.92
VDOT	16335	ASPHALT CONCRETE TY. SM-9.5A	TON	174.17	$72.61	$12,646.24
VDOT	16373	ASPHALT CONCRETE TY. IM-19.0A	TON	232	101.31	$23,526.43
VDOT	12600	STD. COMB. CURB & GUTTER CG-6	LF	500	17.23	$8,615.00
		Drainage				
		STORMWATER FACILITIES	LS	1.00	$250,000.00	$250,000.00
		CULVERT EXTENSIONS	EA	6.00	$100,000.00	$600,000.00
		DOUBLE BOX CULVERT	LS	1.00	$1,000,000.00	$1,000,000.00
		Traffic				
VDOT	54042	TY. B PAVEMENT LINE MARKING 24"	LF	100.00	$4.96	$496.00
		HAWK TRAFFIC SIGNALIZATION	LS	1.00	$200,000.00	$200,000.00
		Maintenance of Traffic				
		MOT	LS	1.00	$100,000.00	$100,000.00
		Utilities				
PCES		UTILITIES (CONSTR.)	LS	1.00	$0.00	$20,248.08
		Incidentals				
		Incidentals (20%)	LS	1.00	$1,072,381.32	$1,072,381.32
					SUBTOTAL:	$6,788,683.24

Contingency (20%)	$1,357,736.65
CEI (20%)	$1,357,736.65
TOTAL	$9,504,156.53

UPC: ****

Project Cost Estimating System
UTILITIES ESTIMATE

Project No.: ** *MISSING DATA* **

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				Rural	100%	$0	$0	$0
B	Computed	RW				Rural	100%	$0	$0	$0
C	Computed	RW				Rural	100%	$0	$0	$0
D	Computed	RW				Rural	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	Single Phase		1	Rural	100%	$5,544	$5,544	$0
F	Computed	RW				Rural	100%	$0	$0	$0
G	Computed	RW				Rural	100%	$0	$0	$0
H	Computed	RW				Rural	100%	$0	$0	$0
I	Computed	RW				Rural	100%	$0	$0	$0
J	Computed	RW				Rural	100%	$0	$0	$0
								$5,544	$5,544	$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	Single Phase		200	100%	$18,769	$18,769	$0
L	Computed	RW				100%	$0	$0	$0
M	Computed	RW				100%	$0	$0	$0
N	Computed	RW				100%	$0	$0	$0
							$18,769	$18,769	$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				100%	$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:

Z — Misc. Electrical Costs Charged to Const. Project:

TOTAL ELECTRICAL	Total to RW Proj	Total to Const Proj
$24,313	$24,313	$0

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	900		3	100%	$15,186	$15,186	$0
B	Computed	RW	600		4	100%	$18,801	$18,801	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$33,987	$33,987	$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	144		2	100%	$24,588	$24,588	$0
F	Computed	RW				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$24,588	$24,588	$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	900		200	100%	$4,340	$4,340	$0
J	Computed	RW	600		200	100%	$3,978	$3,978	$0
K	Computed	RW				100%	$0	$0	$0
L	Computed	RW				100%	$0	$0	$0
							$8,317	$8,317	$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	144		200	100%	$22,659	$22,659	$0
N	Computed	RW				100%	$0	$0	$0
O	Computed	RW				100%	$0	$0	$0
P	Computed	RW				100%	$0	$0	$0
							$22,659	$22,659	$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
$89,550	$89,550	$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				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$0	$0	$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
$0	$0	$0

D. WATER

Water Line

	Computed or User	RW or Const	Diameter of Water 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				100%	$0	$0	$0
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$0	$0	$0

Misc. Water Costs

E Misc. Water Costs Charged to Const. Project:

F Misc. Water Costs Charged to RW Project:

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

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	8		200	100%	$20,248	$0	$20,248
B	Computed	Const				100%	$0	$0	$0
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$20,248	$0	$20,248

Misc. Sewer Costs

E Misc. Sewer Costs Charged to Const. Project:

F Misc. Sewer Costs Charged to RW Project:

TOTAL SEWER	Total to RW Proj	Total to Const Proj
$20,248	$0	$20,248

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				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$0	$0	$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

		TOTAL GAS / PROPANE	Total to RW Proj	Total to Const Proj
I	Misc. Gas / Pro Costs Charged to RW Project:			
J	Misc. Gas / Pro Costs Charged to Const. Project:	$0	$0	$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

		TOTAL PETROLEUM	Total to RW Proj	Total to Const Proj
E	Misc. Petroleum Costs Charged to RW Project:			
F	Misc. Petroleum Costs Charged to Const. Project:	$0	$0	$0

H. CELLULAR

Cellular Telephone Costs

		TOTAL CELLULAR	Total to RW Proj	Total to Const Proj
A	Total Cellular Costs Charged to RW Project:			
B	Total Cellular Costs Charged to Const. Project:	$0	$0	$0

I. ADDITIONAL COSTS

Additional Utility Costs to Right-of-Way Project :

Comments:

Additional Utility Costs to Construction Project :

Comments:

Additional Utility Costs to Utility Owners/Others :

Comments:

TOTAL UTILITY COST - RIGHT-OF-WAY PROJECT	$113,863
TOTAL UTILITY COST - CONSTRUCTION PROJECT	$20,248
TOTAL UTILITY COST - UTILITY OWNER / OTHERS	$0
GRAND TOTAL UTILITY COSTS	$134,111

Version 3.10

UPC: ****

Project Cost Estimating System
MANUAL ESTIMATE

	DATE	PE	RW	CN
EXPENDITURES		$0	$0	$0
RUMS			$0	
TRNS*PORT				$0
AWARD				$0
PROJECTION				$0

ESTIMATE YEAR		AD YEAR
FY2014	1.80%	FY2015
$1,710,748	PE	$1,710,748
$519,371	RW	$519,371
$9,504,157	CN	$9,675,231
$11,734,275	TOTAL	$11,905,350

Job #	Phase	Comment	Estimate
	PE	18% of Construction	$1,710,748
	RW	RW Acquisition	$405,507
	RW	Utility Relocation	$113,863
	CN	Quantity Takeoff Estimate - Paved	$9,504,157

Right of Way					
Qty.	Unit	R/W Type	Unit Price	Multiplier	Cost
335130	SF	Fee Taking (Commercial)	$0.44	2.75	$405,507.30
0	SF	Fee Taking (Residential)	$0.50	2.75	$0.00
1	LS	Utility RW Project	$0.00	1.00	$113,863.22
0	EA	Total Take (Commercial)	$0.00	1.00	$0.00
				Total	$519,370.52

	% PE	CN	PE Cost
PE Estimate	18%	$9,504,156.53	$1,710,748.18

Assumptions:

50 space paved commuter lot expandable to 100 spaces
6" of regular excavation required over length of project and parking lot
2" of surface pavement and 6" of aggregate for paved trail section
Silt Fence required over length of project

UPC: ****

Project Cost Estimating System

SUMMARY PAGE

DISTRICT	CULPEPER		
PROJECT NUMBER	Alternative D-1		
CONSTRUCTION END YEAR	FY2017	UPC	****
AD YEAR	FY2015	RATE OF INFLATION TO AD	1.80%
ESTIMATE YEAR	FY2014	INFLATION RATE DURING CN	N/A
Date of previous estimate	N/A		
PROJECT MANAGER / DESIGNER	RDA		
Preliminary Engineering Estimate:	MANUAL		
Construction Estimate:	PCES		
Right-of-Way Estimate:	MANUAL		
Utilities Estimate:	PCES		
DATE	*11/10/2014*		

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	*$53,424,076*
PRELIMINARY ENGINEERING ESTIMATE	*$6,950,000*
RIGHT-OF-WAY & UTILITIES ESTIMATE	*$9,646,828*
TOTAL PROJECT ESTIMATE	*$70,020,904*

Revised 06/20/13

Estimate Class: Blank

Version 3.10

UPC: ****

VDOT Project Cost Estimating System CONSTRUCTION / BRIDGE / PE VDOT

Project No.	** MISSING DATA **			
Interstate Project ?	No	*		
Maintenance Project ?	No	*		
Route Number		*		
Geometric Standard	GS-7	*	Urban Collector Street System	
Ad Date	2015			
Design Year ADT		*	Project Terrain	Rolling
OR				
Current (Recent) ADT		*		
Enter Design Speed (MPH) (30, 40, 45 or 50)	45	*	Minimum Design Speed =	
RRR Guidelines ? (Enter Yes or No)	No	*		
Surface Treat Only ?	No	*		
Project Length (mi.)	2.12	*	*Number of Additional Lanes:*	*Length of Add'l. Lanes (mi.):*
Total Length -Adding or Building Two Lanes (mi.)	1.55	*	*None*	
Total Length - Adding or Building Four Lanes (mi.)	0.57	*	*None*	
Total Length - Building Ramps and Loops (mi.)	0.00	*	*None*	
Shoulder or Curb & Gutter ? (Select S or C&G)	C&G	*	Enter Lane Width (ft) >	
Median Type - Graded, Raised, or None ?	N	*	Normal Lane Width(ft)	12
Number of Crossovers (Divided Highways ONLY)	0	*		
Length - Curb & Gutter - Left PLUS Right Side (ft.)	22,545		Bike/Ped Construction Costs (Statewide Avg.)	
Length - Sidewalk - Left PLUS Right Side (ft.)	0	*	Length (ft)	18,942
Bike / Pedestrian Type	4' wide curb			
			CE Cost	*$108,826*
Total Length - Raised Median (ft.)	0		PE Cost	*$101,000*
Number of Right Turn Lanes - Left PLUS Right Side	4	*	Inflated Const.Cost	*$969,158*
Number of Left Turn Lanes - (Undivided Only)	7	*		***CULPEPER***
			90%	*Cost Factor used*
			Construction Costs	
Signals, ITS, Signs and Lighting Costs*	$865,876		Base #1 (PCES)	*$45,179,480*
Cost of Large Drainage Structures	*$1,800,000*		Base #2	*$1,468,916*
In-Plan Utility Costs*	*$1,460,842*		Enter Const CE Cost >	*$0*
Adjustment for Unusual Construction Costs & Bridges	*$31,416,979*		CE (12.5%)	*$5,831,050*
** Totals include district factor calculations*			Estimate (2014)	***$52,479,446***

Additional (or Unusual) P. E. Costs			
Select % of PE to be performed by Consultants	100%	PE Cost	***$6,410,889***

Note: Do Not Include Bridge P. E. Costs Here

Roadway P. E. / Roadway Const. = 13.0%

Revised 06/20/13

Today's Date: 11/10/14

Version 3.10

UPC: ****

VDOT

Project Cost Estimating System
CONSTRUCTION / BRIDGE / PE

VDOT

Project No.	** MISSING DATA **			
Interstate Project ?	No	*		
Route Number		*		
Geometric Standard	GS-7	*	Urban Collector Street System	
Ad Date	2015			
Design Year ADT		*	Project Terrain	Rolling
OR				
Current (Recent) ADT		*		
			Minimum	
Enter Design Speed (MPH) (30, 40, 45 or 50)	45	*	Design Speed =	
RRR Guidelines ? (Enter Yes or No)	No	*		
Surface Treat Only ?	No	*		
Project Length (mi.)	0.26	*	*Number of Additional Lanes:*	*Length of Add'l. Lanes (mi.):*
Total Length -Adding or Building Two Lanes (mi.)	0.26	*	*None*	
Total Length - Adding or Building Four Lanes (mi.)	0.00	*	*None*	
Total Length - Building Ramps and Loops (mi.)	0.00	*	*None*	
Shoulder or Curb & Gutter ? (Select S or C&G)	C&G	*	Enter Lane Width (ft.)	
Median Type - Graded, Raised, or None ?	N	*	Normal Lane Width (ft.)	12
Number of Crossovers(Divided Highways ONLY)	0	*		
Length - Curb & Gutter - Left PLUS Right Side (ft.)	2,680			
Length - Sidewalk - Left PLUS Right Side (ft.)	0			
Bike / Pedestrian Type	None	*		
Total Length - Raised Median (ft.)	0			
Number of Right Turn Lanes - Left PLUS Right Side	3	*	*Project Location:*	
Number of Left Turn Lanes - (Undivided Only)	2	*	*CULPEPER*	

Construction Costs

Base #2 *$1,468,916*

Revised 06/20/13

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UPC: ****

Project Cost Estimating System
Miscellaneous Cost Estimates

COST OF LARGE DRAINAGE STRUCTURES

Job#	Description	Cost ()
	Box Culvert	$1,800,000
		$1,800,000

ADJUSTMENT FOR UNUSUAL CONSTRUCTION COSTS

Type	Description	Cost ()
Other	Stormwater Management (SWM Facilities).	$1,800,000
Maintenance of Traffic	MOT Costs	$1,000,000
Other	Bridges (58,320 SF @ $325 /SF)	$18,954,000
Other	Earthwork due to difficult terrain	$5,000,000
Other	Retaining walls	$3,000,000
Other	Shared-use path	$1,662,979
		$31,416,979

Version 3.10

SIGNALS, ITS, SIGNS and LIGHTING COST WORKSHEET

Stand Alone Traffic Project:	No

UPC: ****

SIGNALS

Permanent Signals		New/ Mod.	Intersection Type	Major Direction	Major Lanes	Major Direction	Major Lanes	Cross Direction	Cross Lanes	Cross Direction	Cross Lanes	Poles	Detection	Pre-emption	Cost
Location/Description															
1	John Warner Pkwy	New	Four-way	West	3	East	3	South	2	North	3	Comb. M.A. Lighting	Video	Yes	$224,942
2	Rio Road	New	Tee	West	0	East	2	South	3	North	2	Comb. M.A. Lighting	Video	Yes	$203,260
3	Stony Point Rd	New	Four-way	South	3	North	3	East	3	West	3	Comb. M.A. Lighting	Video	Yes	$228,942
4	Pen Park Rd	New	Four-way	South	4	North	4	East	1	West	2	Comb. M.A. Lighting	Video	Yes	$224,942
5															$0
6															$0
7															$0
8															$0
9															$0
10															$0

	Quantity	Cost
Temporary Signals - New Equipment	1	$55,000
Temporary Signals - Modified Equipment	1	$25,000

		Location/Description	Cost
MISCELLANEOUS	1		
SIGNAL WORK	2		

Signals Construction Subtotal $962,085

ITS

		Location/Description	Cost
ITS WORK	1		
	2		

ITS Construction Subtotal $0

MAJOR SIGN STRUCTURES

	Type of Sign	Comment	Quantity	Unit	Lighted Y/N	Cost/Sign	Extended Cost
1				Ea.			
2				Ea.			
3				Ea.			
4				Ea.			
5				Ea.			
6				Ea.			
7				Ea.			

		Location/Description	Cost
MISCELLANEOUS	1		
SIGN WORK	2		

Signs Construction Subtotal $0

LIGHTING

Continuous Roadway

	Urban Type of Lighting	Comments	No. Lanes	Number of Miles	Cost
1					$0

	Freeway Type of Lighting	Comments	No. Lanes	Number of Miles	Cost
1					$0

Interchange

	Interchange Type	Type of Lighting	Number of Interchanges	Cost
1				$0
2				$0
3				$0

Miscellaneous

	Location/Description	Cost
1		
2		

Lighting Construction Subtotal $0

CONSTRUCTION TOTAL $962,085

District factor will be applied when the total cost is passed to the const-1 worksheet

PROJECT COMMENTS

Prepared by: Date Prepared/Modified:

Version 3.10

UPC: ****

Project Cost Estimating System
UTILITIES ESTIMATE

Project No.: *** MISSING DATA ***

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	Wood		3	Rural	100%	$162,705	$162,705	$0
B	Computed	RW				Rural	100%	$0	$0	$0
C	Computed	RW				Rural	100%	$0	$0	$0
D	Computed	RW				Rural	100%	$0	$0	$0
								$162,705	$162,705	$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	Single Phase		3	Rural	100%	$16,631	$16,631	$0
F	Computed	RW	Three Phase		21	Rural	100%	$232,859	$232,859	$0
G	Computed	RW				Rural	100%	$0	$0	$0
H	Computed	RW				Rural	100%	$0	$0	$0
I	Computed	RW				Rural	100%	$0	$0	$0
J	Computed	RW				Rural	100%	$0	$0	$0
								$249,490	$249,490	$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				100%	$0	$0	$0
M	Computed	RW				100%	$0	$0	$0
N	Computed	RW				100%	$0	$0	$0
							$0	$0	$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				100%	$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:	
Z	Misc. Electrical Costs Charged to Const. Project:	

TOTAL ELECTRICAL	Total to RW Proj	Total to Const Proj
$412,194	$412,194	$0

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	900		67	100%	$339,155	$339,155	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$339,155	$339,155	$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	144		48	100%	$590,102	$590,102	$0
F	Computed	RW				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$590,102	$590,102	$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				100%	$0	$0	$0
K	Computed	RW				100%	$0	$0	$0
L	Computed	RW				100%	$0	$0	$0
							$0	$0	$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	144		3,450	100%	$482,336	$482,336	$0
V	Computed	RW				100%	$0	$0	$0
W	Computed	RW				100%	$0	$0	$0
X	Computed	RW				100%	$0	$0	$0
							$482,336	$482,336	$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
$1,411,594	$1,411,594	$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	.650 Coax		96	100%	$63,607	$63,607	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$63,607	$63,607	$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				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$0	$0	$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
$63,607	$63,607	$0

D. WATER

Water Line

	Computed or User	RW or Const	Diameter of Water Pipe (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	to RW Project	to Const Project
A	Computed	Const	20		5,200	100%	$1,347,463	$0	$1,347,463
B	Computed	Const				100%	$0	$0	$0
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$1,347,463	$0	$1,347,463

Misc. Water Costs

E Misc. Water Costs Charged to Const. Project:

F Misc. Water Costs Charged to RW Project:

TOTAL WATER	Total to RW Proj	Total to Const Proj
$1,347,463	$0	$1,347,463

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	24		1,525	100%	$275,694	$0	$275,694
B	Computed	Const				100%	$0	$0	$0
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$275,694	$0	$275,694

Misc. Sewer Costs

E Misc. Sewer Costs Charged to Const. Project:

F Misc. Sewer Costs Charged to RW Project:

TOTAL SEWER	Total to RW Proj	Total to Const Proj
$275,694	$0	$275,694

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	4		1,525	100%	$82,713	$82,713	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$82,713	$82,713	$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

			TOTAL GAS / PROPANE	Total to RW Proj	Total to Const Proj
I	Misc. Gas / Pro Costs Charged to RW Project:		$82,713	$82,713	$0
J	Misc. Gas / Pro Costs Charged to Const. Project:				

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

			TOTAL PETROLEUM	Total to RW Proj	Total to Const Proj
E	Misc. Petroleum Costs Charged to RW Project:		$0	$0	$0
F	Misc. Petroleum Costs Charged to Const. Project:				

H. CELLULAR

Cellular Telephone Costs

			TOTAL CELLULAR	Total to RW Proj	Total to Const Proj
A	Total Cellular Costs Charged to RW Project:		$0	$0	$0
B	Total Cellular Costs Charged to Const. Project:				

I. ADDITIONAL COSTS

	Additional Utility Costs to Right-of-Way Project :	
Comments:		
	Additional Utility Costs to Construction Project :	
Comments:		
	Additional Utility Costs to Utility Owners/Others :	
Comments:		

TOTAL UTILITY COST - RIGHT-OF-WAY PROJECT	*$1,970,109*
TOTAL UTILITY COST - CONSTRUCTION PROJECT	*$1,623,157*
TOTAL UTILITY COST - UTILITY OWNER / OTHERS	*$0*
GRAND TOTAL UTILITY COSTS	***$3,593,266***

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UPC: ****

VDOT Project Cost Estimating System MANUAL ESTIMATE VDOT

	DATE	PE	RW	CN
EXPENDITURES		$0	$0	$0
RUMS			$0	
TRNS*PORT				$0
AWARD				$0
PROJECTION				$0

ESTIMATE YEAR		AD YEAR
FY2014	1.80%	FY2015
$6,950,000	PE	$6,950,000
$9,646,828	RW	$9,646,828
$0	CN	$0
$16,596,828	TOTAL	$16,596,828

Job #	Phase	Comment	Estimate
	PE	PE Cost Estimate [13% (rounded) of CN]	$6,950,000
	RW	Relocations/Total Takes	$785,280
	RW	R/W Total Costs	$6,891,439
	RW	Utilities to be included in the right of way estimate	$1,970,109

Relocations input from ROW Dept	3 takes			$785,280

	SF	Cost/SF	Multiplier	Cost
SF of Commercial	0	$0.00	2.75	$0
SF of Residential	778,254	$3.22	2.75	$6,891,439
			TOTAL	$6,891,439

	CN	PE %	PE
PE Cost Calc	$53,424,076	13%	$6,950,000

UPC: ****

Project Cost Estimating System

SUMMARY PAGE

DISTRICT	CULPEPER		
PROJECT NUMBER	Alternative D-2		
CONSTRUCTION END YEAR	FY2017	UPC	****
AD YEAR	FY2015	RATE OF INFLATION TO AD	1.80%
ESTIMATE YEAR	FY2014	INFLATION RATE DURING CN	N/A
Date of previous estimate	N/A		
PROJECT MANAGER / DESIGNER	RDA		
Preliminary Engineering Estimate:	MANUAL		
Construction Estimate:	PCES		
Right-of-Way Estimate:	MANUAL		
Utilities Estimate:	PCES		
DATE	*11/10/2014*		

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	*$51,905,393*
PRELIMINARY ENGINEERING ESTIMATE	*$6,750,000*
RIGHT-OF-WAY & UTILITIES ESTIMATE	*$9,386,604*
TOTAL PROJECT ESTIMATE	*$68,041,997*

Revised 06/20/13

Estimate Class: Blank

Version 3.10

UPC: ****

VDOT Project Cost Estimating System CONSTRUCTION / BRIDGE / PE VDOT

Project No.	** MISSING DATA **			
Interstate Project ?	No	*		
Maintenance Project ?	No	*		
Route Number		*		
Geometric Standard	GS-7	*	Urban Collector Street System	
Ad Date	2015			
Design Year ADT		*	Project Terrain	Rolling
OR				
Current (Recent) ADT		*		
Enter Design Speed (MPH) (30, 40, 45 or 50)	45	*	Minimum Design Speed =	
RRR Guidelines ? (Enter Yes or No)	No	*		
Surface Treat Only ?	No	*		
Project Length (mi.)	2.04	*	*Number of Additional Lanes:*	*Length of Add'l. Lanes (mi.):*
Total Length -Adding or Building Two Lanes (mi.)	1.47	*	*None*	
Total Length - Adding or Building Four Lanes (mi.)	0.57	*	*None*	
Total Length - Building Ramps and Loops (mi.)	0.00	*	*None*	
Shoulder or Curb & Gutter ? (Select S or C&G)	C&G	*	Enter Lane Width (ft) >	
Median Type - Graded, Raised, or None ?	N	*	Normal Lane Width(ft)	12
Number of Crossovers (Divided Highways ONLY)	0	*		
Length - Curb & Gutter - Left PLUS Right Side (ft.)	21,851		Bike/Ped Construction Costs (Statewide Avg.)	
Length - Sidewalk - Left PLUS Right Side (ft.)	0	*	Length (ft)	19,386
Bike / Pedestrian Type	4' wide curb			
			CE Cost	*$111,167*
Total Length - Raised Median (ft.)	0		PE Cost	*$104,000*
Number of Right Turn Lanes - Left PLUS Right Side	4	*	Inflated Const.Cost	*$991,661*
Number of Left Turn Lanes - (Undivided Only)	6	*		*CULPEPER*
			90%	*Cost Factor used*
			Construction Costs	
Signals, ITS, Signs and Lighting Costs*	$1,045,210		Base #1 (PCES)	*$43,978,044*
Cost of Large Drainage Structures	*$910,975*		Base #2	*$1,344,281*
In-Plan Utility Costs*	*$1,460,842*		Enter Const CE Cost >	*$0*
Adjustment for Unusual Construction Costs & Bridges	*$31,316,967*		CE (12.5%)	*$5,665,291*
** Totals include district factor calculations*			Estimate (2014)	*$50,987,616*

Additional (or Unusual) P. E. Costs			
Select % of PE to be performed by Consultants	100%	PE Cost	*$6,228,647*

Note: Do Not Include Bridge P. E. Costs Here

Roadway P. E. / Roadway Const. = 13.0%

Revised 06/20/13

Today's Date: 11/10/14

Version 3.10

UPC: ****

VDOT

Project Cost Estimating System
CONSTRUCTION / BRIDGE / PE

VDOT

Project No.	** MISSING DATA **			
Interstate Project ?	No	*		
Route Number		*		
Geometric Standard	GS-7	*	Urban Collector Street System	
Ad Date	2015			
Design Year ADT		*	Project Terrain	Rolling
OR				
Current (Recent) ADT		*		
			Minimum	
Enter Design Speed (MPH) (30, 40, 45 or 50)	45	*	Design Speed =	
RRR Guidelines ? (Enter Yes or No)	No	*		
Surface Treat Only ?	No	*		
Project Length (mi.)	0.29	*	*Number of Additional Lanes:*	*Length of Add'l. Lanes (mi.):*
Total Length -Adding or Building Two Lanes (mi.)	0.29	*	*None*	
Total Length - Adding or Building Four Lanes (mi.)	0.00	*	*None*	
Total Length - Building Ramps and Loops (mi.)	0.00	*	*None*	
Shoulder or Curb & Gutter ? (Select S or C&G)	C&G	*	Enter Lane Width (ft.)	
Median Type - Graded, Raised, or None ?	N	*	Normal Lane Width (ft.)	12
Number of Crossovers(Divided Highways ONLY)	0	*		
Length - Curb & Gutter - Left PLUS Right Side (ft.)	3,084			
Length - Sidewalk - Left PLUS Right Side (ft.)	0			
Bike / Pedestrian Type	None	*		
Total Length - Raised Median (ft.)	0			
Number of Right Turn Lanes - Left PLUS Right Side	2	*		
Number of Left Turn Lanes - (Undivided Only)	1	*		

Project Location:
CULPEPER

Construction Costs

Base #2	*$1,344,281*

Revised 06/20/13

Today's Date: 11/10/14

Version 3.10

UPC: ****

Project Cost Estimating System
Miscellaneous Cost Estimates

COST OF LARGE DRAINAGE STRUCTURES

Job#	Description	Cost ()
	Box Culvert	$910,975
		$910,975

ADJUSTMENT FOR UNUSUAL CONSTRUCTION COSTS

Type	Description	Cost ()
Other	Stormwater Management (SWM Facilities)	$2,500,000
Maintenance of Traffic	MOT Costs	$250,000
Other	Bridges (58,320 SF @ $325 /SF)	$18,954,000
Other	Earthwork due to difficult terrain	$5,000,000
Other	Retaining walls	$3,000,000
Other	Shared-use path	$1,612,967
		$31,316,967

Version 3.10

SIGNALS, ITS, SIGNS and LIGHTING COST WORKSHEET

Stand Alone Traffic Project:	No

UPC: ****

SIGNALS

	Permanent Signals	New/ Mod.	Intersection Type	Major Direction	Major Lanes	Major Direction	Major Lanes	Cross Direction	Cross Lanes	Cross Direction	Cross Lanes	Poles	Detection	Pre-emption	Cost
	Location/Description														
1	John Warner Pkwy	New	Four-way	West	3	East	3	South	2	North	3	Comb. M.A. Lighting	Video	Yes	$224,942
2	Rio Road	New	Tee	West	0	East	2	South	3	North	2	Comb. M.A. Lighting	Video	Yes	$203,260
3	Stony Point Rd	New	Four-way	South	3	North	3	East	2	West	2	Comb. M.A. Lighting	Video	Yes	$220,942
4	Pen Park Rd	New	Four-way	South	4	North	4	East	1	West	2	Comb. M.A. Lighting	Video	Yes	$224,942
5	Stony Point Rd	New	Tee	South	3	North	3	East	2			Comb. M.A. Lighting	Video	Yes	$207,260
6															$0
7															$0
8															$0
9															$0
10															$0

	Quantity	Cost
Temporary Signals - New Equipment	1	$55,000
Temporary Signals - Modified Equipment	1	$25,000

		Location/Description	Cost
MISCELLANEOUS	1		
SIGNAL WORK	2		

Signals Construction Subtotal $1,161,344

ITS

		Location/Description	Cost
ITS WORK	1		
	2		

ITS Construction Subtotal $0

MAJOR SIGN STRUCTURES

	Type of Sign	Comment	Quantity	Unit	Lighted Y/N	Cost/Sign	Extended Cost
1				Ea.			
2				Ea.			
3				Ea.			
4				Ea.			
5				Ea.			
6				Ea.			
7				Ea.			

		Location/Description	Cost
MISCELLANEOUS	1		
SIGN WORK	2		

Signs Construction Subtotal $0

LIGHTING

Continuous Roadway

	Urban Type of Lighting	Comments	No. Lanes	Number of Miles	Cost
1					$0

	Freeway Type of Lighting	Comments	No. Lanes	Number of Miles	Cost
1					$0

Interchange

	Interchange Type	Type of Lighting	Number of Interchanges	Cost
1				$0
2				$0
3				$0

Miscellaneous

	Location/Description	Cost
1		
2		

Lighting Construction Subtotal $0

CONSTRUCTION TOTAL $1,161,344

District factor will be applied when the total cost is passed to the const-1 worksheet

PROJECT COMMENTS

Prepared by: Date Prepared/Modified:

Version 3.10

UPC: ****

Project Cost Estimating System
UTILITIES ESTIMATE

Project No.: *** MISSING DATA ***

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	Wood		3	Rural	100%	$162,705	$162,705	$0
B	Computed	RW				Rural	100%	$0	$0	$0
C	Computed	RW				Rural	100%	$0	$0	$0
D	Computed	RW				Rural	100%	$0	$0	$0
								$162,705	$162,705	$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	Single Phase		3	Rural	100%	$16,631	$16,631	$0
F	Computed	RW	Three Phase		27	Rural	100%	$299,390	$299,390	$0
G	Computed	RW	Dual Three Phase		2	Rural	100%	$30,492	$30,492	$0
H	Computed	RW				Rural	100%	$0	$0	$0
I	Computed	RW				Rural	100%	$0	$0	$0
J	Computed	RW				Rural	100%	$0	$0	$0
								$346,513	$346,513	$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				100%	$0	$0	$0
M	Computed	RW				100%	$0	$0	$0
N	Computed	RW				100%	$0	$0	$0
							$0	$0	$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				100%	$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:	
Z	Misc. Electrical Costs Charged to Const. Project:	

TOTAL ELECTRICAL	Total to RW Proj	Total to Const Proj
$509,217	$509,217	$0

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	900		71	100%	$359,403	$359,403	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$359,403	$359,403	$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	144		54	100%	$663,865	$663,865	$0
F	Computed	RW				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$663,865	$663,865	$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				100%	$0	$0	$0
K	Computed	RW				100%	$0	$0	$0
L	Computed	RW				100%	$0	$0	$0
							$0	$0	$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	144		3,450	100%	$482,336	$482,336	$0
V	Computed	RW				100%	$0	$0	$0
W	Computed	RW				100%	$0	$0	$0
X	Computed	RW				100%	$0	$0	$0
							$482,336	$482,336	$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
$1,505,605	$1,505,605	$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	.650 Coax		98	100%	$64,932	$64,932	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$64,932	$64,932	$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				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$0	$0	$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
$64,932	$64,932	$0

D. WATER

Water Line

	Computed or User	RW or Const	Diameter of Water Pipe (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	to RW Project	to Const Project
A	Computed	Const	20		5,200	100%	$1,347,463	$0	$1,347,463
B	Computed	Const				100%	$0	$0	$0
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$1,347,463	$0	$1,347,463

Misc. Water Costs

E Misc. Water Costs Charged to Const. Project:

F Misc. Water Costs Charged to RW Project:

TOTAL WATER	Total to RW Proj	Total to Const Proj
$1,347,463	$0	$1,347,463

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	24		1,525	100%	$275,694	$0	$275,694
B	Computed	Const				100%	$0	$0	$0
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$275,694	$0	$275,694

Misc. Sewer Costs

E Misc. Sewer Costs Charged to Const. Project:

F Misc. Sewer Costs Charged to RW Project:

TOTAL SEWER	Total to RW Proj	Total to Const Proj
$275,694	$0	$275,694

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	4		1,525	100%	$82,713	$82,713	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$82,713	$82,713	$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

		TOTAL GAS / PROPANE	Total to RW Proj	Total to Const Proj
I	Misc. Gas / Pro Costs Charged to RW Project:			
J	Misc. Gas / Pro Costs Charged to Const. Project:			
		$82,713	$82,713	$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

		TOTAL PETROLEUM	Total to RW Proj	Total to Const Proj
E	Misc. Petroleum Costs Charged to RW Project:			
F	Misc. Petroleum Costs Charged to Const. Project:			
		$0	$0	$0

H. CELLULAR

Cellular Telephone Costs

		TOTAL CELLULAR	Total to RW Proj	Total to Const Proj
A	Total Cellular Costs Charged to RW Project:			
B	Total Cellular Costs Charged to Const. Project:			
		$0	$0	$0

I. ADDITIONAL COSTS

Additional Utility Costs to Right-of-Way Project :

Comments:

Additional Utility Costs to Construction Project :

Comments:

Additional Utility Costs to Utility Owners/Others :

Comments:

TOTAL UTILITY COST - RIGHT-OF-WAY PROJECT	$2,162,468
TOTAL UTILITY COST - CONSTRUCTION PROJECT	$1,623,157
TOTAL UTILITY COST - UTILITY OWNER / OTHERS	$0
GRAND TOTAL UTILITY COSTS	$3,785,625

Version 3.10

UPC: ****

Project Cost Estimating System
MANUAL ESTIMATE

	DATE	PE	RW	CN
EXPENDITURES		$0	$0	$0
RUMS			$0	
TRNS*PORT				$0
AWARD				$0
PROJECTION				$0

ESTIMATE YEAR		AD YEAR
FY2014	1.80%	FY2015
$6,750,000	PE	$6,750,000
$9,386,604	RW	$9,386,604
$0	CN	$0
$16,136,604	TOTAL	$16,136,604

Job #	Phase	Comment	Estimate
	PE	PE Cost Estimate [13% (rounded) of CN]	$6,750,000
	RW	Relocations/Total Takes	$785,280
	RW	R/W Total Costs	$6,438,856
	RW	Utilities to be included in the right of way estimate	$2,162,468

Relocations input from ROW Dept (3 takes) $785,280

	SF	Cost/SF	Multiplier	Cost
SF of Commercial	0	$0.00	2.75	$0
SF of Residential	755,291	$3.10	2.75	$6,438,856
			TOTAL	$6,438,856

	CN	PE %	PE
PE Cost Calc	$51,905,393	13%	$6,750,000

UPC: ****

Project Cost Estimating System

SUMMARY PAGE

DISTRICT	CULPEPER		
PROJECT NUMBER	Alternative F		
CONSTRUCTION END YEAR	FY2016	UPC	****
AD YEAR	FY2015	RATE OF INFLATION TO AD	1.80%
ESTIMATE YEAR	FY2014	INFLATION RATE DURING CN	N/A
Date of previous estimate	N/A		
PROJECT MANAGER / DESIGNER	RDA		
Preliminary Engineering Estimate:	MANUAL		
Construction Estimate:	PCES		
Right-of-Way Estimate:	MANUAL		
Utilities Estimate:	PCES		
DATE	*11/10/2014*		

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	*$10,874,119*
PRELIMINARY ENGINEERING ESTIMATE	*$1,850,000*
RIGHT-OF-WAY & UTILITIES ESTIMATE	*$7,820,216*
TOTAL PROJECT ESTIMATE	*$20,544,335*

Revised 06/20/13

Estimate Class: Blank

Version 3.10

UPC: ****

Project Cost Estimating System
CONSTRUCTION / BRIDGE / PE

Project No.	** MISSING DATA **			
Interstate Project ?	No	*		
Maintenance Project ?	No	*		
Route Number		*		
Geometric Standard	GS-5	*	Urban Principal Arterial System	
Ad Date	2015			
Design Year ADT	37,000	*	Project Terrain	Rolling
Box Must Be Empty			Approx. DHV =	5,550
			Minimum	
Enter Design Speed (MPH) (30, 40, 45, 50 or 60)	45	*	Design Speed =	45 MPH
Box Must Be Empty	No			
Box Must Be Empty	No			
Project Length (mi.)	0.85	*	*Number of Additional Lanes:*	*Length of Add'l. Lanes (mi.):*
Total Length -Adding or Building Two Lanes (mi.)	0.85	*	*None*	
Total Length - Adding or Building Four Lanes (mi.)		*	*None*	
Total Length - Building Ramps and Loops (mi.)		*	*None*	
Shoulder or Curb & Gutter ? (Select S or C&G)	C&G	*	Enter Lane Width (ft) >	
Median Type - Graded, Raised, or None ?	R	*	Normal Lane Width(ft)	12
Number of Crossovers (Divided Highways ONLY)	3	*		
Length - Curb & Gutter - Left PLUS Right Side (ft.)	4,700		Bike/Ped Construction Costs (Statewide Avg.)	
Length - Sidewalk - Left PLUS Right Side (ft.)	4,000	*	Length (ft)	300
Bike / Pedestrian Type	10' shared use			
			CE Cost	*$5,843*
Total Length - Raised Median (ft.)	3,100		PE Cost	*$6,000*
Number of Right Turn Lanes - Left PLUS Right Side		*	Inflated Const.Cost	*$50,842*
Number of Left Turn Lanes - (Undivided Only)		*		***CULPEPER***
			90%	*Cost Factor used*
			Construction Costs	
Signals, ITS, Signs and Lighting Costs*	$753,156		Base #1 (PCES)	*$9,432,093*
Cost of Large Drainage Structures	*$0*		Base #2	*$0*
In-Plan Utility Costs*	*$1,014,211*		Enter Const CE Cost >	*$0*
Adjustment for Unusual Construction Costs	*$4,022,500*		CE (13.25%)	*$1,249,752*
** Totals include district factor calculations*			Estimate (2014)	***$10,681,845***

Additional (or Unusual) P. E. Costs			
Select % of PE to be performed by Consultants	100%	PE Cost	***$1,526,171***

Note: Do Not Include Bridge P. E. Costs Here

Roadway P. E. / Roadway Const. = 17.0%

Revised 06/20/13

Today's Date: 11/10/14

Version 3.10

UPC: ****

Project Cost Estimating System
Miscellaneous Cost Estimates

COST OF LARGE DRAINAGE STRUCTURES

Job#	Description	Cost ()
		$0

ADJUSTMENT FOR UNUSUAL CONSTRUCTION COSTS

Type	Description	Cost ()
Other	Stormwater Management (SWM Facilities)	$500,000
Maintenance of Traffic	MOT Costs	$2,000,000
Other	Pedestrian Bridge (6090 SF @ $250 /SF)	$1,522,500
		$4,022,500

Version 3.10

SIGNALS, ITS, SIGNS and LIGHTING COST WORKSHEET

Stand Alone Traffic Project:	No

UPC: ****

SIGNALS

Permanent Signals		New/ Mod.	Intersection Type	Major Direction	Major Lanes	Major Direction	Major Lanes	Cross Direction	Cross Lanes	Cross Direction	Cross Lanes	Poles	Detection	Pre-emption	Cost
Location/Description															
1	High Street	New	Four-way	West	5	East	5	South	2	North	3	Comb. M.A. Lighting	Video	Yes	$240,942
2	Stony Point Road	New	Four-way	West	4	East	6	South	3	North	3	Comb. M.A. Lighting	Video	Yes	$244,942
3															$0
4															$0
5															$0
6															$0
7															$0
8															$0
9															$0
10															$0

	Quantity	Cost
Temporary Signals - New Equipment		$0
Temporary Signals - Modified Equipment		$0

		Location/Description	Cost
MISCELLANEOUS	1		
SIGNAL WORK	2		

Signals Construction Subtotal $485,883

ITS

		Location/Description	Cost
ITS WORK	1		
	2		

ITS Construction Subtotal $0

MAJOR SIGN STRUCTURES

	Type of Sign	Comment	Quantity	Unit	Lighted Y/N	Cost/Sign	Extended Cost
1				Ea.			
2				Ea.			
3				Ea.			
4				Ea.			
5				Ea.			
6				Ea.			
7				Ea.			

		Location/Description	Cost
MISCELLANEOUS	1		
SIGN WORK	2		

Signs Construction Subtotal $0

LIGHTING

Continuous Roadway

	Urban Type of Lighting	Comments	No. Lanes	Number of Miles	Cost
1	Conventional		8	0.32	$350,957

	Freeway Type of Lighting	Comments	No. Lanes	Number of Miles	Cost
1					$0

Interchange

	Interchange Type	Type of Lighting	Number of Interchanges	Cost
1				$0
2				$0
3				$0

Miscellaneous

	Location/Description	Cost
1		
2		

Lighting Construction Subtotal $350,957

CONSTRUCTION TOTAL $836,840

District factor will be applied when the total cost is passed to the const-1 worksheet

PROJECT COMMENTS

Prepared by: Date Prepared/Modified:

Version 3.10

UPC: ****

VDOT

Project Cost Estimating System
UTILITIES ESTIMATE

VDOT

Project No.: ** *MISSING DATA* **

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				Rural	100%	$0	$0	$0
B	Computed	RW				Rural	100%	$0	$0	$0
C	Computed	RW				Rural	100%	$0	$0	$0
D	Computed	RW				Rural	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	Three Phase		6	Rural	100%	$66,531	$66,531	$0
F	Computed	RW	Dual Three Phase		15	Rural	100%	$228,690	$228,690	$0
G	Computed	RW				Rural	100%	$0	$0	$0
H	Computed	RW				Rural	100%	$0	$0	$0
I	Computed	RW				Rural	100%	$0	$0	$0
J	Computed	RW				Rural	100%	$0	$0	$0
								$295,221	$295,221	$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	Dual Three Phase		4,000	100%	$1,013,082	$1,013,082	$0
L	Computed	RW				100%	$0	$0	$0
M	Computed	RW				100%	$0	$0	$0
N	Computed	RW				100%	$0	$0	$0
							$1,013,082	$1,013,082	$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				100%	$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:	
Z	Misc. Electrical Costs Charged to Const. Project:	

TOTAL ELECTRICAL	Total to RW Proj	Total to Const Proj
$1,308,303	$1,308,303	$0

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	900		48	100%	$242,977	$242,977	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$242,977	$242,977	$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	144		42	100%	$516,340	$516,340	$0
F	Computed	RW				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$516,340	$516,340	$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				100%	$0	$0	$0
K	Computed	RW				100%	$0	$0	$0
L	Computed	RW				100%	$0	$0	$0
							$0	$0	$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	144		4,000	100%	$559,231	$559,231	$0
V	Computed	RW				100%	$0	$0	$0
W	Computed	RW				100%	$0	$0	$0
X	Computed	RW				100%	$0	$0	$0
							$559,231	$559,231	$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
$1,318,547	$1,318,547	$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	.650 Coax		63	100%	$41,742	$41,742	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$41,742	$41,742	$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				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$0	$0	$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
$41,742	$41,742	$0

D. WATER

Water Line

	Computed or User	RW or Const	Diameter of Water Pipe (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	to RW Project	to Const Project
A	Computed	Const	20		4,000	100%	$1,036,510	$0	$1,036,510
B	Computed	Const				100%	$0	$0	$0
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$1,036,510	$0	$1,036,510

Misc. Water Costs

E Misc. Water Costs Charged to Const. Project:

F Misc. Water Costs Charged to RW Project:

TOTAL WATER	Total to RW Proj	Total to Const Proj
$1,036,510	$0	$1,036,510

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	24		500	100%	$90,392	$0	$90,392
B	Computed	Const				100%	$0	$0	$0
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$90,392	$0	$90,392

Misc. Sewer Costs

E Misc. Sewer Costs Charged to Const. Project:

F Misc. Sewer Costs Charged to RW Project:

TOTAL SEWER	Total to RW Proj	Total to Const Proj
$90,392	$0	$90,392

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	4		2,000	100%	$108,477	$108,477	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$108,477	$108,477	$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

		TOTAL GAS / PROPANE	Total to RW Proj	Total to Const Proj
I	Misc. Gas / Pro Costs Charged to RW Project:	$108,477	$108,477	$0
J	Misc. Gas / Pro Costs Charged to Const. Project:			

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

		TOTAL PETROLEUM	Total to RW Proj	Total to Const Proj
E	Misc. Petroleum Costs Charged to RW Project:	$0	$0	$0
F	Misc. Petroleum Costs Charged to Const. Project:			

H. CELLULAR

Cellular Telephone Costs

		TOTAL CELLULAR	Total to RW Proj	Total to Const Proj
A	Total Cellular Costs Charged to RW Project:	$0	$0	$0
B	Total Cellular Costs Charged to Const. Project:			

I. ADDITIONAL COSTS

Additional Utility Costs to Right-of-Way Project :

Comments:

Additional Utility Costs to Construction Project :

Comments:

Additional Utility Costs to Utility Owners/Others :

Comments:

TOTAL UTILITY COST - RIGHT-OF-WAY PROJECT	$2,777,069
TOTAL UTILITY COST - CONSTRUCTION PROJECT	$1,126,901
TOTAL UTILITY COST - UTILITY OWNER / OTHERS	$0
GRAND TOTAL UTILITY COSTS	$3,903,971

UPC: ****

Project Cost Estimating System
MANUAL ESTIMATE

	DATE	PE	RW	CN
EXPENDITURES		$0	$0	$0
RUMS			$0	
TRNS*PORT				$0
AWARD				$0
PROJECTION				$0

ESTIMATE YEAR		AD YEAR
FY2014	1.80%	FY2015
$1,850,000	PE	$1,850,000
$7,820,216	RW	$7,820,216
$0	CN	$0
$9,670,216	TOTAL	$9,670,216

Job #	Phase	Comment	Estimate
	PE	PE Cost Estimate [17% (rounded) of CN]	$1,850,000
	RW	Relocations/Total Takes	$826,040
	RW	R/W Total Costs	$4,217,107
	RW	Utilities to be included in the right of way estimate	$2,777,069

Relocations input from ROW Dept	2 takes			$826,040

	SF	Cost/SF	Multiplier	Cost
SF of Commercial	74,550	$20.57	2.75	$4,217,107
SF of Residential	0	$0.00	2.75	$0
			TOTAL	$4,217,107

	CN	PE %	PE
PE Cost Calc	$10,874,119	17%	$1,850,000

UPC: ****

Project Cost Estimating System

SUMMARY PAGE

DISTRICT	CULPEPER		
PROJECT NUMBER	Alternative G		
CONSTRUCTION END YEAR	FY2017	UPC	****
AD YEAR	FY2015	RATE OF INFLATION TO AD	1.80%
ESTIMATE YEAR	FY2014	INFLATION RATE DURING CN	N/A
Date of previous estimate	N/A		
PROJECT MANAGER / DESIGNER	RDA		
Preliminary Engineering Estimate:	MANUAL		
Construction Estimate:	PCES		
Right-of-Way Estimate:	MANUAL		
Utilities Estimate:	PCES		
DATE	*11/10/2014*		

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	*$18,267,565*
PRELIMINARY ENGINEERING ESTIMATE	*$2,740,000*
RIGHT-OF-WAY & UTILITIES ESTIMATE	*$6,098,514*
TOTAL PROJECT ESTIMATE	*$27,106,079*

Revised 06/20/13

Estimate Class: Blank

Version 3.10

UPC: ****

Project Cost Estimating System
CONSTRUCTION / BRIDGE / PE

Project No.	** MISSING DATA **			
Interstate Project ?	No	*		
Maintenance Project ?	No	*		
Route Number		*		
Geometric Standard	GS-7	*	Urban Collector Street System	
Ad Date	2015			
Design Year ADT		*	Project Terrain	Rolling
OR				
Current (Recent) ADT		*		
			Minimum	
Enter Design Speed (MPH) (30, 40, 45 or 50)	45	*	Design Speed =	
RRR Guidelines ? (Enter Yes or No)	No	*		
Surface Treat Only ?	No	*		
Project Length (mi.)	0.45	*	*Number of Additional Lanes:*	*Length of Add'l. Lanes (mi.):*
Total Length -Adding or Building Two Lanes (mi.)	0.29	*	*None*	
Total Length - Adding or Building Four Lanes (mi.)	0.16	*	*None*	
Total Length - Building Ramps and Loops (mi.)		*	*None*	
Shoulder or Curb & Gutter ? (Select S or C&G)	C&G	*	Enter Lane Width (ft) >	
Median Type - Graded, Raised, or None ?	R	*	Normal Lane Width(ft)	12
Number of Crossovers (Divided Highways ONLY)	1	*		
Length - Curb & Gutter - Left PLUS Right Side (ft.)	4,975		Bike/Ped Construction Costs (Statewide Avg.)	
Length - Sidewalk - Left PLUS Right Side (ft.)	2,215	*	Length (ft)	1,210
Bike / Pedestrian Type	10' shared use			
			CE Cost	*$22,234*
Total Length - Raised Median (ft.)	717		PE Cost	*$21,000*
Number of Right Turn Lanes - Left PLUS Right Side	2	*	Inflated Const.Cost	*$203,704*
Number of Left Turn Lanes - (Undivided Only)	0	*		***CULPEPER***
			90%	*Cost Factor used*
			Construction Costs	
Signals, ITS, Signs and Lighting Costs*	$184,447		Base #1 (PCES)	*$15,950,723*
Cost of Large Drainage Structures	*$0*		Base #2	*$0*
In-Plan Utility Costs*	*$208,589*		Enter Const CE Cost >	*$0*
Adjustment for Unusual Construction Costs	*$13,175,100*		CE (12.5%)	*$1,993,840*
** Totals include district factor calculations*			Estimate (2014)	*$17,944,563*

Additional (or Unusual) P. E. Costs			
Select % of PE to be performed by Consultants	100%	PE Cost	*$2,192,108*

Note: Do Not Include Bridge P. E. Costs Here

Roadway P. E. / Roadway Const. = 15.0%

Revised 06/20/13

Today's Date: **11/10/14**

Version 3.10

UPC: ****

Project Cost Estimating System
Miscellaneous Cost Estimates

COST OF LARGE DRAINAGE STRUCTURES

Job#	Description	Cost ()
		$0

ADJUSTMENT FOR UNUSUAL CONSTRUCTION COSTS

Type	Description	Cost ()
Other	Stormwater Management (SWM Facilities)	$500,000
Maintenance of Traffic	MOT Costs	$500,000
Other	Bridge (31,308 SF @ $325 /SF)	$10,175,100
Other	2 - Roundabouts	$2,000,000
		$13,175,100

Version 3.10

SIGNALS, ITS, SIGNS and LIGHTING COST WORKSHEET

Stand Alone Traffic Project:	No

UPC: ****

SIGNALS

Permanent Signals

	Location/Description	New/ Mod.	Intersection Type	Major Direction	Major Lanes	Major Direction	Major Lanes	Cross Direction	Cross Lanes	Cross Direction	Cross Lanes	Poles	Detection	Pre-emption	Cost
1	E. High St./Willow Dr.	New	Four-way	North	2	South	1	East	1	West	2	Comb. M.A. Lighting	Video	Yes	$204,942
2															$0
3															$0
4															$0
5															$0
6															$0
7															$0
8															$0
9															$0
10															$0

	Quantity	Cost
Temporary Signals - New Equipment		$0
Temporary Signals - Modified Equipment		$0

		Location/Description	Cost
MISCELLANEOUS	1		
SIGNAL WORK	2		

Signals Construction Subtotal $204,942

ITS

		Location/Description	Cost
ITS WORK	1		
	2		

ITS Construction Subtotal $0

MAJOR SIGN STRUCTURES

	Type of Sign	Comment	Quantity	Unit	Lighted Y/N	Cost/Sign	Extended Cost
1				Ea.			
2				Ea.			
3				Ea.			
4				Ea.			
5				Ea.			
6				Ea.			
7				Ea.			

		Location/Description	Cost
MISCELLANEOUS	1		
SIGN WORK	2		

Signs Construction Subtotal $0

LIGHTING

Continuous Roadway

	Urban Type of Lighting	Comments	No. Lanes	Number of Miles	Cost
1					$0

	Freeway Type of Lighting	Comments	No. Lanes	Number of Miles	Cost
1					$0

Interchange

	Interchange Type	Type of Lighting	Number of Interchanges	Cost
1				$0
2				$0
3				$0

Miscellaneous

	Location/Description	Cost
1		
2		

Lighting Construction Subtotal $0

CONSTRUCTION TOTAL $204,942

District factor will be applied when the total cost is passed to the const-1 worksheet

PROJECT COMMENTS

Prepared by: Date Prepared/Modified:

Version 3.10

UPC: ****

VDOT

Project Cost Estimating System
UTILITIES ESTIMATE

VDOT

Project No.: ** MISSING DATA **

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				Rural	100%	$0	$0	$0
B	Computed	RW				Rural	100%	$0	$0	$0
C	Computed	RW				Rural	100%	$0	$0	$0
D	Computed	RW				Rural	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	Three Phase		6	Rural	100%	$66,531	$66,531	$0
F	Computed	RW	Dual Three Phase		1	Rural	100%	$15,246	$15,246	$0
G	Computed	RW				Rural	100%	$0	$0	$0
H	Computed	RW				Rural	100%	$0	$0	$0
I	Computed	RW				Rural	100%	$0	$0	$0
J	Computed	RW				Rural	100%	$0	$0	$0
								$81,777	$81,777	$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				100%	$0	$0	$0
M	Computed	RW				100%	$0	$0	$0
N	Computed	RW				100%	$0	$0	$0
							$0	$0	$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				100%	$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:

Z — Misc. Electrical Costs Charged to Const. Project:

TOTAL ELECTRICAL	Total to RW Proj	Total to Const Proj
$81,777	$81,777	$0

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	300		7	100%	$30,369	$30,369	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$30,369	$30,369	$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				100%	$0	$0	$0
K	Computed	RW				100%	$0	$0	$0
L	Computed	RW				100%	$0	$0	$0
							$0	$0	$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
$30,369	$30,369	$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	.650 Coax		14	100%	$9,276	$9,276	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$9,276	$9,276	$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				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$0	$0	$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
$9,276	$9,276	$0

D. WATER

Water Line

	Computed or User	RW or Const	Diameter of Water Pipe (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	to RW Project	to Const Project
A	Computed	Const	16		800	100%	$186,570	$0	$186,570
B	Computed	Const				100%	$0	$0	$0
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$186,570	$0	$186,570

Misc. Water Costs

E Misc. Water Costs Charged to Const. Project:

F Misc. Water Costs Charged to RW Project:

TOTAL WATER	Total to RW Proj	Total to Const Proj
$186,570	$0	$186,570

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	24		250	100%	$45,196	$0	$45,196
B	Computed	Const				100%	$0	$0	$0
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$45,196	$0	$45,196

Misc. Sewer Costs

E Misc. Sewer Costs Charged to Const. Project:

F Misc. Sewer Costs Charged to RW Project:

TOTAL SEWER	Total to RW Proj	Total to Const Proj
$45,196	$0	$45,196

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	4		800	100%	$43,391	$43,391	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$43,391	$43,391	$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

			TOTAL GAS / PROPANE	Total to RW Proj	Total to Const Proj
I	Misc. Gas / Pro Costs Charged to RW Project:		$43,391	$43,391	$0
J	Misc. Gas / Pro Costs Charged to Const. Project:				

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

			TOTAL PETROLEUM	Total to RW Proj	Total to Const Proj
E	Misc. Petroleum Costs Charged to RW Project:		$0	$0	$0
F	Misc. Petroleum Costs Charged to Const. Project:				

H. CELLULAR

Cellular Telephone Costs

			TOTAL CELLULAR	Total to RW Proj	Total to Const Proj
A	Total Cellular Costs Charged to RW Project:		$0	$0	$0
B	Total Cellular Costs Charged to Const. Project:				

I. ADDITIONAL COSTS

Additional Utility Costs to Right-of-Way Project :

Comments:

Additional Utility Costs to Construction Project :

Comments:

Additional Utility Costs to Utility Owners/Others :

Comments:

TOTAL UTILITY COST - RIGHT-OF-WAY PROJECT	$164,812
TOTAL UTILITY COST - CONSTRUCTION PROJECT	$231,766
TOTAL UTILITY COST - UTILITY OWNER / OTHERS	$0
GRAND TOTAL UTILITY COSTS	$396,578

Version 3.10

UPC: ****

Project Cost Estimating System
MANUAL ESTIMATE

	DATE	PE	RW	CN
EXPENDITURES		$0	$0	$0
RUMS			$0	
TRNS*PORT				$0
AWARD				$0
PROJECTION				$0

ESTIMATE YEAR		AD YEAR
FY2014	1.80%	FY2015
$2,740,000	PE	$2,740,000
$6,098,514	RW	$6,098,514
$0	CN	$0
$8,838,514	TOTAL	$8,838,514

Job #	Phase	Comment	Estimate
	PE	PE Cost Estimate [15% (rounded) of CN]	$2,740,000
	RW	Relocations/Total Takes	$860,270
	RW	R/W Total Costs	$5,073,431
	RW	Utilities to be included in the right of way estimate	$164,812

Relocations input from ROW Dept	3 takes			$860,270

	SF	Cost/SF	Multiplier	Cost
SF of Commercial	128,653	$14.34	2.75	$5,073,431
SF of Residential	0	$0.00	2.75	$0
			TOTAL	$5,073,431

	CN	PE %	PE
PE Cost Calc	$18,267,565	15%	$2,740,000

UPC: ****

Project Cost Estimating System

SUMMARY PAGE

DISTRICT	CULPEPER		
PROJECT NUMBER	Alternate I		
CONSTRUCTION END YEAR	FY2016	UPC	****
AD YEAR	FY2015	RATE OF INFLATION TO AD	1.80%
ESTIMATE YEAR	FY2014	INFLATION RATE DURING CN	N/A
Date of previous estimate	N/A		
PROJECT MANAGER / DESIGNER	RDA		
Preliminary Engineering Estimate:	MANUAL		
Construction Estimate:	MANUAL		
Right-of-Way Estimate:	MANUAL		
Utilities Estimate:	PCES		
DATE	*11/10/2014*		

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	*$5,414,294*
PRELIMINARY ENGINEERING ESTIMATE	*$1,063,712*
RIGHT-OF-WAY & UTILITIES ESTIMATE	*$942,437*
TOTAL PROJECT ESTIMATE	*$7,420,443*

Revised 06/20/13

Estimate Class: Blank

Version 3.10

Alternative I

Price	Item #	Description	Units	Est. Quantity	Unit Price	Extended Amount
VDOT	0100	MOBILIZATION	LS	1.00	$180,758.84	$180,758.84
VDOT	00101	CONST. SURVEYING	LS	1.00	$29,853.24	$29,853.24
VDOT	00110	CLEARING AND GRUBBING	ACRE	0.10	$24,591.72	$2,459.17
			Earthwork			
VDOT	00120	REGULAR EXCAVATION	CY	1100.00	$19.56	$21,516.00
			Roadway			
VDOT	16395	ASPH. CONC.BASE CR. TY. BM-25.0A	TON	623.56	$78.93	$49,217.24
VDOT	16242	AGGR. BASE MAT'L NO. 21-B	TON	643.63	$27.72	$17,841.48
VDOT	16373	INTERMEDIATE MIX IM-19.0A	TON	140.56	$101.31	$14,239.68
VDOT	16335	ASPHALT CONCRETE TY. SM-9.5A	TON	125.13	$72.61	$9,085.33
VDOT	68315	Milling 1.5" Depth	SY	238.89	$55.00	$13,138.89
VDOT	13220	HYDR. CEMENT CONC. SIDEWALK 4"	SY	400.00	$36.94	$14,776.00
VDOT	14120	REMOVAL OF COMB. CURB AND GUTTER	LF	1072.00	$9.74	$10,441.28
VDOT	14440	SAW CUT	LF	1072.00	$3.00	$3,216.00
VDOT	21020	MEDIAN STRIP MS-1	SY	135.00	$147.35	$19,892.25
VDOT	14416	STD. CURB CG-6	LF	1210.00	$54.00	$65,340.00
VDOT	13530	RETAINING WALL, RW-3	CY	2019.70	$672.00	$1,357,238.40
VDOT	27505	Silt Fence	LF	1930.00	$2.83	$5,461.90
			Drainage			
VDOT	01246	24" STORM SEWER PIPE	LF	600.00	$65.00	$39,000.00
VDOT	06819	DROP INLET DI-3B, L=8'	EA	5.00	$4,096.79	$20,483.95
		STORMWATER FACILITIES	LS	1.00	$250,000.00	$250,000.00
			Traffic			
VDOT	54020	TY. A PAVEMENT LINE MARKING 4"	LF	5000.00	$0.18	$900.00
VDOT	54028	TY. A PAVEMENT LINE MARKING 24"	LF	410.00	$3.63	$1,488.30
VDOT	54300	PAVEMENT MARKING ARROWS	EA	20.00	$285.00	$5,700.00
PCES		TRAFFIC SIGNALIZATION	LS	1.00		$607,354.07
			Maintenance of Traffic			
		MOT	EA	1.00	$200,000.00	$200,000.00
			Utilities			
PCES		UTILITIES (CONSTR.)	LS	1.00	$0.00	$256,533.71
			Incidentals			
		Incidentals (20%)	LS	1.00	$603,035.38	$603,035.38
					SUBTOTAL:	$3,798,971.11

Contingency (20%)	$759,794.22
CEI (20%)	$759,794.22
TOTAL	$5,318,559.56

UPC: ****

Project Cost Estimating System
UTILITIES ESTIMATE

Project No.: ** *MISSING DATA* **

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				Rural	100%	$0	$0	$0
B	Computed	RW				Rural	100%	$0	$0	$0
C	Computed	RW				Rural	100%	$0	$0	$0
D	Computed	RW				Rural	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	Three Phase		4	Rural	100%	$44,354	$44,354	$0
F	Computed	RW	Dual Three Phase		2	Rural	100%	$30,492	$30,492	$0
G	Computed	RW				Rural	100%	$0	$0	$0
H	Computed	RW				Rural	100%	$0	$0	$0
I	Computed	RW				Rural	100%	$0	$0	$0
J	Computed	RW				Rural	100%	$0	$0	$0
								$74,846	$74,846	$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	Three Phase		800	100%	$163,721	$163,721	$0
L	Computed	RW				100%	$0	$0	$0
M	Computed	RW				100%	$0	$0	$0
N	Computed	RW				100%	$0	$0	$0
							$163,721	$163,721	$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	for Three Phase UG		800	100%	$8,675	$8,675	$0
T	Computed	RW				100%	$0	$0	$0
							$8,675	$8,675	$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:	
Z	Misc. Electrical Costs Charged to Const. Project:	

TOTAL ELECTRICAL	Total to RW Proj	Total to Const Proj
$247,242	$247,242	$0

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	600		4	100%	$18,801	$18,801	$0
B	Computed	RW	900		2	100%	$10,124	$10,124	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$28,925	$28,925	$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	144		12	100%	$147,526	$147,526	$0
F	Computed	RW				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$147,526	$147,526	$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				100%	$0	$0	$0
K	Computed	RW				100%	$0	$0	$0
L	Computed	RW				100%	$0	$0	$0
							$0	$0	$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
$176,450	$176,450	$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	.650 Coax		4	100%	$2,650	$2,650	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$2,650	$2,650	$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				100%	$0	$0	$0
G	Computed	RW				100%	$0	$0	$0
H	Computed	RW				100%	$0	$0	$0
							$0	$0	$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
$2,650	$2,650	$0

D. WATER

Water Line

	Computed or User	RW or Const	Diameter of Water Pipe (in)	No Entry Required	Total Length(ft)	Percent VDOT	Total Cost	to RW Project	to Const Project
A	Computed	Const	16		1,100	100%	$256,534	$0	$256,534
B	Computed	Const				100%	$0	$0	$0
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$256,534	$0	$256,534

Misc. Water Costs

E Misc. Water Costs Charged to Const. Project:

F Misc. Water Costs Charged to RW Project:

TOTAL WATER	Total to RW Proj	Total to Const Proj
$256,534	$0	$256,534

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				100%	$0	$0	$0
C	Computed	Const				100%	$0	$0	$0
D	Computed	Const				100%	$0	$0	$0
							$0	$0	$0

Misc. Sewer Costs

E Misc. Sewer Costs Charged to Const. Project:

F Misc. Sewer Costs Charged to RW Project:

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

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	2		800	100%	$28,927	$28,927	$0
B	Computed	RW				100%	$0	$0	$0
C	Computed	RW				100%	$0	$0	$0
D	Computed	RW				100%	$0	$0	$0
							$28,927	$28,927	$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

			TOTAL GAS / PROPANE	Total to RW Proj	Total to Const Proj
I	Misc. Gas / Pro Costs Charged to RW Project:		$28,927	$28,927	$0
J	Misc. Gas / Pro Costs Charged to Const. Project:				

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

			TOTAL PETROLEUM	Total to RW Proj	Total to Const Proj
E	Misc. Petroleum Costs Charged to RW Project:		$0	$0	$0
F	Misc. Petroleum Costs Charged to Const. Project:				

H. CELLULAR

Cellular Telephone Costs

			TOTAL CELLULAR	Total to RW Proj	Total to Const Proj
A	Total Cellular Costs Charged to RW Project:		$0	$0	$0
B	Total Cellular Costs Charged to Const. Project:				

I. ADDITIONAL COSTS

Additional Utility Costs to Right-of-Way Project :

Comments:

Additional Utility Costs to Construction Project :

Comments:

Additional Utility Costs to Utility Owners/Others :

Comments:

TOTAL UTILITY COST - RIGHT-OF-WAY PROJECT	*$455,270*
TOTAL UTILITY COST - CONSTRUCTION PROJECT	*$256,534*
TOTAL UTILITY COST - UTILITY OWNER / OTHERS	*$0*
GRAND TOTAL UTILITY COSTS (PCES)	*$711,803*

Version 3.10

UPC: ****

Project Cost Estimating System
MANUAL ESTIMATE

	DATE	PE	RW	CN
EXPENDITURES		$0	$0	$0
RUMS			$0	
TRNS*PORT				$0
AWARD				$0
PROJECTION				$0

ESTIMATE YEAR		AD YEAR
FY2014	1.80%	FY2015
$1,063,712	PE	$1,063,712
$942,437	RW	$942,437
$5,318,560	CN	$5,414,294
$7,324,708	TOTAL	$7,420,442

Job #	Phase	Comment	Estimate
	PE	20% of CN Costs	$1,063,712
	RW	RW Acquisition	$487,167
	RW	Utility Relocation	$455,270
	CN	Quantity Take-off Estimate	$5,318,560

Right of Way					
Qty.	Unit	R/W Type	Unit Price	Multiplier	Cost
7041	SF	Fee Taking (Commercial)	$25.16	2.75	$487,166.79
0	SF	Fee Taking (Residential)	$0.00	2.75	$0.00
1	LS	Utility RW Project	$0.00	0.00	$455,269.72
0	EA	Total Take (Commercial)	$0.00	0.00	$0.00
				Total	$942,436.51

	% PE	CN	PE Cost
PE Estimate	20%	$5,318,559.56	$1,063,711.91

Assumptions:

1' of regular excavation required in area of pavement expansion & limits of construction
1.5" surface course, 2" intermediate course , 8" base course pavement & 8" of aggregate
Silt Fence required over length of project