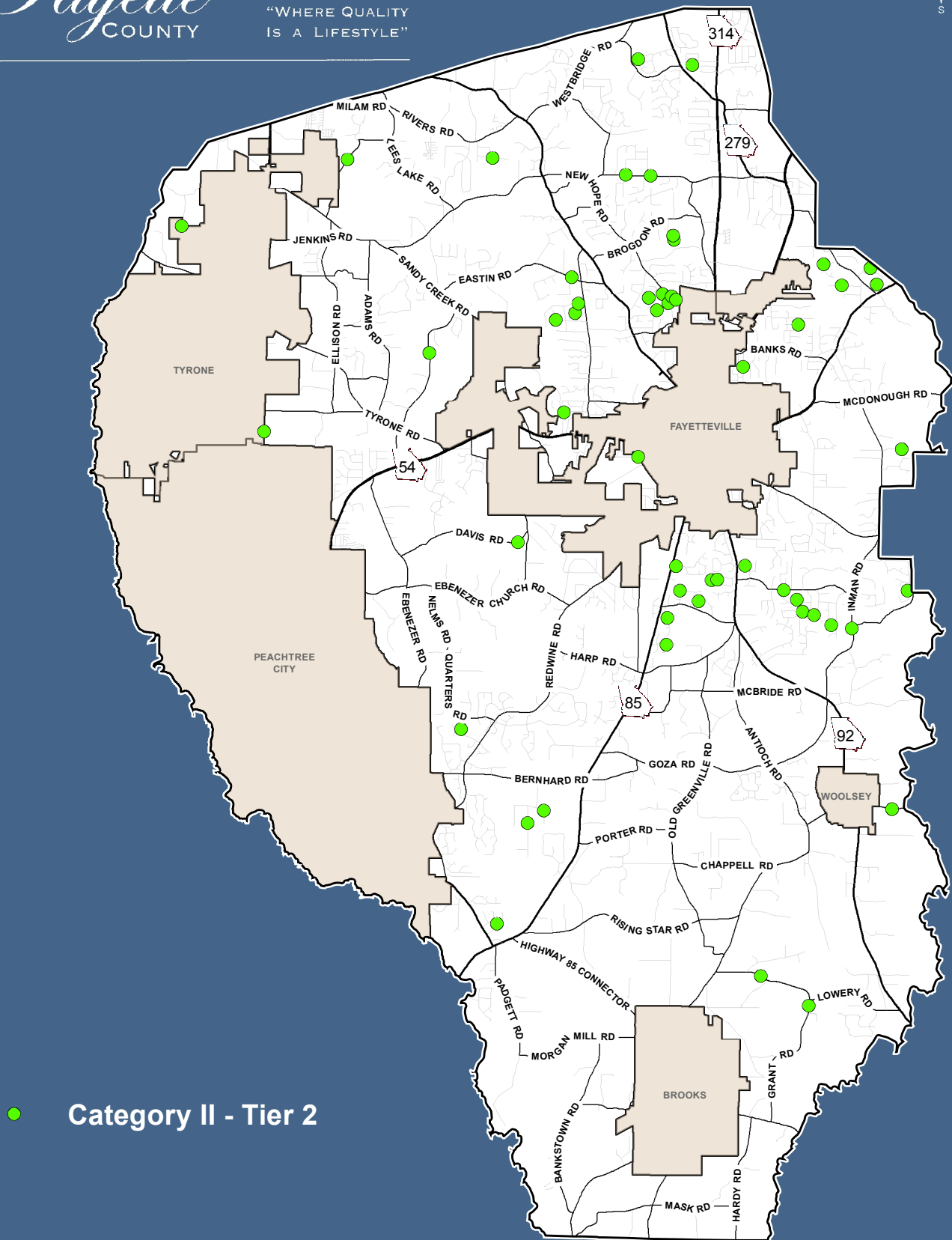




Fayette
COUNTY

"WHERE QUALITY
IS A LIFESTYLE"



CATEGORY II - TIER 2

PROJECT NAME	PROJECT DESCRIPTION	ESTIMATED COST
170 Angela Dr	2 X 30" RCP, 84'	\$59,084
165 North Bend Ct	2 x 42 " RCP, 272'	\$187,610
110 Branchwood Ct	48' RCP, 52'	\$58,323
140 Brandon Mill Cir - East	48", RCP, 500'	\$269,895
115 Brandon Mill Cir - North	48", RCP, 250'	\$187,332
225 Brandon Mill Cir - SW	8'x4' RBC, 175'	\$369,852
295 Brandon Mill Cir - West	48", RCP, 350'	\$230,615
115 Brockton Ct	60" RCP, 64'	\$105,739
223 Cedar Trl	48" RCP, 50'	\$58,206
Coastline Rd	trp 10'x8', 232'	\$539,571
171 County Line Ct	4'x3' RBC, 84'	\$116,051
178 Crabapple Ln	trp 8'x5' RBC, 70'	\$383,326
168 Cross Creek Trl	8'x5' RBC, 80'	\$562,174
130 Darren Dr	80' prestressed concrete beam bridge	\$383,630
118 Davis Rd	5 10'x4' RBC, 85'	\$871,871
308 Deauville Way	2 x 30 " RCP, 610 '	\$217,516
175 Deer Trl	36" RCP	\$88,923
161 Deerfield Ln	36" RCP, 64'	\$100,012
130 Deerfield Ln	36" RCP, 56'	\$98,924
325 Derby Dr	54" RCP, 75'	\$129,740
116 Downing Ct	4'x3' RBC, 45'	\$84,127
584 Flat Creek Trl	trp 10'x4' RBC, 70'	\$535,551
130 Greenfield Cir	5'x3' RBC, 45'	\$98,969
250 Greenfield Cir	2 x 42" RCP, 108'	\$100,073
165 Grandchester Way	60" RCP, 80'	\$159,475
250 Grant Rd	60" RCP, 48'	\$76,779
426 Grant Rd	60" RCP, 48'	\$76,779
226 Graves Rd	dbl 30" RCP, 70'	\$71,856
110 Gristmill Dr	6'x3' RBC, 80'	\$159,309
120 Heritage Way - North	48" RCP, 400"	\$240,898
160 Heritage Way - South	48" RCP, 200'	\$177,039
287 Hilo Rd	trp 24" RCP, 186'	\$69,108
448 Inman Rd	dbl 7' x 6' RBC, 77'	\$192,130
510 Janice Dr	dbl 6'x4' RBC, 70'	\$196,472
671 Kenwood Rd	60" RCP, 57'	\$96,178

CATEGORY II - TIER 2

PROJECT NAME	PROJECT DESCRIPTION	ESTIMATED COST
547 Kenwood Rd	dbl 8'x5' RBC, 80'	\$229,611
200 Kingswood Dr	48" RCP, 92'	\$115,742
330 Merrydale Dr	60" RCP, 88'	\$110,280
110 Mark Ln	dbl 6'x4' RBC, 90'	\$249,037
130 Matthew Way	dbl 9'x4' RBC, 80'	\$322,809
145 Millers Oak Way	36" RCP, 322'	\$202,401
420 North Dr	5'x4' RBC, 80'	\$132,292
290 Oak St	42" RCP, 64'	\$66,563
220 Old Ivy	42" RCP, 142'	\$117,610
190 Ponderosa Dr	48" RCP, 40'	\$104,203
125 Ridge Brook Ct	48" RCP, 173'	\$159,342
545 Ridgemont Dr	36" RCP, 32 36" of HDPE, 260'	\$107,033
170 Ridge Way	48" RCP, 136'	\$228,742
Royal Ridge Way	dbl 8x5 RBC, 62'	\$214,176
120 Shoal Creek Rd	Trp 8' x 8'RBC, 184'	\$380,630
261 Trickum Creek Rd	trp 8' x 5' RBC, 70'	\$346,541
Tier 2 Subtotal		\$10,440,149
2016 CATEGORY II TOTAL		\$14,145,522

General Information		Map	
Project ID			
Street Name	170 Angela Drive		
Site Visit Date	1/20/2016		
Road Classification	Minor road		
Project Notes			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-11'		
Existing Shld Width (paved and grass) (feet)	4'		
Existing Side Slopes	4:1		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	3'		
Pipe Type and Size	CMPs 2x30"		
Pipe Condition (1-5) (1 is new)	4-5		
Condition Notes: Two corrugated metal pipes 1.8' apart. Both have rusted out bottoms. No headwall			
Pavement Type/Condition	Asphalt/Good		
Environmental Features			
Wetlands			
Ditches	Roadside drainage ditches		
State Waters			
Utilities (Visual Inspection)			
Electric	Aerial		
Cable	Buried		
Phone	Aerial		
Gas	Unknown		
Water	Unknown		
Sewer	Unknown		
Other			
Proposed Design			
Roadway Section	Typical		
Culvert Size & Material	2x30" Round RCP with straight headwall		
Utility Relocations	Utility pole with electric and phone wires. Buried cable		
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% of Construction Cost and surveying needs	\$8,145	
Right of Way Cost	Project entirely in ROW	\$0	
Utility Relocation Cost		\$9,488	
Construction Cost		\$31,451	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$59,084	



Photo 1: Upstream end of culverts looking southwest towards Angela Dr.



Photo 2: Downstream end of culverts

Angela Drive

Photo Date:

1/20/2016

Taken By:

David Gibbs

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$0.73	\$4.87	209.00	\$1,171.51
Curb and Gutter (LF)	\$28.56	\$30.60	0.00	\$0.00
Drain Inlet (EA)		\$3,000.00	0.00	\$0.00
4" Sidewalk (SY)	\$13.56	\$36.90	0.00	\$0.00
Guardrail (LF)	\$4.88	\$49.09	0.00	\$0.00
End Anchorage (EA)		\$1,380.00	0.00	\$0.00
Subtotal				\$1,171.51

Grading Complete (5% of Rwy Items & Drng Total \$)	\$1,051.07
--	------------

Roadway Total	\$2,222.58
---------------	------------

Drainage	Removal Unit Cost	\$2.00	Amount	Total Cost
Trench Excavation (CY)		\$10.38	100.63	\$1,044.54
30" CMP	\$19.62		88.00	\$1,726.56
30" RCP		\$105.60	88.00	\$9,292.80
Class A Conc (CY)		\$892.19	7.24	\$6,459.44
Steel (lb)		\$1.42	0.00	\$0.00
Pipe Bedding (CY)		\$48.60	15.48	\$752.40
Trench Backfill (CY)		\$2.99	71.08	\$212.40
Trench Compaction (CY)		\$6.36	56.87	\$361.68

Drainage Total	\$19,849.81
----------------	-------------

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$0.71		\$0.00

Signing and Marking Total	\$0.00
---------------------------	--------

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$10,260.00	0.01	\$141.32
Temporary Pavement			\$0.00
Temporary Drainage (Stream Diversion)	\$4,428.00	1.00	\$4,428.00

Staging Total	\$4,569.32
---------------	------------

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$4.39	23.22	\$101.99
Temporary Grassing (AC)	\$855.60	0.00	\$0.00
Type C Silt Fence (LF)	\$4.24	176.00	\$745.54
Check Dam Type C Silt Fence (LF)	\$6.79	176.00	\$1,195.39
Erosion Control Mats (SY)	\$1.87	19.56	\$36.61
Landscape Mulch (SY)	\$3.58	0.00	\$0.00
Perm Grassing (AC)	\$1,402.20	0.00	\$0.00
Rip Rap Type 3 12" (SY)	\$60.98	6.00	\$365.90
Plastic Filter Fabric (SY)	\$5.72	6.00	\$34.34
4" Ditch Paving (SY)	\$54.65	0.00	\$0.00

Erosion Control Total	\$2,479.78
-----------------------	------------

Construction Cost Total	\$29,121.49
-------------------------	-------------

Traffic Control (8% of Construction Total \$)	\$2,329.72
---	------------

Construction Cost Grand Total	\$31,451.21
-------------------------------	-------------

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$11.00	\$55.00	50.00	\$3,300.00
Buried	\$16.50	\$82.50	0.00	\$0.00
Wooden Pole	\$82.50	\$605.00	1.00	\$687.50
Phone				
Aerial	\$11.00	\$27.50	50.00	\$1,925.00
Buried	\$16.50	\$55.00	0.00	\$0.00
Wooden Pole	\$82.50	\$605.00	0.00	\$0.00
Cable				
Aerial	\$11.00	\$27.50	0.00	\$0.00
Buried	\$16.50	\$55.00	50.00	\$3,575.00
Wooden Pole	\$82.50	\$605.00	0.00	\$0.00
Gas				
4" main	\$16.50	\$66.00	0.00	\$0.00
Water				
8" main	\$16.50	\$93.50	0.00	\$0.00
Sewer				
12" main	\$16.50	\$82.50	0.00	\$0.00
Utility Relocation Total				\$9,487.50

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$4.00	0.00	\$0.00
ROW Total			\$0.00

General Information		Map
Project ID		
Street Name	165 North Bend Court	
Site Visit Date	2/4/2016	
Road Classification	Minor road	
Project Notes		
Field Notes		
Design (Existing Site Features)		
Existing Road Laneage	2-11.5'	
Existing Shld Width (paved and grass) (feet)	14'	
Existing Side Slopes	3:1	
Existing Guardrail	N/A	
Depth fm Pavement to Top of Culvert (ft):	5'	
Pipe Type and Size	42" CMP	
Pipe Condition (1-5) (1 is new)	3-4	
Considirable rusting.		
Pavement Type/Condition	Asphalt/Good	
Environmental Features		
Wetlands		
Ditches		
State Waters		
Utilities (Visual Inspection)		
Electric	Aerial	
Cable	Unknown	
Phone	Aerial	
Gas	Unknown	
Water	Unknown	
Sewer	Unknown	
Other	Unknown	
Stage Construction Options		
Close Location to Traffic		
Maintain One Lane - No Temp Pavement		X
Maintain One Lane - Temp Pavement		
Stage Construction Notes: Roadsides are heavily brushed, staging area may need to be cleared.		
Proposed Design		
Roadway Section	Typical	
Culvert Size & Material	2 x 42" round RCPs with straight headwalls.	
Utility Relocations	Utility pole and hung wires, possible water main	
Guardrail Replacement		
Miscellaneous Features		
Planning Cost Estimate		
Type	Notes	Total
Design	Includes 10% Construction cost and surveying needs	\$16,011
Right of Way Cost	Assuming project extends beyond ROW, 1/5 acre	\$34,848
Utility Relocation Cost	Aerial phone and electric, utility pole, water main	\$16,638
Construction Cost		\$110,113
Environmental Permits	Assuming minimal environmental permitting required	\$10,000
Total Planning Estimate		\$187,610



Photo 1: Upstream end of culvert looking South towards North Bend Court



Photo 2: Downstream looking South towards North Bend Court.

North Bend Court

Photo Date:

2/4/2016

Taken By:

Christian Helfrich

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	276.00	\$ 1,547.07
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	40.00	\$ 2,366.40
Drain Inlet (EA)		\$ 3,000.00	2.00	\$ 6,000.00
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 9,913.47

Grading Complete (5% of Rwy Items & Drng Total \$)	\$ 4,296.91
--	-------------

Roadway Total	\$ 14,210.38
---------------	--------------

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	472.22	\$ 4,901.67
42" CMP (LF)	\$ 24.60		176.00	\$ 12,988.80
42" RCP (LF)		\$ 142.52	272.00	\$ 38,766.53
Class A Conc (CY)		\$ 892.19	14.66	\$ 13,079.48
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	62.96	\$ 3,060.00
Trench Backfill (CY)		\$ 2.99	399.72	\$ 1,194.38
Trench Compaction (CY)		\$ 6.36	319.78	\$ 2,033.80

Drainage Total	\$ 76,024.64
----------------	--------------

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total	\$ -
---------------------------	------

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.25	\$ 2,565.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total	\$ 6,993.00
---------------	-------------

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	150.67	\$ 661.73
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	272.00	\$ 1,152.19
Check Dam Type C Silt Fence (LF)	\$ 6.79	272.00	\$ 1,847.42
Erosion Control Mats (SY)	\$ 1.87	0.00	\$ -
Landscape Mulch (SY)	\$ 3.58	0.00	\$ -
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	16.00	\$ 975.74
Plastic Filter Fabric (SY)	\$ 5.72	16.00	\$ 91.58
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total	\$ 4,728.67
-----------------------	-------------

Construction Cost Total	\$ 101,956.69
-------------------------	---------------

Traffic Control (8% of Construction Total \$)	\$ 8,156.54
---	-------------

Construction Cost Grand Total	\$ 110,113.23
-------------------------------	---------------

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	100.00	\$ 6,600.00
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	1.00	\$ 687.50
Phone				
Aerial	\$ 11.00	\$ 27.50	100.00	\$ 3,850.00
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	50.00	\$ 5,500.00
Relocate Fire Hydrant (EA)		\$ 2,609.22	0.00	\$ -
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 16,637.50

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	8712.00	\$ 34,848.00
ROW Total			\$ 34,848.00

General Information		Map	
Project ID			
Street Name	110 Branchwood Ct		
Site Visit Date	1/20/2016		
Road Classification	Minor road		
Project Notes			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-12'		
Existing Shld Width (paved and grass) (feet)	6.5'		
Existing Side Slopes	1:1		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	5.25'-6'		
Pipe Type and Size	48" CMP		
Pipe Condition (1-5) (1 is new)	4-5		
Condition Notes: Rusty out bottom. No headwall.			
Pavement Type/Condition	Asphalt/Good		
Environmental Features			
Wetlands			
Ditches	Drainage ditches upstream side		
State Waters			
Utilities (Visual Inspection)			
Electric	Aerial		
Cable	Unknown		
Phone	Aerial		
Gas	Unknown		
Water	Unknown		
Sewer			
Other			
Proposed Design			
Roadway Section	Typical		
Culvert Size & Material	48" round RCP with straight headwall		
Utility Relocations			
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% of Construction Cost and surveying needs	\$8,938	
Right of Way Cost	Project entirely in ROW	\$0	
Utility Relocation Cost	None identified	\$0	
Construction Cost		\$39,384	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$58,323	



Photo 1:
Upstream end of culvert.



Photo 2: Downstream end of culvert looking northeast towards Branchwood Ct.

Branchwood Court

Photo Date:

1/20/2016

Taken By:

David Gibbs

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	144.00	\$ 807.17
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 807.17

Grading Complete (5% of Rwy Items & Drng Total \$)	\$ 1,366.93
--	-------------

Roadway Total	\$ 2,174.10
---------------	-------------

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	138.67	\$ 1,439.36
48" CMP (LF)	\$ 24.60		52.00	\$ 1,279.20
48" RCP (LF)		\$ 193.20	52.00	\$ 10,046.40
Class A Conc (CY)		\$ 892.19	13.70	\$ 12,222.98
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	11.56	\$ 561.60
Trench Backfill (CY)		\$ 2.99	121.58	\$ 363.27
Trench Compaction (CY)		\$ 6.36	97.26	\$ 618.58

Drainage Total	\$ 26,531.38
----------------	--------------

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71		\$ -

Signing and Marking Total	\$ -
---------------------------	------

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.04	\$ 423.97
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total	\$ 4,851.97
---------------	-------------

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	18.67	\$ 81.98
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	208.00	\$ 881.09
Check Dam Type C Silt Fence (LF)	\$ 6.79	208.00	\$ 1,412.74
Erosion Control Mats (SY)	\$ 1.87	0.00	\$ -
Landscape Mulch (SY)	\$ 3.58	0.00	\$ -
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	8.00	\$ 487.87
Plastic Filter Fabric (SY)	\$ 5.72	8.00	\$ 45.79
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total	\$ 2,909.47
-----------------------	-------------

Construction Cost Total	\$ 36,466.92
-------------------------	--------------

Traffic Control (8% of Construction Total \$)	\$ 2,917.35
---	-------------

Construction Cost Grand Total	\$ 39,384.27
-------------------------------	--------------

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	0.00	\$ -
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ -

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	0.00	\$ -
ROW Total			\$ -

General Information		Map	
Project ID			
Street Name	Brandon Mill Cir - West		
Site Visit Date	5/22/13		
Road Classification	Minor road		
Project Notes			
Urban typical section with valley gutter.			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-10'		
Existing Shld Width (paved and grass) (feet)	4		
Existing Side Slopes	flat		
Existing Guardrail	none		
Depth fm Pavement to Top of Culvert (ft):	4		
Pipe Type and Size	48" CMP		
Pipe Condition (1-5) (1 is new)	4		
Condition Notes:			
Pavement Type/Condition	Asphalt/Good		
Environmental Features		Stage Construction Options	
Wetlands	None	Close Location to Traffic	X
Ditches	None	Maintain One Lane - No Temp Pavement	
		Maintain One Lane - Temp Pavement	
		Stage Construction Notes: Close roadway;	
Utilities (Visual Inspection)			
Electric	Buried		
Cable	Buried		
Phone	Buried		
Gas			
Water	Buried		
Sewer			
Other			
Proposed Design			
Roadway Section	Typical		
Culvert Size & Material	48", RCP, 350' length		
Utility Relocations	Electric, cable, phone, water		
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% Construction Cost and surveying needs	\$19,474	
Right of Way Cost	Assuming project extends 7,500 sf beyond ROW	\$30,000	
Utility Relocation Cost	Buried utilities	\$26,400	
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$144,741	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$230,615	



Photo 1:

Brandon Mill Cir - West



Photo 2:

Photo Date:

7/2/2013

Taken By:

David King

Page:

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	120	\$ 672.64
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	20	\$ 1,183.20
Drain Inlet (EA)		\$ 3,000.00		\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90		\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09		\$ -
End Anchorage (EA)		\$ 1,380.00		\$ -
Subtotal				\$ 1,855.84

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 5,597.18

Roadway Total \$ 7,453.02

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	972	\$ 10,091.67
48" CMP (LF)	\$ 24.60		350	\$ 8,610.00
48" RCP (LF)		\$ 193.20	350	\$ 67,620.00
Class A Conc (CY)		\$ 892.19	14	\$ 12,222.98
Steel (lb)		\$ 1.42	0	\$ -
Pipe Bedding (CY)		\$ 48.60	78	\$ 3,780.00
Trench Backfill (CY)		\$ 2.99	961	\$ 2,872.27
Trench Compaction (CY)		\$ 6.36	769	\$ 4,890.94

Drainage Total \$ 110,087.85

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0	\$ -

Signing and Marking Total \$ -

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1	\$ 4,428.00

Staging Total \$ 5,454.00

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	220	\$ 966.24
Temporary Grassing (AC)	\$ 855.60	0	\$ -
Type C Silt Fence (LF)	\$ 4.24	700	\$ 2,965.20
Check Dam Type C Silt Fence (LF)	\$ 6.79	700	\$ 4,754.40
Erosion Control Mats (SY)	\$ 1.87	233	\$ 436.80
Landscape Mulch (SY)	\$ 3.58	233	\$ 834.40
Perm Grassing (AC)	\$ 1,402.20	0	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	16	\$ 975.74
Plastic Filter Fabric (SY)	\$ 5.72	16	\$ 91.58
4" Ditch Paving (SY)	\$ 54.65	0	\$ -

Erosion Control Total \$ 11,024.37

Construction Cost Total \$ 134,019.25

Traffic Control (8% of Construction Total \$) \$ 10,721.54

Construction Cost Grand Total \$ 144,740.79

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50	75	\$ 7,425.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	75	\$ 5,362.50
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	75	\$ 5,362.50
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	75	\$ 8,250.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0	
12" main	\$ 16.50	\$ 82.50	0	\$ -
Utility Relocation Total				\$ 26,400.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	7,500	\$ 30,000.00
ROW Total			\$ 30,000.00

General Information		Map	
Project ID			
Street Name	Brandon Mill Cir - North		
Site Visit Date	5/22/13		
Road Classification	Minor road		
Project Notes			
Urban typical section with valley gutter,			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-10'		
Existing Shld Width (paved and grass) (feet)	4		
Existing Side Slopes	flat		
Existing Guardrail	none		
Depth fm Pavement to Top of Culvert (ft):	4		
Pipe Type and Size	48" CMP		
Pipe Condition (1-5) (1 is new)	3		
Condition Notes:			
Pavement Type/Condition	Asphalt/Good		
Environmental Features			
Wetlands	None		
Ditches	None		
Utilities (Visual Inspection)			
Electric	Buried		
Cable	Buried		
Phone	Buried		
Gas			
Water	Buried		
Sewer			
Other			
Proposed Design			
Roadway Section			
Culvert Size & Material	48", RCP, 250' length		
Utility Relocations	Electric, cable, phone, water		
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% Construction Cost and surveying needs	\$15,539	
Right of Way Cost	Assuming 7,500 sf outside of ROW	\$30,000	
Utility Relocation Cost	Buried utilities	\$26,400	
Construction Cost	Applying 1/10 acre clearing and grubbing cost	\$105,392	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$187,332	



Photo 1:



Photo 2:

Brandon Mill Cir - North

Photo Date:

7/2/2013

Taken By:

David King

Page:

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	120.00	\$ 672.64
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	20.00	\$ 1,183.20
Drain Inlet (EA)		\$ 3,000.00		\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90		\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09		\$ -
End Anchorage (EA)		\$ 1,380.00		\$ -
Subtotal				\$ 1,855.84

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 3,998.51

Roadway Total \$ 5,854.35

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	500.00	\$ 5,190.00
48" CMP (LF)	\$ 24.60		250.00	\$ 6,150.00
48" RCP (LF)		\$ 193.20	250.00	\$ 48,300.00
Class A Conc (CY)		\$ 892.19	13.70	\$ 12,222.98
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	55.56	\$ 2,700.00
Trench Backfill (CY)		\$ 2.99	439.76	\$ 1,313.99
Trench Compaction (CY)		\$ 6.36	351.80	\$ 2,237.48

Drainage Total \$ 78,114.44

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total \$ -

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total \$ 5,454.00

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	153.33	\$ 673.44
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	500.00	\$ 2,118.00
Check Dam Type C Silt Fence (LF)	\$ 6.79	500.00	\$ 3,396.00
Erosion Control Mats (SY)	\$ 1.87	166.67	\$ 312.00
Landscape Mulch (SY)	\$ 3.58	166.67	\$ 596.00
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	16.00	\$ 975.74
Plastic Filter Fabric (SY)	\$ 5.72	16.00	\$ 91.58
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 8,162.77

Construction Cost Total \$ 97,585.57

Traffic Control (8% of Construction Total \$) \$ 7,806.85

Construction Cost Grand Total \$ 105,392.41

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50	75.00	\$ 7,425.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	75.00	\$ 5,362.50
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	75.00	\$ 5,362.50
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	75.00	\$ 8,250.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 26,400.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	7,500.00	\$ 30,000.00
ROW Total			\$ 30,000.00

General Information		Map	
Project ID			
Street Name	Brandon Mill Cir - East		
Site Visit Date	5/22/13		
Road Classification	Minor road		
Project Notes			
Urban typical section with valley gutter,			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-10'		
Existing Shld Width (paved and grass) (feet)	4		
Existing Side Slopes	flat		
Existing Guardrail	none		
Depth fm Pavement to Top of Culvert (ft):	4		
Pipe Type and Size	48" CMP		
Pipe Condition (1-5) (1 is new)	3		
Condition Notes:			
Pavement Type/Condition	Asphalt/Good		
Environmental Features			
Wetlands	None		
Ditches	None		
Utilities (Visual Inspection)			
Electric	Buried		
Cable	Buried		
Phone	Buried		
Gas			
Water	Buried		
Sewer			
Other			
Proposed Design			
Roadway Section			
Culvert Size & Material	48", RCP, 500' length		
Utility Relocations	Electric, cable, phone, water		
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% Construction Cost and surveying needs	\$23,045	
Right of Way Cost	Assuming 7,500 sf outside of ROW	\$30,000	
Utility Relocation Cost	Buried utilities	\$26,400	
Construction Cost	Applying 1/10 acre clearing and grubbing cost	\$180,450	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$269,895	



Photo 1:



Photo 2:

Brandon Mill Cir - East

Photo Date:

7/2/2013

Taken By:

David King

Page:

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	120.00	\$ 672.64
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	20.00	\$ 1,183.20
Drain Inlet (EA)		\$ 3,000.00		\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90		\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09		\$ -
End Anchorage (EA)		\$ 1,380.00		\$ -
Subtotal				\$ 1,855.84

Grading Complete (5% of Rwy Items & Drng Total \$)	\$ 7,298.47
--	-------------

Roadway Total	\$ 9,154.31
---------------	-------------

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	1,000.00	\$ 10,380.00
48" CMP (LF)	\$ 24.60		500.00	\$ 12,300.00
48" RCP (LF)		\$ 193.20	500.00	\$ 96,600.00
Class A Conc (CY)		\$ 892.19	13.70	\$ 12,222.98
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	111.11	\$ 5,400.00
Trench Backfill (CY)		\$ 2.99	892.84	\$ 2,667.82
Trench Compaction (CY)		\$ 6.36	714.28	\$ 4,542.80

Drainage Total	\$ 144,113.59
----------------	---------------

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total	\$ -
---------------------------	------

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total	\$ 5,454.00
---------------	-------------

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	320.00	\$ 1,405.44
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	500.00	\$ 2,118.00
Check Dam Type C Silt Fence (LF)	\$ 6.79	500.00	\$ 3,396.00
Erosion Control Mats (SY)	\$ 1.87	166.67	\$ 312.00
Landscape Mulch (SY)	\$ 3.58	166.67	\$ 596.00
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	8.00	\$ 487.87
Plastic Filter Fabric (SY)	\$ 5.72	8.00	\$ 45.79
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total	\$ 8,361.10
-----------------------	-------------

Construction Cost Total	\$ 167,083.01
-------------------------	---------------

Traffic Control (8% of Construction Total \$)	\$ 13,366.64
---	--------------

Construction Cost Grand Total	\$ 180,449.65
-------------------------------	---------------

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50	75.00	\$ 7,425.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	75.00	\$ 5,362.50
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	75.00	\$ 5,362.50
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	75.00	\$ 8,250.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 26,400.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	7,500.00	\$ 30,000.00
ROW Total			\$ 30,000.00

General Information		Map	
Project ID			
Street Name	Brandon Mill Cir - SW		
Site Visit Date	5/22/13		
Road Classification	Minor road		
Project Notes			
Urban typical section with valley gutter,			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-10'		
Existing Shld Width (paved and grass) (feet)	4		
Existing Side Slopes	flat		
Existing Guardrail	none		
Depth fm Pavement to Top of Culvert (ft):	4		
Pipe Type and Size	60" CMP		
Pipe Condition (1-5) (1 is new)	3		
Condition Notes: no headwall upstream or down			
Pavement Type/Condition	Asphalt/Good		
Environmental Features		Stage Construction Options	
Wetlands	None	Close Location to Traffic	X
Ditches	None	Maintain One Lane - No Temp Pavement	
		Maintain One Lane - Temp Pavement	
		Stage Construction Notes: Close roadway;	
Utilities (Visual Inspection)			
Electric	Buried		
Cable	Buried		
Phone	Buried		
Gas			
Water	Buried		
Sewer			
Other			
Proposed Design			
Roadway Section			
Culvert Size & Material	8' x 4' box, concrete, 175' length		
Utility Relocations	Electric, cable, phone, water		
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
System Evaluation		\$25,000	
Design	Includes 10% Construction Cost and surveying needs	\$29,859	
Right of Way Cost	Assuming project extends 7,500 sf beyond ROW	\$30,000	
Utility Relocation Cost	Buried utilities	\$26,400	
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$248,592	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$369,852	



Photo 1:



Photo 2:

Brandon Mill Cir - Southwest

Photo Date:

7/2/2013

Taken By:

David King

Page:

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	200.00	\$ 1,121.07
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	20.00	\$ 1,183.20
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 2,304.27

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 10,148.25

Roadway Total \$ 12,452.51

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	648.15	\$ 6,727.78
60" CMP (LF)	\$ 24.60		175.00	\$ 12,915.00
60" RCP (LF)		\$ 259.20	0.00	\$ -
Class A Conc (CY)		\$ 892.19	162.36	\$ 144,851.18
Steel (lb)		\$ 1.42	19,170.00	\$ 27,144.72
Pipe Bedding (CY)		\$ 48.60	65.60	\$ 3,188.16
Trench Backfill (CY)		\$ 2.99	722.36	\$ 2,158.42
Trench Compaction (CY)		\$ 6.36	577.89	\$ 3,675.38

Drainage Total \$ 200,660.64

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	40.00	\$ 28.32

Signing and Marking Total \$ 28.32

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total \$ 5,510.64

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	172.22	\$ 756.40
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	700.00	\$ 2,965.20
Check Dam Type C Silt Fence (LF)	\$ 6.79	700.00	\$ 4,754.40
Erosion Control Mats (SY)	\$ 1.87	233.33	\$ 436.80
Landscape Mulch (SY)	\$ 3.58	233.33	\$ 834.40
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	26.67	\$ 1,626.24
Plastic Filter Fabric (SY)	\$ 5.72	26.67	\$ 152.64
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 11,526.08

Construction Cost Total \$ 230,178.20

Traffic Control (8% of Construction Total \$) \$ 18,414.26

Construction Cost Grand Total \$ 248,592.45

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50	75.00	\$ 7,425.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	75.00	\$ 5,362.50
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	75.00	\$ 5,362.50
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	75.00	\$ 8,250.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 26,400.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	7,500.00	\$ 30,000.00
ROW Total			\$ 30,000.00

General Information		Map	
Project ID			
Street Name	115 Brockton Ct		
Site Visit Date	1/20/2016		
Road Classification	Minor road		
Project Notes			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-10.5'		
Existing Shld Width (paved and grass) (feet)	15'		
Existing Side Slopes	1.5:1		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	4'		
Pipe Type and Size	60" CMP		
Pipe Condition (1-5) (1 is new)	3-4		
Condition Notes: Rusty out bottom. Concrete headwall. Undercutting at upstream end. Existing blowout at storm drain inlet 1' x 1'			
Pavement Type/Condition	Asphalt/Good		
Environmental Features		Stage Construction Options	
Wetlands		Close Location to Traffic	
Ditches		Maintain One Lane - No Temp Pavement	X
State Waters		Maintain One Lane - Temp Pavement	
Utilities (Visual Inspection)		Stage Construction Notes:	
Electric	Aerial		
Cable	Buried		
Phone	Aerial		
Gas	Unknown		
Water	Unknown		
Sewer			
Other	Curb and gutter		
Proposed Design			
Roadway Section	Typical		
Culvert Size & Material	60" round RCP with straight headwall		
Utility Relocations	Removal/replacement drain inlets, buried cable		
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	10% of Construction Cost and any surveying needed	\$11,876	
Right of Way Cost	Assuming downstream end extends past ROW 1/20 acre	\$8,712	
Utility Relocation Cost		\$6,388	
Construction Cost		\$68,763	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$105,739	



Photo 1: Upstream end of culvert.



Photo 2:Downstream end of culvert looking northeast towards Brockton Court.

Brockton Court

Photo Date:

1/20/2016

Taken By:

David Gibbs

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	154.00	\$ 863.22
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	40.00	\$ 2,366.40
Drain Inlet (EA)		\$ 3,000.00	2.00	\$ 6,000.00
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 9,229.62
Grading Complete (5% of Rwy Items & Drng Total \$)				\$ 2,601.85
Roadway Total				\$ 11,831.47
Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	154.00	\$ 1,598.52
60" CMP (LF)	\$ 24.60		66.00	\$ 1,623.60
60" RCP (LF)		\$ 281.96	66.00	\$ 18,609.62
Class A Conc (CY)		\$ 892.19	21.58	\$ 19,253.42
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	17.11	\$ 831.60
Trench Backfill (CY)		\$ 2.99	110.28	\$ 329.52
Trench Compaction (CY)		\$ 6.36	88.22	\$ 561.11
Drainage Total				\$ 42,807.39
Signing and Marking		Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)		\$ 0.71		\$ -
Signing and Marking Total				\$ -
Staging		Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)		\$ 10,260.00	0.09	\$ 918.60
Temporary Pavement				\$ -
Temporary Drainage (Stream Diversion)		\$ 4,428.00	1.00	\$ 4,428.00
Staging Total				\$ 5,346.60
Erosion Control		Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)		\$ 4.39	34.22	\$ 150.30
Temporary Grassing (AC)		\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)		\$ 4.24	264.00	\$ 1,118.30
Check Dam Type C Silt Fence (LF)		\$ 6.79	264.00	\$ 1,793.09
Erosion Control Mats (SY)		\$ 1.87	0.00	\$ -
Landscape Mulch (SY)		\$ 3.58	0.00	\$ -
Perm Grassing (AC)		\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)		\$ 60.98	9.33	\$ 569.18
Plastic Filter Fabric (SY)		\$ 5.72	9.33	\$ 53.42
4" Ditch Paving (SY)		\$ 54.65	0.00	\$ -
Erosion Control Total				\$ 3,684.30
Construction Cost Total				\$ 63,669.76
Traffic Control (8% of Construction Total \$)				\$ 5,093.58
Construction Cost Grand Total				\$ 68,763.34
Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	0.00	\$ -
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	50.00	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Drain inlet		\$ 1,406.40	2.00	\$ 2,812.80
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 6,387.80
Right of Way (Sq Ft)		Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement		\$ 4.00	2178.00	\$ 8,712.00
ROW Total				\$ 8,712.00

General Information		Map	
Project ID			
Street Name	223 Cedar Trail		
Site Visit Date	1/21/2016		
Road Classification	Minor road		
Project Notes			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-13'		
Existing Shld Width (paved and grass) (feet)	1'		
Existing Side Slopes	2:1		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	4'		
Pipe Type and Size	48" CMP		
Pipe Condition (1-5) (1 is new)	4-5		
Condition Notes: Rusty out bottoms, no headwalls. Streambed blowout on downstream side			
Pavement Type/Condition	Asphalt/Good		
Environmental Features		Stage Construction Options	
Wetlands		Close Location to Traffic	
Ditches	Roadside drainage ditches	Maintain One Lane - No Temp Pavement	X
State Waters		Maintain One Lane - Temp Pavement	
		Stage Construction Notes:	
Utilities (Visual Inspection)			
Electric	Unknown		
Cable	Unknown		
Phone	Unknown		
Gas	Unknown		
Water	Unknown		
Sewer			
Other			
Proposed Design			
Roadway Section	Typical		
Culvert Size & Material	48" round RCP with straight headwall		
Utility Relocations			
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% of Construction Cost and surveying needs	\$8,928	
Right of Way Cost	Project entirely in ROW	\$0	
Utility Relocation Cost	None identified	\$0	
Construction Cost		\$39,279	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$58,206	



Photo 1: Upstream end of culvert.



Photo 2: Downstream end of culvert looking North towards Cedar Trail.

Cedar Trail

Photo Date:

1/21/2016

Taken By:

David Gibbs

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	156.00	\$ 874.43
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 874.43

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 1,346.09

Roadway Total \$ 2,220.52

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	115.56	\$ 1,199.47
48" CMP (LF)	\$ 24.60		52.00	\$ 1,279.20
48" RCP (LF)		\$ 193.20	52.00	\$ 10,046.40
Class A Conc (CY)		\$ 892.19	13.70	\$ 12,222.98
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	11.56	\$ 561.60
Trench Backfill (CY)		\$ 2.99	91.35	\$ 272.96
Trench Compaction (CY)		\$ 6.36	73.08	\$ 464.81

Drainage Total \$ 26,047.41

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71		\$ -

Signing and Marking Total \$ -

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.08	\$ 769.50
Temporary Pavement			0
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total \$ 5,197.50

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	17.33	\$ 76.13
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	208.00	\$ 881.09
Check Dam Type C Silt Fence (LF)	\$ 6.79	208.00	\$ 1,412.74
Erosion Control Mats (SY)	\$ 1.87	0.00	\$ -
Landscape Mulch (SY)	\$ 3.58	0.00	\$ -
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	8.00	\$ 487.87
Plastic Filter Fabric (SY)	\$ 5.72	8.00	\$ 45.79
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 2,903.62

Construction Cost Total \$ 36,369.05

Traffic Control (8% of Construction Total \$) \$ 2,909.52

Construction Cost Grand Total \$ 39,278.58

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	0.00	\$ -
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ -

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	\$ -	\$ -
ROW Total			\$ -

General Information		Map	
Project ID			
Street Name	Coastline Road		
Site Visit Date	5/8/13		
Road Classification	Minor arterial		
Project Notes			
Rural Typical Section; Fish noted in stream/wetland			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-12'		
Existing Shld Width (paved and grass) (feet)	6' Grass		
Existing Side Slopes	2:1		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	3		
Pipe Type and Size	5-96" CMP		
Pipe Condition (1-5) (1 is new)	4		
Condition Notes:			
Pavement Type/Condition	Asphalt/Good		
Environmental Features		Stage Construction Options	
Wetlands	Yes	Close Location to Traffic	X
Ditches	Yes	Maintain One Lane - No Temp Pavement	
		Maintain One Lane - Temp Pavement	
		Stage Construction Notes:	
		Relocate if road cannot be closed	
Utilities (Visual Inspection)			
Electric	Aerial		
Cable	None		
Phone	Aerial		
Gas	None		
Water	None		
Sewer	None		
Other			
Proposed Design			
Roadway Section			
Proposed Design	Triple 10' x 8' box culvert		
Utility Relocations	Electric, phone		
Guardrail Replacement	Need to add guardrail due to sideslopes and culvert installation		
Miscellaneous Features	Zone AE with Floodway, Floodplain Analysis Required		
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% Construction Cost and surveying needs	\$67,431	
Right of Way Cost	Assuming project extends 4,500 sf beyond ROW	\$18,000	
Utility Relocation Cost	Utility poles and aerial phone wires	\$11,825	
Construction Cost	1/2 acre clearing and grubbing, Guardrails	\$424,314	
Environmental Permits	Permits, Zone AE Floodway Analysis	\$18,000	
Total Planning Estimate		\$539,571	

Coastline Road

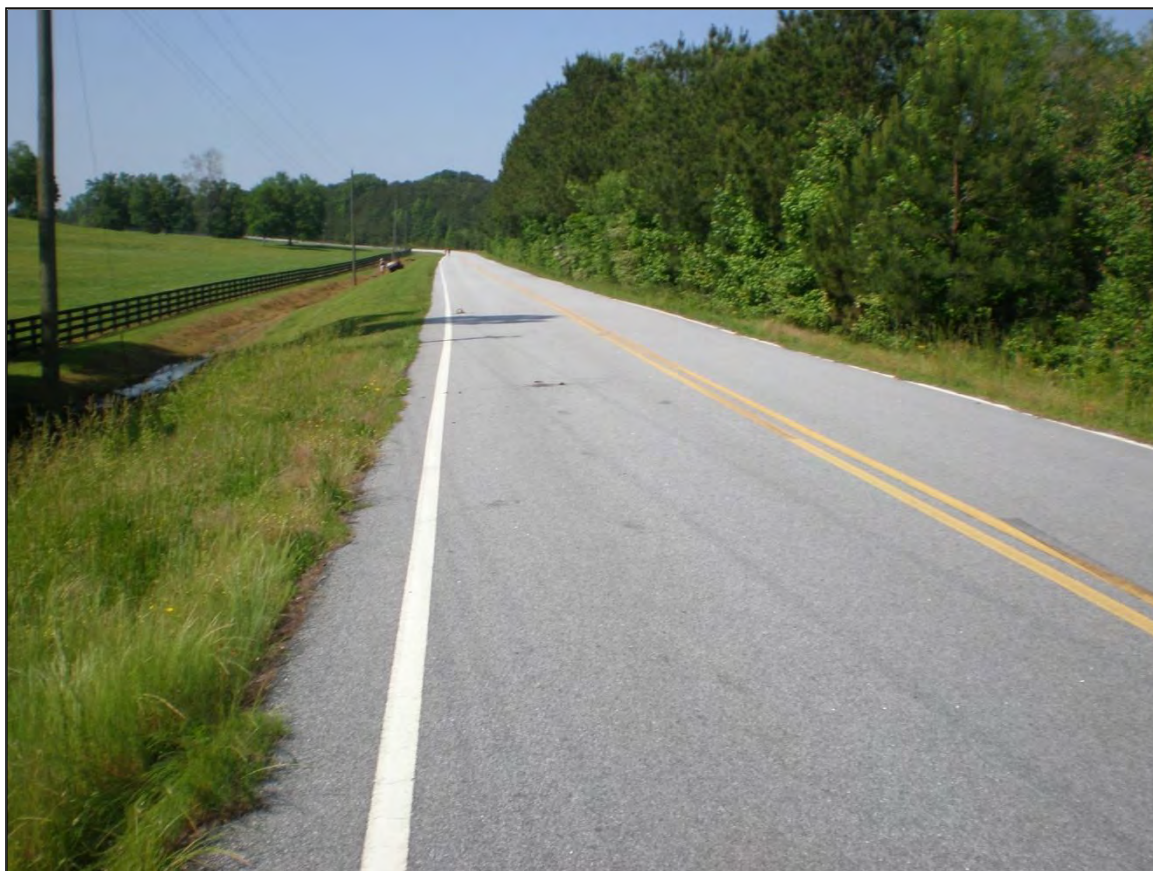


Photo 1:



Photo 2:

Photo Date:

5/21/2013

Taken By:

David King

Page:

1

Coastline Road



Photo 3:



Photo 4:

Photo Date:

5/21/2013

Taken By:

David King

Page:

2

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	1,536.00	\$ 8,609.79
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	140.00	\$ 7,556.64
End Anchorage (EA)		\$ 1,380.00	4.00	\$ 5,520.00
Subtotal				\$ 21,686.43

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 16,929.86

Roadway Total \$ 38,616.29

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	888.89	\$ 9,226.67
96" CMP (LF)	\$ 63.00		300.00	\$ 56,700.00
96" RCP		\$ 455.00	0.00	\$ -
Class A Conc (CY)		\$ 892.19	232.11	\$ 207,085.76
Steel (lb)		\$ 1.42	23,875.00	\$ 33,807.00
Pipe Bedding (CY)		\$ 48.60	61.60	\$ 2,993.76
Trench Backfill (CY)		\$ 2.99	878.84	\$ 2,625.99
Trench Compaction (CY)		\$ 6.36	703.08	\$ 4,471.56

Drainage Total \$ 316,910.73

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total \$ -

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.50	\$ 5,130.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	3.00	\$ 13,284.00

Staging Total \$ 18,414.00

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	92.44	\$ 406.02
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	1,000.00	\$ 4,236.00
Check Dam Type C Silt Fence (LF)	\$ 6.79	1,000.00	\$ 6,792.00
Erosion Control Mats (SY)	\$ 1.87	333.33	\$ 624.00
Landscape Mulch (SY)	\$ 3.58	333.33	\$ 1,192.00
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	85.33	\$ 5,203.97
Plastic Filter Fabric (SY)	\$ 5.72	85.33	\$ 488.45
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 18,942.43

Construction Cost Total \$ 392,883.45

Traffic Control (8% of Construction Total \$) \$ 31,430.68

Construction Cost Grand Total \$ 424,314.13

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	100.00	\$ 6,600.00
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	2.00	\$ 1,375.00
Phone				
Aerial	\$ 11.00	\$ 27.50	100.00	\$ 3,850.00
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 11,825.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	4,500.00	\$ 18,000.00
ROW Total			\$ 18,000.00

General Information		Map
Project ID		
Street Name	171 County Line Court	
Site Visit Date	2/4/2016	
Road Classification	Minor road	
Project Notes		
Existing culvert starts as 42" CMP parallel to road for 15', takes almost 90 degree turn under road and switches to a 30" CMP where it drains on the other side. Proposed design is one straight pipe		
Field Notes		
Design (Existing Site Features)		
Existing Road Laneage	2-11	
Existing Shld Width (paved and grass) (feet)	18'	
Existing Side Slopes	1:9	
Existing Guardrail	N/A	
Depth fm Pavement to Top of Culvert (ft):	2.5'	
Pipe Type and Size	42" to 30" CMP	
Pipe Condition (1-5) (1 is new)	3-4	
Rusted but in tact.		
Pavement Type/Condition	Asphalt/Good	
Environmental Features		
Wetlands		
Ditches		
State Waters		
Utilities (Visual Inspection)		
Electric	Buried	
Cable	Buried	
Phone	Unknown	
Gas	Unknown	
Water	Unknown	
Sewer	Unknown	
Other	Unknown	
Stage Construction Options		
Close Location to Traffic		
Maintain One Lane - No Temp Pavement	X	
Maintain One Lane - Temp Pavement		
Stage Construction Notes:		
Utility pole on top of upstream inlet. Exposed cable wire running across path (Photo 1)		
Proposed Design		
Roadway Section	Typical	
Culvert Size & Material	4' x 3' concrete box culvert with wingwalls. Existing drainageway alongside road before culvert inlet will be extended, near 90 degree pipe turn will be eliminated. Proposed pipe will run perpendicular to the road.	
Utility Relocations	Utility pole on top of upstream inlet will need relocating along with aerial wires and an exposed electrical wire on the ground across the pipe face.	
Guardrail Replacement		
Miscellaneous Features		
Planning Cost Estimate		
Type	Notes	Total
Design	Includes 10% Construction cost and surveying needs	\$11,140
Right of Way Cost	Assuming project extends beyond ROW, 1/10 acre	\$17,424
Utility Relocation Cost	Utility pole, aerial electric and cable wire, buried wire	\$16,088
Construction Cost		\$61,400
Environmental Permits	Assuming minimal environmental permitting required	\$10,000
Total Planning Estimate		\$116,051



Photo 1: Upstream end of culvert looking East along County Line Court.



Photo 2: Downstream end looking North towards County Line Court.

County Line Court

Photo Date:

2/4/2016

Taken By:

Christian Helfrich

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	132.00	\$ 739.90
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	24.00	\$ 1,295.42
End Anchorage (EA)		\$ 1,380.00	4.00	\$ 5,520.00
Subtotal				\$ 7,555.33

Grading Complete (5% of Rwy Items & Drng Total \$)	\$ 2,339.25
--	-------------

Roadway Total	\$ 9,894.58
---------------	-------------

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	100.00	\$ 1,038.00
42" CMP (LF)	\$ 24.60		85.00	\$ 6,273.00
84" RCP		\$ 142.52	0.00	\$ -
Class A Conc (CY)		\$ 892.19	29.93	\$ 26,703.19
Steel (lb)		\$ 1.42	2659.00	\$ 3,765.14
Pipe Bedding (CY)		\$ 48.60	13.80	\$ 670.68
Trench Backfill (CY)		\$ 2.99	96.53	\$ 288.44
Trench Compaction (CY)		\$ 6.36	77.23	\$ 491.16

Drainage Total	\$ 39,229.61
----------------	--------------

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	24.00	\$ 16.99

Signing and Marking Total	\$ 16.99
---------------------------	----------

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.05	\$ 513.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total	\$ 4,974.98
---------------	-------------

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	200.00	\$ 878.40
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	120.00	\$ 508.32
Check Dam Type C Silt Fence (LF)	\$ 6.79	120.00	\$ 815.04
Erosion Control Mats (SY)	\$ 1.87	0.00	\$ -
Landscape Mulch (SY)	\$ 3.58	0.00	\$ -
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	8.00	\$ 487.87
Plastic Filter Fabric (SY)	\$ 5.72	8.00	\$ 45.79
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total	\$ 2,735.42
-----------------------	-------------

Construction Cost Total	\$ 56,851.59
-------------------------	--------------

Traffic Control (8% of Construction Total \$)	\$ 4,548.13
---	-------------

Construction Cost Grand Total	\$ 61,399.72
-------------------------------	--------------

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	100.00	\$ 6,600.00
Buried	\$ 16.50	\$ 82.50	50.00	\$ 4,950.00
Wooden Pole	\$ 82.50	\$ 605.00	1.00	\$ 687.50
Phone				
Aerial	\$ 11.00	\$ 27.50	100.00	\$ 3,850.00
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Relocate Fire Hydrant (EA)		\$ 2,609.22	0.00	\$ -
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 16,087.50

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	4356.00	\$ 17,424.00
ROW Total			\$ 17,424.00

General Information		Map	
Project ID			
Street Name	178 Crabapple Lane		
Site Visit Date	5/22/13		
Road Classification	Minor arterial		
Project Notes			
Rural Typical Section			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2 - 9'-10'		
Existing Shld Width (paved and grass) (feet)	None		
Existing Side Slopes	1.5:1 to flat		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	1.5' - 2'		
Pipe Type and Size	2 - 72" CMP		
Pipe Condition (1-5) (1 is new)	3		
Condition Notes: No Headwall			
Pavement Type/Condition	Gravel/Fair		
Environmental Features			
Wetlands	None		
Ditches	None		
Utilities (Visual Inspection)			
Electric	Aerial		
Cable	Aerial		
Phone	Aerial		
Gas			
Water			
Sewer			
Other			
Proposed Design			
Roadway Section			
Culvert Size & Material	tpl 8' x 5' box, concrete, 70' length		
Utility Relocations	Electric, cable, phone		
Guardrail Replacement			
Miscellaneous Features	Zone A, Floodplain Analysis Required		
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% Construction Cost and surveying needs	\$42,332	
Right of Way Cost	Assuming project extends 3,000 sf beyond ROW	\$12,000	
Utility Relocation Cost	Aerial utilities	\$15,675	
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$298,319	
Environmental Permits	Permits, Zone A Floodplain Analysis	\$15,000	
Total Planning Estimate		\$383,326	



Photo 1:



Photo 2:

Crabapple Lane

Photo Date:

5/21/2013

Taken By:

David King

Page:

1



Photo 3:



Photo 4:

Photo Date:

5/21/2013

Taken By:

David King

Page:

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	624.00	\$ 3,497.73
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 3,497.73

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 11,931.25

Roadway Total \$ 15,428.98

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	539.26	\$ 5,597.51
72" CMP (LF)	\$ 63.00		140.00	\$ 26,460.00
84" RCP		\$ 142.52	0.00	\$ -
Class A Conc (CY)		\$ 892.19	185.48	\$ 165,483.03
Steel (lb)		\$ 1.42	21,112.00	\$ 29,894.59
Pipe Bedding (CY)		\$ 48.60	69.30	\$ 3,367.98
Trench Backfill (CY)		\$ 2.99	535.44	\$ 1,599.90
Trench Compaction (CY)		\$ 6.36	428.35	\$ 2,724.32

Drainage Total \$ 235,127.33

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total \$ -

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Gravel Road (SY)	\$ 15.42	69.33	\$ 1,069.12
Temporary Drainage (Stream Diversion)	\$ 4,428.00	2.00	\$ 8,856.00

Staging Total \$ 10,951.12

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	132.89	\$ 583.65
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	560.00	\$ 2,372.16
Check Dam Type C Silt Fence (LF)	\$ 6.79	560.00	\$ 3,803.52
Erosion Control Mats (SY)	\$ 1.87	186.67	\$ 349.44
Landscape Mulch (SY)	\$ 3.58	186.67	\$ 667.52
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	104.00	\$ 6,342.34
Plastic Filter Fabric (SY)	\$ 5.72	104.00	\$ 595.30
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 14,713.92

Construction Cost Total \$ 276,221.35

Traffic Control (8% of Construction Total \$) \$ 22,097.71

Construction Cost Grand Total \$ 298,319.06

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	100.00	\$ 6,600.00
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	2.00	\$ 1,375.00
Phone				
Aerial	\$ 11.00	\$ 27.50	100.00	\$ 3,850.00
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	100.00	\$ 3,850.00
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Relocate Fire Hydrant (EA)		\$ 2,609.22	0.00	\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 15,675.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	3,000.00	\$ 12,000.00
ROW Total			\$ 12,000.00

General Information		Map	
Project ID			
Street Name	Cross Creek Trail		
Site Visit Date	5/21/13		
Road Classification	Minor road		
Project Notes			
Rural Typical Section			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2 - 12'		
Existing Shld Width (paved and grass) (feet)	4' (Grass)		
Existing Side Slopes	6:1		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	3		
Pipe Type and Size	4 - 72" CMP		
Pipe Condition (1-5) (1 is new)	4		
Condition Notes:			
Pavement Type/Condition	Asphalt/Good		
Environmental Features			
Wetlands	None		
Ditches	None		
Utilities (Visual Inspection)			
Electric	Aerial		
Cable	Aerial		
Phone	Aerial		
Gas			
Water	Buried		
Sewer			
Other			
Proposed Design			
Roadway Section	In kind replace. For costing purposes, temporary road consists of 8" gravel fill		
Culvert Size & Material	quad 8' x 5' box, concrete, 80' length		
Utility Relocations	Electric, cable, phone, water		
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% Construction Cost and surveying needs	\$58,870	
Right of Way Cost	Assuming project extends 3,000 sf beyond ROW	\$12,000	
Utility Relocation Cost	Aerial utilities	\$17,600	
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$463,704	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$562,174	

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	912.00	\$ 5,112.06
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 5,112.06

Grading Complete (5% of Rwy Items & Drng Total \$)	\$ 19,033.58
--	--------------

Roadway Total	\$ 24,145.65
---------------	--------------

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	1,013.33	\$ 10,518.40
72" CMP (LF)	\$ 63.00		320.00	\$ 60,480.00
84" RCP		\$ 142.52	0.00	\$ -
Class A Conc (CY)		\$ 892.19	278.58	\$ 248,545.73
Steel (lb)		\$ 1.42	29,610.00	\$ 41,927.76
Pipe Bedding (CY)		\$ 48.60	115.40	\$ 5,608.44
Trench Backfill (CY)		\$ 2.99	1,049.93	\$ 3,137.20
Trench Compaction (CY)		\$ 6.36	839.95	\$ 5,342.06

Drainage Total	\$ 375,559.59
----------------	---------------

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	152.00	\$ 107.62

Signing and Marking Total	\$ 107.62
---------------------------	-----------

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Gravel Road (SY)	\$ 15.42	222.22	\$ 3,426.67
Temporary Drainage (Stream Diversion)	\$ 4,428.00	2.00	\$ 8,856.00

Staging Total	\$ 13,523.90
---------------	--------------

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	236.44	\$ 1,038.46
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	640.00	\$ 2,711.04
Check Dam Type C Silt Fence (LF)	\$ 6.79	640.00	\$ 4,346.88
Erosion Control Mats (SY)	\$ 1.87	213.33	\$ 399.36
Landscape Mulch (SY)	\$ 3.58	213.33	\$ 762.88
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	101.33	\$ 6,179.71
Plastic Filter Fabric (SY)	\$ 5.72	101.33	\$ 580.03
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total	\$ 16,018.37
-----------------------	--------------

Construction Cost Total	\$ 429,355.12
-------------------------	---------------

Traffic Control (8% of Construction Total \$)	\$ 34,348.41
---	--------------

Construction Cost Grand Total	\$ 463,703.53
-------------------------------	---------------

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	75.00	\$ 4,950.00
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	2.00	\$ 1,375.00
Phone				
Aerial	\$ 11.00	\$ 27.50	75.00	\$ 2,887.50
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	75.00	\$ 2,887.50
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	50.00	\$ 5,500.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 17,600.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	3,000.00	\$ 12,000.00
ROW Total			\$ 12,000.00

Cross Creek Trail



Photo 1:



Photo 2:

Photo Date:

5/21/2013

Taken By:

David King

Page:

1

Cross Creek Trail



Photo 3:



Photo 4:

Photo Date:

5/21/2013

Taken By:

David King

Page:

2

General Information		Map	
Project ID			
Street Name	Darren Drive		
Site Visit Date	5/8/13		
Road Classification	Minor road		
Project Notes			
Rural Typical Section			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-10'		
Existing Shld Width (paved and grass) (feet)	2'		
Existing Side Slopes	2:1		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	3		
Pipe Type and Size	3-96" CMP		
Pipe Condition (1-5) (1 is new)	3		
Condition Notes:			
Pavement Type/Condition	Asphalt/Good		
Environmental Features		Stage Construction Options	
Wetlands	None	Close Location to Traffic	
Ditches	None	Maintain One Lane - No Temp Pavement	X
		Maintain One Lane - Temp Road	
		Stage Construction Notes:	
Utilities (Visual Inspection)			
Electric	Yes		
Cable	Yes		
Phone	Yes		
Gas	Unknown		
Water	Yes		
Sewer	No		
Other			
Proposed Design			
Roadway Section	Replace in kind		
Proposed Design	Triple 8' x 8' box culvert		
Utility Relocations	Phone, cable		
Guardrail Replacement	Need to add guardrail due to sideslopes and culvert installation		
Miscellaneous Features	Zone AE Floodplain Analysis Required		
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% Construction Cost and surveying needs	\$42,264	
Right of Way Cost	Assuming project extends 3,750 sf beyond ROW	\$15,000	
Utility Relocation Cost	Buried phone and cable	\$10,725	
Construction Cost	1/3 acre clearing and grubbing, Guardrails	\$297,641	
Environmental Permits	Permits, Zone AE Floodway Analysis	\$18,000	
Total Planning Estimate		\$383,630	



Photo 1:



Photo 2:

130 Darren Drive

Photo Date:

6/03/2013

Taken By:

Tony Hicks

Page:

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	1,040.00	\$ 5,829.55
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	104.00	\$ 5,613.50
End Anchorage (EA)		\$ 1,380.00	4.00	\$ 5,520.00
Subtotal				\$ 16,963.05

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 11,996.39

Roadway Total \$ 28,959.44

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	755.56	\$ 7,842.67
96" CMP (LF)	\$ 63.00		70.00	\$ 13,230.00
96" RCP		\$ 455.00	0.00	\$ -
Class A Conc (CY)		\$ 892.19	184.86	\$ 164,929.87
Steel (lb)		\$ 1.42	19,942.00	\$ 28,237.87
Pipe Bedding (CY)		\$ 48.60	50.10	\$ 2,434.86
Trench Backfill (CY)		\$ 2.99	778.79	\$ 2,327.02
Trench Compaction (CY)		\$ 6.36	623.03	\$ 3,962.48

Drainage Total \$ 222,964.77

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total \$ -

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.33	\$ 3,385.80
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	2.00	\$ 8,856.00

Staging Total \$ 12,241.80

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	86.67	\$ 380.64
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	500.00	\$ 2,118.00
Check Dam Type C Silt Fence (LF)	\$ 6.79	500.00	\$ 3,396.00
Erosion Control Mats (SY)	\$ 1.87	166.67	\$ 312.00
Landscape Mulch (SY)	\$ 3.58	166.67	\$ 596.00
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	69.33	\$ 4,228.22
Plastic Filter Fabric (SY)	\$ 5.72	69.33	\$ 396.86
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 11,427.73

Construction Cost Total \$ 275,593.74

Traffic Control (8% of Construction Total \$) \$ 22,047.50

Construction Cost Grand Total \$ 297,641.24

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	0.00	\$ -
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	75.00	\$ 5,362.50
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	75.00	\$ 5,362.50
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 10,725.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	3,750.00	\$ 15,000.00
ROW Total			\$ 15,000.00

General Information		Map	
Project ID			
Street Name	118 Davis Road		
Site Visit Date	5/21/13		
Road Classification	Minor arterial		
Project Notes			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	1-12'		
Existing Shld Width (paved and grass) (feet)	None		
Existing Side Slopes	1:1		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	1		
Pipe Type and Size	2-48", 1-24"		
Pipe Condition (1-5) (1 is new)	4		
Condition Notes:			
Pavement Type/Condition	Gravel/fair		
Environmental Features			
Wetlands	Noted		
Ditches	None		
Utilities (Visual Inspection)			
Electric			
Cable			
Phone	Aerial Crossing		
Gas			
Water			
Sewer			
Other			
Stage Construction Options			
Close Location to Traffic		X	
Maintain One Lane - No Temp Pavement			
Maintain One Lane - Temp Pavement			
Stage Construction Notes:			
Proposed Design			
Roadway Section	Local gravel road specifications. For costing purposes the cost of a temporary gravel road has been doubled.		
Culvert Size & Material	five-barrel 10' x 4', concrete, 85' length. For costing purposes, concrete and steel unit values for a double and triple culvert for have been combined		
Utility Relocations	Aerial Phone		
Guardrail Replacement			
Miscellaneous Features	Zone A, Floodplain Analysis Required		
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% of Construction Cost and surveying needs	\$78,052	
Right of Way Cost	Assuming project extends into ROW 30,000 sf	\$120,000	
Utility Relocation Cost	Aerial utilities	\$3,300	
Construction Cost	Assuming 1/5 acre clearing and grubbing	\$655,519	
Environmental Permits	Permits, Zone A Floodplain Analysis	\$15,000	
Total Planning Estimate		\$871,871	

Davis Road



Photo 1:



Photo 2:

Photo Date:

5/21/2013

Taken By:

David King

Page:

1

Davis Road



Photo 3:



Photo 4:

Photo Date:

5/21/2013

Taken By:

David King

Page:

2

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	1,248.00	\$ 6,995.46
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 6,995.46

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 27,417.89

Roadway Total \$ 34,413.34

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	1,133.33	\$ 11,764.00
24" CMP (LF)	\$ 16.38		85.00	\$ 4,176.90
48" CMP (LF)	\$ 24.78		170.00	\$ 12,637.80
42" RCP		\$ 142.52	0.00	\$ -
Class A Conc (CY)		\$ 892.19	471.27	\$ 420,456.98
Steel (lb)		\$ 1.42	53,117.00	\$ 75,213.67
Pipe Bedding (CY)		\$ 48.60	167.60	\$ 8,145.36
Trench Backfill (CY)		\$ 2.99	1,110.40	\$ 3,317.88
Trench Compaction (CY)		\$ 6.36	888.32	\$ 5,649.72

Drainage Total \$ 541,362.30

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	208.00	\$ 147.26

Signing and Marking Total \$ 147.26

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.20	\$ 2,052.00
Temporary Gravel Road (SY)	\$ 15.42	0.00	\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	2.00	\$ 8,856.00

Staging Total \$ 11,202.53

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	421.78	\$ 1,852.45
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	680.00	\$ 2,880.48
Check Dam Type C Silt Fence (LF)	\$ 6.79	680.00	\$ 4,618.56
Erosion Control Mats (SY)	\$ 1.87	226.67	\$ 424.32
Landscape Mulch (SY)	\$ 3.58	226.67	\$ 810.56
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	138.67	\$ 8,456.45
Plastic Filter Fabric (SY)	\$ 5.72	138.67	\$ 793.73
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 19,836.54

Construction Cost Total \$ 606,961.98

Traffic Control (8% of Construction Total \$) \$ 48,556.96

Construction Cost Grand Total \$ 655,518.94

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	0.00	\$ -
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50	50.00	\$ 1,925.00
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	2.00	\$ 1,375.00
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 3,300.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	30,000.00	\$ 120,000.00
ROW Total			\$ 120,000.00

General Information		Map
Project ID		
Street Name	308 Deauville Way	
Site Visit Date	2/4/2016	
Road Classification	Minor road	
Project Notes		
Cul de sac ends where multiple drainage areas converge (low point). Culvert services drainage way behind houses on north side of Deauville Way (opposite 308). Pipe passes under a private driveway and turn 45 degree to empty along side concrete spill way.		
Field Notes		
Design (Existing Site Features)		
Existing Road Laneage	2-13'	
Existing Shld Width (paved and grass) (feet)	N/A	
Existing Side Slopes	N/A	
Existing Guardrail	N/A	
Depth fm Pavement to Top of Culvert (ft):	2'	
Pipe Type and Size	18" CMP	
Pipe Condition (1-5) (1 is new)	3	
Upstream end of pipe almost completely blocked (see Photo 1).		
Pavement Type/Condition	Asphalt/Good	
Environmental Features		
Wetlands		
Ditches		
State Waters		
Utilities (Visual Inspection)		
Electric	Unknown	
Cable	Buried	
Phone	Unknown	
Gas	Unknown	
Water	Unknown	
Sewer	Unknown	
Other	Broadband buried	
Stage Construction Options		
Close Location to Traffic		
Maintain One Lane - No Temp Pavement		
Maintain One Lane - Temp Pavement		
Stage Construction Notes:		
Private driveway needs to be considered		
Proposed Design		
Roadway Section	Typical	
Culvert Size & Material	2 x 30" round RCPs along current path with 45 degree bend. Additional excavation required to lower inlet 1' for upsizing purposes. Cost of removing each headwall assumed to be equal to removal of entire length of pipe.	
Utility Relocations	Buried cable and broadband wires	
Guardrail Replacement		
Miscellaneous Features		
Planning Cost Estimate		
Type	Notes	Total
Design	Includes 10% Construction Cost and surveying needs	\$17,481
Right of Way Cost	Assuming entire project is outside of ROW, 1/3 acre	\$58,080
Utility Relocation Cost	Buried cable, broadband	\$7,150
Construction Cost		\$124,805
Environmental Permits	Assuming minimal environmental permitting required	\$10,000
Total Planning Estimate		\$217,516



Photo 1: Upstream end of culvert looking South towards Deauville Way.



Photo 2: Downstream end looking West towards Deauville Way.

Deauville Way

Photo Date:

2/5/2016

Taken By:

Christian Helfrich

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	0.00	\$ -
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	9.50	\$ 479.37
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 479.37
Grading Complete (5% of Rwy Items & Drng Total \$)				\$ 4,837.77
Roadway Total				\$ 5,317.14
Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	697.55	\$ 7,240.53
18" CMP (LF)	\$ 5.74		915.00	\$ 5,248.44
30" RCP (LF)		\$ 105.60	610.00	\$ 64,416.00
Class A Conc (CY)		\$ 892.19	9.92	\$ 8,850.50
Steel (lb)		\$ 1.42	18.04	\$ 25.55
Pipe Bedding (CY)		\$ 48.60	107.31	\$ 5,215.50
Trench Backfill (CY)		\$ 2.99	653.72	\$ 1,953.31
Trench Compaction (CY)		\$ 6.36	522.97	\$ 3,326.11
Drainage Total				\$ 96,275.94
Signing and Marking		Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)		\$ 0.71	0.00	\$ -
Signing and Marking Total				\$ -
Staging		Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)		\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement				\$ -
Temporary Drainage (Stream Diversion)		\$ 4,428.00	1.00	\$ 4,428.00
Staging Total				\$ 5,454.00
Erosion Control		Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)		\$ 4.39	406.67	\$ 1,786.08
Temporary Grassing (AC)		\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)		\$ 4.24	610.00	\$ 2,583.96
Check Dam Type C Silt Fence (LF)		\$ 6.79	610.00	\$ 4,143.12
Erosion Control Mats (SY)		\$ 1.87	0.00	\$ -
Landscape Mulch (SY)		\$ 3.58	0.00	\$ -
Perm Grassing (AC)		\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)		\$ 60.98	0.00	\$ -
Plastic Filter Fabric (SY)		\$ 5.72	0.00	\$ -
4" Ditch Paving (SY)		\$ 54.65	0.00	\$ -
Erosion Control Total				\$ 8,513.16
Construction Cost Total				\$115,560.24
Traffic Control (8% of Construction Total \$)				\$ 9,244.82
Construction Cost Grand Total				\$124,805.06
Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	0.00	\$ -
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	100.00	\$ 7,150.00
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Relocate Fire Hydrant (EA)		\$ 2,609.22	0.00	\$ -
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 7,150.00
Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost	
Permanent Easement	\$ 4.00	14,520.00	\$ 58,080.00	
ROW Total			\$ 58,080.00	

General Information		
Project ID		
Street Name	175 Deer Trail	
Site Visit Date		
Road Classification	Internal Local	
Project Notes		
Storm pipe is metal and over 30 years old and undersized causing road to flood repeatedly.		
Field Notes		
Design (Existing Site Features)		
Existing Road Laneage	2	
Existing Shld Width (paved and grass) (feet)	NA - curb & gutter	
Existing Side Slopes	NA - curb & gutter	
Existing Guardrail	None	
Depth fm Pavement to Top of Culvert (ft):	NA	
Pipe Type and Size	CMP, 24-inch Dia.	
Pipe Condition (1-5) (1 is new)	4	
Condition Notes: Pipe and associated structures are in poor condition.		
Pavement Type/Condition	average	
Environmental Features		
Wetlands	No	
Ditches	NA	
Utilities (Visual Inspection)		
Electric	Yes	
Cable	Yes	
Phone	Yes	
Gas	Unknown	
Water	Yes	
Sewer	No	
Other		
Proposed Design		
Roadway Section	Typical subdivision with curb & gutter	
Culvert Size & Material	Replace existing pipe with 36-inch RCP, approximately 312 ft.	
Utility Relocations	As needed	
Guardrail Replacement	None	
Miscellaneous Features	Upgrade inlets, headwalls and junction boxes	
Planning Cost Estimate		
Type	Notes	Total
Design	Includes 10% Construction Cost and surveying needs	\$9,211
Right of Way Cost	Assuming project extends 12,000 sf beyond ROW	\$20,000
Utility Relocation Cost	Buried and aerial utilities	\$17,600
Construction Cost	See estimate sheet	\$42,112
Environmental Permits	None expected	
Total Planning Estimate		\$88,923

Map

Close Location to Traffic

Maintain One Lane - No Temp Pavement

Maintain One Lane - Temp Pavement

Stage Construction Notes:

Minimal impacts to traffic and access can be maintained to all properties.



Photo 1:



Photo 2:

175 Deer Trail

Photo Date:

6/9/2016

Taken By:

Tony Hicks

Page:

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	125.00	\$ 700.67
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	40.00	\$ 2,366.40
Drain Inlet (EA)		\$ 3,000.00	2.00	\$ 6,000.00
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	25.00	\$ 1,261.50
Guardrail (LF)	\$ 4.88	\$ 49.09		\$ -
End Anchorage (EA)		\$ 1,380.00		\$ -
Subtotal				\$ 10,328.57

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 1,435.33

Roadway Total \$ 11,763.90

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	72.59	\$ 753.51
36" CMP (LF)	\$ 16.38		168.00	\$ 2,751.84
36" RCP (LF)		\$ 134.40	56.00	\$ 7,526.40
Class A Conc (CY)		\$ 892.19	7.20	\$ 6,423.75
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	10.37	\$ 504.00
Trench Backfill (CY)		\$ 2.99	51.82	\$ 154.84
Trench Compaction (CY)		\$ 6.36	41.46	\$ 263.66

Drainage Total \$ 18,378.01

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total \$ -

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total \$ 5,454.00

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	17.22	\$ 75.64
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	224.00	\$ 948.86
Check Dam Type C Silt Fence (LF)	\$ 6.79	224.00	\$ 1,521.41
Erosion Control Mats (SY)	\$ 1.87	74.67	\$ 139.78
Landscape Mulch (SY)	\$ 3.58	74.67	\$ 267.01
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	6.67	\$ 406.56
Plastic Filter Fabric (SY)	\$ 5.72	6.67	\$ 38.16
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 3,397.42

Construction Cost Total \$ 38,993.32

Traffic Control (8% of Construction Total \$) \$ 3,119.47

Construction Cost Grand Total \$ 42,112.79

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50	50.00	\$ 4,950.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	50.00	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	50.00	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	50.00	\$ 5,500.00
Relocate Fire Hydrant (EA)		\$ 2,609.22	0.00	\$ -
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 17,600.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	5,000.00	\$ 20,000.00
ROW Total			\$ 20,000.00

General Information		Map
Project ID		
Street Name	130 Deerfield Lane	
Site Visit Date	5/21/13	
Road Classification	Minor road	
Project Notes		
Replace 30-yr old CMP with RCP. Provide manhole access to pipe for inspection and maintenance. May impact a driveway. One of several pipe replacement projects in subdivision		
Field Notes		
Design (Existing Site Features)		
Existing Road Laneage	2-12.5'	
Existing Shld Width (paved and grass) (feet)	NA - curb & gutter	
Existing Side Slopes	NA - curb & gutter	
Existing Guardrail	NA - curb & gutter	
Depth fm Pavement to Top of Culvert (ft):	Assumed 3'	
Pipe Type and Size	CMP, 36"	
Pipe Condition (1-5) (1 is new)	5	
Condition Notes: Pipe and associated structures are old and in poor condition		
Pavement Type/Condition	Average	
Environmental Features		
Wetlands	None	
Ditches	None	
Utilities (Visual Inspection)		
Electric	Yes	
Cable	Yes	
Phone	Yes	
Gas	Unknown	
Water	Yes	
Sewer	No	
Other		
Stage Construction Options		
Close Location to Traffic		
Maintain One Lane - No Temp Pavement		X
Maintain One Lane - Temp Pavement		
Stage Construction Notes:		
Minimal impacts to traffic and access can be maintained to all properties.		
Work may require repair to driveway		
Proposed Design		
Roadway Section	Typical with curb and gutter. Road dimensions estimated with Google Earth. Driveway costed as 4" concrete sidewalk.	
Culvert Size & Material	Replace existing pipe with 36" RCP, approximately 56'. Cost of headwall removal assumed equal to removal of entire length of pipe.	
Utility Relocations	Buried utilities	
Guardrail Replacement		
Miscellaneous Features	Previous inspection notes called for upgrading inlets, headwalls and junction boxes to modern design. Cost of pipe, headwalls, and inlets have been included in this design.	
Planning Cost Estimate		
Type	Notes	Total
Design	Includes 10% Construction Cost and surveying needs	\$9,211
Right of Way Cost	Assuming project extends 5,000 sf beyond ROW	\$20,000
Utility Relocation Cost	Buried utilities	\$17,600
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$42,113
Environmental Permits	Assuming minimal environmental permitting required	\$10,000
Total Planning Estimate		\$98,924



Photo 1:



Photo 2:

131 Deerfield Lane

Photo Date:

1/27/2012

Taken By:

Tony Hicks

Page:

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	125.00	\$ 700.67
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	40.00	\$ 2,366.40
Drain Inlet (EA)		\$ 3,000.00	2.00	\$ 6,000.00
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	25.00	\$ 1,261.50
Guardrail (LF)	\$ 4.88	\$ 49.09		\$ -
End Anchorage (EA)		\$ 1,380.00		\$ -
Subtotal				\$ 10,328.57

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 1,435.33

Roadway Total \$ 11,763.90

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	72.59	\$ 753.51
36" CMP (LF)	\$ 16.38		168.00	\$ 2,751.84
36" RCP (LF)		\$ 134.40	56.00	\$ 7,526.40
Class A Conc (CY)		\$ 892.19	7.20	\$ 6,423.75
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	10.37	\$ 504.00
Trench Backfill (CY)		\$ 2.99	51.82	\$ 154.84
Trench Compaction (CY)		\$ 6.36	41.46	\$ 263.66

Drainage Total \$ 18,378.01

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total \$ -

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total \$ 5,454.00

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	17.22	\$ 75.64
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	224.00	\$ 948.86
Check Dam Type C Silt Fence (LF)	\$ 6.79	224.00	\$ 1,521.41
Erosion Control Mats (SY)	\$ 1.87	74.67	\$ 139.78
Landscape Mulch (SY)	\$ 3.58	74.67	\$ 267.01
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	6.67	\$ 406.56
Plastic Filter Fabric (SY)	\$ 5.72	6.67	\$ 38.16
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 3,397.42

Construction Cost Total \$ 38,993.32

Traffic Control (8% of Construction Total \$) \$ 3,119.47

Construction Cost Grand Total \$ 42,112.79

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50	50.00	\$ 4,950.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	50.00	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	50.00	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	50.00	\$ 5,500.00
Relocate Fire Hydrant (EA)		\$ 2,609.22	0.00	\$ -
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 17,600.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	5,000.00	\$ 20,000.00
ROW Total			\$ 20,000.00

General Information		Map
Project ID		
Street Name	161 Deerfield Lane	
Site Visit Date	5/21/13	
Road Classification	Minor road	
Project Notes		
Storm pipe in Beverly Manor subdivision is metal and over 30 years old. Typical catch basin construction does not allow for inspection or maintenance. Many junction boxes are masonry block and in poor condition.		
Field Notes		
Design (Existing Site Features)		
Existing Road Laneage	2-12.5'	
Existing Shld Width (paved and grass) (feet)	NA - curb & gutter	
Existing Side Slopes	NA - curb & gutter	
Existing Guardrail	NA - curb & gutter	
Depth fm Pavement to Top of Culvert (ft):	Assumed 3'	
Pipe Type and Size	CMP, 30"	
Pipe Condition (1-5) (1 is new)	5	
Condition Notes: Pipe and associated structures are old and in poor condition		
Pavement Type/Condition	Average	
Environmental Features		
Wetlands	None	
Ditches	None	
Utilities (Visual Inspection)		
Electric	Yes	
Cable	Yes	
Phone	Yes	
Gas	Unknown	
Water	Yes	
Sewer	No	
Other		
Proposed Design		
Roadway Section	Typical with curb and gutter. Road dimensions estimated with Google Earth.	
Culvert Size & Material	Replace existing pipe with 36" RCP, approximately 64'. Cost of headwall removal assumed equal to removal of entire length of pipe.	
Utility Relocations	Assuming buried water line needs relocating.	
Guardrail Replacement		
Miscellaneous Features	Previous inspection notes called for upgrading inlets, headwalls and junction boxes to modern design. Cost of pipe, headwalls, and inlets have been included in this design.	
Planning Cost Estimate		
Type	Notes	Total
Design	Includes 10% Construction Cost and surveying needs	\$9,310
Right of Way Cost	Assuming projects extends 5,000 sf beyond ROW	\$20,000
Utility Relocation Cost	Water main	\$17,600
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$43,102
Environmental Permits	Assuming minimal environmental permitting required	\$10,000
Total Planning Estimate		\$100,012



Photo 1:



Photo 2:

161 Deerfield Lane

Photo Date:

6/17/2013

Taken By:

Tony Hicks

Page:

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	125.00	\$ 700.67
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	40.00	\$ 2,366.40
Drain Inlet (EA)		\$ 3,000.00	2.00	\$ 6,000.00
4" Sidewalk (SY)	\$ 13.56	\$ 36.90		\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09		\$ -
End Anchorage (EA)		\$ 1,380.00		\$ -
Subtotal				\$ 9,067.07

Grading Complete (5% of Rwy Items & Drng Total \$)	\$ 1,458.44
--	-------------

Roadway Total	\$ 10,525.51
---------------	--------------

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	82.96	\$ 861.16
36" CMP (LF)	\$ 16.38		192.00	\$ 3,144.96
36" RCP (LF)		\$ 134.40	64.00	\$ 8,601.60
Class A Conc (CY)		\$ 892.19	7.20	\$ 6,423.75
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	11.85	\$ 576.00
Trench Backfill (CY)		\$ 2.99	61.21	\$ 182.89
Trench Compaction (CY)		\$ 6.36	48.97	\$ 311.43

Drainage Total	\$ 20,101.78
----------------	--------------

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total	\$ -
---------------------------	------

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total	\$ 5,454.00
---------------	-------------

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	21.67	\$ 95.16
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	256.00	\$ 1,084.42
Check Dam Type C Silt Fence (LF)	\$ 6.79	256.00	\$ 1,738.75
Erosion Control Mats (SY)	\$ 1.87	85.33	\$ 159.74
Landscape Mulch (SY)	\$ 3.58	85.33	\$ 305.15
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	6.67	\$ 406.56
Plastic Filter Fabric (SY)	\$ 5.72	6.67	\$ 38.16
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total	\$ 3,827.94
-----------------------	-------------

Construction Cost Total	\$ 39,909.24
-------------------------	--------------

Traffic Control (8% of Construction Total \$)	\$ 3,192.74
---	-------------

Construction Cost Grand Total	\$ 43,101.98
-------------------------------	--------------

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50	50.00	\$ 4,950.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	50.00	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	50.00	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	50.00	\$ 5,500.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 17,600.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	5,000.00	\$ 20,000.00
ROW Total			\$ 20,000.00

General Information		Map	
Project ID			
Street Name	325 Derby Drive		
Site Visit Date	1/20/2016		
Road Classification	Minor road		
Project Notes			
Streambank erosion intense at this site. Existing roadside CMP drainage pipe is emptying directly above culvert.			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-13'		
Existing Shld Width (paved and grass) (feet)	10'		
Existing Side Slopes	3:1		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	6.25'		
Pipe Type and Size	54" CMP		
Pipe Condition (1-5) (1 is new)	3		
Condition Notes: Concrete headwalls. Streambank blowout upstream and major blowout downstream			
Pavement Type/Condition	Asphalt/Good		
Environmental Features			
Wetlands			
Ditches	Roadside drainage ditches		
State Waters			
Buried			
Electric	Buried		
Cable	Buried		
Phone	Unknown		
Gas	Unknown		
Water	Unknown		
Sewer	Unknown		
Other	Broadband - Buried		
Proposed Design			
Roadway Section	Typical		
Culvert Size & Material	54" round RCP with straight headwall. Assuming cost of removing existing headwalls is equal to removal of entire existing pipe		
Utility Relocations	Removal/replacement of buried electric, cable, and broadband lines		
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% of Construction Cost and surveying needs	\$13,319	
Right of Way Cost	Assuming project extends past ROW, 1/20 acre	\$8,712	
Utility Relocation Cost		\$14,520	
Construction Cost		\$83,189	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$129,740	



Photo 1:Upstream end of culvert looking East towards Derby Drive



Photo 2: Downstream end of culvert looking West towards Derby Drive

Derby Drive

Photo Date:

1/20/2016

Taken By:

David Gibbs

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	169.00	\$ 947.30
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 947.30
Grading Complete (5% of Rwy Items & Drng Total \$)				\$ 2,720.07
Roadway Total				\$ 3,667.37
Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	217.81	\$ 2,260.87
54" CMP (LF)	\$ 24.60		154.00	\$ 11,365.20
54" RCP (LF)		\$ 281.96	77.00	\$ 21,711.23
Class A Conc (CY)		\$ 892.19	17.58	\$ 15,684.67
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	18.54	\$ 900.90
Trench Backfill (CY)		\$ 2.99	189.59	\$ 566.50
Trench Compaction (CY)		\$ 6.36	151.67	\$ 964.64
Drainage Total				\$53,454.00
Signing and Marking		Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)		\$ 0.71		\$ -
Signing and Marking Total				\$ -
Staging		Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)		\$ 10,260.00	0.25	\$ 2,565.00
Temporary Pavement				\$ -
Temporary Drainage (Stream Diversion)		\$ 4,428.00	2.00	\$ 8,856.00
Staging Total				\$11,421.00
Erosion Control		Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)		\$ 4.39	36.83	\$ 161.77
Temporary Grassing (AC)		\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)		\$ 4.24	616.00	\$ 2,609.38
Check Dam Type C Silt Fence (LF)		\$ 6.79	616.00	\$ 4,183.87
Erosion Control Mats (SY)		\$ 1.87	68.44	\$ 128.13
Landscape Mulch (SY)		\$ 3.58	68.44	\$ 244.76
Perm Grassing (AC)		\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)		\$ 60.98	17.33	\$ 1,057.06
Plastic Filter Fabric (SY)		\$ 5.72	17.33	\$ 99.22
4" Ditch Paving (SY)		\$ 54.65	0.00	\$ -
Erosion Control Total				\$ 8,484.18
Construction Cost Total				\$77,026.54
Traffic Control (8% of Construction Total \$)				\$ 6,162.12
Construction Cost Grand Total				\$83,188.67
Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	0.00	\$ -
Buried	\$ 16.50	\$ 82.50	60.00	\$ 5,940.00
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	60.00	\$ 4,290.00
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	60.00	\$ 4,290.00
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$14,520.00
Right of Way (Sq Ft)		Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement		\$ 4.00	2,178.00	\$ 8,712.00
ROW Total				\$ 8,712.00

General Information		Map
Project ID		
Street Name	Downing Court	
Site Visit Date	5/21/13	
Road Classification	Minor road	
Fayette Co Notes		
Rural typical section		
Field Notes		
Design (Existing Site Features)		
Existing Road Laneage	2 - 12'	
Existing Shld Width (paved and grass) (feet)	4' (Grass)	
Existing Side Slopes	6:1	
Existing Guardrail	None	
Depth fm Pavement to Top of Culvert (ft):	2.00	
Pipe Type and Size	36" CMP, 45'	
Pipe Condition (1-5) (1 is new)	3	
Condition Notes:		
Pavement Type/Condition	Asphalt/Good	
Environmental Features		
Wetlands	None	
Ditches	X	
Utilities (Visual Inspection)		
Electric	Aerial	
Cable	Aerial	
Phone	Aerial	
Gas		
Water	Buried	
Sewer		
Other		
Stage Construction Options		
Close Location to Traffic		
Maintain One Lane - No Temp Pavement		X
Maintain One Lane - Temp Pavement		
Stage Construction Notes:		
Proposed Design		
Roadway Section		
Culvert Size & Material	4' x 3' box, concrete, 45' length	
Utility Relocations	Water main	
Guardrail Replacement		
Miscellaneous Features	Velocity dissipators and entrance channel need to be included to accommodate hard turn from drainage upstream drainage ditch to culvert. Yard grading for resident on downstream, low side of culvert would mitigate garage/driveway flooding. Has been accounted for in applicable construction activities.	
Planning Cost Estimate		
Type	Notes	Total
Design	Includes 10% Construction Cost and surveying needs	\$9,518
Right of Way Cost	Assuming project extends 3,500 sf beyond ROW	\$14,000
Utility Relocation Cost	Buried utilities	\$5,425
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$45,184
Environmental Permits	Assuming minimal environmental permitting required	\$10,000
Total Planning Estimate		\$84,127



Photo 1:



Photo 2:

Downing Court

Photo Date:

5/21/2013

Taken By:

David King

Page:

1

Downing Court



Photo 3:



Photo 4:

Photo Date:

5/21/2013

Taken By:

David King

Page:

2

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	144.00	\$ 807.17
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 807.17

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 1,513.95

Roadway Total \$ 2,321.12

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	90.00	\$ 934.20
36" CMP (LF)	\$ 19.62		45.00	\$ 2,648.70
84" RCP		\$ 142.52	0.00	\$ -
Class A Conc (CY)		\$ 892.19	24.43	\$ 21,791.69
Steel (lb)		\$ 1.42	2,045.50	\$ 2,896.43
Pipe Bedding (CY)		\$ 48.60	10.40	\$ 505.44
Trench Backfill (CY)		\$ 2.99	86.10	\$ 257.27
Trench Compaction (CY)		\$ 6.36	68.88	\$ 438.08

Drainage Total \$ 29,471.80

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	24.00	\$ 16.99

Signing and Marking Total \$ 16.99

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total \$ 5,487.98

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	21.00	\$ 92.23
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	180.00	\$ 762.48
Check Dam Type C Silt Fence (LF)	\$ 6.79	180.00	\$ 1,222.56
Erosion Control Mats (SY)	\$ 1.87	60.00	\$ 112.32
Landscape Mulch (SY)	\$ 3.58	60.00	\$ 214.56
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	32.00	\$ 1,951.49
Plastic Filter Fabric (SY)	\$ 5.72	32.00	\$ 183.17
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 4,538.81

Construction Cost Total \$ 41,836.70

Traffic Control (8% of Construction Total \$) \$ 3,346.94

Construction Cost Grand Total \$ 45,183.64

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50		\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00		\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00		\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	50.00	\$ 5,500.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 5,500.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	3,500.00	\$ 14,000.00
ROW Total			\$ 14,000.00

General Information		Map	
Project ID			
Street Name	Flat Creek Trail		
Site Visit Date	5/22/13		
Road Classification	Minor arterial		
Project Notes			
Rural typical section			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-12'		
Existing Shld Width (paved and grass) (feet)	None		
Existing Side Slopes	1:1		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	6		
Pipe Type and Size (No headwall)	2- 60"x84" (ellip.)		
Pipe Condition (1-5) (1 is new)	3		
Condition Notes: 2 parallel streams			
Pavement Type/Condition	Asphalt/Good		
Environmental Features			
Wetlands	Yes		
Ditches	None		
Utilities (Visual Inspection)			
Electric	Aerial Crossing		
Cable	Aerial Crossing		
Phone	Aerial Crossing		
Gas			
Water	Buried		
Sewer			
Other			
Proposed Design			
Roadway Section			
Culvert Size & Material	triple 10' x 4' box, concrete, 70' length. Cost of removing existing elliptical CMPs considered equivalent to cost of removing 72" round CMPs		
Utility Relocations	Water		
Guardrail Replacement	Need to provide guardrail due to side slopes and culvert installations		
Miscellaneous Features	Zone A, Floodplain Analysis required,		
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% Construction Cost, wetland surveying	\$53,868	
Right of Way Cost	Assuming project extends 10,500 sf beyond ROW	\$42,000	
Utility Relocation Cost	Water main	\$11,000	
Construction Cost	Assuming 1/5 acre clearing and grubbing	\$413,683	
Environmental Permits	Permits, Zone A Floodplain Analysis	\$15,000	
Total Planning Estimate		\$535,551	

Flat Creek Trail



Photo 1:



Photo 2:

Photo Date:

5/21/2013

Taken By:

David King

Page:

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	1,536.00	\$ 8,609.79
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	600.00	\$ 32,385.60
End Anchorage (EA)		\$ 1,380.00	2.00	\$ 2,760.00
Subtotal				\$ 43,755.39

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 17,059.82

Roadway Total \$ 60,815.22

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	1,348.15	\$ 13,993.78
72" CMP (LF)	\$ 54.00		140.00	\$ 22,680.00
72" RCP		\$ 142.52	0.00	\$ -
Class A Conc (CY)		\$ 892.19	232.53	\$ 207,460.48
Steel (lb)		\$ 1.42	26,567.00	\$ 37,618.87
Pipe Bedding (CY)		\$ 48.60	85.30	\$ 4,145.58
Trench Backfill (CY)		\$ 2.99	1,429.22	\$ 4,270.50
Trench Compaction (CY)		\$ 6.36	1,143.37	\$ 7,271.86

Drainage Total \$ 297,441.07

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	128.00	\$ 90.62

Signing and Marking Total \$ 90.62

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.20	\$ 2,052.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	2.00	\$ 8,856.00

Staging Total \$ 11,089.25

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	163.56	\$ 718.34
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	560.00	\$ 2,372.16
Check Dam Type C Silt Fence (LF)	\$ 6.79	560.00	\$ 3,803.52
Erosion Control Mats (SY)	\$ 1.87	186.67	\$ 349.44
Landscape Mulch (SY)	\$ 3.58	186.67	\$ 667.52
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	85.33	\$ 5,203.97
Plastic Filter Fabric (SY)	\$ 5.72	85.33	\$ 488.45
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 13,603.39

Construction Cost Total \$ 383,039.55

Traffic Control (8% of Construction Total \$) \$ 30,643.16

Construction Cost Grand Total \$ 413,682.72

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50		\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00		\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00		\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	100.00	\$ 11,000.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 11,000.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	10,500.00	\$ 42,000.00
ROW Total			\$ 42,000.00

General Information		Map											
Project ID													
Street Name	250 Grant Road												
Site Visit Date	5/22/13												
Road Classification	Minor arterial												
Project Notes													
Rural typical section													
Field Notes													
Design (Existing Site Features)													
Existing Road Laneage	2-12'												
Existing Shld Width (paved and grass) (feet)	2'												
Existing Side Slopes	0.13	Stage Construction Options <table border="1"> <tr> <td>Close Location to Traffic</td> <td>X</td> </tr> <tr> <td>Maintain One Lane - No Temp Pavement</td> <td></td> </tr> <tr> <td>Maintain One Lane - Temp Pavement</td> <td></td> </tr> <tr> <td colspan="2">Stage Construction Notes: Close roadway</td> </tr> <tr> <td colspan="2">One lane closure</td> </tr> </table>		Close Location to Traffic	X	Maintain One Lane - No Temp Pavement		Maintain One Lane - Temp Pavement		Stage Construction Notes: Close roadway		One lane closure	
Close Location to Traffic	X												
Maintain One Lane - No Temp Pavement													
Maintain One Lane - Temp Pavement													
Stage Construction Notes: Close roadway													
One lane closure													
Existing Guardrail	none												
Depth fm Pavement to Top of Culvert (ft):	Assumed 3'												
Pipe Type and Size	60" CMP												
Pipe Condition (1-5) (1 is new)	4-5												
Condition Notes:													
Pavement Type/Condition	Asphalt/Good												
Environmental Features													
Wetlands	None												
Ditches	None												
Stream	Yes												
Utilities (Visual Inspection)													
Electric	Yes												
Cable	Yes												
Phone	Yes												
Gas	Unknown												
Water	Yes												
Sewer	None												
Other													
Proposed Design													
Roadway Section	Typical												
Culvert Size & Material	Replace with 48' of 60" RCP,												
Utility Relocations	As needed												
Guardrail Replacement	None												
Miscellaneous Features													
Planning Cost Estimate													
Type	Notes	Total											
Design	Includes 10% Construction Cost and surveying needs	\$10,116											
Right of Way Cost	Assuming project does not extend beyond ROW	\$0											
Utility Relocation Cost	Buried water main	\$5,500											
Construction Cost	Applying 1/10 acre clearing and grubbing cost	\$51,162											
Environmental Permits	Assuming minimal environmental permitting required	\$10,000											
Total Planning Estimate		\$76,779											



Photo 1:



Photo 2:

250 Grant Road

Photo Date:

6/22/2016

Taken By:

Tony Hicks

Page:

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	168.00	\$ 941.70
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00		\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90		\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09		\$ -
End Anchorage (EA)		\$ 1,380.00		\$ -
Subtotal				\$ 941.70

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 1,815.49

Roadway Total \$ 2,757.18

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	118.22	\$ 1,227.15
60" CMP (LF)	\$ 24.60		48.00	\$ 1,180.80
60" RCP (LF)		\$ 259.20	48.00	\$ 12,441.60
Class A Conc (CY)		\$ 892.19	21.58	\$ 19,253.42
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	12.44	\$ 604.80
Trench Backfill (CY)		\$ 2.99	81.76	\$ 244.30
Trench Compaction (CY)		\$ 6.36	65.41	\$ 416.00

Drainage Total \$35,368.06

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total \$ -

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total \$ 5,454.00

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	18.67	\$ 81.98
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	192.00	\$ 813.31
Check Dam Type C Silt Fence (LF)	\$ 6.79	192.00	\$ 1,304.06
Erosion Control Mats (SY)	\$ 1.87	64.00	\$ 119.81
Landscape Mulch (SY)	\$ 3.58	64.00	\$ 228.86
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	18.67	\$ 1,138.37
Plastic Filter Fabric (SY)	\$ 5.72	18.67	\$ 106.85
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 3,793.25

Construction Cost Total \$47,372.49

Traffic Control (8% of Construction Total \$) \$ 3,789.80

Construction Cost Grand Total \$51,162.29

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50		\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00		\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00		\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	50.00	\$ 5,500.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 5,500.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	0.00	\$ -
ROW Total			\$ -

General Information		Map												
Project ID														
Street Name	426 Grant Road													
Site Visit Date	5/22/13													
Road Classification	Minor arterial													
Project Notes														
Urban typical section with valley gutter														
Field Notes														
Design (Existing Site Features)														
Existing Road Laneage	2-12'													
Existing Shld Width (paved and grass) (feet)	2'													
Existing Side Slopes	0.13	<table border="1"> <thead> <tr> <th colspan="2">Stage Construction Options</th> </tr> </thead> <tbody> <tr> <td>Close Location to Traffic</td> <td>X</td> </tr> <tr> <td>Maintain One Lane - No Temp Pavement</td> <td></td> </tr> <tr> <td>Maintain One Lane - Temp Pavement</td> <td></td> </tr> <tr> <td colspan="2">Stage Construction Notes: Close roadway</td> </tr> <tr> <td colspan="2">One lane closure</td> </tr> </tbody> </table>	Stage Construction Options		Close Location to Traffic	X	Maintain One Lane - No Temp Pavement		Maintain One Lane - Temp Pavement		Stage Construction Notes: Close roadway		One lane closure	
Stage Construction Options														
Close Location to Traffic	X													
Maintain One Lane - No Temp Pavement														
Maintain One Lane - Temp Pavement														
Stage Construction Notes: Close roadway														
One lane closure														
Existing Guardrail	none													
Depth fm Pavement to Top of Culvert (ft):	Assumed 3'													
Pipe Type and Size	60" CMP													
Pipe Condition (1-5) (1 is new)	4-5													
Condition Notes:														
Pavement Type/Condition	Asphalt/Good													
Environmental Features														
Wetlands	None													
Ditches	None													
Stream	Yes													
Utilities (Visual Inspection)														
Electric	Yes													
Cable	Yes													
Phone	Yes													
Gas	Unknown													
Water	Yes													
Sewer	None													
Other														
Proposed Design														
Roadway Section	Typical													
Culvert Size & Material	Replace with 48' of 60" RCP,													
Utility Relocations	As needed													
Guardrail Replacement	None													
Miscellaneous Features														
Planning Cost Estimate														
Type	Notes	Total												
Design	Includes 10% Construction Cost and surveying needs	\$10,116												
Right of Way Cost	Assuming project does not extend beyond ROW	\$0												
Utility Relocation Cost	Buried water main	\$5,500												
Construction Cost	Applying 1/10 acre clearing and grubbing cost	\$51,162												
Environmental Permits	Assuming minimal environmental permitting required	\$10,000												
Total Planning Estimate		\$76,779												



Photo 1:

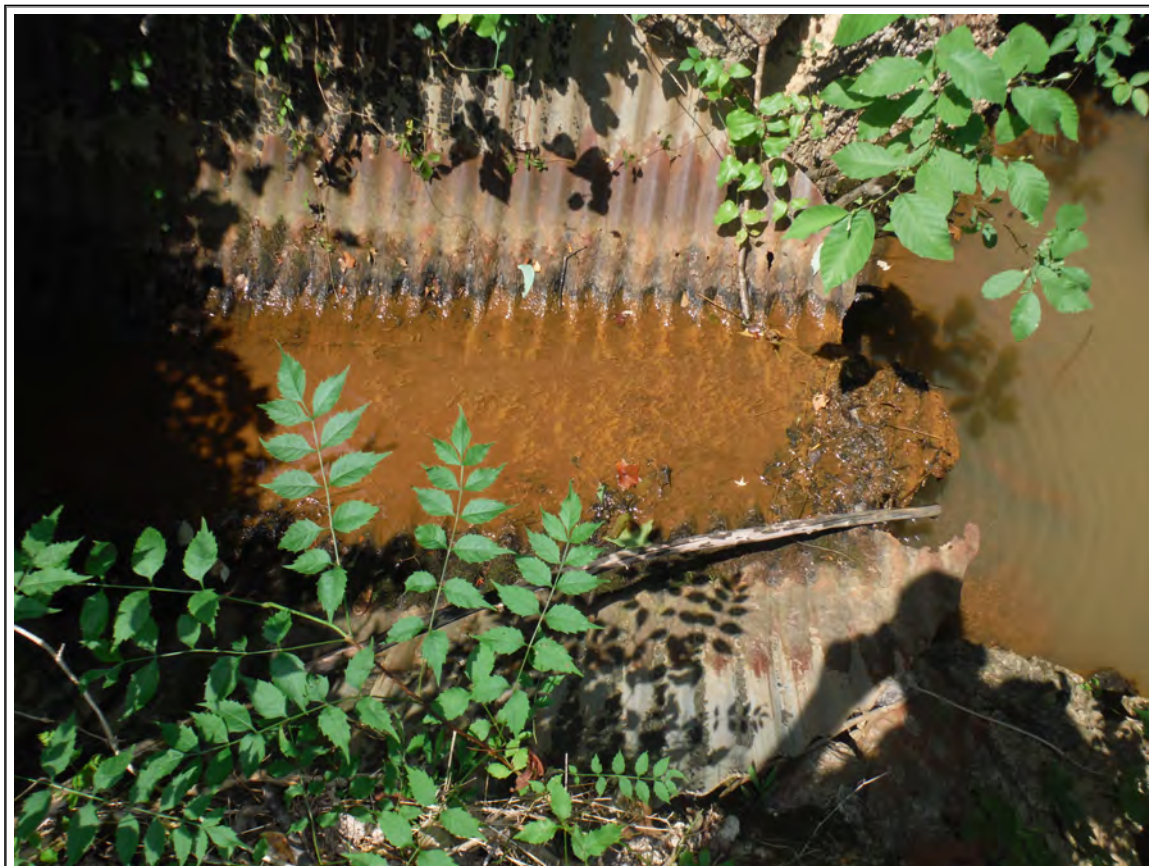


Photo 2:

426 Grant Rpad

Photo Date:

6/03/2016

Taken By:

Tony Hicks

Page:

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	168.00	\$ 941.70
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00		\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90		\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09		\$ -
End Anchorage (EA)		\$ 1,380.00		\$ -
Subtotal				\$ 941.70

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 1,815.49

Roadway Total \$ 2,757.18

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	118.22	\$ 1,227.15
60" CMP (LF)	\$ 24.60		48.00	\$ 1,180.80
60" RCP (LF)		\$ 259.20	48.00	\$ 12,441.60
Class A Conc (CY)		\$ 892.19	21.58	\$ 19,253.42
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	12.44	\$ 604.80
Trench Backfill (CY)		\$ 2.99	81.76	\$ 244.30
Trench Compaction (CY)		\$ 6.36	65.41	\$ 416.00

Drainage Total \$35,368.06

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total \$ -

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total \$ 5,454.00

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	18.67	\$ 81.98
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	192.00	\$ 813.31
Check Dam Type C Silt Fence (LF)	\$ 6.79	192.00	\$ 1,304.06
Erosion Control Mats (SY)	\$ 1.87	64.00	\$ 119.81
Landscape Mulch (SY)	\$ 3.58	64.00	\$ 228.86
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	18.67	\$ 1,138.37
Plastic Filter Fabric (SY)	\$ 5.72	18.67	\$ 106.85
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 3,793.25

Construction Cost Total \$47,372.49

Traffic Control (8% of Construction Total \$) \$ 3,789.80

Construction Cost Grand Total \$51,162.29

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50		\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00		\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00		\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	50.00	\$ 5,500.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 5,500.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	0.00	\$ -
ROW Total			\$ -

General Information		Map	
Project ID			
Street Name	226 Graves Road		
Site Visit Date	1/21/2016		
Road Classification	Minor arterial		
Project Notes			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	1-9', 2-12'		
Existing Shld Width (paved and grass) (feet)	6'		
Existing Side Slopes	4:1		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	4.5'		
Pipe Type and Size	30" CMP		
Pipe Condition (1-5) (1 is new)	4-5		
Condition Notes: Deformed/slightly closed. No headwall on upstream side, concrete headwall downstream.			
Pavement Type/Condition	Asphalt/Good		
Environmental Features		Stage Construction Options	
Wetlands		Close Location to Traffic	
Ditches		Maintain One Lane - No Temp Pavement	X
State Waters		Maintain One Lane - Temp Pavement	
		Stage Construction Notes:	
Buried			
Electric	Aerial		
Cable	Unknown		
Phone	Aerial		
Gas	Unknown		
Water	Unknown		
Sewer	Unknown		
Other			
Proposed Design			
Roadway Section	Typical arterial		
Culvert Size & Material	2 x 30" round RCPs with straight headwall. Cost of removing existing headwall assumed equal to the removal of entire length of pipe.		
Utility Relocations			
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% of Construction Cost and surveying needs	\$10,169	
Right of Way Cost	Assuming entire project within ROW	\$0	
Utility Relocation Cost	None identified	\$0	
Construction Cost		\$51,687	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$71,856	



Photo 1: Upstream end of culvert looking South towards Graves Road.



Photo 2: Downstream end of culvert.

Graves Road

Photo Date:

1/21/2016

Taken By:

David Gibbs

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	313.50	\$ 1,757.27
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 1,757.27
Grading Complete (5% of Rwy Items & Drng Total \$)				\$ 1,601.52
Roadway Total				\$ 3,358.80
Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	202.67	\$ 2,103.68
30" CMP (LF)	\$ 19.62		146.00	\$ 5,729.04
30" RCP (LF)		\$ 105.60	146.00	\$15,417.60
Class A Conc (CY)		\$ 892.19	4.98	\$ 4,443.10
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	25.33	\$ 1,231.20
Trench Backfill (CY)		\$ 2.99	166.99	\$ 498.96
Trench Compaction (CY)		\$ 6.36	133.59	\$ 849.63
Drainage Total				\$30,273.20
Signing and Marking		Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)		\$ 0.71	47.50	\$ 33.63
Signing and Marking Total				\$ 33.63
Staging		Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)		\$ 10,260.00	0.03	\$ 256.50
Temporary Pavement				\$ -
Temporary Drainage (Stream Diversion)		\$ 4,428.00	2.00	\$ 8,856.00
Staging Total				\$ 9,146.13
Erosion Control		Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)		\$ 4.39	41.17	\$ 180.80
Temporary Grassing (AC)		\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)		\$ 4.24	288.00	\$ 1,219.97
Check Dam Type C Silt Fence (LF)		\$ 6.79	288.00	\$ 1,956.10
Erosion Control Mats (SY)		\$ 1.87	0.00	\$ -
Landscape Mulch (SY)		\$ 3.58	0.00	\$ -
Perm Grassing (AC)		\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)		\$ 60.98	25.33	\$ 1,544.93
Plastic Filter Fabric (SY)		\$ 5.72	25.33	\$ 145.01
4" Ditch Paving (SY)		\$ 54.65	0.00	\$ -
Erosion Control Total				\$ 5,046.80
Construction Cost Total				\$47,858.56
Traffic Control (8% of Construction Total \$)				\$ 3,828.68
Construction Cost Grand Total				\$51,687.25
Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	0.00	\$ -
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ -
Right of Way (Sq Ft)		Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement		\$ 4.00	0.00	\$ -
ROW Total				\$ -

General Information		Map	
Project ID			
Street Name	130 Greenfield Circle		
Site Visit Date	2/4/2016		
Road Classification	Minor road		
Project Notes			
Pipe empties into small impoundment.			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-12.5'		
Existing Shld Width (paved and grass) (feet)	15'		
Existing Side Slopes	4-5:1		
Existing Guardrail	N/A		
Depth fm Pavement to Top of Culvert (ft):	3'		
Pipe Type and Size	36" CMP		
Pipe Condition (1-5) (1 is new)	4		
Substantial rusting. Rip rap embankment blowout on downstream side.			
Pavement Type/Condition	Asphalt/Good		
Environmental Features		Stage Construction Options	
Wetlands		Close Location to Traffic	
Ditches		Maintain One Lane - No Temp Pavement	X
State Waters		Maintain One Lane - Temp Pavement	
Other	Small private impoundment	Stage Construction Notes:	
		Impoundment on downstream end will need temporary damming	
Utilities (Visual Inspection)			
Electric	Unknown		
Cable	Buried		
Phone	Unknown		
Gas	Unknown		
Water	Unknown		
Sewer	Unknown		
Other	Broadband buried		
Proposed Design			
Roadway Section			
Culvert Size & Material	5' x 3' concrete box culvert with wingwalls		
Utility Relocations	Buried cable and broadband. Possible fire hydrant relocation (90' from culvert on downstream side).		
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% Construction cost and surveying needs	\$18,802	
Right of Way Cost	Assuming project lies entirely within ROW	\$0	
Utility Relocation Cost	Assuming a total of 100' of buried utilities	\$7,150	
Construction Cost		\$63,018	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$98,969	



Photo 1: Upstream end of culvert looking West towards Greenfield Circle.



Photo 2: Downstream end looking East towards Greenfield Circle.

Greenfield Circle

Photo Date:

2/4/2016

Taken By:

Christian Helfrich

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	175.00	\$ 980.93
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	40.00	\$ 2,366.40
Drain Inlet (EA)		\$ 3,000.00	2.00	\$ 6,000.00
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 9,347.33

Grading Complete (5% of Rwy Items & Drng Total \$)	\$ 2,351.05
--	-------------

Roadway Total	\$ 11,698.38
---------------	--------------

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	110.83	\$ 1,150.45
18" CMP	\$ 5.74		171.00	\$ 980.86
30" RCP		\$ 105.60	0.00	\$ -
Class A Conc (CY)		\$ 892.19	33.07	\$ 29,500.20
Steel (lb)		\$ 1.42	3149.90	\$ 4,460.26
Pipe Bedding (CY)		\$ 48.60	15.30	\$ 743.58
Trench Backfill (CY)		\$ 2.99	103.80	\$ 310.15
Trench Compaction (CY)		\$ 6.36	83.04	\$ 528.12

Drainage Total	\$ 37,673.61
----------------	--------------

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	21.00	\$ 14.87

Signing and Marking Total	\$ 14.87
---------------------------	----------

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.05	\$ 513.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total	\$ 4,955.87
---------------	-------------

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	24.89	\$ 109.31
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	228.00	\$ 965.81
Check Dam Type C Silt Fence (LF)	\$ 6.79	228.00	\$ 1,548.58
Erosion Control Mats (SY)	\$ 1.87	25.33	\$ 47.42
Landscape Mulch (SY)	\$ 3.58	25.33	\$ 90.59
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	18.67	\$ 1,138.37
Plastic Filter Fabric (SY)	\$ 5.72	18.67	\$ 106.85
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total	\$ 4,006.93
-----------------------	-------------

Construction Cost Total	\$ 58,349.65
-------------------------	--------------

Traffic Control (8% of Construction Total \$)	\$ 4,667.97
---	-------------

Construction Cost Grand Total	\$ 63,017.62
-------------------------------	--------------

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	0.00	\$ -
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	100.00	\$ 7,150.00
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Relocate Fire Hydrant (EA)		\$ 2,609.22	0.00	\$ -
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 7,150.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	0.00	\$ -
ROW Total			\$ -

General Information		Map						
Project ID								
Street Name	250 Greenfield Circle							
Site Visit Date	2/4/2016							
Road Classification	Minor road							
Project Notes								
Field Notes								
Design (Existing Site Features)								
Existing Road Laneage	2-12'							
Existing Shld Width (paved and grass) (feet)	14'							
Existing Side Slopes	3:1							
Existing Guardrail	N/A							
Depth fm Pavement to Top of Culvert (ft):	5'							
Pipe Type and Size	2-36" CMPs							
Pipe Condition (1-5) (1 is new)	4-5							
Considerable rusting. One pipe blocked by debris. Water running under the other pipe as well as through.								
Pavement Type/Condition	Asphalt/Good	Stage Construction Options <table border="1"> <tr> <td>Close Location to Traffic</td> <td></td> </tr> <tr> <td>Maintain One Lane - No Temp Pavement</td> <td>X</td> </tr> <tr> <td>Maintain One Lane - Temp Pavement</td> <td></td> </tr> </table> Stage Construction Notes:	Close Location to Traffic		Maintain One Lane - No Temp Pavement	X	Maintain One Lane - Temp Pavement	
Close Location to Traffic								
Maintain One Lane - No Temp Pavement	X							
Maintain One Lane - Temp Pavement								
Environmental Features								
Wetlands								
Ditches								
State Waters								
Utilities (Visual Inspection)								
Electric	Unknown							
Cable	Unknown							
Phone	Unknown							
Gas	Unknown							
Water	Unknown							
Sewer	Unknown							
Other	Unknown							
Proposed Design								
Roadway Section	Typical							
Culvert Size & Material	2 x 42" round RCPs with straight headwalls.							
Utility Relocations	May need to relocate fire hydrant (70' from culvert, downstream side).							
Guardrail Replacement								
Miscellaneous Features								
Planning Cost Estimate								
Type	Notes	Total						
Design	Includes 10% Construction cost and surveying needs	\$19,098						
Right of Way Cost	Assuming project lies entirely within ROW	\$0						
Utility Relocation Cost	None positively identified	\$0						
Construction Cost		\$65,976						
Environmental Permits	Includes permitting and Zone A Floodway study	\$15,000						
Total Planning Estimate		\$100,073						



Photo 1: Upstream end of culvert looking West towards Greenfield Circle.



Photo 2: Downstream end looking East towards Greenfield Circle.

Greenfield Circle

Photo Date:

2/4/2016

Taken By:

Christian Helfrich

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	288.00	\$ 1,614.34
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	40.00	\$ 2,366.40
Drain Inlet (EA)		\$ 3,000.00	2.00	\$ 6,000.00
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 9,980.74

Grading Complete (5% of Rwy Items & Drng Total \$)	\$ 2,505.82
--	-------------

Roadway Total	\$ 12,486.55
---------------	--------------

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	237.50	\$ 2,465.25
36" CMP (LF)	\$ 19.62		108.00	\$ 6,356.88
42" RCP (LF)		\$ 142.52	108.00	\$ 15,392.59
Class A Conc (CY)		\$ 892.19	14.66	\$ 13,079.48
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	25.00	\$ 1,215.00
Trench Backfill (CY)		\$ 2.99	201.39	\$ 601.75
Trench Compaction (CY)		\$ 6.36	161.11	\$ 1,024.67

Drainage Total	\$ 40,135.63
----------------	--------------

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total	\$ -
---------------------------	------

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.15	\$ 1,539.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total	\$ 5,967.00
---------------	-------------

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	40.00	\$ 175.68
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	108.00	\$ 457.49
Check Dam Type C Silt Fence (LF)	\$ 6.79	108.00	\$ 733.54
Erosion Control Mats (SY)	\$ 1.87	12.00	\$ 22.46
Landscape Mulch (SY)	\$ 3.58	12.00	\$ 42.91
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	16.00	\$ 975.74
Plastic Filter Fabric (SY)	\$ 5.72	16.00	\$ 91.58
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total	\$ 2,499.41
-----------------------	-------------

Construction Cost Total	\$ 61,088.59
-------------------------	--------------

Traffic Control (8% of Construction Total \$)	\$ 4,887.09
---	-------------

Construction Cost Grand Total	\$ 65,975.68
-------------------------------	--------------

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	0.00	\$ -
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Relocate Fire Hydrant (EA)		\$ 2,609.22	0.00	\$ -
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ -

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	0.00	\$ -
ROW Total			\$ -

General Information		Map	
Project ID			
Street Name	110 Gristmill Drive		
Site Visit Date	5/21/13		
Road Classification	Minor road		
Project Notes			
Urban Typical Section with curb and gutter along sidewalks			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-12'		
Existing Shld Width (paved and grass) (feet)	grass 6'		
Existing Side Slopes	N/A		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	6'		
Pipe Type and Size	48"-CMP		
Pipe Condition (1-5) (1 is new)	5 (Installation)		
Condition Notes: Concrete Headwall at Ends			
Pavement Type/Condition	Asphalt/Good		
Environmental Features		Stage Construction Options	
Wetlands	None	Close Location to Traffic	
Ditches	None	Maintain One Lane - No Temp Pavement	X
		Maintain One Lane - Temp Pavement	
		Stage Construction Notes:	
		If replacement with round pipe then phase construction to have at least one lane in each direction at all times	
Utilities (Visual Inspection)			
Electric	Buried		
Cable	Buried		
Phone	Buried		
Gas	Buried		
Water	Buried		
Sewer	Buried		
Other			
Proposed Design			
Roadway Section	Replace urban section w/ sidewalks		
Culvert Size & Material	6' x 3' box, concrete, 80' length. Cost of removing headwalls assumed to be equal to removal of entire length of pipe.		
Utility Relocations	Electric, cable, phone, gas, water, sewer		
Guardrail Replacement			
Miscellaneous Features	Alignment needs to be altered or downstream pipe and grading needs alterations to correct crossing flow paths that has caused downstream pipe cover to be washed away. Has been accounted for in construction cost estimate		
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% Construction Cost and surveying needs	\$14,967	
Right of Way Cost	Assuming project extends 2,000 sf beyond ROW	\$8,000	
Utility Relocation Cost	Buried utilities	\$26,675	
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$99,668	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$159,309	



Photo 1:



Photo 2:

Gristmill Drive

Photo Date:

5/21/2013

Taken By:

David King

Page:

1

Gristmill Drive



Photo 3:



Photo 4:

Photo Date:

5/21/2013

Taken By:

David King

Page:

2

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	192.00	\$ 1,076.22
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	30.00	\$ 1,774.80
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	30.00	\$ 1,513.80
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 4,364.82

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 3,858.83

Roadway Total \$ 8,223.65

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	325.93	\$ 3,383.11
48" CMP (LF)	\$ 24.60		160.00	\$ 11,808.00
48" RCP		\$ 193.20	0.00	\$ -
Class A Conc (CY)		\$ 892.19	51.64	\$ 46,072.59
Steel (lb)		\$ 1.42	5,258.00	\$ 7,445.33
Pipe Bedding (CY)		\$ 48.60	24.30	\$ 1,180.98
Trench Backfill (CY)		\$ 2.99	361.77	\$ 1,080.98
Trench Compaction (CY)		\$ 6.36	289.42	\$ 1,840.71

Drainage Total \$72,811.69

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total \$ -

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total \$ 5,454.00

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	59.73	\$ 262.35
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	320.00	\$ 1,355.52
Check Dam Type C Silt Fence (LF)	\$ 6.79	320.00	\$ 2,173.44
Erosion Control Mats (SY)	\$ 1.87	106.67	\$ 199.68
Landscape Mulch (SY)	\$ 3.58	106.67	\$ 381.44
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	21.33	\$ 1,300.99
Plastic Filter Fabric (SY)	\$ 5.72	21.33	\$ 122.11
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 5,795.53

Construction Cost Total \$92,284.88

Traffic Control (8% of Construction Total \$) \$ 7,382.79

Construction Cost Grand Total \$99,667.67

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50	50.00	\$ 4,950.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	50.00	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	50.00	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	50.00	\$ 4,125.00
Water				
8" main	\$ 16.50	\$ 93.50	50.00	\$ 5,500.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	50.00	\$ 4,950.00
Utility Relocation Total				\$26,675.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	2,000.00	\$ 8,000.00
ROW Total			\$ 8,000.00

General Information		Map	
Project ID			
Street Name	Heritage Way - North		
Site Visit Date	5/22/13		
Road Classification	Minor road		
Project Notes			
Urban typical section with valley gutter,			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-10'		
Existing Shld Width (paved and grass) (feet)	4		
Existing Side Slopes	flat		
Existing Guardrail	none		
Depth fm Pavement to Top of Culvert (ft):	4		
Pipe Type and Size	48" CMP		
Pipe Condition (1-5) (1 is new)	3		
Condition Notes:			
Pavement Type/Condition	Asphalt/Good		
Environmental Features			
Wetlands	None		
Ditches	None		
Utilities (Visual Inspection)			
Electric	Buried		
Cable	Buried		
Phone	Buried		
Gas			
Water	Buried		
Sewer			
Other			
Proposed Design			
Roadway Section			
Culvert Size & Material	48", RCP, 400' length		
Utility Relocations	Electric, cable, phone, water		
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% Construction Cost and surveying needs	\$20,409	
Right of Way Cost	Assuming 7,500 sf outside of ROW	\$30,000	
Utility Relocation Cost	Buried utilities	\$26,400	
Construction Cost	Applying 1/10 acre clearing and grubbing cost	\$154,090	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$240,898	



Photo 1:



Photo 2:

Heritage Way - North

Photo Date:

7/2/2013

Taken By:

David King

Page:

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	120.00	\$ 672.64
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	20.00	\$ 1,183.20
Drain Inlet (EA)		\$ 3,000.00		\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90		\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09		\$ -
End Anchorage (EA)		\$ 1,380.00		\$ -
Subtotal				\$ 1,855.84

Grading Complete (5% of Rwy Items & Drng Total \$)	\$ 6,160.49
--	-------------

Roadway Total	\$ 8,016.33
---------------	-------------

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	977.78	\$ 10,149.33
48" CMP (LF)	\$ 24.60		400.00	\$ 9,840.00
48" RCP (LF)		\$ 193.20	400.00	\$ 77,280.00
Class A Conc (CY)		\$ 892.19	13.70	\$ 12,222.98
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	88.89	\$ 4,320.00
Trench Backfill (CY)		\$ 2.99	933.83	\$ 2,790.29
Trench Compaction (CY)		\$ 6.36	747.07	\$ 4,751.33

Drainage Total	\$ 121,353.93
----------------	---------------

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total	\$ -
---------------------------	------

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total	\$ 5,454.00
---------------	-------------

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	253.33	\$ 1,112.64
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	400.00	\$ 1,694.40
Check Dam Type C Silt Fence (LF)	\$ 6.79	400.00	\$ 2,716.80
Erosion Control Mats (SY)	\$ 1.87	133.33	\$ 249.60
Landscape Mulch (SY)	\$ 3.58	133.33	\$ 476.80
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	24.00	\$ 1,463.62
Plastic Filter Fabric (SY)	\$ 5.72	24.00	\$ 137.38
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total	\$ 7,851.23
-----------------------	-------------

Construction Cost Total	\$ 142,675.49
-------------------------	---------------

Traffic Control (8% of Construction Total \$)	\$ 11,414.04
---	--------------

Construction Cost Grand Total	\$ 154,089.53
-------------------------------	---------------

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50	75.00	\$ 7,425.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	75.00	\$ 5,362.50
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	75.00	\$ 5,362.50
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	75.00	\$ 8,250.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 26,400.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	7,500.00	\$ 30,000.00
ROW Total			\$ 30,000.00

General Information		Map							
Project ID									
Street Name	Heritage Way - South								
Site Visit Date	5/22/13								
Road Classification	Minor road								
Project Notes									
Urban typical section with valley gutter		Stage Construction Options <table border="1"> <tr> <td>Close Location to Traffic</td> <td>X</td> </tr> <tr> <td>Maintain One Lane - No Temp Pavement</td> <td></td> </tr> <tr> <td>Maintain One Lane - Temp Pavement</td> <td></td> </tr> </table> Stage Construction Notes: Close roadway;		Close Location to Traffic	X	Maintain One Lane - No Temp Pavement		Maintain One Lane - Temp Pavement	
Close Location to Traffic	X								
Maintain One Lane - No Temp Pavement									
Maintain One Lane - Temp Pavement									
Field Notes									
Design (Existing Site Features)									
Existing Road Laneage	2-10'								
Existing Shld Width (paved and grass) (feet)	4								
Existing Side Slopes	flat								
Existing Guardrail	none								
Depth fm Pavement to Top of Culvert (ft):	4								
Pipe Type and Size	48" CMP								
Pipe Condition (1-5) (1 is new)	3								
Condition Notes:									
Pavement Type/Condition	Asphalt/Good								
Environmental Features									
Wetlands	None								
Ditches	None								
Utilities (Visual Inspection)									
Electric	Buried								
Cable	Buried								
Phone	Buried								
Gas									
Water	Buried								
Sewer									
Other									
Proposed Design									
Roadway Section									
Culvert Size & Material	48", RCP, 200' length								
Utility Relocations	Electric, cable, phone, water								
Guardrail Replacement									
Miscellaneous Features									
Planning Cost Estimate									
Type	Notes	Total							
Design	Includes 10% Construction Cost and surveying needs	\$14,604							
Right of Way Cost	Assuming 7,500 sf outside of ROW	\$30,000							
Utility Relocation Cost	Buried utilities	\$26,400							
Construction Cost	Applying 1/10 acre clearing and grubbing cost	\$96,035							
Environmental Permits	Assuming minimal environmental permitting required	\$10,000							
Total Planning Estimate		\$177,039							



Photo 1:



Photo 2:

Heritage Way - South

Photo Date:

7/2/2013

Taken By:

David King

Page:

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	120.00	\$ 672.64
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	20.00	\$ 1,183.20
Drain Inlet (EA)		\$ 3,000.00		\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90		\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09		\$ -
End Anchorage (EA)		\$ 1,380.00		\$ -
Subtotal				\$ 1,855.84

Grading Complete (5% of Rwy Items & Dmg Total \$)	\$ 3,384.02
---	-------------

Roadway Total	\$ 5,239.86
---------------	-------------

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	444.44	\$ 4,613.33
48" CMP (LF)	\$ 24.60		200.00	\$ 4,920.00
48" RCP (LF)		\$ 193.20	200.00	\$38,640.00
Class A Conc (CY)		\$ 892.19	13.70	\$12,222.98
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	44.44	\$ 2,160.00
Trench Backfill (CY)		\$ 2.99	404.69	\$ 1,209.22
Trench Compaction (CY)		\$ 6.36	323.75	\$ 2,059.08

Drainage Total	\$65,824.61
----------------	-------------

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total	\$ -
---------------------------	------

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total	\$ 5,454.00
---------------	-------------

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	120.00	\$ 527.04
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	800.00	\$ 3,388.80
Check Dam Type C Silt Fence (LF)	\$ 6.79	800.00	\$ 5,433.60
Erosion Control Mats (SY)	\$ 1.87	266.67	\$ 499.20
Landscape Mulch (SY)	\$ 3.58	266.67	\$ 953.60
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	24.00	\$ 1,463.62
Plastic Filter Fabric (SY)	\$ 5.72	24.00	\$ 137.38
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total	\$12,403.23
-----------------------	-------------

Construction Cost Total	\$88,921.71
-------------------------	-------------

Traffic Control (8% of Construction Total \$)	\$ 7,113.74
---	-------------

Construction Cost Grand Total	\$96,035.45
-------------------------------	-------------

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50	75.00	\$ 7,425.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	75.00	\$ 5,362.50
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	75.00	\$ 5,362.50
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	75.00	\$ 8,250.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	\$ -
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$26,400.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	7,500.00	\$30,000.00
ROW Total			\$30,000.00

General Information		Map												
Project ID														
Street Name	287 Hilo Road													
Site Visit Date	1/20/2016													
Road Classification	Minor arterial													
Project Notes														
Existing upstream inlet consists of makeshift corrugated metal headwall.														
Field Notes														
Design (Existing Site Features)														
Existing Road Laneage	3-12.5'													
Existing Shld Width (paved and grass) (feet)	10'													
Existing Side Slopes	4:1	<table border="1"> <thead> <tr> <th colspan="2">Stage Construction Options</th> </tr> </thead> <tbody> <tr> <td>Close Location to Traffic</td> <td></td> </tr> <tr> <td>Maintain One Lane - No Temp Pavement</td> <td>X</td> </tr> <tr> <td>Maintain One Lane - Temp Pavement</td> <td></td> </tr> <tr> <td colspan="2">Stage Construction Notes:</td> </tr> <tr> <td colspan="2" style="height: 100px;"></td> </tr> </tbody> </table>	Stage Construction Options		Close Location to Traffic		Maintain One Lane - No Temp Pavement	X	Maintain One Lane - Temp Pavement		Stage Construction Notes:			
Stage Construction Options														
Close Location to Traffic														
Maintain One Lane - No Temp Pavement	X													
Maintain One Lane - Temp Pavement														
Stage Construction Notes:														
Existing Guardrail	None													
Depth fm Pavement to Top of Culvert (ft):	1.00													
Pipe Type and Size	CMP 1-18" 1-24"													
Pipe Condition (1-5) (1 is new)	3-4													
Condition Notes: Two corrugated metal pipes 2.5' apart														
Pavement Type/Condition	Asphalt/Good													
Environmental Features														
Wetlands														
Ditches	Roadside drainage ditches													
State Waters														
Utilities (Visual Inspection)														
Electric	Aerial 50' away													
Cable	Unknown													
Phone	Aerial 50' away													
Gas	Unknown													
Water	Buried													
Sewer														
Other	Fire Hydrant													
Proposed Design														
Roadway Section	Typical													
Culvert Size & Material	3 24" round RCPs with straight headwall. Cost of removing makeshift headwall include in pipe removal cost													
Utility Relocations	Relocation of fire hydrant and water main													
Guardrail Replacement														
Miscellaneous Features														
Planning Cost Estimate														
Type	Notes	Total												
Design	Includes 10% of Construction Cost and surveying needs	\$9,322												
Right of Way Cost	Project entirely within ROW	\$0												
Utility Relocation Cost	Fire hydrant and water main	\$6,569												
Construction Cost		\$43,217												
Environmental Permits	Assuming minimal environmental permitting required	\$10,000												
Total Planning Estimate		\$69,108												



Photo 1: Upstream end of culverts looking South towards Hilo Road.



Photo 2: Downstream end of culverts.

Hilo Road

Photo Date:

1/20/2016

Taken By:

David Gibbs

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	450.00	\$ 2,522.40
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	12.00	\$ 709.92
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 3,232.32

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 1,479.90

Roadway Total \$ 4,712.22

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	179.11	\$ 1,859.17
24" CMP (LF)	\$ 16.38		134.00	\$ 6,584.76
24" RCP (LF)		\$ 54.00	186.00	\$ 10,044.00
Class A Conc (CY)		\$ 892.19	6.20	\$ 5,531.57
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	27.56	\$ 1,339.20
Trench Backfill (CY)		\$ 2.99	124.69	\$ 372.58
Trench Compaction (CY)		\$ 6.36	99.75	\$ 634.43

Drainage Total \$ 26,365.71

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	36.00	\$ 25.49

Signing and Marking Total \$ 25.49

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.05	\$ 513.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total \$ 4,966.49

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	32.67	\$ 143.47
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	248.00	\$ 1,050.53
Check Dam Type C Silt Fence (LF)	\$ 6.79	248.00	\$ 1,684.42
Erosion Control Mats (SY)	\$ 1.87	0.00	\$ -
Landscape Mulch (SY)	\$ 3.58	0.00	\$ -
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	16.00	\$ 975.74
Plastic Filter Fabric (SY)	\$ 5.72	16.00	\$ 91.58
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 3,945.74

Construction Cost Total \$ 40,015.65

Traffic Control (8% of Construction Total \$) \$ 3,201.25

Construction Cost Grand Total \$ 43,216.90

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	0.00	\$ -
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	36.00	\$ 3,960.00
Relocate Fire Hydrant (EA)		\$ 2,609.22	1.00	\$ 2,609.22
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 6,569.22

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	0.00	\$ -
ROW Total			\$ -

General Information		Map
Project ID		
Street Name	448 Inman Road	
Site Visit Date	2/4/2016	
Road Classification	Minor arterial	
Project Notes		
Gay Creek crossing. Substantial flow. Downstream roadside blowout has been refilled.		
Field Notes		
Design (Existing Site Features)		
Existing Road Laneage	2-12'	
Existing Shld Width (paved and grass) (feet)	6'	
Existing Side Slopes	2:1	
Existing Guardrail	N/A	
Depth fm Pavement to Top of Culvert (ft):	3'	
Pipe Type and Size	2-84" CMPs	
Pipe Condition (1-5) (1 is new)	3-4	
Rusted out bottoms.		
Pavement Type/Condition	Asphalt/Good	
Environmental Features		
Wetlands		
Ditches		
State Waters		
Utilities (Visual Inspection)		
Electric	Aerial	
Cable	Unknown	
Phone	Aerial	
Gas	Unknown	
Water	Unknown	
Sewer	Unknown	
Other	Unknown	
Stage Construction Options		
Close Location to Traffic		
Maintain One Lane - No Temp Pavement		X
Maintain One Lane - Temp Pavement		
Stage Construction Notes: Aerial utility lines above potential staging area hang low, need relocating		
Proposed Design		
Roadway Section	Typical	
Culvert Size & Material	Double 7' x 6' barrel concrete box culvert	
Utility Relocations	Aerial electrical and phone wires, utility pole	
Guardrail Replacement	Suggest guardrails over crossing, none currently in place.	
Miscellaneous Features		
Planning Cost Estimate		
Type	Notes	Total
Design	Includes 10% Construction cost and surveying needs	\$26,433
Right of Way Cost	Assuming project lies entirely within ROW	\$0
Utility Relocation Cost	Aerial phone and electric, utility pole	\$16,363
Construction Cost		\$139,334
Environmental Permits	Assuming minimal environmental permitting required	\$10,000
Total Planning Estimate		\$192,130



Photo 1: Upstream end of culvert looking East towards Inman Road.



Photo 2: Downstream end looking South towards North Bend Court.

Inman Road

Photo Date:

2/4/2016

Taken By:

Christian Helfrich

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	384.00	\$ 2,152.45
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	64.00	\$ 3,454.46
End Anchorage (EA)		\$ 1,380.00	4.00	\$ 5,520.00
Subtotal				\$ 11,126.91

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 5,581.49

Roadway Total \$ 16,708.41

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	239.56	\$ 2,486.59
84" CMP (LF)	\$ 63.00		77.00	\$ 14,553.00
84" RCP		\$ 142.52	0.00	\$ -
Class A Conc (CY)		\$ 892.19	78.22	\$ 69,790.07
Steel (lb)		\$ 1.42	7,504.95	\$ 10,627.01
Pipe Bedding (CY)		\$ 48.60	24.00	\$ 1,166.40
Trench Backfill (CY)		\$ 2.99	232.78	\$ 695.54
Trench Compaction (CY)		\$ 6.36	186.22	\$ 1,184.37

Drainage Total \$ 100,502.98

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	64.00	\$ 45.31

Signing and Marking Total \$ 45.31

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.15	\$ 1,539.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total \$ 6,057.62

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	199.11	\$ 874.50
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	154.00	\$ 652.34
Check Dam Type C Silt Fence (LF)	\$ 6.79	154.00	\$ 1,045.97
Erosion Control Mats (SY)	\$ 1.87	51.33	\$ 96.10
Landscape Mulch (SY)	\$ 3.58	51.33	\$ 183.57
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	42.67	\$ 2,601.98
Plastic Filter Fabric (SY)	\$ 5.72	42.67	\$ 244.22
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 5,698.68

Construction Cost Total \$ 129,013.00

Traffic Control (8% of Construction Total \$) \$ 10,321.04

Construction Cost Grand Total \$ 139,334.04

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	150.00	\$ 9,900.00
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	1.00	\$ 687.50
Phone				
Aerial	\$ 11.00	\$ 27.50	150.00	\$ 5,775.00
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Relocate Fire Hydrant (EA)		\$ 2,609.22	0.00	\$ -
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 16,362.50

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	0.00	\$ -
ROW Total			\$ -

General Information		Map	
Project ID			
Street Name	510 Janice Drive		
Site Visit Date	5/22/13		
Road Classification	Internal Local		
Project Notes			
Rural Typical Section			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2 - 10'		
Existing Shld Width (paved and grass) (feet)	1' (Grass)		
Existing Side Slopes	6:1		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	2		
Pipe Type and Size	1 - 60" CMP		
Pipe Condition (1-5) (1 is new)	3		
Condition Notes: Signs of rust, but no evidence of structural loss; downstream debris potentially limiting capacity - maintenance to clear debris			
Pavement Type/Condition	Asphalt/Good		
Environmental Features		Stage Construction Options	
Wetlands	None	Close Location to Traffic	
Ditches	None	Maintain One Lane - No Temp Pavement	X
2 Streams		Maintain One Lane - Temp Pavement	
		Stage Construction Notes:	
		Stage Construction to have one lane open	
Utilities (Visual Inspection)			
Electric	Aerial		
Cable	Aerial		
Phone	Aerial		
Gas			
Water	Buried		
Sewer			
Other			
Proposed Design			
Roadway Section			
Culvert Size & Material	double 6' x 4' box, concrete, 70' length		
Utility Relocations	Water main and possible aerial facility relocation		
Guardrail Replacement			
Miscellaneous Features	Zone A, Floodplain Analysis Required		
Planning Cost Estimate			
Type	Description	Total	
Design	Includes 10% Construction Cost and surveying needs	\$25,547	
Right of Way Cost	Assuming project extends 2,500 sf beyond ROW	\$10,000	
Utility Relocation Cost	Aerial and buried utilities	\$15,455	
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$130,470	
Environmental Permits	Permits, Zone A Floodplain Analysis	\$15,000	
Total Planning Estimate		\$196,472	

Janice Drive



Photo 1:



Photo 2:

Photo Date:

5/21/2013

Taken By:

David King

Page:

1

Janice Drive



Photo 3:



Photo 4:

Photo Date:

5/21/2013

Taken By:

David King

Page:

2

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	280.00	\$ 1,569.49
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 1,569.49

Grading Complete (5% of Rwy Items & Drng Total \$)	\$ 5,202.98
--	-------------

Roadway Total	\$ 6,772.47
---------------	-------------

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	290.37	\$ 3,014.04
60" CMP (LF)	\$ 24.60		70.00	\$ 5,166.00
60" RCP		\$ 259.20	0.00	\$ -
Class A Conc (CY)		\$ 892.19	86.48	\$ 77,156.42
Steel (lb)		\$ 1.42	9,154.00	\$ 12,962.06
Pipe Bedding (CY)		\$ 48.60	37.30	\$ 1,812.78
Trench Backfill (CY)		\$ 2.99	294.55	\$ 880.12
Trench Compaction (CY)		\$ 6.36	235.64	\$ 1,498.68

Drainage Total	\$ 102,490.11
----------------	---------------

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total	\$ -
---------------------------	------

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total	\$ 5,454.00
---------------	-------------

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	77.78	\$ 341.60
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	280.00	\$ 1,186.08
Check Dam Type C Silt Fence (LF)	\$ 6.79	280.00	\$ 1,901.76
Erosion Control Mats (SY)	\$ 1.87	31.11	\$ 58.24
Landscape Mulch (SY)	\$ 3.58	31.11	\$ 111.25
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	37.33	\$ 2,276.74
Plastic Filter Fabric (SY)	\$ 5.72	37.33	\$ 213.70
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total	\$ 6,089.37
-----------------------	-------------

Construction Cost Total	\$ 120,805.95
-------------------------	---------------

Traffic Control (8% of Construction Total \$)	\$ 9,664.48
---	-------------

Construction Cost Grand Total	\$ 130,470.42
-------------------------------	---------------

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	60.00	\$ 3,960.00
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	2.00	\$ 1,375.00
Phone				
Aerial	\$ 11.00	\$ 27.50	60.00	\$ 2,310.00
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	60.00	\$ 2,310.00
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	50.00	\$ 5,500.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 15,455.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	2,500.00	\$ 10,000.00
ROW Total			\$ 10,000.00

General Information		Map						
Project ID								
Street Name	671 Kenwood Road							
Site Visit Date	1/21/2016							
Road Classification	Minor arterial							
Project Notes								
Field Notes								
Design (Existing Site Features)								
Existing Road Laneage	2-11'							
Existing Shld Width (paved and grass) (feet)	2'							
Existing Side Slopes	1.5:1							
Existing Guardrail	None							
Depth fm Pavement to Top of Culvert (ft):	10'							
Pipe Type and Size	60" CMP							
Pipe Condition (1-5) (1 is new)	4-5							
Condition Notes: Deformed/compressed (pipe size hard to determine). No headwalls. Washout on downstream side, water surface 2' below culvert		Stage Construction Options <table border="1"> <tr> <td>Close Location to Traffic</td> <td></td> </tr> <tr> <td>Maintain One Lane - No Temp Pavement</td> <td>X</td> </tr> <tr> <td>Maintain One Lane - Temp Pavement</td> <td></td> </tr> </table> <p>Stage Construction Notes: Utility pole and electricity meter boxes in possible construction staging area</p>	Close Location to Traffic		Maintain One Lane - No Temp Pavement	X	Maintain One Lane - Temp Pavement	
Close Location to Traffic								
Maintain One Lane - No Temp Pavement	X							
Maintain One Lane - Temp Pavement								
Pavement Type/Condition	Asphalt/Good							
Environmental Features								
Wetlands								
Ditches	Roadside drainage ditches							
State Waters								
Buried								
Electric	Aerial							
Cable	Buried							
Phone	Aerial							
Gas								
Water								
Sewer								
Other								
Proposed Design								
Roadway Section	Typical							
Culvert Size & Material	60" round RCP with straight headwalls							
Utility Relocations	Potential removal/replacement of utility pole and buried cable line							
Guardrail Replacement								
Miscellaneous Features								
Planning Cost Estimate								
Type	Notes	Total						
Design	Includes 10% of Construction Cost and surveying needs	\$11,280						
Right of Way Cost	Project assumed to be entirely in ROW	\$0						
Utility Relocation Cost	Potential removal/replacement	\$12,100						
Construction Cost		\$62,798						
Environmental Permits	Assuming minimal environmental permitting required	\$10,000						
Total Planning Estimate		\$96,178						



Photo 1: Upstream end of culvert looking South towards Kenwood Road.



Photo 2: Downstream end of culvert.

Kenwood Road

Photo Date:

1/21/2016

Taken By:

David Gibbs

Page

2

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	154.00	\$ 863.22
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 863.22

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 2,127.89

Roadway Total \$ 2,991.12

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	236.44	\$ 2,454.29
60" CMP (LF)	\$ 24.60		57.00	\$ 1,402.20
60" RCP (LF)		\$ 281.96	57.00	\$ 16,071.95
Class A Conc (CY)		\$ 892.19	21.58	\$ 19,253.42
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	14.78	\$ 718.20
Trench Backfill (CY)		\$ 2.99	222.22	\$ 663.98
Trench Compaction (CY)		\$ 6.36	177.77	\$ 1,130.63

Drainage Total \$ 41,694.67

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71		\$ -

Signing and Marking Total \$ -

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.20	\$ 2,052.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total \$ 6,480.00

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	27.22	\$ 119.56
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	456.00	\$ 1,931.62
Check Dam Type C Silt Fence (LF)	\$ 6.79	456.00	\$ 3,097.15
Erosion Control Mats (SY)	\$ 1.87	50.67	\$ 94.85
Landscape Mulch (SY)	\$ 3.58	50.67	\$ 181.18
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	23.33	\$ 1,422.96
Plastic Filter Fabric (SY)	\$ 5.72	23.33	\$ 133.56
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 6,980.88

Construction Cost Total \$ 58,146.66

Traffic Control (8% of Construction Total \$) \$ 4,651.73

Construction Cost Grand Total \$ 62,798.40

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	75.00	\$ 4,950.00
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	1.00	\$ 687.50
Phone				
Aerial	\$ 11.00	\$ 27.50	75.00	\$ 2,887.50
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	50.00	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 12,100.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	0.00	\$ -
ROW Total			\$ -

General Information		Map	
Project ID			
Street Name	547 Kenwood Road		
Site Visit Date	5/22/13		
Road Classification	Minor Arterial		
Project Notes			
Rural Typical Section			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-12'		
Existing Shld Width (paved and grass) (feet)	None		
Existing Side Slopes	1:1		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	2		
Pipe Type and Size	96" CMP		
Pipe Condition (1-5) (1 is new)	3		
Condition Notes: Rusted severely on upstream and downstream ends; 3' + drop on downstream end, interior structure ok, debris/maintenance needed			
Pavement Type/Condition	Asphalt/Good		
Environmental Features		Stage Construction Options	
Wetlands	None	Close Location to Traffic	X
Ditches	Noted	Maintain One Lane - No Temp Pavement	
		Maintain One Lane - Temp Pavement	
		Stage Construction Notes: 35 mph posted	
Utilities (Visual Inspection)			
Electric	Aerial		
Cable	Aerial		
Phone	Aerial		
Gas			
Water	Buried		
Sewer			
Other			
Proposed Design			
Roadway Section			
Culvert Size & Material	8' x 5' box, concrete, 80' length		
Utility Relocations			
Guardrail Replacement	Guardrail due to culvert and side slopes		
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% Construction Cost and surveying needs	\$22,646	
Right of Way Cost	Assuming project extends 7,500 sf beyond ROW	\$15,000	
Utility Relocation Cost	Buried utilities	\$5,500	
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$176,464	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$229,611	

Kenwood Road



Photo 1:



Photo 2:

Photo Date:

5/21/2013

Taken By:

David King

Page:

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	432.00	\$ 2,421.50
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	500.00	\$ 26,988.00
End Anchorage (EA)		\$ 1,380.00	2.00	\$ 2,760.00
Subtotal				\$ 32,169.50

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 7,142.00

Roadway Total \$ 39,311.51

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	586.67	\$ 6,089.60
96" CMP (LF)	\$ 72.00		80.00	\$ 17,280.00
96" RCP		\$ 142.52	0.00	\$ -
Class A Conc (CY)		\$ 892.19	74.23	\$ 66,230.68
Steel (lb)		\$ 1.42	9,406.00	\$ 13,318.90
Pipe Bedding (CY)		\$ 48.60	54.70	\$ 2,658.42
Trench Backfill (CY)		\$ 2.99	630.63	\$ 1,884.33
Trench Compaction (CY)		\$ 6.36	504.51	\$ 3,208.66

Drainage Total \$ 110,670.59

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	72.00	\$ 50.98

Signing and Marking Total \$ 50.98

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total \$ 5,555.95

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	112.00	\$ 491.90
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	320.00	\$ 1,355.52
Check Dam Type C Silt Fence (LF)	\$ 6.79	320.00	\$ 2,173.44
Erosion Control Mats (SY)	\$ 1.87	106.67	\$ 199.68
Landscape Mulch (SY)	\$ 3.58	106.67	\$ 381.44
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	48.00	\$ 2,927.23
Plastic Filter Fabric (SY)	\$ 5.72	48.00	\$ 274.75
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 7,803.97

Construction Cost Total \$ 163,393.00

Traffic Control (8% of Construction Total \$) \$ 13,071.44

Construction Cost Grand Total \$ 176,464.44

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	50.00	\$ 5,500.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 5,500.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	3,750.00	\$ 15,000.00
ROW Total			\$ 15,000.00

General Information		Map	
Project ID			
Street Name	200 Kingswood Drive		
Site Visit Date	1/20/2016		
Road Classification	Minor road		
Project Notes			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-12'		
Existing Shld Width (paved and grass) (feet)	12'		
Existing Side Slopes	8:1		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	4.5'		
Pipe Type and Size	48" CMP		
Pipe Condition (1-5) (1 is new)	4-5		
Condition Notes: Rusty out bottoms. Concrete headwall and sluice/exaggerated inlet			
Pavement Type/Condition	Asphalt/Good		
Environmental Features		Stage Construction Options	
Wetlands		Close Location to Traffic	
Ditches	Roadside drainage ditches	Maintain One Lane - No Temp Pavement	X
State Waters		Maintain One Lane - Temp Pavement	
Utilities (Visual Inspection)		Stage Construction Notes:	
Electric	Unknown		
Cable	Buried		
Phone	Unknown		
Gas	Unknown		
Water	Buried		
Sewer	Unknown		
Other			
Proposed Design			
Roadway Section	Typical		
Culvert Size & Material	48" round RCP with straight headwalls. Cost of removing each existing headwall and small spillway equal to removal of entire length of pipe.		
Utility Relocations	Removal/replacement of fire hydrant and buried water, cable lines		
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% Construction Cost and surveying needs	\$11,512	
Right of Way Cost	Assume project extends past ROW, 1/10 acre	\$17,424	
Utility Relocation Cost		\$11,684	
Construction Cost		\$65,122	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$115,742	



Photo 1: Upstream end of culvert.



Photo 2: Downstream end of culvert looking North towards Kingswood Drive.

Kingswood Drive

Photo Date:

1/20/2016

Taken By:

David Gibbs

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	144.00	\$ 807.17
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 807.17

Grading Complete (5% of Rwy Items & Drng Total \$)	\$ 2,209.38
--	-------------

Roadway Total	\$ 3,016.54
---------------	-------------

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	194.22	\$ 2,016.03
48" CMP (LF)	\$ 24.60		368.00	\$ 9,052.80
48" RCP (LF)		\$ 193.20	92.00	\$ 17,774.40
Class A Conc (CY)		\$ 892.19	13.70	\$ 12,222.98
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	20.44	\$ 993.60
Trench Backfill (CY)		\$ 2.99	163.51	\$ 488.58
Trench Compaction (CY)		\$ 6.36	130.81	\$ 831.96

Drainage Total	\$ 43,380.35
----------------	--------------

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71		\$ -

Signing and Marking Total	\$ -
---------------------------	------

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.20	\$ 2,052.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total	\$ 6,480.00
---------------	-------------

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	45.33	\$ 199.10
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	552.00	\$ 2,338.27
Check Dam Type C Silt Fence (LF)	\$ 6.79	552.00	\$ 3,749.18
Erosion Control Mats (SY)	\$ 1.87	61.33	\$ 114.82
Landscape Mulch (SY)	\$ 3.58	61.33	\$ 219.33
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	12.00	\$ 731.81
Plastic Filter Fabric (SY)	\$ 5.72	12.00	\$ 68.69
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total	\$ 7,421.20
-----------------------	-------------

Construction Cost Total	\$ 60,298.09
-------------------------	--------------

Traffic Control (8% of Construction Total \$)	\$ 4,823.85
---	-------------

Construction Cost Grand Total	\$ 65,121.94
-------------------------------	--------------

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	0.00	\$ -
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	50.00	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	50.00	\$ 5,500.00
Relocate Fire Hydrant (EA)		\$ 2,609.22	1.00	\$ 2,609.22
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 11,684.22

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	4356.00	\$ 17,424.00
ROW Total			\$ 17,424.00

General Information		Map	
Project ID			
Street Name	115 Mark Lane		
Site Visit Date	5/22/13		
Road Classification	Minor road		
Project Notes			
Urban typical with Curb and Gutter			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2 - 10'		
Existing Shld Width (paved and grass) (feet)	4'		
Existing Side Slopes	Flat		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	5		
Pipe Type and Size	60" CMP		
Pipe Condition (1-5) (1 is new)	4		
Condition Notes: Not straight, joint damage; downstream sediment (1/2' of sediment 90' length)			
Pavement Type/Condition	Asphalt/Good		
Environmental Features		Stage Construction Options	
Wetlands	X (Upstream)	Close Location to Traffic	
Ditches	None	Maintain One Lane - No Temp Pavement	X
		Maintain One Lane - Temp Pavement	
		Stage Construction Notes:	
Utilities (Visual Inspection)			
Electric	Buried		
Cable	Buried		
Phone	Buried		
Gas			
Water	Buried		
Sewer			
Other			
Proposed Design			
Roadway Section			
Culvert Size & Material	Double 6x4' box, concrete, 90'		
Utility Relocations	Electric, cable, phone, water		
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% Construction Cost and surveying needs	\$30,040	
Right of Way Cost	Assuming project extends 4,000 sf beyond ROW	\$16,000	
Utility Relocation Cost	Buried utilities	\$17,600	
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$175,397	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$249,037	

Mark Lane



Photo 1:



Photo 2:

Photo Date:

5/21/2013

Taken By:

David King

Page:

1

Mark Lane



Photo 3:



Photo 4:

Photo Date:

5/21/2013

Taken By:

David King

Page:

2

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	280.00	\$ 1,569.49
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	56.00	\$ 3,312.96
Drain Inlet (EA)		\$ 3,000.00	2.00	\$ 6,000.00
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 10,882.45

Grading Complete (5% of Rwy Items & Drng Total \$)	\$ 7,106.65
--	-------------

Roadway Total	\$ 17,989.10
---------------	--------------

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	513.33	\$ 5,328.40
60" CMP (LF)	\$ 24.60		90.00	\$ 6,642.00
60" RCP		\$ 259.20	0.00	\$ -
Class A Conc (CY)		\$ 892.19	107.46	\$ 95,874.52
Steel (lb)		\$ 1.42	11,682.00	\$ 16,541.71
Pipe Bedding (CY)		\$ 48.60	47.70	\$ 2,318.22
Trench Backfill (CY)		\$ 2.99	562.86	\$ 1,681.81
Trench Compaction (CY)		\$ 6.36	450.28	\$ 2,863.81

Drainage Total	\$ 131,250.48
----------------	---------------

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	56.00	\$ 39.65

Signing and Marking Total	\$ 39.65
---------------------------	----------

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total	\$ 5,533.30
---------------	-------------

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	108.89	\$ 478.24
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	360.00	\$ 1,524.96
Check Dam Type C Silt Fence (LF)	\$ 6.79	360.00	\$ 2,445.12
Erosion Control Mats (SY)	\$ 1.87	120.00	\$ 224.64
Landscape Mulch (SY)	\$ 3.58	120.00	\$ 429.12
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	37.33	\$ 2,276.74
Plastic Filter Fabric (SY)	\$ 5.72	37.33	\$ 213.70
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total	\$ 7,592.51
-----------------------	-------------

Construction Cost Total	\$ 162,405.03
-------------------------	---------------

Traffic Control (8% of Construction Total \$)	\$ 12,992.40
---	--------------

Construction Cost Grand Total	\$ 175,397.43
-------------------------------	---------------

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50	50.00	\$ 4,950.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	50.00	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	50.00	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	50.00	\$ 5,500.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 17,600.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	4,000.00	\$ 16,000.00
ROW Total			\$ 16,000.00

General Information		Map	
Project ID			
Street Name	130 Mathew Way		
Site Visit Date	5/22/13		
Road Classification	Internal Local		
Project Notes			
Urban typical with Curb and Gutter			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-10'		
Existing Shld Width (paved and grass) (feet)	6'		
Existing Side Slopes	Flat		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	4		
Pipe Type and Size	72" CMP		
Pipe Condition (1-5) (1 is new)	4		
Condition Notes: Pipe separated from headwall; Stream parallel to road			
Pavement Type/Condition	Asphalt/Good		
Environmental Features		Stage Construction Options	
Wetlands	Yes	Close Location to Traffic	
Ditches	None	Maintain One Lane - No Temp Pavement	X
		Maintain One Lane - Temp Pavement	
		Stage Construction Notes:	
Utilities (Visual Inspection)			
Electric	Buried		
Cable	Buried		
Phone	Buried		
Gas			
Water	Buried		
Sewer			
Other	Street Light above structure		
Proposed Design			
Roadway Section			
Culvert Size & Material	dbl 9' x 4' box, concrete, 80' length. Assuming cost of headwall removal is equal to half of removing entire length of pipe		
Utility Relocations	Street Light above structure, electric, cable, phone, water. Applying cost of electric utility wooden pole to remove street light.		
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% Construction Cost and surveying needs	\$37,375	
Right of Way Cost	Assuming project extends 2,100 sf beyond ROW	\$8,400	
Utility Relocation Cost	Buried utilities	\$18,288	
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$248,747	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$322,809	



Photo 1:



Photo 2:

Mathew Way

Photo Date:

5/21/2013

Taken By:

David King

Page:

1

Mathew Way



Photo 3:



Photo 4:

Photo Date:

5/21/2013

Taken By:

David King

Page:

2

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	400.00	\$ 2,242.13
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	40.00	\$ 2,366.40
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 4,608.53

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 10,314.95

Roadway Total \$ 14,923.48

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	651.85	\$ 6,766.22
72" CMP (LF)	\$ 54.00		120.00	\$ 19,440.00
72" RCP		\$ 390.00	0.00	\$ -
Class A Conc (CY)		\$ 892.19	159.95	\$ 142,705.47
Steel (lb)		\$ 1.42	17,018.00	\$ 24,097.49
Pipe Bedding (CY)		\$ 48.60	60.70	\$ 2,950.02
Trench Backfill (CY)		\$ 2.99	709.67	\$ 2,120.50
Trench Compaction (CY)		\$ 6.36	567.74	\$ 3,610.80

Drainage Total \$ 201,690.50

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total \$ -

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total \$ 5,454.00

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	133.33	\$ 585.60
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	320.00	\$ 1,355.52
Check Dam Type C Silt Fence (LF)	\$ 6.79	320.00	\$ 2,173.44
Erosion Control Mats (SY)	\$ 1.87	106.67	\$ 199.68
Landscape Mulch (SY)	\$ 3.58	106.67	\$ 381.44
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	53.33	\$ 3,252.48
Plastic Filter Fabric (SY)	\$ 5.72	53.33	\$ 305.28
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 8,253.44

Construction Cost Total \$ 230,321.42

Traffic Control (8% of Construction Total \$) \$ 18,425.71

Construction Cost Grand Total \$ 248,747.14

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50	50.00	\$ 4,950.00
Wooden Pole	\$ 82.50	\$ 605.00	1.00	\$ 687.50
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	50.00	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	50.00	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	50.00	\$ 5,500.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 18,287.50

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	2,100.00	\$ 8,400.00
ROW Total			\$ 8,400.00

General Information		Map	
Project ID			
Street Name	330 Merrydale Drive		
Site Visit Date	1/20/2016		
Road Classification	Minor road		
Project Notes			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-11.5'		
Existing Shld Width (paved and grass) (feet)	8.5'		
Existing Side Slopes	3:1		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	9.00		
Pipe Type and Size	60" CMP		
Pipe Condition (1-5) (1 is new)	3		
Condition Notes: Light rusted bottom. No headwall			
Pavement Type/Condition	Asphalt/Good		
Environmental Features			
Wetlands			
Ditches	Roadside drainage ditches		
State Waters			
Utilities (Visual Inspection)			
Electric	Aerial		
Cable	Unknown		
Phone	Aerial		
Gas	Unknown		
Water	Unknown		
Sewer	Unknown		
Other			
Proposed Design			
Roadway Section	Typical		
Culvert Size & Material	60" round RCP with straight headwalls		
Utility Relocations	Utility pole near downstream culvert may need to be relocated		
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% of Construction Cost and surveying needs	\$12,324	
Right of Way Cost	Project assumed to be entirely in ROW	\$0	
Utility Relocation Cost	Potential relocation of utility pole, aerial cables	\$14,713	
Construction Cost		\$73,243	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$110,280	



Photo 1: Upstream end of culvert.



Photo 2: Downstream end of culvert looking northwest towards Merrydale Drive.

330 Merrydale Drive

Photo Date:

1/20/2016

Taken By:

David Gibbs

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	161.00	\$ 902.46
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 902.46
Grading Complete (5% of Rwy Items & Drng Total \$)				\$ 2,720.19
Roadway Total				\$ 3,622.65
Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	342.22	\$ 3,552.27
60" CMP (LF)	\$ 24.60		88.00	\$ 2,164.80
60" RCP (LF)		\$ 281.96	88.00	\$ 24,812.83
Class A Conc (CY)		\$ 892.19	21.58	\$ 19,253.42
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	22.81	\$ 1,108.80
Trench Backfill (CY)		\$ 2.99	323.08	\$ 965.36
Trench Compaction (CY)		\$ 6.36	258.46	\$ 1,643.82
Drainage Total				\$53,501.30
Signing and Marking		Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)		\$ 0.71		\$ -
Signing and Marking Total				\$ -
Staging		Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)		\$ 10,260.00	0.15	\$ 1,539.00
Temporary Pavement				\$ -
Temporary Drainage (Stream Diversion)		\$ 4,428.00	1.00	\$ 4,428.00
Staging Total				\$ 5,967.00
Erosion Control		Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)		\$ 4.39	50.56	\$ 222.04
Temporary Grassing (AC)		\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)		\$ 4.24	352.00	\$ 1,491.07
Check Dam Type C Silt Fence (LF)		\$ 6.79	352.00	\$ 2,390.78
Erosion Control Mats (SY)		\$ 1.87	0.00	\$ -
Landscape Mulch (SY)		\$ 3.58	0.00	\$ -
Perm Grassing (AC)		\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)		\$ 60.98	9.33	\$ 569.18
Plastic Filter Fabric (SY)		\$ 5.72	9.33	\$ 53.42
4" Ditch Paving (SY)		\$ 54.65	0.00	\$ -
Erosion Control Total				\$ 4,726.50
Construction Cost Total				\$67,817.45
Traffic Control (8% of Construction Total \$)				\$ 5,425.40
Construction Cost Grand Total				\$73,242.85
Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	100.00	\$ 6,600.00
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	1.00	\$ 687.50
Phone				
Aerial	\$ 11.00	\$ 27.50	100.00	\$ 3,850.00
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	50.00	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$14,712.50
Right of Way (Sq Ft)		Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement		\$ 4.00	0.00	\$ -
ROW Total				\$ -

General Information		Map
Project ID		
Street Name	145 Millers Oak Way	
Site Visit Date	2/4/2016	
Road Classification	Minor road	
Project Notes		
Almost entire project lies outside of ROW on private parcels. Culvert path passes under private driveway for approximately 40'; owners will need to be accommodated.		
Field Notes		
Design (Existing Site Features)		
Existing Road Laneage	2-10	
Existing Shld Width (paved and grass) (feet)	2'	
Existing Side Slopes	40:1-30:1	
Existing Guardrail	N/A	
Depth fm Pavement to Top of Culvert (ft):	1.25'	
Pipe Type and Size	24" CMP	
Pipe Condition (1-5) (1 is new)	3-4	
Rusted, heavy debris buildup.		
Pavement Type/Condition	Asphalt/Good	
Environmental Features		
Wetlands		
Ditches		
State Waters		
Utilities (Visual Inspection)		
Electric	Buried	
Cable	Buried	
Phone	Unknown	
Gas	Unknown	
Water	Unknown	
Sewer	Unknown	
Other	Unknown	
Stage Construction Options		
Close Location to Traffic		
Maintain One Lane - No Temp Pavement		X
Maintain One Lane - Temp Pavement		
Stage Construction Notes: Lampost and electrical box in potential culvert path, upstream side of street. Cable box on downstream side of street.		
Proposed Design		
Roadway Section	Typical	
Culvert Size & Material	36" round RCP with straight headwalls. Additional excavation and grading required to lower upstream inlet by 1' for upsizing purposes. Length of installed pipe may be 10-15' shorter for proper headwall installation downstream (Photo 2)	
Utility Relocations	Lampost (costed as utility pole), electric utility box (costed as utility pole), and buried electric and cable wires	
Guardrail Replacement		
Miscellaneous Features		
Planning Cost Estimate		
Type	Notes	Total
Design	Includes 10% Construction cost and surveying needs	\$16,401
Right of Way Cost	Assuming project extends beyond ROW, 1/4 acre	\$43,560
Utility Relocation Cost	Buried electric and cable, utility box, lampost	\$18,425
Construction Cost		\$114,014
Environmental Permits	Assuming minimal environmental permitting required	\$10,000
Total Planning Estimate		\$202,401



Photo 1: Upstream end of culvert looking North towards Millers Oak Way.



Photo 2: Downstream end looking North towards Millers Oak Way.

145 Millers Oak Way

Photo Date:

2/4/2016

Taken By:

Christian Helfrich

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	115.00	\$ 644.61
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	40.00	\$ 2,366.40
Drain Inlet (EA)		\$ 3,000.00	2.00	\$ 6,000.00
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	22.22	\$ 1,121.33
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 10,132.35
Grading Complete (5% of Rwy Items & Drng Total \$)				\$ 4,493.50
Roadway Total				\$ 14,625.84
Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	566.48	\$ 5,880.08
24" CMP (LF)	\$ 16.38		342.00	\$ 16,805.88
36" RCP (LF)		\$ 134.40	322.00	\$ 43,276.80
Class A Conc (CY)		\$ 892.19	7.20	\$ 6,423.75
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	59.63	\$ 2,898.00
Trench Backfill (CY)		\$ 2.99	551.40	\$ 1,647.57
Trench Compaction (CY)		\$ 6.36	441.12	\$ 2,805.50
Drainage Total				\$ 79,737.58
Signing and Marking		Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)		\$ 0.71	0.00	\$ -
Signing and Marking Total				\$ -
Staging		Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)		\$ 10,260.00	0.20	\$ 2,052.00
Temporary Pavement				\$ -
Temporary Drainage (Stream Diversion)		\$ 4,428.00	1.00	\$ 4,428.00
Staging Total				\$ 6,480.00
Erosion Control		Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)		\$ 4.39	166.11	\$ 729.56
Temporary Grassing (AC)		\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)		\$ 4.24	322.00	\$ 1,363.99
Check Dam Type C Silt Fence (LF)		\$ 6.79	322.00	\$ 2,187.02
Erosion Control Mats (SY)		\$ 1.87	0.00	\$ -
Landscape Mulch (SY)		\$ 3.58	0.00	\$ -
Perm Grassing (AC)		\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)		\$ 60.98	6.67	\$ 406.56
Plastic Filter Fabric (SY)		\$ 5.72	6.67	\$ 38.16
4" Ditch Paving (SY)		\$ 54.65	0.00	\$ -
Erosion Control Total				\$ 4,725.30
Construction Cost Total				\$ 105,568.72
Traffic Control (8% of Construction Total \$)				\$ 8,445.50
Construction Cost Grand Total				\$ 114,014.21
Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	0.00	\$ -
Buried	\$ 16.50	\$ 82.50	100.00	\$ 9,900.00
Wooden Pole	\$ 82.50	\$ 605.00	2.00	\$ 1,375.00
Phone				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	100.00	\$ 7,150.00
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Relocate Fire Hydrant (EA)		\$ 2,609.22	0.00	\$ -
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 18,425.00
Right of Way (Sq Ft)		Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement		\$ 4.00	10890.00	\$ 43,560.00
ROW Total				\$ 43,560.00

General Information		Map	
Project ID			
Street Name	420 North Drive		
Site Visit Date	5/22/13		
Road Classification	Internal Local		
Project Notes			
Urban typical with Valley gutter			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-11'		
Existing Shld Width (paved and grass) (feet)	6'		
Existing Side Slopes	flat		
Existing Guardrail	none		
Depth fm Pavement to Top of Culvert (ft):	5		
Pipe Type and Size	60" CMP, 80'		
Pipe Condition (1-5) (1 is new)	3		
Condition Notes: No headwall; signs of sag towards downstream end, sediment approximately 1" deep			
Pavement Type/Condition	Asphalt/Good		
Environmental Features		Stage Construction Options	
Wetlands	None	Close Location to Traffic	X
Ditches	None	Maintain One Lane - No Temp Pavement	
		Maintain One Lane - Temp Pavement	
		Stage Construction Notes:	
Utilities (Visual Inspection)			
Electric	Buried		
Cable	Buried		
Phone	Buried		
Gas			
Water	Buried		
Sewer			
Other			
Proposed Design			
Roadway Section			
Culvert Size & Material	5' x 4' box, concrete, 80'		
Utility Relocations	Street light near structure, electric, cable, phone, water. Applying cost of electric utility wooden pole removal for street light.		
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% Construction Cost and surveying needs	\$13,230	
Right of Way Cost	Assuming project extends 3,000 sf beyond ROW	\$12,000	
Utility Relocation Cost	Buried utilities	\$14,768	
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$82,295	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$132,292	



Photo 1:



Photo 2:

420 North Drive

Photo Date:

5/21/2013

Taken By:

David King

Page:

1

420 North Drive



Photo 3:



Photo 4:

Photo Date:

5/21/2013

Taken By:

David King

Page:

2

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	154.00	\$ 863.22
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	20.00	\$ 1,183.20
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 2,046.42

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 3,394.65

Roadway Total \$ 5,441.07

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	228.15	\$ 2,368.18
60" CMP (LF)	\$ 24.60		80.00	\$ 5,904.00
60" RCP		\$ 259.20	0.00	\$ -
Class A Conc (CY)		\$ 892.19	53.51	\$ 47,740.98
Steel (lb)		\$ 1.42	4,806.00	\$ 6,805.30
Pipe Bedding (CY)		\$ 48.60	21.30	\$ 1,035.18
Trench Backfill (CY)		\$ 2.99	246.77	\$ 737.36
Trench Compaction (CY)		\$ 6.36	197.42	\$ 1,255.59

Drainage Total \$ 65,846.58

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total \$ -

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total \$ 5,454.00

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	45.11	\$ 198.13
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	320.00	\$ 1,355.52
Check Dam Type C Silt Fence (LF)	\$ 6.79	320.00	\$ 2,173.44
Erosion Control Mats (SY)	\$ 1.87	106.67	\$ 199.68
Landscape Mulch (SY)	\$ 3.58	106.67	\$ 381.44
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	18.67	\$ 1,138.37
Plastic Filter Fabric (SY)	\$ 5.72	18.67	\$ 106.85
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 5,553.42

Construction Cost Total \$ 82,295.08

Traffic Control (8% of Construction Total \$) \$ 6,583.61

Construction Cost Grand Total \$ 88,878.68

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50	40.00	\$ 3,960.00
Wooden Pole	\$ 82.50	\$ 605.00	1.00	\$ 687.50
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	40.00	\$ 2,860.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	40.00	\$ 2,860.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	40.00	\$ 4,400.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 14,767.50

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	3,000.00	\$ 12,000.00
ROW Total			\$ 12,000.00

General Information		Map	
Project ID			
Street Name	290 Oak Street		
Site Visit Date	1/21/2016		
Road Classification	Minor road		
Project Notes			
Major blowout near private driveway culvert 15' x 5', exposed utility lines			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-11'		
Existing Shld Width (paved and grass) (feet)	10'		
Existing Side Slopes	4:1		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	5.00		
Pipe Type and Size	30" CMP		
Pipe Condition (1-5) (1 is new)	4-5		
Condition Notes: Rusty out bottom. No headwalls, surrounded by a lot of rip rap upstream side, also a roadside drainage pipe that empties at culvert. Major streambed/bank blowout downstream			
Pavement Type/Condition	Asphalt/Good		
Environmental Features			
Wetlands			
Ditches	Roadside drainage ditches		
State Waters			
Buried			
Electric	Aerial		
Cable	Unknown		
Phone	Aerial		
Gas	Unknown		
Water	Unknown		
Sewer	Unknown		
Other			
Stage Construction Options			
Close Location to Traffic			
Maintain One Lane - No Temp Pavement		X	
Maintain One Lane - Temp Pavement			
Stage Construction Notes: Utility pole within 10' of upstream culvert			
Proposed Design			
Roadway Section	Typical		
Culvert Size & Material	42" round RCP with straight headwalls		
Utility Relocations	Relocation of utility pole, aerial wires		
Guardrail Replacement			
Miscellaneous Features	Major blowout near private driveway culvert that contributes to upstream end of culvert. 15' x 5' hole with exposed utilities		
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% of Construction Cost and surveying needs	\$9,150	
Right of Way Cost	Project assumed to be entirely in ROW	\$0	
Utility Relocation Cost		\$5,913	
Construction Cost		\$41,500	
Environmental Permits	Minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$66,563	



Photo 1: Upstream end of culvert looking North towards Oak Street.



Photo 2: Downstream end of culvert.

290 Oak Street

Photo Date:

1/21/2016

Taken By:

David Gibbs

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	121.00	\$ 678.25
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 678.25
Grading Complete (5% of Rwy Items & Drng Total \$)				\$ 1,155.40
Roadway Total				\$ 1,833.64
Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	123.85	\$ 1,285.58
30" CMP (LF)	\$ 19.66		64.00	\$ 1,257.98
42" RCP (LF)		\$ 142.52	64.00	\$ 9,121.54
Class A Conc (CY)		\$ 892.19	10.40	\$ 9,278.76
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	13.04	\$ 633.60
Trench Backfill (CY)		\$ 2.99	105.53	\$ 315.32
Trench Compaction (CY)		\$ 6.36	84.42	\$ 536.92
Drainage Total				\$22,429.70
Signing and Marking		Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)		\$ 0.71		\$ -
Signing and Marking Total				\$ -
Staging		Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)		\$ 10,260.00	0.25	\$ 2,565.00
Temporary Pavement				\$ -
Temporary Drainage (Stream Diversion)		\$ 4,428.00	1.00	\$ 4,428.00
Staging Total				\$ 6,993.00
Erosion Control		Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)		\$ 4.39	25.67	\$ 112.73
Temporary Grassing (AC)		\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)		\$ 4.24	512.00	\$ 2,168.83
Check Dam Type C Silt Fence (LF)		\$ 6.79	512.00	\$ 3,477.50
Erosion Control Mats (SY)		\$ 1.87	56.89	\$ 106.50
Landscape Mulch (SY)		\$ 3.58	56.89	\$ 203.43
Perm Grassing (AC)		\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)		\$ 60.98	16.50	\$ 1,006.24
Plastic Filter Fabric (SY)		\$ 5.72	16.50	\$ 94.45
4" Ditch Paving (SY)		\$ 54.65	0.00	\$ -
Erosion Control Total				\$ 7,169.68
Construction Cost Total				\$38,426.02
Traffic Control (8% of Construction Total \$)				\$ 3,074.08
Construction Cost Grand Total				\$41,500.10
Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	50.00	\$ 3,300.00
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	1.00	\$ 687.50
Phone				
Aerial	\$ 11.00	\$ 27.50	50.00	\$ 1,925.00
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 5,912.50
Right of Way (Sq Ft)		Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement		\$ 4.00	0.00	\$ -
ROW Total				\$ -

General Information		Map
Project ID		
Street Name	220 Old Ivy	
Site Visit Date	1/20/2016	
Road Classification	Minor road	
Project Notes		
Culvert path is diagonal under a slight bend in road. Upstream inlet is a vertical concrete inlet that will need to be removed. Pedestrian dirt trail passes over downstream outlet near a children's playground		
Field Notes		
Design (Existing Site Features)		
Existing Road Laneage	2-12.5'	
Existing Shld Width (paved and grass) (feet)	15'	
Existing Side Slopes	20:1	
Existing Guardrail	None	
Depth fm Pavement to Top of Culvert (ft):	3'	
Pipe Type and Size	42" CMP	
Pipe Condition (1-5) (1 is new)	4	
Condition Notes: Rusty out bottom. Concrete headwall downstream.		
Pavement Type/Condition	Asphalt/Good	
Environmental Features		
Wetlands		
Ditches		
State Waters		
Utilities (Visual Inspection)		
Electric	Aerial	
Cable	Aerial	
Phone	Aerial	
Gas	Unknown	
Water	Buried	
Sewer	Unknown	
Other		
Stage Construction Options		
Close Location to Traffic		
Maintain One Lane - No Temp Pavement		X
Maintain One Lane - Temp Pavement		
Stage Construction Notes:		
Proposed Design		
Roadway Section	Typical	
Culvert Size & Material	42" round RCP with straight headwalls. Removal of upstream vertical inlet costed as manhole removal. Cost of removing headwall assumed equal to removal of entire length of pipe.	
Utility Relocations		
Guardrail Replacement	Wooden fence posts for trail over downstream outlet removal/replacement costed as guardrails.	
Miscellaneous Features		
Planning Cost Estimate		
Type	Notes	Total
Design	Includes 10% of Construction Cost and surveying needs	\$20,192
Right of Way Cost	Project assumed to be entirely in ROW, County owned parcel	\$0
Utility Relocation Cost	Possible water main removal/replacement	\$5,500
Construction Cost		\$76,918
Environmental Permits	Includes Zone A Floodway study	\$15,000
Total Planning Estimate		\$117,610



Photo 1: View from downstream end towards Old Ivy.



Photo 2: Upstream inlet looking West towards Old Ivy.

220 Old Ivy

Photo Date:

1/20/2016

Taken By:

David Gibbs

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	137.50	\$ 770.73
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	14.00	\$ 828.24
Drain Inlet (EA)		\$ 3,000.00	2.00	\$ 6,000.00
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	6.67	\$ 336.40
Guardrail (LF)	\$ 4.88	\$ 49.09	24.00	\$ 1,295.42
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 9,230.80

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 2,718.35

Roadway Total \$ 11,949.14

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	289.26	\$ 3,002.51
Remove Manhole (EA)		\$ 2,069.81	1.00	\$ 2,069.81
42" CMP (LF)	\$ 24.60		284.00	\$ 6,986.40
42" RCP (LF)		\$ 142.52	142.00	\$ 20,238.41
Class A Conc (CY)		\$ 892.19	10.40	\$ 9,278.76
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	28.93	\$ 1,405.80
Trench Backfill (CY)		\$ 2.99	266.77	\$ 797.11
Trench Compaction (CY)		\$ 6.36	213.42	\$ 1,357.33

Drainage Total \$ 45,136.12

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71		\$ -

Signing and Marking Total \$ -

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.20	\$ 2,052.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total \$ 6,480.00

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	71.50	\$ 314.03
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	568.00	\$ 2,406.05
Check Dam Type C Silt Fence (LF)	\$ 6.79	568.00	\$ 3,857.86
Erosion Control Mats (SY)	\$ 1.87	63.11	\$ 118.14
Landscape Mulch (SY)	\$ 3.58	63.11	\$ 225.69
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	11.00	\$ 670.82
Plastic Filter Fabric (SY)	\$ 5.72	11.00	\$ 62.96
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 7,655.55

Construction Cost Total \$ 71,220.81

Traffic Control (8% of Construction Total \$) \$ 5,697.66

Construction Cost Grand Total \$ 76,918.48

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	0.00	\$ -
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	50.00	\$ 5,500.00
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 5,500.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	0.00	\$ -
ROW Total			\$ -

General Information		Map
Project ID		
Street Name	190 Ponderosa Drive	
Site Visit Date	Beverly Manor S/D	
Road Classification	Minor road	
Project Notes		
Replace 30-yr old CMP with RCP. Replace flumes with curb inlets and provide manhole access to pipe for inspection and maintenance. One of several pipe replacement projects in subdivision		
Field Notes		
Design (Existing Site Features)		
Existing Road Laneage	2-13	
Existing Shld Width (paved and grass) (feet)	NA - curb & gutter	
Existing Side Slopes	NA - curb & gutter	
Existing Guardrail	NA - curb & gutter	
Depth fm Pavement to Top of Culvert (ft):	Assumed 3'	
Pipe Type and Size	CMP, 48"	
Pipe Condition (1-5) (1 is new)	5	
Condition Notes: Pipe and associated structures are old and in poor condition		
Pavement Type/Condition	Average	
Environmental Features		
Wetlands	None	
Ditches	None	
Utilities (Visual Inspection)		
Electric	Yes	
Cable	Yes	
Phone	Yes	
Gas	Unknown	
Water	Yes	
Sewer	No	
Other		
Stage Construction Options		
Close Location to Traffic		
Maintain One Lane - No Temp Pavement		X
Maintain One Lane - Temp Pavement		
Stage Construction Notes: Minimal impacts to traffic and access can be maintained to all properties.		
Proposed Design		
Roadway Section	Typical with curb and gutter. Road dimensions estimated with Google Earth.	
Culvert Size & Material	Replace existing pipe with 48" RCP, approximately 40'. Cost of headwall removal assumed equal to removal of entire length of pipe.	
Utility Relocations	Buried utilities	
Guardrail Replacement		
Miscellaneous Features	Previous inspection notes called for upgrading inlets, headwalls and junction boxes to modern design. Manhole access was not considered in this design	
Planning Cost Estimate		
Type	Notes	Total
Design	Includes 10% Construction Cost and surveying needs	\$9,691
Right of Way Cost	Assuming project extends 5,000 sf beyond ROW	\$20,000
Utility Relocation Cost	Buried utilities	\$17,600
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$46,912
Environmental Permits	Assuming minimal environmental permitting required	\$10,000
Total Planning Estimate		\$104,203



Photo 1:



Photo 2:

190 Ponderosa Drive

Photo Date:

6/03/2013

Taken By:

Tony Hicks

Page:

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	156.00	\$ 874.43
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	40.00	\$ 2,366.40
Drain Inlet (EA)		\$ 3,000.00	2.00	\$ 6,000.00
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09		\$ -
End Anchorage (EA)		\$ 1,380.00		\$ -
Subtotal				\$ 9,240.83

Grading Complete (5% of Rwy Items & Drng Total \$)	\$ 1,683.48
--	-------------

Roadway Total	\$ 10,924.32
---------------	--------------

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	71.11	\$ 738.13
48" CMP (LF)	\$ 24.60		120.00	\$ 2,952.00
48" RCP (LF)		\$ 193.20	40.00	\$ 7,728.00
Class A Conc (CY)		\$ 892.19	13.70	\$ 12,222.98
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	8.89	\$ 432.00
Trench Backfill (CY)		\$ 2.99	44.05	\$ 131.62
Trench Compaction (CY)		\$ 6.36	35.24	\$ 224.13

Drainage Total	\$ 24,428.86
----------------	--------------

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total	\$ -
---------------------------	------

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total	\$ 5,454.00
---------------	-------------

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	9.33	\$ 40.99
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	160.00	\$ 677.76
Check Dam Type C Silt Fence (LF)	\$ 6.79	160.00	\$ 1,086.72
Erosion Control Mats (SY)	\$ 1.87	53.33	\$ 99.84
Landscape Mulch (SY)	\$ 3.58	53.33	\$ 190.72
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	8.00	\$ 487.87
Plastic Filter Fabric (SY)	\$ 5.72	8.00	\$ 45.79
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total	\$ 2,629.70
-----------------------	-------------

Construction Cost Total	\$ 43,436.87
-------------------------	--------------

Traffic Control (8% of Construction Total \$)	\$ 3,474.95
---	-------------

Construction Cost Grand Total	\$ 46,911.82
-------------------------------	--------------

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50	50.00	\$ 4,950.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	50.00	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	50.00	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	50.00	\$ 5,500.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 17,600.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	5,000.00	\$ 20,000.00
ROW Total			\$ 20,000.00

General Information		Map																	
Project ID																			
Street Name	125 Ridge Brook Court																		
Site Visit Date	1/21/2016																		
Road Classification	Minor road																		
Project Notes																			
CULVERT PASSES UNDER PRIVATE DRIVE (almost parallel). Owners need to be accommodated.																			
Field Notes																			
Design (Existing Site Features)																			
Existing Road Laneage	2-12'																		
Existing Shld Width (paved and grass) (feet)	10'																		
Existing Side Slopes	6:1	Stage Construction Options <table border="1"> <tr> <td>Close Location to Traffic</td> <td></td> </tr> <tr> <td>Maintain One Lane - No Temp Pavement</td> <td>X</td> </tr> <tr> <td>Maintain One Lane - Temp Pavement</td> <td></td> </tr> <tr> <td colspan="2">Stage Construction Notes:</td> </tr> <tr><td colspan="2" rowspan="4"></td></tr> <tr><td colspan="2"></td></tr> <tr><td colspan="2"></td></tr> <tr><td colspan="2"></td></tr> </table>		Close Location to Traffic		Maintain One Lane - No Temp Pavement	X	Maintain One Lane - Temp Pavement		Stage Construction Notes:									
Close Location to Traffic																			
Maintain One Lane - No Temp Pavement	X																		
Maintain One Lane - Temp Pavement																			
Stage Construction Notes:																			
Existing Guardrail	None																		
Depth fm Pavement to Top of Culvert (ft):	5'																		
Pipe Type and Size	48" CMP																		
Pipe Condition (1-5) (1 is new)	4-5																		
Condition Notes: Rusted out bottoms, concrete headwalls. Separation of pipe from headwall opening. Small amount of rip rap at downstream end																			
Pavement Type/Condition	Asphalt/Good																		
Environmental Features																			
Wetlands																			
Ditches	Roadside drainage ditches																		
State Waters																			
Buried																			
Electric	Aerial																		
Cable	Unknown																		
Phone	Aerial																		
Gas	Unknown																		
Water	Unknown																		
Sewer	Unknown																		
Other																			
Proposed Design																			
Roadway Section	Typical																		
Culvert Size & Material	48" round RCP with straight headwalls. Cost of removing both existing headwalls assumed equal to the removal of the entire length of pipe.																		
Utility Relocations																			
Guardrail Replacement																			
Miscellaneous Features	Private driveway removal and reconstruction costed as 4" concrete sidewalk.																		
Planning Cost Estimate																			
Type	Notes	Total																	
Design	Includes 10% of Construction Cost and surveying needs	\$22,629																	
Right of Way Cost	Assume project extends past ROW, 1/10 acre	\$17,424																	
Utility Relocation Cost	None identified	\$0																	
Construction Cost		\$101,289																	
Environmental Permits	Includes Zone AE Floodway study	\$18,000																	
Total Planning Estimate		\$159,342																	



Photo 1: Upstream end of culvert.



Photo 2: Downstream end looking East towards Ridge Brook Court.

125 Ridge Brook Court

Photo Date:

1/21/2016

Taken By:

David Gibbs

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	144.00	\$ 807.17
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	52.00	\$ 3,076.32
Drain Inlet (EA)		\$ 3,000.00	2.00	\$ 6,000.00
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	70.00	\$ 3,532.20
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 13,415.69
Grading Complete (5% of Rwy Items & Drng Total \$)				\$ 3,801.20
Roadway Total				\$ 17,216.88
Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	380.00	\$ 3,944.40
48" CMP (LF)	\$ 24.60		342.00	\$ 8,413.20
48" RCP (LF)		\$ 193.20	173.00	\$ 33,423.60
Class A Conc (CY)		\$ 892.19	13.70	\$ 12,222.98
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	38.00	\$ 1,846.80
Trench Backfill (CY)		\$ 2.99	341.41	\$ 1,020.14
Trench Compaction (CY)		\$ 6.36	273.13	\$ 1,737.11
Drainage Total				\$ 62,608.23
Signing and Marking		Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)		\$ 0.71		\$ -
Signing and Marking Total				\$ -
Staging		Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)		\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement				\$ -
Temporary Drainage (Stream Diversion)		\$ 4,428.00	1.00	\$ 4,428.00
Staging Total				\$ 5,454.00
Erosion Control		Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)		\$ 4.39	98.00	\$ 430.42
Temporary Grassing (AC)		\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)		\$ 4.24	684.00	\$ 2,897.42
Check Dam Type C Silt Fence (LF)		\$ 6.79	684.00	\$ 4,645.73
Erosion Control Mats (SY)		\$ 1.87	0.00	\$ -
Landscape Mulch (SY)		\$ 3.58	0.00	\$ -
Perm Grassing (AC)		\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)		\$ 60.98	8.00	\$ 487.87
Plastic Filter Fabric (SY)		\$ 5.72	8.00	\$ 45.79
4" Ditch Paving (SY)		\$ 54.65	0.00	\$ -
Erosion Control Total				\$ 8,507.23
Construction Cost Total				\$ 93,786.34
Traffic Control (8% of Construction Total \$)				\$ 7,502.91
Construction Cost Grand Total				\$ 101,289.25
Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	0.00	\$ -
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ -
Right of Way (Sq Ft)		Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement		\$ 4.00	4356.00	\$ 17,424.00
ROW Total				\$ 17,424.00

General Information		Map	
Project ID			
Street Name	170 Ridge Way		
Site Visit Date	1/20/2016		
Road Classification	Minor road		
Project Notes			
Water meter and gazebo near culvert path on downstream side.			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-13'		
Existing Shld Width (paved and grass) (feet)	100'		
Existing Side Slopes	20:1		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	4.5'		
Pipe Type and Size	36" CMP		
Pipe Condition (1-5) (1 is new)	4-5		
Condition Notes: Rusty out bottom on downstream side. No headwall. MAJOR streambed blowout.			
Pavement Type/Condition	Asphalt/Good		
Environmental Features		Stage Construction Options	
Wetlands		Close Location to Traffic	
Ditches		Maintain One Lane - No Temp Pavement	X
State Waters		Maintain One Lane - Temp Pavement	
		Stage Construction Notes:	
Utilities (Visual Inspection)			
Electric	Aerial		
Cable	Unknown		
Phone	Aerial		
Gas	Unknown		
Water	Buried		
Sewer	Unknown		
Other			
Proposed Design			
Roadway Section	Typical		
Culvert Size & Material	48" round RCP with straight headwalls		
Utility Relocations	Utility pole and aerial wires need relocating. Possible water main relocation.		
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% of Construction Cost and surveying needs	\$18,959	
Right of Way Cost	Assume project extends past ROW, 1/4 acre	\$43,560	
Utility Relocation Cost	Utility pole and aerial wires, potential water main	\$16,638	
Construction Cost		\$139,586	
Environmental Permits	Assuming minimal environmental permitting required	\$10,000	
Total Planning Estimate		\$228,742	



Photo 1: Upstream end of culvert.



Photo 2: Downstream end of culvert looking east towards Ridge Way.

170 Ridge Way

Photo Date:

1/20/2016

Taken By:

David Gibbs

Page

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	156.00	\$ 874.43
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	52.00	\$ 3,076.32
Drain Inlet (EA)		\$ 3,000.00	2.00	\$ 6,000.00
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 9,950.75
Grading Complete (5% of Rwy Items & Drng Total \$)				\$ 5,367.75
Roadway Total				\$ 15,318.50
Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	615.78	\$ 6,391.77
36" CMP (LF)	\$ 24.60		326.00	\$ 8,019.60
48" RCP (LF)		\$ 193.20	326.00	\$ 62,983.20
Class A Conc (CY)		\$ 892.19	13.70	\$ 12,222.98
Steel (lb)		\$ 1.42	0.00	\$ -
Pipe Bedding (CY)		\$ 48.60	72.44	\$ 3,520.80
Trench Backfill (CY)		\$ 2.99	528.22	\$ 1,578.31
Trench Compaction (CY)		\$ 6.36	422.57	\$ 2,687.57
Drainage Total				\$ 97,404.23
Signing and Marking		Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)		\$ 0.71		\$ -
Signing and Marking Total				\$ -
Staging		Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)		\$ 10,260.00	0.25	\$ 2,565.00
Temporary Pavement				\$ -
Temporary Drainage (Stream Diversion)		\$ 4,428.00	1.00	\$ 4,428.00
Staging Total				\$ 6,993.00
Erosion Control		Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)		\$ 4.39	200.00	\$ 878.40
Temporary Grassing (AC)		\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)		\$ 4.24	652.00	\$ 2,761.87
Check Dam Type C Silt Fence (LF)		\$ 6.79	652.00	\$ 4,428.38
Erosion Control Mats (SY)		\$ 1.87	72.44	\$ 135.62
Landscape Mulch (SY)		\$ 3.58	72.44	\$ 259.06
Perm Grassing (AC)		\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)		\$ 60.98	16.00	\$ 975.74
Plastic Filter Fabric (SY)		\$ 5.72	16.00	\$ 91.58
4" Ditch Paving (SY)		\$ 54.65	0.00	\$ -
Erosion Control Total				\$ 9,530.66
Construction Cost Total				\$ 129,246.39
Traffic Control (8% of Construction Total \$)				\$ 10,339.71
Construction Cost Grand Total				\$ 139,586.10
Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	100.00	\$ 6,600.00
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	1.00	\$ 687.50
Phone				
Aerial	\$ 11.00	\$ 27.50	100.00	\$ 3,850.00
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	50.00	\$ 5,500.00
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 16,637.50
Right of Way (Sq Ft)		Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement		\$ 4.00	10890.00	\$ 43,560.00
ROW Total				\$ 43,560.00

General Information		Map	
Project ID			
Street Name	545 Ridgemont Drive		
Site Visit Date	5/21/13		
Road Classification	Minor road		
Project Notes			
Urban Typical Section with Valley Gutter			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2 - 12'		
Existing Shld Width (paved and grass) (feet)	None		
Existing Side Slopes	Flat		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	4		
Pipe Type and Size	36" CMP, 290'		
Pipe Condition (1-5) (1 is new)	5		
Condition Notes:			
Pavement Type/Condition	Asphalt/Good		
Environmental Features			
Wetlands	None		
Ditches	None		
Utilities (Visual Inspection)			
Electric	Buried		
Cable	Buried		
Phone	Buried		
Gas			
Water	Buried		
Sewer			
Other			
Stage Construction Options			
Close Location to Traffic			
Maintain One Lane - No Temp Pavement		X	
Maintain One Lane - Temp Pavement			
Stage Construction Notes:			
Proposed Design			
Roadway Section			
Culvert Size & Material	36" RCP, 32 36" of HDPE, 260'.		
Utility Relocations	Electric, cable, phone, water		
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% Construction Cost and surveying needs	\$10,785	
Right of Way Cost	Assuming project extends 3,000 sf beyond ROW	\$20,800	
Utility Relocation Cost	Buried utilities	\$17,600	
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$57,848	
Environmental Permits	Assuming minimal environmental permitting required	\$0	
Total Planning Estimate		\$107,033	



Photo 1:



Photo 2:

545 Ridgemount

Photo Date:

6/21/2016

Taken By:

Tony Hicks

Page:

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	144.00	\$ 807.17
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	20.00	\$ 1,183.20
Drain Inlet (EA)		\$ 3,000.00	2.00	\$ 6,000.00
4" Sidewalk (SY)	13.56	36.90	0.00	-
Guardrail (LF)	4.884	49.09	0.00	-
End Anchorage (EA)		\$ 1,380.00	0.00	-
Subtotal				\$ 7,990.37

Grading Complete (5% of Rwy Items & Drng Total \$) \$ 2,349.34

Roadway Total \$ 10,339.71

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	133.33	\$ 1,384.00
36" CMP (LF)	\$ 19.62		296.00	\$ 5,807.52
36" RCP		\$ 142.52	36.00	\$ 5,130.86
36" HPDE		\$ 114.02	200.00	\$ 22,803.84
Class A Conc (CY)		\$ 892.19	0.00	-
Steel (lb)		\$ 1.42	0.00	-
Pipe Bedding (CY)		\$ 48.60	22.70	\$ 1,103.22
Trench Backfill (CY)		\$ 2.99	296.00	\$ 884.45
Trench Compaction (CY)		\$ 6.36	296.00	\$ 1,882.56

Drainage Total \$ 38,996.45

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0	\$ -

Signing and Marking Total \$ -

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			0
Temporary Drainage (Stream Diversion)	\$ 4,428.00	0.00	\$ -

Staging Total \$ 1,026.00

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	100.00	\$ 439.20
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	400.00	\$ 1,694.40
Check Dam Type C Silt Fence (LF)	\$ 6.79	0.00	\$ -
Erosion Control Mats (SY)	\$ 1.87	0.00	\$ -
Landscape Mulch (SY)	\$ 3.58	0.00	\$ -
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	16.00	\$ 975.74
Plastic Filter Fabric (SY)	\$ 5.72	16.00	\$ 91.58
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total \$ 3,200.93

Construction Cost Total \$ 53,563.09

Traffic Control (8% of Construction Total \$) \$ 4,285.05

Construction Cost Grand Total \$ 57,848.14

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50	50	\$ 4,950.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	50	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	50	\$ 3,575.00
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	50	\$ 5,500.00
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 17,600.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	5200	\$ 20,800.00
ROW Total			\$ 20,800.00

General Information		Map	
Project ID			
Street Name	Royal Ridge Way		
Site Visit Date	1/20/2016		
Road Classification	Minor road		
Project Notes			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-11.5'		
Existing Shld Width (paved and grass) (feet)	5'		
Existing Side Slopes	3.5:1		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	4'		
Pipe Type and Size	2-66" CMP		
Pipe Condition (1-5) (1 is new)	4		
Condition Notes: Two corrugated metal pipes about 1' apart. Filled with sediment. No headwalls			
Pavement Type/Condition	Asphalt/Good		
Environmental Features		Stage Construction Options	
Wetlands		Close Location to Traffic	
Ditches	Roadside drainage ditches	Maintain One Lane - No Temp Pavement	X
State Waters		Maintain One Lane - Temp Pavement	
Buried		Stage Construction Notes:	
Electric	Aerial	Sediment buildup in existing pipes needs removal.	
Cable	Unknown		
Phone	Aerial		
Gas	Unknown		
Water	Unknown		
Sewer	Unknown		
Other			
Proposed Design			
Roadway Section	Typical, 18" concrete gutters		
Culvert Size & Material	Double 8' x 5' barrel box culvert with wingwalls		
Utility Relocations	Assuming utility pole safe distance from site (about 60')		
Guardrail Replacement			
Miscellaneous Features			
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% of Construction Cost and surveying needs	\$29,198	
Right of Way Cost	Assuming entire project within ROW	\$0	
Utility Relocation Cost	Assuming not needed	\$0	
Construction Cost		\$166,976	
Environmental Permits	Includes Zone AE Floodway study	\$18,000	
Total Planning Estimate		\$214,174	



Photo 1:



Photo 2:

Royal Ridge Way

Photo Date:

11/02/2015

Taken By:

Tony Hicks

Page:

1



Photo 3:



Photo 4:

Royal Ridge Way

Photo Date:

02/02/2016

Taken By:

Page:

2

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	468.00	\$ 2,623.30
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	36.00	\$ 2,129.76
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 4,753.06

Grading Complete (5% of Rwy Items & Drng Total \$)	\$ 6,839.26
--	-------------

Roadway Total	\$ 11,592.32
---------------	--------------

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	413.33	\$ 4,290.40
72" CMP	\$ 54.00		124.00	\$ 6,696.00
72" RCP		\$ 105.60	0.00	\$ -
Class A Conc (CY)		\$ 892.19	111.22	\$ 99,230.93
Steel (lb)		\$ 1.42	11533.80	\$ 16,331.86
Pipe Bedding (CY)		\$ 48.60	42.70	\$ 2,075.22
Trench Backfill (CY)		\$ 2.99	421.97	\$ 1,260.84
Trench Compaction (CY)		\$ 6.36	337.57	\$ 2,146.97

Drainage Total	\$ 132,032.22
----------------	---------------

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	54.00	\$ 38.23

Signing and Marking Total	\$ 38.23
---------------------------	----------

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.10	\$ 1,026.00
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	1.00	\$ 4,428.00

Staging Total	\$ 5,492.23
---------------	-------------

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	72.00	\$ 316.22
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	248.00	\$ 1,050.53
Check Dam Type C Silt Fence (LF)	\$ 6.79	248.00	\$ 1,684.42
Erosion Control Mats (SY)	\$ 1.87	0.00	\$ -
Landscape Mulch (SY)	\$ 3.58	0.00	\$ -
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	36.00	\$ 2,195.42
Plastic Filter Fabric (SY)	\$ 5.72	36.00	\$ 206.06
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total	\$ 5,452.66
-----------------------	-------------

Construction Cost Total	\$ 154,607.66
-------------------------	---------------

Traffic Control (8% of Construction Total \$)	\$ 12,368.61
---	--------------

Construction Cost Grand Total	\$ 166,976.27
-------------------------------	---------------

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	0.00	\$ -
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	0.00	\$ -
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Gas				
4" main	\$ 16.50	\$ 66.00	0.00	\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Relocate Fire Hydrant (EA)		\$ 2,609.22	0.00	\$ -
Sewer				
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ -

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	0.00	\$ -
ROW Total			\$ -

General Information		Map	
Project ID			
Street Name	120 Shoal Creek Rd.		
Site Visit Date	5/21/13		
Road Classification	Internal Local		
Project Notes			
Rural Typical Section			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-10'		
Existing Shld Width (paved and grass) (feet)	2' Grass		
Existing Side Slopes	2:1		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	3		
Pipe Type and Size	3-96" CMP		
Pipe Condition (1-5) (1 is new)	3		
Condition Notes:			
Pavement Type/Condition	Asphalt/Good		
Environmental Features		Stage Construction Options	
Wetlands	Yes	Close Location to Traffic	
Ditches	None	Maintain One Lane - No Temp Pavement	X
Contrib. Stream (2)		Maintain One Lane - Temp Pavement	
		Stage Construction Notes:	
Utilities (Visual Inspection)			
Electric	Aerial		
Cable	Buried		
Phone	Aerial		
Gas	None		
Water	None		
Sewer	None		
Other			
Proposed Design			
Roadway Section	Replace in kind		
Proposed Design	Triple 8' x 8' box culvert		
Utility Relocations	Telephone and Cable		
Guardrail Replacement	Guardrail may be needed based on culvert length		
Miscellaneous Features	Zone A, Floodplain Analysis Required		
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% Construction Cost and surveying needs	\$42,264	
Right of Way Cost	Assuming project extends 3,750 sf beyond ROW	\$15,000	
Utility Relocation Cost	Buried phone and cable	\$10,725	
Construction Cost	1/3 acre clearing and grubbing, Guardrails	\$297,641	
Environmental Permits	Permits, Zone A Floodway Analysis	\$15,000	
Total Planning Estimate		\$380,630.36	



Photo 1:



Photo 2:

120 Shoal Creek Road

Photo Date:

5/21/2013

Taken By:

David King

Page:

1



Photo 3:



Photo 4:

120 Shoal Creek Road

Photo Date:

5/21/2013

Taken By:

David King

Page:

2

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	1,040.00	\$ 5,829.55
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	0.00	\$ -
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	104.00	\$ 5,613.50
End Anchorage (EA)		\$ 1,380.00	4.00	\$ 5,520.00
Subtotal				\$ 16,963.05

Grading Complete (5% of Rwy Items & Drng Total \$)	\$ 11,996.39
--	--------------

Roadway Total	\$ 28,959.44
---------------	--------------

Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	755.56	\$ 7,842.67
96" CMP (LF)	\$ 63.00		70.00	\$ 13,230.00
96" RCP		\$ 455.00	0.00	\$ -
Class A Conc (CY)		\$ 892.19	184.86	\$ 164,929.87
Steel (lb)		\$ 1.42	19,942.00	\$ 28,237.87
Pipe Bedding (CY)		\$ 48.60	50.10	\$ 2,434.86
Trench Backfill (CY)		\$ 2.99	778.79	\$ 2,327.02
Trench Compaction (CY)		\$ 6.36	623.03	\$ 3,962.48

Drainage Total	\$ 222,964.77
----------------	---------------

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	0.00	\$ -

Signing and Marking Total	\$ -
---------------------------	------

Staging	Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)	\$ 10,260.00	0.33	\$ 3,385.80
Temporary Pavement			\$ -
Temporary Drainage (Stream Diversion)	\$ 4,428.00	2.00	\$ 8,856.00

Staging Total	\$ 12,241.80
---------------	--------------

Erosion Control	Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)	\$ 4.39	86.67	\$ 380.64
Temporary Grassing (AC)	\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)	\$ 4.24	500.00	\$ 2,118.00
Check Dam Type C Silt Fence (LF)	\$ 6.79	500.00	\$ 3,396.00
Erosion Control Mats (SY)	\$ 1.87	166.67	\$ 312.00
Landscape Mulch (SY)	\$ 3.58	166.67	\$ 596.00
Perm Grassing (AC)	\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)	\$ 60.98	69.33	\$ 4,228.22
Plastic Filter Fabric (SY)	\$ 5.72	69.33	\$ 396.86
4" Ditch Paving (SY)	\$ 54.65	0.00	\$ -

Erosion Control Total	\$ 11,427.73
-----------------------	--------------

Construction Cost Total	\$ 275,593.74
-------------------------	---------------

Traffic Control (8% of Construction Total \$)	\$ 22,047.50
---	--------------

Construction Cost Grand Total	\$ 297,641.24
-------------------------------	---------------

Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00		\$ -
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	0.00	\$ -
Phone				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	75.00	\$ 5,362.50
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50		\$ -
Buried	\$ 16.50	\$ 55.00	75.00	\$ 5,362.50
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 10,725.00

Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement	\$ 4.00	3,750.00	\$ 15,000.00
ROW Total			\$ 15,000.00

General Information		Map	
Project ID			
Street Name	261 Trickum Creek Rd		
Site Visit Date	6/11/13		
Road Classification	County Local		
Project Notes			
Rural Typical Section			
Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-10'		
Existing Shld Width (paved and grass) (feet)			
Existing Side Slopes			
Existing Guardrail			
Depth fm Pavement to Top of Culvert (ft):			
Pipe Type and Size	3- 7' CMP, 70'		
Pipe Condition (1-5) (1 is new)	2		
Condition Notes: No Headwall			
Pavement Type/Condition	Gravel/Fair		
Environmental Features		Stage Construction Options	
Wetlands	Yes	Close Location to Traffic	X
Ditches	None	Maintain One Lane - No Temp Pavement	
		Maintain One Lane - Temp Pavement	
		Stage Construction Notes:	
Utilities (Visual Inspection)			
Electric	Aerial		
Cable	Aerial		
Phone	Aerial		
Gas			
Water			
Sewer			
Other			
Proposed Design			
Roadway Section	Road dimensions from Google Earth		
Culvert Size & Material	Triple 8' x 5' box culvert, 70'		
Utility Relocations	Utility poles, aerial electric, cable, phone		
Guardrail Replacement			
Miscellaneous Features	Zone AE with Floodway, Floodplain Analysis Required		
Planning Cost Estimate			
Type	Notes	Total	
Design	Includes 10% Construction Cost and surveying needs	\$38,381	
Right of Way Cost	Assuming project extends 3,000 sf beyond ROW	\$15,675	
Utility Relocation Cost	Utility poles, aerial utilities	\$15,675	
Construction Cost	Assuming 1/5 acre clearing and grubbing	\$258,810	
Environmental Permits	Permits, Floodplain Analysis	\$18,000	
Total Planning Estimate		\$346,541	

Trickum Creek Road



Photo 1:



Photo 2:

Photo Date:

5/21/2013

Taken By:

David King

Page:

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73	\$ 4.87	1,144.00	\$ 6,412.50
Temporary Gravel Road (SY)		\$ 15.42	222.22	\$ 3,426.67
Curb and Gutter (LF)	\$ 28.56	\$ 30.60	20.00	\$ 1,183.20
Drain Inlet (EA)		\$ 3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ 13.56	\$ 36.90	0.00	\$ -
Guardrail (LF)	\$ 4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)		\$ 1,380.00	0.00	\$ -
Subtotal				\$ 11,022.37
Grading Complete (5% of Rwy Items & Drng Total \$)				\$ 10,385.83
Roadway Total				\$ 21,408.20
Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	881.48	\$ 9,149.78
84" CMP (LF)	\$ 63.00		210.00	\$ 39,690.00
84" RCP		\$ 455.00	0.00	\$ -
Class A Conc (CY)		\$ 892.19	132.51	\$ 118,223.83
Steel (lb)		\$ 1.42	13,383.00	\$ 18,950.33
Pipe Bedding (CY)		\$ 48.60	69.30	\$ 3,367.98
Trench Backfill (CY)		\$ 2.99	905.44	\$ 2,705.46
Trench Compaction (CY)		\$ 6.36	724.35	\$ 4,606.88
Drainage Total				\$ 196,694.26
Signing and Marking		Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)		\$ 0.71	0.00	\$ -
Signing and Marking Total				\$ -
Staging		Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)		\$ 10,260.00	0.20	\$ 2,052.00
Temporary Pavement				\$ -
Temporary Drainage (Stream Diversion)		\$ 4,428.00	2.00	\$ 8,856.00
Staging Total				\$ 10,908.00
Erosion Control		Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)		\$ 4.39	138.67	\$ 609.02
Temporary Grassing (AC)		\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)		\$ 4.24	420.00	\$ 1,779.12
Check Dam Type C Silt Fence (LF)		\$ 6.79	420.00	\$ 2,852.64
Erosion Control Mats (SY)		\$ 1.87	140.00	\$ 262.08
Landscape Mulch (SY)		\$ 3.58	140.00	\$ 500.64
Perm Grassing (AC)		\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)		\$ 60.98	69.33	\$ 4,228.22
Plastic Filter Fabric (SY)		\$ 5.72	69.33	\$ 396.86
4" Ditch Paving (SY)		\$ 54.65	0.00	\$ -
Erosion Control Total				\$ 10,628.59
Construction Cost Total				\$ 239,639.05
Traffic Control (8% of Construction Total \$)				\$ 19,171.12
Construction Cost Grand Total				\$ 258,810.17
Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Electric				
Aerial	\$ 11.00	\$ 55.00	100.00	\$ 6,600.00
Buried	\$ 16.50	\$ 82.50	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00	2.00	\$ 1,375.00
Phone				
Aerial	\$ 11.00	\$ 27.50	100.00	\$ 3,850.00
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Cable				
Aerial	\$ 11.00	\$ 27.50	100.00	\$ 3,850.00
Buried	\$ 16.50	\$ 55.00	0.00	\$ -
Wooden Pole	\$ 82.50	\$ 605.00		\$ -
Gas				
4" main	\$ 16.50	\$ 66.00		\$ -
Water				
8" main	\$ 16.50	\$ 93.50	0.00	\$ -
Relocate Fire Hydrant (EA)		\$ 2,609.22		\$ -
Sewer			0.00	\$ -
12" main	\$ 16.50	\$ 82.50	0.00	\$ -
Utility Relocation Total				\$ 15,675.00
Right of Way (Sq Ft)	Cost/ Sq Ft	Sq Ft	Total Cost	
Permanent Easement	\$ 4.00	3,000.00	\$ 12,000.00	
ROW Total				\$ 12,000.00

