Disclaimer

This Project Manual was last updated on December 21, 2016. On this date, the material enclosed within the Project Manual contains 2017 SPLOST information for Fayette County, Peachtree City, Fayetteville, Tyrone and Brooks.

Fayette County project information is also listed on the County's website. As projects are updated, the Project Manual and website will be updated.

The information within the Project Manual covering Peachtree City, Fayetteville, Tyrone and Brooks was obtained from the governing municipality. The SPLOST information is contained herein for the benefit of public knowledge, and the data is updated to the County's best knowledge. As updates are released, Fayette County will strive to keep the information updated. For more information, please contact the specific municipality.

City of Peachtree City

151 Willowbend Road

Peachtree City, Georgia 30269

Phone: 770-487-7657

Website: http://www.peachtree-

city.org/

Town of Tyrone

881 Senoia Road

Tyrone, Georgia 30290 Phone: 770-487-4038

Website: http://tyrone.org/

City of Fayetteville

240 S. Glynn Street

Fayetteville, Georgia 30214

Phone: 770-461-6029

Website: http://fayetteville-ga.gov/

Town of Brooks

961 Highway 85 Connector Brooks, Georgia 30205

Phone: 770-719-7666

Website: http://www.brooksga.com/



"WHERE QUALITY IS A LIFESTYLE"



2017 SPLOST Information

SPLOST 2017

Where Quality is a Lifestyle

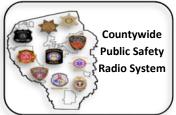
Transportation - Stormwater - Public Safety Radio System - Fire & EMS - Woolsey

www.fayettecountyga.gov/SPLOST-2017.htm









Fayette County's Board of Commissioners approved a referendum for a one-cent special purpose local option sales tax (SPLOST) that will fund transportation, stormwater infrastructure, public safety, and facilities. If approved by the voters on March 21, 2017, the tax will be collected from July 1, 2017 to June 30. 2023.

This is an official publication of the Fayette County Board of Commissioners.

Charles Oddo, Chairman – District 5 (At-Large)

Randy Ognio, Vice Chairman – District 2

David Barlow, Commissioner – District 1

Steve Brown, Commissioner – District 3

Charles Rousseau, Commissioner – District 4

Steven Rapson, County Administrator

Investing in our Quality of Life

- Stormwater
 Infrastructure
- Transportation
- Public SafetyRadio System
- Fire & EMS
 - o Station #4
 - o Fire Pumper
 - Training
- Woolsey
 Community Center

2017 SPLOST Distribution

Fayette County	\$64,646,530
Peachtree City	\$45,472,835
Fayetteville	\$21,098,538
Tyrone	\$ 9,102,463
Brooks	\$ 693,791
Total	\$141,014,157

Where Quality is a Lifestyle

2017 Fayette County SPLOST

INTRODUCTION

Fayette County voters will decide whether or not to approve a 1% (or 1¢) SPLOST (Special Purpose Local Option Sales Tax) during the March 21, 2017, Special Election.

The ballot will ask voters the following question (final language will be determined by the Fayette County Board of Commissioners):

() YES Shall a special 1 percent sales and use tax be imposed in the special district of
 Fayette county for a period of time not to exceed six years and for the raising of
 an estimated amount of \$141,014,157 for the purpose of county and municipal
 capital projects?

The language that will appear on the ballot is specified by the State, but terms like "roads," "public safety," and "stormwater/infrastructure" represent a tremendous investment in many projects that impact those who live in Fayette County. This project manual will detail the specific projects proposed by the Board of Commissioners so that our voters will know what their investment will yield.

SPLOST Defined

The acronym SPLOST stands for "Special Purpose Local Option Sales Tax" and is a specific tax rate for a specific period of time. Counties and cities can use SPLOST funds for specific capital projects.

If the 2017 SPLOST is approved by voters, the sales tax in Fayette County will increase 1° , from 6° on every dollar spent to 7° . Currently Fayette County is one of only seven counties in Georgia (out of 159) to have a sales tax less than 7° .

In Georgia, the State receives 4¢ of the sales taxes collected in every county. A 1¢ Local Option Sales Tax (LOST) is shared among a county and any of its municipalities based on an agreed-upon formula. LOST funds can be used by local governments as part of their General Fund operating expenses. Fayette County also has a 1¢, voter-approved E-SPLOST, which is invested solely for use by the Board of Education. This comprises our current 6¢ Local Option Sales Tax.

Of the counties immediately surrounding Fayette County, Clayton collects an 8¢ sales tax while Coweta, Spalding, Fulton, DeKalb, Henry, and Pike Counties all collect 7¢. This is important because the extra penny of sales taxes fund only projects in the counties in which they are collected, no matter where the buyer paying the tax lives. With Fayette County having a lower sales tax than the surrounding areas, we lose tax revenue every time a Fayette County resident shops or eats out in another County, because we cannot recoup that tax when residents of other counties dine or shop here.

If approved by the voters, the 2017 SPLOST will be invested in capital projects throughout the County in the areas of transportation, public safety, infrastructure, and facilities. The projects will be defined in an intergovernmental agreement that included the specific list of projects for each city and the County.

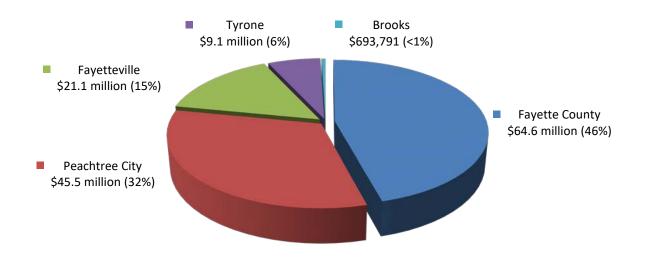
SPLOST Distribution

Fayette County and the municipalities of Brooks, Fayetteville, Peachtree City, and Tyrone will share the SPLOST proceeds based on population. Each jurisdiction has identified its own list of projects to be built with the funds raised. An intergovernmental agreement allocated the estimated revenues from a 6-year SPLOST as follows:

2017 SPLOST Distribution

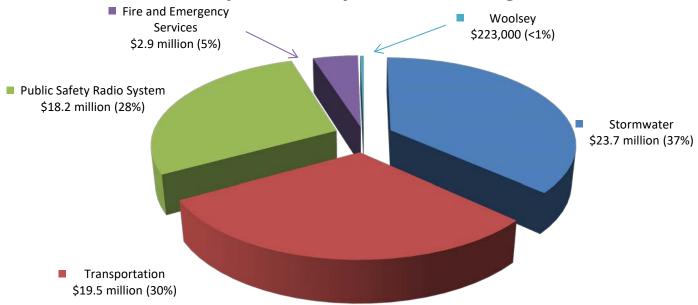
Fayette County	\$64,646,530
Peachtree City	\$45,472,835
Fayetteville	\$21,098,538
Tyrone	\$9,102,463
Brooks	\$693,791
Total	\$141,014,157

SPLOST Allocation



Fayette County has compiled a list of projects that represent a significant investment in the facilities and infrastructure that contribute to our quality of life. Many of the projects have been requested by the community (intersection improvements for traffic flow and roadway conditions), while others, such as relocation of fire station #4, enhancement of the public safety radio system, stormwater infrastructure, and community center for Woolsey, have been planned and needed for years without any identified funding source. The Stormwater Utility was created to help fund stormwater infrastructure repairs and replacements; however revenue collected from the Utility isn't enough to match the replacement needs of Fayette County. If approved by the voters, the Stormwater Utility would be discontinued. The recent recession also caused several years of delays for transportation enhancements and maintenance and the recently implemented Transportation Committee will be evaluating transportation projects in order to make recommendations to the Board of Commissioners of Fayette County as to the formulation of current and long-range plans for transportation issues within Fayette County. The SPLOST projects and designated funding fall into the following categories:





Without a SPLOST, funding these capital projects would require a significant property tax increase, significant increase to Stormwater Utility annual charges, significant cuts in other

programs, or multiple simultaneous modifications. The SPLOST allows Fayette County voters to choose whether to make this level of investment in our community, and comes from every shopping and dining in Fayette County, instead of being imposed only on those who own property and pay property taxes here. While property taxes are certainly an option for funding many of these projects, a significant property tax increase would result in Fayette County residents being the sole contributors to the capital projects, when the capital projects in Fayette County are being used daily by residents of other counties.

FAYETTE COUNTY PROJECT SUMMARY

Where Quality is a Lifestyle

This document outlines Fayette County's 2017 Special Purpose Local Option Sales Tax Projects. A brief description of the projects and anticipated funding requirements are outlined to address the needs for Stormwater, Transportation, Public Safety Radio System, Fire Station Relocation, and Woolsey Community Center. If approved, the SPLOST would be in effect for a six (6) year period from July 1, 2017, through June 30, 2023.

BUDGET SUMMARY

2017 SPLOST—Fayette County				
Category	Number of Projects	Total Cost		
Stormwater	238	\$23,741,641		
Category I—Flooding and Safety	20	\$6,451,657		
Category II—Stormwater Infrastructure Preservation	65	\$14,145,522		
Category II—Tier 1	14	\$3,705,373		
Category II—Tier 2	51	\$10,440,149		
Category III—Stormwater Infrastructure Preservation	153	\$1,651,211		
Category IV—Stormwater Improvement Projects	N/A	\$1,493,251		
Transportation	20	\$19,520,353		
Public Safety Radio System	1	\$18,211,536		
Fire and Emergency Services	3	\$2,950,000		
Woolsey	1	\$223,000		
Total	263	\$64,646,530		

2017 SPLOST SUMMARY

Stormwater - \$23,741,641

Fayette County owns and maintains miles of storm drainage pipe and associated drainage infrastructure for managing stormwater running under Fayette County Roads. Deteriorated, damaged, poorly maintained, and/or undersized pipes and structures, such as box culverts; gutters; swales, catch basins and inlets, can result in potentially serious safety, flooding and environmental problems. The drainage system improvements proposed in this SPLOST provide repair and replacement of drainage systems under and adjacent to roadways that have deteriorated to the point where they no longer function as intended.

Transportation - \$19,520,353

Various transportation projects in the unincorporated County are being identified that address safety, operational efficiency, maintenance, capacity and other issues. A portion of the money may be used as local match for large, federal-aid projects

Public Safety Radio System - \$18,211,536

The Fayette County Public Safety Radio System will be upgraded and/or replaced with a state of the art radio system for 911 and public safety first responders.

Fire and Emergency Services - \$2,950,000

Projects include the relocation and reconstruction of Station #4, replacement of a fire truck pumper, and initiate the beginning phase towards constructing a new fire training center, to provide better response times, service, safety, and training to Fayette County.

Woolsey - \$223,000

The historic mercantile building in the Town of Woolsey will be restored to a full service community center, for Town Hall Meetings, community uses for residents and visitors, and museum.



Stormwater



Canterbury Lane



Grande Court



December 2016

FAYETTE COUNTY STORMWATER INFRASTRUCTURE IMPROVEMENTS

Fayette County owns and maintains miles of storm drainage pipe and associated drainage infrastructure for managing stormwater running under Fayette County Roads. This is comprehensively referred to as the Municipal Separate Storm Sewer System and includes items such as: storm drainage pipes; box culverts; gutters; ditches, swales, catch basins and inlets.

A portion of the county's storm drainage infrastructure needs repairs or replacement due to deterioration of corrugated metal pipe that is approaching or exceeding its expected useful life. Deteriorated, damaged, poorly maintained, and/or undersized pipes and structures can result in potentially serious safety, infrastructure, flooding and environmental problems.

The drainage system improvements identified provides repair and replacement of drainage systems under and adjacent to roadways that have deteriorated to the point where they no longer function as intended.

Category I TOTAL \$6,451,659

<u>Flooding and Safety:</u> Replacement or rehabilitation of Stormwater Drainage Systems where failure or improper operation may result in loss of property or probable loss of human life. This includes drainage systems that were damaged during the 2015 Christmas Floods (FEMA Disaster Declaration 4259-DR) and dams classified by the Georgia Safe Dams program that are within Fayette County right-of-way. All projects listed in this category are in need of immediate replacement or have been replaced.

Category II TOTAL \$14,145,522

<u>Stormwater Infrastructure Preservation Projects Greater than \$25,000:</u> Deformation or damage of system may affect the drainage capacity or overall function of the structure. These projects have been subcategorized into Tier 1 and Tier 2.

Tier 1 projects are in need of immediate attention.

\$3,705,373

Tier 2 projects are projects that need replacement soon.

\$10,440,149

Category III TOTAL \$1,651,211

<u>Stormwater Infrastructure Preservation Projects Less than \$25,000:</u> Deformation or damage of system may affect the drainage capacity or overall function of the structure.

Category IV TOTAL \$1,493,249

Stormwater Improvement Projects: Stormwater drainage systems functional improvements.

SPLOST 2017 TOTAL \$23,741,641

Tetra Tech General Assumptions

- 1) Preliminary culvert designs are based on modeling scenario outputs from the HY-8 culvert hydraulic analysis program. A culvert was considered to perform adequately if 100% of flow resulting from a 25-year storm event passes through the culvert without overtopping the road surface. 25-year storm event flows were obtained for each site using the USGS StreamStats Program, which estimates event flows based on a given point's drainage area and relative proximity to existing USGS stream and rainfall gages.
- 2) Utility types, locations, and dimensions at each project site are based on street level visual inspections. No research, subsurface utility engineering (SUE) equipment or contact with utility owners was conducted. Utility relocation costs are based on previous Fayette County SPLOST planning level estimates of common sizes for each utility.
- 3) Easement cost estimates are based on the analysis of a collection of 2014 property sales in the Fayetteville, Georgia area using prices and lot sizes available on the Fayette County Tax Assessors' Office website and the Fayette County GIS portal. A conservative cost of \$4/SF has been applied to the land that is presumed to lie outside of the County's right of way (ROW) for each project's limit of disturbance. This value should account for potential market appreciation over the life of a SPLOST program and the planning level nature of the estimates. Full property appraisal at each location will be required once detailed plans are available.
- 4) Road classifications were obtained from the Fayette County GIS portal. No distinction was made regarding street design standards and specifications. For costing purposes, an asphaltic concrete paving profile was used consisting of a 6" stone base, 3" binder course, and 3" of topping.
- 5) Construction line item costs were assembled from two sources: GDOT's 2015 Item Mean Summary, and the RS Means CostWorks software program using 2015 Cost Data for Atlanta area zipcodes beginning with 302. Unit prices from both sources were increased by 20% to account for small project size, mobilization/demobilization of construction equipment, hauling and disposal costs, and the overall planning level nature of the estimates. Any other construction cost assumptions are noted on individual project sheets.
- 6) Traffic control cost percentage estimates are based on street classification, roadway closure possibility, and the need for public awareness/involvement during construction. Detailed analysis of staging schemes regarding the public use of roads during construction will be required for each site.
- 7) The applied design cost for each site consists of a combination of 10% of the estimated construction cost, an assumption usually reserved for larger projects, and a cost for surveying requirements. Surveying cost estimates stem from previous surveying efforts for culvert construction in Fayette County. A baseline surveying cost of \$5,000 was applied to each site. For project sites designed to handle higher flows and/or those inside FEMA Zone AE (floodway) and Zone A special flood hazard areas, a surveying cost of \$12,500 was applied.

8) Environmental efforts are anticipated to be minimal due to the nature of the projects (perpendicular crossing/maintenance project classification) and include wetland delineation, compliance with stream buffers, and minimal permitting. Projects are assumed to be exempt from the Georgia EPD stream buffer variances on the basis of a drainage structure exemption. In addition, projects are assumed to fall under a Nationwide Permit 3A (Maintenance Activity). No ecological investigations were completed for this planning level effort and will be required at the time of the projects to assess actual environmental impacts and costs.

It is assumed that floodplain modeling will be required for all crossings in FEMA-designated Zone AE (floodway) and Zone A special flood hazard areas, but that the crossings will be designed to comply with FEMA requirements for no-rise scenarios. No map revision submittals to FEMA are included in the cost estimates. The FEMA studies are included in the cost estimates. The FEMA studies are included in the environmental cost for each project to which this is anticipated to be required.

Cost levels of Environmental Analysis/Permitting:

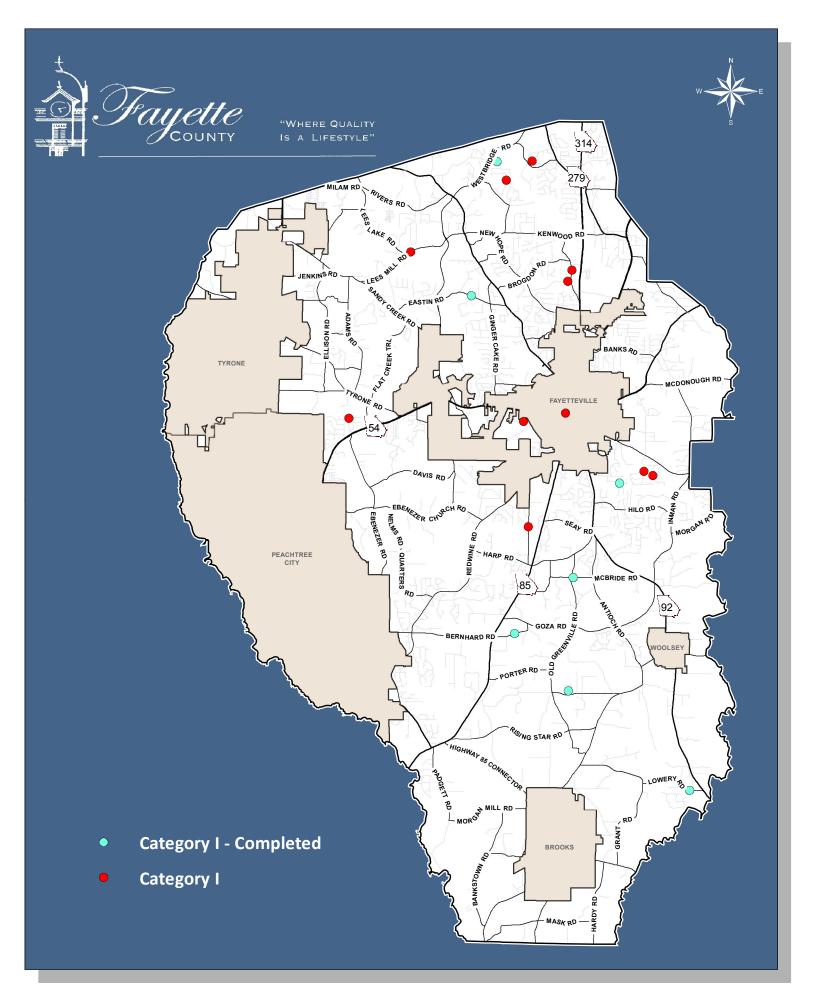
\$10,000: minimal environmental efforts as described above.

\$15,000: minimal environmental efforts, FEMA Zone A study required, culvert

\$18,000: minimal environmental efforts, FEMA Zone AE study required, culvert

\$20,000: minimal environmental efforts, FEMA Zone A/AE study required, bridge

- 9) Pipe condition assessment categories:
 - 5: Severe structural damage; >10% loss of flow area; function of structure compromised and failure imminent
 - 4: Significant signs of exterior and structural deterioration; some loss of flow area
 - 3: Signs of exterior deterioration but structurally functioning
 - 2: Minor signs of deterioration; primary flow area in tact and functioning
 - 1: System performing as designed and in good condition



SPLOST 2017 Stormwater Improvements

CATEGORY I

PROJECT NAME	PROJECT DESCRIPTION	ESTIMATED COST
210 Antebellum Way	Antebellum Way is a one-way in and out street. Excessive pipe damage, due to Christmas Flood event severely impaired stream flow and caused upstream flooding. Double 84 indiameter corrugated metal pipes are bent, restricting flow and are washing out around the inlets. This project includes design and construction to replace with a larger system, possibly box culverts.	\$481,581
104 Broom Blvd	This project will replace an existing 36-inch corrugated metal pipe with double 8' x 5' concrete box culverts. The system and road were damaged during the December 2015 floods. Temporary repairs were made to keep the road open but pipe replacement is needed for structural and capacity issues. Broom Blvd. is the sole access for 13 homes.	\$387,880
Emerald Lake Dam	Emerald Lake Dam is a Georgia Safe Dams Program Category II structure located predominantly within Fayette County Right-of-Way. Work is needed to address flow capacity and structural integrity issues. The project includes design, permitting, and construction of a new labyrinth spillway and associated roadwork. As of January 2016, design work is 80% complete. New cost estimate of \$2,064,000 is based on 20% increase of Engineer's Order of Magnitude estimate. Price increase is due to identification of poor subsoils, which require more excavation and a more complicated traffic management plan.	\$2,064,000
287 Graves Road	Road and shoulder washed out around a 60 in. diameter corrugated metal pipe during the 2015 Christmas floods. The proposed design to address capacity problems is to replace the metal pipe with a 10 ft. X 5 ft. reinforced concrete box culvert.	\$293,538
Heritage Park Way	Heritage Park Way is the only road owned by Fayette County that is located in Fayetteville city limits. This project will replace a failing 60-in diameter corregated metal pipe that connects to stormwater pipe under State Route 85 and a failing 18-in diameter cross pipe that is also part of the system. The proposed design will address flooding issues that routinely occur on Heritage Park Way.	\$98,397
Kozisek Dam	Kozisek Dam is a Safe Dams Program Category I structure adjacent to and possibly partially within the County Right-of-Way for Neely Road. The project includes evaluation, design, permitting, and construction of necessary improvements and changes to Neely Road to ensure it safely passes design flows and to remove any County liability/ownership that may be associated with Kozisek Dam.	\$250,000
413 Lees Mill Rd	During the 2015 Christmas flood event Tar Creek came above and covered three, 72-inch diameter pipes causing excessive damage. This project will consist of evaluation, design and construction to upsize the drainage capacity to allow passage of the 100 year storm event. This project is located in FEMA Zone AE and a large water main is located near the pipes as well.	\$511,849

CATEGORY I

PROJECT NAME	PROJECT DESCRIPTION	ESTIMATED COST
Longview Dam	Longview Dam (AKA Margaret Phillips Lake Dam) is a Safe Dams Program Category I structure located within the Fayette County Right-of-Way of Longview Road. The project consists of performing the necessary evaluation, design, permitting, and construction to bring the structure into compliance with the Georgia Safe Dams Act of 1978. There are two options to do so: upgrade the dam or breach the dam. A 2013 Order of Magnitue cost estimate to upgrade the dam is provided. The preferred option of breaching the dam would be less. However, it is unknown at this time which option will be institued, a estimate of half the cost to upgrade the dam is listed.	\$704,907
330 Oak St	Located in the County portion of Deep Forest subdivision. This project includes performing design, permitting and construction of upgrades to an Oak Street cross-drain to reduce the risk of flooding.	\$78,506
Old Senoia Rd	Three 96 in. diameter corrugated metal pipes draining Perry Creek. Pipe bottoms have failed and washout underneath the road occurred during the Christmas Flooding event. Temporary corrections made to allow both lanes to function. Project includes evaluation, design, environmental permitting and construction of replacement. Evaluation will include possible bridge design. Estimate based on 2013 possible bridge design adding 15 percent for increased costs and flood repair costs incurred by the county.	\$668,572
121 Rising Star Rd	During the December 2015 floods, these two, 72-inch diameter corrugated metal pipes located near the intersection with Brooks-Woolsey Road, were damaged, jeopardizing the integrity of the road and utilities. Temporary measures were taken to reopen the road but pipe replacement is required. This project consists of evaluation, design and construction of an upsized system. The design is complicated by backwater conditions caused by the drainage system under Brooks Woolsey Road.	\$449,143

CATEGORY I

PROJECT NAME	COMPLETED PROJECT DESCRIPTION	Cost
228 Bernhard Rd	Washout around an undersized 36 in. diameter corrugated metal pipe inlet caused shoulder and pipe failure. Temporary repairs measures allows for continued road use but pipe replacement is needed. This projects consists of replacing the current pipe with a42 in. reinforced concrete pipe and headwalls.	\$44,947
Brittany Way	Project completed in 2014. Work included installation of a new 6'x4' box culvert.	\$67,432
105 Canterbury Ln	On Christmas Eve 2015, approximately 60 homes within the Chanticleer Subdivision were without water and had no access to and from their homes when a 72-inch diameter corrugated metal pipe failed, collapsing the road. Emergency pipe replacement was complicated by needing equipment to install a large pipe and the emergency occurring over a holiday weekend. The work is complete.	\$101,636
110 Lawson Ln	Undersized pipes in Northridge Subdivision resulted in flooding of road, lots and several homes along Lawson Lane. This project, completed early 2015, replaced existing pipe and added additional drainage structures.	\$94,509
144 Lowery Rd	Washout around the 54 in. diameter corrugated metal pipe caused shoulder and pipe failure. Temporary measures installed allows for road use. This projects consists of replacing the current pipe with a 60 in. reinforced concrete pipe and headwalls.	\$44,523
456 McBride Rd	Washout around the 54 in. diameter corrugated metal pipe caused complete road failure on McBride Road west of Old Greenville Road. Temporary measures installed allows for road use. This projects consisted of installing a 54 in. reinforced concrete pipe and headwalls.	\$41,820
155 Westbridge Cir	Westbridge Circle is an internal local road within Westbridge Acres subdivision. A tributary to Morning Creek runs through the subdivision and under Westbridge Circle. During the 2015 Christmas and New Years flooding events two-36 in. diameter corrugated metal pipes failed causing immanent road failure. Emergency pipe replacement was required to maintain access to homes located "upstream" of the pipe crossing with no means of ingress or egress other than Westbridge Circle.	\$68,419
	CATEGORY I TOTAL	\$6,451,659

General In	formation		Мар
Project ID			
Street Name	210 Antebellum Way		
Site Visit Date	6/9/16		Sant Control of the
Road Classification	Internal Local		
Project	Notes		
SubdivisionTypical Section;			
		20	(多)
			企业工作
			LAMAR LN
			4: Antebellum
Field N			Way
Design (Existing		The state of the s	
Existing Road Laneage	2-12'		
Existing Shld Width (paved and g Existing Side Slopes	grass) (feet) 6' Grass 2:1		
Existing Guardrail			Tomber C. C.
Depth fm Pavement to Top of Cul	None None 3	AN EST	2
Pipe Type and Size	2 - 84" CMP		WIND CO.
Pipe Condition (1-5) (1 is new)	2 - 64 CIVIF	The state of the s	
Condition Notes:	4	KIND OF THE PARTY	
Condition Notes.			
Pavement Type/Condition	Asphalt/Good	VAI	
31		Stage	Construction Options
Environment	tal Features	Close Location to Traff	
Wetlands	No	Maintain One Lane - No	Temp Pavement
Ditches	No	Maintain One Lane - Te	mp Pavement
		Stage Construction Note	s:
Utilities (Visua			
Electric	Underground	_	
Cable	Underground	_	
Phone	Underground	-	
Gas	Underground	_	
Water	Underground	_	
Sewer	None	-	
Other	Dropos	and Decima	
	Propos	ed Design	
Roadway Section			
	Double 8' x 12' box culverts		
Proposed Design	200000000000000000000000000000000000000		
Hility Delegations	Electric, phone, water, cable, gas		
Utility Relocations			
Guardrail Replacement			
Caararan Replacement			
Miscellaneous Features	Catch Basins		
	Planning	Cost Estimate	
Type	Note		Total
Design	Actual Cost including Env	rironmental Permitting	\$61,805
Right of Way Cost			\$12,000
Utility Relocation Cost	Utility poles and ae		\$26,070
Construction Cost	1/2 acre clearing and g	rubbing, Guardrails	\$381,706
	Total F	Planning Estimate	\$481,581
		_	·







Photo 1:



Photo 2:

Photo Date:

1/05/2016

Taken By:

Tony Hicks

Page:

1

	Rer	moval Unit	li	nstallation Unit			
Roadway Construction		Cost		Cost	Amount	T	otal Cos
avement (SF)	\$	0.73	\$	4.87	1,536.00	\$	8,609.7
Curb and Gutter (LF)	\$	28.56	\$	30.60	40.00	\$	2,366.4
rain Inlet (EA)	æ	40.50	\$	3,000.00	2.00		6,000.
" Sidewalk (SY)	\$ \$	13.56 4.88	\$ \$	36.90 49.09	40.00 0.00		2,018.
uardrail (LF) nd Anchorage (EA)	Ф	4.00	\$	1,380.00	0.00	\$	-
ubtotal			φ	1,360.00	0.00		18,994.
irading Complete (5% of Rwy Items & Drng Total \$)						\$	11,456. 19.
oadway Total							30,470.
Drainage	Rer	moval Unit Cost	li	nstallation Unit Cost	Amount	Т	otal Co
rench Excavation (CY)	•		\$	10.38	586.67	\$	6,089.
4" CMP (LF)	\$	63.00	•	455.00	120.00		22,680.
6" RCP Class A Conc (CY)			\$ \$	892.19	0.00 166.90		48 QOA
lox Culvert Wingwalls, Parapetes (CY)			\$	892.19			82,795.
iteel (lb)			\$	1.42	16,626.20		
Pipe Bedding (CY)			\$	48.60	41.50		2,016.
rench Backfill (CY)			\$	2.99	521.17		1,557.
rench Compaction (CY)			\$	6.36	416.93		2,651.
rainage Total						\$2	90,237.
Signing and Marking			li	nstallation Unit Cost	Amount	Т	otal Co
ermanent Striping (LF)			\$	0.71	0.00	\$	-
igning and Marking Total						\$	-
Staging			lı	nstallation Unit	Amount	Т	otal Co
learing and Grubbing (Acre)			\$	Cost 10,260.00	0.50	\$	5,130.
emporary Pavement emporary Drainage (Stream Diversion)			\$	4,428.00	3.00	\$	13,284.
taging Total						\$	18,414.
Erosion Control			lı	nstallation Unit	Amount	Т	otal Co
			•	Cost			
Fine Grading and Seeding (SY) Femporary Grassing (AC)			\$ \$	4.39 855.60	36.00 0.00	\$ \$	140.
Type C Silt Fence (LF)			\$	4.24	660.00		2,795.
theck Dam Type C Silt Fence (LF)			\$	6.79	660.00		4,482.
Prosion Control Mats (SY)			\$	1.87	220.00		411.
andscape Mulch (SY)			\$	3.58	220.00		786.
Perm Grassing (AC)			\$	1,402.20	0.00		-
Rip Rap Type 3 12" (SY)			\$	60.98	85.33	\$	5,203.
Plastic Filter Fabric (SY)			\$	5.72	85.33		488.
" Ditch Paving (SY)			\$	54.65	0.00	\$	-
rosion Control Total						\$	14,310.
construction Cost Total						\$3	53,431.
raffic Control (8% of Construction Total \$)						\$	28,274.
construction Cost Grand Total						\$3	81,706.
Utility Relocation	Rer	moval Unit Cost	lı	nstallation Unit Cost	Amount	Т	otal Co
lectric erial	\$	11.00	\$	55.00	0.00	2	
	\$	16.50	\$	82.50	60.00		5,940.
uried	\$	82.50	\$	605.00	0.00		5,540.
	Ψ			- /		٠	
uried /ooden Pole hone	Ψ				0.00	\$	-
/ooden Pole	\$	11.00	\$	27.50	0.00		4,290.
/ooden Pole hone erial uried	\$	11.00 16.50	\$ \$	27.50 55.00	60.00	\$	
/ooden Pole hone erial uried	\$					\$ \$	-
/ooden Pole hone erial uried /ooden Pole able	\$ \$ \$	16.50 82.50	\$	55.00 605.00		\$	-
vooden Pole hone erial uried vooden Pole able erial	\$ \$ \$	16.50 82.50 11.00	\$ \$	55.00 605.00 27.50	60.00	\$	-
/ooden Pole hone erial uried /ooden Pole able erial uried	\$ \$ \$ \$	16.50 82.50	\$ \$ \$	55.00 605.00		\$	4,290.
/ooden Pole hone erial uried /ooden Pole able erial uried /ooden Pole	\$ \$ \$	16.50 82.50 11.00	\$ \$	55.00 605.00 27.50	60.00	\$	4,290.
Vooden Pole hone erial urried Vooden Pole able erial urried fooden Pole able erial vooden Pole vooden Pole	\$ \$ \$ \$ \$ \$	16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$	55.00 605.00 27.50 55.00 605.00	60.00	\$ \$ \$	-
Vooden Pole hone erial uried Vooden Pole able erial uried Vooden Pole able erial uried Vooden Pole ias " main	\$ \$ \$ \$	16.50 82.50 11.00 16.50	\$ \$ \$	55.00 605.00 27.50 55.00	60.00	\$ \$ \$	4,290. - 4,950.
Vooden Pole hone erial uried Vooden Pole able erial uried Vooden Pole able erial uried Vooden Pole as 'main Vater	\$	16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$	55.00 605.00 27.50 55.00 605.00	60.00 60.00	\$ \$ \$	4,950.
Vooden Pole hone erial urried Vooden Pole able erial urried Vooden Pole able erial voried Vooden Pole ias " main Vater " main	\$ \$ \$ \$ \$ \$	16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$	55.00 605.00 27.50 55.00 605.00 66.00	60.00	\$ \$ \$ \$	-
Vooden Pole hone erial uried Vooden Pole able erial uried Vooden Pole as ' main Vater ' main elocate Fire Hydrant (EA)	\$	16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$	55.00 605.00 27.50 55.00 605.00	60.00 60.00 60.00	\$ \$ \$	4,950.
Vooden Pole hone erial uried Vooden Pole able erial uried Vooden Pole as ' main Vater ' main elocate Fire Hydrant (EA) ewer	\$ \$ \$ \$ \$ \$ \$	16.50 82.50 11.00 16.50 82.50 16.50	\$\$ \$\$ \$\$	55.00 605.00 27.50 55.00 605.00 66.00 93.50 2,609.22	60.00 60.00 60.00 0.00	\$ \$\$\$ \$ \$\$	4,950.
looden Pole none prial uried looden Pole able prial uried ooden Pole as main ater main elocate Fire Hydrant (EA)	\$	16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$	55.00 605.00 27.50 55.00 605.00 66.00	60.00 60.00 60.00	\$ \$\$\$ \$ \$\$	4,950. 6,600.
dooden Pole none erial uried dooden Pole able erial uried dooden Pole as main ater main elelocate Fire Hydrant (EA) ever	\$ \$ \$ \$ \$ \$ \$	16.50 82.50 11.00 16.50 82.50 16.50	\$\$ \$\$ \$\$	55.00 605.00 27.50 55.00 605.00 66.00 93.50 2,609.22	60.00 60.00 60.00 0.00	\$ \$\$\$ \$ \$\$	4,950.

General I	nformation			Map
Project ID				
Street Name	Broom	o Blyd	Go ²	aRd .
				Kayla Dr
Site Visit Date	5/21		Sno	1
Road Classification	Minor	road	Snead Ro	
•	ct Notes			Rd of
Rural Typical Section			Old Greenvlie Rd. Nords Dr. Lynn Dr.	Baumer & Samer
Field	Notes		Chappell Ro	Woolsey Creek Til
	g Site Features)			Sey Cree
Existing Road Laneage	J ,	2 - 12'	\ \ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Mundsey Creek Tri
Existing Shld Width (paved an	d grass) (feet)	2	Hand Shaken	A Adan Or A And And And And And And And And And A
Existing Side Slopes		flat	and de	2 8 7
Existing Guardrail		None		Buch Lake Rd 2
Depth fm Pavement to Top of C	ulv ert (ft):	4	Rising StarRd	
Pipe Type and Size		3.5x2.5 egg CMP	7 /	~ / / /
Pipe Condition (1-5) (1 is new)		5	By R	
Condition Notes: crushed head	wall and pipe ent	rance	HuckabyRd	Malone Rd
Pav ement Type/Condition		Asphalt/Poor		
<u></u>			Stage	Construction Options
Env ironme	ntal Features		Close Location to Traff	ic
Wetlands			Maintain One Lane - No	Temp Pav ement
Ditches			Maintain One Lane - Te	mp Road X
			Stage Construction No	tes:
Hallaine Alies				
·	ual Inspection) Aer	iol		
Electric	Aer			
Cable	Aer			
Phone Gas	Aci	iai		
Water	Buri	ied		
Sewer	54	.00		
Other				
		Propose	d Design	
Roadway Section	Typical. For cos		emporary road consists of	f 8" gravel fill
Culvert Size & Material		_	-	2.5' eliptical CMP assumed equal to
	30 Touria Civi .	Cost of Terriovino	headwalls eassumed eq	ual to removal of entire length of pipe.
Utility Relocations	Cable, telephone	e, water		
Guardrail Replacement				
Miscellaneous Features	Upstream bend i	n stream adjace	nt to roadway may need ac	dditional bank stabilization
		Planning Co	est Estimate	
Type	T T	Notes		Total
Design	Includes 10%	Construction Co	st and surveying needs	\$38,940
Right of Way Cost	Assuming p	roject extends 12	2,000 sf beyond ROW	\$48,000
Utility Relocation Cost		Buried and aeria	ıl utilities	\$25,300
Construction Cost	acre clearing ar	nd grubbing, add	itional stabilzation/diversi	\$264,404
Environmental Permits and Engineer of Record Admin	Assuming mir	nimal environme	ntal permitting required	\$11,236
		Total Plai	nning Estimate	\$387,880
			J ==	, , - • •







Photo 1:



Photo 2:

Photo Date:

1/05/2016

Taken By:

Public Works

Page:

1

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction	Remov	al Unit Cost	Inst	allation Unit Cost	Amount	T	otal Cost
Pavement (SF)	\$	0.73	\$	4.87	432.00	\$	2,421.5
Curb and Gutter (LF)	\$	28.56	\$	30.60	0.00		2,721.0
Orain Inlet (EA)	•		\$	3,000.00	0.00		_
" Sidewalk (SY)	\$	13.56	\$	36.90	0.00	\$	-
Guardrail (LF)	\$	4.88	\$	49.09	625.00		33,735.0
ind Anchorage (EA)			\$	1,380.00	2.00		2,760.0
Subtotal				·		\$	38,916.5
Grading Complete (5% of Rwy Items & Drng Total	\$)					\$	9,676.6
Roadway Total						\$	49,963.1
Drainage	Remov	al Unit Cost	Inst	allation Unit Cost	Amount	То	tal Cost
rench Excavation (CY)			\$	10.38	373.33	\$	3,875.2
6" CMP (LF)	\$	19.62	*		140.00		8,240.4
6" RCP			\$	134.40	0.00	\$	-
Class A Conc (CY)			\$	892.19	132.51	\$1	18,223.8
Steel (lb)			\$	1.42	13,383.00	\$	18,950.3
Pipe Bedding (CY)			\$	48.60	48.00	\$	2,332.8
rench Backfill (CY)			\$	2.99	370.67	\$	1,107.5
rench Compaction (CY)			\$	6.36	296.53	\$	1,885.9
Orainaga Tatal						C 1	E 4 G 4 G 0
Orainage Total				-11-4' 11'4		φι	54,616.0
Signing and Marking			inst	allation Unit Cost	Amount		otal Cos
Permanent Striping (LF)			\$	0.71	72.00	\$	50.9
Signing and Marking Total						\$	50.9
Ota who w			Inst	allation Unit	A	_	-4-1-0
Staging				Cost	Amount	- 10	otal Cos
Clearing and Grubbing (Acre)			\$	10,260.00	0.20	\$	2,052.0
emporary Gravel Road (SY)			\$	15.42	977.78	\$	15,077.3
emporary Drainage (Stream Diversion)			\$	4,428.00	2.00	\$	8,856.0
Staging Total						\$	26,087.2
			Inst	allation Unit		_	
Erosion Control				Cost	Amount		otal Cos
ine Grading and Seeding (SY)			\$	4.39	92.00		404.0
emporary Grassing (AC)			\$	855.60	0.00		0.070.4
Type C Silt Fence (LF)			\$	4.24	560.00		2,372.1
Check Dam Type C Silt Fence (LF)			\$	6.79	560.00		3,803.5
Frosion Control Mats (SY)			\$	1.87	560.00		1,048.3
andscape Mulch (SY)			\$	3.58	560.00		2,002.5
Perm Grassing (AC)			\$	1,402.20	0.00		2 027 2
Rip Rap Type 3 12" (SY)			\$	60.98	48.00		2,927.2
Plastic Filter Fabric (SY)			\$	5.72	48.00		274.7
" Ditch Paving (SY)			\$	54.65	0.00	\$	-
rosion Control Total						\$	12,832.6
Construction Cost Total						\$2	43,550.0
raffic Control (8% of Construction Total \$)							19,484.0
County Emergency Roadway Work						\$	1,370.0
Construction Cost Grand Total						\$2	64,404.0
Utility Relocation	Remov	al Unit Cost	Inst	allation Unit	Amount	Te	otal Cos
Electric				Cost			
	\$	11.00	\$	55.00		\$	-
verial	\$	16.50	\$	82.50	0.00	\$	-
serial Buried						\$	-
verial Buried Vooden Pole	\$	82.50	\$	605.00		Ψ	
verial kuried Vooden Pole Yhone	\$	82.50	\$				
erial Suried Vooden Pole Hone erial	\$	82.50 11.00	\$	27.50	400.00	\$	7 150 0
verial Suried Vooden Pole Phone verial Buried	\$ \$ \$	82.50 11.00 16.50	\$ \$ \$	27.50 55.00	100.00	\$	7,150.0
uerial Buried Vooden Pole Phone Burial Buried Vooden Pole	\$	82.50 11.00	\$	27.50	100.00	\$	7,150.0
verial Suried Vooden Pole Phone verial Suried Vooden Pole Cable	\$ \$ \$	82.50 11.00 16.50 82.50	\$ \$ \$	27.50 55.00 605.00	100.00	\$ \$	7,150.0
verial Suried Vooden Pole Phone verial Suried Vooden Pole Zable Lerial	\$ \$ \$ \$	82.50 11.00 16.50 82.50 11.00	\$ \$ \$ \$	27.50 55.00 605.00 27.50		\$ \$ \$	-
verial Suried Vooden Pole Phone Verial Buried Vooden Pole Cable Verial Buried	\$ \$ \$ \$ \$ \$	82.50 11.00 16.50 82.50 11.00 16.50	\$ \$ \$ \$ \$	27.50 55.00 605.00 27.50 55.00	100.00	\$ \$ \$ \$	-
verial Suried Vooden Pole Phone Verial Suried Vooden Pole Cable Cable Vooden Pole Cable Vooden Pole Vooden Pole Vooden Pole Vooden Pole Vooden Pole Vooden Pole	\$ \$ \$ \$	82.50 11.00 16.50 82.50 11.00	\$ \$ \$ \$	27.50 55.00 605.00 27.50		\$ \$ \$	-
verial Suried Vooden Pole Phone verial Suried Vooden Pole Suried Suried Suried Vooden Pole Sable Verial Suried Vooden Pole Suried Suried Suried	\$ \$\$\$	82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ \$\$\$\$	27.50 55.00 605.00 27.50 55.00 605.00		\$ \$ \$ \$ \$ \$	7,150.0 - 7,150.0
serial Suried Vooden Pole Phone Serial Suried Vooden Pole Cable Suried Vooden Pole Cable C	\$ \$ \$ \$ \$ \$	82.50 11.00 16.50 82.50 11.00 16.50	\$ \$ \$ \$ \$	27.50 55.00 605.00 27.50 55.00		\$ \$ \$ \$	-
verial sturied Vooden Pole Phone verial Sturied Vooden Pole Cable verial Sturied Vooden Pole Cable verial Sturied Vooden Pole Sas "" main Vater	* *** *** *	82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ \$\$\$ \$\$\$	27.50 55.00 605.00 27.50 55.00 605.00	100.00	\$ \$ \$ \$ \$ \$	7,150.0
serial Suried Vooden Pole Phone Serial Suried Vooden Pole Cable Suried Suried Vooden Pole Cable Suried Vooden Pole Gas " main Vater " main	\$ \$\$\$	82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ \$\$\$ \$\$\$ \$	27.50 55.00 605.00 27.50 55.00 605.00 66.00		\$\$\$\$ \$\$\$\$ \$	7,150.0
serial suried Vooden Pole Phone serial suried Vooden Pole cable cable serial suried Vooden Pole cable serial suried Vooden Pole cas surie	* *** *** *	82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ \$\$\$ \$\$\$	27.50 55.00 605.00 27.50 55.00 605.00	100.00	\$ \$ \$ \$ \$ \$	-
verial sturied Vooden Pole Phone verial Sturied Vooden Pole Sable verial Sturied Vooden Pole Sable Vooden Pole Sas " main Vater " main Relocate Fire Hydrant (EA)	\$ \$ \$ \$ \$ \$ \$	82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ \$\$\$ \$ \$\$\$	27.50 55.00 605.00 27.50 55.00 605.00 66.00 93.50 2,609.22	100.00 100.00 0.00	\$\$\$ \$\$\$ \$	7,150.0 -
serial suried Vooden Pole Phone serial suried Vooden Pole cable cable serial suried Vooden Pole cable serial suried Vooden Pole cas surie	* *** *** *	82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ \$\$\$ \$\$\$ \$	27.50 55.00 605.00 27.50 55.00 605.00 66.00	100.00	\$\$\$\$ \$\$\$\$ \$\$\$\$	7,150.0 -
erial uried Vooden Pole hone erial uried Vooden Pole table erial uried Vooden Pole table erial uried Vooden Pole tas " main Vater " main Lelocate Fire Hydrant (EA) ewer 2" main	\$ \$ \$ \$ \$ \$ \$	82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ \$\$\$ \$\$\$ \$\$\$ \$	27.50 55.00 605.00 27.50 55.00 605.00 66.00 93.50 2,609.22	100.00 100.00 0.00	***	- 7,150.0 - - 11,000.0

WALDEN, ASHWORTH & ASSOCIATES, INC.

CONSULTING ENGINEERS



EMERALD LAKE DAM ORDER OF MAGNITUDE OPINION OF CONSTRUCTION COST 40 FT. LABYRINTH & RAISE DAM

Description	Quantity	Units	Unit Price	Cost			
40 FT. LABYRINTH & RAISE DAM							
Mobilization	1	LS	\$25,000.00	\$25,000			
Erosion Control	1	LS	\$20,000.00	\$20,000			
Clearing & Grubbing	1.5	AC	\$5,000.00	\$7,500			
Demolition of Roadway, Curbing, Flumes.etc.	1.0	LS	\$25,000.00	\$25,000			
Control of Water	1	LS	\$30,000.00	\$30,000			
Demolition of Riser, Control Box & Culverts	1	LS	\$20,000.00	\$20,000			
Demolish Riprap & Misc, Concrete	1	LS	\$10,000.00	\$10,000			
Slipline 30" CMP	140	LF	\$100.00	\$14,000			
Pressure Grouting Annulus	140	LF	\$190.00	\$26,600			
New Gate Structure	1	EA	\$15,000.00	\$15,000			
Under Drain Sand	40	TN	\$50.00	\$2,000			
Under Drain # 89 Stone	40	TN	\$39.50	\$1,580			
Under Drain # 57 Stone	90	TN	\$39.50	\$3,555			
Under Drain Pipe	400	LF	\$20.00	\$8,000			
Concrete	485	CY	\$1,000.00	\$485,000			
Earthwork	8,000	CY	\$10.00	\$80,000			
Grassing	8,300	SY	\$2.50	\$20,750			
Rip Rap	560	TN	\$80.00	\$44,800			
Blanket / Chimney Drain	1,750	TN	\$50.00	\$87,500			
Toe Drain	620	LF	\$80.00	\$49,600			
Toe Drain Outlets / Clean Outs	5	EA	\$2,500.00	\$12,500			
Roadway Construction (5" A + 8" G)	2,550	SY	\$27.00	\$68,850			
Bridge	1,764	SF	\$200.00	\$352,800			
SUBTOTAL				\$1,410,035			
GENERAL CONDITIONS (7%)				\$98,702			
OVERHEAD & PROFIT (15%)				\$211,505			
SUBTOTAL				\$310,208			
Total Estimated Construction Cost Budget				\$1,720,243			

The American Association of Cost Engineers recommends dividing engineering construction cost estimates into three basic categories: Order-of-Magnitude, Budget and Definitive Estimates. The Order of Magnitude Estimate is defined as follows:

This is an estimate made without detailed engineering data. Examples are estimate from cost-capacity curves, an estimate using scale-up or scale-down factors and an approximate ratio estimate. This type of estimate would be accurate within +50 percent to -30 percent.

COST ESTIMATE REVISION BY FAYETTE COUNTY

Order-of-Magnitude Construction Estimate from Walden, Ashworth and Associates Inc. \$1,720,243 Further excavation and more complicated traffic management - (+20%) \$343,757

\$2,064,000

TOTAL



Where Quality Is A Lifestyle

TO: Steve Rapson, County Administrator

FROM: Phil Mallon, Public Works

DATE: July 18, 2016

RE: Emerald Lake Dam – Options for Repair Update

Background

Emerald Lake Dam in the Woodlands Subdivision is classified by the Georgia Safe Dams Program as a Category 2 structure. It is approximately 600 feet long and impounds a 20-acre lake. Emerald Lake Drive is located on top of the dam and is the only means of ingress and egress for the 90+ homes within the subdivision. Fayette County owns and operates the dam.

Significant work is needed on the dam in a timely manner. The most pressing issue is active and on-going seepage erosion around the dam's principal spillway. Repair work is needed on these pipes immediately. Other maintenance and repair items include, but are not limited to: removal of vegetation, control of seepage, outlet stabilization, repair of riser pipe, and extension of the dam's back slope.

A long-term consideration is the future classification of the dam by the Georgia Safe Dams Program. County staff, third-party engineers, and the Safe Dams Program all believe a reclassification to Category 1 standards is likely. If this occurs, Fayette County would have to:

- Upgrade the dam;
- Breach the dam;
- Modify the dam to remove the downstream flood risk; or
- Remove or modify the downstream structures at risk.

Fayette County authorized Walden, Ashworth & Associates to serve as the "Engineer of Record" for this project and develop options for County review. Their findings are summarized below.

Findings

Walden collected field data from the dam and surrounding land, including a geotechnical investigation. They also reviewed the project's records and ran hydrology and hydraulic models for the watershed and outlet controls. Their work confirmed that the existing structure is

Mailing Address: 140 Stonewall Avenue West Main Phone: 770-460-5730 Web Site: www.fayettecounty ga.gov

designed to pass flows associated with the 24-hour, 10-year storm event. Larger storms will result in the dam being overtopped. That is, during any year, there is less than a 10 percent chance that the road will be overtopped and access limited (or prohibited) into and out of the subdivision.

Ultimately, four options were identified and an Order-of-Magnitude estimate was developed for each. Staff reviewed these options and narrowed the list to two alternatives.

Slip-line Existing Pipes & Install a Seepage Drain — This option addresses the immediate repair and maintenance needs of the dam. It includes clearing and grubbing, draining the lake, water control, slip-lining the five 80-ft long corrugated metal pipes (48" diameter each), pressure grouting around the pipes, installation of a new riser pipe, installation of comprehensive drain system, and stabilization. The estimated construction cost for this work is \$694,000.

Advantages of this option include a substantially lower cost, resolution of immediate structural issues, and minimal impacts to traffic during construction. This option, however, does not improve the hydraulic capacity of the dam; so the probability of the road being overtopped remains as it currently is. Furthermore, the work associated with slip-lining the pipes (approximately 25% of the total project cost) plus some of the grading, stabilization and other tasks would have to be modified or replaced if the dam is classified as a Category 1 structure in the future.

40-ft Labyrinth Weir & Raise Dam – This option also addresses the immediate repair and maintenance needs of the dam plus substantially increases the hydraulic capacity of the structure. Work items include: clearing & grubbing; draining the lake; water control; demolition of roadway, pipes, and concrete weir; construction of 40-ft labyrinth weir; placement of bridge over weir; roadway reconstruction; installation of a new riser pipe; installation of comprehensive drain system; and stabilization.

This option address immediate structural issues and substantially increases flow capacity of the dam. The new outlet control would be designed to meet Category 1 standards so no re-work of the outlet control and spillway is anticipated. This option also reduces the chance of road overtopping to less than 1 percent per year.

The original estimated construction cost for this work was \$1,720,000. The weir, bridge and road reconstruction account for over \$900,000. Further engineering design work has identified poor subsoils which will result in more excavation and a more complicated traffic management plan. Because of these issues a new estimate based on a 20 percent increase of the Engineer's Order of Magnitude estimate is advised. This increases the estimated cost from \$1,720,243 to an estimated \$2,064,000.

Recommendation

Staff recommends the 40-ft labyrinth weir option. Although nearly 2.5 times the cost this options provides the triple benefit of 1) repairing immediate needs; 2) reducing the probability of stranding homeowners during flood events; and 3) meeting Category 1 standards should they become applicable.

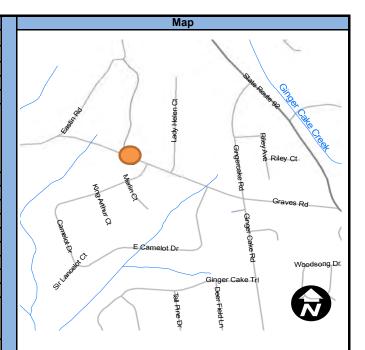
General Information				
Project ID				
Street Name	287 Graves Road			
Site Visit Date	1/05/16			
Road Classification Minor arterial				
Project	Notes			

Rural Typical Section

Design (Existing Site Features)				
Existing Road Laneage 2-1	12'			
Existing Shld Width (paved and grass) (feet) 2	<u>'</u>			
Existing Side Slopes 2:1 -	4:1			
Existing Guardrail No	ne			
Depth fm Pavement to Top of Culvert (ft):	6			
Pipe Type and Size 60" (CMP			
Pipe Condition (1-5) (1 is new)	5			

Condition Notes: No headwall; debris US, signs of rusting, DS bottom of pipe damaged, no significant structural loss

Pavement Type/Condition		Asphalt/Good			
_					
Environment	al Features				
Wetlands	None				
Ditches	Noted				
Utilities (Visua	I Inspection)				
Electric	A	erial			
Cable	Aerial				
Phone	Aerial				
Gas					
Water	Вι	ıried			
Sewer					
Other					



Stage Construction Options	
Close Location to Traffic	Х
Maintain One Lane - No Temp Pavement	
Maintain One Lane - Temp Pavement	

Stage Construction Notes: If cannot close then have one lane open; two driveways near culvert

Other			
		ed Design	
Roadway Section	Typical		
Culvert Size & Material	10' x 5' box, concrete, 70' length		
Utility Relocations	Electric, cable, phone, water		
Guardrail Replacement			
Miscellaneous Features			

Туре	Notes	Total
Design	Includes 10% Construction Cost and surveying needs	\$28,319
Right of Way Cost	Assuming project extends 2,000 sf beyond ROW	\$8,000
Utility Relocation Cost	Aerial and buried tilities	\$14,025
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$233,193
Environmental Permits	Assuming minimal environmental permitting required	\$10,000







Photo 1:

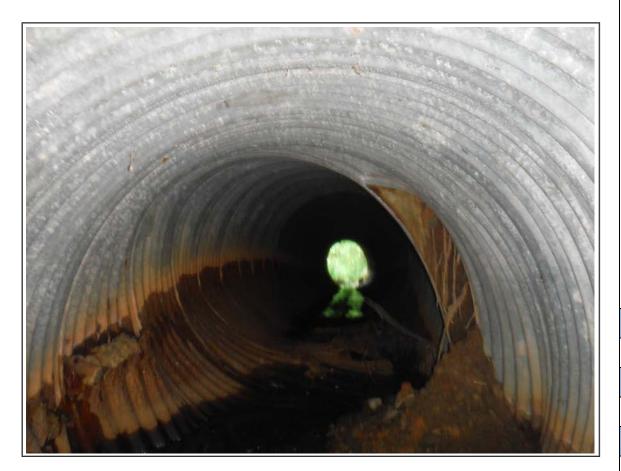


Photo 2:

12/29/2015

Taken By:

V.T. Birrell

Page:

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Roadway Construction	Rer	noval Unit Cost	Inst	tallation Unit Cost	Amount	Total C	ost
Pavement (SF)	\$	0.73	\$	4.87	288.00 \$	1,6	14.3
Curb and Gutter (LF)	\$	28.56	\$	30.60	0.00 \$		-
Orain Inlet (EA)			\$	3,000.00	0.00 \$		-
" 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					\$	1,6	14.3
Grading Complete (5% of Rwy Items & Drng Total	\$)				\$	9,7	31.5
Roadway Total					\$	11,3	45.9
Drainage	\$	5.00	Inst	tallation Unit Cost	Amount	Total C	ost
rench Excavation (CY)			\$	10.38	373.33 \$	3.8	375.2
60" CMP (LF)	\$	24.60	•	10.00	70.00 \$	-,-	66.0
0" RCP (LF)	•		\$	259.20	0.00 \$		
Class A Conc (CY)			\$	892.19	172.26 \$	153,6	88.3
Steel (lb)			\$	1.42	17,995.00 \$	25,4	80.9
Pipe Bedding (CY)			\$	48.60	32.00 \$	1,5	55.2
French Backfill (CY)			\$	2.99	402.67 \$	1,2	203.1
rench Compaction (CY)			\$	6.36	322.13 \$	2,0	48.7
Orainage Total					\$	193,0	175

Signing and Marking	Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)	\$ 0.71	48.00 \$	33.98
Signing and Marking Total		\$	33.98

Staging	Inst	allation 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			\$	5,521.97

Erosion Control	Inst	allation Unit	Amount	-	Total Cost
Elosion Control		Cost	Amount		i otai Cost
Fine Grading and Seeding (SY)	\$	4.39	61.33	\$	269.38
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	93.33	\$	174.72
Landscape Mulch (SY)	\$	3.58	93.33	\$	333.76
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				\$	6,000.35
Construction Cost Total				\$	215,919.80
Traffic Control (8% of Construction Total \$)				\$	17,273.58
Construction Cost Grand Total				\$	233,193.38

Utility Relocation	Removal Cost	Unit	Ins	tallation 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	\$ 8	32.50	\$	605.00	2.00 \$	1,375.00
Phone						
Aerial		11.00	\$	27.50	50.00	1,925.00
Buried	\$ 1	16.50	\$	55.00	0.00 \$	-
Wooden Pole	\$ 1 \$ 8	32.50	\$	605.00	Š	-
Cable						
Aerial	\$ 1	11.00	\$	27.50	50.00	1,925.00
Buried	\$ 1	16.50	\$	55.00	0.00	
Wooden Pole	\$ 1 \$ 8	32.50	\$	605.00	3	
Gas						
4" main	\$ 1	16.50	\$	66.00	5	
Water	•		•		,	
8" main	\$ 1	16.50	\$	93.50	50.00	5,500.00
Relocate Fire Hydrant (EA)	•		\$	2,609.22	5	
Sewer			*	_,	0.00	
12" main	\$ 1	16.50	\$	82.50	0.00 \$	-
Utility Relocation Total	Ť .		*	32.00	0.00	

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

General Information			
Project ID			
Street Name	Heritage Park Way		
Site Visit Date	6/9/2016		
Road Classification	Street		

Project Notes

Heritage Park Way is the only county-owned road in the City of Fayetteville and therefore, maintained by the County.

Field Notes				
Design (Existing Site Features)				
Existing Road Laneage	2-8'			
Existing Shld Width (paved and grass) (feet)	16'			
Existing Side Slopes				
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)	5			
Pine failure from junction boy at S Glynn Street and Heritage Park				

Pipe failure from junction box at S Glynn Street and Heritage Park Way. System ties into 18- in. diameter corregated metal cross pipe on Heritage, where flooding routinely occurs due insufficient pipe Pavement Type/Condition

Asphalt/Concret

Environment	tal Features
Wetlands	no
Ditches	no
State Waters	no

Utilities (Visua	al Inspection)
Electric	Unknown
Cable	Unknown
Phone	Unknown
Gas	Unknown
Water	Unknown
Sewer	
Other	Curb and gutter



Stage Construction Options				
Close Location to Traffic				
Maintain One Lane - No Temp Pavement	Х			
Maintain One Lane - Temp Pavement				

Stage Construction Notes:

Proposed Design		
Roadway Section	Street	
Culvert Size & Material	60" RCP with junction box; 24" RCP with double-wing catch basins	
Utility Relocations	Removal/replacement drain inlets, buried cable.	
Guardrail Replacement		
Miscellaneous Features	tree removal	

Planning Cost Estimate				
Туре	Notes	Total		
Design	10% of Construction Cost and any surveying needed	\$0		
Right of Way Cost		\$0		
Utility Relocation Cost	It is assumed all utilites will be relocated	\$41,899		
Construction Cost		\$56,498		
Environmental Permits		\$0		

Total Planning Estimate \$98,397



Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction		emoval nit Cost		stallation Jnit Cost	Amount		Total Cost
Pavement (SF)	\$	0.73	\$	4.87	154.00		863.2
Curb and Gutter (LF)	\$	28.56	\$	30.60	65.00		3,845.4
DWCB !" Sidewalk (SY)	\$	13.56	\$ \$	1,520.00 36.90	2.00 0.00	Ф	3,040.0
Guardrail (LF)	\$	4.88	\$	49.09	0.00		
nd Anchorage (EA)	•		\$	1,380.00	0.00		
Subtotal						\$	7,748.6
Grading Complete (5% of Rwy Items & Drng Tot	al \$)					\$	2,491.0
Roadway Total						\$	10,239.7
Drainage	Re	emoval	lr	stallation	Amount		Total Cost
· ·	Un	it Cost	\$	Jnit Cost		Φ.	4.059.7
Trench Excavation (CY) 10" CMP (LF)	\$	24.60	Ф	10.38	391.11 88.00	\$	4,059.7 2,164.8
O" RCP (LF)	Ψ	24.00	\$	223.12	88.00		19,634.5
4" RCP (LF)			\$	36.45	12.00		437.4
Class A Conc (CY)			\$	892.19	0.00	\$	-
Steel (lb)			\$	1.42	0.00		-
Pipe Bedding (CY)			\$	48.60	0.00		-
Trench Backfill (CY)			\$	2.99	5280.00		15,776.6
rench Compaction (CY)			\$	6.36	0.00	Ф	-
Prainage Total						\$	42,073.1
Signing and Marking				stallation Jnit Cost	Amount		Total Cost
Permanent Striping (LF)			\$	0.71	0	\$	-
Signing and Marking Total						\$	-
Steering			lr	stallation	A		Total Coot
Staging				Jnit Cost	Amount	•	Total Cost
Clearing and Grubbing (Acre) Comporary Pavement			\$	10,260.00		\$	-
emporary Pavement emporary Drainage (Stream Diversion)			\$	4,428.00		\$	-
omporary Bramago (Great Briefold)			•	1, 120.00			
staging Total						\$	
			İr	stallation			
Erosion Control			ı	Jnit Cost	Amount		Total Cost
ine Grading and Seeding (SY)			\$	4.39	0.00		-
Temporary Grassing (AC)			\$	855.60	0.00		-
Гуре C Silt Fence (LF) Check Dam Type C Silt Fence (LF)			\$ \$	4.24 6.79	0.00		
Erosion Control Mats (SY)			\$	1.87	0.00		-
.andscape 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) " Ditch Paving (SY)			\$ \$	5.72 54.65	0.00	\$ \$	-
rosion Control Total			_			\$	
Construction Cost Total						\$	52,312.8
raffic Control (8% of Construction Total							,
)						\$	4,185.0
Construction Cost Grand Total						\$	56,497.9
Utility Relocation		emoval nit Cost		stallation Jnit Cost	Amount		Total Cost
Electric		44.00	\$	55.00	0.00	\$	_
	\$	11.00		55.00	0.00	Ψ	8,712.0
erial	\$ \$			82 50	88 00	\$	
erial Buried	\$	16.50	\$	82.50 605.00	88.00 0.00		-
verial Buried Vooden Pole Phone				82.50 605.00	88.00 0.00		-
verial Buried Vooden Pole Phone	\$	16.50	\$			\$	-
verial Buried Vooden Pole	\$	16.50 82.50	\$ \$	605.00	0.00	\$	-
erial turied Vooden Pole Phone terial turied	\$ \$	16.50 82.50 11.00	\$ \$	605.00 27.50	0.00	\$ \$	-
erial turied Vooden Pole Phone terial turied	\$ \$ \$	16.50 82.50 11.00 16.50	\$ \$ \$	605.00 27.50 55.00	0.00 0.00 88.00	\$ \$	-
erial vuried Vooden Pole Phone erial suried Vooden Pole Cable	\$ \$ \$	16.50 82.50 11.00 16.50	\$ \$ \$	605.00 27.50 55.00	0.00 0.00 88.00	\$ \$ \$	-
verial Buried Vooden Pole Phone verial Buried Vooden Pole Cable verial	\$ \$ \$ \$ \$ \$	16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$	27.50 55.00 605.00	0.00 0.00 88.00 0.00	\$ \$ \$ \$	- 6,292.0 - -
erial uried /ooden Pole Phone erial uried /ooden Pole Cable erial uried	\$ \$ \$ \$ \$ \$ \$	16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$	605.00 27.50 55.00 605.00 27.50	0.00 0.00 88.00 0.00	\$ \$ \$ \$ \$	- 6,292.0 - -
erial suried Vooden Pole Phone erial suried Vooden Pole Cable suried Vooden Pole Gas	\$\$ \$\$\$ \$\$\$	16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$\$ \$\$\$ \$\$\$	27.50 55.00 605.00 27.50 55.00 605.00	0.00 88.00 0.00 0.00 50.00	\$ \$\$\$ \$\$\$	6,292.0 - - 3,575.0
Rerial Buried Vooden Pole Phone Rerial Buried Vooden Pole Cable Buried Vooden Pole Gas " main	\$ \$ \$ \$ \$ \$	16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$	605.00 27.50 55.00 605.00 27.50 55.00	0.00 88.00 0.00 0.00 50.00	\$ \$\$\$ \$\$\$	6,292.0 - 3,575.0 - 6,600.0
verial Suried Vooden Pole Phone Aerial Buried Vooden Pole Cable Aerial Suried	\$\$ \$\$\$ \$\$\$	16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$\$ \$\$\$ \$\$\$	27.50 55.00 605.00 27.50 55.00 605.00	0.00 88.00 0.00 0.00 50.00	\$ \$\$\$ \$\$\$	6,292.0 - - 3,575.0
Acrial Auried Vooden Pole Phone Acrial Buried Vooden Pole Cable Acrial Buried Vooden Pole Gas " main Water " main Sewer	\$\$\$ \$\$\$\$ \$	16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$\$ \$\$\$\$ \$	27.50 55.00 605.00 27.50 55.00 605.00 66.00 93.50	0.00 88.00 0.00 50.00 0.00 80.00	\$ \$\$\$ \$\$\$ \$	6,292.0 - 3,575.0 - 6,600.0 8,800.0
erial suried Vooden Pole Phone serial suried Vooden Pole Cable serial suried Vooden Pole Gas " main Water " main	\$\$ \$\$\$ \$\$\$	16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$\$ \$\$\$ \$\$\$\$	27.50 55.00 605.00 27.50 55.00 605.00 66.00	0.00 88.00 0.00 0.00 50.00 0.00	\$ \$\$\$ \$\$\$ \$	6,292.0 - - 3,575.0 - 6,600.0
erial uried //ooden Pole Phone erial uried //ooden Pole Cable erial uried //ooden Pole Gas " main Water " main Sewer 2" main	\$\$\$ \$\$\$\$ \$	16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$\$ \$\$\$ \$\$\$\$	27.50 55.00 605.00 27.50 55.00 605.00 66.00 93.50	0.00 88.00 0.00 50.00 0.00 80.00	\$ \$\$\$ \$\$\$ \$ \$ \$ \$	6,292.0 - - 3,575.0 - 6,600.0 8,800.0 7,920.0 41,899.0
erial uried Vooden Pole Phone erial uried Vooden Pole Cable erial uried Vooden Pole Gas " main Water " main Sewer 2" main	\$\$\$ \$\$\$\$ \$	16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$\$ \$\$\$ \$\$\$\$	605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00 93.50 82.50	0.00 88.00 0.00 50.00 0.00 80.00	\$ \$\$\$ \$\$\$ \$ \$ \$ \$	6,292.0 - - 3,575.0 - 6,600.0 8,800.0

Neely Road / Lake Kozisek Dam - Order of Magnitude Opinion of Cost

Kozisek Dam is a Safe Dams Program Category I structure adjacent to and possibly partially within Fayette County Right-of-Way for Neely Road. The project includes evaluation, design, permitting, and construction of necessary improvements and changes to Neely Road to ensure it safely passes design flows and to remove any County liability/ownership that may be associated with Kozisek Dam.

This is an Order of Magnitude Opinion of Cost and based solely on a visual inspection of the dam. No survey measurements, geotechnical evaluations, hydrologic or hydraulic analyses, material testing or other calculations were made in support of the Opinion of Cost other than the assumptions identified below.

A third-party Engineer was hired to develop the Opinion of Cost for the other two Dam projects included in the SPLOST list. The estimate for the Neely Road / Lake Kozisek Dam work was developed by County staff because of the greater uncertainty associated with the scope of this project. Several options are available for bringing this structure into compliance and the County's degree of involvement may change depending upon the final option selected.

The Kozisek Lake Dam is approximately 1,004 feet long, 26 feet in height and has a crest width of 12 feet. The drainage area to the dam is 430 acres (+/-).

Neely Road / Lake Kozisek Dam - Order of Magnitude Opinion of Cost

Description	Quantity	Units	Unit Price	Cost
Professional Services				
Surveying for Design				\$8,000
Geotechnical Exploration				\$5,000
Design and Preparation of Construction Documents				\$30,000
Preconstruction Notification (PCN) to USACOE				\$3,000
State Waters Buffer Encroachment Variance Application				\$1,000
Construction Administration Services ¹				\$7,000
Geotechnical Construction Monitoring ¹				\$10,000
Assumes two month construction monitoring				•
Subtota Construction Activities	I			\$64,000
Mobilization	1	LS	\$10,000	\$10,000
Traffic Control	1	LS	\$7,500	\$7,500
Erosion Control / Pollution Prevention	1	LS	\$8,000	\$8,000
Clearing & Grubbing	8.0	AC	\$5,000	\$4,000
Control of Water	1	LS	\$2,000	\$2,000
Concrete cross-drains under Neely Road	80	LF	\$315	\$25,200
Concrete Headwalls	2	EA	\$2,500	\$5,000
Earthwork	588	CY	\$15	\$8,820
Grassing	3872	SY	\$3	\$9,680
Rip Rap	250	TN	\$80	\$20,000
Paving	830	SY	\$60	\$49,800
Subtota	I			\$150,000
General Conditions (7%)				\$10,500
Overhead & Profit (7%)				\$10,500
(Overhead & Profit reduced from 15% since County expected to pe	rform substantial	amount of wo	ork in right-of-way	y)
Contingency (10%)				\$15,000
Subtota	I			\$36,000
Total Project Cost				\$250,000

Assumptions:

- 1. Clearing limits based on 60-ft road right-of-way, less existing asphalt.
- 2. Cross-drain costs based on twin 6' x 6' box culverts. Actual size to be determined.
- 3. Earthwork assumes average depth of 2 feet, with 4:1 side slopes.
- 4. "Paving" include demolition, base preparation, GAB, hauling and asphalt placement, etc.

General Information				
Project ID				
Street Name	Lees Mill Rd			
Site Visit Date	1/20/2016			
Road Classification	Rural			

Project Notes

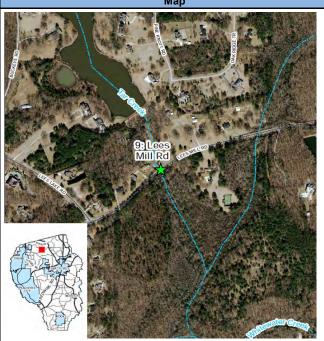
Culvert replacement alternatives to provide flow capacity for the 100 year storm peak runoff.

Field Notes				
Design (Existing Site Features)				
Existing Road Laneage	2-12'			
Existing ShId Width (paved and grass) (feet)				
Existing Side Slopes				
Existing Guardrail	No			
Depth fm Pavement to Top of Culvert (ft):	(+/-) 5.2'			
Pipe Type and Size	3 - 72" CMP			
Pipe Condition (1-5) (1 is new)	5			
Condition Notes: Existing culverts do not provide service for the 100				

Condition Notes: Existing culverts do not provide service for the 100 yr storm event.

Pavement Type/Condition

• •						
Environmental Features						
Wetlands	TBD					
Ditches	YES					
State Waters	YES					
Utilities (Visua	al Inspection)					
Electric	Aerial					
Cable	Unknown					
Phone	Unknown					
Gas	Underground					
Water	Underground					
Sewer	Underground					
Other						



	The second second second
Stage Construction Options	
Close Location to Traffic	Х
Maintain One Lane - No Temp Pavement	
Maintain One Lane - Temp Pavement	

Stage Construction Notes:
Assumed road closure

Other					
	Proposed Design				
Roadway Section	Typical				
Culvert Size & Material	2-8'X7' Concrete Box Culvert with associated wing walls and rip-rap.				
Utility Relocations	16" Waterline				
Guardrail Replacement					
Miscellaneous Features					

Asphalt/Good

	Planning Cost Estimate					
Type	Notes	Total				
Design	Actual Cost including Environmental Permitting and Eng of Record Administrative Fee	\$51,470				
Right of Way Cost	Assuming UPS/DWS ends extends past ROW 1/20 acre	\$17,424				
Utility Relocation Cost		\$132,521				
Construction Cost	Includes 1/8 acre clearing and grubbing, guardrail installation	\$310,434				
	Total Planning Estimate \$511,849					







Photo 1:



Photo 2:

1/05/2016

Taken By:

Tony Hicks

Page:

1





Photo 3:



Photo 4:

Photo Date:

12/24/2015

Taken By:

Homeowner

Page:

2

Roadway Construction		emoval		nstallation	Amount		Total Cost
Jovement (CE)		nit Cost		Unit Cost		•	
Pavement (SF) Curb and Gutter (LF)	\$ \$	0.73	\$ \$	4.87 18.42	1200.00 0.00		6,726.4
1" Sidewalk (SY)	\$	-	\$	36.90	0.00	Ψ	
Guardrail (LF)	\$	_	\$	49.09	110.00		5400.
End Anchorage (EA)	•		\$	1,380.00	4.00		55:
Subtotal						\$	17,646.5
Grading Complete (5% of Rwy Items & Drng To	otal \$)					\$	10,792.9
Roadway Total	σται ψ)					\$	28,439.4
·	Rí	emoval	lr	nstallation		_	·
Drainage		it Cost	- 1	Unit Cost	Amount		Total Cost
French Excavation (CY) 72" CMP (LF)	\$	54.00	\$	10.38	554.65 180.00	\$	5,757.3
2-8'X7' Box Culvert (CY)	φ	34.00	\$	892.19	154.98		9,720.0 138,271.6
Box Culvert Wingwalls, Parapetes (CY)			\$	892.19	20.82		18,575.4
Steel (lb)			\$	1.42	15023.40		21,333.2
Culvert Bedding (CY)			\$	48.60	32.60		1,584.3
French Backfill (CY)			\$	2.99	367.73		1,098.7
French Compaction (CY)			\$	6.36	294.18	\$	1,870.9
Drainage Total						\$	198,211.6
Signing and Marking				nstallation	Amount		Total Cost
Permanent Striping (LF)			\$	Unit Cost 0.71	50	\$	35.4
			_				
Signing and Marking Total						\$	35.4
Staging				nstallation Unit Cost	Amount		Total Cost
Clearing and Grubbing (Acre)			\$	10,260.00	0.13	\$	1,282.
Temporary Pavement					0.00		
Temporary Drainage (Stream Pump Around)			\$	30,000.00	1.00	\$	30,000.0
Staging Total						\$	31,317.9
			lr.	nstallation			
Erosion Control				Unit Cost	Amount		Total Cost
ine Grading and Seeding (SY)			\$	4.39	100.00	\$	439.2
Temporary Grassing (AC)			\$	855.60	0.00		-
Type C Silt Fence (LF)			\$	4.24	168.00	\$	711.6
Check Dam Type C Silt Fence (LF)			\$	6.79	0.00		-
Erosion Control Mats (SY)			\$	1.87	0.00		-
_andscape Mulch (SY)			\$	3.58	0.00		-
Perm Grassing (AC)			\$	1,402.20	0.00		
Rip Rap Type 3 12" (SY)			\$	60.98	340.00		20,734.5
Plastic Filter Fabric (SY)			\$	5.72	340.00		1,946.
l" Ditch Paving (SY) Ditch Adjustment/Grading (LS)			\$	54.65 5,000.00	0.00 1.00		5,000.0
			Ψ	0,000.00	1.00	_	
Erosion Control Total						\$	28,831.5
Construction Cost Total						\$	286,835.9
						\$	22,946.8
Fraffic Control (8% of Construction Total \$)							
Traffic Control (8% of Construction Total \$) Public Works Costs Construction Cost Grand Total						\$	310,433.8
Public Works Costs		emoval		nstallation	Amount	\$	
Public Works Costs Construction Cost Grand Total Utility Relocation Electric	Un	nit Cost	Ī	Unit Cost			310,433.8
Public Works Costs Construction Cost Grand Total Utility Relocation Electric	Un \$	11.00	\$	Unit Cost 55.00	0.00	\$	310,433.8
Public Works Costs Construction Cost Grand Total Utility Relocation Electric Aerial Buried	U n \$ \$	11.00 16.50	\$	Unit Cost	0.00 0.00	\$	310,433.8
Oublic Works Costs Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	Un \$	11.00	\$	Unit Cost 55.00	0.00	\$	310,433.8
Public Works Costs Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$ \$	11.00 16.50	\$	55.00 82.50	0.00 0.00	\$	310,433.8
Oublic Works Costs Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	U n \$ \$	11.00 16.50	\$	55.00 82.50	0.00 0.00	\$ \$ \$	310,433.8
Oublic Works Costs Construction Cost Grand Total Utility Relocation Electric Aerial Buried Vooden Pole Phone Aerial	\$ \$ \$	11.00 16.50 82.50	\$ \$	55.00 82.50 605.00	0.00 0.00 0.00	\$ \$ \$	310,433.8
Utility Relocation Electric Buried Wooden Pole Phone Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole	\$ \$ \$ \$	11.00 16.50 82.50	\$ \$ \$	55.00 82.50 605.00 27.50	0.00 0.00 0.00	\$\$\$\$	310,433.8
Utility Relocation Electric Vooden Pole Phone Buried Vooden Pole Cable Cable	\$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$	55.00 82.50 605.00 27.50 55.00 605.00	0.00 0.00 0.00 0.00 0.00 0.00	\$\$\$\$	310,433.8
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Cable	\$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$	55.00 82.50 605.00 27.50 55.00 605.00 27.50	0.00 0.00 0.00 0.00 0.00 0.00 0.00	\$ \$ \$ \$ \$ \$ \$	310,433.8
Utility Relocation Electric Aerial Buried Vooden Pole Phone Aerial Buried Vooden Pole Cable Cable Aerial Buried Cable Aerial Buried Cable Aerial Buried Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ \$ \$ \$ \$ \$ \$	55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	\$\$\$\$ \$\$\$\$	310,433.8
Utility Relocation Electric Buried Vooden Pole Phone Lerial Buried Vooden Pole Cable Lerial Buried Vooden Pole Cable Lerial Buried Vooden Pole Cable Lerial Buried Vooden Pole	\$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$	55.00 82.50 605.00 27.50 55.00 605.00 27.50	0.00 0.00 0.00 0.00 0.00 0.00 0.00	\$\$\$\$ \$\$\$\$	310,433.8
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Vooden Pole Phone Aerial Buried Vooden Pole Cable Aerial Buried Vooden Pole Gas " main	\$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ \$ \$ \$ \$ \$ \$	55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	*** *** ***	310,433.8
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Vooden Pole Phone Aerial Buried Vooden Pole Cable Aerial Buried Vooden Pole Cable Aerial Buried Vooden Pole Cable Aerial Buried Vooden Pole Gas "main Water	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$	55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	****	310,433.8 Total Cost
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Public Works Costs Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas L' main	\$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$	55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00 3,045.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	*** *** *** * **	310,433.8
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Public Works Costs Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas I' main Water Cap and Remove (EA) 1.6" Watermain (LF)	\$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$	55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00 3,045.00 203.73 7,885.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0		310,433.8 Total Cost
Utility Relocation Electric Buried Vooden Pole Phone Buried Vooden Pole Cable Buried Vooden Pole Cable Werial Buried Vooden Pole Cable Werial Buried Vooden Pole Cable Werial Buried Vooden Pole Gas " main Water Jap and Remove (EA) 6" Watermain (LF) 6" Gate Valve (EA) 0" Steel Casing (LF) 6" Jack and Bore (EA) 6" Jack and Bore (EA) 6" 45 degree MJ Bend (EA)	\$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$\$\$\$ \$\$\$\$ \$\$\$\$	55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00 3,045.00 203.73 7,885.00 162.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0		310,433.8 Total Cost
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ublic Works Costs construction Cost Grand Total Utility Relocation Electric derial d	\$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	*** *** *** * ***	55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00 3,045.00 203.73 7,885.00 162.00 396.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0		310,433.8 Total Cost

TO: Steve Rapson, County Administrator

FROM: Phil Mallon, Public Works

DATE: July 28, 2016

RE: Longview Dam (a.k.a. Margaret Phillips Lake Dam) Update

Background

Longview Dam (a.k.a. Margaret Phillips Lake Dam) is classified by the Georgia Safe Dams Program as a Category 1 structure. Under the authority of the Safe Dam Act, the Georgia Safe Dams Program maintains an inventory and classification system of all the dams in the state. They also establish minimum design and maintenance standards for Category I (high hazard) structures through inspection and permitting.

This dam is approximately 16-feet high, 670 feet long, has a top width of 20 feet, and impounds a 16-acre lake. Longview Road runs across the top of the dam. Fayette County owns and operates the dam. In order to meet Georgia Safe Dams Program requirements, Fayette County shall either:

- Upgrade the dam;
- Breach the dam;
- Modify the dam to remove the downstream flood risk; or
- Remove or modify the downstream structures at risk.

Of these four options, upgrading the dam and breaching the dam are the most practical options.

Fayette County authorized Walden, Ashworth & Associates to serve as the "Engineer of Record" for this project to develop upgrade and dam breach options for County review (attached). A summary follows.

Option I - Dam Upgrade

Walden reviewed all the Safe Dams Programs files on Longview Dam and performed a field inspection. They did not perform a detailed hydrological and hydraulic evaluation because of cost constraints. The inspection confirmed that significant work is needed to bring this dam up to Category I standards. Noted concerns include: slope stability since the toe of the dam is chronically wet, the presence of longitudinal cracks along the road, and severe erosion around the main drain pipe. Maintenance and repair work includes: removing vegetation, flattening slopes to a 3:1 (or flatter); and installing a seepage collection and removal system.

Based on previous experience and taking into consideration both the drainage basin and lake size, Walden assumed that a 20-foot wide labyrinth weir would be required for outlet control of the improved dam. An outlet structure of this size requires a bridge for the road and underground utilities would have to be relocated.

The Consultant's order-of-magnitude cost estimate for the Dam Upgrade option is \$1,409,815. This includes design and construction but excludes acquisition costs for approximately 40,000 square feet of new right-of-way and easements.

Option 2 - Dam Breach

The dam breach option returns the watershed to free-flow (i.e., natural) conditions by draining the lake and cutting out a portion of the dam. The Option also calls for Longview Road to be permanently cut/broken, thereby avoiding the cost of a new culvert or bridge. Instead, cul-de-sacs will be provided on either side of the breach location to provide turn-around points for Longview Road. Work to breach Longview Dam includes:

- Environmental permitting;
- Acquiring proposed right-of-way and easements for the project.
- Draining the lake;
- Breaching the dam with a 20-ft cut and 4:1 side slopes;
- Breaking of Longview Road and installation of two cul-de-sacs;
- Installation of guard rail; and
- Installation of a drain pipe and concrete weir wall for control of peak flows.

Breaching the dam removes the dam from any further operations and maintenance requirements by the Georgia Safe Dams Act. For a conceptual cost estimate, County staff assumed the Dam Breach option would be \$704, 907, one-half the estimated amount to upgrade the dam. Similar to Option 1, this excludes right-of-way and easement costs.

Recommendation

Staff recommends Option 2, Dam Breach. This option provides the double benefit of 1) meeting the required Ga Safe Dams Act Category I standards and 2) removing the structure from future State operation and maintenance requirements. Although Longview Road is a Collector, it lends itself to be changed from a thru road to a deadend road since there are alternate roads (i.e., SR 314) providing the same connectivity.

Direction is needed from the Board of Commissioners regarding which option to pursue. Further design and permitting is on hold until guidance is provided.

COST ESTIMATES FOR LONGVIEW DAM TO MEET GEORGIA SAFE DAMS CATEGORY 1 REQUIREMENTS

Option 1 – Dam Upgrade: \$1,409,815

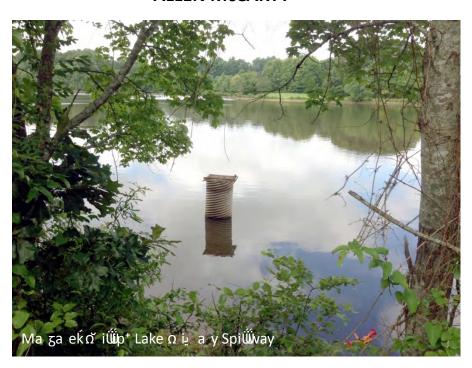
Option 2 – Dam Breach (preferred): \$704,907

ORDER OF MAGNITUDE OPINION OF COST FOR THE REHABILITATION OF MARGARET PHILLIPS LAKE DAM FOR



FAYETTE COUNTY BOARD OF COMMISSIONERS

STEVE BROWN, CHAIRMAN
CHARLES ODDO, VICE CHAIRMAN
DAVID BARLOW
RANDY OGNIO
ALLEN McCARTY



August 5, 2013



WALDEN, ASHWORTH & ASSOCIATES, INC.

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MARGARET PHILLIPS LAKE DAM FAYETTE COUNTY, GEORGIA ORDER OF MAGNITUDE OPINION OF COST

WALDEN, ASHWORTH & ASSOCIATES, INC. CONSULTING ENGINEERS

August 5, 2013 WA&A J.O. 3301700



WALDEN, ASHWORTH & ASSOCIATES, INC.

CONSULTING ENGINEERS

P.O. BOX 6462 • MARIETTA, GEORGIA 30065 • 770/956-7879

August 5, 2013

Mr. Phil Mallon, P.E. Fayette County Engineer 115 McDonough Rd Fayetteville, Georgia 30215

RE: MARGARET PHILLIPS LAKE DAM FAYETTE COUNTY, GEORGIA ORDER OF MAGNITUDE - OPINION OF COST WA&A J.O. 3301700

Dear Mr. Mallon:

We have completed our Order of Magnitude Opinion of Cost for the Margaret Phillips Lake Dam and are pleased to present the results in the attached report. We appreciate the opportunity to assist Fayette County on this project.

If you have any questions, please do not hesitate to call.

Very truly yours,

WALDEN, ASHWORTH & ASSOCIATES, INC.

Martin L. Walden, P.E.

mot V. Male

President

MLW/jcw

Attachment



MARGARET PHILLIPS LAKE DAM FAYETTE COUNTY, GEORGIA ORDER OF MAGNITUDE COST ESTIMATE

INTRODUCTION

This report, which was authorized through an agreement with the Fayette County Board of Commissioners, provides an Order of Magnitude Opinion of Cost for the rehabilitation of the Margaret Phillips Lake Dam and includes a summary of the assumptions and procedures used to develop that Opinion of Cost.

SCOPE

Our Order of Magnitude Opinion of Cost to rehabilitate the Margaret Phillips Lake Dam and bring it into compliance with current requirements for Category I, high hazard dams is based on a brief visual inspection of the dam, a review of available data and our experience with similar dams. The visual inspection was made without the benefit of surveying equipment and no measurements were taken. The scope of the site visit was limited to visible elements only and excluded covered, buried, or hidden conditions. The scope of work did not include any calculations, special investigations, equipment testing, field or laboratory testing, geotechnical investigations or material testing.

<u>DATA SEARCH - GEORGIA SAFE DAMS PROGRAM FILES</u>

The purpose of the Georgia Safe Dams Act, 1977, is to protect the health, safety and welfare of all citizens of the state by reducing the risk of dam failure, thus reducing the risk of death and injury. Under the authority of the Safe Dam Act, the Georgia Safe Dams Program maintains an inventory and classification system of all the dams in the state, an inspection and permitting system, and sets certain minimum design standards for those dams that are considered to be Category I (high hazard) structures.

The Safe Dams Program maintains a file of all known data, inspection reports, correspondence and permitted improvements to all Category I dams. Because the Margaret Phillips Dam is classified as a Category I structure, the Safe Dams Program maintains such a file for it. As part of the scope of work, we reviewed the file for the dam at the office of the Safe Dams Program.



DESCRIPTION OF DAM

The Margaret Phillips Lake Dam is an estimated 670 feet long and has a top width of 20 feet. The dam is approximately 16 feet high and impounds a lake having a surface of approximately 16 acres at normal pool with a drainage basin of approximately 860 acres (1.3 sq. mi.). The normal pool elevation of the lake is controlled by a Corrugated Metal Pipe (CMP) riser located near the center of the dam. The secondary spillway consists of two 24 inch diameter reinforced concrete culverts under the road on top of the dam.

ASSUMPTIONS USED IN OPINION OF COST

Our Opinion of Cost assumes that all of the deficiencies noted by the Georgia Safe Dams Program and our brief inspection will be addressed in the renovation of the dam and will include such items as removal of inappropriate vegetation on both the upstream and downstream slopes; flattening of both slopes to a 3:1 slope; installation of a seepage collection and removal system including a full height chimney/blanket drain and toe drain and additional spillway capacity.

It is not possible to determine the adequacy of the capacity of the spillways without a detailed hydrological and hydraulic evaluation. Such an evaluation is beyond the scope of this Order of Magnitude estimate. Therefore, based on the size of the lake and its drainage basin, we have assumed that a 20 foot wide labyrinth weir type structure will be required. It is important to understand that a more detailed engineering evaluation will be required before a more refined opinion of cost can be developed.

The construction of the labyrinth weir spillway will require the excavation of a section completely through the dam. The rectangular concrete spillway structure will be constructed along with the appropriate seepage control drains in this excavated notch in the dam and select fill will be backfilled against the structure. In order to maintain the roadway, a bridge spanning across the spillway structure will be required. The water line will be suspended under the bridge.

Using criteria established by the Georgia Safe Dams Program, the structure will have a design storm of 25% of the Probable Maxim Precipitation (PMP) based on Antecedent Moisture Condition III (AMC III) which reflects a saturated watershed from antecedent rains. This condition results in the highest runoff potential.



EASEMENTS

The work required to rehabilitate the Margaret Phillips Lake Dam will include construction of a seepage control system and flattening of the downstream slope. To accomplish this work will require construction that will be outside of the right of way and, therefore, on property owned by others. Before this work can be done, property and/or easements must be obtained from the individual property owners affected. It is important to note that the final amount of property owned by others that will be impacted cannot be determined until the final design has been completed. The cost for obtaining this property and/or easements has not been included in the Order of Magnitude Opinion of Cost.

Based on our very preliminary evaluation, the following parcels will be impacted by the areas indicated.

PARCELS IMPACTED

PARCEL NO.	AREA IMPACTED (SQ FT)
0544-037	16,000
0544-121	17,000
0544-0008a	8,700

APPENDIX

A copy of the letter from the Georgia Safe Dams Program outlining the items they have identified that must be addressed to bring the dam into compliance with Category I standards can be found in the appendix of this report.



MARGARET PHILLIPS LAKE DAM FAYETTE COUNTY, GEORGIA ORDER OF MAGNITUDE OPINION OF COST

Our Opinion of Cost is based on limited data and does not have the benefit of detailed design and/or drawings. We have made assumptions based on our observations, available data and our experience with similar dams. A more definitive cost estimate cannot be prepared without detailed design.

The American Association of Cost Engineers recommends dividing engineering construction cost estimates into three basic categories as follows:

Order of Magnitude Estimate

This is an estimate made without detailed engineering data. Some examples would be an estimate from cost-capacity curves, an estimate using scale-up or scale-down factors and an approximate ratio estimate.

Budget Estimate

Budget in this case applies to the owner's budget and not to the budget as a project control document. A budget estimate is prepared using flow-sheets, layouts and equipment details.

Definitive Estimate

As the name implies, this is an estimate prepared from very defined engineering data. As a minimum, the data must include fairly complete plans and elevations, piping and instrumentation diagrams, one-line electrical diagrams, equipment data sheets and quotations, structural sketches, soil data and sketches of major foundations, building sketches and a complete set of specifications. The "maximum" definitive estimate would be made from "Approved for Construction" drawings and specifications.

The construction cost estimate for the rehabilitation of this dam is an Order of Magnitude estimate.



The following is a breakdown of the expected cost for the rehabilitation of the Margaret Phillips Lake Dam. The Opinion of Cost presented here is an Order of Magnitude estimate based on a Category I classification of the dam by the Georgia Department of Natural Resources, Safe Dams Program. On the following page is a breakdown of the Order of Magnitude Opinion of Construction Cost.

PROFESSIONAL SERVICES

Surveying for Design	\$ 9,000
Geotechnical Exploration	\$ 20,000
Design and Preparation of Construction Documents	\$ 45,000
Preconstruction Notification (PCN) to USACOE	\$ 3,000
State Waters Buffer Encroachment Variance Application	\$ 1,000
*Construction Administration Services	\$ 15,000
*Geotechnical Construction Monitoring	\$ 100,000

^{*} Assumes 3 month construction monitoring

CONSTRUCTION

Opinion of Construction Cost	<u>\$ 1,216,815</u>
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TOTAL REHABILITATION COST \$ 1,409,815

Total Rehabilitation Cost does not include any cost for land or easement acquisition that may be required.

WALDEN, ASHWORTH & ASSOCIATES, INC.

CONSULTING ENGINEERS

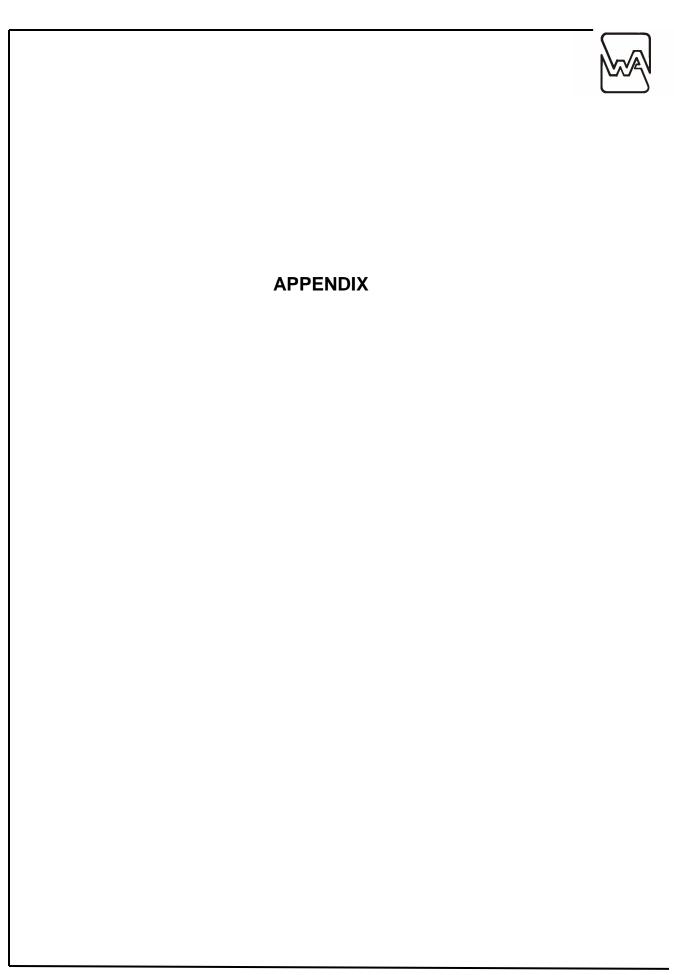


MARGARET PHILLIPS LAKE DAM ORDER OF MAGNITUDE OPINION OF CONSTRUCTION COST

Description	Quantity	Units	Unit Price	Cost
Mobilization	1	LS	\$25,000.00	\$25,000
Erosion Control	1	LS	\$20,000.00	\$20,000
Clearing & Grubbing	1.5	AC	\$5,000.00	\$7,500
Control of Water	1	LS	\$30,000.00	\$30,000
Under Drain Sand	25	TN	\$50.00	\$1,250
Under Drain # 89 Stone	20	TN	\$39.50	\$790
Under Drain # 57 Stone	50	TN	\$39.50	\$1,975
Under Drain Pipe	385	LF	\$20.00	\$7,700
Concrete	400	CY	\$1,000.00	\$400,000
Earthwork	5,000	CY	\$15.00	\$75,000
Grassing	5,725	SY	\$2.50	\$14,313
Rip Rap	1,220	TN	\$80.00	\$97,600
Blanket / Chimney Drain	770	TN	\$50.00	\$38,500
Toe Drain	500	LF	\$80.00	\$40,000
Toe Drain Outlets / Clean Outs	2	EA	\$2,500.00	\$5,000
Water Line	100	LF	\$30.00	\$3,000
Paving	320	SY	\$60.00	\$19,200
Bridge	675	SF	\$200.00	\$135,000
SUBTOTA	AL			\$921,828
GENERAL CONDITIONS (7%)				\$64,531
OVERHEAD & PROFIT (15%)				\$138,274
CONTINGENCY (10%)				\$92,183
SUBTOTA	AL .			\$294,988
Total Estimated Construction Cost Budge	et			\$1,216,815

The American Association of Cost Engineers recommends dividing engineering construction cost estimates into three basic categories: Order-of-Magnitude, Budget and Definitive Estimates. The Order of Magnitude Estimate is defined as follows:

This is an Estimate is made without detailed engineering data. Some examples would be an estimate from cost-capacity curves, an estimate using scale-up or scale-down factors and an approximate ratio estimate.



Georgia Departn at of Natural Resources Environmental Protection Division

Safe Dams Program 4244 International Parkway, Suite 110 Atlanta, Georgia 30354

Linda MacGregor, P.E., Branch Chief (404) 362-2678

November 5, 2012

FILE COPY

The Honorable Herb Frady, Chairman Fayette County Board of Commissioners 140 Stonewall Avenue West Suite 100 Fayetteville, Georgia 30214

SUBJECT:

Margaret Phillips Lake Dam

Fayette County

Dear Chairman Frady:

As we previously informed Fayette County by letter dated May 13, 2009, the subject dam has been determined to be within the jurisdiction of the 1978 Georgia Safe Dams Act (Act) by virtue of its hazard classification. A detailed visual inspection of the dam, as is also provided for by the Act, has now been performed by the Environmental Protection Division (Division). Copies of the Visual Inspection Report are enclosed. The inspection revealed that the dam does not comply with certain paragraphs of the Rules for Dam Safety (Rules), specifically the following items from Section 391-3-8-.09:

- 1. Paragraph (3)(a) Stability "The design and/or evaluation of new and existing dams shall conform to accepted practices of engineering profession and dam safety industry." Based on standard engineering practice, the downstream slope of the dam is steep and the toe of the dam is wet, which may affect the stability of the dam. There are longitudinal cracks along the road on the crest of the dam with slight displacement towards the downstream edge of the pavement. This may be a stability concern and needs investigation.
- 2. Paragraph (3) (d) The dam shall have a means of draining the reservoir to a safe level. It is unknown whether there is a low-level outlet and if it is functional.
- 3. Paragraph (3) (e) "All earthen embankments shall be protected from surface erosion by appropriate vegetation, or some other type of protective surface such as riprap, and shall be maintained in a safe condition." The slopes of the dam have trees/brush that need to be removed and replaced with a low growing grass. There is severe erosion in the plunge pool where the principal spillway pipe outlets. There needs to be erosion protection around the plunge pool area and along the waterline.
- 4. Paragraph (3) (f) "Each dam shall be capable of safely passing the fraction of flood developed from the PMP hydrograph depending on the sub classification of the dam." The spillway system has to be evaluated for adequacy of the system to be able to pass the required storm event.
- 5. Paragraph (3) (g) There is seepage/wet area at the toe of the dam that needs further investigation.
- 6. Paragraph (3) (j) "appropriate freeboard for wave action shall be considered..." The spillway system needs to be evaluated for compliance with this standard.
- 7. Paragraph (4) "Other design standards may be imposed as deemed appropriate..." The condition of the CMP through the dam is unknown and should be taken out of service.

The Rules require that you, an owner/operator of the dam, retain an experienced professional engineer recognized as an "Engineer of Record" to assist you with bringing the dam into compliance with the Act. Approved Engineer of Record lists are enclosed for your information. The dam may be brought into compliance by either addressing the noted deficiencies or by addressing the downstream hazard potential. The options are as follows:

- Upgrade the dam: Your Engineer of Record must perform a detailed investigation of the noted deficiencies and design remedial measures as necessary. After review and approval of the detailed investigation report, construction plans and specifications, and the schedule for any necessary improvements, we will recommend that the Director of the Division (Director) issue a Construction and Operation Permit for the dam. Once the remedial measures have been implemented, the dam will remain a permitted Category I structure and will be inspected on a regular basis to ensure that it is being maintained properly and remains in compliance. You will be required to perform your own routine inspections, maintain the dam and address any future deficiencies if they arise.
- Breach the dam: You will be required to fill out a breach application, and your Engineer of Record will be required to submit design plans for safely breaching the dam, such that it can no longer retain water. Once the breach plans have been approved and the dam has been breached, you will have no further responsibilities related to the Act and Rules.
- Modify the dam to remove the downstream flood risk: Your Engineer of Record must perform an extended dam failure flood study to identify all potential structures at risk downstream, such as homes, businesses, churches, etc., and submit design plans for the necessary modifications to the dam that would prevent flooding at these structures in the event of a dam failure. It should be noted that for classification purposes the Division typically only identifies one structure at risk. There may be additional structures in the dam failure flood zone. Once the flood study and design plans have been approved and the modifications implemented, the dam may be reclassified either Category II (low hazard) or exempt at the Director's discretion. A permit from the Division will no longer be required for operation of the dam. The classification may change if future development occurs in the dam failure flood zone.
- Remove or modify the downstream structure(s) at risk: Your Engineer of Record must perform an extended dam failure flood study to identify all potential structures at risk. All identified structures will have to be permanently removed from the dam failure flood zone or in some cases may be flood-proofed (design plans for flood-proofing will have to be reviewed and approved). Once the structures have been removed or adequately flood-proofed, the dam may be reclassified Category II at the Director's discretion, and a permit from the Division will no longer be required for operation of the dam. You should be aware that the classification may change if future development occurs in the dam failure flood zone.

Your engineer should be able to provide you with the feasibility of each option. All options require that your engineer inspect any necessary work as it is being performed. After the work is completed, your engineer must certify in writing that the work was performed in accordance with any approved plans and specifications. It is important that you do not attempt to modify the dam yourself. Often an improper repair attempt can do more harm than good, and the law requires that modifications to Category I dams be developed by an engineer and receive prior approval from the Division.

Please inform the Division's Safe Dams Program in writing at 4244 International Parkway, Suite 110, Atlanta, Georgia, 30354 before **January 15, 2013** with the name of the engineer you have retained to assist you with bringing the dam into compliance. It would be our recommendation that partial owners of the same dam work together to retain a common engineer. An engineering report must be submitted no later than **April 15, 2013**.

Margaret Phillips Lake Dam November 5, 2012 Page 3

The files of all dams, which are regulated by the Division, are public information. Representatives of engineering firms interested in remedial dam design work may see a copy of this letter in our files and contact you offering a proposal for the design work. The Division does not recommend any engineering firm to a dam owner. We suggest that you solicit proposals from several firms (a minimum of three) and then compare the experience and prices in making your selection.

If you have any questions about the contents of the enclosed report or your responsibilities with regard to the Act and Rules, please contact the Safe Dams Program at 404/362-2678, or write us and we will be glad to address your questions.

Sincerely,

Dallon Thomas Woosley, P.E.

Daller Those Wood)

Program Manager Safe Dams Program

DTW:ks Enclosures

cc: Thomas Concrete of Georgia, Inc.

General Inf	formation	Мар
Project ID		
Street Name	330 Oak Street	/ 6 g Z
Site Visit Date	5/21/13	Motier Py Motier Py Tiger Tri
Road Classification	Internal Local	e e
Project		State Route 54 E Lanier Ave.
Rural Typical Section		Stonewall Ave W
Train Typical Coolion		Stonewaii Ave W S S S S S S S S S S S S S S S S S S
Field N	Notes	Grady Ave
Design (Existing		as Rd g Ave
Existing Road Laneage	2	First Margareses Rd Wedford Dr R
Existing ShId Width (paved and		Kiga.
Existing Side Slopes	2:1	No see the second secon
Existing Guardrail	None	Paces Dr Paces Dr Paces Dr
Depth fm Pavement to Top of Cu		Hunters GIn
Pipe Type and Size	15" RCP	8
Pipe Condition (1-5) (1 is new)	5 (Installation)	Lakeland Cir &
Condition Notes:		Lakeland Cir Ramah Rd
Pavement Type/Condition	Asphalt/Good	
7F	7.65.1d.2 000d	Stage Construction Options
Environment	tal Features	Close Location to Traffic X
Wetlands	None	Maintain One Lane - No Temp Pavement
Ditches	Along South Side	Maintain One Lane - Temp Pavement
		Stage Construction Notes:
Utilities (Visua		
Electric	Aerial	
Cable	Aerial	
Phone	Aerial	
Gas	Durie d	
Water Sewer	Buried	
Other		
Other	Pronose	ed Design
Roadway Section	110500	ou Dooigii
Culvert Size & Material	3' x 2' box, concrete, 80' length	
Utility Relocations	Water	
Guardrail Replacement		
Miscellaneous Features	~ 200' drainage ditch or additiona stream could use ~500' of stream	piping needs to be installed for downstream property. Receiving restoration
	200 01 01104111	
	Dianain a C	Cost Estimate
Type	Planning C Notes	Cost Estimate Total
Design	Notes	\$15,000
Right of Way Cost		\$4,000
Utility Relocation Cost		\$5,500
Construction Cost		\$44,006
Environmental Permits		\$10,000
		1 4.0,000
	Total D	lanning Estimate \$78,506
	i Olai P	lanning Estimate \$78,506





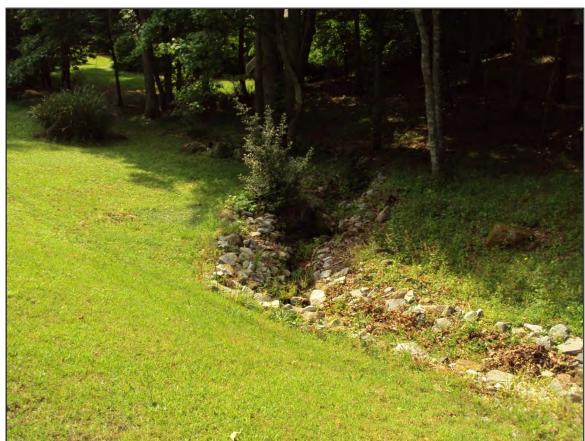




Photo 1:



Photo 2:

5/21/2013

Taken By:

David King

Page:

1





Photo 3:

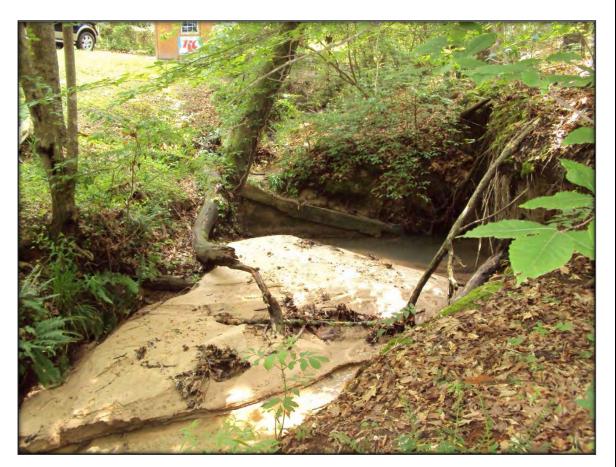


Photo 4:

5/21/2013

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David King

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Roadway Construction, Utility Relocation a	nd ROW Q	uan	tity Calcula	tions		
Roadway Construction			nstallation Unit Cost	Amount		Total Cost
Pavement Curb and Gutter (LF) 4" Sidewalk (SY) Guardrail (LF) End Anchorage (EA)		\$ \$ \$	27.50 49.50 57.20 2,530.00		\$	3,618.39
Subtotal					\$	3,618.39
Grading Complete (5% of Rwy Items & Drng Total \$)					\$	1,317.52
Roadway Total					\$	4,935.91
Drainage	Removal Unit Cost		nstallation Unit Cost	Amount		Total Cost
Class A Conc (cy)	Offic Cost	\$	698.50	26	\$	18,293.72
Steel (lb)		\$	1.38	2559		3,518.63
Гуре 2 Back Fill (су)		\$	60.50	15.2	\$	919.60
Orainage Total					\$	22,731.94
Signing and Marking			nstallation Unit Cost	Amount		Total Cost
Permanent Striping (mile)			Unit Cost		\$	-
Signing and Marking Total					\$	•
Staging		lr	nstallation	Amount		Total Cost
Femporary Pavement Femporary Drainage (Stream Diversion)		\$	10,000.00	1	\$ \$	10,000.00
Staging Total					\$	10,000.00
Erosion Control			nstallation Unit Cost	Amount		Total Cost
Геmporary Grassing (AC)		\$	418.00	0.1	\$	41.80
Silt Fence (LF)		\$	5.50	200		1,100.00
Check Dam Type C Silt Fence (LF)		\$	4.40	100		440.00
Frosion Control Mats (SY)		\$	2.75	150		412.50
Mulch (TN)		\$	286.00	1.4	\$	400.40 0.99
Perm Grassing (ac)					Ф	
≀in Ran (SY)		\$	9.90 66.00	0.1 20		1 320 00
		\$	66.00	20 20	\$	
Plastic Filter Fabric (SY)				20	\$	
Plastic Filter Fabric (SY) t" Ditch Paving (SY)		\$ \$	66.00 6.60	20 20	\$	132.00
Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total		\$ \$	66.00 6.60	20 20	\$ \$ \$	132.00 - 3,847.69
Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total		\$ \$	66.00 6.60	20 20	\$ \$ \$	3,847.69 41,515.54
Plastic Filter Fabric (SY) ** Ditch Paving (SY) Erosion Control Total Construction Cost Total Fraffic Control (6% of Construction Total \$)		\$ \$	66.00 6.60	20 20	\$ \$ \$	3,847.69 41,515.54 2,490.93
Plastic Filter Fabric (SY) L' Ditch Paving (SY) Erosion Control Total Construction Cost Total Fraffic Control (6% of Construction Total \$)	Removal Unit Cost	\$ \$ \$	66.00 6.60 33.00	20 20	\$ \$ \$ \$ \$ \$	3,847.69 41,515.54 2,490.93
Plastic Filter Fabric (SY) \$^* Ditch Paving (SY) Erosion Control Total Construction Cost Total Fraffic Control (6% of Construction Total \$] Construction Cost Grand Total Utility Relocation Electric	Unit Cost	\$ \$ \$ \$	66.00 6.60 33.00	20 20 0	\$ \$ \$ \$ \$ \$	3,847.69 41,515.54 2,490.93 44,006.47
Plastic Filter Fabric (SY) Toltch Paving (SY) Prosion Control Total Construction Cost Total Construction Cost Grand Total Utility Relocation Electric	Unit Cost \$ 11.00	\$ \$ \$ \$ \$ \$ \$	66.00 6.60 33.00 nstallation Unit Cost 55.00	20 20 0	\$ \$ \$ \$ \$ \$ \$	3,847.69 41,515.54 2,490.93 44,006.47
Plastic Filter Fabric (SY) I Ditch Paving (SY) Erosion Control Total Construction Cost Total Fraffic Control (6% of Construction Total \$] Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ 11.00 \$ 16.50	\$ \$ \$ \$ \$ \$ \$	66.00 6.60 33.00 nstallation Unit Cost 55.00 82.50	20 20 0	\$\$\$\$ \$ \$ \$ \$	3,847.69 41,515.54 2,490.93 44,006.47
Plastic Filter Fabric (SY) \$\text{** Ditch Paving (SY)} \\ Erosion Control Total Construction Cost Total Fraffic Control (6% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	Unit Cost \$ 11.00	\$ \$ \$ \$ \$ \$ \$	66.00 6.60 33.00 nstallation Unit Cost 55.00	20 20 0	\$ \$ \$ \$ \$ \$ \$	3,847.69 41,515.54 2,490.93 44,006.47
Plastic Filter Fabric (SY) L' Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (6% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Buried Wooden Pole Phone	\$ 11.00 \$ 16.50 \$ 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$	66.00 6.60 33.00 nstallation Unit Cost 55.00 82.50 605.00	20 20 0	\$\$\$\$ \$ \$\$\$\$	3,847.69 41,515.54 2,490.93 44,006.47
Plastic Filter Fabric (SY) Putch Paving (SY) Erosion Control Total Construction Cost Total Fraffic Control (6% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00	\$ \$ \$ \$ \$ \$ \$ \$ \$	66.00 6.60 33.00 nstallation Unit Cost 55.00 82.50 605.00 27.50	20 20 0	\$\$\$\$ \$ \$\$\$\$\$\$\$\$\$\$\$\$	3,847.69 41,515.54 2,490.93 44,006.47
Plastic Filter Fabric (SY) I Ditch Paving (SY) Erosion Control Total Construction Cost Total Fraffic Control (6% of Construction Total \$] Construction Cost Grand Total Utility Relocation Electric Aerial Buried Phone Aerial Buried Buried	\$ 11.00 \$ 16.50 \$ 82.50	\$ \$ \$ \$ \$ \$ \$ \$	66.00 6.60 33.00 nstallation Unit Cost 55.00 82.50 605.00	20 20 0	\$\$\$\$ \$ \$\$\$\$	3,847.69 41,515.54 2,490.93 44,006.47
Electric Aerial Buried Wooden Pole	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50	\$ \$ \$ \$ \$ \$ \$ \$	66.00 6.60 33.00 nstallation Unit Cost 55.00 82.50 605.00 27.50 55.00	20 20 0	\$\$\$\$ \$ \$\$	3,8 41,5 2,4 44,00

\$ 11.00	\$	55.00		\$	-
\$ 16.50	\$	82.50	0	\$	-
\$ 82.50	\$	605.00		\$	-
\$ 11.00	\$	27.50		\$	-
\$ 16.50	\$	55.00	0	\$	-
\$ 82.50	\$	605.00		\$	-
\$ 11.00	\$	27.50		\$	-
16.50	\$	55.00	0		-
\$ 82.50	\$	605.00		\$	-
\$ 16.50	\$	66.00		\$	-
\$ 16.50	\$	93.50	50	\$	5,500.00
					-,
\$ 16.50	\$	82.50	0	\$	-
				\$	5,500.00
				Ψ	0,000.00
	Co	set/ Sa Et	Sa Et	Tota	al Cost
		•			4,000.00
	Ψ	2.00	2000		
				Ф	4,000.00
\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	\$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 16.50	\$ 16.50 \$ 82.50 \$ 11.00 \$ \$ 16.50 \$ \$ 82.50 \$ \$ 11.00 \$ \$ 16.50 \$ \$ 16.50 \$ \$ 16.50 \$ \$ 16.50 \$ \$ 16.50 \$	\$ 16.50 \$ 82.50 \$ 82.50 \$ 605.00 \$ 11.00 \$ 27.50 \$ 16.50 \$ 55.00 \$ 82.50 \$ 605.00 \$ 11.00 \$ 27.50 \$ 16.50 \$ 55.00 \$ 82.50 \$ 605.00 \$ 16.50 \$ 66.00 \$ 16.50 \$ 93.50 \$ 16.50 \$ 82.50	\$ 16.50 \$ 82.50 0 0 \$ 82.50 \$ 605.00 \$ 82.50 \$ 605.00 \$ 0 \$ 11.00 \$ 27.50 \$ 16.50 \$ 55.00 0 \$ 82.50 \$ 605.00 \$ 11.00 \$ 27.50 \$ 16.50 \$ 55.00 0 \$ 82.50 \$ 605.00 \$ 16.50 \$ 605.00 \$ 16.50 \$ 605.00 \$ 16.50 \$ 82.50 \$ 605.00 \$ 16.50 \$ 93.50 50 \$ 16.50 \$ 82.50 \$ 0	\$ 16.50 \$ 82.50 0 \$ \$ 82.50 \$ 0 \$ \$ 82.50 \$ 605.00 \$ \$ \$ 82.50 \$ 605.00 \$ \$ \$ 11.00 \$ 27.50 \$ \$ 16.50 \$ 55.00 \$ \$ 82.50 \$ 605.00 \$ \$ \$ 11.00 \$ 27.50 \$ \$ 16.50 \$ 55.00 \$ \$ \$ 16.50 \$ 55.00 \$ \$ \$ 16.50 \$ 605.00 \$ \$ \$ 16.50 \$ 605.00 \$ \$ \$ 16.50 \$ 605.00 \$ \$ \$ 16.50 \$ 93.50 \$ 50 \$ \$ \$ 16.50 \$ 82.50 \$ 0 \$ \$ \$ \$ 16.50 \$ 82.50 \$ 0 \$ \$ \$ \$ \$ 16.50 \$ 82.50 \$ 0 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$

General Int	formation	Мар
Project ID		
Street Name	Old Senoia Road	Ramah Rd
Site Visit Date	5/21/13	
Road Classification	Collector	Price Q
Project	Notes	Pa P
Rural Typical Section		
		Sherwood Rd Pd Rd Clear
		on contract of the contract of
		Sherwood Rd Sealy Rd
		Seay Ro
Field N		Dawine Ro Bark Dr Bark Dr Bark Dr Bark Dr Bark Bark Dr Bark Bark Bark Dr Bark Bark Bark Dr Bark Bark Bark Dr Bark Dr
Design (Existing Existing Road Laneage	2 - 12'	Park D
Existing Shid Width (paved and		Surrey Park I Dawn Dr. Antioch Rd
Existing Side Slopes	2:1 to 10:1	Dawn Dr to
Existing Guardrail	None	Source Source
Depth fm Pavement to Top of Cu		A N S Halb Ka by
Pipe Type and Size	3 - 96" CMP	Hemis Ro Mask Rd
Pipe Condition (1-5) (1 is new)	3	
Condition Notes: Lining deteriorated	d, but pipes fully functioning; DS	
drop		McBride Rd
·		
Pavement Type/Condition	Asphalt/New	
		Stage Construction Options
Environment	tal Features	Close Location to Traffic X
Wetlands	None identified	Maintain One Lane - No Temp Pavement
Ditches	None	Maintain One Lane - Temp Pavement
		Stage Construction Notes:
		Close Road - access from the South & North
Hailaine (Minus	al In an action)	
Utilities (Visua Electric	Aerial	
Cable	Aeriai	
Phone	Aerial and Buried	
Gas	Acrial and Baried	
Water	Buried	
Sewer		
Other		
	Propose	d Design
Roadway Section		
	100' prestressed concrete beam b	ridge three spans 13' wide
Proposed Design	Prestressed concrete bearing	nago, unos spans, 40 wide
Utility Relocations	Buried Phone, Watermain	
Junty Nelocations		
Guardrail Replacement	Proposed Guardrail Installation du	e to proposed culvert(s) and side slopes
	Zana AE with Electron Electron	Analysis Desiring
Miscellaneous Features	Zone AE with Floodway, Floodpla	n Analysis Required
_		ost Estimate
Туре	Descript	
Design	bridge design and geote	
Right of Way Cost		\$12,000.00
Utility Relocation Cost		\$26,125.00 \$450,407,27
Construction Cost	onvironmental/bridge\ 4	\$459,497.27
Environmental Permits	environmental(bridge), f	loodplain analysis \$30,000.00
	Total P	anning Estimate \$668,572.00









Photo 1:



Photo 2:

5/21/2013

Taken By:

David King

Page:

1 of 2





12/28/2015

Taken By:

Public Works

Page

2 of 2



Photo 1



Photo 2

Roadway Construction, Utility Relocation and ROW Quantity Calculations

Roadway Construction		stallation Jnit Cost	Amount	Total Cost
Pavement				\$ 6,522.69
Curb and Gutter (LF)	\$	27.50		\$ -
4" Sidewalk (SY)	\$	49.50		\$ -
Guardrail (LF)	\$	57.20	650	\$ 37,180.00
End Anchorage (EA)	\$	2,530.00	2	\$ 5,060.00
Subtotal				\$ 48,762.69
Grading Complete (5% of Rwy Items & Drng To	otal \$)			\$ 22,863.13
Roadway Total				\$ 71,625.83
Poi	noval In	stallation		
Drainage		Jnit Cost	Amount	Total Cost
Class A Conc (cy)	\$	698.50	0	\$ -
Steel (lb)	\$	1.38	0	\$ -
Type 2 Back Fill (cy)	\$	60.50	0	\$ -
Bridge Cost (total)				\$ 408,500.00
Drainage Total				\$ 408,500.00
	In	stallation		
			Amount	Total Cost
Signing and Marking	ï	Init Cost		
	Ü	Jnit Cost		\$ 500.00
Permanent Striping	Ü	Jnit Cost		\$ 500.00 500.0 0
Signing and Marking Permanent Striping Signing and Marking Total	l	Jnit Cost		
Permanent Striping	In	Jnit Cost nstallation Jnit Cost	Amount	

Staging Aerial		Installation Unit Cost	Amount	Total Cost
Temporary Pavement Temporary Drainage (Stream Diversi Aerial ar	d Buried \$	10,000.00	1	\$ \$0 10,000.00

Staging Total Buried \$10,000

Erosion Control		-	nstallation Unit Cost	Amount	Total Cost
Temporary Grassing (AC)		\$	418.00	0.15	\$ 62.70
Silt Fence (LF)	100' prestressed cor	\$	5.50	250	\$ 1,375.00
Check Dam Type C Silt Fence (LF)		\$	4.40	200	\$ 880.00
Erosion Control Mats (SY)		\$	2.75	225	\$ 618.75
Mulch (TN)		\$	286.00	1.5	\$ 429.00
Perm Grassing (ac)		\$	9.90	0.1	\$ 0.99
Rip Rap (SY)		\$	66.00	50	\$ 3,300.00
Plastic Filter Fabric (SY)		\$	6.60	50	\$ 330.00
4" Ditch Paving (SY)		\$	33.00		\$ -
					\$ -
Erosion Control Total					\$ 6,996.44

Utility Relocation	emoval nit Cost	Installation Unit Cost	Amount		Total Cost	
Electric						
Aerial	\$ 11.00	\$ 55.00	100	\$	6,600.00	
Buried	\$ 16.50	\$ 82.50	0	\$	-	
Wooden Pole	\$ 82.50	\$ 605.00	2	\$	1,375.00	
Phone	\$ -					
Aerial	\$ 11.00	\$ 27.50	0	\$	-	
Buried	\$ 16.50	\$ 55.00	100	\$	7,150.00	
Wooden Pole	\$ 82.50	\$ 605.00		\$	-	
Cable	\$ -					
Aerial	\$ 11.00	\$ 27.50		\$	-	
Buried	\$ 16.50	\$ 55.00	0	\$	-	
Wooden Pole	\$ 82.50	\$ 605.00		\$	-	
Gas	\$ -					
4" main	\$ 16.50	\$ 66.00		\$	-	
Water	\$ -					
8" main	\$ 16.50	\$ 93.50	100	\$	11,000.00	
Sewer	\$ -					
12" main	\$ 16.50	\$ 82.50	0	\$	-	
Utility Relocation Total				\$	26,125.00	

12" main	\$ 16.50	\$	82.50	0 \$	-
Utility Relocation Total				\$	26,125.00
Right of Way (Sq Ft)		Cost	/ Sq Ft	Sq Ft Total	Cost
Permanent Easement		\$	2.00	6000 \$	12,000.00
Construction Cost Total				\$	497,622.27
Traffic Control (6% of				\$	29,857.34
Construction Total \$)				ų.	29,037.34
Construction Cost Grand Total				\$	527,479.61

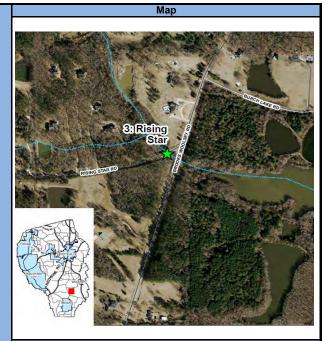
General Information				
Project ID				
Street Name Rising Star Rd				
Site Visit Date				
Road Classification Rural				
Project Notes				

Culvert replacement alternatives to provide flow capacity for the 100 year storm peak runoff.

Field Notes					
Design (Existing Site Features)					
Existing Road Laneage	2-12'				
Existing ShId Width (paved and grass) (feet)					
Existing Side Slopes					
Existing Guardrail	No				
Depth fm Pavement to Top of Culvert (ft):	(+/-) 3.5'				
Pipe Type and Size	2- 72" CMP				
Pipe Condition (1-5) (1 is new)	3-4				

Condition Notes: Two 72" culverts – left one collapsed, right one has approx. 6" dip in last joint.

Pavement Type/Condition Asphalt/Good						
Environment	Environmental Features					
Wetlands	-	BD				
Ditches	-	'ES				
State Waters	YES (A	SSUMED)				
Utilities (Visua	al Inspection)					
Electric	A	erial				
Cable	Unk	nown				
Phone	Unknown					
Gas	Unk	known				
Water	Unde	rground				
Sewer	Unde	rground				
Other						



Stage Construction Options				
Close Location to Traffic	Х			
Maintain One Lane - No Temp Pavement				
Maintain One Lane - Temp Pavement				
Stage Construction Notes:				
Assumed road closure				

\$449,143

Otner		
	Proposed Design	
Roadway Section	Typical	
Culvert Size & Material	2 - 84" round RCP with end treatment	
Utility Relocations	To be verify, (20" DIP or PVC mains)	
Guardrail Replacement		
Miscellaneous Features		
	Planning Cost Estimate	
Туре	Notes	Total
Design	Actual Cost including Environmental Permitting and Engineer of Record Administrative Fee	\$54,005
Right of Way Cost	Assuming UPS/DWS ends extends past ROW 1/20 acre	\$17,424
Utility Relocation Cost	Assuming no relocation	\$212,535
Construction Cost	Includes 1/8 acre clearing and grubbing	\$165,180

Total Planning Estimate







Photo 1:



Photo 2:

Photo Date:

4/14/2016

Taken By:

Tony Hicks

Page:

2-84" Culvert Construction and ROW Quantity Calculations

Roadway Construction		oval Unit	Inst	tallation Unit	Amount		Total Cost
Pavement (SF)	\$	0.73	\$	4.87	1200.00	\$	6,726.4
Curb and Gutter (LF)	\$	-	\$	18.42	0.00	\$	-
" Sidewalk (SY)	\$	-	\$	36.90	0.00		
uardrail (LF)	\$	-	\$	49.09	0.00		
nd Anchorage (EA) ubtotal			\$	1,380.00	0.00	\$	6,726.4
	-al (f)						
rading Complete (5% of Rwy Items & Drng Tot	ai ֆ)					\$	5,352.9
oadway Total						\$	12,079.3
Drainage		oval Unit	Inst	tallation Unit Cost	Amount		Total Cost
rench Excavation (CY)			\$	10.38	523.72	\$	5,436.2
2" CMP (LF)	\$	54.00			116.00	\$	6,264.0
I" RCP (LF)			\$	350.00	116.00	\$	40,600.0
lass A Conc (CY)			\$	892.19	48.37	\$	43,155.
teel (lb)			\$	1.42	0.00		-
ipe Bedding (CY)			\$	48.60	49.41		2,401.2
ench Backfill (CY)			\$	2.99	306.57	\$	916.0
ench Compaction (CY)			\$	6.36	245.25	\$	1,559.
rainage Total						\$	100,332.3
Signing and Marking			Inst	tallation Unit	Amount		Total Cost
ermanent Striping (LF)			\$	0.71	50	\$	35.4
gning and Marking Total						\$	35.4
			Ine	tallation Unit			
Staging				Cost	Amount		Total Cost
earing and Grubbing (Acre)			\$	10,260.00	0.13	\$	1,282.
emporary Pavement emporary Drainage (Stream Pump Around)			\$	30,000.00	0.00 1.00	\$	30,000.
Simposary Drainage (Gardani i amp Alouna)			Ψ	30,000.00	1.00	Ψ	30,000.
taging Total						\$	31,317.
			Ine	tallation Unit			
Erosion Control				Cost	Amount		Total Cost
ne Grading and Seeding (SY)			\$	4.39	188.89		829.
emporary Grassing (AC)			\$	855.60	0.00		
ype C Silt Fence (LF)			\$	4.24	232.00		982.
heck Dam Type C Silt Fence (LF) rosion Control Mats (SY)			\$ \$	6.79 1.87	0.00		-
andscape Mulch (SY)			\$	3.58	0.00		-
erm Grassing (AC)			\$	1,402.20	0.00		
ip Rap Type 3 12" (SY)			\$	60.98	66.67	\$	4,065.
lastic Filter Fabric (SY)			\$	5.72	66.67	\$	381.
						•	
" Ditch Paving (SY)			\$	54.65	0.00	\$	-
rosion Control Total			\$	54.65	0.00	\$	
rosion Control Total onstruction Cost Total			\$	54.65	0.00	\$	150,024.
rosion Control Total onstruction Cost Total raffic Control (8% of Construction Total \$)			\$	54.65	0.00	\$	150,024. 12,001.
rosion Control Total onstruction Cost Total			\$	54.65	0.00	\$	6,259.: 150,024.: 12,001.: 162,026.: 3,1
rosion Control Total onstruction Cost Total raffic Control (8% of Construction Total \$) onstruction Cost Grand Total		oval Unit		54.65	0.00	\$	150,024. 12,001. 162,026.
rosion Control Total onstruction Cost Total raffic Control (8% of Construction Total \$) onstruction Cost Grand Total ublic Works Utility Relocation Electric	С	ost	Inst	iallation Unit Cost	Amount	\$ \$ \$	150,024.5 12,001.5 162,026.5 3,1 Total Cost
rosion Control Total construction Cost Total raffic Control (8% of Construction Total \$) construction Cost Grand Total ublic Works Utility Relocation Electric erial	\$	11.00	Inst	tallation Unit Cost 55.00	Amount 0.00	\$ \$ \$	150,024. 12,001. 162,026. 3,1
onstruction Cost Total affic Control (8% of Construction Total \$) construction Cost Grand Total ublic Works Utility Relocation Electric erial uried	\$ \$	11.00 16.50	Inst	tallation Unit Cost 55.00 82.50	Amount 0.00 0.00	\$ \$ \$ \$	150,024. 12,001. 162,026. 3,1 Total Cost
cosion Control Total construction Cost Total affic Control (8% of Construction Total \$) construction Cost Grand Total ablic Works Utility Relocation Electric erial uried dooden Pole	\$	11.00	Inst	tallation Unit Cost 55.00	Amount 0.00	\$ \$ \$ \$	150,024. 12,001. 162,026. 3,1 Total Cost
onstruction Cost Total affic Control (8% of Construction Total \$) construction Cost Grand Total ablic Works Utility Relocation Electric erial uried fooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	\$ \$ \$ \$	tallation Unit Cost 55.00 82.50 605.00	Amount 0.00 0.00 0.00	\$ \$ \$ \$	150,024. 12,001. 162,026. 3,1 Total Cost
cosion Control Total construction Cost Total caffic Control (8% of Construction Total \$) construction Cost Grand Total delic Works Utility Relocation Electric cerial uried Cooden Pole Phone cerial	\$ \$ \$	11.00 16.50 82.50	\$ \$ \$ \$ \$	55.00 82.50 605.00 27.50	Amount 0.00 0.00 0.00 0.00	\$ \$ \$ \$ \$ \$	150,024. 12,001. 162,026. 3,1 Total Cost
onstruction Cost Total affic Control (8% of Construction Total \$) onstruction Cost Grand Total ublic Works Utility Relocation Electric erial uried fooden Pole Phone erial uried	\$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ \$ \$ \$ \$ \$	55.00 82.50 605.00 27.50 55.00	Amount 0.00 0.00 0.00 0.00 0.00	\$ \$ \$ \$ \$ \$	150,024. 12,001. 162,026. 3,1 Total Cost
cosion Control Total construction Cost Total caffic Control (8% of Construction Total \$) construction Cost Grand Total cubic Works Utility Relocation Electric cerial corden Pole Phone erial curied coden Pole Ocoden Pole	\$ \$ \$	11.00 16.50 82.50	\$ \$ \$ \$ \$	55.00 82.50 605.00 27.50	Amount 0.00 0.00 0.00 0.00	\$ \$ \$ \$ \$ \$	150,024. 12,001. 162,026. 3,1 Total Cost
rosion Control Total onstruction Cost Total raffic Control (8% of Construction Total \$) onstruction Cost Grand Total ublic Works Utility Relocation Electric erial uried //ooden Pole Phone erial uried //ooden Pole Cable	\$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$	55.00 82.50 605.00 27.50 55.00 605.00	Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	150,024. 12,001. 162,026. 3,1 Total Cost
cosion Control Total construction Cost Total construction Cost Grand Total construction Cost Gra	\$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	55.00 82.50 605.00 27.50 55.00 605.00 27.50	Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	150,024. 12,001. 162,026. 3,1 Total Cost
onstruction Cost Total affic Control (8% of Construction Total \$) construction Cost Grand Total ublic Works Utility Relocation Electric erial uried fooden Pole Phone erial uried fooden Pole Cable erial uried	\$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00	Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	150,024. 12,001. 162,026. 3,1 Total Cost
onstruction Cost Total affic Control (8% of Construction Total \$) onstruction Cost Grand Total ablic Works Utility Relocation Electric erial urried fooden Pole Phone erial urried fooden Pole Cable erial urried fooden Pole	\$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	55.00 82.50 605.00 27.50 55.00 605.00 27.50	Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	150,024. 12,001. 162,026. 3,7 Total Cost
rosion Control Total construction Cost Total raffic Control (8% of Construction Total \$) construction Cost Grand Total ublic Works Utility Relocation Electric erial uried //ooden Pole Phone erial uried //ooden Pole Cable erial uried //ooden Pole Gas main	\$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00	Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	150,024. 12,001. 162,026. 3,7 Total Cost
cosion Control Total construction Cost Total construction Cost Grand Total conden Pole	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$	55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00	Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	\$ \$ \$ \$ \$ \$	150,024 12,001 162,026 3,1 Total Cost
onstruction Cost Total affic Control (8% of Construction Total \$) construction Cost Grand Total ablic Works Utility Relocation Electric erial urried fooden Pole Phone erial urried fooden Pole Cable erial urried fooden Pole Gas main Water ap and Remove (EA)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Inst	55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 66.00 3,780.00	Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	\$ \$ \$ \$ \$ \$	150,024. 12,001. 162,026. 3,1 Total Cost
onstruction Cost Total affic Control (8% of Construction Total \$) construction Cost Grand Total ublic Works Utility Relocation Electric erial uried fooden Pole Phone erial uried fooden Pole Cable erial uried fooden Pole Gas r main Water up and Remove (EA) Unition Cost Grand Total Gooden Cost Grand Total United Gooden Cost Grand Total Gooden Pole Cable United Gas Twain Water United Watermain (LE)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$	55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00 3,780.00 296.00	Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	\$ \$ \$ \$	150,024 12,001 162,026 3,1 Total Cost
onstruction Cost Total affic Control (8% of Construction Total \$) onstruction Cost Grand Total ublic Works Utility Relocation Electric erial uried fooden Pole Phone erial uried fooden Pole Cable erial uried fooden Pole Gas main Water up and Remove (EA) Usuary Watermain (LF) Use Gas Total Use Gas Total Use Gas Total Use Gas Gas Use Gas Use Gas Use Gas Use Gas Gas Use	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$\$\$\$ \$	55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 66.00 3,780.00	Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	\$ \$ \$ \$	150,024 12,001 162,026 3,1 Total Cost
onstruction Cost Total affic Control (8% of Construction Total \$) onstruction Cost Grand Total ublic Works Utility Relocation Electric erial uried fooden Pole Phone erial uried fooden Pole Cable erial uried fooden Pole Gas main Water up and Remove (EA) Usuary Watermain (LF) Use Gas Total Use Gas Total Use Gas Total Use Gas Gas Use Gas Use Gas Use Gas Use Gas Gas Use	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$	55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00 3,780.00 296.00	Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	\$ \$ \$	150,024 12,001 162,026 3,1 Total Cost
cosion Control Total construction Cost Total construction Cost Grand Total construction Electric cerial coden Pole	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$\$\$\$ \$\$\$\$ \$\$\$\$	55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00 3,780.00 296.00 15,120.00	Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	\$ \$ \$	150,024 12,001 162,026 3,1 Total Cost
cosion Control Total construction Cost Total construction Cost Grand Total construction construction Total S construction	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Inst	55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 66.00 3,780.00 296.00 15,120.00 185.00 396.00	Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	\$ \$ \$	150,024 12,001 162,026 3,1 Total Cost
rosion Control Total construction Cost Total caffic Control (8% of Construction Total \$) construction Cost Grand Total ublic Works Utility Relocation Electric erial uried //ooden Pole Phone erial uried //ooden Pole Cable erial uried //ooden Pole Gas ' main Water ap and Remove (EA) !" Watermain (LF) !" Gate Valve (EA) "S" Steel Casing (LF) 5" Jack and Bore (LF) !" 45 degree MJ Bend (EA)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Inst	55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00 3,780.00 296.00 15,120.00 185.00 2,779.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$ \$ \$	150,024 12,001 162,026 3,1 Total Cost
rosion Control Total construction Cost Total raffic Control (8% of Construction Total \$) construction Cost Grand Total ublic Works Utility Relocation Electric erial uried /ooden Pole Phone erial uried /ooden Pole Cable erial uried /ooden Pole Gas ' main Water ap and Remove (EA) 1" Watermain (LF) 1" Gate Valve (EA) 5" Steel Casing (LF) 5" Jack and Bore (LF) 1" 45 degree MJ Bend (EA) 0" Watermain (EA)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Inst	55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00 3,780.00 296.00 15,120.00 185.00 396.00 2,779.00 53.00	Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 1.00 150.00 100.00 100.00 150.00 150.00	\$ \$ \$ \$	150,024 12,001 162,026 3,1 Total Cost
rosion Control Total carfic Control (8% of Construction Total \$) construction Cost Grand Total construction Living Cooden Cost Cooden Pole Cable erial correct construction Phone erial correct construction Cable erial correct construction Cable erial correct construction Cable erial correct correct construction Cable erial correct corr	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Inst	55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00 3,780.00 296.00 15,120.00 396.00 2,779.00 53.00 2,430.79	Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 1.00 150.00 100.00 4.00 150.00 2.00 150.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00	\$ \$ \$	150,024. 12,001.: 162,026. 3,1 Total Cost 3,780.6 44,400. 30,240.6 39,600. 11,116. 7,950. 4,861.5
rosion Control Total construction Cost Total construction Cost Grand Total construction construction Total S construc	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Inst	27.50 605.00 27.50 605.00 27.50 55.00 605.00 27.50 605.00 66.00 3,780.00 296.00 15,120.00 185.00 396.00 2,779.00 53.00 2,430.79 97.83	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$ \$ \$	150,024. 12,001. 162,026. 3,1 Total Cost 3,780.0 44,400.0 30,240.0 18,500.0 39,600.0 11,116.0 7,950.0 4,861.6 9,783.0
rosion Control Total construction Cost Total raffic Control (8% of Construction Total \$) construction Cost Grand Total ublic Works Utility Relocation Electric erial uried /ooden Pole Phone erial uried /ooden Pole Gas ' main Water ap and Remove (EA) ar Watermain (LF) " Gate Valve (EA) " "Jack and Bore (LF) " 45 degree MJ Bend (EA) " Watermain (EA) " Watermain (EA) " Watermain (EA) " Steel Casing (LF) " Jack and Bore (LF)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Inst	55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00 3,780.00 296.00 15,120.00 185.00 2,779.00 53.00 2,430.79 97.83 396.00	Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	* * * * * * * * * * * * * * * * * * * *	150,024 12,001 162,026 3,1 Total Cost
cosion Control Total construction Cost Total affic Control (8% of Construction Total \$) construction Cost Grand Total ablic Works Utility Relocation Electric erial uried fooden Pole Phone erial uried fooden Pole Cable erial uried fooden Pole Gas drain Water ap and Remove (EA) "Watermain (LF) "Gate Valve (EA) "Steel Casing (LF) "45 degree MJ Bend (EA) "Steel Casing (LF) "Steel Casing (LF) "Jack and Bore (LF) "Steel Casing (LF) "Jack and Bore (LF) "Steel Casing (LF) "Jack and Bore (LF)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Inst	27.50 605.00 27.50 605.00 27.50 55.00 605.00 27.50 605.00 66.00 3,780.00 296.00 15,120.00 185.00 396.00 2,779.00 53.00 2,430.79 97.83	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	* * * * *	150,024. 12,001. 162,026. 3,7 Total Cost 3,780. 44,400. 30,240. 18,500. 39,600. 4,861. 9,783. 39,600. 2,704.
rosion Control Total construction Cost Total raffic Control (8% of Construction Total \$) construction Cost Grand Total ublic Works Utility Relocation Electric erial uried /ooden Pole Phone erial uried /ooden Pole Gas ' main Water ap and Remove (EA) the Watermain (LF) the Gate Valve (EA) Setsel Casing (LF) Setsel Casing (LF) The Gate Valve (EA) The Watermain (EA) The W	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Inst	\$1,120.00 \$2,75.00 \$2,50.00 \$2,50.00 \$2,50.00 \$2,75.00 \$65.00 \$2,75.00 \$66.00 \$3,780.00 \$296.00 \$15,120.00 \$185.00 \$2,779.00 \$3,00 \$2,	Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	* * * * * * * * * * * * * * * * * * * *	150,024 12,001 162,026 3,1 Total Cost
cosion Control Total construction Cost Total construction Cost Grand Total construction construction Total S construction	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Inst	55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00 3,780.00 296.00 15,120.00 185.00 2,779.00 53.00 2,430.79 97.83 396.00	Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	* * * * *	150,024 12,001 162,026 3,1 Total Cost



Date Updated: 7/12/2016

Cost Estimate: \$5,520.98

Est. Project Length: 1 Week

Construction: Compete

Property Access:

Utilities:

Preliminary Eng:

Right Of Way:

Construction: Compete

Contractor: McCoy Grading

Const Start Date: 3/7/2016

Completion Date: 3/14/2016

Problem: Washout around an undersized 36 in. diameter corrugated metal pipe inlet

caused shoulder and pipe failure.

Propsed Solution: Replace the current pipe with a 42 in. reinforced concrete pipe and headwalls.

Percent Complete: 100

Current Status: Complete

Total Cost: \$46,257



Construction Photo



Post Construction Photo





Date Updated: 7/13/2016

Cost Estimate: \$75,000.00

Est. Project Length: 3 Weeks

Construction: In-House

Property Access: Complete
Utilities: Complete

Preliminary Eng: Complete

Right Of Way:

Construction: In-House

Contractor: Fayette County

Const Start Date: 5/27/2014

Completion Date: 9/14/2014

Problem: Road floods during the 2-year storm

event.

Propsed Solution: Install a 3'x6' concrete box culvert 60'

long under Brittany Way.

Percent Complete: 100

Current Status: Complete

Total Cost: \$67,432



Construction Photo



Post Construction Photo





Date Updated: 7/11/2016

Cost Estimate: \$24,671.06

Est. Project Length: 1 Week

Construction: Complete

Property Access:

Utilities:

Preliminary Eng:

Right Of Way:

Construction: Complete

Contractor: Brent Scarbrough and Company

Const Start Date: 12/24/2015

Completion Date: 12/31/2015

Problem: On 12/24/15, approximately 60 homes

within the Chanticleer Subdivision were without water and had no access to and from their homes when a 72-inch diameter corrugated metal pipe failed,

collapsing the road.

Propsed Solution: 1 - 72-inch RCP pipe with headwall

Percent Complete: 100

Current Status: Completed

Total Cost: \$101, 636

Construction Photo



Post Construction Photo





Date Updated: 7/12/2016

Cost Estimate: \$65,000.00

Est. Project Length: 3 Weeks

Construction: Complete

Property Access: Complete

Utilities: Complete

Preliminary Eng: Complete

Right Of Way:

Construction: Complete

Contractor: Fayette County

Const Start Date: 7/1/2015

Completion Date: 8/15/2015

Problem: Undersized pipes in Northridge

Subdivision results in flooding of road, lots and several homes along Lawson Lane. Project would replace existing pipe and add additional drainage

structures.

Propsed Solution: Replace existing pipe and add additional

drainage structures.

Percent Complete: 100

Current Status: Completed

Total Cost: \$94,509



Construction Photo



Post Construction Photo





Date Updated: 7/11/2016

Cost Estimate: \$23,543.16

Est. Project Length: 1 Week

Construction: Complete

Property Access: Complete

Utilities: Complete

Preliminary Eng: Complete

Right Of Way:

Construction: Complete

Contractor: McCoy Grading

Const Start Date: 3/12/2016

Completion Date: 3/18/2016

Problem: Washout around the 54 in. diameter

corrugated metal pipe caused shoulder

and pipe failure.

Propsed Solution: Replaced the current pipe with a 60 in.

reinforced concrete pipe and headwalls.

Percent Complete: 100

Current Status: Complete

Total Cost: \$44,523



Construction Photo



Post Construction Photo





Date Updated: 7/12/2016

Cost Estimate: \$6,127.50

Est. Project Length: 1 week

Construction: Complete

Property Access:

Utilities:

Preliminary Eng:

Right Of Way:

Construction: Complete

Contractor: McCoy Grading

Const Start Date: 3/1/2016

Completion Date: 3/4/2016

Problem: Washout around the 54 in. diameter

corrugated metal pipe caused complete

road failure.

Propsed Solution: Install a 54 in. reinforced concrete pipe

and headwalls.

Percent Complete: 100

Current Status: Completed

Total Cost: \$41,820



Construction Photo



Post Construction Photo





Date Updated: 7/13/2016

Cost Estimate: \$3,846.48

Est. Project Length: 1 week

Complete **Construction:**

Property Access:

Utilities:

Preliminary Eng:

Right Of Way:

Construction: Complete

Brent Scarbrough and Company Contractor:

Const Start Date: 1/12/2016

1/14/2016 **Completion Date:**

Problem: During the 2015 Christmas and New

Years flooding events two-36 in. diameter corrugated metal pipes failed

causing immanent road failure.

Replace with two-36 in. diameter **Propsed Solution:**

reinforced concrete pipes and headwalls.

Percent Complete: 100

Current Status: Completed

Total Cost: \$68,419

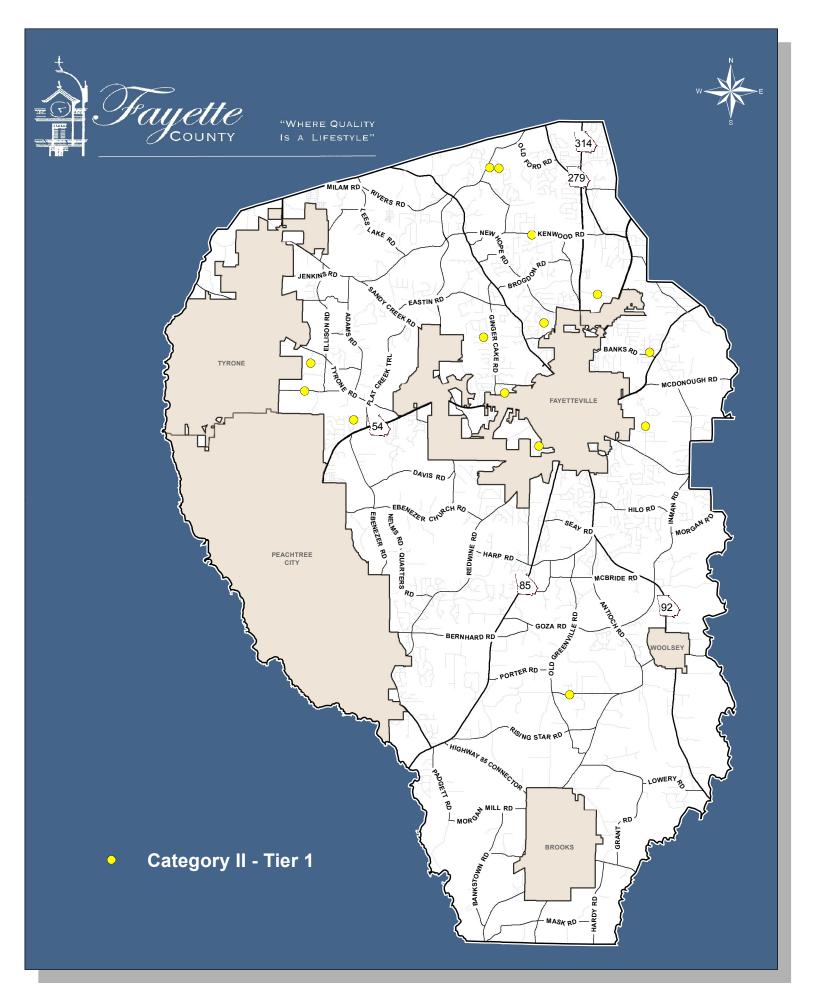


Construction Photo



Post Construction Photo





SPLOST 2017 Stormwater Improvements

CATEGORY II - TIER 1

PROJECT NAME	PROJECT DESCRIPTION	ESTIMATED COST
514 Avalon Dr	48" RCP, 300'	\$169,118
215 Brandon Mill Cir - South	8'x4' RBC, 200'; system evaluation	\$437,648
266 Callaway Rd	trp 10'x4' RBC, 80'	\$533,218
364 Chappel Rd	dbl 8'x5' RBC, 70'	\$336,399
120 Deer Forest Trl	4'x3' RBC, 100'	\$145,508
315 Dogwood Trl	trp 7' x 7' RBC, 80'	\$595,879
120 Mercedes Trl	dbl 8'x4' RBC, 60'	\$224,070
130 Morning Dove Dr	dbl 10'x4' RBC, 70'	\$244,389
151 Patricia Ln	8'x4' RBC, 150'	\$295,527
199 Roberts Rd	7'x4' RBC, 85'	\$193,861
160 Scott Blvd	4'x2' RBC, 50'	\$99,114
175 Silver Leaf Dr	dbl 4'x3' RBC, 140'	\$247,827
503 Westbridge Dr	5'x3' RBC, 45'	\$89,733
517 Westbridge Dr	5'x3' RBC, 45'	\$93,082
	Tier 1 Subtotal	\$3,705,373

General Inf	formation	Мар
Project ID		
Street Name	Avalon Dr	
	6/11/2013	
Site Visit Date	Internal Local	
Road Classification Project		
-	Notes	
Rural typical section		Avaha D
		3.50
		Old Mag no lie. Lin
		Old Magno is Ln
Field N	lates	Che Magne in Tu Spirit Many Way.
		4 1
Design (Existing Existing Road Laneage		* 5
	2 - 12'	a semest
Existing Shid Width (paved and		Aspen Way 0
Existing Side Slopes	flat	a state of the sta
Existing Guardrail	None	0" 3
Depth fm Pavement to Top of Cu		CadacLn
Pipe Type and Size	30", 300' CMP	18
Pipe Condition (1-5) (1 is new)	\$ 3.00	
Pavement Type/Condition	Asphalt/Good	
		Stage Construction Options
Environment		Close Location to Traffic X
Wetlands	None	Maintain One Lane - No Temp Pavement
Ditches	X	Maintain One Lane - Temp Pavement
		Stage Construction Notes:
Utilities (Visua	ll Inspection)	
Electric	Aerial	
Cable	Aerial	
Phone	Aerial	
Gas	None	
Water	X	
Sewer	None	
Other		
	Propose	ed Design
Bandway Castion	Typical	
Roadway Section		
Culvert Size 9 Meterial	48" round RCP, 300' length	
Culvert Size & Material		
Hility Pologoticas	Water main	
Utility Relocations		
Guardrail Benlacement		
Guardrail Replacement		
Miscellaneous Features		
	Planning C	ost Estimate
Туре	Notes	
Design	Includes 10% Construction Co	
Right of Way Cost	Assuming 2,000 sf o	
Utility Relocation Cost	50 ft of wate	
Construction Cost	Applying 1/10 acre clearin	
Environmental Permits	Assuming mininmal environment	
2		
	Total Di	anning Estimate \$460.440
	I Otal P	anning Estimate \$169,118
The second secon		



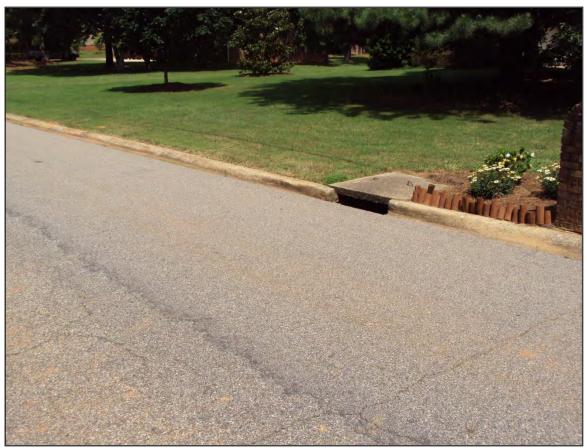




Photo 1:



Photo 2:

7/2/2013

Taken By:

David King

Page:

Roadway Construction						tal Cost
Dougnant (CE)	Removal L	Jnit Cost	Installation Unit Cost	Amount	To	ital Cost
Pavement (SF)	\$	0.73	4.87	\$ 600.00	\$	3,363.20
Curb and Gutter (LF)	\$	28.56	30.60		\$	-
	Ψ	20.00				
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	S -	\$	-
Subtotal			1,000.00	•	\$	3,363.20
Subtotal					Ψ	3,303.20
Grading Complete (5% of Rwy Items & Drng Total \$)					\$	4,637.64
Roadway Total					\$	8,000.84
riodanay rotal					Ψ.	0,000.01
Designation	D	l=:4 O==4	Installation Hait Cost	A	т.	4-1 04
Drainage	Removai C	Init Cost	Installation Unit Cost			otal Cost
Trench Excavation (CY)			10.38		\$	6,228.00
30" CMP (LF)	\$	19.62		\$ 300.00	\$	5,886.00
48" RCP (LF)			193.20	\$ 300.00	\$	57,960.00
Class A Conc (CY)			892.19	\$ 13.70	\$	12,222.98
Steel (lb)			1.42		\$, _
						2 240 00
Pipe Bedding (CY)			48.60		\$	3,240.00
Trench Backfill (CY)			2.99			1,425.40
Trench Compaction (CY)			6.36	\$ 381.63	\$	2,427.18
Drainage Total					\$	89,389.55
Drainago rotai					Ψ	00,000.00
Cincinn and Marking			In a tallation III is Committee	A 1	_	4-10
Signing and Marking			Installation Unit Cost	Amount		tal Cost
Permanent Striping (LF)			0.71	\$ -	\$	-
•						
Signing and Marking Total					\$	-
organing and marking rotal					Ψ	
Storing			Installation I In to O	A	_	tal C
Staging			Installation Unit Cost			otal 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
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			,	•	•	,
Storing Total					¢.	E 4E4 00
Staging Total					\$	5,454.00
Erosion Control			Installation Unit Cost	Amount	To	tal Cost
Fine Grading and Seeding (SY)			4.39		\$	3,367.20
g , ,			855.60		\$	-
Temporary Grassing (AC)						
Type C Silt Fence (LF)			4.24			2,541.60
Check Dam Type C Silt Fence (LF)			6.79	\$ 600.00	\$	4,075.20
Erosion Control Mats (SY)			1.87	\$ 200.00	\$	374.40
Landscape Mulch (SY)			3.58	\$ 200.00	\$	715 20
Landscape Mulch (SY)			3.58			715.20
Perm Grassing (AC)			1,402.20	\$ -	\$	-
Perm Grassing (AC) Rip Rap Type 3 12" (SY)			1,402.20 60.98	\$ - \$ 66.67	\$ \$	715.20 - 4,065.60
Perm Grassing (AC)			1,402.20	\$ - \$ 66.67	\$	-
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			1,402.20 60.98	\$ - \$ 66.67 \$ 66.67	\$ \$ \$	- 4,065.60
Perm Grassing (AC) Rip Rap Type 3 12" (SY)			1,402.20 60.98 5.72	\$ - \$ 66.67 \$ 66.67	\$ \$	- 4,065.60
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			1,402.20 60.98 5.72	\$ - \$ 66.67 \$ 66.67	\$ \$ \$	4,065.60 381.60
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			1,402.20 60.98 5.72	\$ - \$ 66.67 \$ 66.67	\$ \$ \$	4,065.60 381.60
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			1,402.20 60.98 5.72	\$ - \$ 66.67 \$ 66.67	\$ \$ \$	4,065.60 381.60 - 15,520.80
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			1,402.20 60.98 5.72	\$ - \$ 66.67 \$ 66.67	\$ \$ \$	4,065.60 381.60
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			1,402.20 60.98 5.72	\$ - \$ 66.67 \$ 66.67	\$ \$ \$	4,065.60 381.60 - 15,520.80
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			1,402.20 60.98 5.72	\$ - \$ 66.67 \$ 66.67	\$ \$ \$	4,065.60 381.60 - 15,520.80 118,365.19
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			1,402.20 60.98 5.72	\$ - \$ 66.67 \$ 66.67	\$ \$ \$ \$ \$ \$ \$ \$ \$ 1	4,065.60 381.60 - 15,520.80 118,365.19
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)			1,402.20 60.98 5.72	\$ - \$ 66.67 \$ 66.67	\$ \$ \$ \$ \$ \$ \$	4,065.60 381.60 - 15,520.80 118,365.19 9,469.22
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			1,402.20 60.98 5.72	\$ - \$ 66.67 \$ 66.67	\$ \$ \$ \$ \$ \$ \$	4,065.60 381.60 - 15,520.80 118,365.19
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total			1,402.20 60.98 5.72 54.65	\$ - \$ 66.67 \$ 66.67 \$ -	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,065.60 381.60 15,520.80 118,365.19 9,469.22
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal L	Jnit Cost	1,402.20 60.98 5.72	\$ - \$ 66.67 \$ 66.67 \$ -	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,065.60 381.60 - 15,520.80 118,365.19 9,469.22
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total	Removal L	Jnit Cost	1,402.20 60.98 5.72 54.65	\$ - \$ 66.67 \$ 66.67 \$ -	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,065.60 381.60 15,520.80 118,365.19 9,469.22
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal L	Jnit Cost 11.00	1,402.20 60.98 5.72 54.65	\$ - \$ 66.67 \$ 66.67 \$ -	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,065.60 381.60
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$	11.00	1,402.20 60.98 5.72 54.65	\$ - \$ 66.67 \$ 66.67 \$ -	\$ \$ \$ \$ \$ \$ \$ To \$	4,065.60 381.60 15,520.80 118,365.19 9,469.22
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50	\$ - \$ 66.67 \$ 66.67 \$ - Amount \$ - \$ -	\$ \$ \$ \$ \$ \$ To \$ \$ \$	4,065.60 381.60 15,520.80 118,365.19 9,469.22
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$	11.00	1,402.20 60.98 5.72 54.65	\$ - \$ 66.67 \$ 66.67 \$ - Amount \$ - \$ -	\$ \$ \$ \$ \$ \$ \$ To \$	4,065.60 381.60 15,520.80 118,365.19 9,469.22
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00	\$ - \$ 66.67 \$ 66.67 \$ - Amount \$ - \$ - \$ -	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,065.60 381.60 15,520.80 118,365.19 9,469.22
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$ \$ \$	11.00 16.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50	\$ - \$ 66.67 \$ 66.67 \$ - Amount \$ - \$ - \$ -	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,065.60 381.60 15,520.80 118,365.19 9,469.22
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00	\$ - \$ 66.67 \$ 66.67 \$ - Amount \$ - \$ - \$ -	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,065.60 381.60 15,520.80 118,365.19 9,469.22
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00	\$ - \$ 66.67 \$ 66.67 \$ - \$ - \$ - \$ - \$ - \$ -	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,065.60 381.60 15,520.80 118,365.19 9,469.22
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole	\$ \$ \$	11.00 16.50 82.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50	\$ - \$ 66.67 \$ 66.67 \$ - \$ - \$ - \$ - \$ - \$ -	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,065.60 381.60 - 15,520.80 118,365.19 9,469.22
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00	\$ - \$ 66.67 \$ 66.67 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,065.60 381.60 - 15,520.80 118,365.19 9,469.22
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Wooden Pole Cable Aerial	\$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00	\$ - 66.67 \$ 66.67 \$	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,065.60 381.60 - 15,520.80 118,365.19 9,469.22
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$\$\$ \$\$\$ \$\$	11.00 16.50 82.50 11.00 16.50 82.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00	\$ - 66.67 \$ 66.67 \$	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,065.60 381.60 - 15,520.80 118,365.19 9,469.22
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Wooden Pole Cable Aerial	\$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00	\$ - 66.67 \$ 66.67 \$	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,065.60 381.60 - 15,520.80 118,365.19 9,469.22
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$\$\$ \$\$\$ \$\$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00	\$ - 66.67 \$ 66.67 \$	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,065.60 381.60 - 15,520.80 118,365.19 9,469.22
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00	\$ - 66.67 \$ 66.67 \$	\$\$\$\$\$ \$ TO \$\$\$\$ \$\$\$\$	4,065.60 381.60 - 15,520.80 118,365.19 9,469.22
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Gas 4" main	\$\$\$ \$\$\$ \$\$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00	\$ - 66.67 \$ 66.67 \$	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,065.60 381.60 - 15,520.80 118,365.19 9,469.22
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00	\$ - 66.67 \$ 66.67 \$	\$\$\$\$\$ \$ TO \$\$\$\$ \$	4,065.60 381.60
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Gas 4" main	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00	\$ - 66.67 \$ 66.67 \$	\$\$\$\$\$ \$ TO \$\$\$\$ \$\$\$\$	4,065.60 381.60
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00	\$ - 66.67 \$ 66.67 \$	\$\$\$\$\$ \$ TO \$\$\$\$ \$\$\$\$ \$\$\$\$	4,065.60 381.60
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00	\$ - 66.67 \$ 66.67 \$	\$\$\$\$\$ \$ TO \$\$\$\$ \$	4,065.60 381.60
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 606.00 66.00 93.50 2,609.22	\$ - 66.67 \$ 66.67 \$	\$\$\$\$\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,065.60 381.60
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Rerial Buried Wooden Pole Rerial Buried Rerial Buried Resocate Fire Hydrant (EA) Sewer 12" main	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00	\$ - 66.67 \$ 66.67 \$	\$\$\$\$ \$ \$ T \$\$\$ \$\$\$\$ \$\$\$\$ \$\$\$\$	4,065.60 381.60
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 606.00 66.00 93.50 2,609.22	\$ - 66.67 \$ 66.67 \$	\$\$\$\$\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,065.60 381.60
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Rerial Buried Wooden Pole Rerial Buried Rerial Buried Resocate Fire Hydrant (EA) Sewer 12" main	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 606.00 66.00 93.50 2,609.22	\$ - 66.67 \$ 66.67 \$	\$\$\$\$ \$ \$ T \$\$\$ \$\$\$\$ \$\$\$\$ \$\$\$\$	4,065.60 381.60
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole Gas 4" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 605.00 66.00 93.50 2,609.22 82.50	\$ - 66.67 \$ 66.67 \$	\$	4,065.60 381.60
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 605.00 66.00 93.50 2,609.22 82.50	\$ - 66.67 \$ 66.67 \$	\$	4,065.60 381.60
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole Cable Aerial Bu	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 605.00 66.00 93.50 2,609.22 82.50	\$ - 66.67 \$ 66.67 \$	\$	4,065.60 381.60
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	1,402.20 60.98 5.72 54.65 Installation Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 605.00 66.00 93.50 2,609.22 82.50	\$ - 66.67 \$ 66.67 \$	\$	4,065.60 381.60

General Information		
Project ID		
Street Name	Brandon Mill Cir - South	
Site Visit Date	5/22/13	
Road Classification	Minor road	

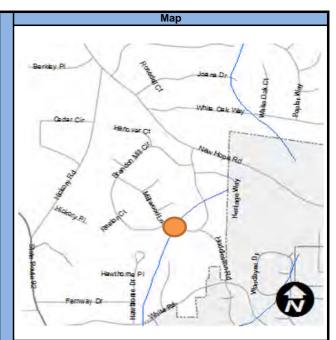
Project Notes

Neighborhood drainage system evaluation and replacement. 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	72" CMP		
Pipe Condition (1-5) (1 is new)	5 (Installation)		

Condition Notes: no headwall upstream or down; bends restrict capacity; signs of flooding; pipe condition due to installation

Pavement Type/Condition		Asphalt/Good	
Environment			
Wetlands	None		
Ditches	N	one	
Utilities (Visua	al Inspection)		
Electric	Buried		
Cable	Buried		
Phone	Buried		
Gas			
Water	Bu	ıried	
Sewer			
Other			



Stage Construction Options		
X		

Stage Construction Notes: Close roadway;

driveway over pipe; replacement impacts property to the right

\$437,648

Otner				
	Proposed Design			
Roadway Section	Typical. Private driveway removal/replacement costed as 9' x 20' section of 4" sidewalk			
Culvert Size & Material	8' x 4' box, concrete, 200' length			
Jtility Relocations	Electric, cable, phone, water			
Guardrail Replacement				
Miscellaneous Features	Assumed hydraulic analysis of existing system			
	Planning Cost Estimate			
Type	Notes	Total		
System Evaluation		\$25,000		
Design	Includes 10% Construction Cost and surveying needs	\$42,841		
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 \$303,407			
Environmental Permits	Assuming minimal environmental permitting required	\$10,000		

Total Planning Estimate







Photo 1:



Photo 2:

6/13/2016

Taken By:

Tony Hicks

Page:

Roadway Construction, Utility Relocation and ROW Quantity Calculations

	Por	noval		nstallation			
Roadway Construction	Uni	t Cost		Unit Cost	Amount		Total Cost
Pavement (SF) Curb and Gutter (LF)	\$ \$	0.73 28.56	\$	4.87 30.60	200.00 20.00		1,121.0 1,183.2
Orain Inlet (EA)	Ф	20.50	\$	3,000.00	0.00		1,103.2
" Sidewalk (SY)		13.56	\$	36.90	20.00	\$	1,009.2
Guardrail (LF)		4.884	\$	49.09	0.00		-
nd Anchorage (EA)			\$	1,380.00	0.00		-
subtotal						\$	3,313.4
Grading Complete (5% of Rwy Items & Drng To	otal \$)					\$	12,502.2
loadway Total						\$	15,815.6
	Por	noval		Installation			·
Drainage		t Cost		Unit Cost	Amount		Total Cost
rench Excavation (CY)	•	E4.00	\$	10.38	814.81		8,457.7
2" CMP (LF) 2" RCP	\$	54.00	\$	390.00	200.00		32,400.0
lass A Conc (CY)			\$	892.19	183.68		163,877.0
teel (lb)			\$	1.42	21835.00		30,918.3
ipe Bedding (CY)			\$	48.60	74.80		3,635.2
rench Backfill (CY)			\$	2.99	921.50		2,753.4
rench Compaction (CY)			\$	6.36	737.20	\$	4,688.5
rainage Total						\$	246,730.5
Signing and Marking			ı	Installation	Amount		Total Cost
ermanent Striping (LF)			\$	Unit Cost 0.71		\$	
,			Þ	0.71	U		-
Signing and Marking Total						\$	
Staging			ı	Installation Unit Cost	Amount		Total Cost
learing and Grubbing (Acre)			\$	10,260.00	0.10	\$	1,026.0
emporary Pavement emporary Drainage (Stream Diversion)			\$	4,428.00	1.00	\$	4,428.0
			Ψ	4,420.00	1.00		
taging Total						\$	5,454.0
				Installation			
Erosion Control				Unit Cost	Amount		Total Cost
ine Grading and Seeding (SY)			\$	4.39	200.00	\$	878.4
emporary Grassing (AC)			\$	855.60	0.00		-
Type C Silt Fence (LF)			\$	4.24	800.00		3,388.8
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY)			\$ \$	6.79 1.87	800.00 266.67		5,433.6 499.2
andscape Mulch (SY)			\$	3.58	266.67		953.6
erm Grassing (AC)			\$	1,402.20	0.00		-
tip Rap Type 3 12" (SY)			\$	60.98	26.67	\$	1,626.2
lastic Filter Fabric (SY)			\$	5.72	26.67		152.0
" Ditch Paving (SY)			\$	54.65	0.00	\$	-
rosion Control Total						\$	12,932.
onstruction Cost Total						\$	280,932.
raffic Control (8% of Construction Total)						\$	22,474.0
Construction Cost Grand Total						\$	303,407.2
	Rer	noval		Installation			,
Utility Relocation Electric	Uni	t Cost		Unit Cost	Amount		Total Cost
erial	\$	11.00	\$	55.00		\$	-
uried	\$	16.50	\$	82.50	75	\$	7,425.0
/ooden Pole	\$	82.50	\$	605.00		\$	-
Phone erial	\$	11.00	\$	27.50		\$	=
uried	\$	16.50	\$	55.00	75	\$	5,362.5
/ooden Pole	\$	82.50	\$	605.00		\$	-
Cable							
erial	\$	11.00	\$	27.50	_	\$	
uried /ooden Pole	\$ \$	16.50	\$	55.00 605.00	75	\$ \$	5,362.
Gas	\$	82.50	\$	605.00		Ф	-
' main	\$	16.50	\$	66.00		\$	-
Water	•						
' main	\$	16.50	\$	93.50	75		8,250.0
elocate Fire Hydrant (EA) Sewer			\$	2,609.22	0	\$	-
2" main	\$	16.50	\$	82.50	0.00		
tility Relocation Total						\$	26,400.0
ight of Way (Sq Ft)			Со	st/ Sq Ft	Sq Ft	Tota	l Cost
ermanent Easement			\$	4.00	7500		30,000.0
OW Total						\$	30,000.0

General In	formation		Мар	
Project ID				
Street Name	266 Callaway Rd.	Buckaye Lu	McDonagh Rd	
Site Visit Date	5/21/13	yes/c	McConagh & Constitution of the Constitution of	
Road Classification	Minor road	M 4 1	\$ \S()	
Project		10 m	1 /dx / gr	
Rural Typical Section	110103	S SEASON	KIN	
Rufai Typicai Section		() L + 1		
		14 / Ko (T	Dub Rd	
		184	The state of the s	
			CearbookWay 5	
Field N	Notes	7- (3)		
Design (Existing		Hilliacius Tel	Den CeekTri	
Existing Road Laneage	2 - 12'			
Existing ShId Width (paved and	grass) (feet) 2' (Grass)	= 4	Hot m	
Existing Side Slopes	2:1	+4-	Brianwood Ct	
Existing Guardrail	None	7 17		
Depth fm Pavement to Top of Cu	Ilvert (ft): Assumed 3'	1	She by Lri	
Pipe Type and Size	60" CMP (egg)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	A ve	
Pipe Condition (1-5) (1 is new)	4	widte a p	California California	
Condition Notes:			ate a	
		7.7		
Pavement Type/Condition	Asphalt/Good			
· ·	·	Stage	Construction Options	
Environment	tal Features	Close Location to Traffi		
Wetlands	None	Maintain One Lane - No		
Ditches	Noted	Maintain One Lane - Ter	np Pavement	
		Stage Construction Notes	:	
		45 mph posted speed		
Utilities (Visua	al Inspection)			
Electric	Aerial			
Cable	None			
Phone	Aerial			
Gas	None			
Water	Buried			
Sewer	None			
Other				
	Propose	ed Design		
Roadway Section				
Culvert Size & Material		ngth. Cost of removing eliptic	cal CMP assumed to be equal to circular	
	CMP			
Utility Relocations	Water			
	Need to install quardrail due to sig	المالية من المعادلة	ion	
Guardrail Replacement	Need to install guardrall due to sic	de slopes and culvert installat	ion	
	Zone A, Floodplain Analysis Requ	irod		
Miscellaneous Features	Zone A, Floodplain Analysis Requ	illeu		
	Planning C	ost Estimate		
Туре	Notes		Total	
Design	Includes 10% design cost and surveying needs		\$53,724	
Right of Way Cost	Assuming project extends 1	\$44,000		
Utility Relocation Cost	Buried wate		\$8,250	
Construction Cost	Assuming 1/10 acre clearing	\$412,243		
Environmental Permits	Includes Zone A Floo	\$15,000		
	Total D	lanning Estimate	\$533,218	
	I Olai P	ianning Estimate	φυυυ _ι Δ10	







Photo 1:



Photo 2:

5/21/2013

Taken By:

David King

Page:





Photo 3:



Photo 4:

9/26/2012

Taken By:

Tony Hicks

Page:

Roadway Construction Pavement (SF) Curb and Gutter (LF) Drain Inlet (EA) 4" Sidewalk (SY) Guardrail (LF) End Anchorage (EA) Subtotal Grading Complete (5% of Rwy Items & Drng Total \$)	Removal Unit Cost \$ 0.73 \$ 28.56 \$ 13.56 \$ 4.88	Installation Unit Cost \$ 4.87 \$ 30.60 \$ 3,000.00 \$ 36.90 \$ 49.09 \$ 1,380.00	Amount 864.00 0.00 0.00 0.00 600.00 2.00	\$ - \$ -
Roadway Total				\$ 57,162.17
Drainage Trench Excavation (CY) 60" CMP (LF) 84" RCP Class A Conc (CY) Steel (lb) Pipe Bedding (CY) Trench Backfill (CY) Trench Compaction (CY)	Removal Unit Cost \$ 24.60	Installation Unit Cost \$ 10.38 \$ 142.52 \$ 892.19 \$ 1.42 \$ 48.60 \$ 2.99 \$ 6.36	30,224.00	\$ 5,904.00 \$ - \$234,145.82 \$ 42,797.18 \$ 4,723.92 \$ 2,609.92
Drainage Total				\$303,482.64
Signing and Marking Permanent Striping (LF)		Installation Unit Cost \$ 0.71	Amount 0.00	Total Cost \$ -
Signing and Marking Total				\$ -
Staging Clearing and Grubbing (Acre) Temporary Pavement Temporary Drainage (Stream Diversion)		Installation Unit Cost \$ 10,260.00 \$ 4,428.00	Amount 0.10	Total Cost \$ 1,026.00 \$ - \$ 4,428.00
Staging Total		, , , , , , , , , , , , , , , , , , , ,		\$ 5,454.00
Erosion Control Fine Grading and Seeding (SY) Temporary Grassing (AC) Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC)		Installation Unit Cost \$ 4.39 \$ 855.60 \$ 4.24 \$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20	Amount 224.00 0.00 640.00 640.00 213.33 213.33 0.00	\$ - \$ 2,711.04 \$ 4,346.88 \$ 399.36 \$ 762.88
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)		\$ 60.98 \$ 5.72 \$ 54.65	96.00 96.00 0.00	\$ 549.50
Erosion Control Total				\$ 15,607.94
Construction Cost Total				\$381,706.75
Traffic Control (8% of Construction Total \$)				\$ 30,536.54
Construction Cost Grand Total				\$412,243.29
Utility Relocation Electric Phone Cable Gas	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
4" main Water	\$ 16.50	\$ 66.00		\$ -
Relocate Fire Hydrant (EA) Utility Relocation Total	\$ 16.50	\$ 93.50 \$ 2,609.22	75.00	\$ 8,250.00 \$ - \$ 8,250.00
Right of Way (Sq Ft) Permanent Easement ROW Total		Cost/ Sq Ft \$ 4.00	Sq Ft 11,000.00	Total Cost

General In	formation		Мар	
Project ID				
Street Name	Chappell Rd.		OS RO Kayla D	
Site Visit Date	5/21/13			
Road Classification	Minor arterial	Shear for	1 / 1	
Project	Notes			
Rural Typical Section		Old Greenville, Rd. Marth Dr.		
Field I		C/b poell	B 3	
Design (Existing	g Site Features)		Modern Creek	
Existing Road Laneage	2 - 12'	(0	* * \ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	
Existing ShId Width (paved and g		Aford Do	2 1000 S	
Existing Side Slopes	1.5:1	S D	1 1 1	
Existing Guardrail	None		Burchlake as	
Depth fm Pavement to Top of Cu		Paing Star Rd	1 1 1	
Pipe Type and Size	1-72" CM	IP \	1 1 1	
Pipe Condition (1-5) (1 is new)	3	Pa A		
Condition Notes:		Hestady Rd	Msions Rd	
Pavement Type/Condition	Asphalt/Go			
		Stage	e Construction Options	
Environmen	tal Features	Close Location to Traff		
Wetlands	Upstream (?)	Maintain One Lane - No	Temp Pavement	
Ditches	Along road	Maintain One Lane - Te		
		Stage Construction Note	es:	
		Near side street and driv	veway	
		40 mph work zone		
Utilities (Visua	al Inspection)			
Electric	Aerial			
Cable	Buried			
Phone	Buried			
Gas				
Water	Buried			
Sewer				
Other				
	Pro	pposed Design		
Roadway Section		es, temporary road consists of 8"	gravel fill	
Culvert Size & Material	dbl 8' x 5' box, concrete, 70'	length		
Utility Relocations	Cable, telephone, water			
Guardrail Replacement	Proposed Guardrail Installati	on due to proposed culvert(s) and	d side slopes	
Miscellaneous Features				
	Plann	ing Cost Estimate		
Туре		lotes	Total	
Design		on Cost and surveying needs	\$28,964	
Right of Way Cost	Assuming project extends 16,250 sf beyond ROW \$32,500			
Utility Relocation Cost		ed utilities	\$25,300	
Construction Cost	Assuming 1/10 acr	e clearing and grubbing	\$239.635	

Assuming 1/10 acre clearing and grubbing Permits, Zone A Floodplain Analysis

Total Planning Estimate

\$239,635 \$10,000

\$336,399



Construction Cost Environmental Permits





Photo 1:



Photo 2:

5/21/2013

Taken By:

David King

Page:





Photo 3:



Photo 4:

5/21/2013

Taken By:

David King

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Roadway Construction	Removal Un		Installation Un		Amount	Total C	
Pavement (SF)	\$ \$	0.73 28.56	\$ \$	4.87 30.60	432.00 0.00		21.50
Curb and Gutter (LF) Drain Inlet (EA)	Φ	20.50		30.00	0.00		-
4" Sidewalk (SY)	\$	13.56	\$	36.90	0.00	*	-
Guardrail (LF)	\$	4.88	\$	49.09	625.00		35.00
End Anchorage (EA)	•			,380.00	2.00		60.00
Subtotal						\$ 38,9	
Grading Complete (5% of Rwy Items & Drng Total \$)						\$ 10,1	64.98
Roadway Total						\$ 49,0	81.49
Drainage	Removal Un	it Coot	Installation Un	it Coot	Amount	Total C	oot
Drainage Trench Excavation (CY)	Removal Ur	iii Cosi	\$	10.38	606.67		97.20
72" CMP (LF)	\$	63.00	Ψ	10.50		\$ 13,2	
72" RCP (LF)	•	00.00	\$	390.00	0.00		-
Class A Conc (CY)			\$	892.19	132.51	\$118,2	23.83
Steel (lb)			\$	1.42	13,383.00		50.33
Pipe Bedding (CY)			\$	48.60	48.00		32.80
Trench Backfill (CY)			\$	2.99	662.33		79.05
Trench Compaction (CY)			\$	6.36	529.87	\$ 3,3	69.95
Drainage Total						\$164,3	83 16
Drainage Total						Ψ 104,5	00.10
Signing and Marking			Installation Un	it Cost	Amount	Total C	ost
Permanent Striping (LF)			\$	0.71	72.00	\$	50.98
, ,							
Signing and Marking Total						\$	50.98
						_	
Staging			Installation Un		Amount	Total C	
Clearing and Grubbing (Acre)),260.00	0.10		26.00
Temporary Gravel Road (SY) Temporary Drainage (Stream Diversion)			\$ \$	15.42 1,428.00	977.78 1.00		77.33 28.00
Temporary Dramage (Stream Diversion)			Φ 4	,420.00	1.00	φ 4,4	20.00
Staging Total						\$ 20,6	33.29
						¥,-	
Erosion Control			Installation Un	it Cost	Amount	Total C	ost
Fine Grading and Seeding (SY)			\$	4.39	92.00		04.06
Temporary Grassing (AC)			\$	855.60	0.00	\$	-
Type C Silt Fence (LF)			\$	4.24	280.00		86.08
Check Dam Type C Silt Fence (LF)			\$	6.79	280.00	\$ 1,9	01.76
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY)			\$ \$	6.79 1.87	280.00 93.33	\$ 1,9 \$ 1	01.76 74.72
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY)			\$ \$ \$	6.79 1.87 3.58	280.00 93.33 93.33	\$ 1,9 \$ 1 \$ 3	01.76
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC)			\$ \$ \$	6.79 1.87	280.00 93.33 93.33 0.00	\$ 1,9 \$ 1 \$ 3 \$	01.76 74.72 33.76
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY)			\$ \$ \$	6.79 1.87 3.58 ,402.20	280.00 93.33 93.33	\$ 1,9 \$ 1 \$ 3 \$ \$ 2,9	01.76 74.72
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98	280.00 93.33 93.33 0.00 48.00	\$ 1,9 \$ 1 \$ 3 \$ \$ 2,9 \$ 2	01.76 74.72 33.76 - 27.23
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ \$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98 5.72	280.00 93.33 93.33 0.00 48.00 48.00	\$ 1,9 \$ 1 \$ 3 \$ \$ 2,9 \$ 2	01.76 74.72 33.76 - 27.23
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ \$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98 5.72	280.00 93.33 93.33 0.00 48.00 48.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2	01.76 74.72 33.76 - 27.23
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ \$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98 5.72	280.00 93.33 93.33 0.00 48.00 48.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2 \$	01.76 74.72 33.76 - 27.23 74.75 - 02.37
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ \$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98 5.72	280.00 93.33 93.33 0.00 48.00 48.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2	01.76 74.72 33.76 - 27.23 74.75 - 02.37
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ \$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98 5.72	280.00 93.33 93.33 0.00 48.00 48.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2 \$ 2 \$ 241,3	01.76 74.72 33.76 - 27.23 74.75 - 02.37
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ \$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98 5.72	280.00 93.33 93.33 0.00 48.00 48.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2 \$	01.76 74.72 33.76 - 27.23 74.75 - 02.37
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ \$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98 5.72	280.00 93.33 93.33 0.00 48.00 48.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2 \$ 2 \$ 241,3	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total			\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 4,402.20 60.98 5.72 54.65	280.00 93.33 93.33 0.00 48.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2 \$ 7,2 \$ 241,3 \$ 19,3	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal Ur	iit Cost	\$ \$ \$ \$ \$	6.79 1.87 3.58 4,402.20 60.98 5.72 54.65	280.00 93.33 93.33 0.00 48.00 48.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2 \$ 7,2 \$ 241,3 \$ 19,3	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric			\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation Un	6.79 1.87 3.58 4,402.20 60.98 5.72 54.65	280.00 93.33 93.33 0.00 48.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2 \$ 7,2 \$ 241,3 \$ 19,3 \$ 260,6	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$	11.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation Un	6.79 1.87 3.58 4,402.20 60.98 5.72 54.65	280.00 93.33 93.33 0.00 48.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2 \$ 7,2 \$ 241,3 \$ 19,3 \$ 260,6 Total C	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 4,402.20 60.98 5.72 54.65 it Cost 55.00 82.50	280.00 93.33 93.33 0.00 48.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2 \$ 241,3 \$ 19,3 \$ 260,6 Total C	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$	11.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation Un	6.79 1.87 3.58 4,402.20 60.98 5.72 54.65	280.00 93.33 93.33 0.00 48.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2 \$ 7,2 \$ 241,3 \$ 19,3 \$ 260,6 Total C	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation Un \$ \$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98 5.72 54.65 iit Cost 55.00 82.50 605.00	280.00 93.33 93.33 0.00 48.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2 \$ 241,3 \$ 19,3 \$ 260,6 Total C	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$ \$	11.00 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 4,402.20 60.98 5.72 54.65 it Cost 55.00 82.50	280.00 93.33 93.33 0.00 48.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2 \$ 241,3 \$ 19,3 \$ 260,6 Total C \$ \$	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ \$ \$	11.00 16.50 82.50 11.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation Un \$ \$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98 5.72 54.65 iit Cost 55.00 82.50 605.00 27.50	280.00 93.33 93.33 0.00 48.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2 \$ 241,3 \$ 19,3 \$ 260,6 Total C \$ \$	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38 ost
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation Un \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.402.20 60.98 5.72 54.65 it Cost 55.00 82.50 605.00 27.50 55.00	280.00 93.33 93.33 0.00 48.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2 \$ 241,3 \$ 19,3 \$ 260,6 Total C	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38 ost
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Aerial Buried Wooden Pole Cable Aerial Aerial Aerial Buried Aerial Buried Aerial Buried Aerial Buried Aerial Buried Aerial Aerial Aerial Aerial	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98 5.72 54.65 iit Cost 55.00 82.50 605.00 27.50 27.50	280.00 93.33 93.33 0.00 48.00 48.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2 \$ 241,3 \$ 19,3 \$ 260,6 Total C \$ \$ \$ 7,1	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38 ost
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	S S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 ,402.20 60.98 5.72 54.65 iit Cost 55.00 82.50 605.00 27.50 55.00 605.00	280.00 93.33 93.33 0.00 48.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 241,3 \$ 19,3 \$ 260,6 Total C \$ \$ \$ 7,1	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38 ost
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98 5.72 54.65 iit Cost 55.00 82.50 605.00 27.50 27.50	280.00 93.33 93.33 0.00 48.00 48.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2 \$ 241,3 \$ 19,3 \$ 260,6 Total C \$ \$ \$ 7,1	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38 ost
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	*** *** ***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Installation Un	6.79 1.87 3.58 ,402.20 60.98 5.72 54.65 iit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00	280.00 93.33 93.33 0.00 48.00 48.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 241,3 \$ 19,3 \$ 260,6 Total C \$ \$ \$ \$ \$ 7,1	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38 ost
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Case 4" main	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	S S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 ,402.20 60.98 5.72 54.65 iit Cost 55.00 82.50 605.00 27.50 55.00 605.00	280.00 93.33 93.33 0.00 48.00 48.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 241,3 \$ 19,3 \$ 260,6 Total C \$ \$ \$ 7,1	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38 ost
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Installation Un \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98 5.72 54.65 iit Cost 55.00 82.50 605.00 27.50 55.00 605.00 605.00 605.00	280.00 93.33 93.33 0.00 48.00 48.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 241,3 \$ 19,3 \$ 260,6 Total C \$ \$ \$ 7,1 \$ 7,1	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38 ost 50.00 50.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Casle Aerian	*** *** ***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Installation Und \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98 5.72 54.65 iit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00	280.00 93.33 93.33 0.00 48.00 48.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 241,3 \$ 19,3 \$ 260,6 Total C \$ \$ \$ 7,1 \$ 7,1	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38 ost
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98 5.72 54.65 it Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 93.50	280.00 93.33 93.33 0.00 48.00 48.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2 \$ 241,3 \$ 19,3 \$ 260,6 Total C \$ \$ \$ 7,1 \$ 5 \$ 7,1	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38 ost 50.00 50.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98 5.72 54.65 it Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 93.50	280.00 93.33 93.33 0.00 48.00 48.00 0.00 Amount 0.00 100.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2 \$ 241,3 \$ 19,3 \$ 260,6 Total C \$ \$ \$ 7,1 \$ 7,1 \$ 11,0	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38 ost 50.00 50.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98 5.72 54.65 iit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 605.00	280.00 93.33 93.33 0.00 48.00 48.00 0.00 Amount 0.00 100.00 100.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 2 \$ 241,3 \$ 19,3 \$ 260,6 Total C \$ \$ \$ 7,1 \$ 7,1 \$ 11,0	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38 ost
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation Un \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98 5.72 54.65 iit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 605.00	280.00 93.33 93.33 0.00 48.00 48.00 0.00 100.00 100.00 100.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 241,3 \$ 19,3 \$ 260,6 Total C \$ \$ \$ 7,1 \$ 7,1 \$ \$ 11,0 \$ \$ 25,3	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38 ost
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation Un \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98 5.72 54.65 it Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 605.00 82.50 605.00	280.00 93.33 93.33 0.00 48.00 48.00 0.00 Amount 0.00 100.00 100.00 5q Ft	\$ 1,9 \$ 1 \$ 2,9 \$ 241,3 \$ 19,3 \$ 260,6 Total C \$ \$ \$ 7,1 \$ 7,1 \$ 11,0 \$ 25,3	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38 ost
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation Un \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 ,402.20 60.98 5.72 54.65 iit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 605.00	280.00 93.33 93.33 0.00 48.00 48.00 0.00 100.00 100.00 100.00 0.00	\$ 1,9 \$ 1 \$ 3 \$ 2,9 \$ 241,3 \$ 19,3 \$ 260,6 Total C \$ \$ \$ 7,1 \$ 7,1 \$ \$ 11,0 \$ \$ 25,3	01.76 74.72 33.76 - 27.23 74.75 - 02.37 51.28 08.10 59.38 ost

General In	formation	Мар
Project ID		
Street Name	120 Deer Forest Trail	
Site Visit Date	5/21/13	Oak Rd CodarId
Road Classification	Minor road	Pine To a Rd Morning Creek
Project		Pine To JPH Imming Creek
Urban Typical Section with Valley 0		4 1 1 1 1
Croan Typical Collen IIIII Talley		Huntell C
		Downing Ct Devilla Tee O
		The second of th
		Garde Q Garde Q O Ook Min
Field I	Notes	
Design (Existing		To year of the parties of the partie
Existing Road Laneage	2 - 12'	Herby Hill
Existing ShId Width (paved and		71
Existing Side Slopes	Flat	Hills dalk OF The Target And The Target And The Target And Target
Existing Guardrail	None	2 Je Te rooh Ave
Depth fm Pavement to Top of Cu		A Set to to have a supply to the consumption and the consumption a
Pipe Type and Size	36" CMP,100'	I de de de de la
Pipe Condition (1-5) (1 is new)	5 downstroom side, active	9 9
Condition Notes: Headwall failed or erosion, effectively 0% capacity	i downstream side, active	ELANGANA TO SEE SEE SEE SEE SEE SEE SEE SEE SEE SE
erosion, enectively 0% capacity		Scoler Ave
Pavement Type/Condition	Asphalt/Good	
avenient Type/Condition	Aspriali/Good	Stage Construction Options
Environment	tal Features	Close Location to Traffic X
Wetlands	None	Maintain One Lane - No Temp Pavement
Ditches	None	Maintain One Lane - Temp Pavement
Dittiles	140110	Stage Construction Notes:
		Chago Condition Notice.
Utilities (Visua	al Inspection)	
Electric	Buried	
Cable	Buried	
Phone	Buried	
Gas		
Water	Buried	
Sewer		
Other		
	Propose	ed Design
Roadway Section		
	41 21	O+ -f
Culvert Size & Material		Cost of removing headwalls assumed equal to removal of entire length
	of pipe. Electric, cable, phone, water	
Utility Relocations	Liectric, cable, priorie, water	
Guardrail Replacement		
Missallan assa Francis		
Miscellaneous Features		
		.=
		ost Estimate
Type	Notes	
Design Right of Way Cost	Includes 10% Construction Co Assuming project extends 3	
Utility Relocation Cost	Assuming project extends a Buried util	
Construction Cost	Assuming 1/10 acre clea	
Environmental Permits	Assuming minimal environme	
Liviloninental Fermits	, toodining minimal crivitorine	παι γοτιπαιτής τοφαίτου ψ10,000
	Total D	anning Estimate \$145 500
	i otal P	anning Estimate \$145,508







Photo 1:



Photo 2:

5/21/2013

Taken By:

David King

Page:





Photo 3:



Photo 4:

5/21/2013

Taken By:

David King

Page:

Roadway Construction	Removal Unit		Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$	0.73	\$ 4.87	144.00	\$ 807.17
Curb and Gutter (LF)	\$	28.56	\$ 30.60		\$ 1,183.20
Drain Inlet (EA)	œ.	10 56	\$ 3,000.00	0.00	
4" Sidewalk (SY) Guardrail (LF)	\$ \$	13.56 4.88	\$ 36.90 \$ 49.09	0.00	
End Anchorage (EA)	Ψ	4.00	\$ 1,380.00	0.00	
Subtotal			ψ 1,300.00	0.00	\$ 1,990.37
- Capitala.					Ψ 1,000.01
Grading Complete (5% of Rwy Items & Drng Total \$)					\$ 3,158.26
Roadway Total					\$ 5,148.63
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			\$11,772.00
36" RCP			\$ 142.52	0.00	
Class A Conc (CY)			\$ 892.19		\$ 39,800.51
Steel (lb) Pipe Bedding (CY)			\$ 1.42 \$ 48.60		\$ 6,081.72 \$ 1,103.22
Trench Backfill (CY)			\$ 2.99	127.97	
Trench Compaction (CY)			\$ 6.36	102.37	
Drainage Total					\$61,174.91
·			1		
Signing and Marking			Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)			\$ 0.71	0.00	\$ -
Signing and Marking Total					\$ -
Charina			Installation III '' O	A	T-4-1 0
Staging Clearing and Grubbing (Acre)			Installation Unit Cost \$ 10,260.00	Amount 0.10	Total Cost \$ 1,026.00
Temporary Pavement			\$ 10,260.00	0.10	\$ 1,020.00
Temporary Drainage (Stream Diversion)			\$ 4,428.00	1.00	\$ 4,428.00
, , , , , , , , , , , , , , , , , , , ,					
Staging Total					\$ 5,454.00
Faraina Control			In a tallation I lait Coat	A t	T-4-1 04
Erosion Control Fine Grading and Seeding (SY)			Installation Unit Cost \$ 4.39	Amount 50.67	Total Cost \$ 222.53
Temporary Grassing (AC)			\$ 855.60	0.00	
I VUE C OILL FERICE (LF)			\$ 4.24	400.00	\$ 1.694.40
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF)			\$ 4.24 \$ 6.79		\$ 1,694.40 \$ 2,716.80
			\$ 6.79 \$ 1.87		\$ 2,716.80
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY)			\$ 6.79 \$ 1.87 \$ 3.58	400.00 133.33 133.33	\$ 2,716.80 \$ 249.60 \$ 476.80
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC)			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20	400.00 133.33 133.33 0.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ -
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98	400.00 133.33 133.33 0.00 16.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ - \$ 975.74
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	400.00 133.33 133.33 0.00 16.00 16.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ - \$ 975.74 \$ 91.58
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98	400.00 133.33 133.33 0.00 16.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ - \$ 975.74 \$ 91.58 \$ -
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	400.00 133.33 133.33 0.00 16.00 16.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ - \$ 975.74 \$ 91.58
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	400.00 133.33 133.33 0.00 16.00 16.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ - \$ 975.74 \$ 91.58 \$ -
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	400.00 133.33 133.33 0.00 16.00 16.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ - \$ 975.74 \$ 91.58 \$ - \$ 6,427.46
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	400.00 133.33 133.33 0.00 16.00 16.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)	Removal Unit	Cost	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	400.00 133.33 133.33 0.00 16.00 16.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total		Cost	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	400.00 133.33 133.33 0.00 16.00 16.00 0.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$	11.00	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	400.00 133.33 133.33 0.00 16.00 0.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost \$ -
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.0 \$ 60.98 \$ 5.72 \$ 54.65	400.00 133.33 133.33 0.00 16.00 16.00 0.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost \$ - \$ 4,950.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$	11.00	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	400.00 133.33 133.33 0.00 16.00 0.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost \$ -
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00	400.00 133.33 133.33 0.00 16.00 0.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost \$ - \$ 4,950.00 \$ -
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ \$ \$	11.00 16.50 82.50 11.00	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50	400.00 133.33 133.33 0.00 16.00 16.00 0.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost \$ 4,950.00 \$ - \$ -
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00	400.00 133.33 133.33 0.00 16.00 16.00 0.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost \$ - \$ 4,950.00 \$ -
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00	400.00 133.33 133.33 0.00 16.00 16.00 0.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost \$ 4,950.00 \$ - \$ 3,575.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Cable Aerial	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50	400.00 133.33 133.33 0.00 16.00 16.00 0.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost \$ 4,950.00 \$ 3,575.00 \$ - \$ 3,575.00 \$ -
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 55.00	400.00 133.33 133.33 0.00 16.00 16.00 0.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Wooden Pole	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50	400.00 133.33 133.33 0.00 16.00 16.00 0.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost \$ 4,950.00 \$ 3,575.00 \$ - \$ 3,575.00 \$ -
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 55.00 \$ 605.00	400.00 133.33 133.33 0.00 16.00 16.00 0.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Wooden Pole	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 55.00	400.00 133.33 133.33 0.00 16.00 16.00 0.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Casa 4" main	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 605.00 \$ 93.50	400.00 133.33 133.33 0.00 16.00 16.00 0.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 605.00 \$ 66.00	400.00 133.33 133.33 0.00 16.00 16.00 0.00 Amount 50.00 50.00	\$ 2,716.80 \$ 249.60 \$ 476.80 - \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ -
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00	400.00 133.33 133.33 0.00 16.00 16.00 0.00 Amount 50.00 50.00 50.00 0.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 5,500.00 \$ -
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 605.00 \$ 93.50	400.00 133.33 133.33 0.00 16.00 16.00 0.00 Amount 50.00 50.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost \$ 4,950.00 \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 5,500.00 \$ - \$ 5,500.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Rooden Pole Cable	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00	400.00 133.33 133.33 0.00 16.00 16.00 0.00 Amount 50.00 50.00 50.00 0.00	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 5,500.00 \$ -
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 5	400.00 133.33 133.33 0.00 16.00 16.00 0.00 Amount 50.00 50.00 50.00 Sq Ft	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 5,500.00 \$ - \$ 17,600.00 Total Cost
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 82.50 \$ 605.00 \$ 82.50 \$ 605.00	400.00 133.33 133.33 0.00 16.00 16.00 0.00 Amount 50.00 50.00 50.00 Sq Ft	\$ 2,716.80 \$ 249.60 \$ 476.80 \$ 975.74 \$ 91.58 \$ - \$ 6,427.46 \$ 78,204.99 \$ 6,256.40 \$ 84,461.39 Total Cost \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 5,500.00 \$ - \$ 5,500.00

General In	formation		Мар
Project ID		- 1-4	× 1 147 > 7
Street Name	Dogwood Trail	JA Jule Ro	senoyLake Or
Site Visit Date	5/22/13	* Angen	Sun Rd
Road Classification	Minor arterial	5 17	X - 1 / 180
Project	Notes	The state of	E GARDA
Rural Typical Section		Clear wood Tri	Part of transmetrific and Adams of transmetrific and transmetrific
Field I			4) 11)
Design (Existing	g Site Features)	100	July 1
Existing Road Laneage	2-12'	Q LOS PORTS	Apa bn Dr
Existing ShId Width (paved and			Ascentiva 2 9
Existing Side Slopes	1.5:1	7 7 18 200	Casse (Tu
Existing Guardrail	None	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Loyd Rd
Depth fm Pavement to Top of Cu		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Pipe Type and Size	2-120" CMP	Aug	Glover to
Pipe Condition (1-5) (1 is new)	4	1 about the Contract of the Co	Tat land
Condition Notes: Large down streat flood plain; bottom of pipe rusted the			apparation of the part of the state of the s
Pavement Type/Condition	Asphalt/Good		
		, and the second	e Construction Options
Environmen	tal Features	Close Location to Traff	
Wetlands	None	Maintain One Lane - No	
Ditches	Noted	Maintain One Lane - Te	emp Pavement
		Stage Construction Note	es:
Utilities (Visua			
Electric	Aerial		
Cable	Aerial		
Phone	Aerial		
Gas			
Water	Buried		
Sewer	Buried		
Other			
	Propose	ed Design	
Roadway Section	Link 71 71 21 20 20 20 20 20 20 20 20 20 20 20 20 20		
Culvert Size & Material	triple 7' x 7' box, concrete, 80' ler		
Utility Relocations	Electric, cable, phone, water, sew		
Guardrail Replacement	Need Guardrail due to side slopes		
Miscellaneous Features	Zone AE Floodplain and Floodwa	y Analysis required	
		Cost Estimate	
Туре	Notes		Total
Design	Includes 10% Construction C		\$55,456
Right of Way Cost	Assuming project extends 1		\$55,600
Utility Relocation Cost	Aerial and buri	ed utilities	\$37,263

Assuming 1/5 acre clearing and grubbing Permits, Zone AE flood study

Total Planning Estimate

\$429,561

\$18,000

\$595,879



Construction Cost

Environmental Permits

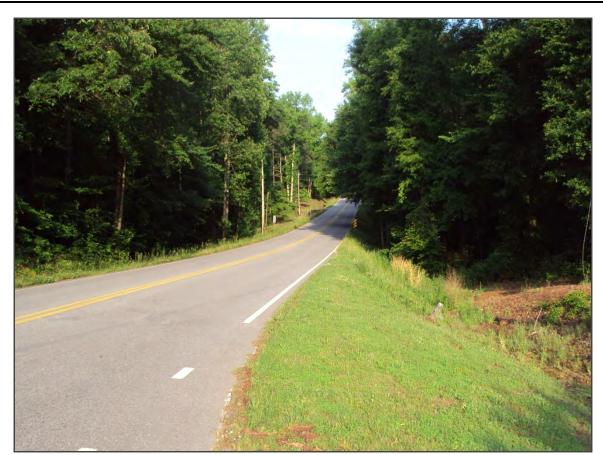




Photo 1:



Photo 2:

Photo Date:

5/21/2013

Taken By:

David King

Page:





Photo 3:



Photo 4:

5/21/2013

Taken By:

David King

Page:

Roadway Construction	Removal U	nit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$	0.73	\$ 4.87		
Curb and Gutter (LF)	\$	28.56	\$ 30.60	,	. ,
Drain Inlet (EA)	•	20.00	\$ 3,000.00		
4" Sidewalk (SY)	\$	13.56	\$ 36.90		
Guardrail (LF)	\$	4.88	\$ 49.09	600.00	\$ 32,385.60
End Anchorage (EA)	•		\$ 1,380.00		
Subtotal					\$ 44,093.89
Grading Complete (5% of Rwy Items & Drng Total \$)					\$ 17,795.14
Roadway Total					\$ 61,889.03
Drainage	Removal U	nit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)			\$ 10.38		
120" CMP (LF)	\$	90.00		160.00	\$ 43,200.00
120" RCP			\$ 142.52	0.00	\$ -
Class A Conc (CY)			\$ 892.19		\$189,679.17
Steel (lb)					\$ 33,832.49
Pipe Bedding (CY)			\$ 48.60		
Trench Backfill (CY)			\$ 2.99 \$ 6.36	,	
Trench Compaction (CY)			\$ 6.36	1,956.54	\$ 12,456.31
Drainage Total					\$311,808.96
Signing and Marking			Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)			\$ 0.71	92.00	\$ 65.14
Signing and Marking Total					\$ 65.14
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					\$ 11,038.27
Erosion Control			Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)			\$ 4.39	143.11	\$ 628.54
Temporary Grassing (AC)			\$ 855.60		•
Type C Silt Fence (LF)			\$ 4.24		
Check Dam Type C Silt Fence (LF)			\$ 6.79		
Erosion Control Mats (SY) Landscape Mulch (SY)			\$ 1.87 \$ 3.58		
Perm Grassing (AC)			\$ 1,402.20		
Rip Rap Type 3 12" (SY)			\$ 60.98		•
Plastic Filter Fabric (SY)			\$ 5.72		
4" Ditch Paving (SY)			\$ 54.65	0.00	\$ -
Erosion Control Total					\$ 12,940.13
					,
Construction Cost Total					\$397,741.53
Traffic Control (8% of Construction Total \$)					\$ 31,819.32
Construction Cost Grand Total					\$429,560.85
Utility Relocation	Removal U	nit Cost	Installation Unit Cost	Amount	Total Cost
Electric	•				
Aerial	\$	11.00	\$ 55.00		
Buried Wooden Pole	\$	16.50	\$ 82.50		
Phone	\$	82.50	\$ 605.00	3.00	\$ 2,062.50
Aerial	\$	11.00	\$ 27.50	100.00	\$ 3,850.00
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		. 0.00	- 00.00		-
8" main	·				
Relocate Fire Hydrant (EA)	\$	16.50	\$ 93.50	100.00	\$ 11,000.00
		16.50	\$ 93.50 \$ 2,609.22		\$ 11,000.00 \$ -
Sewer	\$		\$ 2,609.22	0.00	\$ -
12" main		16.50 16.50		0.00	\$ - \$ 9,900.00
	\$		\$ 2,609.22	0.00	\$ -
12" main Utility Relocation Total	\$		\$ 2,609.22 \$ 82.50	0.00 100.00	\$ 9,900.00 \$ 37,262.50
12" main	\$		\$ 2,609.22 \$ 82.50 Cost/ Sq Ft	0.00	\$ - \$ 9,900.00

General In	formation	Map
Project ID	- Cimation	ιιιαρ
	400 Maraadaa Trail	174 7 7 8 6 7 8
Street Name	120 Mercedes Trail	The state of the s
Site Visit Date	5/22/13	News of the
Road Classification Project	Internal Local	Mayen o Ba
•		Lang Rd & Kita Lake Rd
Urban typical with valley gutter; sub	Daivision street	
		Total S. S. Cont.
		S. Kernings of St. Horse between the st. S
Field I		The resident Thomas Co.
Design (Existing		PValle So X
Existing Road Laneage	2-12'	Brogden Rd Benes Jr
Existing Shld Width (paved and o		70 704
Existing Side Slopes	flat	J (3 X () 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Existing Guardrail	none	
Depth fm Pavement to Top of Cu		Seet For
Pipe Type and Size	(ellip. CMP) 2-48"x72";55'	Contract to the same of
Pipe Condition (1-5) (1 is new) Condition Notes: Both up to 25% b	Jooked structurally unsound sag	Qdarcir & White Cak Var
in top of pipe, debris/rip rap in pipe		THE WAS TO WE
in top or pipe, debits/fip tap in pipe		
Pavement Type/Condition	Asphalt/Good	
. и стот турогостино	7 topriate cood	Stage Construction Options
Environmen	tal Features	Close Location to Traffic
Wetlands	None	Maintain One Lane - No Temp Pavement X
Ditches	None	Maintain One Lane - Temp Pavement
		Stage Construction Notes:
Utilities (Visua		
Electric	Buried	
Cable	Buried	
Phone	Buried	
Gas Water	Buried	
Sewer	Bulleu	
Other		
Other	Propose	ed Design
	1.100000	
Roadway Section		
Culvert Size 9 Meterial	dbl 8' x 4' box, concrete, 60' lengtl	n. Cost of eliptical pipe removal assumed to equal to removal of round
Culvert Size & Material	60" CMP.	
Utility Relocations	Electric, cable, phone, water	
Curry Relocations		
Guardrail Replacement		
Miscellaneous Features		
	Planning C	ost Estimate
Туре	Notes	
Design	Includes 10% Construction Co	
Right of Way Cost	Assuming project extends 2	
Utility Relocation Cost	Buried util	
Construction Cost	Assuming 1/5 acre clea	
Environmental Permits	Assuming minimal environme	ntal permitting required \$10,000

Total Planning Estimate

\$224,070



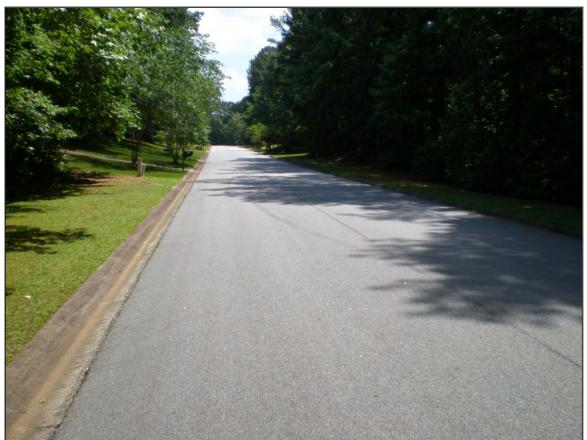




Photo 1:



Photo 2:

Photo Date:

5/21/2013

Taken By:

David King

Page:





Photo 3:



Photo 4:

Photo Date:

5/21/2013

Taken By:

David King

Page:

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$ 0.73		432.00	\$ 2,421.50
Curb and Gutter (LF)	\$ 28.56		36.00	
Drain Inlet (EA) 4" Sidewalk (SY)	\$ 13.56	\$ 3,000.00 \$ 36.90	0.00 0.00	
Guardrail (LF)	\$ 4.88		0.00	
End Anchorage (EA)	Ψ 4.00	\$ 1,380.00	0.00	
Subtotal		Ψ 1,000.00	0.00	\$ 4,551.26
Grading Complete (5% of Rwy Items & Drng Total \$)				,
Roadway Total				\$ 11,275.17
Drainage Transh Evapuation (CV)	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY) 60" CMP (LF)	\$ 24.60	\$ 10.38	400.00 110.00	
60" RCP	ψ 24.00	\$ 259.20	0.00	
Class A Conc (CY)		\$ 892.19		\$ 96,499.05
Steel (lb)		\$ 1.42		\$ 15,833.71
Pipe Bedding (CY)		\$ 48.60		
Trench Backfill (CY)		\$ 2.99	410.70	\$ 1,227.17
Trench Compaction (CY)		\$ 6.36	328.56	\$ 2,089.64
Drainage Total				\$ 129,926.76
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	0.20	\$ 2,052.00
Temporary Pavement		Ψ 10,200.00	0.20	\$ -
Temporary Drainage (Stream Diversion)		\$ 4,428.00	1.00	
				₾ 6 E94 0E
Staging Total				\$ 6,581.95
Erosion Control		Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)		\$ 4.39	72.00	
Temporary Grassing (AC)		\$ 855.60	0.00	\$ -
Type C Silt Fence (LF)		\$ 4.24		
Chook Dom Typo C Silt Fonce (LE)		\$ 6.79	240.00	A 4 000 00
Check Dam Type C Silt Fence (LF)				
Erosion Control Mats (SY)		\$ 1.87	80.00	\$ 149.76
Erosion Control Mats (SY) Landscape Mulch (SY)		\$ 1.87 \$ 3.58	80.00 80.00	\$ 149.76 \$ 286.08
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC)		\$ 1.87 \$ 3.58 \$ 1,402.20	80.00 80.00 0.00	\$ 149.76 \$ 286.08 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)		\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98	80.00 80.00 0.00 48.00	\$ 149.76 \$ 286.08 \$ - \$ 2,927.23
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)		\$ 1.87 \$ 3.58 \$ 1,402.20	80.00 80.00 0.00 48.00 48.00	\$ 149.76 \$ 286.08 \$ - \$ 2,927.23 \$ 274.75
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)		\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	80.00 80.00 0.00 48.00	\$ 149.76 \$ 286.08 \$ - \$ 2,927.23 \$ 274.75 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total		\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	80.00 80.00 0.00 48.00 48.00	\$ 149.76 \$ 286.08 \$ - \$ 2,927.23 \$ 274.75 \$ - \$ 6,600.77
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total		\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	80.00 80.00 0.00 48.00 48.00	\$ 149.76 \$ 286.08 \$ - \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total		\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	80.00 80.00 0.00 48.00 48.00	\$ 149.76 \$ 286.08 \$ - \$ 2,927.23 \$ 274.75 \$ - \$ 6,600.77
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total		\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	80.00 80.00 0.00 48.00 48.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal Unit Cost	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	80.00 80.00 0.00 48.00 48.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric		\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	80.00 80.00 0.00 48.00 48.00 0.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$ 11.00	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	80.00 80.00 0.00 48.00 48.00 0.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ 11.00 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50	80.00 80.00 0.00 48.00 48.00 0.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost \$ 4,950.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$ 11.00	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50	80.00 80.00 0.00 48.00 48.00 0.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$ 11.00 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00	80.00 80.00 0.00 48.00 48.00 0.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost \$ 4,950.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ 11.00 \$ 16.50 \$ 82.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50	80.00 80.00 0.00 48.00 48.00 0.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost \$ 4,950.00 \$
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00	80.00 80.00 0.00 48.00 48.00 0.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost \$ 4,950.00 \$
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 25.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00	80.00 80.00 0.00 48.00 48.00 0.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost \$ 4,950.00 \$ 3,575.00 \$ 3
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 605.00 \$ 27.50 \$ 605.00	80.00 80.00 0.00 48.00 48.00 0.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost \$ 4,950.00 \$ 3,575.00 \$ \$
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 55.00	80.00 80.00 0.00 48.00 48.00 0.00 Amount 50.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost \$ 4,950.00 \$ - \$ 3,575.00 \$ 3,575.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00	80.00 80.00 0.00 48.00 48.00 0.00 Amount 50.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost \$ 4,950.00 \$ 3,575.00 \$ \$
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	80.00 80.00 0.00 48.00 48.00 0.00 50.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost \$ 4,950.00 \$ 3,575.00 \$ 3,575.00 \$ 3,575.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 11.00 \$ 16.50 \$ 82.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	80.00 80.00 0.00 48.00 48.00 0.00 50.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost \$ 4,950.00 \$ - \$ 3,575.00 \$ 3,575.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Casle	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 11.00 \$ 16.50 \$ 82.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	80.00 80.00 0.00 48.00 48.00 0.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost \$ 4,950.00 \$ 3,575.00 \$ 3,575.00 \$ 3,575.00 \$ 14,950.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 11.00 \$ 16.50 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	80.00 80.00 0.00 48.00 48.00 0.00 50.00 50.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 11.00 \$ 16.50 \$ 16.50 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 605.00 \$ 27.50 \$ 65.00 \$ 605.00 \$ 93.50 \$ 66.00	80.00 80.00 0.00 48.00 48.00 0.00 Amount 50.00 50.00 50.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost \$ 4,950.00 \$ 3,575.00 \$ 3,575.00 \$ 5,500.00 \$ 5
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Rerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Rerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Rerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Relocate Fire Hydrant (EA) Sewer 12" main	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 11.00 \$ 16.50 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 605.00 \$ 27.50 \$ 65.00 \$ 605.00 \$ 93.50 \$ 66.00	80.00 80.00 0.00 48.00 48.00 0.00 Amount 50.00 50.00 50.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost \$ 4,950.00 \$ 3,575.00 \$ 3,575.00 \$ 5,500.00 \$
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 11.00 \$ 16.50 \$ 16.50 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 65.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 82.50 \$ 605.00	80.00 80.00 0.00 48.00 48.00 0.00 50.00 50.00 50.00 0.00 0.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost \$ 4,950.00 \$ 3,575.00 \$ 3,575.00 \$ 5,500.00 \$ 5,500.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 11.00 \$ 16.50 \$ 16.50 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 605.00	80.00 80.00 0.00 48.00 48.00 0.00 50.00 50.00 50.00 50.00 Sq Ft	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost \$ 4,950.00 \$ 3,575.00 \$ 3,575.00 \$ 5,500.00 \$ 5,500.00 \$ 17,600.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 11.00 \$ 16.50 \$ 16.50 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 65.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 82.50 \$ 605.00	80.00 80.00 0.00 48.00 48.00 0.00 50.00 50.00 50.00 0.00 0.00	\$ 149.76 \$ 286.08 \$ 2,927.23 \$ 274.75 \$ 6,600.77 \$ 154,435.62 \$ 12,354.85 \$ 166,790.47 Total Cost \$ 4,950.00 \$ 3,575.00 \$ 3,575.00 \$ 3,575.00 \$ 5,500.00 \$ 5,500.00

General In	formation		Мар
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Project ID			Oaks: Oaks:
Street Name		g Dove Dr.	The second secon
Site Visit Date		21/13	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Road Classification		or road	
Project	t Notes		Grad Ave
Urban typical section valley gutter			market grant street
			Red Mediord Dr
			BatesAve 12
			Pages Dr Pages Dr
=	N		Hutters can
Field			
Design (Existing	g Site Features)		Sce nic Place
Existing Road Laneage	arass) (fast)	2-12'	8 8
Existing Shid Width (paved and	grass) (reet)	4'	Laxeland Or BE Raman Rd Rd
Existing Side Slopes		flat	Ramah Rd S
Existing Guardrail	ilvort /ft\.	none 2'	Land Jan Ton
Depth fm Pavement to Top of Cu	iivert (it):		lakspohrtn 9
Pipe Type and Size		1-72", 1-84"	Ridgawood GK
Pipe Condition (1-5) (1 is new)		4	1
Condition Notes:			Lekembe Br
Pavement Type/Condition		A = = = t / C = = =	THE STATE OF THE S
Pavement Type/Condition		Asphalt/Good	Stage Construction Options
Environmen	tal Fastures		Close Location to Traffic
Wetlands		identified	Maintain One Lane - No Temp Pavement
Ditches		lone	Maintain One Lane - Temp Road X
Ditches	ı	ione	Stage Construction Notes:
			Approx. 200' of gravel road
Utilities (Visua	al Inspection)		
Electric Cultures (VISU		uried	
Cable		uried	
Phone		uried	
Gas		Sighted	
Water		uried	
Sewer		uried	
Other		unou	
Curci		Propos	ed Design
	Replace in kind		oses, temporary road consists of 8" gravel fill
Roadway Section	Transo III IIII		g.a.s
	double 10' x 4'	box, concrete, 70'	ength
Culvert Size & Material			
	Electric, Cable,	Phone, Water, Se	wer
II I4:1:4 Dalaa-1!			
Utility Relocations			
· ·	No		
Utility Relocations Guardrail Replacement	No		
Guardrail Replacement	No		
· ·	No		
Guardrail Replacement	No		ost Estimate
Guardrail Replacement		Notes	Total
Guardrail Replacement Miscellaneous Features Type Design	Includes 10	Notes % Construction C	Total ost and surveying needs \$22,779
Guardrail Replacement Miscellaneous Features Type Design Right of Way Cost	Includes 10	Notes % Construction C g project does not	tost and surveying needs \$22,779 extend beyond ROW \$0
Guardrail Replacement Miscellaneous Features Type Design Right of Way Cost Utility Relocation Cost	Includes 10 Assumin	Notes 0% Construction C g project does not Buried uti	tost and surveying needs \$22,779 extend beyond ROW \$0 ities \$33,825
Guardrail Replacement Miscellaneous Features Type Design Right of Way Cost	Includes 10 Assumin	Notes 0% Construction C g project does not Buried uti ming 1/10 acre cle	tost and surveying needs \$22,779 extend beyond ROW \$0

Total Planning Estimate

\$244,389



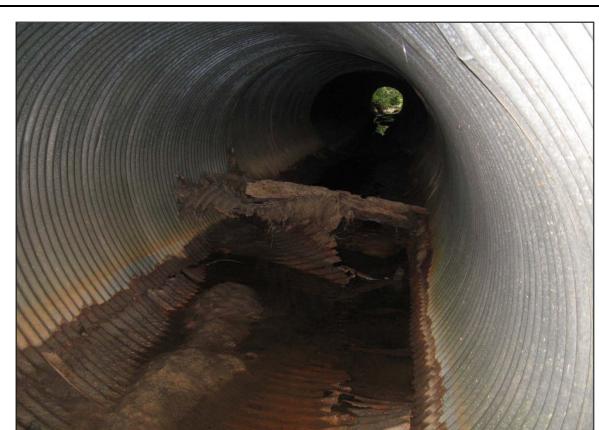




Photo 1:



Photo 2:

5/17/1013

Taken By:

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		_			
Roadway Construction	Removal Uni		Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$	0.73	\$ 4.87		\$ 2,959.62
Curb and Gutter (LF)	\$	28.56	\$ 30.60		\$ 2,603.04
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	0.00	
Subtotal					\$ 5,562.66
Grading Complete (5% of Rwy Items & Drng Total \$)					\$ 6,949.20
Roadway Total					\$ 12,511.86
- :	5				-
Drainage (O)()	Removal Uni	t Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)	•	E4.00	\$ 10.38		\$ 5,920.44
72" CMP (LF)	\$ \$	54.00		70.00	
84" CMP	Φ	63.00	\$ 892.19	70.00	\$ 4,410.00 \$ 95,357.05
Class A Conc (CY) Steel (lb)			\$ 1.42		
Pipe Bedding (CY)			\$ 48.60	,	
Trench Backfill (CY)			\$ 2.99		
Trench Compaction (CY)			\$ 6.36		
Trench Compaction (CT)			ψ 0.50	470.40	φ 5,050.59
Drainage Total					\$ 133,421.43
2.4					\$ 100, FZ 1.70
Signing and Marking			Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)			\$ 0.71		\$ -
· · · · · · · · · · · · · · · · · · ·			- 0.71	0.00	÷
Signing and Marking Total					\$ -
- J - J					
Staging			Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)			\$ 10,260.00		
Temporary Gravel Road (SY)			\$ 15.42		
Temporary Drainage (Stream Diversion)			\$ 4,428.00	1.00	
, , , , ,					
Staging Total					\$ 8,880.67
Erosion Control			Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)			\$ 4.39	112.44	\$ 493.86
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		
Rip Rap Type 3 12" (SY)			\$ 60.98		
Plastic Filter Fabric (SY)			\$ 5.72		
4" Ditch Paving (SY)			\$ 54.65	0.00	\$ -
Erosion Control Total					\$ 9,801.87
Occupation Occupation					* * * * * * * * * * * * * * * * * * *
Construction Cost Total					
Troffic Control (20) of Construction Total (1)					\$ 164,615.83
Traffic Control (8% of Construction Total \$)					
					\$ 164,615.83 \$ 13,169.27
Construction Cost Grand Total					\$ 13,169.27
Construction Cost Grand Total					
	Removal Uni	it Cost	Installation Unit Cost	Amount	\$ 13,169.27 \$177,785.10
Utility Relocation	Removal Uni	it Cost	Installation Unit Cost	Amount	\$ 13,169.27
Utility Relocation Electric					\$ 13,169.27 \$177,785.10 Total Cost
Utility Relocation Electric Aerial	\$	11.00	\$ 55.00		\$ 13,169.27 \$177,785.10 Total Cost \$ -
Utility Relocation Electric	\$ \$		\$ 55.00 \$ 82.50	75.00	\$ 13,169.27 \$177,785.10 Total Cost \$ - \$ 7,425.00
Utility Relocation Electric Aerial Buried Wooden Pole	\$	11.00 16.50	\$ 55.00	75.00	\$ 13,169.27 \$177,785.10 Total Cost \$ -
Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00	75.00	\$ 13,169.27 \$177,785.10 Total Cost \$ - \$ 7,425.00 \$ -
Utility Relocation Electric Aerial Buried Wooden Pole	\$ \$ \$	11.00 16.50	\$ 55.00 \$ 82.50	75.00	\$ 13,169.27 \$177,785.10 Total Cost \$ - \$ 7,425.00 \$ -
Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ \$ \$	11.00 16.50 82.50 11.00	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50	75.00 75.00	\$ 13,169.27 \$177,785.10 Total Cost \$ - \$ 7,425.00 \$ -
Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00	75.00 75.00	\$ 13,169.27 \$177,785.10 Total Cost \$ - \$ 7,425.00 \$ - \$ 5,362.50
Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00	75.00 75.00	\$ 13,169.27 \$177,785.10 Total Cost \$ - \$ 7,425.00 \$ - \$ 5,362.50
Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	75.00 75.00	\$ 13,169.27 \$177,785.10 Total Cost \$ - \$ 7,425.00 \$ - \$ 5,362.50 \$ -
Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	75.00 75.00	\$ 13,169.27 \$177,785.10 Total Cost \$ - \$ 7,425.00 \$ - \$ 5,362.50 \$ -
Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00	75.00 75.00	\$ 13,169.27 \$177,785.10 Total Cost \$ - \$ 7,425.00 \$ - \$ 5,362.50 \$ - \$ 5,362.50
Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Wooden Pole Cable	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00	75.00 75.00 75.00	\$ 13,169.27 \$177,785.10 Total Cost \$ - \$ 7,425.00 \$ - \$ 5,362.50 \$ - \$ 5,362.50
Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	\$\$\$\$ \$\$\$\$ \$\$\$\$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 55.00 \$ 606.00 \$ 66.00	75.00 75.00 75.00	\$ 13,169.27 \$177,785.10 Total Cost \$ 7,425.00 \$ - \$ 5,362.50 \$ 5,362.50 \$ - \$ 5,362.50
Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Wooden Pole Gas 4" main Water 8" main	s s s s s s s s s s s s s s s s s s s	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 65.00 \$ 66.00 \$ 93.50	75.00 75.00 75.00	\$ 13,169.27 \$177,785.10 Total Cost \$ - \$ 7,425.00 \$ - \$ 5,362.50 \$ - \$ 5,362.50 \$ - \$ 8,250.00
Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	\$\$\$\$ \$\$\$\$ \$\$\$\$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 55.00 \$ 606.00 \$ 66.00	75.00 75.00 75.00	\$ 13,169.27 \$177,785.10 Total Cost \$ - \$ 7,425.00 \$ - \$ 5,362.50 \$ - \$ 5,362.50 \$ - \$ 5,362.50
Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 605.00 \$ 66.00 \$ 93.50 \$ 2,609.22	75.00 75.00 75.00 75.00	\$ 13,169.27 \$177,785.10 Total Cost \$ 7,425.00 \$ - \$ 5,362.50 \$ - \$ 5,362.50 \$ - \$ 8,250.00 \$ -
Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	\$\$\$\$ \$\$\$\$ \$\$\$\$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 65.00 \$ 66.00 \$ 93.50	75.00 75.00 75.00 75.00	\$ 13,169.27 \$177,785.10 Total Cost \$ 7,425.00 \$ - \$ 5,362.50 \$ - \$ 5,362.50 \$ - \$ 8,250.00 \$ - \$ 7,425.00
Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 605.00 \$ 66.00 \$ 93.50 \$ 2,609.22	75.00 75.00 75.00 75.00	\$ 13,169.27 \$177,785.10 Total Cost \$ 7,425.00 \$ - \$ 5,362.50 \$ - \$ 5,362.50 \$ - \$ 8,250.00 \$ -
Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 65.00 \$ 66.00 \$ 93.50 \$ 2,609.22	75.00 75.00 75.00 0.00 75.00	\$ 13,169.27 \$177,785.10 Total Cost \$ 7,425.00 \$ - \$ 5,362.50 \$ - \$ 5,362.50 \$ - \$ 8,250.00 \$ 7,425.00 \$ 33,825.00
Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 605.00 \$ 66.00 \$ 23.50 \$ 2,609.22 \$ 82.50	75.00 75.00 75.00 0.00 75.00 Sq Ft	\$ 13,169.27 \$177,785.10 Total Cost \$ 7,425.00 \$ 5,362.50 \$ 5,362.50 \$ - \$ 5,362.50 \$ - \$ 7,425.00 \$ 7,425.00 \$ 7,425.00
Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft) Permanent Easement	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 65.00 \$ 66.00 \$ 93.50 \$ 2,609.22	75.00 75.00 75.00 0.00 75.00 Sq Ft	\$ 13,169.27 \$177,785.10 Total Cost \$ 7,425.00 \$ - \$ 5,362.50 \$ - \$ 5,362.50 \$ - \$ 5,362.50 \$ - \$ 33,825.00 Total Cost \$ -
Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 605.00 \$ 66.00 \$ 23.50 \$ 2,609.22 \$ 82.50	75.00 75.00 75.00 0.00 75.00 Sq Ft	\$ 13,169.27 \$177,785.10 Total Cost \$ 7,425.00 \$ 5,362.50 \$ 5,362.50 \$ - \$ 5,362.50 \$ - \$ 7,425.00 \$ 7,425.00 \$ 7,425.00

General In	formation	Мар
Project ID		
Street Name	Patricia Lane	
Site Visit Date	5/22/13	E Camelot De
Road Classification	Minor road	Grandel of the state of the sta
Project	Notes	Ginger Calettri (g
Urban typical section with curb and		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
,	9	Portlands Dr. Og.
Field N		Patrica Ln Stanley Rd Pemway Dr
		VidojeDr &
Design (Existing		
Existing Road Laneage Existing ShId Width (paved and g	2 - 10' grass) (feet) 4'	Gingercake Dr
Existing Side Slopes		1
Existing Side Slopes Existing Guardrail	Flat	
	None None 2.5	- \Q
Depth fm Pavement to Top of Cu	11Vert (ft): 2.5	Grage Single
Pipe Type and Size		Abelia DW Unado S W S California
Pipe Condition (1-5) (1 is new)	4	Maniya DrW Maniya DrE
Condition Notes: Joint failure, signs		\@\\
needed, eroded drop, holes from so of pipe		X X X X
Pavement Type/Condition	Asphalt/Good	St. and Constitute Continue
Environmon	1-1-5	Stage Construction Options
Environment		Close Location to Traffic
Wetlands	None	Maintain One Lane - No Temp Pavement X
Ditches	None	Maintain One Lane - Temp Pavement
		Stage Construction Notes:
Utilities (Visua		
Electric	Aerial	
Cable	Aerial	
Phone	Buried	
Gas		
Water		
Sewer		
Other		
	Propos	ed Design
Roadway Section		
Culvert Size & Material	8' x 4' box, concrete, 150' length	
Utility Relocations	Pole next to pipe, phone, cable, e	electric
Guardrail Replacement		
Miscellaneous Features		
	Planning (Cost Estimate
Туре	Note	
Design	Includes 10% Construction C	
Right of Way Cost	Assuming project extends	
Utility Relocation Cost	Buried utiliti	
Construction Cost	Assuming 1/10 acre cle	
Environmental Permits	Assuming minimal environm	
Environmental Fermits	Assuming minimal environm	ental permitting required \$10,000

Total Planning Estimate

\$295,527









Photo 2:



Photo Date:

5/21/2013

Taken By:

David King

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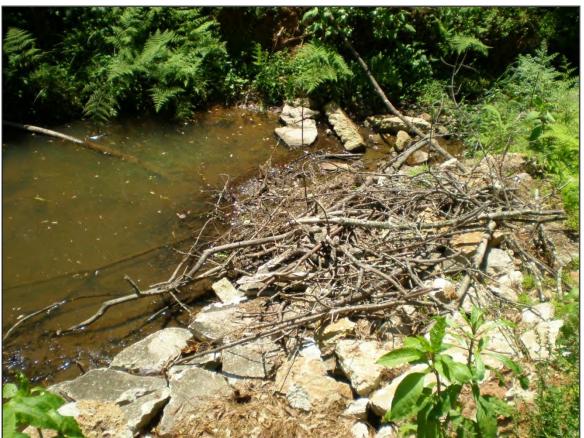




Photo 3:



Photo 4:

5/21/2013

Taken By:

David King

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\$ \$ \$ \$ \$ \$ \$	16.50 82.50 11.00 16.50 82.50 16.50 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	55.00 605.00 27.50 55.00 605.00 66.00 93.50 2,609.22 82.50	25.00 25.00 0.00 0.00 0.00	\$ \$\$\$ \$ \$\$	1,787.50 - - - - - 6,737.50
\$ \$ \$ \$ \$	82.50 11.00 16.50 82.50 16.50 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	605.00 27.50 55.00 605.00 66.00 93.50 2,609.22	25.00 0.00 0.00	\$ \$\$\$ \$ \$\$\$ \$	- - - -
\$ \$ \$ \$ \$	82.50 11.00 16.50 82.50 16.50	\$ \$ \$ \$ \$	605.00 27.50 55.00 605.00 66.00 93.50	25.00	\$ \$\$\$ \$	- 1,787.50 - - - -
\$ \$ \$ \$ \$	82.50 11.00 16.50 82.50 16.50	\$ \$ \$ \$ \$	605.00 27.50 55.00 605.00 66.00 93.50	25.00	\$ \$\$\$ \$	- 1,787.50 - - -
\$ \$ \$ \$ \$	82.50 11.00 16.50 82.50 16.50	\$ \$ \$ \$	27.50 55.00 605.00	25.00	\$ \$ \$ \$	- 1,787.50 - -
\$ \$ \$ \$	82.50 11.00 16.50 82.50	\$ \$ \$	27.50 55.00 605.00		\$ \$ \$	- 1,787.50 -
\$ \$ \$	82.50 11.00 16.50	\$ \$ \$	605.00 27.50 55.00		\$ \$ \$	- 1,787.50 -
\$ \$	82.50 11.00	\$	605.00 27.50		\$	- - 1,787.50
\$	82.50	\$	605.00	25.00	\$	-
				25.00		-
Ψ	16.50	\$	55.00	25.00	Ψ	
\$						1,787.50
\$	11.00	\$	27.50		\$	-
\$	82.50	\$	605.00	1.00	\$	687.50
\$	16.50	\$	82.50		\$	2,475.00
\$	11.00	\$	55.00		\$	_
Removal Unit	Cost	Installation Ur	nit Cost	Amount	To	tal Cost
					Ψ-	,000.0.
					\$2	12,536.02
					\$	15,743.4
					Ψ 1	20,. 02.0
					\$ 1	96,792.6
					\$	10,119.6
		\$	54.65	0.00	\$	-
		\$	5.72	26.67	\$	152.6
		\$	60.98	26.67		1,626.2
		\$	3.58 1,402.20	200.00		715.2
		\$	1.87	200.00		374.40
		\$	6.79	600.00	\$	4,075.20
		\$	4.24	600.00	\$	2,541.60
						634.40
				Amount		tal Cost
					\$	5,454.0
			,			
		\$	4,428.00	1.00		4,428.0
		\$ 10	0,260.00	0.10		1,026.0
				Amount		tal Cost
					Ф	-
					4	
		\$	0.71	0.00	\$	-
		Installation Ur	nit Cost	Amount	To	tal Cost
					\$1	71,468.3
		\$	6.36			1,425.38 2,427.19
			48.60			2,736.1
		\$	1.42	16,505.00	\$	23,371.0
			233.28 892.19			- 25,825.2
\$	24.60	•	233 28			11,070.0
•	04.00	\$	10.38	444.44	\$	4,613.3
Removal Unit	Cost			Amount	To	tal Cost
					\$	9,750.5
					•	·
					\$	8,629.4
					\$	1,121.0
Ψ	4.00					_
						-
_						-
\$	28.56	\$	30.60			-
\$	0.73	\$	4.87	200.00	\$	1,121.0
Removal Unit	Cost	Installation Ur	nit Cost	Amount	To	tal Cost
	\$ \$ \$ \$	\$ 28.56 \$ 13.56 \$ 4.88	\$ 0.73 \$ \$ 28.56 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	\$ 0.73 \$ 4.87 \$ 30.60 \$ 30.00.00 \$ 3,000.00 \$ 4.88 \$ 49.09 \$ 1,380.00 \$ 1,380.00 \$ \$ 1.356 \$ \$ 10.38 \$ 24.60 \$ 2.33.28 \$ 892.19 \$ 1.42 \$ 48.60 \$ 2.99 \$ 6.36 \$ 10.71 \$ Installation Unit Cost \$ 0.71 \$ 1.00 \$	\$ 0.73 \$ 4.87 200.00 \$ 28.56 \$ 30.60 0.00 \$ 3,000.00 0.00 \$ 36.90 0.00 \$ 4.88 \$ 49.09 0.00 \$ 1,380.00 0.00 \$ 1,380.00 0.00 \$ 1,380.00 0.00 \$ 1,380.00 0.00 \$ 1,380.00 0.00 \$ 1,380.00 0.00 \$ 1,380.00 0.00 \$ 1,380.00 0.00 \$ 1,380.00 0.00 \$ 1,380.00 0.00 \$ 1,380.00 0.00 \$ 1,380.00 0.00 \$ 1,380.00 0.00 \$ 1,380.00 0.00 \$ 1,380.00 0.00 \$ 1,380.00 0.00 \$ 1,380.00 \$ 1,42 16,505.00 \$ 1	\$ 0.73 \$ 4.87 200.00 \$ \$ 28.56 \$ 30.60 0.00 \$ \$ 3,000.00 0.00 \$ \$ 13.56 \$ 36.90 0.00 \$ \$ 4.88 \$ 49.09 0.00 \$ \$ \$ 1,380.00 0.00 \$ \$ \$ \$ 1,380.00 0.00 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$

General Inf	formation	
Project ID		<
Street Name	199 Roberts Road	9
Site Visit Date	5/21/13	
Road Classification	County Local	
Project	Notes	
Local road with sub standard horizo	ontal and vertical alignments	February 18

Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-10' (dirt/gravel)		
Existing Shld Width (paved and grass) (feet)	None		
Existing Side Slopes	flat		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	None		
Pipe Type and Size	None		
Pipe Condition (1-5) (1 is new)	n/a		

Condition Notes:

Pavement Type/Condition		gravel dirt/ poor	
Environmental Features			
Wetlands	N	oted	
Ditches	None		
Utilities (Visual Inspection)			
Electric	A	erial	
Cable	A	erial	
Phone	A	erial	
Gas			
Water	Ві	uried	
Sewer			
Other			



Stage Construction Options		
Close Location to Traffic		
Maintain One Lane - No Temp Pavement	Χ	
Maintain One Lane - Temp Pavement		

Stage Construction Notes:

Proposed Design		
Roadway Section		
Culvert Size & Material	7'x4' box, concrete, 85' length	
Utility Relocations	Two utility poles. Aerial electric, cable, phone. Buried water main	
Guardrail Replacement		
Miscellaneous Features		

Type	Notes	Total
Design	Includes 10% Construction Cost and surveying needs	\$17,381
Right of Way Cost	Assuming project extends 4,000 sf beyond ROW	\$16,000
Jtility Relocation Cost	Aerial utilities, poles, and buried water main	\$26,675
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$123,805
Environmental Permits	Assuming minimal environmental permitting required	\$10,000









Photo 1:



Photo 2:

5/21/2013

Taken By:

David King

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Bandon Orastostia	D	11.70	Lantalla Cara I	1.11 0	A 1	_	1-1-01
Roadway Construction Pavement (SF)	Removal \$	0.73	Installation U	4.87	Amount 0.00		otal Cost
Gravel Road (SY)	Ψ	0.73	\$	15.42	83.11		1,281.57
Curb and Gutter (LF)	\$	28.56	\$	30.60	0.00		
Drain Inlet (EA)	Ψ	20.00	\$	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			•	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		\$	1,281.57
Grading Complete (5% of Rwy Items & Drng Total \$)						\$	4,773.36
Roadway Total						\$	6,054.94
·							
Drainage	Removal	Unit Cost	Installation U		Amount		otal Cost
French Excavation (CY)	\$	24.60	\$	10.38	279.08	\$	2,896.89
60" CMP (LF) 60" RCP	Ф	24.00	œ.	259.20	85.00 0.00		6,273.0
Class A Conc (CY)			\$ \$	892.19			69,171.3
Steel (lb)			\$	1.42	8,370.00		
Pipe Bedding (CY)			\$	48.60	29.00		1,409.4
French Backfill (CY)			\$	2.99	319.85		955.7
French Compaction (CY)			\$	6.36	255.88		1,627.4
Orainage Total						\$	94,185.68
<u> </u>			Inotallatia: I	Init Cost	Λ ma::::t		·
Signing and Marking Permanent Striping (LF)			Installation U	Jnit Cost 0.71	Amount 0.00		otal Cost
			*	5.71	0.00		
Signing and Marking Total						\$	-
Staging			Installation U	Jnit Cost	Amount	To	otal Cost
Clearing and Grubbing (Acre)				10,260.00	0.20		2,052.0
remporary Pavement			•	. 0,200.00	0.20	\$	_,002.0
remporary Drainage (Stream Diversion)			\$	4,428.00	1.00		4,428.0
Staging Total						\$	6,480.0
							,
Erosion Control			Installation U	Jnit Cost	Amount	To	otal Cost
Fine Grading and Seeding (SY)			\$	4.39	119.00	\$	522.6
Temporary Grassing (AC)			\$	855.60	0.00	\$	-
Гуре C Silt Fence (LF)			\$	4.24	340.00	\$	1,440.2
Check Dam Type C Silt Fence (LF)			\$	6.79	340.00	\$	2,309.2
Erosion Control Mats (SY)			\$	1.87	113.33	\$	212.1
_andscape Mulch (SY)			\$	3.58	113.33	\$	405.2
Perm Grassing (AC)			\$	1,402.20	0.00	\$	-
Rip Rap Type 3 12" (SY)			\$	60.98	45.33	\$	2,764.6
Plastic Filter Fabric (SY)			\$	5.72	45.33	\$	259.4
1" Ditch Paving (SY)			\$	54.65	0.00	\$	-
Erosion Control Total						\$	7,913.7
Construction Cost Total						\$ 1	114,634.3
Fraffic Control (8% of Construction Total \$)						\$	9,170.7
, , , , , , , , , , , , , , , , , , ,							
Construction Cost Grand Total						\$ 1	123,805.0
Jtility Relocation Electric	Removal	Unit Cost	Installation U	Jnit Cost	Amount	To	otal Cost
Aerial	\$	11.00	\$	55.00	100.00	2	6,600.0
Buried	\$	16.50	\$	82.50	0.00		-,555.0
Vooden Pole	\$	82.50	\$	605.00	2.00		1,375.0
Phone	•		-			•	,
Aerial	\$	11.00	\$	27.50	100.00	\$	3,850.0
Buried	\$	16.50	\$	55.00	0.00		-
Vooden Pole	\$	82.50	\$	605.00		\$	-
Cable							
Aerial	\$	11.00	\$	27.50	100.00		3,850.0
Buried	\$	16.50	\$	55.00	0.00		-
Vooden Pole Gas	\$	82.50	\$	605.00		\$	-
∍as ŧ" main	\$	16.50	\$	66.00		\$	_
	¥	. 0.00	~	55.00		¥	
					100.00	\$	11,000.0
Vater	\$	16.50	\$	93.50			.,
Water 3" main Relocate Fire Hydrant (EA)	\$	16.50	\$ \$	93.50 2,609.22	100.00	\$	-
Nater 3" main Relocate Fire Hydrant (EA) Sewer		16.50	\$	2,609.22	0.00		-
Vater s' main Relocate Fire Hydrant (EA) Sewer 2" main	\$	16.50 16.50				\$	26 675 0
Vater " main kelocate Fire Hydrant (EA) Sewer 2" main Itility Relocation Total			\$	2,609.22	0.00 0.00	\$	·
Nater " main			\$	2,609.22	0.00	\$ \$ To	26,675.00 otal Cost 16,000.00

General Information		
Project ID		
Street Name	Scott Blvd.	
Site Visit Date	5/22/13	
Road Classification	Internal Local	

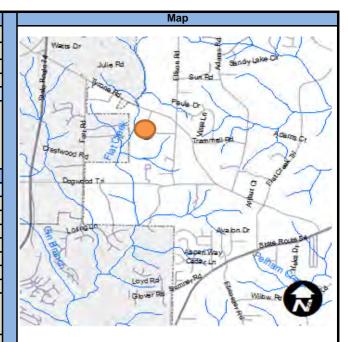
Project Notes

Rural typical section. Point is close to FEMA Zone A fllood boundary. Including cost of Zone A flood study based on limited location information.

Field Notes			
Design (Existing Site Features)			
Existing Road Laneage	2-10.5'		
Existing Shld Width (paved and grass) (feet)	4' Grass		
Existing Side Slopes	6:1 to flat		
Existing Guardrail	None		
Depth fm Pavement to Top of Culvert (ft):	10 - 11		
Pipe Type and Size	18" CMP		
Pipe Condition (1-5) (1 is new)	5		

Condition Notes:

Pavement Type/Condition		Asphalt/Good	
Environment	tal Features		
Wetlands	Upstream		
Ditches	Noted		
Utilities (Visua	al Inspection)		
Electric	Aerial		
Cable	Aerial		
Phone	Aerial		
Gas	None		
Water	Buried		
Sewer			
Other			



Stage Construction Options		
Close Location to Traffic	X	
Maintain One Lane - No Temp Pavement		
Maintain One Lane - Temp Pavement		

Stage Construction Notes:

Driveway at downstream end that will need to be accommodated for during construction

Roadway Section	Typical rural. Driveway removal/replacement costed as 20' x 9' concrete sidewalk
Culvert Size & Material	4' x 2' box, concrete, 50'
Utility Relocations	Utility poles, aerial lectric, cable,phone, buried water
Guardrail Replacement	
	Series of three 18" pipes. Upper two are within reasonable sizes, second one in series could be upsized

Proposed Design

Miscellaneous Features

Series of three, 18" pipes. Upper two are within reasonable sizes, second one in series could be upsized to 24". Downstream-most culvert is primary replacement need.

Planning Cost Estimate			
Туре	Notes	Total	
Design	Includes 10% Construction Cost and surveying needs	\$17,008	
Right of Way Cost	Assuming project extends 2,000 sf beyond ROW	\$8,000	
Utility Relocation Cost	Aerial utilities, poles, and buried water main	\$14,025	
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$45,081	
Environmental Permits	Permitting, Zone A flood study	\$15,000	









Photo 1:



Photo 2:

Photo Date:

5/21/2013

Taken By:

David King

Page:





Photo 3:



Photo 4:

Photo Date:

5/21/2013

Taken By:

David King

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Right of Way (Sq Ft) Permanent Easement			Cost/ Sq Ft \$ 4.0	Sq Ft 00 2,000.00	Total Cost \$ 8,000.00
Utility Relocation Total			. 02.0	2.00	\$14,025.00
Relocate Fire Hydrant (EA) Sewer 12" main	\$	16.50	\$ 2,609.2 \$ 82.5	0.00	\$ - \$ -
Water 8" main Releasts Fire Hydropt (FA)	\$	16.50	\$ 93.5		\$ 5,500.00
Gas 4" main	\$	16.50	\$ 66.0	0.00	\$ -
Wooden Pole	\$ \$	82.50	\$ 605.0		
Aerial Buried	\$ \$	11.00 16.50	\$ 27.5 \$ 55.0		\$ 1,925.00 \$ -
Wooden Pole Cable	\$	82.50	\$ 605.0	0.00	ъ -
Buried	\$	16.50	\$ 55.0	0.00	\$ -
Prione Aerial	\$	11.00	\$ 27.5		\$ 1,925.00
Wooden Pole Phone	\$	82.50	\$ 605.0	00 2.00	\$ 1,375.00
Buried	\$	16.50	\$ 82.5	50 0.00	\$ -
Electric Aerial	\$	11.00	\$ 55.0	00 50.00	\$ 3,300.00
Utility Relocation	Removal Uni	t Cost	Installation Unit Cos	t Amount	Total Cost
Construction Cost Grand Total					\$45,081.07
Traffic Control (8% of Construction Total \$)					\$ 3,339.34
Construction Cost Total					\$41,741.73
Erosion Control Total					\$ 3,721.04
Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 5.5 \$ 54.6		\$ 91.58 \$ -
Rip Rap Type 3 12" (SY)			\$ 60.9		
Perm Grassing (AC)			\$ 1,402.2	20 0.00	\$ -
Erosion Control Mats (SY) Landscape Mulch (SY)			\$ 1.8 \$ 3.9		
Check Dam Type C Silt Fence (LF)			\$ 6.7	79 200.00	\$ 1,358.40
Temporary Grassing (AC) Type C Silt Fence (LF)			\$ 855.6 \$ 4.2		
Fine Grading and Seeding (SY)			\$ 4.3	39 19.33	\$ 84.91
Erosion Control			Installation Unit Cos	t Amount	Total Cost
Staging Total					\$ 5,454.00
Temporary Drainage (Stream Diversion)			\$ 4,428.0	00 1.00	\$ 4,428.00
Clearing and Grubbing (Acre) Temporary Pavement			\$ 10,260.0	0.10	\$ 1,026.00 \$ -
Staging			Installation Unit Cos		Total Cost
Signing and Marking Total					\$ -
Signing and Marking Permanent Striping (LF)			Installation Unit Cost \$ 0.7		Total Cost \$ -
Drainage Total			1		\$ 29,300.43
Trench Compaction (CY)			\$ 6.3	36 129.52	
Trench Backfill (CY)			\$ 2.9	99 161.90	\$ 483.76
Steel (lb) Pipe Bedding (CY)			\$ 1.4 \$ 48.6	,	\$ 3,099.62 \$ 563.76
Class A Conc (CY)			\$ 892.		\$21,912.14
18" CMP (LF) 18" RCP	\$	5.74	\$ 36.0	50.00 0.00	
Trench Excavation (CY)			\$ 10.3	38 150.00	\$ 1,557.00
Drainage	Removal Uni	t Cost	Installation Unit Cos	t Amount	Total Cost
Roadway Total					\$ 3,266.27
Grading Complete (5% of Rwy Items & Drng Total \$)					\$ 1,550.79
End Anchorage (EA) Subtotal			\$ 1,380.0	0.00	\$ - \$ 1,715.47
4" Sidewalk (SY) Guardrail (LF)	\$ \$	13.56 4.88	\$ 36.9 \$ 49.0		
Orain Inlet (EA)	•	40.50	\$ 3,000.0		
Curb and Gutter (LF)	\$	28.56	\$ 30.6		
Roadway Construction Pavement (SF)	Removal Uni	0.73	Installation Unit Cost \$ 4.8		Total Cost \$ 706.27
Poadway Construction	Removal Uni	t Cost	Installation Unit Cont	Amount	Total Cost

General Inforn	nation	Мар
Project ID		
Street Name	Silver Leaf Drive	
Site Visit Date	5/21/13	
Road Classification	Internal Local	Salaba
Project No	tes	3
ooundary. Adding cost of Zone A flood nformation	study given limited location	Forest Dr Silver Last Dr
Field Note		Brandy Wine Blvd
Design (Existing Sit		
Existing Road Laneage	2-12'	Manque Dr.
Existing ShId Width (paved and gras		The state of the s
Existing Side Slopes	4:1	2
Existing Guardrail	None	1
Depth fm Pavement to Top of Culver		Beardywine Blvd
Pipe Type and Size	1-54" CMP	The second secon
Pipe Condition (1-5) (1 is new)	4	
Condition Notes:		12/4
Pavement Type/Condition	Good	
		Stage Constructi
	eatures	

Environmental Features					
Wetlands	X (downstream)				
Ditches	None				
Utilities (Visua	Il Inspection)				
Electric	Aerial				
Cable	Buried				
Phone	Buried				
Gas	Buried				
Water	Buried				
Sewer					
Other					

-//	N
Stage Construction Options	S
Close Location to Traffic	Χ
Maintain One Lane - No Temp Pavement	
Maintain One Lane - Temp Pavement	
Stage Construction Notes:	
Replace inlet on each side	

Roadway Section

Culvert Size & Material

Utility Relocations

Phone, cable, gas, water

Guardrail Replacement

Miscellaneous Features

Planning Cost Estimate				
Туре	Notes	Total		
Design	Includes 10% Construction Cost and surveying needs	\$29,259		
Right of Way Cost	Assuming project extends 4,800 sf beyond ROW	\$19,200		
Utility Relocation Cost	Buried utilities	\$16,775		
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$167,593		
Environmental Permits	Permitting, Zone A flood study	\$15,000		
	Total Planning Estimate	\$247,827		







Photo 1:



Photo 2:

5/21/2013

Taken By:

David King

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Roadway Construction	Removal Un		Installation Unit		Amount		otal Cost
Pavement (SF)	\$	0.73	\$	4.87	240.00	\$	1,345.28
Curb and Gutter (LF)	\$	28.56	\$	30.60	20.00	\$	1,183.20
Drain Inlet (EA)			\$ 3,0	00.00	2.00	\$	6,000.00
4" Sidewalk (SY)	\$	13.56	\$	36.90	0.00		-
` ',	\$						
Guardrail (LF)	Ф	4.88	\$	49.09	0.00		-
End Anchorage (EA)			\$ 1,3	380.00	0.00		-
Subtotal						\$	8,528.48
Grading Complete (5% of Rwy Items & Drng Total \$)						\$	6,675.57
3 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 -						•	-,
Roadway Total						•	15,204.05
Noduway Total						φ	15,204.05
				_		_	
Drainage	Removal Un	t Cost	Installation Unit		Amount	To	otal Cost
Trench Excavation (CY)			\$	10.38	544.44	\$	5,651.33
54" CMP (LF)	\$	24.60			140.00	\$	10,332.00
54" RCP			\$ 2	217.35	0.00	\$	-
Class A Conc (CY)				392.19	92.81	\$	82,803.97
Steel (lb)			\$	1.42	13,265.00		
					,		,
Pipe Bedding (CY)			\$	48.60	52.60		2,556.36
Trench Backfill (CY)			\$	2.99	601.29		1,796.65
Trench Compaction (CY)			\$	6.36	481.03	\$	3,059.36
Drainage Total						\$ 1	124,982.91
-							
Signing and Marking			Installation Unit	Cost	Amount	To	otal Cost
· · · · · · · · · · · · · · · · · · ·							0001
Permanent Striping (LF)			\$	0.71	0.00	\$	-
Signing and Marking Total						\$	-
Staging			Installation Unit	Cost	Amount	To	otal Cost
Clearing and Grubbing (Acre)				260.00	0.10		1,026.00
Temporary Pavement			Ψ,2	.00.00	00	\$.,020.00
			• 4/	120 00	1.00	\$	4 420 00
Temporary Drainage (Stream Diversion)			\$ 4,4	128.00	1.00	Ф	4,428.00
Staging Total						\$	5,454.00
Erosion Control			Installation Unit	Cost	Amount	To	otal Cost
Fine Grading and Seeding (SY)			\$	4.39	128.89		566.08
g , ,							
Temporary Grassing (AC)				355.60	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
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY)				6.79 1.87	560.00 186.67	\$	3,803.52 349.44
Erosion Control Mats (SY)			\$	1.87	186.67	\$ \$	349.44
Erosion Control Mats (SY) Landscape Mulch (SY)			\$ \$	1.87 3.58	186.67 186.67	\$ \$ \$	
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC)			\$ \$ \$	1.87 3.58 102.20	186.67 186.67 0.00	\$ \$ \$	349.44 667.52
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ \$ \$ \$	1.87 3.58 102.20 60.98	186.67 186.67 0.00 26.67	\$ \$ \$ \$ \$	349.44 667.52 - 1,626.24
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72	186.67 186.67 0.00 26.67 26.67	\$ \$ \$ \$ \$	349.44 667.52
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ \$ \$ \$	1.87 3.58 102.20 60.98	186.67 186.67 0.00 26.67	\$ \$ \$ \$ \$	349.44 667.52 - 1,626.24
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72	186.67 186.67 0.00 26.67 26.67	\$ \$ \$ \$ \$	349.44 667.52 - 1,626.24
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72	186.67 186.67 0.00 26.67 26.67	\$ \$ \$ \$ \$	349.44 667.52 - 1,626.24
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72	186.67 186.67 0.00 26.67 26.67	\$ \$ \$ \$ \$ \$	349.44 667.52 - 1,626.24 152.64
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72	186.67 186.67 0.00 26.67 26.67	\$ \$ \$ \$ \$ \$ \$ \$	349.44 667.52 - 1,626.24 152.64 - 9,537.60
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72	186.67 186.67 0.00 26.67 26.67	\$ \$ \$ \$ \$ \$ \$ \$	349.44 667.52 - 1,626.24 152.64
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72	186.67 186.67 0.00 26.67 26.67	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	349.44 667.52 - 1,626.24 152.64 - 9,537.60
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72	186.67 186.67 0.00 26.67 26.67	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	349.44 667.52 - 1,626.24 152.64 - 9,537.60
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)			\$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72	186.67 186.67 0.00 26.67 26.67	\$	349.44 667.52 - 1,626.24 152.64 - 9,537.60 155,178.56 12,414.28
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72	186.67 186.67 0.00 26.67 26.67	\$	349.44 667.52 - 1,626.24 152.64 - 9,537.60
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total			\$ \$ \$ \$ 1,4	1.87 3.58 102.20 60.98 5.72 54.65	186.67 186.67 0.00 26.67 26.67 0.00	\$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)	Removal Un	it Cost	\$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72 54.65	186.67 186.67 0.00 26.67 26.67	\$	349.44 667.52 - 1,626.24 152.64 - 9,537.60 155,178.56 12,414.28
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total	Removal Un	it Cost	\$ \$ \$ \$ 1,4	1.87 3.58 102.20 60.98 5.72 54.65	186.67 186.67 0.00 26.67 26.67 0.00	\$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation			\$ \$ \$ 1,4	1.87 3.58 402.20 60.98 5.72 54.65	186.67 186.67 0.00 26.67 26.67 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$	11.00	\$ \$ \$ 1,4 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 402.20 60.98 5.72 54.65 Cost 55.00	186.67 186.67 0.00 26.67 26.67 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	\$ \$ \$ 1,4 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 402.20 60.98 5.72 54.65 Cost 55.00 82.50	186.67 186.67 0.00 26.67 26.67 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$	11.00	\$ \$ \$ 1,4 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 402.20 60.98 5.72 54.65 Cost 55.00	186.67 186.67 0.00 26.67 26.67 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 402.20 60.98 6.72 54.65 Cost 55.00 82.50 905.00	186.67 186.67 0.00 26.67 26.67 0.00	\$\$\$\$\$\$\$\$ \$ \$ \$ \$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$ \$ \$	11.00 16.50	\$ \$ \$ \$ 1,4 \$ \$ \$ \$ \$ \$	1.87 3.58 402.20 60.98 5.72 54.65 Cost 55.00 82.50	186.67 186.67 0.00 26.67 26.67 0.00	\$\$\$\$\$\$\$\$ \$ \$ \$ \$ \$ \$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 402.20 60.98 6.72 54.65 Cost 55.00 82.50 905.00	186.67 186.67 0.00 26.67 26.67 0.00	\$\$\$\$\$\$\$\$ \$\$\$ \$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ \$ \$ 1,4 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72 54.65 Cost 55.00 82.50 105.00 27.50 55.00	186.67 186.67 0.00 26.67 26.67 0.00 Amount	\$\$\$\$\$\$\$\$ \$ \$ \$ \$ \$ \$ \$ \$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole	\$ \$ \$	11.00 16.50 82.50 11.00	\$ \$ \$ 1,4 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50	186.67 186.67 0.00 26.67 26.67 0.00 Amount	\$\$\$\$\$\$\$\$ \$ \$ \$ \$ \$ \$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 402.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00	186.67 186.67 0.00 26.67 26.67 0.00 Amount	\$\$\$\$\$\$\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Aerial Aerial Construction Cost Grand Total	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50	186.67 186.67 0.00 26.67 26.67 0.00 Amount 0.00	\$\$\$\$\$\$\$\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 ottal Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ \$ \$ 1,4 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72 54.65 Cost 55.00 82.50 105.00 27.50 55.00 27.50 55.00 27.50 55.00	186.67 186.67 0.00 26.67 26.67 0.00 Amount	\$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ 1,4 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50	186.67 186.67 0.00 26.67 26.67 0.00 Amount 0.00	\$\$\$\$\$\$\$\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ \$ \$ 1,4 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72 54.65 Cost 55.00 82.50 105.00 27.50 55.00 27.50 55.00 27.50 55.00	186.67 186.67 0.00 26.67 26.67 0.00 Amount 0.00	\$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ \$ \$ 1,4 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72 54.65 Cost 55.00 82.50 105.00 27.50 55.00 27.50 55.00 27.50 55.00	186.67 186.67 0.00 26.67 26.67 0.00 Amount 0.00	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Case Aerial Buried Wooden Pole Gas 4" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ 1,4 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 402.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00	186.67 186.67 0.00 26.67 26.67 0.00 Amount 0.00 50.00	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost - - 3,575.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Casle Aerial Buried Wooden Pole Gas 4" main Water	\$\$\$\$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 66.00	186.67 186.67 0.00 26.67 26.67 0.00 Amount 0.00 50.00	\$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost 3,575.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ 1,4 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 402.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 66.00 93.50	186.67 186.67 0.00 26.67 26.67 0.00 Amount 0.00 50.00	\$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost - - 3,575.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	\$\$\$\$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ 1,4 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 102.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 66.00	186.67 186.67 0.00 26.67 26.67 0.00 Amount 0.00 50.00 50.00	\$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost 3,575.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Resial Buried Wooden Pole Resial Buried Wooden Pole Resial Buried Resial Buried Resian Resi	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 102.20	186.67 186.67 0.00 26.67 26.67 0.00 Amount 0.00 50.00 50.00 50.00 0.00	\$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost 3,575.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole Case 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	\$\$\$\$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ 1,4 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 402.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 66.00 93.50	186.67 186.67 0.00 26.67 26.67 0.00 Amount 0.00 50.00 50.00	\$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost 3,575.00 3,575.00 4,125.00 5,500.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Resial Buried Wooden Pole Resial Buried Wooden Pole Resial Buried Resial Buried Resian Resi	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 102.20	186.67 186.67 0.00 26.67 26.67 0.00 Amount 0.00 50.00 50.00 50.00 0.00	\$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost 3,575.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole Case 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 102.20	186.67 186.67 0.00 26.67 26.67 0.00 Amount 0.00 50.00 50.00 50.00 0.00	\$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost 3,575.00 3,575.00 4,125.00 5,500.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ \$ 1,4 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 102.20	186.67 186.67 0.00 26.67 26.67 0.00 50.00 50.00 50.00 50.00 0.00 0	\$\$\$\$\$\$\$\$\$\$\$\$\$\$ \$ \$ \$ T \$\$\$\$ \$\$\$\$ \$\$\$\$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost - - 3,575.00 - 4,125.00 5,500.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Case 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ \$ \$ 1,4 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 102.20	186.67 186.67 0.00 26.67 26.67 0.00 Amount 0.00 50.00 50.00 0.00 0.00 0.00 Sq Ft	\$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost 3,575.00 4,125.00 5,500.00 16,775.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft) Permanent Easement	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ \$ 1,4 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 102.20	186.67 186.67 0.00 26.67 26.67 0.00 50.00 50.00 50.00 50.00 0.00 0	\$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost 3,575.00 4,125.00 5,500.00 otal Cost 19,200.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Case 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ \$ \$ 1,4 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 102.20	186.67 186.67 0.00 26.67 26.67 0.00 Amount 0.00 50.00 50.00 0.00 0.00 0.00 Sq Ft	\$	349.44 667.52 1,626.24 152.64 9,537.60 155,178.56 12,414.28 167,592.85 otal Cost 3,575.00 4,125.00 5,500.00 16,775.00

	formation	Мар
Project ID		
Street Name	503 Westbridge Drive	
Site Visit Date	5/22/13	
Road Classification	Internal Local	
	t Notes	The state of the s
Urban typical section with Curb and		
**		NothOr
		Mesonwheelth
2 2	Notes	THE THE COMPANY
Design (Existing		The state of the s
Existing Road Laneage	2-12'	
Existing ShId Width (paved and		Started Co. Science Started St
Existing Side Slopes	Flat	Kib lake Rd
Existing Guardrail	None	roughd y
Depth fm Pavement to Top of Cu		Fimbouse 2d A To
. ,	neadwall, 45°) 48" CMP; 45'	Figure and Committee of the Committee of
Pipe Condition (1-5) (1 is new)	4	New Hope Rd of Kendood Ad
Condition Notes: Debris in channe	I; approx. 1.5' drop in last section	N N N N N N N N N N N N N N N N N N N
of pipe; US filled/damaged to 3.5'		1 AC LIFT AT
Pavement Type/Condition	Good/Asphalt	
. алетен турелеенанен	Codinisprian	Stage Construction Options
Environmen	tal Features	Close Location to Traffic
Wetlands	None	Maintain One Lane - No Temp Pavement X
Ditches	None	Maintain One Lane - Temp Pavement
		Stage Construction Notes: Stage construction such that one lane is
		open at all times; street light next to crossing
Utilities (Visu	al Inspection)	
Electric	Buried	
Cable	Buried	
Phone	Buried	<u></u>
Phone Gas	Buried	
	Buried Buried	
Gas		
Gas Water		
Gas Water Sewer	Buried	ed Design
Gas Water Sewer	Buried	ed Design
Gas Water Sewer Other	Buried	ed Design
Gas Water Sewer Other Roadway Section	Buried Propose 5' x 3' box, concrete, 45' Length	ed Design
Gas Water Sewer Other Roadway Section	Buried	ed Design
Gas Water Sewer Other Roadway Section Culvert Size & Material	Buried Propose 5' x 3' box, concrete, 45' Length	ed Design
Gas Water Sewer Other Roadway Section Culvert Size & Material Utility Relocations	Buried Propose 5' x 3' box, concrete, 45' Length	ed Design
Gas Water Sewer Other Roadway Section Culvert Size & Material Utility Relocations Guardrail Replacement	Buried Propose 5' x 3' box, concrete, 45' Length	ed Design
Gas Water Sewer Other Roadway Section Culvert Size & Material Utility Relocations Guardrail Replacement	Buried Propose 5' x 3' box, concrete, 45' Length	ed Design

Planning Cost Estimate					
Type	Notes	Total			
Design	Includes 10% Construction Cost and surveying needs	\$10,078			
Right of Way Cost	Assuming project extends 1,200 sf beyond ROW	\$4,800			
Utility Relocation Cost	Buried utilities	\$14,080			
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$50,776			
Environmental Permits	Assuming minimal environmental permitting required	\$10,000			
Total Planning Estimate \$89,733					







Photo 1:



Photo 2:

5/21/2013

Taken By:

David King

Page:

Pavement (SF)	Removal Unit Cost		Amount	Total Cost
	\$0.73	\$4.87	168.00	\$941.70
Curb and Gutter (LF)	\$28.56	\$30.60	20.00	\$1,183.20 \$0.00
Drain Inlet (EA) 4" Sidewalk (SY)	\$13.56	\$3,000.00 \$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				\$2,124.90
Grading Complete (5% of Rwy Items & Drng Total \$)				\$1,806.26
Roadway Total				\$3,931.16
Drainage Transh Everyation (CV)	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY) 48" CMP (LF)	\$24.60	\$10.38	93.33 45.00	\$968.80 \$3,321.00
48" RCP	Ψ24.00	\$193.20	0.00	\$0.00
Class A Conc (CY)		\$892.19	27.85	\$24,842.97
Steel (lb)		\$1.42	2,529.50	\$3,581.77
Pipe Bedding (CY) Trench Backfill (CY)		\$48.60 \$2.99	12.20 85.80	\$592.92 \$256.37
Trench Compaction (CY)		\$6.36	68.64	\$436.55
, , ,		*****		
Drainage Total				\$34,000.39
Signing and Marking		Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)		\$0.71	0.00	\$0.00
Signing and Marking Total				\$0.00
0		Landa Harran I I ar Oan d	A	Taraboard
Staging Clearing and Grubbing (Acre)		Installation Unit Cost \$10,260.00	Amount 0.10	Total Cost \$1,026.00
Temporary Pavement		ψ10,200.00	0.10	\$0.00
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	16.33	\$71.74
Temporary Grassing (AC)		\$855.60	0.00	\$0.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF)		\$4.24 \$6.79	180.00 180.00	\$762.48 \$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	\$0.00
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)		\$60.98 \$5.72	18.67 18.67	\$1,138.37 \$106.85
4" Ditch Paving (SY)		\$54.65	0.00	\$0.00
Erosion Control Total				
Erodori Control Fotal				\$3 628 8 7
0 0 7				\$3,628.87
Construction Cost Total				\$47,014.42
Construction Cost Total Traffic Control (8% of Construction Total \$)				
				\$47,014.42
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal Unit Cost	Installation Unit Cost	Amount	\$47,014.42 \$3,761.15
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric			Amount	\$47,014.42 \$3,761.15 \$50,775.57 Total Cost
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$11.00	\$55.00		\$47,014.42 \$3,761.15 \$50,775.57 Total Cost \$0.00
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$11.00 \$16.50	\$55.00 \$82.50	Amount 40.00	\$47,014.42 \$3,761.15 \$50,775.57 Total Cost \$0.00 \$3,960.00
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$11.00	\$55.00		\$47,014.42 \$3,761.15 \$50,775.57 Total Cost \$0.00
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$11.00 \$16.50 \$82.50 \$11.00	\$55.00 \$82.50 \$605.00 \$27.50	40.00	\$47,014.42 \$3,761.15 \$50,775.57 Total Cost \$0.00 \$3,960.00 \$0.00 \$0.00
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$11.00 \$16.50 \$82.50 \$11.00 \$16.50	\$55.00 \$82.50 \$605.00 \$27.50 \$55.00		\$47,014.42 \$3,761.15 \$50,775.57 Total Cost \$0.00 \$3,960.00 \$0.00 \$0.00 \$2,860.00
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole Wooden Pole	\$11.00 \$16.50 \$82.50 \$11.00	\$55.00 \$82.50 \$605.00 \$27.50	40.00	\$47,014.42 \$3,761.15 \$50,775.57 Total Cost \$0.00 \$3,960.00 \$0.00 \$0.00
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$11.00 \$16.50 \$82.50 \$11.00 \$16.50	\$55.00 \$82.50 \$605.00 \$27.50 \$55.00	40.00	\$47,014.42 \$3,761.15 \$50,775.57 Total Cost \$0.00 \$3,960.00 \$0.00 \$0.00 \$2,860.00
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	\$11.00 \$16.50 \$82.50 \$11.00 \$16.50 \$82.50	\$55.00 \$82.50 \$605.00 \$27.50 \$55.00 \$605.00	40.00	\$47,014.42 \$3,761.15 \$50,775.57 Total Cost \$0.00 \$3,960.00 \$0.00 \$0.00 \$2,860.00 \$0.00
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Mooden Pole Cable Mooden Pole Wooden Pole	\$11.00 \$16.50 \$82.50 \$11.00 \$16.50 \$82.50	\$55.00 \$82.50 \$605.00 \$27.50 \$55.00 \$605.00	40.00 40.00	\$47,014.42 \$3,761.15 \$50,775.57 Total Cost \$0.00 \$3,960.00 \$0.00 \$2,860.00 \$0.00 \$0.00
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	\$11.00 \$16.50 \$82.50 \$11.00 \$16.50 \$82.50 \$11.00 \$16.50 \$82.50	\$55.00 \$82.50 \$605.00 \$27.50 \$55.00 \$605.00 \$27.50 \$55.00 \$605.00	40.00 40.00	\$47,014.42 \$3,761.15 \$50,775.57 Total Cost \$0.00 \$3,960.00 \$0.00 \$2,860.00 \$0.00 \$2,860.00 \$0.00
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried	\$11.00 \$16.50 \$82.50 \$11.00 \$16.50 \$82.50 \$11.00 \$16.50	\$55.00 \$82.50 \$605.00 \$27.50 \$55.00 \$605.00 \$27.50 \$55.00	40.00 40.00	\$47,014.42 \$3,761.15 \$50,775.57 Total Cost \$0.00 \$3,960.00 \$0.00 \$2,860.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	\$11.00 \$16.50 \$82.50 \$11.00 \$16.50 \$82.50 \$11.00 \$16.50 \$82.50	\$55.00 \$82.50 \$605.00 \$27.50 \$55.00 \$605.00 \$27.50 \$55.00 \$605.00	40.00 40.00	\$47,014.42 \$3,761.15 \$50,775.57 Total Cost \$0.00 \$3,960.00 \$0.00 \$2,860.00 \$0.00 \$2,860.00 \$0.00
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	\$11.00 \$16.50 \$82.50 \$11.00 \$16.50 \$82.50 \$11.00 \$16.50 \$82.50	\$55.00 \$82.50 \$605.00 \$27.50 \$55.00 \$605.00 \$27.50 \$55.00 \$605.00	40.00 40.00 40.00	\$47,014.42 \$3,761.15 \$50,775.57 Total Cost \$0.00 \$3,960.00 \$0.00 \$2,860.00 \$0.00 \$2,860.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer	\$11.00 \$16.50 \$82.50 \$11.00 \$16.50 \$82.50 \$16.50 \$16.50	\$55.00 \$82.50 \$605.00 \$27.50 \$55.00 \$605.00 \$65.00 \$665.00 \$66.00 \$93.50 \$2,609.22	40.00 40.00 40.00 0.00	\$47,014.42 \$3,761.15 \$50,775.57 Total Cost \$0.00 \$3,960.00 \$0.00 \$2,860.00 \$0.00 \$2,860.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	\$11.00 \$16.50 \$82.50 \$11.00 \$16.50 \$82.50 \$11.00 \$16.50 \$82.50	\$55.00 \$82.50 \$605.00 \$27.50 \$55.00 \$605.00 \$27.50 \$55.00 \$605.00	40.00 40.00 40.00	\$47,014.42 \$3,761.15 \$50,775.57 Total Cost \$0.00 \$3,960.00 \$0.00 \$2,860.00 \$0.00 \$2,860.00 \$0.00 \$0.00 \$0.00 \$0.00 \$1,000 \$0.00 \$0.00 \$1,000 \$0.00 \$1,000 \$1
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	\$11.00 \$16.50 \$82.50 \$11.00 \$16.50 \$82.50 \$16.50 \$16.50	\$55.00 \$82.50 \$605.00 \$27.50 \$55.00 \$605.00 \$66.00 \$66.00 \$93.50 \$2,609.22	40.00 40.00 40.00 0.00 0.00	\$47,014.42 \$3,761.15 \$50,775.57 Total Cost \$0.00 \$3,960.00 \$0.00 \$2,860.00 \$0.
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	\$11.00 \$16.50 \$82.50 \$11.00 \$16.50 \$82.50 \$16.50 \$16.50	\$55.00 \$82.50 \$605.00 \$27.50 \$55.00 \$605.00 \$65.00 \$665.00 \$66.00 \$93.50 \$2,609.22 \$82.50	40.00 40.00 40.00 0.00 0.00 Sq Ft	\$47,014.42 \$3,761.15 \$50,775.57 Total Cost \$0.00 \$3,960.00 \$0.00 \$2,860.00 \$0.00 \$2,860.00 \$0.00 \$0.00 \$0.00 \$14,400.00 \$0.00 \$14,080.00 Total Cost
Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	\$11.00 \$16.50 \$82.50 \$11.00 \$16.50 \$82.50 \$16.50 \$16.50	\$55.00 \$82.50 \$605.00 \$27.50 \$55.00 \$605.00 \$66.00 \$66.00 \$93.50 \$2,609.22	40.00 40.00 40.00 0.00 0.00	\$47,014.42 \$3,761.15 \$50,775.57 Total Cost \$0.00 \$3,960.00 \$0.00 \$2,860.00 \$0.

General	Information	Мар
Project ID		
Street Name	517 Westbridge Drive	
Site Visit Date	5/22/13	
Road Classification	Internal Local	5) 5
	ect Notes	Vegrawned m
Urban typical section with Curb a		
,,	3	4 7 8
		Active de la company de la com
		Cost Bridge applied post
		PH-9-WED OF THE THE PH-9-WED OF THE PH-9-WED O
	d Notes	
	ing Site Features)	1 9
Existing Road Laneage	2-12'	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Existing ShId Width (paved and		2 2 3
Existing Side Slopes	Flat	Sand Significant States of the sand Significant Signif
Existing Guardrail	None	
Depth fm Pavement to Top of (
Pipe Type and Size	54" CMP	k ma
Pipe Condition (1-5) (1 is new)	4	FichousaRd
Condition Notes: 0.5' drop; 1' of	sand in pipe (45' pipe length);	Janes Dr
Capacity Issue		
Pavement Type/Condition		
-avement Type/Condition		Stage Construction Options
Environme	ental Features	Close Location to Traffic
Wetlands	None	Maintain One Lane - No Temp Pavement X
Ditches	None	Maintain One Lane - Temp Pavement
	75.10	Stage Construction Notes: Stage const. such that one lane is oper
		at all times
Utilities (Vis	sual Inspection)	
Electric	Buried	
Cable	Buried	
Phone	Buried	
Gas		
Water	Buried	
Sewer		
Other		
	Propose	ed Design
Roadway Section		
Culvert Size & Material	5' x 3' box, concrete, 45' length	
Utility Relocations	Electric, cable, phone, water	
Guardrail Replacement		
M' B		
Miscellaneous Features		
Miscellaneous Features		

Planning Cost Estimate				
Туре	Notes	Total		
Design	Includes 10% Construction Cost and surveying needs	\$10,091		
Right of Way Cost	Assuming project extends 2,000 sf beyond ROW	\$8,000		
Utility Relocation Cost	Buried utilities	\$14,080		
Construction Cost	Assuming 1/10 acre clearing and grubbing	\$50,911		
Environmental Permits	Assuming minimal environmental permitting required	\$10,000		
	Total Planning Estimate	\$93,082		







Photo 1:



Photo 2:

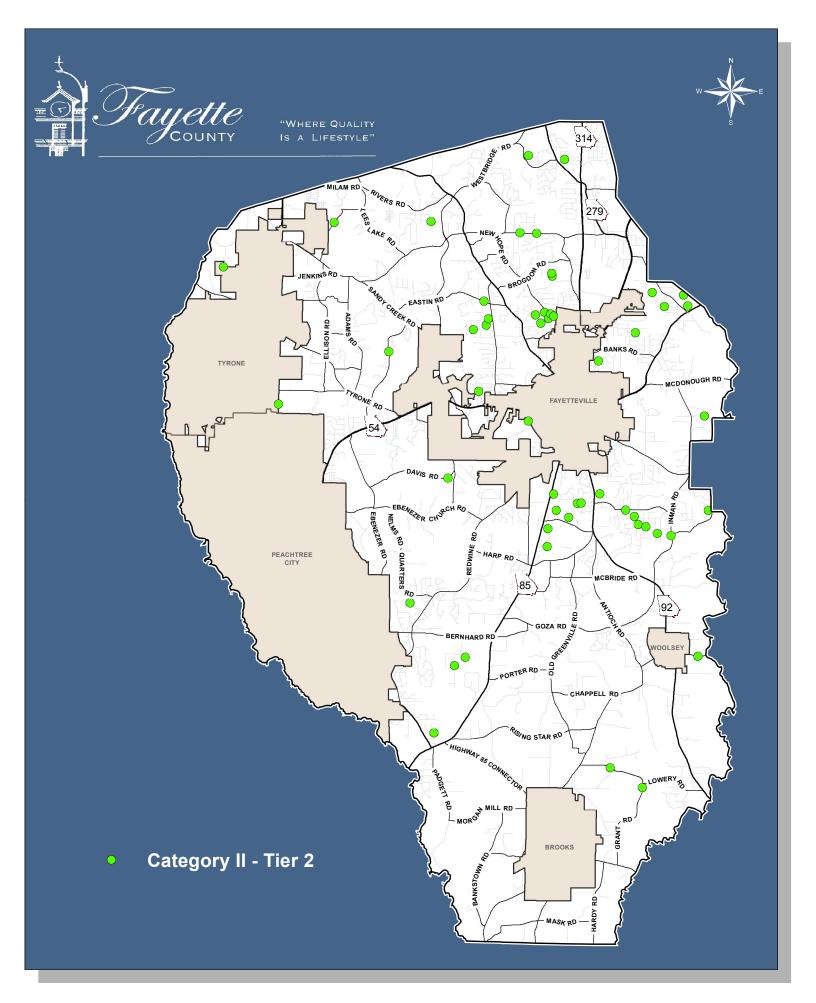
5/21/2013

Taken By:

David King

Page:

Right of Way (Sq Ft)			Cost/ Sq Ft		q Ft	Total Cost
Utility Relocation Total					-	\$14,080.00
Sewer 12" main	\$	16.50	\$ 8	32.50	0.00	
8" main Relocate Fire Hydrant (EA)	\$	16.50		93.50 99.22	0.00	\$ 4,400.00 \$ -
Water					40.00	
Gas 4" main	\$	16.50		66.00		\$ -
Buried Wooden Pole	\$	16.50 82.50	\$ 5	55.00 05.00	40.00	\$ 2,860.00 \$ -
Cable Aerial	\$	11.00	\$ 2	27.50		\$ -
Buried Wooden Pole	\$ \$	16.50 82.50		55.00 05.00	40.00	\$ 2,860.00 \$ -
Aerial	\$	11.00		27.50	40.00	\$ -
Wooden Pole Phone	\$	82.50		05.00		\$ -
Aerial Buried	\$ \$	11.00 16.50	\$ 8	55.00 32.50	40.00	\$ - \$ 3,960.00
Electric					. 5	
Utility Relocation	Removal Uni	t Cost	Installation Unit C	ost An	nount	Total Cost
Construction Cost Grand Total						\$50,911.02
Traffic Control (8% of Construction Total \$)						\$ 3,771.19
Construction Cost Total						\$47,139.83
Erosion Control Total						\$ 3,628.87
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 6	02.20 60.98 5.72 64.65	18.67	\$ 106.85
Landscape Mulch (SY)			\$	3.58	60.00	\$ 214.56
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY)				6.79 1.87		\$ 1,222.56
Temporary Grassing (AC) Type C Silt Fence (LF)			\$ 85 \$	55.60 4.24	0.00 180.00	
Erosion Control Fine Grading and Seeding (SY)			Installation Unit C	4.39	16.33	
Staging Total						\$ 5,454.00
Temporary Drainage (Stream Diversion)			\$ 4,42	28.00	1.00	\$ 4,428.00
Staging Clearing and Grubbing (Acre) Temporary Pavement			\$ 10,26		0.10	\$ 1,026.00 \$ -
			Installation Unit C	oot An	nount	Total Cost
Permanent Striping (LF) Signing and Marking Total			\$	0.71	0.00	\$ - \$ -
Signing and Marking			Installation Unit C		nount	Total Cost
Drainage Total						\$34,119.83
Trench Backfill (CY) Trench Compaction (CY)			\$	2.99 6.36	93.09 74.47	\$ 278.16
Steel (lb) Pipe Bedding (CY)			\$	1.42 2 18.60		\$ 3,581.77
54" RCP Class A Conc (CY)			·	33.28 92.19	0.00 27.85	\$ - \$24,842.97
Trench Excavation (CY) 54" CMP (LF)	\$	24.60		0.38		\$ 1,029.35 \$ 3,321.00
Drainage	Removal Uni	t Cost	Installation Unit C		nount	Total Cost
Roadway Total						\$ 3,937.13
Grading Complete (5% of Rwy Items & Drng Total \$)						\$ 1,812.24
End Anchorage (EA) Subtotal			\$ 1,38	30.00	0.00	\$ - \$ 2,124.90
4" Sidewalk (SY) Guardrail (LF)	\$ \$	13.56 4.88		86.90 19.09	0.00	
Drain Inlet (EA)			\$ 3,00	00.00	0.00	\$ -
Pavement (SF) Curb and Gutter (LF)	\$ \$	0.73 28.56	\$ \$	4.87 30.60	168.00 20.00	\$ 941.70 \$ 1,183.20
Roadway Construction	Removal Uni	t Cost	Installation Unit C	ost An	nount	Total Cost



SPLOST 2017 Stormwater Improvements

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 2016 CATEGORY II TOTAL	\$10,440,149 \$14,145,522

General Int	formation			Мар	
Project ID			1/2/		
Street Name	170 Ang	ela Drive	- Maria		Murphy Cres
Site Visit Date		/2016	no orien		
Road Classification		r road	- Sept.	Perla P	
Project		11000		Nood	
Troject	Notes		O LIGHT WAS MILES OF THE STATE	Marron-ye	11.6.7g
Field N	Notes		Sheffield=Ct		
Design (Existing			\	Angela:Dr B	-Downybrook:Ln :Hoi
Existing Road Laneage	J One i catales)	2-11'	D piole g	myoo	
Existing Shid Width (paved and	grass) (feet)	4'	Brookside	::Trce:	De-Wi
Existing Side Slopes	g. 400) (1001)	4:1	Firethorn	Chaney	neridg
Existing Guardrail		None	Filenon	I-LII	000
Depth fm Pavement to Top of Cu	Ilvert (ft):	3'			" P
Pipe Type and Size	\/-	CMPs 2x30"	The state of the s	Men	Crase
Pipe Condition (1-5) (1 is new)		4-5	1 1 1	Birdsong:En:	Cre
Condition Notes: Two corrugated r	metal pipes 1.8' a		N 0 0.25	0.5	1
rusted out bottoms. No headwall			0 0.25	0.0	Miles
					ivilles
Pavement Type/Condition		Asphalt/Good			1
•			Stage	Construction Options	
Environment	tal Features		Close Location to Traff		
Wetlands			Maintain One Lane - No	Temp Pavement	Χ
Ditches	Roadside dra	ainage ditches	Maintain One Lane - Te		
State Waters		- v	Stage Construction Note:		
Utilities (Visua	I Inspection)				
Electric		erial			
Cable	Bu	ried			
Phone	Ae	erial			
Gas	Unk	nown			
Water	Unk	nown			
Sewer	Unk	nown			
Other					
		Propose	ed Design		
Roadway Section	Typical				
Culvert Size & Material	2x30" Round RO	CP with straight he	eadwall		
Utility Relocations	Utility pole with e	electric and phone	wires. Buried cable		
Guardrail Replacement					
Miscellaneous Features					
			ost Estimate		
Туре		Notes		Tota	
Design	Includes 10%		Cost and surveying needs	\$8,14	5
Right of Way Cost		Project entirely	in ROW	\$0	_
Utility Relocation Cost				\$9,48	
Construction Cost			. (. 1	\$31,4	
Environmental Permits	Assuming n	nınımal environme	ental permitting required	\$10,0	UU
				.	
		Total P	anning Estimate	\$59,0	84
± 27-				•	







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



Photo 2: Downstream end of culverts

1/20/2016

Taken By:

David Gibbs

Page

Roadway Construction	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$0.73			
Curb and Gutter (LF)	\$28.56	·		. ,
. ,	Ψ20.30			
Drain Inlet (EA)	¢12 FG	\$3,000.00		
4" Sidewalk (SY)	\$13.56	· ·		
Guardrail (LF)	\$4.88			
End Anchorage (EA)		\$1,380.00	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
	rtemoval offit oost	\$10.38		
Trench Excavation (CY) 30" CMP	\$19.62		88.00	. ,
30" RCP	\$19.02	\$105.60		. ,
		·		
Class A Conc (CY)		\$892.19		,
Steel (lb)		\$1.42		
Pipe Bedding (CY)		\$48.60		
Trench Backfill (CY)		\$2.99		
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
				000
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	
Staging Total				\$4,569.32
gg				• 1,000.00
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	
Check Dam Type C Silt Fence (LF)		\$6.79		
Erosion Control Mats (SY)		\$1.87		
Landscape Mulch (SY)		\$3.58		
. , ,		\$1,402.20		
Perm Grassing (AC)				
Rip Rap Type 3 12" (SY)		\$60.98		
Plastic Filter Fabric (SY)		\$5.72		
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			
Wooden Pole	\$82.50			
Phone				-
Aerial	\$11.00	\$27.50	50.00	\$1,925.00
Buried	\$16.50			
Wooden Pole	\$82.50	·		
Cable		****		
Aerial	\$11.00	\$27.50	0.00	\$0.00
Buried	\$16.50			
Wooden Pole	\$82.50			
Gas	ψ02.00	Ψ000.00	5.00	ψ0.00
4" main	\$16.50	\$66.00	0.00	\$0.00
Water	040 =0	000 =0	0.00	# 0.00
8" main Sewer	\$16.50	\$93.50	0.00	\$0.00
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			Мар		
Project ID					
Street Name	165 North E	Bend Court			
Site Visit Date	2/4/2	2016		In Rd	
Road Classification	Minor	road		269 m	Brookfield
Project	Notes		Dixieland	River Mist Dr.	
_			Fun Park	River Valley Dr	
			2	River-Bend-D	
			9	Curved	
					Olde:Oak:Dr
				ž , , ,	
Field N			1 1 1	W.Bendin	
Design (Existing	g Site Features)		1 100		
Existing Road Laneage) (6 - 1)	2-11.5'	7-3)	The I	
Existing Shid Width (paved and	grass) (feet)	14'		oct-tri_	
Existing Side Slopes		3:1			
Existing Guardrail Depth fm Pavement to Top of Cu	ilvort (ft):	N/A 5'	85th:Pky	Cedar	Tit
Pipe Type and Size	aiveit (it).	42" CMP	1 12/ (D. V	
Pipe Condition (1-5) (1 is new)		3-4	2ky	11	Marries
Consdirable rusting.		J-4	T N I	1 1	Morning:Creek:Way
Stricting.			N 0 0.25	0.5	1 /
					Miles
Pavement Type/Condition		Asphalt/Good	4.0010		
21		7.007.101.0000	Stage	Construction Optio	ns
Environment	tal Features		Close Location to Traft		
Wetlands			Maintain One Lane - No	Temp Pavement	Х
Ditches			Maintain One Lane - Te		
State Waters			Stage Construction Note		
			Roadsides are heavily		ea may need to be
			cleared.		
Utilities (Visua	al Inspection)				
Electric	Aeı	ial			
Cable	Unkn	iown			
Phone	Aeı				
Gas	Unkn				
Water	Unkn				
Sewer	Unkn	-			
Other	Unkn		10		
	I 	Propos	ed Design		
Roadway Section	Typical				
Culvert Size & Material	2 x 42" round RC	Ps with straight	headwalls.		
Utility Relocations	Utility pole and h	ung wires, possil	ble water main		
Guardrail Replacement					
Miscellaneous Features					
		Planning C	Cost Estimate		
Туре		Notes		To	otal
Design	Includes 10%		ost and surveying needs		5,011
Right of Way Cost			peyond ROW, 1/5 acre		,848
Utility Relocation Cost			utility pole, water main		,638
Construction Cost					0,113
Environmental Permits	Assuming m	inimal environme	ental permitting required	\$10	,000
		Total P	lanning Estimate	\$187	7,610
\$ 0F "				Ţ. G .	,





North Bend Court



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



Photo 2: Downstream looking South towards North Bend Court.

Photo Date:

2/4/2016

Taken By:

Christian Helfrich

Page

Roadway Construction	Removal U	nit Cost	Installation Unit C	ost Amount	To	otal Cost
Pavement (SF)	\$	0.73	\$ 4.8	37 276.00	\$	1,547.07
Curb and Gutter (LF)	\$	28.56	\$ 30.0	60 40.00	\$	2,366.40
Drain Inlet (EA)	_		\$ 3,000.0			6,000.00
4" Sidewalk (SY)	\$	13.56	\$ 36.9			-
Guardrail (LF)	\$	4.88	\$ 49.0			-
End Anchorage (EA)			\$ 1,380.0	0.00		0.012.47
Subtotal					\$	9,913.47
Grading Complete (5% of Rwy Items & Drng Total \$)					\$	4,296.91
Crading Complete (070 of 1744) from a 2111g Total (4)					Ψ	1,200.01
Roadway Total					\$	14,210.38
					•	,,_,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Drainage	Removal U	nit Cost	Installation Unit C	ost Amount	Т	otal Cost
Trench Excavation (CY)			\$ 10.3			4,901.67
42" CMP (LF)	\$	24.60				12,988.80
42" RCP (LF)			\$ 142.			
Class A Conc (CY)			\$ 892.			13,079.48
Steel (lb) Pipe Bedding (CY)			\$ 1.4 \$ 48.0			3,060.00
Trench Backfill (CY)			\$ 2.9			1,194.38
Trench Compaction (CY)			\$ 6.3			2,033.80
Trester Compaction (CT)			Ψ		۳	2,000.00
Drainage Total					\$	76,024.64
Signing and Marking			Installation Unit C			otal Cost
Permanent Striping (LF)			\$ 0.7	71 0.00	\$	-
2					•	
Signing and Marking Total					\$	-
Staging			Installation Unit C	net Amount	Т	otal Cost
Clearing and Grubbing (Acre)			\$ 10,260.0			2,565.00
Temporary Pavement			Ψ 10,200.	0.20	\$	-
Temporary Drainage (Stream Diversion)			\$ 4,428.0	00 1.00		4,428.00
3 ()			, -			,
Staging Total					\$	6,993.00
					_	
Erosion Control			Installation Unit C			otal Cost
Fine Grading and Seeding (SY)			\$ 4.3 \$ 855.0			661.73
Temporary Grassing (AC) Type C Silt Fence (LF)			\$ 4.2			1,152.19
				4 272.00	Ψ	1,132.13
Check Dam Type C Silt Fence (LF)			\$ 6	79 272 00	\$	1 847 42
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY)			\$ 6.3 \$ 1.8			1,847.42 -
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY)			\$ 1.8 \$ 3.9	0.00	\$	
Erosion Control Mats (SY)			\$ 1.8 \$ 3.9 \$ 1,402.2	37 0.00 58 0.00	\$	-
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ 1.8 \$ 3.9 \$ 1,402.3 \$ 60.9	87 0.00 58 0.00 20 0.00 98 16.00	\$ \$ \$	- - - 975.74
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ 1.8 \$ 3.8 \$ 1,402.2 \$ 60.9 \$ 5.7	87 0.00 58 0.00 20 0.00 98 16.00 72 16.00	\$ \$ \$ \$	- - -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ 1.8 \$ 3.9 \$ 1,402.3 \$ 60.9	87 0.00 58 0.00 20 0.00 98 16.00 72 16.00	\$ \$ \$ \$	- - - 975.74
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 1.8 \$ 3.8 \$ 1,402.2 \$ 60.9 \$ 5.7	87 0.00 58 0.00 20 0.00 98 16.00 72 16.00	\$ \$ \$ \$	975.74 91.58
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ 1.8 \$ 3.8 \$ 1,402.2 \$ 60.9 \$ 5.7	87 0.00 58 0.00 20 0.00 98 16.00 72 16.00	\$ \$ \$ \$	- - - 975.74
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ 1.8 \$ 3.8 \$ 1,402.2 \$ 60.9 \$ 5.7	87 0.00 58 0.00 20 0.00 98 16.00 72 16.00	\$ \$ \$ \$ \$	975.74 91.58 - 4,728.67
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 1.8 \$ 3.8 \$ 1,402.2 \$ 60.9 \$ 5.7	87 0.00 58 0.00 20 0.00 98 16.00 72 16.00	\$ \$ \$ \$ \$	975.74 91.58
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ 1.8 \$ 3.8 \$ 1,402.2 \$ 60.9 \$ 5.7	87 0.00 58 0.00 20 0.00 98 16.00 72 16.00	\$ \$ \$ \$ \$	975.74 91.58 - 4,728.67
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)			\$ 1.8 \$ 3.8 \$ 1,402.2 \$ 60.9 \$ 5.7	87 0.00 58 0.00 20 0.00 98 16.00 72 16.00	\$ \$ \$ \$ \$ \$	975.74 91.58 - 4,728.67 101,956.69 8,156.54
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ 1.8 \$ 3.8 \$ 1,402.2 \$ 60.9 \$ 5.7	87 0.00 58 0.00 20 0.00 98 16.00 72 16.00	\$ \$ \$ \$ \$ \$	975.74 91.58 - 4,728.67
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total	Domas	nit Ca	\$ 1.492. \$ 1,402. \$ 60.5 \$ 5. \$ 54.0	87 0.00 88 0.00 90 0.00 88 16.00 72 16.00 85 0.00	\$	975.74 91.58 4,728.67 101,956.69 8,156.54 110,113.23
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal U	nit Cost	\$ 1.8 \$ 3.8 \$ 1,402.2 \$ 60.9 \$ 5.7	87 0.00 88 0.00 90 0.00 88 16.00 72 16.00 85 0.00	\$	975.74 91.58 - 4,728.67 101,956.69 8,156.54
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric			\$ 1.4 \$ 3.4 \$ 1,402. \$ 60.9 \$ 5. \$ 54.4	87 0.00 88 0.00 20 0.00 88 16.00 72 16.00 55 0.00	\$ \$ \$ \$ \$ \$ TO	975.74 91.58 4,728.67 101,956.69 8,156.54 110,113.23
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	\$	11.00	\$ 1.402. \$ 1,402. \$ 60.9 \$ 5. \$ 54.0 Installation Unit C	87 0.00 88 0.00 90 0.00 98 16.00 72 16.00 95 0.00	\$\$\$\$\$\$\$\$ \$\$\$ \$\$	975.74 91.58 4,728.67 101,956.69 8,156.54 110,113.23
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial			\$ 1.4 \$ 3.4 \$ 1,402. \$ 60.9 \$ 5. \$ 54.4	87 0.00 88 0.00 90 0.00 98 16.00 72 16.00 95 0.00 Dost Amount	\$\$\$\$\$\$\$\$\$ \$\$\$ \$\$\$	975.74 91.58 4,728.67 101,956.69 8,156.54 110,113.23
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	\$ 1.4 \$ 3.3 \$ 1,402. \$ 60.9 \$ 5.5 \$ 54.4	87 0.00 88 0.00 90 0.00 98 16.00 72 16.00 95 0.00 Dost Amount	\$\$\$\$\$\$\$\$\$ \$\$\$ \$\$\$	975.74 91.58 - 4,728.67 101,956.69 8,156.54 110,113.23 otal Cost 6,600.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ \$ \$	11.00 16.50 82.50 11.00	\$ 1.4 \$ 3.3 \$ 1,402. \$ 60.9 \$ 5.5 \$ 54.4 Installation Unit C \$ 55.8 \$ 82.9 \$ 605.1	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$\$\$\$\$\$\$\$\$\$\$\$\$	975.74 91.58 - 4,728.67 101,956.69 8,156.54 110,113.23 otal Cost 6,600.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ 1.402. \$ 1,402. \$ 60.9 \$ 5.5 \$ 54.4 Installation Unit C \$ 55.0 \$ 82.9 \$ 605.0 \$ 27.9 \$ 55.1	00 100.00 00 1.00 00 1.00 00 1.00 00 1.00 00 1.00 00 1.00 00 1.00 00 1.00	\$\$\$\$\$\$\$\$\$\$\$\$\$	975.74 91.58 - 4,728.67 101,956.69 8,156.54 110,113.23 otal Cost 6,600.00 687.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole	\$ \$ \$	11.00 16.50 82.50 11.00	\$ 1.4 \$ 3.3 \$ 1,402. \$ 60.9 \$ 5.5 \$ 54.4 Installation Unit C \$ 55.8 \$ 82.9 \$ 605.1	00 100.00 00 1.00 00 1.00 00 1.00 00 1.00 00 1.00 00 1.00 00 1.00 00 1.00	\$\$\$\$\$\$\$\$\$\$\$\$\$	975.74 91.58 - 4,728.67 101,956.69 8,156.54 110,113.23 otal Cost 6,600.00 687.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 1.4 \$ 3.5 \$ 1,402.5 \$ 60.5 \$ 55.5 \$ 54.6 Installation Unit C \$ 55.5 \$ 605.6 \$ 27.5 \$ 605.6	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$\$\$\$\$\$\$\$\$\$\$\$\$\$	975.74 91.58 - 4,728.67 101,956.69 8,156.54 110,113.23 otal Cost 6,600.00 687.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Wooden Pole Cable Aerial	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00	\$ 1.402. \$ 60.9 \$ 5.5 \$ 54.40 Installation Unit C \$ 55.6 \$ 605.1 \$ 27.3 \$ 605.1 \$ 27.3 \$ 55.6 \$ 605.1	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$	975.74 91.58 - 4,728.67 101,956.69 8,156.54 110,113.23 otal Cost 6,600.00 687.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 1.402. \$ 1,402. \$ 60.9 \$ 5.5 \$ 54.4 Installation Unit C \$ 55.8 \$ 605.1 \$ 27.3 \$ 605.6 \$ 27.3 \$ 55.5 \$ 55.5 \$ 55.5 \$ 55.5	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$	975.74 91.58 - 4,728.67 101,956.69 8,156.54 110,113.23 otal Cost 6,600.00 687.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00	\$ 1.402. \$ 60.9 \$ 5.5 \$ 54.40 Installation Unit C \$ 55.6 \$ 605.1 \$ 27.3 \$ 605.1 \$ 27.3 \$ 55.6 \$ 605.1	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$	975.74 91.58 - 4,728.67 101,956.69 8,156.54 110,113.23 otal Cost 6,600.00 687.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	\$\$\$\$ \$\$\$\$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 1.402. \$ 1,402. \$ 60.9 \$ 5.5 \$ 54.4 Installation Unit C \$ 55.8 \$ 605.1 \$ 27.3 \$ 605.6 \$ 27.3 \$ 55.5 \$ 55.5 \$ 55.5 \$ 55.5	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$\$\$\$\$\$\$\$\$\$\$ \$ \$ \$ T \$\$\$\$ \$\$\$\$ \$\$\$	975.74 91.58 - 4,728.67 101,956.69 8,156.54 110,113.23 otal Cost 6,600.00 687.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	\$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 1.402. \$ 1,402. \$ 60.9 \$ 5.5. \$ 54.4 Installation Unit C \$ 55.6 \$ 605.6 \$ 27.2 \$ 55.6 \$ 605.6	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$\$\$\$\$\$\$\$\$\$\$ \$ \$ \$ T \$\$\$\$ \$\$\$\$ \$\$\$	975.74 91.58 - 4,728.67 101,956.69 8,156.54 110,113.23 otal Cost 6,600.00 687.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main	\$\$\$\$ \$\$\$\$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 1.402. \$ 1,402. \$ 60.9 \$ 5.5 \$ 54.4 Installation Unit C \$ 55.6 \$ 82.3 \$ 605.6 \$ 27.3 \$ 55.6 \$ 605.6 \$ 93.3	00 00 00 00 00 00 00 00 00 00 00 00 00	\$	975.74 91.58 - 4,728.67 101,956.69 8,156.54 110,113.23 otal Cost 6,600.00 687.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	555 555 555 5	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 1.402. \$ 1,402. \$ 60.9 \$ 5.5 \$ 54.0 Installation Unit C \$ 55.0 \$ 82.9 \$ 605.0 \$ 27.9 \$ 55.0 \$ 605.0 \$ 605.0 \$ 605.0 \$ 605.0	00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00	\$	975.74 91.58 - 4,728.67 101,956.69 8,156.54 110,113.23 otal Cost 6,600.00 - 687.50 3,850.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer	555 555 555 555	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1.402.\$ 60.0\$ 5.5\$ 54.4 Installation Unit C \$ 55.5 82.2\$ 605.1 \$ 27.3 \$ 605.1 \$ 27.4 \$ 605.1 \$ 27.5 \$ 605.1 \$ 27.5 \$ 605.1 \$ 27.609.2	0.00	\$	975.74 91.58 - 4,728.67 101,956.69 8,156.54 110,113.23 otal Cost 6,600.00 - 687.50 3,850.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Saerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Saerial Buried Wooden Pole Saerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	555 555 555 5	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 1.402. \$ 1,402. \$ 60.9 \$ 5.5 \$ 54.4 Installation Unit C \$ 55.6 \$ 82.3 \$ 605.6 \$ 27.3 \$ 55.6 \$ 605.6 \$ 93.3	0.00	\$	975.74 91.58 - 4,728.67 101,956.69 8,156.54 110,113.23 otal Cost 6,600.00 - 687.50 3,850.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer	555 555 555 555	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1.402.\$ 60.0\$ 5.5\$ 54.4 Installation Unit C \$ 55.5 82.2\$ 605.1 \$ 27.3 \$ 605.1 \$ 27.4 \$ 605.1 \$ 27.5 \$ 605.1 \$ 27.5 \$ 605.1 \$ 27.609.2	0.00	\$	975.74 91.58 - 4,728.67 101,956.69 8,156.54 110,113.23 otal Cost 6,600.00 - 687.50 3,850.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	555 555 555 555	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1.402. \$ 3.3. \$ 1,402. \$ 60.9 \$ 5.5. \$ 54.4 Installation Unit C \$ 55.4 \$ 605. \$ 27.4 \$ 605. \$ 27.5 \$ 605. \$ 66. \$ 93.8 \$ 2,609.	00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00	\$	975.74 91.58 4,728.67 101,956.69 8,156.54 110,113.23 otal Cost 6,600.00 687.50 3,850.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	555 555 555 555	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1.4 \$ 3.4 \$ 1,402. \$ 60.0 \$ 5.5 \$ 54.4 Installation Unit C \$ 55.6 \$ 605.6 \$ 27.3 \$ 55.6 \$ 605.6 \$ 27.3 \$ 27.3 \$ 605.6 \$ 27.3 \$ 605.6 \$ 27.3 \$ 605.6 \$ 27.3 \$ 605.6 \$ 27.3 \$ 605.6 \$ 605.6 \$ 27.3 \$ 605.6 \$	0.00	\$	975.74 91.58 4,728.67 101,956.69 8,156.54 110,113.23 otal Cost 6,600.00 687.50 3,850.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	555 555 555 555	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1.402. \$ 3.3. \$ 1,402. \$ 60.9 \$ 5.5. \$ 54.4 Installation Unit C \$ 55.4 \$ 605. \$ 27.4 \$ 605. \$ 27.5 \$ 605. \$ 66. \$ 93.8 \$ 2,609.	0.00	\$	975.74 91.58 4,728.67 101,956.69 8,156.54 110,113.23 otal Cost 6,600.00 687.50 3,850.00

General In	formation			Мар	
Project ID			Contraction of the contraction o		CE MA
Street Name	110 Brand	chwood Ct	Mr. Weston Dr. Harr		
Site Visit Date		/2016	Orenre eston		
Road Classification		r road			MILO
Project		i ioau			To B
Project	Notes		Ang Brookside-Troe:	ela Dr 500 ownybrook. Ln	
Field N	Votes				5
Design (Existing					
Existing Road Laneage	g One i catares,	2-12'	Mern	()	GRY Cree
Existing Shid Width (paved and	grass) (feet)	6.5'	date	Birdsong-En-	Cree
Existing Side Slopes	grass) (reer)	1:1	/ Or		
Existing Guardrail		None			276 m
Depth fm Pavement to Top of Cu	ilvert (ft):	5.25'-6'			
Pipe Type and Size	iiveit (it).	48" CMP			
Pipe Condition (1-5) (1 is new)					
Condition Notes: Rusted out botton	m. No boodwall	4-5	N 0 0.25	0.5	1
Condition Notes: Rusted out botto	iii. No neadwall.		0.25	12.	Miles
Pavement Type/Condition		Asphalt/Good		2R1 m	Weldon-Pla
7)			Stage	Construction Options	
Environment	tal Features		Close Location to Traffi		
Wetlands			Maintain One Lane - No		Х
Ditches	Drainage ditche	es upstream side	Maintain One Lane - Ter		
State Waters	2.aago anom	o aponoani olao	Stage Construction Notes		
Clate Waters			Stage Construction Notes	.	
Utilities (Visua Electric		erial			
Cable		nown			
		erial			
Phone		nown			
Gas					
Water	Unk	nown			
Sewer					
Other		Danasa	d Danieus		
	Typical	Propose	ed Design		
Roadway Section		91			
Culvert Size & Material	48" round RCP	with straight head	wall		
Utility Relocations					
Guardrail Replacement					
Miscellaneous Features					
		Planning C	ost Estimate		
Туре	I	Notes		Tota	I
Design	Includes 10%		Cost and surveying needs	\$8,93	
Right of Way Cost	514455 1076	Project entirely		\$0,50	
Utility Relocation Cost		None iden		\$0	
Construction Cost		140/10 Idell		\$39,3	84
Environmental Permits	Assuming n	ninimal environme	ental permitting required	\$10,0	
Liivii Oiliileillai Feiliills	, toodiffing fi	III III CIIVII OI III IE	mai pominimi roquireu	Ψ10,0	
		Tatal P	lanning Fathers	AFO 0	222
		i otai P	lanning Estimate	\$58,3	323
50					







Photo 1: Upstream end of culvert.

Branchwood Court



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

Photo Date:

1/20/2016

Taken By:

David Gibbs

Page

Roadway Construction	Removal L		Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$	0.73	\$ 4.87		\$ 807.17
Curb and Gutter (LF)	\$	28.56	\$ 30.60		\$ -
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	0.00	\$ -
Subtotal					\$ 807.17
Grading Complete (5% of Rwy Items & Drng Total \$)					\$ 1,366.93
Roadway Total					\$ 2,174.10
Drainaga	Removal L	Init Cost	Installation Unit Cost	Amount	Total Cost
Drainage	Removai C	mil Cost		Amount	
Trench Excavation (CY)	•	04.00	\$ 10.38		\$ 1,439.36
48" CMP (LF)	\$	24.60	100.00	52.00	\$ 1,279.20
48" RCP (LF)			\$ 193.20		\$ 10,046.40
Class A Conc (CY)			\$ 892.19		\$ 12,222.98
Steel (lb)			\$ 1.42		
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
			Leafaller LL - 2	A	
Signing and Marking			Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)			\$ 0.71		\$ -
Signing and Marking Total					\$ -
01			Leaf-Harte Hart	A	T-1-1-C :
Staging (Acce)			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
0. 1. 7.1					A 405405
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		
Erosion Control Mats (SY)			\$ 1.87		\$ -
Landscape Mulch (SY)			\$ 3.58		\$ -
Perm Grassing (AC)			\$ 1,402.20		
			\$ 60.98		
Rip Rap Type 3 12" (SY)					
Plastic Filter Fabric (SY)			\$ 5.72 \$ 54.65		\$ 45.79
4" Ditch Paving (SY)			\$ 54.65	0.00	Φ -
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 L	Jnit Cost	Installation Unit Cost	Amount	Total Cost
Electric					
Aerial	\$	11.00	\$ 55.00	0.00	\$ -
Buried	\$	16.50	\$ 82.50		
Wooden Pole	\$	82.50	\$ 605.00		
Phone	•			2.30	•
Aerial	\$	11.00	\$ 27.50	0.00	\$ -
Buried	\$	16.50	\$ 55.00		•
Wooden Pole	\$	82.50	\$ 605.00		
Cable	•			5.50	-
Aerial	\$	11.00	\$ 27.50	0.00	\$ -
Buried	\$	16.50	\$ 55.00		
Wooden Pole	\$	82.50	\$ 605.00		
Gas	Ψ	J2.JU	Ψ 000.00	0.00	*
4" main	\$	16.50	\$ 66.00	0.00	\$ -
Water	~	10.00	÷ 00.00	0.00	7
8" main		16.50	\$ 93.50	0.00	\$ -
·a	S		Ψ	0.00	Ψ
Sewer	\$				
Sewer 12" main	\$	16.50	\$ 82.50	0.00	\$ -
			\$ 82.50	0.00	\$ - \$ -
12" main Utility Relocation Total					\$ -
12" main Utility Relocation Total Right of Way (Sq Ft)			Cost/ Sq Ft	Sq Ft	\$ - Total Cost
12" main Utility Relocation Total Right of Way (Sq Ft) Permanent Easement				Sq Ft	\$ - Total Cost \$ -
12" main Utility Relocation Total Right of Way (Sq Ft)			Cost/ Sq Ft	Sq Ft	\$ - Total Cost

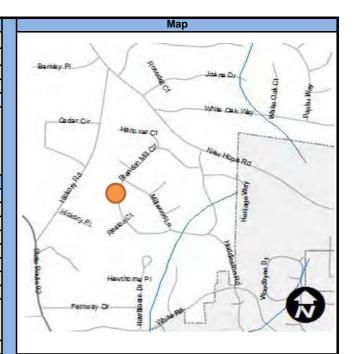
General Information		
Project ID		
Street Name	Brandon Mill Cir - West	
Site Visit Date	5/22/13	
Road Classification Minor road		
Project Notes		

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		
Environmer	ntal Features		
Wetlands	N	lone	
Ditches	N	lone	
Utilities (Visu	al Inspection)		
Electric	Buried		
Cable	Buried		
Phone	Buried		
Gas			
Water	Buried		
Sewer			
Other			



Stage Construction Options				
Close Location to Traffic	X			
Maintain One Lane - No Temp Pavement				
Maintain One Lane - Temp Pavement				
Stage Construction Notes: Close roadway;				

Proposed Design

Culvert Size & Material	48", RCP, 350' length
Utility Relocations	Electric, cable, phone, water

Typical

Guardrail Replacement Miscellaneous Features

Roadway Section

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					



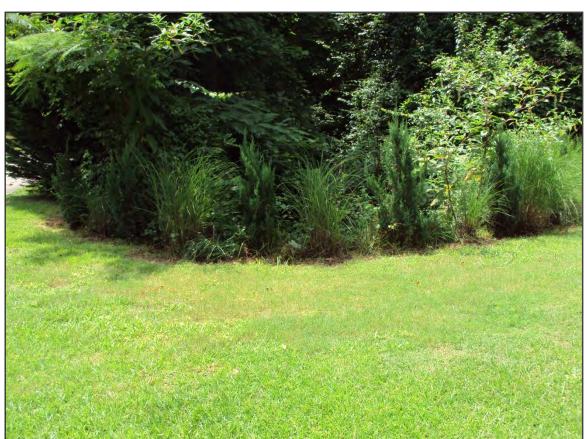




Photo 1:



Photo 2:

7/2/2013

Taken By:

David King

Page:

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
	Ψ	20.30			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			\$ -
			\$ 1,360.00			
Subtotal						\$ 1,855.84
Grading Complete (5% of Rwy Items & Drng Total \$)						\$ 5,597.18
, , , , , , , , , , , , , , , , , , ,						. ,
Roadway Total						\$ 7,453.02
Noduway Total						φ 1,400.02
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
` ,	•		\$ 193.20		350	
48" RCP (LF)						
Class A Conc (CY)			\$ 892.19		14	
Steel (lb)			\$ 1.42		0	\$ -
Pipe Bedding (CY)			\$ 48.60		78	\$ 3,780.00
Trench Backfill (CY)			\$ 2.99		961	
Trench Compaction (CY)			\$ 6.36		769	\$ 4,890.94
Drainage Total						\$110,087.85
						.,. ,
Signing and Marking			Installation Unit Cost	Amount		Total Cost
Signing and Marking				Amount		
Permanent Striping (LF)			\$ 0.71		0	\$ -
Signing and Marking Total						\$ -
- 3 3						
Ctoring			Installation III. 'CO	A no		Total Co.
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
Tomporary Brainage (Girdain Bivordion)			Ψ 1,120.00		•	Ψ -1,120.00
Staging Total						\$ 5,454.00
Erosion Control			Installation Unit Cost	Amount		Total Cost
				Amount		
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	
Erosion Control Mats (SY)			\$ 1.87		233	\$ 436.80
Landscape Mulch (SY)			\$ 3.58			
					233	\$ 834.40
Perm Grassing (AC)						
Perm Grassing (AC)			\$ 1,402.20		0	\$ -
Rip Rap Type 3 12" (SY)			\$ 1,402.20 \$ 60.98		0 16	\$ - \$ 975.74
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ 1,402.20 \$ 60.98 \$ 5.72		0 16 16	\$ - \$ 975.74 \$ 91.58
Rip Rap Type 3 12" (SY)			\$ 1,402.20 \$ 60.98		0 16	\$ - \$ 975.74
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ 1,402.20 \$ 60.98 \$ 5.72		0 16 16	\$ - \$ 975.74 \$ 91.58
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 1,402.20 \$ 60.98 \$ 5.72		0 16 16	\$ - \$ 975.74 \$ 91.58 \$ -
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ 1,402.20 \$ 60.98 \$ 5.72		0 16 16	\$ - \$ 975.74 \$ 91.58
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ 1,402.20 \$ 60.98 \$ 5.72		0 16 16	\$ - \$ 975.74 \$ 91.58 \$ - \$ 11,024.37
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 1,402.20 \$ 60.98 \$ 5.72		0 16 16	\$ - \$ 975.74 \$ 91.58 \$ -
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ 1,402.20 \$ 60.98 \$ 5.72		0 16 16	\$ - \$ 975.74 \$ 91.58 \$ - \$ 11,024.37
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ 1,402.20 \$ 60.98 \$ 5.72		0 16 16	\$ - \$ 975.74 \$ 91.58 \$ - \$ 11,024.37
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ 1,402.20 \$ 60.98 \$ 5.72		0 16 16	\$ - \$ 975.74 \$ 91.58 \$ - \$ 11,024.37 \$ 134,019.25
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)			\$ 1,402.20 \$ 60.98 \$ 5.72		0 16 16	\$ 975.74 \$ 91.58 \$ - \$ 11,024.37 \$ 134,019.25 \$ 10,721.54
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ 1,402.20 \$ 60.98 \$ 5.72		0 16 16	\$ - \$ 975.74 \$ 91.58 \$ - \$ 11,024.37 \$ 134,019.25
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total			\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65		0 16 16	\$ 975.74 \$ 91.58 \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)	Removal Unit	Cost	\$ 1,402.20 \$ 60.98 \$ 5.72	Amount	0 16 16	\$ 975.74 \$ 91.58 \$ - \$ 11,024.37 \$ 134,019.25 \$ 10,721.54
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total	Removal Unit	Cost	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	Amount	0 16 16	\$ 975.74 \$ 91.58 \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric			\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	Amount	0 16 16	\$ 975.74 \$ 91.58 \$ - \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$	11.00	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	Amount	0 16 16 0	\$ 975.74 \$ 91.58 \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ -
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50	Amount	0 16 16	\$ 975.74 \$ 91.58 \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$	11.00	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	Amount	0 16 16 0	\$ 975.74 \$ 91.58 \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ -
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50	Amount	0 16 16 0	\$ 975.74 \$ 91.58 \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00	Amount	0 16 16 0	\$ 975.74 \$ 91.58 \$ - \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ -
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ \$ \$	11.00 16.50 82.50 11.00	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50	Amount	0 16 16 0	\$ 975.74 \$ 91.58 \$ - \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ - \$ - \$ -
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Buried	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00	Amount	0 16 16 0	\$ 975.74 \$ 91.58 \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ - \$ 5,362.50
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Buried Wooden Pole Wooden Pole Wooden Pole Wooden Pole	\$ \$ \$	11.00 16.50 82.50 11.00	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50	Amount	0 16 16 0	\$ 975.74 \$ 91.58 \$ - \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ - \$ - \$ -
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Buried	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00	Amount	0 16 16 0	\$ 975.74 \$ 91.58 \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ - \$ 5,362.50
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 55.00 \$ 605.00		0 16 16 0	\$ 975.74 \$ 91.58 \$ - \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ - \$ 5,362.50 \$ -
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Cable Aerial	\$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50		0 16 16 0 75	\$ 975.74 \$ 91.58 \$ - \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ 5,362.50 \$ 5,362.50
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 55.00		0 16 16 0	\$ 975.74 \$ 91.58 \$ - \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ - \$ 5,362.50 \$ - \$ 5,362.50
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50		0 16 16 0 75	\$ 975.74 \$ 91.58 \$ - \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ 5,362.50 \$ 5,362.50
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 605.00		0 16 16 0 75	\$ 975.74 \$ 91.58 \$ - \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ - \$ 5,362.50 \$ - \$ 5,362.50
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 55.00		0 16 16 0 75	\$ 975.74 \$ 91.58 \$ - \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ - \$ 5,362.50 \$ - \$ 5,362.50
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Casle	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 605.00		0 16 16 0 75	\$ 975.74 \$ 91.58 \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00		0 16 16 0 75	\$ 975.74 \$ 91.58 \$ - \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 660.00 \$ 93.50		0 16 16 0 75	\$ 975.74 \$ 91.58 \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50 \$ 5
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00		0 16 16 0 75 75	\$ 975.74 \$ 91.58 \$ - \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 660.00 \$ 93.50		0 16 16 0 75	\$ 975.74 \$ 91.58 \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50 \$ 5
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 660.00 \$ 93.50		0 16 16 0 75 75	\$ 975.74 \$ 91.58 \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50 \$ 5
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Resion	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00		0 16 16 0 75 75 75	\$ 975.74 \$ 91.58 \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50 \$ 5
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole Cable Aerial Buried Rooden Pole Cable Aerial Buried Rooden Fole Cable Cable Aerial Buried Rooden Fole Cable Aerial	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00		0 16 16 0 75 75 75	\$ 975.74 \$ 91.58 \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50 \$ 5
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 82.50 \$ 605.00		0 16 16 0 75 75 75	\$ 975.74 \$ 91.58 \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 82.50 \$ 605.00	Sq Ft	0 16 16 0 75 75 75	\$ 975.74 \$ 91.58 \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50 \$ 5 5,362.50 \$ 5 5,362.50 \$ 5 5,362.50 \$ 5 5,362.50
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 82.50 \$ 605.00	Sq Ft	0 16 16 0 75 75 75	\$ 975.74 \$ 91.58 \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	*** *** *** *	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 82.50 \$ 605.00	Sq Ft	0 16 16 0 75 75 75	\$ 975.74 \$ 91.58 \$ 11,024.37 \$ 134,019.25 \$ 10,721.54 \$ 144,740.79 Total Cost \$ 7,425.00 \$ 5,362.50 \$ 5,362.50 \$ 5,362.50 \$ 5 5,362.50 \$ 5 5,362.50 \$ 5 5,362.50 \$ 5 5,362.50

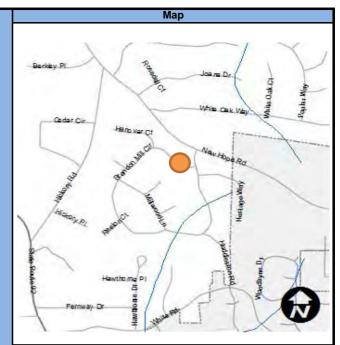
General Information				
Project ID				
Street Name	Brandon Mill Cir - North			
Site Visit Date	5/22/13			
Road Classification Minor road				
Project Notes				

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/			
Environmental Features			
Wetlands	N	one	
Ditches	N	one	
Utilities (Visua	al Inspection)		
Electric	Ві	uried	
Cable	Ві	uried	
Phone	Ві	uried	
Gas			
Water	Ві	uried	
Sewer			
Other			



Stage Construction Options				
Close Location to Traffic	X			
Maintain One Lane - No Temp Pavement				
Maintain One Lane - Temp Pavement				
Stage Construction Notes: Close roadway;				

Proposed Design

Culvert Size & Material	48", RCP, 250' length
Utility Relocations	Electric, cable, phone, wate

Guardrail Replacement

Roadway Section

Miscellaneous Features

Planning Cost Estimate					
Туре	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 mininmal environmental permitting required	\$10,000			

Total Planning Estimate \$187,332



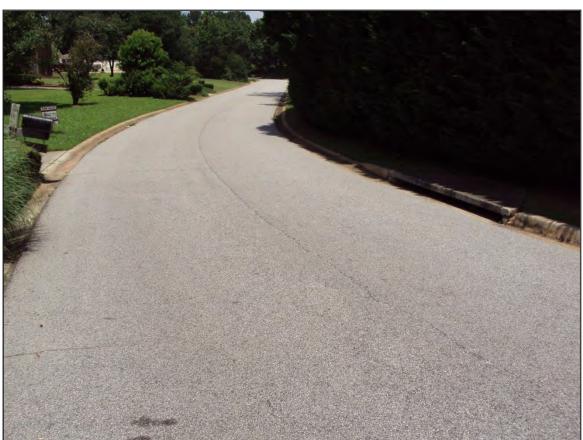




Photo 1:



Photo 2:

7/2/2013

Taken By:

David King

Page:

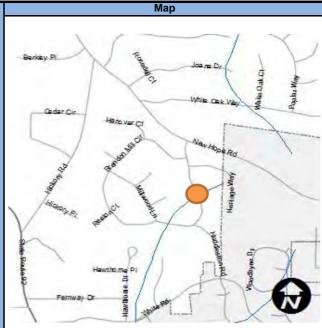
Right of Way (Sq Ft) Permanent Easement			Cost/ Sq Ft \$	4.00	Sq Ft 7,500.00	Total C \$ 30,0	
			0 ./0 =:		O F4	T-4-1 C	`oot
Utility Relocation Total						\$ 26,4	400.00
Sewer 12" main	\$	16.50	\$	82.50	0.00 0.00	\$	-
Relocate Fire Hydrant (EA)			\$	2,609.22		\$	-
Water 8" main	\$	16.50	\$	93.50	75.00	\$ 8,2	250.00
4" main	\$	16.50	\$	66.00		\$	-
Gas	Ψ	02.00	¥	000.00		Ψ	-
Buried Wooden Pole	\$ \$	16.50 82.50	\$ \$	55.00 605.00	75.00	\$ 5,3 \$	362.50
Aerial	\$	11.00	\$	27.50		\$	-
Cable	Ψ	JZ.JU	Ψ	505.00		Ψ	-
Buried Wooden Pole	\$ \$	16.50 82.50	\$ \$	55.00 605.00	75.00	\$ 5,3 \$	362.5 -
Aerial Buriod	\$	11.00	\$	27.50	75.00	\$	- 262 -
Phone						_	
Wooden Pole	\$	82.50	\$	605.00	73.00	\$ 7,2	
Aerial Buried	\$ \$	11.00 16.50	\$ \$	55.00 82.50	75.00	\$ \$ 7,4	- 425.0
Electric A origin	¢	44.00	¢	EE 00		œ.	
Utility Relocation	Removal L	Init Cost	Installation L	Init Cost	Amount	Total C	Cost
Construction Cost Grand Total						\$ 105,3	392.4
Construction Cost Grand Total						¢ 105 3	302 A
Traffic Control (8% of Construction Total \$)						\$ 7,8	806.8
Construction Cost Total						\$ 97,5	585.5
Erosion Control Total						\$ 8,1	162.7
4" Ditch Paving (SY)			\$	54.65	0.00		-
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ \$	60.98 5.72	16.00 16.00		975.7 91.5
Perm Grassing (AC)			\$ ¢	1,402.20	0.00		- 07 <i>-</i> -
Landscape Mulch (SY)			\$	3.58	166.67		596.0
Erosion Control Mats (SY)			\$	1.87	166.67		312.0
Check Dam Type C Silt Fence (LF)			\$	6.79	500.00	\$ 3,3	396.0
Type C Silt Fence (LF)			\$	4.24	500.00		118.0
Temporary Grassing (AC)			\$	855.60	0.00		-
Erosion Control Fine Grading and Seeding (SY)			Installation L \$	Init Cost 4.39	Amount 153.33	Total C	Cost 673.4
Francisco Combani			In advillage	Iit C	A	T	.
Staging Total						\$ 5,4	454.0
Ctaring Tatal						e -	1510
Temporary Prainage (Stream Diversion)			\$	4,428.00	1.00		428.0
Clearing and Grubbing (Acre) Temporary Pavement			\$	10,260.00	0.10	\$ 1,0 \$	026.0
Staging			Installation L		Amount	Total C	
J.gg and manning Total						Ψ	
Signing and Marking Total						\$	-
Permanent Striping (LF)			\$	0.71	0.00	\$	-
Signing and Marking			Installation L	Init Cost	Amount	Total C	Cost
Drainage Total						\$ 78,1	114.4
Trench Backfill (CY) Trench Compaction (CY)			\$ \$	6.36	439.76 351.80		313.9 237.4
Pipe Bedding (CY)			\$ \$	48.60 2.99	55.56 430.76	. ,	700.0
Steel (lb)			\$	1.42	0.00	\$	-
Class A Conc (CY)			\$	892.19		\$ 12,2	
48" RCP (LF)	Ф	24.60	\$	193.20	250.00		150.0 300.0
Trench Excavation (CY) 48" CMP (LF)	\$	24.60	\$	10.38	500.00 250.00		190.0
Drainage	Removal L	Init Cost	Installation L		Amount	Total C	
Noadway Total						φ 5,0	554.5
Roadway Total						\$ 5.8	854.3
Grading Complete (5% of Rwy Items & Drng Total \$)						\$ 3,9	998.5
Subtotal						\$ 1,8	855.8
End Anchorage (EA)	•		\$	1,380.00		\$	-
4" Sidewalk (SY) Guardrail (LF)	\$ \$	4.88	\$ \$	49.09		э \$	-
Drain Inlet (EA)	\$	13.56	\$ \$	3,000.00		\$ \$	-
Curb and Gutter (LF)	\$	28.56	\$	30.60	20.00		183.2
Pavement (SF)	\$	0.73	\$	4.87	120.00		672.6
Roadway Construction	Removal L		Installation L		Amount	Total C	

General Information		
Project ID		
Street Name	Brandon Mill Cir - East	
Site Visit Date	5/22/13	-8
Road Classification	Minor road	
Project	Notes	
Urban typical section with valley gu	utter,	1

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		
Environment	Environmental Features			
Wetlands	None			
Ditches	None			
Utilities (Visual Inspection)				
Electric	Вι	ıried		
Cable	Вι	ıried		
Phone	Bu	ıried		
Gas				
Water	Вι	ıried		
Sewer				
Other		_		



Stage Construction Options				
Stage Construction Options				
Close Location to Traffic	X			
Maintain One Lane - No Temp Pavement				
Maintain One Lane - Temp Pavement				
Stage Construction Notes: Close roadway				

Proposed Design

Culvert Size & Material	48", RCP, 500' length
Utility Relocations	Electric, cable, phone, water

Guardrail Replacement

Miscellaneous Features

Roadway Section

Planning Cost Estimate			
Туре	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 mininmal environmental permitting required	\$10,000	

Total Planning Estimate	\$269,895







Photo 1:



Photo 2:

7/2/2013

Taken By:

David King

Page:

Roadway Construction	Removal U	Init Cost	Installation Unit Cost	Amount	Total Cost
Pavement (SF)	\$	0.73	\$ 4.87		\$ 672.64
Curb and Gutter (LF)	\$	28.56	\$ 30.60		\$ 1,183.20
Drain Inlet (EA)			\$ 3,000.00)	\$ -
4" Sidewalk (SY)	\$	13.56	\$ 36.90)	\$ -
Guardrail (LF)	\$	4.88	\$ 49.09	9	\$ -
End Anchorage (EA)			\$ 1,380.00)	\$ -
Subtotal					\$ 1,855.84
O # O (F0/ -f D t 0 D T 0)					\$ 7,298.47
Grading Complete (5% of Rwy Items & Drng Total \$)					\$ 7,298.47
Roadway Total					\$ 9,154.31
					• -,
Drainage	Removal U	Init Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)	•		\$ 10.38	,	\$ 10,380.00
48" CMP (LF)	\$	24.60	r 400.00	500.00	. ,
48" RCP (LF) Class A Conc (CY)			\$ 193.20 \$ 892.19		\$ 96,600.00 \$ 12,222.98
Steel (lb)			\$ 1.42		
Pipe Bedding (CY)			\$ 48.60		
Trench Backfill (CY)			\$ 2.99		
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)			\$ 0.7		\$ -
Termanent outping (Er)			Ψ 0.7	0.00	Ψ
Signing and Marking Total					\$ -
Staging			Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)			\$ 10,260.00	0.10	
Temporary Pavement Temporary Drainage (Stream Diversion)			\$ 4,428.00	1.00	\$ - \$ 4,428.00
remporary Dramage (Stream Diversion)			\$ 4,428.00	1.00	\$ 4,420.00
Staging Total					\$ 5,454.00
3 3					, ,,
Erosion Control			Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)			\$ 4.39		
Temporary Grassing (AC)			\$ 855.60		
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF)			\$ 4.24 \$ 6.79		
Erosion Control Mats (SY)			\$ 1.87		
Landscape Mulch (SY)			\$ 3.58		
Perm Grassing (AC)			\$ 1,402.20	0.00	\$ -
Rip Rap Type 3 12" (SY)			\$ 60.98		
Plastic Filter Fabric (SY)			\$ 5.72		
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
Traine Control (678 of Construction Total \$)					ψ 13,300.0 4
Construction Cost Grand Total					\$ 180,449.65
Utility Relocation	Removal U	Init Cost	Installation Unit Cost	Amount	Total Cost
Electric Aerial	¢	11.00	¢ ===0	1	¢
Aeriai Buried	\$	11.00	\$ 55.00		\$ - \$ 7,425.00
		16 50	8 83 51		
	\$ \$	16.50 82.50	\$ 82.50 \$ 605.00		\$ -
Wooden Pole Phone	\$	16.50 82.50	\$ 82.50 \$ 605.00		
Wooden Pole)	
Wooden Pole Phone Aerial Buried	\$ \$ \$	82.50 11.00 16.50	\$ 605.00 \$ 27.50 \$ 55.00))) 75.00	\$ - \$ - \$ 5,362.50
Wooden Pole Phone Aerial Buried Wooden Pole	\$ \$	82.50 11.00	\$ 605.00 \$ 27.50))) 75.00	\$ - \$ -
Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$	82.50 11.00 16.50 82.50	\$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00))) 75.00	\$ - \$ - \$ 5,362.50 \$ -
Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial	\$ \$ \$ \$	82.50 11.00 16.50 82.50 11.00	\$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50)))))	\$ - \$ - \$ 5,362.50 \$ -
Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$	82.50 11.00 16.50 82.50 11.00 16.50	\$ 605.00 \$ 27.56 \$ 55.00 \$ 605.00 \$ 27.56 \$ 55.00	75.00 75.00 75.00	\$ - \$ 5,362.50 \$ - \$ 5,362.50
Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$ \$ \$ \$	82.50 11.00 16.50 82.50 11.00	\$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50	75.00 75.00 75.00	\$ - \$ - \$ 5,362.50 \$ -
Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$	82.50 11.00 16.50 82.50 11.00 16.50	\$ 605.00 \$ 27.56 \$ 55.00 \$ 605.00 \$ 27.56 \$ 55.00	75.00 75.00 75.00	\$ - \$ 5,362.50 \$ - \$ 5,362.50 \$ -
Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	\$ \$ \$ \$ \$ \$	82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.55 \$ 55.00 \$ 605.00	75.00 75.00 75.00	\$ - \$ 5,362.50 \$ - \$ 5,362.50
Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	\$ \$\$\$	82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 93.50	75.00 75.00 75.00 75.00	\$ - \$ 5,362.50 \$ 5,362.50 \$ 5,362.50 \$ - \$ 8,250.00
Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	\$ \$ \$ \$ \$ \$	82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 66.00	75.00 75.00 75.00 75.00	\$ - \$ 5,362.50 \$ - \$ 5,362.50 \$ - \$ -
Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer	\$ \$ \$ \$ \$ \$	82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 66.00 \$ 2,609.22	75.00 75.00 75.00 75.00 75.00 75.00	\$ - \$ 5,362.50 \$ - \$ 5,362.50 \$ - \$ 5,362.50 \$ - \$ -
Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	\$ \$ \$ \$ \$ \$	82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 93.50	75.00 75.00 75.00 75.00 75.00 75.00	\$ - \$ 5,362.50 \$ 5,362.50 \$ - \$ 5,362.50 \$ - \$ 8,250.00 \$ -
Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer	\$ \$ \$ \$ \$ \$	82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 66.00 \$ 2,609.22	75.00 75.00 75.00 75.00 75.00	\$ - \$ 5,362.50 \$ - \$ 5,362.50 \$ - \$ 5,362.50 \$ - \$ -
Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	\$ \$ \$ \$ \$ \$	82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 66.00 \$ 2,609.22	75.00 75.00 75.00 75.00 75.00	\$ - \$ 5,362.50 \$ 5,362.50 \$ - \$ 5,362.50 \$ - \$ 8,250.00 \$ -
Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft) Permanent Easement	\$ \$ \$ \$ \$ \$	82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 8 93.50 \$ 2,609.22	75.00 75.00 75.00 75.00 75.00 75.00 75.00 75.00 75.00	\$
Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	\$ \$ \$ \$ \$ \$	82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.55 \$ 55.00 \$ 606.00 \$ 2,609.22 \$ 82.50 Cost/ Sq Ft	75.00 75.00 75.00 75.00 75.00 75.00 75.00 75.00 75.00	\$ - \$ 5,362.50 \$ 5,362.50 \$ 5,362.50 \$ - \$ - \$ 8,250.00 \$ - \$ 26,400.00

General Inf	formation	Мар
Project ID		
Street Name	Brandon Mill Cir - SW	
Site Visit Date	5/22/13	Berkby PI 19
Road Classification	Minor road	Berkey PI Jos no Dr. do
Project		Spite Men and American Co.
Urban typical section with valley gu	tter,	White Cark May 1976
		Cadar Cir
		HB/D Var Ct
		AND MONTHS AND AREA
		Mark Market
Field N		
Design (Existing	· .	And the same of th
Existing Road Laneage Existing ShId Width (paved and of	2-10' grass) (feet) 4	May 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Existing Side Slopes	grass) (reet) 4	The state of the s
Existing Guardrail		V * C
Depth fm Pavement to Top of Cu	none livert (ft): 4	
Pipe Type and Size	60" CMP	Standard Dy Washington Dy
Pipe Condition (1-5) (1 is new)	3	Hewthorne PI
Pipe Condition (1-5) (1 is new) Condition Notes: no headwall upstr	eam or down	Si T
and a pour		Fernway Dr. B. White Park To The Park To T
Pavement Type/Condition	Asphalt/Good	
		Stage Construction Options
Environment	al Features	Close Location to Traffic X
Wetlands	None	Maintain One Lane - No Temp Pavement
Ditches	None	Maintain One Lane - Temp Pavement
		Stage Construction Notes: Close roadway;
Utilities (Visua		
Electric	Buried	
Cable	Buried	
Phone	Buried	
Gas	D. da I	
Water	Buried	
Sewer		
Other	Propose	d Design
	Fiopose	u Design
Roadway Section		
Culvert Size & Material	8' x 4' box, concrete, 175' length	
	Electric, cable, phone, water	
Utility Relocations	Electric, cable, priorie, water	
Guardrail Replacement		
Miscellaneous Features		
Torre		ost Estimate
Type	Notes	Total \$25,000
System Evaluation Design	Includes 10% Construction Co	
Right of Way Cost	Assuming project extends 7	
Utility Relocation Cost	Buried util	
Construction Cost	Assuming 1/10 acre clea	
Environmental Permits	Assuming minimal environme	
	5	. 0 1 1 7.5,555
	Total Di	anning Estimate \$369,852
	i Otal Fi	anning Lamiate #303,032



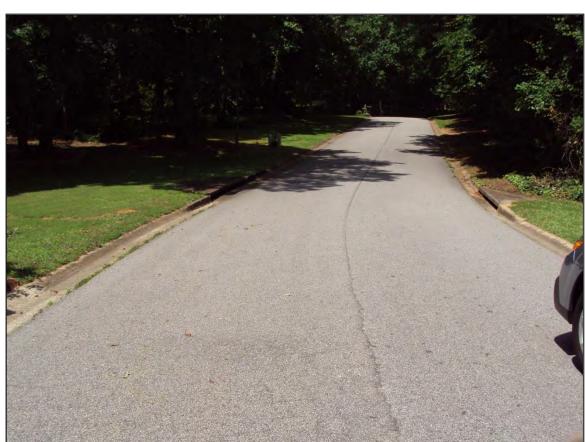




Photo 1:



Photo 2:

7/2/2013

Taken By:

David King

Page:

Roadway Construction Pavement (SF) Curb and Gutter (LF) Drain Inlet (EA) 4" Sidewalk (SY) Guardrail (LF) End Anchorage (EA) Subtotal	Removal Unit \$ \$ \$	0.73 28.56 13.56 4.88	Installation Unit Cost \$ 4.87 \$ 30.60 \$ 3,000.00 \$ 36.90 \$ 49.09 \$ 1,380.00	20.00 0.00 0.00 0.00	\$ - \$ - \$ -
Grading Complete (5% of Rwy Items & Drng Total \$)					\$ 10,148.25
Roadway Total					\$ 12,452.51
Drainage Trench Excavation (CY) 60" CMP (LF) 60" RCP (LF) Class A Conc (CY) Steel (lb) Pipe Bedding (CY) Trench Backfill (CY) Trench Compaction (CY)	Removal Unit	24.60	Installation Unit Cost	175.00 0.00 162.36 19,170.00 65.60 722.36	\$ 12,915.00 \$ - \$ 144,851.18 \$ 27,144.72 \$ 3,188.16 \$ 2,158.42
Drainage Total					\$ 200,660.64
Signing and Marking Permanent Striping (LF)			Installation Unit Cost \$ 0.71	Amount 40.00	Total Cost \$ 28.32
Signing and Marking Total					\$ 28.32
Staging Clearing and Grubbing (Acre) Temporary Pavement			Installation Unit Cost \$ 10,260.00		Total Cost \$ 1,026.00 \$ -
Temporary Drainage (Stream Diversion)			\$ 4,428.00	1.00	\$ 4,428.00
Staging Total					\$ 5,510.64
Erosion Control Fine Grading and Seeding (SY) Temporary Grassing (AC) Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			Installation Unit Cost \$ 4.39 \$ 855.60 \$ 4.24 \$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	0.00 700.00 700.00 233.33 233.33 0.00 26.67 26.67	\$ 2,965.20 \$ 4,754.40 \$ 436.80 \$ 834.40 \$ - \$ 1,626.24 \$ 152.64
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 Electric	Removal Unit	t Cost	Installation Unit Cost	Amount	Total Cost
Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00	75.00	\$ - \$ 7,425.00 \$ -
Aerial Buried Wooden Pole Cable	\$ \$ \$	11.00 16.50 82.50	\$ 27.50 \$ 55.00 \$ 605.00	75.00	\$ - \$ 5,362.50 \$ -
Aerial Buried	\$ \$	11.00 16.50	\$ 27.50 \$ 55.00		\$ - \$ 5,362.50
Wooden Pole Gas	\$	82.50	\$ 605.00		\$ -
4" main Water 8" main	\$ \$	16.50 16.50	\$ 66.00 \$ 93.50		\$ - \$ 8,250.00
Relocate Fire Hydrant (EA) Sewer	Ψ	10.00	\$ 2,609.22		\$ 6,250.00
12" main Utility Relocation Total	\$	16.50	\$ 82.50		\$ - \$ 26,400.00
Right of Way (Sq Ft) Permanent Easement ROW Total			Cost/ Sq Ft \$ 4.00	Sq Ft 7,500.00	Total Cost \$ 30,000.00 \$ 30,000.00

General Inf	formation			Мар	
Project ID			Ta .	- 1 M	269 m
Street Name	115 Bro	ockton Ct	1	Aspn	
Site Visit Date		0/2016	Sams D	Seay-Rd	
Road Classification		or road	Lake eny	- GA	
Project	Notes		Lake Try Creek O		
				Grandsheeter-Way	
Field N	lotes				
Design (Existing				tando	Dawn Dr
Existing Road Laneage	, - · · · · · · · · · · · · · · · · · ·	2-10.5') ver h	
Existing ShId Width (paved and	grass) (feet)	15'		J'ay-	
Existing Side Slopes	, , ,	1.5:1	Hayden:Ct 59	282 m	
Existing Guardrail		None	AB-RC		
	Ivert (ft):	4'	5 m		Harp-Rd
Depth fm Pavement to Top of Cu Pipe Type and Size	• •	60" CMP	plo /		C
Pipe Condition (1-5) (1 is new)		3-4			
Condition Notes: Rusted out botton	m. Concrete he	adwall.	N 0 0.25	0.5	1 1
Condition Notes: Rusted out bottor Undercutting at upstream end. Exi- 1' x 1'	sting blowout at	storm drain inlet	0.25	0.0	Miles
Pavement Type/Condition		Asphalt/Good			
				Construction Options	
Environment	al Features		Close Location to Traffic		
Wetlands			Maintain One Lane - No	Temp Pavement	Х
Ditches			Maintain One Lane - Ter	np Pavement	
State Waters			Stage Construction Notes	:	
			-		
Utilities (Visua	I Inspection)				
Electric		erial			
Cable	Bu	ıried			
Phone	A	erial			
Gas	Unk	nown			
Water	Unk	nown			
Sewer					
Other	Curb a	nd gutter			
		Propose	ed Design		
Roadway Section	Typical				
Culvert Size & Material	60" round RCP	with straight head	wall		
Utility Relocations	Removal/replac	ement drain inlets	, buried cable		
Guardrail Replacement					
Miscellaneous Features					
			ost Estimate		
Type	400/	Notes		Total	
Design			d any surveying needed	\$11,87	
Right of Way Cost	Assuming do	wnstream end exte	ends past ROW 1/20 acre	\$8,71	
Utility Relocation Cost				\$6,38	
Construction Cost	A =		and a language of the second o	\$68,76	
Environmental Permits	Assuming i	minimal environme	ental permitting required	\$10,00	JU
		Total D	lanning Estimata	¢405 =	720
W2552		i otai P	lanning Estimate	\$105,7	১ ৪





Brockton Court



Photo 1: Upstream end of culvert.



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

Photo Date:

1/20/2016

Taken By:

David Gibbs

Page

Roadway Construction	D	<u> </u>	1	A	T. (.) O (
Pavement (SF)	Removal Unit	0.73	Installation Unit Cost \$ 4.87	Amount 154.00	Total Cost \$ 863.22
Curb and Gutter (LF)		28.56	\$ 30.60		\$ 2,366.40
Drain Inlet (EA)	Ψ	20.50	\$ 3,000.00		\$ 6,000.00
4" Sidewalk (SY)	\$	13.56	\$ 36.90		
Guardrail (LF)	\$	4.88	\$ 49.09		
End Anchorage (EA)	•		\$ 1,380.00		
Subtotal			Ψ 1,000.00	0.00	\$ 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)	Removal Offic	CUSI	\$ 10.38		\$ 1,598.52
60" CMP (LF)	\$	24.60	Ψ		\$ 1,623.60
60" RCP (LF)	•		\$ 281.96		\$18,609.62
Class A Conc (CY)			\$ 892.19		\$19,253.42
Steel (lb)			\$ 1.42		
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	Amount	\$ -
r ermanent Striping (Er)			ψ 0.71		Ψ -
Signing and Marking Total					\$ -
3 3 4 4 5 5					•
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
Staging Total					\$ 3,340.00
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		
Erosion Control Mats (SY)			\$ 1.87	0.00	\$ -
Landscape Mulch (SY)			\$ 3.58		
Perm Grassing (AC)			\$ 1,402.20	0.00	\$ -
Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ 1,402.20 \$ 60.98	0.00 9.33	\$ - \$ 569.18
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ 1,402.20 \$ 60.98 \$ 5.72	0.00 9.33 9.33	\$ - \$ 569.18 \$ 53.42
Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ 1,402.20 \$ 60.98	0.00 9.33 9.33	\$ - \$ 569.18 \$ 53.42
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ 1,402.20 \$ 60.98 \$ 5.72	0.00 9.33 9.33	\$ - \$ 569.18 \$ 53.42
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ 1,402.20 \$ 60.98 \$ 5.72	0.00 9.33 9.33	\$ - \$ 569.18 \$ 53.42 \$ - \$ 3,684.30
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 1,402.20 \$ 60.98 \$ 5.72	0.00 9.33 9.33	\$ - \$ 569.18 \$ 53.42 \$ -
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ 1,402.20 \$ 60.98 \$ 5.72	0.00 9.33 9.33	\$ - \$ 569.18 \$ 53.42 \$ - \$ 3,684.30 \$ 63,669.76
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ 1,402.20 \$ 60.98 \$ 5.72	0.00 9.33 9.33	\$ - \$ 569.18 \$ 53.42 \$ - \$ 3,684.30
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ 1,402.20 \$ 60.98 \$ 5.72	0.00 9.33 9.33	\$ - \$ 569.18 \$ 53.42 \$ - \$ 3,684.30 \$ 63,669.76
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total			\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	0.00 9.33 9.33 0.00	\$ 569.18 \$ 569.18 \$ 53.42 \$ 3,684.30 \$ 63,669.76 \$ 5,093.58 \$ 68,763.34
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal Unit	Cost	\$ 1,402.20 \$ 60.98 \$ 5.72	0.00 9.33 9.33	\$ 569.18 \$ 53.42 \$ - \$ 3,684.30 \$ 63,669.76 \$ 5,093.58
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric			\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	0.00 9.33 9.33 0.00	\$ 569.18 \$ 53.42 \$ - \$ 3,684.30 \$ 63,669.76 \$ 5,093.58 \$ 68,763.34 Total Cost
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$	11.00	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	0.00 9.33 9.33 0.00	\$ 569.18 \$ 53.42 \$ 3,684.30 \$ 63,669.76 \$ 5,093.58 \$ 68,763.34 Total Cost \$ -
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50	0.00 9.33 9.33 0.00 Amount 0.00 0.00	\$ 569.18 \$ 569.18 \$ 3.42 \$ 3,684.30 \$ 63,669.76 \$ 5,093.58 \$ 68,763.34 Total Cost \$ - \$ -
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$ \$	11.00	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	0.00 9.33 9.33 0.00 Amount 0.00 0.00	\$ 569.18 \$ 569.18 \$ 3.42 \$ 3,684.30 \$ 63,669.76 \$ 5,093.58 \$ 68,763.34 Total Cost \$ - \$ -
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00	0.00 9.33 9.33 0.00 Amount 0.00 0.00 0.00	\$ 569.18 \$ 53.42 \$ 53.42 \$ 3,684.30 \$ 63,669.76 \$ 5,093.58 \$ 68,763.34 Total Cost \$ - \$ - \$ -
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ \$ \$	11.00 16.50 82.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50	0.00 9.33 9.33 0.00 Amount 0.00 0.00 0.00	\$ 569.18 \$ 53.42 \$ 53.684.30 \$ 63,669.76 \$ 5,093.58 \$ 68,763.34 Total Cost \$ - \$ - \$ - \$ -
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00	0.00 9.33 9.33 0.00 Amount 0.00 0.00 0.00 0.00	\$ 569.18 \$ 53.42 \$ 53.684.30 \$ 63,669.76 \$ 5,093.58 \$ 68,763.34 Total Cost \$ - \$ - \$ - \$ -
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole Wooden Pole	\$ \$ \$ \$	11.00 16.50 82.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50	0.00 9.33 9.33 0.00 Amount 0.00 0.00 0.00 0.00	\$ 569.18 \$ 53.42 \$ 53.684.30 \$ 63,669.76 \$ 5,093.58 \$ 68,763.34 Total Cost \$ - \$ - \$ - \$ - \$ -
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 55.00 \$ 605.00	0.00 9.33 9.33 0.00 Amount 0.00 0.00 0.00 0.00 0.00	\$ 569.18 \$ 569.18 \$ 53.42 \$ 5.093.58 \$ 68,763.34 Total Cost \$ - \$ - \$ - \$ - \$ - \$ -
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00	0.00 9.33 9.33 0.00 Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00	\$ 569.18 \$ 569.18 \$ 53.42 \$ 5.093.58 \$ 68,763.34 Total Cost \$ - \$ - \$ - \$ - \$ - \$ -
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Wooden Pole Cable Aerial	\$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 605.00 \$ 27.50 \$ 55.00	0.00 9.33 9.33 0.00 Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	\$ 569.18 \$ 569.18 \$ 3,669.76 \$ 5,093.58 \$ 68,763.34 Total Cost \$ - \$ - \$ - \$ - \$ 5,093.58
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 \$ 54.65 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00 \$ 605.00	0.00 9.33 9.33 0.00 Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	\$ 569.18 \$ 569.18 \$ 3,669.76 \$ 5,093.58 \$ 68,763.34 Total Cost \$ - \$ - \$ - \$ - \$ 5,093.58
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 \$ 54.65 \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	0.00 9.33 9.33 0.00 Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	\$ 569.18 \$ 569.18 \$ 3,684.30 \$ 63,669.76 \$ 5,093.58 \$ 68,763.34 Total Cost \$ - \$ - \$ - \$ - \$ - \$ 5,093.58
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	\$\$\$\$ \$\$\$\$ \$\$\$\$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 \$ 54.65 \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00 \$ 666.00	0.00 9.33 9.33 0.00 Amount 0.00 0.00 0.00 0.00 0.00 0.00 50.00 0.00 0.00	\$ 569.18 \$ 53.42 \$ 3,684.30 \$ 63,669.76 \$ 5,093.58 \$ 68,763.34 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	\$\$\$\$ \$\$\$\$ \$\$\$\$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 \$ 54.65 \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00 \$ 66.00 \$ 93.50	0.00 9.33 9.33 0.00 Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	\$ 569.18 \$ 569.18 \$ 3,684.30 \$ 63,669.76 \$ 5,093.58 \$ 68,763.34 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Drain inlet	\$\$\$\$ \$\$\$\$ \$\$\$\$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 \$ 54.65 \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00 \$ 666.00	0.00 9.33 9.33 0.00 Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	\$ 569.18 \$ 53.42 \$ 3,684.30 \$ 63,669.76 \$ 5,093.58 \$ 68,763.34 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 \$ 54.65 \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 1,406.40	0.00 9.33 9.33 0.00 Amount 0.00 0.00 0.00 0.00 0.00 50.00 0.00 0	\$ 569.18 \$ 569.18 \$ 53.42 \$ 5.093.58 \$ 68,763.34 Total Cost \$ - \$ - \$ - \$ - \$ - \$ 3,575.00 \$ - \$ 2,812.80
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Drain inlet	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 \$ 54.65 \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00 \$ 66.00 \$ 93.50	0.00 9.33 9.33 0.00 Amount 0.00 0.00 0.00 0.00 0.00 50.00 0.00 0	\$ 569.18 \$ 569.18 \$ 3,684.30 \$ 63,669.76 \$ 5,093.58 \$ 68,763.34 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 5,2512.80
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Drain inlet Sewer 12" main Utility Relocation Total	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 \$ 54.65 \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00 \$ 1,406.40 \$ 82.50	0.00 9.33 9.33 0.00 Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	\$ 569.18 \$ 53.42 \$ 3,684.30 \$ 63,669.76 \$ 5,093.58 \$ 68,763.34 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 2,812.80 \$ 6,387.80
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Drain inlet Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 \$ 54.65 \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 1,406.40 \$ 82.50 \$ 1,406.40	0.00 9.33 9.33 0.00 Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	\$ 569.18 \$ 569.18 \$ 53.42 \$ 5.093.58 \$ 68,763.34 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 2,812.80 \$ 6,387.80 Total Cost
Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Drain inlet Sewer 12" main Utility Relocation Total	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 \$ 54.65 \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00 \$ 1,406.40 \$ 82.50	0.00 9.33 9.33 0.00 Amount 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	\$ 569.18 \$ 53.42 \$ 3,684.30 \$ 63,669.76 \$ 5,093.58 \$ 68,763.34 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 2,812.80 \$ 6,387.80

General In	formation	Мар
Project ID		Curved — X
Street Name	223 Cedar Trail	
Site Visit Date	1/21/2016	Vorning C. Ce eg.
Road Classification	Minor road	Olde:Oak:Dr
Project		18 month
,,		And the state of t
		Cedar-1 Millers: Oak-Way-
Field N	Notes	
Design (Existing	Site Features)	Morning:Creek:Way.
Existing Road Laneage	2-13'	
Existing Shld Width (paved and		
Existing Side Slopes	2:1	HewellRd
Existing Guardrail	None	
Depth fm Pavement to Top of Cu		
Pipe Type and Size	48" CMP	untcliff-ct
Pipe Condition (1-5) (1 is new)	4-5	
Condition Notes: Rusted out botton blowout on downstream side	ms, no headwalls. Streambed	0 0.25 0.5 1 Miles
Pavement Type/Condition	Apply Co	Forest Rd & Son Rg.
r avenient i ype/condition	Asphalt/Good	Stage Construction Options
Environment	tal Features	Close Location to Traffic
Wetlands	lai reatures	Maintain One Lane - No Temp Pavement X
Ditches	Roadside drainage ditches	Maintain One Lane - Temp Pavement
	Roadside drainage ditches	
State Waters		Stage Construction Notes:
Heller Ar	l Inopostion	
Utilities (Visua	Unknown	
Electric	Unknown	
Cable	Unknown	
Phone Gas	Unknown	
Water	Unknown	
Sewer	Officiowit	
Other		
Ottlei	Propos	ed Design
Roadway Section	Typical	ea Besign
Culvert Size & Material	48" round RCP with straight head	wall
Utility Relocations		
Guardrail Replacement		
Miscellaneous Features		
		ost Estimate
Туре	Notes	Total
Design	Includes 10% of Construction (
Right of Way Cost	Project entirely	
Utility Relocation Cost	None iden	• • • • • • • • • • • • • • • • • • • •
Construction Cost		\$39,279
Environmental Permits	Assuming minimal environme	ental permitting required \$10,000
	Total P	lanning Estimate \$58,206



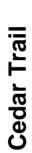




Photo 1: Upstream end of culvert.



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

1/21/2016

Taken By:

David Gibbs

Page

Roadway Construction, Utility Relocation and ROW Quantity Calculations

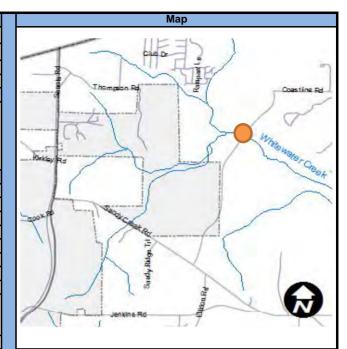
Roadway Construction	Removal U	Init Cost	Installation l	Jnit Cost	Amount		Total Cost
Pavement (SF)	\$	0.73	\$	4.87	156.00	\$	874.43
Curb and Gutter (LF)	\$	28.56	\$	30.60	0.00		-
Drain Inlet (EA)	*		\$	3,000.00	0.00		-
4" Sidewalk (SY)	\$	13.56	\$	36.90	0.00	\$	-
Guardrail (LF)	\$	4.88	\$	49.09	0.00		-
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 U	l=:4 C==4	Installation l	Init Cont	A		Tatal Cast
Trench Excavation (CY)	Removal O	mii Cost	\$	10.38	Amount 115.56	Ф	Total Cost
` ,	\$	24.60	Φ	10.30			1,199.47 1,279.20
48" CMP (LF) 48" RCP (LF)	Ф	24.00	\$	193.20	52.00 52.00		1,279.20
Class A Conc (CY)			\$	892.19	13.70		12,222.98
Steel (lb)			\$	1.42	0.00		12,222.90
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
Trench Compaction (CT)			Ψ	0.30	73.00	Ψ	404.01
Drainage Total						\$	26,047.41
Signing and Marking			Installation l		Amount		Total Cost
Permanent Striping (LF)			\$	0.71		\$	-
0: : 114 1: 7 11						•	
Signing and Marking Total						\$	-
Staging			Installation l	Init Cost	Amount		Total Cost
Clearing and Grubbing (Acre)				0,260.00	0.08	\$	769.50
Temporary Pavement			Ψ	0,200.00	0.00	Ψ	0
Temporary Drainage (Stream Diversion)			\$	4,428.00	1.00	\$	4,428.00
Temperary Brainage (Gream Biversion)			Ψ	1, 120.00	1.00	Ψ	1,120.00
Staging Total						\$	5,197.50
Erosion Control			Installation l	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
Erodon Control Fotal						Ψ	2,000.02
Construction Cost Total						\$	36,369.05
Traffic Control (8% of Construction Total \$)						\$	2,909.52
Construction Cost Grand Total						Ф	39,278.58
Construction Cost Grand Total						φ	39,270.30
Utility Relocation	Removal U	Init Cost	Installation l	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	Ф	=
Buried	\$	16.50	\$	55.00	0.00		_
Wooden Pole	\$	82.50	\$	605.00	0.00		-
Gas	Ψ	52.50	Ψ	200.00	5.00	Ψ	
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						\$	-
Pight of Way (Sa Ft)			Coot/ Cr. Ft		C= F:	т-	tal Cost
Right of Way (Sq Ft) Permanent Easement			Cost/ Sq Ft \$	4.00	Sq Ft \$ -	\$	tal Cost
ROW Total			Ψ	4.00	ψ -	\$	-
NOW TOtal						Φ	-

General Information				
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	Pavement Type/Condition Asphalt/Goo			
Environmental Features				
Wetlands	\	⁄es		
Ditches	\	⁄es		
Utilities (Visua	al Inspection)			
Electric	Aerial			
Cable	None			
Phone	A	erial		
Gas	None			
Water	None			
Sewer	None			
Other				



Stage Construction Options	
Close Location to Traffic	X
Maintain One Lane - No Temp Pavement	
Maintain One Lane - Temp Pavement	

Stage Construction Notes:

Relocate if road cannot be closed

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			
		A			

Total Planning Estimate \$539,571







Photo 1:



Photo 2:

5/21/2013

Taken By:

David King

Page:





Photo 3:



Photo 4:

5/21/2013

Taken By:

David King

Page:

Roadway Construction	Removal Unit		Installation U		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)	Ψ	4.88	\$	49.09	140.00	
End Anchorage (EA)			\$	1,380.00	4.00	
Subtotal						\$ 21,686.43
Grading Complete (5% of Rwy Items & Drng Total \$)						\$ 16,929.86
3 2 4 7 2 2 4 2 4 3 2 2 4 7 7						• -,
Roadway Total						\$ 38,616.29
Noauway Total						φ 30,010.29
Drainage	Removal Unit	t Cost	Installation U	Init 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		\$ 33,807.00
			\$	48.60		
Pipe Bedding (CY)					61.60	
Trench Backfill (CY)			\$	2.99	878.84	
Trench Compaction (CY)			\$	6.36	703.08	\$ 4,471.56
Drainage Total						\$316,910.73
-						
Signing and Marking			Installation L	Init Cost	Amount	Total Cost
Permanent Striping (LF)			\$	0.71	0.00	\$ -
Signing and Marking Total						\$ -
Staging			Installation U	Init Cost	Amount	Total Cost
Clearing and Grubbing (Acre)				10,260.00	0.50	\$ 5,130.00
Temporary Pavement			Ψ	.0,200.00	0.00	\$ -
• •			\$	4 420 00	2.00	
Temporary Drainage (Stream Diversion)			Ф	4,428.00	3.00	\$ 13,284.00
Staging Total						\$ 18,414.00
Erosion Control			Installation U	Init Cost	Amount	Total Cost
Fine Grading and Seeding (SY)			\$	4.39		
g , ,						
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
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY)			\$ \$	6.79 1.87	1,000.00 333.33	
Erosion Control Mats (SY)			\$		333.33	\$ 624.00
Erosion Control Mats (SY) Landscape Mulch (SY)			\$ \$	1.87 3.58	333.33 333.33	\$ 624.00 \$ 1,192.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC)			\$ \$ \$	1.87 3.58 1,402.20	333.33 333.33 0.00	\$ 624.00 \$ 1,192.00 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ \$ \$	1.87 3.58 1,402.20 60.98	333.33 333.33 0.00 85.33	\$ 624.00 \$ 1,192.00 \$ - \$ 5,203.97
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72	333.33 333.33 0.00 85.33 85.33	\$ 624.00 \$ 1,192.00 \$ - \$ 5,203.97 \$ 488.45
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ \$ \$	1.87 3.58 1,402.20 60.98	333.33 333.33 0.00 85.33	\$ 624.00 \$ 1,192.00 \$ - \$ 5,203.97 \$ 488.45
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72	333.33 333.33 0.00 85.33 85.33	\$ 624.00 \$ 1,192.00 \$ - \$ 5,203.97 \$ 488.45
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72	333.33 333.33 0.00 85.33 85.33	\$ 624.00 \$ 1,192.00 \$ - \$ 5,203.97 \$ 488.45
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72	333.33 333.33 0.00 85.33 85.33	\$ 624.00 \$ 1,192.00 \$ - \$ 5,203.97 \$ 488.45 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72	333.33 333.33 0.00 85.33 85.33	\$ 624.00 \$ 1,192.00 \$ - \$ 5,203.97 \$ 488.45 \$ - \$ 18,942.43
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72	333.33 333.33 0.00 85.33 85.33	\$ 624.00 \$ 1,192.00 \$ - \$ 5,203.97 \$ 488.45 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72	333.33 333.33 0.00 85.33 85.33	\$ 624.00 \$ 1,192.00 \$ - \$ 5,203.97 \$ 488.45 \$ - \$ 18,942.43 \$ 392,883.45
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72	333.33 333.33 0.00 85.33 85.33	\$ 624.00 \$ 1,192.00 \$ - \$ 5,203.97 \$ 488.45 \$ - \$ 18,942.43
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)			\$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72	333.33 333.33 0.00 85.33 85.33	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 18,942.43 \$ 392,883.45 \$ 31,430.68
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72	333.33 333.33 0.00 85.33 85.33	\$ 624.00 \$ 1,192.00 \$ - \$ 5,203.97 \$ 488.45 \$ - \$ 18,942.43 \$ 392,883.45
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total			\$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72 54.65	333.33 333.33 0.00 85.33 85.33 0.00	\$ 624.00 \$ 1,192.00 \$ - \$ 5,203.97 \$ 488.45 \$ - \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal Uni	t Cost	\$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72 54.65	333.33 333.33 0.00 85.33 85.33	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 18,942.43 \$ 392,883.45 \$ 31,430.68
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total			\$ \$ \$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72 54.65	333.33 333.33 0.00 85.33 85.33 0.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal Uni	t Cost	\$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72 54.65	333.33 333.33 0.00 85.33 85.33 0.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric	\$	11.00	\$ \$ \$ \$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72 54.65	333.33 333.33 0.00 85.33 85.33 0.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation U \$	1.87 3.58 1,402.20 60.98 5.72 54.65	333.33 333.33 0.00 85.33 85.33 0.00 Amount	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Burried Wooden Pole	\$	11.00	\$ \$ \$ \$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72 54.65	333.33 333.33 0.00 85.33 85.33 0.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72 54.65	333.33 333.33 0.00 85.33 85.33 0.00 Amount 100.00 0.00 2.00	\$ 624.00 \$ 1,192.00 \$ - \$ 5,203.97 \$ 488.45 \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ - \$ 1,375.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ \$ \$	11.00 16.50 82.50 11.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation U \$ \$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50	333.33 333.33 0.00 85.33 85.33 0.00 Amount 100.00 0.00 2.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ \$ 1,375.00 \$ 3,850.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00	333.33 333.33 0.00 85.33 85.33 0.00 Amount 100.00 0.00 2.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ 1,375.00 \$ 3,850.00 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ \$ \$	11.00 16.50 82.50 11.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation U \$ \$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50	333.33 333.33 0.00 85.33 85.33 0.00 Amount 100.00 0.00 2.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ \$ 1,375.00 \$ 3,850.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00	333.33 333.33 0.00 85.33 85.33 0.00 Amount 100.00 0.00 2.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ 1,375.00 \$ 3,850.00 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00	333.33 333.33 0.00 85.33 85.33 0.00 Amount 100.00 0.00 2.00	\$ 624.00 \$ 1,192.00 \$ - \$ 5,203.97 \$ 488.45 \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ - \$ 1,375.00 \$ 3,850.00 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Aerial Aerial Aerial Buried Wooden Pole Cable Aerial	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50	333.33 333.33 0.00 85.33 85.33 0.00 400.00 2.00 100.00 0.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ - \$ 1,375.00 \$ 3,850.00 \$ - \$ - \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	S S S S S S S S S S S S S S S S S S S	1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00	333.33 333.33 0.00 85.33 85.33 0.00 Amount 100.00 0.00 2.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ 1,375.00 \$ 3,850.00 \$ - \$ 1,375.00 \$ - \$ 1,375.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50	333.33 333.33 0.00 85.33 85.33 0.00 400.00 2.00 100.00 0.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ - \$ 1,375.00 \$ 3,850.00 \$ - \$ - \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00	333.33 333.33 0.00 85.33 85.33 0.00 400.00 2.00 100.00 0.00	\$ 624.00 \$ 1,192.00 \$ - \$ 5,203.97 \$ 488.45 \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ - \$ 1,375.00 \$ 3,850.00 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Casle Aerial Buried Wooden Pole Gas 4" main	\$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	S S S S S S S S S S S S S S S S S S S	1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00	333.33 333.33 0.00 85.33 85.33 0.00 400.00 2.00 100.00 0.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ 1,375.00 \$ 3,850.00 \$ - \$ 1,375.00 \$ - \$ 1,375.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00	333.33 333.33 0.00 85.33 85.33 0.00 400.00 2.00 100.00 0.00	\$ 624.00 \$ 1,192.00 \$ - \$ 5,203.97 \$ 488.45 \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ - \$ 1,375.00 \$ 3,850.00 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Casle Aerial Buried Wooden Pole Gas 4" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00	333.33 333.33 0.00 85.33 85.33 0.00 400.00 2.00 100.00 0.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ - \$ 1,375.00 \$ 3,850.00 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Installation U \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72 54.65 Init Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00	333.33 333.33 0.00 85.33 85.33 0.00 4000 2.00 100.00 0.00 0.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ 1,375.00 \$ 3,850.00 \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Installation U \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72 54.65 Init Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00	333.33 333.33 0.00 85.33 85.33 0.00 Amount 100.00 0.00 2.00 100.00 0.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ - \$ 1,375.00 \$ 3,850.00 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Rapial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation U S S S S S S S S S S S S S S	1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 605.00 27.50 605.00 605.00	333.33 333.33 0.00 85.33 85.33 0.00 4000 2.00 100.00 0.00 0.00 0.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ 1,375.00 \$ 3,850.00 \$ - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 6 - \$ 6 - \$ 7 - \$
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Sas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Installation U \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	1.87 3.58 1,402.20 60.98 5.72 54.65 Init Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00	333.33 333.33 0.00 85.33 85.33 0.00 Amount 100.00 0.00 2.00 100.00 0.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ - \$ 1,375.00 \$ 3,850.00 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Rapial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation U S S S S S S S S S S S S S S	1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 605.00 27.50 605.00 605.00	333.33 333.33 0.00 85.33 85.33 0.00 4000 2.00 100.00 0.00 0.00 0.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ 1,375.00 \$ 3,850.00 \$ - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 5 - \$ 6 - \$ 6 - \$ 7 - \$
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation U S S S S S S S S S S S S S S S S S S	1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 605.00 27.50 605.00 605.00	333.33 333.33 0.00 85.33 85.33 0.00 40.00 2.00 100.00 0.00 0.00 0.00 0.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ 1,375.00 \$ 3,850.00 \$ - \$ - \$ - \$ - \$ - \$ 11,825.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Sas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation U S S S S S S S S S S S S S S	1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 605.00 27.50 605.00 605.00	333.33 333.33 0.00 85.33 85.33 0.00 4000 2.00 100.00 0.00 0.00 0.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ - \$ 1,375.00 \$ 3,850.00 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation U S S S S S S S S S S S S S S S S S S	1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 605.00 27.50 605.00 605.00	333.33 333.33 0.00 85.33 85.33 0.00 40.00 2.00 100.00 0.00 0.00 0.00 0.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 18,942.43 \$ 392,883.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ 1,375.00 \$ 3,850.00 \$ - \$ - \$ - \$ - \$ - \$ 11,825.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	S S S S S S S S S S S S S Cost/ Sq Ft	1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 66.00 93.50 2,609.22 82.50	333.33 333.33 0.00 85.33 85.33 0.00 4000 2.00 100.00 0.00 0.00 0.00 0.00	\$ 624.00 \$ 1,192.00 \$ 5,203.97 \$ 488.45 \$ 31,430.68 \$ 424,314.13 Total Cost \$ 6,600.00 \$ 1,375.00 \$ 3,850.00 \$ - \$ - \$ - \$ - \$ - \$ - \$ 11,825.00

General In	formation		Мар	
Project ID		209 m		11/11
Street Name	171 County Line Court			alle alle
Site Visit Date	2/4/2016			The same of
Road Classification	Minor road			
Project				
Existing culvert starts as 42" CMP				* * *
almost 90 degree turn under road a where it drains on the other side. If		odigad		
pipe	-roposed design is one straight	Country Ro		*****
pipo		268 m	aga th	
			County-Lin Ct	
Field	Notes		County-En	
Design (Existing	Site Features)		0 1	ale
Existing Road Laneage	2-11	Den Creek Tri		Ma -
Existing ShId Width (paved and	grass) (feet) 18'	1,64	Vickery-En-	
Existing Side Slopes	1:9		Waters:Way	7
Existing Guardrail	N/A	Rd		
Depth fm Pavement to Top of Cu	` '	True		
Pipe Type and Size Pipe Condition (1-5) (1 is new)	42" to 30" CMP 3-4	Ajuno		44
Rusted but in tact.	3-4			ale -
radioa bat iii taot.		0 0.25	0.5	1 Ne
			//	Miles
Pavement Type/Condition	Asphalt/Good	988	Harbour	kes /
	·	Stage	Construction Options	3
Environment	tal Features	Close Location to Traff		
Wetlands		Maintain One Lane - No	•	X
Ditches		Maintain One Lane - Te		
State Waters		Stage Construction Note		d a alala sudaa
		Utility pole on top of up		d cable wire
Utilities (Visua	al Inspection)	running across pain (F	11010 1)	
Electric	Buried			
Cable	Buried			
Phone	Unknown			
Gas	Unknown			
Water	Unknown			
Sewer	Unknown			
Other	Unknown	nd Danisus		
	Typical	ed Design		
Roadway Section	Турісаі			
	4' x 3' concrete box culvert with wi	ringwalls. Existing drainage	way alongside road befo	ore culvert inlet will
Culvert Size & Material	be extended, near 90 degree pipe			
	road.			
Utility Relocations	Utility pole on top of upstream inle		with aerial wires and an	exposed electrical
, , ,	wire on the ground across the pipe	е тасе.		
Guardrail Replacement				
Miscellaneous Features				
=		Cost Estimate	T =	
Туре	Notes		Tota	
Design Pight of Way Cost	Includes 10% Construction co		\$11,1 \$17,4	
Right of Way Cost Utility Relocation Cost	Assuming project extends be Utility pole, aerial electric and		\$17,4 \$16,0	
Construction Cost	Othing pole, delial electric and	cable wile, bulled wile	\$61,4	
Environmental Permits	Assuming minimal environme	ental permitting required	\$10,0	
LIIVII OIIIII EIIIAI FEIIIIIIS	7.050ming millinar criviroline	man pormitting required	Ψ10,0	~~

Total Planning Estimate

\$116,051







County Line Court



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

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

Photo Date:

2/4/2016

Taken By:

Christian Helfrich

Page

Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	Removal Unit \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Cost 11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 65.00 \$ 27.50 \$ 605.00 \$ 605.00	100.00 50.00 1.00 100.00 0.00 0.00 0.00	\$ 3,850.00 \$ - \$ - \$ - \$ - \$ - \$ -
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00	100.00 50.00 1.00 100.00 0.00 0.00 0.00	\$ 61,399.72 Total Cost \$ 6,600.00 \$ 4,950.00 \$ 687.50 \$ 3,850.00 \$ - \$ - \$ - \$ -
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Buried Wooden Pole Wooden Pole	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00	100.00 50.00 1.00 100.00 0.00	\$ 61,399.72 Total Cost \$ 6,600.00 \$ 4,950.00 \$ 687.50 \$ 3,850.00 \$ -
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ \$ \$	11.00 16.50 82.50 11.00	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50	100.00 50.00 1.00	\$ 61,399.72 Total Cost \$ 6,600.00 \$ 4,950.00 \$ 687.50 \$ 3,850.00
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$ \$	11.00 16.50	\$ 55.00 \$ 82.50	100.00	\$ 61,399.72 Total Cost \$ 6,600.00 \$ 4,950.00
Construction Cost Grand Total Utility Relocation Electric Aerial	\$	11.00	\$ 55.00	100.00	\$61,399.72 Total Cost \$6,600.00
Construction Cost Grand Total Utility Relocation	Removal Unit	Cost	Installation Unit Cost	Amount	\$61,399.72
,					·
Traffic Control (8% of Construction Total \$)					\$ 4,548.13
Construction Cost Total					\$ 56,851.59
Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ 5.72 \$ 54.65		
Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ 1,402.20 \$ 60.98 \$ 5.72	8.00	\$ 487.87
Erosion Control Mats (SY) Landscape Mulch (SY)			\$ 1.87 \$ 3.58		
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF)			\$ 4.24 \$ 6.79		
Erosion Control Fine Grading and Seeding (SY) Temporary Grassing (AC)			Installation Unit Cost \$ 4.39 \$ 855.60	0.00	\$ -
Claying Fotal					ψ 4,574.50
Temporary Drainage (Stream Diversion) Staging Total			\$ 4,428.00	1.00	\$ 4,428.00 \$ 4,974.98
Staging Clearing and Grubbing (Acre) Temporary Pavement			\$ 10,260.00	0.05	\$ 513.00 \$ -
Signing and Marking Total			Installation Unit Cost	Amount	\$ 16.99 Total Cost
Permanent Striping (LF)			\$ 0.71	24.00	\$ 16.99
Drainage Total Signing and Marking			Installation Unit Cost	Amount	\$ 39,229.61 Total Cost
Trench Compaction (CY)			\$ 6.36	77.23	
Steel (lb) Pipe Bedding (CY) Trench Backfill (CY)			\$ 1.42 \$ 48.60 \$ 2.99	13.80	\$ 670.68
84" RCP Class A Conc (CY)			\$ 142.52 \$ 892.19 \$ 1.42	29.93	\$ - \$ 26,703.19 \$ 3,765.14
Trench Excavation (CY) 42" CMP (LF)	\$	24.60	\$ 10.38	85.00	\$ 1,038.00 \$ 6,273.00
Drainage	Removal Unit	Cost	Installation Unit Cost	Amount	Total Cost
Grading Complete (5% of Rwy Items & Drng Total \$) Roadway Total					\$ 2,339.25 \$ 9,894.58
Subtotal					\$ 7,555.33
Guardrail (LF) End Anchorage (EA)	\$	4.88	\$ 49.09 \$ 1,380.00		\$ 1,295.42 \$ 5,520.00
Drain Inlet (EA) 4" Sidewalk (SY)	\$	13.56	\$ 3,000.00 \$ 36.90		
	\$	0.73 28.56	\$ 4.87 \$ 30.60		\$ 739.90 \$ -
Pavement (SF) Curb and Gutter (LF)	\$	Cost	Installation Unit Cost \$ 4.87		Total Cost \$ 739.90

General In	formation	Мар
Project ID		Iviap
	170 Crohannia Lanc	1 Dan 1 2
Street Name Site Visit Date	178 Crabapple Lane	Falls Rd A Monassa
Road Classification	5/22/13 Minor arterial	The state of the s
Project		Dodysood Tal
Rural Typical Section		Sine Rd.
Field I	Notes	7 17 7
Design (Existing	g Site Features)	F Pac Chipse Pkny
Existing Road Laneage	2 - 9'-10'	The case Property
Existing ShId Width (paved and	grass) (feet) None	1 180 (1)
Existing Side Slopes	1.5:1 to flat	Smokense or Loyd Rd
Existing Guardrail	None	Glover Pd.
Depth fm Pavement to Top of Cu		
Pipe Type and Size	2 - 72" CMP	Kedron Dr. Aleiko Ken
Pipe Condition (1-5) (1 is new) Condition Notes: No Headwall	3	3
Condition Notes: No Headwall		y 2 / 1
Pavement Type/Condition	Gravel/Fair	
		Stage Construction Options
Environmen		Close Location to Traffic X
Wetlands	None	Maintain One Lane - No Temp Pavement
Ditches	None	Maintain One Lane - Temp Pavement
		Stage Construction Notes:
Utilities (Visua	al Inspection)	
Electric	Aerial	
Cable	Aerial	
Phone	Aerial	
Gas		
Water		
Sewer		
Other		
	Propos	ed Design
Roadway Section		
Culvert Size & Material	tpl 8' x 5' box, concrete, 70' length	
Utility Relocations	Electric, cable, phone	
Guardrail Replacement	Zana A. Flandalaire A. J. i. F.	to d
Miscellaneous Features	Zone A, Floodplain Analysis Requ	irea
_		ost Estimate
Туре	Notes	
Design	Includes 10% Construction C	
Right of Way Cost	Assuming project extends 3 Aerial util	
Utility Relocation Cost	Assuming 1/10 acre clea	
Construction Cost	Permits, Zone A Floo	
Environmental Permits	reimits, Zone A Flot	dplain Analysis \$15,000
	Total D	anning Estimate \$202.226
	TOTAL P	anning Estimate \$383,326







Photo 1:



Photo 2:

5/21/2013

Taken By:

David King

Page:





Photo 3:



Photo 4:

5/21/2013

Taken By:

David King

Page:

Roadway Construction	Removal Un		Installation U		Amount	Total C	
Pavement (SF)	\$	0.73	\$	4.87	624.00		197.73
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						\$ 3,4	197.73
0 - 1 - 0 - 1 - (50/ - (B - 1/ 0 B T - (- 1 0)						A 44 0	04.05
Grading Complete (5% of Rwy Items & Drng Total \$)						\$ 11,9	31.25
Doodway Total						¢ 15 1	120 00
Roadway Total						\$ 15,4	128.98
Drainage	Removal Un	it Cost	Installation U	nit Coet	Amount	Total C	oct.
Trench Excavation (CY)	rtemoval on	11 0031	\$	10.38	539.26		97.51
72" CMP (LF)	\$	63.00	•	10.00	140.00		
84" RCP	Ψ	00.00	\$	142.52	0.00		-
Class A Conc (CY)			\$	892.19	185.48		183.03
Steel (lb)			\$	1.42	21,112.00		
Pipe Bedding (CY)			\$	48.60	69.30		67.98
Trench Backfill (CY)			\$	2.99	535.44		99.90
Trench Compaction (CY)			\$	6.36	428.35		24.32
, , ,							
Drainage Total						\$235,1	27.33
Signing and Marking			Installation U		Amount	Total C	ost
Permanent Striping (LF)			\$	0.71	0.00	\$	-
Signing and Marking Total						\$	-
Staging			Installation U		Amount	Total C	
Clearing and Grubbing (Acre)				0,260.00	0.10		26.00
Temporary Gravel Road (SY)			\$	15.42	69.33		069.12
Temporary Drainage (Stream Diversion)			\$	4,428.00	2.00	\$ 8,8	356.00
Ctaging Total						¢ 10.0	E1 10
Staging Total						\$ 10,9	151.12
Erosion Control			Installation U	nit Cost	Amount	Total C	'net
Fine Grading and Seeding (SY)			\$	4.39	132.89		83.65
Temporary Grassing (AC)			\$	855.60	0.00		-
						Ψ	
Type C. Silt Fence (LF)			\$	4 24	560.00	\$ 23	72 16
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF)			\$ \$	4.24 6.79	560.00 560.00		372.16 303.52
Check Dam Type C Silt Fence (LF)			\$	6.79	560.00	\$ 3,8	303.52
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY)			\$ \$	6.79 1.87	560.00 186.67	\$ 3,8 \$ 3	303.52 349.44
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY)			\$ \$ \$	6.79 1.87 3.58	560.00 186.67 186.67	\$ 3,8 \$ 3 \$ 6	303.52
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC)			\$ \$ \$	6.79 1.87 3.58 1,402.20	560.00 186.67 186.67 0.00	\$ 3,8 \$ 3 \$ 6 \$	303.52 349.44 367.52
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ \$ \$ \$	6.79 1.87 3.58	560.00 186.67 186.67	\$ 3,8 \$ 3 \$ 6 \$ 5	303.52 349.44
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ \$ \$	6.79 1.87 3.58 1,402.20 60.98	560.00 186.67 186.67 0.00 104.00	\$ 3,8 \$ 3 \$ 6 \$ 5	303.52 349.44 367.52 - 342.34
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72	560.00 186.67 186.67 0.00 104.00 104.00	\$ 3,8 \$ 3 \$ 6 \$ 5	303.52 349.44 367.52 - 342.34
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72	560.00 186.67 186.67 0.00 104.00 104.00	\$ 3,8 \$ 3 \$ 6 \$ 5	303.52 349.44 667.52 - 342.34 695.30
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72	560.00 186.67 186.67 0.00 104.00 104.00	\$ 3,8 \$ 3 \$ 6 \$ 5 \$ 14,7	303.52 349.44 667.52 - 342.34 595.30 - 713.92
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72	560.00 186.67 186.67 0.00 104.00 104.00	\$ 3,8 \$ 3 \$ 6 \$ 6,3 \$ 5	303.52 349.44 667.52 - 342.34 595.30 - 713.92
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72	560.00 186.67 186.67 0.00 104.00 104.00	\$ 3,8 \$ 3 \$ 6 \$ 5 \$ 14,7 \$ 276,2	303.52 349.44 367.52 - 342.34 395.30 - 713.92
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72	560.00 186.67 186.67 0.00 104.00 104.00	\$ 3,8 \$ 3 \$ 6 \$ 5 \$ 14,7	303.52 349.44 367.52 - 342.34 395.30 - 713.92
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)			\$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72	560.00 186.67 186.67 0.00 104.00 104.00	\$ 3,8 \$ 3 \$ 6 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0	303.52 349.44 367.52 - 342.34 395.30 - 713.92 221.35
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72	560.00 186.67 186.67 0.00 104.00 104.00	\$ 3,8 \$ 3 \$ 6 \$ 5 \$ 14,7 \$ 276,2	303.52 349.44 367.52 - 342.34 395.30 - 713.92 221.35
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)	Removal Un	it Cost	\$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.402.20 60.98 5.72 54.65	560.00 186.67 186.67 0.00 104.00 104.00	\$ 3,8 \$ 3 \$ 6 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0	303.52 349.44 667.52 - 342.34 695.30 - 713.92 221.35 997.71 319.06
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total	Removal Un	it Cost	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.402.20 60.98 5.72 54.65	560.00 186.67 186.67 0.00 104.00 104.00 0.00	\$ 3,8 \$ 6 \$ 6,3 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3	303.52 349.44 667.52 - 342.34 695.30 - 713.92 221.35 997.71 319.06
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal Un	it Cost	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.402.20 60.98 5.72 54.65	560.00 186.67 186.67 0.00 104.00 104.00 0.00	\$ 3,8 \$ 3 \$ 6 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3	303.52 349.44 667.52 -342.34 695.30 -713.92 221.35 697.71 319.06
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric			\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation U	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	560.00 186.67 186.67 0.00 104.00 0.00	\$ 3,8 \$ 6 \$ 5 \$ 14,7 \$ 276,2 \$ 298,3 Total C	803.52 849.44 667.52 - 842.34 695.30 - 713.92 221.35 997.71 819.06
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$	11.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation U	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	560.00 186.67 186.67 0.00 104.00 0.00 Amount	\$ 3,8 \$ 6 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3 Total C	803.52 849.44 667.52 - 842.34 695.30 - 713.92 221.35 997.71 819.06
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation U \$	6.79 1.87 3.402.20 60.98 5.72 54.65	560.00 186.67 186.67 0.00 104.00 0.00 Amount 100.00 0.00	\$ 3,8 \$ 6 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3 Total C	803.52 849.44 867.52 842.34 895.30 713.92 8221.35 897.71 819.06 80st
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$ \$ \$	11.00 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation U \$	6.79 1.87 3.402.20 60.98 5.72 54.65	560.00 186.67 186.67 0.00 104.00 0.00 Amount 100.00 0.00	\$ 3,8 \$ 6 \$ 5 \$ 6,3 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3 Total C \$ 6,6 \$ 1,3	803.52 849.44 867.52 842.34 895.30 713.92 8221.35 897.71 819.06 80st
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 1.87 1.402.20 60.98 5.72 54.65 nit Cost 55.00 82.50 605.00 27.50 55.00	560.00 186.67 186.67 0.00 104.00 0.00 Amount 100.00 0.00 2.00	\$ 3,8 \$ 6 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3 Total C \$ 6,6 \$ 1,3 \$ 3,8	803.52 849.44 867.52 842.34 895.30 113.92 821.35 897.71 819.06 Cost 600.00 875.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole Wooden Pole	\$ \$ \$	11.00 16.50 82.50 11.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation U \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 nnit Cost 55.00 82.50 605.00 27.50	560.00 186.67 186.67 0.00 104.00 0.00 4 Amount 100.00 0.00 2.00	\$ 3,8 \$ 6 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3 Total C \$ 6,6 \$ 1,3 \$ 3,8	803.52 849.44 867.52 842.34 895.30 113.92 821.35 897.71 819.06 Cost 600.00 875.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	560.00 188.67 186.67 0.00 104.00 104.00 0.00 2.00 100.00 2.00 100.00 0.00	\$ 3,8 \$ 6 \$ 6,3 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3 Total C \$ 6,6 \$ 1,3 \$ 3,8 \$ \$	103.52 149.44 167.52 142.34 195.30 113.92 121.35 1997.71 1319.06 150.00 1575.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Wooden Pole Cable Aerial	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 mit Cost 55.00 82.50 605.00 27.50 605.00 27.50	560.00 186.67 186.67 0.00 104.00 104.00 0.00 2.00 100.00 100.00 100.00	\$ 3,8 \$ 66,3 \$ 5,5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3 Total C \$ 6,6 \$ 1,3 \$ 3,8 \$ \$	803.52 849.44 867.52 842.34 895.30 113.92 821.35 897.71 819.06 Cost 600.00 875.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	S S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 niit Cost 55.00 82.50 605.00 27.50 605.00 27.50 55.00 605.00	560.00 186.67 186.67 0.00 104.00 104.00 0.00 2.00 100.00 0.00 2.00 100.00 0.00	\$ 3,8 \$ 6 \$ 6,3 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3 Total C \$ 6,6 \$ 1,3 \$ \$ \$ \$ \$ \$	103.52 149.44 167.52 142.34 195.30 113.92 121.35 1997.71 1319.06 150.00 1575.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 mit Cost 55.00 82.50 605.00 27.50 605.00 27.50	560.00 186.67 186.67 0.00 104.00 104.00 0.00 2.00 100.00 100.00 100.00	\$ 3,8 \$ 6 \$ 6,3 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3 Total C \$ 6,6 \$ 1,3 \$ \$ \$ \$ \$ \$	103.52 149.44 167.52 142.34 195.30 113.92 121.35 1997.71 1319.06 150.00 1575.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 nit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00	560.00 186.67 186.67 0.00 104.00 104.00 0.00 2.00 100.00 0.00 2.00 100.00 0.00	\$ 3,8 \$ 6 \$ 6,3 \$ 5,5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3 Total C \$ 6,6 \$ 1,3 \$ 3,8 \$ \$ \$ 3,8	103.52 149.44 167.52 142.34 195.30 113.92 121.35 1997.71 1319.06 150.00 1575.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	S S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 niit Cost 55.00 82.50 605.00 27.50 605.00 27.50 55.00 605.00	560.00 186.67 186.67 0.00 104.00 104.00 0.00 2.00 100.00 0.00 2.00 100.00 0.00	\$ 3,8 \$ 6 \$ 6,3 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3 Total C \$ 6,6 \$ 1,3 \$ \$ \$ \$ \$ \$	103.52 149.44 167.52 142.34 195.30 113.92 121.35 1997.71 1319.06 150.00 1575.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	S S S S S Installation U S S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 nit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00 66.00	560.00 186.67 186.67 0.00 104.00 104.00 0.00 Amount 100.00 0.00 100.00 0.00 100.00 0.00 0.00	\$ 3,8 \$ 6 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3 Total C \$ 6,6 \$ 1,3 \$ 3,8 \$ \$ \$ \$	103.52 149.44 167.52 142.34 195.30 113.92 121.35 1997.71 1319.06 150.00 1575.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 1.87 1.402.20 60.98 5.72 54.65 nit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 93.50	560.00 186.67 186.67 0.00 104.00 104.00 0.00 Amount 100.00 0.00 100.00 0.00 100.00 0.00 0.00 0.00 0.00	\$ 3,8 \$ 6 \$ 6,3 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3 Total C \$ 6,6 \$ 1,3 \$ 3,8 \$ \$ \$ \$	103.52 149.44 167.52 142.34 195.30 113.92 121.35 1097.71 1319.06 135.00 1375.00 1375.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	S S S S S Installation U S S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 nit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00 66.00	560.00 188.67 186.67 186.67 0.00 104.00 104.00 0.00 Amount 100.00 0.00 2.00 100.00 0.00 0.00 0.0	\$ 3,8 \$ 6 \$ 6,3 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3 Total C \$ 6,6 \$ 1,3 \$ 3,8 \$ \$ \$ \$	103.52 149.44 167.52 142.34 195.30 113.92 121.35 1097.71 1319.06 135.00 1375.00 1375.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Relocate Fire Hydrant (EA) Sewer	\$ 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 mit Cost 55.00 82.50 605.00 27.50 55.00 605.00 66.00 93.50 2,609.22	560.00 188.67 186.67 186.67 0.00 104.00 104.00 0.00 Amount 100.00 0.00 2.00 100.00 0.00 0.00 0.0	\$ 3,8 \$ 6 \$ 6,3 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3 Total C \$ 6,6 \$ 1,3 \$ \$ 3,8 \$ \$ \$ \$	103.52 149.44 167.52 142.34 195.30 113.92 121.35 1097.71 1319.06 135.00 1375.00 1375.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 1.87 1.402.20 60.98 5.72 54.65 nit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 93.50	560.00 188.67 186.67 186.67 0.00 104.00 104.00 0.00 Amount 100.00 0.00 2.00 100.00 0.00 0.00 0.0	\$ 3,8 \$ 6,3 \$ 6,3 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3 Total C \$ 6,6 \$ 1,3 \$ 3,8 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	103.52 149.44 167.52 142.34 195.30 13.92 13.92 13.92 13.92 13.93 13.9
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Relocate Fire Hydrant (EA) Sewer	\$ 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 mit Cost 55.00 82.50 605.00 27.50 55.00 605.00 66.00 93.50 2,609.22	560.00 188.67 186.67 186.67 0.00 104.00 104.00 0.00 Amount 100.00 0.00 2.00 100.00 0.00 0.00 0.0	\$ 3,8 \$ 6 \$ 6,3 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3 Total C \$ 6,6 \$ 1,3 \$ \$ 3,8 \$ \$ \$ \$	103.52 149.44 167.52 142.34 195.30 13.92 13.92 13.92 13.92 13.93 13.9
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	\$ 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	S S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 mit Cost 55.00 82.50 605.00 27.50 55.00 605.00 66.00 93.50 2,609.22	560.00 188.67 186.67 186.67 0.00 104.00 104.00 0.00 100.00 0.00 100.00 0.00	\$ 3,8 \$ 6 \$ 6,3 \$ 6,3 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3 Total C \$ 6,6 \$ 1,3 \$ 3,8 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ 15,6	103.52 149.44 167.52 142.34 195.30 13.92 121.35 199.7.71 199.06 100.00 100.0
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$ 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 nit Cost 55.00 82.50 605.00 27.50 55.00 605.00 605.00 66.00 93.50 2,609.22 82.50	560.00 188.67 186.67 186.67 0.00 104.00 104.00 0.00 100.00 0.00 100.00 0.00	\$ 3,8 \$ 66 \$ 6,3 \$ 5,5 \$ 14,7 \$ 276,2 \$ 298,3 Total C \$ 6,6 \$ 1,3 \$ 3,8 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	103.52 149.44 167.52 142.34 195.30 13.92 121.35 1997.71 13.90 13.75.00 13.75.00 14.35 15.00 15.00 15.00 16.00 16.00 17.00 17.00 18.0
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	S S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 mit Cost 55.00 82.50 605.00 27.50 55.00 605.00 66.00 93.50 2,609.22	560.00 188.67 186.67 186.67 0.00 104.00 104.00 0.00 100.00 0.00 100.00 0.00	\$ 3,8 \$ 6 \$ 6,3 \$ 6,3 \$ 5 \$ 14,7 \$ 276,2 \$ 22,0 \$ 298,3 Total C \$ 6,6 \$ 1,3 \$ 3,8 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ 15,6	103.52 149.44 167.52 149.44 167.52 142.34 195.30 1713.92 121.35 1997.71 1319.06 1350.00 1375.00 1375.00

Committee	farmadan	Man.
General In	formation	Мар
Project ID	0 0 1 = "	
Street Name	Cross Creek Trail	See ma Dr
Site Visit Date	5/21/13	HIGH E
Road Classification Project	Minor road	Amel Dr. 3
Rural Typical Section	INOLES	Angela Dr Joseph Homes Pl
Field I	Notes	Pa B B B B B B B B B B B B B B B B B B B
Design (Existing	g Site Features)	And
Existing Road Laneage	2 - 12'	Carolincod D
Existing Shld Width (paved and o	,	Wedgod PI
Existing Side Slopes	6:1	Rd Rd Red Red Red Red Red Red Red Red Re
Existing Guardrail Depth fm Pavement to Top of Cu	None None	1
Pipe Type and Size	4 - 72" CMP	Materia se had Mage
Pipe Condition (1-5) (1 is new)	4 - 12 CIVIF	Mt Brits Rt
Condition Notes:		Count Ro
Pavement Type/Condition	Asphalt/Good	Stama Comptimistion Outline
Environmen	tal Features	Stage Construction Options Close Location to Traffic
Wetlands	None	Maintain One Lane - No Temp Pavement
Ditches	None	Maintain One Lane - Temp Road X
Ditolies	140110	Stage Construction Notes:
		otago construction reces.
Utilities (Visua	al Inspection)	
Electric	Aerial	
Cable	Aerial	
Phone	Aerial	
Gas		
Water	Buried	
Sewer		
Other		
		ed Design
Roadway Section		ses, temporary road consists of 8" gravel fill
Culvert Size & Material	quad 8' x 5' box, concrete, 80' len	gtn
Utility Relocations	Electric, cable, phone, water	
Guardrail Replacement		
Miscellaneous Features		
	Planning C	ost Estimate
Туре	Notes	Total
Design	Includes 10% Construction Co	
Right of Way Cost	Assuming project extends 3	
Utility Relocation Cost	Aerial util	
Construction Cost	Assuming 1/10 acre clea	
Environmental Permits	Assuming minimal environme	ntal permitting required \$10,000
	Total P	anning Estimate \$562,174
The second second		



Roadway Construction		st Installation Un			otal Cost
Pavement (SF)	\$ 0.		4.87 912.00		5,112.06
Curb and Gutter (LF)	\$ 28.	- •	30.60 0.00		-
Drain Inlet (EA)			00.00 0.00		-
4" Sidewalk (SY)	\$ 13.		36.90 0.00		-
Guardrail (LF)	\$ 4.8	- •	49.09 0.00		-
End Anchorage (EA)		\$ 1,3	80.00 0.00		-
Subtotal				\$	5,112.06
Condition Consulate (50) of December 9 Dans Total (5)				.	40 000 50
Grading Complete (5% of Rwy Items & Drng Total \$)				\$	19,033.58
Doodway Total				ď	24 145 65
Roadway Total				Ф	24,145.65
Drainage	Removal Unit C	st Installation Un	it Cost Amount	To	otal Cost
Trench Excavation (CY)	rtemoval offit o		10.38 1,013.33		10,518.40
72" CMP (LF)	\$ 63.0				60,480.00
84" RCP	.		42.52 0.00		-
Class A Conc (CY)					248,545.73
Steel (lb)		\$			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
O'contract Market		1		_	
Signing and Marking			it Cost Amount		otal Cost
Permanent Striping (LF)		\$	0.71 152.00) \$	107.62
Cinning and Marking Tatal				.	107.62
Signing and Marking Total				\$	107.62
Staging		Installation Un	it Cost Amount	To	otal Cost
Clearing and Grubbing (Acre)			60.00 0.10		1,026.00
Temporary Gravel Road (SY)			15.42 222.22		3,426.67
Temporary Drainage (Stream Diversion)			28.00 2.00		8,856.00
remperary Dramage (Giream Diversion)		Ψ -,	20.00 2.00	Ψ	0,000.00
Staging Total				\$	13,523.90
Erosion Control		Installation Un	it Cost Amount	To	otal Cost
Fine Grading and Seeding (SY)		\$	4.39 236.44	1 \$	1,038.46
Temporary Grassing (AC)			55.60 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
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY)		\$ \$	6.79 640.00 1.87 213.33	\$ 3 \$	4,346.88 399.36
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY)		\$ \$ \$	6.79 640.00 1.87 213.33 3.58 213.33	\$ 3 \$ 3 \$	4,346.88
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC)		\$ \$ \$ \$ 1,4	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)		\$ \$ \$ \$ 1,4	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 - 6,179.71
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)		\$ \$ \$ \$ \$ 1,4	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)		\$ \$ \$ \$ \$ 1,4	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 - 6,179.71
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)		\$ \$ \$ \$ \$ 1,4	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 - 6,179.71 580.03
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)		\$ \$ \$ \$ \$ 1,4	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 - 6,179.71
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)		\$ \$ \$ \$ \$ 1,4	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 - 6,179.71 580.03
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total		\$ \$ \$ \$ \$ 1,4	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 6,179.71 580.03 - 16,018.37 429,355.12
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total		\$ \$ \$ \$ \$ 1,4	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 - 6,179.71 580.03 - 16,018.37
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)		\$ \$ \$ \$ \$ 1,4	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 6,179.71 580.03 - 16,018.37 429,355.12 34,348.41
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total		\$ \$ \$ \$ \$ 1,4	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 6,179.71 580.03 - 16,018.37 429,355.12
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)	Removal Unit C	\$ \$ \$ \$ \$ 1,4	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 6,179.71 580.03 - 16,018.37 429,355.12 34,348.41
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total	Removal Unit C	\$ \$ \$ \$ \$ \$	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 6,179.71 580.03 - 16,018.37 429,355.12 34,348.41 463,703.53
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation		\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 6,179.71 580.03
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric		\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 6,179.71 580.03 - 16,018.37 429,355.12 34,348.41 463,703.53
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$ 11.	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00 iit Cost Amount 555.00 75.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 6,179.71 580.03
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ 11.4 \$ 16.8	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00 it Cost Amount 55.00 75.00 82.50 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 6,179.71 580.03 16,018.37 429,355.12 34,348.41 463,703.53 otal Cost 4,950.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$ 11.0 \$ 16.0 \$ 82.0 \$ 11.0	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00 it Cost Amount 55.00 75.00 82.50 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 6,179.71 580.03 16,018.37 429,355.12 34,348.41 463,703.53 otal Cost 4,950.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ 11.1 \$ 16.5 \$ 82.5 \$ 11.1 \$ 16.5	sst Installation Un 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00 it Cost Amount 55.00 75.00 82.50 0.00 05.00 2.00 27.50 75.00 55.00 0.00	\$\\ \\$\\ \\$\\ \\$\\ \\$\\ \\$\\ \\$\\ \\$\\	4,346.88 399.36 762.88 6,179.71 580.03 16,018.37 429,355.12 34,348.41 463,703.53 btal Cost 4,950.00 1,375.00 2,887.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole	\$ 11.0 \$ 16.0 \$ 82.0 \$ 11.0	sst Installation Un 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00 it Cost Amount 55.00 75.00 82.50 0.00 05.00 2.00 27.50 75.00	\$\\ \\$\\ \\$\\ \\$\\ \\$\\ \\$\\ \\$\\ \\$\\	4,346.88 399.36 762.88 6,179.71 580.03 16,018.37 429,355.12 34,348.41 463,703.53 otal Cost 4,950.00 1,375.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ 11. \$ 16. \$ 82. \$ 11. \$ 16. \$ 82.	sst Installation Un 0 \$ 0 \$ 0 \$ 6 0 \$ 0 \$ 6	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00 iit Cost Amount 55.00 75.00 82.50 0.00 05.00 2.00 27.50 75.00 05.00 0.00 05.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 6,179.71 580.03 16,018.37 429,355.12 34,348.41 463,703.53 otal Cost 4,950.00 1,375.00 2,887.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Aerial	\$ 11.1	sst Installation Un 0 \$ 0 \$ 0 \$ 6 0 \$ 0 \$ 6 0 \$ 0 \$ 0 \$	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00 iit Cost Amount 55.00 75.00 82.50 0.00 05.00 27.50 75.00 05.00 0.00 27.50 75.00 27.50 75.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 6,179.71 580.03 16,018.37 429,355.12 34,348.41 463,703.53 btal Cost 4,950.00 1,375.00 2,887.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	\$ 11.4 \$ 16.5 \$ 82.5 \$ 11.5 \$ 82.5 \$ 11.5 \$ 16.5 \$ 82.5 \$ 11.5 \$ 16.5 \$ 82.5 \$ 11.5 \$ 16.5 \$ 82.5 \$ 11.5 \$ 16.5 \$	sst Installation Un 0 \$ 0 \$ 0 \$ 6 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00 it Cost Amount 55.00 75.00 82.50 0.00 05.00 2.00 27.50 75.00 05.00 27.50 75.00 05.00 27.50 75.00 05.00 27.50 75.00 05.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 6,179.71 580.03 16,018.37 429,355.12 34,348.41 463,703.53 otal Cost 4,950.00 1,375.00 2,887.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$ 11.1	sst Installation Un 0 \$ 0 \$ 0 \$ 6 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00 iit Cost Amount 55.00 75.00 82.50 0.00 05.00 27.50 75.00 05.00 0.00 27.50 75.00 27.50 75.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 6,179.71 580.03 16,018.37 429,355.12 34,348.41 463,703.53 otal Cost 4,950.00 1,375.00 2,887.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	\$ 11.1 \$ 16.5 \$ 82.5 \$ 11.1 \$ 16.5 \$ 82.5 \$ 11.1 \$ 16.5 \$ 82.5	sst Installation Un 0 \$ 0 \$ 0 \$ 6 0 \$ 0 \$ 6 0 \$	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00 it Cost Amount 55.00 75.00 82.50 0.00 05.00 2.00 27.50 75.00 05.00 05.00 05.00 0.00 05.00 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 6,179.71 580.03 16,018.37 429,355.12 34,348.41 463,703.53 otal Cost 4,950.00 1,375.00 2,887.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Casle Aerial Buried Wooden Pole Casle	\$ 11.4 \$ 16.5 \$ 82.5 \$ 11.5 \$ 82.5 \$ 11.5 \$ 16.5 \$ 82.5 \$ 11.5 \$ 16.5 \$ 82.5 \$ 11.5 \$ 16.5 \$ 82.5 \$ 11.5 \$ 16.5 \$	sst Installation Un 0 \$ 0 \$ 0 \$ 6 0 \$ 0 \$ 6 0 \$	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00 it Cost Amount 55.00 75.00 82.50 0.00 05.00 2.00 27.50 75.00 05.00 27.50 75.00 05.00 27.50 75.00 05.00 27.50 75.00 05.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4,346.88 399.36 762.88 6,179.71 580.03 16,018.37 429,355.12 34,348.41 463,703.53 otal Cost 4,950.00 1,375.00 2,887.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	\$ 11.1	sst Installation Un 0 \$ 0 \$ 0 \$ 6 0 \$ 0 \$ 6 0 \$ 0 \$ 6 0 \$ 0 \$ 6 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00 it Cost Amount 55.00 75.00 82.50 0.00 05.00 2.00 27.50 75.00 05.00 0.00 27.50 75.00 05.00 0.00 66.00	\$	4,346.88 399.36 762.88 6,179.71 580.03 16,018.37 429,355.12 34,348.41 463,703.53 otal Cost 4,950.00 1,375.00 2,887.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	\$ 11.1 \$ 16.5 \$ 82.5 \$ 11.1 \$ 16.5 \$ 82.5 \$ 11.1 \$ 16.5 \$ 82.5	sst Installation Un 0 \$ 0 \$ 0 \$ 6 0 \$ 0 \$ 6 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$	6.79 640.00 1.87 213.33 3.58 213.33 3.58 213.33 5.50 2.20 0.00 60.98 101.33 5.72 101.33 5.4.65 0.00 it Cost Amount 55.00 75.00 82.50 0.00 05.00 2.00 27.50 75.00 05.00 27.50 75.00 05.00 27.50 75.00 05.00 66.00 93.50 50.00	\$	4,346.88 399.36 762.88 6,179.71 580.03 16,018.37 429,355.12 34,348.41 463,703.53 otal Cost 4,950.00 1,375.00 2,887.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	\$ 11.1	sst Installation Un 0 \$ 0 \$ 0 \$ 0 \$ 6 0 \$ 0 \$ 6 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00 iit Cost Amount 55.00 75.00 82.50 0.00 05.00 2.00 27.50 75.00 05.00 05.00 66.00 93.50 50.00 93.50 50.00 93.50 50.00 93.50 50.00	\$	4,346.88 399.36 762.88 6,179.71 580.03 16,018.37 429,355.12 34,348.41 463,703.53 otal Cost 4,950.00 1,375.00 2,887.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Rooden Pole Cable Aerial Buried	\$ 11.0 \$ 16.3 \$ 12.3 \$ 11.0 \$ 16.3 \$	sst Installation Un 0 \$ 0 \$ 0 \$ 6 0 \$ 0 \$ 6 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00 it Cost Amount 55.00 75.00 82.50 0.00 05.00 2.00 27.50 75.00 05.00 0.00 05.00 0.00 06.00 93.50 50.00 09.22 0.00	\$	4,346.88 399.36 762.88 6,179.71 580.03 16,018.37 429,355.12 34,348.41 463,703.53 otal Cost 4,950.00 1,375.00 2,887.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Case A'' main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	\$ 11.1	sst Installation Un 0 \$ 0 \$ 0 \$ 6 0 \$ 0 \$ 6 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00 it Cost Amount 55.00 75.00 82.50 0.00 05.00 2.00 27.50 75.00 05.00 0.00 05.00 0.00 06.00 93.50 50.00 09.22 0.00	\$	4,346.88 399.36 762.88 6,179.71 580.03 16,018.37 429,355.12 34,348.41 463,703.53 otal Cost 4,950.00 1,375.00 2,887.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Rooden Pole Cable Aerial Buried	\$ 11.0 \$ 16.3 \$ 12.3 \$ 11.0 \$ 16.3 \$	sst Installation Un 0 \$ 0 \$ 0 \$ 6 0 \$ 0 \$ 6 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00 it Cost Amount 55.00 75.00 82.50 0.00 05.00 2.00 27.50 75.00 05.00 0.00 05.00 0.00 06.00 93.50 50.00 09.22 0.00	\$	4,346.88 399.36 762.88 6,179.71 580.03 16,018.37 429,355.12 34,348.41 463,703.53 otal Cost 4,950.00 1,375.00 2,887.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Case A'' main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	\$ 11.0 \$ 16.3 \$ 12.3 \$ 11.0 \$ 16.3 \$	sst Installation Un 0 \$ 0 \$ 0 \$ 6 0 \$ 0 \$ 6 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00 it Cost Amount 55.00 75.00 82.50 0.00 05.00 2.00 27.50 75.00 05.00 0.00 05.00 0.00 06.00 93.50 50.00 09.22 0.00	\$	4,346.88 399.36 762.88 6,179.71 580.03 16,018.37 429,355.12 34,348.41 463,703.53 otal Cost 4,950.00 1,375.00 2,887.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	\$ 11.0 \$ 16.3 \$ 12.3 \$ 11.0 \$ 16.3 \$	sst Installation Un 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0 \$ 0	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00 it Cost Amount 55.00 75.00 82.50 0.00 05.00 2.00 27.50 75.00 05.00 0.00 05.00 0.00 06.00 0.00 07.50 0.00 08.25 0.00 08.20 0.00 09.22 0.00 82.50 0.00 09.22 0.00 82.50 0.00	\$	4,346.88 399.36 762.88 6,179.71 580.03 16,018.37 429,355.12 34,348.41 463,703.53 otal Cost 4,950.00 1,375.00 2,887.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	\$ 11.0 \$ 16.3 \$ 12.3 \$ 11.0 \$ 16.3 \$	sst Installation Un sst S s s s s s s s s s s s s s	6.79 640.00 1.87 213.33 3.58 213.33 02.20 0.00 60.98 101.33 5.72 101.33 54.65 0.00 it Cost Amount 55.00 75.00 82.50 0.00 05.00 2.00 27.50 75.00 05.00 0.00 05.00 0.00 06.00 0.00 07.50 0.00 08.25 0.00 08.25 0.00 09.22 0.00 82.50 0.00 Sq Ft	\$	4,346.88 399.36 762.88 6,179.71 580.03 16,018.37 429,355.12 34,348.41 463,703.53 otal Cost 4,950.00 1,375.00 2,887.50





Photo .:



Photo 2:

5/21/2013

Taken By:

David King

Page:





Photo 3:

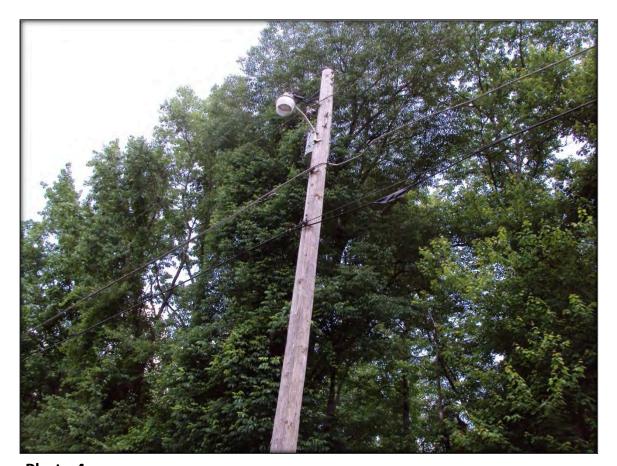


Photo 4:

5/21/2013

Taken By:

David King

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Gener	al Information		Мар	
Project ID		No. 17 (27)	ιτιαρ	
-	Dorran Drivo	- CAR	RROLLS WAY	
Street Name	Darren Drive			
Site Visit Date	5/8/13			2
Road Classification	Minor road	F. Maria		N. S.
	oject Notes			OR I
Rural Typical Section			SKO ah Creek	SPOAL DR
	eld Notes			
Design (Exi	sting Site Features)		F. W.	
Existing Road Laneage	2-10'	() ()	DARR	
Existing Shld Width (paved a				
Existing Side Slopes	2:1			
Existing Guardrail	None	Crock	22/	
Depth fm Pavement to Top of				
Pipe Type and Size	3-96" CN	AD A		
Pipe Condition (1-5) (1 is new		AP		
	v)		3	
Condition Notes:		A TOTAL TOTAL		
				1
			SENERA-DI.	
Pavement Type/Condition	Asphalt/G		- Strange -	
			e Construction Options	
	mental Features	Close Location to Traff		
Wetlands	None	Maintain One Lane - No		Х
Ditches	None	Maintain One Lane - Te		
		Stage Construction Note		
ſ 				
 				
litilities (\	/isual Inspection)			
Electric Othlities (V	Yes Yes			
Cable	Yes			
Phone	Yes			
Gas	Unknown			
Water	Yes			
Sewer	No			
Other				
	Pr	oposed Design		
	Replace in kind			
Roadway Section	,			
Proposed Design	Triple 8' x 8' box culvert			
 	Phone, cable			
Utility Relocations	FIIOTIC, Capic			
	Need to odd quardrail due t	o sideslopes and culvert installatio		
Guardrail Replacement	Need to add guardian due t) sideslopes and culvert installation	'n	
<u> </u>	- to the Angles			
Miscellaneous Features	Zone AE Floodplain Analysi	s Required		
	Plann	ning Cost Estimate		
Туре		Notes	Total	
Design	Includes 10% Construc	tion Cost and surveying needs	\$42,264	
Pight of Way Cost		ands 3.750 of havond ROW	\$15,000	

Assuming project extends 3,750 sf beyond ROW

Buried phone and cable

1/3 acre clearing and grubbing, Guardrails

Permits, Zone AE Floodway Analysis

Total Planning Estimate

\$15,000

\$10,725

\$297,641

\$18,000

\$383,630



Design Right of Way Cost

Utility Relocation Cost

Construction Cost

Environmental Permits





Photo 1:



Photo 2:

Photo Date:

6/03/2013

Taken By:

Tony Hicks

Page:

Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	\$ \$ \$ \$	16.50 82.50 16.50 16.50	\$ 55.0 \$ 605.0 \$ 66.0 \$ 93.5 \$ 2,609.2 \$ 82.5	0 75.00 0 0 0 0.00 2 0.00	\$ \$ \$ \$ \$ \$ \$ \$	5,362.50 - - - - 10,725.00 otal Cost
Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	\$ \$ \$	82.50 16.50 16.50	\$ 66.0 \$ 93.5 \$ 2,609.2	0 75.00 0 0 0 0.00 2 0.00	\$ \$ \$ \$ \$ \$	- - - -
Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	\$ \$	82.50 16.50	\$ 605.0 \$ 66.0 \$ 93.5	0 75.00 0 0 0 0.00 2	\$ \$ \$	5,362.50 - - - -
Aerial Buried Wooden Pole Gas 4" main Water	\$ \$	82.50 16.50	\$ 605.0 \$ 66.0	0 75.00 0	\$ \$	5,362.50
Aerial Buried Wooden Pole Gas	\$ \$	82.50	\$ 605.0	0 75.00 0	\$	5,362.50
Aerial Buried	\$			0 75.00	\$	5,362.50
Aerial						-
Cabla	\$	11.00	\$ 27.5	0.00	\$	
Wooden Pole	\$	82.50	\$ 605.0		\$	-
Aerial Buried	\$ \$	11.00 16.50	\$ 27.5 \$ 55.0			- 5,362.50
Phone						-
Buried Wooden Pole	\$ \$	16.50 82.50	\$ 82.5 \$ 605.0			-
Aerial	\$	11.00	\$ 55.0			-
Utility Relocation Electric	Removal Uni	t Cost	Installation Unit Cost	Amount	To	otal Cost
Construction Cost Grand Total					\$	297,641.24
Traffic Control (8% of Construction Total \$)					\$	22,047.50
Construction Cost Total					\$	275,593.74
Erosion Control Total						11,427.73
Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 5.7. \$ 54.6		\$	396.86
Rip Rap Type 3 12" (SY)			\$ 60.9	8 69.33	\$	4,228.22
Landscape Mulch (SY) Perm Grassing (AC)			\$ 1,402.2			-
Erosion Control Mats (SY)			\$ 1.8° \$ 3.5			312.00 596.00
Check Dam Type C Silt Fence (LF)			\$ 6.7	9 500.00	\$	3,396.00
Temporary Grassing (AC) Type C Silt Fence (LF)			\$ 855.6 \$ 4.2			- 2,118.00
Fine Grading and Seeding (SY)			\$ 4.3	9 86.67	\$	380.64
Erosion Control			Installation Unit Cost	Amount	T/	otal Cost
Staging Total					\$	12,241.80
Temporary Drainage (Stream Diversion)			\$ 4,428.0	0 2.00		8,856.00
Clearing and Grubbing (Acre) Temporary Pavement			\$ 10,260.0	0 0.33	\$	3,385.80
Staging			Installation Unit Cost	Amount	To	otal Cost
Signing and Marking Total					\$	-
Permanent Striping (LF)			\$ 0.7		\$	-
Signing and Marking			Installation Unit Cost	Amount		otal Cost
Drainage Total					\$	222,964.77
Trench Backfill (CY) Trench Compaction (CY)			\$ 2.9 \$ 6.3			2,327.02 3,962.48
Pipe Bedding (CY)			\$ 48.6	0 50.10	\$	2,434.86
Class A Conc (CY) Steel (lb)			\$ 892.1° \$ 1.4			164,929.87 28 237 87
96" RCP	•		\$ 455.0	0.00	\$	-
Trench Excavation (CY) 96" CMP (LF)	\$	63.00	\$ 10.3		\$ \$	7,842.67 13,230.00
Drainage	Removal Uni	t Cost	Installation Unit Cost			otal Cost
Roadway Total					\$	28,959.44
Grading Complete (5% of Rwy Items & Drng Total \$)					\$	11,996.39
Subtotal					\$	16,963.05
Guardrail (LF) End Anchorage (EA)	\$	4.88	\$ 49.0 \$ 1,380.0			5,613.50 5,520.00
4" Sidewalk (SY)	\$	13.56	\$ 36.9	0.00	\$	
Curb and Gutter (LF) Drain Inlet (EA)	\$	28.56	\$ 30.6 \$ 3,000.0			-
, ,	\$	0.73	\$ 4.8	,	\$	5,829.55
Pavement (SF)	Removal Uni	Cost	Installation Unit Cost	Amount	To	tal Cost

General In	formation		Мар	
Project ID			/ ! > ! >	
Street Name	118 Davis Road	San Rama Ca	~	V-1
Site Visit Date	5/21/13	The state of the s		Byso mar Rg
Road Classification	Minor arterial) () m
Project				() Togs
Field I Design (Existing Existing Road Laneage Existing ShId Width (paved and gen) Existing Side Slopes	g Site Features)	Harar Da	Ridgeone Ridgeone Ridgeone	XX HILLDY
Existing Guardrail	None		2	Re D
Depth fm Pavement to Top of Cu		15	()	\$
Pipe Type and Size	2-48", 1-24"		1 -	- 11/
Pipe Condition (1-5) (1 is new)	4		4	
Condition Notes: Pavement Type/Condition	Gravel/fair		14	
урогостанон	Craventan	Stage	Construction Options	
Environmen	tal Features	Close Location to Traffic		Х
Wetlands	Noted	Maintain One Lane - No	Temp Pavement	
Ditches	None	Maintain One Lane - Ter		
		Stage Construction Notes		
			•	
Utilities (Visua	al Inspection)			
Electric				
Cable				
Phone	Aerial Crossing			
Gas				
Water				
Sewer				
Other				
	Propose	ed Design		
Roadway Section	Local gravel road specifications. doubled.		t of a temporary gravel r	oad has been
Culvert Size & Material	five-barrel 10' x 4', concrete, 85' le double and triple culvert for have l		concrete and steel unit	values for a
Utility Relocations	Aerial Phone			
Guardrail Replacement				
Miscellaneous Features	Zone A, Floodplain Analysis Requ	ired		
		ost Estimate		
Туре	Notes		Total	
Design	Includes 10% of Construction C		\$78,05	
Right of Way Cost	Assuming project extends		\$120,00	
Utility Relocation Cost	Aerial utili		\$3,300	
Construction Cost	Assuming 1/5 acre clea		\$655,5	
Environmental Permits	Permits, Zone A Floo	apıaın Analysis	\$15,00	U
			.	
	Total Pl	anning Estimate	\$871,8	371



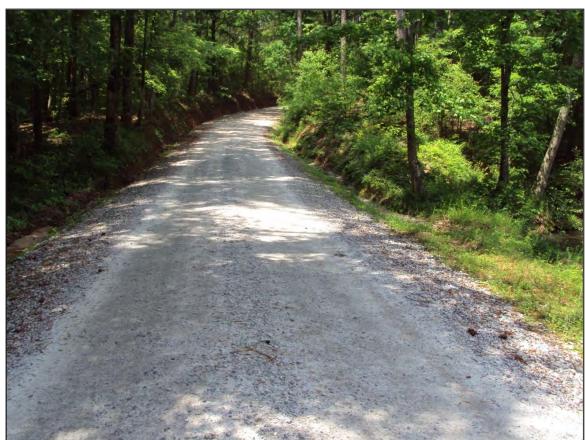




Photo 1:



Photo 2:

5/21/2013

Taken By:

David King

Page:





Photo 3:



Photo 4:

5/21/2013

Taken By:

David King

Page:

Roadway Construction Pavement (SF)					
Pavement (SF)	Removal Unit	Cost	Installation Unit Cost	Amount	Total Cost
	\$	0.73	\$ 4.87	1,248.00	\$ 6,995.46
Curb and Gutter (LF)		28.56	\$ 30.60		
Drain Inlet (EA)	Ψ	20.00			
, ,	•				
4" Sidewalk (SY)		13.56	\$ 36.90		
Guardrail (LF)	\$	4.88	\$ 49.09	0.00	\$ -
End Anchorage (EA)			\$ 1,380.00	0.00	\$ -
Subtotal			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		\$ 6,995.46
Cubicital					Ψ 0,000.40
O . I' O (FO) (FO					A 07 447 00
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
	IXemovai Omi	CUSI			
Trench Excavation (CY)	_		\$ 10.38		\$ 11,764.00
24" CMP (LF)		16.38		85.00	
48" CMP (LF)	\$	24.78		170.00	\$ 12,637.80
42" RCP			\$ 142.52	0.00	\$ -
Class A Conc (CY)			\$ 892.19		\$ 420,456.98
` '					
Steel (lb)					\$ 75,213.67
Pipe Bedding (CY)			\$ 48.60		
Trench Backfill (CY)			\$ 2.99	1,110.40	\$ 3,317.88
Trench Compaction (CY)			\$ 6.36	888.32	\$ 5,649.72
(-)			•		,.
Drainaga Total					¢ 5/1/262/20
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
Signing and Marking Total					Ψ 141.20
					T . 16
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		
Temporary Drainage (Stream Diversion)			4,420.00	2.00	ψ 0,050.00
Staging Total					\$ 11,202.53
Erosion Control			Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)			\$ 4.39		
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		
**			\$ 1.87		
Erosion Control Mats (SY)					
Landscape Mulch (SY)			\$ 3.58		
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
radio radio (Cr)			\$ 54.65		
4" Ditab Daving (CV)			34.03	0.00	D -
4" Ditch Paving (SY)					
4" Ditch Paving (SY) Erosion Control Total					\$ 19,836.54
Erosion Control Total					\$ 19,836.54
Erosion Control Total Construction Cost Total					\$ 19,836.54 \$ 606,961.98
Erosion Control Total					\$ 19,836.54
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)					\$ 19,836.54 \$ 606,961.98 \$ 48,556.96
Erosion Control Total Construction Cost Total					\$ 19,836.54 \$ 606,961.98
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)					\$ 19,836.54 \$ 606,961.98 \$ 48,556.96
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)	Removal Unit	Cost	Installation Unit Cost	Amount	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal Unit	Cost	Installation Unit Cost	Amount	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric					\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$	11.00	\$ 55.00	0.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ -
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	\$ 55.00 \$ 82.50	0.00 0.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ -
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$ \$	11.00	\$ 55.00	0.00 0.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ -
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	\$ 55.00 \$ 82.50	0.00 0.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ -
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00	0.00 0.00 0.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ -
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ \$ \$	11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50	0.00 0.00 0.00 50.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ - \$ - \$ 1,925.00
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Buried	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00	0.00 0.00 0.00 50.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ - \$ - \$ -
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole Wooden Pole Wooden Pole	\$ \$ \$ \$	11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50	0.00 0.00 0.00 50.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ - \$ - \$ -
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Buried	\$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00	0.00 0.00 0.00 50.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ - \$ - \$ -
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole Wooden Pole Wooden Pole	\$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00	0.00 0.00 0.00 50.00 0.00 2.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ - \$ 1,925.00 \$ 1,375.00
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	0.00 0.00 0.00 50.00 0.00 2.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ 1,925.00 \$ - \$ 1,375.00 \$ -
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00	0.00 0.00 0.00 50.00 0.00 2.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ - \$ 1,925.00 \$ - \$ 1,375.00
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Wooden Pole	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	0.00 0.00 0.00 50.00 0.00 2.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ - \$ 1,925.00 \$ - \$ 1,375.00
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	\$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 605.00	0.00 0.00 0.00 50.00 0.00 2.00 0.00 0.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ 1,925.00 \$ 1,375.00 \$ - \$ 1,375.00
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Wooden Pole	\$\$\$\$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00	0.00 0.00 0.00 50.00 0.00 2.00 0.00 0.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ - \$ 1,925.00 \$ - \$ 1,375.00
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	\$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 605.00	0.00 0.00 0.00 50.00 0.00 2.00 0.00 0.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ 1,925.00 \$ 1,375.00 \$ - \$ 1,375.00
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 55.00 \$ 605.00 \$ 666.00	0.00 0.00 0.00 50.00 0.00 2.00 0.00 0.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ 1,925.00 \$ - \$ 1,375.00 \$ - \$ - \$ -
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 65.00 \$ 66.00 \$ 93.50	0.00 0.00 0.00 50.00 0.00 2.00 0.00 0.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ 1,925.00 \$ - \$ 1,375.00 \$ - \$ - \$ 1,375.00
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole Cable Aerial Buried Wooden Fole Cable Aerial Buried Wooden Fole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 55.00 \$ 605.00 \$ 666.00	0.00 0.00 0.00 50.00 0.00 2.00 0.00 0.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ 1,925.00 \$ - \$ 1,375.00 \$ - \$ - \$ -
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Relocate Fire Hydrant (EA) Sewer	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 605.00 \$ 66.00 \$ 93.50 \$ 2,609.22	0.00 0.00 0.00 50.00 2.00 0.00 0.00 0.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ 1,925.00 \$ - \$ 1,375.00 \$ - \$ - \$ - \$ -
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole Cable Aerial Buried Wooden Fole Cable Aerial Buried Wooden Fole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 65.00 \$ 66.00 \$ 93.50	0.00 0.00 0.00 50.00 2.00 0.00 0.00 0.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ 1,925.00 \$ - \$ 1,375.00 \$ - \$ - \$ - \$ -
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Relocate Fire Hydrant (EA) Sewer	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 605.00 \$ 66.00 \$ 93.50 \$ 2,609.22	0.00 0.00 0.00 50.00 2.00 0.00 0.00 0.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ 1,925.00 \$ - \$ 1,375.00 \$ - \$ - \$ - \$ -
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Rerial Buried Relocate Fire Hydrant (EA) Sewer 12" main	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 605.00 \$ 66.00 \$ 93.50 \$ 2,609.22	0.00 0.00 0.00 50.00 2.00 0.00 0.00 0.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ 1,925.00 \$ - \$ 1,375.00 \$ - \$ - \$ - \$ - \$ -
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole Cable Aerial Buried Wooden Fole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 65.00 \$ 66.00 \$ 93.50 \$ 2,609.22	0.00 0.00 0.00 50.00 0.00 2.00 0.00 0.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ 1,925.00 \$ - \$ 1,375.00 \$ - \$ - \$ - \$ - \$ - \$ - \$ 1,375.00
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 66.00 \$ 23.50 \$ 2,609.22 \$ 82.50	0.00 0.00 0.00 50.00 2.00 0.00 0.00 0.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ 1,925.00 \$ 1,375.00 \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole Cable Aerial Buried Wooden Fole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft) Permanent Easement	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 66.00 \$ 23.50 \$ 2,609.22 \$ 82.50	0.00 0.00 0.00 50.00 0.00 2.00 0.00 0.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ 1,925.00 \$ - \$ 1,375.00 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 1,375.00
Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 66.00 \$ 23.50 \$ 2,609.22 \$ 82.50	0.00 0.00 0.00 50.00 2.00 0.00 0.00 0.00	\$ 19,836.54 \$ 606,961.98 \$ 48,556.96 \$ 655,518.94 Total Cost \$ - \$ - \$ 1,925.00 \$ 1,375.00 \$ - \$ - \$ - \$ - \$ - \$ - \$ -

0	farmati	
General In	formation	
Project ID		
Street Name		uville Way
Site Visit Date	-	/2016
Road Classification		or road
Project		
Cul de sac ends where multiple dra		
point). Culvert services drainage vof Deauville Way (opposite 308).	way behind hous	es on north side
or Deauville Way (opposite 308). I driveway and turn 45 degree to en		
univeway and turn 45 degree to en	ipty along side t	oncrete spill way.
Field I	Notos	
Design (Existing		
Existing Road Laneage	g One i catalos	2-13'
Existing Shid Width (paved and	grass) (feet)	N/A
Existing Side Slopes	g. 200, (100t)	N/A
Existing Guardrail		N/A
Depth fm Pavement to Top of Cu	ulvert (ft):	2'
Pipe Type and Size	(y -	18"CMP
Pipe Condition (1-5) (1 is new)		3
Upstream end of pipe almost comp	pletely blocked (see Photo 1).
Pavement Type/Condition		Asphalt/Good
Environmen	tal Features	
Wetlands		
Ditches		
State Waters		
Utilities (Visua	al Inspection)	
Electric		nown
Cable	_	uried
Phone		nown
Gas	_	nown
Water		nown
Sewer	_	nown
Other		and buried
		Propos
Pandway Soution	Typical	
Roadway Section		
		CPs along curren
Culvert Size & Material	•	ring purposes. Co
	entire length of	
Utility Relocations	Buried cable ar	nd broadband wire
Guardrail Replacement		
Miscellaneous Features		
		Planning C
Туре		Notes
Design	I Includes 10	% Construction Co

Includes 10% Construction Cost and surveying needs

Assuming entire project is outside of ROW, 1/3 acre

Buried cable, broadband

Assuming minimal environmental permitting required

Total Planning Estimate

\$17,481

\$58,080 \$7,150 \$124,805 \$10,000

\$217,516



Design Right of Way Cost

Utility Relocation Cost
Construction Cost
Environmental Permits



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



Photo 2: Downstream end looking West towards Deauville Way.



2/5/2016

Taken By:

Christian Helfrich

Page

Roadway Construction Pavement (SF) Curb and Gutter (LF) 4" Sidewalk (SY) Guardrail (LF) End Anchorage (EA)	\$ 28 \$ 13	ost 0.73 3.56 3.56 4.88	Installation Unit Cost \$ 4.87 \$ 30.60 \$ 36.90 \$ 49.09 \$ 1,380.00	Amount 0.00 0.00 9.50 0.00 0.00	\$ 479.37 \$ -
Subtotal					\$ 479.37
Grading Complete (5% of Rwy Items & Drng Total \$) Roadway Total					\$ 4,837.77 \$ 5,317.14
Nodoway Total					ψ 3,317.14
Drainage Trench Excavation (CY)	Removal Unit C		Installation Unit Cost \$ 10.38		Total Cost \$ 7,240.53
18" CMP (LF) 30" RCP (LF) Class A Conc (CY) Steel (lb) Pipe Bedding (CY) Trench Backfill (CY)	\$	5.74	\$ 105.60 \$ 892.19 \$ 1.42 \$ 48.60 \$ 2.99	9.92	\$ 64,416.00 \$ 8,850.50 \$ 25.55 \$ 5,215.50
Trench Compaction (CY)			\$ 6.36		
Drainage Total					\$ 96,275.94
Signing and Marking Permanent Striping (LF)			Installation Unit Cost \$ 0.71	Amount 0.00	Total Cost \$ -
Signing and Marking Total					\$ -
Staging Clearing and Grubbing (Acre) Temporary Pavement			Installation Unit Cost \$ 10,260.00	Amount 0.10	Total Cost \$ 1,026.00 \$ -
Temporary Drainage (Stream Diversion)			\$ 4,428.00	1.00	
Staging Total					\$ 5,454.00
Erosion Control			Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)			\$ 4.39		
Temporary Grassing (AC)			\$ 855.60		
Type C Silt Fence (LF)			\$ 4.24		
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY)			\$ 6.79 \$ 1.87	610.00 0.00	
Landscape Mulch (SY)			\$ 3.58		
Perm Grassing (AC)			\$ 1,402.20	0.00	
Rip Rap Type 3 12" (SY)			\$ 60.98		
Plastic Filter Fabric (SY)			\$ 5.72		
4" Ditch Paving (SY)			\$ 54.65	0.00	\$ -
Erosion Control Total					\$ 8,513.16
Construction Cost Total Traffic Control (8% of Construction Total \$)					\$115,560.24 \$ 9,244.82
Construction Cost Grand Total					\$124,805.06
Utility Relocation	Removal Unit C	ost	Installation Unit Cost	Amount	Total Cost
Electric	¢ 4.	1.00	¢ 55.00	0.00	¢
Aerial Buried		1.00 3.50	\$ 55.00 \$ 82.50	0.00 0.00	
Wooden Pole		2.50	\$ 605.00		
Phone					
Aerial		1.00	\$ 27.50		
Buried Wooden Pole		6.50 2.50	\$ 55.00 \$ 605.00		
Cable	Φ 02	2.50	\$ 005.00	0.00	Φ -
Aerial	\$ 1	1.00	\$ 27.50	0.00	\$ -
Buried		5.50	\$ 55.00	100.00	\$ 7,150.00
Wooden Pole	\$ 82	2.50	\$ 605.00	0.00	\$ -
Gas 4" main	\$ 16	5.50	\$ 66.00	0.00	• -
Water	Ψ	5.50	Ψ 00.00	0.00	Ψ
8" main	\$ 16	6.50	\$ 93.50	0.00	\$ -
Relocate Fire Hydrant (EA) Sewer			\$ 2,609.22	0.00	\$ -
12" main Utility Relocation Total	\$ 16	6.50	\$ 82.50	0.00	\$ - \$ 7,150.00
D. I. (W. (0. 5))			0 1/0 =		T
Right of Way (Sq Ft) Permanent Easement			Cost/ Sq Ft \$ 4.00	Sq Ft 14,520.00	Total Cost \$ 58,080.00
ROW Total			ψ 4.00	14,020.00	\$ 58,080.00
					,

General Inf	ormation		Мар	
Project ID				
Street Name	175 Deer Trail			
Site Visit Date	170 Deer Trail		EANIE RO	
Road Classification	Internal Local		BAIL	
Project			No.	
110,000	110100			
Storm pipe is metal and over a causing road to flood repeated		and undersized		
Field N	lotes			1
Design (Existing	Site Features)		1
Existing Road Laneage		2		,
Existing Shld Width (paved and g	grass) (feet)	NA - curb & gutter	MA PLE ST	
Existing Side Slopes	, , ,	NA - curb & gutter		
Existing Guardrail		None		
Depth fm Pavement to Top of Cu	Ivert (ft):	NA	• è	
Pipe Type and Size	\ '/	CMP, 24-inch Dia.		
Pipe Condition (1-5) (1 is new)		4	ALL ALL	
Condition Notes:			E 2	
Pipe and associated structur	es are in po	or condition.	- GILBERT RD-	
Pavement Type/Condition		average		
Урановичини		, and the second	Stage Construction Options	
Environment	al Features		Close Location to Traffic	
Wetlands	No		Maintain One Lane - No Temp Pavement	
Ditches	NA		Maintain One Lane - Temp Pavement	
21101100			Stage Construction Notes:	
			otage constitution reces.	
			Minimal impacts to traffic and access can be maintained to all	
Utilities (Visua	I Inchestion)		properties.	
Electric Official Visua	Yes			
Cable	Yes			
Phone	Yes			
Gas	Unknown			
Water	Yes			
Sewer	No			
Other	NO			
Other		Propose	ed Design	
Roadway Section	Typical sub	division with c		
Culvert Size & Material	Replace ex	xisting pipe wit	h 36-inch RCP, approximately 312 ft.	
	•			
Utility Relocations	As needed			
Guardrail Replacement	None			
Miscellaneous Features	Upgrade in	lets, headwalls	s and junction boxes	
		Planning C	Cost Estimate	
Type		Notes		
Design	Includes	s 10% Construction Cost and	00.044	
Right of Way Cost	molades		nds 12,000 sf beyond ROW \$20,000	
Utility Relocation Cost		Buried and aerial uti	047,000	
Construction Cost		See estimate		
Environmental Permits		None expec		
Ziiii Giiii Giiii Giii II Giii II Giii II Gii Gii				
		Tatal Di	Ionning Estimate \$22.222	
		ı otal Pl	lanning Estimate \$88,923	





Photo 1:



Photo 2:

Photo Date:

6/9/2016

Taken By:

Tony Hicks

Page:

Poodway Construction				
Roadway Construction		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	
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
Grading Complete (5% of Kwy Items & Ding Total \$)				φ 1,430.33
Roadway Total				\$11,763.90
Drainage	Removal Unit Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)		\$ 10.38	72.59	
36" CMP (LF)	\$ 16.38			\$ 2,751.84
36" RCP (LF)		\$ 134.40		\$ 7,526.40
Class A Conc (CY)		\$ 892.19		\$ 6,423.75
Steel (lb)		\$ 1.42	0.00	
Pipe Bedding (CY)		\$ 48.60	10.37	
Trench Backfill (CY)		\$ 2.99	51.82	
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	\$ -
remanent Striping (LF)		\$ 0.71	0.00	Φ -
Signing and Marking Total				\$ -
Staging		Installation Unit Cost		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	
Temporary Grassing (AC)		\$ 855.60	0.00	
Type C Silt Fence (LF)		\$ 4.24	224.00	
Check Dam Type C Silt Fence (LF)				
		a 0.79	224.00	\$ 1.521.41
		\$ 6.79 \$ 1.87	224.00 74.67	
Erosion Control Mats (SY)		\$ 1.87	74.67	\$ 139.78
Erosion Control Mats (SY) Landscape Mulch (SY)		\$ 1.87 \$ 3.58	74.67 74.67	\$ 139.78 \$ 267.01
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC)		\$ 1.87 \$ 3.58 \$ 1,402.20	74.67 74.67 0.00	\$ 139.78 \$ 267.01 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)		\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98	74.67 74.67 0.00 6.67	\$ 139.78 \$ 267.01 \$ - \$ 406.56
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC)		\$ 1.87 \$ 3.58 \$ 1,402.20	74.67 74.67 0.00	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)		\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	74.67 74.67 0.00 6.67 6.67	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total		\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	74.67 74.67 0.00 6.67 6.67	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)		\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	74.67 74.67 0.00 6.67 6.67	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total		\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	74.67 74.67 0.00 6.67 6.67	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total		\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	74.67 74.67 0.00 6.67 6.67	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total	Removal Unit Cost	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	74.67 74.67 0.00 6.67 6.67 0.00	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal Unit Cost	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	74.67 74.67 0.00 6.67 6.67 0.00	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric		\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	74.67 74.67 0.00 6.67 6.67 0.00	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$ 11.00	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	74.67 74.67 0.00 6.67 6.67 0.00	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric	\$ 11.00 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	74.67 74.67 0.00 6.67 6.67 0.00	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ 11.00 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	74.67 74.67 0.00 6.67 6.67 0.00	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$ 11.00 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	74.67 74.67 0.00 6.67 6.67 0.00	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ 11.00 \$ 16.50 \$ 82.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00	74.67 74.67 0.00 6.67 6.67 0.00	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ 4,950.00 \$ - \$ 4,950.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50	74.67 74.67 0.00 6.67 0.00 Amount	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ 4,950.00 \$ - \$ 4,950.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00	74.67 74.67 0.00 6.67 0.00 Amount	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole Wooden Pole Wooden Pole	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00	74.67 74.67 0.00 6.67 0.00 Amount	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00	74.67 74.67 0.00 6.67 0.00 Amount	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ 4,950.00 \$ - \$ 3,575.00 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50	74.67 74.67 0.00 6.67 6.67 0.00 Amount 50.00	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 82.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 65.00 \$ 605.00	74.67 74.67 0.00 6.67 6.67 0.00 Amount 50.00	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Casle Aerial Buried Wooden Pole Casle Aerial Buried Wooden Pole Gas 4" main	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00	74.67 74.67 0.00 6.67 6.67 0.00 Amount 50.00	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Casle Aerial Buried Wooden Pole Gas 4" main Water	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	74.67 74.67 0.00 6.67 6.67 0.00 Amount 50.00 50.00	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 82.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 65.00 \$ 66.00 \$ 93.50	74.67 74.67 0.00 6.67 0.00 50.00 50.00	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 5,500.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	74.67 74.67 0.00 6.67 6.67 0.00 Amount 50.00 50.00	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 5,500.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 65.00 \$ 66.00 \$ 93.50	74.67 74.67 0.00 6.67 0.00 50.00 50.00	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 5,500.00 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	74.67 74.67 0.00 6.67 6.67 0.00 Amount 50.00 50.00 50.00	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 5,500.00 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 65.00 \$ 65.00 \$ 66.00 \$ 93.50 \$ 2,609.22	74.67 74.67 0.00 6.67 0.00 50.00 50.00 50.00 0.00	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 5,500.00 \$ - \$ 5,500.00 \$ - \$ 5,500.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	74.67 74.67 0.00 6.67 6.67 0.00 Amount 50.00 50.00 0.00 0.00 Sq Ft	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ 33,397.42 \$ 338,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 17,600.00 Total Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole Case 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	\$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 11.00 \$ 16.50 \$ 82.50 \$ 16.50	\$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	74.67 74.67 0.00 6.67 0.00 50.00 50.00 50.00 0.00	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 5,500.00 \$ - \$ 5,500.00 \$ - \$ 5,500.00

General Information		
Project ID		
Street Name	130 Deerfield Lane	
Site Visit Date	5/21/13	
Road Classification	Minor road	

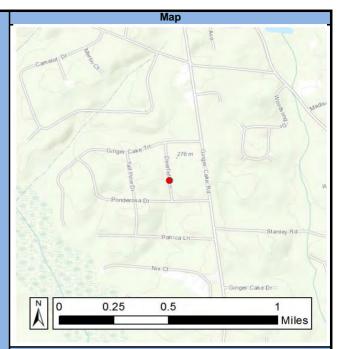
Project Notes

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	Vetlands None		
Ditches	1	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	Х	
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			
Туре	Notes	Total	
Design	Includes 10% Construction Cost and surveying needs	\$9,211	
Right of Way Cost	Assuming project extens 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:

Photo Date:

1/27/2012

Taken By:

Tony Hicks

Page:

Pavement (SF)	\$	0.73	\$ 4.8		\$ 700.67
Curb and Gutter (LF)	\$	28.56	\$ 30.6		
Drain Inlet (EA)	œ.	40.50	\$ 3,000.0		\$ 6,000.00
4" Sidewalk (SY)	\$ \$	13.56 4.88	\$ 36.9		
Guardrail (LF) End Anchorage (EA)	Ф	4.00	\$ 49.0 \$ 1,380.0		\$ - \$ -
Subtotal			ψ 1,300.0	J	\$10,328.57
- Capitalan					ψ . σ,σ2σ.σ.
Grading Complete (5% of Rwy Items & Drng Total \$)					\$ 1,435.33
Roadway Total					\$11,763.90
Drainage	Removal Unit	t Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)			\$ 10.3		\$ 753.51
36" CMP (LF)	\$	16.38		168.00	\$ 2,751.84
36" RCP (LF)			\$ 134.4	56.00	\$ 7,526.40
Class A Conc (CY)			\$ 892.1		\$ 6,423.75
Steel (lb)			\$ 1.4		
Pipe Bedding (CY)			\$ 48.6		
Trench Backfill (CY) Trench Compaction (CY)			\$ 2.9 \$ 6.3		
Trench Compaction (CT)			φ 0.3	41.40	\$ 203.00
Drainage Total					\$18,378.01
Signing and Marking			Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)			\$ 0.7	0.00	\$ -
Signing and Marking Total					¢
Signing and Marking Total					\$ -
Staging			Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)			\$ 10,260.0	0.10	\$ 1,026.00
Temporary Proinage (Street Diversion)			\$ 4,428.0	1 100	\$ - \$ 4,428.00
Temporary Drainage (Stream Diversion)			\$ 4,428.0	1.00	\$ 4,428.00
Staging Total					\$ 5,454.00
Erosion Control			Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)			\$ 4.3	9 17.22	\$ 75.64
Temporary Grassing (AC)			\$ 855.6		
Type C Silt Fence (LF)			\$ 4.2		
Check Dam Type C Silt Fence (LF)					
			\$ 6.7		
Erosion Control Mats (SY)			\$ 1.8	74.67	\$ 139.78
Erosion Control Mats (SY) Landscape Mulch (SY)			\$ 1.8 \$ 3.5	7 74.67 3 74.67	\$ 139.78 \$ 267.01
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC)			\$ 1.8 \$ 3.5 \$ 1,402.2	7 74.67 3 74.67 0 0.00	\$ 139.78 \$ 267.01 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY)			\$ 1.8 \$ 3.5 \$ 1,402.2	7 74.67 3 74.67 0 0.00 3 6.67	\$ 139.78 \$ 267.01 \$ - \$ 406.56
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9	7 74.67 3 74.67 0 0.00 3 6.67 2 6.67	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7	7 74.67 3 74.67 0 0.00 3 6.67 2 6.67	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7	7 74.67 3 74.67 0 0.00 3 6.67 2 6.67	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7	7 74.67 3 74.67 0 0.00 3 6.67 2 6.67	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7	7 74.67 3 74.67 0 0.00 3 6.67 2 6.67	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7	7 74.67 3 74.67 0 0.00 3 6.67 2 6.67	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal Unit	t Cost	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7	7 74.67 3 74.67 0 0.00 3 6.67 2 6.67	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric			\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6	7 74.67 3 74.67 0.00 3 6.67 2 6.67 5 0.00	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$	11.00	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6	7 74.67 3 74.67 0.00 3 6.67 2 6.67 5 0.00 Amount	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5	7 74.67 3 74.67 0.00 3 6.67 2 6.67 5 0.00 Amount	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$	11.00	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6	7 74.67 3 74.67 0.00 3 6.67 2 6.67 5 0.00 Amount	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$ \$ \$	11.00 16.50	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5	7 74.67 3 74.67 0.00 3 6.67 2 6.67 5 0.00 Amount	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$ \$	11.00 16.50 82.50	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0	7 74.67 3 74.67 0.00 3 6.67 5 0.00 Amount 0 50.00	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ 4,950.00 \$ - \$ 4,950.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole Wooden Pole	\$ \$ \$	11.00 16.50 82.50 11.00	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0	7 74.67 3 74.67 0.00 3 6.67 2 6.67 5 0.00 Amount 0 50.00	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ 4,950.00 \$ - \$ 4,950.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 605.0	7 74.67 3 74.67 0.00 3 6.67 2 6.67 5 0.00 Amount 0 50.00	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Wooden Pole Cable Aerial	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 605.0 \$ 27.5	7 74.67 3 74.67 0.00 3 6.67 2 6.67 5 0.00 Amount	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0	7 74.67 3 74.67 0.00 3 6.67 2 6.67 5 0.00 Amount 0 50.00	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Wooden Pole Cable Aerial	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 605.0 \$ 27.5	7 74.67 3 74.67 0.00 3 6.67 2 6.67 5 0.00 Amount 0 50.00	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0	7 74.67 3 74.67 0.00 3 6.67 2 6.67 5 0.00 Amount 5 50.00 5 50.00	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0	7 74.67 3 74.67 0.00 3 6.67 2 6.67 5 0.00 Amount 0 50.00 0 50.00	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Case Aerial		11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0	7 74.67 3 74.67 0.00 3 6.67 2 6.67 5 0.00 Amount 0 50.00 0 50.00 0 50.00	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 5,500.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0	7 74.67 3 74.67 0.00 3 6.67 2 6.67 5 0.00 Amount 0 50.00 0 50.00 0 50.00	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 5,500.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Case Aerial	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0	7 74.67 7 74.67 0.00 3 6.67 2 6.67 5 0.00 Amount 5 50.00 5 50.00 5 50.00 0 50.00 0 50.00	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 5,500.00 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Relocate Fire Hydrant (EA) Sewer		11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 5	7 74.67 7 74.67 0.00 3 6.67 2 6.67 5 0.00 Amount 5 50.00 5 50.00 5 50.00 0 50.00 0 50.00	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 5,500.00 \$ -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole		11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 27.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 609.2	7 74.67 3 74.67 0.00 3 6.67 2 6.67 5 0.00 Amount 0 50.00 0 50.00 0 50.00 0 50.00 0 0 0.00	\$ 139.78 \$ 267.01 \$ - \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 5,500.00 \$ - \$ 5,500.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole Cable Aerial Buried Wooden Fole Case 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main		11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0	7 74.67 7 74.67 0.00 3 6.67 2 6.67 5 0.00 Amount 5 50.00 5 50.00 5 50.00 0 50.00 0 50.00	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ - \$ 3,397.42 \$ 38,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 5,500.00 \$ - \$ 5,500.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)		11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0	7 74.67 7 74.67 0.00 3 6.67 2 6.67 5 0.00 Amount 5 50.00 5 50.00 5 50.00 0 50.00 0 50.00 0 50.00 No 50.00	\$ 139.78 \$ 267.01 \$ 406.56 \$ 38.16 \$ 3,397.42 \$ 338,993.32 \$ 3,119.47 \$ 42,112.79 Total Cost \$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 17,600.00

General Information				
Project ID				
Street Name	161 Deerfield Lane			
Site Visit Date	5/21/13			
Road Classification	Minor road			
	and and Market			

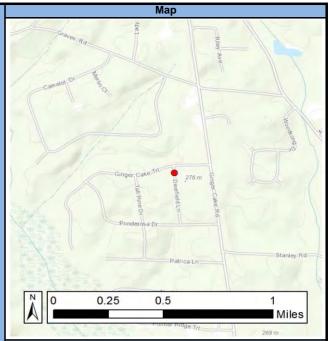
Project Notes

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 blook 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				
a record to the contract of th					

Condition Notes: Pipe and associated structures are old and in poor condition

	Average	
ital Features		
١	None	
None		
al Inspection)		
	Yes	
	Yes	
	Yes	
Unknown		
	Yes	
	No	
	al Inspection)	



Stage Construction Options	
Close Location to Traffic	
Maintain One Lane - No Temp Pavement	Х
Maintain One Lane - Temp Pavement	

Stage Construction Notes:

Minimal impacts to traffic and access can be maintained to all

	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					
Туре	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			

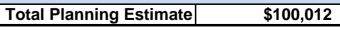








Photo 1:



Photo 2:

6/17/2013

Taken By:

Tony Hicks

Page:

Right of Way (Sq Ft) Permanent Easement ROW Total			Cost/ Sq Ft \$ 4.00	Sq Ft 5,000.00	Total Cost \$ 20,000.00 \$ 20,000.00
Utility Relocation Total			0	O- F4	\$ 17,600.00
Sewer 12" main	\$	16.50	\$ 82.50	0.00 0.00	\$ -
vvalei 8" main Relocate Fire Hydrant (EA)	\$	16.50	\$ 93.50 \$ 2,609.22	50.00	\$ 5,500.00 \$ -
4" main Water	\$	16.50	\$ 66.00		\$ -
Wooden Pole Gas	\$	82.50	\$ 605.00		\$ -
Aerial Buried	\$ \$	11.00 16.50	\$ 27.50 \$ 55.00	50.00	\$ - \$ 3,575.00
Cable					
Buried Wooden Pole	\$ \$	16.50 82.50	\$ 55.00 \$ 605.00	50.00	\$ 3,575.00 \$ -
Phone Aerial	\$	11.00	\$ 27.50		\$ -
Wooden Pole	\$	82.50	\$ 605.00	23.30	\$ -
Aerial Buried	\$ \$	11.00 16.50	\$ 55.00 \$ 82.50	50.00	\$ - \$ 4,950.00
Electric				Amount	
Utility Relocation	Removal II	nit Cost	Installation Unit Cos	t Amount	Total Cost
Construction Cost Grand Total					\$ 43,101.98
Traffic Control (8% of Construction Total \$)					\$ 3,192.74
Construction Cost Total					\$ 39,909.24
4" Ditch Paving (SY) Erosion Control Total			\$ 54.65	0.00	\$ 3,827.94
Plastic Filter Fabric (SY)			\$ 5.72	6.67	\$ 38.16
Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ 1,402.20 \$ 60.98	0.00 6.67	
Landscape Mulch (SY)			\$ 3.58	85.33	\$ 305.15
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY)			\$ 6.79 \$ 1.87	256.00 85.33	
Type C Silt Fence (LF)			\$ 4.24	256.00	\$ 1,084.42
Fine Grading and Seeding (SY) Temporary Grassing (AC)			\$ 4.39 \$ 855.60	21.67 0.00	
Erosion Control			Installation Unit Cos	t Amount	Total Cost
Staging Total					\$ 5,454.00
Temporary Drainage (Stream Diversion)			\$ 4,428.00	1.00	
Clearing and Grubbing (Acre) Temporary Pavement			\$ 10,260.00	0.10	
Staging			Installation Unit Cos	t Amount	Total Cost
Signing and Marking Total					\$ -
Permanent Striping (LF)			\$ 0.71	0.00	\$ -
Signing and Marking			Installation Unit Cos	t Amount	Total Cost
Drainage Total			. 0.30	10.07	\$ 20,101.78
Trench Backfill (CY) Trench Compaction (CY)			\$ 2.99 \$ 6.36	61.21 48.97	
Steel (lb) Pipe Bedding (CY)			\$ 1.42 \$ 48.60	0.00 11.85	
Class A Conc (CY)			\$ 892.19	7.20	\$ 6,423.75
36" CMP (LF) 36" RCP (LF)	\$	16.38	\$ 134.40	192.00 64.00	,
Trench Excavation (CY)			\$ 10.38	82.96	\$ 861.16
Drainage	Removal II	nit Cost	Installation Unit Cos	t Amount	Total Cost
Roadway Total					\$ 10,525.51
Grading Complete (5% of Rwy Items & Drng Total \$)					\$ 1,458.44
End Anchorage (EA) Subtotal			\$ 1,380.00		\$ - \$ 9,067.07
4" Sidewalk (SY) Guardrail (LF)	\$ \$	4.88	\$ 36.90 \$ 49.09		\$ - \$ -
Drain Inlet (EA)	\$	13.56	\$ 3,000.00	2.00	
Curb and Gutter (LF)	\$ \$	0.73 28.56	\$ 4.87 \$ 30.60	40.00	\$ 700.67 \$ 2,366.40
Roadway Construction Pavement (SF)	Removal U \$		Installation Unit Cos \$ 4.87	t Amount 125.00	Total Cost

General In	formation			Мар	
Project ID	Ormation		1 1 8 1	map .	
Ctroot Nome	225 De	what Delate	100		Marion
Street Name		rby Drive		Catalog	
Site Visit Date		0/2016			9/=
Road Classification		or road	85	enth-Lake-D	1
Project		andrida OMD	6A.8	, see a	
Streambank erosion intense at this drainage pipe is emptying directly a		badside CIVIP	Perry Creek		c
drainage pipe is emptying directly a	ibove cuiveit.		Royal Ridge Majes N	Tandy-Troe	Idell
			Majo	Roya ⁶ Ruta	ge:Way
					e way
				ECT HIDSWOOD DE HID	Rd
Field N	Intes			Ta.	
Design (Existing					con:Dr=
Existing Road Laneage	ono i oataroo,	2-13'	Green:Field	289 m	
Existing ShId Width (paved and	grass) (feet)	10'	and Committed Co	Pond I'ce	
Existing Side Slopes	g, (,	3:1	269 m	92	
Existing Guardrail		None			
Depth fm Pavement to Top of Cu	Ilvert (ft):	6.25'	-Seay-Rd		
Pipe Type and Size	. ,	54" CMP			
Pipe Condition (1-5) (1 is new)		3	1010	Melody-Ln	1
Condition Notes: Concrete headwa	alls. Streamban	k blowout	N 0 0.25	0.5 1	2
upstream and major blowout down	stream			Miles	s
				// \Harp	1
Pavement Type/Condition		Asphalt/Good	Dif.		4.Rd
				Construction Options	
Environment	al Features		Close Location to Traffi		
Wetlands			Maintain One Lane - No		
Ditches	Roadside dr	ainage ditches	Maintain One Lane - Ter		
State Waters			Stage Construction Notes		
			Clearing and grubbing,	erosion control essential	
P					
Buri		urio d			
Electric		uried uried			
Cable		known			
Phone Gas		known			
Water		nown			
Sewer		nown			
Other		nd - Buried			
	2.00000		ed Design		
	Typical				
Roadway Section	. , , ,				
	54" round RCP	with straight head	wall. Assuming cost of remo	ving existing headwalls is equal to	
Culvert Size & Material	removal of entir		, and the second se		
Litility Delegations	Removal/replace	ement of buried el	ectric, cable, and broadband	lines	
Utility Relocations					
Guardrail Replacement					
Caararan Nepiacement					
Miscellaneous Features					
		Planning C	ost Estimate		
Type		Notes		Total	
Design	Includes 109		Cost and surveying needs	\$13,319	
Right of Way Cost			past ROW, 1/20 acre	\$8,712	-
Utility Relocation Cost	, .55411111	5 F. 2,300 0.001100	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	\$14,520	-
Construction Cost				\$83,189	
Environmental Permits	Assuming	minimal environme	ntal permitting required	\$10,000	一
			· • •	· ,	
		Total Pi	anning Estimate	\$129,740	
		ו טומו רו	anning Lannate	ψ123,140	







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



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

1/20/2016

Taken By:

David Gibbs

Page

Roadway Construction	Removal U		Installation L		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)	œ.	40.50	\$	3,000.00	0.00	\$ -
4" Sidewalk (SY)	\$ \$	13.56	\$ \$	36.90		\$ - \$ -
Guardrail (LF)	Ф	4.88		49.09	0.00	Ψ
End Anchorage (EA) Subtotal			\$	1,380.00	0.00	\$ - \$ 947.30
Subtotal						\$ 947.30
Grading Complete (5% of Rwy Items & Drng Total \$)						\$ 2,720.07
Roadway Total						\$ 3,667.37
S	D		Leafalla Caral	1.11.01	A 1	T-1-1-01
Drainage	Removal U	nit Cost	Installation L		Amount	Total Cost
Trench Excavation (CY)	œ	24.60	\$	10.38	217.81	. ,
54" CMP (LF)	\$	24.60	œ.	204.06		\$11,365.20
54" RCP (LF)			\$ \$	281.96		\$21,711.23
Class A Conc (CY)			\$ \$	892.19 1.42		\$15,684.67 \$ -
Steel (lb)			\$ \$	48.60	18.54	
Pipe Bedding (CY)			\$ \$	2.99	189.59	
Trench Compaction (CV)			\$ \$	6.36	151.67	
Trench Compaction (CY)			Φ	0.30	151.67	\$ 964.64
Drainage Total						\$53,454.00
Signing and Marking			Installation L	Jnit Cost	Amount	Total Cost
Permanent Striping (LF)			\$	0.71		\$ -
Signing and Marking Total						\$ -
Staging			Installation L	Init Cost	Amount	Total Cost
Clearing and Grubbing (Acre)				10,260.00	0.25	\$ 2,565.00
Temporary Pavement			Ψ	10,200.00	0.20	\$ -
Temporary Drainage (Stream Diversion)			\$	4,428.00	2.00	\$ 8,856.00
Staging Total						\$11,421.00
Erosion Control			Installation L	Init 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		\$ -
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		
Free're Octob Tatal						A 0 404 40
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 U	nit Cost	Installation U	Jnit Cost	Amount	Total Cost
Electric						
Aerial	\$	11.00	\$	55.00	0.00	
Buried	\$	16.50	\$	82.50		\$ 5,940.00
Wooden Pole	\$	82.50	\$	605.00	0.00	\$ -
Phone						
Aerial	\$	11.00	\$	27.50	0.00	
Buried	\$	16.50	\$	55.00		\$ 4,290.00
Wooden Pole	\$	82.50	\$	605.00	0.00	\$ -
Cable	•	44.00	•	07.50	0.00	c
Aerial	\$	11.00	\$	27.50	0.00	*
Buried Wooden Pole	\$	16.50	\$	55.00		\$ 4,290.00
Wooden Pole Gas	\$	82.50	\$	605.00	0.00	φ -
4" main	\$	16.50	\$	66.00	0.00	\$ -
Water	Ψ	10.50	Ψ	30.00	0.00	Ψ <u>-</u>
8" main	\$	16.50	\$	93.50	0.00	\$ -
Sewer	Ŧ	. 3.00	*	23.00	3.50	•
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 In	formation	Мар	
Project ID			
Street Name	Downing Court	NSS POKING	CedarTd
Site Visit Date	5/21/13	Odk Rd	
Road Classification	Minor road	Morni	rg Creek
Fayette C		Pire Tool Rd	- Car
Rural typical section	70 110100	Number of State of St	-11
rtarar typicar section			14.
		g Garde O	1
		Ghanta C	(4.
		Davids of Application	Och Mile
Field N	Notes	A Sperimary of the state of the	5
Design (Existing	g Site Features)	A share of the sha	A CALLONGO
Existing Road Laneage	2 - 12'	Compare Red Compar	2年一
Existing Shld Width (paved and g	grass) (feet) 4' (Grass)	Hilada k Di	who
Existing Side Slopes	6:1	z Jefferson Ave	
Existing Guardrail	None		cDanaugh Rd
Depth fm Pavement to Top of Cu			181
Pipe Type and Size	36" CMP, 45'	GA Ave at Same Shape	
Pipe Condition (1-5) (1 is new)	3	Standard Company	4
Condition Notes:		5	RO.
		- Soore in The February	- 0
Pavement Type/Condition	A amb alk/C and		
Pavement Type/Condition	Asphalt/Good	Stage Construction Options	
Environment	tal Features	Close Location to Traffic	
Wetlands	None		Х
Ditches	X	Maintain One Lane - Temp Pavement	^
Ditolies	^	Stage Construction Notes:	
		ctage construction reces.	
Utilities (Visua	al Inspection)		
Electric	Aerial		
Cable	Aerial		
Phone	Aerial		
Gas			
Water	Buried		
Sewer			
Other			
	Propose	d Design	
Roadway Section			
Culvert Size & Material	4' x 3' box, concrete, 45' length		
- Curvert Olze & Material			
Utility Relocations	Water main		
Guardrail Replacement			
·	Volocity discipators and entropy	shannal need to be included to accommodate hard time from	drainaga
Miscellaneous Features		channel need to be included to accommodate hard turn from a Yard grading for resident on downstream, low side of culver	
wiscellaneous realules		Has been accounted for in applicable construction activities.	
	Thingate garage, arriveway needing.	That been accounted for in applicable contentation activities.	
	Planning C	act Estimate	
Туре	Notes	ost Estimate Total	
Design	Includes 10% Construction Co		
Right of Way Cost	Assuming project extends 3		
Utility Relocation Cost	Buried util		
Construction Cost	Assuming 1/10 acre clea		
Environmental Permits	Assuming minimal environme	ntal permitting required \$10,000	
	, in the second		
	Total P	anning Estimate \$84,127	
	I Otal P	anning Lamiate \$04,121	







Photo 1:

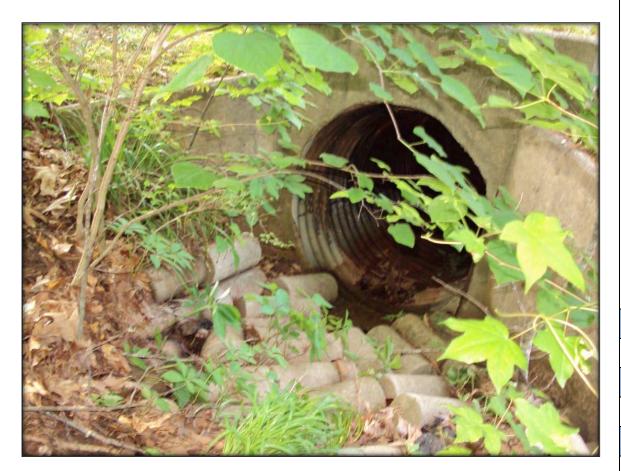


Photo 2:

5/21/2013

Taken By:

David King

Page:





Photo 3:



Photo 4:

5/21/2013

Taken By:

David King

Page:

Roadway Construction	Removal Unit	Cost	Installation U	nit Cost	Amount	Tota	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
Grading Complete (570 of Nwy Items & Ding Total 4)						Ψ 1,	313.33
Roadway Total						\$ 2,	321.12
Drainage	Removal Unit	Cost	Installation U	nit Cost	Amount	Tota	l 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			791.69
Steel (lb)			\$		2,045.50		
Pipe Bedding (CY) Trench Backfill (CY)			\$ \$	48.60 2.99	10.40 86.10		505.44 257.27
Trench Compaction (CY)			\$	6.36	68.88		438.08
			•				
Drainage Total						\$ 29,	471.80
Signing and Marking			Installation U	nit Cost	Amount	Tota	l Cost
Permanent Striping (LF)			\$	0.71	24.00	\$	16.99
Circles and Maddin Tatal						æ	40.00
Signing and Marking Total						\$	16.99
Staging			Installation U		Amount		l Cost
Clearing and Grubbing (Acre)			\$ 1	10,260.00	0.10		026.00
Temporary Pavement Temporary Drainage (Stream Diversion)			\$	4 400 00	1.00	\$	- 428.00
remporary Dramage (Stream Diversion)			Φ	4,428.00	1.00	φ 4,	420.00
Staging Total						\$ 5,	487.98
Erosion Control			Installation U	nit Cost	Amount	Tota	l 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	\$	112.32 214.56
Landscape Mulch (SY) Perm Grassing (AC)			\$ \$	3.58 1,402.20	60.00 0.00	\$	214.56 -
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ \$ \$	3.58 1,402.20 60.98	60.00 0.00 32.00	\$ \$ \$ 1,	214.56 - 951.49
Landscape Mulch (SY) Perm Grassing (AC)			\$ \$	3.58 1,402.20	60.00 0.00	\$ \$ \$ 1,	214.56 -
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ \$ \$	3.58 1,402.20 60.98 5.72	60.00 0.00 32.00 32.00	\$ \$ \$ 1, \$	214.56 - 951.49 183.17 -
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ \$ \$	3.58 1,402.20 60.98 5.72	60.00 0.00 32.00 32.00	\$ \$ \$ 1, \$	214.56 - 951.49
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ \$ \$	3.58 1,402.20 60.98 5.72	60.00 0.00 32.00 32.00	\$ \$ \$ 1, \$ \$	214.56 - 951.49 183.17 -
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ \$ \$	3.58 1,402.20 60.98 5.72	60.00 0.00 32.00 32.00	\$ \$ 1, \$ \$ \$ 4,	214.56 - 951.49 183.17 - 538.81
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)			\$ \$ \$	3.58 1,402.20 60.98 5.72	60.00 0.00 32.00 32.00	\$ \$ 1, \$ \$ 4, \$ 41, \$ 3,	214.56 - 951.49 183.17 - 538.81 836.70 346.94
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total			\$ \$ \$ \$ \$	3.58 1,402.20 60.98 5.72 54.65	60.00 0.00 32.00 32.00	\$ \$ 1, \$ \$ 4, \$ 41, \$ 3,	214.56 - 951.49 183.17 - 538.81 836.70 346.94 183.64
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal Unit	Cost	\$ \$ \$	3.58 1,402.20 60.98 5.72 54.65	60.00 0.00 32.00 32.00	\$ \$ 1, \$ \$ 4, \$ 41, \$ 3,	214.56 - 951.49 183.17 - 538.81 836.70 346.94
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric			\$ \$ \$ \$ \$ \$	3.58 1,402.20 60.98 5.72 54.65	60.00 0.00 32.00 32.00 0.00	\$ \$ 1, \$ \$ 4, \$ 41, \$ 3, \$ 45,	214.56 - 951.49 183.17 - 538.81 836.70 346.94 183.64
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$	11.00	\$ \$ \$ \$ \$	3.58 1,402.20 60.98 5.72 54.65	60.00 0.00 32.00 32.00 0.00	\$ \$ 1, \$ \$ 4, \$ 41, \$ 3, \$ 45, Tota	214.56 - 951.49 183.17 - 538.81 836.70 346.94 183.64
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric	\$		\$ \$ \$ \$ \$ \$	3.58 1,402.20 60.98 5.72 54.65	60.00 0.00 32.00 32.00 0.00	\$ \$ 1, \$ \$ 4, \$ 41, \$ 3, \$ 45,	214.56 - 951.49 183.17 - 538.81 836.70 346.94 183.64
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$	11.00 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	3.58 1,402.20 60.98 5.72 54.65	60.00 0.00 32.00 32.00 0.00	\$ \$ 1, \$ \$ 4, \$ 41, \$ 3, \$ 45, Tota	214.56 - 951.49 183.17 - 538.81 836.70 346.94 183.64
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$ \$ \$	11.00 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation U \$ \$ \$ \$ \$ \$	3.58 1,402.20 60.98 5.72 54.65	60.00 0.00 32.00 32.00 0.00	\$ \$ 1, \$ \$ 41, \$ 3, \$ 45, Tota	214.56 -951.49 183.17 -538.81 836.70 346.94 183.64
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Buried	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	S S S S S S S S S S S S S S S S S S S	3.58 1,402.20 60.98 5.72 54.65 init Cost 55.00 82.50 605.00 27.50 55.00	60.00 0.00 32.00 32.00 0.00	\$ \$ 1, \$ \$ 1, \$ \$ \$ 41, \$ 3, \$ 445, Tota \$ \$ \$ \$ \$ \$ \$	214.56 -951.49 183.17 -538.81 836.70 346.94 183.64
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole Wooden Pole	\$ \$ \$ \$	11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation U \$ \$ \$ \$ \$ \$	3.58 1,402.20 60.98 5.72 54.65 init Cost 55.00 82.50 605.00 27.50	60.00 0.00 32.00 32.00 0.00	\$ \$ 1, \$ \$ 41, \$ 3, \$ 45, Tota	214.56 -951.49 183.17 -538.81 836.70 346.94 183.64
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4* Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	3.58 1,402.20 60.98 5.72 54.65 nnit Cost 55.00 82.50 605.00 27.50 605.00	60.00 0.00 32.00 32.00 0.00	\$ \$ 1, \$ \$ 1, \$ \$ \$ \$ 4, \$ 41, \$ 3, \$ 45, Tota \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	214.56 -951.49 183.17 -538.81 836.70 346.94 183.64
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Wooden Pole Cable Aerial	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00	S S S S S S S S S S S S S S S S S S S	3.58 1,402.20 60.98 5.72 54.65 init Cost 55.00 82.50 605.00 27.50 605.00 27.50	60.00 0.00 32.00 32.00 0.00	\$ \$ 1, \$ \$ 41, \$ 3, \$ 45, Tota \$ \$ \$ \$ \$	214.56 -951.49 183.17 -538.81 836.70 346.94 183.64
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	3.58 1,402.20 60.98 5.72 54.65 nnit Cost 55.00 82.50 605.00 27.50 605.00	60.00 0.00 32.00 32.00 0.00	\$ \$ 1, \$ \$ 1, \$ \$ \$ \$ 4, \$ 41, \$ 3, \$ 45, Tota \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	214.56 -951.49 183.17 -538.81 836.70 346.94 183.64
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	3.58 1,402.20 60.98 5.72 54.65 nnit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00 605.00	60.00 0.00 32.00 32.00 0.00	\$ \$ 1, \$ \$ 41, \$ 3, \$ 45, Tota \$ \$ \$ \$ \$	214.56 -951.49 183.17 -538.81 836.70 346.94 183.64
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	Installation U S S S S S S S S S S S S S S S S S S	3.58 1,402.20 60.98 5.72 54.65 init Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00	60.00 0.00 32.00 32.00 0.00	\$ \$ 1, \$ \$ 41, \$ 3, \$ 45, Tota \$ \$ \$ \$ \$	214.56 -951.49 183.17 -538.81 836.70 346.94 183.64
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	\$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation U S S S S S S S S S S S S S S S S S S	3.58 1,402.20 60.98 5.72 54.65 mit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 66.00	60.00 0.00 32.00 32.00 0.00	\$ \$ 1, \$ \$ 41, \$ 3, \$ 45, Tota \$ \$ \$ \$ \$ \$	214.56 951.49 183.17 - 538.81 836.70 346.94 183.64 I Cost
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	\$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Installation U S S S S S S S S S S S S S S S S S S	3.58 1,402.20 60.98 5.72 54.65 mit Cost 55.00 82.50 605.00 27.50 605.00 605.00 66.00 93.50	60.00 0.00 32.00 32.00 0.00	\$ \$ 1, \$ \$ 41, \$ 3, \$ 45, Tota \$ \$ \$ \$ \$ \$ \$ \$ \$	214.56 -951.49 183.17 -538.81 836.70 346.94 183.64
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	\$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation U S S S S S S S S S S S S S S S S S S	3.58 1,402.20 60.98 5.72 54.65 mit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 66.00	60.00 0.00 32.00 32.00 0.00	\$ \$ 1, \$ \$ 41, \$ 3, \$ 45, Tota \$ \$ \$ \$ \$ \$	214.56 951.49 183.17 - 538.81 836.70 346.94 183.64 I Cost
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole Cable Aerial Buried Wooden Fole Cable Aerial Buried Wooden Fole Sas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation U S S S S S S S S S S S S S S S S S S	3.58 1,402.20 60.98 5.72 54.65 mit Cost 55.00 82.50 605.00 27.50 605.00 605.00 66.00 93.50	60.00 0.00 32.00 32.00 0.00	\$ \$ 1, \$ 41, \$ 3, \$ 45, Tota \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	214.56 951.49 183.17 - 538.81 836.70 346.94 183.64 I Cost - - - - - - - - - - - - -
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Rooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation U \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	3.58 1,402.20 60.98 5.72 54.65 nit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00 605.00 605.00 26.00 93.50 2,609.22	60.00 0.00 32.00 32.00 0.00	\$ \$ 1, \$ 41, \$ 3, \$ 45, Tota \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	214.56 951.49 183.17 - 538.81 836.70 346.94 183.64 I Cost
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation U \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	3.58 1,402.20 60.98 5.72 54.65 nit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00 605.00 605.00 26.00 93.50 2,609.22	60.00 0.00 32.00 32.00 0.00	\$ \$ 1, \$ 41, \$ 3, \$ 45, Tota \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	214.56 951.49 183.17 - 538.81 836.70 346.94 183.64 I Cost - - - - - - - - - - - - -
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole Cable Aerial Buried Wooden Fole Cable Aerial Buried Wooden Fole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation U S S S S S S S S S S S S S	3.58 1,402.20 60.98 5.72 54.65 niit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00 605.00 28.50 605.00 82.50 605.00 82.50 82.50	60.00 0.00 32.00 32.00 0.00 0.00	\$ \$ 1, \$ 41, \$ 3, \$ 45, Tota \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	214.56 951.49 183.17 538.81 836.70 346.94 183.64 I Cost - - - - - - - - - - - - -

General In	formation	Мар
Project ID		
Street Name	Flat Creek Trail	18 No. 18
Site Visit Date	5/22/13	Canada Canada San Andreas San
Road Classification	Minor arterial	
Project	Notes	
Rural typical section		
		Flood Ave
Field I		AdamsCo
Design (Existing		
Existing Road Laneage	2-12'	
Existing Shld Width (paved and o		
Existing Side Slopes	1:1	Gard -
Existing Guardrail	None	5
Depth fm Pavement to Top of Cu		Attime Ct
	(No headwall) 2- 60"x84" (ellip.)	
Pipe Condition (1-5) (1 is new)	3	Non-
Condition Notes: 2 parallel streams	5	Frone Roy Boue 54
		1
		11 -
Pavement Type/Condition	Asphalt/Good	
		Stage Construction Options
Environmen		Close Location to Traffic X
Wetlands	Yes	Maintain One Lane - No Temp Pavement
Ditches	None	Maintain One Lane - Temp Pavement
		Stage Construction Notes:
Utilities (Visua		
Electric	Aerial Crossing	
Cable	Aeriel Crossing	
Phone	Aerial Crossing	
Gas	B : 1	
Water	Buried	
Sewer		
Other	Duanas	ad Decima
	Propose	ed Design
Roadway Section		
-	triple 10' v 4' hov, concrete 70' los	eath. Cost of removing eviating clintical CMDs considered equivalent
Culvert Size & Material	to cost of removing 72" round CM	ngth. Cost of removing existing eliptical CMPs considered equivalent
	Water	
Utility Relocations	vvalgi	
	Need to provide quardrail due to s	ide slopes and culvert installations
Guardrail Replacement	Titoda to provido guardian due to s	as sispes and surveit installations
	Zone A, Floodplain Analysis requi	red.
Miscellaneous Features	, , , , , , , , , , , , , , , , , , , ,	
	Planning C	ost Estimate
Туре	Notes	
Design	Includes 10% Construction C	
Right of Way Cost	Assuming project extends 1	
Utility Relocation Cost	Water m	
Construction Cost	Assuming 1/5 acre clea	
Environmental Permits	Permits, Zone A Floo	dplain Analysis \$15,000
	Total P	anning Estimate \$535,551
<u> </u>		J , , , , , , , , , , , , , , , , , , ,







Photo 1:



Photo 2:

5/21/2013

Taken By:

David King

Page:

ROW Total				,	\$ 42,000.00
Right of Way (Sq Ft) Permanent Easement			Cost/ Sq Ft \$ 4.00	Sq Ft 10,500.00	Total Cost \$ 42,000.00
			2 // 2 5		·
12" main Utility Relocation Total	\$	16.50	\$ 82.50	0.00	\$ - \$ 11,000.00
Relocate Fire Hydrant (EA) Sewer			\$ 2,609.22	0.00	\$ -
Water 8" main	\$	16.50	\$ 93.50	100.00	\$ 11,000.00
4" main	\$	16.50	\$ 66.00		\$ -
Wooden Pole Gas	\$	82.50	\$ 605.00		\$ -
Buried	\$	16.50	\$ 55.00		\$ -
Cable Aerial	\$	11.00	\$ 27.50		\$ -
Wooden Pole	\$	16.50 82.50	\$ 55.00 \$ 605.00		\$ - \$ -
Aerial Buried	\$ \$	11.00 16.50	\$ 27.50 \$ 55.00		\$ - \$ -
Phone					
Buried Wooden Pole	\$ \$	16.50 82.50	\$ 82.50 \$ 605.00		\$ - \$ -
Aerial	\$	11.00	\$ 55.00		\$ -
Utility Relocation Electric	Removal Uni	t Cost	Installation Unit Cost	Amount	Total Cost
CONSTRUCTION COST QUARTE LOTS					ψ413,062.72
Construction Cost Grand Total					\$413,682.72
Traffic Control (8% of Construction Total \$)					\$ 30,643.16
Construction Cost Total					\$ 383,039.55
Erosion Control Total					\$ 13,603.39
Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 5.72 \$ 54.65	85.33 0.00	
Rip Rap Type 3 12" (SY)			\$ 60.98	85.33	\$ 5,203.97
Landscape Mulch (SY) Perm Grassing (AC)			\$ 3.58 \$ 1,402.20	186.67 0.00	
Erosion Control Mats (SY)			\$ 1.87	186.67	
Check Dam Type C Silt Fence (LF)			\$ 6.79	560.00	\$ 3,803.52
Temporary Grassing (AC) Type C Silt Fence (LF)			\$ 855.60 \$ 4.24	0.00 560.00	
Fine Grading and Seeding (SY)			\$ 4.39	163.56	\$ 718.34
Erosion Control			Installation Unit Cost	Amount	Total Cost
Staging Total					\$ 11,089.25
Temporary Drainage (Stream Diversion)			\$ 4,428.00	2.00	· ,
Clearing and Grubbing (Acre) Temporary Pavement			\$ 10,260.00		\$ -
Staging Clearing and Grubbing (Acre)			Installation Unit Cost	Amount 0.20	Total Cost
Signing and Marking Total					\$ 90.62
			ψ 0.71	120.00	
Signing and Marking Permanent Striping (LF)			Installation Unit Cost \$ 0.71	Amount 128.00	Total Cost \$ 90.62
Drainage Total					\$ 297,441.07
Trench Compaction (CY)			\$ 6.36	1,143.37	
Trench Backfill (CY)			\$ 2.99	1,429.22	\$ 4,270.50
Steel (lb) Pipe Bedding (CY)			\$ 1.42 \$ 48.60	26,567.00 85.30	\$ 37,618.87 \$ 4,145.58
Class A Conc (CY)			\$ 892.19	232.53	\$ 207,460.48
72" CMP (LF) 72" RCP	Ф	54.00	\$ 142.52	0.00	
Trench Excavation (CY)	\$	54.00	\$ 10.38	1,348.15	\$ 13,993.78 \$ 22,680.00
Drainage	Removal Uni	t Cost	Installation Unit Cost	Amount	Total Cost
Roadway Total					\$ 60,815.22
Grading Complete (5% of Rwy Items & Drng Total \$)					\$ 17,059.82
Subtotal					\$ 43,755.39
Guardrail (LF) End Anchorage (EA)	\$	4.88	\$ 49.09 \$ 1,380.00	2.00	\$ 32,385.60 \$ 2,760.00
4" Sidewalk (SY)	\$ \$	13.56	\$ 36.90	0.00	
Drain Inlet (EA)	Ψ	20.50	\$ 3,000.00	0.00	
Pavement (SF) Curb and Gutter (LF)	\$ \$	0.73 28.56	\$ 4.87 \$ 30.60	1,536.00 0.00	\$ 8,609.79 \$ -
Roadway Construction	Removal Uni		Installation Unit Cost	Amount	Total Cost

General Info	rmation		Мар
Project ID			BURCH LAKE RD
Street Name	250 Grant Road	RISING STAR RD	
Site Visit Date	5/22/13	CO ORGANIALE PO-	
Road Classification	Minor arterial	NA PARE	
Project N	otes	B	/
Rural typical section			
			HRELIAND WALCHE RD
Field No		9	MALONE
Design (Existing S	Site Features)		
Existing Road Laneage	2-12'		
Existing ShId Width (paved and	grass) (feet) 2'		GRANT RO
Existing Side Slopes	0.13		
Existing Guardrail	none		
Depth fm Pavement to Top of Cu			
Pipe Type and Size	60" CMP	9	
Pipe Condition (1-5) (1 is new)	4-5	TITLES	
Condition Notes:		*	Δ.
		FRIENDSHIP CHURCH R	SOVEREIGN TR
Pavement Type/Condition	Asphalt/Good		
			Construction Options
Environmental	Features	Close Location to Traff	
Wetlands	None	Maintain One Lane - No	
Ditches	None	Maintain One Lane - Te	
Stream	Yes	Stage Construction Note	s: Close roadway
		One lane closure	
Utilities (Visual	Inspection)		
Electric	Yes		
Cable	Yes		
Phone	Yes		
Gas	Unknown		
Water	Yes		
Sewer	None		
Other			
	Propo	sed Design	
Roadway Section	Typical		
Culvert Size & Material	Replace with 48' of 60" RCP,		
Utility Relocations	As needed		
Guardrail Replacement	None		
Miscellaneous Features			
	Di	Coat Estimate	
Torres		Cost Estimate	Total
Type	Note Includes 10% Construction		Total \$10,116
Design	Assuming project does n		\$10,116
Right of Way Cost Utility Relocation Cost	Assuming project does n Buried wa		\$0 \$5,500
Construction Cost	Applying 1/10 acre clea		\$5,500 \$51,162
Environmental Permits	Assuming mininmal environ		\$10,000
Environmental Fermits	7.030Hillig Hillillinal CIVIIOH	montal permitting required	ψ10,000
	Tatal D	lanning Fatimata	676 770
	i otal P	lanning Estimate	\$76,779







Photo 1:



Photo 2:

6/22/2016

Taken By:

Tony Hicks

Page:

Check Dam Type Č Silt Fence (LF) \$ 6.79 192.00 Erosion Control Mats (SY) \$ 3.58 64.00 Landscape Mulch (SY) \$ 3.58 64.00 Perm Grassing (AC) \$ 1.402.20 0.00 Rip Rap Type 3 12" (SY) \$ 60.98 18.67 Plastic Filter Fabric (SY) \$ 5.72 18.67 Plastic Filter Fabric (SY) \$ 54.65 0.00 Erosion Control Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Removal Unit Cost Installation Unit Cost Amount Electric Aerial \$ 11.00 \$ 55.00 Buried \$ 16.50 \$ 82.50 Buried \$ 16.50 \$ 605.00 Phone Aerial \$ 11.00 \$ 27.50 \$ 50.00 Buried \$ 16.50 \$ 55.00 Wooden Pole \$ 16.50 \$ 605.00 Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Co	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Check Dam Type C Silt Fence (LF) \$ 6.79 192.00 Erosion Control Mats (SY) \$ 3.58 64.00 Landscape Mulch (SY) \$ 1.402.20 0.00 Perm Grassing (AC) \$ 1.402.20 0.00 Rip Rap Type 3 12" (SY) \$ 5.72 18.67 Plastic Filter Fabric (SY) \$ 5.72 18.67 4" Ditch Paving (SY) \$ 54.65 0.00 Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Removal Unit Cost Installation Unit Cost Amount Electric Aerial \$ 11.00 \$ 55.00 S 55.00 Wooden Pole \$ 82.50 605.00 S 65.00 Phone \$ 11.00 \$ 27.50 S 605.00 Policy S \$ 82.50 \$ 605.00 S 65.00 Wooden Pole \$ 82.50 \$ 605.00 S 65.00 Wooden Pole \$ 82.50 \$ 605.00 S 65.00 B	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Check Dam Type C Silt Fence (LF)	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Check Dam Type C Silt Fence (LF)	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Check Dam Type C Silt Fence (LF)	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Check Dam Type C Silt Fence (LF)	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Sheck Dam Type C Silt Fence (LF)	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Check Dam Type C Silt Fence (LF)	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos \$ - \$ - \$ - \$ -
Check Dam Type C Silt Fence (LF)	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos \$ - \$ - \$ - \$ -
Check Dam Type C Silt Fence (LF)	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos \$ - \$ -
Sheck Dam Type C Silt Fence (LF)	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos \$ - \$
Check Dam Type C Silt Fence (LF)	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos \$ - \$
Second Control Mats (SY) \$ 1.87 64.00	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos
Sheck Dam Type C Silt Fence (LF)	\$ 3,793. \$47,372. \$ 3,789. \$51,162.
Check Dam Type C Silt Fence (LF)	\$ 3,793. \$ 47,372. \$ 3,789.
Check Dam Type C Silt Fence (LF) \$ 6.79 192.00 Crosion Control Mats (SY) \$ 1.87 64.00 Landscape Mulch (SY) \$ 3.58 64.00 Learn Grassing (AC) \$ 1,402.20 0.00 Lip Rap Type 3 12" (SY) \$ 60.98 18.67 Plastic Filter Fabric (SY) \$ 5.72 18.67 " Ditch Paving (SY) \$ 54.65 0.00 Construction Cost Total	\$ 3,793. \$ 47,372.
Check Dam Type C Silt Fence (LF) \$ 6.79 192.00 Crosion Control Mats (SY) \$ 1.87 64.00 Landscape Mulch (SY) \$ 3.58 64.00 Perm Grassing (AC) \$ 1,402.20 0.00 Rip Rap Type 3 12" (SY) \$ 60.98 18.67 Plastic Filter Fabric (SY) \$ 5.72 18.67 L' Ditch Paving (SY) \$ 54.65 0.00	\$ 3,793.
Check Dam Type C Silt Fence (LF) \$ 6.79 192.00 Crosion Control Mats (SY) \$ 1.87 64.00 Landscape Mulch (SY) \$ 3.58 64.00 Perm Grassing (AC) \$ 1,402.20 0.00 Rip Rap Type 3 12" (SY) \$ 60.98 18.67 Plastic Filter Fabric (SY) \$ 5.72 18.67 L' Ditch Paving (SY) \$ 54.65 0.00	\$ 3,793.
Check Dam Type C Silt Fence (LF) \$ 6.79 192.00 Erosion Control Mats (SY) \$ 1.87 64.00 Landscape Mulch (SY) \$ 3.58 64.00 Perm Grassing (AC) \$ 1,402.20 0.00 Rip Rap Type 3 12" (SY) \$ 60.98 18.67 Plastic Filter Fabric (SY) \$ 5.72 18.67	<u> </u>
Check Dam Type C Silt Fence (LF) \$ 6.79 192.00 Erosion Control Mats (SY) \$ 1.87 64.00 Jandscape Mulch (SY) \$ 3.58 64.00 Jerm Grassing (AC) \$ 1,402.20 0.00 Rip Rap Type 3 12" (SY) \$ 60.98 18.67 Plastic Filter Fabric (SY) \$ 5.72 18.67	\$ -
Check Dam Type C Silt Fence (LF) \$ 6.79 192.00 Erosion Control Mats (SY) \$ 1.87 64.00 Landscape Mulch (SY) \$ 3.58 64.00 Perm Grassing (AC) \$ 1,402.20 0.00	\$ 1,136.
Check Dam Type C Silt Fence (LF) \$ 6.79 192.00 Erosion Control Mats (SY) \$ 1.87 64.00 Landscape Mulch (SY) \$ 3.58 64.00	\$ - \$ 1,138.
Check Dam Type C Silt Fence (LF) \$ 6.79 192.00 Erosion Control Mats (SY) \$ 1.87 64.00	
	\$ 813. \$ 1,304.
Femporary Grassing (AC) \$ 855.60 0.00	
	Total Cos \$ 81.
Topics Coatrol	Total O
Staging Total	\$ 5,454.
Temporary Drainage (Stream Diversion) \$ 4,428.00 1.00	
Clearing and Grubbing (Acre) \$ 10,260.00 0.10 remporary Pavement	\$ 1,026. \$ -
Staging Installation Unit Cost Amount	Total Cos
Signing and Marking Total	\$ -
Permanent Striping (LF) \$ 0.71 0.00	\$ -
Signing and Marking Installation Unit Cost Amount	Total Cos
Prainage Total	\$35,368.
French Compaction (CY) \$ 6.36 65.41	
Pipe Bedding (CY) \$ 48.60 12.44 French Backfill (CY) \$ 2.99 81.76	
Steel (lb) \$ 1.42 0.00	\$ -
	\$ 12,441. \$ 19,253.
	\$ 1,180.
	\$ 1,227.
Prainage Removal Unit Cost Installation Unit Cost Amount	Total Cos
toadway Total	\$ 2,757.
Grading Complete (5% of Rwy Items & Drng Total \$)	\$ 1,815.
ind Anchorage (EA) \$ 1,380.00 subtotal	\$ 941.
Guardrail (LF) \$ 4.88 \$ 49.09 and Anchorage (EA) \$ 1,380.00	\$ - \$ -
" Sidewalk (SY) \$ 13.56 \$ 36.90	\$ -
Curb and Gutter (LF) \$ 28.56 \$ 30.60 0.00 Orain Inlet (EA) \$ 3,000.00	\$ - \$ -
	\$ 941.
toadway Construction Removal Unit Cost Installation Unit Cost Amount	Total Cos

General Info	rmation			Мар	
Project ID	mation			шир	
Street Name	426 Gran	t Road	-		
Site Visit Date	5/22/	13		(49-6) HOTION	1
Road Classification	Minor a	rterial	- Arrive		
Project N			GRANT RO		
Urban typical section with valley gu					LOWERT RO
Field No.					-
Design (Existing S	oite Features)	0.40		1	1
Existing Road Laneage Existing ShId Width (paved and	araca) (fact)	2-12' 2'		1	12
Existing Side Slopes	grass) (reet)				CHERN
Existing Guardrail		0.13			
Depth fm Pavement to Top of Cu	ilvort (ft):	none Assumed 3'		1	1
Pipe Type and Size	iiveri (ii):	60" CMP			1
Pipe Condition (1-5) (1 is new)		4-5		1	1
Condition Notes:		4-0	1	f	O. Ton
			£		Cres
Pavement Type/Condition		Asphalt/Good			
				Construction Options	
Environmenta			Close Location to Traff		X
Wetlands	Nor	ie	Maintain One Lane - No		
Ditches	Nor		Maintain One Lane - Te		
Stream	Yes	S	Stage Construction Note:	s: Close roadway	
			One lane closure		
Utilities (Visual	Inspection)				
Electric	Yes				
Cable	Yes	-			
Phone	Yes				
Gas	Unkno				
Water	Yes				
Sewer	Nor	ie			
Other					
	I	Propo	osed Design		
Roadway Section	Typical				
Culvert Size & Material	Replace with 48	6 of 60" RCP,			
Utility Relocations	As needed				
Guardrail Replacement	None				
Miscellaneous Features					
		Planning	Cost Estimate		
Туре		Not		Total	
Design			Cost and surveying needs	\$10,116	
Right of Way Cost	Assuming		ot extend beyond ROW	\$0	
Utility Relocation Cost		Buried wa		\$5,500	
Construction Cost			ring and grubbing cost	\$51,162	
Environmental Permits	Assuming mir	inmal environ	mental permitting required	\$10,000	
		Total P	lanning Estimate	\$76,77	9







Photo 1:



Photo 2:

6/03/2016

Taken By:

Tony Hicks

Page:

Check Dam Type Č Silt Fence (LF) \$ 6.79 192.00 Erosion Control Mats (SY) \$ 3.58 64.00 Landscape Mulch (SY) \$ 3.58 64.00 Perm Grassing (AC) \$ 1.402.20 0.00 Rip Rap Type 3 12" (SY) \$ 60.98 18.67 Plastic Filter Fabric (SY) \$ 5.72 18.67 Plastic Filter Fabric (SY) \$ 54.65 0.00 Erosion Control Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Removal Unit Cost Installation Unit Cost Amount Electric Aerial \$ 11.00 \$ 55.00 Buried \$ 16.50 \$ 82.50 Buried \$ 16.50 \$ 605.00 Phone Aerial \$ 11.00 \$ 27.50 \$ 50.00 Buried \$ 16.50 \$ 55.00 Wooden Pole \$ 16.50 \$ 605.00 Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Co	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Check Dam Type C Silt Fence (LF) \$ 6.79 192.00 Erosion Control Mats (SY) \$ 3.58 64.00 Landscape Mulch (SY) \$ 1.402.20 0.00 Perm Grassing (AC) \$ 1.402.20 0.00 Rip Rap Type 3 12" (SY) \$ 5.72 18.67 Plastic Filter Fabric (SY) \$ 5.72 18.67 4" Ditch Paving (SY) \$ 54.65 0.00 Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Removal Unit Cost Installation Unit Cost Amount Electric Aerial \$ 11.00 \$ 55.00 S 55.00 Wooden Pole \$ 82.50 605.00 S 65.00 Phone \$ 11.00 \$ 27.50 S 605.00 Policy S \$ 82.50 \$ 605.00 S 65.00 Wooden Pole \$ 82.50 \$ 605.00 S 65.00 Wooden Pole \$ 82.50 \$ 605.00 S 65.00 B	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Check Dam Type C Silt Fence (LF)	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Check Dam Type C Silt Fence (LF)	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
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Check Dam Type C Silt Fence (LF)	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos \$ - \$ -
Sheck Dam Type C Silt Fence (LF)	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos \$ - \$
Check Dam Type C Silt Fence (LF)	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos \$ - \$
Second Control Mats (SY) \$ 1.87 64.00	\$ 3,793. \$ 47,372. \$ 3,789. \$ 51,162. Total Cos
Sheck Dam Type C Silt Fence (LF)	\$ 3,793. \$47,372. \$ 3,789. \$51,162.
Check Dam Type C Silt Fence (LF)	\$ 3,793. \$ 47,372. \$ 3,789.
Check Dam Type C Silt Fence (LF) \$ 6.79 192.00 Crosion Control Mats (SY) \$ 1.87 64.00 Landscape Mulch (SY) \$ 3.58 64.00 Learn Grassing (AC) \$ 1,402.20 0.00 Lip Rap Type 3 12" (SY) \$ 60.98 18.67 Plastic Filter Fabric (SY) \$ 5.72 18.67 " Ditch Paving (SY) \$ 54.65 0.00 Construction Cost Total	\$ 3,793. \$ 47,372.
Check Dam Type C Silt Fence (LF) \$ 6.79 192.00 Crosion Control Mats (SY) \$ 1.87 64.00 Landscape Mulch (SY) \$ 3.58 64.00 Perm Grassing (AC) \$ 1,402.20 0.00 Rip Rap Type 3 12" (SY) \$ 60.98 18.67 Plastic Filter Fabric (SY) \$ 5.72 18.67 L' Ditch Paving (SY) \$ 54.65 0.00	\$ 3,793.
Check Dam Type C Silt Fence (LF) \$ 6.79 192.00 Crosion Control Mats (SY) \$ 1.87 64.00 Landscape Mulch (SY) \$ 3.58 64.00 Perm Grassing (AC) \$ 1,402.20 0.00 Rip Rap Type 3 12" (SY) \$ 60.98 18.67 Plastic Filter Fabric (SY) \$ 5.72 18.67 L' Ditch Paving (SY) \$ 54.65 0.00	\$ 3,793.
Check Dam Type C Silt Fence (LF) \$ 6.79 192.00 Erosion Control Mats (SY) \$ 1.87 64.00 Landscape Mulch (SY) \$ 3.58 64.00 Perm Grassing (AC) \$ 1,402.20 0.00 Rip Rap Type 3 12" (SY) \$ 60.98 18.67 Plastic Filter Fabric (SY) \$ 5.72 18.67	<u> </u>
Check Dam Type C Silt Fence (LF) \$ 6.79 192.00 Érosion Control Mats (SY) \$ 1.87 64.00 Jandscape Mulch (SY) \$ 3.58 64.00 Jerm Grassing (AC) \$ 1,402.20 0.00 Pic Rap Type 3 12" (SY) \$ 60.98 18.67 Plastic Filter Fabric (SY) \$ 5.72 18.67	\$ -
Check Dam Type C Silt Fence (LF) \$ 6.79 192.00 Erosion Control Mats (SY) \$ 1.87 64.00 Landscape Mulch (SY) \$ 3.58 64.00 Perm Grassing (AC) \$ 1,402.20 0.00	\$ 1,136.
Check Dam Type C Silt Fence (LF) \$ 6.79 192.00 Erosion Control Mats (SY) \$ 1.87 64.00 Landscape Mulch (SY) \$ 3.58 64.00	\$ - \$ 1,138.
Check Dam Type C Silt Fence (LF) \$ 6.79 192.00 Erosion Control Mats (SY) \$ 1.87 64.00	
	\$ 813. \$ 1,304.
Femporary Grassing (AC) \$ 855.60 0.00	
	Total Cos \$ 81.
Topics Coatrol	Total O
Staging Total	\$ 5,454.
Temporary Drainage (Stream Diversion) \$ 4,428.00 1.00	
Clearing and Grubbing (Acre) \$ 10,260.00 0.10 remporary Pavement	\$ 1,026. \$ -
Staging Installation Unit Cost Amount	Total Cos
Signing and Marking Total	\$ -
Permanent Striping (LF) \$ 0.71 0.00	\$ -
Signing and Marking Installation Unit Cost Amount	Total Cos
Prainage Total	\$35,368.
French Compaction (CY) \$ 6.36 65.41	
Pipe Bedding (CY) \$ 48.60 12.44 French Backfill (CY) \$ 2.99 81.76	
Steel (lb) \$ 1.42 0.00	\$ -
	\$ 12,441. \$ 19,253.
	\$ 1,180.
	\$ 1,227.
Prainage Removal Unit Cost Installation Unit Cost Amount	Total Cos
toadway Total	\$ 2,757.
Grading Complete (5% of Rwy Items & Drng Total \$)	\$ 1,815.
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Guardrail (LF) \$ 4.88 \$ 49.09 and Anchorage (EA) \$ 1,380.00	\$ - \$ -
" Sidewalk (SY) \$ 13.56 \$ 36.90	\$ -
Curb and Gutter (LF) \$ 28.56 \$ 30.60 0.00 Orain Inlet (EA) \$ 3,000.00	\$ - \$ -
	\$ 941.
toadway Construction Removal Unit Cost Installation Unit Cost Amount	Total Cos

Street Name 226 Graves Road Site Visit Date 12/12/016 Road Classification Project Notes Project Notes Project Notes	General Int	ormation			Мар	
Site Visit Date Road Classification Field Notes Field Notes Project Notes Existing Road Laneage Existing Site Features) Existing Road Laneage Existing Site Site Site Site Site Site Site Site	Project ID				# //	
Site Visit Date Road Classification Field Notes Field Notes Project Notes Existing Road Laneage Existing Site Features) Existing Road Laneage Existing Site Site Site Site Site Site Site Site		226 Gra	ves Road	10		-
Road Classification Minor arterial Project Notes Project	Site Visit Date			and the second		4
Field Notes Design (Existing Site Features) Existing Road Laneage Existing Shid Width (paved and grass) (feet) 6' Existing Site Site Site Site Site Site Site Site				No.		1
Field Notes Design (Existing Site Features) Existing Road Laneage 1-9, 2-12' Existing Side Slopes 2-13' Existing Side Slopes 4-14' Existing Sude Slopes 4-14' Existing Guardrail None Depth Im Pavement to Top of Culvert (ft): 4-5' Pipe Type and Size 30' CMPP Pipe Condition (1-9) (it is new) 4-5' Construction Design 4-5' Construction Options Close Location to Traffic Maintain One Lane: No Temp Pavement X Maintain One Lane: No Temp Pavement No Temp			artorial		4.92	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Design (Existing Site Features) Existing Road Laneage Existing Shid Width (paved and grass) (feet) Existing Shid Width (paved and grass) (feet) Existing Shid Slopes Existing Guardrali Depth Im Pavement to Top of Culvert (ft): 4.5 Pipe Type and Size Pipe Condition (1-5) (f is new) Condition Notes: Deformed/slightly closed. No headwall on upstream side, concrete headwall downstream. Pavement Type/Condition Environmental Features Wetlands Wetlands Buried Electric Aerial Cable Unknown Phone Aerial Gas Unknown Other Proposed Design Roadway Section Typical arterial 2 x 30' round RCPs with straight headwall. Cost of removing existing headwall assumed equal to the removal of entire length of pipe. Witling Relocations Guardrail Replacement Miscellaneous Features Planning Cost Estimate Type Notes Type Notes Total Planning Estimate \$70,000 Siage Construction Options Clivert Size & Material Planning Cost Estimate Type Notes Total Planning Estimate Sign Construction Options Total Planning Estimate \$71,856	110,000	110100		A.	TO THE	Brogdon Ra
Design (Existing Site Features) Existing Road Laneage Existing Shid Width (paved and grass) (feet) Existing Shid Width (paved and grass) (feet) Existing Shid Slopes Existing Guardrali Depth Im Pavement to Top of Culvert (ft): 4.5 Pipe Type and Size Pipe Condition (1-5) (f is new) Condition Notes: Deformed/slightly closed. No headwall on upstream side, concrete headwall downstream. Pavement Type/Condition Environmental Features Wetlands Wetlands Buried Electric Aerial Cable Unknown Phone Aerial Gas Unknown Other Proposed Design Roadway Section Typical arterial 2 x 30' round RCPs with straight headwall. Cost of removing existing headwall assumed equal to the removal of entire length of pipe. Witling Relocations Guardrail Replacement Miscellaneous Features Planning Cost Estimate Type Notes Type Notes Total Planning Estimate \$70,000 Siage Construction Options Clivert Size & Material Planning Cost Estimate Type Notes Total Planning Estimate Sign Construction Options Total Planning Estimate \$71,856				48	He	
Design (Existing Site Features) Existing Road Laneage Existing Shid Width (paved and grass) (feet) Existing Shid Width (paved and grass) (feet) Existing Shid Slopes Existing Guardrali Depth Im Pavement to Top of Culvert (ft): 4.5 Pipe Type and Size Pipe Condition (1-5) (f is new) Condition Notes: Deformed/slightly closed. No headwall on upstream side, concrete headwall downstream. Pavement Type/Condition Environmental Features Wetlands Wetlands Buried Electric Aerial Cable Unknown Phone Aerial Gas Unknown Other Proposed Design Roadway Section Typical arterial 2 x 30' round RCPs with straight headwall. Cost of removing existing headwall assumed equal to the removal of entire length of pipe. Witling Relocations Guardrail Replacement Miscellaneous Features Planning Cost Estimate Type Notes Type Notes Total Planning Estimate \$70,000 Siage Construction Options Clivert Size & Material Planning Cost Estimate Type Notes Total Planning Estimate Sign Construction Options Total Planning Estimate \$71,856				Grave	Leg-	
Design (Existing Site Features) Existing Road Laneage Existing Shid Width (paved and grass) (feet) Existing Shid Width (paved and grass) (feet) Existing Shid Slopes Existing Guardrali Depth Im Pavement to Top of Culvert (ft): 4.5 Pipe Type and Size Pipe Condition (1-5) (f is new) Condition Notes: Deformed/slightly closed. No headwall on upstream side, concrete headwall downstream. Pavement Type/Condition Environmental Features Wetlands Wetlands Buried Electric Aerial Cable Unknown Phone Aerial Gas Unknown Other Proposed Design Roadway Section Typical arterial 2 x 30' round RCPs with straight headwall. Cost of removing existing headwall assumed equal to the removal of entire length of pipe. Witling Relocations Guardrail Replacement Miscellaneous Features Planning Cost Estimate Type Notes Type Notes Total Planning Estimate \$70,000 Siage Construction Options Clivert Size & Material Planning Cost Estimate Type Notes Total Planning Estimate Sign Construction Options Total Planning Estimate \$71,856				Rd Rd	Riley	
Design (Existing Site Features) Existing Road Laneage Existing Shid Width (paved and grass) (feet) Existing Shid Width (paved and grass) (feet) Existing Shid Slopes Existing Guardrali Depth Im Pavement to Top of Culvert (ft): 4.5 Pipe Type and Size Pipe Condition (1-5) (f is new) Condition Notes: Deformed/slightly closed. No headwall on upstream side, concrete headwall downstream. Pavement Type/Condition Environmental Features Wetlands Wetlands Buried Electric Aerial Cable Unknown Phone Aerial Gas Unknown Other Proposed Design Roadway Section Typical arterial 2 x 30' round RCPs with straight headwall. Cost of removing existing headwall assumed equal to the removal of entire length of pipe. Witling Relocations Guardrail Replacement Miscellaneous Features Planning Cost Estimate Type Notes Type Notes Total Planning Estimate \$70,000 Siage Construction Options Clivert Size & Material Planning Cost Estimate Type Notes Total Planning Estimate Sign Construction Options Total Planning Estimate \$71,856					Ave	
Design (Existing Site Features) Existing Road Laneage Existing Shid Width (paved and grass) (feet) Existing Shid Width (paved and grass) (feet) Existing Shid Slopes Existing Guardrali Depth Im Pavement to Top of Culvert (ft): 4.5 Pipe Type and Size Pipe Condition (1-5) (f is new) Condition Notes: Deformed/slightly closed. No headwall on upstream side, concrete headwall downstream. Pavement Type/Condition Environmental Features Wetlands Wetlands Buried Electric Aerial Cable Unknown Phone Aerial Gas Unknown Other Proposed Design Roadway Section Typical arterial 2 x 30' round RCPs with straight headwall. Cost of removing existing headwall assumed equal to the removal of entire length of pipe. Witling Relocations Guardrail Replacement Miscellaneous Features Planning Cost Estimate Type Notes Type Notes Total Planning Estimate \$70,000 Siage Construction Options Clivert Size & Material Planning Cost Estimate Type Notes Total Planning Estimate Sign Construction Options Total Planning Estimate \$71,856				1		
Design (Existing Site Features) Existing Road Laneage Existing Shid Width (paved and grass) (feet) Existing Shid Width (paved and grass) (feet) Existing Shid Slopes Existing Guardrali Depth Im Pavement to Top of Culvert (ft): 4.5 Pipe Type and Size Pipe Condition (1-5) (f is new) Condition Notes: Deformed/slightly closed. No headwall on upstream side, concrete headwall downstream. Pavement Type/Condition Environmental Features Wetlands Wetlands Buried Electric Aerial Cable Unknown Phone Aerial Gas Unknown Other Proposed Design Roadway Section Typical arterial 2 x 30' round RCPs with straight headwall. Cost of removing existing headwall assumed equal to the removal of entire length of pipe. Witling Relocations Guardrail Replacement Miscellaneous Features Planning Cost Estimate Type Notes Type Notes Total Planning Estimate \$70,000 Siage Construction Options Clivert Size & Material Planning Cost Estimate Type Notes Total Planning Estimate Sign Construction Options Total Planning Estimate \$71,856	Field N	Intes		Cametot Dr a		
Existing Road Laneage Existing Side Width (paved and grass) (feet) 6 Existing Side Slopes Existing Side Slopes Existing Side Slopes Existing Guardrall None Depth Im Pavement to Top of Culvert (ft): 4.5 Pipe Type and Size Pipe Condition (1-5) (1 is new) 4.5 Condition Notes: Detormed'slightly closed. No headwall on upstream side, concrete headwall downstream. Pavement Type/Condition Environmental Features Wetlands Ditches State Waters State Waters State Waters Electric Aerial Cable Unknown Phone Aerial Gas Unknown Water 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. Willity Relocations Guardrail Replacement Miscellaneous Features Planning Cost Estimate Type Notes Notes None identified Si 10,000 Total Planning Estimate \$71,856						
Existing Shid Width (paved and grass) (feet) 6 Existing Slotes Existing Guardrail		One reatures,	1-0' 2-12'			
Existing Side Slopes 4.1 Existing Guardrail None Depth fim Pavement to Top of Culvert (ft): 4.5 Pipe Type and Size Pipe Condition (1-5) (1 is new) 4.5 Condition Notes: Detormed's lightly closed. No headwall or upstream side, concrete headwall downstream. Pavement Type/Condition Asphalt/Good Environmental Features Wetlands Ditches State Waters Buried Electric Aerial Cable Unknown Phone Aerial Gas Unknown Other Proposed Design Roadway Section Culvert Size & Material Culvert Size & Material Utility Relocations Guardrail Replacement Miscellaneous Features Planning Cost Estimate Type Notes Design Includes 10% of Construction Cost and surveying needs \$10,169 Right of Way Cost Popel Includes 10% of Construction Cost and surveying needs \$51,000 Environmental Permits Assuming entire project within ROW \$0 Construction Cost Final Planning Estimate \$71,856	Existing Shid Width (naved and a	arass) (feet)				Woo
Existing Guardrall None Depth Im Pavement to Top of Culvert (it): 4.5 Pipe Type and Size Pipe Type and Size Pipe Condition (1-5) (i is new) 4.5 Condition Notes: Deformed/slightly closed. No headwall on upstream side, concrete headwall downstream. Pavement Type/Condition Environmental Features Wetlands Ditches State Waters State Waters Buried Electric Aerial Cable Unknown Phone Aerial Gas Unknown Water Unknown Other Proposed Design Roadway Section Culvert Size & Material Culvert Size & Material Utility Relocations Guardrall Replacement Miscellaneous Features Planning Cost Estimate Type Notes Design Includes 10% of Construction Cost and surveying needs Right of Way Cost Utility Relocation Cost Construction Cost Assuming minimal environmental permitting required \$510,000 Total Planning Estimate \$71,856	Existing Side Slones	grass, (rect)				Round /
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	Existing Guardrail					10,
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	Denth fm Pavement to Top of Cu	lvert (ft):			To	
Pipe Condition (1-5) (f is new) Condition Notes: Deformed/slightly closed. No headwall on upstream side, concrete headwall downstream. Pavement Type/Condition Environmental Features Wetlands Ditches State Waters Buried Electric Aerial Cable Unknown Phone Aerial Cable Unknown Other Proposed Design Roadway Section 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 Planning Cost Estimate Type Notes Right of Way Cost Assuming entire project within ROW \$0 to 10 to 1	Pipe Type and Size			Ging	276 m G	
Condition Notes: Deformed/slightly closed. No headwall on upstream side, concrete headwall downstream. Pavement Type/Condition Environmental Features Wetlands Ditches State Waters Buried Electric Aerial Cable Unknown Phone Aerial Gas Unknown Water Unknown Other Proposed Design Typical arterial Culvert Size & Material Utility Relocations Guardrail Replacement Miscellaneous Features Miscellaneous Features Planning Cost Estimate Type Notes Type Notes Planning Cost Estimate Type Notes Right of Way Cost Assuming entire project within ROW Sitels Right of Way Cost Assuming entire project within ROW Sitels Environmental Permits Assuming minimal environmental permitting required \$10,002 \$10,05					er-Ca	
pavement Type/Condition Asphalt/Good Stage Construction Options	Condition Notes: Deformed/slightly	closed. No he	adwall on	N o oc	5 G B	4
Pavement Type/Condition Asphalt/Good	upstream side, concrete headwall of	downstream	2011011 011	0.25	0.0	
Stage Construction Options						Miles
Stage Construction Options	Pavement Type/Condition		Asphalt/Good			
Close Location to Traffic Maintain One Lane - No Temp Pavement X	r avenient Type, containen		Asprial/ Cood	Stage	Construction Ontions	
Wetlands Ditches State Waters Buried Electric Aerial Gas Unknown Phone Aerial Gas Unknown Sewer Unknown Other Proposed Design Typical arterial Culvert Size & Material Utility Relocations Guardrail Replacement Miscellaneous Features Planning Cost Estimate Type Notes Type Notes Type Notes Type Notes Right of Way Cost Right of Way Cost Utility Relocation Cost Construction Cost Assuming minimal environmental permitting required \$51,687 Environmental Permits Amintain One Lane - No Temp Pavement X Maintain One Lane - Temp Pavement Stage Construction Notes: Stage Construction Notes: Papement Assuming one Lane - Temp Pavement Stage Construction Notes: Stage Construction Notes Stage Cons	Environment	al Foatures				
Ditches State Waters Buried Electric Aerial Gable Unknown Aerial Gas Unknown Swer Unknown Other Proposed Design Roadway Section Culvert Size & Material Utility Relocations Guardrail Replacement Miscellaneous Features Planning Cost Estimate Type Notes Design Right of Way Cost Assuming entire project within ROW Right of Way Cost Utility Relocation Cost Construction Notes: Minatian One Lane - Temp Pavement Stage Construction Notes: Stage		ai i catares			_	Y
State Waters Burled Burled Berlic Aerial Cable Unknown Phone Aerial Gas Unknown Water Unknown Other Typical arterial Culvert Size & Material Utility Relocations Guardrall Replacement Miscellaneous Features Type Notes Type Notes Planning Cost Estimate Type Notes Total Right of Way Cost Assuming entire project within ROW Utility Relocation Cost Right of Way Cost Right of Way Cost Construction Cost Assuming minimal environmental permitting required \$71,856	Ditches					
Buried Electric Aerial Cable Unknown Phone Aerial Gas Unknown Water Unknown Other Typical arterial Culvert Size & Material Utility Relocations Guardrail Replacement Miscellaneous Features Type Notes Design Includes 10% of Construction Cost Assuming entire project within ROW Right of Way Cost Right of Way Cost Assuming minimal environmental permitting required Frotal Planning Estimate \$1,000	State Waters					
Electric Aerial Cable Unknown Phone Aerial Gas Unknown Water Unknown Other Typical arterial 2 x 30" round RCPs with straight headwall. Cost of removing existing headwall assumed equal to the removal of entire length of pipe. Willity Relocations Guardrail Replacement Miscellaneous Features Type Notes Total Design Includes 10% of Construction Cost and surveying needs \$10,169 Right of Way Cost Assuming entire project within ROW \$0 Willity Relocation Cost Construction Cost Construction Cost Construction Cost Construction Cost Construction Cost Construction Cost Environmental Permits Assuming minimal environmental permitting required \$10,000	State Waters			Stage Construction Notes) .	
Electric Aerial Cable Unknown Phone Aerial Gas Unknown Water Unknown Other Typical arterial 2 x 30" round RCPs with straight headwall. Cost of removing existing headwall assumed equal to the removal of entire length of pipe. Willity Relocations Guardrail Replacement Miscellaneous Features Type Notes Total Design Includes 10% of Construction Cost and surveying needs \$10,169 Right of Way Cost Assuming entire project within ROW \$0 Willity Relocation Cost Construction Cost Construction Cost Construction Cost Construction Cost Construction Cost Construction Cost Environmental Permits Assuming minimal environmental permitting required \$10,000						
Electric Aerial Cable Unknown Phone Aerial Gas Unknown Water Unknown Other Typical arterial 2 x 30" round RCPs with straight headwall. Cost of removing existing headwall assumed equal to the removal of entire length of pipe. Willity Relocations Guardrail Replacement Miscellaneous Features Type Notes Total Design Includes 10% of Construction Cost and surveying needs \$10,169 Right of Way Cost Assuming entire project within ROW \$0 Willity Relocation Cost Construction Cost Construction Cost Construction Cost Construction Cost Construction Cost Construction Cost Environmental Permits Assuming minimal environmental permitting required \$10,000	Ruri	ad				
Cable Unknown Phone Aerial Gas Unknown Water Unknown Sewer Unknown 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 Type Notes Total Design Includes 10% of Construction Cost and surveying needs Right of Way Cost Assuming entire project within ROW \$0 Utility Relocation Cost None identified \$0 Culvert Size & Material Size & Ma			erial			
Phone Gas Unknown Water Unknown Sewer Unknown Other Proposed Design Roadway Section Typical arterial 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 Design Includes 10% of Construction Cost and surveying needs Right of Way Cost Assuming entire project within ROW Utility Relocation Cost Construction Cost Construction Cost Environmental Permits Assuming minimal environmental permitting required Total Planning Estimate \$71,856	Cable					
Gas Unknown Water Unknown Other Typical arterial 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 Situate Fight of Way Cost Assuming entire project within ROW \$0 Utility Relocation Cost \$51,837 Environmental Permits Assuming minimal environmental permitting required \$10,000	Phone					
Water Unknown Sewer Unknown Other Proposed Design Roadway Section 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						
Sewer Other 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 Assuming entire project within ROW \$0 Construction Cost \$51,687 Environmental Permits Assuming minimal environmental permitting required \$10,000	Water					
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 Assuming entire project within ROW \$0 Construction Cost St,687 Environmental Permits Assuming minimal environmental permitting required \$10,000	Sewer					
Roadway Section Typical arterial 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		0				
Typical arterial 2 x 30" round RCPs with straight headwall. Cost of removing existing headwall assumed equal to the removal of entire length of pipe.			Propos	ed Desian		
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		Typical arterial				
Culvert Size & Material 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 Student	Roadway Section	31				
Culvert Size & Material 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 Student		2 x 30" round R	CPs with straight	headwall. Cost of removing e	existing headwall assum	ed equal to the
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 \$10,000 Environmental Permits Assuming minimal environmental permitting required \$10,000	Culvert Size & Material			ğ ,	· ·	,
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 \$10,000 Environmental Permits Assuming minimal environmental permitting required \$10,000	Hilito Delegation					
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	Utility Relocations					
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	Cuardrail Banksam					
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	Guardraii Kepiacement					
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	Miscellaneous Fosturos					
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	miscenaneous realules					
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						
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						
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						
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						
Design Includes 10% of Construction Cost and surveying needs 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						
Right of Way Cost Utility Relocation Cost Construction Cost Environmental Permits Assuming entire project within ROW \$0 \$0 \$51,687 Environmental Permits Assuming minimal environmental permitting required \$10,000 Total Planning Estimate \$71,856						
Utility Relocation Cost None identified \$0 Construction Cost \$51,687 Environmental Permits Assuming minimal environmental permitting required \$10,000 Total Planning Estimate \$71,856						69
Construction Cost \$51,687 Environmental Permits Assuming minimal environmental permitting required \$10,000 Total Planning Estimate \$71,856		As				
Environmental Permits Assuming minimal environmental permitting required \$10,000 Total Planning Estimate \$71,856			None ider	tified		_
Total Planning Estimate \$71,856						
	Environmental Permits	Assuming i	mınımal environme	ental permitting required	\$10,00	00
			Total P	lanning Estimate	\$71,8	56
	+ 2			<u> </u>	. ,	





Graves Road



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



Photo 2: Downstream end of culvert.

Photo Date:

1/21/2016

Taken By:

David Gibbs

Page

Roadway Construction	Removal Un	it 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
Cubicital					Ψ 1,707.27
Grading Complete (5% of Rwy Items & Drng Total \$)					\$ 1,601.52
Training Complete (Cross run) name of Europe					,,,,,,,,,,,
Roadway Total					\$ 3,358.80
D :	5				T
Drainage	Removal Un	it Cost	Installation Unit Cost		Total Cost
Trench Excavation (CY)	•		\$ 10.38	202.67	
30" CMP (LF)	\$	19.62			\$ 5,729.04
30" RCP (LF)			\$ 105.60		\$15,417.60
Class A Conc (CY)			\$ 892.19		\$ 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		\$ 33.63
· · · · · · · · · · · · · · · · · · ·					. 23.00
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
			\$ 4.39	41.17	
Fine Grading and Seeding (SY)					
Temporary Grassing (AC)				0.00	•
Type C Silt Fence (LF)			\$ 4.24		\$ 1,219.97
Check Dam Type C Silt Fence (LF)			\$ 6.79		\$ 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		\$ 1,544.93
Plastic Filter Fabric (SY)			\$ 5.72	25.33	
4" Ditch Paving (SY)			\$ 54.65	0.00	\$ -
Erosion Control Total					Ф F 0.4C 00
ETOSIOTI COTILIOI TOLAI					\$ 5,046.80
Construction Cost Total					\$47,858.56
Traffic Control (8% of Construction Total \$)					\$ 3,828.68
Traine control (670 of constitution Fotal 4)					Ψ 0,020.00
Construction Cost Grand Total					\$51,687.25
Utility Relocation	Removal Un	it Cost	Installation Unit Cost	Amount	Total Cost
Electric		2000		············	2.2. 0000
Aerial	\$	11.00	\$ 55.00	0.00	\$ -
Buried	\$	16.50	\$ 82.50	0.00	
Wooden Pole	\$	82.50	\$ 605.00	0.00	
Phone	*	52.55	- 000.00	0.00	Ŧ
Aerial	\$	11.00	\$ 27.50	0.00	\$ -
Buried	\$	16.50	\$ 55.00	0.00	
Wooden Pole	\$ \$	82.50	\$ 605.00	0.00	
Cable	Ψ	02.30	ψ 005.00	0.00	Ψ -
Aerial	\$	11.00	\$ 27.50	0.00	¢
Buried	\$ \$		·	0.00	
Wooden Pole	\$ \$	16.50 82.50	\$ 55.00 \$ 605.00	0.00	
Gas	Ψ	02.30	\$ 605.00	0.00	ψ -
4" main	\$	16.50	\$ 66.00	0.00	\$ -
Water	*	. 5.50	- 00.00	5.00	7
8" main	\$	16.50	\$ 93.50	0.00	\$ -
Sewer	Ψ				
12" main	\$	16.50	\$ 82.50	0.00	
		16.50	\$ 82.50	0.00	\$ - \$ -
12" main Utility Relocation Total		16.50			\$ -
12" main Utility Relocation Total Right of Way (Sq Ft)		16.50	Cost/ Sq Ft	Sq Ft	\$ - Total Cost
12" main Utility Relocation Total		16.50			\$ - Total Cost

General In	formation			Мар	
Project ID			Perry	1 1	J) AV
Street Name	130 Greenf	ield Circle		5	Tandy-Trce
Site Visit Date	2/4/2		Royal Ridge	-Majes rd	0
Road Classification	Minor				Roxbo
Project					O D004
Pipe empties into small impoundme				St. Ct.	
i ipo omprios imo oman impounamo	·····				Derby n.
					289 m
			Gree	en Field	und-Tree
			Way		
			- 269 n		92
Field N	Notes		Sedy-Rd		
Design (Existing	Site Features)		34.85		
Existing Road Laneage		2-12.5'			
Existing Shld Width (paved and	grass) (feet)	15'	307		M
Existing Side Slopes	, , , , , , , , , , , , , , , , , , ,	4-5:1	Selen Gra	S	288.m
Existing Guardrail		N/A	ndch		288,m
Existing Guardrail Depth fm Pavement to Top of Cu	ulvert (ft):	3'	The state of the s		Harp
Pipe Type and Size		36" CMP	Way Way		
Pipe Condition (1-5) (1 is new)		4			# H
Substantial rusting. Rip rap embar	nkment blowout or	n downstream	N 0 0.25	0.5	1
side.			J.20	J5	Miles
					THE CO.
Pavement Type/Condition		Asphalt/Good	Mais		Z
				Construction Options	
Environment	tal Features		Close Location to Traff		
Wetlands			Maintain One Lane - No		X
Ditches			Maintain One Lane - Te		
State Waters			Stage Construction Notes		
Other	Small private imp	oundment		stream end will need te	mporary
			damming		
Utilities (Visua					
Electric	Unkn				
Cable	Bur				
Phone	Unkn				
Gas	Unkn				
Water	Unkn				
Sewer	Unkn				
Other	Broadbar		d Design		
		Propose	d Design		
Roadway Section					
	5' x 3' concrete b	ov culvert with wi	nawalle		
Culvert Size & Material	3 x 3 concrete b	OX Cuiveit with wi	rigwalis		
	Buried cable and	broadband Pos	sible fire hydrant relocation	(90' from culvert on down	stream side)
Utility Relocations	24.104 040.0 41.4	2.044244 00		(00 110111 0411011 011 401111	o o o o
Guardrail Replacement					
Miscellaneous Features					
Miscellaneous Features					
	ı		ost Estimate	_	
Туре	1 4.00	Notes		Total	
Design			st and surveying needs	\$18,802	
Right of Way Cost			tirely within ROW	\$0	
Utility Relocation Cost	Assum	ling a total of 100	of buried utilities	\$7,150 \$62,048	
Construction Cost	Agg: ming ==	inimal andiranes	ntal parmitting required	\$63,018 \$10,000	
Environmental Permits	Assuming m	ii iii ii ai erivironme	ntal permitting required	\$10,000	
		T.4 1 51		400.00	
		<u>ı ot</u> al Pl	anning Estimate	\$98,96	59



Greenfield Circle



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



Photo 2: Downstream end looking East towards Greenfield Circle.

Photo Date:

2/4/2016

Taken By:

Christian Helfrich

Page

Permanent Easement ROW Total			\$ 4.00	0.00	\$ - \$ -
Right of Way (Sq Ft)			Cost/ Sq Ft	Sq Ft	Total Cost
Sewer 12" main Utility Relocation Total	\$	16.50	\$ 82.50	0.00	\$ - \$ 7,150.0
8" main Relocate Fire Hydrant (EA) Sewer	\$	16.50	\$ 93.50 \$ 2,609.22		
Nater	æ	46.50	¢ 00.50	0.00	¢
Gas 4" main	\$	16.50	\$ 66.00	0.00	\$ -
Vooden Pole	\$	82.50	\$ 605.00		
Buried	\$ \$	16.50	\$ 55.00		\$ 7,150.0
Cable Aerial	\$	11.00	\$ 27.50	0.00	\$ -
Vooden Pole	\$	82.50	\$ 605.00		
Buried	\$ \$	16.50	\$ 27.50		
Phone Aerial	\$	11.00	\$ 27.50	0.00	s -
Vooden Pole	\$	82.50	\$ 605.00	0.00	\$ -
Buried	\$	16.50	\$ 82.50	0.00	\$ -
Electric Aerial	\$	11.00	\$ 55.00	0.00	\$ -
Utility Relocation	Remova	I Unit Cost	Installation Unit Cost	Amount	Total Cost
Construction Cost Grand Total					\$63,017.6
·					. ,
raffic Control (8% of Construction Total \$)					\$ 4,667.9
Construction Cost Total					\$ 58,349.6
Frosion Control Total			V 0 1100	0.00	\$ 4,006.9
Plastic Filter Fabric (SY) !" Ditch Paving (SY)			\$ 5.72 \$ 54.65		
Rip Rap Type 3 12" (SY)			\$ 60.98	18.67	\$ 1,138.3
Landscape Mulch (SY) Perm Grassing (AC)			\$ 1,402.20		
Erosion Control Mats (SY) Landscape Mulch (SY)			\$ 1.87 \$ 3.58		
Check Dam Type C Silt Fence (LF)			\$ 6.79		
Type C Silt Fence (LF)			\$ 4.24	228.00	\$ 965.8
Fine Grading and Seeding (SY) Femporary Grassing (AC)			\$ 4.39 \$ 855.60		
Erosion Control			Installation Unit Cost	Amount 24.89	Total Cost \$ 109.3
Staging Total					\$ 4,955.8
emporary Drainage (Stream Diversion)			\$ 4,428.00	1.00	\$ 4,428.0
remporary Pavement					\$ -
Staging Clearing and Grubbing (Acre)			Installation Unit Cost \$ 10,260.00	Amount 0.05	Total Cost \$ 513.0
Signing and Marking Total					\$ 14.8
Permanent Striping (LF)			\$ 0.71	21.00	\$ 14.8
Signing and Marking			Installation Unit Cost	Amount	Total Cost
Orainage Total					\$37,673.6
French Compaction (CY)			\$ 6.36	83.04	\$ 528.1
rench Backfill (CY)			\$ 2.99		
Steel (lb) Pipe Bedding (CY)			\$ 1.42 \$ 48.60		\$ 4,460.2 \$ 743.5
Class A Conc (CY)			\$ 892.19		\$29,500.2
30" RCP	Ψ	3.74	\$ 105.60		
French Excavation (CY) 18" CMP	\$	5.74	\$ 10.38	110.83 171.00	\$ 1,150.4 \$ 980.8
Drainage	Remova	I Unit Cost	Installation Unit Cost	Amount	Total Cost
Roadway Total					\$11,698.3
Grading Complete (5% of Rwy Items & Drng Total \$)					\$ 2,351.0
Subtotal					\$ 9,347.3
ind Anchorage (EA)			\$ 1,380.00	0.00	
Guardrail (LF)	\$	4.88	\$ 49.09	0.00	\$ -
Orain Inlet (EA) !" Sidewalk (SY)	\$	13.56	\$ 3,000.00 \$ 36.90		\$ 6,000.0 \$ -
Curb and Gutter (LF)	\$	28.56	\$ 30.60		\$ 2,366.4
avement (SF)	\$	0.73	\$ 4.87		\$ 980.9
toadway Construction		I Unit Cost	Installation Unit Cost	Amount	Total Cost

General In	formation	Мар
Project ID		85 Contract
Street Name	250 Greenfield Circle	and the same of th
Site Visit Date	2/4/2016	2 perry Creek
Road Classification	Minor road	Sen
Project		Royal Ridge 4 Majes
1.0,000		
		Cherokee PI go Cr HyngsW
		Green-Field
Field N		S. Chr.
Design (Existing	Site Features)	Astruy, May
Existing Road Laneage	2-12'	Seay-Rd Seay-Rd
Existing ShId Width (paved and g		
Existing Side Slopes	3:1	Salms any by O
Existing Guardrail	N/A	nek a
Depth fm Pavement to Top of Cu		San San
Pipe Type and Size	2-36" CMPs	ndche
Pipe Condition (1-5) (1 is new)	4-5	65
Considerable rusting. One pipe blo		N 0 0.25 0.5 1
under the other pipe as well as thro	ougn.	Miles
Pavement Type/Condition	A amh alk/C a a d	
ravement Type/Condition	Asphalt/Good	Stage Construction Options
Environment	tal Foatures	Close Location to Traffic
Wetlands	lai i eatures	Maintain One Lane - No Temp Pavement X
Ditches		Maintain One Lane - Temp Pavement
State Waters		Stage Construction Notes:
State Waters		otage Constituction Notes.
Utilities (Visua	al Inspection)	
Electric	Unknown	
Cable	Unknown	
Phone	Unknown	
Gas	Unknown	
Water	Unknown	
Sewer	Unknown	
Other	Unknown	
		ed Design
Roadway Section	Typical	
ricaanay econon		
Culvert Size & Material	2 x 42" round RCPs with straight I	neadwalls.
	Marriage data mala di Cirilia	(70) from subsent decreases and a
Utility Relocations	iviay need to relocate fire hydrant	(70' from culvert, downstream side).
-		
Guardrail Replacement		
Miscellaneous Features		
		ost Estimate
Туре	Notes	
Design	Includes 10% Constructioin co	
Right of Way Cost	Assuming project lies er	
Utility Relocation Cost	None positively	
Construction Cost	Destroles 200 17	\$65,976
Environmental Permits	Includes permitting and Zo	ne A Floodway study \$15,000
	Total P	lanning Estimate \$100,073





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



Photo 2: Downstream end looking East towards Greenfield Circle.

2/4/2016

Taken By:

Christian Helfrich

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Utility Relocation Total Right of Way (Sq Ft)			Cost/ Sq Ft		Sq Ft	_	al Cost
	•				2.00	\$	-
Relocate Fire Hydrant (EA) Sewer 12" main	\$	16.50	\$ 2,60 \$ 8	9.22 2.50	0.00		-
Water 8" main Releasts Fire Hudrant (FA)	\$	16.50		3.50	0.00		-
Gas 4" main	\$	16.50	\$ 6	6.00	0.00	\$	-
Buried Wooden Pole	\$ \$	16.50 82.50		5.00 5.00	0.00		-
Aerial	\$	11.00		7.50	0.00		-
Wooden Pole Cable	\$	82.50	\$ 60	5.00	0.00	\$	-
Buried	\$	16.50	\$ 5	5.00	0.00	\$	-
Phone Aerial	\$	11.00	\$ 2	7.50	0.00	\$	_
Wooden Pole	\$	82.50		5.00	0.00		-
Buried	\$	16.50		2.50	0.00	\$	-
Electric Aerial	\$	11.00	\$ 5	5.00	0.00	\$	_
Utility Relocation	Removal Uni	Cost	Installation Unit C	ost A	mount	Tota	al Cost
Construction Cost Grand Total						\$65	,975.68
Traffic Control (8% of Construction Total \$)						\$ 4	,887.09
Construction Cost Total						\$61	,088.59
Erosion Control Total						\$ 2	,499.41
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$	0.98 5.72 4.65	16.00	\$	975.74 91.58 -
Perm Grassing (AC)			\$ 1,40	2.20 0.98	0.00	\$	975.74
Erosion Control Mats (SY) Landscape Mulch (SY)				1.87 3.58	12.00		42.91
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY)				6.79 1.87	108.00 12.00		733.54 22.46
Type C Silt Fence (LF)			\$	4.24	108.00		457.49
Fine Grading and Seeding (SY) Temporary Grassing (AC)				4.39 5.60	40.00 0.00		175.68
Erosion Control			Installation Unit Co		mount		al Cost
Staging Total						\$ 5	,967.00
Temporary Drainage (Stream Diversion)			\$ 4,42	8.00	1.00		,428.00
Clearing and Grubbing (Acre) Temporary Pavement			\$ 10,26		0.15		,539.00
Staging			Installation Unit C	net ^	mount		al Cost
Signing and Marking Total				o., i	0.00	\$	-
Signing and Marking Permanent Striping (LF)			Installation Unit C	ost A 0.71	mount 0.00	Tota	al Cost
Drainage Total						\$40	,135.63
Trench Compaction (CY)				6.36	161.11		
Pipe Bedding (CY) Trench Backfill (CY)				8.60 2.99	25.00 201.39		,215.00 601.75
Steel (lb)			\$	1.42	0.00		-
42" RCP (LF) Class A Conc (CY)				2.52 2.19	108.00		,392.59 ,079.48
36" CMP (LF)	\$	19.62			108.00		
Drainage Trench Excavation (CY)	Removal Uni	Cost		0.38	237.50		al Cost ,465.25
·	Removal Uni	Cost	Installation Unit C	oot A	mount		
Roadway Total							,486.55
Grading Complete (5% of Rwy Items & Drng Total \$)							,505.82
End Anchorage (EA) Subtotal				0.00	0.00	\$	- ,980.74
4" Sidewalk (SY) Guardrail (LF)	\$ \$	13.56 4.88		6.90 9.09	0.00		-
Orain Inlet (EA)	Φ.	40.50		0.00			,000.00
Curb and Gutter (LF)	\$	28.56		0.60			,366.40
Pavement (SF)	\$	0.73		ust <i>P</i> 4.87	288.00		,614.34
Roadway Construction	Removal Uni	Cost	Installation Unit C	ost ^	mount	Tota	al Cost

General In	formation			Мар
Project ID				
Street Name	110 Gric	stmill Drive	W.	
			N. C	() \ (
Site Visit Date		21/13 or road		
Road Classification Project		or road		
Urban Typical Section with curb an		idowlks		7 1 (
orban rypical Section with curb an	d guiter along s	idewiks	J. Janes	
Field I	Notes			Rising Star Rd
Design (Existing	Site Features)		Watereline
Existing Road Laneage		2-12'		95.5
Existing ShId Width (paved and	grass) (feet)	grass 6'		Sale Rouse es
Existing Side Slopes		N/A		8 /8
Existing Guardrail		None		1
Depth fm Pavement to Top of Cu	ılvert (ft):	6'		4)
Pipe Type and Size		48"-CMP	/ 9	indsto re. Wey
Pipe Condition (1-5) (1 is new)		5 (Installation)	/ /	Man Car
Condition Notes: Concrete Headwa	all at Ends		_/	W
Pavement Type/Condition		Asphalt/Good		
			Stage	Construction Options
Environmen	tal Features		Close Location to Traff	fic
Wetlands	N	None	Maintain One Lane - No	Temp Pavement X
Ditches	N	None	Maintain One Lane - Te	emp Pavement
			Stage Construction Note	es:
			If replacement with roun	d pipe then phase construction to have at
Utilities (Visua	al Inspection)		least one lane in each di	
Electric	В	uried		
Cable	В	uried		
Phone	В	uried		
Gas	В	uried		
Water	В	uried		
Sewer	В	uried		
Other				
		Propose	ed Design	
Roadway Section		section w/ sidewal		
Culvert Size & Material	length of pipe.			assumed to be equal to removal of entire
Utility Relocations	Electric, cable,	phone, gas, water,	, sewer	
Guardrail Replacement				
Miscellaneous Features		caused downstrear		g needs alterations to correct crossing flow away. Has been accounted for in
		Planning C	ost Estimate	
Type		Notes		Total
Design	Includes 10	0% Construction Co	ost and surveying needs	\$14,967
Right of Way Cost			2,000 sf beyond ROW	\$8,000
Utility Relocation Cost		Buried uti		\$26.675

Buried utilities

Assuming 1/10 acre clearing and grubbing Assuming minimal environmental permitting required

Total Planning Estimate

\$26,675 \$99,668

\$10,000

\$159,309



Utility Relocation Cost

Construction Cost

Environmental Permits

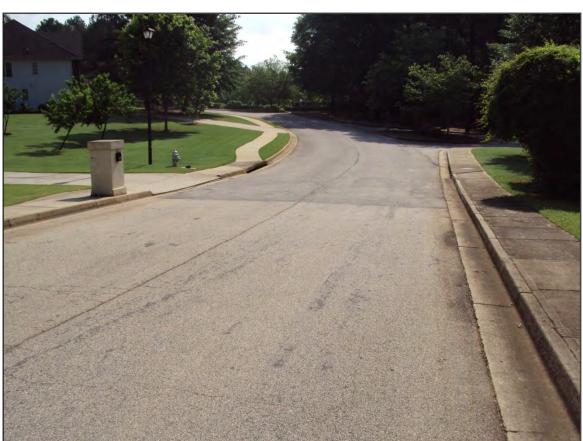




Photo 1:



Photo 2:

5/21/2013

Taken By:

David King

Page:





Photo 3:



Photo 4:

Photo Date:

5/21/2013

Taken By:

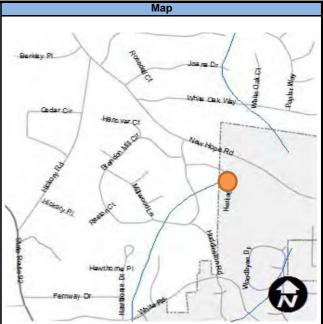
David King

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Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	Removal Unit \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50 16.50	\$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0	0 50.00 0 50.00 0 50.00 0 50.00 0 50.00 0 50.00 0 50.00	\$ - \$ 3,575.00 \$ -
Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 27.5 \$ 55.0 \$ 605.0	50.00 50.00 50.00 50.00 50.00 50.00 50.00 50.00 0 50.00	\$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 4,125.00 \$ 5,500.00 \$ -
Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 66.0 \$ 93.5	50.00 50.00 50.00 50.00 50.00 50.00	\$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 4,125.00 \$ 5,500.00
Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0	50.00 50.00 50.00 50.00 50.00	\$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ -
Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Wooden Pole Cable Wooden Pole Wooden Pole	***	16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0	0 0 50.00 0 50.00 0 50.00 0 50.00	\$ - \$ 4,950.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00
Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial	\$ \$ \$ \$ \$ \$ \$ \$	16.50 82.50 11.00 16.50 82.50 11.00	\$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 27.5	0 0 50.00 0 50.00 0 50.00	\$ 4,950.00 \$ - \$ 3,575.00 \$ -
Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	***	16.50 82.50 11.00 16.50 82.50	\$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0	0 0 50.00 0 0 50.00	\$ - \$ 4,950.00 \$ - \$ - \$ 3,575.00
Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ \$ \$ \$	16.50 82.50 11.00 16.50	\$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0	0 0 50.00 0 0 50.00	\$ - \$ 4,950.00 \$ - \$ - \$ 3,575.00
Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	16.50 82.50	\$ 55.0 \$ 82.5 \$ 605.0	0 0 50.00 0	\$ - \$ 4,950.00 \$ -
Electric Aerial Buried Wooden Pole	\$ \$	16.50	\$ 55.0 \$ 82.5	0 0 50.00	\$ - \$ 4,950.00
Electric Aerial	\$ \$		\$ 55.0 \$ 82.5	0	\$ - \$ 4,950.00
Electric		11 00			
Utility Relocation	Removal Unit		Installation Unit Cost	Amount	Total Cost
		Cost			
Construction Cost Grand Total					\$99,667.67
Traffic Control (8% of Construction Total \$)					\$ 7,382.79
Construction Cost Total					\$92,284.88
Erosion Control Total					\$ 5,795.53
4" Ditch Paving (SY)			\$ 54.6	5 0.00	
Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ 60.9 \$ 5.7		\$ 1,300.99 \$ 122.11
Perm Grassing (AC)			\$ 1,402.2	0.00	\$ -
Erosion Control Mats (SY) Landscape Mulch (SY)			\$ 1.8 \$ 3.5		
Check Dam Type C Silt Fence (LF)			\$ 6.7	9 320.00	\$ 2,173.44
Temporary Grassing (AC) Type C Silt Fence (LF)			\$ 855.6 \$ 4.2		
Fine Grading and Seeding (SY)			\$ 4.3	9 59.73	\$ 262.35
Erosion Control			Installation Unit Cost	Amount	Total Cost
Staging Total					\$ 5,454.00
Temporary Drainage (Stream Diversion)			\$ 4,428.0	0 1.00	
Temporary Pavement					\$ - \$ 4,428.00
Staging Clearing and Grubbing (Acre)			Installation Unit Cost \$ 10,260.0	Amount 0.10	Total Cost \$ 1,026.00
Signing and Marking Total					\$ -
			. 0.7	3.50	
Signing and Marking Permanent Striping (LF)			Installation Unit Cost \$ 0.7	Amount 1 0.00	Total Cost \$ -
Drainage Total					\$72,811.69
Trench Compaction (CY)			ψ 0.3	209.42	
Trench Backfill (CY)			\$ 2.9 \$ 6.3	9 361.77	
Steel (lb) Pipe Bedding (CY)			\$ 1.4 \$ 48.6		\$ 7,445.33 \$ 1,180.98
Class A Conc (CY)			\$ 892.1	9 51.64	\$46,072.59
48" CMP (LF) 48" RCP	\$	24.60	\$ 193.2		\$11,808.00 \$ -
Trench Excavation (CY)			\$ 10.3	8 325.93	\$ 3,383.11
Drainage	Removal Unit	Cost	Installation Unit Cost	Amount	Total Cost
Roadway Total					\$ 8,223.65
Grading Complete (5% of Rwy Items & Drng Total \$)					\$ 3,858.83
Subtotal			,,,,,		\$ 4,364.82
Guardrail (LF) End Anchorage (EA)	\$	4.88	\$ 49.0 \$ 1,380.0		
4" Sidewalk (SY)	\$	13.56	\$ 36.9	0 30.00	\$ 1,513.80
• ,	\$	28.56	\$ 30.6 \$ 3,000.0		\$ 1,774.80 \$ -
Drain Inlet (EA)	Φ.	0.73	\$ 4.8		\$ 1,076.22
, ,	\$	Cost	Installation Unit Cost	Amount	Total Cost

General Inf	formation			
Project ID				
Street Name	Heritage	Way - North		1
Site Visit Date	5/2	22/13	Barkby P	-
Road Classification	Min	or road		
Project	Notes	_		
Urban typical section with valley gut	tter,			
				/
Field N	lotes			Day .
Field N Design (Existing				add and
Design (Existing Existing Road Laneage	Site Features)	2-10'		No. Co.
Design (Existing Existing Road Laneage	Site Features)			2 5 5 may
Design (Existing Existing Road Laneage Existing ShId Width (paved and g	Site Features)	2-10'		Para Contraction of the Contract
Design (Existing Existing Road Laneage Existing ShId Width (paved and g Existing Side Slopes Existing Guardrail	Site Features)	2-10' 4		Party
Design (Existing Existing Road Laneage Existing Shld Width (paved and g Existing Side Slopes Existing Guardrail Depth fm Pavement to Top of Cul	Site Features)	2-10' 4 flat none 4	Same 1	Party
Design (Existing Existing Road Laneage Existing ShId Width (paved and g Existing Side Slopes Existing Guardrail	Site Features)	2-10' 4 flat none	State State	1000 E

Pavement Type/Condition		Asphalt/Good		
Environment	tal Features			Close L
Wetlands	N	lone		Maintai
Ditches	N	lone		Maintai
				Stage C
Utilities (Visua	al Inspection)			
Electric	Bu	uried		
Cable	Ві	uried		
Phone	Ві	uried		
Gas				
Water	Ві	uried		
Sewer				
Other				
		Propos	ed	Design



Stage Construction Options		
Close Location to Traffic	X	
Maintain One Lane - No Temp Pavement		
Maintain One Lane - Temp Pavement		
Stage Construction Notes: Close roadway;		

Roadway Section	
Culvert Size & Material	48", RCP, 400' length
Utility Relocations	Electric, cable, phone, water
Guardrail Replacement	

Planning Cost Estimate			
Туре	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 mininmal environmental permitting required	\$10,000	
		40.10.000	
	Total Planning Estimate	\$240,898	



Miscellaneous Features





Photo 1:



Photo 2:

7/2/2013

Taken By:

David King

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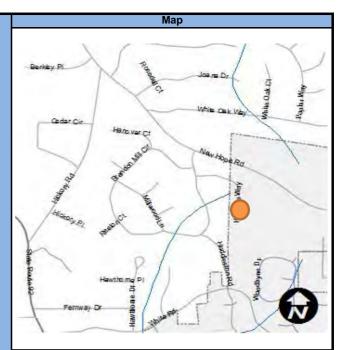
Dondway Construction						
Roadway Construction	Removal Unit	Cost	Installation Unit Cost	Amount	To	tal Cost
Pavement (SF)	\$	0.73	\$ 4.87	120.00	\$	672.64
Curb and Gutter (LF)	\$	28.56	\$ 30.60			1,183.20
	Ψ	20.00				1,100.20
Drain Inlet (EA)			\$ 3,000.00		\$	-
4" Sidewalk (SY)	\$	13.56	\$ 36.90		\$	-
Guardrail (LF)	\$	4.88	\$ 49.09		\$	-
End Anchorage (EA)			\$ 1,380.00		\$	_
Subtotal			1,000.00		\$	1,855.84
Subiolai					Ψ	1,000.04
					_	
Grading Complete (5% of Rwy Items & Drng Total \$)					\$	6,160.49
Roadway Total					\$	8,016.33
					•	0,0.0.00
Desires	Dames and Hair	04	Installation Hait Cost	Amount	т.	4-1 04
Drainage	Removal Unit	Cost	Installation Unit Cost			tal Cost
Trench Excavation (CY)			\$ 10.38			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			, _
Pipe Bedding (CY)			\$ 48.60			4,320.00
Trench Backfill (CY)			\$ 2.99			2,790.29
Trench Compaction (CY)			\$ 6.36	747.07	\$	4,751.33
Drainage Total					\$ 1	121,353.93
						,
Signing and Marking			Installation Unit Cost	Amount	To	tal Cost
						nai Oust
Permanent Striping (LF)			\$ 0.71	0.00	\$	-
Signing and Marking Total					\$	-
Staging			Installation Unit Cost	Amount	To	tal 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
otaging rotal					Ψ	0, 10 1100
					_	
Erosion Control			Installation Unit Cost	Amount	To	tal 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			1,694.40
Type o ont reflec (Er)				+00.00		1,004.40
Chook Dom Typo C Silt Fonco (LE)				400 00		2 716 90
Check Dam Type C Silt Fence (LF)			\$ 6.79		\$	2,716.80
Erosion Control Mats (SY)			\$ 6.79 \$ 1.87	133.33	\$	249.60
			\$ 6.79 \$ 1.87 \$ 3.58	133.33 133.33	\$ \$ \$	
Erosion Control Mats (SY)			\$ 6.79 \$ 1.87	133.33 133.33	\$ \$ \$	249.60
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC)			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20	133.33 133.33 0.00	\$ \$ \$	249.60 476.80 -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98	133.33 133.33 0.00 24.00	\$ \$ \$ \$ \$	249.60 476.80 - 1,463.62
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	133.33 133.33 0.00 24.00 24.00	\$ \$ \$ \$ \$ \$	249.60 476.80 -
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98	133.33 133.33 0.00 24.00 24.00	\$ \$ \$ \$ \$ \$	249.60 476.80 - 1,463.62
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	133.33 133.33 0.00 24.00 24.00	\$ \$ \$ \$ \$ \$ \$	249.60 476.80 - 1,463.62 137.38
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	133.33 133.33 0.00 24.00 24.00	\$ \$ \$ \$ \$ \$	249.60 476.80 - 1,463.62
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	133.33 133.33 0.00 24.00 24.00	\$ \$ \$ \$ \$ \$ \$	249.60 476.80 - 1,463.62 137.38
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	133.33 133.33 0.00 24.00 24.00	\$ \$ \$ \$ \$ \$ \$ \$	249.60 476.80 - 1,463.62 137.38 - 7,851.23
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	133.33 133.33 0.00 24.00 24.00	\$ \$ \$ \$ \$ \$ \$ \$	249.60 476.80 - 1,463.62 137.38
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	133.33 133.33 0.00 24.00 24.00	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	249.60 476.80 - 1,463.62 137.38 - 7,851.23
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	133.33 133.33 0.00 24.00 24.00	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	249.60 476.80 - 1,463.62 137.38 - 7,851.23
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	133.33 133.33 0.00 24.00 24.00	\$ \$ \$ \$ \$ \$ \$ \$ \$	249.60 476.80 - 1,463.62 137.38 - 7,851.23 142,675.49 11,414.04
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	133.33 133.33 0.00 24.00 24.00	\$ \$ \$ \$ \$ \$ \$ \$ \$	249.60 476.80 - 1,463.62 137.38 - 7,851.23
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	133.33 133.33 0.00 24.00 24.00	\$ \$ \$ \$ \$ \$ \$ \$ \$	249.60 476.80 - 1,463.62 137.38 - 7,851.23 142,675.49 11,414.04
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)	Removal Unit	Cost	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72	133.33 133.33 0.00 24.00 24.00	\$	249.60 476.80 - 1,463.62 137.38 - 7,851.23 142,675.49 11,414.04
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total	Removal Unit	Cost	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	133.33 133.33 0.00 24.00 24.00 0.00	\$	249.60 476.80 1,463.62 137.38 7,851.23 142,675.49 11,414.04
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric			\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	133.33 133.33 0.00 24.00 24.00 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	249.60 476.80 1,463.62 137.38 7,851.23 142,675.49 11,414.04
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$	11.00	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	133.33 133.33 0.00 24.00 24.00 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	249.60 476.80 1,463.62 137.38 - 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	133.33 133.33 0.00 24.00 24.00 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	249.60 476.80 1,463.62 137.38 7,851.23 142,675.49 11,414.04
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$	11.00	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	133.33 133.33 0.00 24.00 24.00 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	249.60 476.80 1,463.62 137.38 - 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	133.33 133.33 0.00 24.00 24.00 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	249.60 476.80 1,463.62 137.38 - 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$ \$ \$	11.00 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65	133.33 133.33 0.00 24.00 0.00 Amount 75.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	249.60 476.80 1,463.62 137.38 - 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ \$ \$	11.00 16.50 82.50 11.00	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50	133.33 133.33 0.00 24.00 24.00 0.00	\$\$\$\$\$\$\$\$ \$ \$ \$ \$ \$ \$	249.60 476.80 1,463.62 137.38 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost 7,425.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00	133.33 133.33 0.00 24.00 24.00 0.00 Amount 75.00	\$\$\$\$\$\$\$\$ \$\$\$ \$\$\$\$ \$	249.60 476.80 1,463.62 137.38 - 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole	\$ \$ \$	11.00 16.50 82.50 11.00	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50	133.33 133.33 0.00 24.00 24.00 0.00 Amount 75.00	\$\$\$\$\$\$\$\$ \$ \$ \$ \$ \$ \$	249.60 476.80 1,463.62 137.38 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost 7,425.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 55.00 \$ 605.00	133.33 133.33 0.00 24.00 24.00 0.00 Amount 75.00	\$	249.60 476.80 1,463.62 137.38 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost 7,425.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 605.00 \$ 27.50 \$ 27.50	133.33 133.33 0.00 24.00 24.00 0.00 Amount 75.00	\$	249.60 476.80 1,463.62 137.38 - 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost - 7,425.00 - 5,362.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 55.00 \$ 605.00	133.33 133.33 0.00 24.00 24.00 0.00 Amount 75.00	\$	249.60 476.80 1,463.62 137.38 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost 7,425.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	133.33 133.33 0.00 24.00 24.00 0.00 Amount 75.00	\$	249.60 476.80 1,463.62 137.38 - 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost - 7,425.00 - 5,362.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 605.00 \$ 27.50 \$ 27.50	133.33 133.33 0.00 24.00 24.00 0.00 Amount 75.00	\$	249.60 476.80 1,463.62 137.38 - 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost - 7,425.00 - 5,362.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Wooden Pole Gas	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00	133.33 133.33 0.00 24.00 24.00 0.00 Amount 75.00	\$\$\$\$\$\$\$\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	249.60 476.80 1,463.62 137.38 - 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost - 7,425.00 - 5,362.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Casle Aerial Buried Wooden Pole Gas 4" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	133.33 133.33 0.00 24.00 24.00 0.00 Amount 75.00	\$	249.60 476.80 1,463.62 137.38 - 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost - 7,425.00 - 5,362.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Casle Aerial Buried Wooden Pole Casle Aerial Buried Wooden Pole Gas 4" main Water	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 666.00 \$ 666.00	133.33 133.33 0.00 24.00 24.00 0.00 Amount 75.00 75.00	\$	249.60 476.80 1,463.62 137.38 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost 7,425.00 - 5,362.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Casle Aerial Buried Wooden Pole Gas 4" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00	133.33 133.33 0.00 24.00 24.00 0.00 Amount 75.00 75.00	\$	249.60 476.80 1,463.62 137.38 - 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost - 7,425.00 - 5,362.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Casle Aerial Buried Wooden Pole Casle Aerial Buried Wooden Pole Gas 4" main Water	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 666.00 \$ 666.00	133.33 133.33 0.00 24.00 24.00 0.00 Amount 75.00 75.00	\$	249.60 476.80 1,463.62 137.38 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost 7,425.00 - 5,362.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00 \$ 93.50	133.33 133.33 0.00 24.00 24.00 0.00 Amount 75.00 75.00	\$	249.60 476.80 1,463.62 137.38 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost 7,425.00 - 5,362.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Casbe Aerial Buried Wooden Pole	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00 \$ 27.60 \$ 55.00 \$ 27.60 \$ 55.00 \$ 27.60 \$ 55.00 \$ 27.60 \$ 55.00 \$ 27.60 \$ 55.00	133.33 133.33 0.00 24.00 24.00 0.00 Amount 75.00 75.00 75.00	\$	249.60 476.80 1,463.62 137.38 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost 7,425.00 - 5,362.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Rerial Buried Wooden Pole Casa 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00 \$ 93.50	133.33 133.33 0.00 24.00 24.00 0.00 Amount 75.00 75.00	\$	249.60 476.80 1,463.62 137.38 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost 7,425.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Casbe Aerial Buried Wooden Pole	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00 \$ 27.60 \$ 55.00 \$ 27.60 \$ 55.00 \$ 27.60 \$ 55.00 \$ 27.60 \$ 55.00 \$ 27.60 \$ 55.00	133.33 133.33 0.00 24.00 24.00 0.00 Amount 75.00 75.00 75.00	\$	249.60 476.80 1,463.62 137.38 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost 7,425.00 - 5,362.50
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Rerial Buried Wooden Pole Casa 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00 \$ 27.60 \$ 55.00 \$ 27.60 \$ 55.00 \$ 27.60 \$ 55.00 \$ 27.60 \$ 55.00 \$ 27.60 \$ 55.00	133.33 133.33 0.00 24.00 24.00 0.00 Amount 75.00 75.00 75.00	\$	249.60 476.80 1,463.62 137.38 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost 7,425.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Rerial Buried Wooden Pole Casa 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 605.00 \$ 27.60 \$ 55.00 \$ 27.60 \$ 55.00 \$ 27.60 \$ 55.00 \$ 27.60 \$ 55.00 \$ 27.60 \$ 55.00	133.33 133.33 0.00 24.00 24.00 0.00 Amount 75.00 75.00 75.00	\$	249.60 476.80 1,463.62 137.38 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost 7,425.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Aerial Buried Wooden Aerial Buried Wo	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00	133.33 133.33 0.00 24.00 24.00 24.00 75.00 75.00 75.00 0.00 0.00 Sq Ft	\$	249.60 476.80 1,463.62 137.38 - 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost - 5,362.50 - 5,362.50 - 8,250.00 - 26,400.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00	133.33 133.33 0.00 24.00 24.00 0.00 75.00 75.00 75.00 0.00 0.00	\$	249.60 476.80 1,463.62 137.38 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost 7,425.00 5,362.50 5,362.50 8,250.00 otal Cost 30,000.00
Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Aerial Buried Wooden Aerial Buried Wo	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6.79 \$ 1.87 \$ 3.58 \$ 1,402.20 \$ 60.98 \$ 5.72 \$ 54.65 Installation Unit Cost \$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00 \$ 55.00	133.33 133.33 0.00 24.00 24.00 24.00 75.00 75.00 75.00 0.00 0.00 Sq Ft	\$	249.60 476.80 1,463.62 137.38 - 7,851.23 142,675.49 11,414.04 154,089.53 otal Cost - 5,362.50 - 5,362.50 - 8,250.00 - 26,400.00

General Information			
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			

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
Environmen	tal Features	
Wetlands	None	
Ditches	None	
	·	_
Utilities (Visua	al Inspection)	_
Electric	Ві	ıried
Cable	Buried	
Phone	Buried	
Gas		
Water	Buried	
Sewer		
Other		



Stage Construction Options		
Close Location to Traffic	X	
Maintain One Lane - No Temp Pavement		
Maintain One Lane - Temp Pavement		
Stage Construction Notes: Close roadway;		

Proposed Design

Roadway Section	
Culvert Size & Material	48", RCP, 200' length
Utility Relocations	Electric, cable, phone, water
Guardrail Replacement	

Miscellaneous Features

	Planning Cost Estimate				
Туре	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 mininmal environmental permitting required	\$10,000			
	Total Planning Estimate	\$177,039			







Photo 1:



Photo 2:

7/2/2013

Taken By:

David King

Page:

Roadway Construction Pavement (SF) Curb and Gutter (LF) Drain Inlet (EA)	Removal Uni \$ \$	0.73 28.56	Installation Unit Cost \$ 4.87 \$ 30.60 \$ 3,000.00	Amount 120.00 20.00	Total Cost \$ 672.64 \$ 1,183.20 \$ -
4" Sidewalk (SY) Guardrail (LF) End Anchorage (EA)	\$ \$	13.56 4.88	\$ 36.90 \$ 49.09 \$ 1,380.00		\$ - \$ - \$ -
Subtotal			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		\$ 1,855.84
Grading Complete (5% of Rwy Items & Drng Total \$)					\$ 3,384.02
Roadway Total					\$ 5,239.86
Drainage	Removal Uni	it Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)	¢.	24.60	\$ 10.38	444.44	
48" CMP (LF) 48" RCP (LF)	\$	24.60	\$ 193.20		\$ 4,920.00 \$38,640.00
Class A Conc (CY)			\$ 892.19		\$12,222.98
Steel (lb)			\$ 1.42	0.00	•
Pipe Bedding (CY)			\$ 48.60		\$ 2,160.00
Trench Backfill (CY) Trench Compaction (CY)			\$ 2.99 \$ 6.36	404.69 323.75	\$ 1,209.22 \$ 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	
Temporary Grassing (AC) Type C Silt Fence (LF)			\$ 855.60 \$ 4.24	0.00	\$ - \$ 3,388.80
Check Dam Type C Silt Fence (LF)			\$ 6.79	800.00	
Erosion Control Mats (SY)			\$ 1.87	266.67	. ,
Landscape Mulch (SY)			\$ 3.58	266.67	
Perm Grassing (AC)			\$ 1,402.20	0.00	
Rip Rap Type 3 12" (SY)			\$ 60.98 \$ 5.72	24.00 24.00	\$ 1,463.62 \$ 137.38
Plastic Filter Fabric (SY) 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 Uni	it Cost	Installation Unit Cost	Amount	Total Cost
Electric					
Aerial	\$	11.00	\$ 55.00		\$ -
Buried Wesden Belg	\$	16.50	\$ 82.50	75.00	
Wooden Pole Phone	\$	82.50	\$ 605.00		\$ -
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	¢ 07.50		¢
Aeriai Buried	\$ \$	11.00 16.50	\$ 27.50 \$ 55.00	75.00	\$ - \$ 5,362.50
Wooden Pole	\$	82.50	\$ 605.00	. 0.00	\$ -
Gas					
4" main	\$	16.50	\$ 66.00		\$ -
Water 8" main	\$	16.50	\$ 93.50	75.00	\$ 8,250.00
Relocate Fire Hydrant (EA)	Ψ	10.00	\$ 2,609.22	15.00	\$ 8,250.00
Sewer	_			0.00	
12" main Utility Relocation Total	\$	16.50	\$ 82.50	0.00	\$ - \$26,400.00
·					
Right of Way (Sq Ft)			Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement ROW Total			\$ 4.00	7,500.00	\$30,000.00 \$30,000.00
					, , ,

General Inf	formation	Мар
Project ID		Mountaintairet
Street Name	287 Hilo Road	Mountain to §
Site Visit Date	1/20/2016	The state of the s
Road Classification	Minor arterial	Na-IN
Project		Perla:/b/
Existing upstream inlet consists of headwall.	makeshift corrugated metal	Audic Mah. Cuernan G. Cuerk A. Cuernan Mannout Mah. Cuerk A. Cuernan Mannout Mah. Cuerk A. Cuernan Mannout Mah. Cuerk A. Cuerk A. Cuernan Mannout Mah. Cuerk A. Cuerk A. Cuernan Mannout Mah. Cuerk A. Cuernan Mah. Cuerk A. Cuer
		.295 m
Field N		
Design (Existing		Sheffield=CC
Existing Road Laneage	3-12.5'	Angela:Dr Downyb
Existing Shid Width (paved and		D p.
Existing Side Slopes Existing Guardrail	4:1	Brookside-Tree-
Depth fm Pavement to Top of Cu	None 1.00	Melody.Ln Change
Pipe Type and Size	CMP 1-18" 1-24"	Filenon-En
Pine Condition (1-5) (1 is new)		
Pipe Condition (1-5) (1 is new) Condition Notes: Two corrugated r	metal nines 2 5' apart	P N 0 025 05 1
Condition 140tes. 1 We confugated 1	notal pipes 2.0 apart	0 0.25 0.5 1 Miles
Pavement Type/Condition	Asphalt/Good	**
		Stage Construction Options
Environment	al Features	Close Location to Traffic
Wetlands		Maintain One Lane - No Temp Pavement X
Ditches	Roadside drainage ditches	Maintain One Lane - Temp Pavement
State Waters		Stage Construction Notes:
Utilities (Visua		
Electric	Aerial 50' away	
Cable	Unknown	
Phone	Aerial 50' away	
Gas Water	Unknown Buried	
Sewer	Bulled	
Other	Fire Hydrant	
Other		ed Design
	Typical	ou besign
Roadway Section		eadwall. Cost of removing makeshit headwall include in pipe removal
Culvert Size & Material	cost Relocation of fire hydrant and war	
Utility Relocations	Relocation of fire flydrant and war	ei ilialii
Guardrail Replacement		
Miscellaneous Features		
	Planning C	Cost Estimate
Туре	Notes	Total
Design	Includes 10% of Construction (
Right of Way Cost	Project entirely v	
Utility Relocation Cost	Fire hydrant and	
Construction Cost		\$43,217
Environmental Permits	Assuming minimal environme	ental permitting required \$10,000
	Total P	lanning Estimate \$69,108











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



Photo 2: Downstream end of culverts.

1/20/2016

Taken By:

David Gibbs

Page

Roadway Construction Pavement (SF) Curb and Gutter (LF) Drain Inlet (EA) 4" Sidewalk (SY) Guardrail (LF) End Anchorage (EA) Subtotal	Removal Unit \$ \$ \$ \$	Cost 0.73 28.56 13.56 4.88	\$ \$	4.87 30.60 33,000.00 36.90 49.09 1,380.00	Amount 450.00 12.00 0.00 0.00 0.00 0.00	\$ - \$ - \$ - \$ - \$ 3,232.32
Grading Complete (5% of Rwy Items & Drng Total \$)						\$ 1,479.90
Roadway Total						\$ 4,712.22
Drainage Trench Excavation (CY) 24" CMP (LF) 24" RCP (LF) Class A Conc (CY) Steel (lb) Pipe Bedding (CY) Trench Backfill (CY) Trench Compaction (CY)	Removal Unit	16.38	Installation Ur \$ \$ \$ \$ \$ \$ \$	54.00 892.19 1.42 48.60 2.99 6.36	186.00 6.20 0.00	\$ 1,339.20 \$ 372.58
Drainage Total						\$26,365.71
Signing and Marking Permanent Striping (LF)			Installation Ur \$	nit Cost 0.71	Amount 36.00	Total Cost \$ 25.49
Signing and Marking Total						\$ 25.49
Staging Clearing and Grubbing (Acre) Temporary Pavement Temporary Drainage (Stream Diversion)				nit Cost 0,260.00 4,428.00	Amount 0.05	Total Cost \$ 513.00 \$ - \$ 4,428.00
Staging Total			•	., .20.00		\$ 4,966.49
Staging Total						\$ 4,900.49
Erosion Control Fine Grading and Seeding (SY) Temporary Grassing (AC) Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			Installation Ur	855.60 4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	Amount 32.67 0.00 248.00 248.00 0.00 0.00 0.00 16.00 16.00 0.00	\$ - \$ 1,050.53 \$ 1,684.42 \$ - \$ - \$ 975.74 \$ 91.58
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 Ur	nit Cost	Amount	Total Cost
Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	\$ \$ \$	55.00 82.50 605.00	0.00 0.00 0.00	\$ - \$ -
Aerial Buried	\$ \$	11.00 16.50	\$ \$	27.50 55.00	0.00 0.00	
Wooden Pole Cable	\$	82.50	\$	605.00	0.00	
Aerial	\$	11.00	\$	27.50	0.00	
Buried Wooden Pole	\$ \$	16.50 82.50	\$ \$	55.00 605.00	0.00 0.00	
Gas 4" main	\$	16.50	\$	66.00	0.00	\$ -
Water 8" main Relocate Fire Hydrant (EA) Sewer	\$	16.50	\$	93.50 2,609.22	36.00 1.00	\$ 3,960.00 \$ 2,609.22
12" main Utility Relocation Total	\$	16.50	\$	82.50	0.00	\$ - \$ 6,569.22
Right of Way (Sq Ft) Permanent Easement ROW Total			Cost/ Sq Ft \$	4.00	Sq Ft 0.00	Total Cost \$ - \$ -

General Inf	formation			Мар	
Project ID				II .	
Street Name	448 Inn	nan Road	HIIO	Au. D	
Site Visit Date		/2016	300 m	Sheldon:Way	
Road Classification		arterial		1	Steri
Project	Notes		D ownybrook:bn	Homer's PI	o Jordan
Gay Creek crossing. Substantial flo	ow. Downstrear	m roadside	okwo	TOILGE S-F-1	7 10100
Gay Creek crossing. Substantial flo			Br. Br.		
			gb real dg		
			Som		
				Morgan Rd	
			Q.	Gay Creek	7
Field N	lotes		song-En:		
Design (Existing	Site Features)		A PART OF THE PART		
Existing Road Laneage		2-12'	276 m		
Existing ShId Width (paved and o	grass) (feet)	6'			
Existing Side Slopes		2:1			
Existing Guardrail		N/A			
Depth fm Pavement to Top of Cu	Ivert (ft):	3'			
Pipe Type and Size		2-84" CMPs			
Pipe Condition (1-5) (1 is new)		3-4		ark Rd	
Rusted out bottoms.			N 0 0.25	0.5	1
				N7-17-52	Miles
Devement Type/Candition		A 1 - 11/O 1		H. W.	
Pavement Type/Condition		Asphalt/Good	Cto wa	.0	
Facility and a set	-l Ft			Construction Options	
Environment	ai Features		Close Location to Traffi Maintain One Lane - No		V
Wetlands Ditches				•	Х
State Waters			Maintain One Lane - Ter		
State waters			Stage Construction Notes		o hong low, nood
			Aerial utility lines above relocating	potential staying are	a nang low, need
Utilities (Visua	I Inspection)		relocating		
Electric		erial			
Cable		nown			
Phone		erial			
Gas		nown			
Water		nown			
Sewer		nown			
Other		nown			
		Propose	ed Design		
Dan Laure Orașii au	Typical	•			
Roadway Section					
Culvert Size 8 Metarial	Double 7' x 6' b	arrel concrete box	culvert		
Culvert Size & Material					
Utility Relocations	Aerial electrical	anf phone wires, u	utility pole		
- Totolada in in					
Guardrail Replacement	Suggest guardr	ails over crossing,	none currently in place.		
Miscellaneous Features					
		Planning C	ost Estimate		
Type		Notes		Tota	
Design	Includes 10		ost and surveying needs	\$26,43	
Right of Way Cost		ming project lies er		\$0	
Utility Relocation Cost		rial phone and ele		\$16,36	63
Construction Cost		-		\$139,3	
Environmental Permits	Assuming I	minimal environme	ental permitting required	\$10,00	
		Total P	anning Estimate	\$192, ²	130
		· Jtai i	aig Lotimate	Ψ132,	





Inman Road



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



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

Photo Date:

2/4/2016

Taken By:

Christian Helfrich

Page

8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft) Permanent Easement	\$	16.50	\$ 82.50 Cost/ Sq Ft \$ 4.00	Sq Ft	\$ 16,362.50 Total Cost
Relocate Fire Hydrant (EA) Sewer 12" main	\$	16.50	\$ 82.50	0.00	
Relocate Fire Hydrant (EA)					
8" main	Ψ	10.00	\$ 2,609.22		
Water	\$	16.50	\$ 93.50		
Gas 4" main	\$	16.50	\$ 66.00		
Buried Wooden Pole	\$ \$	16.50 82.50	\$ 55.00 \$ 605.00		
Cable Aerial	\$	11.00	\$ 27.50		
Wooden Pole	\$	82.50	\$ 605.00		
Buried	\$	16.50	\$ 55.00	0.00	\$ -
Phone Aerial	\$	11.00	\$ 27.50	150.00	\$ 5,775.00
Wooden Pole	\$	82.50	\$ 605.00		
Aerial Buried	\$ \$	11.00 16.50	\$ 55.00 \$ 82.50		
Electric	¢	11.00	¢ 55.00	150.00	¢ 0.000.00
Utility Relocation	Removal Unit	Cost	Installation Unit Cost	Amount	Total Cost
Construction Cost Grand Total					\$ 139,334.04
Traffic Control (8% of Construction Total \$)					\$ 10,321.04
Construction Cost Total					\$129,013.00
Erosion Control Total					\$ 5,698.68
Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 5.72 \$ 54.65		
Rip Rap Type 3 12" (SY)			\$ 60.98		\$ 2,601.98
Landscape Mulch (SY) Perm Grassing (AC)			\$ 3.58 \$ 1,402.20		
Erosion Control Mats (SY)			\$ 1.87	51.33	\$ 96.10
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF)			\$ 4.24 \$ 6.79		
Temporary Grassing (AC)			\$ 855.60 \$		
Erosion Control Fine Grading and Seeding (SY)			Installation Unit Cost \$ 4.39	Amount 199.11	Total Cost \$ 874.50
Staging Total					\$ 6,057.62
Temporary Drainage (Stream Diversion)			\$ 4,428.00	1.00	
Clearing and Grubbing (Acre) Temporary Pavement			\$ 10,260.00		\$ -
Staging			Installation Unit Cost	Amount	Total Cost
Signing and Marking Total			5.71	0-1.00	\$ 45.3
Signing and Marking Permanent Striping (LF)			Installation Unit Cost \$ 0.71	Amount 64.00	Total Cost \$ 45.3
Drainage Total					\$ 100,502.98
Trench Backfill (CY) Trench Compaction (CY)			\$ 2.99 \$ 6.36		
Steel (lb) Pipe Bedding (CY)			\$ 1.42 \$ 48.60	,	
Class A Conc (CY)			\$ 892.19		
84" CMP (LF) 84" RCP	\$	63.00	\$ 142.52		\$ 14,553.00 \$ -
Trench Excavation (CY)	¢	62.00	\$ 10.38		\$ 2,486.59
Drainage	Removal Unit	Cost	Installation Unit Cost	Amount	Total Cost
Roadway Total					\$ 16,708.4
Grading Complete (5% of Rwy Items & Drng Total \$)					\$ 5,581.49
End Anchorage (EA) Subtotal	•		\$ 1,380.00		
4" Sidewalk (SY) Guardrail (LF)	\$ \$	13.56 4.88	\$ 36.90 \$ 49.09		
Drain Inlet (EA)			\$ 3,000.00	0.00	\$ -
()	\$ \$	0.73 28.56	\$ 4.87 \$ 30.60		
Pavement (SF) Curb and Gutter (LF)					
Roadway Construction Pavement (SF) Curb and Gutter (LF)	Removal Unit		Installation Unit Cost	Amount	Total Cost \$ 2,152.

General In	formation	Мар
Project ID		мар
Street Name	510 Janice Drive	
Site Visit Date	5/22/13	
Road Classification	Internal Local	West kase Rd
Project		
Rural Typical Section		Part May 5
		The state of the s
		The same of the sa
		Lang Dr. Lang Dr. Fighous Rd Hil Rd.
Field N	Notes	Band Disconding to the Part of
Design (Existing	Site Features)	# (g) X (X) 1 2 /
Existing Road Laneage	2 - 10'	4 4
Existing Shld Width (paved and g		Farm Lo Se Mil Rd New Hope Rd
Existing Side Slopes	6:1	
Existing Guardrail	None	A Company
Depth fm Pavement to Top of Cu Pipe Type and Size	Ivert (ft): 2 1 - 60" CMP	
Pipe Condition (1-5) (1 is new)	1 - 60° CMP	
Condition Notes: Signs of rust, but		
downstream debris potentially limiti	•	
clear debris		
Pavement Type/Condition	Asphalt/Good	
		Stage Construction Options
Environment		Close Location to Traffic
Wetlands	None	Maintain One Lane - No Temp Pavement X
Ditches	None	Maintain One Lane - Temp Pavement
2 Streams		Stage Construction Notes:
		Stage Construction to have one lane open
Utilities (Visua	al Inspection)	
Electric	Aerial	
Cable	Aerial	
Phone	Aerial	
Gas		
Water	Buried	
Sewer		
Other	Propose	d Design
	гторозе	u Desigli
Roadway Section		
Culvert Size & Material	double 6' x 4' box, concrete, 70' le	ngth
Ca.vort Cizo & material		W
Utility Relocations	Water main and possible aerial fac	cility relocation
Guardrail Replacement		
Miscellaneous Features	Zone A, Floodplain Analysis Requ	red
mocenaneous i catules		
	Planning C	ost Estimate
Туре	Descripti	
Design	Includes 10% Construction Co	
Right of Way Cost	Assuming project extends 2	
Utility Relocation Cost	Aerial and burie	
Construction Cost	Assuming 1/10 acre clea	
Environmental Permits	Permits, Zone A Floo	dplain Analysis \$15,000
	<u> </u>	
	Total Pl	anning Estimate \$196,472









Photo 2:

5/21/2013

Taken By:

David King

Page:





Photo 3:



Photo 4:

Photo Date:

5/21/2013

Taken By:

David King

Page:

Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft) Permanent Easement	\$	16.50	\$ Cost/ Sq Ft \$	82.50 4.00	0.00 Sq Ft 2,500.00	\$ To	15,455.00 otal Cost 10,000.00
Sewer 12" main	\$	16.50	\$	82.50			15,455.00
Sewer	c	16.50	c	00.50		¢.	
			\$	2,609.22	0.00	\$	-
Water 8" main	\$	16.50	\$	93.50	50.00		5,500.00
4" main	\$	16.50	\$	66.00		\$	-
Wooden Pole Gas	\$	82.50	\$	605.00	3.00	\$	-
Aerial Buried	\$ \$	11.00 16.50	\$ \$	27.50 55.00	60.00 0.00		2,310.00
Cable							
Buried Wooden Pole	\$ \$	16.50 82.50	\$ \$	55.00 605.00	0.00	\$ \$	-
Aerial	\$	11.00	\$	27.50	60.00		2,310.00
Wooden Pole Phone	\$	82.50	\$	605.00	2.00	\$	1,375.00
Buried Weeden Rele	\$	16.50	\$	82.50	0.00		1 275 00
Aerial	\$	11.00	\$	55.00	60.00		3,960.00
Utility Relocation Electric	Removal Uni	t Cost	Installation L	Init Cost	Amount	То	otal Cost
Construction Cost Grand Total						\$1	130,470.42
Traffic Control (8% of Construction Total \$)							9,664.48
						\$	
Construction Cost Total							120,805.95
4" Ditch Paving (SY) Erosion Control Total			Ф	54.65	0.00	\$	6,089.37
Plastic Filter Fabric (SY)			\$	5.72	37.33	\$	213.70
Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ \$	1,402.20 60.98	0.00 37.33		- 2,276.74
Landscape Mulch (SY)			\$ \$	3.58	31.11		111.25
Erosion Control Mats (SY)			\$	1.87	31.11	\$	58.24
Check Dam Type C Silt Fence (LF)			\$ \$	4.24 6.79	280.00		1,186.08 1,901.76
Temporary Grassing (AC) Type C Silt Fence (LF)			\$ \$	855.60 4.24	0.00 280.00		- 1 186 08
Fine Grading and Seeding (SY)			\$	4.39	77.78	\$	341.60
Erosion Control			Installation L	Init Cost	Amount	To	otal Cost
Staging Total						\$	5,454.00
Temporary Drainage (Stream Diversion)			\$	4,428.00	1.00		4,428.00
Temporary Pavement						\$	-
Staging Clearing and Grubbing (Acre)			Installation U	Init Cost 10,260.00	Amount 0.10		tal Cost 1,026.00
Signing and Marking Total						\$	-
Signing and Marking Permanent Striping (LF)			\$	0.71	0.00	\$	-
·			Installation U	Init Cost	Amount		otal Cost
Drainage Total							102,490.11
Trench Backfill (CY) Trench Compaction (CY)			\$ \$	2.99 6.36	294.55 235.64		880.12 1,498.68
Pipe Bedding (CY)			\$	48.60	37.30	\$	1,812.78
Class A Conc (CY) Steel (lb)			\$ \$	892.19 1.42	86.48 9,154.00		77,156.42 12,962.06
60" RCP			\$	259.20	0.00		-
60" CMP (LF)	\$	24.60	Φ	10.36	70.00		5,166.00
Drainage Trench Excavation (CY)	Removal Uni	t Cost	Installation U	Init Cost 10.38	Amount 290.37	To \$	otal Cost 3,014.04
Roadway Total						\$	6,772.47
Grading Complete (5% of Rwy Items & Drng Total \$)						\$	5,202.98
						\$	1,569.49
End Anchorage (EA) Subtotal			\$	1,380.00	0.00		4 500 40
4" Sidewalk (SY) Guardrail (LF)	э \$	4.88	э \$	49.09	0.00		-
Drain Inlet (EA)	\$	13.56	\$ \$	3,000.00 36.90	0.00 0.00		-
Curb and Gutter (LF)	\$	28.56	\$	30.60	0.00	\$	-
Out and Out and (LE)	\$	0.73	\$	4.87	280.00	\$	1,569.49
Roadway Construction Pavement (SF)	Removal Uni		Installation L		Amount		otal Cost

General Inf	formation			Мар	
Project ID					
Street Name	671 Keny	wood Road			
Site Visit Date		1/2016	1822 KM 12 121		
Road Classification		r arterial			77/2
Project		artona	kerR	Catharine	run
1.0,001			Cae Co	O C	
				Eranklin Farms Circ	tour.
					Thor
			SYN WOOD		4/~
			1 S 3 / C = 1 / C		1//
				Kenwood R	
Field N					~ 6
Design (Existing	Site Features)			rWa	Southwo
Existing Road Laneage		2-11'	299 m	Benz C	010
Existing Shid Width (paved and o	grass) (feet)	2'	3	Mercedes	Thornton: Dr
Existing Side Slopes		1.5:1			
Existing Guardrail	l (ft) .	None		ornion Ci	Cal
Depth fm Pavement to Top of Cul Pipe Type and Size	ivert (it):	10' 60" CMP	nin Rd Rocky-Creek	0 - 1	Creek Dr
Pipe Condition (1-5) (1 is new)		4-5	IIIn-red		1 13 W
Condition Notes: Deformed/compre	assad (nina siza		N O OOF	0.5	2
determine). No headwalls. Washo			0 0.25	0.5	1 Miles
surface 2' below culvert	at on downstie	an Jido, water		2	Miles
Pavement Type/Condition		Asphalt/Good	Way	Oat	S S
татонноги туро, сеньшинен		7 (Sprian) 000a	Stage	Construction Options	
Environment	al Features		Close Location to Traffi		
Wetlands			Maintain One Lane - No	Temp Pavement	Х
Ditches	Roadside dr	ainage ditches	Maintain One Lane - Te		
State Waters			Stage Construction Notes		
			Utility pole and electric		sible
			construciton staging ar		
Buri	ied				
Electric		erial			
Cable		uried			
Phone	A	erial			
Gas					
Water					
Sewer					
Other		Propos	ed Design		
	Typical	Fiopos	ed Design		
Roadway Section	Турісаі				
	60" round RCP	with straight head	walls		
Culvert Size & Material		gg			
Utility Relocations	Potential remov	/al/replacement of	utility pole and buried cable	line	
Ounty Relocations					
Guardrail Replacement					
Caa. aran 1. opiacement					
Miscellaneous Features					
		Planning C	Cost Estimate		
Type		Notes		Total	
Design	Includes 10%		Cost and surveying needs	\$11,28	
Right of Way Cost		ect assumed to be		\$0	
Utility Relocation Cost		Potential removal	replacement	\$12,10	00
Construction Cost		<u> </u>		\$62,79	
Environmental Permits	Assuming	minimal environme	ental permitting required	\$10,00	00
		Total P	lanning Estimate	\$96,1	78
± 270			<u> </u>	+,.	-





Kenwood Road



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



Photo 2: Downstream end of culvert.

Photo Date:

1/21/2016

Taken By:

David Gibbs

Page

Roadway Construction	Removal Un	t Cost	Installation L	Jnit Cost	Amount	Total	Cost
Pavement (SF)	\$	0.73	\$	4.87	154.00	\$ 8	363.22
Curb and Gutter (LF)	\$	28.56	\$	30.60	0.00		_
	Ψ	20.00					
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	\$	-
			Ψ	1,000.00	0.00		060 00
Subtotal						\$ 8	363.22
Grading Complete (5% of Rwy Items & Drng Total \$)						\$ 2,1	27.89
Roadway Total						\$ 20	91.12
Nodoway Total						Ψ 2,0	001.12
Drainage	Removal Un	t Cost	Installation U		Amount	Total	
Trench Excavation (CY)			\$	10.38	236.44	\$ 2,4	154.29
60" CMP (LF)	\$	24.60			57.00	\$ 1,4	102.20
60" RCP (LF)			\$	281.96	57.00		
			\$	892.19			
Class A Conc (CY)					21.58		.55.42
Steel (lb)			\$	1.42	0.00		-
Pipe Bedding (CY)			\$	48.60	14.78	\$ 7	7 18.20
Trench Backfill (CY)			\$	2.99	222.22	\$ 6	63.98
Trench Compaction (CY)			\$	6.36	177.77		
Treneri Compaction (CT)			Ψ	0.50	111.11	Ψ 1,	30.03
Declaration Total						A 44 C	04.07
Drainage Total						\$41,6	694.67
Signing and Marking			Installation L	Init Cost	Amount	Total	Cost
Permanent Striping (LF)			\$	0.71		\$	-
			~	0.71		Ψ	
o:						•	
Signing and Marking Total						\$	-
Staging			Installation L	Init Cost	Amount	Total	Cost
Clearing and Grubbing (Acre)				10,260.00	0.20		52.00
			Ψ	10,200.00	0.20		002.00
Temporary Pavement			_			\$	
Temporary Drainage (Stream Diversion)			\$	4,428.00	1.00	\$ 4,4	128.00
Staging Total						\$ 64	180.00
Claging Total						Ψ 0,	100.00
Erosion Control			Installation L	Jnit Cost	Amount	Total	Cost
Fine Grading and Seeding (SY)			\$	4.39	27.22	\$ 1	19.56
Temporary Grassing (AC)			\$	855.60	0.00		_
Type C Silt Fence (LF)			\$	4.24	456.00	\$ 1,9	31.62
						\$ 1,9	31.62
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF)			\$ \$	4.24 6.79	456.00 456.00	\$ 1,9 \$ 3,0	931.62 97.15
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY)			\$ \$ \$	4.24 6.79 1.87	456.00 456.00 50.67	\$ 1,9 \$ 3,0 \$	931.62 97.15 94.85
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY)			\$ \$ \$	4.24 6.79 1.87 3.58	456.00 456.00 50.67 50.67	\$ 1,9 \$ 3,0 \$ \$	931.62 97.15
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC)			\$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20	456.00 456.00 50.67 50.67 0.00	\$ 1,9 \$ 3,0 \$ \$ 1	931.62 97.15 94.85 181.18
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ \$ \$ \$ \$	4.24 6.79 1.87 3.58	456.00 456.00 50.67 50.67 0.00 23.33	\$ 1,9 \$ 3,0 \$ \$ 1,4	931.62 97.15 94.85 181.18
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC)			\$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20	456.00 456.00 50.67 50.67 0.00	\$ 1,9 \$ 3,0 \$ \$ 1,4	931.62 97.15 94.85 181.18
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72	456.00 456.00 50.67 50.67 0.00 23.33 23.33	\$ 1,9 \$ 3,0 \$ \$ 1,4 \$ 1,4	931.62 997.15 94.85 181.18 -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98	456.00 456.00 50.67 50.67 0.00 23.33	\$ 1,9 \$ 3,0 \$ \$ 1,4 \$ 1,4	931.62 997.15 94.85 181.18 -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72	456.00 456.00 50.67 50.67 0.00 23.33 23.33	\$ 1,9 \$ 3,0 \$ \$ 1,4 \$ 1	931.62 997.15 94.85 181.18 - 122.96 133.56
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72	456.00 456.00 50.67 50.67 0.00 23.33 23.33	\$ 1,9 \$ 3,0 \$ \$ 1,4 \$ 1	931.62 997.15 94.85 181.18 -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72	456.00 456.00 50.67 50.67 0.00 23.33 23.33	\$ 1,9 \$ 3,0 \$ \$ 1,4 \$ 1	931.62 997.15 94.85 181.18 - 122.96 133.56
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72	456.00 456.00 50.67 50.67 0.00 23.33 23.33	\$ 1,9 \$ 3,0 \$ 1,4 \$ 1,4 \$ 6,9	931.62 997.15 94.85 181.18 - 422.96 33.56 -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72	456.00 456.00 50.67 50.67 0.00 23.33 23.33	\$ 1,9 \$ 3,0 \$ 1,4 \$ 1,4 \$ 6,9	931.62 997.15 94.85 181.18 - 122.96 133.56
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72	456.00 456.00 50.67 50.67 0.00 23.33 23.33	\$ 1,5 \$ 3,0 \$ 1,4 \$ 1,4 \$ 1,4 \$ 5,5 \$ 5,5	931.62 997.15 94.85 181.18 - 122.96 133.56 - 980.88
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72	456.00 456.00 50.67 50.67 0.00 23.33 23.33	\$ 1,5 \$ 3,0 \$ 1,4 \$ 1,4 \$ 1,4 \$ 5,5 \$ 5,5	931.62 997.15 94.85 181.18 - 422.96 33.56 -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)			\$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72	456.00 456.00 50.67 50.67 0.00 23.33 23.33	\$ 1,5 \$ 3,0 \$ 1,2 \$ 1,2 \$ 6,5 \$ 58,1	931.62 1997.15 194.85 181.18 122.96 133.56 146.66 146.66
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72	456.00 456.00 50.67 50.67 0.00 23.33 23.33	\$ 1,5 \$ 3,0 \$ 1,2 \$ 1,2 \$ 6,5 \$ 58,1	931.62 997.15 94.85 181.18 - 122.96 133.56 - 980.88
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)			\$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72	456.00 456.00 50.67 50.67 0.00 23.33 23.33	\$ 1,5 \$ 3,0 \$ 1,2 \$ 1,2 \$ 6,5 \$ 58,1	931.62 1997.15 194.85 181.18 122.96 133.56 146.66 146.66
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)	Removal Un	it Cost	\$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	456.00 456.00 50.67 50.67 0.00 23.33 23.33	\$ 1,9 \$ 3,0 \$ 1,4 \$ 1,4 \$ 6,9 \$ 58,1 \$ 4,6 \$ 62,7	931.62 1997.15 194.85 181.18 122.96 133.56 146.66 1980.88
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal Un	it Cost	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00	\$ 1,5 \$ 3,0 \$ 1,2 \$ 1,2 \$ 6,5 \$ 58,1	931.62 1997.15 194.85 181.18 122.96 133.56 146.66 1980.88
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric			\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation U	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	456.00 456.00 50.67 50.67 0.00 23.33 0.00	\$ 1,9 \$ 3,0 \$ 1,2 \$ 1,2 \$ 1,2 \$ 1,2 \$ 1,2 \$ 1,4 \$ 58,1 \$ 6,9 \$ 62,7	931.62 997.15 94.85 181.18 - 122.96 133.56 - 980.88 146.66 651.73 798.40 Cost
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$	11.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	456.00 456.00 50.67 50.67 0.00 23.33 0.00 Amount	\$ 1,5 \$ 3,0 \$ 1,2 \$ 1,2 \$ 6,5 \$ 6,5 \$ 62,7 Total	931.62 997.15 94.85 181.18 - 122.96 133.56 - 980.88 146.66 651.73 798.40 Cost
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Juit Cost 55.00 82.50	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00	\$ 1,5 \$ 3,0 \$ 1,5 \$ 1,4 \$ 5 1,4 \$ 6,5 \$ 58,1 \$ 4,6 \$ 62,7 Total	931.62 997.15 94.85 81.18 422.96 133.56 - 980.88 446.66 651.73 798.40 Cost
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$	11.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	456.00 456.00 50.67 50.67 0.00 23.33 0.00 Amount	\$ 1,5 \$ 3,0 \$ 1,5 \$ 1,4 \$ 5 1,4 \$ 6,5 \$ 58,1 \$ 4,6 \$ 62,7 Total	931.62 997.15 94.85 181.18 - 122.96 133.56 - 980.88 146.66 651.73 798.40 Cost
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Juit Cost 55.00 82.50	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00	\$ 1,5 \$ 3,0 \$ 1,5 \$ 1,4 \$ 5 1,4 \$ 6,5 \$ 58,1 \$ 4,6 \$ 62,7 Total	931.62 997.15 94.85 81.18 422.96 133.56 - 980.88 446.66 651.73 798.40 Cost
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Jnit Cost 55.00 82.50 605.00	456.00 456.00 50.67 50.67 0.00 23.33 0.00 Amount 75.00 0.00 1.00	\$ 1,5 \$ 3,0 \$ 1,5 \$ 1,2 \$ 1,2 \$ 5,1 \$ 4,6 \$ 62,7 Total	931.62 997.15 94.85 181.18
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ \$ \$	11.00 16.50 82.50 11.00	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50	456.00 456.00 50.67 50.67 0.00 23.33 0.00 Amount 75.00 0.00 1.00	\$ 1,5 \$ 3,0 \$ \$ 1,5 \$ \$ 1,2 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4	931.62 997.15 94.85 181.18
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Jnit Cost 55.00 82.50 605.00 27.50 55.00	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00 1.00	\$ 1,5 \$ 3,0 \$ \$ 1,5 \$ \$ 3,0 \$ \$ 1,5 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4 \$ 1,	931.62 997.15 94.85 181.18 122.96 133.56 - 980.88 146.66 551.73 798.40 Cost 950.00 - 687.50
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole	\$ \$ \$	11.00 16.50 82.50 11.00	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50	456.00 456.00 50.67 50.67 0.00 23.33 0.00 Amount 75.00 0.00 1.00	\$ 1,5 \$ 3,0 \$ \$ 1,5 \$ \$ 3,0 \$ \$ 1,5 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4 \$ 1,	931.62 997.15 94.85 181.18
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Jnit Cost 55.00 82.50 605.00 27.50 55.00	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00 1.00	\$ 1,5 \$ 3,0 \$ \$ 1,5 \$ \$ 3,0 \$ \$ 1,5 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4 \$ \$ 1,4 \$ 1,	931.62 997.15 94.85 181.18 122.96 133.56 - 980.88 146.66 551.73 798.40 Cost 950.00 - 687.50
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Jnit Cost 55.00 82.50 605.00 27.50 605.00	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00 1.00 75.00 0.00 0.00	\$ 1,5 \$ 3,0 \$ 1,5	931.62 997.15 94.85 181.18 122.96 133.56 - 980.88 146.66 551.73 798.40 Cost 950.00 - 687.50
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Wooden Pole Cable Aerial	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00 1.00 75.00 0.00 0.00	\$ 1,5 \$ 3,6 \$ 1,5	931.62 997.15 94.85 181.18
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00 1.00 75.00 0.00 0.00 0.00 50.00	\$ 1,5 \$ 3,6 \$ 58,1 1,4 \$ \$ 1,5 \$ \$ 6,5 \$ \$ 58,1 Total \$ 4,5 \$ \$ \$ \$ 2,5 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	931.62 997.15 94.85 181.18 422.96 133.56 980.88 446.66 551.73 798.40 Cost 987.50 887.50
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00 1.00 75.00 0.00 0.00	\$ 1,5 \$ 3,6 \$ 58,1 1,4 \$ \$ 1,5 \$ \$ 6,5 \$ \$ 58,1 Total \$ 4,5 \$ \$ \$ \$ 2,5 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	931.62 997.15 94.85 181.18 422.96 133.56 980.88 446.66 551.73 798.40 Cost 987.50 887.50
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00 1.00 75.00 0.00 0.00 0.00 50.00	\$ 1,5 \$ 3,6 \$ 58,1 1,4 \$ \$ 1,5 \$ \$ 6,5 \$ \$ 58,1 Total \$ 4,5 \$ \$ \$ \$ 2,5 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	931.62 997.15 94.85 181.18 422.96 133.56 980.88 446.66 551.73 798.40 Cost 987.50 887.50
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00 1.00 75.00 0.00 0.00 0.00 50.00	\$ 1,5 \$ 3,0 \$ 1,5	931.62 997.15 94.85 181.18 422.96 133.56 980.88 446.66 551.73 798.40 Cost 987.50 887.50
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Installation USSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Jnit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00 1.00 75.00 0.00 0.00 0.00 0.00	\$ 1,5 \$ 3,0 \$ 1,5	931.62 997.15 94.85 181.18 422.96 133.56 980.88 446.66 551.73 798.40 Cost 987.50 887.50
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Installation U \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00 1.00 75.00 0.00 0.00 0.00 0.00	\$ 1,5 \$ 3,6 \$ 1,5	931.62 997.15 94.85 181.18 422.96 133.56 980.88 446.66 551.73 798.40 Cost 987.50 887.50
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Installation USSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Jnit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00 1.00 75.00 0.00 0.00 0.00 0.00	\$ 1,5 \$ 3,6 \$ 1,5	931.62 997.15 94.85 181.18 422.96 133.56 980.88 446.66 551.73 798.40 Cost 987.50 887.50
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Sewer	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation L S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00 605.00 93.50	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00 1.00 75.00 0.00 0.00 0.00 0.00 0.00	\$ 1,5 \$ 3,0 \$ 1,5	931.62 997.15 94.85 181.18 422.96 133.56 980.88 446.66 551.73 798.40 Cost 987.50 887.50
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Installation U \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00 1.00 75.00 0.00 0.00 0.00 0.00	\$ 1,5 \$ 3,0 \$ 1,5	931.62 997.15 94.85 181.18 422.96 133.56 980.88 446.66 551.73 798.40 Cost 987.50 887.50
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Sewer 12" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation L S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00 605.00 93.50	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00 1.00 75.00 0.00 0.00 0.00 0.00 0.00	\$ 1,5 \$ 3,0 \$ 1,5	931.62 997.15 94.85 181.18
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Sewer	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation L S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00 605.00 93.50	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00 1.00 75.00 0.00 0.00 0.00 0.00 0.00	\$ 1,5 \$ 3,0 \$ 1,5	931.62 997.15 94.85 181.18 422.96 133.56 980.88 446.66 551.73 798.40 Cost 987.50 887.50
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Sewer 12" main Utility Relocation Total	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation USSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00 605.00 93.50	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00 1.00 0.00 0.00 0.00 0.00 0.00	\$ 1,5 \$ 3,0 \$ 5,5 \$ 1,4 \$ 4,5 \$ 5,5	931.62 997.15 94.85 181.18 422.96 133.56 - 980.88 46.66 551.73 798.40 Cost 950.00 - 687.50 - -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Juit Cost 55.00 82.50 605.00 27.50 55.00 605.00 605.00 93.50 82.50	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$ 1,5 \$ 3,0 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ 1,	931.62 997.15 94.85 181.18 122.96 133.56 146.66 651.73 798.40 Cost 1950.00 1970.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Sewer 12" main Utility Relocation Total Right of Way (Sq Ft) Permanent Easement	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation USSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00 605.00 93.50	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00 1.00 0.00 0.00 0.00 0.00 0.00	\$ 1,5 \$ 3,0 \$ 1,5 \$ 3,0 \$ 1,5	931.62 997.15 94.85 181.18 122.96 133.56 988.88 146.66 1551.73 1798.40 187.5
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Juit Cost 55.00 82.50 605.00 27.50 55.00 605.00 605.00 93.50 82.50	456.00 456.00 50.67 50.67 0.00 23.33 23.33 0.00 Amount 75.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$ 1,5 \$ 3,0 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ \$ 1,5 \$ 1,	931.62 997.15 94.85 181.18 122.96 133.56 146.66 651.73 798.40 Cost 1950.00 1970.00

General In	formation	Мар
Project ID		THE THE VIN
Street Name	547 Kenwood Road	The state of the s
Site Visit Date	5/22/13	The same of the sa
Road Classification	Minor Arterial	The state of the s
Project	Notes	Kite Lake Rd W. Favette C To de .
Rural Typical Section		pud/at to
		Kilo Lake
Field N		The made of them ton Co.
Design (Existing Existing Road Laneage	2-12'	- C/8-13-13-13-13-13-13-13-13-13-13-13-13-13-
Existing Shid Width (paved and o		Brogderi Rd Betnes or
Existing Side Slopes	1:1	18 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Existing Guardrail	None	B 1 18 18
Depth fm Pavement to Top of Cu		
Pipe Type and Size	96" CMP	New Park Colors of
Pipe Condition (1-5) (1 is new)	3	The same of the sa
Condition Notes: Rusted severely of	•	N. Committee of the com
ends; 3' + drop on downstream end	d, interior structure ok,	
debris/maintenance needed		
Pavement Type/Condition	Asphalt/Good	Otana Canatanatian Ontiona
Environment	tal Foatures	Stage Construction Options Close Location to Traffic X
Wetlands	None	Maintain One Lane - No Temp Pavement
Ditches	Noted	Maintain One Lane - Temp Pavement
Ditches	Holod	Stage Construction Notes: 35 mph posted
		otage construction reces. compri posted
Utilities (Visua	al Inspection)	
Electric	Aerial	
Cable	Aerial	
Phone	Aerial	
Gas		
Water	Buried	
Sewer		
Other	Propos	l ed Design
	Гюрозо	cu Design
Roadway Section		
0.1	8' x 5' box, concrete, 80' length	
Culvert Size & Material		
Utility Relocations		
· ·	Guardrail due to culvert and side	slones
Guardrail Replacement	Suardrain add to survert and side	5,000
Miscellaneous Features		
	Planning C	Cost Estimate
Туре	Notes	
Design	Includes 10% Construction Co	
Right of Way Cost	Assuming project extends 7	7,500 sf beyond ROW \$15,000
Utility Relocation Cost	Buried uti	lities \$5,500
Construction Cost	Assuming 1/10 acre clea	
Environmental Permits	Assuming minimal environme	ental permitting required \$10,000

Total Planning Estimate

\$229,611







Photo 1:



Photo 2:

5/21/2013

Taken By:

David King

Page:

Right of Way (Sq Ft) Permanent Easement			Cost/ Sq Ft \$	4.00	Sq Ft 3,750.00		tal Cost 15,000.00
12" main Utility Relocation Total	\$	16.50	\$	82.50	0.00	\$	5,500.00
Relocate Fire Hydrant (EA) Sewer	c	40.50	\$	2,609.22	0.00	\$	-
8" main	\$	16.50	\$	93.50	50.00		5,500.00
4" main Water	\$	16.50	\$	66.00		\$	-
Wooden Pole Gas	\$	82.50	\$	605.00		\$	-
Aerial Buried	\$ \$	16.50	\$ \$	27.50 55.00	0.00	\$	-
Cable Aprial		11.00					
Buried Wooden Pole	\$ \$	82.50	\$ \$	605.00	0.00	ъ \$	-
Aerial Buried	\$ \$	11.00 16.50	\$ \$	27.50 55.00	0.00	\$ \$	-
Phone							
Buried Wooden Pole	\$ \$	16.50 82.50	\$ \$	82.50 605.00	0.00	\$ \$	-
Aerial	\$	11.00	\$	55.00	0.00	\$	-
Utility Relocation Electric	Remova	ii Offic Cost	mstaliation	Jilli Cost	Amount	10	iai Cosi
	D	I Unit Cost	Installation U	Init On at	Amount		tal Cost
Construction Cost Grand Total						\$ 1	76,464.44
Traffic Control (8% of Construction Total \$)						\$	13,071.44
Construction Cost Total						\$ 1	63,393.00
Erosion Control Total						\$	7,803.97
Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ \$	5.72 54.65	48.00 0.00		274.75 -
Rip Rap Type 3 12" (SY)			\$	60.98	48.00	\$	2,927.23
Perm Grassing (AC)			\$	1,402.20	0.00	\$	-
Erosion Control Mats (SY) Landscape Mulch (SY)			\$ \$	1.87 3.58	106.67 106.67		199.68 381.44
Check Dam Type C Silt Fence (LF)			\$	6.79	320.00		2,173.44
Type C Silt Fence (LF)			\$	4.24	320.00		1,355.52
Fine Grading and Seeding (SY) Temporary Grassing (AC)			\$ \$	4.39 855.60	112.00 0.00		491.90 -
Erosion Control			Installation U		Amount		tal Cost
Staging Total						\$	5,555.95
Гетрогагу Pavement Гетрогагу Drainage (Stream Diversion)			\$	4,428.00	1.00	\$ \$	- 4,428.00
Clearing and Grubbing (Acre)				10,260.00	0.10	\$	1,026.00
Staging			Installation U	Jnit Cost	Amount	To	tal Cost
Signing and Marking Total						\$	50.98
Permanent Striping (LF)			\$	0.71	72.00	\$	50.98
Signing and Marking			Installation U	Jnit Cost	Amount	To	tal Cost
Drainage Total						\$ 1	10,670.59
Trench Compaction (CY)			\$	6.36	504.51		3,208.66
Pipe Bedding (CY) French Backfill (CY)			\$ \$	48.60 2.99	54.70 630.63		2,658.42 1,884.33
Steel (lb)			\$	1.42	9,406.00	\$	13,318.90
96" RCP Class A Conc (CY)			\$ \$	142.52 892.19	0.00 74.23		66,230.68
96" CMP (LF)	\$	72.00	œ	140.50	80.00		17,280.00
Trench Excavation (CY)			\$	10.38	586.67	\$	6,089.60
Orainage	Remova	I Unit Cost	Installation U	Init Cost	Amount	To	tal Cost
Roadway Total						\$	39,311.51
Grading Complete (5% of Rwy Items & Drng Total	\$)					\$	7,142.00
Subtotal			Ψ	1,000.00	2.00		32,169.50
Guardrail (LF) End Anchorage (EA)	\$	4.88	\$ \$	49.09 1,380.00	500.00 2.00		26,988.00 2,760.00
1" Sidewalk (SY)	\$	13.56	\$	36.90	0.00	\$	-
Curb and Gutter (LF) Orain Inlet (EA)	Ф	28.56	\$ \$	30.60 3,000.00	0.00		-
Pavement (SF)	\$ \$	0.73	\$	4.87	432.00	\$	2,421.50
Roadway Construction		I Unit Cost	Installation U		Amount		tal Cost

General In	formation	Мар
Project ID		
Street Name	200 Kingswood Drive	Marion Blvd.
Site Visit Date	1/20/2016	
Road Classification	Minor road	
Project		85
110,000	110100	188
		perry Creek USSER C
		Royal-Ridge Mained
		New York Control of the Control of t
		Roxo ^o Ridge-Way
		Ct
Field N	Notes	& Ct MOSNOOD D HIIO-Rd
Design (Existing	Site Features)	Derby-Dr Beacon:Dr
Existing Road Laneage	2-12'	
Existing Shld Width (paved and	grass) (feet) 12'	Green-Field C
Existing Side Slopes	8:1	269 m
Existing Guardrail	None	
Depth fm Pavement to Top of Cu		CRd CRd
Pipe Type and Size	48" CMP	
Pipe Condition (1-5) (1 is new)	4-5	
Condition Notes: Rusted out botton	ms. Concrete headwall and	$\begin{bmatrix} N \\ A \end{bmatrix} \begin{bmatrix} 0 \\ 0.25 \\ 0.5 \end{bmatrix} $
sluice/exaggerated inlet		Miles
D		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Pavement Type/Condition	Asphalt/Good	
		Stage Construction Options
Environment	tal Features	Close Location to Traffic
Wetlands	Dandaida dusinana ditabas	Maintain One Lane - No Temp Pavement X
Ditches	Roadside drainage ditches	Maintain One Lane - Temp Pavement
State Waters		Stage Construction Notes:
Utilities (Visua	l Inanaction)	
Electric	Unknown	
Cable	Buried	
Phone	Unknown	
Gas	Unknown	
Water	Buried	
Sewer	Unknown	
Other		
	Propos	ed Design
Baadway Castian	Typical	·
Roadway Section		
Culvert Size & Material	48" round RCP with straight head	walls. Cost of removing each existing headwall and small spillway
Culvert Size & Material	equal to removal of entire length of	of pipe.
Utility Relocations	Removal/replacement of fire hydr	and and buried water, cable lines
- Indiana in the control of the cont		
Guardrail Replacement		
·		
Miscellaneous Features		
	Planning C	ost Estimate
Туре	Notes	
Design	Includes 10% Construction C	
Right of Way Cost	Assume project extends p	
Utility Relocation Cost		\$11,684
Construction Cost		\$65,122
Environmental Permits	Assuming minimal environme	ental permitting required \$10,000
	Total P	lanning Estimate \$115,742
		Ŧ -7





Photo 1: Upstream end of culvert.



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

1/20/2016

Taken By:

David Gibbs

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Right of Way (Sq Ft) Permanent Easement ROW Total			Cost/ Sq Ft \$ 4.00	Sq Ft 356.00	Total Cost \$ 17,424.00 \$ 17,424.00
Utility Relocation Total					\$11,684.22
Sewer 12" main	\$	16.50	\$ 82.50		
8" main Relocate Fire Hydrant (EA)	\$	16.50	\$ 93.50 \$ 2,609.22		\$ 5,500.00 \$ 2,609.22
4" main Water	\$	16.50	\$ 66.00	0.00	\$ -
Wooden Pole Gas	\$	82.50	\$ 605.00		
Aerial Buried	\$ \$	11.00 16.50	\$ 27.50 \$ 55.00		\$ - \$ 3,575.00
Cable		82.50	\$ 605.00	0.00	φ -
Buried Wooden Pole	\$ \$	16.50 82.50	\$ 55.00 \$ 605.00	0.00	\$ -
Aerial	\$	11.00	\$ 27.50		
Wooden Pole Phone	\$	82.50	\$ 605.00	0.00	\$ -
Buried	\$	16.50	\$ 82.50	0.00	\$ -
Aerial	\$	11.00	\$ 55.00	0.00	\$ -
Utility Relocation Electric	Removal Un	it Cost	Installation Unit Cost	Amount	Total Cost
Construction Cost Grand Total					\$65,121.94
Traffic Control (8% of Construction Total \$)					\$ 4,823.85
Construction Cost Total					\$60,298.09
Erosion Control Total					\$ 7,421.20
Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 5.72 \$ 54.68		
Rip Rap Type 3 12" (SY)			\$ 60.98	3 12.00	\$ 731.81
Perm Grassing (AC)			\$ 1,402.20		
Erosion Control Mats (SY) Landscape Mulch (SY)			\$ 1.87 \$ 3.58		
Check Dam Type C Silt Fence (LF)			\$ 6.79	552.00	\$ 3,749.18
Type C Silt Fence (LF)			\$ 4.24	552.00	\$ 2,338.27
Fine Grading and Seeding (SY) Temporary Grassing (AC)			\$ 4.39 \$ 855.60		
Erosion Control			Installation Unit Cost	Amount	Total Cost
Staging Total					\$ 6,480.00
Temporary Drainage (Stream Diversion)			\$ 4,428.00	1.00	\$ 4,428.00
Clearing and Grubbing (Acre) Temporary Pavement			\$ 10,260.00		\$ 2,052.00
Staging			Installation Unit Cost	Amount	Total Cost
Signing and Marking Total					\$ -
Permanent Striping (LF)			\$ 0.7		\$ -
Signing and Marking			Installation Unit Cost	Amount	Total Cost
Drainage Total					\$ 43,380.35
Trench Backfill (CY) Trench Compaction (CY)			\$ 2.99 \$ 6.30		
Pipe Bedding (CY)			\$ 48.60	20.44	\$ 993.60
Class A Conc (CY) Steel (lb)			\$ 892.19 \$ 1.42		\$ 12,222.98 \$ -
48" RCP (LF)			\$ 193.20		\$17,774.40
48" CMP (LF)	\$	24.60	φ 10.30		\$ 9,052.80
Drainage Trench Excavation (CY)	Removal Un	it Cost	Installation Unit Cost \$ 10.38	Amount 194.22	Total Cost \$ 2,016.03
Roadway Total					\$ 3,016.54
Grading Complete (5% of Rwy Items & Drng Total \$)					\$ 2,209.38
Subtotal					\$ 807.17
End Anchorage (EA)	Ψ	4.00	\$ 1,380.00		\$ -
4" Sidewalk (SY) Guardrail (LF)	\$ \$	13.56 4.88	\$ 36.90 \$ 49.09		
Drain Inlet (EA)			\$ 3,000.00	0.00	\$ -
Pavement (SF) Curb and Gutter (LF)	\$ \$	0.73 28.56	\$ 4.85 \$ 30.60		\$ 807.17 \$ -
Roadway Construction	Removal Un		Installation Unit Cost	Amount	Total Cost

General In	formation	Мар
Project ID		
Street Name	115 Mark Lane	HENT E
Site Visit Date	5/22/13	And the state of t
Road Classification	Minor road	Bonday A Company
Project		
Urban typical with Curb and Gutter		THE THE PERSON OF THE PERSON O
	V .	Neely Rd Rd
Field I		Berkby P/ V
Design (Existing	•	Grace By White Oak New 2
Existing Road Laneage	2 - 10' grass) (feet) 4'	
Existing ShId Width (paved and general Existing Side Slopes	Flat	Course See Course
Existing Guardrail	None	J18 / 2 H2
Depth fm Pavement to Top of Cu		1)2 1/2 1/2
Pipe Type and Size	60" CMP	
Pipe Condition (1-5) (1 is new)	4	
Condition Notes: Not straight, joint		Stanley Rd Fernway Dr 30 1 Sitmore Dr
(1/2' of sediment 90' length)	damago, downoneam soumlent	Stanley Ro Sitmore Dr Vole Dr
· · · · · · · · · · · · · · · · · · ·		Land - The
Pavement Type/Condition	Asphalt/Good	- Harrison -
7, 100	7.001.0000	Stage Construction Options
Environmen	tal Features	Close Location to Traffic
Wetlands	X (Upstream)	Maintain One Lane - No Temp Pavement X
Ditches	None	Maintain One Lane - Temp Pavement
		Stage Construction Notes:
Utilities (Visua		
Electric	Buried	
Cable	Buried	
Phone	Buried	
Gas		
Water	Buried	
Sewer		
Other	Propos	ed Design
	Tropos	eu Desigii
Roadway Section		
Culvent Cine 9 Material	Double 6x4' box, concrete, 90'	
Culvert Size & Material		
Utility Relocations	Electric, cable, phone, water	
Guardrail Replacement		
Miscellaneous Features		
		No. of Factors of
T		Cost Estimate
Type	Note: Includes 10% Construction C	
Design Pight of Way Cost	Assuming project extends	
Right of Way Cost Utility Relocation Cost	Assuming project extends Buried ut	
Construction Cost	Assuming 1/10 acre cle	
Environmental Permits	Assuming minimal environment	ental permitting required \$10,000
Liivii Oliillelitai Felliilts	7.000mmig minimal environme	- Ψ10,000
	Total D	Janning Estimate \$240,027
	I Otal P	lanning Estimate \$249,037



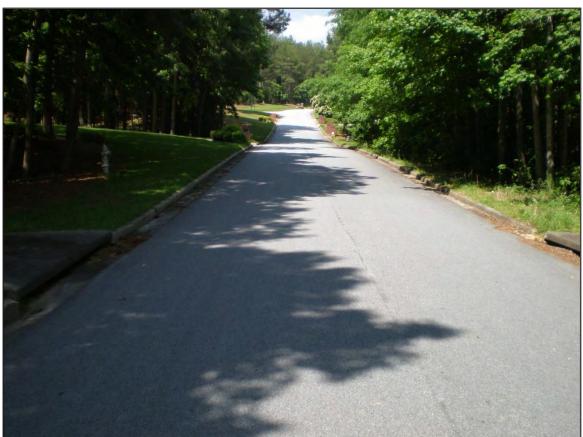




Photo 1:



Photo 2:

5/21/2013

Taken By:

David King

Page:





Photo 3:



Photo 4:

Photo Date:

5/21/2013

Taken By:

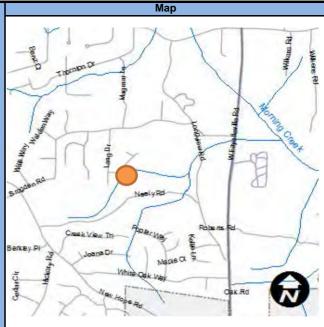
David King

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,	•						
Roadway Construction	Removal U	Jnit Cost	Installation Unit	Cost	Amount	To	tal 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)				000.00	2.00	\$	6,000.00
4" Sidewalk (SY)	\$	13.56	\$	36.90	0.00		-
, ,	\$		\$	49.09			
Guardrail (LF)	Ф	4.88			0.00		-
End Anchorage (EA)			\$ 1,3	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 L	Jnit Cost	Installation Unit		Amount		tal 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
			•	0.00	100.20		
Drainage Total						\$ 1	31,250.48
Signing and Marking			Installation Unit	Cost	Amount	To	tal Cost
Permanent Striping (LF)			\$	0.71	56.00	\$	39.65
. SSilon Onlying (Li)			~	5.71	50.00	Ψ	55.05
Signing and Marking Total						\$	39.65
Staging			Installation I Init	Cost	Amount	T-	tal Cost
Staging Clearing and Crubbing (Acre)			Installation Unit		Amount		tal Cost
Clearing and Grubbing (Acre)			\$ 10,2	260.00	0.10	\$	1,026.00
Temporary Pavement						\$	-
Temporary Drainage (Stream Diversion)			\$ 4,4	428.00	1.00	\$	4,428.00
Staging Total						\$	5,533.30
							ŕ
Erosion Control			Installation Unit	Cost	Amount	To	tal 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)				402.20	0.00		.202
			\$				2 276 74
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
Occasionation Cont Tatal						Φ.	CO 405 00
Construction Cost Total						⊅ 1	62,405.03
Traffic Control (8% of Construction Total \$)						\$	12,992.40
Construction Cost Grand Total						\$1	75,397.43
Utility Relocation	Removal L	Jnit Cost	Installation Unit	Cost	Amount	To	tal Cost
Electric				,	50.11	, 0	2 300
	e	11.00	¢	55.00		Ф	
Aerial	\$	11.00	\$	55.00	EC 25	\$	4.050.00
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	55.00	\$	
	Ψ	02.00	Ψ (505.00		Ψ	-
Cable	¢.	44.00	œ	07.50		e	
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)				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	To	tal Cost
Permanent Easement			\$	4.00	4,000.00		16,000.00
Permanent Easement ROW Total				4.00		\$	

	formation		
Project ID			W
Street Name	130 Mat	thew Way	50
Site Visit Date	5/2	22/13	- Gord
Road Classification	Intern	al Local	D Thombs D
Projec	t Notes		
Field	Notes		Wite May y Man May 19 M
Design (Existin			- aa)
Existing Road Laneage	,	2-10'	S. 100 de n. Rú
		6'	
Existing Shld Width (paved and	grass) (reet)	U	
- "	grass) (feet)	Flat	
Existing Side Slopes Existing Guardrail		•	Crock View Int - Float
Existing Side Slopes Existing Guardrail Depth fm Pavement to Top of Cu		Flat None 4	Serkey Pi
Existing Side Slopes Existing Guardrail Depth fm Pavement to Top of Cu Pipe Type and Size		Flat None 4 72" CMP	Benkley Pi
Existing Side Slopes Existing Guardrail Depth fm Pavement to Top of Cu Pipe Type and Size Pipe Condition (1-5) (1 is new)	llvert (ft):	Flat None 4 72" CMP	Benkey Pi
Existing ShId Width (paved and particular States of Stat	llvert (ft):	Flat None 4 72" CMP	Benkley Pi

r aveilletit Type/Condition	Aspriali/Good				
Environmental Features					
Wetlands	'es				
Ditches	None				
•					
•					
-					
Utilities (Visua	al Inspection)				
Electric	Bu	ıried			
Cable	Bu	ıried			
Phone	Bu	ıried			
Gas					
Water	Bu	ıried			
Sewer					
Other	Street Light a	above structure			



Stage Construction Options				
Close Location to Traffic				
Maintain One Lane - No Temp Pavement	Χ			
Maintain One Lane - Temp Pavement				

Stage Construction Notes:

	Proposed Design
Roadway Section	
Cilivert 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					
Туре	Notes 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:

Photo Date:

5/21/2013

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David King

Page:





Photo 3:



Photo 4:

Photo Date:

5/21/2013

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Page:

Roadway Construction	Removal Un		Installation L		Amount		tal 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 Un	it Cost	Installation L		Amount		otal Cost
Trench Excavation (CY)	•		\$	10.38	651.85	\$	6,766.22
72" CMP (LF)	\$	54.00	•	000.00			19,440.00
72" RCP			\$	390.00	0.00		-
Class A Conc (CY)			\$	892.19			142,705.47
Steel (lb)			\$	1.42	17,018.00		
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	Ф	3,610.80
Drainage Total						0	201,690.50
Drainage Total						Φ 2	201,090.50
Signing and Marking			Installation L	Init Cost	Amount	To	otal Cost
Permanent Striping (LF)			\$	0.71	0.00	\$	nai OUSI
r ermanent ottipling (LF)			φ	0.71	0.00	φ	-
Signing and Marking Total						\$	
Signing and Marking Total						Φ	-
Staging			Installation L	Init Cost	Amount	To	otal Cost
Clearing and Grubbing (Acre)				10,260.00	0.10		1,026.00
Temporary Pavement			Ψ	10,200.00	0.10	\$	-
Temporary Drainage (Stream Diversion)			\$	4,428.00	1.00	\$	4,428.00
remperary Pramage (Gueam Protein)			•	., .20.00		Ψ	1, 120.00
Staging Total						\$	5,454.00
gg						-	0, 10 1100
Erosion Control			Installation L	Jnit Cost	Amount	To	tal 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	œ	1,355.52
						Φ	
				6.79			
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY)			\$		320.00 320.00 106.67	\$	2,173.44 199.68
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY)			\$ \$	6.79	320.00	\$ \$	2,173.44
Check Dam Type C Silt Fence (LF)			\$	6.79 1.87	320.00 106.67	\$ \$ \$	2,173.44 199.68
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY)			\$ \$ \$	6.79 1.87 3.58	320.00 106.67 106.67	\$ \$ \$	2,173.44 199.68
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC)			\$ \$ \$	6.79 1.87 3.58 1,402.20	320.00 106.67 106.67 0.00	\$ \$ \$ \$	2,173.44 199.68 381.44
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98	320.00 106.67 106.67 0.00 53.33	\$ \$ \$ \$ \$ \$	2,173.44 199.68 381.44 - 3,252.48
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72	320.00 106.67 106.67 0.00 53.33 53.33	\$ \$ \$ \$ \$ \$	2,173.44 199.68 381.44 - 3,252.48
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72	320.00 106.67 106.67 0.00 53.33 53.33	\$ \$ \$ \$ \$ \$	2,173.44 199.68 381.44 - 3,252.48
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72	320.00 106.67 106.67 0.00 53.33 53.33	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,173.44 199.68 381.44 - 3,252.48 305.28 - 8,253.44
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72	320.00 106.67 106.67 0.00 53.33 53.33	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,173.44 199.68 381.44 - 3,252.48 305.28
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72	320.00 106.67 106.67 0.00 53.33 53.33	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,173.44 199.68 381.44 - 3,252.48 305.28 - 8,253.44 230,321.42
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72	320.00 106.67 106.67 0.00 53.33 53.33	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,173.44 199.68 381.44 - 3,252.48 305.28 - 8,253.44
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)			\$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72	320.00 106.67 106.67 0.00 53.33 53.33	\$ \$ \$ \$ \$ \$ \$ \$ \$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72	320.00 106.67 106.67 0.00 53.33 53.33	\$ \$ \$ \$ \$ \$ \$ \$ \$	2,173.44 199.68 381.44 - 3,252.48 305.28 - 8,253.44 230,321.42
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total	Domos	it Cort	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	320.00 106.67 106.67 0.00 53.33 53.33 0.00	\$	2,173.44 199.68 381.44 3,252.48 305.28 - 8,253.44 230,321.42 18,425.71 248,747.14
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal Un	it Cost	\$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	320.00 106.67 106.67 0.00 53.33 53.33	\$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric			\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	320.00 106.67 106.67 0.00 53.33 53.33 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,173.44 199.68 381.44 3,252.48 305.28 - 8,253.44 230,321.42 18,425.71 248,747.14
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$	11.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	320.00 106.67 106.67 0.00 53.33 53.33 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,173.44 199.68 381.44 3,252.48 305.28 - 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	320.00 106.67 106.67 0.00 53.33 53.33 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,173.44 199.68 381.44 3,252.48 305.28 - 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$	11.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	320.00 106.67 106.67 0.00 53.33 53.33 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,173.44 199.68 381.44 3,252.48 305.28 - 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation U \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Jnit Cost 55.00 82.50 605.00	320.00 106.67 106.67 0.00 53.33 53.33 0.00	\$	2,173.44 199.68 381.44 3,252.48 305.28 - 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ \$ \$	11.00 16.50 82.50 11.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation U \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50	320.00 106.67 106.67 0.00 53.33 53.33 0.00 Amount	\$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost 4,950.00 687.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	S S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00	320.00 106.67 106.67 0.00 53.33 53.33 0.00	\$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole Wooden Pole	\$ \$ \$	11.00 16.50 82.50 11.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation U \$ \$ \$ \$ \$	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50	320.00 106.67 106.67 0.00 53.33 53.33 0.00 Amount	\$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost 4,950.00 687.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00	320.00 106.67 106.67 0.00 53.33 53.33 0.00 Amount	\$\$\$\$\$\$\$\$\$ \$\$\$ \$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost 4,950.00 687.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Wooden Pole Cable Aerial	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50	320.00 106.67 106.67 0.00 53.33 53.33 0.00 Amount 50.00 1.00	\$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost 4,950.00 687.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Buried Buried	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	S S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Jnit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00	320.00 106.67 106.67 0.00 53.33 53.33 0.00 Amount	\$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost 4,950.00 687.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Wooden Pole Wooden Pole Cable Aerial Buried Wooden Pole Wooden Pole	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50	320.00 106.67 106.67 0.00 53.33 53.33 0.00 Amount 50.00 1.00	\$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost 4,950.00 687.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Casle Gas	\$\$\$\$ \$\$\$\$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00	320.00 106.67 106.67 0.00 53.33 53.33 0.00 Amount 50.00 1.00	\$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost 4,950.00 687.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Wooden Pole Wooden Pole Cable Aerial Buried Wooden Pole Wooden Pole	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	S S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Jnit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00	320.00 106.67 106.67 0.00 53.33 53.33 0.00 Amount 50.00 1.00	\$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost 4,950.00 687.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cass A" main	\$\$\$\$ \$\$\$\$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00	320.00 106.67 106.67 0.00 53.33 53.33 0.00 Amount 50.00 1.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost 4,950.00 687.50
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 66.00	320.00 106.67 106.67 0.00 53.33 53.33 0.00 Amount 50.00 1.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost 4,950.00 687.50 3,575.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Jnit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 66.00 93.50	320.00 106.67 106.67 0.00 53.33 53.33 0.00 Amount 50.00 1.00	\$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost 4,950.00 687.50 3,575.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Jnit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 66.00 93.50	320.00 106.67 106.67 0.00 53.33 53.33 0.00 Amount 50.00 50.00	\$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost 4,950.00 687.50 3,575.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Rowooden Pole Cable Aerial Buried	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation L S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 27.50 605.00 27.50 55.00 605.00	320.00 106.67 106.67 0.00 53.33 53.33 0.00 Amount 50.00 50.00 50.00	\$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost 4,950.00 687.50 3,575.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation L S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 27.50 605.00 27.50 55.00 605.00	320.00 106.67 106.67 0.00 53.33 53.33 0.00 Amount 50.00 50.00 50.00	\$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42 18,425.71 248,747.14 bital Cost 4,950.00 687.50 3,575.00 5,500.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation L S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 27.50 605.00 27.50 55.00 605.00	320.00 106.67 106.67 0.00 53.33 53.33 0.00 Amount 50.00 50.00 50.00	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42 18,425.71 248,747.14 btal Cost 4,950.00 687.50 3,575.00 5,500.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	S S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 27.50 55.00 605.00 605.00	320.00 106.67 106.67 0.00 53.33 53.33 0.00 Amount 50.00 1.00 50.00 50.00	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost 4,950.00 687.50 3,575.00
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Right of Way (Sq Ft)	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	S S S S S S S S S S S S S S S S S S S	6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Jnit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 28.50 605.00 29.50 605.00 82.50 605.00	320.00 106.67 106.67 0.00 53.33 53.33 0.00 Amount 50.00 1.00 50.00 50.00	\$	2,173.44 199.68 381.44 3,252.48 305.28 8,253.44 230,321.42 18,425.71 248,747.14 otal Cost 4,950.00 687.50 3,575.00 - 3,575.00 - 5,500.00

General In	formation			Мар	
Project ID			Creek'S A		7
Street Name	330 Merr	ydale Drive	ptonot property	god .	100
Site Visit Date		0/2016	Mu Mu	arron	
Road Classification		or road	D'ennan.D Mt Weston.Dr—		La Religion
Project		5. 10dd	im 9		HIII
			Sheffield:Ct	ookwoo	300 m
Field N	Notes		Eirethorn=Lin	Chaney	werid
Design (Existing	Site Features)			5.0	5
Existing Road Laneage	•	2-11.5'			
Existing Shld Width (paved and g	grass) (feet)	8.5'	The state of the s	Merr	Crass
Existing Side Slopes		3:1		Merryda Birdsong:En:	Cree
Existing Guardrail		None		TON I	THE STATE OF THE S
Depth fm Pavement to Top of Cu	lvert (ft):	9.00			276 m
Pipe Type and Size		60" CMP			
Pipe Condition (1-5) (1 is new)		3			
Condition Notes: Light rusted botto	om. No headwa		,,dds N 0 0.25	0.5	1 Miles
Pavement Type/Condition		Asphalt/Good			11
				Construction Options	
Environment	al Features		Close Location to Traffic		
Wetlands			Maintain One Lane - No		X
Ditches	Roadside dr	ainage ditches	Maintain One Lane - Ten		
State Waters			Stage Construction Notes	:	
			Utility pole in possible c	onstruction staging are	а
Utilities (Visua	al Inspection)				
Electric	A	erial			
Cable	Unl	known			
Phone	A	erial			
Gas	Unl	known			
Water	Unl	known			
Sewer	Unl	known			
Other					
		Propose	ed Design		
Roadway Section	Typical				
Culvert Size & Material		with straight head			
Utility Relocations	Utility pole near	downstream culve	ert may need to be relocated		
Guardrail Replacement					
Miscellaneous Features					
			ost Estimate		
Туре		Notes		Total	
Design			Cost and surveying needs	\$12,324	
Right of Way Cost		ect assumed to be		\$0	
Utility Relocation Cost	Potentia	al relocation of utili	ty pole, aerial cables	\$14,713	
Construction Cost				\$73,243	
Environmental Permits	Assuming	mınımal environme	ental permitting required	\$10,000	
		Total P	anning Estimate	\$110,28	30
5.07 "					





Photo 1: Upstream end of culvert.



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

1/20/2016

Taken By:

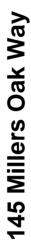
David Gibbs

Page

Death of October 1997	D	. 0 1	Leafalla Carall		A	T.,	-101
Roadway Construction	Removal Un		Installation U		Amount 161.00		al Cost
Pavement (SF) Curb and Gutter (LF)	\$ \$	0.73 28.56	\$ \$	4.87 30.60	0.00	\$	902.46
Drain Inlet (EA)	Ψ	20.00		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	2,720.19
Roadway Total						\$ 3	3,622.65
Drainage	Removal Un	it Cost	Installation U	nit Cost	Amount	Tot	al Cost
Trench Excavation (CY)	removal on	11 0031	\$	10.38	342.22		
60" CMP (LF)	\$	24.60	•	10.00			2,164.80
60" RCP (LF)	•		\$	281.96			,812.83
Class A Conc (CY)			\$	892.19	21.58	\$19	,253.42
Steel (lb)			\$	1.42	0.00		-
Pipe Bedding (CY)			\$	48.60			,108.80
Trench Backfill (CY)			\$	2.99	323.08		965.36
Trench Compaction (CY)			\$	6.36	258.46	\$ 1	,643.82
Drainage Total						\$53	3,501.30
Signing and Marking			Installation U	nit Cost	Amount	Tot	al Cost
Permanent Striping (LF)			\$	0.71		\$	-
Signing and Marking Total						\$	-
Staging			Installation U	nit Cost	Amount	Tota	al Cost
Clearing and Grubbing (Acre)				0,260.00	0.15	\$ 1	,539.00
Temporary Pavement						\$	-
Temporary Drainage (Stream Diversion)			\$	4,428.00	1.00	\$ 4	,428.00
Staging Total						\$ 5	5,967.00
Erosion Control			Installation U	nit Cost	Amount	Tot	al 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		,491.07
Check Dam Type C Silt Fence (LF)			\$	6.79	352.00	\$ 2	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) Plastic Filter Fabric (SY)			\$ \$	60.98 5.72	9.33 9.33		569.18 53.42
4" Ditch Paving (SY)			\$	54.65	0.00		-
Erosion Control Total						\$ 4	1,726.50
Construction Cost Total						\$67	7,817.45
Traffic Control (8% of Construction Total \$)						\$ 5	5,425.40
Construction Cost Grand Total						\$73	3,242.85
Utility Relocation	Removal Un	it Cost	Installation U	nit Cost	Amount	Tot	al Cost
Electric	Nomovai Off	1. 0031	motanation Of	0031	Amount	100	ai 003t
Aerial	\$	11.00	\$	55.00	100.00	\$ 6	3,600.00
Buried	\$	16.50	\$	82.50	0.00	\$	-
Wooden Pole	\$	82.50	\$	605.00	1.00	\$	687.50
Phone	•		•	.=.	400.00		
Aerial	\$	11.00	\$	27.50			3,850.00
Buried Wooden Pole	\$ \$	16.50 82.50	\$ \$	55.00 605.00	0.00 0.00		-
Cable	Ψ	02.50	Ψ	000.00	0.00	Ψ	
Aerial	\$	11.00	\$	27.50	0.00	\$	-
Buried	\$	16.50	\$	55.00			3,575.00
Wooden Pole	\$	82.50	\$	605.00	0.00	\$	-
Gas	_		_				
4" main Water	\$	16.50	\$	66.00	0.00	\$	-
8" main	\$	16.50	\$	93.50	0.00	\$	_
Sewer	•	10.00	~	55.50	0.00	Ψ	
12" main	\$	16.50	\$	82.50	0.00		-
Utility Relocation Total						\$14	1,712.50
Right of Way (Sq Ft)							
			Cost/ Sq Ft		Sq Ft	Tot	al Cost
Permanent Easement ROW Total			Cost/ Sq Ft \$	4.00	Sq Ft 0.00		al Cost - -

General Inf	formation			Мар	
	lomation			wap	
Project ID	4.45 88'11.	0 -1 14/-	r-Bend:Dr	7 257 m .a	
Street Name		rs Oak Way		2011111 9	
Site Visit Date	-	/2016	1	The state of the s	aron Di
Road Classification		or road	Olde:Oak:Dr	all Blue	P
Project			Olde Oak Dr	1 6	100
Almost entire project lies outside of			m	Sea.	/ ('Man
path passes under private driveway	for approximate	ely 40'; owners will		ASETON TOMAS	
need to be accomodated.			1	N. S. S.	
				Valley:Brook.7	
				- Com	6
Field N	1-1				Muskema
			_Cedar_T _f	Mille Oak-Way	1
Design (Existing	Site Features	0.40		59×01	7 m m m
Existing Road Laneage Existing ShId Width (paved and g	race) (foot)	2-10 2'	Morning:Creek:Way	257 mi	
Existing Sind Width (paved and g	iass) (ieel)	40:1-30:1	W		I make the
Existing Guardrail		40.1-30.1 N/A			
Depth fm Pavement to Top of Cul	lvort (ft):	1.25'		Hewell:Rd	
Pipe Type and Size	17011 (11).	24" CMP		9	
Pipe Condition (1-5) (1 is new)		3-4		the A	
Rusted, heavy debris buildup.		. J	N o a ==	ē ,	
,,			0 0.25	0.5	1
			t:Hall		Miles
Pavement Type/Condition		Asphalt/Good			-1-20-
7,			Stage	Construction Options	3
Environment	tal Features		Close Location to Traffi		
Wetlands			Maintain One Lane - No	Temp Pavement	Х
Ditches			Maintain One Lane - Tei	mp Pavement	
State Waters			Stage Construction Notes	3:	
			Lampost and electrical	box in potential culver	t path, upstream
			side of street. Cable bo	x on downstream side	e of street.
Utilities (Visua	al Inspection)				
Electric	В	uried			
Cable		uried			
Phone		known			
Gas	_	known			
Water		known			
Sewer		known			
Other	Un	known	nd Decign		
	Typical	Proposi	ed Design		
Roadway Section	Турісаі				
	36" round RCP	with straight heads	valls. Additional excavation a	and grading required to I	ower upstream
Culvert Size & Material			ength of installed pipe may b		
1		nstream (Photo 2)	J		
Hillian Delegations	Lampost (coste	d as utility pole), el	ectric utility box (costed as ut	ility pole), and buried el	ectric and cable
Utility Relocations	wires				
Guardrail Replacement					
- Landian Replacement					
Miscellaneous Features					
		Planning C	Cost Estimate		
Туре		Notes		Tota	nl
Design	Includes 10		ost and surveying needs	\$16,4	
Right of Way Cost			eyond ROW, 1/4 acre	\$43,5	
Utility Relocation Cost			, utility box, lampost	\$18,4	
Construction Cost	Bariot	2.300 4114 04510	,, 201, 1011111001	\$114,0	
Environmental Permits	Assumina	minimal environme	ental permitting required	\$10,0	
			, 3 - 1	+ : 0,0	
		Total D	lanning Estimate	¢202	401
		i Otal P	lanning Estimate	\$202,	4 ∪ I





2/4/2016

Taken By:

Christian Helfrich

Page



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



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

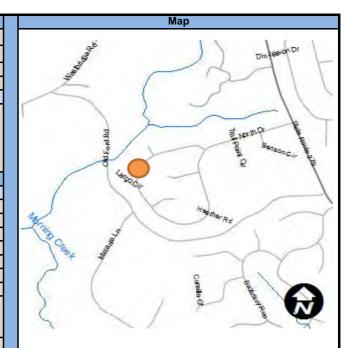
Drainage Total			Installation I lai	Cost	Amount		79,737.58
Signing and Marking			Installation Unit		Amount		tal Cost
Permanent Striping (LF)			\$	0.71	0.00	\$	-
Signing and Marking Total						\$	-
Staging			Installation Unit		Amount		tal Cost
Clearing and Grubbing (Acre) Temporary Pavement			\$ 10,	260.00	0.20	\$ \$	2,052.00
Temporary Drainage (Stream Diversion)			\$ 4,	428.00	1.00	\$	4,428.00
Staging Total						\$	6,480.00
Erosion Control Fine Grading and Seeding (SY)			Installation Unit \$	Cost 4.39	Amount 166.11	To	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) Erosion Control Mats (SY)			\$ \$	6.79 1.87	322.00 0.00		2,187.02
							-
Landscape Mulch (SY)			\$	3.58	0.00	\$	-
Landscape Mulch (SY) Perm Grassing (AC)			\$ 1,	402.20	0.00	\$	-
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ 1, \$	402.20 60.98	0.00 6.67	\$ \$	- 406.56
Landscape Mulch (SY) Perm Grassing (AC)			\$ 1,	402.20	0.00	\$ \$	-
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ 1, \$ \$	402.20 60.98 5.72	0.00 6.67 6.67	\$ \$	406.56 38.16
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ 1, \$ \$	402.20 60.98 5.72	0.00 6.67 6.67	\$ \$ \$	406.56 38.16 - 4,725.30
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ 1, \$ \$	402.20 60.98 5.72	0.00 6.67 6.67	\$ \$ \$ \$	4,725.30 05,568.72
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)			\$ 1, \$ \$	402.20 60.98 5.72	0.00 6.67 6.67	\$ \$ \$ \$	406.56 38.16 - 4,725.30 05,568.72 8,445.50
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total			\$ 1, \$ \$ \$ \$	402.20 60.98 5.72 54.65	0.00 6.67 6.67 0.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	406.56 38.16 - 4,725.30 05,568.72 8,445.50 14,014.21
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$)	Removal U	Jnit Cost	\$ 1, \$ \$	402.20 60.98 5.72 54.65	0.00 6.67 6.67	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	406.56 38.16 - 4,725.30 05,568.72 8,445.50
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	\$	Jnit Cost 11.00	\$ 1. \$ \$ \$ \$ Installation Unit	402.20 60.98 5.72 54.65	0.00 6.67 6.67 0.00	\$ \$ \$ \$ \$ \$ 1 To	406.56 38.16 - 4,725.30 05,568.72 8,445.50 14,014.21
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	\$ 1. \$ \$ \$ \$ Installation Unit \$ \$	402.20 60.98 5.72 54.65 Cost 55.00 82.50	0.00 6.67 6.67 0.00 Amount 0.00 100.00	\$ \$ \$ \$ \$ 1 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	406.56 38.16
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$	11.00	\$ 1. \$ \$ \$ \$ \$ Installation Unit	402.20 60.98 5.72 54.65	0.00 6.67 6.67 0.00 Amount	\$ \$ \$ \$ \$ 1 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	406.56 38.16 4,725.30 05,568.72 8,445.50 14,014.21 tal Cost
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	\$ 1. \$ \$ \$ \$ \$ Installation Unit	402.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00	0.00 6.67 6.67 0.00 Amount 0.00 100.00 2.00	\$ \$ \$ \$ \$ 1 To \$ \$ \$ \$	406.56 38.16
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$ \$ \$ \$	11.00 16.50	\$ 1. \$ \$ \$ \$ Installation Unit \$ \$	402.20 60.98 5.72 54.65 Cost 55.00 82.50	0.00 6.67 6.67 0.00 Amount 0.00 100.00	\$ \$ \$ \$ 1 \$ 1 To \$ \$ \$ \$ \$	406.56 38.16
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Buried Wooden Pole Wooden Pole	\$ \$ \$	11.00 16.50 82.50	\$ 1. \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	402.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50	0.00 6.67 6.67 0.00 Amount 0.00 100.00 2.00	\$ \$ \$ \$ \$ 1 To \$ \$ \$ \$ \$	406.56 38.16
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	Installation Unit \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	402.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00	0.00 6.67 6.67 0.00 Amount 0.00 100.00 2.00 0.00 0.00 0.00	\$ \$ \$ \$ \$ 1 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	406.56 38.16
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Buried Wooden Pole Wooden Pole	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 1. \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	402.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50	0.00 6.67 6.67 0.00 Amount 0.00 100.00 2.00 0.00 0.00 0.00	\$	406.56 38.16 4,725.30 05,568.72 8,445.50 14,014.21 tal Cost 9,900.00 1,375.00
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Wooden Pole Cable Aerial	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	Installation Unit \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	402.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00	0.00 6.67 6.67 0.00 Amount 0.00 100.00 2.00 0.00 0.00 0.00	\$\$\$\$\$\$\$\$ \$\$1 \$	406.56 38.16
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Installation Unit \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	402.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00	0.00 6.67 6.67 0.00 Amount 0.00 100.00 2.00 0.00 0.00 0.00 100.00 0.00	\$ \$ \$ \$ \$ 1 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	406.56 38.16 4,725.30 05,568.72 8,445.50 14,014.21 tal Cost 9,900.00 1,375.00
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	Installation Unit \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	402.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00	0.00 6.67 6.67 0.00 Amount 0.00 100.00 2.00 0.00 0.00 0.00 100.00	\$ \$ \$ \$ \$ 1 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	406.56 38.16 4,725.30 05,568.72 8,445.50 14,014.21 tal Cost 9,900.00 1,375.00
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Installation Unit \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	402.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00	0.00 6.67 6.67 0.00 Amount 0.00 100.00 2.00 0.00 0.00 0.00 100.00 0.00	\$ \$ \$ \$ 1 TO \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	406.56 38.16 4,725.30 05,568.72 8,445.50 14,014.21 tal Cost 9,900.00 1,375.00
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Installation Unit \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	402.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00	0.00 6.67 6.67 0.00 Amount 0.00 100.00 2.00 0.00 0.00 0.00 100.00 0.00	\$ \$ \$ \$ 1 TO \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	406.56 38.16 4,725.30 05,568.72 8,445.50 14,014.21 tal Cost 9,900.00 1,375.00
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation Unit \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	402.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00 605.00 66.00 93.50 609.22	0.00 6.67 6.67 0.00 Amount 0.00 100.00 2.00 0.00 0.00 0.00 0.00 0.00 0.0	\$	406.56 38.16 4,725.30 05,568.72 8,445.50 14,014.21 tal Cost 9,900.00 1,375.00
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	Installation Unit S S S S S S S S S S S S S S S S S S	402.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 66.00 93.50	0.00 6.67 6.67 0.00 Amount 0.00 100.00 2.00 0.00 0.00 0.00 0.00 0.00 0.0	\$\$\$\$\$ \$ 1 TO \$\$\$\$ \$\$\$\$ \$\$\$\$ \$\$\$\$	406.56 38.16 4,725.30 05,568.72 8,445.50 14,014.21 tal Cost 9,900.00 1,375.00
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation Unit S S S S S S S S S S S S S S S S S S	402.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 66.00 93.50 609.22	0.00 6.67 6.67 0.00 Amount 0.00 100.00 2.00 0.00 0.00 0.00 0.00 0	\$\$\$\$\$ \$ \$ 1 TO \$\$\$\$ \$\$\$\$ \$\$\$\$ \$\$\$\$	406.56 38.16 4,725.30 05,568.72 8,445.50 14,014.21 tal Cost 9,900.00 1,375.00
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation Unit \$ \$ \$ \$ \$ Cost/ Sq Ft	402.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00 605.00 605.00 605.00 82.50 605.00	0.00 6.67 6.67 0.00 Amount 0.00 100.00 2.00 0.00 0.00 0.00 0.00 0	\$\$\$\$\$ \$ \$ 1 TO \$\$\$\$ \$\$\$\$ \$\$\$\$ \$\$\$	406.56 38.16 4,725.30 05,568.72 8,445.50 14,014.21 tal Cost
Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	Installation Unit S S S S S S S S S S S S S S S S S S	402.20 60.98 5.72 54.65 Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 66.00 93.50 609.22	0.00 6.67 6.67 0.00 Amount 0.00 100.00 2.00 0.00 0.00 0.00 0.00 0	\$\$\$\$\$ \$ \$ 1 TO \$\$\$\$ \$\$\$\$ \$\$\$\$ \$\$\$ \$\$\$ TO	406.56 38.16 4,725.30 05,568.72 8,445.50 14,014.21 tal Cost 9,900.00 1,375.00

General Information				
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				
Wetlands	None			
Ditches	None			
Utilities (Visua	al Inspection)			
Electric	Βι	ıried		
Cable	Bu	ıried		
Phone	Βι	ıried		
Gas				
Water	Buried			
Sewer				
Other				



Stage Construction Options					
Close Location to Traffic	X				
Maintain One Lane - No Temp Pavement					
Maintain One Lane - Temp Pavement					

Stage Construction Notes:

i roposeu Design					
Roadway Section					
Culvert Size & Material	5' x 4' box, concrete, 80'				
Il Itility Polocations	Street light near structure, electric, cable, phone, water. Applying cost of eletric utility wooden pole removal for street light.				
Guardrail Replacement					
Miscellaneous Features					

Planning Cost Estimate						
Туре	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:

5/21/2013

Taken By:

David King

Page:

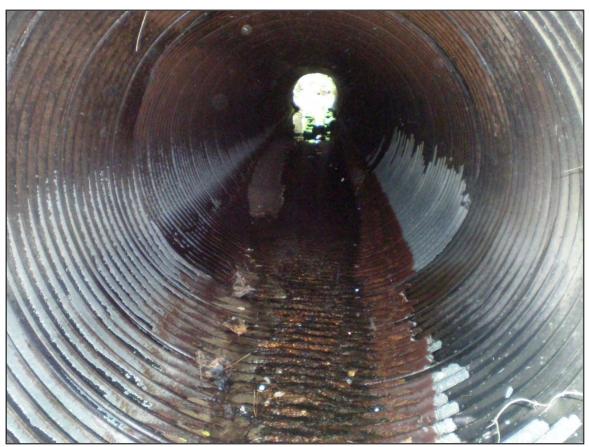




Photo 3:



Photo 4:

5/21/2013

Taken By:

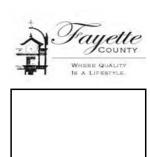
David King

Page:

	•				
Roadway Construction	Removal Un	it 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 Un	nt Cost	Installation Unit Cost	Amount	Total Cost
Trench Excavation (CY)	•		\$ 10.38	228.15	\$ 2,368.18
60" CMP (LF)	\$	24.60	Φ 050.00		\$ 5,904.00
60" RCP			\$ 259.20		
Class A Conc (CY)			\$ 892.19		\$47,740.98
Steel (lb)			\$ 1.42		\$ 6,805.30
Pipe Bedding (CY)			\$ 48.60		\$ 1,035.18
Trench Backfill (CY)			\$ 2.99		
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	\$ -
·			5.71	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			Ψ 10,200.00	0.10	\$ -
Temporary Drainage (Stream Diversion)			\$ 4,428.00	1.00	
			Ψ 1,120.00		
Staging Total					\$ 5,454.00
Erosion Control			Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)			\$ 4.39	45.11	
Temporary Grassing (AC)			\$ 855.60	0.00	
Type C Silt Fence (LF)			\$ 4.24		\$ 1,355.52
Check Dam Type C Silt Fence (LF)			\$ 6.79		\$ 2,173.44
Erosion Control Mats (SY)			\$ 1.87	106.67	
Landscape Mulch (SY)			\$ 3.58	106.67	
Perm Grassing (AC)			\$ 1,402.20	0.00	
Rip Rap Type 3 12" (SY)			\$ 60.98	18.67	
Plastic Filter Fabric (SY)			\$ 5.72	18.67	
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 Un	it Cost	Installation Unit Cost	Amount	Total Cost
Electric	•		•		•
Aerial	\$	11.00	\$ 55.00		\$ -
Buried	\$	16.50	\$ 82.50		. ,
Wooden Pole	\$	82.50	\$ 605.00	1.00	\$ 687.50
Phone					
Aerial	\$	11.00	\$ 27.50		\$ -
Buried	\$	16.50	\$ 55.00	40.00	
Wooden Pole	\$	82.50	\$ 605.00		\$ -
Cable	•	44.00	6 0= -0		•
Aerial	\$	11.00	\$ 27.50		\$ -
Buried	\$	16.50	\$ 55.00	40.00	
Wooden Pole	\$	82.50	\$ 605.00		\$ -
Gas 4" main	\$	16.50	\$ 66.00		\$ -
Water	Ψ	10.50	ψ 00.00		Ψ -
vvater 8" main	\$	16.50	\$ 93.50	40.00	\$ 4,400.00
Relocate Fire Hydrant (EA)	Ψ	10.50	\$ 2,609.22	40.00	\$ 4,400.00
Sewer			ψ 2,009.22	0.00	Ψ -
Sewer 12" main	\$	16.50	\$ 82.50		\$ -
Tz main Utility Relocation Total	Ψ	10.50	ψ 0∠.50	0.00	\$ 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			Мар			
Project ID			July Corn	wallis-Way		
Street Name	290 Oa	k Street	130		Campaign	
Site Visit Date		2016	Brandywine Blvd	Belle: Dr. Sp.		
Road Classification	Minor	road	// /Sup	3000		
Project			- War			
Major blowout near private drivewa		exposed utility	W=L=anier=Ave=		W-I	
lines	•	,		54	Stonewal	
			, we			
			The state of the s			
			High High			
Field N	Notes			W S D	Jagy Ave	
Design (Existing	Site Features)			ado		
Existing Road Laneage		2-11'	The Me Me Me Me		Walker	
Existing ShId Width (paved and	grass) (feet)	10'	* * * *		Medford:Dr	
Existing Side Slopes		4:1	25 85 Mills			
Existing Guardrail		None	A CANADA		Bates Ave	
Depth fm Pavement to Top of Cu	Ilvert (ft):	5.00		N=Mourning_	Pages De De D	
Pipe Type and Size		30" CMP		Briary	Paces Dr Series	
Pipe Condition (1-5) (1 is new)	NI I	4-5	N o oo	1 18	4	
Condition Notes: Rusted out botton			0 0.25	0.5	1	
a lot of rip rap upstream side, also	a roadside draina	ige pipe that			Miles	
empties at culvert. Major streambe	ed/bank blowout d					
Pavement Type/Condition		Asphalt/Good	01	0		
Fundament.	tal Fastures			Construction Options		
Environment	tai Features		Close Location to Traff		V	
Wetlands Ditches	Doodoido dro	inaga ditahaa	Maintain One Lane - No Maintain One Lane - Te	-	Х	
State Waters	Roadside dra	inage ditches		•		
State waters			Stage Construction Note:			
			Utility pole within 10' of	upstream curvert		
Buri	ied					
Electric		rial				
Cable		nown				
Phone		rial				
Gas		nown				
Water	Unkr	nown				
Sewer	Unkr	nown				
Other						
		Propose	ed Design			
Boodway Sastian	Typical					
Roadway Section						
Culvert Size & Meterial	42" round RCP v	vith straight head	walls			
Culvert Size & Material						
Utility Relocations	Relocation of util	lity pole, aerial wii	res			
Guardrail Replacement						
	Major Islam	nov main rata. 1.1	ou outrout that and the first	. unotro ora sustanti di il	4 451 v 51 h - 1	
Miscellaneous Features	Major blowout ne with exposed util		ay culvert that contributes to	upstream end of culver	i. 15 x 5 noie	
	with exposed util	illes				
		Planning C	ost Estimate			
Туре		Notes		Tota	l	
Design	Includes 10%		Cost and surveying needs	\$9,15		
Right of Way Cost		ct assumed to be		\$0		
Utility Relocation Cost			·	\$5,91	3	
Construction Cost				\$41,50		
Environmental Permits	Minima	al environmental p	ermitting required	\$10,00	00	
		Total P	anning Estimate	\$66,5	63	
				400,0		





290 Oak Street



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



Photo 2: Downstream end of culvert.

Photo Date:

1/21/2016

Taken By:

David Gibbs

Page

Roadway Construction	Removal U		Installation Unit Cos		Total Cost
Pavement (SF)	\$	0.73	\$ 4.8		\$ 678.25
Curb and Gutter (LF)	\$	28.56	\$ 30.6		\$ -
Drain Inlet (EA)	¢.	40.50	\$ 3,000.0		
4" Sidewalk (SY)	\$	13.56	\$ 36.9		
Guardrail (LF)	\$	4.88	\$ 49.0		\$ -
End Anchorage (EA)			\$ 1,380.0	0.00	\$ -
Subtotal					\$ 678.25
Grading Complete (5% of Rwy Items & Drng Total \$)					\$ 1,155.40
Roadway Total					\$ 1,833.64
Desirence	D	1.11.01	Leadallada e Hair Occ		T-1-1-01
Drainage	Removal l	Jnit Cost	Installation Unit Cos		Total Cost
Trench Excavation (CY)	¢.	40.00	\$ 10.3		. ,
30" CMP (LF)	\$	19.66	\$ 142.5	64.00	
42" RCP (LF)			•		\$ 9,121.54
Class A Conc (CY)			\$ 892. ² \$ 1. ⁴		\$ 9,278.76
Steel (lb)					
Pipe Bedding (CY)			\$ 48.6		
Trench Backfill (CY)			\$ 2.9		
Trench Compaction (CY)			\$ 6.3	86 84.42	\$ 536.92
Drainage Total					\$22,429.70
Signing and Marking			Installation Unit Cos	t Amount	Total Cost
Permanent Striping (LF)			\$ 0.7		\$ -
Signing and Marking Total					\$ -
Staging			Installation Unit Cos	t Amount	Total Cost
Staging Clearing and Grubbing (Acre)			\$ 10,260.0		\$ 2,565.00
3 , ,			Φ 10,200.0	0.25	
Temporary Pavement Temporary Drainage (Stream Diversion)			\$ 4,428.0	00 1.00	\$ - \$ 4,428.00
			• .,.==		
Staging Total					\$ 6,993.00
Facility October			Leadallada e Hair Occ		Talalous
Erosion Control			Installation Unit Cos		Total Cost
Fine Grading and Seeding (SY)			\$ 4.3		
Temporary Grassing (AC)			\$ 855.6		
Type C Silt Fence (LF)			\$ 4.2		
Check Dam Type C Silt Fence (LF)			\$ 6.7		\$ 3,477.50
Erosion Control Mats (SY)			\$ 1.8		\$ 106.50
Landscape Mulch (SY)			\$ 3.5		\$ 203.43
Perm Grassing (AC)			\$ 1,402.2		
Rip Rap Type 3 12" (SY)			\$ 60.9		\$ 1,006.24
Plastic Filter Fabric (SY)			\$ 5.7		\$ 94.45
4" Ditch Paving (SY)			\$ 54.6	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 U	Jnit Cost	Installation Unit Cos	t Amount	Total Cost
Electric					
Aerial	\$	11.00	\$ 55.0		\$ 3,300.00
Buried	\$	16.50	\$ 82.5	0.00	\$ -
Wooden Pole	\$	82.50	\$ 605.0	00 1.00	\$ 687.50
Phone					
Aerial	\$	11.00	\$ 27.5		\$ 1,925.00
Buried	\$	16.50	\$ 55.0		
Wooden Pole	\$	82.50	\$ 605.0	0.00	\$ -
Cable	•				•
Aerial	\$	11.00	\$ 27.5		
Buried	\$	16.50	\$ 55.0		
Wooden Pole Gas	\$	82.50	\$ 605.0	0.00	a -
4" main	\$	16.50	\$ 66.0	0.00	\$ -
Water	-	. 5.55	. 50.0	0.00	•
8" main	\$	16.50	\$ 93.5	0.00	\$ -
Sewer	•	40 = 5		-0 0	•
12" main Utility Relocation Total	\$	16.50	\$ 82.5	50 0.00	\$ - \$ 5,912.50
July . Globation Total					ψ 0,012.00
Right of Way (Sq Ft)			Cost/ Sq Ft	Sq Ft	Total Cost
Permanent Easement			\$ 4.0	0.00	
ROW Total					\$ -

General Inf	formation				Мар	
Project ID			œ /			The state of the s
Street Name	220 (Old Ivy	167 ₀			W
Site Visit Date		0/2016	SHO			Maharawas
Road Classification		or road	athmo		frotte	Highgrove-O _r
Project		71 1044	xe-tr		IS Rd	258 m
Culvert path is diagonal under a sli		. Upstream inlet	1 7			garrago.
is a vertical concrete inlet that will r	need to be remo	ved. Pedestrian		269 m		J. O. O.
dirt trail passes over downstream o	utlet near a chile	dren's playground		"Halo"		
·		. , ,	A= \	exande		
					Quarte	ers-Rd
			12 11/) and
Field N	lotes		. 5 11 /	Sales Sales		1 F00
Design (Existing	Site Features)		1 4		880	nood who
Existing Road Laneage		2-12.5'	800		P Own	000
Existing ShId Width (paved and	grass) (feet)	15'			WIN	Redwine
Existing Side Slopes		20:1		Brown's Cr	ossing / J	Lake Whitewater Creek
Existing Guardrail		None		88.5	262 m Lp1e ³⁶	Country Club
Depth fm Pavement to Top of Cu	Ivert (ft):	3'		15		257 m
Pipe Type and Size		42" CMP				
Pipe Condition (1-5) (1 is new) Condition Notes: Rusted out botton	m Conorcta b	4		1/		
downstream.	n. Concrete ne	adwaii	N O	0.25	0.5	1
downstream.			Month			Miles
Pavement Type/Condition		Asphalt/Good	Peachtre	e:Pkv	Perphard-	D4
r aveillent Type/Condition		Aspriali/Good			onstruction Options	
Environment	al Foatures		Close Location		mstruction options	
Wetlands	ai i catares				emp Pavement	Х
Ditches			Maintain One		•	Α
State Waters			Stage Constru		71 dvement	
Otate Waters			Olage Constru	olion Molos.		
Utilities (Visua	I Inspection)					
Electric		erial				
Cable	A	erial				
Phone	A	erial				
Gas	Unk	nown				
Water	Вι	ıried				
Sewer	Unl	nown				
Other						
		Propose	ed Design			
Roadway Section	Typical					
	1011	20 - 0 - 2 - 1 - 1 1	. II. D I .		attack to the form	
Culvert Size & Material		with straight nead ig headwall assum			rtical inlet costed as	mannole removal.
	Cost of Terriovii	ig rieauwaii assuii	ieu equal to remo	vai oi entire le	ingui oi pipe.	
Utility Relocations						
	Wooden fence	posts for trail over	downstream outle	et removal/ren	lacement costed as	guardrails
Guardrail Replacement	TT CCGCTT TOTAGE	poolo for trail over	do mionodini odne	,	ilacomoni cocica ao ;	guararano.
Miscellaneous Features						
			ost Estimate			
Туре	1 1	Notes			Tota	
Design		6 of Construction (\$20,19	92
Right of Way Cost		ed to be entirely in			\$0	.0
Utility Relocation Cost	Possi	ble water main rer	novarreplacemen	l l	\$5,50 \$76.0	
Construction Cost	1.	ncludes Zone A Fl	oodway study		\$76,9° \$15,00	
Environmental Permits	<u> </u>	ilciuues Zone A Fl	oodway Study		\$15,00	JU
		T-1-1-2		L! 100 = 1 = 1	A44=4	240
		ı otal P	lanning Est	ımate	\$117,0	010



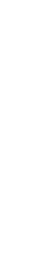






Photo 1: View from downstream end towards Old Ivy.



Photo 2: Upstream inlet looking West towards Old Ivy.

1/20/2016

Taken By:

David Gibbs

Page

Roadway Construction	Removal Unit Co		Installation Unit Cost	Amount	Total Cost
Pavement (SF)		0.73	\$ 4.8		\$ 770.73
Curb and Gutter (LF)	\$ 28	8.56	\$ 30.6		\$ 828.24
Drain Inlet (EA)			\$ 3,000.0		
4" Sidewalk (SY)		3.56	\$ 36.9		\$ 336.40
Guardrail (LF)	\$ 4	4.88	\$ 49.0		. ,
End Anchorage (EA)			\$ 1,380.0	0.00	
Subtotal					\$ 9,230.80
O = 1 = 0 = 1 = (50) = (B = 1 = = 0 B = = T = (10)					A 0.740.05
Grading Complete (5% of Rwy Items & Drng Total \$)					\$ 2,718.35
Deal of Total					0.44.040.44
Roadway Total					\$11,949.14
Desire	Removal Unit Co		Installation Unit Cost	Amount	T-4-1 04
Drainage Transh Every ation (CV)	Removal Unit Co	ost	Installation Unit Cost		Total Cost
Trench Excavation (CY)			\$ 10.3 \$ 2,069.8		\$ 3,002.51
Remove Manhole (EA)	\$ 24	4.60	\$ 2,069.8		\$ 2,069.81
42" CMP (LF) 42" RCP (LF)	Φ 22	4.00	\$ 142.5		\$ 6,986.40 \$ 20,238.41
Class A Conc (CY)			\$ 892.1		\$ 9,278.76
Steel (lb)			\$ 1.4		
Pipe Bedding (CY)			\$ 48.6		
			\$ 2.9		
Trench Backfill (CY) Trench Compaction (CY)			\$ 6.3		
Trench Compaction (CT)			φ 0.3	0 213.42	φ 1,337.33
Drainage Total					\$45,136.12
Drainage Total					ψ τ υ, 1υυ. 12
Signing and Marking			Installation Unit Cost	Amount	Total Cost
Permanent Striping (LF)			\$ 0.7		\$ -
r emianent striping (Li)			Ψ 0.7	•	Ψ -
Signing and Marking Total					\$ -
organing and marking rotal					~
Staging			Installation Unit Cost	Amount	Total Cost
Clearing and Grubbing (Acre)			\$ 10,260.0		\$ 2,052.00
Temporary Pavement			.0,200.0	0.20	\$ -
Temporary Drainage (Stream Diversion)			\$ 4,428.0	0 1.00	\$ 4,428.00
remperary Pramage (ensum Protein)			,,,20.0		ψ ., . <u>2</u> 0.00
Staging Total					\$ 6,480.00
July 1 July 1					7 0, 100100
Erosion Control			Installation Unit Cost	Amount	Total Cost
Fine Grading and Seeding (SY)			\$ 4.3	9 71.50	\$ 314.03
Temporary Grassing (AC)					
			\$ 855.6	0.00	\$ -
Type C Silt Fence (LF)					
Type C Silt Fence (LF)			\$ 4.2	4 568.00	\$ 2,406.05
			\$ 4.2 \$ 6.7	4 568.00 9 568.00	\$ 2,406.05 \$ 3,857.86
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF)			\$ 4.2 \$ 6.7 \$ 1.8	4 568.00 9 568.00 7 63.11	\$ 2,406.05 \$ 3,857.86 \$ 118.14
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY)			\$ 4.2 \$ 6.7 \$ 1.8	4 568.00 9 568.00 7 63.11 8 63.11	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY)			\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC)			\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ - \$ 670.82
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00 2 11.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ - \$ 670.82 \$ 62.96
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00 2 11.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ - \$ 670.82 \$ 62.96
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00 2 11.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ - \$ 670.82 \$ 62.96
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00 2 11.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ - \$ 670.82 \$ 62.96 \$ -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00 2 11.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ - \$ 670.82 \$ 62.96 \$ -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00 2 11.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ - \$ 670.82 \$ 62.96 \$ - \$ 7,655.55
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00 2 11.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ - \$ 670.82 \$ 62.96 \$ - \$ 7,655.55
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00 2 11.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ - \$ 670.82 \$ 62.96 \$ - \$ 7,655.55
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00 2 11.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ - \$ 670.82 \$ 62.96 \$ - \$ 7,655.55
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total			\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00 2 11.00 5 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ 670.82 \$ 62.96 \$ - \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal Unit Co	ost	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00 2 11.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ - \$ 670.82 \$ 62.96 \$ - \$ 7,655.55 \$ 71,220.81 \$ 5,697.66
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric			\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00 2 11.00 5 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ - \$ 670.82 \$ 62.96 \$ - \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$ 11	1.00	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00 2 11.00 5 0.00 Amount 0 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ \$ 670.82 \$ 62.96 \$ \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ 11 \$ 16	1.00 6.50	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00 2 11.00 5 0.00 Amount 0 0.00 0 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ 670.82 \$ 62.96 \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Burried Wooden Pole	\$ 11 \$ 16	1.00	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00 2 11.00 5 0.00 Amount 0 0.00 0 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ 670.82 \$ 62.96 \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ 11 \$ 16 \$ 82	1.00 6.50 2.50	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00 2 11.00 5 0.00 Amount 0 0.00 0 0.00 0 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ 670.82 \$ 62.96 \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ - \$ -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ 11 \$ 16 \$ 82 \$	1.00 6.50 2.50	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00 2 11.00 5 0.00 Amount 0 0.00 0 0.00 0 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 225.69 \$ - \$ 670.82 \$ 62.96 \$ - \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ 11 \$ 16 \$ 82 \$ 11 \$ 16	1.00 6.50 2.50 1.00 6.50	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00 2 11.00 5 0.00 4 Amount 0 0.00 0 0.00 0 0.00 0 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ 670.82 \$ 62.96 \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ - \$ - \$ -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole	\$ 11 \$ 16 \$ 82 \$ 11 \$ 16	1.00 6.50 2.50	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6	4 568.00 9 568.00 7 63.11 8 63.11 0 0.00 8 11.00 2 11.00 5 0.00 4 Amount 0 0.00 0 0.00 0 0.00 0 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ 670.82 \$ 62.96 \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ - \$ - \$ -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ 11 \$ 16 \$ 82 \$ 11 \$ 16 \$ 82	1.00 6.50 2.50 1.00 6.50 2.50	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 605.0	4 568.00 9 568.00 9 568.00 17 63.11 8 63.11 0 0.00 8 11.00 2 11.00 5 0.00 6 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ 670.82 \$ 62.96 \$ - \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Wooden Pole Cable Aerial	\$ 11 \$ 16 \$ 82 \$ 11 \$ 16 \$ 82 \$ 12	1.00 6.50 2.50 1.00 6.50 2.50	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 27.5	Amount \$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ 670.82 \$ 62.96 \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	\$ 11 \$ 16 \$ 82 \$ 11 \$ 16 \$ 82 \$ 11 \$ 16	1.00 6.50 2.50 1.00 6.50 2.50 1.00 6.50	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 27.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 55.0 \$ 55.0 \$ 55.0	Amount Amount 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ 670.82 \$ 62.96 \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ - \$ - \$ - \$ -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$ 11 \$ 16 \$ 82 \$ 11 \$ 16 \$ 82 \$ 11 \$ 16	1.00 6.50 2.50 1.00 6.50 2.50	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 27.5	Amount Amount 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ 670.82 \$ 62.96 \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ - \$ - \$ - \$ -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried	\$ 11 \$ 16 \$ 82 \$ 11 \$ 16 \$ 82 \$ 11 \$ 82	1.00 6.50 2.50 1.00 6.50 2.50 1.00 6.50 2.50	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0	Amount \$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ 670.82 \$ 62.96 \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main	\$ 11° \$ 82° \$ 11° \$ 82° \$ 11° \$ 82° \$ 12° \$ 82°	1.00 6.50 2.50 1.00 6.50 2.50 1.00 6.50 2.50	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 27.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 55.0 \$ 55.0 \$ 55.0	Amount \$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ 670.82 \$ 62.96 \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	\$ 11 \$ 16 \$ 82 \$ 11 \$ 16 \$ 82 \$ 11 \$ 82 \$ 16 \$ 82	1.00 6.50 2.50 1.00 6.50 2.50 1.00 6.50 2.50	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 605.0	Amount Amount Amount Amount 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ 670.82 \$ 62.96 \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	\$ 11 \$ 16 \$ 82 \$ 11 \$ 16 \$ 82 \$ 11 \$ 82 \$ 12 \$ 16	1.00 6.50 2.50 1.00 6.50 2.50 1.00 6.50 2.50	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0	Amount Amount Amount Amount 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ 670.82 \$ 62.96 \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Sewer	\$ 11 \$ 16 \$ 82 \$ 11 \$ 16 \$ 82 \$ 11 \$ 16 \$ 82 \$ 16 \$ 16 \$ 16	1.00 6.50 2.50 1.00 6.50 2.50 1.00 6.50 2.50 6.50 6.50	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 93.5	Amount Amount Amount Amount 0 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ 670.82 \$ 62.96 \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Sewer 12" main	\$ 11 \$ 16 \$ 82 \$ 11 \$ 16 \$ 82 \$ 16 \$ 82 \$ 16	1.00 6.50 2.50 1.00 6.50 2.50 1.00 6.50 2.50 6.50 6.50	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 605.0	Amount Amount Amount Amount 0 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 225.69 \$ 670.82 \$ 62.96 \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Sewer	\$ 11 \$ 16 \$ 82 \$ 11 \$ 16 \$ 82 \$ 11 \$ 16 \$ 82 \$ 16 \$ 16 \$ 16	1.00 6.50 2.50 1.00 6.50 2.50 1.00 6.50 2.50 6.50 6.50	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 93.5	Amount Amount Amount Amount 0 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ 670.82 \$ 62.96 \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Sewer 12" main Utility Relocation Total	\$ 11 \$ 16 \$ 82 \$ 11 \$ 16 \$ 82 \$ 11 \$ 16 \$ 82 \$ 16 \$ 16 \$ 16	1.00 6.50 2.50 1.00 6.50 2.50 1.00 6.50 2.50 6.50 6.50	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 82.5	Amount Amount Amount O O O O O O O O O O O O O	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ 670.82 \$ 62.96 \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Suried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Sewer 12" main Utility Relocation Total	\$ 11 \$ 16 \$ 82 \$ 11 \$ 16 \$ 82 \$ 11 \$ 16 \$ 82 \$ 16 \$ 16 \$ 16	1.00 6.50 2.50 1.00 6.50 2.50 1.00 6.50 2.50 6.50 6.50	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 Installation Unit Cost \$ 55.0 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 93.5 \$ 82.5	Amount Amount Amount O 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ 670.82 \$ 62.96 \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Sewer 12" main Utility Relocation Total	\$ 11 \$ 16 \$ 82 \$ 11 \$ 16 \$ 82 \$ 11 \$ 16 \$ 82 \$ 16 \$ 16 \$ 16	1.00 6.50 2.50 1.00 6.50 2.50 1.00 6.50 2.50 6.50 6.50	\$ 4.2 \$ 6.7 \$ 1.8 \$ 3.5 \$ 1,402.2 \$ 60.9 \$ 5.7 \$ 54.6 \$ 82.5 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 605.0 \$ 27.5 \$ 55.0 \$ 82.5	Amount Amount Amount O 0.00	\$ 2,406.05 \$ 3,857.86 \$ 118.14 \$ 225.69 \$ 670.82 \$ 62.96 \$ 7,655.55 \$ 71,220.81 \$ 5,697.66 \$ 76,918.48 Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -

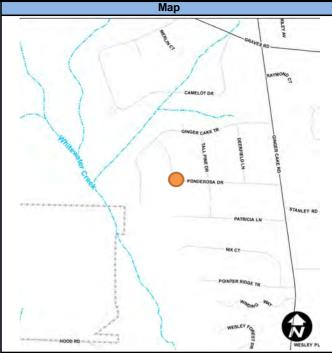
General Information			
Project ID			
Street Name	190 Ponderosa Drive		
Site Visit Date	Beverly Manor S/D		
Road Classification	Minor road		
Project Notes			

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
	_	
Environmen	ital Features	
Wetlands	١	None
Ditches	١	None
•		
Utilities (Visu	al Inspection)	
Electric		Yes
Cable		Yes
Phone		Yes
Gas	Un	known
Water		Yes
Sewer		No
Other		



Stage Construction Options			
Close Location to Traffic			
Maintain One Lane - No Temp Pavement	Х		
Maintain One Lane - Temp Pavement			

Stage Construction Notes:

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

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

Proposed Design

Туре	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

Tatal Diameter - Fatherste	\$404.000
Total Planning Estimate	\$104,203





Photo 1:



Photo 2:

Photo Date:

6/03/2013

Taken By:

Tony Hicks

Page:

Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50 16.50	\$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.60 \$ 27.60 \$ 55.00 \$ 605.00 \$ 66.00 \$ 93.50 \$ 2,609.22 \$ 82.50	50.00 50.00 50.00 0.00	\$ - \$ - \$ 5,500.00 \$ -
Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 66.00 \$ 2,609.22	50.00 50.00 50.00 0.00	\$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 5,500.00 \$ -
Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 66.00 \$ 93.50	50.00 50.00 50.00	\$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 5,500.00
Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	50.00	\$ 3,575.00 \$ - \$ 3,575.00 \$ - \$ 3,575.00 \$ -
Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	\$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	50.00 50.00	\$ - \$ 3,575.00 \$ - \$ - \$ 3,575.00 \$ -
Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 55.00	50.00 50.00	\$ - \$ 3,575.00 \$ - \$ - \$ 3,575.00
Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial	\$ \$ \$ \$	11.00 16.50 82.50 11.00	\$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50	50.00	\$ - \$ 3,575.00 \$ -
Wooden Pole Phone Aerial Buried Wooden Pole	\$ \$ \$ \$	11.00 16.50	\$ 27.50 \$ 55.00	50.00	\$ - \$ 3,575.00
Wooden Pole Phone Aerial Buried	\$ \$ \$	11.00 16.50	\$ 27.50 \$ 55.00	50.00	\$ - \$ 3,575.00
Wooden Pole Phone Aerial	\$	11.00	\$ 27.50		\$ -
Wooden Pole		82.50	\$ 605.00		\$ -
			© COE 00		
Desired	\$	16.50	\$ 82.50		\$ 4,950.00
Aerial	\$	11.00	\$ 55.00		\$ -
Utility Relocation Electric	Removal Unit	Cost	Installation Unit Cost	Amount	Total Cost
Construction Cost Grand Total					\$ 46,911.82
· ·					
Traffic Control (8% of Construction Total \$)					\$ 3,474.95
Construction Cost Total					\$43,436.87
4" Ditch Paving (SY) Erosion Control Total			φ 54.63	0.00	\$ 2,629.70
Plastic Filter Fabric (SY)			\$ 5.72 \$ 54.65	8.00	\$ 45.79
Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ 1,402.20 \$ 60.98		
Landscape Mulch (SY)			\$ 3.58		
Erosion Control Mats (SY)			\$ 1.87	53.33	\$ 99.84
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF)			\$ 4.24 \$ 6.79		\$ 677.76 \$ 1,086.72
Temporary Grassing (AC)			\$ 855.60		
Fine Grading and Seeding (SY)			\$ 4.39	Amount 9.33	Total Cost \$ 40.99
Erosion Control			Installation Unit Cost	Amount	Total Cost
Staging Total					\$ 5,454.00
Temporary Drainage (Stream Diversion)			\$ 4,428.00	1.00	\$ 4,428.00
Clearing and Grubbing (Acre) Temporary Pavement			\$ 10,260.00		\$ 1,026.00 \$ -
Staging Classing and Crubbing (Apra)			Installation Unit Cost	Amount	Total Cost
Signing and Marking Total					\$ -
,			÷ 0.71	0.00	
Signing and Marking Permanent Striping (LF)			Installation Unit Cost \$ 0.71	Amount 0.00	Total Cost \$ -
Drainage Total					\$24,428.86
			. 0.00	33.21	
Trench Backfill (CY) Trench Compaction (CY)			\$ 2.99 \$ 6.36		
Pipe Bedding (CY)			\$ 48.60	8.89	\$ 432.00
Class A Conc (CY) Steel (lb)			\$ 892.19 \$ 1.42		\$ 12,222.98 \$ -
48" RCP (LF)	·		\$ 193.20	40.00	\$ 7,728.00
Trench Excavation (CY) 48" CMP (LF)	\$	24.60	\$ 10.38		\$ 738.13 \$ 2,952.00
Drainage Transh Fyenyation (CV)	Removal Unit	Cost	Installation Unit Cost	Amount	Total Cost
Roadway Total					\$10,924.32
Grading Complete (5% of Rwy Items & Drng Total \$)					\$ 1,683.48
End Anchorage (EA) Subtotal			\$ 1,380.00		\$ - \$ 9,240.83
Guardrail (LF)	\$	4.88	\$ 49.09		\$ -
Drain Inlet (EA) 4" Sidewalk (SY)	\$	13.56	\$ 3,000.00 \$ 36.90		\$ 6,000.00 \$ -
Curb and Gutter (LF)	\$	28.56	\$ 30.60		\$ 2,366.40
	\$	0.73	\$ 4.87		\$ 874.43
Roadway Construction Pavement (SF)		Cost	Installation Unit Cost	Amount	Total Cost

General Inf	formation			Мар	
Project ID				Brookfield Way 5	
Street Name	125 Ridae	Brook Court	-Mist-Dr	Thomas	1 Dr
Site Visit Date		/2016	iver-Valley-Dr	Wood:Duck:	9
Road Classification	Mino	or road	River-Bend-Dr	3 1 257	27 - 3
Project					Cal
CULVERT PASSES UNDER PRIVA Owners need to be accomodated.	ATE DRIVE (aln	nost parallel).			Slue:Heron Dr
Owners need to be accomodated.	·	. ,	Olde:Oak:Dr	A A A A A A A A A A A A A A A A A A A)
				1 6	
			3 ond Tri	Elar.	
				SELLOW OW	16 Por
				Valley Brook	
Field N			Tri=	The state of the s	San
Design (Existing	Site Features)	0.40			The Crope
Existing Road Laneage Existing ShId Width (paved and g	araca) (faat)	2-12' 10'	Cedar-Trj	Millers Oak-Way	
Existing Side Slopes	grass) (reer)	6:1		54°GA-5 A	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Existing Guardrail		None		257 m	A Market
Depth fm Pavement to Top of Cu	livert (ft):	5'	Morning:Creek:Way		/***
Pipe Type and Size	()-	48" CMP	L		12
Pipe Condition (1-5) (1 is new)		4-5		Hewell:Rd	, ale
Condition Notes: Rusted out bottor	ms, concrete he	adwalls.	N 0 0.25	0.5	1
Separation of pipe from headwall o	pening. Small a	mount of rip rap			Miles
at downstream end				4	
Pavement Type/Condition		Asphalt/Good	//		
Fridansant	al Factures		Close Location to Traff	Construction Options	
Environment Wetlands	ai reatures		Maintain One Lane - No		Х
Ditches	Roadside dr	ainage ditches	Maintain One Lane - Te	-	^
State Waters	Noausiue ui	alliage ditches	Stage Construction Note:	•	
State Waters			Stage Construction Note:	3.	
Buri	ied				
Electric	A	erial			
Cable	Unk	nown			
Phone	A	erial			
Gas		nown			
Water		nown			
Sewer	Unk	nown			
Other		Duana	d Decima		
	Tunical	Propose	ed Design		
Roadway Section	Typical				
	48" round RCP	with straight head	walls. Cost of removing both	n existing headwalls ass	umed egual to the
Culvert Size & Material	removal of the	entire length of pip	e.		amou oqual to the
Hility Polosetiene		<u> </u>			
Utility Relocations					
Guardrail Replacement					
	Private drivovo	v removal and rec	onstruction costed as 4" con	crata sidewalk	
Miscellaneous Features	i iivale uiivewa	y removar and rec	onstruction costed as 4 con	Ciele sidewaik.	
		Planning C	ost Estimate		
Туре		Notes		Tota	
Design	Includes 10%		Cost and surveying needs	\$22,62	
Right of Way Cost			ast ROW, 1/10 acre	\$17,42	24
Utility Relocation Cost		None iden		\$0	
Construction Cost				\$101,2	
Environmental Permits	In	cludes Zone AE F	loodway study	\$18,00	00
		Total P	anning Estimate	\$159 ,	342
			-	. ,	





Photo 1: Upstream end of culvert.



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

1/21/2016

Taken By:

David Gibbs

Page

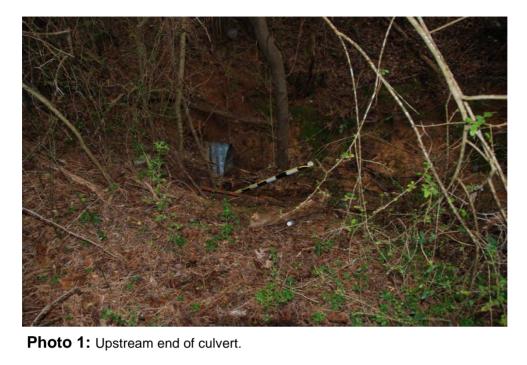
Roadway Construction	Removal Uni		Installation Unit Cost	Amount		otal Cost
Pavement (SF)	\$	0.73	\$ 4.87		\$	807.17
Curb and Gutter (LF)	\$	28.56	\$ 30.60			3,076.32
Drain Inlet (EA)	_		\$ 3,000.00			6,000.00
4" Sidewalk (SY)	\$	13.56	\$ 36.90			3,532.20
Guardrail (LF)	\$	4.88	\$ 49.09			-
End Anchorage (EA)			\$ 1,380.00	0.00		-
Subtotal					\$	13,415.69
Grading Complete (5% of Rwy Items & Drng Total \$)					\$	3,801.20
Grading Complete (3% of Kwy Items & Ding Total \$)					Φ	3,601.20
Roadway Total					\$	17,216.88
Drainage	Removal Uni	t Cost	Installation Unit Cost	Amount	To	otal Cost
Trench Excavation (CY)	rtomovai om	. 0001	\$ 10.38		\$	3,944.40
48" CMP (LF)	\$	24.60	Ψ 10.00	342.00		8,413.20
48" RCP (LF)	Ψ	21.00	\$ 193.20			33,423.60
Class A Conc (CY)			\$ 892.19			12,222.98
Steel (lb)			\$ 1.42			-
Pipe Bedding (CY)			\$ 48.60			1,846.80
Trench Backfill (CY)			\$ 2.99			1,020.14
Trench Compaction (CY)			\$ 6.36			1,737.11
· · · ·			V 0.00	2.00		
Drainage Total					\$	62,608.23
Signing and Marking			Installation Unit Cost	Amount	To	otal Cost
Permanent Striping (LF)			\$ 0.71		\$	-
Signing and Marking Total					\$	-
Staging			Installation Unit Cost	Amount	To	otal Cost
Clearing and Grubbing (Acre)			\$ 10,260.00		\$	1,026.00
Temporary Pavement			Ψ 10,200.00	0.10	\$	1,020.00
Temporary Drainage (Stream Diversion)			\$ 4,428.00	1.00	\$	4,428.00
Temporary Dramage (Gircam Diversion)			Ψ +,+20.00	1.00	Ψ	4,420.00
Staging Total					\$	5,454.00
Erosion Control			Installation Unit Cost	Amount		otal Cost
Fine Grading and Seeding (SY)			\$ 4.39			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
LIOSION CONTROL TOTAL					Ψ	0,507.25
Construction Cost Total						
T # 0 : 1 (00) (0 : T = ::5)					\$	93,786.34
Traffic Control (8% of Construction Total \$)					\$	93,786.34 7,502.91
· · · · · · · · · · · · · · · · · · ·					\$,
Construction Cost Grand Total	Removal Uni	t Cost	Installation Unit Cost	Amount	\$ \$1	7,502.91
Construction Cost Grand Total	Removal Uni	t Cost	Installation Unit Cost	Amount	\$ \$1	7,502.91 101,289.25
Construction Cost Grand Total Utility Relocation Electric	\$	t Cost	Installation Unit Cost \$ 55.00		\$ \$1	7,502.91 101,289.25
Construction Cost Grand Total Utility Relocation Electric Aerial	\$ \$			0.00 0.00	\$ 1 To \$ \$	7,502.91 101,289.25
Construction Cost Grand Total Utility Relocation Electric Aerial	\$	11.00	\$ 55.00	0.00 0.00	\$ 1 To \$ \$	7,502.91 101,289.25
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00	0.00 0.00 0.00	\$ 1 To \$ \$ \$ \$	7,502.91 101,289.25
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ \$ \$	11.00 16.50 82.50 11.00	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50	0.00 0.00 0.00	\$ \$1 To \$ \$ \$	7,502.91 101,289.25
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00	0.00 0.00 0.00 0.00	\$ 1 Tcc \$ \$ \$ \$ \$ \$ \$ \$	7,502.91 101,289.25
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Buried Wooden Pole Wooden Pole Wooden Pole	\$ \$ \$	11.00 16.50 82.50 11.00	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50	0.00 0.00 0.00 0.00	\$ 1 Tcc \$ \$ \$ \$ \$ \$ \$ \$	7,502.91 101,289.25
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole Cable	\$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	0.00 0.00 0.00 0.00 0.00 0.00	\$ 1 To \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	7,502.91 101,289.25 otal Cost
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Cable Aerial	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	\$ 1 To \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	7,502.91 101,289.25 otal Cost
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	\$ 1 To \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	7,502.91 101,289.25 otal Cost
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	\$ 1 To \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	7,502.91 101,289.25 otal Cost
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	555 555	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 605.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$ 1 To 5 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	7,502.91 101,289.25 otal Cost
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main	\$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 27.50 \$ 55.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$ 1 To 5 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	7,502.91 101,289.25 otal Cost
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 55.00 \$ 605.00 \$ 606.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$ 1 To \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	7,502.91 101,289.25 otal Cost
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	555 555	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 605.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$ 1 To \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	7,502.91 101,289.25 otal Cost
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 55.00 \$ 605.00 \$ 606.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$ 1 TC \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	7,502.91 101,289.25 otal Cost
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Sas 4" main Water 8" main Sewer 12" main	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 27.50 \$ 65.00 \$ 66.00 \$ 93.50	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$ 1 TC \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	7,502.91 101,289.25 otal Cost
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Sewer 12" main Utility Relocation Total	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 605.00 \$ 66.00 \$ 93.50	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$ \$1 TC \$\$\$\$ \$\$\$\$ \$	7,502.91 101,289.25 otal Cost
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Utility Relocation Total Right of Way (Sq Ft)	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 65.00 \$ 66.00 \$ 93.50 \$ 82.50	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$ \$1 TC \$\$\$\$ \$\$\$\$ \$\$\$	7,502.91 101,289.25 otal Cost
Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Sewer	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 55.00 \$ 82.50 \$ 605.00 \$ 27.50 \$ 55.00 \$ 605.00 \$ 65.00 \$ 66.00 \$ 93.50 \$ 82.50	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	\$ \$1 TC \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	7,502.91 101,289.25 otal Cost

General Inf	formation			Мар	
Project ID			1 1 1 1 1 1 1	-7 I V () 9	L. W.
Street Name	170 Ric	dge Way	f	0	drop
Site Visit Date		0/2016	Keat	on C	Way
Road Classification		or road		Marion Blvd	
Project					The state of the
Water meter and gazebo near culv		nstream side.	Mora		and the
S .	·		Month.		Carlo Carlo
			Take Dr	1	- day
			Usser		The state of the s
			Tandy-Troe	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Nia-In
				ende	No.
Field N			Roxbas	Pidge:Way ≥	
Design (Existing	Site Features)				Greek
Existing Road Laneage		2-13'	g-Ct Hingswood Dr	Hilo-Rd	Wurp T
Existing ShId Width (paved and	grass) (feet)	100'			Drennan eston Dr
Existing Side Slopes		20:1	Derby: Dr	Beacon:Dr	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Existing Guardrail		None	A-Tice	295 /	
Depth fm Pavement to Top of Cu Pipe Type and Size	ivert (ft):	4.5'	Pon		-5
Pipe Condition (4.5) (4 is now)		36" CMP		92	Sheffield-Ct.
Pipe Condition (1-5) (1 is new)	m on downstar	4-5			
Condition Notes: Rusted out botton headwall. MAJOR streambed blow	n on downstreal	iii side. No	0 0.25	0.5	1
neadwaii. MAJOR Streambed blow	out.				Miles rooks
Pavement Type/Condition		Aanhalt/Cood		Melody-Ln-	
ravement Type/Condition		Asphalt/Good	Stage	Construction Option	
Environment	al Features		Close Location to Traffic		
Wetlands	ai i catures		Maintain One Lane - No		Х
Ditches			Maintain One Lane - Ten		
State Waters			Stage Construction Notes		
Otate Waters			Stage Construction (Votes	•	
Utilities (Visua	I Inspection)				
Electric		erial			
Cable	Unk	nown			
Phone	A	erial			
Gas	Unk	nown			
Water	Bı	ıried			
Sewer	Unk	nown			
Other					
		Propose	ed Design		
Roadway Section	Typical				
	1011 1 000				
Culvert Size & Material	48" round RCP	with straight head	walls		
	I Itility male and		alacating. Descible water ma	in releastion	
Utility Relocations	Othing pole and	aeriai wires need i	elocating. Possible water ma	iin reiocation.	
Guardrail Replacement					
Miscellaneous Features					
			ost Estimate		
Туре		Notes		Tota	
Design			Cost and surveying needs	\$18,9	
Right of Way Cost			past ROW, 1/4 acre	\$43,5	
Utility Relocation Cost	Utility po	e and aerial wires	potential water main	\$16,6 \$430.4	
Construction Cost	Accumina	minimal onvironma	intal permitting required	\$139,5 \$10.0	
Environmental Permits	Assuming i	milimai environme	ental permitting required	\$10,0	00
		T-(-1-P)		# 000	740
		ı otal P	anning Estimate	\$228 ,	142





170 Ridge Way



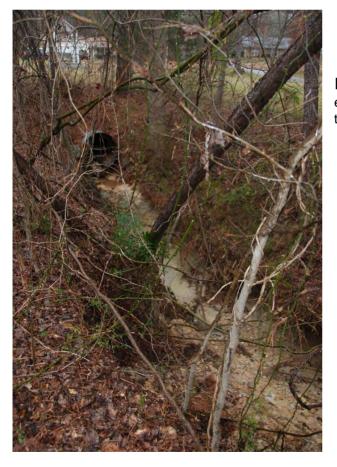


Photo 2: Downstream end of culvert looking east towards Ridge Way.

Photo Date:

1/20/2016

Taken By:

David Gibbs

Page

						_	
Roadway Construction	Removal U		Installation U		Amount		tal 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 U	nit Cost	Installation U		Amount		tal 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			62,983.20
Class A Conc (CY)			\$	892.19			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 U	nit Cost	Amount	т-	tal Cast
Signing and Marking Permanent Striping (LE)			\$	0.71	Amount	\$	tal Cost
Permanent Striping (LF)			φ	0.71		Ф	-
Signing and Marking Total						\$	-
Out of the			Leaf W. C. C.		A	_	1-10
Staging			Installation U		Amount		tal Cost
Clearing and Grubbing (Acre)			\$ 1	0,260.00	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 U	nit Cost	Amount	To	tal 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
			φ		72.44		259.06
Landscape Mulch (SY)			\$ \$	3.58			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						\$1	29,246.39
Traffic Control (8% of Construction Total \$)						\$	10.339.71
Construction Cost Grand Total							39,586.10
Construction Cost Grand Total						ψι	39,300.10
Utility Relocation	Removal U	nit Cost	Installation U	nit Cost	Amount	To	tal Cost
Electric	•	44.00	•	EE 00	400.0-	•	0.000.05
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	•		•	o=			
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	œ.	40.50	œ.	00.00	0.00	•	
All as all a	\$	16.50	\$	66.00	0.00	\$	-
4" main						Φ.	E E00.00
Water	œ	16.50	¢	00.50		*	5,500.00
Water 8" main	\$	16.50	\$	93.50	50.00	Ψ	0,000.00
Water 8" main Sewer			•				-
Water 8" main	\$	16.50 16.50	\$	93.50 82.50	0.00	\$	16,637.50
Water 8" main Sewer 12" main Utility Relocation Total			\$		0.00	\$	16,637.50
Water 8" main Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)			\$ Cost/ Sq Ft	82.50	0.00 Sq Ft	\$ \$ To	16,637.50 tal Cost
Water 8" main Sewer 12" main			\$		0.00	\$ \$ To \$	16,637.50

General In	formation			Мар	
Project ID					7
Street Name	545 Ridge	emont Drive		0	
Site Visit Date		21/13			1
Road Classification		or road			
Project		01 1000		7 24 9	
Urban Typical Section with Valley C					CLAYTON
Field N	Notes				
Design (Existing	Site Features				1000
Existing Road Laneage		2 - 12'		To the last	2000
Existing ShId Width (paved and	grass) (feet)	None			
Existing Side Slopes		Flat			
Existing Guardrail		None	Property.		
Depth fm Pavement to Top of Cu	ilvert (ft):	4		入。从一副	THE RESERVE
Pipe Type and Size		36" CMP,290'			
Pipe Condition (1-5) (1 is new)		5			
Condition Notes:					
Pavement Type/Condition		Asphalt/Good	(Getter)		可是能够的第
			Stage	Construction Options	
Environment			Close Location to Traffi		
Wetlands		lone	Maintain One Lane - No		Χ
Ditches	N	lone	Maintain One Lane - Ter		
			Stage Construction Notes	s:	
Heller Albana					
Utilities (Visua		uried			
Electric Cable		uried uried			
		uried uried			
Phone	DI	unea			
Gas Water	Ri	uried			
Sewer	Di	uneu			
Other					
Other		Proposi	ed Design		
Roadway Section		110000	ou besign		
Culvert Size & Material		6" of HDPE, 260'.			
Utility Relocations	Electric, cable,	phone, water			
Guardrail Replacement					
Miscellaneous Features					
			ost Estimate		
Туре		Notes		Total	
Design			ost and surveying needs	\$10,78	
Right of Way Cost	Assumin		3,000 sf beyond ROW	\$20,80	
Utility Relocation Cost		Buried uti		\$17,60	
Construction Cost			aring and grubbing	\$57,84	8
Environmental Permits	Assuming	mınımaı environme	ental permitting required	\$0	
		Total P	lanning Estimate	\$107,0	33



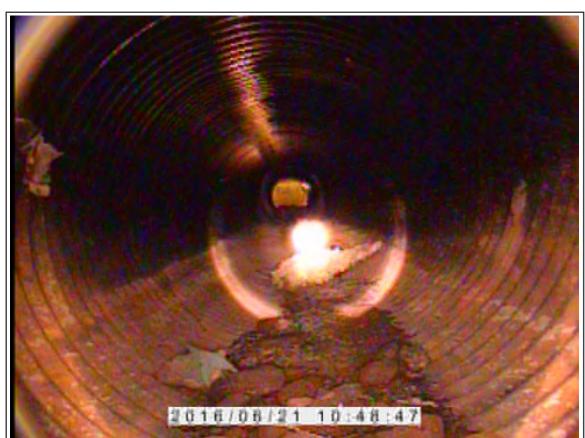




Photo 1:



Photo 2:

Photo Date:

6/21/2016

Taken By:

Tony Hicks

Page:

Roadway Construction, Utility Relocation and ROW Quantity Calculations

			Roadway Construction, Utility Relocation and ROW Quantity Calculations					
Roadway Construction		noval t Cost		nstallation 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	
Orain Inlet (EA) - Sidewalk (SY)		13.56	\$	3,000.00 36.90	2.00 0.00		6,000.00	
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 Tot	al \$)					\$	2,349.34	
Roadway Total						\$	10,339.71	
Drainage	Rei	noval	ı	nstallation	Amount		Total Cost	
	Uni	t Cost		Unit Cost				
French Excavation (CY)	\$	19.62	\$	10.38	133.33		1,384.00	
36" CMP (LF) 36" RCP	Ф	19.62	\$	142.52	296.00 36.00		5,807.52 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	
Orainage Total						\$	38,996.45	
Signing and Marking			ı	nstallation	Amount		Total Cost	
Permanent Striping (LF)			\$	Unit Cost 0.71		\$	-	
			_	***		_		
Signing and Marking Total						\$	-	
Staging			ı	nstallation	Amount		Total Cost	
Clearing and Grubbing (Acre)			\$	Unit Cost 10,260.00	0.10	\$	1,026.00	
Temporary Pavement				10,200.00			1,020.00	
Temporary Drainage (Stream Diversion)			\$	4,428.00	0.00		-	
Staging Total						\$	1,026.00	
Erosion Control			- 1	nstallation 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 1.87	0.00		-	
Erosion Control Mats (SY) 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		noval t Cost		nstallation Unit Cost	Amount		Total Cost	
F1	3.11					_		
Electric	_			55.00		u.	4.050.00	
Aerial	\$	11.00	\$			\$		
Aerial Buried	\$	16.50	\$	82.50	50	\$	4,950.00	
Aerial Buried					50		4,950.00	
Aerial Buried Wooden Pole Phone	\$ \$	16.50	\$	82.50	50	\$	4,950.00 - -	
Aerial Buried Wooden Pole Phone Aerial Buried	\$ \$ \$	16.50 82.50 11.00 16.50	\$	82.50 605.00	50 50	\$ \$ \$	-	
Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole	\$ \$	16.50 82.50 11.00	\$ \$	82.50 605.00 27.50		\$ \$ \$	-	
Aerial Suried Wooden Pole Phone Aerial Suried Wooden Pole Cable	\$ \$ \$	16.50 82.50 11.00 16.50	\$ \$ \$	82.50 605.00 27.50 55.00 605.00		\$ \$ \$	-	
Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$ \$	16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$	82.50 605.00 27.50 55.00		\$ \$ \$ \$	- 3,575.00 - -	
Aerial Buried Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$ \$ \$ \$	16.50 82.50 11.00 16.50 82.50 11.00	\$ \$ \$ \$ \$ \$	82.50 605.00 27.50 55.00 605.00 27.50	50	\$ \$ \$ \$ \$ \$ \$	- 3,575.00 - -	
Aerial Suried Wooden Pole Phone Aerial Suried Wooden Pole Cable Aerial Suried Wooden Pole Gas	\$\$ \$\$\$ \$\$	16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ \$ \$ \$ \$ \$	82.50 605.00 27.50 55.00 605.00 27.50 55.00	50	\$ \$ \$ \$ \$ \$ \$ \$	- 3,575.00 - -	
Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas " main Water	\$\$ \$\$\$ \$\$\$	16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$\$ \$\$\$ \$\$\$\$	82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00	50 50	\$\$ \$\$\$ \$\$\$	3,575.0(- - - 3,575.0(-	
Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main	\$\$ \$\$\$ \$\$\$	16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$\$ \$\$\$ \$\$\$	82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00	50	\$\$ \$\$\$ \$\$\$	3,575.0(- - - 3,575.0(-	
Aerial Suried Wooden Pole Phone Aerial Suried Wooden Pole Cable Aerial Suried Wooden Pole Gas 4* main Water	\$\$ \$\$\$ \$\$\$	16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$\$ \$\$\$ \$\$\$\$ \$	82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00	50 50	\$\$ \$\$\$ \$\$\$\$ \$\$\$	3,575.0(- - - 3,575.0(-	
Aerial Suried Wooden Pole Phone Aerial Wooden Pole Cable Aerial Suried Wooden Pole Gas I" main Water S" main Kelocate Fire Hydrant (EA) Sewer	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$\$ \$\$\$ \$\$\$ \$\$	82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00 93.50 2,609.22	50 50 50 0	** *** *** * **	3,575.0(- 3,575.0(- 3,575.00 - - 5,500.0(
Acrial Buried Wooden Pole Phone Acrial Buried Wooden Pole Cable Acrial Buried Wooden Pole Gas I" main Water B" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$\$ \$\$\$ \$\$\$ \$\$\$	82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00 93.50 2,609.22 82.50	50 50 50 0,00 Sq Ft	\$\$ \$\$\$ \$\$\$ \$\$\$ \$\$ \$\$	3,575.00 3,575.00 5,500.00 17,600.00	
Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 3" main Relocate Fire Hydrant (EA) Sewer	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$\$ \$\$\$ \$\$\$ \$\$\$	82.50 605.00 27.50 55.00 605.00 27.50 55.00 605.00 66.00 93.50 2,609.22	50 50 50 0.00	\$\$ \$\$\$ \$\$\$ \$\$\$ \$\$ \$\$	4,950.00 3,575.00 - 3,575.00 - 5,500.00 - 17,600.00 al Cost 20,800.00 20,800.00	

General Inf	formation			Мар	
Project ID			至 288 m		1 1-
Street Name	Roval R	idge Way	ONO		
Site Visit Date		0/2016	Taken St.	Price-Rd	1 17
Road Classification		or road	busine	Hope: Kay	
Project			à Rd	HO	
			Redwine Ro. Kiwanis Fields	93 98 Perry Creek	Janear Cy.
Field N	Intes			yal-Ridge Majes Majes	
Design (Existing					
Existing Road Laneage	ono i oataroo,	2-11.5'			700
Existing ShId Width (paved and	grass) (feet)	5'	Cherokee:Pl		Fig. C.
Existing Side Slopes	<u> </u>	3.5:1			
Existing Guardrail		None			31
Depth fm Pavement to Top of Cu	livert (ft):	4'		Green:Field C	
Pipe Type and Size	. ,	2-66" CMP		269 m	
Pipe Condition (1-5) (1 is new)		4		269 m	
Condition Notes: Two corrugated r	metal pipes abo	ut 1' apart. Filled	N 0 0.25	0.5	1
with sediment. No headwalls					Miles
			9		
Pavement Type/Condition	<u> </u>	Asphalt/Good	* 0		
				Construction Options	
Environment	al Features		Close Location to Traff		
Wetlands			Maintain One Lane - No		X
Ditches	Roadside dr	ainage ditches	Maintain One Lane - Te		
State Waters			Stage Construction Note		
			Sediment buildup in ex	isting pipes needs rem	oval.
Buri					
Electric		erial			
Cable		known			
Phone		erial			
Gas		known			
Water		known			
Sewer	Uni	known			
Other		Donner	ad Danissa		
	Typical 10" acr		ed Design		
Roadway Section	Typical, 18" cor				
Culvert Size & Material		arrel box culvert w			
Utility Relocations	Assuming utility	pole safe distanc	e from site (about 60')		
Guardrail Replacement					
Miscellaneous Features					
		Planning C	ost Estimate		
Туре		Notes		Total	
Design	Includes 10%		Cost and surveying needs	\$29,19	
Right of Way Cost		suming entire proj		\$0	
Utility Relocation Cost		Assuming not		\$0	
Construction Cost				\$166,97	76
Environmental Permits	Ir	ncludes Zone AE F	loodway study	\$18,00	
		Total P	lanning Estimate	\$214,1	74
194-19-17-17			3 =======	+	







Photo 1:



Photo 2:

Photo Date:

11/02/2015

Taken By:

Tony Hicks

Page:





Photo 3:



Photo 4:

Photo Date:

02/02/2016

Taken By:

Page:

		•			-	
Roadway Construction	Removal Unit		Installation Unit Cos		Total Cost	
Pavement (SF)	\$	0.73		.87 468.00	\$ 2,623.	
Curb and Gutter (LF)	\$	28.56	\$ 30.			.76
Drain Inlet (EA)	_		\$ 3,000			
4" Sidewalk (SY)	\$	13.56	\$ 36.			
Guardrail (LF)	\$	4.88	\$ 49.			
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
5 :	5	•			-	
Drainage	Removal Unit	Cost	Installation Unit Cos		Total Cost	
Trench Excavation (CY)	•	5400	\$ 10.			
72" CMP	\$	54.00		124.00		
72" RCP			\$ 105.			
Class A Conc (CY)			\$ 892			
Steel (lb)					\$ 16,331.	
Pipe Bedding (CY)			\$ 48.			
Trench Backfill (CY)			*	.99 421.97		
Trench Compaction (CY)			\$ 6.	.36 337.57	\$ 2,146.	.97
Drainaga Tatal					¢ 122 022	22
Drainage Total					\$ 132,032.	.22
Signing and Marking			Installation Unit Cos	st Amount	Total Cost	
Signing and Marking Permanent Striping (LF)				.71 54.00		.23
Permanent Striping (LF)			Φ 0.	.71 54.00	ф 30.	.23
Signing and Marking Total					\$ 38.	.23
Signing and Marking Total					φ 30.	.23
Staging			Installation Unit Cos	st Amount	Total Cost	1
Clearing and Grubbing (Acre)			\$ 10,260			
Temporary Pavement			Ψ 10,200.	.00 0.10	\$ 1,020.	-
Temporary Drainage (Stream Diversion)			\$ 4,428	.00 1.00	\$ 4,428.	00
Tomporary Brainage (Girdam Biversion)			Ψ 1,120	1.00	Ψ 1,120.	.00
Staging Total					\$ 5,492.	23
otaging rotal					Ψ 0,102.	
Erosion Control			Installation Unit Cos	st Amount	Total Cost	ì
Fine Grading and Seeding (SY)				.39 72.00		
Temporary Grassing (AC)			\$ 855.			
Type C Silt Fence (LF)						
			\$ 4.	.24 248.00	\$ 1.050.	53
				.24 248.00 .79 248.00		
Check Dam Type C Silt Fence (LF)			\$ 6	.79 248.00	\$ 1,684.	
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY)			\$ 6. \$ 1.	.79 248.00 .87 0.00	\$ 1,684. \$ -	
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY)			\$ 6. \$ 1. \$ 3.	.79 248.00 .87 0.00 .58 0.00	\$ 1,684. \$ -	
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC)			\$ 6. \$ 1. \$ 3. \$ 1,402.	.79 248.00 .87 0.00 .58 0.00 .20 0.00	\$ 1,684. \$ - \$ -	.42 - -
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60.	.79 248.00 .87 0.00 .58 0.00 .20 0.00 .98 36.00	\$ 1,684. \$ - \$ - \$ 2,195.	.42 - - - .42
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ 6. \$ 1. \$ 3. \$ 1,402. \$ 60. \$ 5.	.79 248.00 .87 0.00 .58 0.00 .20 0.00 .98 36.00 .72 36.00	\$ 1,684. \$ - \$ - \$ 2,195. \$ 206.	.42 - - - .42
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60.	.79 248.00 .87 0.00 .58 0.00 .20 0.00 .98 36.00 .72 36.00	\$ 1,684. \$ - \$ - \$ 2,195. \$ 206.	.42 - - - .42
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ 6. \$ 1. \$ 3. \$ 1,402. \$ 60. \$ 5.	.79 248.00 .87 0.00 .58 0.00 .20 0.00 .98 36.00 .72 36.00	\$ 1,684. \$ - \$ - \$ 2,195. \$ 206.	.42 - - .42 .06
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 6. \$ 1. \$ 3. \$ 1,402. \$ 60. \$ 5.	.79 248.00 .87 0.00 .58 0.00 .20 0.00 .98 36.00 .72 36.00	\$ 1,684. \$ - \$ - \$ 2,195. \$ 206.	.42 - - .42 .06
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 6. \$ 1. \$ 3. \$ 1,402. \$ 60. \$ 5.	.79 248.00 .87 0.00 .58 0.00 .20 0.00 .98 36.00 .72 36.00	\$ 1,684. \$ - \$ - \$ 2,195. \$ 206.	.42 .42 .06
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ 6. \$ 1. \$ 3. \$ 1,402. \$ 60. \$ 5.	.79 248.00 .87 0.00 .58 0.00 .20 0.00 .98 36.00 .72 36.00	\$ 1,684. \$ - \$ - \$ 2,195. \$ 206. \$ 5,452.	.42 .42 .06
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ 6. \$ 1. \$ 3. \$ 1,402. \$ 60. \$ 5.	.79 248.00 .87 0.00 .58 0.00 .20 0.00 .98 36.00 .72 36.00	\$ 1,684. \$ - \$ - \$ 2,195. \$ 206. \$ 5,452.	.42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ 6. \$ 1. \$ 3. \$ 1,402. \$ 60. \$ 5.	.79 248.00 .87 0.00 .58 0.00 .20 0.00 .98 36.00 .72 36.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452.	.42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ 6. \$ 1. \$ 3. \$ 1,402. \$ 60. \$ 5.	.79 248.00 .87 0.00 .58 0.00 .20 0.00 .98 36.00 .72 36.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452.	.42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total			\$ 6. \$ 1. \$ 3. \$ 1,402. \$ 60. \$ 5. \$ 54.	.79 248.00 .87 0.00 .58 0.00 20 0.00 .98 36.00 .72 36.00 .65 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368.	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal Unit	Cost	\$ 6. \$ 1. \$ 3. \$ 1,402. \$ 60. \$ 5.	.79 248.00 .87 0.00 .58 0.00 20 0.00 .98 36.00 .72 36.00 .65 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607.	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric			\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54.	7.79 248.00 87 0.00 58 0.00 20 0.00 98 36.00 72 36.00 65 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. \$ 166,976.	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial	\$	11.00	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54.	79 248.00 87 0.00 58 0.00 20 0.00 98 36.00 72 36.00 65 0.00 st Amount 00 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. Total Cost	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54.	7.79 248.00 87 0.00 58 0.00 20 0.00 98 36.00 72 36.00 65 0.00 st Amount .00 0.00 .50 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. \$ 166,976. Total Cost	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$	11.00	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54.	7.79 248.00 87 0.00 58 0.00 20 0.00 98 36.00 72 36.00 65 0.00 st Amount .00 0.00 .50 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. \$ 166,976. Total Cost	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54. Installation Unit Cos \$ 5. \$ 82. \$ 605.	7.79 248.00 87 0.00 58 0.00 20 0.00 98 36.00 72 36.00 65 0.00 st Amount .00 0.00 .00 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. Total Cost	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ \$ \$	11.00 16.50 82.50 11.00	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54. Installation Unit Cos \$ 55. \$ 82. \$ 605.	7.79 248.00 87 0.00 58 0.00 20 0.00 98 36.00 72 36.00 65 0.00 st Amount 00 0.00 .50 0.00 .50 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. \$ 166,976. Total Cost	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54. Installation Unit Cos \$ 55. \$ 82. \$ 605. \$ 27. \$ 55.	7.79 248.00 87 0.00 58 0.00 520 0.00 98 36.00 72 36.00 65 0.00 est Amount .00 0.00 .50 0.00 .50 0.00 .00 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. Total Cost \$ - \$ - \$ - \$ - \$ - \$ -	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole Wooden Pole	\$ \$ \$	11.00 16.50 82.50 11.00	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54. Installation Unit Cos \$ 55. \$ 82. \$ 605.	7.79 248.00 87 0.00 58 0.00 520 0.00 98 36.00 72 36.00 65 0.00 est Amount .00 0.00 .50 0.00 .50 0.00 .00 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. Total Cost \$ - \$ - \$ - \$ - \$ - \$ -	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54. Installation Unit Cos \$ 55. \$ 82. \$ 605. \$ 55. \$ 605.	7.79 248.00 87 0.00 58 0.00 20 0.00 98 36.00 72 36.00 65 0.00 st Amount .00 0.00 .50 0.00 .00 0.00 .50 0.00 .00 0.00 .00 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Wooden Pole Cable Aerial	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54. Installation Unit Cos \$ 55. \$ 82. \$ 605. \$ 55. \$ 27. \$ 55. \$ 605.	7.79 248.00 87 0.00 58 0.00 20 0.00 98 36.00 72 36.00 65 0.00 st Amount 00 0.00 50 0.00 00 0.00 50 0.00 00 0.00 50 0.00 50 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. \$ 166,976. Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ 154,607.	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54. Installation Unit Cos \$ 55. \$ 82. \$ 605. \$ 55. \$ 605. \$ 55. \$	7.79 248.00 87 0.00 58 0.00 20 0.00 98 36.00 72 36.00 65 0.00 st Amount 00 0.00 .50 0.00 00 0.00 .50 0.00 .50 0.00 .50 0.00 .50 0.00 .50 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. \$ 166,976. Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole	\$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54. Installation Unit Cos \$ 55. \$ 82. \$ 605. \$ 55. \$ 27. \$ 55. \$ 605.	7.79 248.00 87 0.00 58 0.00 20 0.00 98 36.00 72 36.00 65 0.00 st Amount 00 0.00 .50 0.00 00 0.00 .50 0.00 .50 0.00 .50 0.00 .50 0.00 .50 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. \$ 166,976. Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54. Installation Unit Cos \$ 55. \$ 82. \$ 605. \$ 55. \$ 605. \$ 55. \$ 605.	7.79 248.00 87 0.00 58 0.00 20 0.00 98 36.00 72 36.00 65 0.00 	\$ 1,684. \$ \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. \$ 166,976. Total Cost \$ \$ \$ \$ \$ \$ \$ \$ -	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cas	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54. Installation Unit Cos \$ 55. \$ 82. \$ 605. \$ 55. \$ 605.	7.79 248.00 87 0.00 58 0.00 20 0.00 98 36.00 72 36.00 65 0.00 st Amount 00 0.00 .50 0.00 00 0.00 .50 0.00 .50 0.00 .50 0.00 .50 0.00 .50 0.00	\$ 1,684. \$ \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. \$ 166,976. Total Cost \$ \$ \$ \$ \$ \$ \$ \$ -	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54. Installation Unit Cos \$ 55. \$ 82. \$ 605. \$ 55. \$ 605. \$ 605. \$ 605. \$ 605.	7.79 248.00 87 0.00 58 0.00 20 0.00 98 36.00 72 36.00 65 0.00 8t Amount 00 0.00 .50 0.00 .00 0.00 .50 0.00 .50 0.00 .50 0.00 .50 0.00 .50 0.00 .50 0.00 .50 0.00 .50 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. \$ 166,976. Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54. Installation Unit Cos \$ 55. \$ 82. \$ 605. \$ 55. \$ 605. \$ 605. \$ 66. \$ 93.	79 248.00 87 0.00 58 0.00 58 0.00 98 36.00 72 36.00 65 0.00 8t Amount 00 0.00 50 0.00 00 0.00 00 0.00 50 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54. Installation Unit Cos \$ 55. \$ 82. \$ 605. \$ 55. \$ 605. \$ 605. \$ 605. \$ 605.	7.79 248.00 87 0.00 58 0.00 20 0.00 98 36.00 72 36.00 65 0.00 8t Amount .00 0.00 .50 0.00 .00 0.00 .50 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Rejocate Fire Hydrant (EA) Sewer	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54. Installation Unit Cos \$ 55. \$ 82. \$ 605. \$ 27. \$ 55. \$ 605. \$ 66. \$ 93. \$ 2,609.	7.79 248.00 87 0.00 58 0.00 20 0.00 98 36.00 72 36.00 65 0.00 st Amount .00 0.00 .50 0.00 .00 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Fole Cable Aerial Buried Wooden Fole Cable Aerial Buried Wooden Fole Cable Aerial Buried Rooden Fole	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54. Installation Unit Cos \$ 55. \$ 82. \$ 605. \$ 27. \$ 55. \$ 605. \$ 66. \$ 93. \$ 2,609.	79 248.00 87 0.00 58 0.00 58 0.00 98 36.00 72 36.00 65 0.00 8t Amount 00 0.00 50 0.00 00 0.00 00 0.00 50 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00 00 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. \$ 166,976. Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Rejocate Fire Hydrant (EA) Sewer	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54. Installation Unit Cos \$ 55. \$ 82. \$ 605. \$ 27. \$ 55. \$ 605. \$ 66. \$ 93. \$ 2,609.	7.79 248.00 87 0.00 58 0.00 20 0.00 98 36.00 72 36.00 65 0.00 st Amount .00 0.00 .50 0.00 .00 0.00	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	.42 .42 .42 .06 .66
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 55. \$ 54. Installation Unit Cos \$ 55. \$ 82. \$ 605. \$ 27. \$ 55. \$ 605. \$ 27. \$ 55. \$ 605. \$ 27. \$ 55. \$ 82. \$ 82. \$ 82. \$ 82. \$ 82. \$ 83. \$ 83. \$ 84. \$ 85. \$ 85. \$ 85. \$ 85. \$ 85. \$ 86. \$ 86. \$ 87. \$ 88. \$	7.79	\$ 1,684. \$ - \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. \$ 166,976. Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	.42 .42 .06 .66 .66 .61
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54. Installation Unit Cos \$ 55. \$ 82. \$ 605. \$ 27. \$ 55. \$ 605. \$ 605. \$ 66. \$ 33. \$ 2,609. \$ 82.	7.79	\$ 1,684. \$ - \$ 2,195. \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	.42 .42 .06 .66 .66 .61 .27
Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ 6. \$ 1. \$ 3. \$ 1,402 \$ 60. \$ 5. \$ 54. Installation Unit Cos \$ 55. \$ 82. \$ 605. \$ 27. \$ 55. \$ 605. \$ 605. \$ 66. \$ 33. \$ 2,609. \$ 82.	7.79	\$ 1,684. \$ - \$ 2,195. \$ 2,195. \$ 206. \$ 5,452. \$ 154,607. \$ 12,368. \$ 166,976. Total Cost \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	.42 .42 .06 .66 .66 .61 .27

Canaral In	farmation	Mon
General In	TOTMATION	Map
Project ID	420 Shaal Casala D.I	/
Street Name	120 Shoal Creek Rd.	
Site Visit Date	5/21/13 Internal Local	*5
Road Classification Project		
Rural Typical Section	inotes	Signature of Rd
Field I	Notes	
Design (Existing	g Site Features)	Shoal Creek
Existing Road Laneage	2-10'	-Way
Existing Shld Width (paved and g		Carrotte Way
Existing Side Slopes	2:1	Dama Dr.
Existing Guardrail	None None	
Depth fm Pavement to Top of Cu Pipe Type and Size	3-96" CMP	Pastwood D
Pipe Condition (1-5) (1 is new)	3-96° CIVIP	
Condition Notes:		
Pavement Type/Condition	Asphalt/Good	
. 270 mont Typoroonamon	AspiialvGood	Stage Construction Options
Environmen	tal Features	Close Location to Traffic
Wetlands	Yes	Maintain One Lane - No Temp Pavement X
Ditches	None	Maintain One Lane - Temp Pavement
Contrib. Stream (2)		Stage Construction Notes:
Utilities (Visua		
Electric	Aerial	
Cable	Buried	
Phone	Aerial	
Gas Water	None None	
Sewer	None	
	None	
Other	Propos	L I ed Design
Roadway Section	Replace in kind	eu Design
Proposed Design	Triple 8' x 8' box culvert	
Utility Relocations	Telephone and Cable	
Guardrail Replacement	Guardrail may be needed based of	
Miscellaneous Features	Zone A, Floodplain Analysis Requ	iired
	5	Part Fathwata
Towns		Cost Estimate
Type	Notes Includes 10% Construction	
Design Right of Way Cost	Assuming project extends	
Utility Relocation Cost	Assuming project extends a Buried phone a	
Construction Cost	1/3 acre clearing and gr	
Environmental Permits	Permits, Zone A Flor	
Liivii Oiiiileiitai Feiiiits	1 Citilità, Zone A Fior	σαπαγ / πιαιγοίο ψ10,000
	Total P	lanning Estimate \$380,630.36
		







Photo 1:



Photo 2:

5/21/2013

Taken By:

David King

Page:





Photo 3:



Photo 4:

Photo Date:

5/21/2013

Taken By:

David King

Page:

					_	
Roadway Construction	Removal Un		Installation Unit Cost	Amount		otal Cost
Pavement (SF)	\$	0.73	\$ 4.87	,	\$	5,829.55
Curb and Gutter (LF)	\$	28.56	\$ 30.60		\$	-
Drain Inlet (EA)	¢.	10 56	\$ 3,000.00			-
4" Sidewalk (SY)	\$ \$	13.56	\$ 36.90			- E 612 E0
Guardrail (LF) End Anchorage (EA)	Ф	4.88	\$ 49.09 \$ 1,380.00			5,613.50
Subtotal			\$ 1,380.00	4.00	\$	5,520.00
Subiolai					Ф	16,963.05
Grading Complete (5% of Rwy Items & Drng Total \$)					\$	11,996.39
Trading Complete (070 of 170) Rome & Emig Total (4)					Ψ	11,000.00
Roadway Total					\$	28,959.44
Drainage	Removal Un	it Cost	Installation Unit Cost	Amount		otal Cost
Trench Excavation (CY)	•	00.00	\$ 10.38		\$	7,842.67
96" CMP (LF)	\$	63.00	\$ 455.00	70.00		13,230.00
96" RCP Class A Conc (CY)			\$ 455.00 \$ 892.19			164,929.87
Steel (lb)				19,942.00		,
Pipe Bedding (CY)			\$ 48.60			2,434.86
Trench Backfill (CY)			\$ 2.99			2,327.02
Trench Compaction (CY)			\$ 6.36			3,962.48
			,		•	-,
Drainage Total					\$2	222,964.77
Signing and Marking			Installation Unit Cost	Amount	To	otal Cost
Permanent Striping (LF)			\$ 0.71		\$	-
r emanent outping (Li)			Ψ 0.71	0.00	Ψ	_
Signing and Marking Total					\$	-
3 3 4 4 3 4 4						
Staging			Installation Unit Cost	Amount		otal 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
oldging Foldi					Ψ	12,211.00
Erosion Control			Installation Unit Cost	Amount	To	otal Cost
Fine Grading and Seeding (SY)			\$ 4.39	86.67	\$	380.64
Temporary Grassing (AC)			\$ 855.60		\$	-
Type C Silt Fence (LF)			\$ 4.24			2,118.00
Check Dam Type C Silt Fence (LF)			\$ 6.79			3,396.00
Erosion Control Mats (SY)			\$ 1.87			312.00
Landscape Mulch (SY)			\$ 3.58			596.00
Perm Grassing (AC)			\$ 1,402.20 \$ 60.98			4 220 22
Rip Rap Type 3 12" (SY)			\$ 5.72			4,228.22 396.86
Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ 54.65			390.00
4 Diterraving (31)			ψ 54.05	0.00	Ψ	-
Erosion Control Total					\$	11,427.73
Construction Cost Total					ተ	07E E02 74
Construction Cost Total					\$ 2	275,593.74
Traffic Control (8% of Construction Total \$)					\$	22,047.50
Construction Cost Grand Total					¢ ′	297,641.24
Construction Cost Grand Total					Ψ2	197,041.24
Utility Relocation	Removal Un	it Cost	Installation Unit Cost	Amount	To	otal Cost
Electric						
Aerial	\$	11.00	\$ 55.00		\$	-
Buried	\$	16.50	\$ 82.50		\$	-
Wooden Pole	\$	82.50	\$ 605.00	0.00	\$	-
Phone	•	4	•			
Aerial	\$	11.00	\$ 27.50		\$	-
Buried	\$	16.50	\$ 55.00			5,362.50
Wooden Pole Cable	\$	82.50	\$ 605.00		\$	-
Aerial	\$	11.00	\$ 27.50		\$	_
Buried	\$ \$	16.50	\$ 27.50 \$ 55.00			5,362.50
Wooden Pole	\$	82.50	\$ 605.00		\$	-
Gas	•		*		•	
4" main	\$	16.50	\$ 66.00		\$	-
Water						
8" main	\$	16.50	\$ 93.50			-
	Ψ		m 0 000 00		\$	
Relocate Fire Hydrant (EA)	Ψ		\$ 2,609.22		-	-
Sewer		16 50		0.00		-
Sewer 12" main	\$	16.50	\$ 2,609.22 \$ 82.50	0.00	\$	10.725.00
Sewer		16.50		0.00	\$	10,725.00
Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)		16.50	\$ 82.50 Cost/ Sq Ft	0.00 0.00 Sq Ft	\$ \$ To	otal Cost
Sewer 12" main Utility Relocation Total Right of Way (Sq Ft) Permanent Easement		16.50	\$ 82.50	0.00 0.00 Sq Ft	\$ \$ To \$	otal Cost 15,000.00
Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)		16.50	\$ 82.50 Cost/ Sq Ft	0.00 0.00 Sq Ft	\$ \$ To \$	otal Cost

General In	formation	Ma	n
Project ID			- 1/
Street Name	261 Trickum Creek Rd		35 tent
	6/11/13		The state of the s
Site Visit Date	County Local	Line Cl	regit 7
Road Classification Project	· ·		
Rural Typical Section	rivotes		The state of the s
rtarar Typicar Occion			ALCO I
			1 / 2 /
		5	7
Field I			(pl
Design (Existing	g Site Features)		1
Existing Road Laneage	2-10'	(a /o	1
Existing ShId Width (paved and g	grass) (feet)	1 2 4	
Existing Side Slopes		7 4	
Existing Guardrail	dream (ft)		
Depth fm Pavement to Top of Cu Pipe Type and Size	3- 7' CMP, 70'	1	1 4 4
Pipe Condition (1-5) (1 is new)	3- 7 CMF, 70		Swanson Rd at 5
Condition Notes: No Headwall	2	\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	34.
S. Sanor Hotes. No Floadwall			Harris Car
		T	a Grand
Pavement Type/Condition	Gravel/Fair	Laus Wood Dr	*
		Stage Construc	ction Options
Environment		Close Location to Traffic	X
Wetlands	Yes	Maintain One Lane - No Temp Pa	
Ditches	None	Maintain One Lane - Temp Paven	nent
		Stage Construction Notes:	
Utilities (Visua	al Inquestion)		
Electric Othities (Visua	Aerial		
Cable	Aerial		
Phone	Aerial		
Gas			
Water			
Sewer			
Other			
		d Design	
Roadway Section	Road dimensions from Google Ea	rth	
	Triple 01 of 51 have and contract 701		
Culvert Size & Material	Triple 8' x 5' box culvert, 70'		
	Utility poles, aerial electric, cable,	phone	
Utility Relocations	Clinty poles, derial electric, cable,	SHOHO	
Guardrail Replacement			
Miscellaneous Features	Zone AE with Floodway, Floodplai	n Analysis Required	
Miscellaneous reatures			
	Planning C	ost Estimate	
Туре	Notes	Jot Estimate	Total
Design	Includes 10% Construction Co	st and surveying needs	\$38,381
Right of Way Cost	Assuming project extends 3		\$15,675
Utility Relocation Cost	Utility poles, aer		\$15,675
Construction Cost	Assuming 1/5 acre clea	ing and grubbing	\$258,810
Environmental Permits	Permits, Floodpla	in Analysis	\$18,000
	Total Pl	anning Estimate	\$346,541







Photo 1:



Photo 2:

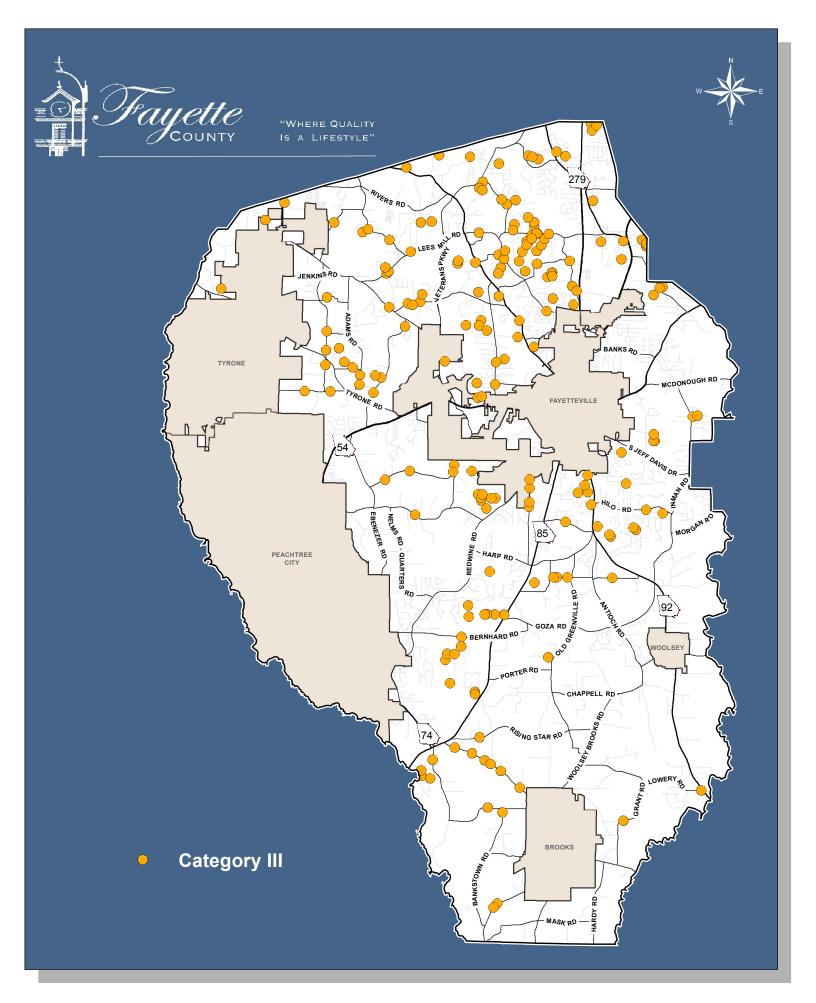
5/21/2013

Taken By:

David King

Page:

Roadway Construction	Removal U	nit Cost	Installation U	Init Cost	Amount	To	tal 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)	r.	20 56		30.60			
` '	\$	28.56	\$		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		_
			Ψ	1,300.00	0.00		44 000 07
Subtotal						\$	11,022.37
Grading Complete (5% of Rwy Items & Drng Total \$)						\$	10,385.83
Roadway Total						\$	21,408.20
Drainage	Removal U	nit Cost	Installation U	Init Cost	Amount	To	tal Cost
Trench Excavation (CY)			\$	10.38	881.48	\$	9,149.78
84" CMP (LF)	\$	63.00			210.00	\$	39,690.00
84" RCP	Ψ	00.00	\$	455.00	0.00		00,000.00
Class A Conc (CY)			\$	892.19	132.51	\$ 1	118,223.83
Steel (lb)			\$	1.42	13,383.00	\$	18,950.33
Pipe Bedding (CY)			\$	48.60	69.30	\$	3,367.98
			\$	2.99	905.44		
Trench Backfill (CY)							2,705.46
Trench Compaction (CY)			\$	6.36	724.35	\$	4,606.88
5						•	
Drainage Total						\$1	196,694.26
Signing and Marking			Installation L	Init Cost	Amount	To	tal Cost
Permanent Striping (LF)			\$	0.71	0.00		-
r ermanent Striping (LF)			Ψ	0.71	0.00	φ	-
Cinning and Madring T. 1.1						•	
Signing and Marking Total						\$	-
000			1	1.7.0	A	_	
Staging			Installation U	Init Cost	Amount		otal Cost
Clearing and Grubbing (Acre)			\$	10,260.00	0.20	\$	2,052.00
Temporary Pavement				•		\$	
			r.	4 400 00	0.00		0.050.00
Temporary Drainage (Stream Diversion)			\$	4,428.00	2.00	\$	8,856.00
Staging Total						\$	10,908.00
Erosion Control			Installation L	Init Cost	Amount	To	otal Cost
				4.39	138.67		609.02
Fine Grading and Seeding (SY)			\$				009.02
Lemporary (Frassing (AC))				855.60			-
Temporary Grassing (AC)			\$	000.00	0.00	Ф	
Type C Silt Fence (LF)				4.24	420.00		1,779.12
Type C Silt Fence (LF)			\$	4.24	420.00	\$	
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF)			\$ \$	4.24 6.79	420.00 420.00	\$ \$	2,852.64
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY)			\$ \$ \$	4.24 6.79 1.87	420.00 420.00 140.00	\$ \$ \$	2,852.64 262.08
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY)			\$ \$ \$	4.24 6.79 1.87 3.58	420.00 420.00 140.00 140.00	\$ \$ \$	2,852.64
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY)			\$ \$ \$	4.24 6.79 1.87	420.00 420.00 140.00	\$ \$ \$	2,852.64 262.08
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC)			\$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20	420.00 420.00 140.00 140.00 0.00	\$ \$ \$ \$	2,852.64 262.08 500.64
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98	420.00 420.00 140.00 140.00 0.00 69.33	\$ \$ \$ \$ \$ \$	2,852.64 262.08 500.64 - 4,228.22
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72	420.00 420.00 140.00 140.00 0.00 69.33 69.33	\$ \$ \$ \$ \$ \$ \$	2,852.64 262.08 500.64 - 4,228.22 396.86
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY)			\$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98	420.00 420.00 140.00 140.00 0.00 69.33	\$ \$ \$ \$ \$ \$ \$	2,852.64 262.08 500.64 - 4,228.22
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72	420.00 420.00 140.00 140.00 0.00 69.33 69.33	\$ \$ \$ \$ \$ \$ \$	2,852.64 262.08 500.64 - 4,228.22 396.86
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY)			\$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72	420.00 420.00 140.00 140.00 0.00 69.33 69.33	\$ \$ \$ \$ \$ \$ \$	2,852.64 262.08 500.64 - 4,228.22 396.86
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY)			\$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72	420.00 420.00 140.00 140.00 0.00 69.33 69.33	\$ \$ \$ \$ \$ \$ \$ \$ \$	2,852.64 262.08 500.64 - 4,228.22 396.86
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72	420.00 420.00 140.00 140.00 0.00 69.33 69.33	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total			\$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72	420.00 420.00 140.00 140.00 0.00 69.33 69.33	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total			\$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72	420.00 420.00 140.00 140.00 0.00 69.33 69.33	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total	Davi		* * * * * * * * *	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	420.00 420.00 140.00 140.00 0.00 69.33 69.33 0.00	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal U	nit Cost	\$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	420.00 420.00 140.00 140.00 0.00 69.33 69.33	\$	2,852.64 262.08 500.64 4,228.22 396.86 - 10,628.59 239,639.05
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric			\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation U	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	420.00 420.00 140.00 140.00 69.33 69.33 0.00	\$\$\$\$\$\$\$\$\$\$ \$\$\$	2,852.64 262.08 500.64 4,228.22 396.86 - 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation	Removal U	nit Cost	* * * * * * * * *	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	420.00 420.00 140.00 140.00 0.00 69.33 69.33 0.00	\$\$\$\$\$\$\$\$\$\$ \$\$\$	2,852.64 262.08 500.64 4,228.22 396.86 - 10,628.59 239,639.05 19,171.12
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric	\$		\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	420.00 420.00 140.00 140.00 69.33 69.33 0.00	\$	2,852.64 262.08 500.64 4,228.22 396.86 - 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried	\$ \$	11.00 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation U \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	420.00 420.00 140.00 140.00 0.00 69.33 69.33 0.00 Amount	\$	2,852.64 262.08 500.64 4,228.22 396.86 - 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole	\$	11.00	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	420.00 420.00 140.00 140.00 69.33 69.33 0.00	\$	2,852.64 262.08 500.64 4,228.22 396.86 - 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	420.00 420.00 140.00 140.00 69.33 69.33 0.00 Amount	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ \$ \$	11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation U \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50	420.00 420.00 140.00 140.00 69.33 69.33 0.00 Amount 100.00 2.00	\$	2,852.64 262.08 500.64 4,228.22 396.86 - 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone	\$ \$ \$	11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	420.00 420.00 140.00 140.00 69.33 69.33 0.00 Amount	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial	\$ \$ \$	11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ Installation U \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50	420.00 420.00 140.00 140.00 69.33 69.33 0.00 Amount 100.00 2.00	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Wooden Pole	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00	420.00 420.00 140.00 140.00 69.33 69.33 0.00 Amount 100.00 2.00	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00 3,850.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable	\$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	420.00 420.00 140.00 140.00 69.33 69.33 0.00 Amount 100.00 0.00 2.00 100.00 0.00	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00 3,850.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Wooden Pole Cable Aerial	\$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Anit Cost 55.00 82.50 605.00 27.50 605.00 27.50	420.00 420.00 140.00 140.00 69.33 69.33 0.00 Amount 100.00 2.00 100.00 0.00	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00 3,850.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00	420.00 420.00 140.00 140.00 69.33 69.33 0.00 Amount 100.00 0.00 2.00 100.00 0.00	\$\$\$\$\$\$\$\$\$\$ \$\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00 3,850.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Wooden Pole Cable Aerial	\$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Anit Cost 55.00 82.50 605.00 27.50 605.00 27.50	420.00 420.00 140.00 140.00 69.33 69.33 0.00 Amount 100.00 2.00 100.00 0.00	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00 3,850.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00	420.00 420.00 140.00 140.00 69.33 69.33 0.00 Amount 100.00 2.00 100.00 0.00	\$\$\$\$\$\$\$\$\$\$ \$\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00 3,850.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65	420.00 420.00 140.00 140.00 69.33 69.33 0.00 Amount 100.00 2.00 100.00 0.00	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00 3,850.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00	420.00 420.00 140.00 140.00 69.33 69.33 0.00 Amount 100.00 2.00 100.00 0.00	\$\$\$\$\$\$\$\$\$\$ \$\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00 3,850.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 605.00	420.00 420.00 140.00 140.00 0.00 69.33 69.33 0.00 Amount 100.00 0.00 2.00 100.00 0.00 100.00 0.00	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00 3,850.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Init Cost 55.00 82.50 605.00 27.50 65.00 605.00 27.50 605.00 605.00 93.50	420.00 420.00 140.00 140.00 69.33 69.33 0.00 Amount 100.00 2.00 100.00 0.00	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00 3,850.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	S S S S S S S S S S S S S S S S S S S	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Unit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 605.00	420.00 420.00 140.00 140.00 0.00 69.33 69.33 0.00 Amount 100.00 0.00 2.00 100.00 0.00 0.00 0.00	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00 3,850.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Init Cost 55.00 82.50 605.00 27.50 65.00 605.00 27.50 605.00 605.00 93.50	420.00 420.00 140.00 140.00 0.00 69.33 69.33 0.00 Amount 100.00 0.00 2.00 100.00 0.00 100.00 0.00	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00 3,850.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Init Cost 55.00 82.50 605.00 27.50 65.00 605.00 27.50 605.00 605.00 93.50	420.00 420.00 140.00 140.00 0.00 69.33 69.33 0.00 Amount 100.00 0.00 2.00 100.00 0.00 0.00 0.00	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00 3,850.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Rowooden Pole Cable Aerial Buried	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 4nit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 605.00 66.00 93.50 2,609.22	420.00 420.00 140.00 140.00 0.00 69.33 69.33 0.00 Amount 100.00 0.00 2.00 100.00 0.00 0.00 0.00	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00 3,850.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 4nit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 605.00 66.00 93.50 2,609.22	420.00 420.00 140.00 140.00 0.00 69.33 69.33 0.00 Amount 100.00 0.00 2.00 100.00 0.00 0.00 0.00	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00 3,850.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Rooden Pole Cable Aerial Buried Wooden Fole Cable	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 4nit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 605.00 66.00 93.50 2,609.22	420.00 420.00 140.00 140.00 0.00 69.33 69.33 0.00 Amount 100.00 0.00 2.00 100.00 0.00 0.00 0.00	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00 3,850.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Cable Aerial Buried Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total Right of Way (Sq Ft)	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 Init Cost 55.00 82.50 605.00 27.50 605.00 27.50 605.00 605.00 605.00 605.00 605.00 605.00 82.50 66.00	420.00 420.00 140.00 140.00 0.00 69.33 69.33 0.00 Amount 100.00 0.00 2.00 100.00 0.00 0.00 0.00	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00 3,850.00
Type C Silt Fence (LF) Check Dam Type C Silt Fence (LF) Erosion Control Mats (SY) Landscape Mulch (SY) Perm Grassing (AC) Rip Rap Type 3 12" (SY) Plastic Filter Fabric (SY) 4" Ditch Paving (SY) Erosion Control Total Construction Cost Total Traffic Control (8% of Construction Total \$) Construction Cost Grand Total Utility Relocation Electric Aerial Buried Wooden Pole Phone Aerial Buried Wooden Pole Cable Aerial Buried Wooden Pole Gas 4" main Water 8" main Relocate Fire Hydrant (EA) Sewer 12" main Utility Relocation Total	***	11.00 16.50 82.50 11.00 16.50 82.50 11.00 16.50 82.50 16.50	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	4.24 6.79 1.87 3.58 1,402.20 60.98 5.72 54.65 4nit Cost 55.00 82.50 605.00 27.50 55.00 605.00 27.50 605.00 605.00 605.00 66.00 93.50 2,609.22	420.00 420.00 140.00 140.00 0.00 69.33 69.33 0.00 Amount 100.00 0.00 2.00 100.00 0.00 0.00 0.0	\$	2,852.64 262.08 500.64 4,228.22 396.86 10,628.59 239,639.05 19,171.12 258,810.17 otal Cost 6,600.00 1,375.00 3,850.00



SPLOST 2017 Stormwater Improvements

CATEGORY III

PROJECT LOCATION	ESTIMATED COST
214 ADAMS RD	\$8,510
125 BANKSTOWN RD	\$7,575
375 BENJAMIN CIR	\$18,906
120 BENZ CT	\$22,951
135 BENZ CT	\$19,399
460 BERNHARD RD	\$8,808
105 BERRY RIDGE RD	\$8,712
120 BON AMI CT	\$10,326
105 BRANDON MILL CIR	\$18,555
100 BRASWELL LA	\$5,394
130 BRIARLAKE CT	\$17,671
145 BRIERWOOD DR	\$8,111
205 BROOKSHIRE DR	\$9,147
185 BROOKSHIRE DR	\$9,147
147 BUSBIN RD	\$9,147
197 BUSBIN RD	\$7 <i>,</i> 575
211 BUSBIN RD	\$7,575
317 BUSBIN RD	\$7,853
BUSBIN ROAD 150 FEET WEST OF SR 85	\$7,575
109 BUTLER RD	\$8,072
170 CARROLLS WAY	\$6,278
235 CARROLLS WAY	\$8,072
275 CARROLLS WAY	\$8,072
110 CATHERINE LN	\$21,590
105 CHEROKEE PL	\$8,072
260 COUNTRY LANE RD	\$9,147
100 CREEKWOOD CT	\$17,448
100 DARREN DR	\$6,376
107 DAVIS RD	\$7,518
265 DAVIS RD (2,000 ft. west of)	\$7,296
504 DAVIS RD	\$10,508
225 DERBY DR	\$9,755
154 DIXON CIR	\$7,853
186 DOGWOOD TR	\$7,739
388 EASTIN RD	\$7,739
506 EBENEZER CHURCH RD	\$8,066

CATEGORY III

PROJECT LOCATION	ESTIMATED COST
228 ELLISON RD	\$7,853
332 ELLISON RD	\$8,291
378 ELLISON RD	\$7,428
125 EMERALD LN	\$19,553
135 ESSEX CIR	\$7,603
155 FAIRFIELD CIR	\$17,740
115 FIRETHORN LN	\$9,516
100 FLAT CREEK CT	\$7,853
155 FLAT CREEK CT	\$9,000
301 FLAT CREEK TR	\$9,000
626 FLAT CREEK TR	\$7,739
305 FRANKLIN FARMS CIR	\$18,906
105 GENTLE DOE DR	\$17,241
216 GINGER CAKE RD	\$7 <i>,</i> 575
347 GINGER CAKE RD	\$7,739
161 GINGER CAKE TR	\$19,650
271 GINGER CAKE TR	\$19,650
285 GREEN VALLEY	\$7,853
105 GREENFIELD CIR	\$8,746
350 HARRIS RD	\$7,594
115 HERITAGE WAY	\$20,626
159 HIGHLAND HILLS RD	\$8,753
210 HIGHLAND HILLS RD	\$8,483
1373 HIGHWAY 85 CONN	\$7,575
1415 HIGHWAY 85 CONN	\$7,739
166 HIGHWAY 85 CONN	\$8,589
246 HIGHWAY 85 CONN	\$8,589
336 HIGHWAY 85 CONN	\$7,575
348 HIGHWAY 85 CONN	\$9,147
423 HIGHWAY 85 CONN	\$8,631
588 HIGHWAY 85 CONN	\$7,853
382 HILO RD	\$8,291
1116 HOOD RD	\$7,633
879 HOOD RD	\$8,092
115 HORSE SHOE CIR	\$9,059
130 IDLEWOOD LN	\$9,567

CATEGORY III

PROJECT LOCATION	ESTIMATED COST
120 KARI GLEN DR	\$8,699
105 KEN CIR	\$7,363
115 KEYLAND DR	\$19,051
105 KINGSWOOD WAY	\$15,808
215 KIRKLY RD	\$7,575
114 KITE LAKE RD	\$8,332
257 KITE LAKE RD	\$8,808
285 KITE LAKE RD	\$8,730
130 LADY HELEN CT	\$11,394
150 LAKEVIEW LN	\$9,631
125 LAMBERTH LAKE DR	\$18,989
210 LANG DR	\$9,942
133 LAURA LN	\$6,490
584 LEES MILL RD	\$7,739
431 LESTER RD	\$7 <i>,</i> 575
150 LITTLE CREEK DR	\$19,413
150 LOCKWOOD RD	\$7,853
160 LOFTY EAGLE LN	\$17,725
185 LONGVIEW RD	\$8,589
114 LOWERY RD	\$11,083
100 MACKENZIE LN on Eastin	\$19,430
243 MCBRIDE RD	\$11,382
555 MCBRIDE RD	\$8,195
518 MCBRIDE ROAD at PROVIDENCE DR	\$7,147
110 MELODY LN	\$10,646
285 MERRYDALE DR	\$9,631
133 MITCHELL RD	\$7 <i>,</i> 575
395 MORGAN MILL RD	\$8,354
140 MUSE RD	\$7,575
110 MUSE RD and LEES LAKE RD	\$6,376
762 NEW HOPE RD	\$8,279
988 NEW HOPE RD	\$5,917
175 NORTH BEND CT	\$22,818
245 NORTH DR	\$21,341
100 NORTHWIND TRL	\$18,992
140 OLD SENOIA RD	\$7,739

CATEGORY III

PROJECT LOCATION	ESTIMATED COST
105 OLDE OAK DR	\$8,419
175 OLDE OAK DR	\$8,176
245 OMIN RD	\$8,092
125 PINEWOOD DR	\$8,072
285 PLANTATION RD	\$7,575
100 POSTWOOD DR	\$10,130
100 REDBUD CT	\$6,928
980 REDWINE RD	\$7,734
210 RENNES CT	\$19,136
135 RILEY CT	\$7,603
130 RUSTIC MILL LN	\$11,254
150 RUSTIC MILL LN	\$13,971
145 S WOOD CT	\$21,024
302 SAMS DR and Lees Mill Rd	\$8,746
150 SENECA PL	\$8,072
180 SHAMROCK DR	\$9,826
138 SHELBY LN	\$8,255
145 SHELBY LN	\$7,739
310 SHERWOOD RD	\$7,908
325 SHERWOOD RD	\$7,696
380 SHERWOOD RD	\$7,853
350 SHERWOOD RD at BROOKSHIRE DR	\$18,906
128 STANLEY RD	\$12,538
190 STARRS MILL DR	\$8,072
385 STONERIDGE WAY	\$9,163
105 SUMMERVILLE DR	\$8,767
233 SWANSON RD	\$6,048
171 TALL PINE DR	\$19,549
125 TANDY TRCE	\$17,734
112 THOMPSON RD	\$7,633
130 THORNTON CT	\$20,209
240 THORNTON DR	\$18,002
165 THORNTON LN	\$7,575
166 TRAMMELL RD (East of)	\$7,633
128 TRICKUM CREEK RD	\$7,923
WAGON WHEEL TRL 200 WEST OF SALMA DR	\$13,687

CATEGORY III

PROJECT	T LOCATION	ESTIMATED COST
330 WEEPING WILLOW	WAY	\$20,714
140 WESLEY PL		\$8,092
155 WESTBRIDGE CIR		\$7,575
320 WHITE OAK WAY		\$6,490
240 WHITNEY WAY		\$7,642
136 WILKINS RD		\$7,575
160 WILLS WAY		\$19,553
120 WISTERIA CT		\$18,834
140 YATES DR		\$19,632
	2016 CATEGORY III TOTAL	\$1,651,211

CATEGORY IV

Project Name	DESCRIPTION	Cost
Stormwater Infrastructure Improvements	Functionality improvements identified through inventory and inspections. Work includes paving inverts, replacing headwalls, catch basin lids and drainage pipes that are currently inaccessible.	\$500,000
Professional Services/ Easement Acquisition	During the design phase many details must be addressed including the easement locations. Work includes surveying and preparation of legal documents.	\$200,000
FY 2014/2015 Stormwater Utility Reimbursement	Repayment of loan from the General Fund to the Stormwater Utility Enterprise Fund.	\$500,000
Utility Coordination/ Relocation	Project includes costs associated with easement requirements and special construction provisions for project and utility owners in accordance with federal, state, and local utility accommodation policies.	\$293,249
	2017 CATEGORY IV TOTAL	\$1,493,249

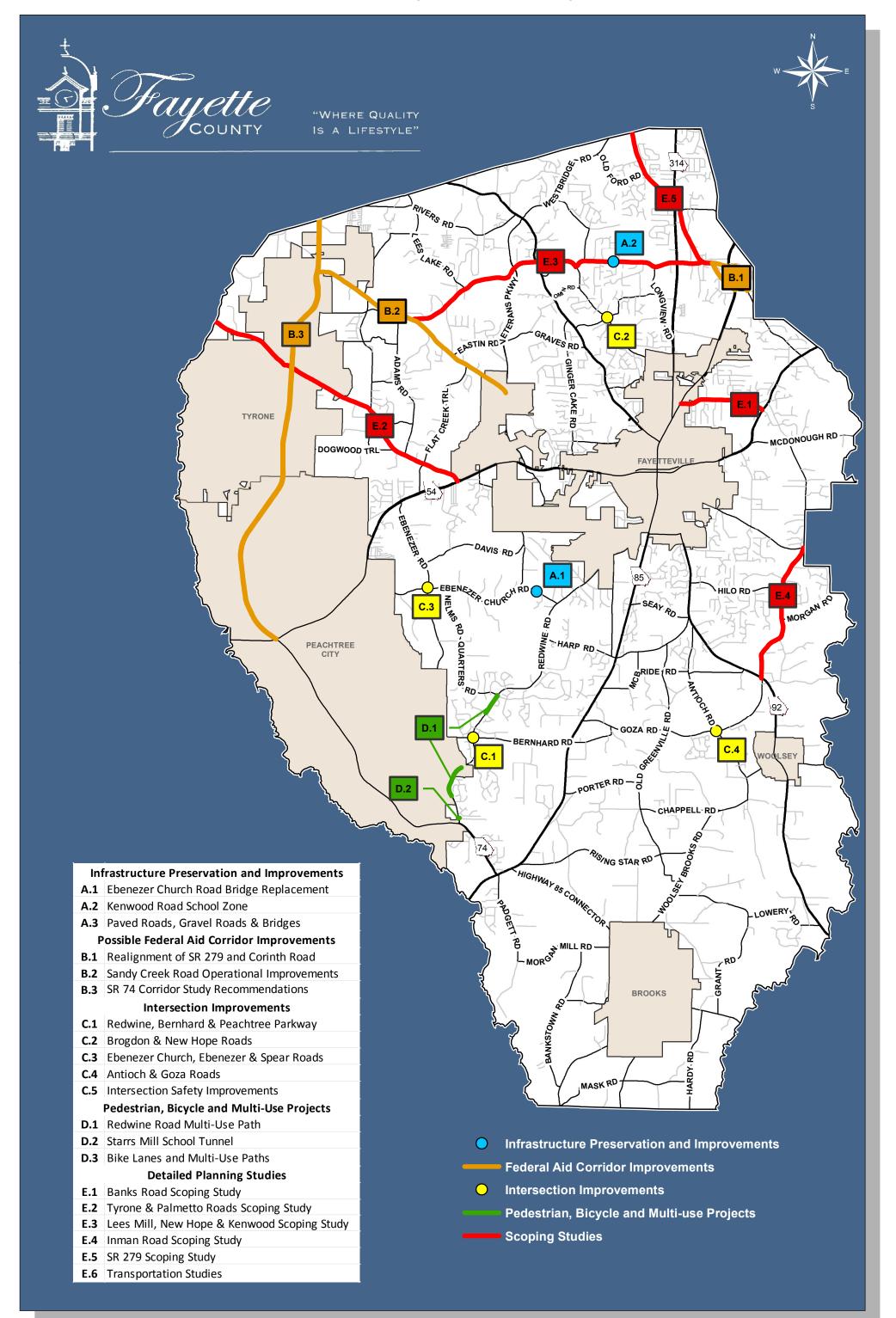


County Transportation List for SPLOST 2017 Referendum

Infra	structure Preservation and Improvements	Federal/State	SPLOST	Total
A.1	Ebenezer Church Road Bridge Replacement	\$3,062,983	\$659,500	\$3,722,483
A.1 A.2	Kenwood Road School Zone	\$3,002,983 \$0	\$600,000	\$5,722,465
A.2 A.3	Paved Roads, Gravel Roads & Bridges	\$0 \$0	\$2,209,273	\$2,209,273
Α.5	Subtotal A	\$3,062,983	\$3,468,773	\$6,531,756
Possi	ible Federal Aid Corridor Improvements	Federal/State	SPLOST	Total
B.1	Realignment of SR 279 and Corinth Road*	. cac. a, ctate	0. 200.	. 0 0
J.,	• Detailed Planning Study	\$0	\$64,500	\$64,500
	• Design & Construction	\$18,000,000	\$4,500,000	\$22,500,000
B.2	Sandy Creek Road Operational Improvements*	\$10,000,000	Ş 4 ,500,000	\$22,300,000
D.2	• Detailed Planning Study	\$0	\$71,800	\$71,800
	• Design & Construction	\$12,144,000	\$3,036,000	\$15,180,000
В.3	SR 74 Corridor Study Recommendations*	\$2,880,000	\$720,000	\$3,600,000
D. 3	Subtotal B	\$33,024,000	\$8,392,300	\$41,416,300
	Subtotal b		30,332,300	341,410,300
<mark>Inter</mark>	section Improvements	Federal/State	SPLOST	Total
C.1	Redwine, Bernhard & Peachtree Parkway	\$0	\$1,200,000	\$1,200,000
C.2	Brogdon & New Hope Roads	\$0	\$1,200,000	\$1,200,000
C.3	Ebenezer Church, Ebenezer & Spear Roads	\$0	\$1,500,000	\$1,500,000
C.4	Antioch & Goza Roads	\$0	\$1,070,000	\$1,070,000
C.5	Intersection Safety Improvements	\$0	\$500,000	\$500,000
	Subtotal C	\$0	\$5,470,000	\$5,470,000
Pede	strian, Bicycle and Multi-Use Path Projects	Federal/State	SPLOST	Total
D.1	Redwine Road Multi-Use Path	\$1,073,000	\$556,680	\$1,629,680
D.2	Starr's Mill School Tunnel	\$0	\$900,000	\$900,000
D.3	Bike Lanes and Multi-Use Paths	\$0	\$250,000	\$250,000
	Subtotal D	\$1,073,000	\$1,706,680	\$2,779,680
	iled Planning Studies	Federal/State	SPLOST	Total
E.1	Banks Road Detailed Planning Study	\$0	\$47,000	\$47,000
E.2	Tyrone & Palmetto Roads Detailed Planning Study	\$0	\$84,600	\$84,600
E.3	Lees Mill, New Hope & Kenwood Detailed Planning Study	\$0	\$76,600	\$76,600
E.4	Inman Road Detailed Planning Study	\$0	\$59,000	\$59,000
E.5	SR 279 Detailed Planning Study	\$0	\$65,400	\$65,400
E.6	Transportation Studies	\$0	\$150,000	\$150,000
	Subtotal E	\$0	\$482,600	\$482,600
	Proposed SPLOST Total of Categories A, B, C, D & E	\$37,159,983	\$19,520,353	\$56,680,336
Eligil	ole but unfunded Federal-Aid Corridor Improvement Projects	Federal/State	SPLOST	Total
F.1	Banks Road Operational Improvements*	\$12,000,000	\$3,000,000	\$15,000,000
F.2	Tyrone & Palmetto Roads Operational Improvements*	\$24,800,000	\$6,200,000	\$31,000,000
F.3	Lees Mill, New Hope & Kenwood Operational Improvements*	\$25,600,000	\$6,400,000	\$32,000,000
F.4	Inman Road Operational Improvements*	\$14,400,000	\$3,600,000	\$18,000,000
	Subtotal F (Unfunded)	\$76,800,000	\$19,200,000	\$96,000,000
	(. ,,	. ,,-

^{*} There are seven eligible Federal-Aid Corridor Improvement Projects on the list. Since the anticipated cost for all seven projects exceeds available SPLOST funding, only the top-rated projects will be advanced through construction (i.e., built). For the referendum, Fayette County's Transportation Committee developed this priority list using available information. The final prioritization and funding levels, however, will be established by the Transportation Committee and the Board of Commissioners upon completion of a Detailed Planning Study for each project. Any one of the seven projects may or may not be advanced beyond the Detailed Planning Study.

SPLOST 2017 Transportation Improvements



TRANSPORTATION

Benefits

- Expands County's existing preservation and maintain program for roads and bridges
- Provides funding for safety, capacity, and operational improvements that have no other funding source
- Provides money for use as local match on large, federal-aid transportation projects (typically at a 4:1 ratio)
- Allows for pro-active transportation planning to address current and future growth concerns
- Expands network of paths for pedestrians, bicyclists and golf carts

Needs Assessment

The March 2017 SPLOST referendum allocates \$19,520,353 dollars for unincorporated County Transportation Projects. One of the primary goals is to use approximately 40 percent of the money as local match for one or more, large, Federal-aid project. Although it adds complexity and time, participating in the Federal-aid project can leverage local dollars at a 4:1 ratio (i.e., for every one local dollar spent on a project there can be up to four federal dollars spent). This allows Fayette County to design and build projects that it could not afford otherwise. The Federal-Aid Corridor project(s) ultimately delivered will depend on the recommendations of the Detailed Planning Studies.

In addition to the Federal-aid projects, the transportation SPLOST has four other categories of projects.

Category	SPLOST Budget	Percent of SPLOST
Infrastructure Preservation and Improvements	\$3,468,773	17.8%
Federal-Aid Corridor Improvements	\$8,256,000	42.3%
Intersection Improvements	\$5,470,000	28.0%
Pedestrian, Bicycle and Multi-Use Path Projects	\$1,706,680	8.7%
Detailed Planning Studies	\$618,900	3.2%
Total SPLOST Allocation	\$19,520,353	100%

There are seven eligible Federal-Aid Corridor Improvement Projects on Fayette County's SPLOST list. Since the anticipated cost for all seven projects exceeds available SPLOST funding, only the top-rated projects will be advanced through construction (i.e., built). For the referendum,

Fayette County's Transportation Committee developed a draft priority list (projects B.1 - B.3 and projects F.1 - F.4)) using available information. The final prioritization and funding levels, however, will be established by the Transportation Committee and the Board of Commissioners upon completion of a Detailed Planning Study for each project. Any one of the seven projects may or may not be advanced beyond the Detailed Planning Study.

<u>Infrastructure Preservation and Improvements</u>

The purpose of this category is to maintain or improve existing County roads and bridges. The SPLOST money will supplement, not replace, existing annual budgets used for this work.

Ebenezer Church Road Bridge Replacement

This is a Georgia Department of Transportation (GDOT) sponsored bridge replacement project that is in early stages of design.

The existing bridge was built in 1965 and consists of four spans of reinforced concrete deck girders on steel piles, concrete columns and concrete caps. The overall condition of the bridge is good but the design vehicle used for the bridge is below current standards, so the bridge is posted with weight restrictions. The new structure will be wider and meet all current design standards. Fayette County is working with GDOT to coordinate the new bridge design with possible future bike lanes or multi-use paths along Ebenezer Church Road.

Costs for the project are based on a GDOT August 24, 2016 estimate. Fayette County's costs are for land acquisition and utility relocations. The balance of the project will be paid with state and/or federal dollars.

GDOT's schedule for construction is fiscal year 2019.

Kenwood Road School Zone

This is a Fayette County safety project on Kenwood Road.

The purpose of the project is to design and construct auxiliary lanes (e.g., center left turn lanes) on Kenwood Road for the North Fayette Elementary School. Kenwood Road's annual average daily traffic is in excess of 2,650 vehicles per day. Providing turn lanes will reduce the risk of rear-end collisions and reduce delays to thru traffic. The design process would include soliciting input from the School System, Sheriff's Office, and other stakeholders in the area.

The project would be funded entirely with SPLOST dollars.

Paved Road, Gravel Roads and Bridges

This project will help maintain existing roads and bridges in the unincorporated County.

Each year the Fayette County Road Department repairs and resurfaces 4 to 5 percent of the paved roads in the unincorporated County. The Department also maintains the County's bridges and approximately 50 miles of gravel roads. This project will provide additional resources for asphalt resurfacing, other pavement preservation treatments, bridge work, shoulder grading, drainage improvements, dust control treatments, etc. Treatment technologies and work priorities will be established using the results of a comprehensive, 2016 Pavement Evaluation.

The resurfacing and other maintenance work would likely be funded entirely with SPLOST dollars, but opportunities may exist to use the money as local match for state or Federal-aid.

Detailed Planning Studies

Approximately 3.2% of the SPLOST transportation dollars are allocated for Detailed Planning Studies. The studies have three primary purposes:

- 1. Define the project;
- 2. Assist with project prioritization; and
- 3. Satisfy federal requirements.

On large corridor projects, considerable data collection and engineering analysis is required to make accurate project recommendations. A Detailed Planning Study will collect the minimum data to allow for these analyses and provide results and recommendations for the Board of Commissioners to prioritize and advance the highest-rated projects. Having this information is prudent for local officials making decisions on projects with cost estimates in the tens-of-millions range and is required by state and regional planning agencies if the project is to be competitive in seeking Federal-aid.

Each of the Detailed Planning Studies will complete common tasks in order to address the three goals noted above, including:

- Identify need and purpose;
- Define the project scope;
- Consider alternatives;
- Perform cursory environmental screening;
- Assess impacts to utilities and railroads;
- Assess impacts to private properties;
- Gauge public support and opposition;
- Identify applicable design criteria;

- Develop a schedule; and
- Determine preliminary budget and funding options.

Studies will be completed for the seven projects listed below and possibly other locations as needs change over the six-year SPLOST. It is expected that Federal-aid will be required, at least for the construction phase, to fully fund any one or more of the projects. The advantage of having a project in the Federal-aid program is the potential amount of money paid by state or federal agencies. Typically the ratio is 80/20 (federal/local), so a project costing \$15,000,000 could receive up to \$12,000,000 in federal and state aid, and only cost the County's SPLOST program \$3,000,000.

The process for being awarded Federal-aid is competitive due to the large number of project applications, uncertainties associated with federal funds and availability, and the pre-defined criteria/performance measures a project must meet to be ranked high. Hence the need for a Detailed Planning Study to properly "vet" Fayette County projects prior to submission for consideration against the other projects in the Atlanta Metropolitan region.

As described above, the information provided in a Detailed Planning Study is essential for the funding process. The information is also integral to the design process so much of the work completed in the planning stage is used in full design. Also, having a planning study allows Consultants and Engineers to provide more focused and cost-effective proposals for design services.

SPLOST-Funded Detailed Planning Studies

- Realignment of SR 279 and Corinth Road
- Sandy Creek Road Operational Improvements
- Banks Road Operational Improvements
- Tyrone & Palmetto Roads Operational Improvements
- Lees Mill, New Hope and Kenwood Road Operational Improvements
- Inman Road Operational Improvements
- SR 279 Capacity and Operational Improvements
- Other Transportation Studies, as needed

For budgeting purposes, it is assumed that the Detailed Planning Studies will be 100 percent SPLOST funded, although there is a possibility of receiving Federal-aid to offset the cost for some of the studies. If this is achieved, savings can be used for additional studies or reallocated to another project category, such as resurfacing or intersection improvements.

The SR 279 Capacity and Operational Improvement Study is different from the other studies in that the recommendations of the study are not eligible for implementation with SPLOST money. Since this project is entirely along a State Route, the study will be used to encourage the Georgia Department of Transportation to advance the project using state and federal dollars.

Intersection Improvements

The SPLOST project list includes improvements at four specific locations plus a small allocation for other intersections that may be identified in the future. Each of the locations was selected based on citizen input over the years, known congestion issues, geometry concerns, and/or crash data.

Intersection of Redwine Road, Bernhard Road & Peachtree Parkway

This is an existing 4-way stop intersection that experiences heavy delays in the morning and afternoon. It also has multi-use paths along Redwine Road that are frequently used by local residents for access to the Stars Mill School complex, shopping/dining, golf, recreation, exercise, etc. Morning queues of 25 cars are common on Redwine Road. The average annual daily traffic is 7,600 vehicles per day on Redwine Road and 4,160 vehicles per day on Bernhard.

The intent of this project is to improve operating conditions during AM and PM peak hours and maintain (or improve) the ability of pedestrians, bicyclists, and golf carts to safely cross the roads.

A roundabout is envisioned for the location, but the design process will consider various alternatives and make a recommendation for Board of Commissioner approval prior to full design. A concern with roundabouts is how they are integrated with the multi-use paths. This will be evaluated during the design process. One option is to provide marked cross-walks a short distance away from the roundabout, thereby providing separation between the turn-movements of the roundabout and the crossing. Signs, striping, landscaping, lighting, reflective pavement markers, etc. will all be provided, as applicable, for the project.

Intersection of Brogdon Road and New Hope Road

This is an existing 2-way stop intersection that generates complaints about traffic speed on New Hope Road, limited sight distance, and vehicles pulling out in front of traffic. There are no sidewalks or multi-use paths in the area. The annual average daily traffic on New Hope Road is 5,630 vehicles per day.

The goal of this project is to improve safety and reduce thru speeds on New Hope Road.

The project's budget is based on conversion to a roundabout, although the design process will consider various alternatives and make a recommendation for Board of Commissioner approval prior to full design. Other options may include roadway realignment for improved sight

distance and intersection conversion to a 4-way stop. Signs, striping, landscaping, lighting, reflective pavement markers, etc. will all be provided, as applicable, for the project.

Intersection of Ebenezer Road with Ebenezer Church Road and Spear Road

This location has two intersections offset from each other by approximately 150 feet. The intersections generate above-average complaints about vehicle speed on Ebenezer Road and sight distance limitations. Ebenezer Church and Spear Road are each stop-controlled. There are no sidewalks or multi-use paths in the area but there is high bike use, especially on the weekends. Both Ebenezer and Ebenezer Church are designated in the 2010 Comprehensive Transportation Plan (CTP) as future bike/path roadways. The annual average daily traffic on Ebenezer, Ebenezer Church and Spear Roads is 3,450, 2,210 and 1,770 vehicles per day, respectively.

The goal of this project is to improve safety, reduce vehicles speeds on Ebenezer Road, and optimize the intersections with bike use and future multi-use path expansion.

The project's budget is based on conversion to an oval roundabout, although the design process will consider various alternatives and make a recommendation for Board of Commissioner approval prior to full design. Other options may include intersection realignment; installation of two, smaller roundabouts; vertical curve modifications to improve sight distance; or other geometry changes. Signs, striping, landscaping, lighting, reflective pavement markers, etc. will all be provided, as applicable, for the project.

Intersection of Antioch Road and Goza Road

This is an existing 2-way stop intersection with stop control on Goza Road. The intersection was realigned in 2011 to eliminate an offset between Goza Road and add turn lanes to each of the four approaches. Rarely does the queue length exceed two or three cars in any direction but safety remains an issue at this location. Since 2011, the crash rate remains higher than average and Fayette County has received several requests for changes at this intersection. Antioch Road has an annual average daily traffic county of 2,430 vehicles per day. Goza Road has an annual average daily traffic county of 4,090 vehicles per day.

The goal of the project is to further study the intersection and make safety improvements to reduce the crash rate.

The project's budget is based on conversion to a roundabout, although the design process will consider various alternatives and make a recommendation for Board of Commissioner approval prior to full design. Other options may include grading changes on Antioch Road for improved sight distance or conversion to a 4-way stop. Signs, striping, landscaping, lighting, reflective pavement markers, etc. will all be provided, as applicable, for the project.

Pedestrian, Bicycle and Multi-Use Projects

This category of projects is for improvements or expansion of infrastructure serving pedestrians, bicyclists and golf cart operators.

Redwine Road Multi-Use Path

This is an existing, Federal-aid, design-build project that will install 1.5 miles of new multi-use path along Redwine Road. When complete, there will a continuous path along Redwine Road from Birkdale Drive to Panther Path. The project will also include an at-grade crossing of Redwine Road near the Birkdale Drive/Quarters Road intersection.

The purpose of the project is to expand the existing path system and thereby provide convenient and safe alternatives to traditional automobile-based transportation. Common uses of the path include trips to schools, churches, neighbors, shops, restaurants, golf courses, for exercise, etc.

The project is currently in the land acquisition phase. It will be advertised and awarded for design-build/construction by the Georgia Department of Transportation upon County completion of all right-way and easement needs.

SPLOST money would be used to help pay the local match portion of the project.

Starrs Mill School Tunnel

This is a path project that will provide a tunnel under Redwine Road at Panther Path, the entrance to the Starrs Mill School complex. The tunnel would allow pedestrians, bicyclists and golf carts safe passage across Redwine Road with no impacts to vehicular traffic. The project would also include construction of new path (approximately 0.5 miles) on the west side of Redwine Road from Summer Place to Panther Path.

The intent of the project is to provide a permanent and safe crossing option for path users who are on the west side of Redwine Road and need access to the Elementary, Middle or High School. A field survey in 2015 measured approximately 600 golf cart trips per day along Panther Path and half of those originated from the west side of Redwine Road at Foreston Place subdivision (i.e., at the Summer Place intersection). For comparison, that section of Redwine Road carries over 8,400 vehicles per day.

This project would be 100 percent SPLOST funded.

Bike Lanes and Multi-Use Paths

Within unincorporated Fayette County there is a disconnected system of bike lanes, designated bike routes, sidewalks and multi-use paths. This project will provide some funding for implementation of recommendations from the Comprehensive Path Plan currently underway. The Comprehensive Path Plan will make recommendations for short and long-term projects to connect these systems and establish uniform and appropriate standards for signs, pavement striping, etc.

Some of the money may be used as local match for a larger Federal-aid project, depending on the specific recommendations and available Federal-aid opportunities. Example project includes: installation and/or improvements of crossings; construction of new paths or bike lanes; and installation of new bike route signs along designated routes. The emphasis of all projects will be on improved safety and connectivity.

Federal-Aid Corridor Projects

Projects within this category are all large in terms of scope and cost and are more complex from a design, permitting and construction perspective. Because of their high costs, each of these projects will be dependent upon receiving Federal-aid to advance through construction.

A Detailed Planning Study will be completed for each project in this category and the results used to prioritize and refine budgets. The anticipated cost for all seven projects exceeds the projected Transportation SPLOST dollars, so only the top-rated project will be advanced. The others will be delayed until alternative funding sources are available or possibly dropped from consideration if the Planning Studies find either better alternatives or that the benefits do not justify the costs.

For planning purposes, the County's Transportation Committee and the Board of Commissioners identified the Realignment of SR 279 and Corinth Road, Sandy Creek Road and SR 74 as the highest priorities. These may be reprioritized once the Detailed Planning Studies are complete.

Realignment of SR 279 and Corinth Road

SR 279 and SR 85 intersect approximately one-half mile north of the Corinth Road intersection. Both intersections are controlled with traffic signals. There is often a large queue of traffic making left turns from SR 85 onto SR 279 (especially in the AM) and Corinth Road (in the PM). Completion of the East Fayetteville Bypass is expected to increase traffic on Corinth Road and these intersections. Typical traffic volumes are:

SR 279: 5,080 vehicles per day (vpd);

• SR 85: 28,000 vpd, and

• Corinth Road: 6,040 vpd.

This project aligns Corinth Road and SR 279, thereby eliminating a traffic signal and the associated turning movements. Doing so improves safety and operational efficiency (i.e., less delay). The project requires Federal-aid and support from the Georgia Department of Transportation (GDOT) since it involves two state routes.

This project's Detailed Planning Study will consider all options for bringing these intersections together, as well as other safety and operational improvements. It will quantify the costs and benefits of each option allowing a go/no-go decision to be made along with selection of a preferred alignment.

Sandy Creek Road Operational Improvements

Sandy Creek Road is a 4.6-mile arterial road extending from Veterans Parkway in Fayetteville to SR 74 in Tyrone. Recent and expected growth within Fayetteville and around the Pinewood Studios is expected to increase traffic on Sandy Creek Road, which currently ranges around 5,000 vehicles per day. Fayette County received feedback from citizens with concerns about intersection safety, increasing truck use, and vehicle speeds.

This project develops a plan to ensure Sandy Creek Road is improved in a way that adequately meets current and future transportation needs. Examples of possible operational improvements include: reconfiguration of intersections, addition of passing lanes, shoulder build-out, correction of sub-standard horizontal and vertical curves, an improved railroad crossing, and measures to balance growth demands with existing property owner needs and desires along the corridor.

SR 74 Corridor Study Recommendations

There is an existing, multi-jurisdictional corridor study for SR 74 that extends approximately 12 miles, from SR 54 in Peachtree City to U.S. 29 in Fairburn. The study is broad in scope and is expected to generate several specific recommendations with respect to access management, intersection controls, sidewalks and paths, frontage roads, landscaping, right-of-way maintenance, etc. Approximately one mile of the corridor is within the unincorporated County.

The intent of this project is to have funds available for the implementation of some recommendations from the study within the unincorporated areas. Depending on the specific recommendation(s), they may be strong candidates for Federal-aid because of SR 74's regional significance.

As of December 2016, procurement for the SR 74 study is underway. The study should take approximately 18 months so final recommendations will be available in late 2018. Depending on the recommendation, implementation may also be dependent upon coordination with Peachtree City, Tyrone and Fairburn.

Eligible but Unfunded Federal-Aid Corridor Improvement Projects

Banks Road Operational Improvements

Banks Road is a 1.7-mile road extending from SR 54 to SR 314. The western end of Banks Road (approximately 0.38 miles) is within the limits of Fayetteville. The road is used as a cut-thru between SR 314, SR 85, SR 54 and McDonough Road but is not properly designed for current (and future) traffic volumes and pedestrian demands. For example, a 1.25 mile stretch of Banks has 10 intersections, 25 residential driveways, and approximately 250 acres of undeveloped land with existing road frontage on Banks. There are no sidewalks, bike lanes or multi-use paths.

This project will ensure Banks Road is improved to meet current and future transportation demands. Possible improvements could include: capacity increases (e.g., addition of a third lane), shoulder build-out, turn lanes, different intersection controls, correction of sub-standard horizontal and vertical curves, and addition of sidewalks, bike lanes and/or multi-use paths. Similar to the other Corridor Projects, the specific scope will be determined from the Detailed Planning Study.

Tyrone Road and Palmetto Road Operational Improvements

Tyrone Road is a 4.5-mile arterial road extending from SR 54 to Senoia Road in Tyrone. Palmetto Road is also an arterial road running 1.7 miles from Senoia Road to the Coweta County border. Palmetto Road is often used for access to Interstate I-85 at the Collinsworth Road interchange (Exit 56). Approximately 1.5 miles of the corridor are within the limits of Tyrone. With the exception of the Tyrone portion the majority of this corridor has no pedestrian or bicycle accommodations. Many side street intersections have poor skew angles and restricted sight distance. The annual average traffic count varies from 5,690 to 8,400 vehicles per day.

This project will ensure Tyrone Road is improved to adequately meet current and future transportation needs. Possible improvements may include: capacity increases (e.g., addition of a third lane in select areas), shoulder build-out, turn lanes, different intersection controls, correction of sub-standard horizontal and vertical curves, and addition of sidewalks, bike lanes and/or multi-use paths. Similar to the other Corridor Projects, the specific scope will be determined from the Detailed Planning Study.

Some specific intersections that may be realigned or changed to a difference type of intersection control (e.g., a roundabout) include: Arrowood Road and Spencer Lane with Palmetto Road; Ellison Road and Tyrone Road; Dogwood Trail with Tyrone Road; and Flat Creek Trail with Tyrone Road.

This is a joint effort with the Town of Tyrone and they are supportive of the project.

Lees Mill Road, New Hope Road and Kenwood Road Operational Improvements

When considered as one corridor, these three roads provide east-west connectivity in the north part of Fayette County, with intersections at Sandy Creek Road, Veterans Parkway, SR 92, SR 314, SR 279 and SR 85 (only a small portion of new Hope Road is included in the project). The roads are all two-lane, County Arterials. There are no sidewalks, bike lanes or multi-use paths along these two-lane roads. The annual average traffic count varies from 2,190 to 2,650 vehicles per day.

This project will provide safety and operational improvements along the corridor, including intersection improvements and possible addition of bike lanes, sidewalks and/or multi-use paths. Public input will be sought to determine latent demand for these features. Possible improvements include: shoulder build-out, turn lanes, different intersection controls, correction of sub-standard horizontal and vertical curves, installation of guardrails, and addition of sidewalks, bike lanes and/or multi-use paths. Similar to the other Corridor Projects, the specific scope will be better defined with the Detailed Planning Study.

Inman Road Operational Improvements

Inman Road extends from County Line Road at South Jeff Davis Road to SR 92 across from Goza Road. It is a two lane road, posted at 35 mph, and has no stop signs or traffic signals between the termini intersections noted above. Traffic is expected to increase on Inman as growth continues in surrounding counties, and with construction of the East Fayetteville Bypass. Traffic on Inman is approximately 2,410 vehicles per day. A common complaint received from citizens about Inman Road is significant speeding.

This project will ensure Inman Road is maintained as a free-flow road meeting current and future transportation needs for safety and efficient traffic movement. Possible operational improvements include: addition of turn lanes at intersections and passing lanes, shoulder build-out and establishment of proper clear zones, correction of sub-standard horizontal and vertical curves, and guardrail installations.

Ebenezer Church Road Bridge Replacement

Category: Infrastructure Preservation and

Improvements

Location: Ebenezer Church Road at

Whitewater Creek Bridge

Estimated Cost:

SPLOST Match \$659,500

Federal/State Match \$3,062,983

Total Cost \$3,722,483

Project Description

This is a Georgia Department of Transportation (GDOT) sponsored bridge replacement project that is currently in the early stages of design.

The existing bridge, built in 1965, and consists of four spans of reinforced concrete deck girders on steel piles, concrete columns and concrete caps. The overall condition of the bridge is good, the design vehicle used for the bridge is below current standards, so the bridge is posted with weight restrictions.

The new structure will be wider and meet all current design standards. Fayette County is working with GDOT to coordinate the new design with possible future bike lanes or multi-use paths along Ebenezer Church Road.

Costs for the project are based on an August 24, 2016 estimate. The balance of the project (\$3,620,983) will be paid with state and federal dollars. GDOT's schedule for construction is fiscal year 2019.

Map Location



Ebenezer Church Road is located southwest of downtown and can be accessed by Redwine, Lester, and Ebenezer Roads.

Existing Conditions



Ebenezer Church Road has two bridges. One crosses at Whitewater Creek and second at Pelham Creek. This project is for bridge replacement over Whitewater Creek, which is located between Hideaway Drive and Lester Road.

Kenwood Road School Zone

Category: Infrastructure Preservation and

Improvements

Location: Kenwood Road at North

Fayette Elementary

Estimated Cost: \$600,000

Project Description

This is a Fayette County safety project on Kenwood Road.

This project provides design and construction of auxiliary lanes (e.g., center left turn lane) on Kenwood Road for the North Fayette Elementary School.

Providing turn lanes will reduce the risk of rear-end collisions and reduce delays to thru traffic. The design process would include soliciting input from the School System, Sheriff's Office, and other stakeholders in the area.

The project would be funded entirely with SPLOST dollars.

Existing Conditions



Proposed Project



<u>Paved Roads, Gravel Roads,</u> and Bridges

Category: Infrastructure Preservation and

Improvements

Location: Multiple Locations

Estimated Cost: \$2,209,273

Project Description

This project will help maintain existing roads and bridges in the unincorporated County.

Each year the Fayette County Road
Department repairs and resurfaces four to
five percent of the paved roads in the
unincorporated County. The Department
also maintains the County's bridges and
approximately 50 miles of gravel roads.

This project will provide additional resources for asphalt resurfacing, other pavement preservation treatments, bridge work, shoulder grading, drainage improvements, dust control treatments, etc. Treatment technologies and work priorities will be established using the results of a comprehensive 2016 Pavement Evaluation.

Resurfacing and other maintenance work will be funded entirely with SPLOST dollars, but opportunities may exist to use the money as local match against state or federal aid.

Paved Roads



Gravel Roads



Bridges



SR 279 and Corinth Road Realignment

Category: Possible Federal Aid Corridor

Improvement Project

Location: SR 279 and Corinth Road at the

intersection of SR 85

SPLOST Detailed Planning Study: \$64,500

Project Description

SR 279 and SR 85 intersect approximately one-half mile north of the Corinth Road intersection. Both intersections are controlled with traffic signals. There is often a large queue of traffic making left turns from SR 85 onto SR 279 (especially in the AM) and Corinth Road (in the PM). Completion of the East Fayetteville Bypass is expected to increase traffic on Corinth Road and these intersections.

This project aligns Corinth Road and SR 279, thereby eliminating a traffic signal and the associated turning movements. Doing so improves safety and operational efficiency (i.e., less delay). The project requires Federal-aid and support from the Georgia Department of Transportation (GDOT) since it involves two state routes.

This project's Detailed Planning Study will consider all options for bringing these intersections together, as well as other safety and operational improvements. It will quantify the costs and benefits of each option allowing a go/no-go decision to be made along with selection of a preferred alignment.

Existing Conditions



SR 85 at Corinth Road



SR 85 at SR 279



This project may or may not be advanced beyond the Detailed Planning Study. The final prioritization and funding levels for this project and the other eligible Federal-Aid Corridor Improvement Projects will be set by the Transportation Committee and the Board of Commissioners upon completion of the Detailed Planning Studies.

Operational Improvements Cost <u>if funded:</u>
Federal/State: \$18,000,000
Local Match: \$4,500,000

Sandy Creek Road

Category: Possible Federal Aid Corridor

Improvement Project

Location: Tyrone and Palmetto Roads

SPLOST Detailed Planning Study: \$71,800

Project Description

Sandy Creek Road is a 4.6-mile major road extending from Veterans Parkway in Fayetteville to SR 74 in Tyrone. Recent and expected growth within Fayetteville and around the Pinewood Studios is expected to increase traffic on Sandy Creek Road. Fayette County received feedback from citizens with concerns about intersection safety, increasing truck use, and vehicle speeds.

This project develops a plan to ensure Sandy Creek Road is improved in a way that adequately meets current and future transportation needs. Examples of possible operational improvements include: reconfiguration of intersections, addition of passing lanes, shoulder improvements, correction of sub-standard horizontal and vertical sight distances, an improved railroad crossing, and measures to balance growth demands with existing property owner needs and desires along the corridor.

Location



Existing Conditions



Possible Intersection Reconfiguration : Sandy Creek Road, Eastin Road, Sams Drive and Trustin Lake Drive

This project may or may not be advanced beyond the Detailed Planning Study. The final prioritization and funding levels for this project and the other eligible Federal-Aid Corridor Improvement Projects will be set by the Transportation Committee and the Board of Commissioners upon completion of the Detailed Planning Studies.

Operational Improvements Cost <u>if funded:</u>
Federal/State: \$12,144,000
Local Match: \$3,036,000

SR 74 Corridor Study Recommendations

Category: Possible Federal Aid Corridor

Improvement Project

Location: State Route 74

Project Description

There is an existing, multi-jurisdictional corridor study for SR 74 that extends approximately 12 miles, from SR 54 in Peachtree City to U.S. 29 in Fairburn. The study is broad in scope and is expected to generate several specific recommendations with respect to access management, intersection controls, sidewalks and paths, frontage roads, landscaping, right-of-way maintenance, etc. Approximately one mile of the corridor is within the unincorporated County.

The intent of this project is to have some funds available for the implementation of some recommendations from the study along the unincorporated areas. Depending on the specific recommendation(s), they may be strong candidates for Federal-aid.

As of December 2016, procurement for the SR 74 study is underway. The study should take approximately 18 months so final recommendations will be available in late 2018. Depending on the recommendation, implementation may also be dependent upon coordination with Peachtree City, Tyrone and Fairburn.

Location





This project may or may not be advanced beyond the Detailed Planning Study. The final prioritization and funding levels for this project and the other eligible Federal-Aid Corridor Improvement Projects will be set by the Transportation Committee and the Board of Commissioners upon completion of the Detailed Planning Studies.

Operational Improvements Cost <u>if funded:</u>
Federal/State: \$2,880,000
Local Match: \$720,000

Redwine, Bernhard, and Peachtree Parkway

Category: Intersection Improvements

Location: Redwine Road, Bernhard Road

and Peachtree Parkway

Estimated Cost: \$1,200,000

Project Description

This is an existing 4-way stop intersection that experiences heavy delays in the morning and afternoon. It also has multi-use paths along Redwine Road that are frequently used by local residents for access to the Stars Mill School complex, shopping/dining, golf, recreation, exercise, etc. Morning queues of 25 cars or more is common on Redwine Road.

The intent is to improve operating conditions during AM and PM peak hours and improve the ability of pedestrians, bicyclists, and golf carts to safely cross the roads.

A roundabout is envisioned for the location, but the design process will consider various alternatives and make a recommendation for the Board of Commissioner's approval prior to the full design phase. A concern with roundabouts is how they are integrated with the multi-use paths. This will be evaluated during the design process. One option is to provide marked cross-walks a short distance away from the roundabout, thereby providing separation between the turn-movements of the roundabout and the crossing. Signs, striping, landscaping, lighting, reflective pavement markers, etc. will all be provided, as applicable, for the project.

Existing Conditions



The current design consists of a four way stop controlled intersection with stop signs and multiuse paths.

Proposed Project



The work may include realignments, changing the intersection control, addition of turn lanes, new signs, striping and/or reflective pavement markers, addition of night time lighting, etc.

Brogdon and New Hope Roads

Category: Intersection Improvements

Location: Brogdon and New Hope Roads

Estimated Cost: \$1,200,000

Project Description

This existing two-way stop intersection generates frequent complaints about traffic speed on New Hope Road, limited sight distance, and vehicles pulling out in front of traffic. There are no sidewalks or multi-use paths in the area.

The project will improve safety and reduce speeds on New Hope Road. The design process will consider all options and make a recommendation for Board of Commissioner approval prior to full design.

Options may include roadway realignment for improved sight distance and intersection conversion to a four-way stop. The project's budget is based on conversion to a roundabout. Signs, striping, landscaping, lighting, reflective pavement markers, etc. will be provided.

Existing Conditions



The current design consists of a controlled intersection with stop signs on Brogdon Road.

Proposed Project



The work may include realignments, changing the intersection control, addition of turn lanes, new signs, striping and/or reflective pavement markers, addition of night time lighting, etc.

Ebenezer Church, Ebenezer and Spear Roads

Category: Intersection Improvements

Location: Ebenezer Church, Ebenezer

and Spear Roads

Estimated Cost: \$1,500,000

Project Description

This location has two intersections offset from each other by approximately 150 feet. The intersections generate above-average complaints about vehicle speed on Ebenezer Road and sight distance limitations. Ebenezer Church and Spear Roads are each stopcontrolled.

There are no sidewalks or multi-use paths in the area but there is high bike use, especially on weekends. Both Ebenezer and Ebenezer Church Roads are designated in the 2010 Comprehensive Transportation Plan as future bike-path roadways.

This project's goal is to improve safety, reduce vehicles speeds on Ebenezer Road, and optimize the intersections with bike use and future multi-use path expansion.

The design process will consider all options and make a recommendation for Board of Commissioner approval prior to full design. Options may include roadway realignment for improved sight distance and intersection conversion to a four-way stop. The project's budget is based on conversion to a roundabout. Signs, striping, landscaping, lighting, reflective pavement markers, etc. will be provided as applicable.

Existing Conditions



The current design consists of a controlled intersection with stop signs on Spear and Ebenezer Church Roads.

Proposed Project



The work may include realignments, changing the intersection control, addition of turn lanes, new signs, striping and/or reflective pavement markers, addition of night time lighting, etc.

Antioch and Goza Roads

Category: Intersection Improvements

Location: Antioch and Goza Roads

Estimated Cost: \$1,070,000

Project Description

This is an existing two-way stop intersection with stop control on Goza Road. The intersection was realigned in 2011 to eliminate an offset between Goza Road and add turn lanes to each of the four approaches. Rarely does the number of vehicles exceed two or three cars in any direction but safety remains an issue at this location. Since 2011, the crash rate remains higher than average and Fayette County has received several requests for changes at this intersection.

The goal of the project is to further study the intersection and make safety improvements to reduce the crash rate. The design process will consider all options and make a recommendation for Board of Commissioner approval prior to full design. Options may include roadway realignment for improved sight distance and intersection conversion to a four-way stop. The project's budget is based on conversion to a roundabout, signs, striping, landscaping, lighting, reflective pavement markers, etc. will be provided as applicable.

Existing Conditions



The current design consist of a controlled intersection with stop signs, turn lanes and rumble strips long Goza Road and turn lanes along Antioch Road.

Proposed Project



The work may include realignments, changing the intersection control, addition of turn lanes, new signs, striping and/or reflective pavement markers, addition of night time lighting, etc.

Redwine Road Multi-Use Path

Category: Pedestrian, Bicycle and Multi-

Use Path Projects

Location: Redwine Road

Estimated Cost:

 SPLOST
 \$556,680

 Federal/State
 \$1,073,000

 Total Cost
 \$1,629,680

Project Description

This is an existing, federal-aid, design-build project installing 1.5 miles of new multi-use path along Redwine Road. When complete, there will a continuous path along Redwine Road from Birkdale Drive to Panther Path. The project will also include an at-grade crossing of Redwine Road near the Birkdale Drive and Quarters Road intersection.

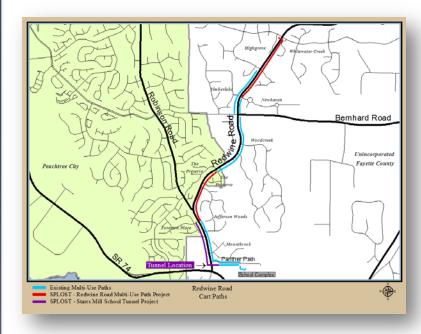
The project expands the existing path system, providing convenient and safe transportation alternatives. Common path uses include trips to school, church, neighbors, shopping, dining, golf, exercise, etc.

The project is currently in the land acquisition phase by the County. It will be advertised and awarded for design-build/construction by GDOT.

Existing Conditions



Proposed Project



Starr's Mill School Tunnel

Category: Pedestrian, Bicycle and Multi-

Use Path Projects

Location: Redwine Road at

Panther Path

Estimated Cost: \$900,000

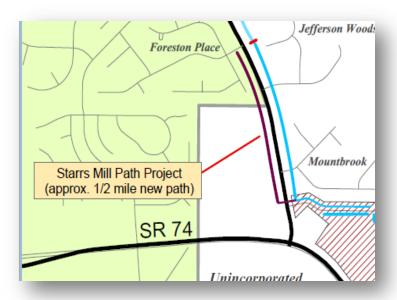
Project Description

This path project provides a tunnel under Redwine Road at Panther Path, the entrance to the Starr's Mill School complex. A tunnel provides pedestrians, bicyclists and golf carts safe passage across Redwine Road without impacting vehicular traffic. It includes construction of a new path (approximately 0.5 miles) on the west side of Redwine Road from Summer Place to Panther Path.

The intent is to provide a permanent and safe crossing option for path users who are on the west side of Redwine Road to the school complex.

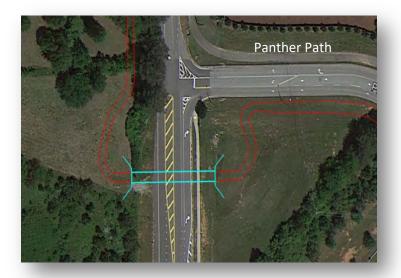
A 2015 survey counted approximately 600 golf cart trips per day along Panther Path with half originating from the west side of Redwine Road at the Summer Place.

Map Location



The blue portion in the above map identifies existing multiuse paths that are located east of Redwine Road. The purple portion identifies the new multi-use path that will be installed with this project.

Proposed Project



It is anticipated that a multi-use path along the west side of Redwine Road would significantly reduce the number of carts and pedestrians crossing Redwine Road and the hazardous intersection of Foreston Place. The concrete tunnel will be installed south of Panther Path allowing safe passage for carts and pedestrians.

Bike Lane and Multi-Use Paths

Category: Pedestrian, Bicycle and Multi-

Use Path Projects

Location: Multiple Locations

Estimated Cost: \$250,000

Project Description

Within unincorporated Fayette County, there is a disconnected system of bike lanes, designated bike routes, sidewalks and multi-use paths. Independent of the 2017 SPLSOT referendum, Fayette County is completing a Comprehensive Path Plan which will make recommendations for short and long-term projects to connect these systems and establish uniform and appropriate standards for signs and pavement striping.

This project will provide some funding for the implementation of some the Path Plan recommendations. Some of the money may be used as local match for a larger Federal-aid Project, depending on the specific recommendations and available federal-aid opportunities.

Examples of anticipated projects include: installation and improvements of crossings; construction of new paths or bike lanes; and installation of new bike route signs along designated routes. The emphasis of all projects will be on improved safety and connectivity.





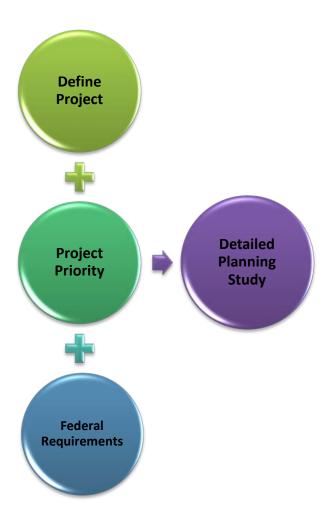
Detailed Planning Studies

Approximately 3.2% of the SPLOST transportation dollars are allocated for Detailed Planning Studies. The studies have three primary purposes:

- 1. Define the project;
- 2. Assist with project prioritization; and
- 3. Satisfy federal requirements.

On large corridor projects, considerable data collection and engineering analysis is required to make accurate project recommendations. A Detailed Planning Study will collect the minimum data to allow for these analyses and provide results and recommendations for the Board of Commissioners to prioritize and advance the highest-rated projects. Having this information is prudent for local officials making decisions on projects with cost estimates in the tens-of-millions range and is required by state and regional planning agencies if the project is to be competitive in seeking Federal-aid.

Each of the Detailed Planning Studies will complete common tasks in order to address the three goals noted above, including:





- Identify need and purpose;
- Define the project scope;
- Consider alternatives;
- Perform cursory environmental screening;
- Assess impacts to utilities and railroads;
- Assess impacts to private properties;
- Gauge public support and opposition;
- Identify applicable design criteria;
- Develop a schedule; and
- Determine preliminary budget and funding options.



Studies will be completed for the seven projects listed below and possibly other locations as needs change over the six-year SPLOST. It is expected that Federalaid will be required, at least for the construction phase, to fully fund any one or more of the projects. The advantage of having a project in the Federalaid program is the potential amount of money paid by state or federal agencies. Typically the ratio is 80/20 (federal/local), so a project costing \$15,000,000 could receive up to \$12,000,000 in federal and state aid,

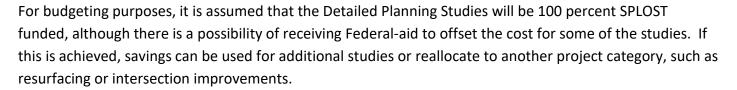
and only cost the County's SPLOST program \$3,000,000.

The process for being awarded Federal-aid is competitive due to the large number of project applications, uncertainties associated with federal funds and availability, and the pre-defined criteria/performance measures a project must meet to be ranked high. Hence the need for a Detailed Planning Study to properly "vet" Fayette County projects prior to submission for consideration against the other projects in the Atlanta Metropolitan region.

As described above, the information provided in a Detailed Planning Study is essential for the funding process. The information is also integral to the design process so much of the work completed in the planning stage is used in full design. Also, having a planning study allows Consultants and Engineers to provide more focused and cost-effective proposals for design services.

SPLOST-funded Detailed Planning Studies

- Realignment of SR 279 and Corinth Road
- Sandy Creek Road Operational Improvements
- Banks Road Operational Improvements
- Tyrone & Palmetto Roads Operational Improvements
- Lees Mill, New Hope and Kenwood Road Operational Improvements
- Inman Road Operational Improvements
- SR 279 Capacity and Operational Improvements
- Other Transportation Studies, as needed





The SR 279 Capacity and Operational Improvement Study is different from the other studies in that the recommendations of the study are not eligible for implementation with SPLOST money. Since this project is entirely along a State Route, the study will be used to encourage the Georgia Department of Transportation to advance the project using state and federal dollars.

Banks Road

Category: Detailed Planning Study/
Possible Federal Aid Corridor

Improvement Project

Location: Banks Road

SPLOST Detailed Planning Study \$47,000

Project Description

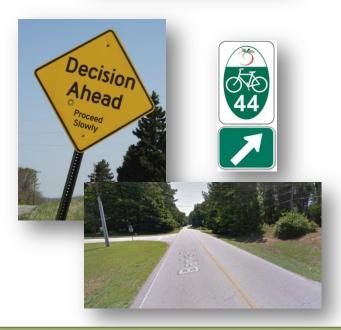
Banks Road is a 1.7-mile road extending from SR 54 to SR 314. The western end of Banks Road (approximately 0.38 miles) is within the limits of Fayetteville.

The road is used a cut-thru between SR 314, SR 85, SR 54 and McDonough Road but is not properly designed for current (and future) traffic volumes and pedestrian demands. For example, a 1.25-mile stretch of Banks has 10 intersections, 25 residential driveways, and approximately 250 acres of undeveloped land with existing road frontage on Banks. There are no sidewalks, bike lanes or multi-use paths.

This project will ensure Banks Road is improved to meet current and future transportation demands. Possible improvements could include: capacity increases (e.g., addition of a third lane), shoulder improvements, turn lanes, different intersection controls, correction of substandard horizontal and vertical sight distances, and addition of sidewalks, bike lanes and/or multi-use paths. Similar to the other Corridor Projects, the specific scope will be determined from the Detailed Planning Study.

Location





This project may or may not be advanced beyond the Detailed Planning Study. The final prioritization and funding levels for this project and the other eligible Federal-Aid Corridor Improvement Projects will be set by the Transportation Committee and the Board of Commissioners upon completion of the Detailed Planning Studies.

Operational Improvements Cost <u>if funded:</u>
Federal/State: \$12,000,000

Local Match: \$3,000,000

Tyrone & Palmetto Roads

Category: Detailed Planning Study/
Possible Federal Aid Corridor

Improvement Project

Location: Tyrone and Palmetto Roads

SPLOST Detailed Planning Study: \$84,600

Project Description

Tyrone Road is a 4.5-mile road extending from SR 54 to Senoia Road in Tyrone. Palmetto Road runs 1.7 miles from Senoia Road to the Coweta County border. Palmetto Road is often used for access to Interstate I-85 at the Collinsworth Road interchange.

With the exception of the Tyrone portion, the majority of this corridor has no pedestrian or bicycle accommodations.

This project will ensure Tyrone Road is improved to adequately meet current and future transportation needs. Possible improvements may include: capacity increases, shoulder improvements, turn lanes, different intersection controls, correction of sub-standard horizontal and vertical sight distance, and addition of sidewalks, bike lanes or multi-use paths.

Some specific intersections to be realigned or changed to a difference type of intersection control (e.g., a roundabout) include: Arrowood Road and Spencer Lane with Palmetto Road; Ellison Road and Tyrone Road; Dogwood Trail with Tyrone Road; and Flat Creek Trail with Tyrone Road. Details of this project will be coordinated with Town of Tyrone SPLOST projects.

This is a joint effort with the Town of Tyrone and they are supportive of the project.

Location





This project may or may not be advanced beyond the Detailed Planning Study. The final prioritization and funding levels for this project and the other eligible Federal-Aid Corridor Improvement Projects will be set by the Transportation Committee and the Board of Commissioners upon completion of the Detailed Planning Studies.

Operational Improvements Cost <u>if funded:</u>
Federal/State: \$24,800,000
Local Match: \$6,200,000

Lee's Mill Road, New Hope Road, and Kenwood Road

Category: Detailed Planning Study/

Possible Federal Aid Corridor

Improvement Project

Location: Lee's Mill Road, New Hope

Road, and Kenwood Road intersecting at Sandy Creek Road, Veterans Parkway, SR 92, SR 314, SR 279 and SR 85

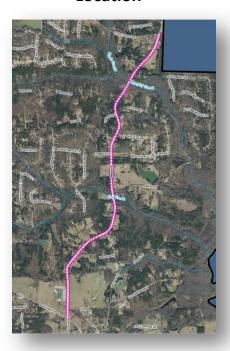
SPLOST Detailed Planning Study: \$76,600

Project Description

When considered as one corridor, these three roads provide east-west connectivity in the north part of Fayette County, with intersections at Sandy Creek Road, Veterans Parkway, SR 92, SR 314, SR 279 and SR 85 (only a small portion of new Hope Road is included in the project), which are all two-lane roads. There are no sidewalks, bike lanes or multi-use paths along the corridor.

This project will provide safety and operational improvements along the corridor, including intersection improvements and possible addition of bike lanes, sidewalks and/or multi-use paths. Public input will be sought to determine latent demand for these features. Examples of possible improvements include: shoulder build-out, turn lanes, different intersection controls, correction of sub-standard horizontal and vertical sight distances, installation of guardrails, and addition of sidewalks, bike lanes and/or multi-use paths. Similar to the other Corridor Projects, the specific scope will be better defined with the Detailed Planning Study.

Location





This project may or may not be advanced beyond the Detailed Planning Study. The final prioritization and funding levels for this project and the other eligible Federal-Aid Corridor Improvement Projects will be set by the Transportation Committee and the Board of Commissioners upon completion of the Detailed Planning Studies.

Operational Improvements Cost <u>if funded:</u> Federal/State: \$25,600,000

Local Match: \$6,400,000

Inman Road

Category: Detailed Planning Study/

Possible Federal Aid Corridor

Improvement Project

Location: Inman Road from County Line

Road at South Jeff Davis Road

to SR 92 across from Goza

Road.

SPLOST Detailed Planning Study: \$59,000

Project Description

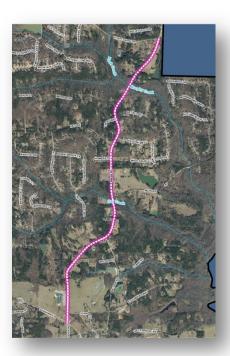
Inman Road is a three mile road that extends from County Line Road at South Jeff Davis Road to SR 92 across from Goza Road. It is a two lane road, posted at 35 mph, and has no stop signs or traffic signals between the intersections noted above.

Traffic is expected to increase on Inman as growth continues in Spalding and Clayton Counties and with construction of the East Fayetteville Bypass, which will provide a direct path from Inman Road to SR 85 north of Fayetteville. A common complaint received from citizens about Inman Road is the amount of vehicles speeding on the road.

This project will ensure Inman Road is maintained as a free-flow road meeting current and future transportation needs for safety and efficient traffic movement.

Possible operational improvements include: addition of turn lanes at intersections and passing lanes; shoulder build-out and establishment of proper clear zones; correction of sub-standard horizontal and vertical curves, and installation of guardrails.

Location





This project may or may not be advanced beyond the Detailed Planning Study. The final prioritization and funding levels for this project and the other eligible Federal-Aid Corridor Improvement Projects will be set by the Transportation Committee and the Board of Commissioners upon completion of the Detailed Planning Studies.

Operational Improvements Cost <u>if funded:</u>
Federal/State: \$14,400,000
Local Match: \$3,600,000

Public Safety Radio System

Category: Public Safety Radio System

Location: Countywide

Estimated Cost: \$18,211,536

Project Description

Fayette County currently is operating a Motorola 800MHz ASTRO Simulcast system, which was purchased in December 2002. The County Public Safety Radio System consist of a single PSAP with ten (10) workstations; six (6) telecommunicator workstations; and two (2) 911 and CAD workstations able to communicate via radio with the County Sherriff, five (5) local law enforcement agencies, three (3) fire agencies and two (2) emergency medical service providers. The public safety system consists of ten (10) channels and seven (7) cell towers and communicates with approximately 1,800 mobile and portable radios. The primary tower located behind the 911 Center at 110 Volunteer Way. The project was implemented and serviced by Diversified Electronics from Forest Park, Georgia.

The existing public safety radio system contains many components that are nearing their end of life. Fayette County is in the early stages of a comprehensive needs assessment to upgrade and/or replace the existing radio system with state of the art system based on the current market of the industry. Once this is completed, the County will determine which approach is best suited for Fayette County.

Porter Road



Highway 54



Peachtree City Town Hall





Public Safety Radio System

Benefits

To improve the current Motorola 800MHz ASTRO Simulcast radio system with a state of the art system based on the current market of the industry through a phase proposal, to determine which approach is best suited for Fayette County – upgrade and/or replacement.

Needs Assessment

Background: Fayette County currently is operating a Motorola 800MHz ASTRO Simulcast system, which was purchased in December 2002. The County Public Safety Radio System consist of a single PSAP with ten (10) workstations; six (6) telecommunicator workstations; and two (2) 911 and CAD workstations able to communicate via radio with the County Sherriff, five (5) local law enforcement agencies, three (3) fire agencies and two (2) emergency medical service providers. The public safety system consists of ten (10) channels and seven (7) cell towers and communicates with approximately 1,800 mobile and portable radios. The primary tower is located behind the 911 Center at 110 Volunteer Way. The project was implemented and serviced by Diversified Electronics from Forest Park, Georgia.

Objective: The existing public safety radio system contains many components that are nearing their end of life. Fayette County is in the early stages of a comprehensive needs assessment to upgrade and/or replace the existing radio system with a state of the art system based on the current market of the industry. Once this is completed, the County will determine which approach is best suited for Fayette County.

The estimated cost to upgrade and/or replace the existing Public Safety Radio System is \$18,211,536, detailed below:

Public Safety Radio System - Capital Improvement Program (CIP) Plan

	Tuble Salety Hadio System Capital Improvement Togram (en 7 han				
# of Projects	Source Funding	Department	Funding Source	Project Description	Total CIP Plan
7	100	Bldg & Grounds	375	Radio Replacements	71,316
12	100	EMA	375	Radio Replacements	29,800
48	100	Road	375	Radio Replacements	142,091
55	100	Sheriff	375	Radio Replacements (141 Dual Band Mobile)	944,700
56	100	Sheriff	375	Radio Replacements (245 Portable)	1,058,829
66	270	Fire	375	Radio Replacements	562,300
70	272	EMS	375	Radio Replacements	252,500
New	505	Water	505	Radio Replacements	150,000
	Radio Replacements \$3,211,53			\$3,211,536	
					·
57	215	911	375	Trunked Public Safety Radio System	15,000,000
Public Safety Radio Project \$15,000,000					

Total Project Cost	\$18,211,536
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The timetable for Fayette County to fully implement this public safety radio system is three years. Outlined below are the expected phases:

Phase	Begin	End	Days	911 Center	Radio(s)
Phase I	01/01/2016	12/31/2016	365	80%	20%
Phase II	12/31/2016	07/01/2017	182	60%	40%
Phase III	07/01/2017	12/31/2017	183	40%	60%
Phase IV	12/31/2017	07/01/2018	182	20%	80%

Phase I – Needs Assessment and Request for Proposal (RFP) Development

Fayette County needs assessment will include all aspects of the public safety community, as we evaluate our mission-critical public safety radio system needs for the future. Public safety radio systems are complex and expensive to upgrade and/or replace. First responders are challenged with critical service delivery and must rely upon sophisticated safety features, such as emergency notification, "caller identification," and multiple channels or talk groups for each incident response. The scope of service will include the following areas:

- Select a consultant to assist the County in replacing and/or upgrading public safety radio system to meet a deadline of July 1, 2018.
- Meet with stakeholders to document their needs and expectations to gain a complete understanding of the desired functionality for the new system.
- Tour and appraise any physical locations such as tower sites and local emergency service providers if needed to understand elements of the current system and inventory equipment.
- Facilitate discussions and guide decision making process among stakeholders to build consensus around required and optional system elements to maximize stakeholder buy-in
- Review County's RFP template and contracting process with the County's Project
 Management Team to gain a full understanding of how the County intends to carry out this public procurement.
- Prepare a written scope of work detailing system requirements and specifications in a manner that can be integrated into the County's RFP template.
- Utilize best practices and professional knowledge of 911 industry to determine and ensure the County's current and future interoperability requirements are addressed in the scope of work.
- Develop a Scope of Services to solicit the type of critical information from potential Radio System vendors necessary to allow the County to comprehensively evaluate and compare proposals received so as to arrive at an informed decision and recommendation.
- Coordinate and lead any mandatory pre-bid site visits.
- Evaluate the current Motorola 4.1, 800 MHz system including tower sites, radio consoles, mobiles, and portables.

- Determine equipment needs for municipalities to ensure compatibility with the new system on a case by case basis.
- Review existing Motorola service agreements.
- Evaluation of voice and data functionality.
- Evaluation of equipment migration.
- Meeting with all Users groups interoperability; capacity and expectations.
- Assessment of equipment compliance.
- Optimizing existing radio system staffing, training, and equipment.

Phase II – Proposal Evaluation and Contractor Selection

- Consultant would be excluding from bidding on public safety radio system and prohibited from colluding with any potential radio system contractors.
- Evaluate and score each proposal based on established evaluation criteria, providing an analysis identifying any advantages or concerns found in any of the proposals.
- Coordinate vendor presentations that may be necessary and independently score and evaluate each presentation and vendor.
- Consultant will be available to interpret, clarify, and discuss material in submitted proposals and presentations, with the proposal evaluation team, and provide professional opinions and advice to the evaluation team throughout the vendor selection process.

Phase III – Project Management during System Implementation

- Conduct, organize, coordinate, and invite stakeholders to a project kickoff meeting with the selected provider.
- Coordinate activities and manage communications between Provider and stakeholders.
- Consultant will provide project management services to County throughout the implementation to ensure Contractor's adherence to the established scope of work, schedule, and budget.
- During implementation, Consultant will prepare and submit a weekly progress report to the County. Updates to provide high level update and schedule of upcoming activities that can easily be copied into regular communications to project stakeholders to be distributed by the County and document action items, responsible parties, and highlight any areas of concern pertaining to the scope of work, schedule, budget, or Contractor performance.
- Address contract obligation issues or concerns that may develop through implementation and work to resolve them.
- Consultant will review all Provider payment request and respond to the County within three (3) business days with an updated financial overview and note to the County affirming invoiced costs are reasonable and cover work which has been performed in accordance with the contract requirements.

- Throughout implementation, Consultant will develop and maintain a punch list of outstanding items that Contractor, County and/or local emergency service providers are held accountable.
- Ensure system testing is conducted and that all training requirements are met.

Phase IV – Post Cut-over Monitoring

- For three (3) months following cut-over, Consultant will serve as the point of contact to the County and local emergency service providers for reporting all radio system performance issues.
- Consultant will document, prioritize, and investigate each issue, then identify the likely root cause, possible solutions, and the party responsible for resolving the issue. List of resolved and unresolved issues with the above information must be sent to the County on a weekly basis.
- Consultant will work with and coordinate activities of responsible parties to attempt a resolution of each issue reported with the new radio system.
- Consultant is expected to build radio system performance guarantees into the Contractor's scope of work and ensure that Contractor has contractual responsibility and capacity to resolve radio system performance issue and provide routine maintenance to the system in a timely manner.
- At the end of three (3) months monitoring period following cut-over, Consultant will
 provide a final report to the County documenting the status of all issues reported since
 cut-over. Any outstanding issues must have the root cause, potential solution and
 responsible party documented.
- Based on this report, with mutual agreement in writing, the County and Consultant may
 extend this contract to allow Consultant to continue coordinating efforts with
 responsible parties to resolve any outstanding issues.

Fire Station Relocation – Station #4

Category: Fire & Emergency Services

Location: McElroy Road, near McDonough Road

Estimated Cost: \$2,405,160

Project Description

Current facilities are not conducive to maintaining the work environment required for a modern Fire & EMS operation. This station currently has roof leaks in multiple areas affecting the bays and bunk room areas. The station was originally equipped with a sump/trap bay drain system. This bay drain system was ineffective in removing water and allows stagnant water to sit thus creating a health hazard and has since been abandoned and sealed for the betterment of all parties.

Station #4 covers 12.31 sq. miles of a fire response territory. Medic 4 covers 27.5 sq. miles of EMS territory. Units responding from #4 make up 19% of the annual responses. Within this territory there are three designated state highways, the largest recreation complex within the county hosting football, soccer, baseball and softball along with the densest population for EMS response. This territory is primarily east of Fayetteville to the Clayton County line. From the current station location (175 Johnson Avenue) the fire engine (Engine 4) must respond 3-4 minutes to reach the edge of the majority of the assigned response area. The current location was never a good location but was the result of a volunteer system with donated land. The new location better serves all the citizens as demonstrated by analytical data using GIS maps and geocoding where incidents occur.

Existing Conditions

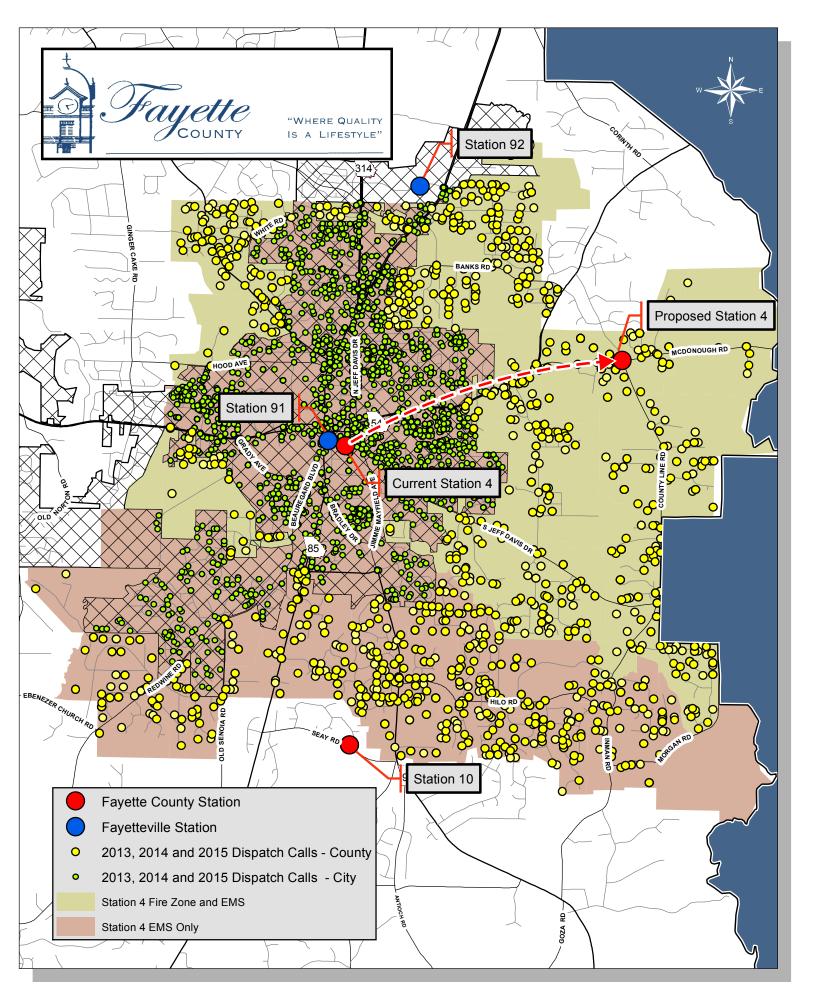


Fire Station #4 on Johnson Avenue was constructed in 1978 as a fire and EMS facility for use by volunteers. Additional space was added in 1982 to house the 911 Center and Fire & EMS Headquarters. This building now houses Fire Station #4 and the Public Defender's office. The station was originally not designed to house the number of apparatus or personnel currently assigned and have been remodeled on numerous occasions.

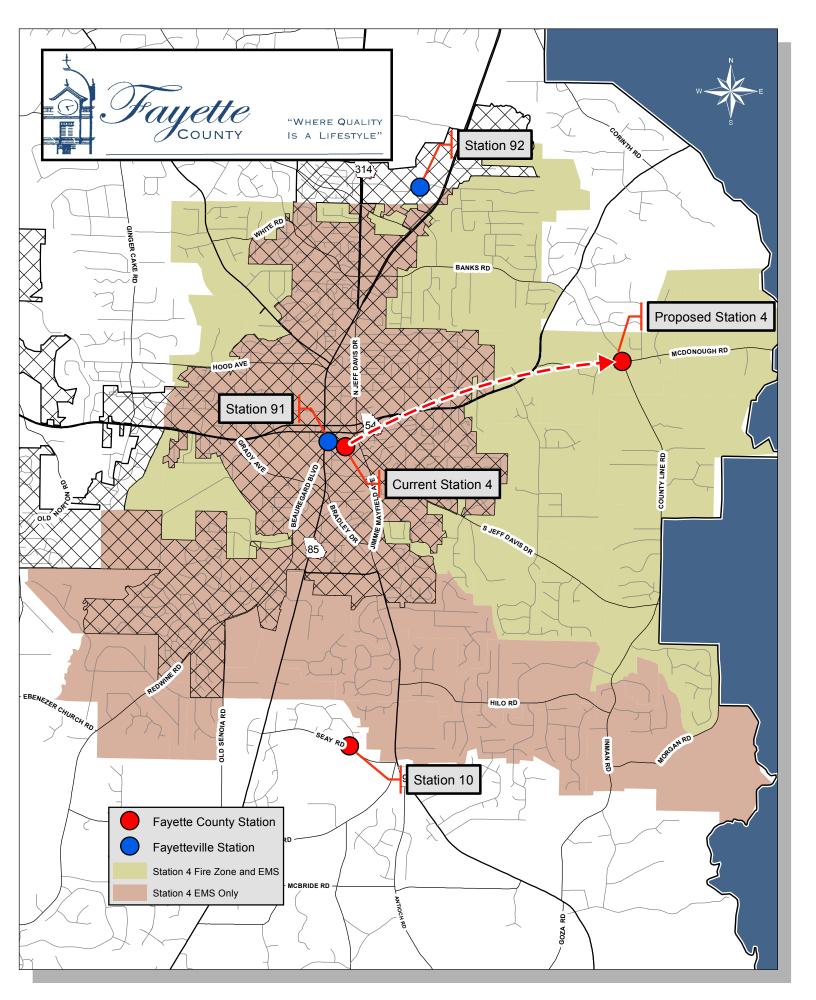
Proposed Project



The proposed location will strategically place the station in the best location to achieve the recommended response times to all locations within the territory. The new station site is on McElroy Rd. near the McDonough Rd. intersection. Access to the recreation areas will be within 2-3 minutes from the new location and this location will allow for timely responses to all portions of the Station 4 fire & EMS territory with good access to the east bypass road for responses to the north/south ends of the county.



SPLOST 2017 Fire & EMS 2013-2015 Dispatch Calls within Station 4 Zone



SPLOST 2017 Fire Station 4

Replacement Fire Pumper

Category: Fire & Emergency Services

Estimated Cost: \$394,070

Project Description

Replacement of a 1991 Emergency One Pumper, fleet vehicle # 93251 with a modern Custom Cab pumper. At 25 years old this unit has served Fayette County very well. This unit is experiencing some long term downtime based on maintenance issues with the fire pump, transmission and motor. Due to the availability of parts the air conditioning on this unit was deemed non-repairable several years ago.

The replacement for this unit would be of similar design and function and meet the current standards as established by the National Fire Protection Association. For firefighter safety it is equipped with a fully enclosed custom cab. To meet the firefighting demands of the County it will be equipped with a 1500 gallon per minute pump, 750 gallon on-board water tank, fire hose capacity of 1100' of 4" hose, 400' of 1.75", and ground ladders of 24', 14', and 10' in length. This pumper would be equipped with medical supplies and equipment to respond to all medical calls in the assigned area.

Existing Conditions



1991 Emergency One Fire Pumper

Proposed Project



Custom Cab Fire Pumper

Fire Training Center & Contingency

Category: Fire & Emergency Services

Location: Links Training Facility

Estimated Cost: \$150,770

Project Description

The first phase of this project is the initial design of the utilities, (water lines/power), road layout, and the site development plan for the future construction.

The current fire training facility begins in 1984 with the construction of the fire training building. The site also houses a training tower and portable classroom building.

Additional design phases in the future would include a modern fire training building with training tower, driver training site, pump training site, LP/natural gas training area, vehicle extrication area, breathing apparatus course, and storage building for required equipment and apparatus.

Existing Conditions





Proposed Project



FIRE & EMERGENCY SERVICES

Benefits

- Improve the service delivery to the Station 4 response area.
- Replacement of an aging unit that has greatly increased maintenance costs and has unrepairable components.
- Provide a modern fire and EMS training facility for emergency responders.

Needs Assessment

Fire & Emergency Services has allocated their SPLOST portion to fund three proposed projects.

SPLOST Allocation Portion	\$2,950,000
Fire Training Center & Contingency	\$150,770
Replacement Fire Pumper	\$394,070
Fire Station Relocation – Station #4	\$2,405,160

Fire Station Relocation - Station #4

Purpose: The purpose of this project is to re-locate and reconstruct Fire & Emergency Services Station #4.

Objective: Improve the service delivery to the Station 4 response area. To provide appropriate space to house personnel and apparatus to meet the demands of the community to best serve the citizens and build a facility which will have a life expectancy of at least 50 years.

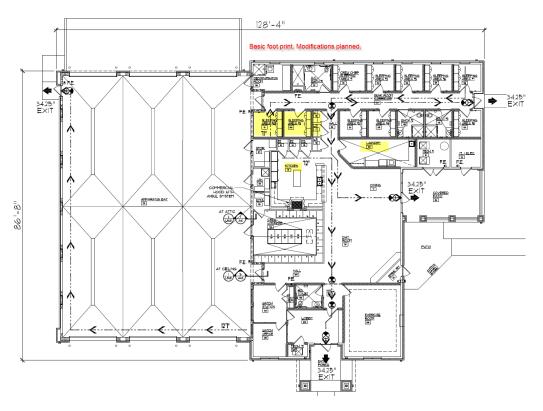
Background: Fire Station #4 on Johnson Avenue was constructed in 1978 as a fire and EMS facility for use by volunteers. Additional space was added in 1982 to house the 911 Center and Fire & EMS Headquarters. This building now houses Fire Station #4 and the Public Defender's office. The station was originally not designed to house the number of apparatus or personnel currently assigned and have been remodeled on numerous occasions.

Current facilities are not conducive to maintaining the work environment required for a modern Fire & EMS operation. This station currently has roof leaks in multiple areas affecting the bays and bunk room areas. The station was originally equipped with a sump/trap bay drain system. This bay drain system was ineffective in removing water and allows stagnant water to sit thus creating a health hazard and has since been abandoned and sealed for the betterment of all parties.

Station #4 covers 12.31 sq. miles of a fire response territory. Medic 4 covers 27.5 sq. miles of EMS territory. Units responding from #4 make up 19% of the annual responses. Within this territory there are three designated state highways, the largest recreation complex within the county hosting football, soccer, baseball and softball along with the densest population for EMS response. This territory is primarily east of Fayetteville to the Clayton County line. From the current station location (175 Johnson Avenue) the fire engine (Engine 4) must respond 3-4 minutes to reach the edge of the majority of the assigned response area. The current location was never a good location but was the result of a volunteer system with donated land. The new location better serves all the citizens as demonstrated by analytical data using GIS maps and geocoding where incidents occur.

The proposed location will strategically place the station in the best location to achieve the recommended response times to all locations within the territory. The new station site is on McElroy Rd. near the McDonough Rd. intersection. Access to the recreation areas will be within 2-3 minutes from the new location and this location will allow for timely responses to all portions of the Station 4 fire & EMS territory with good access to the east bypass road for responses to the north/south ends of the county.

Demonstrated on the accompanying maps are the locations of calls occurring during the past three years. These maps, referred to as "Heat" maps, show the calls and their concentration. These concentrations are a great display of sites that require increased fire & EMS responses and are great predictors of future resource allocation needs.



Replacement Fire Pumper

Purpose: The purpose of this project is to replace the 1991 Emergency One Pumper.

Objective: Replace an aging unit that has greatly increased maintenance costs and has unrepairable components.

Background: Replacement of a 1991 Emergency One Pumper, fleet vehicle # 93251 with a modern Custom Cab pumper. At 25 years old, this unit has served Fayette County very well. This unit is experiencing some long term downtime based on maintenance issues with the fire pump, transmission and motor. Due to the availability of parts, the air conditioning on this unit was deemed non-repairable several years ago.

The replacement for this unit would be of similar design and function and meet the current standards as established by the National Fire Protection Association. For firefighter safety, it is equipped with a fully enclosed custom cab. To meet the firefighting demands of the County, it will be equipped with a 1500 gallon per minute pump, 750 gallon on-board water tank, fire hose capacity of 1100' of 4" hose, 400' of 1.75", and ground ladders of 24', 14', and 10' in length. This pumper would be equipped with medical supplies and equipment to respond to all medical calls in the assigned area.

Fire Training Center & Contingency

Purpose: The purpose of this project is to complete the initial phase of constructing a new fire training center.

Objective: Provide a modern fire and EMS training facility for emergency responders.

Background: The first phase of this project is the initial design of the utilities, (water lines/power), road layout, and the site development plan for the future construction.

The current fire training facility begins in 1984 with the construction of the fire training building. The site also houses a training tower and portable classroom building.

Additional design phases in the future would include a modern fire training building with training tower, driver training site, pump training site, LP/natural gas training area, vehicle extrication area, breathing apparatus course, and storage building for required equipment and apparatus.

The Woolsey Project

Category: Town of Woolsey

Location: Highway 92 South,

Downtown Woolsey

Estimated Cost: \$223,000

Project Description

The smallest town in Fayette County, Woolsey was the original boom town. The historic Woolsey Mercantile Building was gifted by Ms. Josephine Ballard to the Town of Woolsey to be used for the good of the community. The building is located on Highway 92 South, in downtown Woolsey, and had over time served as a store and a general gathering place for the residents.

The Town of Woolsey desires to once again be a gathering place for residents and the County at large. This restoration project will create a place for people to meet, observe history, and enjoy a restful environment. This will give the south part of Fayette County a destination for residents and visitors. The historic Woolsey Mercantile Building will serve the community at large and the residents of Woolsey, while focusing on the values and future vision of the Town of Woolsey.

Existing Conditions



Historic Mercantile Building

Proposed Project



Completed Restoration Project

Town of Woolsey

Benefits

The smallest town in Fayette County, Woolsey was the original boom town. The Town of Woolsey desires to once again be a gathering place for residents and for the County at large. This restoration project will give the south part of Fayette County a destination for residents and visitors by:

- Creating a place for people to gather and hold meetings
- Restoring a historic building and establishing a location to observe history
- Establishing a restful environment for people to enjoy

Needs Assessment

The Woolsey Project

Background: The historic Woolsey Mercantile Building was gifted by Ms. Josephine Ballard to the Town of Woolsey to be used for the good of the community. The building is located on Highway 92 South, in downtown Woolsey, and had over time served as a store and a general gathering place for the residents.

The Woolsey Mayor and Town Council received estimates and bids on the restoration of the building. Barnard & Associates Remodeling, Inc., who has restored a good many historical homes in Fayette County, was chosen for the project. The total project cost will be approximately \$223,000, which will include total interior and exterior restoration – landscaping and furnishings. Barnard & Associates Remodeling, Inc. plans to preserve the original look and feel of the building in a cost effective manner.

Objective: The historic Woolsey Mercantile Building will serve the community at large and the residents of Woolsey, while focusing on the values and future vision of the Town of Woolsey.

Need for The Woolsey Project

The mercantile building will serve the community at large through:

- <u>Community Center</u>: There are few places available in the County to use for meeting space. Proceeds will be used for ongoing upkeep and expenses.
 - Meeting place for civic groups, social organizations and clubs
 - Hub for Woolsey events and fundraisers
 - Affiliations may rent the facility

- <u>Fayette County Museum:</u> Displays for groups and individuals to tour. There is only one other museum in Fayette County.
 - o Artifacts, archives, artwork
- <u>Visitor's Welcome Center:</u> Visitors can stop by for information on the Town of Woolsey and other historic Fayette County sites of interest. There is not a visitor's center on the south end of the County.

The mercantile building will serve the residents of Wooley through:

- <u>Town Hall:</u> Woolsey Council meetings and Town Hall meetings will be held in the restored building providing plenty of room for the public to attend. At this time, the meetings are in a very small space with very little capacity.
- <u>Growth and Sustainability:</u> With new landscaping, flowers, and shrubbery, the newly restored building will beautify the downtown area, which will draw potential new residents to Woolsey and help maintain property values.
- <u>Pride and Honor:</u> The restored building will give the Woolsey residents a sense of pride in their community; therefore honoring its place in history, original Woolsey residents, and roles they served in making Fayette County what it is today.

Vision and Values

The smallest town in Fayette County, Woolsey was the original boom town. The Town of Woolsey desires to once again be a gathering place for residents and the County at large. This restoration project will create a place for people to meet, observe history, and enjoy a restful environment. This will give the south part of Fayette County a destination for residents and visitors.

Community Impact

Community spaces are needed in all economic development plans. The restoration project will bring a diverse group of people working together towards a goal of preserving history and creating gathering spaces. Boy Scout groups, Rotary and other civic clubs, church groups, school groups working on projects, Rose clubs, Master Gardener clubs, and historical societies will be invited to play a part in completing the project. The media exposure that Woolsey, Fayette County, and residents receive will establish an excellent public relation and rapport for living in Fayette County.

The Woolsey government will have an appropriate place to conduct business, and the residents will have a place where they feel comfortable attending and participating in Town Meetings.

Long term, The Woolsey Project could deepen relationships in the community and pave the way towards other restoration and community projects.

The estimated cost to restore the mercantile building and complete The Woolsey Project is \$223,000, detailed below:

The Woolsey Project						
ACTION ITEMS - TASKS	COST	NOTES				
P	Phase 1 - The Woolsey Project					
Permit and Fees						
Architecture and Engineering	\$2,800.00					
Lift Building and Foundation Work						
Remove all interior wall boards	\$850.00	Demolition				
Support and raise building	\$18,500.00	Materials to lift building				
Install footings and piers	\$4,822.00	18 yards of concrete				
Waterproof and drain foundation	\$1,400.00					
Install walls in pier supports	\$4,485.00					
Lower building to new foundation	\$8,500.00					
Correct floor system to code	\$9,427.30					
Rack building plumb and correct						
framing to engineer's design	\$3,845.00					
Add supports for ceiling and roof	\$4,890.00					
Clean Up, Trash Removal, Dump Fees	\$1,200.00					
Company Overhead - Supervision Profit	\$7,589.91					
Builders Margin	\$7,589.91					
Total Cost of Phase 1	\$75,899.12					

Phase 2 - The Woolsey Project					
Entry Doors	\$2,485.40	New front and back door			
Windows	\$2,000.00	Budget for rebuilding or replacement			
Plumbing	\$2,880.00	2 half baths - ADA compliant			
Heating/Air Condition	\$3,850.00				
Electrical	\$5,291.00	Service build			
Recess Can Lighting	\$1,300.00	20 recess cans			
Roofing	\$8,250.00	Metal roof - similar to current			
Insulation	\$8,450.00	Foam floor, ceiling, walls R13			
Paint Exterior	\$2,750.00				
Siding Repair and Replacement	\$6,500.00				
Soffit and Fascia	\$2,940.00				
Gutter	\$1,150.00				
Replace Front Porch	\$4,661.25	Replace front floor, roof, columns, and ADA ramp			
Clean Up, Trash Removal, Dump Fees	\$2,000.00				

Total Cost of Phase 2	\$68,134.57
Builders Margin	\$6,813.46
Company Overhead - Supervision Profit	\$6,813.46

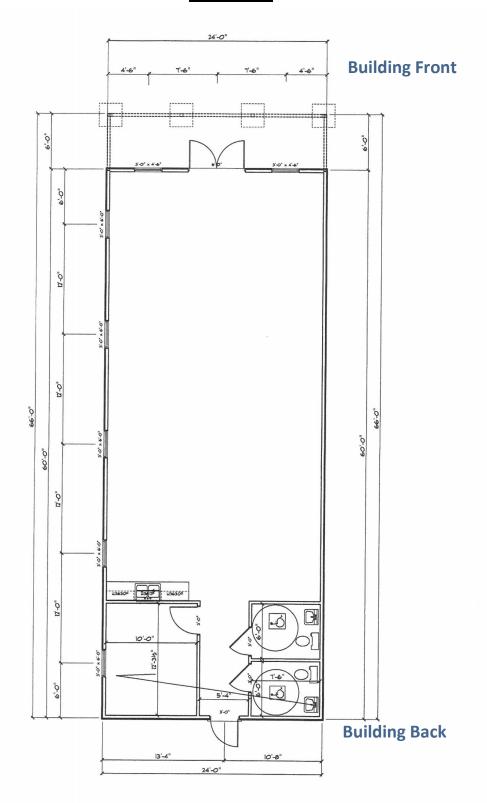
Phase 3 - The Woolsey Project					
Water Meter and Water Line	\$2,450.00				
Septic System	\$3,500.00				
Plumbing Trim	\$2,200.00				
Heating/Air Condition Trim	\$2,150.00				
Electrical Trim	\$1,764.00				
Recess Can LED Trims	\$590.00				
Finish Carpentry	\$9,466.32	Interior walls, ceiling, doors, and trim			
Finish Carpentry Labor	\$7,500.00				
Paint Interior	\$5,200.00	Stain and seal interior wood or paint			
Tile/Marble	\$1,536.00	Bathroom floors			
Floor Coverings	\$12,237.75	Pine hardwood floors			
Cabinets	\$800.00	Bathroom			
Hardware and Mirrors	\$2,200.00	Grab bar, mirrors, locks, soap dispenser, toilet paper holders, and other misc. items			
Exterior Railing	\$1,650.00	Wrought iron - ADA ramp			
Clean Up, Trash Removal, Dump Fees	\$1,200.00				
Final Clean of Entire Building	\$400.00				
Company Overhead - Supervision Profit	\$6,855.51				
Builders Margin	\$6,855.51				
Total Cost of Phase 3	\$68,555.09				

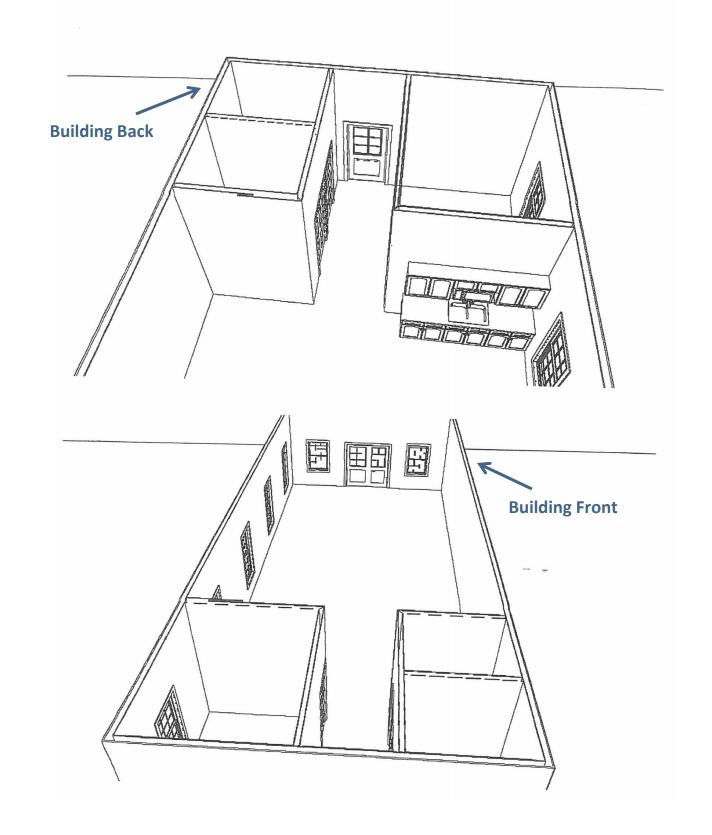
Total Cost of	f Ph	ases 1-3	\$212,588.78
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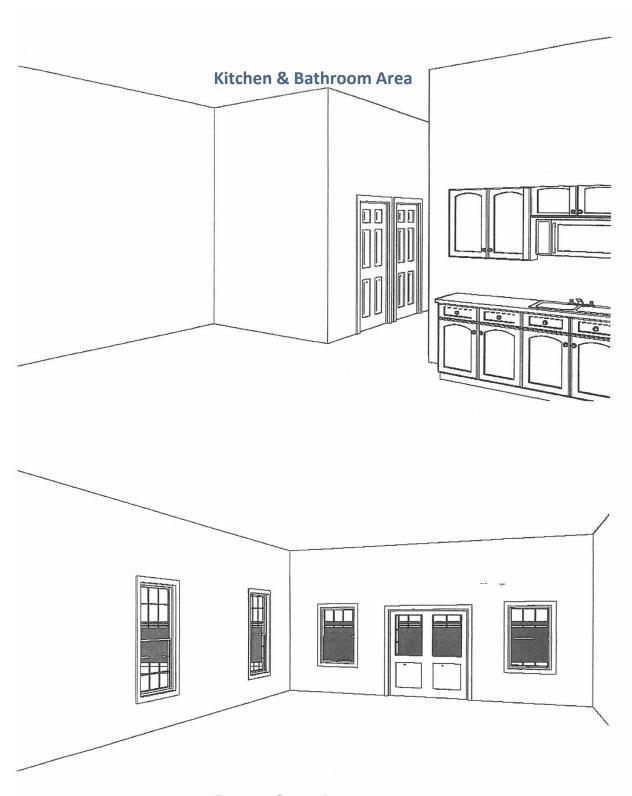
Phase 4 - The Woolsey Project				
Exterior Work				
Gravel parking area	\$1,000.00			
Landscaping	\$750.00			
Signage	\$1,000.00			
Interior Furnishings				
Folding chairs (75)	\$1,500.00			
Folding tables (10 to 6 ft.)	\$500.00			
Display cases (2-3x4x5, wood, glass)	\$5,000.00			
Refrigerator	\$500.00			
Total Cost of Phase 4	\$10,250.00			

Total Project Cost \$222,838.78

Design Plans







Front – Open Area

