



**Dedicated but Unmaintained County Roads  
(DBUCR) Program  
CIP No. 501117**

***Fawsett Road Improvement***



***FINAL REPORT***  
**October 28, 2011**

**Montgomery County Department of Transportation  
Division of Transportation Engineering**

**100 Edison Park Drive, Fourth Floor  
Gaithersburg, Maryland 20878**

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## **I. INTRODUCTION**

Montgomery County Department of Transportation (MCDOT), Division of Transportation Engineering prepared this report for the residents on Fawsett Road in Potomac for the DBUCR program. A majority of Fawsett Road residents signed a petition requesting Fawsett Road to be evaluated as a part of the DBUCR program.

Fawsett Road is currently a gravel road from east of 1119 Fawsett Road to the end of the cul-de-sac. The road improvement project will include design and construction for roadway pavement and storm drain system.

This report describes an overview of the DBUCR program, the existing conditions of Fawsett Road, conceptual design, project schedule, and a budgetary cost estimate for the project.

## **II. BACKGROUND**

### **1. Background of DBUCR Policy**

The following is a chronological order for the establishment of the DBUCR policy:

- The County Council appropriated funds in FY 2008 Capital Budget for developing the DBUCR policy.
- July 2007-June 2008 (FY 2008)-Community stakeholders and representative from the County met periodically and developed the policy.
- September, 2009-the County Executive transmitted a draft policy to the County Council.
- October, 2009 – County Council Transportation and Environment (T&E) Committee reviewed and commented on the draft policy.
- December, 2009-the DBUCR Policy was adopted.
- January, 2010-The County Executive recommended the Capital Improvement Program (CIP) budget for the DBUCR program.
- May, 2010-The County Council approved CIP for DBUCR.

### **2. Background of DBUCR Roads and Public Information**

MCDOT compiled the list of DBUCR roads from a report by Montgomery County Civic Federation and the County's inventory utilizing the latest State

Highway Administration (SHA) MAARS Report, Geographic Information System (GIS) map/aerial photos, existing subdivision plats, existing deeds, and status of the County maintenance by the County's depots. As a result of the research, a total of fifty nine roads within the County have been identified as the DBUCR roads. The list is included in Appendix A.

As required by the DBUCR policy, two public information meetings were held for the property owners who reside adjacent to the identified DBUCR roads. The two public information meetings were held to provide every affected property owner an opportunity to attend one of the public information meetings to understand the program better and address any of their concerns regarding the program. The meetings were held on September 22, 2010 and October 12, 2010. The deadline of DBUCR application was set for December 31, 2010.

The DBUCR program divides into the following four categories:

1. Self Build/Self Maintain
2. Self Build/County Maintain
3. County Build/County Maintain
4. No Build (Do Nothing)

MCDOT received one application for the program for the County Build/County Maintain option. MCDOT received an application from the community of Fawsett Road on December 15, 2009. The application from Fawsett Road is included in Appendix B.

### **III. EXISTING CONDITION**

MCDOT developed a plan sheet from an aerial photo for Fawsett Road to assist in the existing conditions assessment. MCDOT also conducted site visits to Fawsett Road on December 3, 2010 and March 29, 2011.

#### **1. Roadway**

The road is approximately 18 feet wide and 1,600 ft long and the existing unpaved section of the road is approximately 1,400 ft long. The unpaved section starts from approximately 200 ft east of Macarthur Boulevard and ends at the cul-de-sac. (See Appendix D) The road is an open section with a combination of grass and stone ditch on both sides of the road. The road has a slight crown in the middle.



*Starting Project Limit on Fawsett Road*



*Existing Open Section of Fawsett Road*

## 2. Drainage

The drainage areas are delineated in aerial GIS map in Appendix C. The two main drainages areas are divided by the centerline of Fawsett Road and the runoff from the two drainage areas drain into the outfall at the south side of the cul-de-sac. The drainage areas are composed of three different types of silt loam soil as shown on the aerial map.

As per the topographic information from GIS and the field assessment, the road is consistently sloped down from the entrance of the road to the cul-de-sac. Some stormwater penetrates through the gravel layer of the road and some flows into the existing side ditches. Most of the driveways have metal corrugated culverts for storm drainage.

The runoff in both ditches combine at the entrance of the existing gravel rip-rap located east of the driveway at 11000 Fawsett Road and flows into the ephemeral stream east of the cul-de-sac. The ephemeral stream is severely eroded down to an approximately five feet depth with roots of trees exposed.



*Existing Gravel Rip-Rap at the Cul-de-Sac*



*Eroded Ephemeral Stream*

### **3. Utilities**

MCDOT investigated existing utilities within the project site. Based on the WSSC database, there are no water and sewer services provided by WSSC. Ms. Peggy Dennis verified at our meeting on February 10, 2011 that houses on Fawsett Road are on well water and septic systems.

There are also no gas facilities provided by Washington Gas Company according to the gas company's database. During the two field visits, MCDOT found neither manholes nor valves on the ground to indicate either gas, water or sewer lines.

There are a total number of nine PEPCO utility poles and one guy pole within the project site. MCDOT engineers measured the offset distance of each PEPCO pole and the guy pole to the existing edge of the road and incorporated the findings in the aerial GIS map in Appendix D.

#### 4. Trees

MCDOT counted the number of trees that are likely to be impacted by the roadway construction. A total number of twenty five trees and the approximate locations are indicated on aerial GIS map in Appendix D.



*Trees along Fawsett Road*

#### 5. Streetlights

There are currently no streetlights along Fawsett Road.

### IV. CONCEPTUAL DESIGN

#### 1. Roadway

The proposed typical section for Fawsett Road Improvement is shown in Appendix E. According to Ms. Dennis at our meeting on February 10, 2010, the Fawsett Road community does not want a sidewalk constructed.

For the asphalt pavement width, MCDOT proposes the width to remain 18 ft. The non-standard width matches the existing width and reduces runoff and

grading impacts. The road will have a 20 feet clearance width for emergency vehicles access.

Coordination on the pavement width and clearance width was initiated with the Montgomery County Fire & Rescue Services (FRS) on February 7, 2011. Coordination with FRS will continue in the design phase.

According to FRS, any future development, infill or redevelopment on Fawsett Road will require the road to meet appropriate pavement width, apparatus turnaround and any relevant parking restrictions.

A geotechnical investigation was conducted in August 2011. The geotechnical report provided a pavement alternative that utilizes the existing gravel road as a subbase material. The recommended pavement thickness is 5 inches of asphalt. Approximately three inches of existing gravel will be removed to provide a transition zone to the existing paved portion of Fawsett Road.

## **2. Stormwater Management & Drainage**

A stormwater management concept approval is required for the Fawsett Road improvement project. MCDOT proposed an open-section road with two feet wide flat bottom swales for drainage. The swales will be modified to include amended soil for a depth of two feet beneath the swale. The amended soil consists of a mixture of soil, sand and mulch to provide increased infiltration. The amended soil will also include a perforated pipe for an underdrain. The geotechnical investigation included testing to determine the infiltration rates of the existing soil. On January 20, 2011, MCDOT met with Department of Permitting Services (DPS) to discuss the stormwater management concept. DPS concurred with MCDOT's approach.

There are a total number of twenty one driveways that are adjacent to the gravel section of Fawsett Road. Each of the twenty one driveways will have a new culvert pipe be installed under it based on the County's Standard No. MC-301.03. The standard is included in Appendix F.

On February 9, 2010, MCDOT met with the Department of Environmental Protection (DEP). DEP agreed with grass swales to handle stormwater runoff.

The schematic of the proposed storm drain system is in Appendix D. Stormwater runoff will collect into inlets located near the cul-de-sac and flow in the concrete pipe. The pipe will outfall at an endwall to the existing stream.

A 20 feet wide storm drain and sanitary easement is shown on Plat 6872 in Plat book 72 for the property at 11005 Fawsett Road. This existing storm drain easement will be utilized for the storm drain pipe and outfall.

### 3. Utilities

Based on the field observations, MCDOT estimated that one of the nine PEPCO poles within the project site would have to be relocated. The cost was added to the construction cost estimate. During the design phase, prior rights will be investigated by the County's Property Acquisition Section to determine whether the County or PEPCO would be responsible for the relocation cost. MCDOT will be coordinate with PEPCO to determine any need for the relocation of the utility poles. The final roadway design will attempt to eliminate any need for utility pole relocation.

### 4. Trees

Twenty five trees might be affected by the roadway project. This number will likely change as more information is obtained in the engineering design phase. MCDOT will replace an equal number of the trees that will be removed as a part of the project. However, the County cannot guarantee that the same species of trees will be planted in place of removed trees. The landscaping cost has been added to the construction cost estimate.

## V. PROJECT SCHEDULE

The following is a **tentative schedule** based upon the assumption that the County Executive and the County Council will approve the funding for Fawsett Road Improvement in the upcoming CIP budget request for FY13-19. The County's fiscal year starts in July 1. The County's FY 13 starts on July 1, 2012.

Phase	Duration	Starting Date	Ending Date
Design	18 months	July, 2012	December, 2013
Property Acquisition	4 months	January, 2014	April, 2014
Construction	6 months	May, 2014	October, 2014

MCDOT included the four months for the property acquisition phase. Right of entry agreements may be required from adjacent property owners.

## VI. PROJECT COST ESTIMATE

A total project cost has been estimated for budgetary basis. The total project cost is **\$557,000**. According to the DBUCR policy, the County is responsible for 10% of the total project cost. The remainder of the total project cost will be equally divided among the eighteen affected properties. As shown in Appendix G, there are a total number of eighteen affected properties. Each household will be responsible for paying the County approximately **\$28,000**.

County's Participation Cost

$\$557,000 \times 0.1 = \$55,700$  (say \$56,000)

Individual Affected Property Household Cost

$(\$557,000 - \$56,000) / 18 = \$27,833$  (Say \$28,000)

The project cost includes design, property acquisition and construction cost. The design cost includes a topographic and boundary survey, permit fees for stormwater management concept and erosion and sediment control, and engineering design cost. See appendices H & I for cost breakdown.

The following table is a summary of the total project costs.

Design and survey	\$86,000
Construction Management	\$71,000
Construction Materials & Labor	\$400,000
<b>Total Project Cost</b>	<b>\$557,000</b>

The County will initially fund the improvements if the expenditures are authorized through the biennial capital budget process. Cost participation by the property owners will be assessed on the property tax of each of the subject properties. The tax assessment will be for a 20-year period and at the same interest rate as the bond rate used for the financing of the project by the County. An option of payment in less than 20 years or one lump sum payment will also be available. The cost participation by the subject property owners will commence at the completion of the construction of the roadway.

# **APPENDIX A**

## **List of DBU Roads**

Updated : September 22, 2010

No.	Road Name	Starting Point (Miles)	Ending Point (Miles)	Total (Miles)	Town
1	AITCHESON LA	0.22 (North of Riding Stable Road)	0.70	0.48	LAUREL
2	ANCHORAGE DR	MACARTHUR BLVD	0.13	0.13	BETHESDA
3	ANCHORAGE PL.	BOLLING LA	ANCHORAGE DR/0.08	0.08	BETHESDA
4	ANDERSON ST.	0.1 (Northwest of Octagon Lane)	0.18	0.08	SILVER SPRING
5	ARDWICK DR	GOLF LA.	WAYCROFT WAY/0.22	0.22	ROCKVILLE
6	ATTLEBORO RD	NORWOOD RD	DUXBURY DR/0.25	0.25	SILVER SPRING
7	AUTH LA	0.09 (South of Hermleigh Road)	0.13	0.04	SILVER SPRING
8	BELFAST PL	KINGSGATE RD	0.15	0.15	POTOMAC
9	BELLE COTE DR	KRUHM RD	0.42	0.42	BURTONSVILLE
10	BENTLEY RD	0.36 (North of Olney Sandy Spring Road)	0.50	0.14	OLNEY
11	BIRCHCREST LA	FREDERICK RD	0.22	0.22	CLARKSBURG
12	BISHOP DR	WINTHROP DR	0.05	0.05	SILVER SPRING
13	BLANTON RD	GOOD HOPE RD	0.15	0.15	SILVER SPRING
14	BOLLING LA	ANCHORAGE DR	ANCHORAGE PL/0.11	0.11	BETHESDA
15	BRATTON DR	SUNSET DR	BRATTON CT/0.09	0.09	ROCKVILLE
16	BROOKS RD	RIDGE DR	KIRK LA/0.15	0.15	ROCKVILLE
17	CARNAGIE AVE	NEEDWOOD RD	0.12	0.12	DERWOOD
18	CINDY LA	SEVEN LOCKS RD	0.08	0.08	BETHESDA
19	CIRCLE DR	RIDGE DR/0.68	GLEN MILL RD/1.02	0.34	ROCKVILLE
20	CLOVER LA	PERSIMMON TREE RD	0.06	0.06	POTOMAC
21	CREST HILL LA	0.22 (South of Briggs Chaney Road)	0.51	0.29	SILVER SPRING
22	CROWFOOT LA	COPLEY LA	0.09	0.09	SILVER SPRING
23	DOMINION DR	0.2 (North of Olney Sandy Spring Road)	0.25	0.05	SANDY SPRING
24	DUXBURY RD	ATTLEBORO RD	0.14	0.14	SILVER SPRING
25	ECKMOOR RD	ELDRID DR	0.05	0.05	SILVER SPRING
26	EMORY ST	MUNCASTER MILL RD	0.07	0.07	GAITHERSBURG
27	ERSKINE AVE	GLENALLAN AVE	WALLACE AVE/0.10	0.10	SILVER SPRING
28	FAWSETT RD	MACARTHUR BLVD	0.29	0.29	POTOMAC
29	GARDNER PL	CHAPELGATE RD	0.11	0.11	GERMANTOWN
30	GARRETT RD	REDLAND RD/0.00	0.21	0.21	DERWOOD
31	GARY RD	0.31 (North of River Road)	0.35	0.04	POTOMAC
32	GOLF LA	MIDDLESHERE PL/0.10	0.28	0.18	ROCKVILLE
33	HAW LA	EDNOR RD	0.21	0.21	SILVER SPRING
34	HAWHILL END	WILDEN LA/0.07	0.13	0.06	POTOMAC

35	HEIL RD	NEW HAMPSHIRE AVE	0.15	0.15	SILVER SPRING
36	HILLER WAY	ROCKVILLE PIKE	0.10	0.10	ROCKVILLE
37	HILLSDALE DR	HILLSDALE DR/.06	0.10	0.04	KENSINGTON
38	KINGSGATE RD	ROCK RUN DR	0.15	0.15	POTOMAC
39	KIRK LA	BROOK RD	0.04	0.04	OLNEY
40	LONG BRANCH PKWY	DEARBORN AVE	0.06	0.06	SILVER SPRING
41	MAPLE RIDGE CT	HOLLY RIDGE ROAD	0.15	0.15	ROCKVILLE
42	MERRICK RD	WILSON LA	0.13	0.13	BETHESDA
43	MOULTRIE PKWY	LOGAN DR	0.06	0.06	POTOMAC
44	OLD ORCHARD RD	0.38 (South of Ednor Road)	0.52	0.14	SILVER SPRING
45	OLNEY LA	BREADY RD	0.26	0.26	OLNEY
46	OVERHILL RD	GARRETT RD	0.21	0.21	DERWOOD
47	PEMBROKE RD	BRADLEY RD	0.14	0.14	BETHESDA
48	POE RD	0.12 (South of Bradley Blvd)	0.16	0.04	BETHESDA
49	POPLAR HILL ROAD	PAREV TERR	0.70	0.70	GERMANTOWN
50	SILVERWOOD LA	MARYLAND AVE	0.21	0.21	BETHESDA
51	STONE RD	KIRK LA	0.09	0.09	OLNEY
52	SUNCREST AVE	FREDERICK RD	0.18	0.18	CLARKSBURG
53	UNITY LA	GLEN MILL RD	0.31	0.31	POTOMAC
54	UPLAND DR	GOOD HOPE RD	0.17	0.17	SILVER SPRING
55	WAYCROFT WAY	GOLF LA	0.27	0.27	ROCKVILLE
56	WILLOW LA	PINETREE ROAD	0.25	0.25	ROCKVILLE
57	WINDSWEPT LA	NEW HAMPSHIRE AVE	0.67	0.67	BRINKLOW
58	WINNPENNY LA	CAPE MAY RD	0.07	0.07	SILVER SPRING
59	WINTHROP DR	PIPING ROCK DR	BISHOP RD	0.06	SILVER SPRING

# **APPENDIX B**

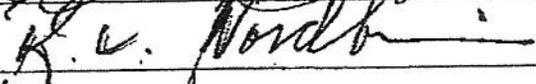
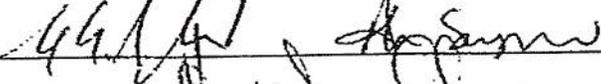
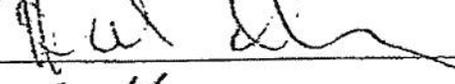
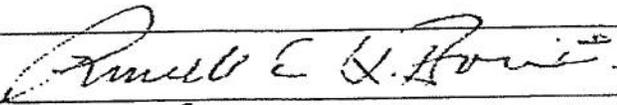
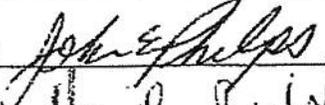
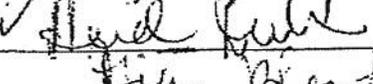
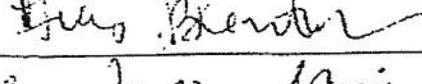
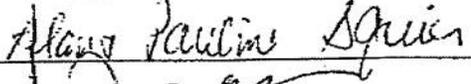
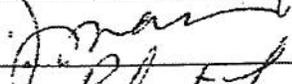
**Application Submitted by the Fawsett Road Community**

December, 2009

2009 DEC 15 PM 1:40

We the undersigned do hereby request that Montgomery County DOT perform a study to determine the cost and viability of constructing roadway improvements along Fawsett Road from #11115 to #11000/11005 in accordance with the County's Dedicated but Unmaintained County Roads Policy. We understand that:

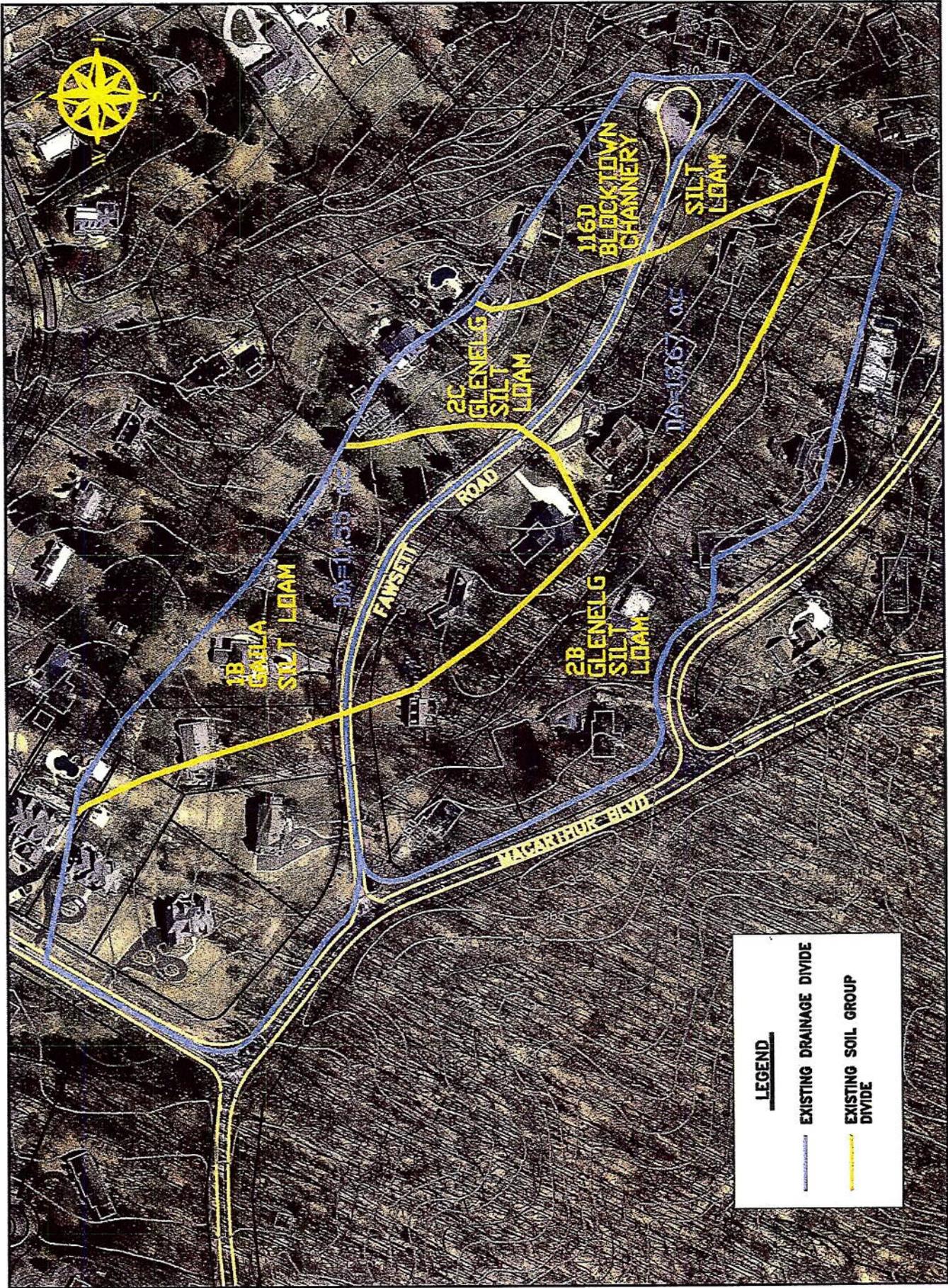
1. The study will result in an estimate of project costs,
2. The results of the study, when complete, will be reviewed with the community,
3. The community will have an another chance to determine whether or not to proceed based on the project cost,
4. If the community decides to proceed, the project will compete for funding with other projects in the County's bi-ennial CIP budget,
5. If the project is funded and the project is designed and built, the Affected Property owners will be obligated to reimburse the County's expenses, less the County's contribution, as explained in the County's "Dedicated but Unmaintained County Roads Policy."

Street Number	Name	Signature	Date
11000	Charles & Krystal Wardell		12/12/09
11005	Manfred & Roxanne von Nordheim		
11008	Tom & Ahn Sawyer		
11009	Howard Dickler & Ana Martinez		12/13/09
11013	Mark Botti & Laura Montgomery		12/14/09
11016	Mark Newpher		
11021	Russell & Bonnie Barker		12/13/09
11024	John & Sherry Phelps		
11027	Alan & Heidi Dubin		
11032	Guy Blanton & Chip Miller		
11033	Alan & Pauline Squier		
11100	Hasan & Fozaila Imam		
11101	Bob Lyon & Shahin Bagheri		

11105	Peggy Seigried		
11109	Ming-Shyong & Jenny Wu	<i>Alvin S. Wu</i>	<i>12/12/09</i>
11115	Peggy & Bob Dennis	<i>Margaret Dennis</i>	<i>12/12/09</i>
11120	John & Rosalind Allen	<i>Rosalind K. Allen</i>	<i>12/14/09</i>

# **APPENDIX C**

**Aerial GIS Map with Soil and Drainage Boundaries**



**FAWSETT ROAD IMPROVEMENT**      **SCALE: NOT TO SCALE**      **APRIL 2011**

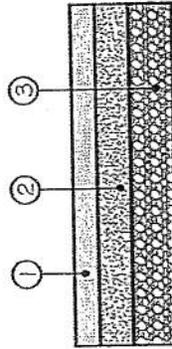
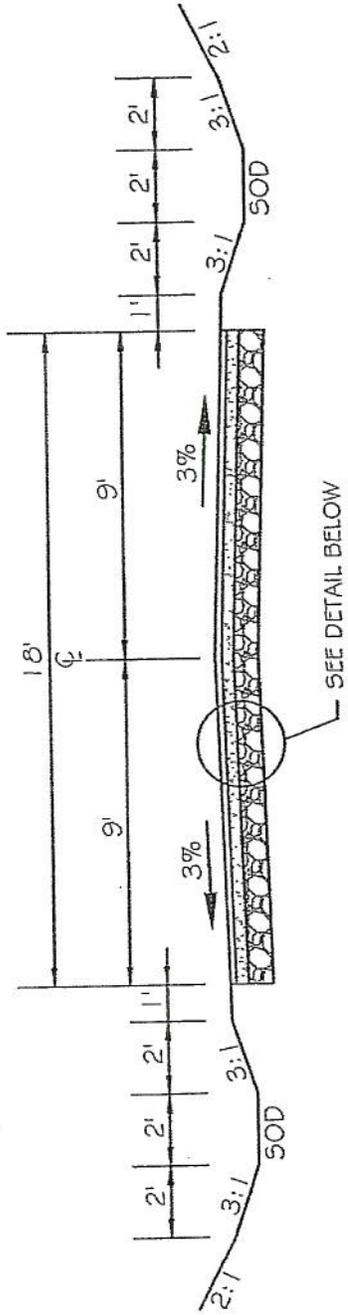
# **APPENDIX D**

**Aerial GIS Map with PEPCO and Tree Locations**



# **APPENDIX E**

## **Proposed Typical Section**



- ① 2" HMA SUPERPAVE, TYPE 12.5 mm, PG 64-22, SURFACE, LEVEL 2
- ② 3" HMA SUPERPAVE, TYPE 19 mm, PG 64-22, BASE, LEVEL 2
- ③ 6" (Min.) EXISTING GRAVEL SUBBASE

PAVEMENT DESIGN  
NOT TO SCALE

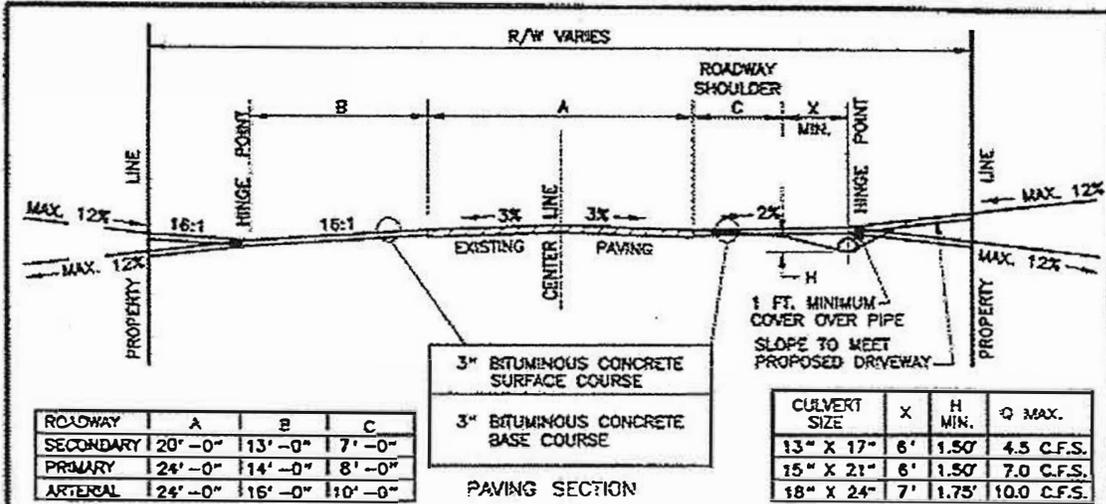
TYPICAL SECTION

FAWSETT ROAD  
IMPROVEMENT

SCALE 1"=5' APRIL 2011

# **APPENDIX F**

**Standard No. MC-301.03**  
**Residential Driveway Open Section Road**

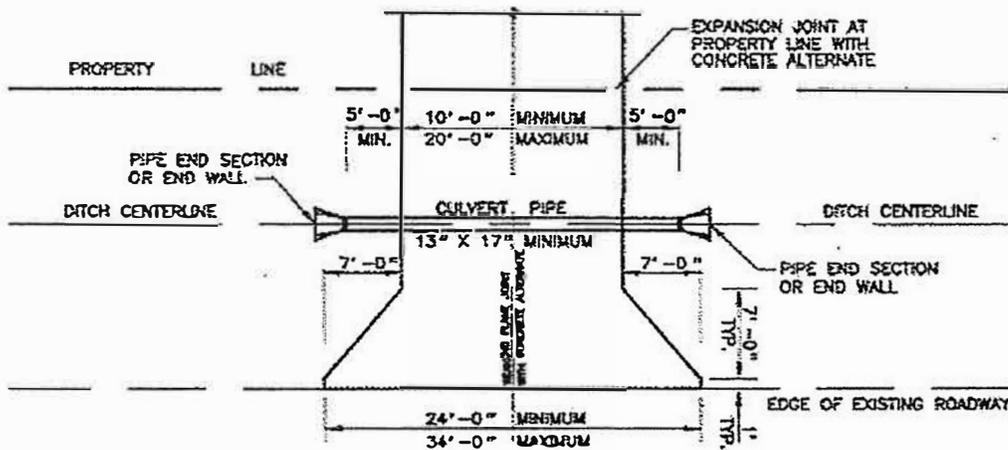


ROADWAY	A	B	C
SECONDARY	20'-0"	13'-0"	7'-0"
PRIMARY	24'-0"	14'-0"	8'-0"
ARTERIAL	24'-0"	16'-0"	10'-0"

3" BITUMINOUS CONCRETE SURFACE COURSE  
3" BITUMINOUS CONCRETE BASE COURSE

PAVING SECTION

CULVERT SIZE	X	H MIN.	Q MAX.
13" X 17"	6'	1.50'	4.5 C.F.S.
15" X 21"	6'	1.50'	7.0 C.F.S.
18" X 24"	7'	1.75'	10.0 C.F.S.



**GENERAL NOTES**

1. REFER TO MARYLAND STATE HIGHWAY ADMINISTRATION SPECIFICATIONS FOR MATERIALS AND METHODS OF CONSTRUCTION.
2. DRIVEWAY AND DRIVEWAY APRON TO BE MAINTAINED BY PROPERTY OWNER.
3. DITCH IS TO BE DESIGNED FOR A MAXIMUM Q. OF 12 C.F.S., A MAXIMUM V. OF 5 F.P.S. AND A DEPTH OF FLOW OF ONE FOOT. DEPTH OF FLOW MAY EXCEED ONE FOOT FOR CULVERT APPROACH HEAD REQUIREMENTS, WITH A MAXIMUM ALLOWABLE OF 8" ABOVE THE CROWN OF PIPE.
4. END SECTIONS ARE TO BE FASTENED TO THE FIRST CORRUGATION AND FITTED TO FORM A TIGHT CONNECTION. THE PIPE SHALL NOT PROJECT INTO THE END SECTION.
5. SPECIAL CARE MUST BE TAKEN TO PROVIDE PROPER COMPACTION OF BACKFILL AROUND THE CULVERT PIPE AND THE END SECTION.

90903 01 EST  
 6-24-94  
 11/01/97 11/01/97

APPROVED <u>JAN 5/96</u> DATE	REVISED	MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
<i>[Signature]</i> DIRECTOR, DEPT. OF TRANS.		RESIDENTIAL DRIVEWAY OPEN SECTION ROAD
<i>[Signature]</i> CHIEF OF ENG. SERVICES		STANDARD, N.O. MC-301.03

# **APPENDIX G**

## **List of Affected Properties**

## **List of Affected Property Properties**

<b>House Number</b>	<b>Owner's Last Name (as of Oct. 21, 2011)</b>
House No. 11115	Dennis
House No. 11109	Wu
House No. 11105	Seefried
House No. 11101	Bagheri
House No. 11033	Squier
House No. 11027	Dubin
House No. 11021	Barker
House No. 11013	Botti and Montgomery
House No. 11009	Dickler and Martinez
Vacant Lot – 11007	Dickler and Martinez
House No. 11005	Reitman and Ginsberg
House No. 11000	Campbell
House No. 11008	Sawyer
House No. 11016	Newpher
House No. 11024	Phelps
House No. 11032	Miller and Blanton
House No. 11100	Imam
House No. 11120	Allen

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**Total Number of Affected Properties:     18**

# **APPENDIX H**

## **Itemized Construction Cost Estimate**

## Fawsett Road

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION  
DIVISION OF TRANSPORTATION ENGINEERINGConceptual Design  
September 26, 2011

ITEM #	ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL COST
1001	CLEARING	24	CH	\$400.00	\$9,600
1002	UNCLASSIFIED GRUBBING EXCAVATION	829	CY	\$20.00	\$16,580
1007	ARROW PANEL	30	UD	\$20.00	\$600
1008	TEMPORARY TRAFFIC SIGNS	160	SF	\$12.00	\$1,920
1019	DRUMS FOR MAINTENANCE OF TRAFFIC	50	EA	\$60.00	\$3,000
1022	FLAGGER	240	HR	\$25.00	\$6,000
1027	TEMPORARY ORANGE CONSTRUCTION FENCE	2,800	LF	\$0.50	\$1,400
1028	REMOVE AND RESET TEMPORARY ORANGE CONSTRUCTION FENCE	2,800	LF	\$0.50	\$1,400
1032	AGGREGATE FOR MAINTENANCE OF TRAFFIC	200	TONS	\$13.00	\$2,600
1033	HOT MIX ASPHALT AND COLD MIX ASPHALT FOR MAINTENANCE OF TRAFFIC	5	TONS	\$50.00	\$250
1034	CONSTRUCTION STAKEOUT	24	CH	\$120.00	\$2,880
2001	CLASS 1 AND 2 EXCAVATION	1,517	CY	\$20.00	\$30,340
2013	AMENDED SOIL	207	CY	\$99.00	\$20,493
2006	FULL DEPTH SAW CUTS	360	LF	\$1.50	\$540
3001	CLASS 3 EXCAVATION FOR STORM DRAIN AND MISCELLANEOUS CONSTRUCTION: TOTAL DEPTH OF EXCAVATION LESS THAN OR EQUAL TO 4 VERTICAL FEET	400	CY	\$20.00	\$8,000
3005	SELECTED BACKFILL USING CRUSHER RUN AGGREGATE CR-6	200	TONS	\$12.00	\$2,400
3007	CLASS IV OR CLASS V 18 INCH REINFORCED CONCRETE PIPE	600	LF	\$16.40	\$9,840
3014	13 INCH X 17 INCH CORRUGATED METAL PIPE ARCH	420	LF	\$8.00	\$3,360
3018	M.S.H.A. STANDARD No. MD-368.01 END SECTION FOR 18 INCH REINFORCED CONCRETE PIPE	1	EA	\$350.00	\$350
3025	M.S.H.A. STANDARD No. MD-371.01 END SECTION FOR 13 INCH X 17 INCH CORRUGATED METAL PIPE ARCH	42	EA	\$79.00	\$3,318
3033	"J" INLET MCDPWT STANDARD No. MC-506.01	8	VF	\$213.00	\$1,704
3034	"J" INLET AS TERMINUS MCDPWT STANDARD No. MC-506.02	8	VF	\$100.00	\$800
3047	6 INCH DIAMETER PERFORATED PIPE FOR UNDER DRAINS & SPRING CONTROL	2,000	LF	\$8.00	\$16,000
3048	EROSION AND SEDIMENT CONTROL ORIGINAL EXCAVATION	622	CY	\$1.00	\$622
3058	SILT FENCE	2,800	LF	\$1.00	\$2,800
3059	REMOVE AND RESET SILT FENCE	2,800	LF	\$1.00	\$2,800
3060	INLET PROTECTION	96	LF	\$8.50	\$816
3061	STABILIZED CONSTRUCTION ENTRANCE	19	TONS	\$12.00	\$228
3062	REHABILITATE STABILIZED CONSTRUCTION ENTRANCE	19	TONS	\$5.00	\$95
3074	CLASS I RIP RAP FOR SLOPW CHANNEL AND SCOUR PROTECTION	8	TONS	\$18.00	\$144
5007	HOT MIX ASPHALT BASE PAVEMENT - MANUAL PLACEMENT: 3", SUPERPAVE 19.0 MM, PG 64-22	555	TONS	\$90.00	\$49,950
5008	HOT MIX ASPHALT SURFACE PAVEMENT - MANUAL PLACEMENT: 2", SUPERPAVE 9.5 MM, PG 64-22	370	TONS	\$100.00	\$37,000
5015	PERMANENT WHITE AND YELLOW LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS: 5 INCHES IN WIDTH	2,800	LF	\$0.50	\$1,400
6006	7 INCH DEPTH PLAIN CONCRETE FOR DRIVEWAYS AND DRIVEWAY APRONS	2,125	SF	\$3.25	\$6,906
6036	REMOVE & RESET/RELOCATE EXISTING MAIL BOX (ANY SIZE, ANY TYPE)	17	EA	\$50.00	\$850
7006	SEEDING AND MULCHING OF ROADSIDE AREAS AND MEDIAN AREAS	1,867	SY	\$0.75	\$1,400
7013	SOD	3,111	SY	\$4.00	\$12,444
7020	CORNUS KOUSA (KOUSA Dogwood): 2" CALIPER, B & B	11	EA	\$140.00	\$1,540
7022	CORNUS FLORIDA "WHITE CLOUD"(WHITE FLOWERING DOGWOOD): 2" CALIPER, B & B	11	EA	\$155.00	\$1,705
7030	SELECTIVE TREE TRIMMING: 6 1/2 INCHES IN CALIPER OR LARGER	16	CH	\$150.00	\$2,400

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION  
 DIVISION OF TRANSPORTATION ENGINEERING

Conceptual Design  
 September 26, 2011

ITEM #	ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL COST
7031	SELECTIVE TREE FELLING AND REMOVAL: 6½ INCHES IN CALIPER OR LARGER	24	CH	\$400.00	\$9,600
7032	ADDITIONAL WATERING OF SOD, PLANTS, AND SEEDED AREAS	5	1000 GAL.	\$125.00	\$625
7033	TREE ROOT PRUNING	2,800	LF	\$4.00	\$11,200
	Utility Relocation (PEPCO Pole)	1	LS	\$20,000.00	\$20,000
				<b>SUBTOTAL</b>	<b>\$307,901</b>
				<b>30% CONTINGENCY</b>	<b>\$92,370</b>
				<b>TOTAL</b>	<b>\$400,271</b>
					<b>\$400,000</b>

# **APPENDIX I**

## **Design, Property Acquisition and Construction Management Cost Estimate**

**Project Name: Fawsett Road** **Cost of Manhours** Date: 10/28/2011  
**Design (12)** Duration: 18 months

	Hourly Rate	FY13			FY14			Total	Rounded
		Duration (month)	Hours/ Month	Cost	Duration (month)	Hours/ Month	Cost		
Transportation Design	100	12	22	26,400	6	33	19,800		
Topographic and Boundary Survey				25,000					
Permit Fees (SWM)				2,684					
Permit Fees (E&S)				3,710					
<b>Total Cost</b>				<b>\$57,794</b>			<b>\$19,800</b>	<b>\$ 77,594</b>	

**Construction Mgt (13)** Duration: 10 months = 4 months prior to construction + 6 month construction duration

	Hourly Rate	FY14			FY15			Total	Rounded
		Duration (month)	Hours/ Month	Cost	Duration (month)	Hours/ Month	Cost		
Construction Section	100	6	50	30,000	4	50	20,000		
Transportation Design	100	2	10	2,000	4	10	4,000		
Inspection and Testing				5,000			10,000		
<b>Total Cost</b>				<b>\$37,000</b>			<b>\$34,000</b>	<b>\$ 71,000</b>	

**Property (14)** Duration: 4 months *Note: Time may be needed to acquire right of entry agreements.*

	Hourly Rate	FY14			Total	Rounded
		Duration (month)	Hours/ Month	Cost		
Property Acquisition Section (PAS)	100	4	20	8,000		
<b>Total Cost</b>				<b>\$ 8,000</b>	<b>\$ 8,000</b>	<b>8,000</b>