

# BAILEY'S CROSSROADS BB&T

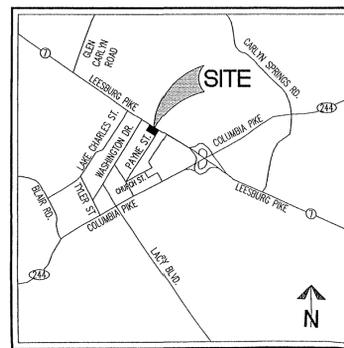
## 5871 LEESBURG PIKE MASON DISTRICT FAIRFAX COUNTY, VIRGINIA SPECIAL EXCEPTION PLAT

### GENERAL NOTES:

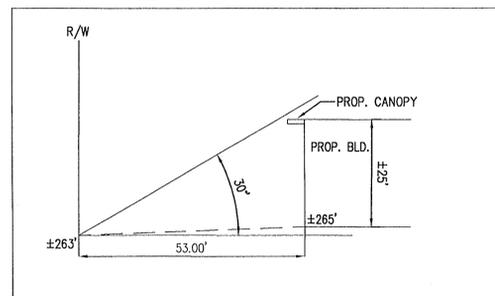
- OWNER/ APPLICANT:  
FIRST VIRGINIA BANK, C/O BB&T  
PROPERTY TAX DEPARTMENT  
P.O. BOX 1290  
WINSTON SALEM, NC 27102
- THE PROPERTY SHOWN ON THIS PLAN IS IDENTIFIED AS MAP #61-2-17C-0001 ON THE FAIRFAX COUNTY TAX MAP.
- THIS PROPERTY IS CURRENTLY ZONED C-2, LIMITED OFFICE. A SPECIAL EXCEPTION IS REQUIRED FOR USE OF A BANK WITH A DRIVE-THRU ON THIS PROPERTY. THE PROPERTY LIES WITHIN THE SIGN CONTROL, HIGHWAY CORRIDOR, AND COMMERCIAL REZONALIZATION OVERLAY DISTRICTS, THEREFORE, THIS IS A CATEGORY SIX (6) SPECIAL EXCEPTION.
- THE EXISTING CONDITIONS, BOUNDARY, AND TOPOGRAPHIC INFORMATION IS TAKEN FROM A FIELD RUN SURVEY BY THIS FIRM. CONTOUR INTERVAL IS TWO (2) FEET.
- THERE ARE NO PROPOSED SPECIAL AMENITIES FOR THIS PROPERTY.
- PROPERTY IS SERVED BY PUBLIC WATER AND SEWER.
- A REVIEW OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NUMBER 515525 0093 D, REVISED MARCH 5, 1990, SHOWS THE PROPERTY TO LIE IN ZONE X, "AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD PLAIN."
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO GRAVES LOCATED ON THE SITE.
- TO THE BEST OF OUR KNOWLEDGE, ALL UTILITY EASEMENTS HAVING A WIDTH OF 25 FEET OR MORE ON THIS PROPERTY ARE SHOWN.
- TO THE BEST OF OUR KNOWLEDGE AND BELIEF, THERE ARE NO HAZARDOUS SUBSTANCES ON THIS PROPERTY.
- THERE ARE NO SCENIC ASSETS OR NATURAL FEATURES ON THIS PROPERTY DESERVING OF PROTECTION AND/OR PRESERVATION.
- ACCORDING TO FAIRFAX COUNTY MAPPING THIS SITE LIES OUTSIDE THE RESOURCE PROTECTION AREA (RPA).
- ALL EXISTING STRUCTURES AND FENCES TO BE REMOVED.
- SIGNS FOR DIRECTION AND CONVENIENCE OF THE PUBLIC, SUCH AS SIGNS WHICH DIRECT TRAFFIC, AND A FREESTANDING SIGN MAY BE INSTALLED AS PERMITTED BY ORDINANCE.
- THE BUILDING FOOTPRINT SIZE AND LOCATION, THE NUMBER AND CONFIGURATION OF PARKING SPACES, AND THE AMOUNT AND CONFIGURATION OF OPEN SPACE, ALL AS SHOWN HEREON AND SUMMARIZED IN THE TABULATIONS, ARE APPROXIMATE AND MAY CHANGE WITH FINAL ARCHITECTURAL AND ENGINEERING DESIGN, PROVIDED MINIMUM ORDINANCE REQUIREMENTS ARE SATISFIED.
- NO OFF-STREET LOADING FACILITY IS NECESSARY OR PROVIDED. ADEQUATE RECEIVING FACILITIES ARE BEING PROVIDED.
- NO TRASH ENCLOSURE IS NECESSARY OR PROVIDED.
- THE COMPREHENSIVE PLAN SPECIFIES A STREETSCAPE WITH A 6' CONC. WALK ALONG ROUTE 7. SEE SHEET 3 FOR DETAIL.

### MODIFICATIONS/WAIVERS REQUESTED

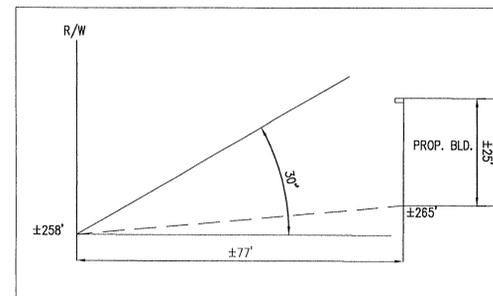
- A MODIFICATION OF THE 50' TRANSITIONAL SCREENING YARD IS REQUESTED ALONG THE SOUTHERN END OF THE PROPERTY.
- A WAIVER OF THE BARRIER REQUIREMENT ALONG THE SOUTHERN END OF THE PROPERTY. EXISTING WOOD FENCE TO REMAIN.
- BOS IS REQUESTED TO DIRECT DIRECTOR OF DPW+ES TO MODIFY SECTION 6-1306.34 OF THE PFM TO ALLOW A MODIFICATION OF THE REQUIREMENT FOR 72" HEADROOM IN PROPOSED UNDERGROUND PIPE OR VAULT DETENTION SYSTEMS DUE TO EXISTING STORM SEWER INVERT CONSTRAINTS.
- A WAIVER OF THE SERVICE DRIVE REQUIREMENT DUE TO EXISTING INTERPARCEL ACCESS.
- A WAIVER OF FRONTAGE IMPROVEMENTS ALONG LEESBURG PIKE AND PAYNE STREET.
- A MODIFICATION OF THE PERIPHERAL PARKING LOT LANDSCAPING ADJACENT TO LEESBURG PIKE AND PAYNE STREET.
- A WAIVER OF THE LOADING SPACE REQUIREMENT.



VICINITY MAP SCALE: 1"=2000'



LEESBURG PIKE  
ANGLE OF BULK PLANE DETAIL  
SCALE 1"=20'



PAYNE STREET  
ANGLE OF BULK PLANE DETAIL  
SCALE 1"=20'

### ZONING TABULATION

ZONE: C-2 (LIMITED OFFICE)  
SITE AREA: 46,978 SF OR 1.078 AC

	REQUIRED	PROVIDED
MIN. LOT AREA:	20,000 SF	±46,978 SF*
MIN. LOT WIDTH:	100 FT.	±215 FT.
MAX. BLD. HT.:	40 FT.	±25 FT.
MIN. YARD REQUIREMENTS:		
FRONT	30' ABP, NOT LESS THAN 25'	±65 FT. AND ±74 FT.
SIDE	NONE	N/A
REAR	25 FT.	±81 FT.
MAX. FAR:	0.50	±0.08 **
OPEN SPACE	30% OR 12,060 SF	±34% OR ± 14,000 SF

\*INCL. ±6,777 SF. OF PROPOSED DEDICATION  
\*\* FAR IS BASED ON PRE-DEDICATION AREA

### PARKING TABULATION

USE: DRIVE-IN BANK  
RATE: 4 SP/1000 SF OF GFA, PLUS 5 STACKING FOR THE FIRST 2 DRIVE THRU WINDOWS AND 2 FOR EACH ADDITIONAL WINDOW  
±4,000/1000 X 4 = 16 SPACES  
PARKING REQUIRED = 16 SPACES (INCL. 2 HANDICAP) PLUS 12 STACKING SPACES  
PARKING PROVIDED = 26 SPACES (INCL. 2 HANDICAP) PLUS 12 STACKING SPACES

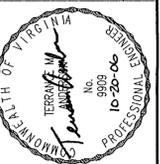
### SHEET INDEX

- COVER SHEET
- SPECIAL EXCEPTION PLAT
- CONCEPTUAL LANDSCAPE PLAN
- EXISTING VEGETATION MAP
- OUTFALL ANALYSIS
- SWM/BMP COMPUTATIONS
- A1. ARCHITECTURAL ELEVATIONS
- A2. ARCHITECTURAL ELEVATIONS
- A3. ARCHITECTURAL ELEVATIONS
- A4. ARCHITECTURAL ELEVATIONS

SE 2006-7MA-014  
Application No. \_\_\_\_\_ Staff: J. Stank  
APPROVED (SE) / SP PLAN  
SEE DEV CONDS DATED 11/17/06  
Date of (BOS) (BZA) approval: 11/20/06  
Sheet 1 of 10

RECEIVED  
Department of Planning & Zoning Evaluation Division  
11/20/06

WALTER L. PHILLIPS  
INCORPORATED  
CIVIL ENGINEERS LAND SURVEYORS PLANNERS LANDSCAPE ARCHITECTS  
207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046  
(703) 552-6163 FAX (703) 533-1301 WWW.WLPINC.COM  
DRAWN: MFW  
DATE: 3/7/06  
SCALE: 1" = 20'

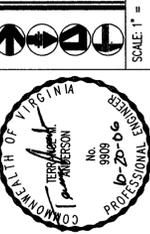


REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE
1	REVISED COMMENTS	6/13/06			
2	REVISED COMMENTS	9/1/06			
3	REVISED COMMENTS	10/14/06			
4	REVISED COMMENTS	10/20/06			

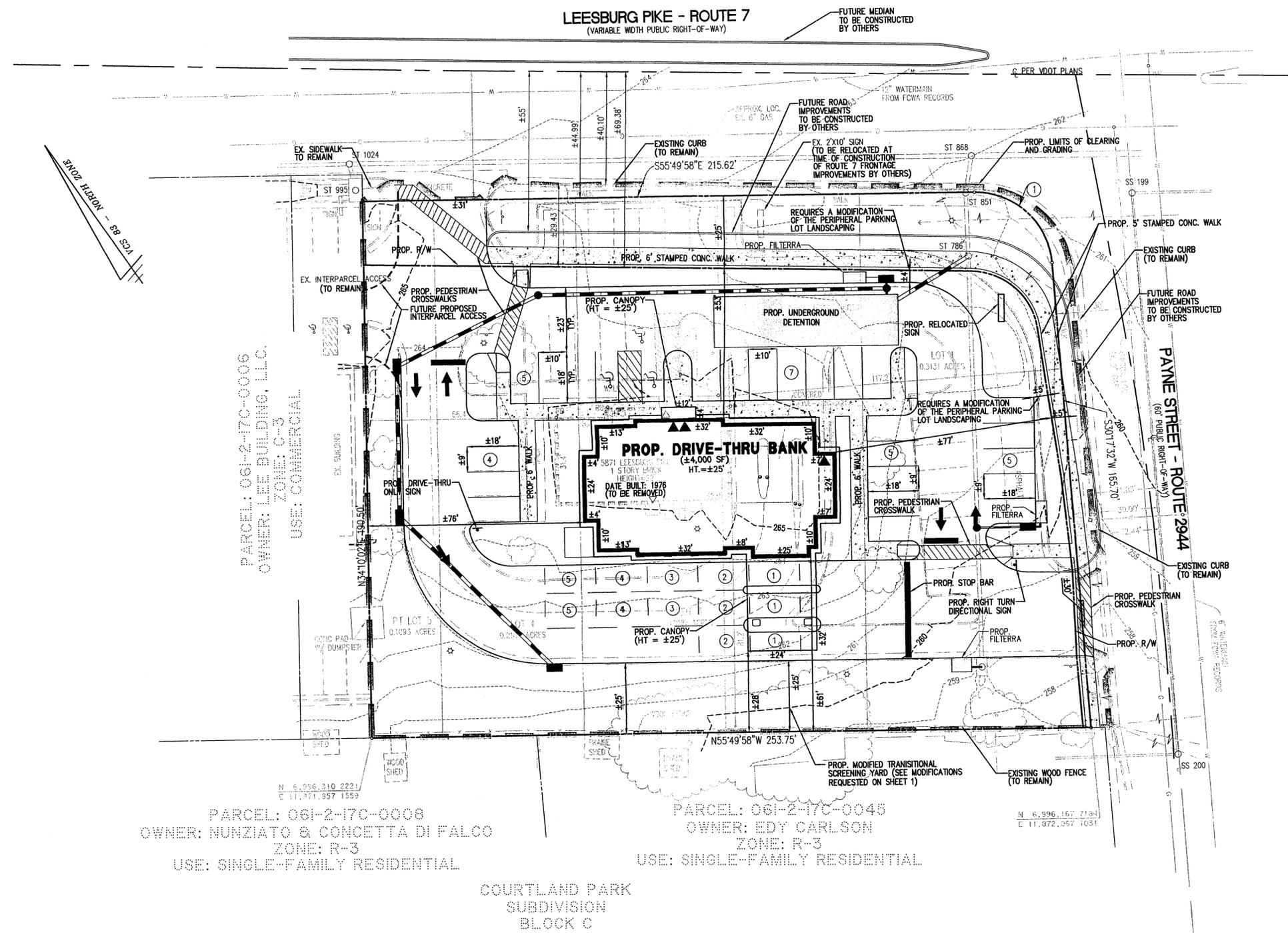
COVER SHEET

BAILEY'S CROSSROADS BB&T  
MASON DISTRICT  
FAIRFAX COUNTY, VIRGINIA



REVISION APPROVED BY		DATE	APPROVED
NO.	DESCRIPTION	DATE	REV. BY
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**SPECIAL EXCEPTION PLAT**  
**BAILEY'S CROSSROADS BB&T**  
 MASON DISTRICT  
 FAIRFAX COUNTY, VIRGINIA

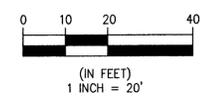


PARCEL: 061-2-170-0006  
 OWNER: LEE BUILDING, LLC.  
 ZONE: C-3  
 USE: COMMERCIAL

PARCEL: 061-2-170-0008  
 OWNER: NUNZIATO & CONCETTA DI FALCO  
 ZONE: R-3  
 USE: SINGLE-FAMILY RESIDENTIAL

PARCEL: 061-2-170-0045  
 OWNER: EDY CARLSON  
 ZONE: R-3  
 USE: SINGLE-FAMILY RESIDENTIAL

COURTLAND PARK  
 SUBDIVISION  
 BLOCK C



**CURVE TABLE**

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
1	27.00'	40.59'	86°07'30"	25.23'	36.87'	S12°46'13"E

Application No. SE 2006-MA-014  
 APPROVED SE SP PLAN  
 Date of DEV CONDS DATED 11/17/06  
 Date of (BOS) (BZA) approval 11/20/06  
 Sheet 2 of 10

**LEGEND**

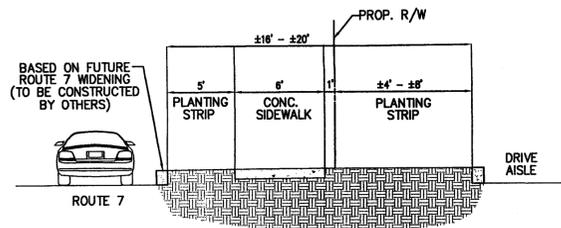
-  PROPOSED DECIDUOUS TREES
-  PROPOSED DECIDUOUS TREES  
(COUNTED TOWARDS INTERIOR PARKING LOT LANDSCAPING)
-  PROPOSED FLOWERING TREES
-  PROPOSED LARGE EVERGREEN TREES
-  PROPOSED MEDIUM EVERGREEN TREES
-  PROPOSED SHRUBS

**TREE COVER CALCULATIONS**

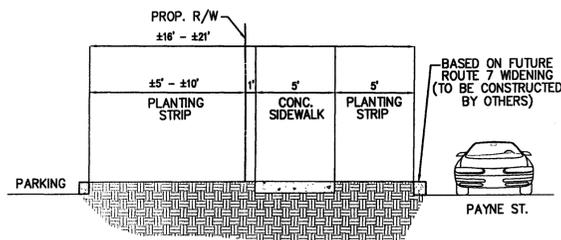
TOTAL SITE AREA	±46,978 S.F.
AREA TO BE DEDICATION	- ±6,777 S.F.
ADJUSTED SITE AREA	±40,201 S.F.
PERCENT REQUIRED	X 10 %
TREE COVER REQUIRED	±4,020 S.F.
TREE COVER PROVIDED (PLANTED)	±8,700 S.F.
EXISTING TREE COVERAGE	+ 0 S.F.
TOTAL TREE COVERAGE	±8,700 S.F. (±20%)

**INTERIOR PARKING LOT  
LANDSCAPING CALCULATIONS**

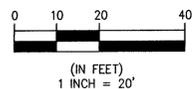
TOTAL PARKING AREA	±21,494 S.F.
PERCENT REQUIRED	X 5 %
REQUIRED	±1,075 S.F.
PROPOSED	±1,250 S.F. (±5%)



**PROPOSED ROUTE 7 STREETSCAPE DETAIL**  
N.T.S.

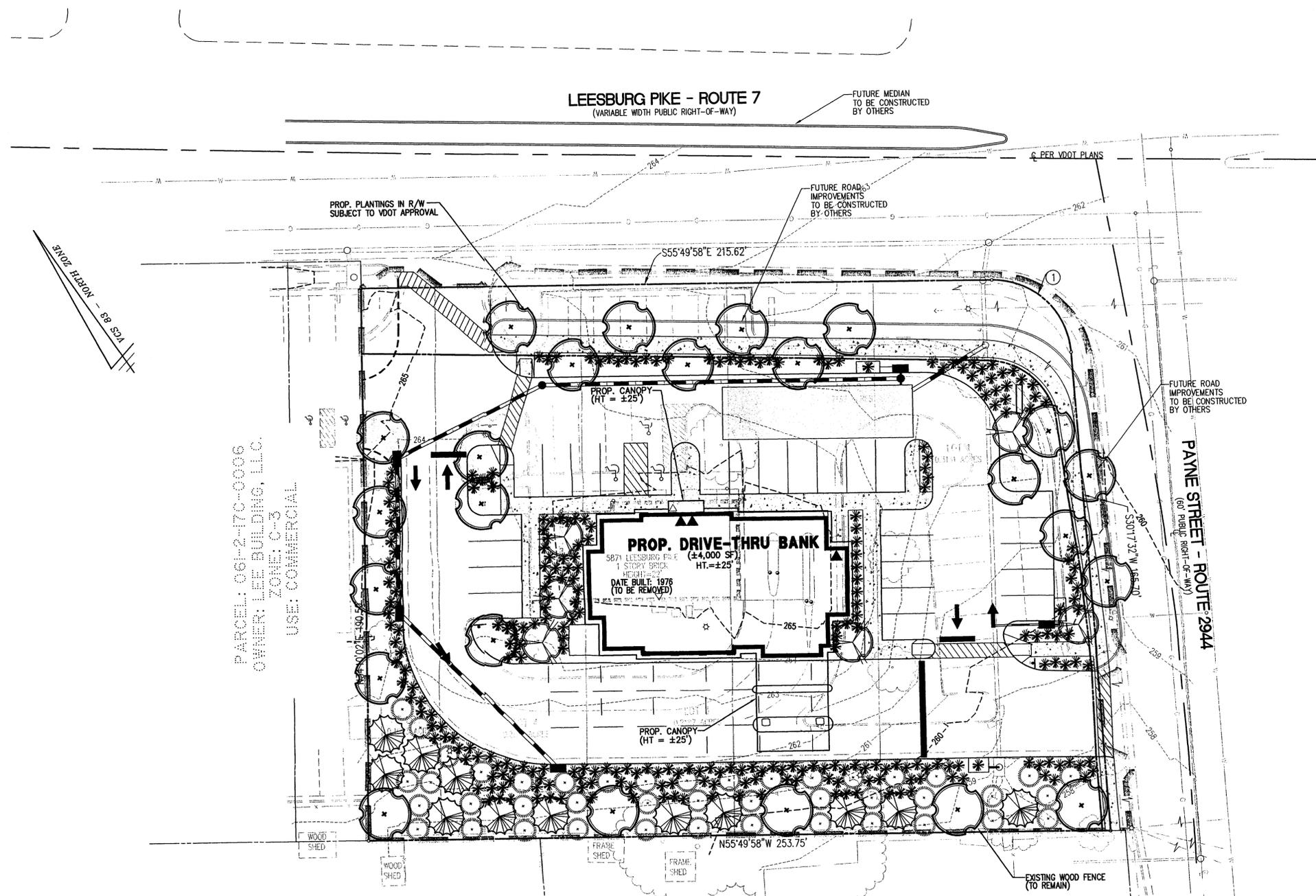


**PROPOSED PAYNE ST. STREETSCAPE DETAIL**  
N.T.S.

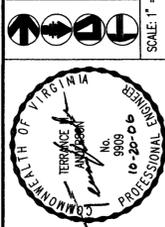


**CURVE TABLE**

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
1	27.00'	40.59'	86°07'30"	25.23'	36.87'	S12°46'13"E



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207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046  
(703) 552-6168 FAX (703) 553-1901  
WWW.WLPINC.COM  
DRAWN: WRV  
DATE: 3/17/06  
SCALE: 1" = 20'



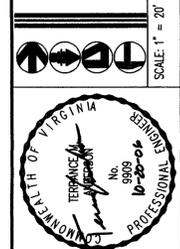
REVISION APPROVED BY

NO.	DESCRIPTION	DATE	APPROVED
1	REVISED COMMENTS	6/15/06	
2	REVISED COMMENTS	9/1/06	
3	REVISED COMMENTS	10/10/06	
4	REVISED COMMENTS	10/22/06	

**CONCEPTUAL LANDSCAPE PLAN**

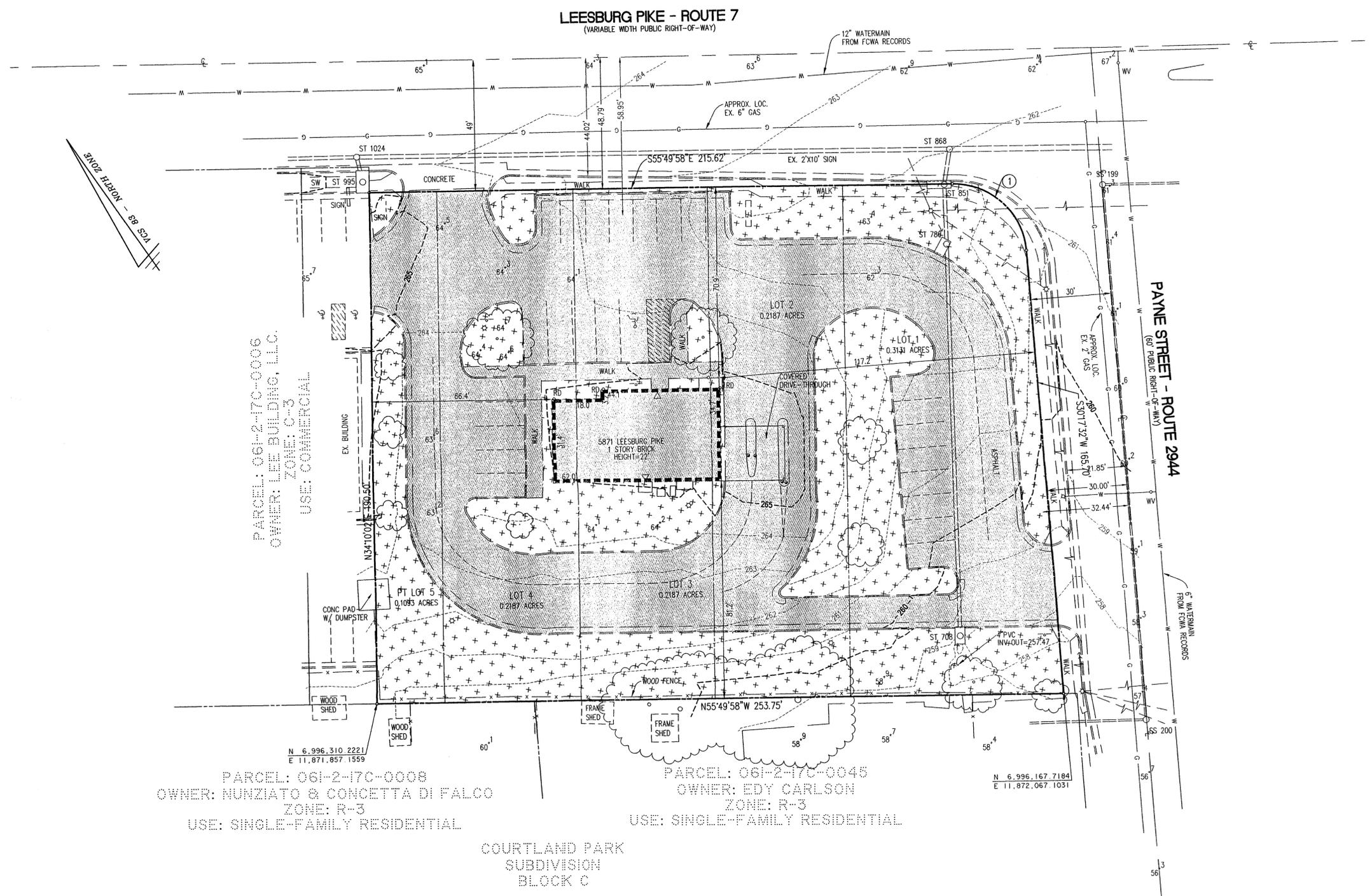
**BAILEY'S CROSSROADS BB&T**  
MASON DISTRICT  
FAIRFAX COUNTY, VIRGINIA

Application No. SFR006-MA-014 Staff J.S.  
APPROVED SE SP PLAN  
SEE DEV CONDS DATED 11/17/06  
Date of (BOS) (BZA) approval 11/22/06  
Sheet 3 of 10



REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE
1	REVISION COMMENTS	6/12/06			
2	REVISION COMMENTS	9/1/06			
3	REVISION COMMENTS	10/4/06			
4	REVISION COMMENTS	10/20/06			



**EXISTING VEGETATION MAP INFORMATION**

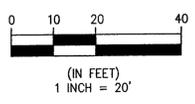
KEY	COVER TYPE	PRIMARY SPECIES	SUCCESSIONAL STAGE	CONDITION	ACREAGE
[Symbol]	DEVELOPED	BUILDINGS, DRIVE AISLES, PARKING, AND WALKS	N/A	N/A	±27,761 SF OR ±0.637 AC
[Symbol]	MAINTAINED GRASSLAND	LAWN AND LANDSCAPED AREAS RED MAPLE, BLACK PINE, AND ORNAMENTAL CHERRIES	N/A	FAIR	±19,217 SF OR ±0.441 AC

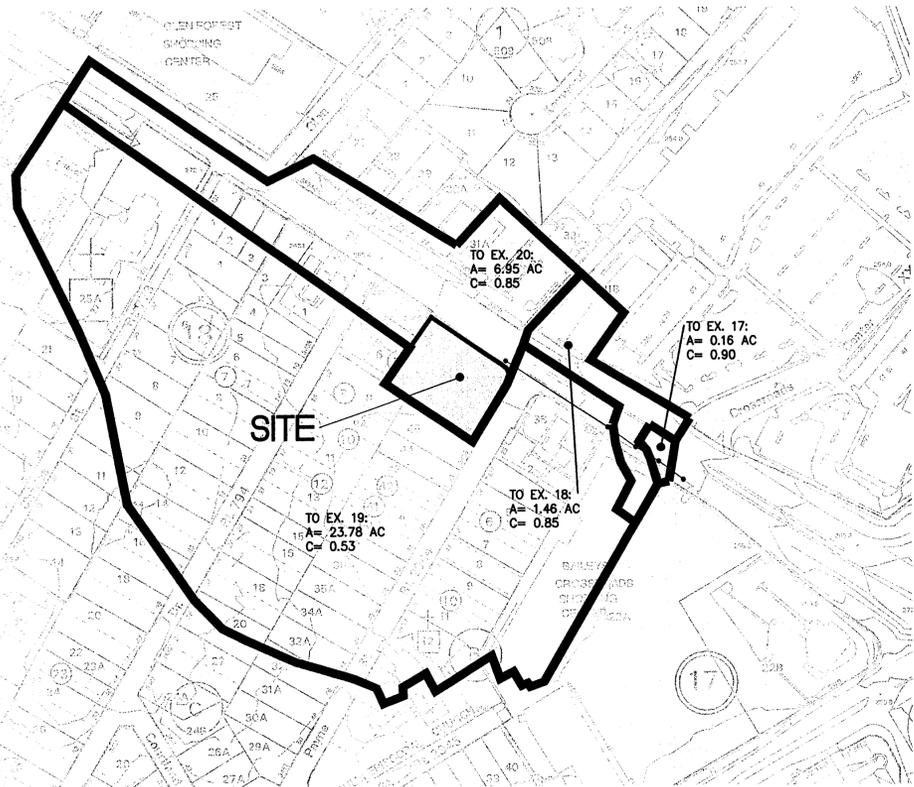
TOTAL SITE AREA: ±46,978 SF  
 OR ±1.078 AC

**CURVE TABLE**

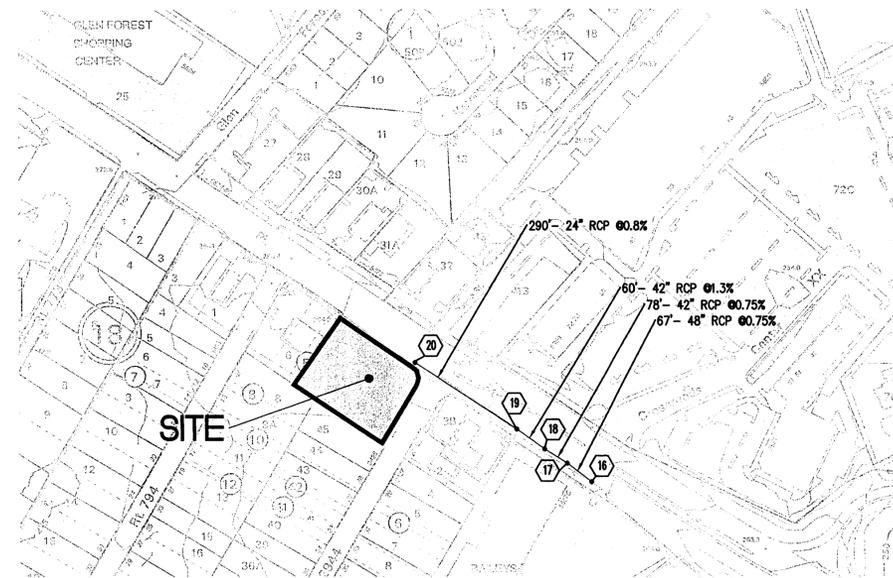
CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
1	27.00'	40.59'	86°07'30"	25.23'	36.87'	S12°46'13"E

Application No. SE 2006-20A-014 Staff T.S.  
 APPROVED (SE) SP PLAN  
 SEE DEV CONDS DATED 11/27/06  
 Date of (BOS) (BZA) approval 11/27/06  
 Sheet 4 of 18





OUTFALL DRAINAGE AREA MAP  
1" = 200'



OUTFALL STORM SEWER AND CHANNEL MAP  
1" = 200'

EXISTING HYDRAULIC GRADELINE COMPUTATIONS- T<sub>c</sub> = 10 MIN

Inlet Station	Structure Type (M.I.)	Outlet Water Surface Elevation	D <sub>o</sub> (in)	Q <sub>o</sub>	L <sub>o</sub>	S <sub>f<sub>o</sub></sub>	H <sub>f</sub>	Junction Loss													Inlet Water Surface Elevation	Max Water Surface Elevation	Difference	
								V <sub>o</sub>	H <sub>o</sub>	D <sub>i</sub> (in)	Q <sub>i</sub>	V <sub>i</sub>	Q <sub>v</sub>	V <sub>i</sub> <sup>2</sup> /2g	H <sub>i</sub>	Angle (°)	H <sub>loss</sub>	H <sub>t</sub>	1.3H <sub>t</sub>	.5(H <sub>t</sub> )				Final H
1*	*	2*	3*	4*	5*	6	7	8	9	10*	11	12	13	14*	15	16	17	18	19	20	*	*	*	
17	M	247.92	48	117.77	67	0.007	0.45	9.37	0.34	42	116.91	12.15	1420.64	2.29	0.23	0	0.00	0.57	---	0.29	0.74	248.66	261.20	12.54
18	M	248.66	42	116.91	78	0.013	1.05	12.15	0.57	42	109.57	11.39	1247.85	2.01	0.20	0	0.00	0.77	---	0.39	1.44	250.10	257.66	7.56
19	M	250.10	42	109.57	60	0.012	0.71	11.39	0.50	24	34.95	11.12	388.77	1.92	0.19	0	0.00	0.70	---	0.35	1.06	251.15	258.08	6.93
20	M	251.15	24	34.95	290	0.024	6.92	11.12	0.48	18	14.98	8.48	127.00	1.12	0.11	0	0.00	0.58	---	0.30	7.22	258.37	261.99	3.62

EXISTING HYDRAULIC GRADELINE COMPUTATIONS- T<sub>c</sub> = 5 MIN

Inlet Station	Structure Type (M.I.)	Outlet Water Surface Elevation	D <sub>o</sub> (in)	Q <sub>o</sub>	L <sub>o</sub>	S <sub>f<sub>o</sub></sub>	H <sub>f</sub>	Junction Loss													Inlet Water Surface Elevation	Max Water Surface Elevation	Difference	
								V <sub>o</sub>	H <sub>o</sub>	D <sub>i</sub> (in)	Q <sub>i</sub>	V <sub>i</sub>	Q <sub>v</sub>	V <sub>i</sub> <sup>2</sup> /2g	H <sub>i</sub>	Angle (°)	H <sub>loss</sub>	H <sub>t</sub>	1.3H <sub>t</sub>	.5(H <sub>t</sub> )				Final H
1*	*	2*	3*	4*	5*	6	7	8	9	10*	11	12	13	14*	15	16	17	18	19	20	*	*	*	
17	M	247.92	48	64.64	67	0.002	0.14	5.14	0.10	42	64.19	6.67	428.27	0.69	0.07	0	0.00	0.17	---	0.09	0.22	248.14	261.20	13.06
18	M	248.14	42	64.19	78	0.004	0.32	6.67	0.17	42	60.16	6.25	376.18	0.61	0.06	0	0.00	0.23	---	0.12	0.43	248.58	257.66	9.08
19	M	248.58	42	60.16	60	0.004	0.21	6.25	0.15	24	42.93	13.66	586.56	2.90	0.29	0	0.00	0.44	---	0.22	0.44	249.01	258.08	9.07
20	M	249.01	24	42.93	290	0.036	10.44	13.66	0.72	18	18.39	10.41	191.39	1.68	0.17	0	0.00	0.89	---	0.45	10.89	259.90	261.99	2.09

EXISTING STORM SEWER COMPUTATIONS

FROM POINT (1)	TO POINT (2)	AREA DRAIN "A" ACRES (3)	RUNOFF COEF. "C" (4)	CA INCREMENT (5)	ACCUMULATED (6)	INLET TIME MIN. (7)	RAIN FALL IN/HR (8)	INCREMENT RUNOFF CFS (9)	ACCUMULATED RUNOFF CFS (9a)	LENGTH FT (12)	SLOPE FT/FT (13)	DIA. IN (14)	CAPACITY CFS (15)
EX. 20	EX. 19	6.95	0.85	5.91	5.91	5	7.27	42.93	42.93	290	0.0082	24	22.04
EX. 19	EX. 18	23.78	0.53	12.60	18.51	10	5.92	74.61	109.57	60	0.0100	42	108.23
EX. 18	EX. 17	1.46	0.85	1.24	19.75	10	5.92	7.35	116.91	78	0.0075	42	93.73
EX. 17	EX. 16	0.16	0.90	0.14	19.90	10	5.92	0.85	117.77	67	0.0075	48	133.82

OUTFALL NARRATIVE:

THIS SITE IS LOCATED IN THE FOUR MILE RUN WATERSHED. THE STORMWATER FROM THIS SITE IS CONVEYED DOWNSTREAM VIA STORM SEWER. WE HAVE DETERMINED THE EXISTING DRAINAGE DIVIDES, AND VERIFIED THE EXISTING OFFSITE STORM SEWER USING RECORD AS-BUILT INFORMATION AS WELL AS INFORMATION GATHERED IN THE FIELD.

RUNOFF DRAINS FROM THE SITE TO THE EAST VIA EXISTING STORM SEWER IN ROUTE 7. THE DOWNSTREAM EXTENT OF REVIEW FOR THIS SITE IS TO THE POINT WHERE THE RECEIVING PIPE IS JOINED BY ANOTHER THAT HAS A DRAINAGE AREA THAT IS AT LEAST 90% OF THE SIZE OF THE FIRST DRAINAGE AREA AT THE POINT OF CONFLUENCE (PFM 6-0203.2A). THIS REQUIREMENT IS MET AT STRUCTURE 19, WHERE AN AREA OF 23.78 AC JOINS THE INITIAL RECEIVING AREA OF 6.95 AC.

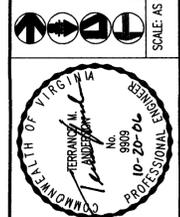
THE STORM SEWER SYSTEM FROM #20 TO #19 WAS ANALYZED FOR A 5 MINUTE TIME OF CONCENTRATION. THE STORM SEWER FROM #19 TO #16 WAS ANALYZED FOR A TIME OF CONCENTRATION OF 10 MINUTES. THE ENTIRE LENGTH OF STORM SEWER WAS FOUND TO BE ADEQUATE TO CONVEY THE 10 YEAR STORM (SEE EXISTING STORM SEWER COMPUTATIONS AND EXISTING HYDRAULIC GRADELINE COMPUTATIONS).

IF NECESSARY, WE RESERVE THE RIGHT TO RE-EVALUATE THE OUTFALL ANALYSIS AT THE TIME OF SITE PLAN AND IF NECESSARY THE CAPACITY METHOD MAY BE EMPLOYED AND DETENTION PROVIDED ACCORDINGLY ONSITE IN ORDER TO SHOW NO ADVERSE IMPACT AND A PROPORTIONAL IMPROVEMENT IN THE CAPACITY OF THE STORM SEWER. ALTERNATIVELY, IF THE CAPACITY METHOD IS NOT POSSIBLE, THE EXTENDED DETENTION METHOD MAY BE EMPLOYED.

IT IS IN THE OPINION OF THE SUBMITTING ENGINEER THAT THIS SITE HAS ADEQUATE OUTFALL. THIS OUTFALL ANALYSIS IS SUBJECT TO CHANGE WITH FINAL ENGINEERING AND WILL BE REEVALUATED AND VERIFIED WITH FUTURE PLANS.

Application No. SEE DEV-TMA-014  
 APPROVED SE SP PLAN Staff J.S.  
 Date of (BOS) (BZA) approval 11/27/06  
 Sheet 5 of 10

**WALTER L. PHILLIPS**  
 INCORPORATED  
 CIVIL ENGINEERS LAND SURVEYORS PLANNERS LANDSCAPE ARCHITECTS  
 207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046  
 (703) 532-6163 FAX (703) 533-1901  
 WWW.WLPHINC.COM  
 DRAWN: JV  
 DATE: 3/27/06  
 SCALE: AS SHOWN



NO.	DESCRIPTION	DATE	APPROVED BY
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3	REVISION COMMENTS	10/4/06	
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**OUTFALL ANALYSIS**  
**BAILEY'S CROSSROADS BB&T**  
 MASON DISTRICT  
 FAIRFAX COUNTY, VIRGINIA

**OVERALL SITE DRAINAGE SUMMARY:**

**I. PRE-DEVELOPMENT:**

A. TOTAL AREA = 1.08 AC.  
 CONTRIBUTING AREAS:  
 0.64 AC. @ 0.90 (IMPERVIOUS AREA ON-SITE)  
 0.44 AC. @ 0.30 (GREEN AREA ON-SITE)  
 1.08 AC.

B. WEIGHTED "C":  

$$\frac{(0.64)(0.90) + (0.44)(0.3)}{1.08} = 0.66$$

C. TIME OF CONCENTRATION = 5 MIN.

D. RUNOFF:  
 Q2 = (0.66) (5.45) (1.08) = 3.88 CFS  
 Q10 = (0.66) (7.27) (1.08) = 5.18 CFS  
 Q100 = (0.66) (9.84) (1.08) (1.25) = 8.77 CFS

**II. POST-DEVELOPMENT:**

A. CONTRIBUTING AREAS:  
 0.70 AC. @ 0.90 (IMPERVIOUS AREA ONSITE)  
 0.38 AC. @ 0.30 (GREEN AREA ONSITE)  
 1.08 AC.

B. WEIGHTED "C":  

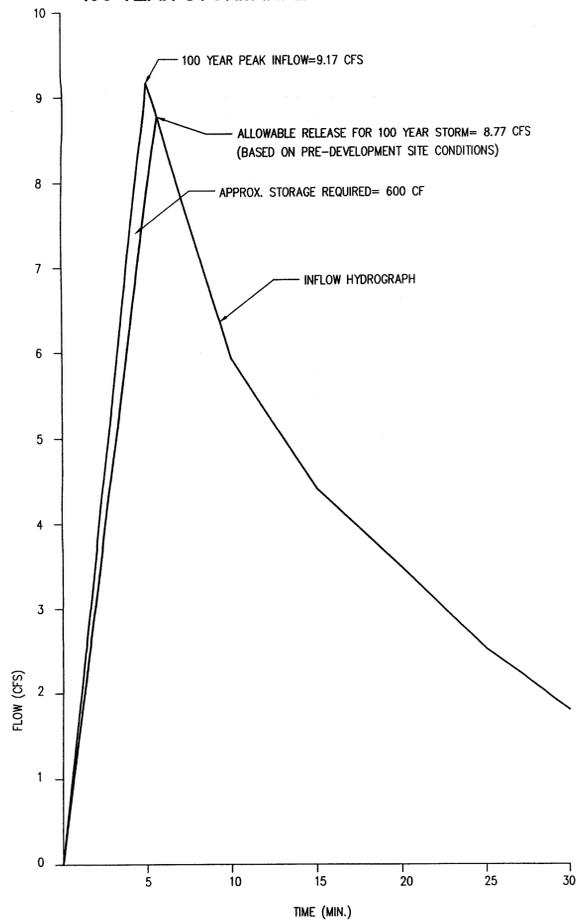
$$\frac{(0.70)(0.90) + (0.38)(0.3)}{1.08} = 0.69$$

C. RUNOFF:  
 Q2 = (0.69) (5.45) (1.08) = 4.06 CFS  
 Q10 = (0.69) (7.27) (1.08) = 5.42 CFS  
 Q100 = (0.69) (9.84) (1.08) (1.25) = 9.17 CFS

**III. INCREASE:**

Q2 = 4.06 - 3.88 = 0.18 CFS  
 Q10 = 5.42 - 5.18 = 0.24 CFS  
 Q100 = 9.17 - 8.77 = 0.40 CFS

**100 YEAR STORM INFLOW HYDROGRAPH:**



**BMP FACILITY DESIGN CALCULATIONS**

**PART 1: LIST ALL OF THE SUBAREAS AND "C" FACTORS USED IN THE BMP COMPUTATIONS**

SUBAREA DESIGNATION AND DESCRIPTION	"C"	ACRES
(1)	(2)	(3)
A <sub>1</sub> ONSITE DRAINAGE AREA TO FILTERRA	0.69	0.22
A <sub>2</sub> ONSITE UNCONTROLLED	0.69	0.86
TOTAL SITE AREA		1.08 AC.

**PART 2: COMPUTE THE WEIGHTED AVERAGE "C" FACTOR FOR THE SITE**

(A) AREA OF THE SITE (a) 1.08 ACRES

(B) WEIGHTED AVERAGE "C" FACTOR = 0.69  
 (SEE STORMWATER MANAGEMENT SUMMARY THIS SHEET)

**PART 3: COMPUTE THE TOTAL PHOSPHORUS REMOVAL FOR THE SITE**

SUBAREA DESIGNATION	BMP TYPE	REMOVAL EFF. (%)	AREA RATIO	"C" FACTOR RATIO	PRODUCT
(1)	(2)	(3)	(4)	(5)	(6)
A <sub>1</sub> ONSITE DRAINAGE AREA TO FILTERRA(S)		70	0.22/1.08	0.69/0.69	= 14
					(a) TOTAL = 14%

**PART 4: DETERMINE COMPLIANCE WITH PHOSPHORUS REMOVAL REQUIREMENT**

(A) SELECT REQUIREMENT (a) 13.9%

- \* WATER SUPPLY OVERLAY DISTRICT (OCCOQUAN WATERSHED) = 50 %
- \* CHESAPEAKE BAY PRESERVATION AREA (NEW DEVELOPMENT) = 40 %

\* CHESAPEAKE BAY PRESERVATION AREA (REDEVELOPMENT) =  $[1 - 0.9 \times ("C"_{PRE} / "C"_{POST})] \times 100 = [1 - 0.9 \times (0.66 / 0.69)] \times 100 = 13.9\%$

(B) IF LINE 3(a) 14 % > LINE 4(a) 13.9% THEN PHOSPHORUS REMOVAL REQUIREMENT IS SATISFIED.

**BMP NARRATIVE:**

THE PROPOSED CONSTRUCTION IS CONSIDERED REDEVELOPMENT DUE TO THE FACT THAT THERE IS LESS THAN A 20% INCREASE IN IMPERVIOUS AREA. THE C-FACTOR INCREASES FROM 0.66 PRE-DEVELOPMENT TO 0.69 POST-DEVELOPMENT. THEREFORE, THE PHOSPHORUS REMOVAL REQUIREMENT FOR THIS REDEVELOPMENT IS 13.9%. THE PHOSPHORUS REMOVAL REQUIREMENT IS PROPOSED TO BE MET THROUGH THE USE OF ONE OR MORE FILTERRA TREE BOX FILTERS DEPENDING ON THE FINAL SITE DESIGN AND GRADING. FILTERRAS HAVE A PHOSPHORUS REMOVAL EFFICIENCY OF 70% AND APPROXIMATELY 0.22 ACRES OF THE SITE WILL NEED TO BE TREATED IN ORDER TO MEET THE 13.9% REQUIREMENT.

**SWM NARRATIVE:**

THE ALLOWABLE RELEASE FROM THE SITE WITH THE PROPOSED DEVELOPMENT SHALL BE THE RELEASE FROM THE SITE IN ITS CURRENT DEVELOPED CONDITION. THE 2-YEAR ALLOWABLE RELEASE IS 3.88 CFS, THE 10-YEAR ALLOWABLE RELEASE IS 5.18 CFS, AND THE 100-YEAR ALLOWABLE RELEASE IS 8.77 CFS. (STORMWATER MANAGEMENT MEASURES ADDRESSING THE 100-YEAR IS PROVIDED DUE TO THIS SITE'S LOCATION IN THE FOUR WILE WATERSHED.) DETENTION IS PROPOSED TO BE PROVIDED FOR THE SITE IN THE FORM OF AN UNDERGROUND PIPE SYSTEM OR VAULT. DUE TO THE EXISTING INVERT CONSTRAINTS OF THE EXISTING STORM SEWER IN ROUTE 7, A MODIFICATION OF THE PFM REQUIREMENT TO PROVIDE 72" OF HEADROOM (6-1306.3H) MAY NEED TO BE REQUESTED AT THE TIME OF SITE PLAN. THE UNDERGROUND STORAGE SYSTEM WILL ALSO PROVIDE BMP STORAGE, IF NECESSARY.

**STORMWATER MANAGEMENT CHECKLIST**

**MINIMUM STORMWATER INFORMATION FOR REZONING, SPECIAL EXCEPTION, SPECIAL PERMIT AND DEVELOPMENT PLAN APPLICATIONS**

The following information is required to be shown or provided in all zoning applications, or a waiver request of the submission requirement with justification shall be attached. Note: Waivers will be acted upon separately. Failure to adequately address the required submission information may result in a delay in processing this application.

This information is required under the following Zoning Ordinance paragraphs:  
 Special Permits (8-011 2J & 2L) Special Exceptions (8-011 2J & 2L)  
 Cluster Subdivision (9-615 1G & 1N) Commercial Revitalization Districts (9-622 2A (12) & (14))  
 Development Plans PRC District (16-302 3 & 4L) PRC Plan (16-303 1E & 1O)  
 FDP P Districts (except PRC) (16-502 1F & 1Q) Amendments (16-202 10F & 10I)

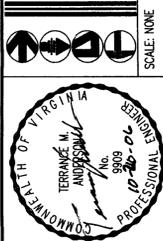
- 1. Plat is at a minimum scale of 1"=50' (unless it is depicted on one sheet with a minimum scale of 1"=100').
- 2. A graphic depicting the stormwater management facility(ies) and limits of clearing and grading accommodate the stormwater management facility(ies), storm drainage pipe systems and outlet protection, pond spillways, access roads, site outfalls, energy dissipation devices, and stream stabilization measures as shown on Sheet 2.
- 3. Provide:  

Facility Name/ Type & No.	On-site area served (acres)	Off-site area served (acres)	Drainage area (acres)	Footprint area (sf)	Storage Volume (cf)	If pond, dam height (ft)
UNDERGROUND SYSTEM	±1.0	0*	±1.0	±2,500	±3,000	N/A
Totals						
- 4. Onsite drainage channels, outfalls and pipe systems are shown on Sheet 2. Pond inlet and outlet pipe systems are shown on Sheet N/A.
- 5. Maintenance access (road) to stormwater management facility(ies) are shown on Sheet N/A. Type of maintenance access road surface noted on the plat is N/A (asphalt, geoblock, gravel, etc.).
- 6. Landscaping and tree preservation shown in and near the stormwater management facility is shown on Sheet 2.
- 7. A 'stormwater management narrative' which contains a description of how detention and best management practices requirements will be met is provided on Sheet 6.
- 8. A description of the existing conditions of each numbered site outfall extended downstream from the site to a point which is at least 100 times the site area or which has a drainage area of at least one square mile (640 acres) is provided on Sheet 5.
- 9. A description of how the outfall requirements, including contributing drainage areas of the Public Facilities Manual will be satisfied is provided on Sheet 5.
- 10. Existing topography with maximum contour intervals of two (2) feet and a note as to whether it is an air survey or field run is provided on Sheets 1, 2.
- 11. A submission waiver is requested for PFM MODIFICATION OF 72" HEIGHT IN DETENTION STRUCTURES (6-1306.3H)
- 12. Stormwater management is not required because N/A.

\* NOTE: OFFSITE AREA SERVED MAY NEED TO BE REVISED AT TIME OF SITE PLAN. DETENTION SF 2000-2MA-014 Application No. Staff T.S. STRUCTURE WILL BE REVISED ACCORDINGLY.

APPROVED (SE) SP PLAN  
 SEE DEV CONDS DATED 11/12/06  
 Date of (BOS) (BZA) approval 11/20/06  
 Sheet 6 of 10

**WALTER L. PHILLIPS**  
 INCORPORATED  
 CIVIL ENGINEERS LAND SURVEYORS PLANNERS LANDSCAPE ARCHITECTS  
 207 PARK AVENUE FALLS CHURCH, VIRGINIA 22046  
 (703) 552-6163 FAX (703) 553-1801  
 WWW.WLPINC.COM  
 DATE: 1/7/06  
 DRAWN: JV  
 SCALE: NONE

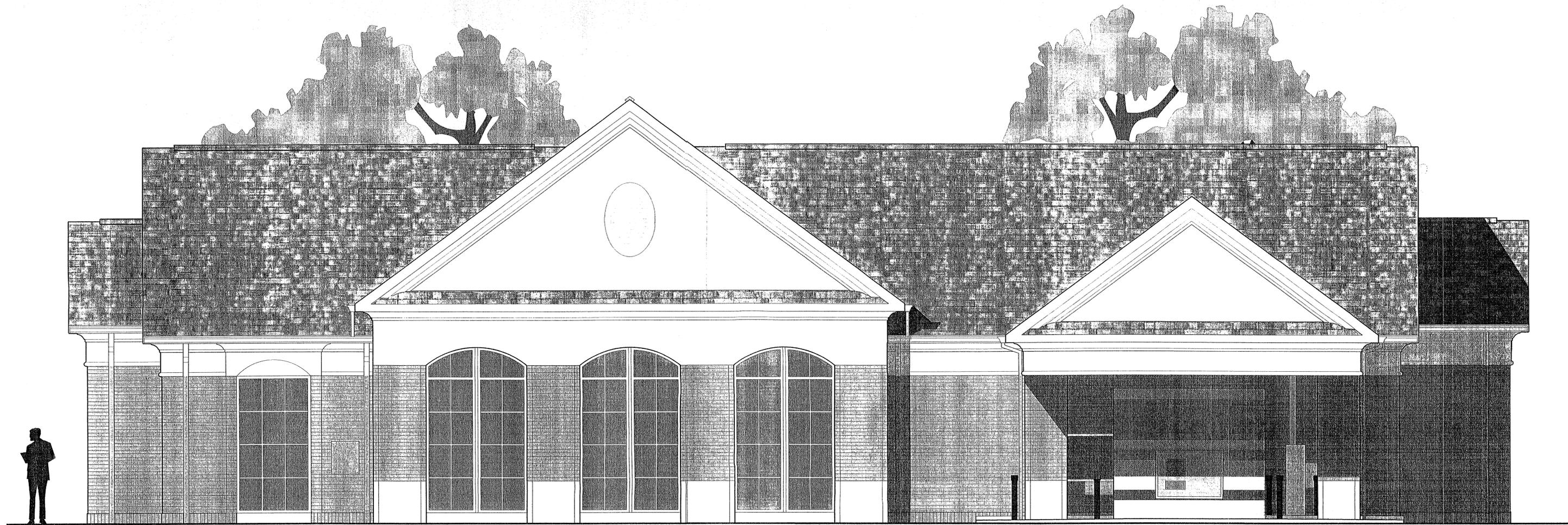


NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE
1	REVISED COMMENTS	5/17/06			
2	REVISED COMMENTS	9/7/06			
3	REVISED COMMENTS	10/17/06			
4	REVISED COMMENTS	10/20/06			

**SWM/BMP COMPUTATIONS**  
**BAILEY'S CROSSROADS BB&T**  
 MASON DISTRICT  
 FAIRFAX COUNTY, VIRGINIA



Application No. SE-2006-77A-014 Staff T.S.  
APPROVED SE SP PLAN  
SEE DEV CONDS DATED 11/17/06  
Date of (BOS) (BZA) approval 11/29/06  
Sheet 7 of 11



REAR ELEVATION

Application No. SE-2006-71A-014 Staff T.S.  
 APPROVED SE SP PLAN  
 SEE DEV CONDS DATED 11/17/06  
 Date of (BOS) (BZA) approval 11/29/06  
 Sheet 8 of 10

Date: 08/29/2006

FOR INFORMATION ONLY

A2



SE 2006-MA-014  
 Application No. \_\_\_\_\_ Staff T.S.  
 APPROVED SE DSP PLAN  
 SEE DEV CONDS DATED 11/27/06  
 Date of (BOS) (BZA) approval 11/20/06  
 Sheet 9 of 20

SIDE ELEVATION

**BB&T**

Bailey's Crossing, Virginia

Date: 08/29/2006

FOR INFORMATION ONLY

A3



Application No. SF-2006-77A-014 Staff T.S.  
APPROVED SE SP PLAN  
SEE DEV CONDS DATED 11/17/06  
Date of (BOS) (BZA) approval 11/20/06  
Sheet 10 of 10

SIDE ELEVATION