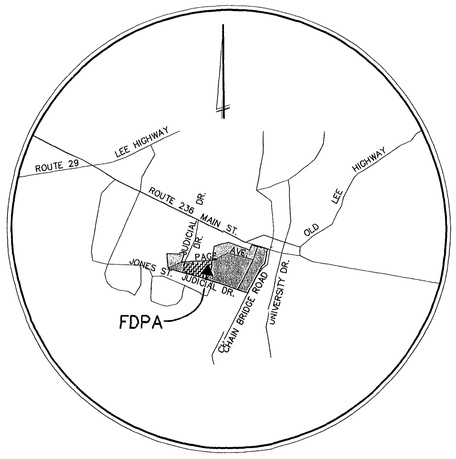
PROFFERED CONDITION AMENDMENT
FINAL DEVELOPMENT PLAN AMENDMENT
PUBLIC SAFETY CENTER

FAIRFAX COUNTY, VIRGINIA

NOTES:

1. THE PROPERTY DELINEATED ON THIS PLAT IS LOCATED ON TAX MAP 57-4-((1))-14 & TAX MAP 57-3-((1))-17 AND IS ZONED PDC. THE FDPA SITE IS LOCATED ON T.M.57-4-((1))-14 PART AND T.M.57-3-((1))-17 PART AND CONTAINS 7.5207 ACRES OR 327,600 SQUARE FEET.
2. THE FDPA BOUNDARY IS DERIVED FROM A COUNTY-PROVIDED SURVEY OF THE PUBLIC SAFETY CENTER COMPLEX AND THE ILLUSTRATIVE LIMITS AND 7.53 +/- ACREAGE SHOWN ON FDP #91-W-023-2. THE EASTERLY LIMITS OF THE FDPA ARE SET ALONG THE FACE OF CURB OF THE PARKING ISLAND NEAR THE ADULT DETENTION CENTER AND THE BACK OF A PARKING BAY. THE WESTERLY LIMITS OF THE FDPA ARE SET ALONG THE GUTTER LINE OF JUDICIAL AVE. EXTENDED TO THE NORTHERLY AND SOUTHERLY LIMITS OF THE PUBLIC SAFETY CENTER BOUNDARY
3. TOPOGRAPHY IS FROM A NOVEMBER, 2006 FIELD SURVEY BY PACIULLI, SIMMONS & ASSOCIATE, LTD. FOR THE WESTERLY PORTION OF THE SITE WHERE THE NEW LESS SECURE SHELTER IS PROPOSED. TOPOGRAPHY ON THE EASTERLY PORTION IS COMPILED FROM FIELD SURVEYS PERFORMED FOR THE SITE PLANS AND UPDATED WITH THE PROPOSED GRADING SHOWN ON THOSE SITE PLANS. CONTOUR INTERVAL IS 2 FEET.
4. THE PROPOSED LESS SECURE SHELTER SHOWN ON THIS FDPA WAS LABELED "YOUTH RESIDENCE ADDITION" ON FDP #91-W-023-2.
5. PROPOSED IMPROVEMENTS TO THE PUBLIC ROADS ARE LIMITED TO REPLACEMENT OF EXISTING CURB AND SIDEWALK AND THE ADDITION OF A DRIVEWAY ENTRANCE ONTO PAGE AVENUE.
6. THERE ARE NO PROPOSED TRAILS REQUIRED BY THE COMPREHENSIVE PLAN ON THIS SITE.
7. REQUIRED PARKING FOR THE LESS SECURE SHELTER IS PROVIDED IN THE PARKING GARAGES AND SURFACE LOTS LOCATED ELSEWHERE IN THE PUBLIC SAFETY AREA. A SMALL TEMPORARY DROP-OFF AREA & DISABLED VISITOR PARKING SPACE IS PROPOSED IN FRONT OF THE LESS SECURE SHELTER.
8. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO MAJOR UNDERGROUND UTILITY EASEMENTS OR EXISTING UTILITY EASEMENTS WITH A WIDTH OF 25' OR MORE ON THE SITE.
9. DEVELOPMENT OF THE LESS SECURE SHELTER IS EXPECTED TO OCCUR WITH ONE SITE PLAN.
10. THERE IS AN ENVIRONMENTAL QUALITY CORRIDOR TAKEN FROM FDP 91-W-023-2 SHOWN ON THE FDPA. THERE IS NO FLOOD PLAIN DESIGNATED BY THE FEDERAL INSURANCE ADMINISTRATION, U.S. GEOLOGICAL SURVEY, OR FAIRFAX COUNTY. THERE IS NO RPA ON THE SITE. THE ENTIRE SITE IS IN THE RMA.
11. NO GRAVE OR BURIAL SITE IS KNOWN TO EXIST ON THIS PROPERTY.
12. AN ABOVEGROUND FUEL TANK TO SERVE AN EMERGENCY GENERATOR IS PROPOSED AS SHOWN ON THE FDPA. OTHER THAN THIS, NO OTHER HAZARDOUS OR TOXIC SUBSTANCES, AS SET FORTH IN TITLE 40, CODE OF FEDERAL REGULATIONS PARTS 116.4, 302.4, AND 355; OR HAZARDOUS WASTE, AS SET FORTH IN COMMONWEALTH OF VIRGINIA/DEPARTMENT OF WASTE MANAGEMENT: VR 672-10-1--VIRGINIA HAZARDOUS WASTE MANAGEMENT REGULATIONS; OR PETROLEUM PRODUCTS AS DEFINED IN TITLE 40, CODE OF FEDERAL REGULATIONS PART 280 SHALL BE GENERATED, UTILIZED, STORED, TREATED, AND/OR DISPOSED OF ON SITE.
13. PUBLIC WATER AND SANITARY SEWER SERVICE LINES ARE LOCATED IN PAGE AVENUE. PROPOSED UTILITIES ARE SHOWN FOR CONCEPTUAL PURPOSES ONLY AND ARE SUBJECT TO CHANGE UPON FINAL ENGINEERING.
14. THE PROPOSED DEVELOPMENT CONFORMS TO THE PROVISIONS OF ALL APPLICABLE ORDINANCES, REGULATIONS, AND ADOPTED STANDARDS.
15. SUBJECT TO SECTION 16-402 OF THE ZONING ORDINANCE, MINOR DEVIATIONS OF THE SIZE, DIMENSIONS, FOOTPRINT AND LOCATION OF THE PROPOSED FACILITIES MAY RESULT FROM FINAL ENGINEERING.



VICINITY MAP
SCALE: 1"=2000'

SHEET INDEX:

1. COVER SHEET INCLUDING GENERAL NOTES, SITE AND PARKING TABULATION
2. OVERALL EXISTING CONDITIONS
3. OVERALL SITE TABULATIONS (FOR INFO ONLY)
4. SITE PLAN & EXISTING VEGETATION MAP
5. BUILDING ELEVATIONS & ANGLE OF BULK PLANE
6. STORM SEWER OUTFALL & MAP SHOWING CONTRIBUTING DRAINAGE AREA FOR ADEQUATE OUTFALL CALCULATIONS
7. DRAINAGE MAP FOR ANALYSIS OF OUTFALL & STORMWATER MANAGEMENT NARRATIVE

FDPA #91-W-023-2 SITE TABULATION:

FDPA SITE AREA: 7.5207 AC. (327,600 SF)

EX. JDC & JDC EXPANSION: 77,000 SF
EX. WORKOUT BUILDING: 1,950 SF
LESS SECURE SHELTER: 11,992 SF
TOTAL GROSS FLOOR AREA: 90,942 SF

MAX. DENSITY ALLOWED: 0.85 (PER PROFFER FOR ENTIRE COUNTY COMPLEX)
DENSITY PROVIDED: 90,942 SF ÷ 327,600 SF = 0.28 FAR

OPEN SPACE REQUIRED: 15%
OPEN SPACE PROVIDED: 3.38 AC. (45%)

PARKING TABULATION:

PARKING REQUIRED	SQUARE FEET	SPACES REQUIRED
PUBLIC USES		
EX. JUVENILE DETENTION CENTER & EXPANSION	77,000	73
EX. WORKOUT BUILDING	1,950	--
PROPOSED LESS SECURE SHELTER	11,992	6
TOTAL PUBLIC USES	90,942 SF	
TOTAL PARKING REQUIRED FOR PUBLIC USES		79 SPACES
COUNTY VEHICLE POOL		
JUVENILE DETENTION CENTER (BUS)		1 SPACE
TOTAL PARKING REQUIRED		80 SPACES
PARKING PROVIDED ON THIS FDPA PORTION OF SITE*		58 SPACES
LOADING REQUIRED		
PUBLIC USE	90,942 SF	5 SPACES
LOADING PROVIDED ON THIS FDPA PORTION OF SITE		5 SPACES

*ABOVE PARKING PROVIDED IN FDPA AREA ONLY. REQUIRED PARKING IS PROVIDED IN THE PARKING GARAGES AND SURFACE LOTS LOCATED ELSEWHERE IN THE PUBLIC SAFETY AREA. SEE OVERALL PARKING TABULATION ON SHEET 2 FOR PARKING PROVIDED FOR ENTIRE COMPLEX.

FDPA 91-W-023-2
Application No. PCA 91-W-023-2 Staff PB
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED 3/21/03
Date of (BOS) (PC) approval 3/31/03
Sheet ____ of 7

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Department of Planning & Zoning
MAR 21 2008
Zoning Evaluation Division

PACIULLI SIMMONS & ASSOCIATES
Engineering
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PUBLIC SAFETY CENTER
FDPA 91-W-023-2
PCA 91-W-023-3
FAIRFAX COUNTY, VIRGINIA
PROVIDENCE DISTRICT

COVER SHEET, GENERAL NOTES, SITE AND PARKING TABULATION

COMMONWEALTH OF VIRGINIA
ANN O. GERMAIN
No. 028700
3/20/2008
PROFESSIONAL ENGINEER

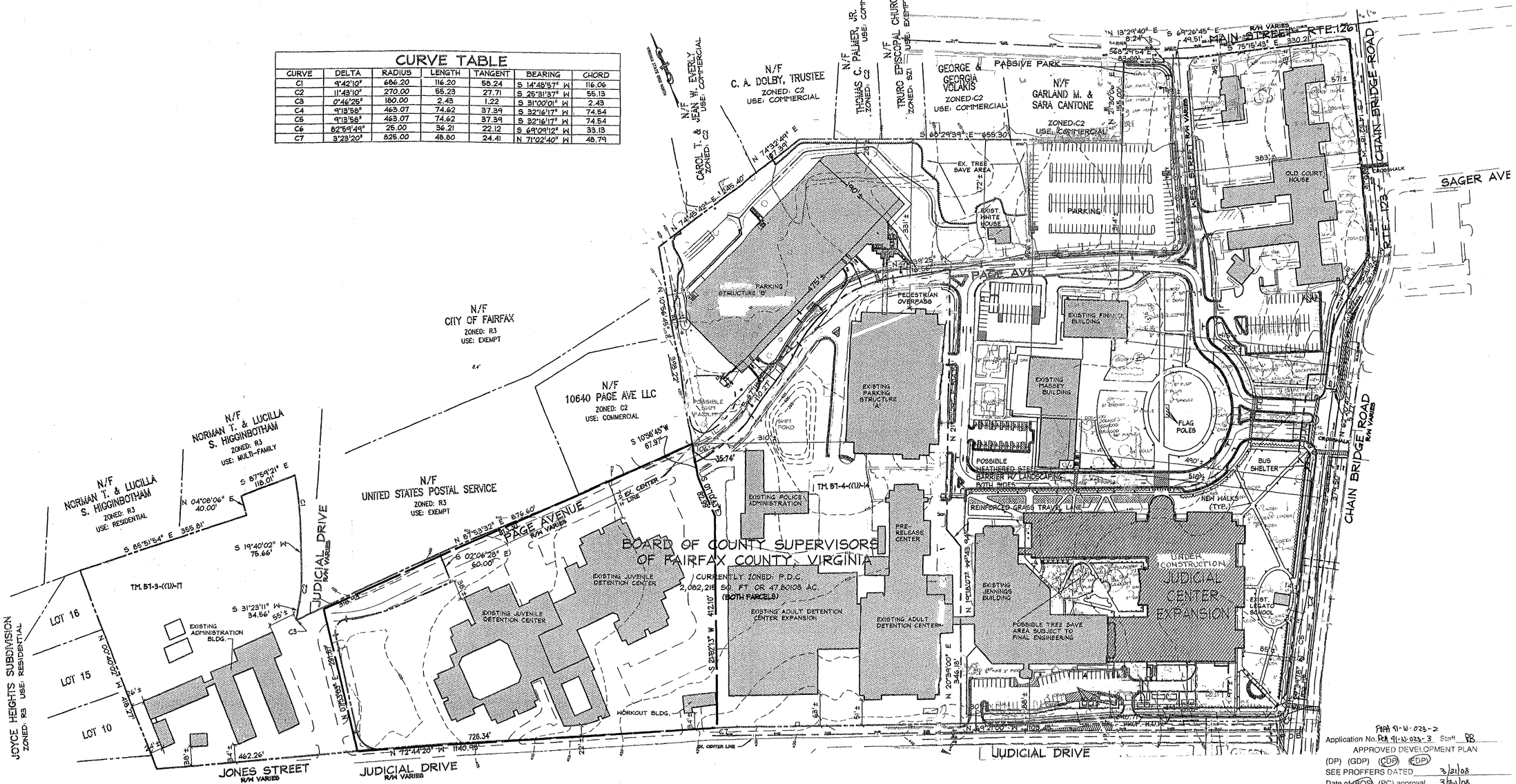
REVISION: 2/14/2008
3/20/2008
SCALE:
DATE: 11-19-07
DRN:
CKD:
SHEET 1 OF 7
FILE NO: 07F-3743-1

LEGEND

- LIMITS OF FDPA
- EXISTING CURB & GUTTER
- EXISTING SIDEWALK
- EXISTING BUILDING
- PROPERTY LINE
- BUILDING UNDER CONSTRUCTION

CURVE TABLE

CURVE	DELTA	RADIUS	LENGTH	TANGENT	BEARING	CHORD
C1	9°42'10"	686.20	116.20	58.24	S 14°48'57" W	116.06
C2	11°43'10"	270.00	55.23	27.71	S 25°31'37" W	55.13
C3	0°46'25"	180.00	2.43	1.22	S 31°00'01" W	2.43
C4	9°13'58"	463.07	74.62	37.39	S 32°16'17" W	74.54
C5	9°13'58"	463.07	74.62	37.39	S 32°16'17" W	74.54
C6	82°59'49"	25.00	36.21	22.12	S 69°09'12" W	33.13
C7	3°23'20"	825.00	48.80	24.41	N 71°02'40" W	48.79



FDPA 91-W-023-2
Application No. PCA 91-W-023-3 Staff PB
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED 3/31/08
Date of (BOS) (PC) approval 3/31/08
Sheet 2 of 7

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PUBLIC SAFETY CENTER
FDPA 91-W-023-2
PCA 91-W-023-3

PROVIDENCE DISTRICT — FAIRFAX COUNTY, VIRGINIA

EXISTING CONDITIONS

COMMONWEALTH OF VIRGINIA
ANN O. GERMAIN
No. 028700
3/20/2008
PROFESSIONAL ENGINEER

REVISION: 2/14/2008
3/20/2008
SCALE: 1" = 100'
DATE: 11-19-07
DRN: NJC
CKD:
SHEET 2 OF 7

FILE NO: 07F-3743-1

FOR INFORMATION ONLY
OVERALL SITE TABULATION

SITE TABULATION

Existing Zoning		PDC
Total Site Area	2,082,215 SF	47.80 Acres
Maximum FAR Permitted		1.5
Proposed FAR		0.79

Existing Building Square Footage

1.	Massey Building and Computer Center	166,777 SF
2.	Adult Detention Center and Pre-Release Center	538,169 SF
3.	Judicial Center (Jennings Building)	228,000 SF
4.	Juvenile Detention Center	77,000 SF
5.	Old Courthouse and Juvenile Holding	148,943 SF
6.	Old Jail	6,743 SF
7.	Finance Building	20,064 SF
8.	Police Administration	27,179 SF
9.	Police Evidence Storage	4,200 SF
10.	School Administration Building and Annex	37,808 SF
11.	Judicial Center Expansion	325,000 SF
12.	Workout Building	1,950 SF
13.	Legato School	600 SF
14.	White House	3,992 SF
TOTAL EXISTING BUILDINGS SF		**1,586,425 SF**

Proposed Facilities

1.	Less Secure Shelter (formerly Youth Residential Addition on earlier FDP)	11,992 SF
2.	Jennings Addition, Phase II	46,758 SF
TOTAL PROPOSED BUILDINGS SF		**58,750 SF**

TOTAL EXIST. + PROP. GROSS BUILDING SF 1,645,175 SF

Open Space		
Required	312,332 SF	15%
Provided	312,332 SF	15% min.

PARKING TABULATION

PARKING TABULATIONS FOR ENTIRE SITE

PARKING REQUIRED

	Square Feet	Spaces Required
OFFICE USES (In accordance with Article 11-104 paragraph 12 of the Zoning Ordinance)		
Old Courthouse	145,000	377
Existing Jennings Building	228,000	593
Jennings Additions, Phase II Buildings	46,758	123
Massey Building and Computer Complex	166,777	434
Finance Building	20,064	73
Workout Building	1,950	7
Police Administration	27,179	98
Old Jail	6,743	25
School Administration and Annex	37,808	136
Judicial Center Expansion	325,000	845
Total Office Uses	1,005,279 Square Feet	
Total Parking Required for Office Uses		2,711 Spaces
PUBLIC USES (In accordance with Article 11-106 paragraph 21 of the Zoning Ordinance)		
Juvenile Holding Facility	3,943	0
Adult Detention Center/Prerelease Center and ADC/PRC Expansions	538,169	196 (staff)
Juvenile Detention Center & Expansion	77,000	73
Police Evidence Storage	4,200	0
Less Secure Shelter	11,992	6
Legato School	600	0
White House	3,992	0
Total Public Uses	639,896 Square Feet	
Total Parking Required for Public Uses		275 Spaces
COUNTY VEHICLE POOL		
Police (Massey Building)	100	
Fire and Rescue (Massey Building)	65	
Office of the Sheriff (Adult Detention Center)	49	
Juvenile Detention Center (Bus)	1	
Total Parking Required for County Vehicle Pool	215 Spaces	

SUMMARY OF OVERALL SITE

Total Office Uses	1,005,279 Square Feet	2,711 Spaces
Total Public Uses	639,896 Square Feet	275 Spaces
Total County Vehicle Pool		215 Spaces
TOTAL PARKING REQUIRED		**3,201 SPACES**

NOTES:
1) Parking distribution shown above for each building may be changed within the site area; however, minimum parking will be provided.
2) See parking tabulation below for parking provided for entire site.

TOTAL PARKING PROVIDED **3,201 SPACES MIN.**
(Includes 46 handicap parking spaces dispersed throughout the site area.)

NOTES:
1. Above parking tabulations are based on a 1994 Parking Analysis included in the Fairfax County Courts Expansion Master Plan dated April 1996; October, 1996 site verification of the parking changes around the Old Courthouse area and Juvenile Detention Center; and Site Plans for the Judicial Center Expansion, Adult Detention and Juvenile Detention Centers.
2. Applicant reserves the right to provide parking in excess of County minimum as long as the open space is not reduced below the proffered amount.

LOADING TABULATIONS FOR ENTIRE SITE

LOADING REQUIRED

	Square Feet	Spaces Required
OFFICE USES (In accordance with Article 11-200 of the Zoning Ordinance)	1,005,279 Square Feet	22 Spaces
PUBLIC USES (In accordance with Article 11-200 of the Zoning Ordinance)	639,896 Square Feet	8 Spaces
COUNTY VEHICLE POOL (In accordance with Article 11-200 of the Zoning Ordinance)		0 Spaces
TOTAL LOADING REQUIRED	**30 SPACES**	

LOADING PROVIDED

TOTAL LOADING PROVIDED **30 SPACES**

BUILDING DATA

BUILDING NAME	ADDRESS	STATUS	DATE OF CONSTRUCTION (START) COMPLETION	BUILDING HEIGHT
Massey Building and Computer Center	4100 Chain Bridge Rd.	Existing (may be removed and replaced)	1971 1986	13 Stories Above Grade 198 Feet
Adult Detention Center and Prerelease Center	10520 Judicial Dr.	Existing (to remain)	1978 1986	7 Stories 100 feet
Judicial Center	4110 Chain Bridge Rd.	Existing (to remain)	1982	6 Stories 83 Feet
Juvenile Detention Center	10650 Page Ave.	Existing (to remain)	1981 1991	1 Story 24 Feet
Old Courthouse and Juvenile Holding Facility	4000 Chain Bridge Rd.	Existing (to remain)	circa 1850, 1929,1953, 1971,1991	3 Stories 49 Feet
Old Jail	10459 Main Street	Existing (to remain)	Unknown	2 Stories
Finance Building	4080 Chain Bridge Rd.	Existing (to remain)	1982	2 Stories
Police Administration	10600 Page Ave.	Existing (to remain)	1961	3 Stories 36 Feet
School Administration Building and Annex	10700 Page Ave.	Existing (to remain)	1959	2 Stories
White House	10530 Page Ave.	Existing (may be removed)	Unknown	1 Story
Workout Building	10604 Judicial Dr.	Existing (to remain)	Unknown	1 Story
Legato School	N/A	Existing (may be relocated post 2001)	Relocated to current site in 1971	1 Story
Police Storage Addition	10600 Page Ave.	Existing (to remain)	1994	2 Stories 22 Feet
Parking Structure A	N/A	Existing (to remain)	1994	5 Stories 65 Feet
Prerelease Center Addition	10520 Judicial Dr.	Existing (to remain)	1997	3 Stories 36 Feet
Juvenile Detention Center Expansion	10650 Page Ave.	Existing (to remain)	1997	1 Story 18 Feet
Less Secure Shelter (formerly called Youth Residential Add'n)	10650 Page Ave.	Proposed	2008	2 Stories 35 Feet
Adult Detention Center Expansion	10520 Judicial Dr.	Existing (to remain)	1995	1 Story 125 Feet Below Grade 9 Stories Above Grade
Judicial Center Expansion	4110 Chain Bridge Rd.	Under Construction	2006	5 Stories w/ Cellar 115 Feet
Parking Structure B	N/A	Existing (to remain)	2001	5 Stories 65 Feet
Parking Structure C	N/A	Proposed	Post 2007	4 Stories 55 Feet

NOTE: THE "LESS SECURE SHELTER" SHOWN IN ALL THE TABULATIONS IS THE SAME STRUCTURE LABELED "YOUTH RESIDENTIAL ADDITION" ON PREVIOUS FDP's.

FDPA 91-W-023-1
Application No. PCA 91-W-023-3 Staff PB
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED 3/21/08
Date of (BOS) (PC) approval 3/31/08
Sheet 3 of 7

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PUBLIC SAFETY CENTER
FDPA 91-W-023-2
PCA 91-W-023-3
FAIRFAX COUNTY, VIRGINIA
PROVIDENCE DISTRICT

OVERALL SITE TABULATION

COMMONWEALTH OF VIRGINIA
ANN O. GERMAIN
No. 028700
3/20/2008
PROFESSIONAL ENGINEER

REVISION: 2/14/2008
3/20/2008
SCALE: N/A
DATE: 11-19-07
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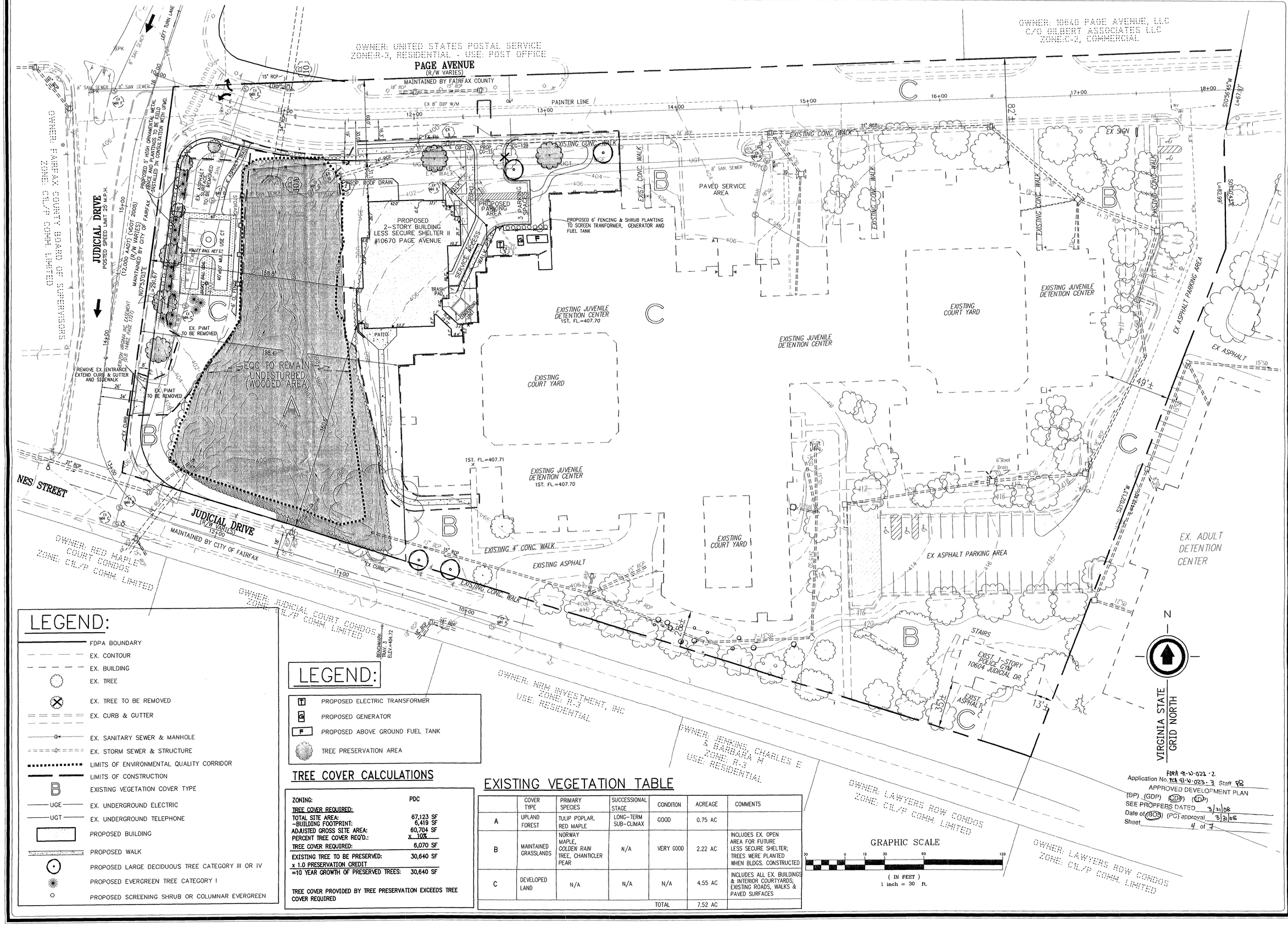
CKD:
SHEET 3 OF 7

FILE NO. 07F-3743-1



LEGEND:

- FDPA BOUNDARY
- EX. CONTOUR
- EX. BUILDING
- EX. TREE
- EX. TREE TO BE REMOVED
- EX. CURB & GUTTER
- EX. SANITARY SEWER & MANHOLE
- EX. STORM SEWER & STRUCTURE
- LIMITS OF ENVIRONMENTAL QUALITY CORRIDOR
- LIMITS OF CONSTRUCTION
- B — EXISTING VEGETATION COVER TYPE
- UGE — EX. UNDERGROUND ELECTRIC
- UGT — EX. UNDERGROUND TELEPHONE
- PROPOSED BUILDING
- PROPOSED WALK
- PROPOSED LARGE DECIDUOUS TREE CATEGORY III OR IV
- PROPOSED EVERGREEN TREE CATEGORY I
- PROPOSED SCREENING SHRUB OR COLUMNAR EVERGREEN

LEGEND:

- T — PROPOSED ELECTRIC TRANSFORMER
- G — PROPOSED GENERATOR
- F — PROPOSED ABOVE GROUND FUEL TANK
- TREE PRESERVATION AREA

TREE COVER CALCULATIONS

ZONING:	PDC
TREE COVER REQUIRED:	
TOTAL SITE AREA:	67,123 SF
-BUILDING FOOTPRINT:	6,419 SF
ADJUSTED GROSS SITE AREA:	60,704 SF
PERCENT TREE COVER REQ'D.:	x 10%
TREE COVER REQUIRED:	6,070 SF
EXISTING TREE TO BE PRESERVED:	30,640 SF
x 1.0 PRESERVATION CREDIT	
=10 YEAR GROWTH OF PRESERVED TREES:	30,640 SF

TREE COVER PROVIDED BY TREE PRESERVATION EXCEEDS TREE COVER REQUIRED

EXISTING VEGETATION TABLE

	COVER TYPE	PRIMARY SPECIES	SUCCESSIONAL STAGE	CONDITION	ACREAGE	COMMENTS
A	UPLAND FOREST	TULIP POPLAR, RED MAPLE	LONG-TERM SUB-CLIMAX	GOOD	0.75 AC	
B	MAINTAINED GRASSLANDS	NORWAY MAPLE, GOLDEN RAIN TREE, CHANTICLER PEAR	N/A	VERY GOOD	2.22 AC	INCLUDES EX. OPEN AREA FOR FUTURE LESS SECURE SHELTER; TREES WERE PLANTED WHEN BLDGS. CONSTRUCTED
C	DEVELOPED LAND	N/A	N/A	N/A	4.55 AC	INCLUDES ALL EX. BUILDINGS & INTERIOR COURTYARDS; EXISTING ROADS, WALKS & PAVED SURFACES
				TOTAL	7.52 AC	

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PUBLIC SAFETY CENTER FDPA 91-W-023-2 PCA 91-W-023-3

FAIRFAX COUNTY, VIRGINIA

PROVIDENCE DISTRICT

SITE PLAN & EXISTING VEGETATION MAP

FDPA 91-W-023-2
Application No. PCA 91-W-023-3 Staff RB
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED 3/21/08
Date of (BOS) (PC) approval 3/31/08
Sheet 4 of 7

COMMONWEALTH OF VIRGINIA
ANN O. GERMAIN
No. 028700
3/20/2008
PROFESSIONAL ENGINEER

REVISION: 2/14/2008
3/20/2008
SCALE: 1" = 30'
DATE: 11-19-07
DRN: NJC
CKD:
SHEET 4 OF 7

FILE NO: 07F-3743-1

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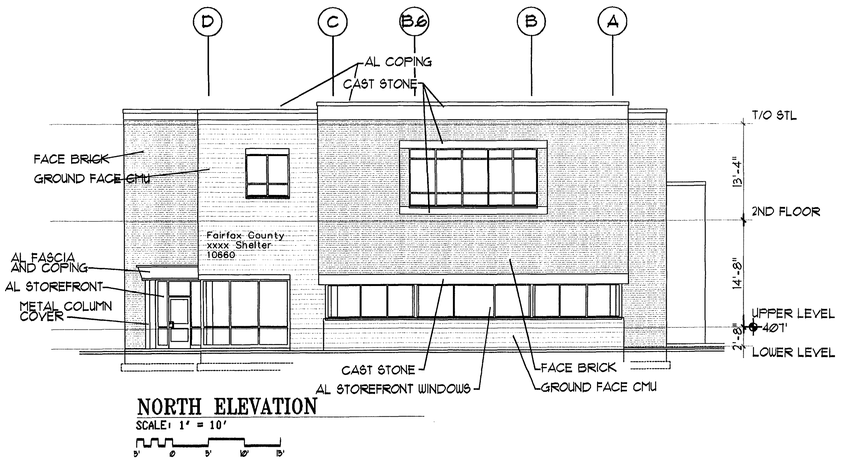
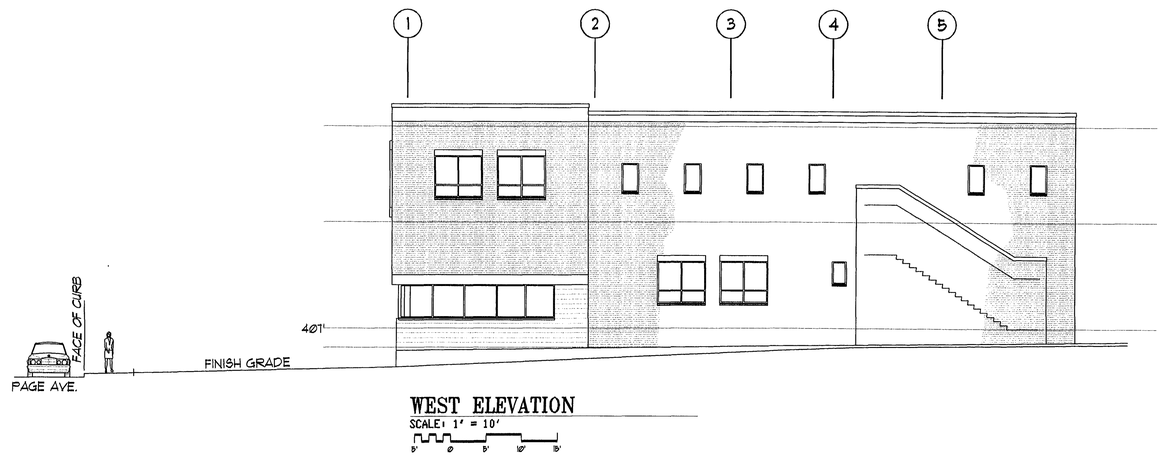


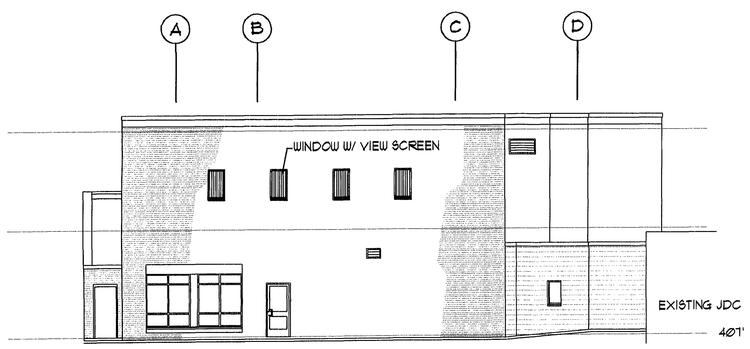
NORTH ELEVATION

SCALE: 1' = 10'



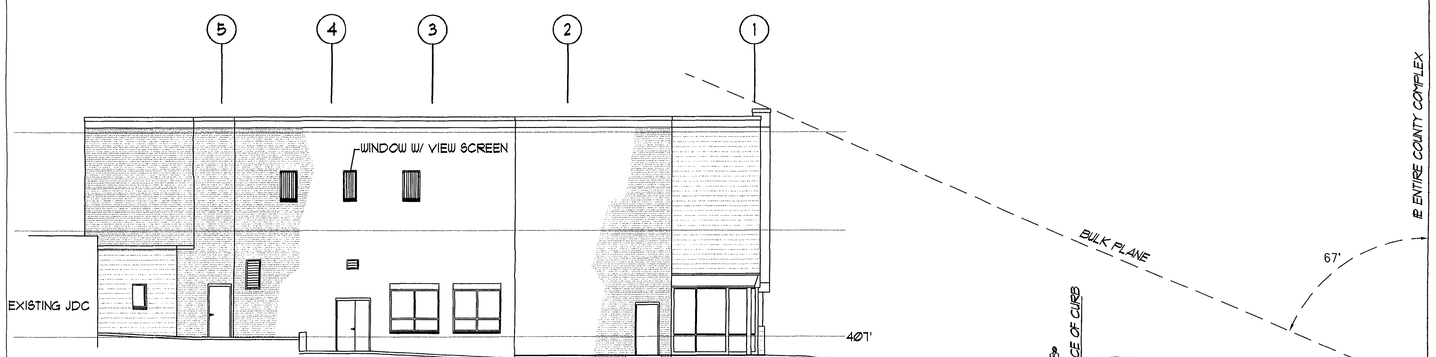
WEST ELEVATION

SCALE: 1' = 10'



SOUTH ELEVATION

SCALE: 1' = 10'



EAST ELEVATION

SCALE: 1' = 10'

NOTE: BUILDING ELEVATIONS BY GAUTHIER, ALVARADO AND ASSOCIATES
105 WEST BROAD STREET
FALLS CHURCH, VIRGINIA 22046
PHONE: 703-241-2202

Fdpa 91-W-023-2
Application No.(s): PCA 91-W-023-3 Sheet 8B
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (CGP)
SEE PROFFERS DATED 3/21/08
Date of (BOS) (PC) approval 3/31/08
Sheet 5 of 7

PACIULLI SIMMONS & ASSOCIATES
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PUBLIC SAFETY CENTER
FDPA 91-W-023-2
PCA 91-W-023-3

PROVIDENCE DISTRICT — FAIRFAX COUNTY, VIRGINIA

BUILDINGS ELEVATIONS & ANGLE OF BULK PLANE

COMMONWEALTH OF VIRGINIA
ANN D. GERMAIN
No. 028700
3/20/2008
PROFESSIONAL ENGINEER

REVISION: 2/14/2008
3/20/2008
SCALE: 1" = 50'
DATE: 11-19-07
DRN: WGH
CKD:
SHEET 5 OF 7
FILE NO: 07F-3743-1

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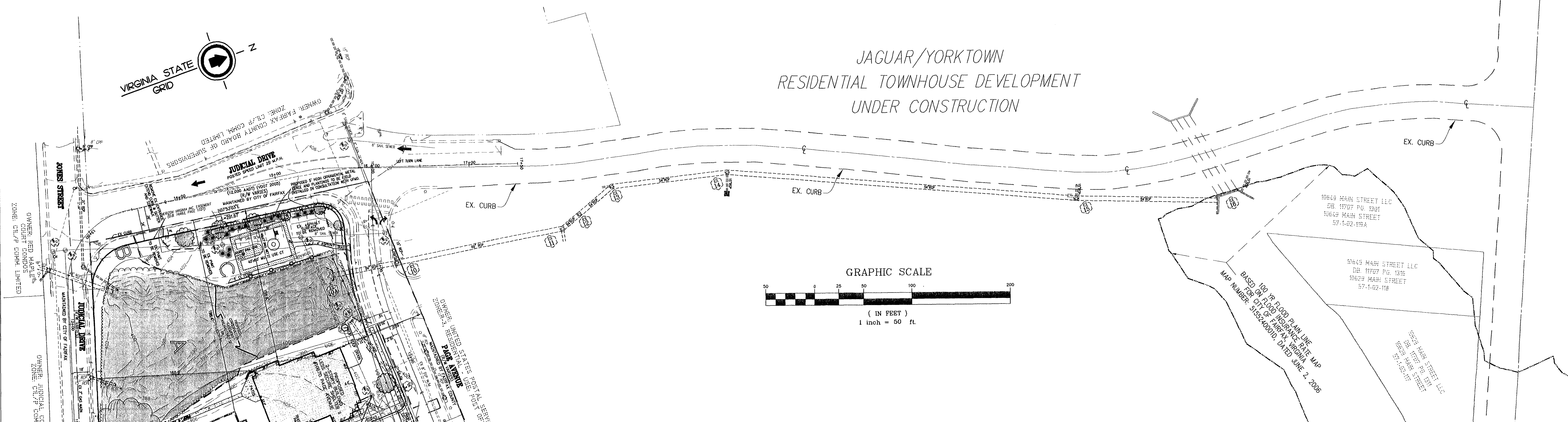


PLAN SHOWING STORM SEWER OUTFALL FOR THE LESS SECURE SHELTER

SCALE: 1" = 50'

NOTE: SEE SHEET 7 FOR DRAINAGE MAP AND STORM SEWER COMPUTATIONS

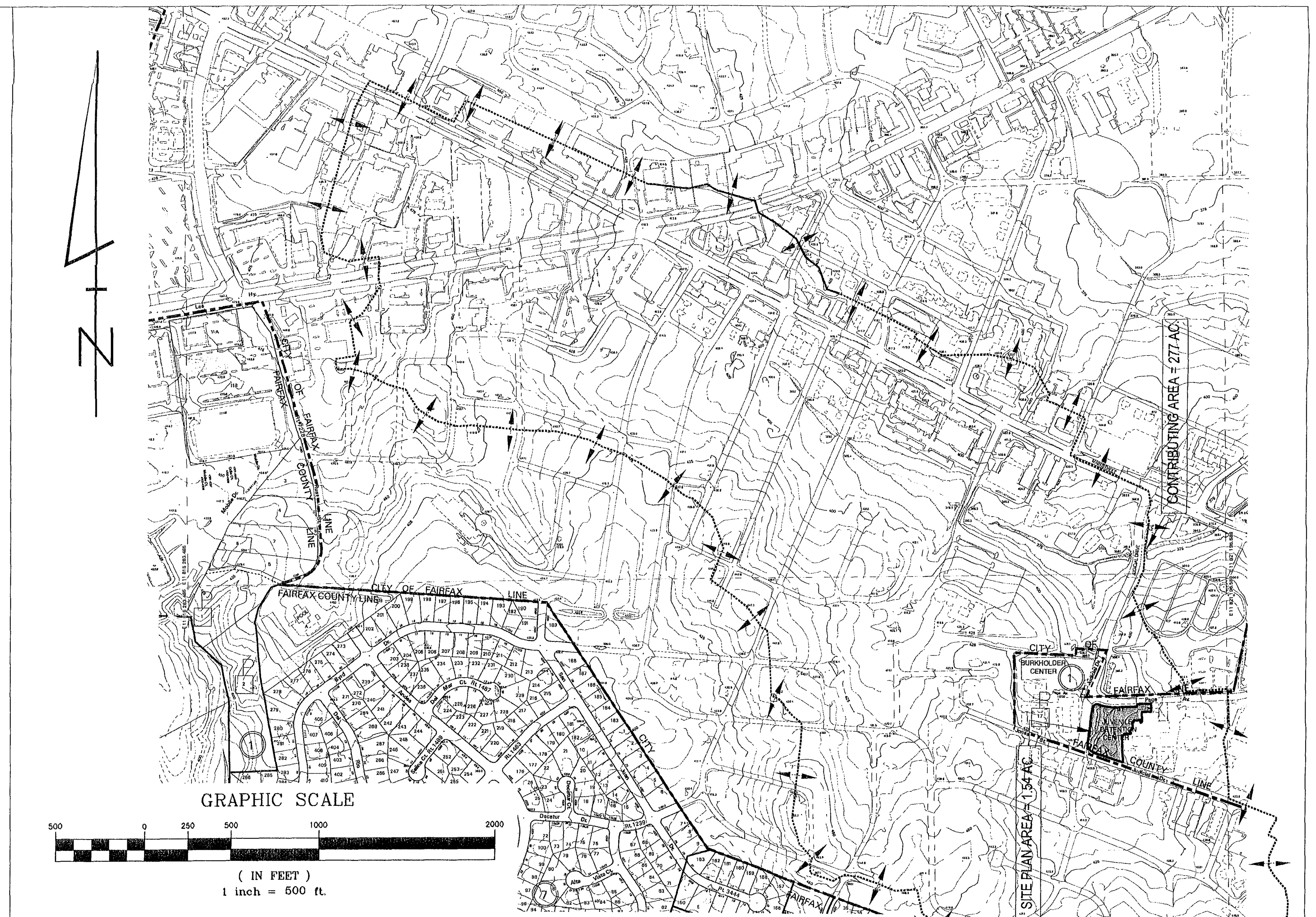
Application No. FDPA 91-W-023-2 PCA 91-W-023-3 Staff PB

(CP) (FDP)

SEE PROFFERS DATED 3/21/08

Date of (BOS) (PC) approval 3/31/08

Sheet 6 of 7



DRAINAGE MAP SHOWING CONTRIBUTING AREA FOR ACCOTINK CREEK AT PAGE AVENUE

SCALE: 1" = 500'

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PUBLIC SAFETY CENTER
FDPA 91-W-023-2
PCA 91-W-023-3

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

STORM SEWER OUTFALL & DRAINAGE MAP FOR ADEQUATE OUTFALL CALCULATIONS

COMMONWEALTH OF VIRGINIA
ANN O. GERMAIN
No. 028700
3/20/2008
PROFESSIONAL ENGINEER

REVISION: 2/14/2008
3/20/2008
SCALE: AS NOTED
DATE: 11-19-07
DRN:
CKD:
SHEET 6 OF 7

FILE NO: 07F-3743-1

EXISTING STORM SEWER COMPUTATIONS FOR OUTFALL FROM THE PROPOSED LESS SECURE SHELTER SITE:

STORM SEWER COMPUTATIONS

FROM STRUCTURE	TO STRUCTURE	INC. AREA ACRES	tc	INT.	c	Increm. CA	Accum. CA	SUB-AREA RUNOFF CFS	TOTAL RUNOFF CFS	LENGTH IN FEET	SLOPE %	TYPE OF PIPE	MANNINGS "n"	DIAMETER OF PIPE (in)	VEL. FULL FT/SEC	CAPACITY	Q/Qcap	Velocity factor	PRO. VEL. FT/SEC	MISC. LOSSES	INV. ELEV. UPPER END (ft)	INV. ELEV. LOWER END (ft)
10A	10	58.19	10	5.92	0.58	33.75	33.75	199.80	199.80	67.4	2.09%	RCP	0.013	54	17.93	285.11	0.70	1.08	19.36		389.55	388.14
10	11	0.64	10	5.92	0.9	0.58	34.33	3.41	203.21	173.1	1.36%	RCP	0.013	60	15.49	304.24	0.67	1.07	16.58		387.99	385.64
11	12	1.81	10	5.92	0.85	1.54	35.86	9.11	212.32	22.7	2.07%	RCP	0.013	60	19.15	376.01	0.56	1.03	19.72		385.58	385.11
12	13	0	10	5.92	0.85	0.00	35.86	0.00	212.32	43.4	0.83%	RCP	0.013	60	12.12	237.90	0.89	1.13	13.69		384.95	384.59
13	14	3.59	10	5.92	0.73	2.62	38.49	15.51	227.83	119.0	1.34%	RCP	0.013	54	14.33	227.88	1.00	1.14	16.33		383.62	382.03
14	15	0.64	10	5.92	0.3	0.19	38.68	1.14	228.97	357.3	1.61%	RCP	0.013	54	15.75	250.56	0.91	1.13	17.80		381.49	375.72
15	16	1.34	10	5.92	0.52	0.70	39.37	4.13	233.10	143.6	1.79%	RCP	0.013	54	16.59	263.79	0.88	1.13	18.74		370.77	368.20

Culvert Analysis – Culvert 10A, 10, YEAR FREQUENCY STORM

Entered Data:

Shape ..... 54" Circular R.C.P.
Number of Barrels 1
Solving for ..... Headwater
Chart Number 1
Scale Number 1
Chart Description ..... CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
Scale Description ..... SQUARE EDGE ENTRANCE WITH HEADWALL
Overtopping ..... Off
Flowrate ..... 198.26 cfs
Manning's n 0.013
Roadway Elevation ..... 401.50 ft
Inlet Elevation ..... 389.55 ft
Outlet Elevation ..... 388.14 ft
Diameter ..... 4.50 ft
Length ..... 67.44 ft
Entrance Loss 0.00
Tailwater ..... 3.00 ft

Computed Results:

Headwater ..... 398.70 ft Inlet Control
Slope ..... 0.0209 ft/ft
Velocity ..... 19.33 fps

Culvert Analysis – Culvert 10A, 100, YEAR FREQUENCY STORM

Entered Data:

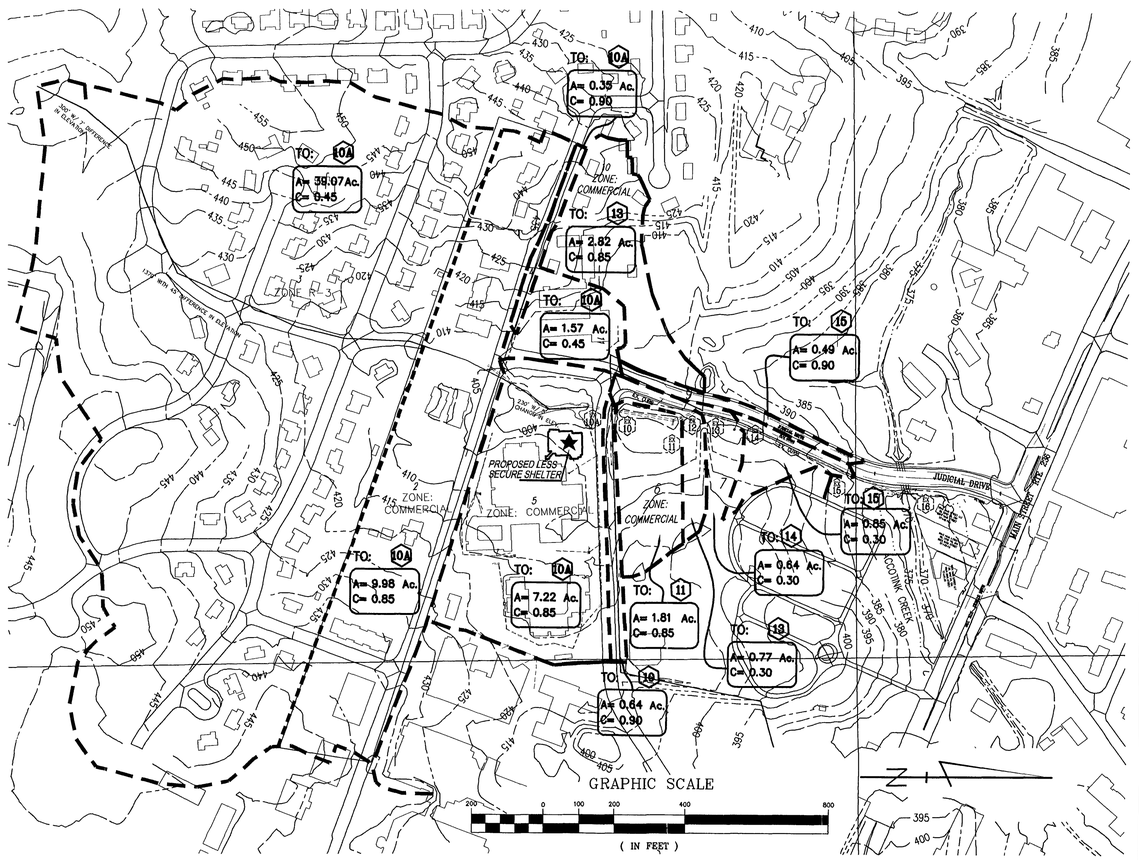
Shape ..... 54" Circular R.C.P.
Number of Barrels 1
Solving for ..... Headwater
Chart Number 1
Scale Number 1
Chart Description ..... CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
Scale Description ..... SQUARE EDGE ENTRANCE WITH HEADWALL
Overtopping ..... On
Flowrate ..... 271.27 cfs
Manning's n 0.013
Roadway Elevation ..... 400.00 ft
Inlet Elevation ..... 389.55 ft
Outlet Elevation ..... 388.14 ft
Diameter ..... 4.50 ft
Length ..... 67.44 ft
Entrance Loss 0.00
Tailwater ..... 3.00 ft

Computed Results:

Headwater ..... 400.00 ft
Slope ..... 0.0209 ft/ft
Velocity ..... NA

DRAINAGE MAP FOR ANALYSIS OF OUTFALL

SCALE: 1" = 200'



PRELIMINARY STORMWATER MANAGEMENT NARRITIVE:

EXISTING SITE CONDITIONS AND PROPOSED IMPROVEMENTS:
The FDPA site area consists of 7.52 acres of land. The majority of the site is developed and consists of the Juvenile Detention Center, parking and other related improvements. The proposed addition of the Less Secure Shelter is limited to the westerly portion of the site between the existing Juvenile Detention Center building and Judicial Drive. The proposed site plan area for development of the Less Secure Shelter is 1.54 acres and this new construction area is the area of focus for this stormwater management narrative. The site (1.54 acres) has an existing paved parking area adjacent to Judicial Drive. This parking area will be removed and a smaller multi-use court installed. There is a wooded area with a small un-named stream through the central part of the site. This stream has a contributing drainage area of 58 acres.

DESCRIPTION OF EXISTING DETENTION AND BEST MANAGEMENT PRACTICES
1(a). The existing wooded area adjacent to the stream shall be preserved and a conservation easement will be provided to protect this area from future disturbance. This wooded area accounts for more than 40 % of the site plan area and provides the required phosphorus removal credit to meet water quality/BMP requirements. The area east of the proposed conservation easement to the existing Juvenile Detention Center is currently lawn area and is the proposed location of the Less Secure Shelter building and a three car parking area. Primary parking for this site was previously provided in the existing parking garage on the northerly side of Page Avenue. Stormwater management was provided for the Less Secure Shelter as part of the "Massey Building SWM/BMP Pond Retrofit" a public improvement plan identified by County Number: 8422-PI-02-3. The existing detention facility serving this site is an extended dry pond and is located approximate 800' east of the proposed Less Secure Shelter on the south side of Page Avenue. The impervious area created by the three car parking lot and the proposed recreation area is balanced by the removal of an existing fourteen (14) car parking area, so that no additional impervious area is created with this plan, over that originally provided for with public improvement plan 8422-PI-02-3. A drainage map on this sheet is provided to illustrate the contributing area passing through this site.

Change in stormwater runoff:

Pre-development runoff from the site
Pre-development site plan area = 67,123 s.f. or 1.54 acres

Runoff coefficient:
Existing Impervious area, (parking area, walks, etc.)= 8,494 s.f. or 0.21 acres; C2 & C10=0.90

Lawn area = 31,062 s.f. or 0.71 acres; C2 & C10=0.30

Wooded area adjacent to stream (EQC) = 27,567 s.f. or 0.63 acres; C2 =0.15, C10=0.30

C2 (Wt.) = (0.90 x 0.20) + (0.30 x 0.71) + (0.15 x 0.63) / 1.54 = 0.32

C10 (Wt.) = (0.90 x 0.20) + (0.30 x 0.71) + (0.30 x 0.63) / 1.54 =0.38

Time of concentration: Use Tc = 5.0 minutes; I2 = 5.45, I10 = 7.27

Q2 = 3.58 c.f.s. Q10 = 4.25 c.f.s.

Post-development runoff from the site;
Runoff coefficient:
Post-development site plan area = 67,123 s.f. or 1.54 acres

The impervious (building) area graphically indicated for the Less Secure Shelter on for rezoning case RZ 94-W-023 was 5,050 s.f.

Proposed impervious area, (building, parking area, walks, etc.)= 14,188-5,050 s.f. = 9,138 s.f. or 0.21 acres; C2 & C10=0.90

Lawn area = 25,368 + 5,050=30,438 s.f. or 0.70 acres; C2 & C10=0.30

Wooded area adjacent to stream (EQC) = 27,567 s.f. or 0.63 acres; C2 =0.15, C10=0.30

C2 (Wt.) = (0.90 x 0.21) + (0.30 x 0.70) + (0.15 x 0.63) / 1.54 = 0.32

C10 (Wt.) = (0.90 x 0.21) + (0.30 x 0.70) + (0..30 x 0.63) / 1.54 =0.38

Time of concentration: Use Tc = 5.0 minutes; I2 = 5.45, I10 = 7.27

Q2 = 3.58 c.f.s. Q10 = 4.25 c.f.s.

No Increase runoff due to site development;
Q2 = 3.58 - 3.58 = 0.00 c.f.s. Increase
Q10 = 4.25 - 4.25 = 0.00 c.f.s. Increase

Therefore, because there is no incresase in runoff for storms of two and ten year frequency and the water quality requirements have been satisfied by providing the required 40% "Natural Open Space" as outlined in table 6.3 of the County Public Facilities Manual. No additional water quality controls are required.

1(b). DESCRIPTION OF OUTFALL;
General description of drainage pattern;
Drainage on the FDPA site is split in two primary patterns that combine at the 54" culvert draining under Page Avenue.

1. Drainage from the southerly portion of the site is collected from the roof area, a series of inlets and culverts. This runoff is discharged into a small-unnamed stream that begins on the northerly side of Judicial Drive. The collected storm drainage then flows initially in two distinct channels that combine into a single channel after approximate 150'. The combined channel then carries drainage an additional 100' feet where the it is conveyed in an existing storm sewer system under Page Avenue into Fairfax City.
2. Drainage from the northerly portion of the site is collected from the roof area and a series of inlets and is discharged into the same small-unnamed stream adjacent to a 54" culvert on the southerly side of Page Avenue.
Drainage is conveyed through the U.S. Post Office site and along the easterly side of Judicial Drive by a series of 54" and 60" storm sewer pipes. Stormwater is then discharged into Accotink Creek on the easterly side of Judicial Drive. Accotink Creek's drainage travels in a northeasterly direction from this point along the northerly boundary of the Fairfax Cemetery until it crosses Main Street, Route #236 and continues in a northerly direction in the existing Accotink Creek channel.

1(c). DESCRIPTION OF HOW ADEQUATE OUT FALL REQUIREMENTS WILL BE SATISFIED;
The existing outfall from the Less Secure Shelter site is a series of 54" and 60" storm sewers that conveys storm drainage through the U.S. Post Office site and along the easterly side of Judicial Drive. The storm sewer system has adequate capacity for storms of 10-year frequency. Stormwater is then discharged into Accotink Creek on the easterly side of Judicial Drive. Overland relief for storms of greater intensity is available by flow along Judicial Drive to Accotink Creek. A tabular chart is provided on this sheet to indicate that the storm sewer has adequate capacity for storm of 10 year frequency.
Accotink Creek at Page Avenue has contributing area drainage of 277 acres. The contributing area at this point in the water shed is 180 times the area of the proposed site plan area (1.54 ac.). See the drainage map for Accotink Creek on sheet 6. Based on the Fairfax County Public Facilities Manual, 6-0203.2 & 6-0203.2B " The extent of the review of the downstream drainage system shall be: "To a point at which the total drainage area is at least 100 times greater than the contributing drainage area of the development site".
Therefore the requirement for review of the down stream drainage system has been satisfied.

FDPA 91-W-023-2
Application No. PCA 91-W-023-3 Staff RS
APPROVED DEVELOPMENT PLAN
(DP) (GDP) CDP FDP
SEE PROFFERS DATED 3/21/08
Date of BOS (PC) approval 3/31/08
Sheet 7 of 7

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PCA 91-W-023-3
FAIRFAX COUNTY, VIRGINIA
PROVIDENCE DISTRICT

DRAINAGE MAP FOR ANALYSIS OF OUTFALL & STORMWATER MANAGEMENT NARRATIVE

COMMONWEALTH OF VIRGINIA
ANN O. GERMAIN
No. 028700
3/20/2008
PROFESSIONAL ENGINEER

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FILE NO: 07F-3743-1

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