



Survey Control

Reference and Recovery Data

George Mason University

Fairfax East Campus

Fairfax, Virginia



Prepared For:

George Mason University

4400 University Drive

Fairfax, Virginia 22030

Prepared By:

christopher consultants, ltd.

9301 innovation drive

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Synopsis

Provide the initial thirty-two (32) inter-visible control points surrounding the George Mason University Fairfax's East Campus. Control Points to be set around the exterior limits of the campus and include a cross loop through the center of the campus. Each monument is to be inter-visible with two adjacent monuments.

ccl was contracted in April 2012 provided control points as described. Each point consisted of a 3" aluminum rounded disk with a machined graphic of the GMU brand logo and a punch-scribed identification name on each. Each aluminum disk was molded into a 4" x 4" x 2' long concrete encasement and each was placed by hand into hand-dug holes and were compacted flush to the finished grade. The control network was established using convention traverse methods with a Leica TCR 405 series total station for the horizontal positional qualities. Each station was traversed through with a mean angle and distance collected through four sets of angle turns to form a closed loop. Elevations were established on each monument through a closed bench loop using a Leica DNA 03 Digital Level to establish elevations. On GPS selected monuments, four Leica GPS 1200 systems in static sessions over a one day period. Session times ranged between twenty to twenty five minutes depending on vector distance and each GPS unit was set to a 15° mask angle and to record on a 15 second interval.

Control network was referenced to the National Geodetic Control Network utilizing four (4) First Order Horizontal and Third Order Vertical Monuments. Control network was further referenced to the Project control network specific to George Mason University utilizing eight (8) onsite christopher consultants control points.

Adhering to FGDC-STD-007.4-2002, Standards for Architecture, Engineering, Construction (A/E/C) and Facility Management of the Geospatial Position Accuracy Standards, as published by the Federal Geographic Data Committee of the U.S. Geological Survey, the network quality able to achieved was:

- | | |
|--------------|----------------------------------|
| ○ Horizontal | Second-Order, Class I (1:50,000) |
| ○ Vertical | First-Order, Class I |

Contents of Report

1.) Overall Site Map

Delineates the location of each control point set in relation to the site limits.
Vector delineation shown to show overall geometry of network.

2.) Recovery Datasheets

FX Points 1 through 36. Denotes adjusted horizontal and vertical data of each point within the GPS Network. Data shown includes GRID Coordinates, WORLD Coordinates and PROJECT Coordinates. Datasheets also provide Location Sketch of each point to physical features adjacent to set points.



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Addendum #1

Date: August 19, 2012

In August of 2012 CCL revisited the Fairfax campus to install the remainder of the Geodetic control monuments that were now accessible due to the completion of construction on Aquia River Lane. Adhering to all in place control network standards, CCL installed and coordinated the last four Geodetic monuments in the control network and arrived at a final overall network solution, hereon referred to as the August 2012 adjustment, for the GMU Fairfax East Campus. The August 2012 adjustment incorporating ; two interior cross loops, the perimeter traverse and being constrained to four NGS passive monuments is to supersede all previous published solutions.

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Addendum #2

Date: February 16, 2017

In February 2017, christopher consultants computed a vertical transformation for all control points for additional reference. Utilizing Corpcon version 6.0.1, existing control point elevations were converted from vertical datum NAVD 88 (Geoid 03) to NGVD 29 (Geoid 03). The table provided below shows the adjusted elevations.

Control Point	NAVD 88	NGVD29
FX-01	423.90	424.68
FX-02	423.49	424.27
FX-03	425.71	426.49
FX-04	421.72	422.50
FX-05	430.39	431.16
FX-06	437.80	438.57
FX-07	449.56	450.33
FX-08	458.06	458.83
FX-09	462.94	463.71
FX-10	461.90	462.68
FX-11	450.94	451.72
FX-12	430.00	430.78
FX-13	416.81	417.59
FX-14	409.56	410.34
FX-15	401.42	402.20
FX-16	392.50	393.28
FX-17	383.90	384.68
FX-18	388.56	389.34
FX-19	387.82	388.60
FX-20	380.07	380.85

Control Point	NAVD 88	NGVD29
FX-21	393.28	394.06
FX-22	403.65	404.43
FX-23	406.71	407.49
FX-24	413.77	414.55
FX-25	438.70	439.48
FX-26	416.68	417.46
FX-27	434.46	435.24
FX-28	445.27	446.05
FX-29	437.91	438.69
FX-30	441.50	442.28
FX-31	445.61	446.39
FX-32	460.77	461.55
FX-34	433.14	433.92
FX-35	416.39	417.17
FX-36	405.00	405.78
FX-37	433.74	434.52



Addendum #3

Date: September 5, 2018

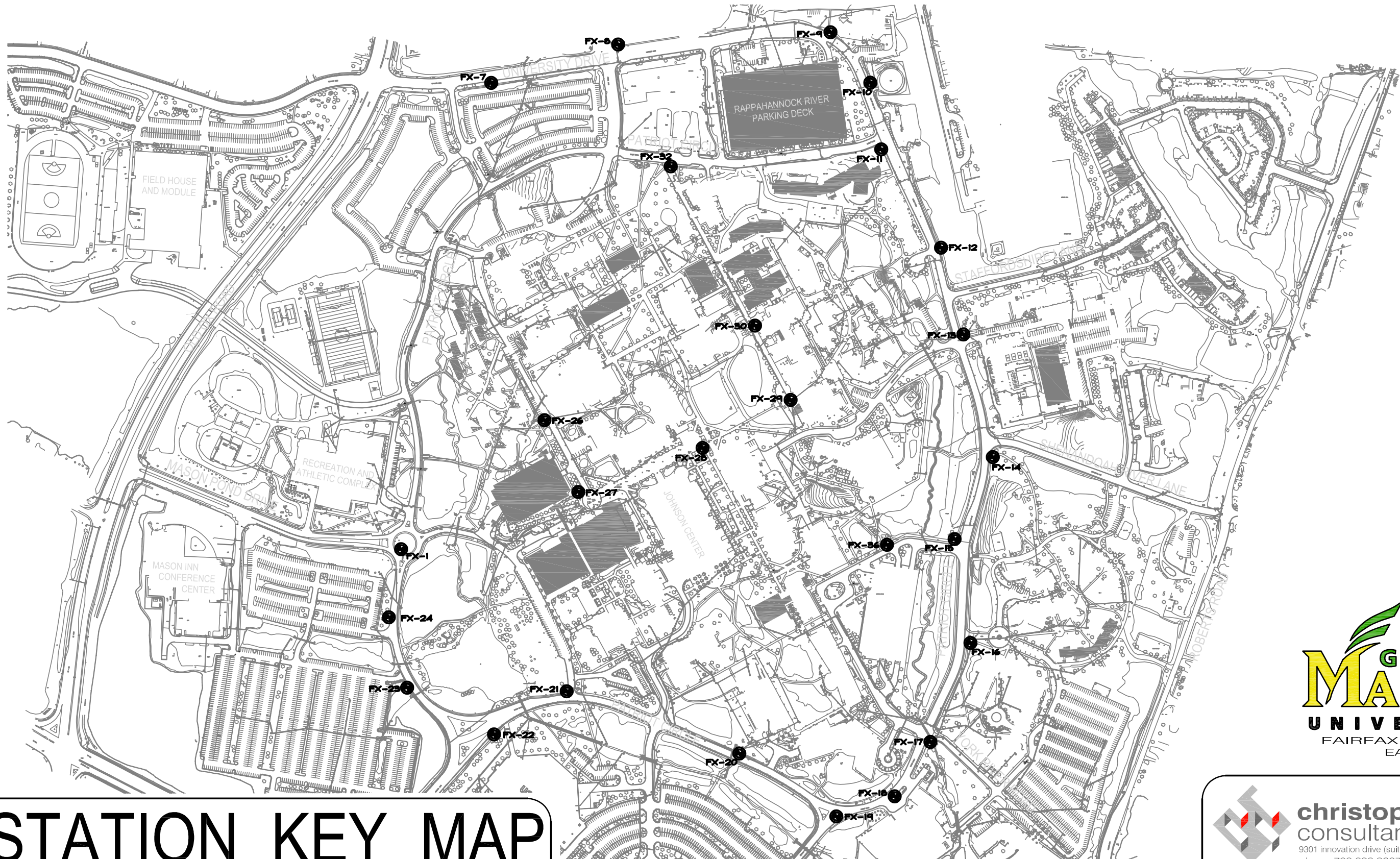
In August 2018, christopher consultants performed a current GPS survey to transform all existing vertical control to the NAVD 88, (Geoid 12B) datum. The table provided below shows the adjusted elevations. Monuments noted below as destroyed are no longer in place.

Control Point	NAVD 88 (Geoid 12B)
FX-1	424.24
FX-2	Destroyed
FX-3	Destroyed
FX-4	Destroyed
FX-5	Destroyed
FX-6	Destroyed
FX-7	449.90
FX-8	458.40
FX-9	463.28
FX-10	462.24
FX-11	451.28
FX-12	430.34
FX-13	417.15
FX-14	409.90
FX-15	401.76
FX-16	392.84
FX-17	384.24
FX-18	388.90

Control Point	NAVD 88 (Geoid 12B)
FX-19	388.16
FX-20	380.41
FX-21	393.62
FX-22	403.99
FX-23	407.05
FX-24	414.11
FX-25	Destroyed
FX-26	419.02
FX-27	434.80
FX-28	445.61
FX-29	438.25
FX-30	441.84
FX-31	Destroyed
FX-32	461.11
FX-34	Destroyed
FX-35	Destroyed
FX-36	405.34
FX-37	Destroyed

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GEODETIC SURVEY CONTROL



STATION KEY MAP



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GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,987,413.234

GRID EASTING:

11,821,460.787

LATITUDE:

38°49'47.03713" N

LONGITUDE:

77°18'41.64133" W

GMU PROJECT NORTHING:

6,987,413.353

GMU PROJECT EASTING:

11,821,460.721

CONVERGENCE (): \ominus 00°44'30.2"

COMBINED FACTOR: 0.999939933

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

424.24

PHOTO AT STATION:



STATION DESIGNATION

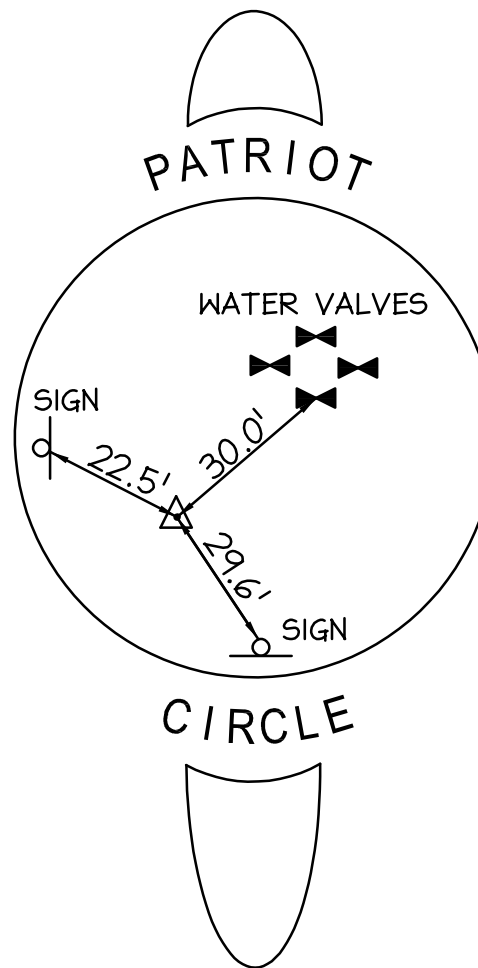
FX-01

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

LOCATION SKETCH

(NOT TO SCALE)



MONUMENT:
4" x 4" x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012



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PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

GEORGE MASON UNIVERSITY

GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,989,346.774

GRID EASTING:

11,821,835.144

LATITUDE:

38°50'06.10020" N

LONGITUDE:

77°18'36.59423" W

GMU PROJECT NORTHING:

6,989,347.010

GMU PROJECT EASTING:

11,821,835.101

CONVERGENCE (): \ominus 00°44'33.4"

COMBINED FACTOR: 0.999939051

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

449.90

PHOTO AT STATION:



FX-07

STATION DESIGNATION

FX-07

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

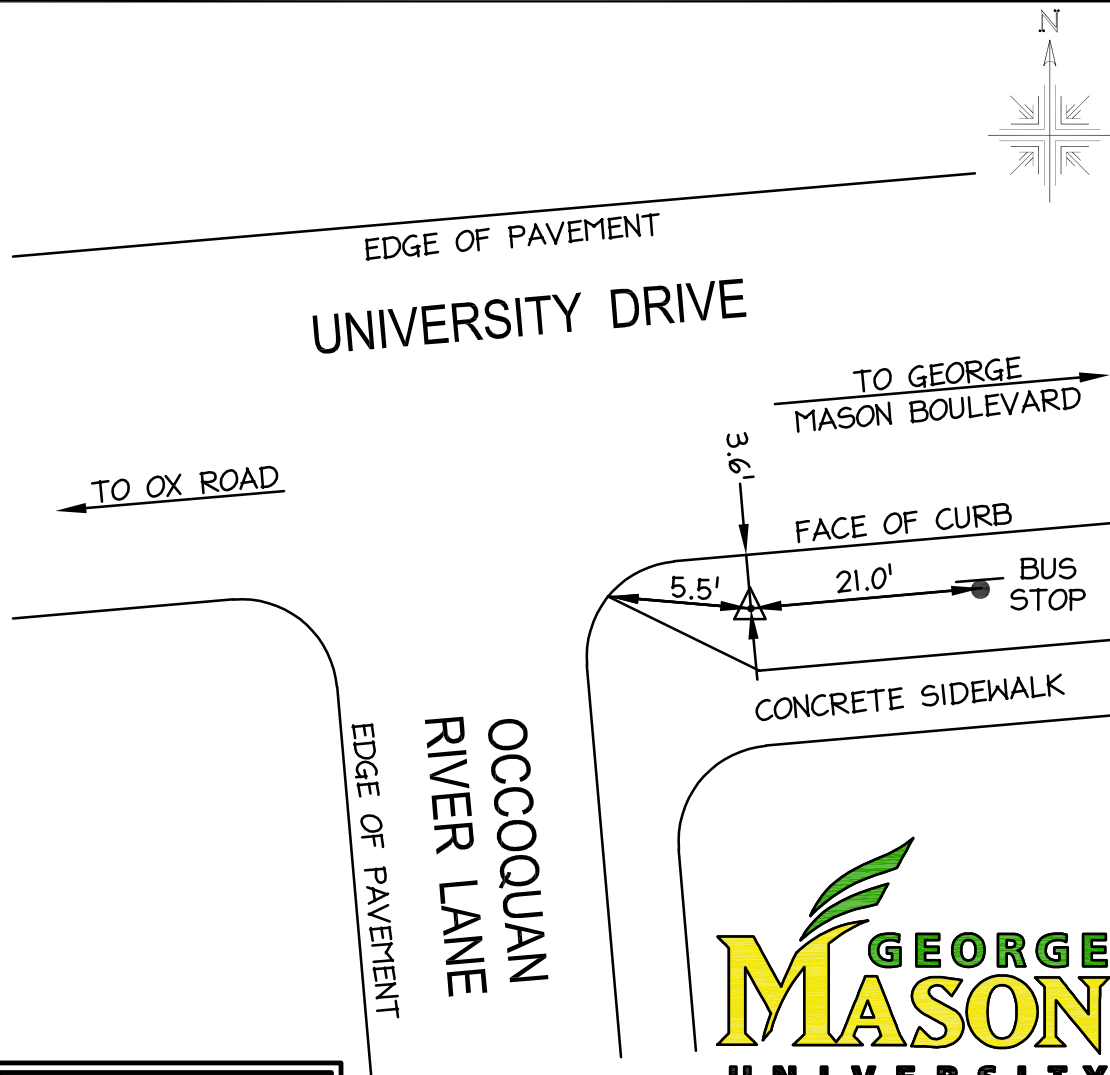
MONUMENT:
4" x 4" x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
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DATE : 9/4/18
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LOCATION SKETCH

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GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,989,506.033

GRID EASTING:

11,822,361.555

LATITUDE:

38°50'07.60682" N

LONGITUDE:

77°18'29.91583" W

GMU PROJECT NORTHING:

6,989,506.278

GMU PROJECT EASTING:

11,822,361.543

CONVERGENCE (): \ominus 00°44'37.5"

COMBINED FACTOR: 0.999938672

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

458.40

PHOTO AT STATION:



STATION DESIGNATION

FX-08

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

MONUMENT:

4" x 4" x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

LOCATION SKETCH

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GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,989,557.165

GRID EASTING:

11,823,241.529

LATITUDE:

38°50'07.99914" N

LONGITUDE:

77°18'18.78710" W

GMU PROJECT NORTHING:

6,989,557.413

GMU PROJECT EASTING:

11,823,241.571

CONVERGENCE (): \ominus 00°44'44.5"

COMBINED FACTOR: 0.999938446

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

463.28

PHOTO AT STATION:



STATION DESIGNATION

FX-09

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

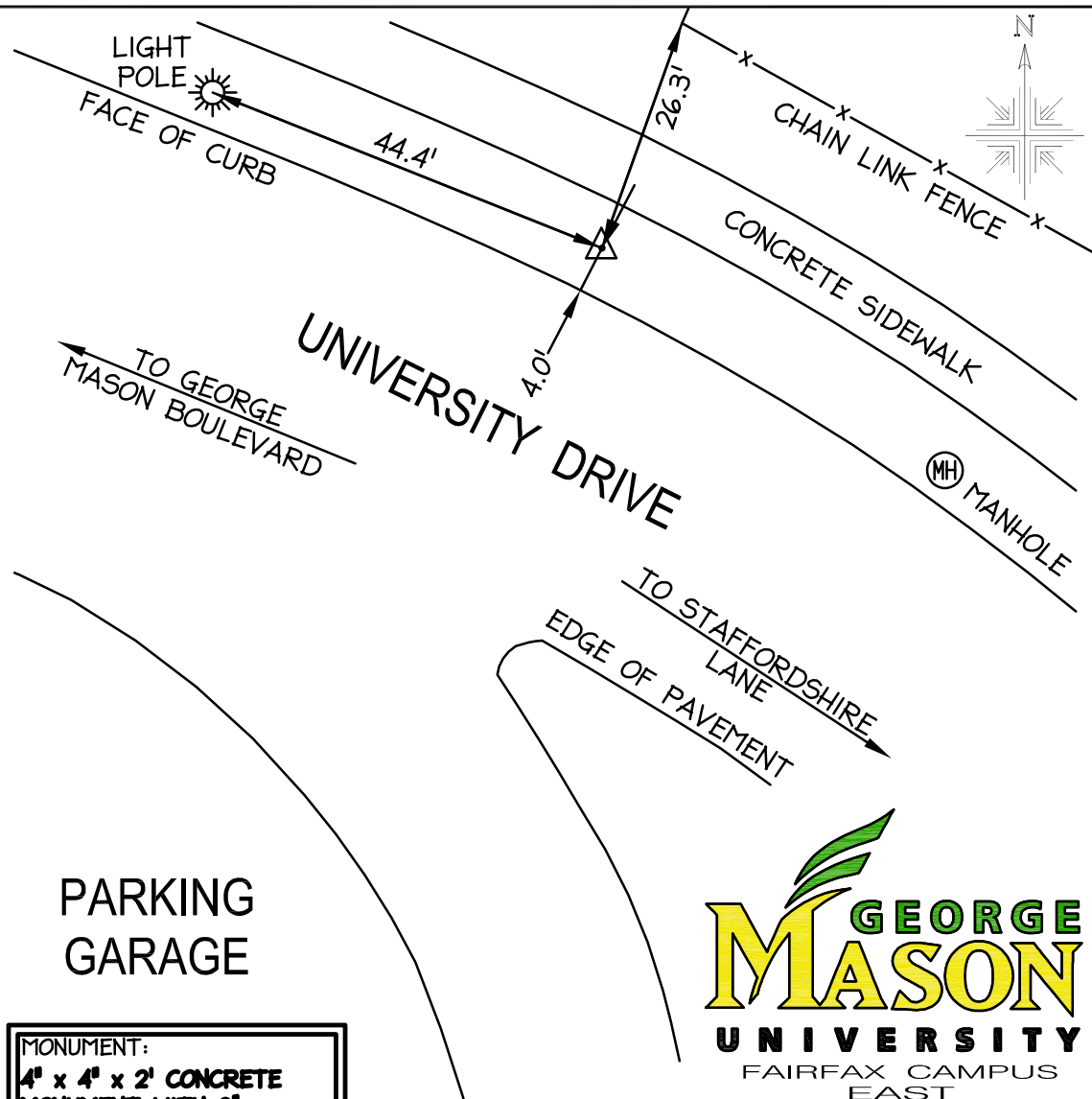
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4" x 4" x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

LOCATION SKETCH

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GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,989,347.439

GRID EASTING:

11,823,407.078

LATITUDE:

38°50'05.90493" N

LONGITUDE:

77°18'16.72955" W

GMU PROJECT NORTHING:

6,989,347.675

GMU PROJECT EASTING:

11,823,407.129

CONVERGENCE (): \ominus 00°44'45.7"

COMBINED FACTOR: 0.999938457

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

462.24

PHOTO AT STATION:



STATION DESIGNATION

FX-10

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

MONUMENT:

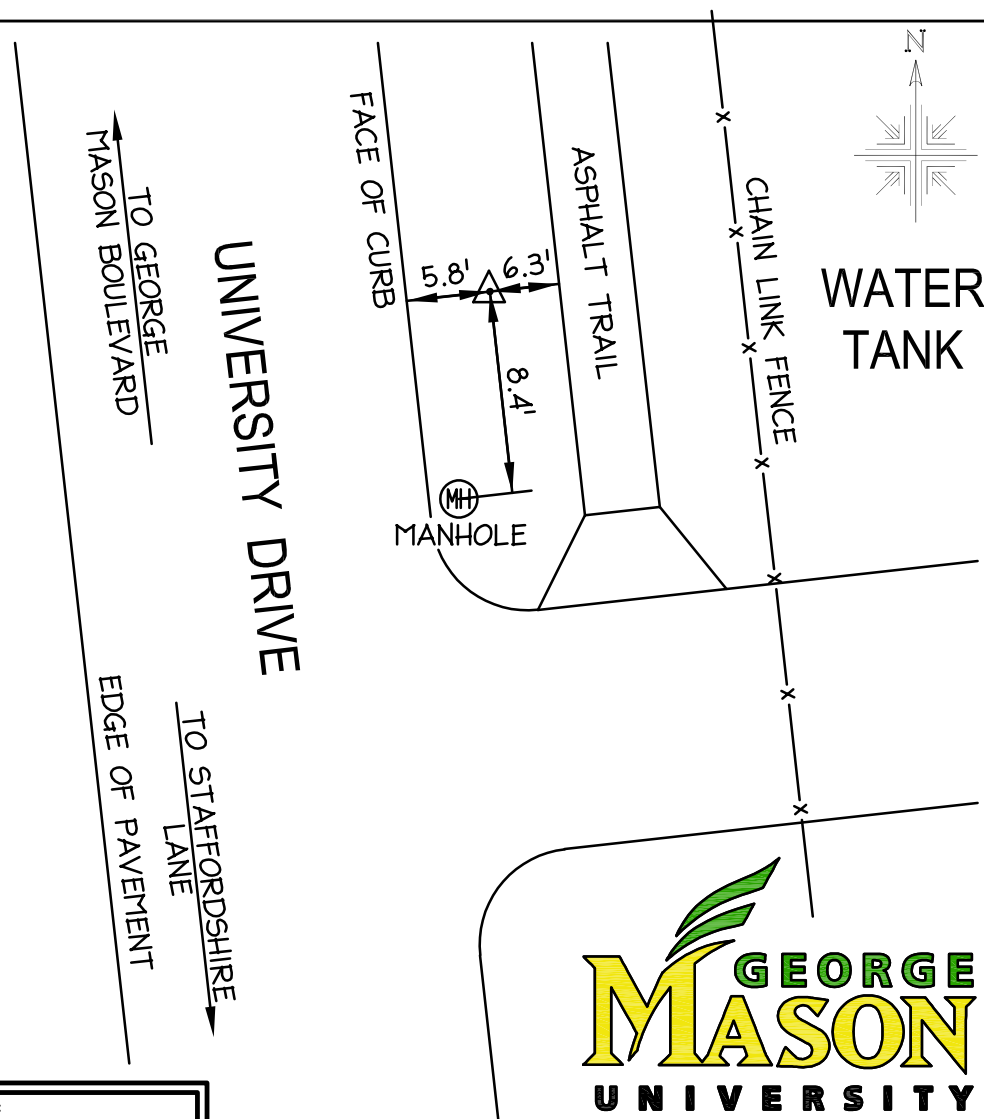
4" x 4" x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

LOCATION SKETCH

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GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,989,070.988

GRID EASTING:

11,823,452.037

LATITUDE:

38°50'03.16672" N

LONGITUDE:

77°18'16.20690" W

GMU PROJECT NORTHING:

6,989,071.207

GMU PROJECT EASTING:

11,823,452.091

CONVERGENCE (): \ominus 00°44'46.1"

COMBINED FACTOR: 0.999938932

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:
451.28

PHOTO AT STATION:



STATION DESIGNATION

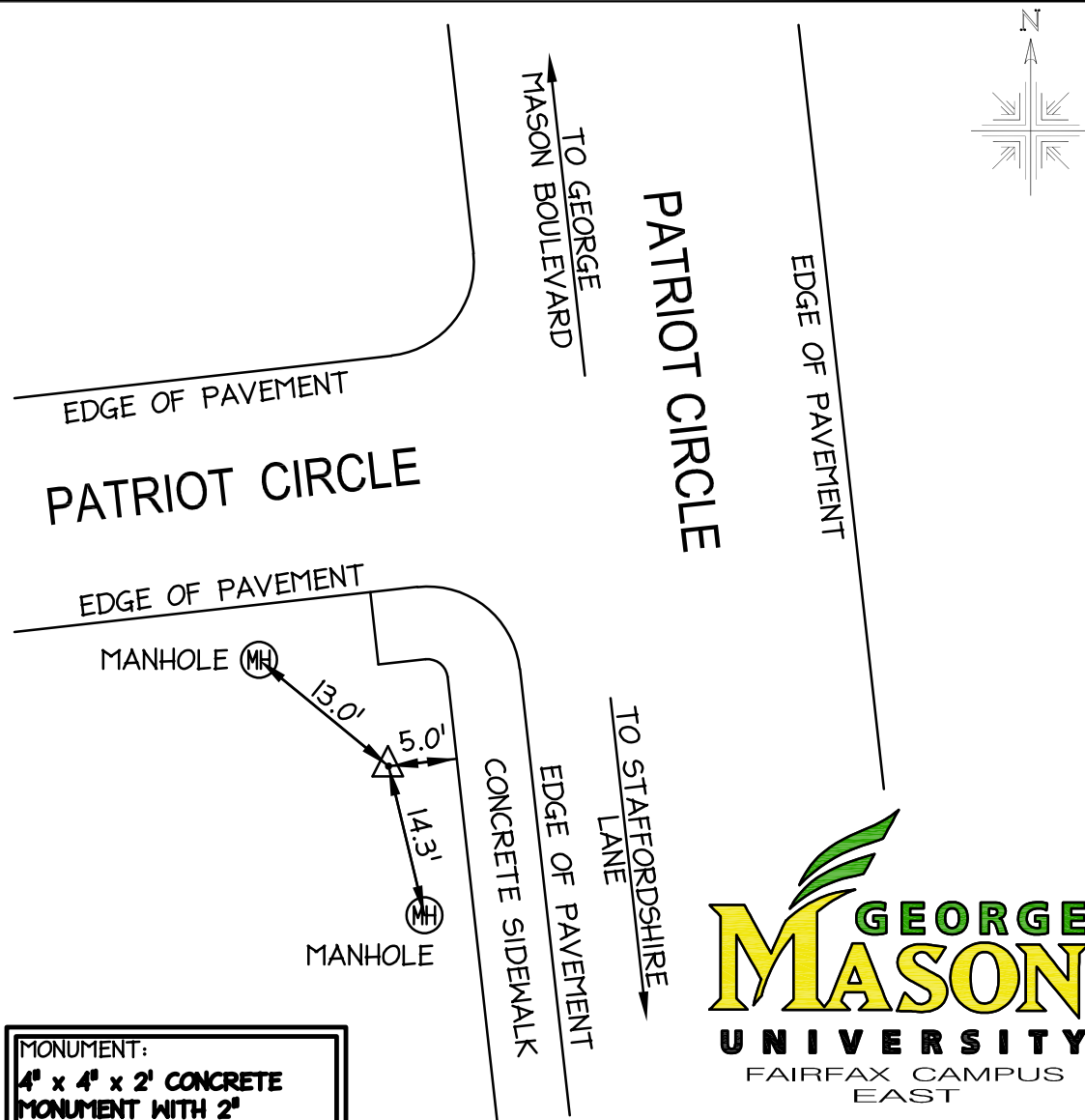
FX-11

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

LOCATION SKETCH

(NOT TO SCALE)



MONUMENT:

4" x 4" x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012



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PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

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GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,988,663.687

GRID EASTING:

11,823,700.134

LATITUDE:

38°49'59.10904" N

LONGITUDE:

77°18'13.13880" W

GMU PROJECT NORTHING:

6,988,663.881

GMU PROJECT EASTING:

11,823,700.203

CONVERGENCE (): \ominus 00°44'48.0"

COMBINED FACTOR: 0.999939859

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

430.34

PHOTO AT STATION:



FX-12

STATION DESIGNATION

FX-12

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

MONUMENT:
4" x 4" x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

LOCATION SKETCH

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HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,988,303.556

GRID EASTING:

11,823,792.828

LATITUDE:

38°49'55.53758" N

LONGITUDE:

77°18'12.02678" W

GMU PROJECT NORTHING:

6,988,303.729

GMU PROJECT EASTING:

11,823,792.902

CONVERGENCE (): \ominus 00°44'48.7"

COMBINED FACTOR: 0.999940426

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

417.15

PHOTO AT STATION:



STATION DESIGNATION

FX-13

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

MONUMENT:

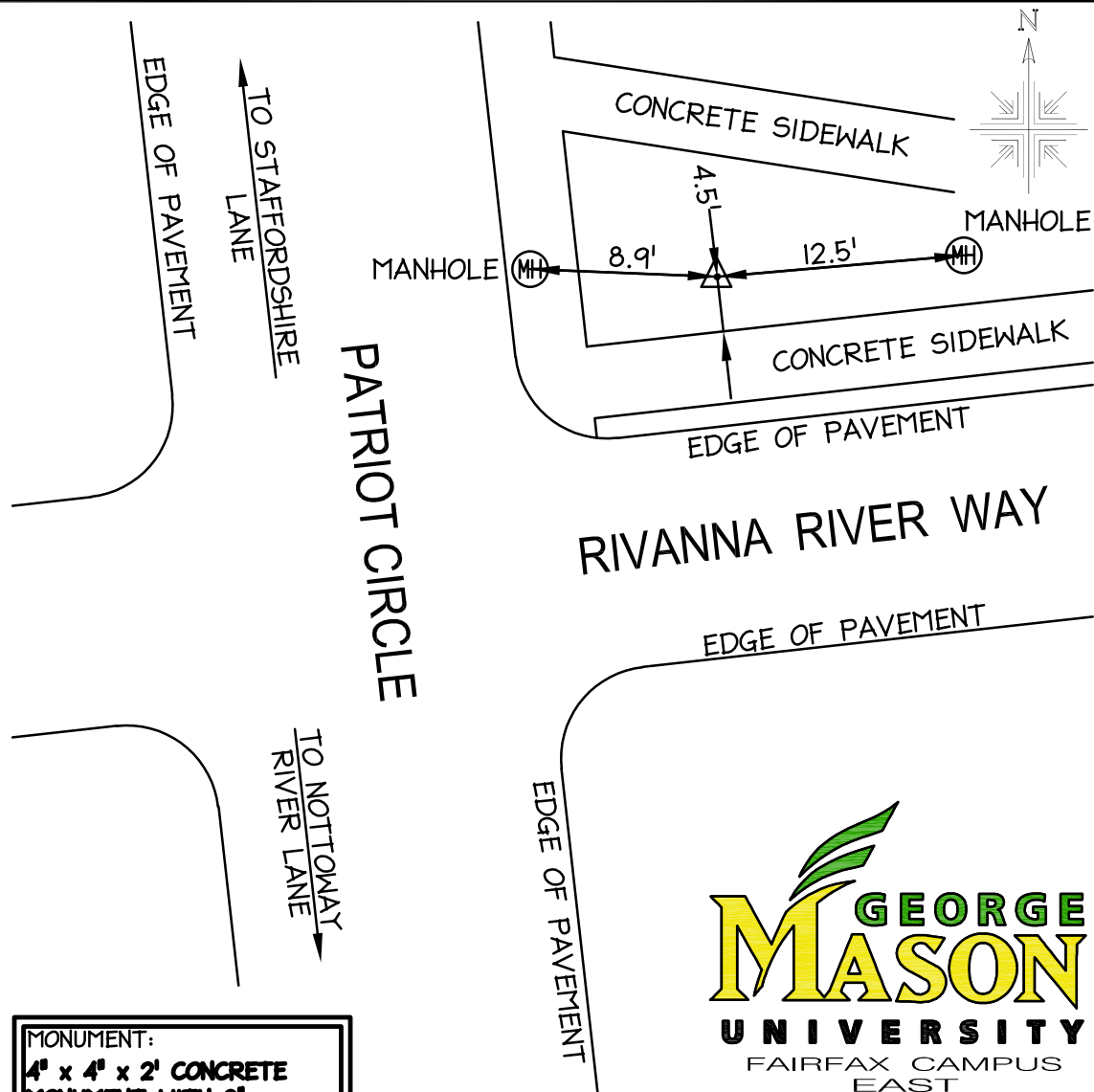
4" x 4" x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

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LOCATION SKETCH

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GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,987,795.178

GRID EASTING:

11,823,914.965

LATITUDE:

38°49'50.49707" N

LONGITUDE:

77°18'10.56717" W

GMU PROJECT NORTHING:

6,987,795.321

GMU PROJECT EASTING:

11,823,915.047

CONVERGENCE (): \ominus 00°44'49.6"

COMBINED FACTOR: 0.999940682

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

409.90

PHOTO AT STATION:



FX-14

STATION DESIGNATION

FX-14

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

MONUMENT:

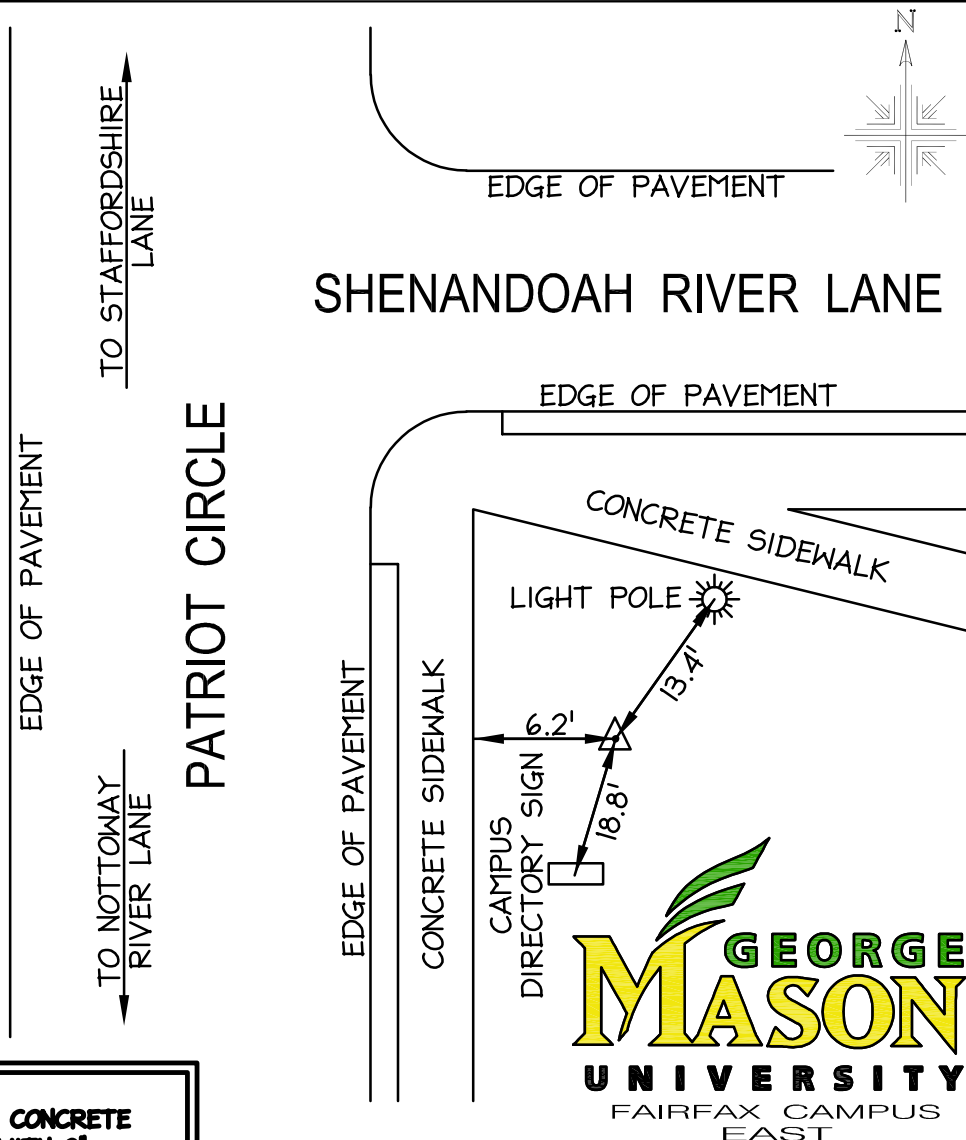
4" x 4" x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
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LOCATION SKETCH

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GEORGE MASON UNIVERSITY

GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,987,455.045

GRID EASTING:

11,823,756.777

LATITUDE:

38°49'47.15560" N

LONGITUDE:

77°18'12.62210" W

GMU PROJECT NORTHING:

6,987,455.167

GMU PROJECT EASTING:

11,823,756.849

CONVERGENCE (): \ominus 00°44'48.3"

COMBINED FACTOR: 0.999941012

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

401.76

PHOTO AT STATION:



FX-15

STATION DESIGNATION

FX-15

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

MONUMENT:

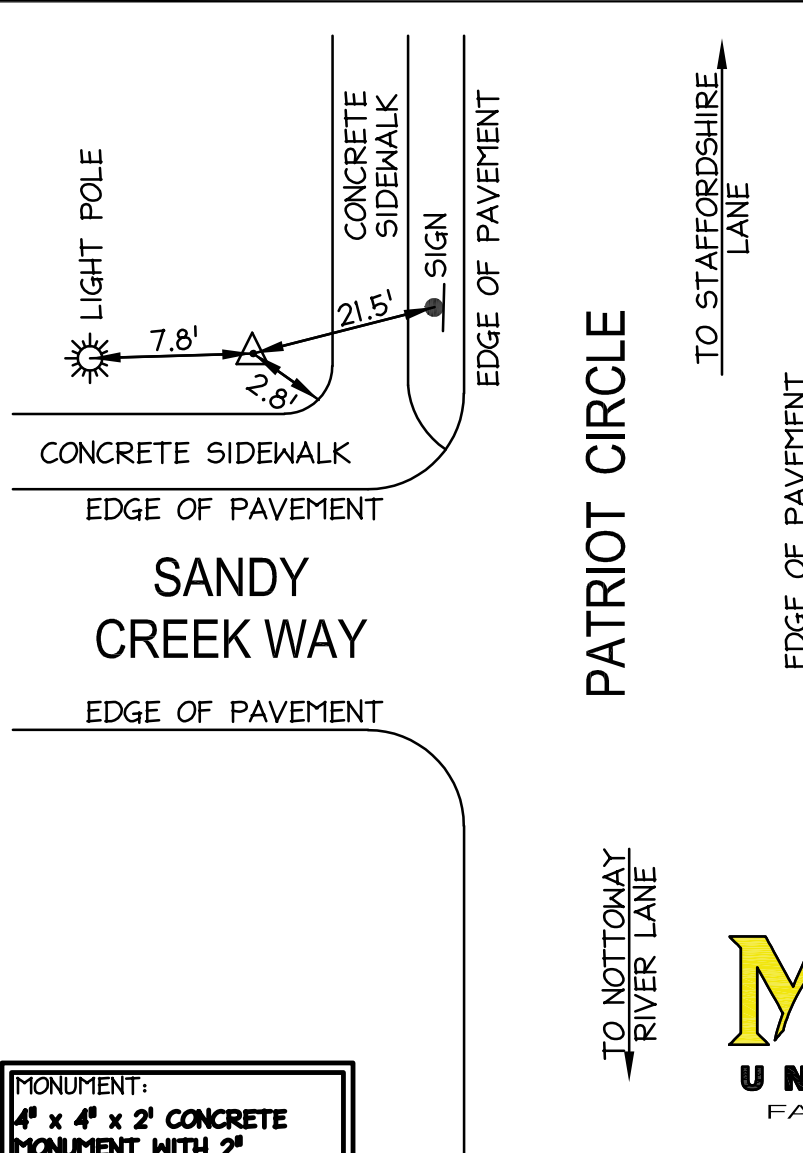
4" x 4" x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
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GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,987,024.096

GRID EASTING:

11,823,822.461

LATITUDE:

38°49'42.88766" N

LONGITUDE:

77°18'11.86309" W

GMU PROJECT NORTHING:

6,987,024.193

GMU PROJECT EASTING:

11,823,822.537

CONVERGENCE (): \ominus 00°44'48.8"

COMBINED FACTOR: 0.999941362

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

392.84

PHOTO AT STATION:



STATION DESIGNATION

FX-16

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

MONUMENT:

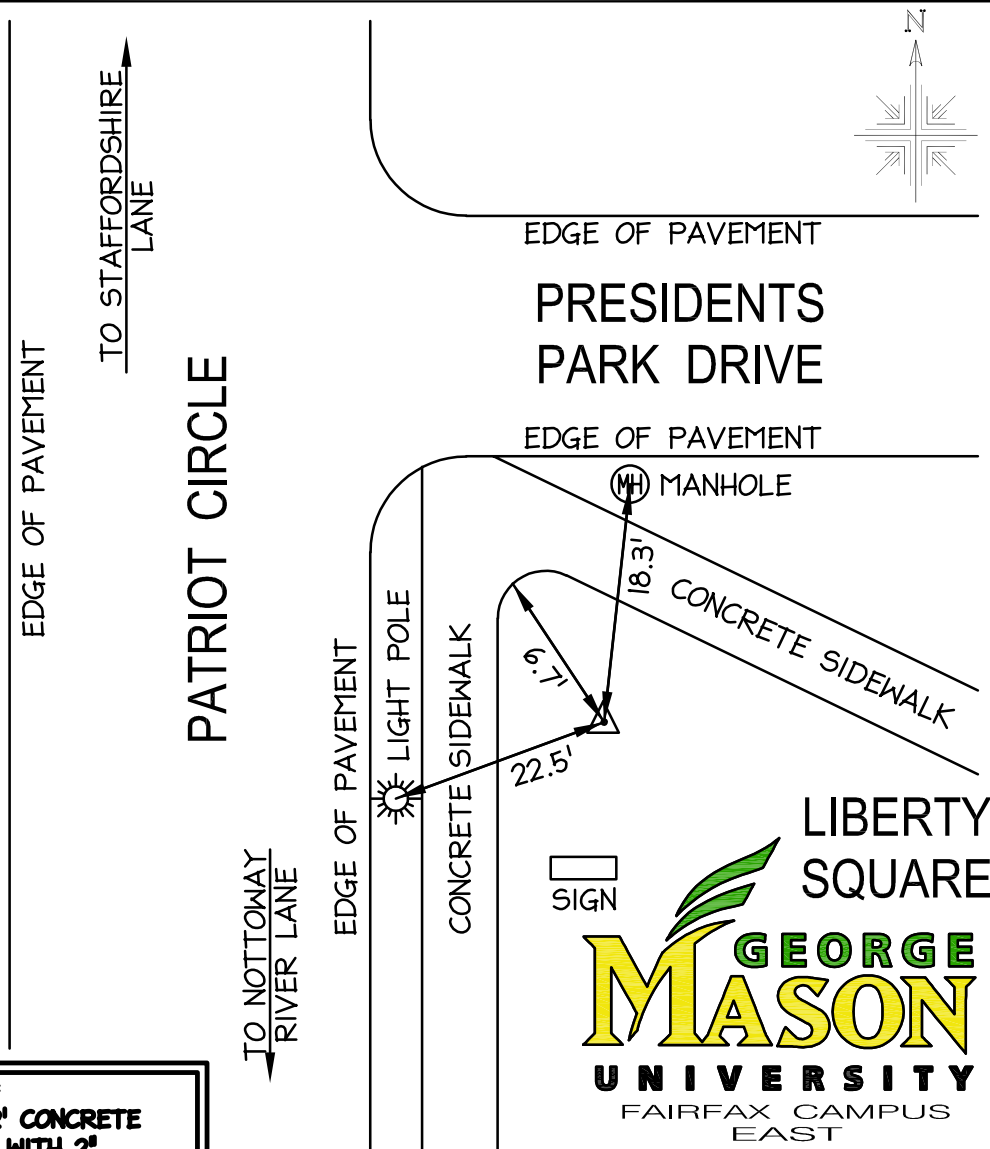
4" x 4" x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

LOCATION SKETCH

(NOT TO SCALE)



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9301 innovation drive (suite 150) • manassas, va 20110
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GEORGE MASON UNIVERSITY

GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,986,613.758

GRID EASTING:

11,823,656.422

LATITUDE:

38°49'38.85330" N

LONGITUDE:

77°18'14.02871" W

GMU PROJECT NORTHING:

6,986,613.830

GMU PROJECT EASTING:

11,823,656.488

CONVERGENCE (): \ominus 00°44'47.4"

COMBINED FACTOR: 0.999941702

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:
384.24

PHOTO AT STATION:



STATION DESIGNATION

FX-17

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

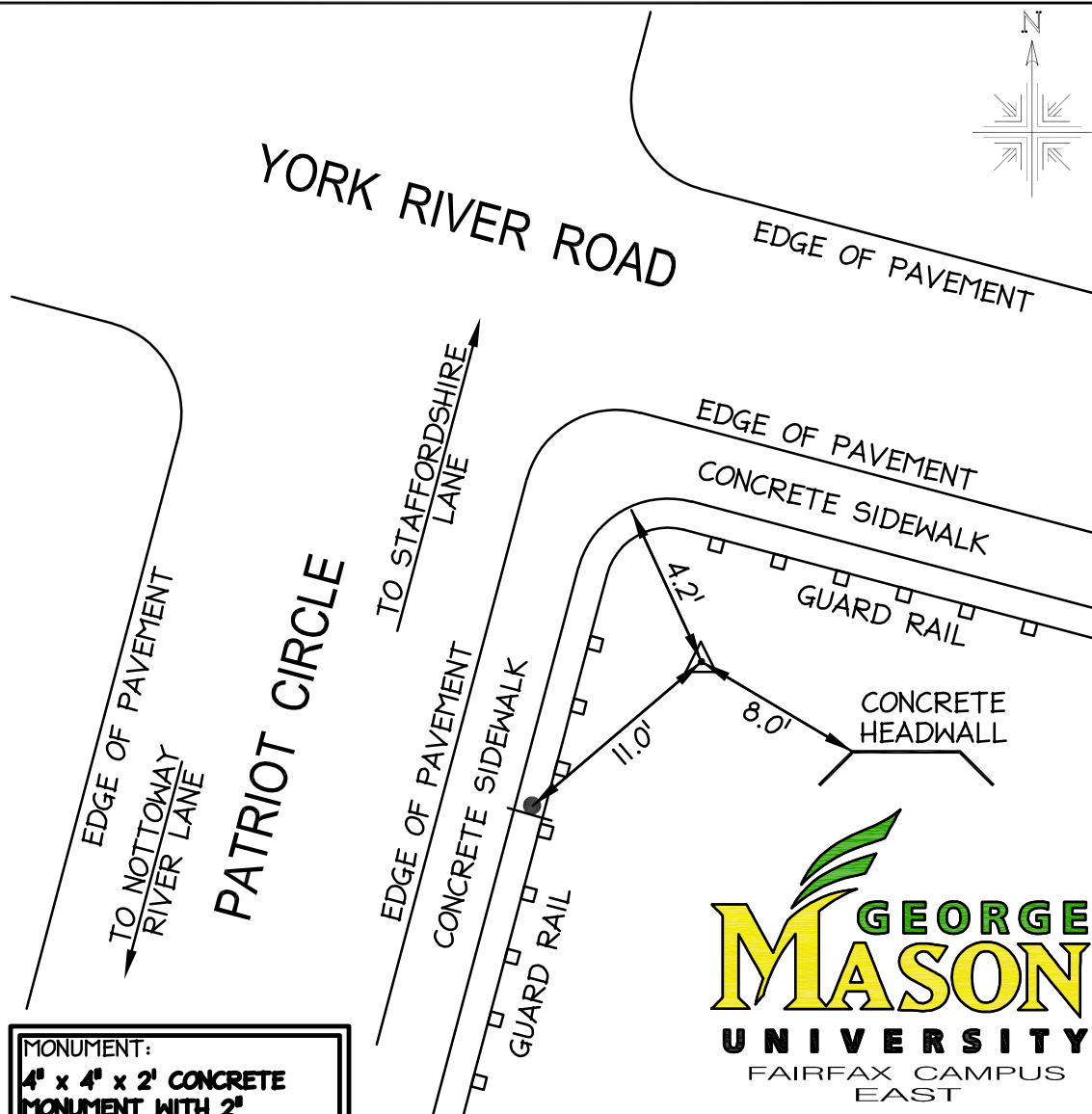
MONUMENT:
4' x 4' x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

LOCATION SKETCH

(NOT TO SCALE)



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GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,986,388.463

GRID EASTING:

11,823,508.009

LATITUDE:

38°49'36.64560" N

LONGITUDE:

77°18'15.94108" W

GMU PROJECT NORTHING:

6,986,388.522

GMU PROJECT EASTING:

11,823,508.066

CONVERGENCE (): \ominus 00°44'46.2"

COMBINED FACTOR: 0.999941440

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

388.90

PHOTO AT STATION:



STATION DESIGNATION

FX-18

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

MONUMENT:

4" x 4" x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

LOCATION SKETCH

(NOT TO SCALE)



AQUATIC AND
FITNESS
CENTER

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GEORGE MASON UNIVERSITY

GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,986,305.022

GRID EASTING:

11,823,266.136

LATITUDE:

38°49'35.85200" N

LONGITUDE:

77°18'19.01101" W

GMU PROJECT NORTHING:

6,986,305.075

GMU PROJECT EASTING:

11,823,266.179

CONVERGENCE (): \ominus 00°44'44.3"

COMBINED FACTOR: 0.999941461

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:
388.16

PHOTO AT STATION:



STATION DESIGNATION

FX-19

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

MONUMENT:

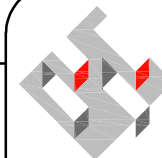
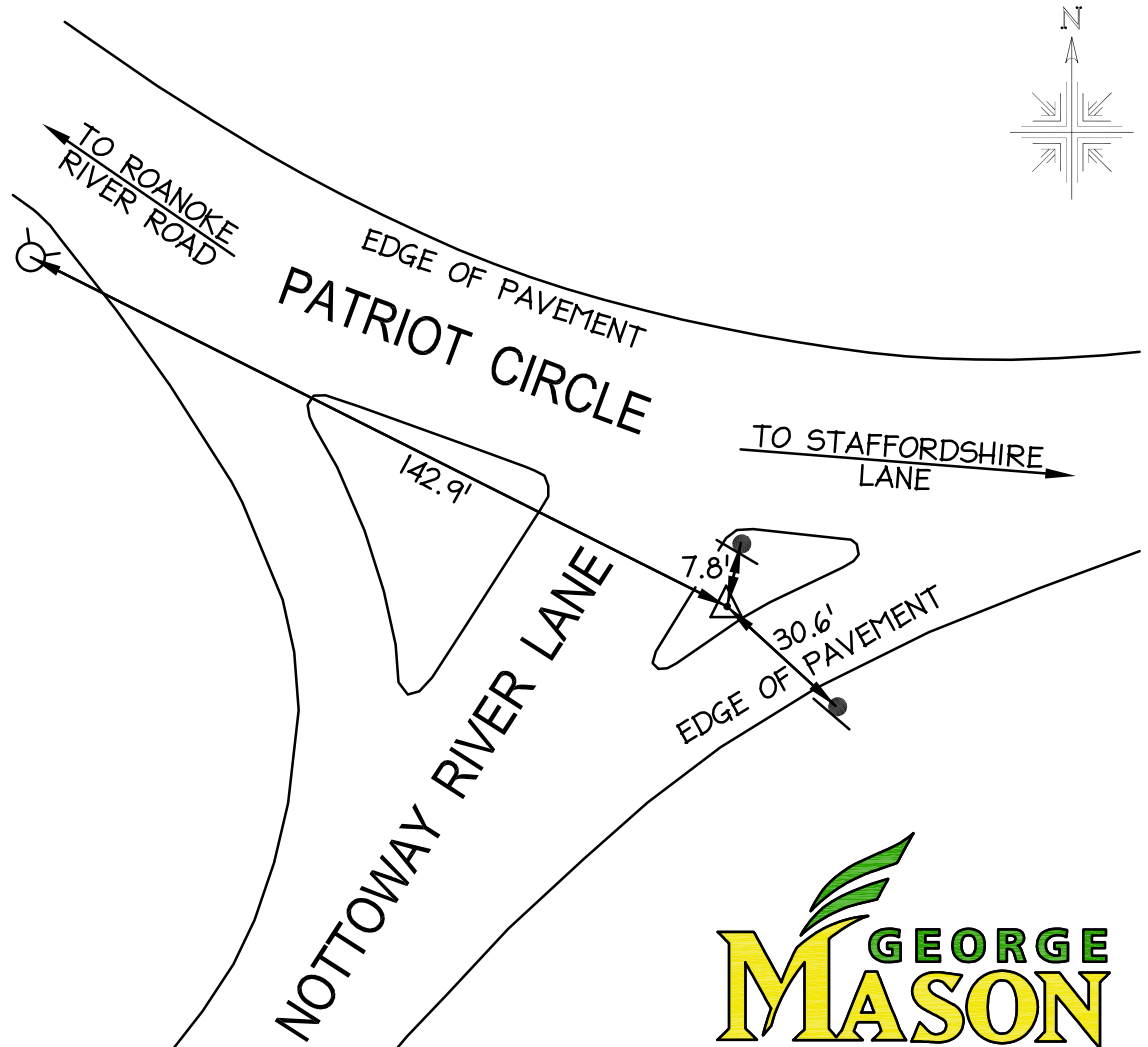
4' x 4' x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

LOCATION SKETCH

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GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,986,565.553

GRID EASTING:

11,822,863.878

LATITUDE:

38°49'38.47879" N

LONGITUDE:

77°18'24.05097" W

GMU PROJECT NORTHING:

6,986,565.621

GMU PROJECT EASTING:

11,822,863.896

CONVERGENCE (): 00°44'41.2"

COMBINED FACTOR: 0.999941878

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

380.41

PHOTO AT STATION:



STATION DESIGNATION

FX-20

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

MONUMENT:

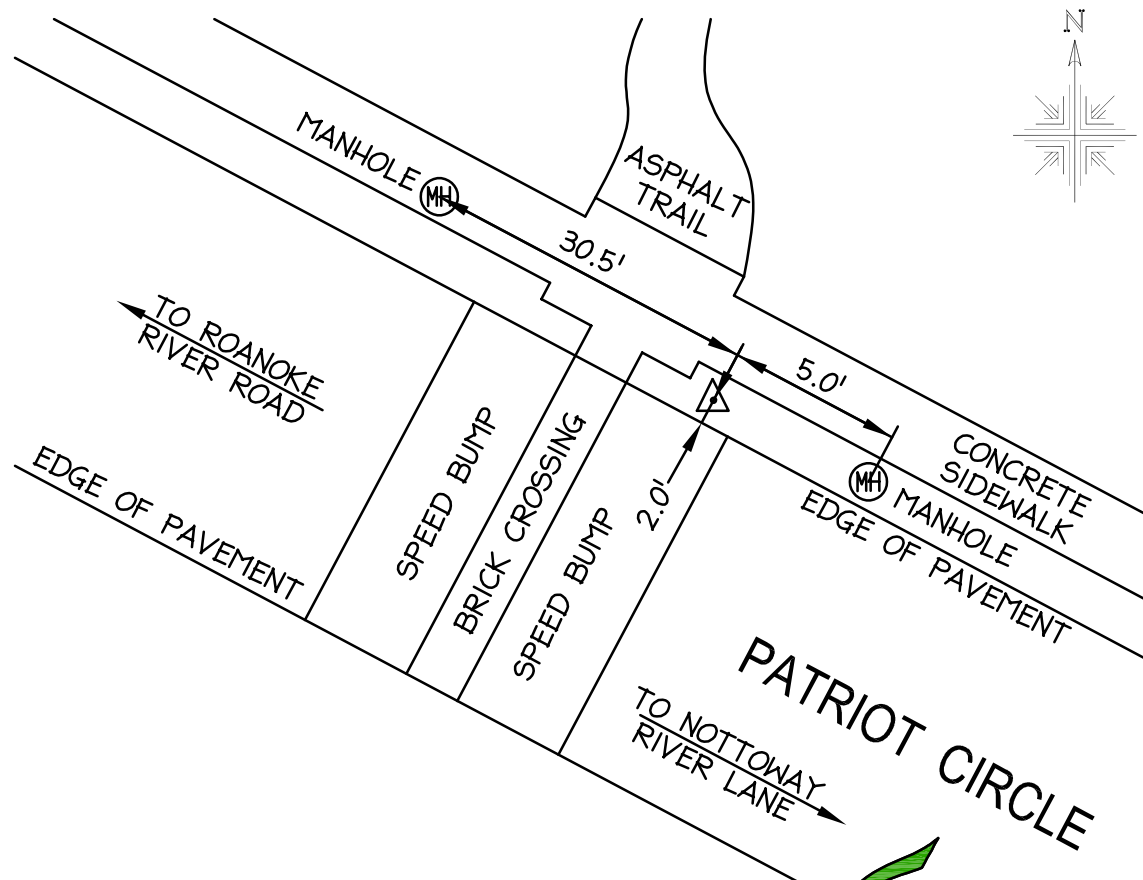
4' x 4' x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

LOCATION SKETCH

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GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,986,823.929

GRID EASTING:

11,822,147.812

LATITUDE:

38°49'41.12447" N

LONGITUDE:

77°18'33.05661" W

GMU PROJECT NORTHING:

6,986,824.014

GMU PROJECT EASTING:

11,822,147.788

CONVERGENCE (): 00°44'35.6"

COMBINED FACTOR: 0.999941293

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:
393.62

PHOTO AT STATION:



STATION DESIGNATION

FX-21

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

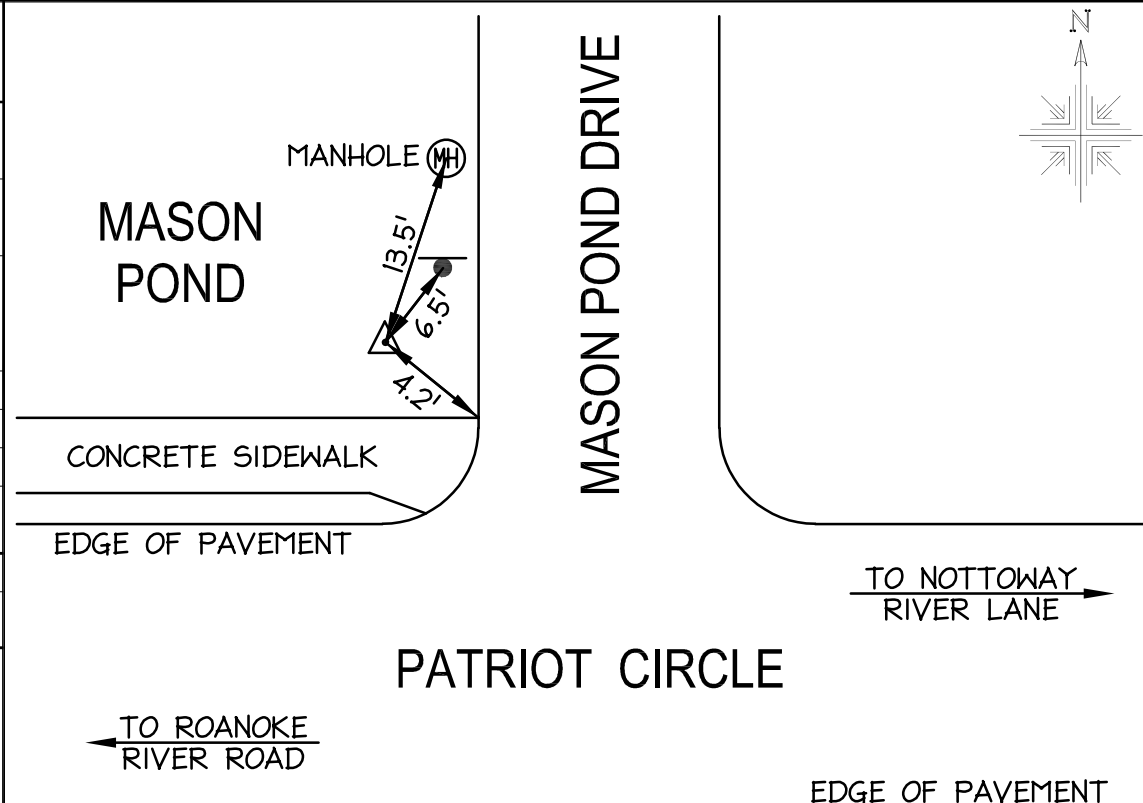
MONUMENT:
4" x 4" x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

LOCATION SKETCH

(NOT TO SCALE)



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GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,986,645.227

GRID EASTING:

11,821,846.396

LATITUDE:

38°49'39.39682" N

LONGITUDE:

77°18'36.89451" W

GMU PROJECT NORTHING:

6,986,645.300

GMU PROJECT EASTING:

11,821,846.354

CONVERGENCE (): \ominus 00°44'33.2"

COMBINED FACTOR: 0.999940766

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

403.99

PHOTO AT STATION:



FX-22

STATION DESIGNATION

FX-22

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

MONUMENT:

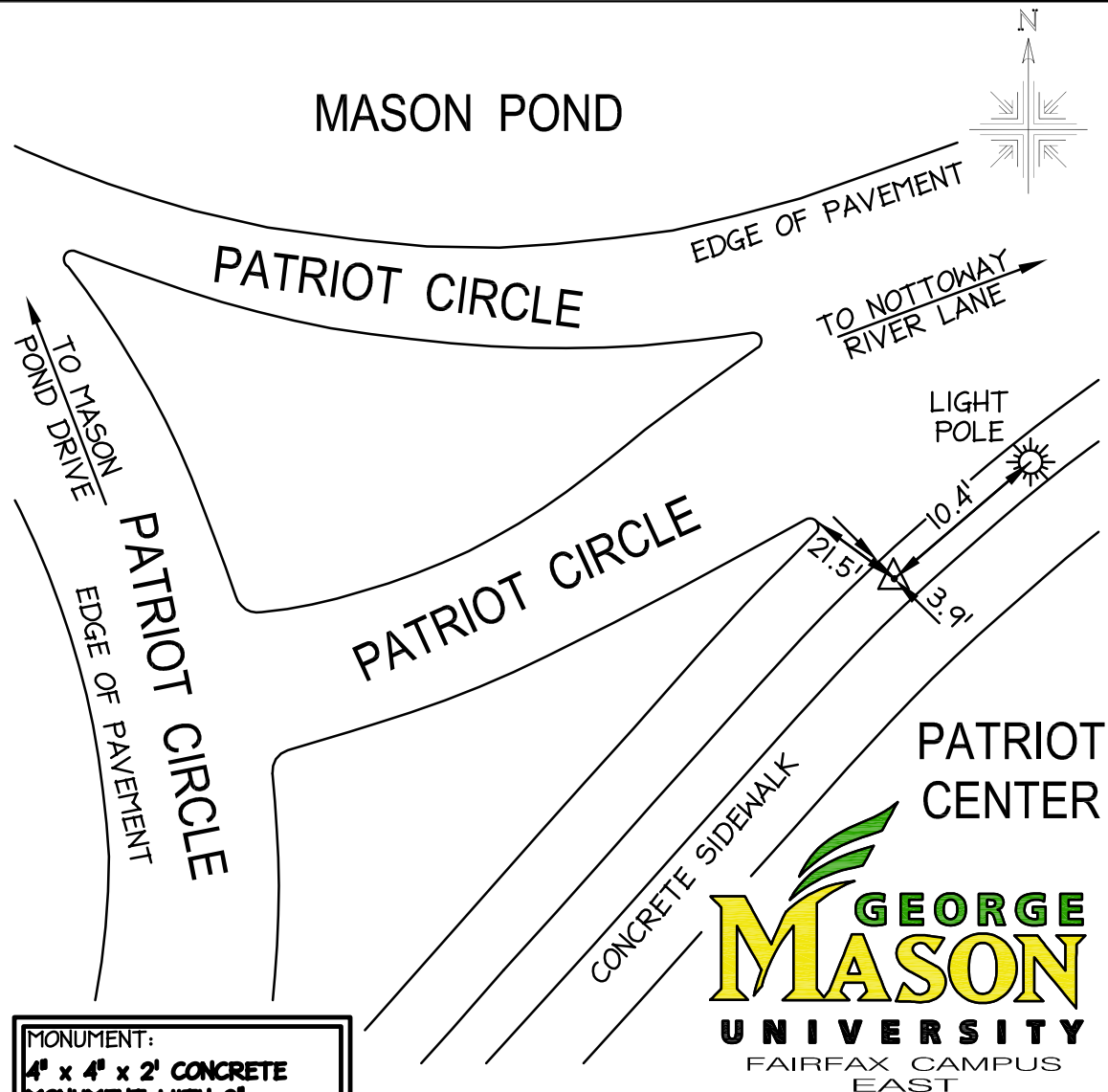
4' x 4' x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

LOCATION SKETCH

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GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,986,839.095

GRID EASTING:

11,821,486.090

LATITUDE:

38°49'41.35913" N

LONGITUDE:

77°18'41.41553" W

GMU PROJECT NORTHING:

6,986,839.180

GMU PROJECT EASTING:

11,821,486.025

CONVERGENCE (): \ominus 00°44'30.3"

COMBINED FACTOR: 0.999940655

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

407.05

PHOTO AT STATION:



STATION DESIGNATION

FX-23

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

MONUMENT:

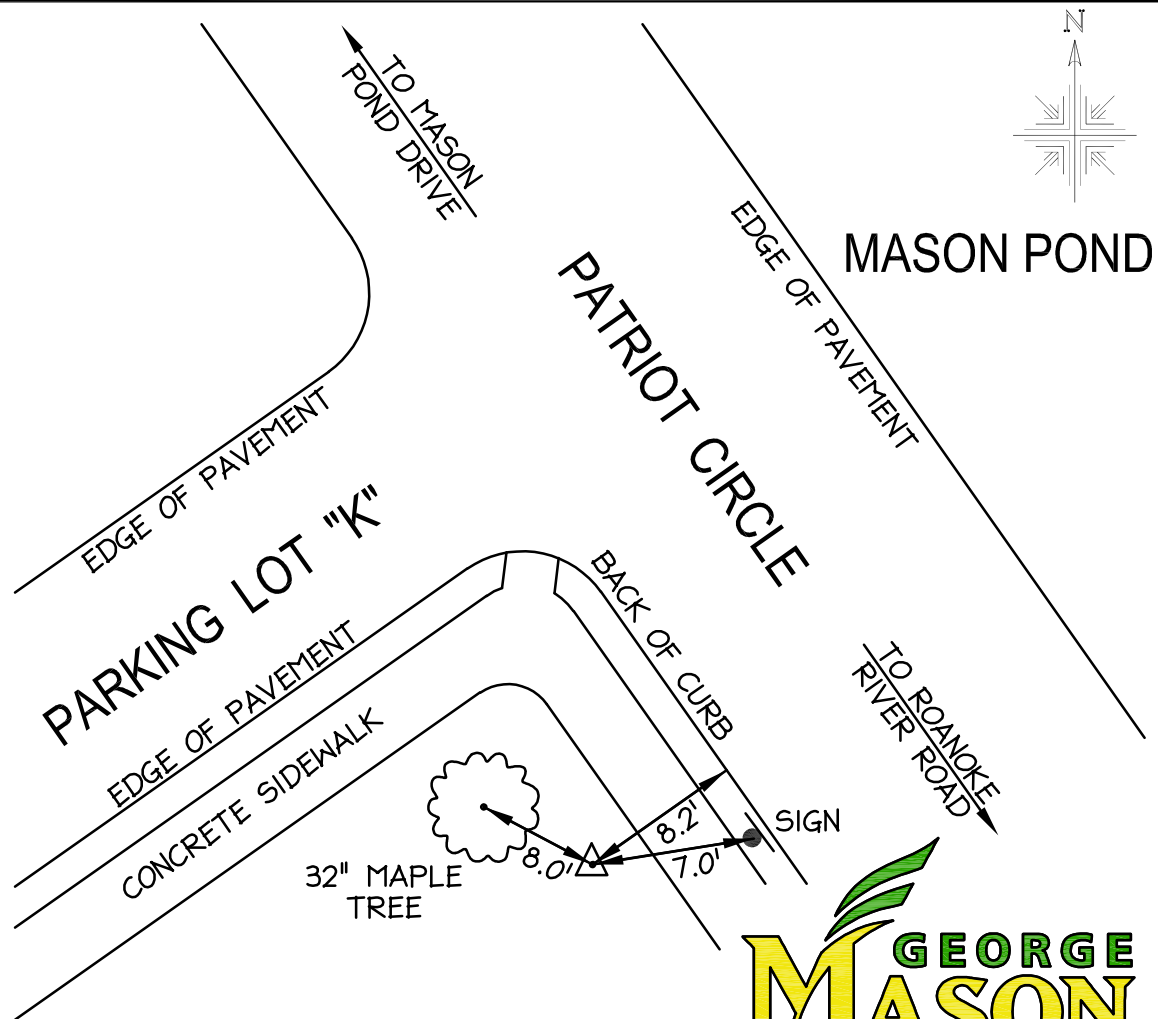
4" x 4" x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

LOCATION SKETCH

(NOT TO SCALE)



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GEORGE MASON UNIVERSITY

GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT
 HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983
 COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

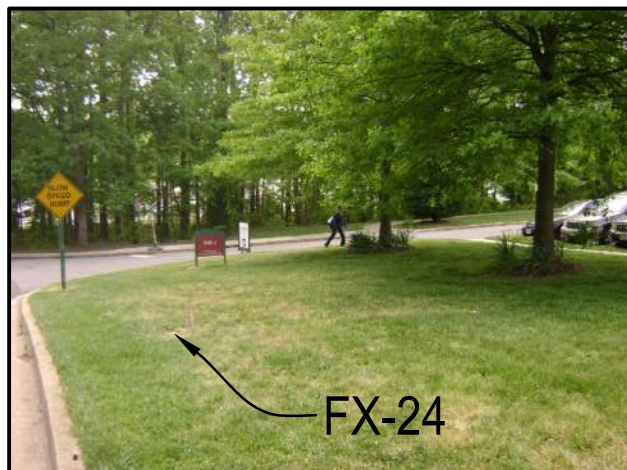
GRID NORTHING:	GRID EASTING:
6,987,130.791	11,821,410.020
LATITUDE:	LONGITUDE:
38°49'44.25198" N	77°18'42.32902" W
GMU PROJECT NORTHING:	GMU PROJECT EASTING:
6,987,130.893	11,821,409.951

CONVERGENCE (): \ominus 00°44'29.8"
 COMBINED FACTOR: 0.999940368
 AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)
 ELEVATION: 414.11

PHOTO AT STATION:



STATION DESIGNATION

FX-24

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

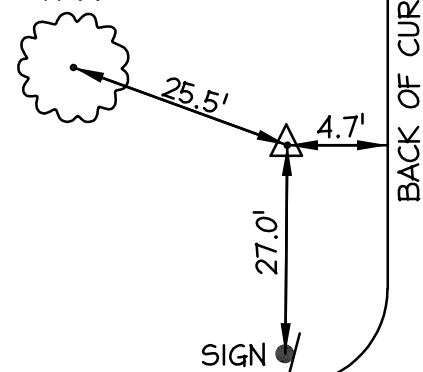
PROJECT NO. : 83026.043.13
 SET BY : M. LOVELAND
 PREPARED BY : C. FILLMORE
 FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
 BY : S. OSBURN
 DATE : 9/4/18
 REV. BY : M. SMITH

LOCATION SKETCH

(NOT TO SCALE)

24" OAK
TREE



EDGE OF PAVEMENT

PARKING LOT "J"

EDGE OF PAVEMENT

BACK OF CURB

PATRIOT CIRCLE

TO MASON
POND DRIVE

EDGE OF PAVEMENT

MASON POND

TO ROANOKE
RIVER ROAD



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MONUMENT:
 4" x 4" x 2' CONCRETE
 MONUMENT WITH 2"
 STAMPED ALUMINUM CAP
 DATE SET: APRIL 2012

GEORGE MASON UNIVERSITY

GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,987,954.427

GRID EASTING:

11,822,047.557

LATITUDE:

38°49'52.31111" N

LONGITUDE:

77°18'34.13815" W

GMU PROJECT NORTHING:

6,987,954.626

GMU PROJECT EASTING:

11,822,047.501

CONVERGENCE (): \ominus 00°44'34.9"

COMBINED FACTOR: 0.999940290

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

419.02

PHOTO AT STATION:



STATION DESIGNATION

FX-26

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

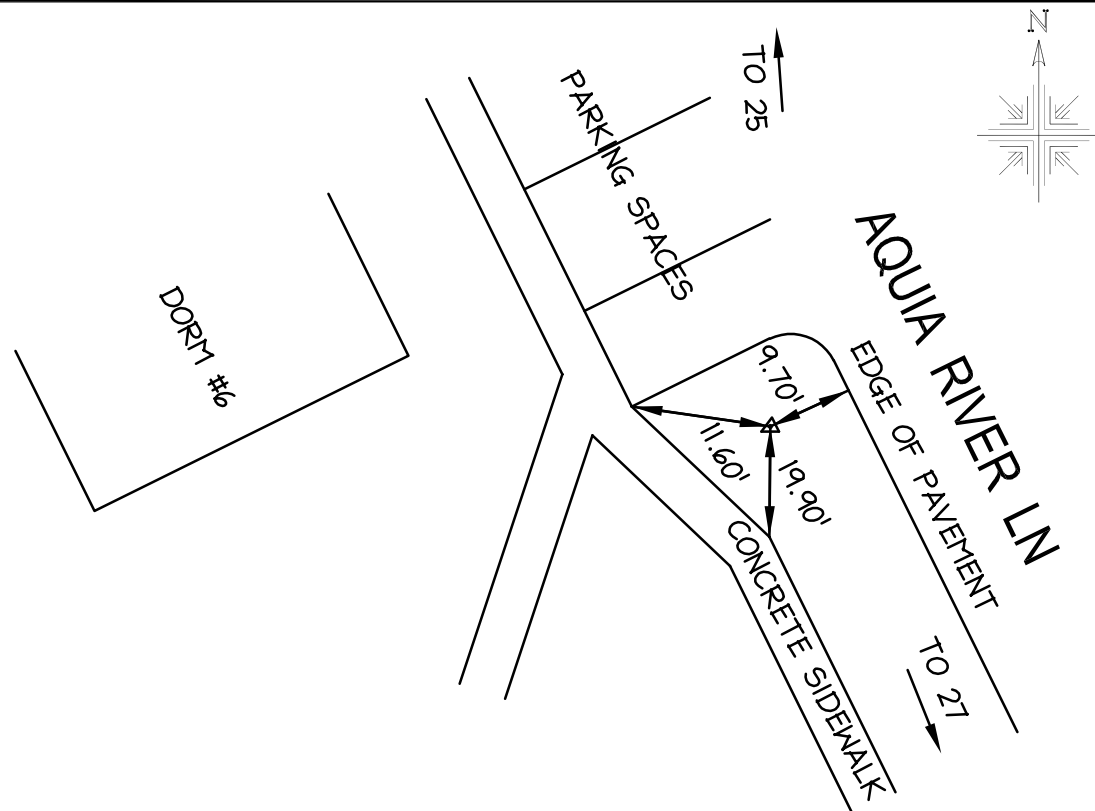
MONUMENT:
4' x 4' x 2' CONCRETE
MONUMENT WITH 2'
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

LOCATION SKETCH

(NOT TO SCALE)



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GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,987,634.008

GRID EASTING:

11,822,205.523

LATITUDE:

38°49'49.12385" N

LONGITUDE:

77°18'32.19457" W

GMU PROJECT NORTHING:

6,987,634.207

GMU PROJECT EASTING:

11,822,205.466

CONVERGENCE (): \ominus 00°44'36.1"

COMBINED FACTOR: 0.999939478

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

434.80

PHOTO AT STATION:



FX-27

STATION DESIGNATION

FX-27

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

MONUMENT:

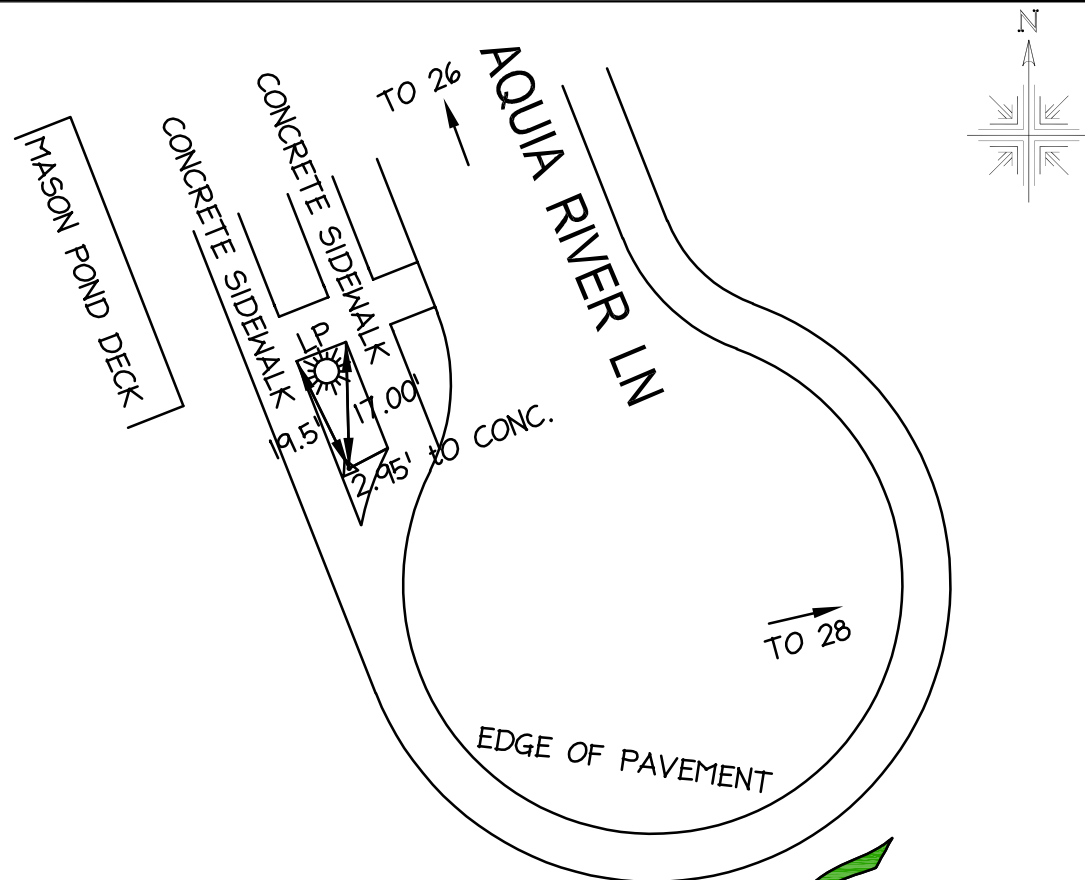
4' x 4' x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

LOCATION SKETCH

(NOT TO SCALE)



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GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,987,832.812

GRID EASTING:

11,822,711.399

LATITUDE:

38°49'51.02389" N

LONGITUDE:

77°18'25.76958" W

GMU PROJECT NORTHING:

6,987,832.957

GMU PROJECT EASTING:

11,822,711.409

CONVERGENCE (): \ominus 00°44'40.1"

COMBINED FACTOR: 0.999938983

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

445.61

PHOTO AT STATION:



FX-28

STATION DESIGNATION

FX-28

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

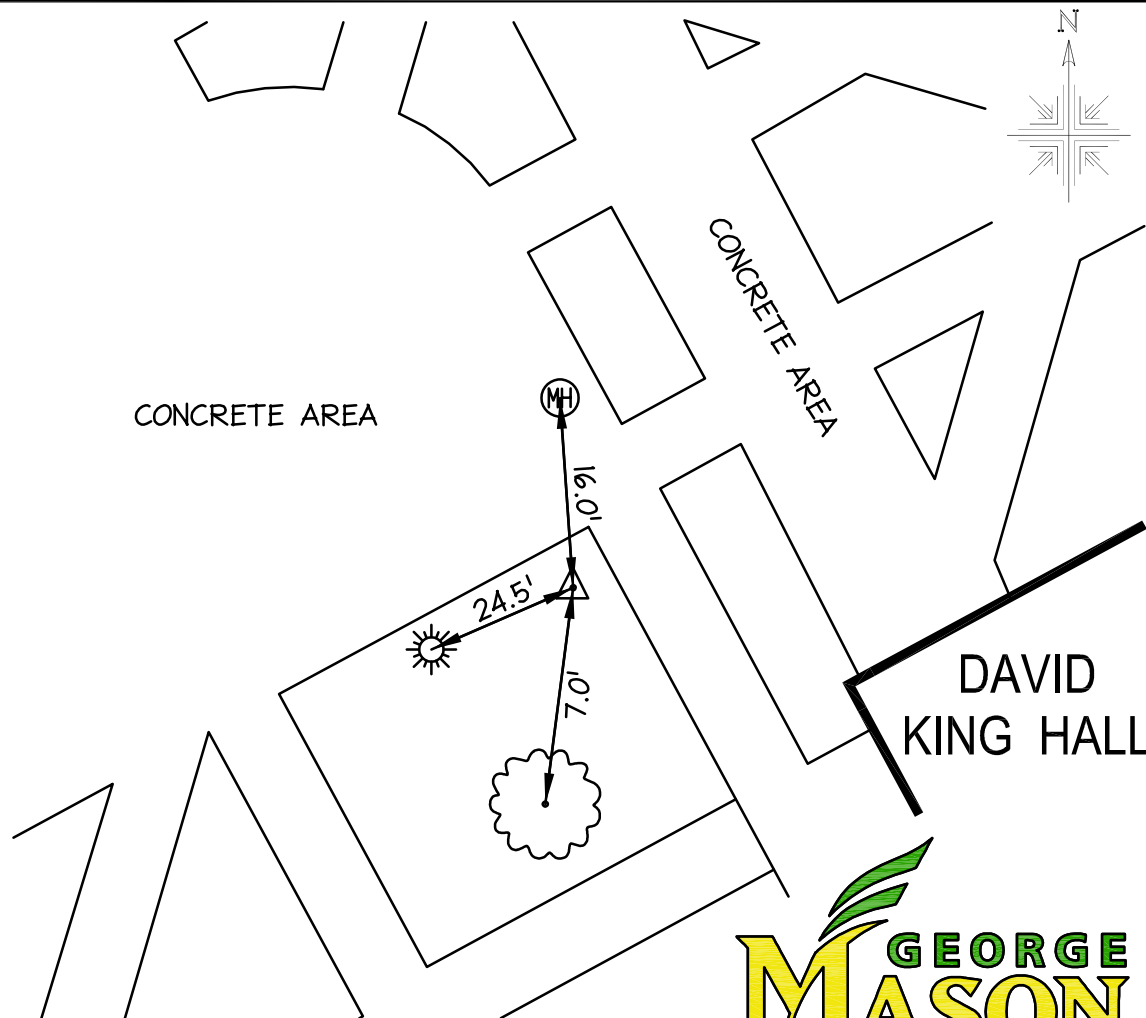
MONUMENT:
4" x 4" x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

LOCATION SKETCH

(NOT TO SCALE)



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GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,988,032.005

GRID EASTING:

11,823,076.440

LATITUDE:

38°49'52.94580" N

LONGITUDE:

77°18'21.12407" W

GMU PROJECT NORTHING:

6,988,032.162

GMU PROJECT EASTING:

11,823,076.471

CONVERGENCE (): \ominus 00°44'43.0"

COMBINED FACTOR: 0.999939370

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

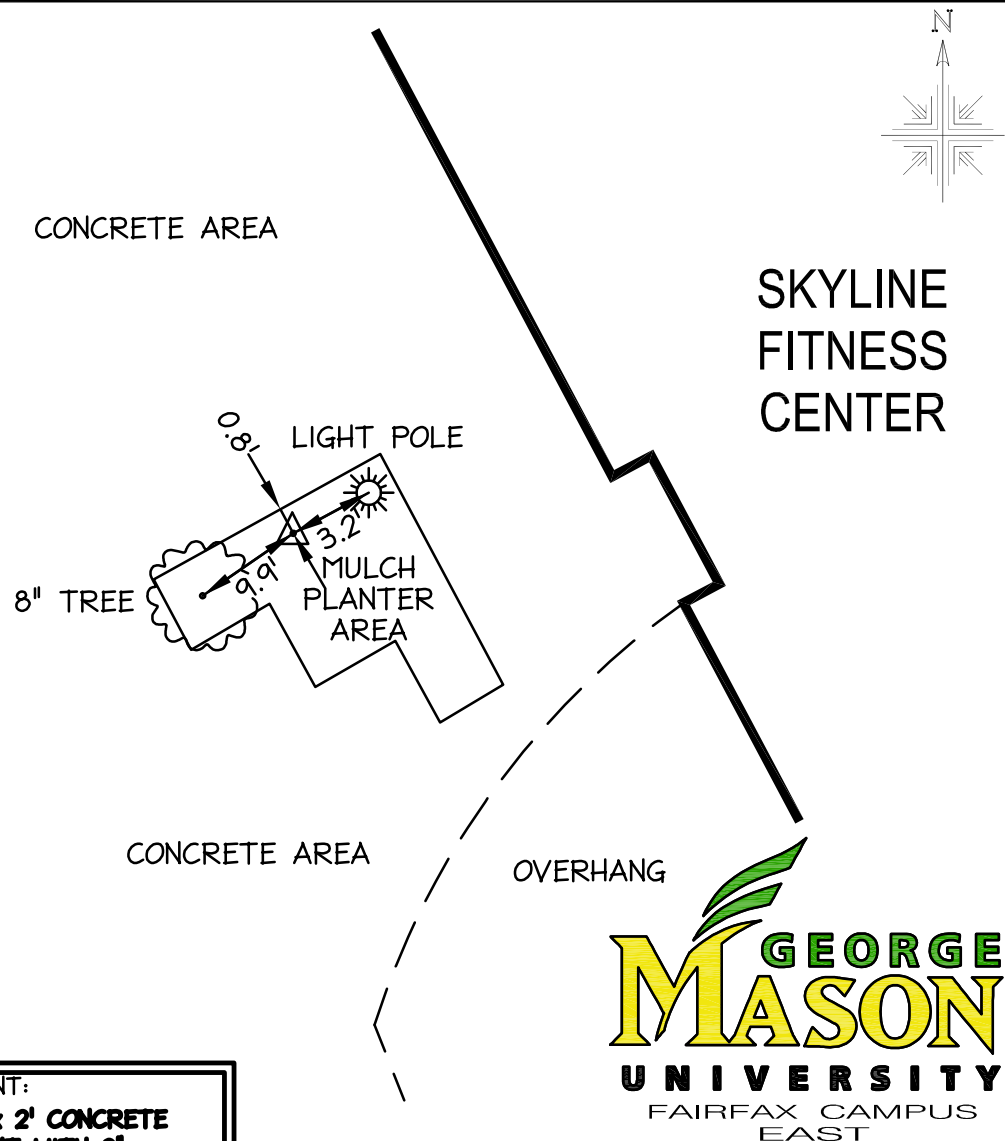
438.25

PHOTO AT STATION:



LOCATION SKETCH

(NOT TO SCALE)



STATION DESIGNATION

FX-29

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

MONUMENT:
4' x 4' x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH



christopher
consultants

9301 innovation drive (suite 150) • manassas, va 20110
phone 703.393.9887 • fax 703.273.6820

GEORGE MASON UNIVERSITY

GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,988,340.204

GRID EASTING:

11,822,929.052

LATITUDE:

38°49'56.01096" N

LONGITUDE:

77°18'22.93588" W

GMU PROJECT NORTHING:

6,988,340.379

GMU PROJECT EASTING:

11,822,929.075

CONVERGENCE (): \ominus 00°44'41.9"

COMBINED FACTOR: 0.999939253

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

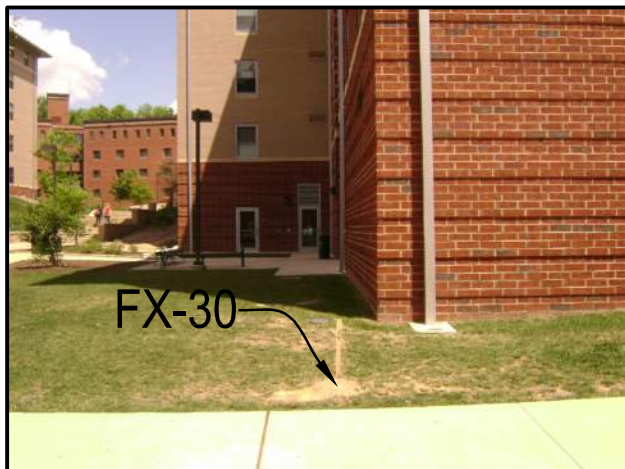
VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

441.84

PHOTO AT STATION:



STATION DESIGNATION

FX-30

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

MONUMENT:

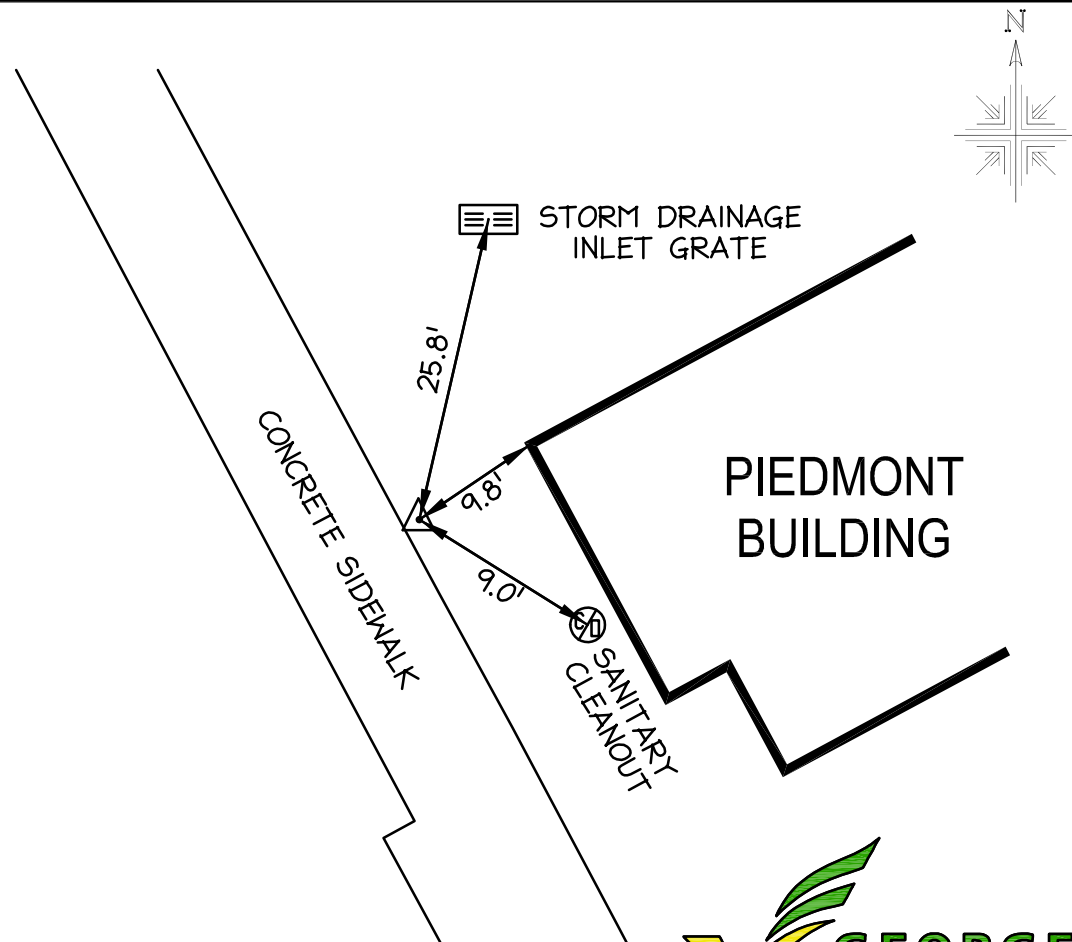
4" x 4" x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

LOCATION SKETCH

(NOT TO SCALE)



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EAST



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GEORGE MASON UNIVERSITY

GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,989,000.557

GRID EASTING:

11,822,579.141

LATITUDE:

38°50'02.58280" N

LONGITUDE:

77°18'27.24915" W

GMU PROJECT NORTHING:

6,989,000.772

GMU PROJECT EASTING:

11,822,579.142

CONVERGENCE (): \ominus 00°44'39.2"

COMBINED FACTOR: 0.999938450

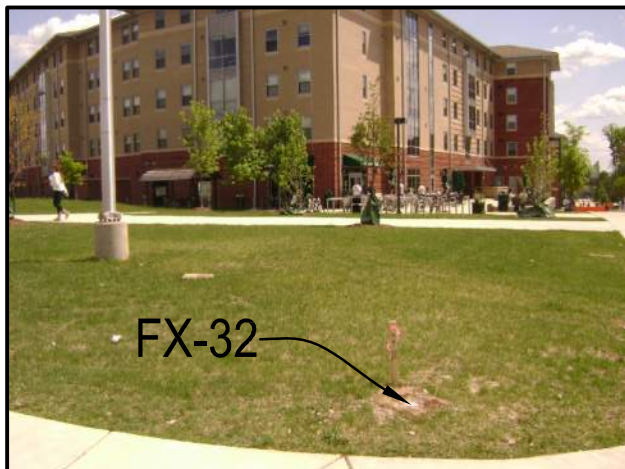
AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:
461.11

PHOTO AT STATION:



FX-32

STATION DESIGNATION

FX-32

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

MONUMENT:

4" x 4" x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

LOCATION SKETCH

(NOT TO SCALE)

EDGE OF PAVEMENT

TO GEORGE
MASON BOULEVARD

TO RAPPAHANNOCK
RIVER LANE

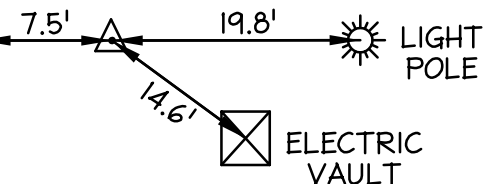
PATRIOT CIRCLE

CHESAPEAKE
RIVER LANE

EDGE OF PAVEMENT

CONCRETE SIDEWALK

CONCRETE SIDEWALK



**GEORGE
MASON
UNIVERSITY**
FAIRFAX CAMPUS
EAST



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GEORGE MASON UNIVERSITY

GEODETIC SURVEY CONTROL

HORIZONTAL DATA

MAP PROJECTION: LAMBERT

HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983

COORDINATE SYSTEM: VIRGINIA COORDINATE SYSTEM - NORTH (4501)

GRID NORTHING:

6,987,431.202

GRID EASTING:

11,823,476.409

LATITUDE:

38°49'46.95604" N

LONGITUDE:

77°18'16.16878" W

GMU PROJECT NORTHING:

6,987,431.322

GMU PROJECT EASTING:

11,823,476.465

CONVERGENCE (): 00°44'46.1"

COMBINED FACTOR: 0.999940837

AVG. COMBINED FACTOR: 0.999939714 (PROJECT)

VERTICAL DATA

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 - GEOID 12B)

ELEVATION:

405.34

PHOTO AT STATION:



STATION DESIGNATION

FX-36

UNITS:
CONVERSION:

U.S. SURVEY FOOT
1 FOOT = 0.3048 M

MONUMENT:

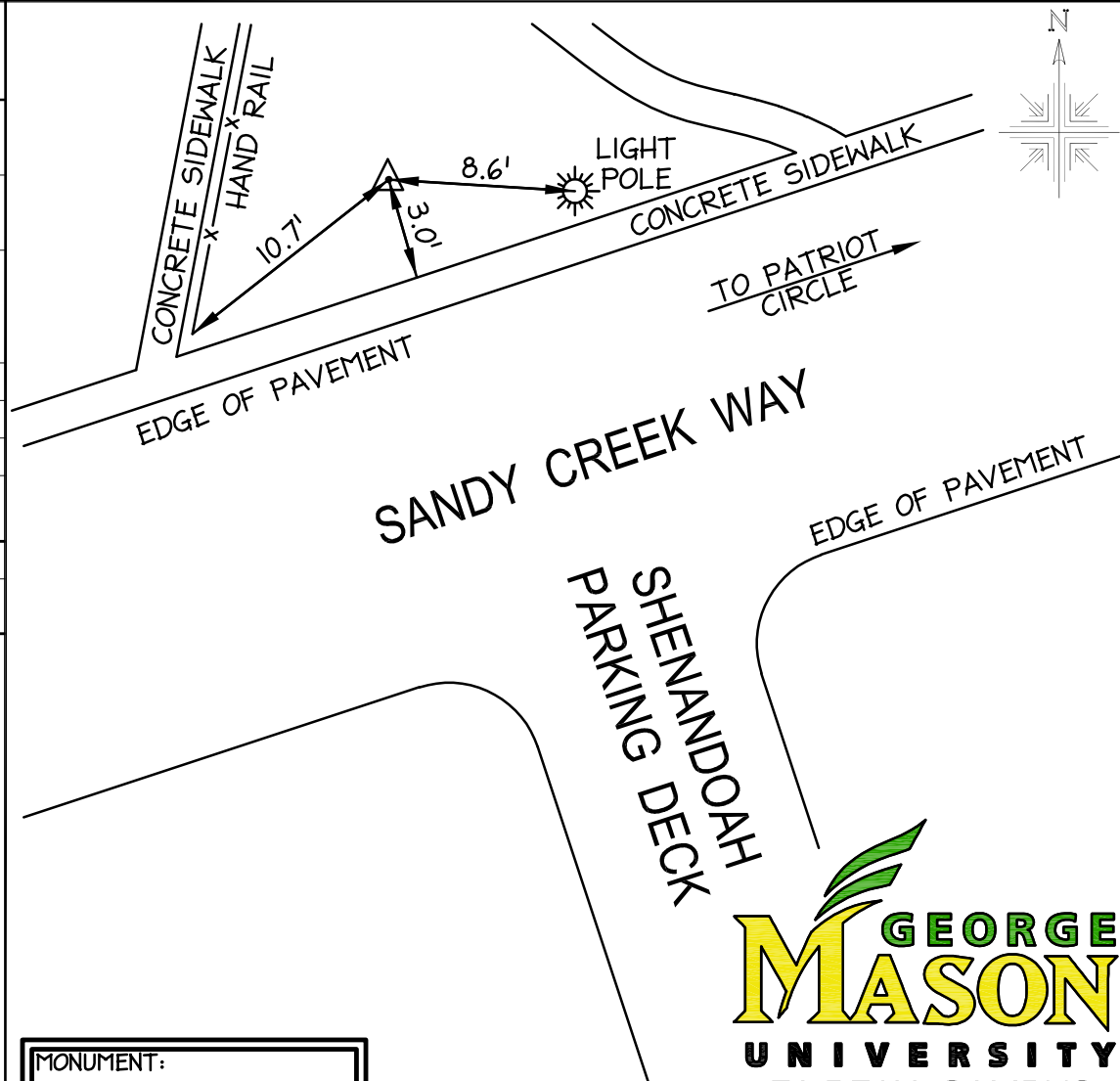
4" x 4" x 2' CONCRETE
MONUMENT WITH 2"
STAMPED ALUMINUM CAP
DATE SET: APRIL 2012

PROJECT NO. : 83026.043.13
SET BY : M. LOVELAND
PREPARED BY : C. FILLMORE
FIELD BOOK(S) : FB. 245 PG. 1-40

RECOVERED
BY : S. OSBURN
DATE : 9/4/18
REV. BY : M. SMITH

LOCATION SKETCH

(NOT TO SCALE)



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