ALGONKIAN WOODLAND ENTRANCE

SPAM-2017-0089

SITE PLAN AMENDMENT NARRATIVE

The purpose of this project is to provide a better traffic flow into The Woodlands banquet hall and the golf course. This is accomplished by realigning Fairway Drive as the through movement and providing way finding signage. The improved intersection (larger curb return radii) will allow for easier turning movements for vehicles towing trailers to and from the boat launch area.

The parking lot is being reconfigured to provide a pedestrian drop-off and a hardscaped entrance feature. Additional hardscape amenities provide accessible routes to the banquet hall and the outdoor pergola.

This application does not include any new buildings or expansion of existing buildings.

SITE NOTES

1. Topographic information taken from field shot topography provided by christopher consultants, June 2016.
2. Contour interval is two (2) feet. Coordinate grid lines based on VCS 1983 - North. Vertical information based on NAVD 88.
3. Boundary information as shown hereon was obtained from a field survey, prepared by christopher consultants, dated June 2016, and from deeds of record. The attached plans have been prepared without the benefit of a title report and do not necessarily indicate all encumbrances on the subject property. The last Instrument in the chain of title can be found at Deed Book 1584. Page 2160.
4. Per site visit, the existing roadside swales are mowed and well maintained. To the best of my knowledge, information, and belief, there are no known jurisdictional waters or wetlands within the limits of disturbance.
5. Previous applications under site plan STPL-1997-0070 include:

   SPEX-1985-0130 (approved)
   SPAM-1994-0032 (approved 11/08/94)
   SPAM-2000-0133 (approved)
   SPAM-2002-0013 (approved)
   SPAM-2005-0094 (approved 02/03/06)
   SPAM-2006-0036 (approved)
   SPAM-2207-0075 (approved 08/07/09)
   STPL-2004-0037 (approved)
   WAIV-2004-0064 (approved 05/07/04)
   WAIV-2006-0011 (approved 03/02/06)
   SPEX-2005-0056 (approved 11/14/06)
   VSMP-2014-0014 (termination transmitted to DEQ 2016-03-17)
   ZCOR-2005-0335 (approved 01/19/06)
   CMPT-1974-0006 (ratified 11/05/76)

6. There is floodplain on the property that is the subject of this application. The current Flood Insurance Rate Map (FIRM) of Loudoun County community panel number for the property that is the subject of this application is FIRM Maps 51107C0267E and 51107C0286E, effective date February 17, 2017. The depicted boundary of the existing floodplain is based on the FIRM.
7. There is no scenic creek valley buffer within this property (i.e. within 150 feet of the channel scar line of stream where the watershed is greater than 640 acres, and outside of major floodplain) per Zoning Ordinance Section 5-1000.
8. This site does not contain steep slopes (15-25%) or very steep slopes (25%).
9. The subject development site does contain Class IV Soils, per the latest County soils map as identified by the Interpretive Guide to Soils Maps, Loudoun County, Virginia. Loudoun County recommends no construction of structures with subgrade levels within natural drainage swales or within soils or spots specifically identified as wet per the latest County soils map as identified by the Interpretive Guide to Soils Maps, Loudoun County, Virginia.
10. Approval of this plan shall in no way grant permission by the county for the developer to trespass on off-site properties.

CONSTRUCTION NOTES

1. All construction shall be in accordance with the standards set forth in the Loudoun County Facilities Standards Manual and the standards of the Virginia Department of Transportation.
2. Erosion and sediment control measures will be provided in accordance with the Virginia Erosion and Sediment Control Handbook (latest edition).
3. The contractor is responsible for any damage to existing roads and utilities which occur as a result of project construction within or contiguous to existing right-of-way.
4. All utilities, including all poles, which are to be relocated, shall be at the developer's expense prior to construction.
5. This plan does not purport to show all existing underground utilities and those shown are necessarily approximate. The contractor shall take all steps necessary to accurately locate and protect all existing utilities sufficiently in advance of construction to ensure that the plans can be executed. In the event of a conflict, the contractor shall notify the engineer.
6. Utility companies shall be notified 72 hours in advance of any excavation.
7. All fill, base and subbase material shall be compacted to 95% of theoretical maximum density as determined by A.A.S.H.T.O. T-99 Method A within plus or minus 2% of optimum moisture for the full width of any dedicated right-of-way.
8. Storm sewer and culvert pipe shall be Class III Reinforced concrete pipe unless otherwise noted.
9. The contractor is responsible for all pavement markings.
10. The contractor is responsible for securing all required permits prior to construction.
11. The contractor is responsible for arranging all necessary inspections.
12. The contractor is responsible for maintaining a safe construction site and complying with all OSHA regulations.

TREE CONSERVATION

A Tree Conservation plan is not required per FSM 7-302 because trees are not being saved to meet Canopy, BMP Credits, or other requirements.

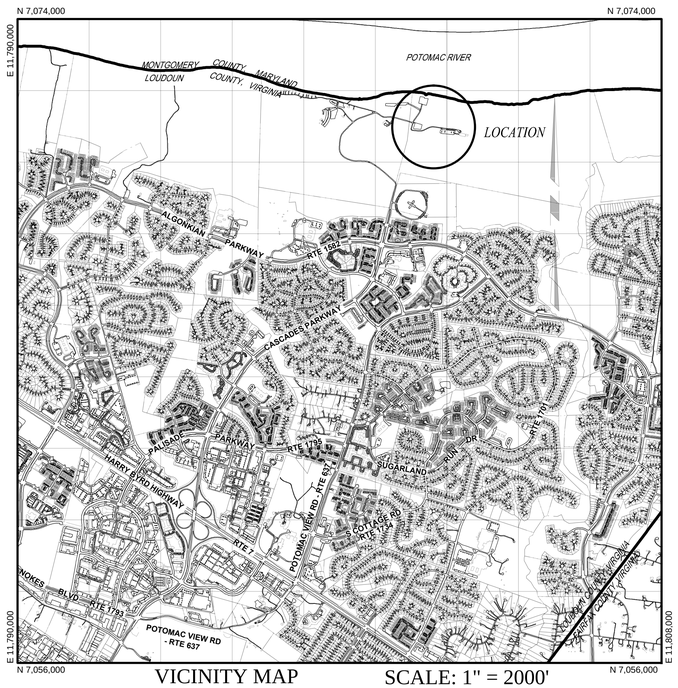
PARKING TABULATION

The number of parking spaces remain unchanged.
There is no building expansion proposed with this SPAM.

APPLICANT / OWNER:

NOVA PARKS
5400 OX ROAD
FAIRFAX STATION, VA 22039
703-359-4621

CONTACT: BRIAN NOLAND



VICINITY MAP SCALE: 1" = 2000'

SITE INFORMATION

PIN #	ZONE	AREA
017-39-8983	A3	272.86 AC.
010-38-9374	A3, PDH4	380.70 AC.

ZONING: REVISED 1993 ZONING ORDINANCE

NOTE:

Proposed entrances from state maintained roads will be staked by Paciulli, Simmons & Associates. If required, Director may request field assistance to identify specific areas of proposed development as related to existing site conditions. Please contact Jack Williams at Paciulli, Simmons & Associates, LTD. 50 Catoctin Circle NE, Suite 200, Leesburg, VA. 20176 ph. (703) 777-2755.

APPROVAL BLOCK

LAND DEVELOPMENT APPLICATION
NUMBER SPAM-2017-0089

Director, Department of Building & Development — Date 1/30/2018

Sheet Index

LOUDOUN COUNTY NOTES: (PER FSM SEC. 8.106.A.21)

a. Subbase depth is based on a CBR value of 4, an estimate which will be revised once the soil tests of subgrade are performed.

b. A smoothing grade shall be maintained from the centerline of the existing road to the curb and gutter, to preclude the forming of false gutters and/or the ponding of any water on the roadway.

c. Standard guardrail and handrail shall be installed at those locations as designated during final field inspections by Loudoun County or VDOT.

d. The approval of these plans shall in no way relieve the owner of complying with other applicable local, state and federal requirements.

NO.	SHEET NUMBER AND REVISION DESCRIPTION	DATE
2	Signature Submission	1/29/2018
1	2nd Submission	12/15/2017

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Suite 200
Leesburg, VA 20176
Phone 703.777.2755
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Civil Engineering
Land Planning
Surveying
Sustainable Design

ALGONKIAN WOODLANDS ENTRANCE
LOUDOUN COUNTY, VIRGINIA
ALGONKIAN ELECTION DISTRICT

COVER SHEET

COMMONWEALTH OF VIRGINIA
DAVID E. PHILLIPS
Lic. No. 033010
1-29-18
PROFESSIONAL ENGINEER

DATE: 12-15-2017
FILE NO: 2017.025
DRN: R.E.K.
CKD: D.E.P.
SHEET 1 OF 24

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PROFILE LEGEND

- PROFILE GRADE (EX. @ LEFT B.R.L.)
- PROFILE GRADE (EX. @ RIGHT B.R.L.)
- PROFILE GRADE (EX. @ STREET CENTERLINE)
- PROFILE GRADE (EX. @ UTILITY CENTERLINE)
- PROFILE GRADE (PROPOSED)
- SANITARY SEWER (EXIST.) — 180' - 10" san @ 1.23%
- SANITARY SEWER (PROPOSED) — 275' - 8" SAN @ 0.75%
- STORM SEWER (EXIST.) — 78' - 24" rcp @ 2.64%
- STORM SEWER (PROPOSED) — 150' - 24" RCP @ 1.58%
- WATERMAIN (EXIST.) — 10" w
- WATERMAIN (PROPOSED) — 8" DIP W/L

PLAN (PROPOSED) LEGEND

- BOUNDARY
- BUFFER YARD
- BUILDING
- DITCH
- CENTERLINE
- LIMITS OF DISTURBANCE
- CONTOUR
- CURB (FACE)
- DRAINAGE DIVIDE
- EASEMENT (CONSERVATION)
- EASEMENT (FLOODPLAIN)
- EASEMENT (INGRESS/EGRESS)
- EASEMENT (MISCELLANEOUS)
- EASEMENT (SANITARY)
- EASEMENT (SIDEWALK/TRAIL)
- EASEMENT (SIGHT DISTANCE)
- EASEMENT (SIGN)
- EASEMENT (STORM)
- EASEMENT (TEMP CONST)
- EASEMENT (WATERLINE)
- EDGE OF PAVEMENT
- EDGE OF SHOULDER
- FENCE
- FLOODPLAIN
- GUARDRAIL
- LOT LINE
- PARKING OVERHANG
- PARKING SPACE
- PAVED DITCH EDGE
- RETAINING WALL
- RIGHT-OF-WAY
- SANITARY LATERAL
- SANITARY SEWER — 8" S
- SIDEWALK OR TRAIL
- SIGHT LINE
- STORM SEWER
- WATER MAIN — W/M — 8" W — W/M
- WATER SERVICE
- YARD LINE

- ACCESSIBLE CURB RAMP
- ACCESSIBLE PARKING SPACE
- BOLLARD
- CENTERLINE
- CURB INLET
- CURB RETURN
- END SECTION
- FIRE DEPARTMENT CONNECTION
- FIRE HYDRANT
- FLOW DIRECTION ARROW
- GRATE INLET
- LIGHT (MISC.)
- MONUMENT
- PARKING SPACE # LABEL
- RIP-RAP
- SANITARY MANHOLE
- SANITARY MANHOLE LABEL
- SPOT ELEVATION — 35.37
- STATION TIC
- STORM BASE/MANHOLE
- STORM STRUCTURE LABEL — XX
- STREET LIGHT
- TEST HOLE
- TEXT — UPPER CASE
- UTILITY POLE
- WATER FLOW ARROW — W
- WATER METER
- WATER VALVE
- WELL
- CURB RAMP LABEL — XX

TOPOGRAPHIC LEGEND

- building
- contour
- contour (index)
- edge of pavement
- ditch
- face of curb
- fence
- gas main — g
- guardrail
- guy wire
- overhead wires
- sanitary sewer
- shoulder (gravel)
- sidewalk or trail
- storm inlet
- storm sewer
- stream (or pond) edge
- treeline
- u.g. cable tv — CATV
- u.g. electric — UGE
- u.g. phone — UGT
- wall
- water main — W/M
- wetlands
- adjoining property line

- accessible curb ramp
- bollard
- cable tv pedestal — V
- electric transformer — E
- electric manhole — E
- fire hydrant
- flagpole
- gas valve
- guy anchor point
- hvac
- light (misc.)
- mail box
- phone manhole — T
- phone pedestal — T
- post
- sanitary manhole
- sanitary manhole label — XXX
- shrub
- sign
- storm grate inlet
- storm manhole
- storm structure label — XX
- street light
- test hole
- text — *lower case*
- traffic signal controls — TS
- traffic signal pole
- tree
- utility pole
- utility pole w/ light
- water meter
- water valve

STANDARD ABBREVIATIONS

ITEM	PROPOSED	*existing*
CAST IRON PIPE	**CIP**	*cip*
CLEARANCE	**CLR**	*clr*
CLEANOUT	**CO**	*co*
CONCRETE	**CONC**	*conc*
COPPER	**Cu**	*Cu*
CORRUGATED METAL PIPE	**CMP**	*cmp*
CORRUGATED PLASTIC PIPE	**CPP**	*cpp*
DUCTILE IRON PIPE	**DIP**	*dip*
EASEMENT	**ESMT**	*esmt*
EDGE OF PAVEMENT	**EP**	*ep*
ELEVATION	**ELEV**	*elev*
EXISTING	**------**	*ex*
FACE OF CURB	**FC**	*fc*
FINISHED FLOOR ELEVATION	**FF**	*ff*
FIRE HYDRANT	**FH**	*fh*
FORCE MAIN	**FM**	*fm*
GRADE	**GRD**	*grd*
HEAVY DUTY CLEANOUT	**HDCO**	*hdco*
HEAD WATER	**HW**	*hw*
LIMITS OF DISTURBANCE	**L.O.D.**	--------
MAXIMUM	**MAX**	*max*
MINIMUM	**MIN**	*min*
PAVEMENT	**PVMT**	*pvmt*
PROPOSED	**PROP**	--------
REINFORCED CONCRETE PIPE	**RCP**	*rcp*
STREET NAME SIGN	**SNS**	*sns*
SANITARY MANHOLE	**MH**	*mh*
SIDEWALK	**S/W**	*s/w*
STOP SIGN	**SS**	*ss*
SANITARY SEWER	**SAN SEW**	*san sew*
SANITARY SEWER EASEMENT	**SAN SEW ESMT**	*san sew esmt*
SHOULDER	**SHLDR**	*shldr*
STORM DRAINAGE EASEMENT	**STM DRN ESMT**	*stm drn esmt*
WATER METER	**METR**	*metr*
WATERLINE EASEMENT	**W/L ESMT**	*w/l esmt*
WATER SURFACE ELEVATION	**WSE**	*wse*
WATERMAIN	**W/M**	*w/m*
YEAR	**YR**	*yr*
TOP OF CURB	**TC**	*tc*
FLOW LINE	**FL**	*fl*

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ALGONKIAN WOODLANDS ENTRANCE

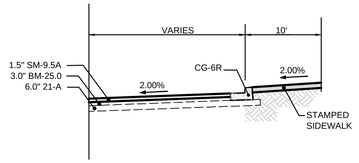
LOUDOUN COUNTY, VIRGINIA

ALGONKIAN ELECTION DISTRICT

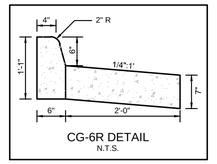
STANDARD LEGEND

COMMONWEALTH OF VIRGINIA
DAVID E. PHILLIPS
Lic. No. 033010
10-4-17
PROFESSIONAL ENGINEER

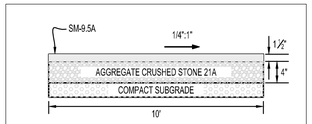
DATE: 10-04-2017
FILE NO: 2017.025
DRN: R.E.K.
CKD: D.E.P.
SHEET 2



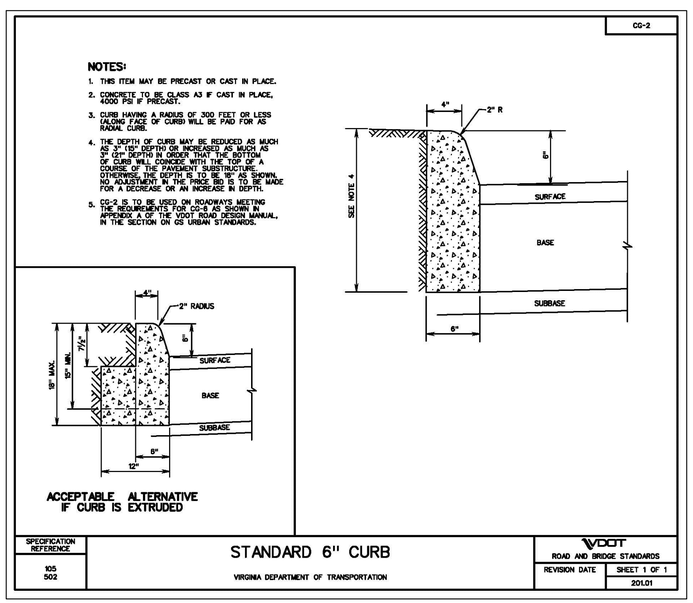
TYPICAL SECTION
WOODLANDS ENTRANCE PARKING LOT
N.T.S.

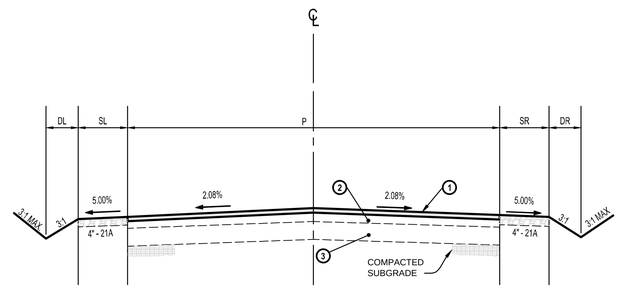


CG-6R DETAIL
N.T.S.



STANDARD TRAIL





TYPICAL STREET SECTION
N.T.S.

STREET NAME	FUNCTIONAL CLASSIFICATION	DL	SL	P	SR	DR	DESIGN SPEED	PAVEMENT DESIGN		
								①	②	③
FAIRWAY DRIVE	PRIVATE	4'	2'	20'	2'	4'	25 M.P.H.	1.5" SM-9.5A	3.0" BM-25.0	6.0" 21-A
ACCESS ROAD TO BOAT RAMP	PRIVATE	4'	2'	20'	2'	4'	25 M.P.H.	1.5" SM-9.5A	3.0" BM-25.0	6.0" 21-A

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& ASSOCIATES
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ALGONKIAN WOODLANDS ENTRANCE

LOUDOUN COUNTY, VIRGINIA

ALGONKIAN ELECTION DISTRICT

TYPICAL SECTIONS NOTES AND DETAILS

COMMONWEALTH OF VIRGINIA
DAVID E. PHILLIPS
Lic. No. 033010
12-15-17
PROFESSIONAL ENGINEER

DATE: 12-15-2017
FILE NO: 2017.025
DRN: R.E.K.
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SHEET 3

POTOMAC RIVER

MARYLAND

LOUDOUN COUNTY

780' ±

740' ±

PARK CHALET PL

VOLCANO ISLAND DR

FAIRWAY DR

FAIRWAY DR

FAIRWAY DR

FAIRWAY DR

FAIRWAY DR

FLOODPLAIN LIMITS
SEE SITE NOTE # 6

FLOODPLAIN LIMITS
(SEE NOTE # 6)

FLOODPLAIN LIMITS
SEE SITE NOTE # 6

SITE 1

SITE 2

ZONED: A3

ZONED: PDH4

OWNER: NOVA PARKS
PIN: 017-39-8983
ZONE: A3

OWNER: NOVA PARKS
PIN: 010-38-9374
ZONE: A3

OWNER: NOVA PARKS
PIN: 010-27-2277
ZONE: PDH4

POTOMAC HERITAGE TRAIL

CASCADES PARKWAY

ZONED: A3
ZONED: PDH4

OWNER: LOUDOUN COUNTY
BOARD OF SUPERVISORS
PIN: 010-27-3927
ZONE: PDH4

OWNER: NOVA PARKS
PIN: 017-20-4405
ZONE: PDH4

OWNER: NOVA PARKS
PIN: 010-10-0295
ZONE: PDH4

BRENTMEADE TERRACE

ASHCROFT TERRACE

0 100' 200' 400' 600' 800'

Scale 1" = 200'

X:\Algonkian Woodlands Entrance\SPA\MDWG\Sheets\SITE INDEX MAP.dwg, 10/4/2017 10:45:28 AM

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ALGONKIAN WOODLANDS ENTRANCE

ALGONKIAN ELECTION DISTRICT LOUDOUN COUNTY, VIRGINIA

SITE INDEX MAP

COMMONWEALTH OF VIRGINIA
DAVID E. PHILLIPS
Lic. No. 033010
10-4-17
PROFESSIONAL ENGINEER

DATE: 10-04-2017
FILE NO: 2017.025
DRN: R.E.K.
CKD: D.E.P.

SHEET 4

FAIRWAY DRIVE

PORTION OF EX. ASPHALT TRAIL TO BE REMOVED

PORTION OF EX. ASPHALT ROAD TO BE REMOVED

PORTION OF RIP RAP, HEADWALL & FENCE TO BE REMOVED

EX. 15" RCP TO BE REMOVED

EX. CONC HEADWALLS TO BE REMOVED

EX. TREE TO BE REMOVED

EX. 12" CMP TO BE REMOVED

EX. 15" RCP TO BE REMOVED

EX. CONC HEADWALLS TO BE REMOVED

REMOVE SHRUBS

L.O.D. (TYP)

N 7,071,000 E 11,800,750

N 7,071,000 E 11,801,000

REMOVE PERIMETER 8' CHAIN LINK FENCE AND GRAVEL PARKING LOT

L.O.D. (TYP)

EX. CONC HEADWALLS TO BE REMOVED

REMOVE SHRUBS

REMOVE SHRUBS

EX. 15" RCP TO BE REMOVED

L.O.D. (TYP)

PORTION OF EX. ASPHALT ROAD TO BE REMOVED

FAIRWAY DRIVE

N 7,071,000 E 11,801,000

N 7,070,750 E 11,801,250

THIS SHEET TO BE USED DEMOLITION PURPOSES ONLY!!!

0 12½' 25' 50' 75' 100'

Scale 1" = 25'

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ALGONKIAN WOODLANDS ENTRANCE

LOUDOUN COUNTY, VIRGINIA

ALGONKIAN ELECTION DISTRICT

DEMOLITION PLAN

COMMONWEALTH OF VIRGINIA
DAVID E. PHILLIPS
Lic. No. 033010
10-4-17
PROFESSIONAL ENGINEER

DATE: 10-04-2017
FILE NO: 2017.025
DRN: R.E.K.
CKD: D.E.P.

SHEET 5

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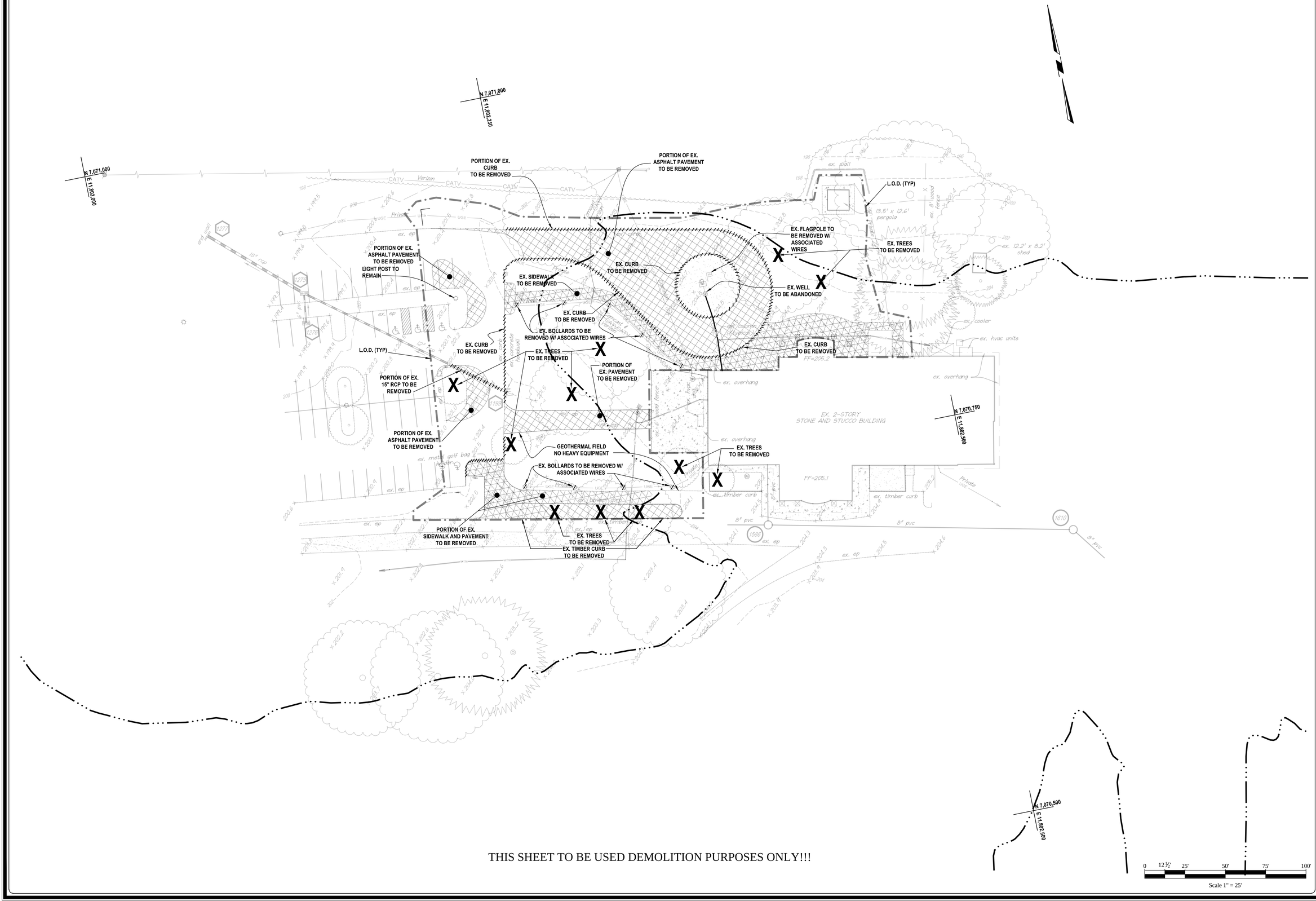

THIS SHEET TO BE USED DEMOLITION PURPOSES ONLY!!!

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ALGONKIAN WOODLANDS ENTRANCE

ALGONKIAN ELECTION DISTRICT LOUDOUN COUNTY, VIRGINIA

DEMOLITION PLAN

COMMONWEALTH OF VIRGINIA
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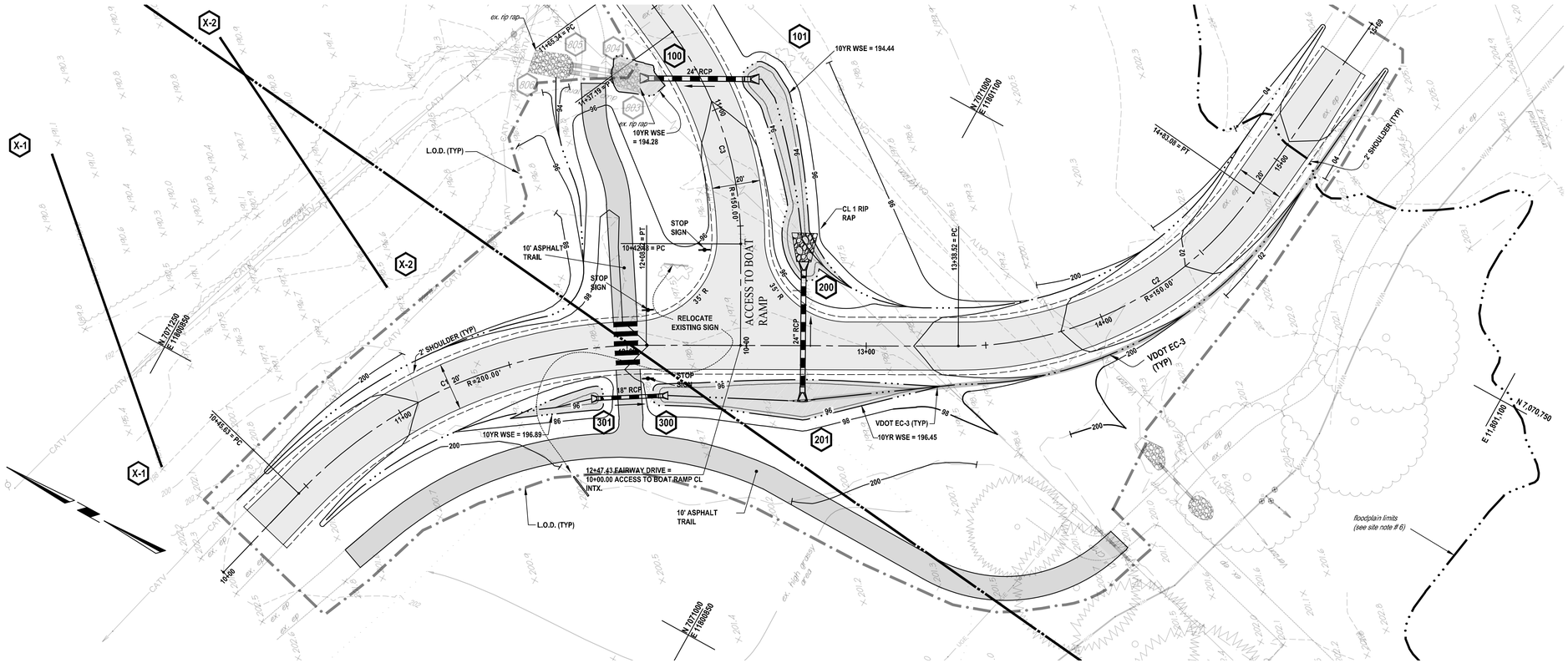
SHEET 6



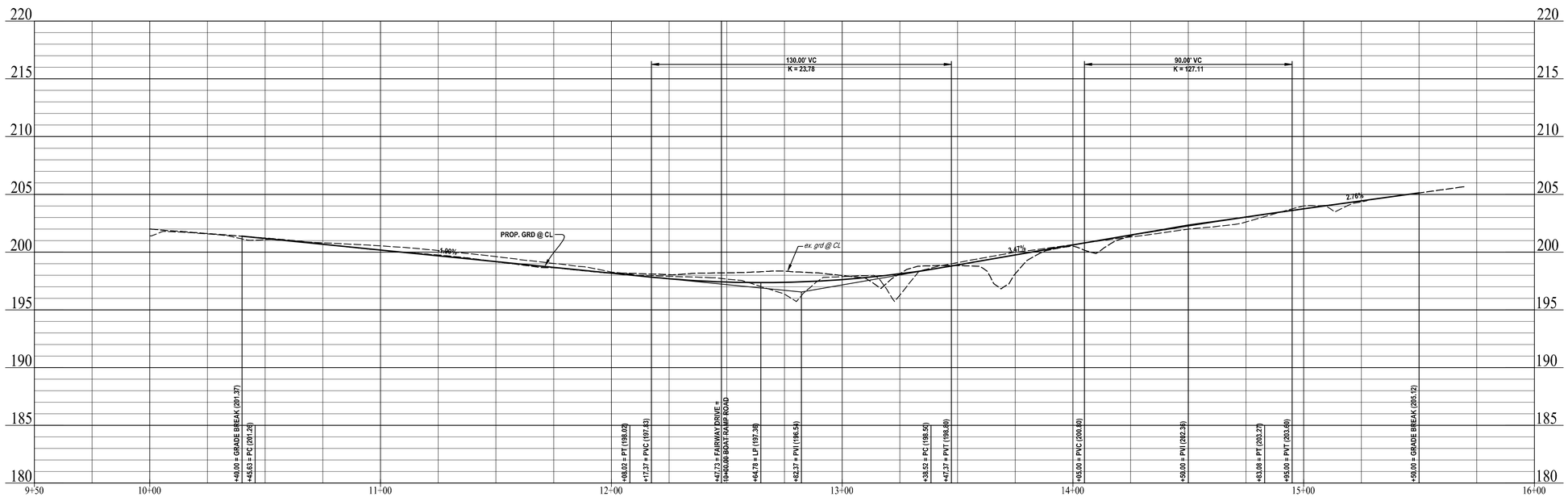
0 12½' 25' 50' 75' 100'

Scale 1" = 25'

STREET CENTERLINE CURVE TABLE

NO.	DELTA	RADIUS	ARC LENGTH	CHORD BEARING	CHORD	TANGENT
C1	046°31'24"	200.00'	162.397'	S 51°55'10" E	157.97'	85.98'
C2	055°13'07"	150.00'	144.562'	S 56°16'02" E	139.03'	78.45'
C3	036°10'41"	150.00'	94.714'	N 43°15'11" E	93.15'	49.00'
C4	008°52'37"	150.00'	23.240'	N 29°36'09" E	23.22'	11.64'

FAIRWAY DRIVE



Scale: 1" = 25' H
1" = 5' V

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ALGONKIAN WOODLANDS ENTRANCE

LOUDOUN COUNTY, VIRGINIA

ALGONKIAN ELECTION DISTRICT

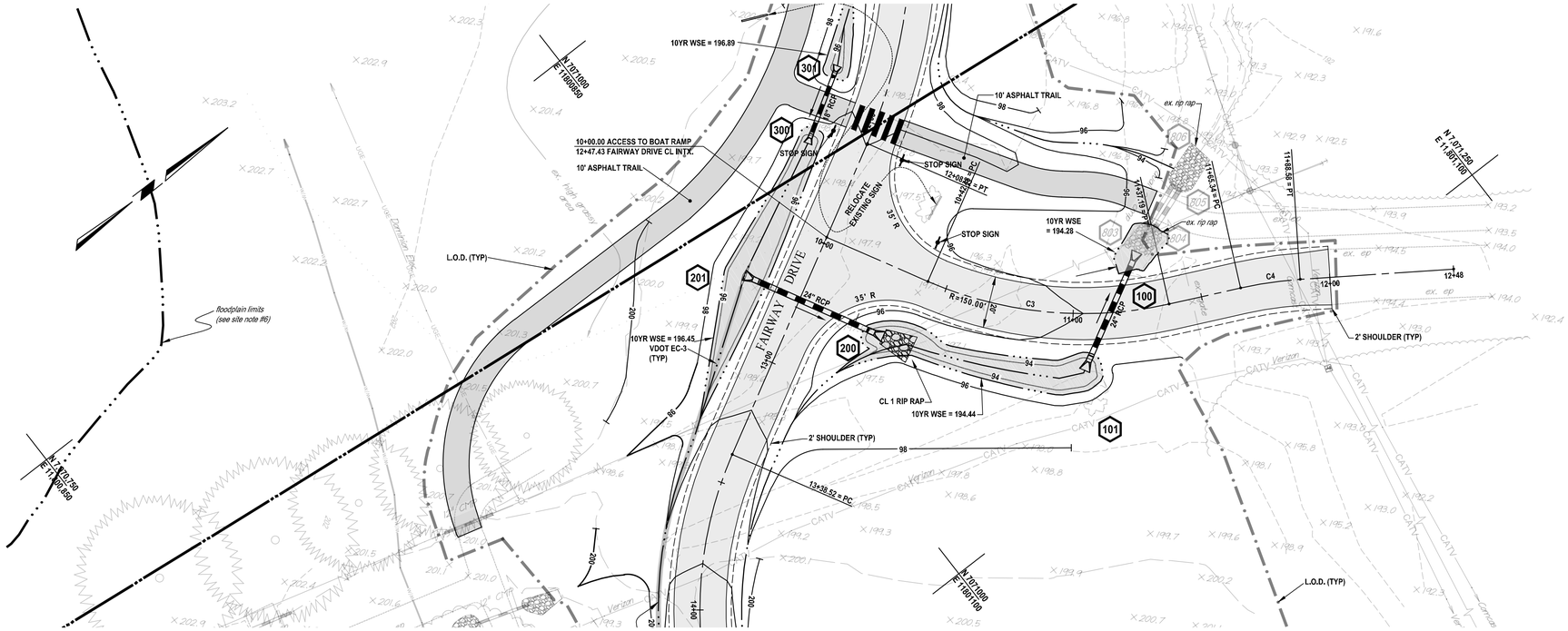
PLAN AND PROFILE FAIRWAY DRIVE

COMMONWEALTH OF VIRGINIA
DAVID E. PHILLIPS
Lic. No. 033010
1-29-18
PROFESSIONAL ENGINEER

DATE: 12-15-2017
FILE NO: 2017.025
DRN: R.E.K.
CKD: D.E.P.

SHEET 7

X:\Algonkian Woodlands Entrance\SPA\MDWG\Sheets\PLAN AND PROFILE FAIRWAY DRIVE.dwg, 1/29/2018 3:11:49 PM



STREET CENTERLINE CURVE TABLE

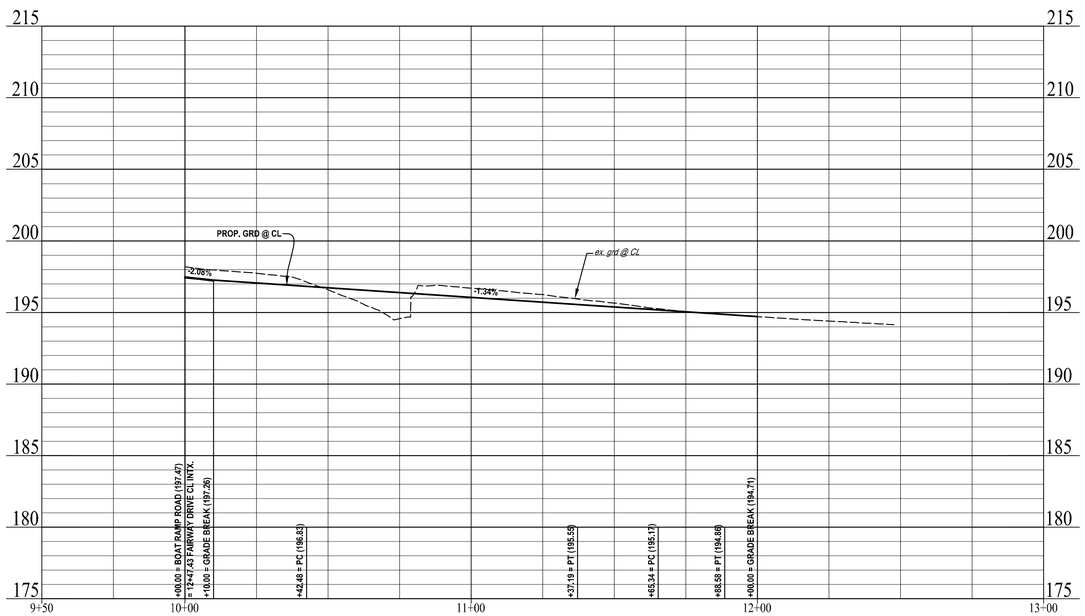
NO.	DELTA	RADIUS	ARC LENGTH	CHORD BEARING	CHORD	TANGENT
C1	046°31'24"	200.00'	162.397'	S 51°55'10" E	157.97'	85.98'
C2	055°13'07"	150.00'	144.562'	S 56°16'02" E	139.03'	78.45'
C3	036°10'41"	150.00'	94.714'	N 43°15'11" E	93.15'	49.00'
C4	008°52'37"	150.00'	23.240'	N 29°36'09" E	23.22'	11.64'

0 12½' 25' 50' 75' 100'

Scale 1" = 25'

ACCESS ROAD TO BOAT RAMP

Scale: 1" = 25' H
1" = 5' V



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Civil Engineering
Land Planning
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ALGONKIAN WOODLANDS ENTRANCE

LOUDOUN COUNTY, VIRGINIA

ALGONKIAN ELECTION DISTRICT

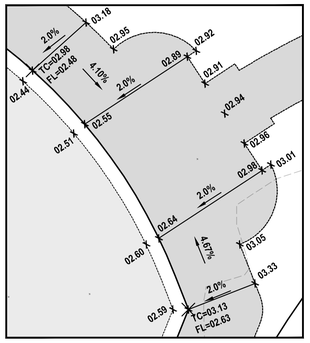
PLAN AND PROFILE BOAT RAMP ROAD

COMMONWEALTH OF VIRGINIA
DAVID E. PHILLIPS
Lic. No. 033010
1-29-18
PROFESSIONAL ENGINEER

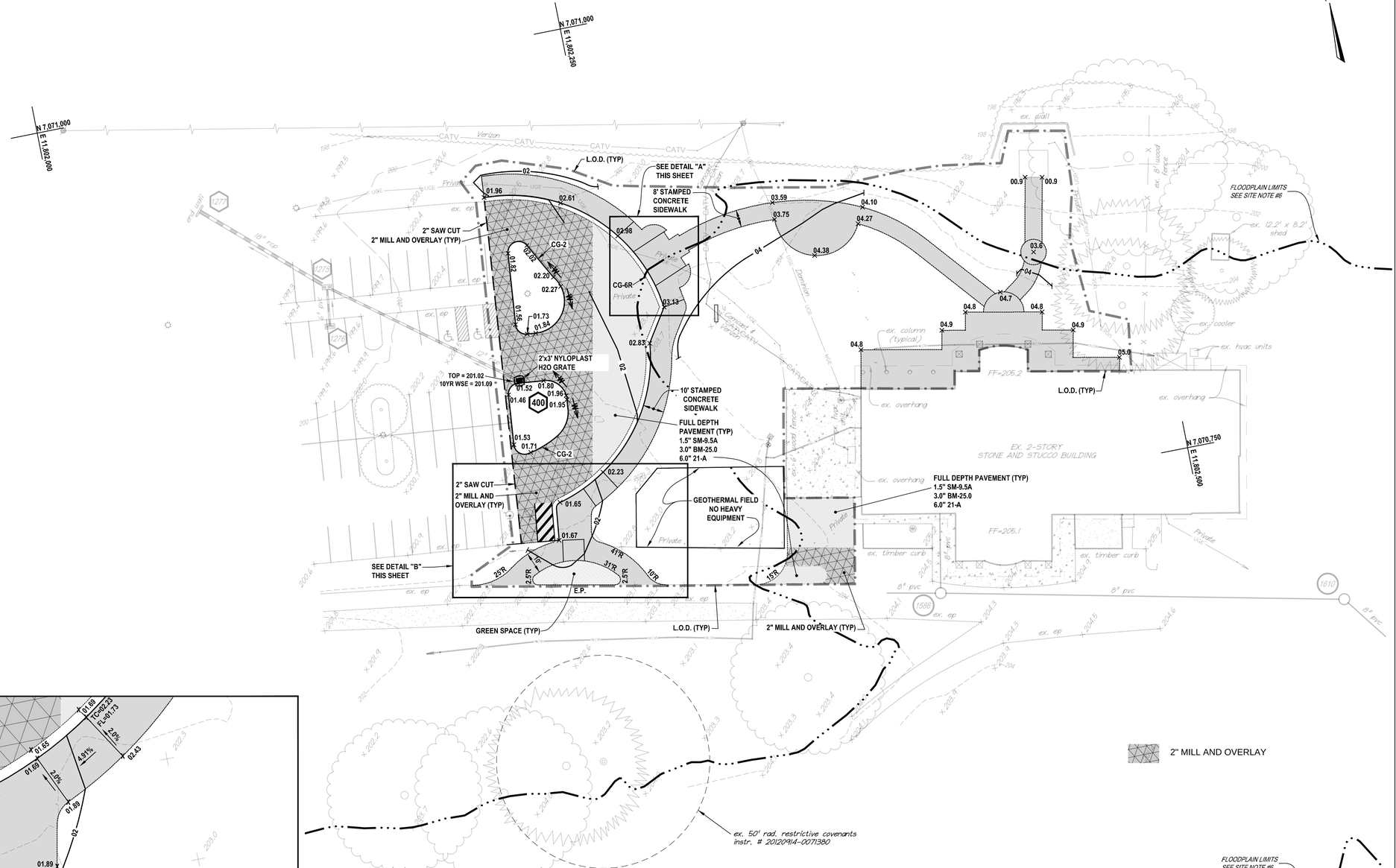
DATE: 12-15-2017
FILE NO: 2017.025
DRN: R.E.K.
CKD: D.E.P.

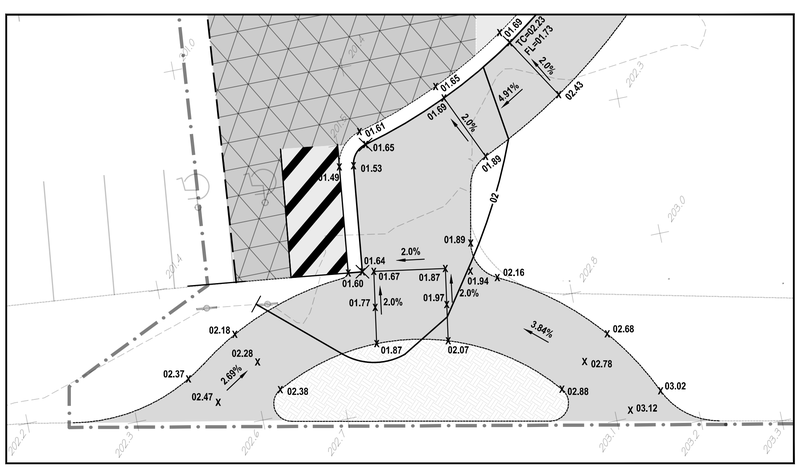
SHEET 8

X:\Algonkian Woodlands Entrance\SPA\MDWG\Sheets\PLAN AND PROFILE FAIRWAY DRIVE.dwg, 1/29/2018 3:16:17 PM



DETAIL "A"
SCALE: 1"=10'



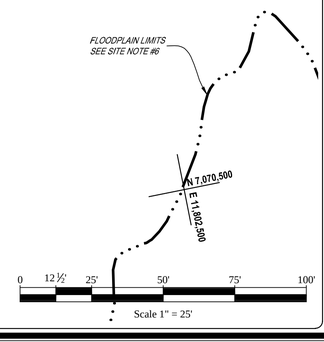


DETAIL "B"
SCALE: 1"=10'

2" MILL AND OVERLAY

SEE SIGN PLAN ON SHEET L3 FOR SIGNAGE

SEE LANDSCAPE PLAN ON SHEET L1 FOR HARDSCAPE DETAILS AND PLANTING PLAN.



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ALGONKIAN WOODLANDS ENTRANCE

LOUDOUN COUNTY, VIRGINIA

ALGONKIAN ELECTION DISTRICT

GRADING PLAN

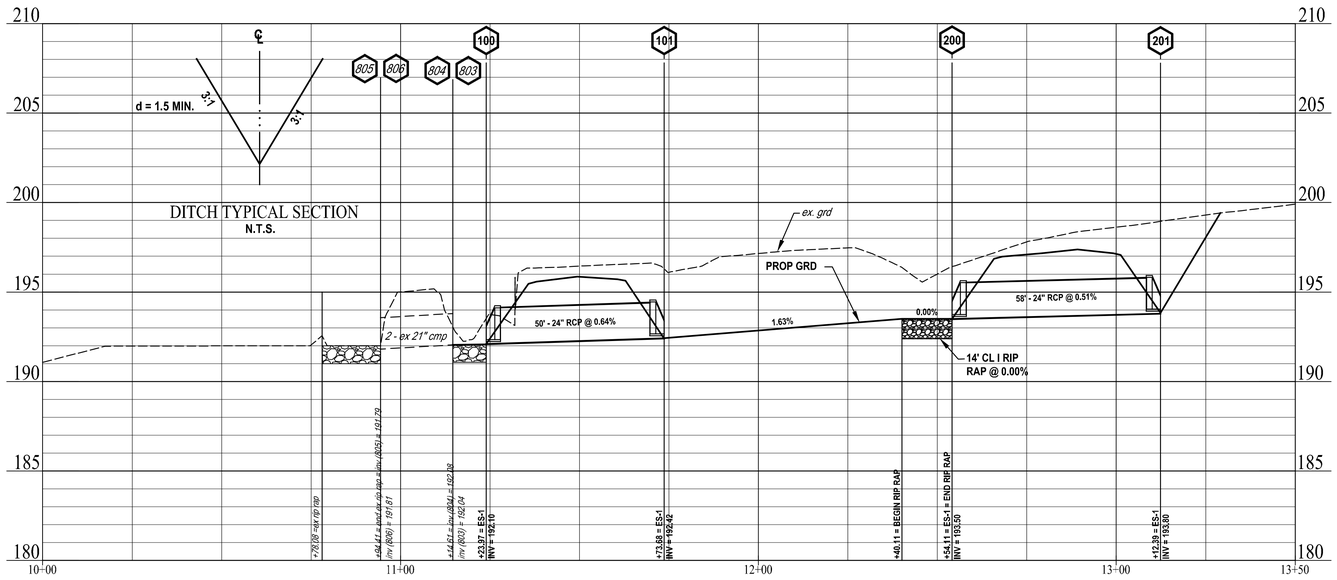
COMMONWEALTH OF VIRGINIA
DAVID E. PHILLIPS
Lic. No. 033010
1-29-18
PROFESSIONAL ENGINEER

DATE: 12-15-2017
FILE NO: 2017.025
DRN: R.E.K.
CKD: D.E.P.

SHEET 9

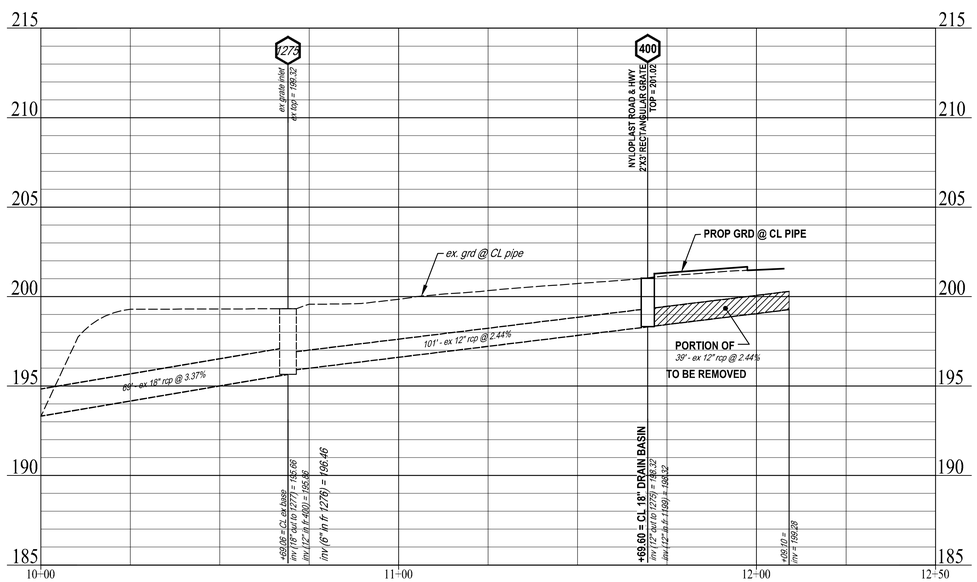
X:\Algonkian Woodlands Entrance\SPA\DWG\Sheets\GRADING PLAN.dwg, 1/29/2018 12:42:57 PM

STM 110 TO 100

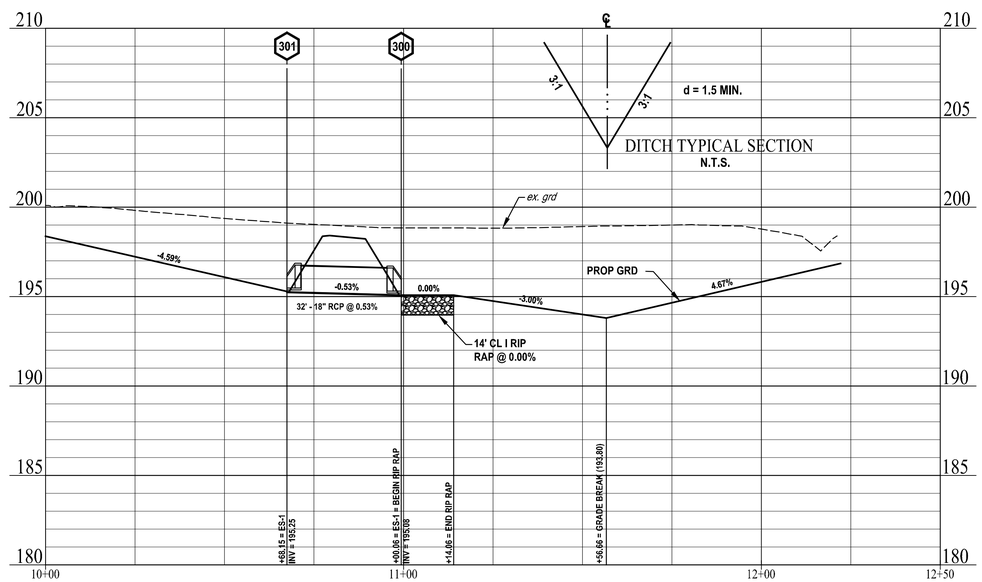


Scale: 1" = 25' H
1" = 5' V

STR. 400 TO EX. 1277



STM 301 TO 300



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ALGONKIAN WOODLANDS ENTRANCE

ALGONKIAN ELECTION DISTRICT LOUDOUN COUNTY, VIRGINIA

STORM DRAINAGE PROFILES

COMMONWEALTH OF VIRGINIA
DAVID E. PHILLIPS
Lic. No. 033010
12-15-17
PROFESSIONAL ENGINEER

DATE: 12-15-2017
FILE NO: 2017.025
DRN: R.E.K.
CKD: D.E.P.

SHEET 10

TIME OF CONCENTRATION

Point of Concentration: Outfall Boat Ramp	LENGTH (FT)	HEIGHT (FT)	"C" VALUE	Mannings "n"	Hydraulic Radius, R	SLOPE (%)	TIME OF TRAVEL (MIN)
Sheet Flow (Seelye), 150' Maximum Distance	150	2.00	0.30	---	---	1.33%	14
Shallow Concentrated Flow, Unpaved	580	6.00	---	---	---	1.03%	6
						TIME OF CONCENTRATION	20
						10 YEAR INTENSITY	3.91
						2 YEAR INTENSITY	2.89

Point of Concentration: Fairway Drive (RT) - 10+00 to 12+64	LENGTH (FT)	HEIGHT (FT)	"C" VALUE	Mannings "n"	Hydraulic Radius, R	SLOPE (%)	TIME OF TRAVEL (MIN)
Sheet Flow (Seelye), 150' Maximum Distance	150	2.00	0.30	---	---	1.33%	14
Shallow Concentrated Flow, Unpaved	620	7.00	---	---	---	1.13%	6
						TIME OF CONCENTRATION	20
						10 YEAR INTENSITY	3.91
						2 YEAR INTENSITY	2.89

Point of Concentration: Fairway Drive (RT) - 13+47 to 15+69	LENGTH (FT)	HEIGHT (FT)	"C" VALUE	Mannings "n"	Hydraulic Radius, R	SLOPE (%)	TIME OF TRAVEL (MIN)
Sheet Flow (Seelye), 150' Maximum Distance	150	2.00	0.30	---	---	1.33%	14
Shallow Concentrated Flow, Unpaved	425	6.00	---	---	---	1.41%	4
						TIME OF CONCENTRATION	18
						10 YEAR INTENSITY	4.12
						2 YEAR INTENSITY	3.06

Point of Concentration: Fairway Drive (RT) - 12+47 to 13+64	LENGTH (FT)	HEIGHT (FT)	"C" VALUE	Mannings "n"	Hydraulic Radius, R	SLOPE (%)	TIME OF TRAVEL (MIN)
Sheet Flow (Seelye), 150' Maximum Distance	150	2.00	0.30	---	---	1.33%	14
Shallow Concentrated Flow, Unpaved	450	7.00	---	---	---	1.56%	4
						TIME OF CONCENTRATION	18
						10 YEAR INTENSITY	4.12
						2 YEAR INTENSITY	3.06

Point of Concentration: To X-2	LENGTH (FT)	HEIGHT (FT)	"C" VALUE	Mannings "n"	Hydraulic Radius, R	SLOPE (%)	TIME OF TRAVEL (MIN)
Sheet Flow (Seelye), 150' Maximum Distance	150	2.00	0.30	---	---	1.33%	14
Shallow Concentrated Flow, Unpaved	800	12.00	---	---	---	1.50%	7
						TIME OF CONCENTRATION	21
						10 YEAR INTENSITY	3.81
						2 YEAR INTENSITY	2.81

Point of Concentration: To X-1	LENGTH (FT)	HEIGHT (FT)	"C" VALUE	Mannings "n"	Hydraulic Radius, R	SLOPE (%)	TIME OF TRAVEL (MIN)
Sheet Flow (Seelye), 150' Maximum Distance	150	2.00	0.30	---	---	1.33%	14
Shallow Concentrated Flow, Unpaved	900	16.00	---	---	---	1.78%	7
						TIME OF CONCENTRATION	21
						10 YEAR INTENSITY	3.81
						2 YEAR INTENSITY	2.81

ROADSIDE & CHANNEL COMPUTATIONS

STREET/CHANNEL NAME	STA TO STA	"C"	AREA	"C" X A INCR.	"C" X A ACCUM.	Tc	I2	Q2	SLOPE	HIGHLY ERODIBLE SOIL?	ALLOW. VEL.	GRASS LINING N=0.03 VEL.	GRASS LINING N=0.03 DEP.	EC-3 LINING N=0.05 VEL.	EC-3 LINING N=0.05 DEP.	I10	Q10	DEP.	AVAIL. DEPTH	CHANNEL GEOMETRY (WIDTH AND SHAPE)
			(AC)			(MIN.)	(IN/HR)	(CFS)	(%)	(Y OR N)	(FT/SEC)	(FT/S)	(FT)	(FT/S)	(FT)	(IN/HR)	(CFS)	(FT)	(FT)	
Fairway Drive (RT)	10+00	12+64	0.30	7.29	2.19	2.19	20	2.89	6.32	1.99	N	4.00	3.6	0.77			3.91	8.55	0.87	1.50	3:1 VEE
Fairway Drive (RT)	13+47	15+69	0.31	6.29	1.95	1.95	18	3.06	5.96	2.76	N	4.00	3.9	0.71			4.12	8.04	0.80	1.50	3:1 VEE
Fairway Drive (RT)	12+64	13+47	0.30	3.40	1.02	5.16	20	2.89	14.90	3.47	N	4.00			3.69	1.16	3.91	20.16	1.30	4.00	3:1 VEE
Fairway Drive (LT)	10+00	12+47	0.60	0.16	0.10	0.10	5	5.01	0.48	1.99	N	4.00	1.8	0.30			6.75	0.65	0.33	1.50	3:1 VEE
Fairway Drive (LT)	13+47	15+69	0.47	0.21	0.10	0.19	5	5.01	0.98	2.76	N	4.00	2.5	0.36			6.75	1.31	0.41	1.50	3:1 VEE
Fairway Drive (LT)	12+64	13+47	0.75	0.04	0.03	5.38	20	2.89	15.54	3.47	N	4.00			3.7	1.18	3.91	21.04	1.32	1.50	3:1 VEE
Access to Boat Ramp (RT)	10+00	11+21	0.33	0.84	0.28	5.66	20	2.89	16.35	4.50	N	4.00			4.1	1.15	3.91	22.12	1.28	2.50	3:1 VEE
Access to Boat Ramp (LT)	10+00	11+50	0.42	0.05	0.02	0.12	5	5.01	0.59	4.50	N	4.00	2.5	0.28			6.75	0.79	0.31	1.50	3:1 VEE
To X-2	N/A	N/A	0.35	0.39	0.14	5.91	21	2.81	16.62	0.58	N	4.00	1.3	0.38			3.81	22.53	0.43		IRREGULAR
To X-1	N/A	N/A	0.30	0.19	0.06	5.97	21	2.81	16.78	1.75	N	4.00	2.1	0.46			3.81	22.75	0.51		IRREGULAR

STORM SEWER DESIGN COMPUTATIONS - 10 YEAR

FROM	TO	TYPE OF STR.	DRAIN. AREA (AC.)	RUNOFF COEF. C	CxA INCR.	CxA ACCUM.	TIME OF CONCENTRATION TC TO PIPE	TIME IN PIPE	ACCUM. TIME	I (IN/HRS)	TOTAL FLOW (CFS)	PIPE RUN MANNINGS "N" = 0.013 LENGTH (FT)	DIA (IN)	UPPER INVERT	LOWER INVERT	SLOPE (%)	CAPACITY OF PIPE (CFS)	VELOCITY (FPS)	ACTUAL VELOCITY (FPS)
400	ex. 1275	GRATE	0.11	0.74	0.08	0.08	5.00	0.23	5.23	6.75	0.57	97	12	198.19	195.86	2.40	5.54	7.05	4.46
ex. 1276	ex. 1275	GRATE	0.22	0.82	0.18	0.18	5.00	0.04	5.04	6.75	1.23	17	6	197.02	196.46	3.29	1.33	6.76	7.66
ex. 1275	ex. 1277	GRATE	0.16	0.86	0.14	0.40	5.23	0.11	5.34	6.75	2.73	71	18	195.66	193.33	3.28	19.08	10.80	7.57

CULVERT COMPUTATIONS

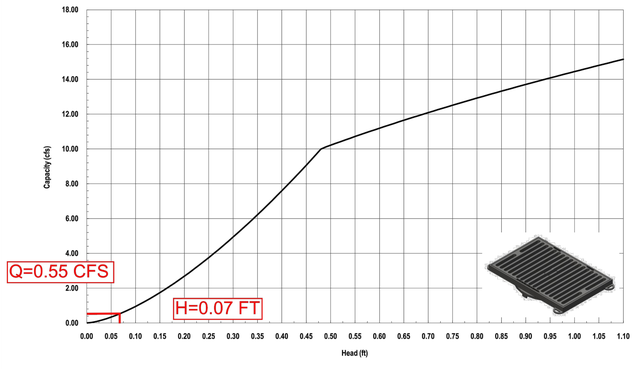
STR. NO.	CULVERT TYPE	Tc (MIN.)	AREA (AC.)	C VALUE	I (10yr) (IN/HR)	Q (10yr) (CFS)	RISE (IN.)	SPAN (IN.)	LENGTH (FT)	U/S INVERT	D/S INVERT	SLOPE %	HEADWATER COMPUTATION INLET CONT. HW/D	INLET CONT. HW	OUTLET CONTROL Ke	OUTLET CONTROL dc	OUTLET CONTROL (dc+D)/2	OUTLET CONTROL ho	OUTLET CONTROL H	OUTLET CONTROL LSo	OUTLET CONTROL HW	CONTROL HEADWATER ELEVATION	EDGE OF SHOULDER ELEVATION	FREEBOARD	OUTLET VELOCITY (FPS) 2yr
101 to 100	RCP	20	18.07	0.31	3.91	21.90	24	24	50	192.42	192.10	0.64	1.01	2.02	0.50	1.16	1.58	1.58	0.58	0.32	1.84	194.44	196.60	2.16	7.2
201 to 200	RCP	20	16.98	0.30	3.91	19.92	24	24	45	193.80	193.50	0.67	1.32	2.65	0.50	1.16	1.58	1.58	0.52	0.30	1.80	196.45	197.50	1.05	6.7
301 to 300	RCP	20	5.20	0.30	3.91	6.10	15	15	32	195.25	195.08	0.53	1.31	1.64	0.50	1.32	1.29	1.29	0.00	0.17	1.12	196.89	198.65	1.76	5.3

GRATE INLET COMPUTATIONS

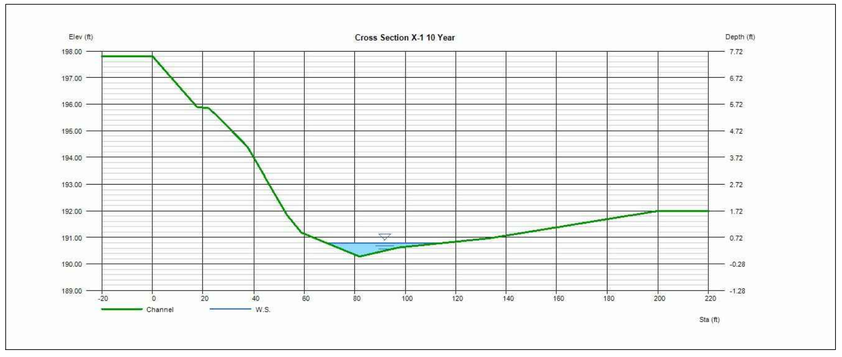
INLET NO.	C	I	AREA	INLET	Q TO INLET	PONDED DEPTH	% INTER-CEPTION	PICKUP Q	BYPASS Q	TOP ELEV	50% BLOCKED ELEV (10 YR)
400	0.74	6.75	0.11	2' X 3'	0.55	0.07	100	0.55	0	201.02	201.09

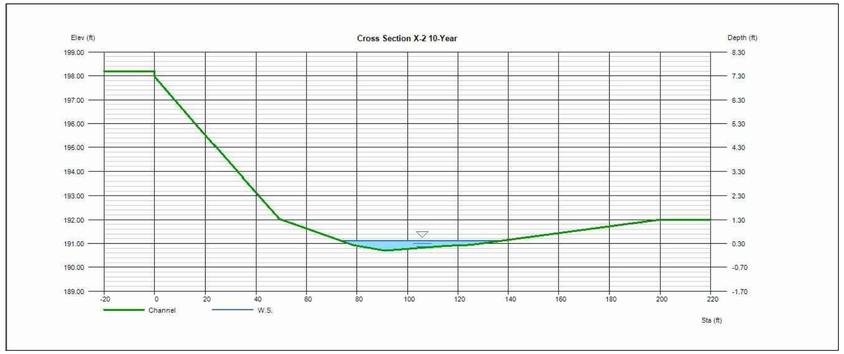
STRUCTURE 400

Nyloplast 2' x 3' Road & Highway Grate Inlet Capacity Chart



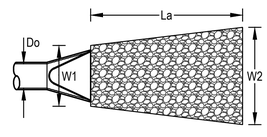
Nyloplast
3130 Verona Avenue • Buford, GA 30518
(866) 888-8479 / (770) 932-2443 • Fax: (770) 932-2490
© Nyloplast Inlet Capacity Charts June 2012





RIP RAP COMPUTATIONS

OUTLET NO.	Do (PIPE SIZE)	Do in FT	FLOW (cfs)	W1 (ft)	W2 (ft)	La (ft)	Depth (ft)	VDOT CLASS	VELOCITY (fps)
200	24	2	19.92	6	10.8	12	2.5	1	7.2



OUTLET PROTECTION DESIGN

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ALGONKIAN WOODLANDS ENTRANCE

LOUDOUN COUNTY, VIRGINIA

ALGONKIAN ELECTION DISTRICT

STORM COMPUTATIONS

COMMONWEALTH OF VIRGINIA
DAVID E. PHILLIPS
Lic. No. 033010
12-15-17
PROFESSIONAL ENGINEER

DATE: 12-15-2017
FILE NO: 2017.025
DRN: R.E.K.
CKD: D.E.P.

SHEET 11

POTOMAC RIVER

N 7,071,750
E 11,800,500

N 7,071,750
E 11,801,250

TO X-1
A = 0.19 AC.
TOTAL = 18.86 AC.
(7.29 + 6.29 + 3.40 + 0.04 + 0.84 + 0.21 + 0.39 + 0.16 + 0.19 + 0.05)
C = 0.30

TO X-2
A = 0.39 AC.
C = 0.35
TOTAL = 18.67 AC (7.29 + 6.29 + 3.40 + 0.04 + 0.84 + 0.21 + 0.39 + 0.16 + 0.05)

FAIRWAY DRIVE (LT) - STA. 10+00 TO 12+47
A = 0.16 AC.
C = 0.60
TOTAL = 0.16 AC.

ACCESS TO BOAT RAMP (LT) - STA. 10+00 TO 11+50
A = 0.05 AC.
C = 0.42
TOTAL = 0.21 AC (0.16 + 0.05 AC)

FLOODPLAIN LIMITS SEE SITE NOTES #6

FAIRWAY DRIVE (LT) - STA. 12+64 TO 13+47
A = 0.04 AC.
C = 0.75
TOTAL = 17.23 AC.
(7.29 + 6.29 + 3.40 + 0.04 + 0.21)

ACCESS TO BOAT RAMP (RT) - STA. 10+00 TO 11+21
A = 0.84 AC.
C = 0.33
TOTAL = 18.07 AC
(7.29 + 6.29 + 3.40 + 0.04 + 0.84 + 0.21)

N 7,071,000
E 11,801,250

L.O.D. (TYP)

FAIRWAY DRIVE (LT) - STA. 13+47 TO 15+69
A = 0.21 AC.
C = 0.47
TOTAL = 0.21 AC.

TO EX STR 273
A = 0.16 AC.
C = 0.86

TO EX STR 276
A = 0.22 AC.
C = 0.82

FLOODPLAIN LIMITS SEE SITE NOTES #6

TO STR 400
A = 0.11 AC.
C = 0.74

FAIRWAY DRIVE (RT) - STA. 10+00 TO 12+64
A = 7.29 AC.
C = 0.30
TOTAL = 7.29 AC.

630' SHALLOW CONCENTRATED FLOW

150' SHEET FLOW

FAIRWAY DRIVE (RT) - STA. 12+64 TO 13+47
A = 3.40 AC.
C = 0.30
TOTAL = 16.98 AC.
(7.29 + 6.29 + 3.40)

415' SHALLOW CONCENTRATED FLOW

150' SHEET FLOW

415' SHALLOW CONCENTRATED FLOW

150' SHEET FLOW

DRAINAGE DIVIDE (TYP)

FAIRWAY DRIVE (RT) - STA. 13+47 TO 15+69
A = 6.29 AC.
C = 0.31
TOTAL = 6.29 AC.

N 7,070,250
E 11,802,000

N 7,070,250
E 11,801,250

0 37½' 75' 150' 225' 300'
Scale 1" = 75'

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ALGONKIAN WOODLANDS ENTRANCE

ALGONKIAN ELECTION DISTRICT LOUDOUN COUNTY, VIRGINIA

STORM DRAINAGE DIVIDES MAP

COMMONWEALTH OF VIRGINIA
DAVID E. PHILLIPS
Lic. No. 033010
12-15-17
PROFESSIONAL ENGINEER

DATE: 12-15-2017
FILE NO: 2017.025
DRN: R.E.K.
CKD: D.E.P.

Project Name:	Algonkian Woodlands Entrance
Date:	9/5/2017
Linear Development Project?	No

CLEAR ALL (Ctrl+Shift+R)

data input cells
constant values
calculation cells
final results

Site Information

Post-Development Project (Treatment Volume and Loads)

Pre-ReDevelopment Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be	1.62				1.62
Impervious Cover (acres)	1.69				1.69
					3.31

Post-Development Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be	2.46				2.46
Impervious Cover (acres)	0.85				0.85
Area Check	OK.	OK.	OK.	OK.	3.31

Constants

Annual Rainfall (inches)	43
Target Rainfall Event (inches)	1.00
Total Phosphorus (TP) EMC (mg/L)	0.26
Total Nitrogen (TN) EMC (mg/L)	1.86
Target TP Load (lb/acre/yr)	0.41
Pj (unitless correction factor)	0.90

Runoff Coefficients (Rv)

	A Soils	B Soils	C Soils	D Soils
Forest/Open Space	0.02	0.03	0.04	0.05
Managed Turf	0.15	0.20	0.22	0.25
Impervious Cover	0.95	0.95	0.95	0.95

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	-0.69	**	*TP LOAD REDUCTION NOT REQUIRED*

LAND COVER SUMMARY -- PRE-REDEVELOPMENT

Land Cover Summary-Pre		
Pre-ReDevelopment	**Listed**	**Adjusted[1]**
Forest/Open Space Cover (acres)	0.00	0.00
Weighted Rv(forest)	0.00	0.00
% Forest	0%	0%
Managed Turf Cover (acres)	1.62	1.62
Weighted Rv(turf)	0.15	0.15
% Managed Turf	49%	49%
Impervious Cover (acres)	1.69	1.69
Rv(impervious)	0.95	0.95
% Impervious	51%	51%
Total Site Area (acres)	**3.31**	**3.31**
Site Rv	**0.56**	**0.56**

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.1540	0.1540
Pre-ReDevelopment Treatment Volume (cubic feet)	6,710	6,710
Pre-ReDevelopment TP Load (lb/yr)	**4.22**	**4.22**
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	1.27	1.27
Baseline TP Load (lb/yr) (**0.41 lbs/acre/yr** applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		*1.36*

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary-Post (Final)	
Post ReDev. & New Impervious	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	2.46
Weighted Rv (turf)	0.15
% Managed Turf	74%
Impervious Cover (acres)	0.85
Rv(impervious)	0.95
% Impervious	26%
Final Site Area (acres)	**3.31**
Final Post Dev Site Rv	**0.36**

Land Cover Summary-Post	
Post-ReDevelopment	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	2.46
Weighted Rv (turf)	0.15
% Managed Turf	74%
ReDev. Impervious Cover (acres)	0.85
Rv(impervious)	0.95
% Impervious	26%
Total ReDev. Site Area (acres)	**3.31**
ReDev Site Rv	**0.36**

Land Cover Summary-Post	
Post-Development New Impervious	
New Impervious Cover (acres)	0.00
Rv(impervious)	--

Treatment Volume and Nutrient Load

Final Post-Development Treatment Volume (acre-ft)	0.0980	**Post-ReDevelopment Treatment Volume (acre-ft)**	0.0980	**Post-Development Treatment Volume (acre-ft)**	--
Final Post-Development Treatment Volume (cubic feet)	4,271	**Post-ReDevelopment Treatment Volume (cubic feet)**	4,271	**Post-Development Treatment Volume (cubic feet)**	--
Final Post-Development TP Load (lb/yr)	**2.68**	**Post-ReDevelopment Load (TP) (lb/yr)***	**2.68**	**Post-Development TP Load (lb/yr)**	**--**
Final Post-Development TP Load per acre (lb/acre/yr)	0.81	Post-ReDevelopment TP Load per acre (lb/acre/yr)	0.81		
		Max. Reduction Required (Below Pre-ReDevelopment Load)	**20%**		

Site Compliance Summary

Total Runoff Volume Reduction (ft^3)	0
Total TP Load Reduction Achieved (lb/yr)	0.00
Total TN Load Reduction Achieved (lb/yr)	0.00
Remaining Post Development TP Load (lb/yr)	2.68
Remaining TP Load Reduction (lb/yr) Required	**0.00**

Water Quantity Narrative

Fairway Drive Intersection

Along the intersection of Fairway Drive and the Access Road to Boat Ramp, runoff flows through side ditches. Runoff flows to culvert section 201 either from the west (through culvert system 301-300), or from the east. From there, it flows to the northeast through culvert system 101-100, and then northwest through an existing path crossing. From there, runoff eventually discharges into the Potomac River through cross sections X-1 and X-2. Cross section X-1 is the limit of analysis. With respect to article 5.230.A.1.b from the Loudoun County FSM, the discharge point must be subject to both flood protection analysis and conveyance system protection.

Conveyance System protection is ensured with respect to Loudoun County FSM article 5.230.2.a.i. The article states that a manmade conveyance system shall convey the peak flowrate from the 2-year 24-hour storm event without causing erosion of the system.As per Sheet 11, the velocity through cross section X-1 is approximately 2 feet per second, far lower than required to induce erosion.

Per article 5.230.2.d.i.a, the conveyance system is to be analyzed at least to a point where the system enters the floodplain. The limit of analysis (at cross section X-2) is already located in the floodplain, so this requirement is met. To ensure adequate flood protection, the conveyance system must be adequate for the 10-year 24-hour storm. The calculations supporting this adequacy are found on Sheet 11, in the Roadside and Channel Computations Table, as well as the Culvert Computations Table.

Wedding Venue / Golf Course Club House

Stormwater runoff from the wedding venue and associated parking lot is conveyed into a pipe system that discharges to the northwest. Concentrated runoff flows into existing grate inlets 400, 1276, and 1275. Eventually, this runoff discharges at the outfall, which is the pipe run from the existing structure 1275 to the proposed one at 1277. From there,the runoff eventually discharges into the Potomac River. The remainder of the developed site sheet flows to the north, as it did in the pre-developed condition. With respect to article 5.230.A.1.b from the Loudoun County FSM, the discharge limit must be subject to both flood protection analysis and conveyance system protection.

Conveyance system protection is ensured with respect to Loudoun County FSM article 5.230.2.a.i. This article states that a manmade conveyance system shall convey the peak flow rate from the 2-year 24-hour storm event without causing erosion of the system. The velocity through the limit of analysis is 7.03 feet per second, far lower than what would be required to have significant erosive potential in reinforced concrete pipe. Supporting calculations are shown on Sheet 11, in the table "Storm Sewer Design Computations - 2 Year".

Per Loudoun FSM Article 5.230.3.b.i, the conveyance system is to be analyzed to a point where the site's contributing drainage area is less than or equal to 1 percent of the total watershed area draining to a point of analysis in the downstream conveyance system. Because the contributing site drainage area is both less than an acre and in a larger floodplain, we are justified in keeping the pipe run from existing structure 1275 to structure 1277 as our limit of analysis. To ensure adequate flood protection, the conveyance system must be adequate for the 10-year 24-hour storm. Computations supporting this adequacy are shown on Sheet 11, in the table "Storm Sewer Design Computations - 10 Year". The post-developed flow is less than that of the pre-developed condition due to removal of a cul-de-sac, as well as construction of larger landscape islands.

Water Quality Narrative

BMP Narrative

Being an amendment to an approved site plan, this project is subject to article 5.230.B.b.iv from the Loudoun County FSM, which states that the total phosphorus (TP) load shall be reduced by a factor of 20 percent below the pre-development TP load. Relevant sections of the VRRM Redevelopment Worksheet are located on this sheet to provide proof of compliance. The Pre-Redevelopment TP load is 1.27 lb/acre/year, and 4.22 lb/year for the entirety of the 3.31 acre project area. Land use changes from the redevelopment process include removal of the RV parking lot to the northeast of Fairway Drive, as well as removal of the cul-de-sac located across from the wedding venue building. In total, the Post-Redevelopment TP load reduction required is -0.69 lb/hour, which means that no reduction is required. Because reduction quotas for total phosphorus load are met solely through change in land use, no additional BMPs are required for the project.

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ALGONKIAN WOODLANDS ENTRANCE
LOUDOUN COUNTY, VIRGINIA
ALGONKIAN ELECTION DISTRICT

VRRM & SWM NARRATIVES

COMMONWEALTH OF VIRGINIA
DAVID E. PHILLIPS
Lic. No. 033010
12-15-17
PROFESSIONAL ENGINEER

DATE: 12-15-2017
FILE NO: 2017.025
DRN: R.E.K.
CKD: D.E.P.

CALCULATIONS FOR TEMPORARY BYPASS PIPES (FLEXIBLE PLASTIC PIPE)

PIPE NO.	DRAINAGE AREA	Q2	LENGTH	PIPE SIZE
# 1	9.3 Ac.	8.1 cfs	135 ft.	15 in.
# 2	4.6 Ac.	4.0 cfs	175 ft.	15 in.
# 3	1.6 Ac.	1.38 cfs	40 ft.	12 in.

FAIRWAY DRIVE

SF WITH WASH RACK

SETTLING BASIN

CE

L.O.D. (TYP)

SSF

DD

CIP

SF

AREA TO DD
A = 4.43 AC.

DRAINAGE DIVIDE (TYP)

PIPE # 1 - TEMP 15" FLEXIBLE PLASTIC PIPE

AREA TO CIP
A = 1.24 AC.

N 7,071,000 E 11,800,750

N 7,071,000 E 11,801,000

PIPE # 2 - TEMP 15" FLEXIBLE PLASTIC PIPE

AREA TO CIP
A = 0.75 AC.

FLOODPLAIN LIMITS
SEE SITE NOTE #6

AREA TO SSF
A = 0.32 AC.

AREA TO DD
A = 0.20 AC.

AREA TO DD
A = 5.00 AC.

ex. high grassy area

PIPE # 3 - TEMP 12" FLEXIBLE PLASTIC PIPE

AREA TO DD
A = 0.06 AC.

CULVERT INLET PROTECTION ON EAST AND WEST SIDE OF CULVERT. ALLOW UNDISTURBED (CLEAN) WATER TO FLOW THROUGH THE CULVERT.

N 7,070,750 E 11,801,000

N 7,070,750 E 11,801,250

THIS SHEET TO BE USED FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY!!!

0 12½' 25' 50' 75' 100'

Scale 1" = 25'

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ALGONKIAN WOODLANDS ENTRANCE

ALGONKIAN ELECTION DISTRICT LOUDOUN COUNTY, VIRGINIA

EROSION AND SEDIMENT CONTROL PLAN - PHASE 1

COMMONWEALTH OF VIRGINIA
DAVID E. PHILLIPS
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9-29-17
PROFESSIONAL ENGINEER

DATE: 09-29-2017
FILE NO: 2017.025
DRN: R.E.K.
CKD: D.E.P.

SHEET 14

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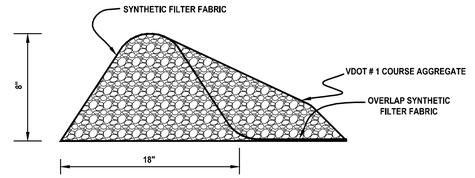
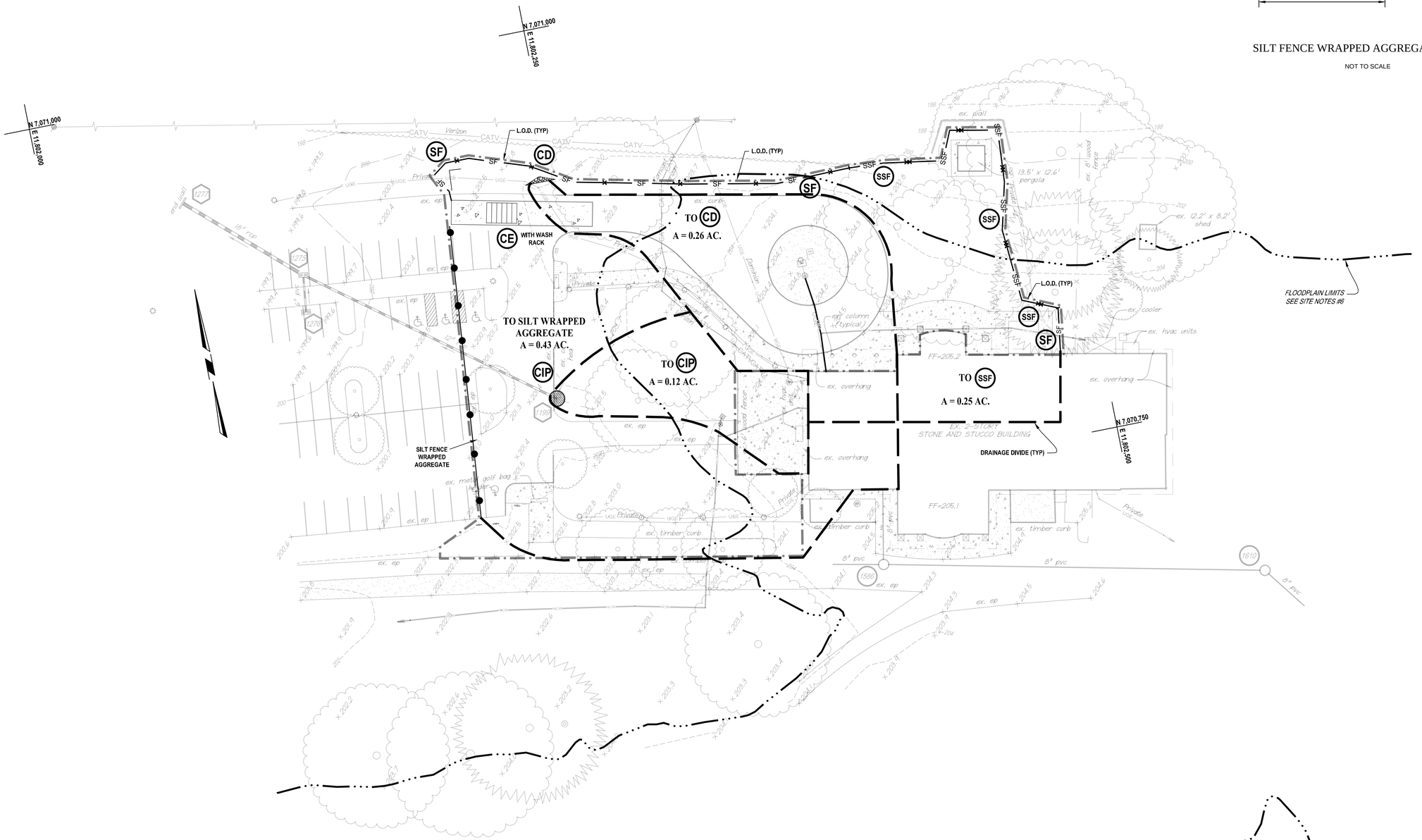


SILT FENCE WRAPPED AGGREGATE DETAIL

NOT TO SCALE



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ALGONKIAN WOODLANDS ENTRANCE

ALGONKIAN ELECTION DISTRICT LOUDOUN COUNTY, VIRGINIA

EROSION AND SEDIMENT CONTROL PLAN - PHASE 1

COMMONWEALTH OF VIRGINIA
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12-15-17
PROFESSIONAL ENGINEER

DATE: 12-15-2017
FILE NO: 2017.025
DRN: R.E.K.
CKD: D.E.P.

CALCULATIONS FOR TEMPORARY BYPASS PIPES (FLEXIBLE PLASTIC PIPE)

PIPE NO.	DRAINAGE AREA	Q2	LENGTH	PIPE SIZE
# 3	4.6 Ac.	4.0 cfs	105 ft.	15 in.
# 4	9.3 Ac.	8.1 cfs	175 ft.	15 in.
# 5	17.2 Ac.	14.9 cfs	70 ft.	15 in.
# 6	0.85 Ac.	2.55 cfs	20 ft.	8 in.
# 7	1.6 Ac.	1.38 cfs	40 ft.	12 in.

FAIRWAY DRIVE

L.O.D. (TYP)

CD

OP

IP

OP

OP

OP

PIPE # 6 - TEMP 8" FLEXIBLE PLASTIC PIPE

PIPE # 5 - TEMP 24" FLEXIBLE PLASTIC PIPE

PIPE # 4 - TEMP 15" FLEXIBLE PLASTIC PIPE

199.8

PIPE # 3 - TEMP 15" FLEXIBLE PLASTIC PIPE

DD

FLOODPLAIN LIMITS SEE SITE NOTE # 6

THIS PORTION OF THE PROPOSED TRAIL IS TO BE CONSTRUCTED AT THE VERY LAST STAGE OF CONSTRUCTION AND/OR AFTER THE REMAINDER OF THE SITE IS CONSTRUCTED, STABILIZED AND TEMPORARY BYPASS PIPE IS REMOVED.

N 7,071,000 E 11,800,750

N 7,071,000 E 11,801,000

N 7,070,750 E 11,801,000

N 7,070,750 E 11,801,250

ex. high grassy area

ex. high grassy area

L.O.D. (TYP)

L.O.D. (TYP)

FLOODPLAIN LIMITS SEE SITE NOTE # 6

FAIRWAY DRIVE

0 12½' 25' 50' 75' 100'

Scale 1" = 25'

THIS SHEET TO BE USED FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY!!!

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ALGONKIAN WOODLANDS ENTRANCE

ALGONKIAN ELECTION DISTRICT LOUDOUN COUNTY, VIRGINIA

EROSION AND SEDIMENT CONTROL PLAN - PHASE 2

COMMONWEALTH OF VIRGINIA
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DATE: 10-04-2017
FILE NO: 2017.025
DRN: R.E.K.
CKD: D.E.P.

SHEET 16

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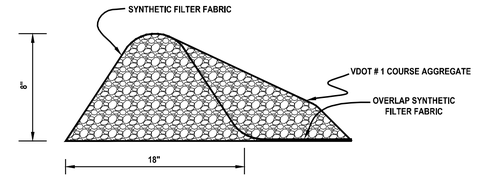
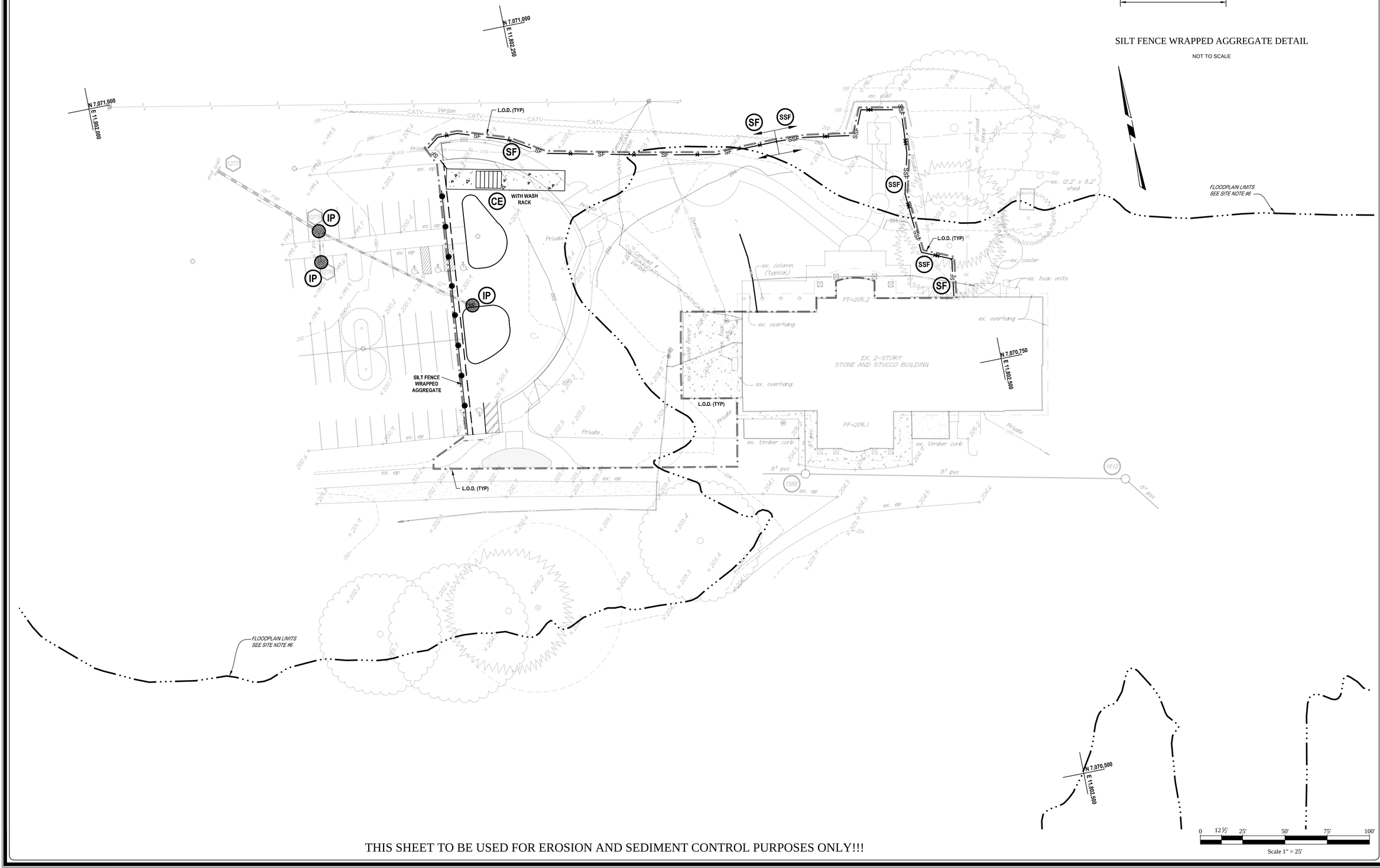


SILT FENCE WRAPPED AGGREGATE DETAIL

NOT TO SCALE



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ALGONKIAN WOODLANDS ENTRANCE

ALGONKIAN ELECTION DISTRICT — LOUDOUN COUNTY, VIRGINIA

EROSION AND SEDIMENT CONTROL PLAN - PHASE 2

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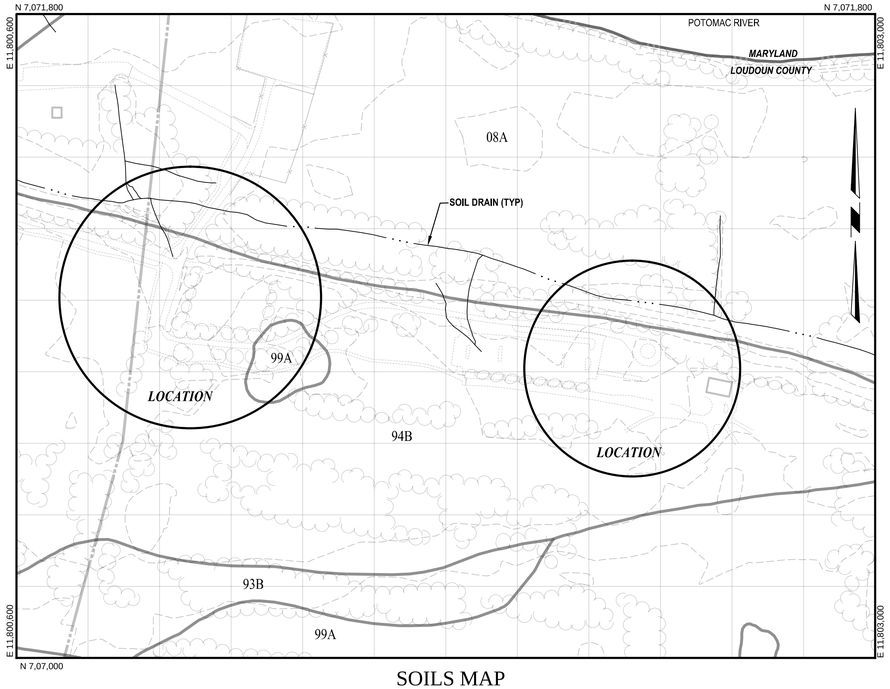
SHEET 17



SOILS MAP

Scale: 1" = 200'

"SUMMARY OF SOIL CHARACTERISTICS AND USE POTENTIAL"

MAPPING UNIT NUMBER NAME, SLOPE, AND HYDROLOGIC GROUP	SOIL CHARACTERISTICS	MAPPING UNIT POTENTIAL GENERAL DEVELOPMENT CENTRAL WATER AND SEWER	SUBCLASSES FOR SELECTED USES CONVENTIONAL SEPTIC TANK DRAINFIELDS	AGRICULTURAL FORESTRY, AND HORTICULTURAL
8A Lindside silt loam, (0-3%) occasional flooding (C)	Very deep, moderately well drained brown and mottled brown and gray silty soils with seasonal water tables on level terrace positions in the flood plain; developed in alluvium of mica-bearing soils derived from mixed acid and basic rock	IV F - very poor potential; subject to flooding depth to hard bedrock is generally greater than 6'	IV - very poor; flooding potential	II - secondary cropland 2W
94B Allegheny silt loam, (0-5%) rarely flooded (A)	very deep well drained brown to yellowish-red loamy and silty soils with short duration perched water tables on convex river terrace positions; developed from alluvium of soils derived from sedimentary rock	II FW - fair potential, rare flooding depth to hard bedrock is generally greater than 6'	II - fair potential, moderate permeability	I - prime farmland 2E
99A Kinkora-Delanco complex, (0-3%) rarely flooded Hydric soil (D/C)	very deep poorly drained mottled gray clayey (Kinkora) and moderately well drained yellowish-brown loamy (Delanco) soils with a seasonal water table on concave to level terrace positions over siltstone	IV FW - very poor potential; prolonged water table and high shrink-swell clays depth to hard bedrock is generally greater than 6'	IV - very poor potential; water tables	IV -- grassland agriculture 2W

The subject development site contains Class IV Soils, per the latest County Soils Map and as identified by The Interpretive Guide To Soils Maps, Loudoun County, Virginia. Loudoun County recommends no construction of structures with subgrade levels within natural drainage swales or within soils or spots specifically identified as wet per the latest County soils map as identified by the Interpretive Guide to Soils Map, Loudoun County, Virginia.

TABLE 6-1

GENERAL EROSION AND SEDIMENT CONTROL NOTES

ES-1: Unless otherwise indicated, all vegetative and structural erosion and sediment control practices will be constructed and maintained according to minimum standards and specifications of the Virginia Erosion and Sediment Control Handbook and Virginia Regulations VR 625-02-00 Erosion and Sediment Control Regulations.

ES-2: Sediment traps will be checked regularly for sediment cleanout. The gravel outlets will be checked regularly for sediment buildup which will prevent drainage. If the gravel is clogged by sediment, it shall be removed and cleaned or replaced.

ES-3: Storm drain inlet protection measures shall be inspected after each storm event and repaired as necessary. Sediment shall be removed and the trap restored to its original dimensions when sediment has accumulated to one-half the design depth of the trap.

ES-4: Silt fence barriers will be checked regularly for undermining or deterioration of the fabric. Sediment shall be removed when the level of sediment deposition reaches half way to the top of the barrier.

ES-5: Temporary diversion dikes shall be inspected after each storm event (or once every two weeks whether a storm event has occurred or not) and repaired as necessary. Damages caused by construction traffic or activities will be repaired prior to the end of each working day.

ES-6: Seeded areas will be checked regularly to ensure that a good stand is maintained. Areas should be fertilized and reseeded as needed.

ES-7: All disturbed areas are to drain to approved sediment control measures at all times during land disturbing activities and during site development until final stabilization is achieved.

ES-8: During dewatering operations, water will be pumped into an approved filtering device.

ES-9: The contractor shall inspect all erosion control measures daily and after each runoff-producing rainfall event. Any necessary repairs or cleanup to maintain the effectiveness of the erosion control devices shall be made immediately.

EROSION AND SEDIMENT CONTROL LEGEND

SYMBOL	CONTROL	STD. & SPEC.
CE	TEMPORARY STONE CONSTRUCTION ENTRANCE	3.02
SF	SILT FENCE	3.05
SSF	SUPER SILT FENCE	SEE DETAIL, SHEET 17
IP	STORM DRAIN INLET PROTECTION	3.07
DD	TEMPORARY DIVERSION DIKE	3.09
OP	OUTLET PROTECTION	3.18
CD	ROCK CHECK DAM	3.20
TP	TREE PROTECTION	3.38

EROSION/SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION

The purpose of this project is to improve the existing public streets and parking areas in Algonkian Park on 838 acres land. A total of 2.36 acres will be disturbed during construction.

EXISTING SITE CONDITIONS

This site consists of existing street, walkways, lawns and wooded areas. The topography is fairly flat and the site drains to the north to the Potomac River with slopes averaging between 2% to 5%.

ADJACENT PROPERTY

The construction site is within a 838 acre parkland, and is surrounded on all sides by parkland.

All efforts should be taken to decrease the impacts to any adjacent water courses/bodies downstream of the site by ensuring proper maintenance of all controls in the drainage shed.

OFFSITE AREAS

Any excess material to be transported to an offsite area in Loudoun County will only be transported to a legally permitted site.

SOILS

See Soils Map - This Sheet.

CRITICAL EROSION AREAS

The site contains Class II soils. The site contains maximum 5% slopes and outfalls at the north within existing floodplain with moderate slope. The entire construction site is within the floodplain area and all efforts should be taken to keep the floodplain clean.

EROSION AND SEDIMENT CONTROL MEASURES

Unless otherwise indicated, all vegetative and structural erosion and sediment control practices shall be constructed and maintained in accordance with the minimum standards and specifications of the Virginia Erosion and Sediment Control Handbook (Latest Edition) and Chapter 1220 of the Codified Ordinance Of Loudoun County.

STRUCTURAL PRACTICES

3.02 CONSTRUCTION ENTRANCE - Provide Construction Entrances with Wash Racks at the locations shown on the plan.

3.05 SILT FENCE - Provide Silt Fence for sheet flow areas at locations shown on the plan.

3.05 SUPER SILT FENCE - Provide Super Silt Fence for sheet flow areas at locations shown on the plan.

3.07 STORM DRAIN INLET PROTECTION - Provide Inlet Protection at storm drainage inlets as shown on the plan.

3.08 CULVERT INLET PROTECTION - Provide Culvert Inlet Protection at entrances to existing and proposed culverts as shown on the plan.

3.09 TEMPORARY DIVERSION DIKE - Provide Temporary Diversion Dikes to divert clean runoff past the disturbed area via temporary bypass pipes at locations shown on the plan.

3.18 OUTLET PROTECTION - Provide Outlet Protection to reduce erosion and under-cutting from scouring at outlets and to reduce flow velocities before stormwater enters receiving channels at locations shown on the plan.

3.20 ROCK CHECK DAM - Provide Check Dams to reduce velocity of stormwater flow in ditches and channels.

3.38 TREE PROTECTION - Provide Tree Protection to protect and preserve trees at areas shown on the plan.

VEGETATIVE PRACTICES

1. TOP SOIL (STOCKPILE) -- 3.30 -- Topsoil will be stripped from areas to be graded and stockpiled for later use. Stockpiles will be stabilized with temporary vegetation to prevent soil loss and sediment transport from the stockpile itself until needed for final grading and permanent stabilization.

2. TEMPORARY SEEDING -- 3.31 -- All denuded areas that will be left dormant for more than seven (7) days shall be seeded with fast germinating temporary vegetation immediately following grading. Selection of the seed mixture will depend on the time of year it is applied.

3. PERMANENT SEEDING -- 3.32 -- Permanent seeding shall be applied to all areas that have achieved final grade as follows:

TOPSOIL: At least 2" thickness obtained from stockpiles on site free of large debris.
LIME: 4000#/ACRE
SEED: Kentucky 31 Tall Fescue 200#/ACRE
FERTILIZER: 10/20/10 Mix, 1000#/ACRE
MULCH: Straw or hay (locally obtained) 4000#/ACRE

MANAGEMENT STRATEGIES

1. The job superintendent shall be responsible for the installation and maintenance of all erosion and sediment control practices.
2. Areas that are not to be disturbed will be clearly marked by flags, signs, etc.
3. Limits of clearing and grading for the streets and infrastructure are to be per the Phase 1 and Phase 2 E&S plan. The Department of Building and Development shall be notified for a pre-construction meeting prior to the clearing of any area.
4. Construction will be sequenced so that grading operations can begin and end as quickly as possible.
5. All applicable federal, state, and local regulations pertaining to working in or crossing live watercourses shall be met.
6. During utility construction, no more than 500 linear feet of trench may be opened at one time, contractor shall place all spoils on the uphill side of the open trenches and backfill trenches as soon as practical so as to minimize potential for erosion of excavated materials.
7. All earthen structures should be seeded and mulched immediately after being constructed with temporary vegetation to prevent structural damage or failure.
8. Contractor shall coordinate with Loudoun County Inspector on the location of on-site stockpiles. Stockpiles should be protected with Silt Fence at the toe of the slope and Diversion Dikes, if necessary.
9. The Loudoun County Inspector has the authority to add or delete controls as needed in the field as conditions warrant. Additionally, no Sediment Traps or Basins can be removed without prior approval of the County Inspector.

PHASE 1

1. Clear for and install Construction Entrance with wash rack prior to any land disturbing activities on the site. Mud and debris shall be washed from all construction vehicles and equipment before leaving the site. The sediment-laden water will be diverted to nearby check dam and settling basin. Water for wash rack will be supplied by a portable water source.
2. Clear minimal amount for installation of temporary bypass pipes.
3. Install temporary bypass pipes as specified on the plans.
4. Install diversion dike, silt fence, super silt fence, inlet and outlet protections.
5. Install Tree Protection.
6. Clear for remainder of perimeter controls.
7. Install remainder of perimeter and sediment trapping controls as shown on the PHASE 1 plan including:
   - Silt Fence
   - Super Silt Fence
   - Storm Drain Inlet Protection
   - Culvert Inlet Protection
   - Temporary Diversion Dikes
   - Outlet Protection
   - Rock Check Dams
   - Silt Fence Wrapped Aggregate
8. With authorization from the Loudoun County Inspector, clear and grade the remainder of the site.

PHASE 2

1. Temporary seeding and mulching or other stabilization will follow immediately after grading.
2. Install remaining storm sewer system.
3. After stormwater system has been installed, install outlet protection and inlet protection.
4. Install any other controls per the Phase 2 plan.
5. All erosion and sediment controls are to remain in place for the duration of the project and are to be removed only with the concurrence of the Inspector.
6. After achieving adequate stabilization and approval of the County Inspector, the temporary Erosion and Sediment controls shall be cleaned up and removed. Inlet protection is to remain in place until vegetation is established. Any bare areas shall be seeded and mulched.

PERMANENT STABILIZATION

All areas disturbed by construction shall be stabilized with permanent seeding immediately following finish grading. Seeding shall be done with Kentucky 31 Tall Fescue according to Std.& Spec. 3.32 Permanent Seeding of the handbook. In all seeding operations, seed, fertilizer and lime will be applied prior to mulching.

STORMWATER MANAGEMENT (MS-19)

See Stormwater Management and Outfall calculations - SHEET 13.

MAINTENANCE

In general, all erosion and sediment controls will be checked daily and after each significant rainfall. The following items will be checked in particular:

1. The Sediment Basin will be cleaned out when the level of sediment buildup reaches the cleanout point indicated on the riser pipe.
2. Sediment Traps and gravel outlets will be checked regularly for sediment cleanout. If the gravel is clogged by sediment, it shall be removed and cleaned or replaced.
3. Silt Fence will be checked regularly for undermining or deterioration of the fabric. Sediment shall be removed when the level of sediment deposition reaches halfway to the top of the fence.
4. Seeded areas will be checked regularly to ensure that a good stand is maintained. Areas should be fertilized and re-seeded as needed.
5. All mud and silt shall be removed from the existing public streets on a daily basis.

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ALGONKIAN WOODLANDS ENTRANCE

LOUDOUN COUNTY, VIRGINIA

ALGONKIAN ELECTION DISTRICT

EROSION & SEDIMENT CONTROL NARRATIVE, NOTES & SOILS MAP

COMMONWEALTH OF VIRGINIA
DAVID E. PHILLIPS
Lic. No. 033010
12-15-17
PROFESSIONAL ENGINEER

DATE: 12-15-2017
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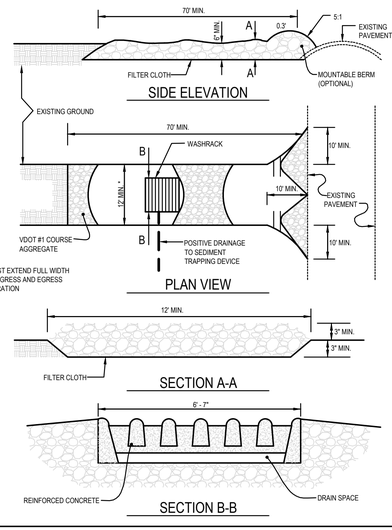
DRN: R.E.K.
CKD: D.E.P.

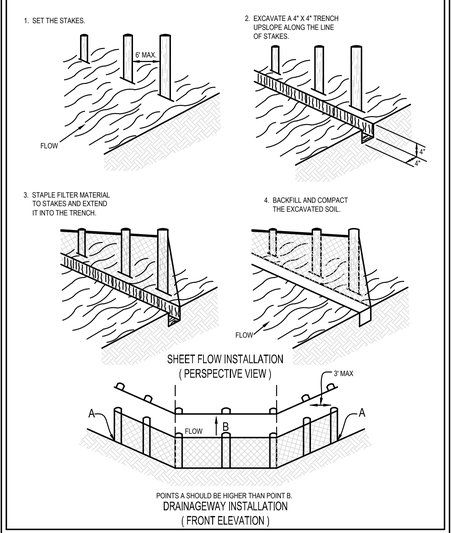
SHEET 18

STONE CONSTRUCTION ENTRANCE



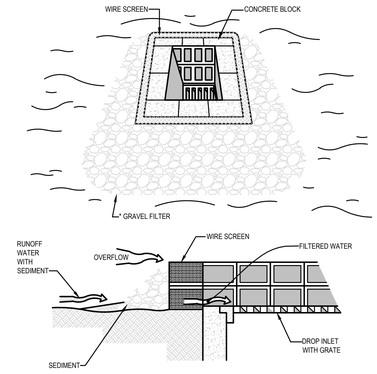
SOURCE: ADAPTED from 1983 Maryland Standards for Soil erosion and Sediment Control, and Va. DSWC — PLATE. 3.02-1

CONSTRUCTION OF A SILT FENCE
(WITHOUT WIRE SUPPORT)



SOURCE: Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control,V.A. DSWC (Sherwood and Wyant) — PLATE. 3.05-2

BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER

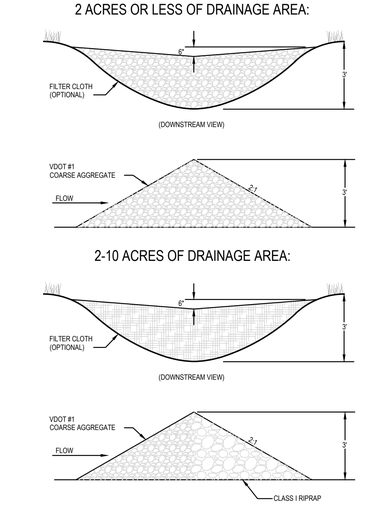


THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.

* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE

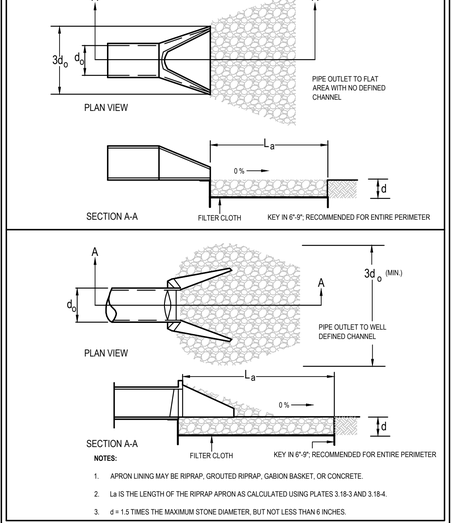
SOURCE: VA. DSWC — PLATE. 3.07-3

ROCK CHECK DAM



SOURCE: VA. DSWC — PLATE. 3.20-1

PIPE OUTLET CONDITIONS

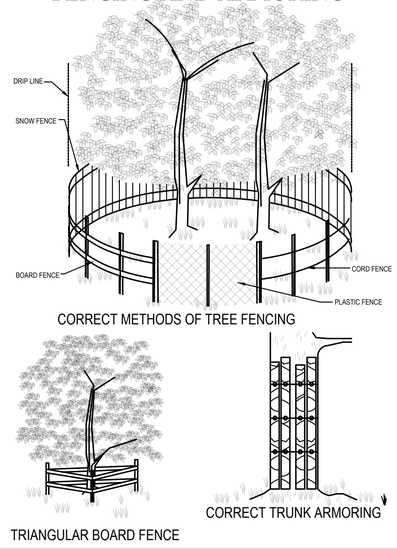


NOTES:

1. APRON LINING MAY BE RIPRAP, GROUTED RIPRAP, GABION BASKET, OR CONCRETE.
2. La IS THE LENGTH OF THE RIPRAP APRON AS CALCULATED USING PLATES 3.18-3 AND 3.18-4.
3. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER, BUT NOT LESS THAN 6 INCHES.

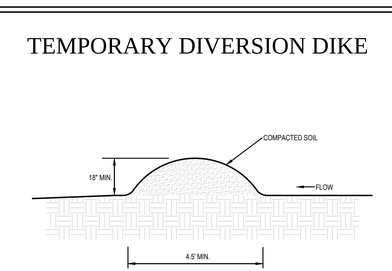
SOURCE: VA. DSWC — PLATE. 3.18-1

FENCING AND ARMORING



SOURCE: VA. DSWC — PLATE. 3.38-2

TEMPORARY DIVERSION DIKE



SOURCE: VA. DSWC — PLATE. 3.09-1

Typical Tree Protection Signage

(1) Each such sign shall be made of weather resistant material, with dimensions of at least eight and one half by eleven inches.

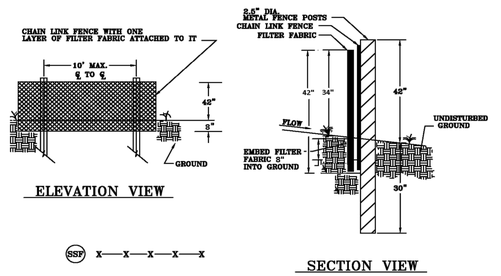
(2) Each such sign shall show red letters on a white background.

(3) Signs shall be attached to the protective barriers, such as Super Silt Fence, welded wire fence, or board fence, and shall not be nailed or in any manner attached to the trees or vegetation to be preserved, or shall be securely mounted five feet from grade level to the bottom of the sign located within one foot of the protective barrier.

FIGURE 2
Section 7.303

Section 7.300 – Tree Conservation
Effective Date: 11/01/2016

Super Silt Fence



SUPER SILT FENCE
NO SCALE

FENCING

Chain link fence shall be 34" above grade with 8" embedded for a total fabric width of 42". The post shall be 42" above grade with 30" placed below grade (without concrete) for a total length of 72".

NOTES

1. Chain link fence shall be fastened securely to fence posts with wire ties.
2. Filter fabric shall be fastened securely to chain link fence with ties spaced horizontally 24" at the top and midsection.
3. Physical properties of the filter fabric shall conform to the latest edition of THE VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK.
4. When two sections of filter fabric adjoin each other, they shall be overlapped by 6" and folded.
5. Maintenance shall be performed as needed and material shall be removed when sediment build-up reaches 50% of the height of the super silt fence.

FIGURE 3
Section 7.600

Section 7.600 – Erosion and Sediment Control
Effective Date: 04/01/2015

PACIULI SIMMONS & ASSOCIATES
Established 1944
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Suite 200
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Phone 703.777.2755
Email admin@psaltd.com
Civil Engineering
Land Planning
Surveying
Sustainable Design

ALGONKIAN WOODLANDS ENTRANCE

LOUDOUN COUNTY, VIRGINIA

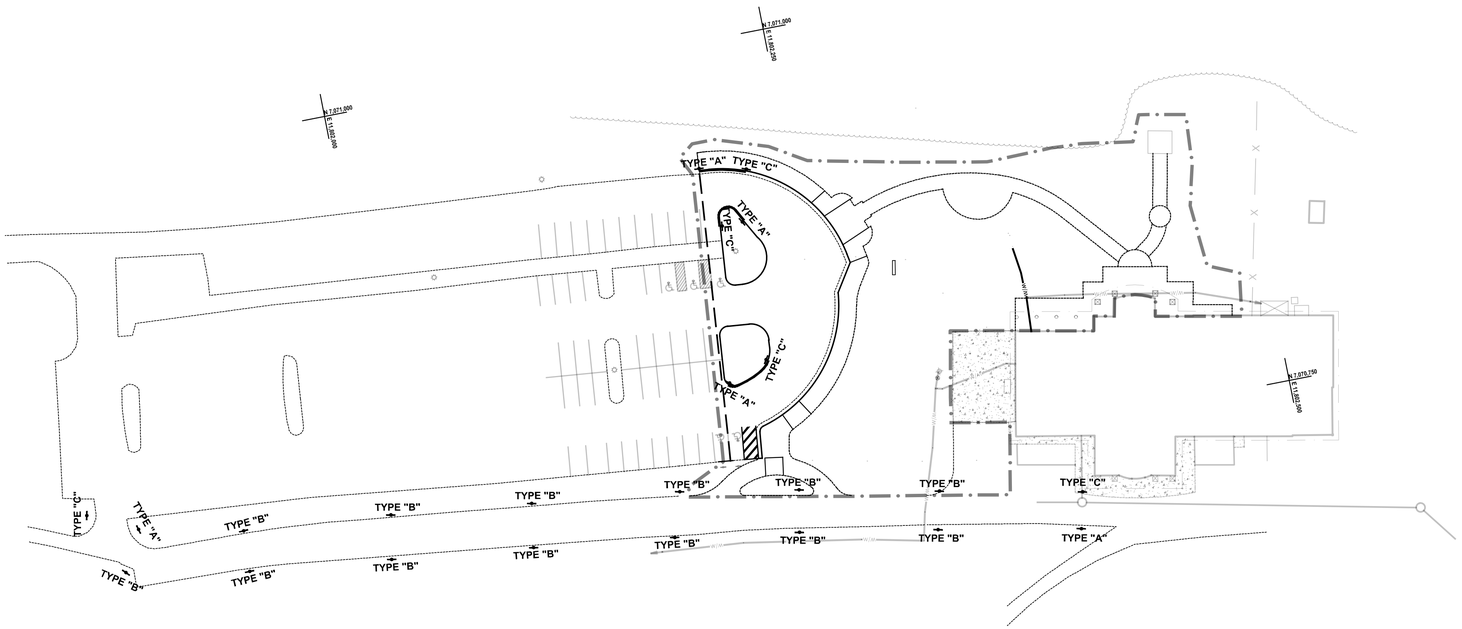
ALGONKIAN ELECTION DISTRICT

EROSION & SEDIMENT CONTROL - DETAILS

COMMONWEALTH OF VIRGINIA
DAVID E. PHILLIPS
Lic. No. 033010
10-4-17
PROFESSIONAL ENGINEER

DATE: 10-04-2017
FILE NO: 2017.025
DRN: R.E.K.
CKD: D.E.P.

SHEET 19



LEGEND:

PAINTED CURB

FIRE LANE SIGN

Fire Lane Sign Type and Specifications

TYPE "A"

NO PARKING OR STANDING FIRE LANE

TYPE "B"

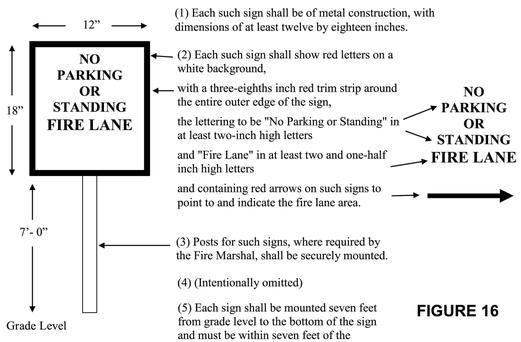
NO PARKING OR STANDING FIRE LANE

TYPE "C"

NO PARKING OR STANDING FIRE LANE

***Fire Lane signs without directional arrows are not acceptable**

SPECIFICATIONS (Section 486.02(b) of the Codified Ordinances):



(1) Each such sign shall be of metal construction, with dimensions of at least twelve by eighteen inches.

(2) Each such sign shall show red letters on a white background,

with a three-eighths inch red trim strip around the entire outer edge of the sign,

the lettering to be "No Parking or Standing" in at least two-inch high letters

and "Fire Lane" in at least two and one-half inch high letters

and containing red arrows on such signs to point to and indicate the fire lane area.

NO PARKING OR STANDING FIRE LANE

(3) Posts for such signs, where required by the Fire Marshal, shall be securely mounted.

(4) (Intentionally omitted)

(5) Each sign shall be mounted seven feet from grade level to the bottom of the sign and must be within seven feet of the parking curb or curb line.

FIGURE 16

Figure 16 - Fire Lane Sign Type and Specifications
Effective Date: 04/01/2015

LOUDOUN COUNTY KNOX BOX PROGRAM:

CONTACT CAPTAIN CRAWFORD AT LOUDOUN COUNTY FIRE STATION 605
540-338-6001 FOR INFORMATION ON THE LOUDOUN COUNTY KNOX BOX PROGRAM.
(PARTICIPATION IS OPTIONAL).

THIS SHEET TO BE USED FOR FIRE LANE SIGNAGE PURPOSES ONLY!!!

0 20' 40' 80' 120' 160'

Scale 1" = 40'

PACIULLI SIMMONS & ASSOCIATES
Established 1744

50 Catoctin Circle, NE
Suite 200
Leesburg, VA 20176
Phone 703.777.2755
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Civil Engineering
Land Planning
Surveying
Sustainable Design

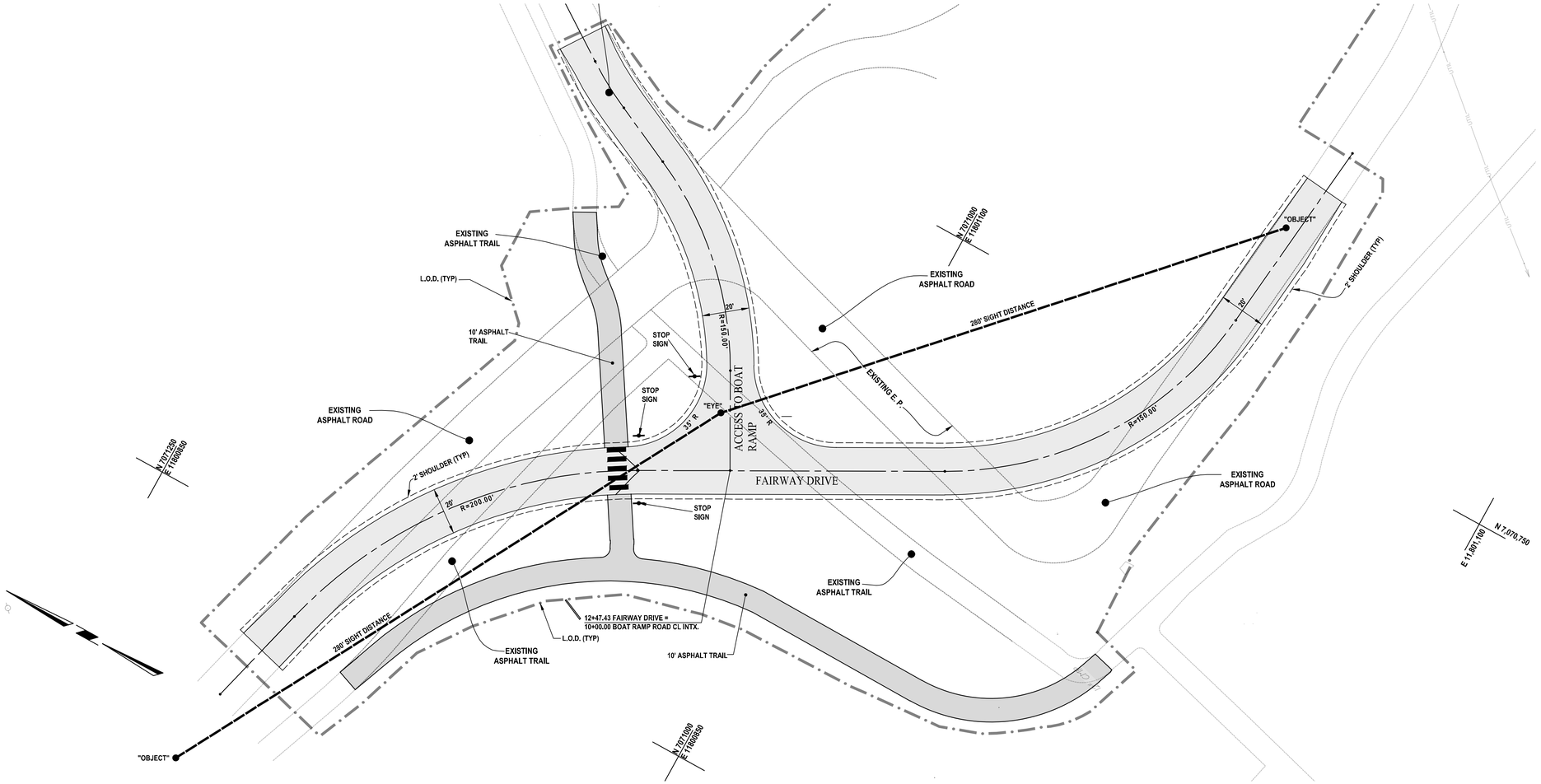
ALGONKIAN WOODLANDS ENTRANCE

ALGONKIAN ELECTION DISTRICT LOUDOUN COUNTY, VIRGINIA

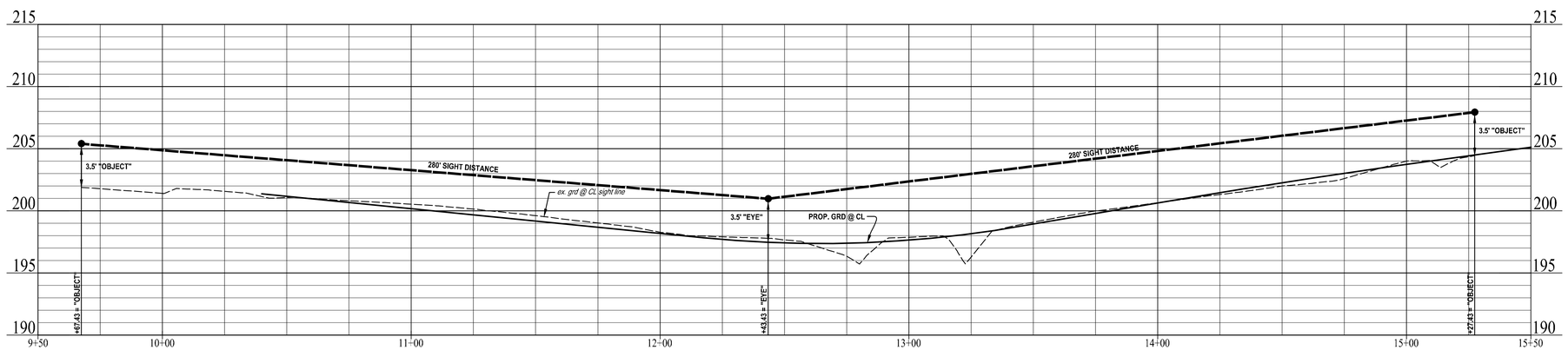
FIRE LANE SIGNAGE PLAN

COMMONWEALTH OF VIRGINIA
DAVID E. PHILLIPS
Lic. No. 033010
12-15-17
PROFESSIONAL ENGINEER

DATE: 12-15-2017
FILE NO: 2017.025
DRN: R.E.K.
CKD: D.E.P.
SHEET 20



SIGHT DISTANCE - FAIRWAY DRIVE



Scale: 1" = 25' H
1" = 5' V

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Civil Engineering
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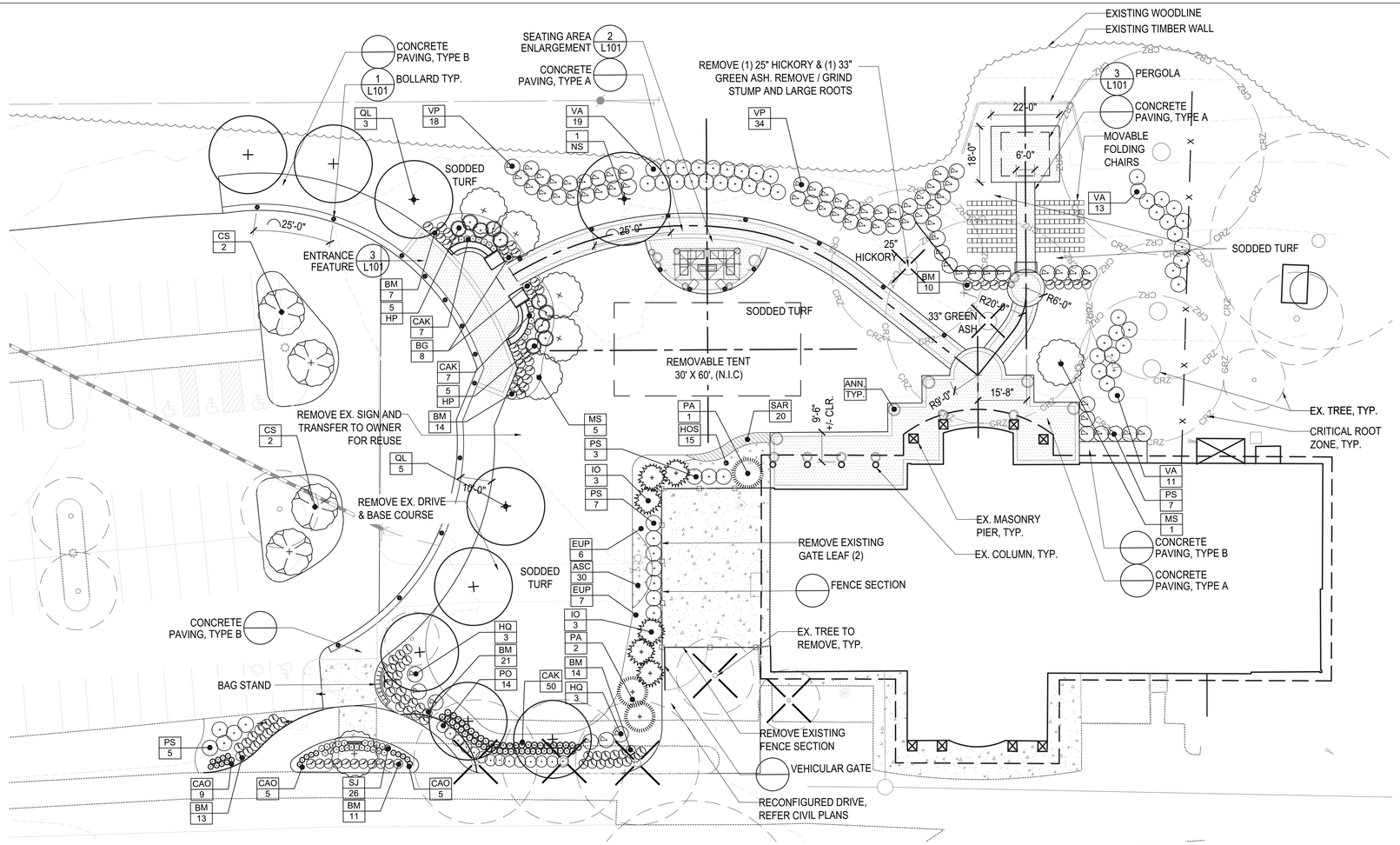
ALGONKIAN WOODLANDS ENTRANCE

ALGONKIAN ELECTION DISTRICT — LOUDOUN COUNTY, VIRGINIA

SIGHT DISTANCE
FAIRWAY DRIVE

COMMONWEALTH OF VIRGINIA
DAVID E. PHILLIPS
Lic. No. 033010
12-15-17
PROFESSIONAL ENGINEER

DATE: 12-15-2017
FILE NO: 2017.025
DRN: R.E.K.
CKD: D.E.P.
SHEET 21



1 LANDSCAPE PLAN - THE WOODLANDS

1" = 20'-0

0 10' 20' 40' 60'

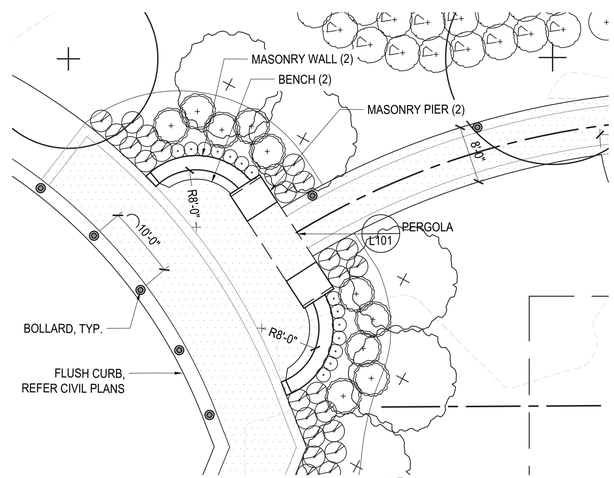
PLANT SCHEDULE - THE WOODLANDS

CANOPY TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	REMARKS
NS	1	Nyssa sylvatica	Black Gum	5" CAL	B&B	As Shown	Well Balanced
QL	8	Quercus lyrata	Overcup Oak	3" CAL	B&B	As Shown	MATCHED SPECIMENS
ORNAMENTAL TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	REMARKS
CS	4	Cornus x `Stellar Pink`	Stellar Pink Dogwood	10`-12` HT.	B&B	As Shown	MATCHED SPECIMENS
MS	6	Magnolia virginiana	Sweet Bay	10` HT	B&B	As Shown	MATCHED SPECIMENS
EVERGREEN TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	REMARKS
IO	6	Ilex opaca	American Holly	10' HT.	B&B	As Shown	MATCHED SPECIMENS
PA	3	Picea abies	Norway Spruce	12' HT.	B&B	As Shown	MATCHED SPECIMENS
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	REMARKS
BM	80	Buxus x `Glencoe`	Chicagoland Green Boxweed	24"HT.	CONT.	36" OC	
HQ	6	Hydrangea quercifolia 'Alice'	Alice Oakleaf Hydrangea	60" HT.	CONT.	54" OC	
HP	10	Hydrangea paniculata 'Limelight'	Limelight Panicle Hydrangea	60" HT	CONT.	54" OC	
PO	14	Prunus laurocerasus `Otto Luyken`	Luykens Laurel	30" HT.	CONT.	42" OC	
PS	22	Prunus laurocerasus `Schipkaensis`	Schipka Laurel	48" HT.	CONT.	54" OC	
SJ	26	Spiraea japonica 'Magic Carpet'	Magic Carpet Spirea	20" HT.	CONT.	22" OC	
VA	43	Viburnum dentatum 'Christom'	Blue Muffin Arrowwood Viburn.	48" HT	CONT.	54" OC	
VP	52	Viburnum x 'Pragense'	Prague Viburnum	60" HT.	CONT.	54" OC	
OTHERS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	REMARKS
ANN	100 sf	Annuals -	Mixed Annuals	-	CONT.	-	
CAO	19	Calamagrostis x acutiflora `Overdam`	Overdam Feather Reed Grass	#1	CONT.	18" OC	
CAK	64	Calamagrostis x acutiflora `Karl Foer.`	Karl Foerster Feather Reed Gr.	#3	CONT.	24" OC	
EUP	13	Eupatorium dubium 'Little Joe'	Little Joe Joepye Weed	#3	CONT.	48" OC	
LMB	564	Liriope muscari `Big Blue`	Big Blue Lilyturf	#1	CONT.	12" OC	

7 PLANT SCHEDULE

NOTES:

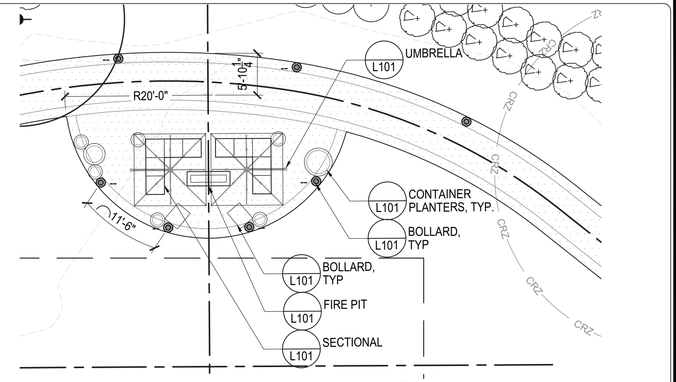
1. REFER TO L3 FOR SIGNAGE PLAN FOR THE WOODLANDS.
2. REFER TO L2 FOR PLANTING DETAILS.



3 ENLARGEMENT

1" = 10'-0

0 5' 10' 15'



2 ENLARGEMENT

1" = 10'-0

0 5' 10' 15'

BASIS-OF-DESIGN:

SELUX
845-834-1400
42" HT. NOTCH BOLLARD

4 BOLLARD

BASIS-OF-DESIGN:
WALPOLE
WOODWORKERS
1-800-343-6948

CUSTOM ARCH-TOP PE
SIZE: 15'-6" x 14'-0"
COLUMN SPACING

5 PERGOLA

BASIS-OF-DESIGN:
WALPOLE
WOODWORKERS
1-800-343-6948

BROOKFIELD ARBOR
SIZE: 7'-0" WIDTH

6 ARBOR

PACIULLI SIMMONS & ASSOCIATES
Established 1944
50 Catoctin Circle, NE
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Leesburg, VA 20176
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FX 703.777.8751
EM leesburg@psaltd.com
Engineers
Planners
Surveyors
Landscape Architects
Wetland Specialists
Environmental Scientists
Archaeologists

ALGONKIAN PARK ENTRANCE & PARKING IMPROVEMENTS

47001 FAIRWAY DRIVE, STERLING, VIRGINIA 20166
LOUDOUN COUNTY

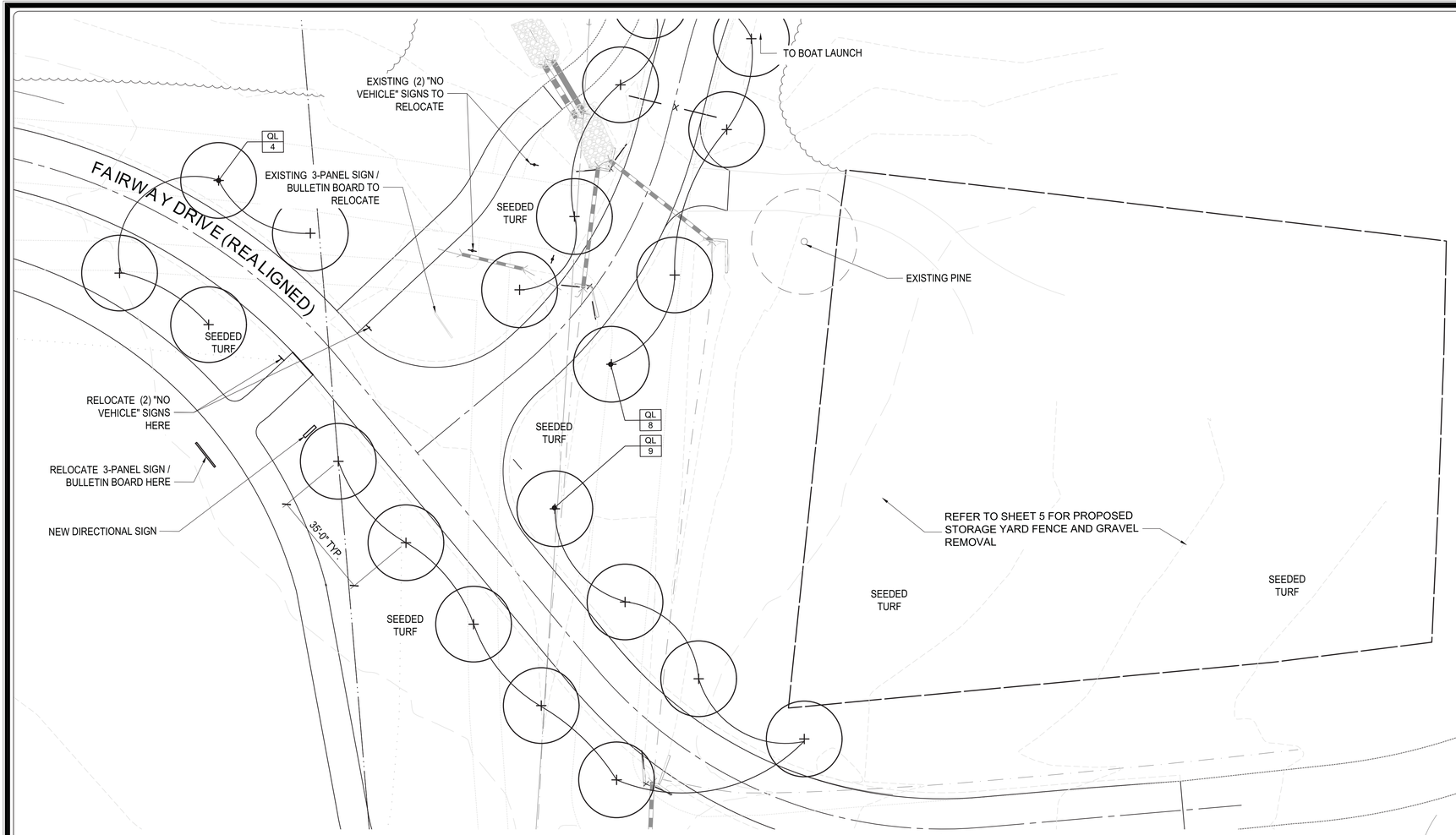
LSG LANDSCAPE ARCHITECTURE
1775 GREENSBORO STATION PL
SUITE 110
TYSONS, VIRGINIA 22182
703-821-2045

COMMONWEALTH OF VIRGINIA
MARK GIBONEY
LIC. No. 000279
12.15.17
LANDSCAPE ARCHITECT

LANDSCAPE PLAN

DATE: 12-15-2017
FILE NO: 2017.026
DRN:
CKD:

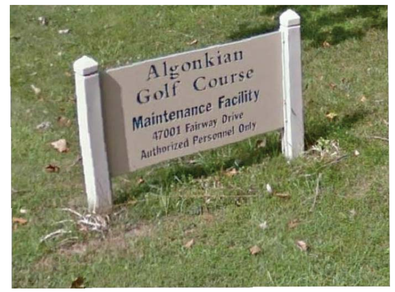
SHEET L1



1 LANDSCAPE PLAN - ENTRY DRIVE

1" = 20'-0

0 10' 20' 40' 60'

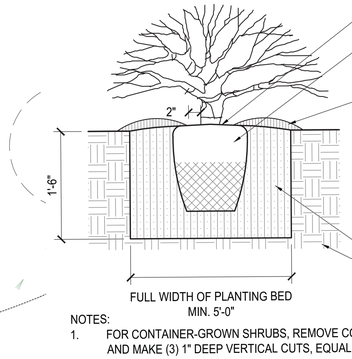


NOTES:
1. STYLE FOR NEW DIRECTIONAL SIGN DEPICTED ABOVE
2. TEXT FOR NEW DIRECTIONAL SIGN LISTED BELOW

BOAT RAMP, SHELTERS 3 & 4, AND SOCCER FIELDS

THE WOODLANDS
GOLF COURSE PARK OFFICE

2 DIRECTIONAL SIGN



NOTES:
1. FOR CONTAINER-GROWN SHRUBS, REMOVE CONTAINER WITHOUT CRACKING ROOT BALL AND MAKE (3) 1" DEEP VERTICAL CUTS, EQUALLY SPACED ABOUT ROOT BALL.

3 SHRUB PLANTING

2017-07-07 17:22

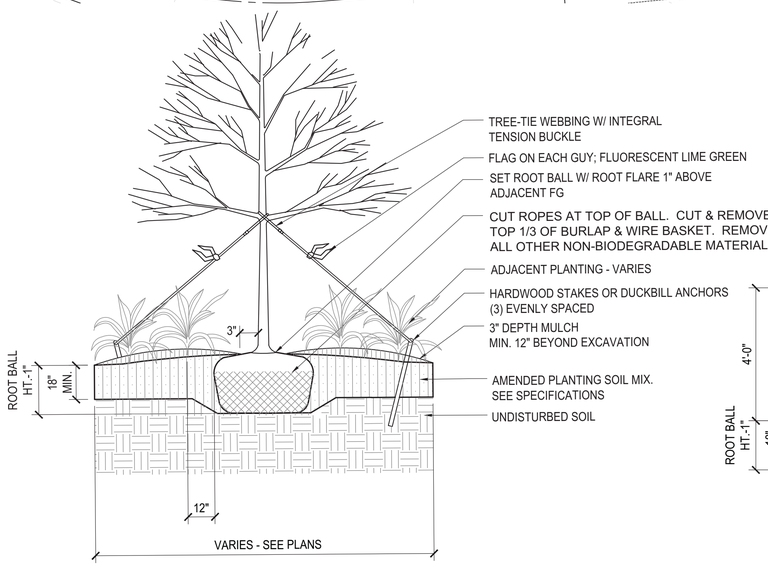
PLANT SCHEDULE - ENTRY DRIVE

CANOPY TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	REMARKS
QL	21	Quercus lyrata	Overcup Oak	3" CAL	B&B	As Shown	MATCHED SPECIMENS
EVERGREEN TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	REMARKS
PA	7	Picea abies	Norway Spruce	12' HT.	B&B	As Shown	MATCHED SPECIMENS
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	REMARKS
GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	SPACING	REMARKS

NOTES:

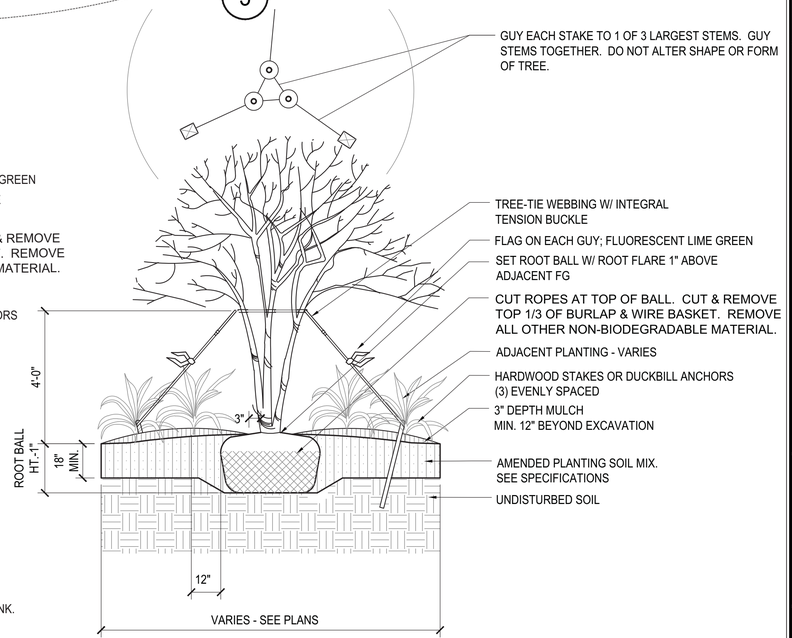
1. MEET REQUIREMENTS OF ANSI Z60.1, LATEST ADDITION, FOR ALL PLANT MATERIAL.
2. QUANTITIES GIVEN ARE FOR INFORMATION ONLY. CONTRACTOR IS RESPONSIBLE FOR MEETING THE DESIGN INTENT, AS INDICATED ON PLANTING PLANS.
3. ALL PLANTS ARE TO BE HEALTHY, FULL, BALANCED, AND EXCEPTIONALLY HEAVY.
4. PROVIDE TURF PER SPECIFICATIONS IN ALL DISTURBED AREAS NOT OTHERWISE PLANTED OR PAVED.

4 PLANT SCHEDULE



NOTES:
1. FOR TREES MORE THAN 6" CALIPER, PROVIDE CABLE GUYS. PROVIDE TREE-TIE WEBBING AT CONTACT POINTS WITH TRUNK. PROVIDE (1) TURNBUCKLE PER GUY. ALLOW ENOUGH SLACK TO AVOID RIGID RESTRAINT OF TREE.

5 SINGLE-STEM TREE PLANTING



6 MULTI-STEM TREE PLANTING

PACIULLI SIMMONS & ASSOCIATES
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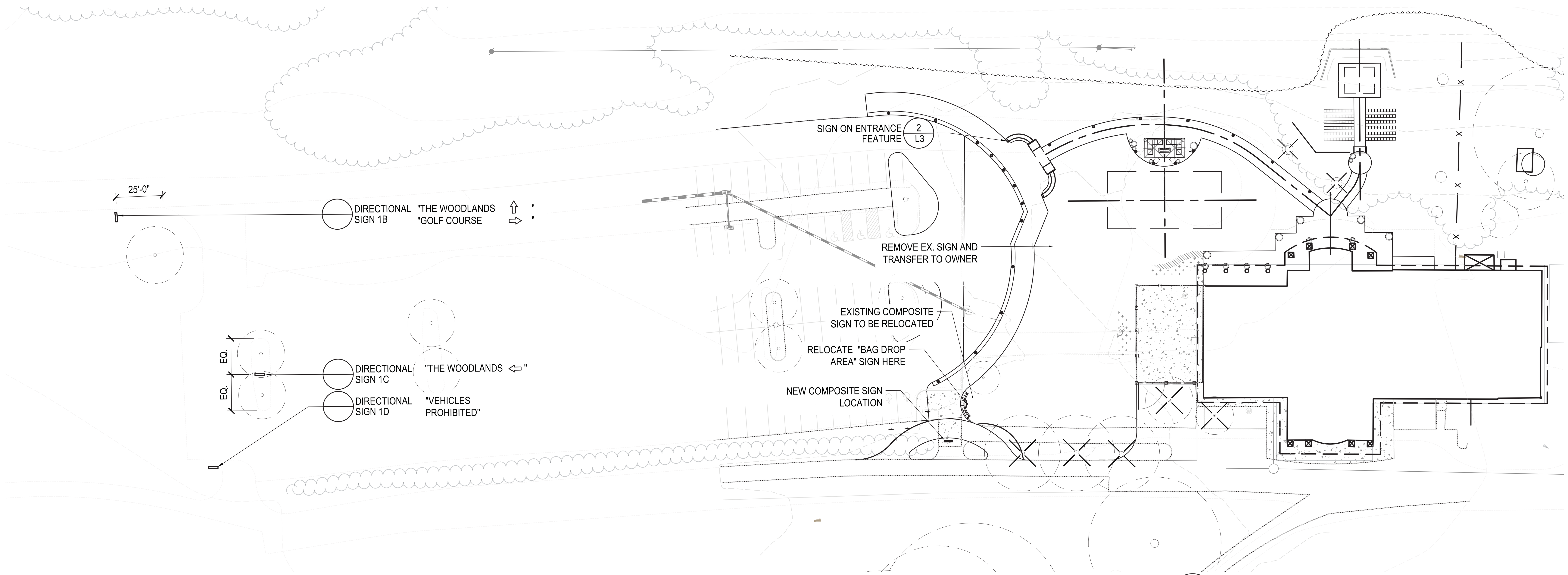
COMMONWEALTH OF VIRGINIA
Reg. No. 000279
12.15.17
LANDSCAPE ARCHITECT

LANDSCAPE PLAN

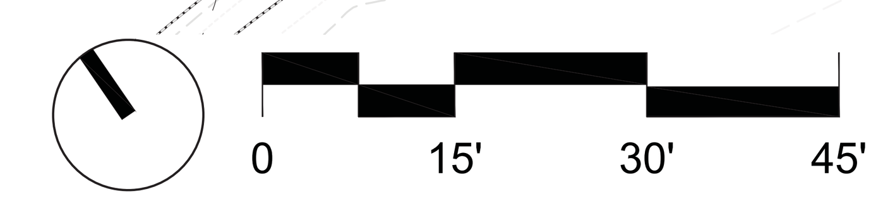
DATE: 12-15-2017
FILE NO: 2017.026
DRN:
CKD:

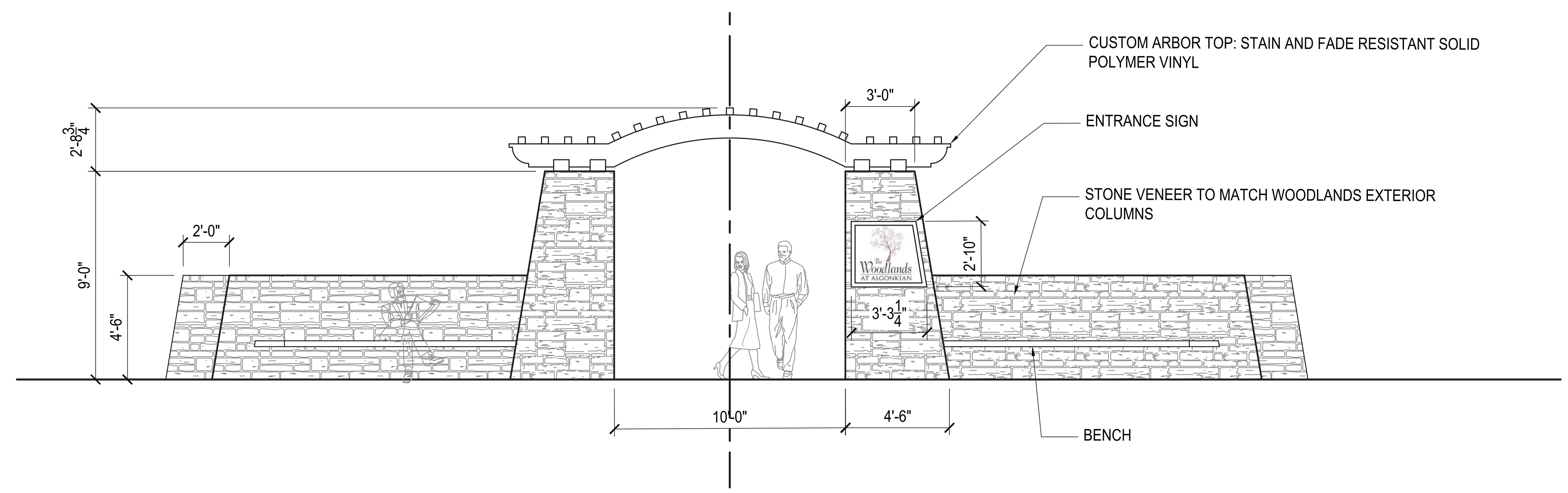
SHEET L2



1 SIGN LOCATION PLAN - THE WOODLANDS

1" = 30'-0





2 ENTRANCE FEATURE - ELEVATION

3" = 1'-0"

PACIULLI SIMMONS & ASSOCIATES

Established 1944

50 Catoctin Circle, NE
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ALGONKIAN PARK
ENTRANCE & PARKING IMPROVEMENTS

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LOUDOUN COUNTY

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COMMONWEALTH OF VIRGINIA
LIC. No. 000279
LANDSCAPE ARCHITECT
12.15.17

SIGN PLAN - WOODLANDS

DATE:	12-15-2017
FILE NO:	2017.026
DRN:	
CKD:	
SHEET	L3