PRELIMINARY WATER QUALITY COMPUTATIONS:

Site Results (Water Quality Compliance) VRRM 4.1, 2024										
Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK				
FOREST (ac)	0.00	0.00	0.00	0.00	0.00	OK.				
MIXED OPEN (ac)	0.00	0.00	0.00	0.00	0.00	OK.				
MIXED OPEN AREA TREATED(ac)	0.00	0.00	0.00	0.00	0.00	OK.				
MANAGED TURF AREA (ac)	0.31	0.00	0.00	0.00	0.00	OK.				
MANAGED TURF AREA TREATED (ac)	0.00	0.00	0.00	0.00	0.00	OK.				
IMPERVIOUS COVER (ac)	0.12	0.00	0.00	0.00	0.00	OK.				
IMPERVIOUS COVER TREATED (ac)	0.10	0.00	0.00	0.00	0.00	OK.				
AREA CHECK	OK.	OK.	OK.	OK.	OK.					

Site Treatment Volume (ft³)

Runoff Reduction Volume and TP By Drainage Area

action volume and it by blamage Alea						
	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft ³)	166	0	0	0	0	166
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	0.37	0.00	0.00	0.00	0.00	0.37
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.05	0.00	0.00	0.00	0.00	0.05
TP LOAD REMAINING (lb/yr)	0.32	0.00	0.00	0.00	0.00	0.32

0.00

0.00

Adjusted Rv

0.014 AC-FT Rypost-developed= 0.027 AC-FT

0.014 AC-FT Rypost-developed= 0.099 AC-FT

0.00

0.68

0.00

Total Phosphorus

NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)

FINAL POST-DEVELOPMENT TP LOAD (lb/yr) 0.37 0.08 TP LOAD REDUCTION REQUIRED (lb/yr TP LOAD REDUCTION ACHIEVED (lb/yr) 0.05 TP LOAD REMAINING (lb/yr): 0.32 REMAINING TP LOAD REDUCTION REQUIRED (lb/yr): 0.03

Total Nitrogen (For Information Purposes)

POST-DEVELOPMENT LOAD (lb/yr) 4.31 NITROGEN LOAD REDUCTION ACHIEVED (lb/yr) 0.68 REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr) 3.62

NUTRIENT CREDITS WILL BE USED TO SATISFY THE REMAINING ±0.03 LB/YR OF PHOSPHOROUS REMOVAL REQUIREMENT.

PRELIMINARY WATER QUANTITY COMPUTATIONS:

0.68

		
1, 2 & 10 YEAR STORM VOLUME COMPUTATIONS (PRE-DEVELOPED CONDITION)		
AREA OF SITE TO OUTFALL = 0.43 AC LAWN AREA OF SITE IN 'B' HYD. SOIL GROUP = 1 YEAR RAINFALL DEPTH(P) = 2.62 IN LAWN AREA OF SITE IN 'C' HYD. SOIL GROUP = 2 YEAR RAINFALL DEPTH(P) = 3.17 IN LAWN AREA OF SITE IN 'D' HYD. SOIL GROUP = 10 YEAR RAINFALL DEPTH(P) = 4.87 IN IMP. AREA OF SITE IN 'B', 'C' & 'D' HYD. SOIL GROUP =	0.00 AC 0.40 AC	RCN= 61 RCN= 74 RCN= 80 RCN= 98
WEIGHTED RCN FOR EXISTING CONDITION = (AREA OF SITE IN 'D' SOIL X RCN) / AREA OF SITE RCN= 82	0.10	
S = (1000/WT. RCN) - 10 S = 2.17		
1 YEAR: RUNOFF Q = $((P - 0.2S)^2)/(P + 0.8S)$ Q = 1.10 IN		
Rv = AREA * RUNOFF Q Rvpre-developed= 0.039 AC-FT		
2 YEAR: RUNOFF Q = $((P - 0.2S)^2)/(P + 0.8S)$ Q = 1.53 IN		
Rv = AREA * RUNOFF Q Rvpre-developed= 0.055 AC-FT		
10 YEAR: RUNOFF Q = $((P - 0.2S)^2)/(P + 0.8S)$ Q = (2.98) IN		
Rv = AREA * RUNOFF Q Rvpre-developed= 0.107 AC-FT		
1, 2 & 10 YEAR STORM VOLUME COMPUTATIONS (DEVELOPED, NEW SINGLE FAMILY DWELLING)		
AREA OF SITE TO OUTFALL = 0.43 AC LAWN AREA OF SITE IN 'B' HYD. SOIL GROUP = 1 YEAR RAINFALL DEPTH(P) = 2.62 IN LAWN AREA OF SITE IN 'C' HYD. SOIL GROUP = 2 YEAR RAINFALL DEPTH(P) = 3.17 IN LAWN AREA OF SITE IN 'D' HYD. SOIL GROUP = 10 YEAR RAINFALL DEPTH(P) = 4.87 IN IMP. AREA OF SITE IN 'B', 'C' & 'D' HYD. SOIL GROUP =	0.00 AC 0.31 AC	RCN= 61 RCN= 74 RCN= 80 RCN= 98
WEIGHTED RCN FOR DEVELOPMENT = ((AREA OF SITE IN 'B' SOIL X RCN) + (AREA OF SITE IN 'C' SOIL X RCN) + (AREA O RCN= 86 1 YR RCN= 83 10 YR RCN= 84 2 YR RCN= 83 ADJUSTED RCN VALUES FROM VRRM WORKSH	OF SITE IN "D" SOIL X RO	ON)) / AREA OF SIT
S = (1000/WT. RCN) - 10 $S = 2.05$ $S = 2.05$ $S = 2.05$ $S = 2.05$		
1 VEAD-		

609.84 CF RELIMINARY REQUIRED STORAGE RUNOFF Q = $((P - 0.2S)^2)/(P + 0.8S)$ Rv = AREA * RUNOFF Q Rvpost-developed= 0.057 AC-FT Rvpost-developed= 0.043 AC-FT 0.014 AC-FT RUNOFF Q = $((P - 0.2S)^2)/(P + 0.8S)$ Rv = AREA * RUNOFF Q

PRELIMINARY TRENCH SIZING SUMMARY:

STORAGE REQUIRED: ±609.84 CF (SEE THIS SHEET) LOT 61A STORAGE PROVIDED: (6.0*38.0*4.0)*(0.4)= ±364.80 CF LOT 63A STORAGE PROVIDED: (6.0*30.0*4.0)*(0.4)= ±288.00 CF

TOTAL WATER QUANTITY: ±652.80 CF (PROVIDED) > ±609.84 CF (REQUIRED)

Storage Volume provided

by trench (AC-FT)

STORMWATER MANAGEMENT NARRATIVE

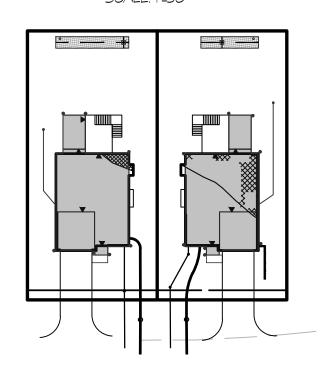
THE STORMWATER MANAGEMENT REQUIREMENTS FOR THE SUBJECT PROPERTY WILL BE SATISFIED VIA THE CONSTRUCTION OF TWO INFILTRATION TRENCHES. A PRELIMINARY INFILTRATION STUDY HAS BEEN CONDUCTED AND HAS DETERMINED THE SOILS WILL SUPPORT AN INFILTRATION TRENCH. THE FACILITIES WILL BE DESIGNED IN ACCORDANCE WITH TOWN OF VIENNA AND VIRGINIA STORMWATER MANAGEMENT HANDBOOK REQUIREMENTS.

THE INFILTRATION TRENCHES WILL BE DESIGNED TO PROVIDE DETENTION FOR THE 1 YEAR STORM EVENT THROUGH ENERGY BALANCE. APPROXIMATELY ±609.84 CF OF STORAGE IS REQUIRED AND APPROXIMATELY ±652.80 CF OF STORAGE WILL BE PROVIDED.

IN ADDITION TO PROVIDING WATER QUANTITY, THE TWO TRENCHES WILL SATISFY THE MAJORITY OF WATER QUALITY REQUIREMENTS. APPROXIMATELY ±0.05 LB/YR OF REQUIRED ±0.08 LBS/YR OF PHOSPHOROUS REMOVAL WILL BE SATISFIED. THE REMAINDER ±0.03 LB/YR OF PHOSPHOROUS REDUCTION WILL BE MET THROUGH THE PURCHASE OF NUTRIENT CREDITS.

PRELIM. TREATMENT PLAN:

SCALE: 1"=50"



NOTES:

1. ALL TREES LOCATED WITHIN THE ROW THAT WILL BE REMOVED FOR CONSTRUCTION MUST BE REPLACED AT THE DISCRETION OF THE URBAN FORESTER OF TOWN ARBORIST WHO WILL HAVE THE AUTHORITY TO DIRECT SPECIES PLANTED AND LOCATIONS. 2. GRADING OF LOTS 61A AND 63A WILL NOT AFFECT THE APPROVED WILMAR PLACE REBUILD.

3. IT WAS AGREED BETWEEN DEVELOPER AND TOWN OF VIENNA THAT A FORMAL SUBDIVISION PLAN IS NOT REQUIRED. EACH LOT SHALL BE SUBMITTED AND PERMITTED AS AN INFILL LOT. EACH LOT PLAN WILL PROVIDE SUBDIVISION PLAN STANDARDS AND IMPROVEMENTS.

LOT 61A TREE COVER CALCULATIONS:

SITE AREA: 9,450 SF

20% TREE COVER REQUIRED: 1,890 SF

PRESERVED CANOPY: O SF PLANTED CANOPY: 1,950 SF TOTAL: 1,950 SF

1,950 SF (20.6% PROVIDED) > 1,890 SF (20% REQUIRED)

LOT 63A TREE COVER CALCULATIONS:

SITE AREA: 9,450 SF 20% TREE COVER REQUIRED: 1,890 SF

PRESERVED CANOPY: O SF

PLANTED CANOPY: 1,950 SF

1,950 SF (20.6% PROVIDED) > 1,890 SF (20% REQUIRED)

LOT 61A TREE CON/ED CALCUL ATIONIS

LAT. INV = 400.14' PRELIMINARY SITE ANALYSIS - I OT 61A

PROP. MODIFIED STD. (50' R/W)

TOV ENTRANCE NO C&G

EX. OVERHEAD UTILITY (TO BE

BURIED UNDERGROUND)

ZONE : C-1B USE : CONVERTED RESIDENTIAL OFFICE (EX. DWELLING)

CLEARING & GRADING

LOTS 59 \$ 60

CHRISTIAN

CAMACHO

(D.B. 24440 PG. 917)

CADASTRAL MAP

#0384-03-0059

POP UP EMITTER

PROP. BF ELEVATION IS HIGHER THAN EXISTING GRADES.

CONTROLLED FILL AND/OR

ADDITIONAL #57 STONE MAY

BE REQUIRED

PROP. 4" SCH. 40 PVS

GRAVITY FOUNDATION

DRAIN TO DAYLIGHT

42.0@2.4%/4 0 EXTEND FOOTER TO

N: 7,013,949.41

E: 11,833,487.17

EX. ELECTRIC METER (TO

BE RELOCATED, IF

NECESSARY)

OLD WELL -

HEALTH DEPARTMENT

PERMIT, IF ACTIVE)

(TO BE ABANDONED UNDER

FROST DEPTH

BELOW PROPOSED FOOTPRIN

ZONE : RS-10 USE : SFD

LOT 59 TOP. \$394.07

N: 7,013,816.59

_E: 11,833,553.96[¯]

BF= 397.51

BRICK/STONE FRONT TO

FNDN. W/SIDING ABOVE

EJECTOR PUMP REQ'D

PROP. 4" SAN. LAT. —

(6'-8" WIDE)

L HUNG SEWER

2-CAR

GARAGE

	•	· ·
	CITE ANIAIN	VCIC I OT COA
PRELIMINARY	SHEANAL	YSIS-LOT 63A

GRAPHICAL SCALE

1" = 20'

9'790'/9'/8' LOFT WALLS

FNDN. W/SIDING ABOVI

MOD. PORCH

HUNG SEWER

2-CAR

GARAGE

55.18 @ 1.04% ENTRANCE NO C\$G

LEQ.D

-N43°38'58'E 67.50' (630') BTM. SAND-278.3

N: 7,013,755.09

E: 11,833,495.29

-388 AND GRADING

TOP.=386.5-36

PROP. 4"/SCH. 40 PVC

GRAVITY FOUNDATION

51.3'QV1%

EXTEND FOOTER

TO FROST DEPTH

PROP. RET. WALL

TOP OF WALL FLUSH WITH FIN. GRADE

(HEIGHT: 4.0' (PROP) = 4.0' (MAX)

SEPARATE PERMIT REQUIRED

CONSTRUCTION

EASEMENT

8" DIP 8" DIP

×402.5

DRAIN TO DAYLIGHT

INV.=386.0'

_ LIMITS OF CLEARING

ADDITIONAL #57 STONE MAY BE REQUIRED BELOW PROPOSED FOOTPRINT.

36.22' TO M.H. ,

PRELIM. INFILTRATION TRENCH

(6'x38') BTM. SAND.=378.3

PRELII III V	ART SITE ANALTSI	<u> </u>	_	PRELITIINART SITE ANALTSIS-LUT OJA						
DESCRIPTION	REQUIRED/ALLOWED	PROVIDED/EXISTING		DESCRIPTION	REQUIRED/ALLOWED	PROVIDED/EXISTING				
ZONE	RS-10	RS-10		ZONE	RS-10	RS-10				
LOT AREA MAX.	10,000 SF	9,450 SF		LOT AREA MAX.	10,000 SF	9,450 SF				
LOT COVERAGE	25%	24.85%		LOT COVERAGE	25%	24.85%				
SETBACK				SETBACK						
FRONT	25 FT	25.33 FT		FRONT	25 FT	25.33 FT				
SIDE1/SIDE2	12 FT	14.83' / 12.33'		SIDE1/SIDE2	12 FT	14.83' / 12.33'				
REAR	35 FT	63.83' FT		REAR	35 FT	63.83' FT				
LOT WIDTH	45/60/75	67.5'/67.5'/67.5'		LOT WIDTH	45/60/75	67.5'/67.5'/67.5'				
BUILDING HEIGHT	35 FT	34.10 FT		BUILDING HEIGHT	35 FT	34.00 FT				
DECK COVERAGE \$ OUTDOOR LIVING	5% OF LOT AREA	4.97%		DECK COVERAGE & OUTDOOR LIVING	5% OF LOT AREA	4.97%				

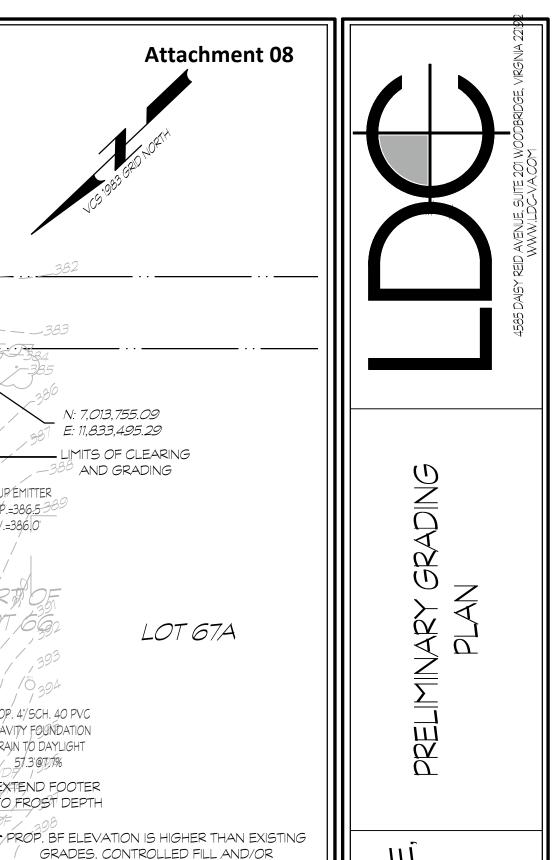
TPIT REQ.D

INV. @ MAIN = 399.39 +

Project Address and/ or Munis #:	TBDWLMAF	RPLACE, N.W.	See town approve	ed tree list for CCA and Multipliers	-	Total Units=	= 5	Instructions:	Delete values	from multipe	r credit cells th	at tree does no	ot qualify for.	Total CCA	= 1,950
Scientific Name	Common Name	Variety/Cultivar	Notation on Plan	Notes	Caliper or Height	B&Bor Containe	1	Base 20 Year CCA	Air Quality (1.5)	WaterQuality (1.25)	Native Tree (Local Ecotype) (1.5)	Wildlife Benefit (1.5)	Improved Cultivars and Varities (1.25)	CCApertree after Multiplier(s)	Total CCAfor all units
Template Row	Template Row	Template Row	(eg: "TR")	Do not use or modify this row.	2" or 6'	BB or C	0	0	0	0	0	0	0	0	0
Betula nigra	River Birch		RB	N/A	2"	B&B	2	300			0	150		450	900
Acer rubrum	Red Maple		RM	N/A	2"	B&B	2	300			0	150		450	900
Crataegus spp.	Hawthorn		нт	N/A	2"	B&B	1	100			0	50		150	150

LOT 63A TREE COVER CALCULATIONS

OT 65A TREE CO	VER CALCUL	<u>,A10195.</u>													
Project Address and/ or Munis#:	TBDWILMAF	RPLACE, N.W.	See town approved tree list for CCA and Multipliers			Total Units= 5			Instructions: Delete values from multiper credit cells that tree does not qualify for.						: 1,950
Scientific Name	Common Name	Variety/Cultivar	Notation on Plan	Notes	Caliper or Height	B&Bor Containe	Quanitity (Units)	Base 20 Year CCA	AirQuality (1.5)	WaterQuality (1.25)	Native Tree (Local Ecotype) (1.5)	Wildlife Benefit (1.5)	Outivaisand	CCApertree after Multiplier(s)	all unite
Template Row	Template Row	Template Row	(eg: "TR")	Do not use or modify this row.	2" or 6'	BB or C	0	0	0	0	0	0	0	0	0
Betula nigra	River Birch		RB	N/A	2"	B&B	2	300			0	150		450	900
Acer rubrum	Red Maple		RM	N/A	2"	B&B	2	300			0	150		450	900
Orataegus spp.	Hawthorn		HT	N/A	2"	B&B	1	100			0	50		150	150



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HEREBY CERTIFY THAT OTHER THAN THE REVISION SHOWN HEREON, NO OTHER CHANGES HAVE BEEN MADE

2/14/2025 DATE

SCALE: 1"=20'

OF FEBRUARY, 2025 DRAFT: RMA JCM FILE NUMBER:

24091-1-0

P:\PY 2024\24091-1-0 Wilmar Place, N.W\ENG\PRELIMINARY\24091-1-0 Grading Plan (Combined).dwg

RUNOFF Q = $((P - 0.2S)^2)/(P + 0.8S)$

Rvpost-developed= 0.041 AC-FT

Rvpost-developed= 0.113 AC-FT

Rv = AREA * RUNOFF Q