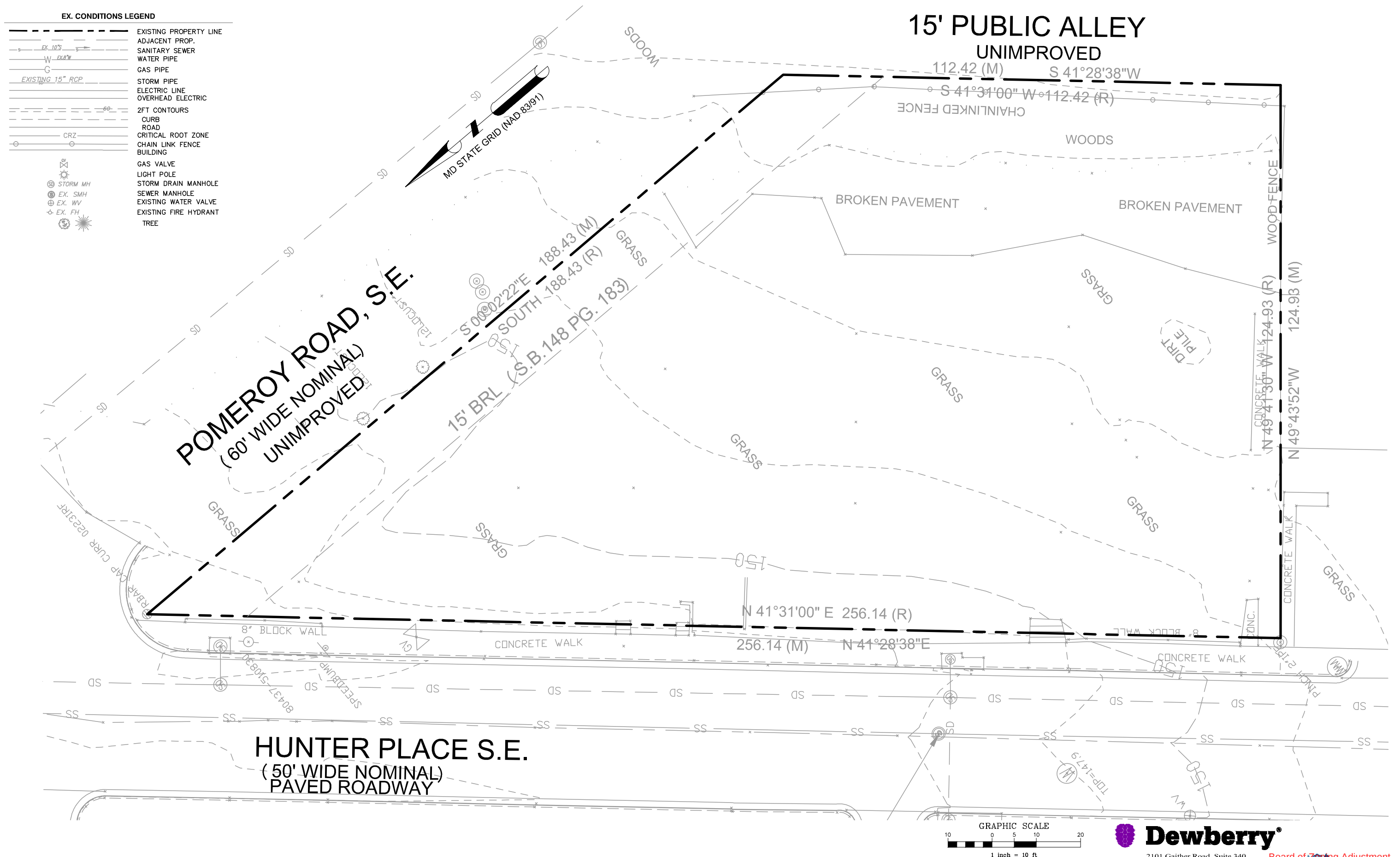
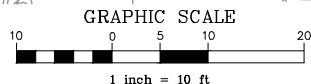


EX. CONDITIONS LEGEND	
	EXISTING PROPERTY LINE
	ADJACENT PROP.
	EX. 10" S
	EX. 8" W
	WATER PIPE
	GAS PIPE
	STORM PIPE
	ELECTRIC LINE
	OVERHEAD ELECTRIC
	2FT CONTOURS
	CURB
	ROAD
	CRITICAL ROOT ZONE
	CHAIN LINK FENCE
	BUILDING
	GAS VALVE
	LIGHT POLE
	STORM DRAIN MANHOLE
	EX. SMH
	EX. WV
	EX. FH
	TREE



2200-2210 HUNTER PLACE, SE

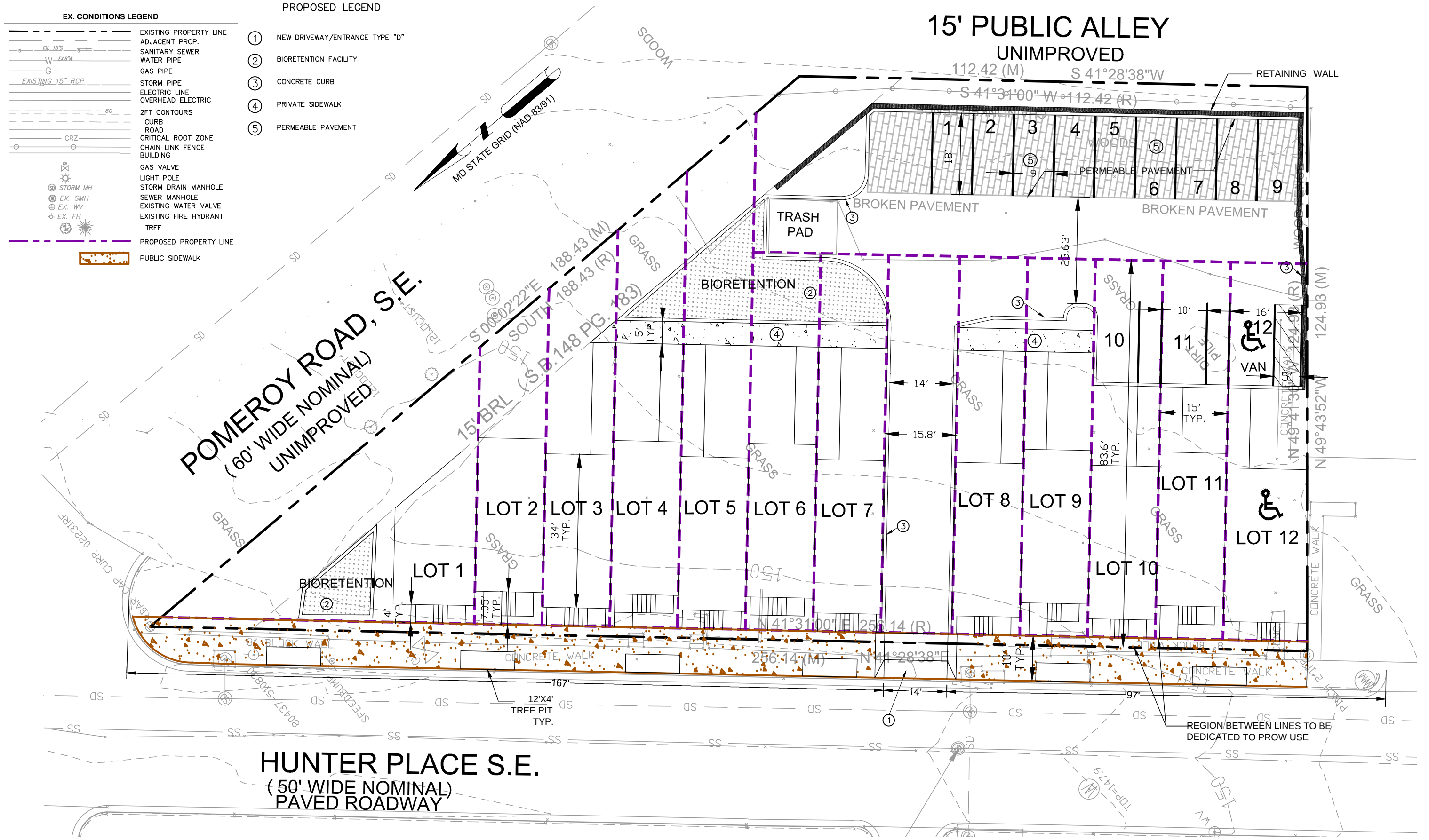
EXISTING CONDITION PLAN



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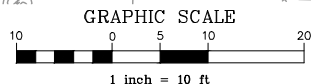
Board of Zoning Adjustment

CASE NO 19311



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SITE DEVELOPMENT PLAN

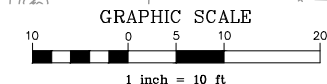


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Diagram illustrating various utility symbols and their corresponding labels:

- EXISTING PROPERTY LINE
- ADJACENT PROP.
- SANITARY SEWER
- WATER PIPE
- GAS PIPE
- STORM PIPE
- ELECTRIC LINE
- OVERHEAD ELECTRIC
- 2FT CONTOURS
- CURB
- ROAD
- CRITICAL ROOT ZONE
- CHAIN LINK FENCE
- BUILDING
- GAS VALVE
- LIGHT POLE
- STORM DRAIN MANHOLE
- SEWER MANHOLE
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- TREE
- PROPOSED PROPERTY LINE
- PUBLIC SIDEWALK

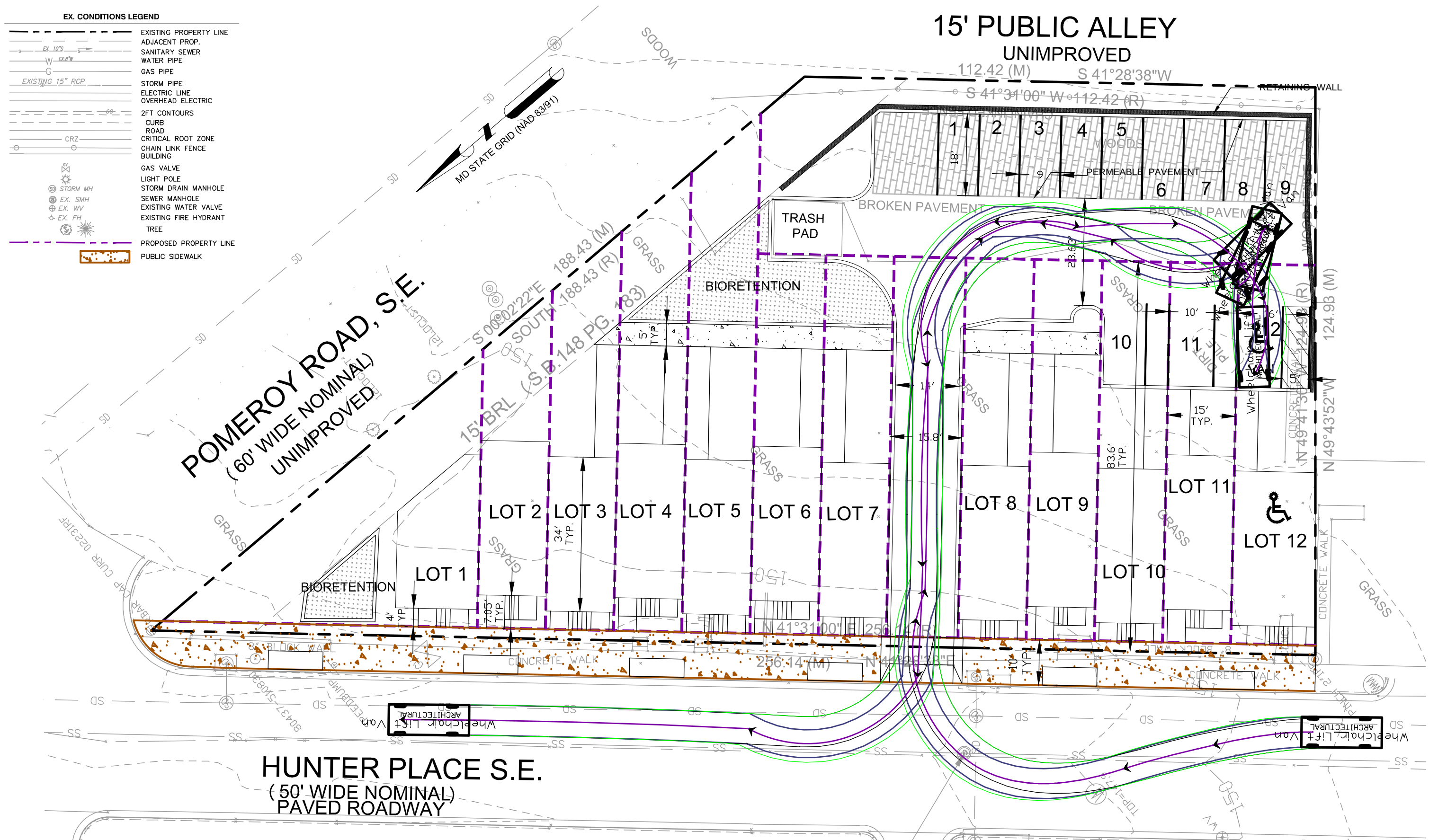


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GARBAGE TRUCK TURNING MOVEMENT ANALYSIS

EX. CONDITIONS LEGEND	
	EXISTING PROPERTY LINE
	ADJACENT PROP.
	SANITARY SEWER
	WATER PIPE
	GAS PIPE
	STORM PIPE
	ELECTRIC LINE
	OVERHEAD ELECTRIC
	2FT CONTOURS
	CURB
	ROAD
	CRITICAL ROOT ZONE
	CHAIN LINK FENCE
	BUILDING
	GAS VALVE
	STORM DRAIN MANHOLE
	SEWER MANHOLE
	EXISTING WATER VALVE
	EXISTING FIRE HYDRANT
	TREE
	PROPOSED PROPERTY LINE
	PUBLIC SIDEWALK



2200-2210 HUNTER PLACE, SE

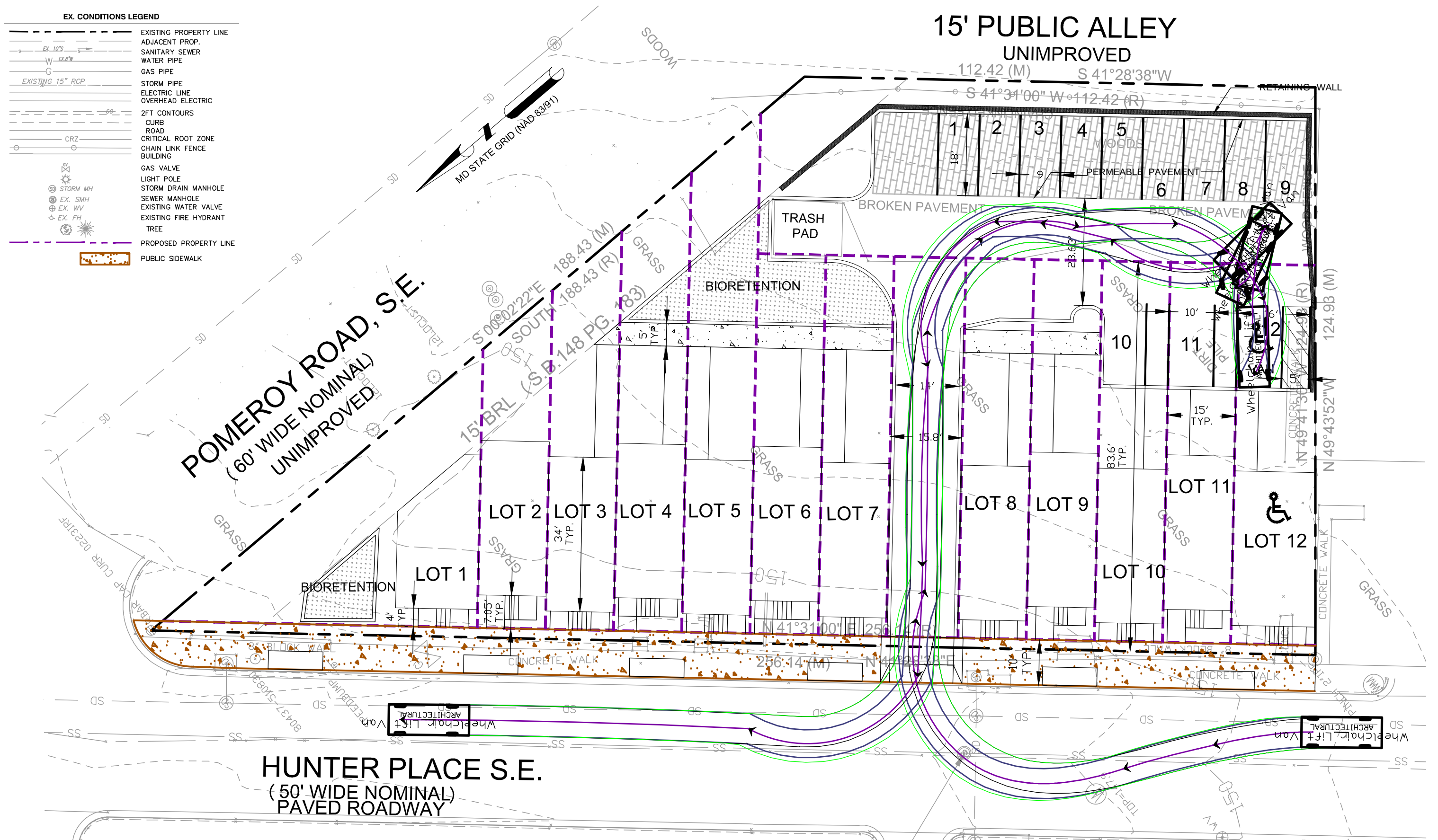
CAR TURNING MOVEMENT ANALYSIS

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EX. CONDITIONS LEGEND	
	EXISTING PROPERTY LINE
	ADJACENT PROP.
	SANITARY SEWER
	WATER PIPE
	GAS PIPE
	STORM PIPE
	ELECTRIC LINE
	OVERHEAD ELECTRIC
	2FT CONTOURS
	CURB
	ROAD
	CRITICAL ROOT ZONE
	CHAIN LINK FENCE
	BUILDING
	GAS VALVE
	STORM MH
	EX. SMH
	EX. WV
	EX. FH
	TREE
	PROPOSED PROPERTY LINE
	PUBLIC SIDEWALK



2200-2210 HUNTER PLACE, SE

WHEELCHAIR VAN TURNING MOVEMENT ANALYSIS

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District of Columbia General Retention Compliance Calculator

data input cells

calculation cells

constant values

Site Data

Site Name: Hunter Place NE - 2200-2210 Hunter Place NE

Site Information			
Is Site an "AWDZ Site"?			No
Is Site Located in the MS4?			Yes
AWDZ only - Regulatory Rain Event for WQTV (inches)			NA
Indicate Post-Development Land Cover			
Cover Type	Disturbed Public Right of Way Area (square feet)	Major Land Disturbing Area (square feet)	Major Substantial Improvement Area (square feet)
Natural Cover		0	
Compacted Cover	400	4,480	
Impervious Cover	2,167	15,379.17	
BMP		2,621	
Site Total	2,567	22,480	0
Retention Standard for SWRv (inches)	1.2	1.2	0.0
Land Cover Summary			
Cover Type	Disturbed Public Right of Way	Major Land Disturbing	Major Substantial Improvement
% Natural Cover	0%	0%	0%
% Compacted Cover	16%	20%	0%
% Impervious Cover	84%	80%	0%
Site Rv	0.84	0.81	0.00

Rv Coefficients	
Land Cover Type	Rv
Natural Cover	0.00
Compacted Cover	0.25
Impervious Cover	0.95

SWRv and WQTV Summary		
	Disturbed Public Right of Way	Site Development
Stormwater Retention Volume, SWRv (cubic feet)	216	1,822
Stormwater Retention Volume, SWRv (gallons)	1,614	13,629
Water Quality Treatment Volume, WQTV (cubic feet)	NA	NA
Water Quality Treatment Volume, WQTV (gallons)	NA	NA

District of Columbia General Retention Compliance Calculator
Public Right of Way

Indicate Post-Development Land Cover For Public ROW

Cover Type	Area (square feet)
Natural Cover	0
Compacted Cover	400
Impervious Cover	2,167
Vehicular Access Areas*	500
BMP	0
Drainage Area Total	2,567

Rv Coefficients

Land Cover Type	Rv
Natural Cover	0.00
Compacted Cover	0.25
Impervious Cover	0.95

Land Cover Summary

% Natural Cover	0%
% Compacted Cover	16%
% Impervious Cover	84%
Site Rv	0.84

Stormwater Retention Volume, SWRv (cubic feet)

216

Stormwater Retention Volume, SWRv (gallons)

1,614

Vehicular Access Volume (cubic feet)

12

AWDZ Only

Stormwater Treatment Volume, WQTV (cubic feet)	NA
Stormwater Treatment Volume, WQTV (gallons)	NA

*Vehicular Access areas should be included within the Impervious Cover Category

	Pervious Cover Draining to BMP		Impervious Cover Draining to BMP		Vehicular Access Area Draining to BMP		Maximum Retention Volume Received by BMP (cubic feet)	Description of Retention Value	% Retention Value	Maximum Retention Volume Received from Upstream BMPs (cubic feet)	Maximum Retention Volume To BMP (cubic feet)	Surface Area of BMP (square feet)	Storage Volume Provided by BMP (cubic feet)	Retention Value (cubic feet)	Potential Retention Volume Remaining (cubic feet)	Additional Treatment Volume (cubic Feet)	Downstream BMP	Vehicular Access Volume Addressed?
	Area (square feet)	Type of Cover	Area (square feet)	Type of Cover	Area (square feet)	Volume (cubic feet)												
TP2 Tree Planting	22	Number of Trees Planted					N/A	10 cf credit per tree	N/A	N/A	N/A	N/A	N/A	220	N/A	N/A	N/A	N/A
Totals	22		0			0	0							220				0

Retention Volume Remaining (cubic feet)	0		Volume Remaining to Treat 50% of the SWRv (cubic feet)	0	
Retention Volume Remaining (gallons)	0	Congratulations! You have exceeded the required SWRv by 31 gallons which may be able to be used to generate SRCs.	Volume Remaining to Treat 50% of the SWRv (gallons)	0	Follow DDOE MEP Procedure
50% of SWRv Retained?	Yes		Volume Remaining to Treat WQTV (cubic feet)	N/A	
Runoff from Vehicular Access Areas Sufficiently Retained or Treated?	No		Volume Remaining to Treat WQTV (gallons)	N/A	
Treatment Required?	No				
Minimum Requirements for Drainage Area Met?	No				

2200-2210 HUNTER PLACE, SE

DRAINAGE CALCULATIONS AND DETAILS



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District of Columbia General Retention Compliance Calculator
Site Drainage Area 1

Indicate Post-Development Land Cover For SDA 1		Major Land Disturbing	Major Substantial Improvement	Land Cover Summary		Major Land Disturbing	Major Substantial Improvement
Cover Type	Area (square feet)	Area (square feet)		% Natural Cover		0%	0%
Natural Cover	0			% Compacted Cover		20%	0%
Compacted Cover	4,480			% Impervious Cover		80%	0%
Impervious Cover	15,379			Site Rv		0.81	0.00
Vehicular Access Areas*	6,175						
BMP	2,621						
Drainage Area Total	22,480	0					
Rv Coefficients				Stormwater Retention Volume, SWRv (cubic feet)		1,822	
Land Cover Type	Rv			Stormwater Retention Volume, SWRv (gallons)		13,629	
Natural Cover	0.00			Vehicular Access Volume (cubic feet)		293	
Compacted Cover	0.25			AWDZ Only			
Impervious Cover	0.95			Water Quality Treatment Volume, WQTV (cubic feet)		NA	
				Water Quality Treatment Volume, WQTV (gallons)		NA	

*Vehicular Access areas should be included within the Impervious Cover Category

	Pervious Cover Draining to BMP		Impervious Cover Draining to BMP		Vehicular Access Area Draining to BMP		Maximum Retention Volume Received by BMP (cubic feet)	Description of Retention Value	% Retention Value	Maximum Retention Volume Received from Upstream BMPs (cubic feet)	Maximum Retention Volume To BMP (cubic feet)	Surface Area of BMP (square feet)	Storage Volume Provided by BMP (cubic feet)	Retention Value (cubic feet)	Potential Retention Volume Remaining (cubic feet)	Additional Treatment Volume (cubic feet)	Downstream BMP	Vehicular Access Volume Addressed?
	Area (square feet)	Type of Cover	Area (square feet)	Type of Cover	Area (square feet)	Volume (cubic feet)												
P1-3 Permeable Pavement - Standard		Natural Cover		Impervious Cover	1,710	81	230	Reduce volume conveyed through permeable pavement by 5.0 cu. ft. per 100 sq. ft. of permeable pavement.	N/A	0	230	1,710	299	86	145	145		Yes
		Compacted Cover	1,710	BMP														
B1-5 Bioretention - Standard		Natural Cover	12,452	Impervious Cover	3,930	187	1,798	Subtract 60% of the Sv - the calculated storage volume for the BMP.	60%	0	1,798	N/A	2,974	1,784	14	14		Yes
		Compacted Cover	911	BMP														
TP2 Tree Planting	1	Number of Trees Planted					N/A	10 of credit per tree	N/A	N/A	N/A	N/A	N/A	10	N/A	N/A	N/A	N/A
Totals	1		15,073		5,640		2,029					Volume Retained On Site (cubic feet)		1,880		Volume Treated (cubic feet)		159

District of Columbia General Retention Compliance Calculator
Site Compliance Calculations

Site Drainage Area 1

Natural Cover (square feet)	0
Compacted Cover (square feet)	4,480
Impervious Cover (square feet)	15,379
BMP (square feet)	2,621
Total Area (square feet)	22,480

SWRv (cubic feet)	1,822
WQTV (cubic feet)	NA

Volume Retained (cubic feet)	1,880
Retention Volume Remaining (cubic feet)	0
Retention Volume Remaining (gallons)	0
At least 50% of SWRv Retained?	Yes
Vehicular Access Areas Volume Addressed?	No

Treatment Required?	No
Volume Treated (cubic feet)	159
Volume Remaining to Treat 50% of the SWRv (cubic feet)	0
Volume Remaining to Treat 50% of the SWRv (gallons)	0
Volume Remaining to Treat WQTV (cubic feet)	N/A
Volume Remaining to Treat WQTV (gallons)	N/A

District of Columbia General Retention Compliance Calculator
Channel and Flood Protection Calculations

Target Rainfall Event (in)	2-year storm	15-year storm	100-year storm
	3.20	5.20	8.37

SDA 1 (square feet)	22,480
Storage Volume Provided By BMPs (cf)	3,283
Storage Volume Provided By BMPs (gallons)	24,557

SDA 1				
Land Area			Soils	
	Area (sf)		0.0	
Natural Cover	CN		70	
	Area (sf)		4479.6	
Compacted Cover	CN		74	
	Area (sf)		18000.3	
Impervious Cover and BMPs	CN		93	S
				0.73

	2-year storm	15-year storm	100-year storm
Runoff Volume (in) with no BMPs	2.47	4.42	7.56
Runoff Volume (in) with BMPs	0.71	2.67	5.80
Adjusted CN	68	76	78

Retention Volume Remaining (cubic feet)	0		Volume Remaining to Treat 50% of the SWRv (cubic feet)	0	
Retention Volume Remaining (gallons)	0	Congratulations! You have exceeded the required SWRv by 433 gallons which may be able to be used to generate SRCs.	Volume Remaining to Treat 50% of the SWRv (gallons)	0	

50% of SWRv Retained?	Yes		Volume Remaining to Treat WQTV (cubic feet)	N/A	
Runoff from Vehicular Access Areas Sufficiently Retained or Treated?	No		Volume Remaining to Treat WQTV (gallons)	N/A	
Treatment Required?	No				
Minimum Requirements for Drainage Area Met?	No				

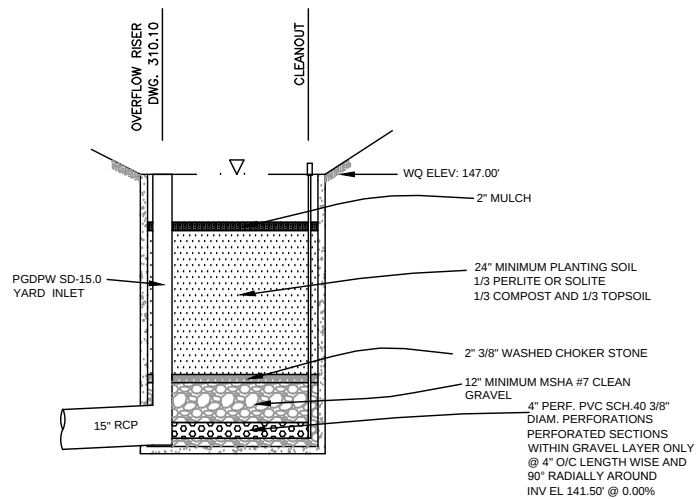
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DRAINAGE CALCULATIONS AND DETAILS



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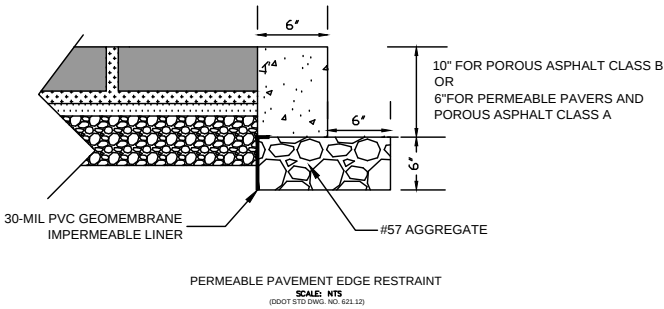
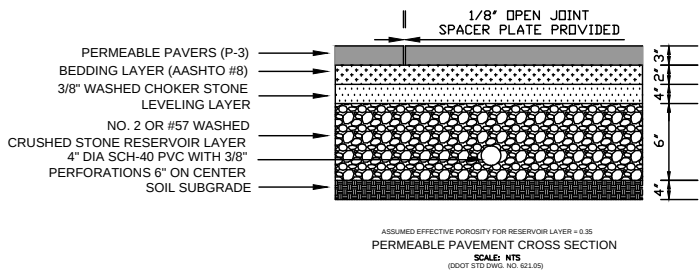




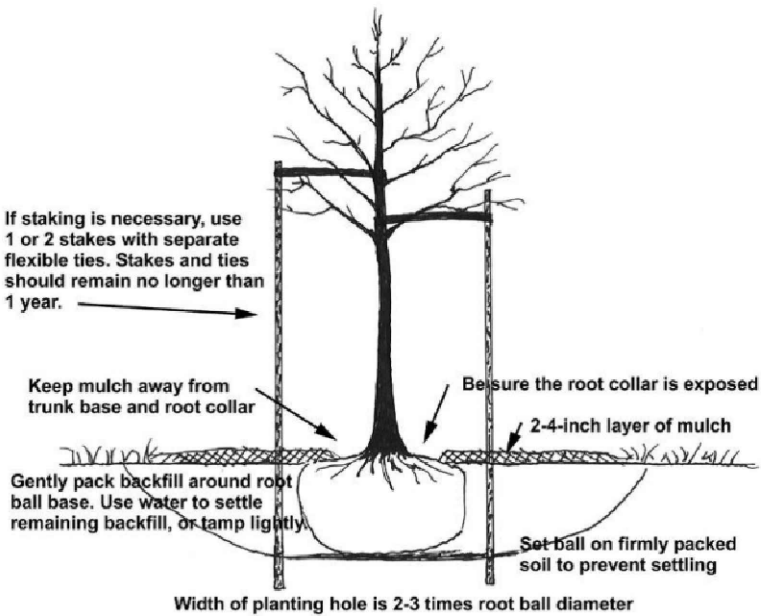
TYPICAL SECTION OF BIORETENTION
NTS

Bioretention 1 Computation		
Sv - storage volume	2472.30	CF
SA bottom - bottom surface area of bioretention	738	SF
d media - depth of filter media	3	ft
n media - effective porosity of filter media	0.25	
d gravel - depth of underdrain/underground storage gravel layer	4.00	ft
n gravel - effective porosity of gravel layer	0.4	
SA top - top surface area of bioretention	738	SF
SA avg - average surface area of bioretention	738	SF
d ponding - maximum ponding depth of bioretention	1	ft
Sv=SAbottom * [(dmedia * nmedia) + (dmedia * ngravel)] + (SA average * dponding)		

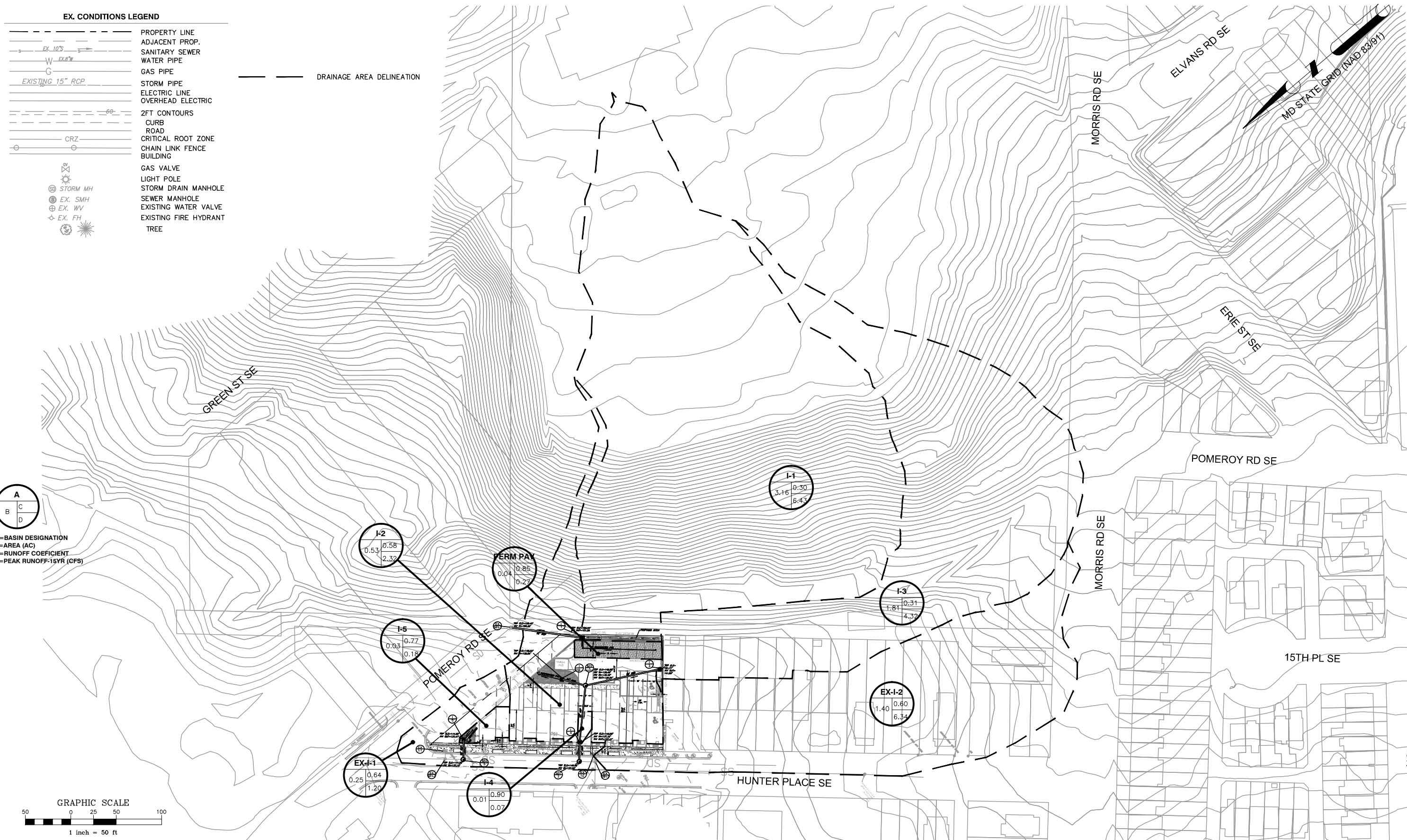
Bioretention 2 Computation		
Sv - storage volume	501.70	CF
SA bottom - bottom surface area of bioretention	173	SF
d media - depth of filter media	2	ft
n media - effective porosity of filter media	0.25	
d gravel - depth of underdrain/underground storage gravel layer	3.50	ft
n gravel - effective porosity of gravel layer	0.4	
SA top - top surface area of bioretention	173	SF
SA avg - average surface area of bioretention	173	SF
d ponding - maximum ponding depth of bioretention	1	ft
Sv=SAbottom * [(dmedia * nmedia) + (dmedia * ngravel)] + (SA average * dponding)		



Permeable Pavers		
dp - depth of reservoir layer	0.50	ft
P - rainfall depth	0.1	ft
Rv - runoff coefficient for impervious	0.95	
DA - drainage area	1710	SF
Ap - permeable pavement surface area	1710	SF
i - infiltration rate	0	ft/day
tf - time to fill reservoir layer	0.083	day
nr - effective porosity for reservoir layer	0.35	
Sv - storage volume	299.25	CF
dp	0.50	ft
nr	0.35	
Ap	1710	SF
i	0	
tf	0.083	day



Tree Plant Detail



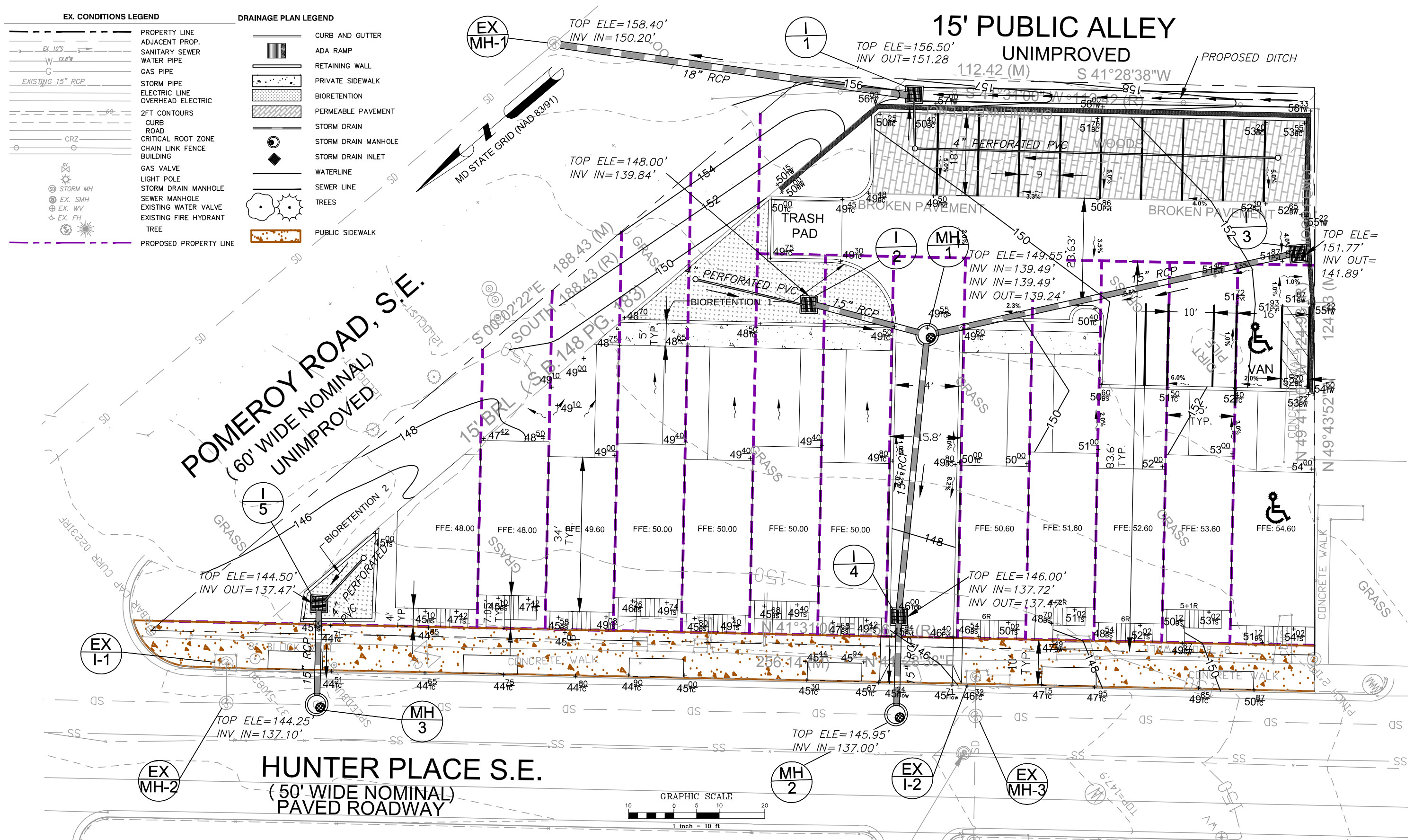
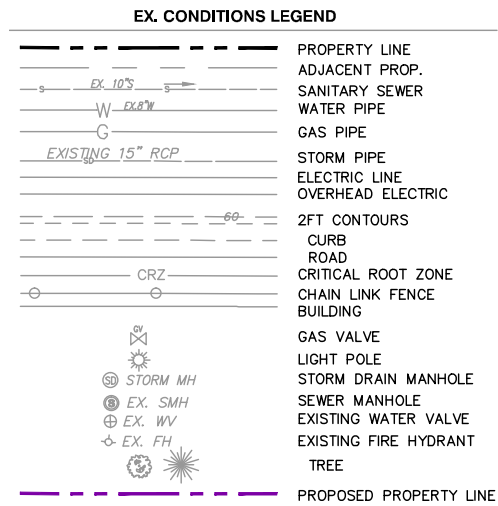
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POST DEVELOPMENT DRAINAGE PLAN

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GRADING PLAN

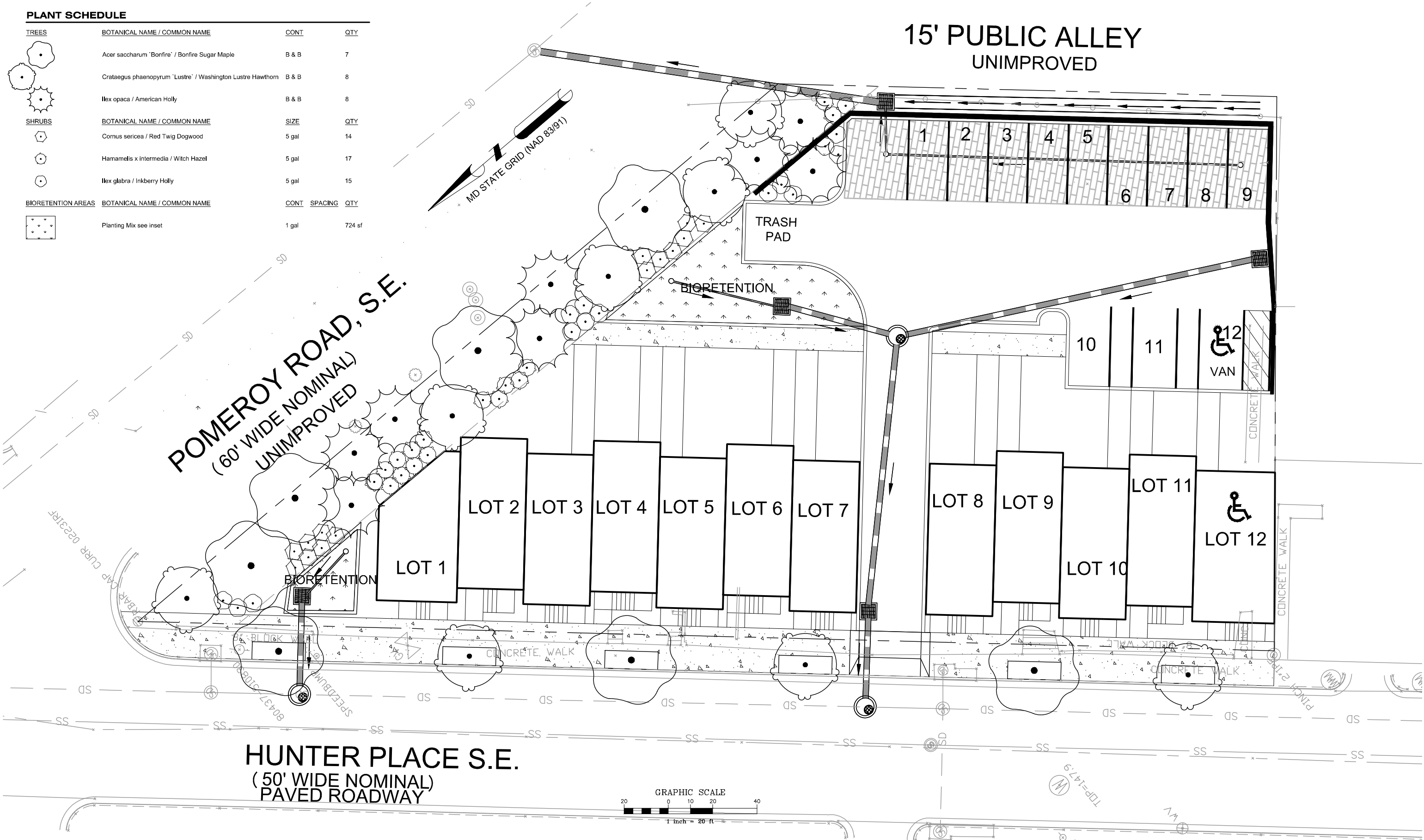


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PLANT SCHEDULE

TREES	BOTANICAL NAME / COMMON NAME	CONT	QTY	
	Acer saccharum 'Bonfire' / Bonfire Sugar Maple	B & B	7	
	Crataegus phaenopyrum 'Lustre' / Washington Lustre Hawthorn	B & B	8	
	Ilex opaca / American Holly	B & B	8	
SHRUBS	BOTANICAL NAME / COMMON NAME	SIZE	QTY	
	Cornus sericea / Red Twig Dogwood	5 gal	14	
	Hamamelis x intermedia / Witch Hazel	5 gal	17	
	Ilex glabra / Inkberry Holly	5 gal	15	
BIORETENTION AREAS	BOTANICAL NAME / COMMON NAME	CONT	SPACING	QTY
	Planting Mix see inset	1 gal		724 sf



2200-2210 HUNTER PLACE, SE

LANDSCAPE PLAN



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