## © City of Jairfax BROWN'S FAIRFAX MAZDA

### #10570 AND 10590 FAIRFAX BOULEVARD SPECIAL USE PLAN

### **NOTES**

1. APPLICANT/CONTRACT PURCHASER:
BROWN'S FAIRFAX REALTY, LLC.
12500 FAIR LAKES CIRCLE, STE. 375
FAIRFAX, VA 22033

### OWNER: ALPINE SCHUILING T INC. C/O HELEN SCHUILING 45 CALIBOGUE CAY ROAD

- 2. THE PROPERTY SHOWN HEREON IS DESIGNATED BY THE CITY OF FAIRFAX, VIRGINIA, AS PARCEL IDENTIFICATION NUMBERS 57-2-02-009 AND 57-2-02-010 AND IS ZONED CR COMMERCIAL RETAIL (FORMERLY C-2).
- 3. BOTH PARCELS ARE NOW IN THE NAME OF ALPINE SCHUILING T., INC., AS RECORDED IN DEED BOOK 8871 AT PAGE 1815 AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA.
- 4. TOTAL AREA OF THE TWO PARCELS IS 171,706 SQUARE FEET OR 3.9418 ACRES.
- 5. THIS PLAT IS BASED ON A FIELD SURVEY BY THIS FIRM COMPLETED ON MAY 11, 2016.
- 6. THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP FOR CITY OF FAIRFAX, VIRGINIA, MAP NUMBER 5155240002D, EFFECTIVE DATE JUNE 2, 2006, DESIGNATES A PORTION OF THE PROPERTY AS BEING IN ZONE AE (SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD WHERE BASE FLOOD ELEVATIONS DETERMINED) AND ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN).
- 7. EXISTING FLOODPLAIN TO BE REMOVED UNDER CLOMR PLAN#18-03-2239R; EXISTING RPA TO BE REMOVED UNDER VWP 18-1003.
- 8. EASEMENTS, CONDITIONS, COVENANTS AND RESTRICTIONS, SHOWN AND/OR NOTED, TAKEN FROM THE TITLE REPORT PREPARED BY WALKER TITLE, LLC, CASE NUMBER A1600542, WITH AN EFFECTIVE DATE OF MAY 19, 2016.
- 9. THE PROPERTY IS SERVED BY PUBLIC WATER AND SEWER.

### SPECIAL EXCEPTIONS

THE FOLLOWING SPECIAL EXCEPTIONS ARE REQUESTED WITH THIS APPLICATION:

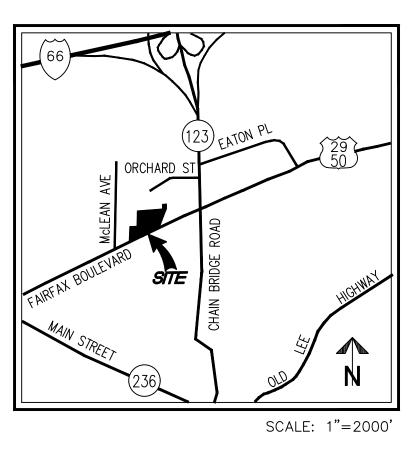
- 1. SPECIAL EXCEPTION FROM TRANSITIONAL SCREENING YARD 3 ALONG NORTHERN PROPERTY LINE AS REQUIRED BY Z.O. SECTIONS 4.5.5.C.3(c), 4.5.7.C.2, AND 4.5.7.E.2.
- 2. SPECIAL EXCEPTION FOR REQUIREMENT TO SCREEN OUTDOOR STORAGE ALONG THE NORTHERN PROPERTY LINE AS REQUIRED BY Z.O. SECTION 4.5.8.D.1.
- 3. SPECIAL EXCEPTION FROM STREET TREE REQUIREMENT ALONG FAIRFAX BOULEVARD AS REQUIRED BY Z.O. SECTION 4.5.6.B.
- 4. SPECIAL EXCEPTION TO PERMIT ENCROACHMENT INTO THE LANDWARD 50 FEET OF THE BUFFER COMPONENT OF THE RPA REQUIRED BY Z.O. SECTION 4.18.11.

### **SPECIAL USE PERMITS**

THE FOLLOWING SPECIAL USE PERMITS ARE REQUESTED WITH THIS APPLICATION:

- 1. SPECIAL USE PERMIT TO ALLOW VEHICLE SALES & LEASING USE IN THE CR ZONE. (Z.O. SECTION 3.3.1 PRINCIPAL USE TABLE)
- 2. SPECIAL USE PERMIT TO ALLOW VEHICLE SERVICE USE IN THE CR ZONE. (Z.O. SECTION 3.3.1 PRINCIPAL USE TABLE)
- 3. SPECIAL USE PERMIT FOR DEVELOPMENT WITHIN A FLOODPLAIN. (Z.O. SECTION 4.15.7.C(2))

### **VICINITY MAP**



### PROJECT DESCRIPTION

THIS APPLICATION PROPOSES TO REDEVELOP THE EXISTING SITE AS SHOWN ON THE FOLLOWING PAGES. THE EXISTING VEHICLE SALES AND LEASING AND VEHICLE SERVICE USES ARE CONSIDERED EXISTING NON—CONFORMING USES BECAUSE TODAY THEY ARE LISTED AS SPECIAL USES IN THE COMMERCIAL RETAIL (CR) ZONE; THEREFORE RELOCATING, RECONFIGURING, AND EXPANDING THE USES AS SHOWN ON THIS PLAN REQUIRES SPECIAL USE APPROVAL. TO THE BEST OF OUR KNOWLEDGE THIS APPLICATION COMPLIES WITH ALL APPLICABLE ZONING ORDINANCE REQUIREMENTS EXCEPT AS SPECIFIED IN THE SPECIAL EXCEPTION NARRATIVE ON THIS SHEET.

### **MASTER LEGEND**

PROPOSED	DESCRIPTION	EXISTING	PROPOSED	DESCRIPTION	EXISTING
EP MH WV	EDGE OF PAVEMENT MANHOLE WATER VALVE	EP. MH WV		HANDICAP RAMP (CG-12)	
WM	WATER METER	WM	_ • •	<b>_</b> GUARDRAIL	0 0 0
GM	GAS METER	GM	<del></del>	– FENCE	$\overline{}$
TCB	TRAFFIC CONTROL BOX	TCB	<b>→</b>	TRAFFIC FLOW	$\Rightarrow$
LP	LIGHT POLE	LP		LIGHT	<b>\$</b>
LP/S	LIGHT POLE WITH SIGNALS	LP/S	<b>— — •</b> • •	DOOR	$\nabla$
	CURB & GUTTER CG-2		$\odot$	TREES	
CG-6R CG-6	TRANSITION FROM CG-6 TO CG-6R	CG-6 - CG-6R	•	MANHOLE	$\bigcirc$
<b>S</b>	SANITARY SEWER	S	•	CLEAN OUT	o C.O.
——SL——	SANITARY LATERAL			CURB INLET	
• C.O.	CLEAN OUT STORM SEWER	○ C.O.	<u> 260</u> 264	CONTOURS	260 <u></u> 264
w	WATER MAIN	w	+264 <sup>50</sup>	SPOT ELEVATION	+264 50
+	FIRE HYDRANT	-6-	$\Longrightarrow$	DRAINAGE FLOW DIRECTION	$\Longrightarrow$
	PLUG OVERHEAD WIRES		TP 🛖	TEST PIT	
•	UTILITY POLE	ø		LIMITS OF CLEARING AND GRADING	
——UE——	UNDERGROUND ELECTRIC	——— UE ———		SITE PROPERTY LINE	
	TELEPHONE	T		PROP. BUILDING	
—— G ——	GAS MAIN ELECTRICAL	G			
				VEHICLE INVENTORY	
	TRANSFORMER			& STORAGE	

### SITE TABULATION

	MINIMUM REQ'D UNLESS SPECIFIED PER Z.O. (CR ZONE)	PROVIDED
LOT AREA	20,000 SF	171,706 SF
LOT WIDTH	NONE	446.79 FT
MAX BLDG HT	60 FT	60' MAX
YARD REQ'MT		
FRONT	20 FT (MIN.)	20 FT
SIDE	25 FT (MIN.)	51 FT
REAR	25 FT (MIN.)	53 FT
MAXIMUM FAR	NONE	N/A
BUILDING COVERAGE	60% MAX	40%
LOT COVERAGE	85% MAX	85% MAX
PROPOSED GFA		39,497 SF

### **PARKING TABULATION**

REQUIRED:

8,877 SF SALES AREA

8,877 SF @ 1 SP/500 SF = 18 SPACES

24 SERVICE BAYS

24 @ 2 SP/BAY = 48 SPACES

TOTAL PARKING REQUIRED: 66 SPACES

TOTAL PARKING PROVIDED: 69 SPACES (INCL. 4 HC)

\*THE 69 PARKING SPACES PROVIDED DOES NOT INCLUDE THE ADDITIONAL PARKING LOT AREA DESIGNATED FOR INVENTORY AND DISPLAY PURPOSES, AS SHOWN ON SHEET P-0301. ALL SPACES WITHIN PROPOSED PARKING STRUCTURE ARE DESIGNATED FOR VEHICLE STORAGE AND ARE ALSO NOT INCLUDED IN THE 69 SPACES LISTED ABOVE.

BICYCLE PARKING

REQUIRED: 4 (61-80 REQD. SPACES)
PROVIDED: 4 (2 RACKS) (SEE SHEET P-0301 FOR LOCATION)

### LOADING TABULATION

**COVER SHEET** 

REQUIRED:

LOADING REQUIRED = 1 SPACE (10,000 - 49,999 SF COMM. USE)

PROVIDED:

1 LOADING SPACE (SEE SHEET P-0301 FOR LOCATION)

### SHEET INDEX

P-0201	EXISTING CONDITIONS PLAN
P-0202	EXISTING VEGETATION PLAN
P-0301	SPECIAL USE PLAN
P-0302	PRELIMINARY UTILITY AND GRADING PLAN
P-0303	FIRE SERVICE PLAN
P-0304	ENTRANCE SIGHT DISTANCE PLAN & PROFILE
P-0401	CONCEPTUAL LANDSCAPE PLAN
P-0501	STORMWATER MANAGEMENT PLAN
P-0502	STORMWATER MANAGEMENT COMPUTATIONS AND NARRATIVE
P-0503	BMP SPREADSHEET
P-0504	HYDROGRAPHS & BMP DETAILS
P-0601	SPECIAL USE PLAN - INTERIM
P-0602	PRELIMINARY UTILITY AND GRADING PLAN - INTERIM
P-0603	LANDSCAPE PLAN - INTERIM
P-0604	FIRE SERVICE PLAN - INTERIM
P-0605	INTERIM CONDITION NARRATIVES & TABULATIONS

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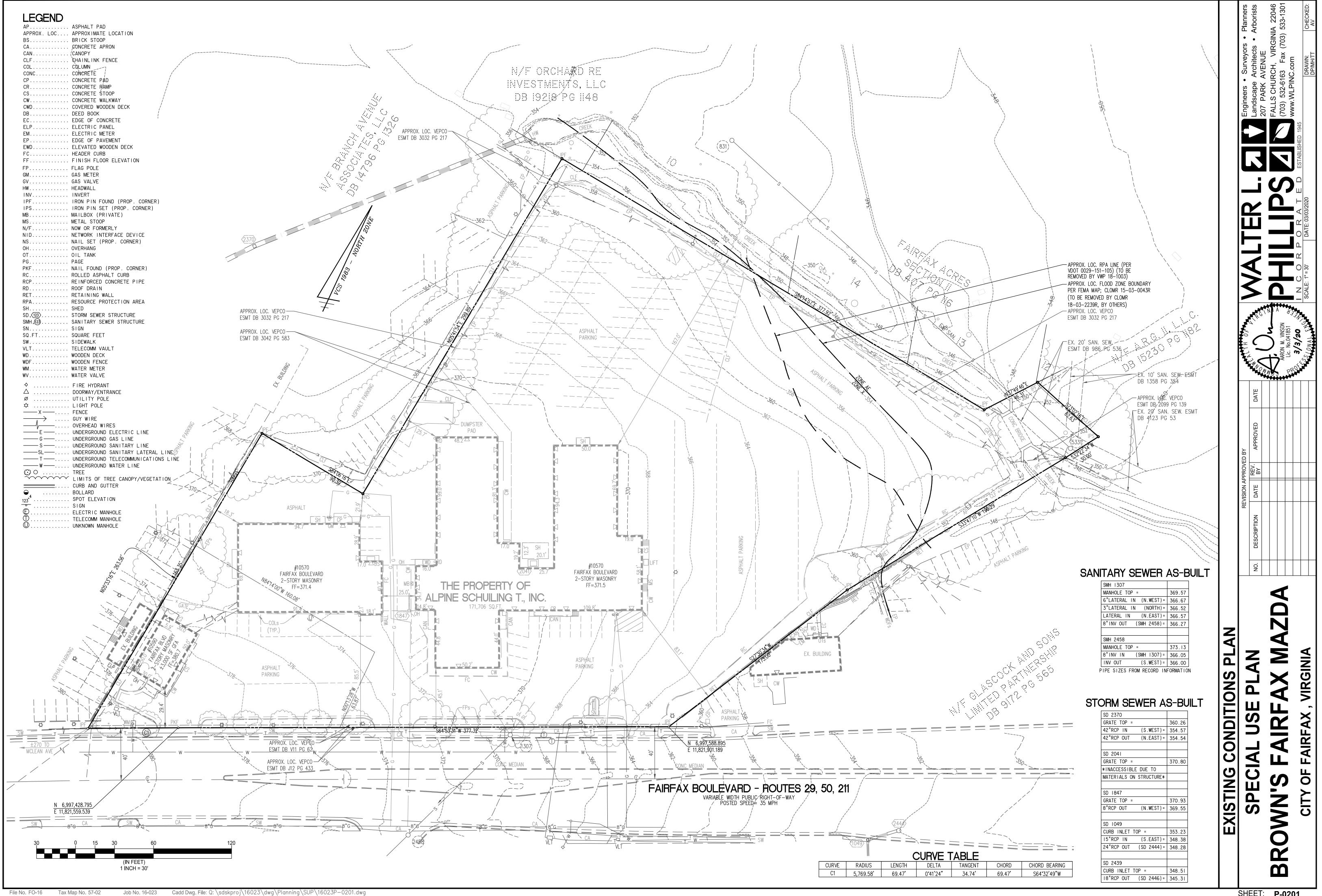
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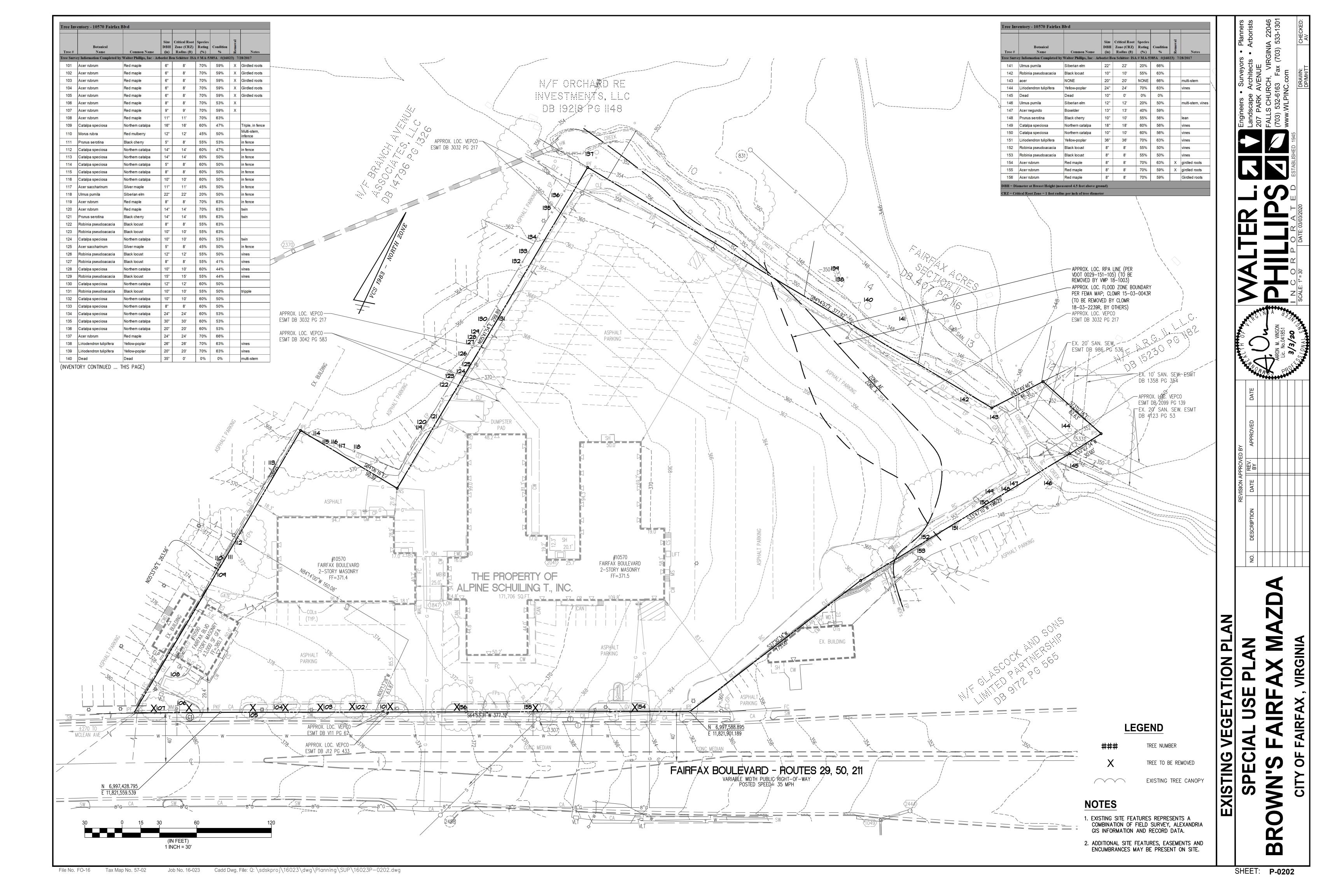
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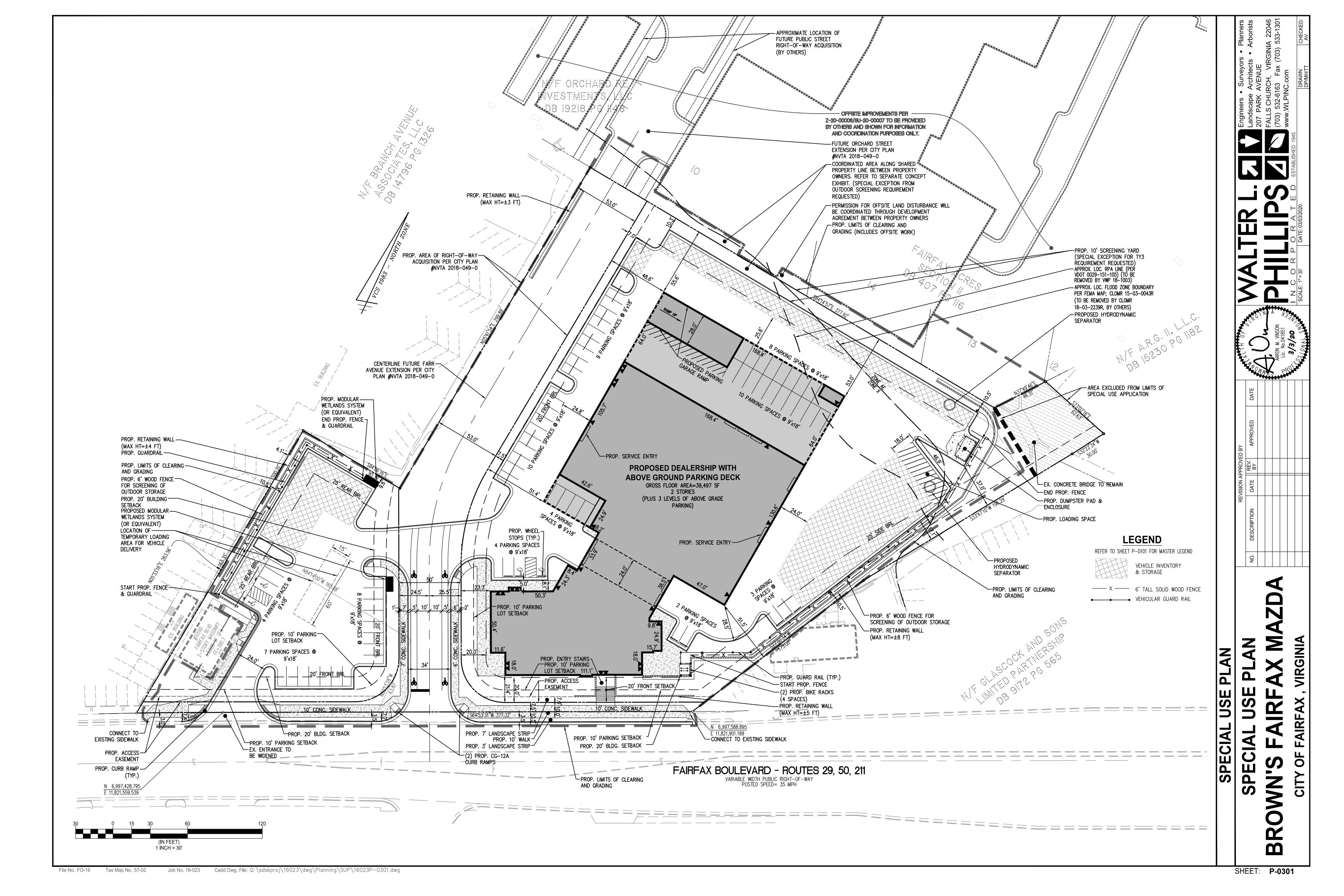
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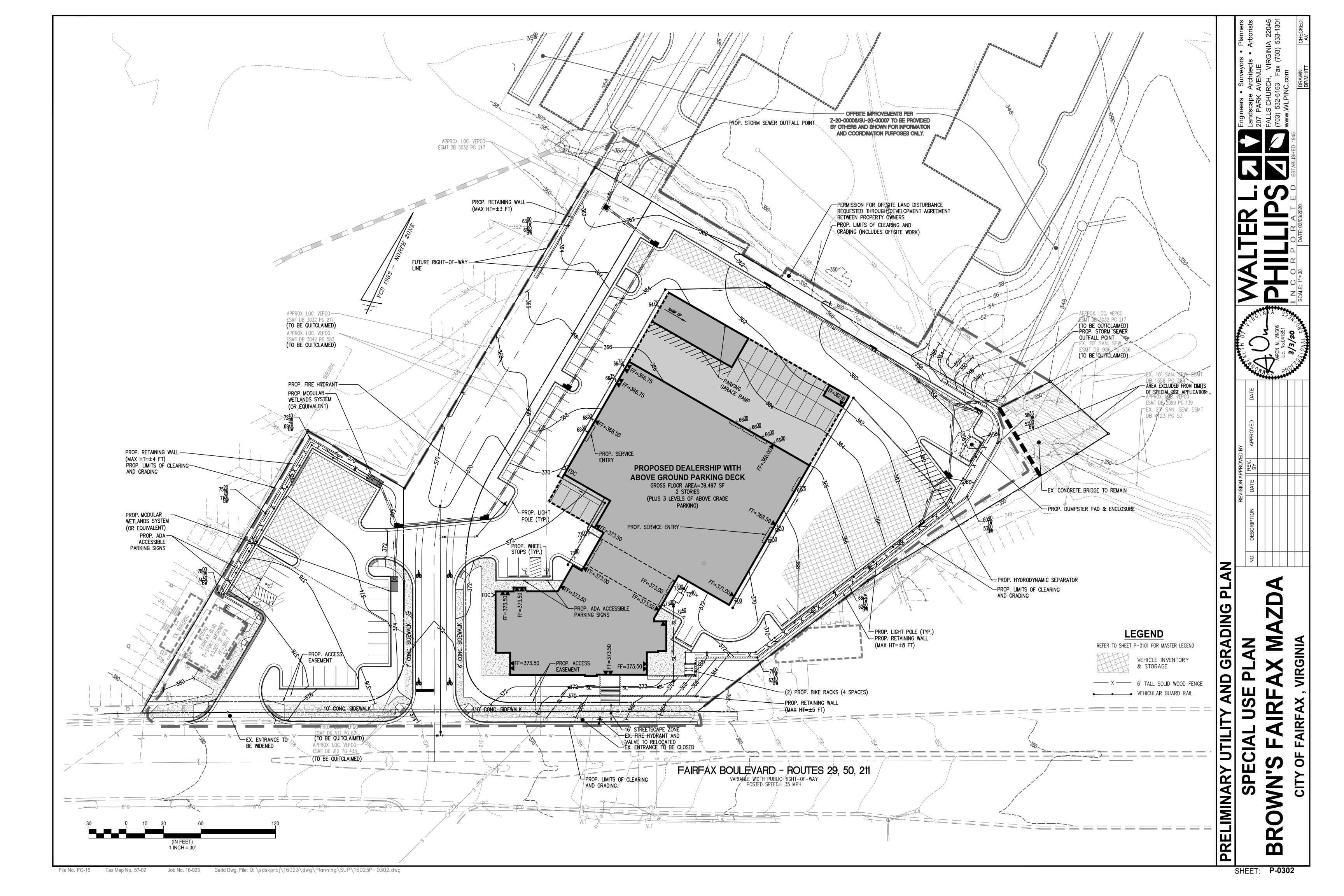
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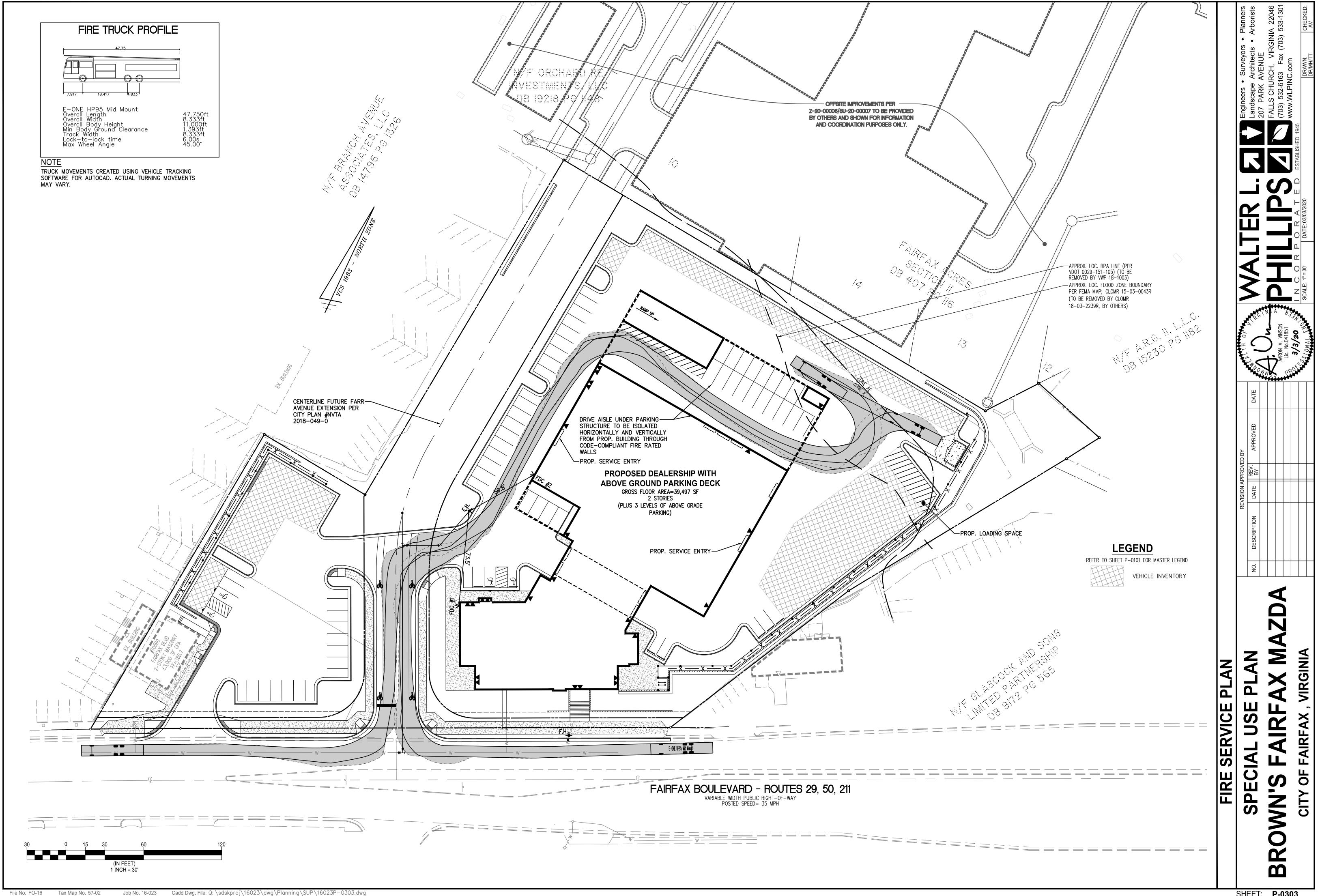
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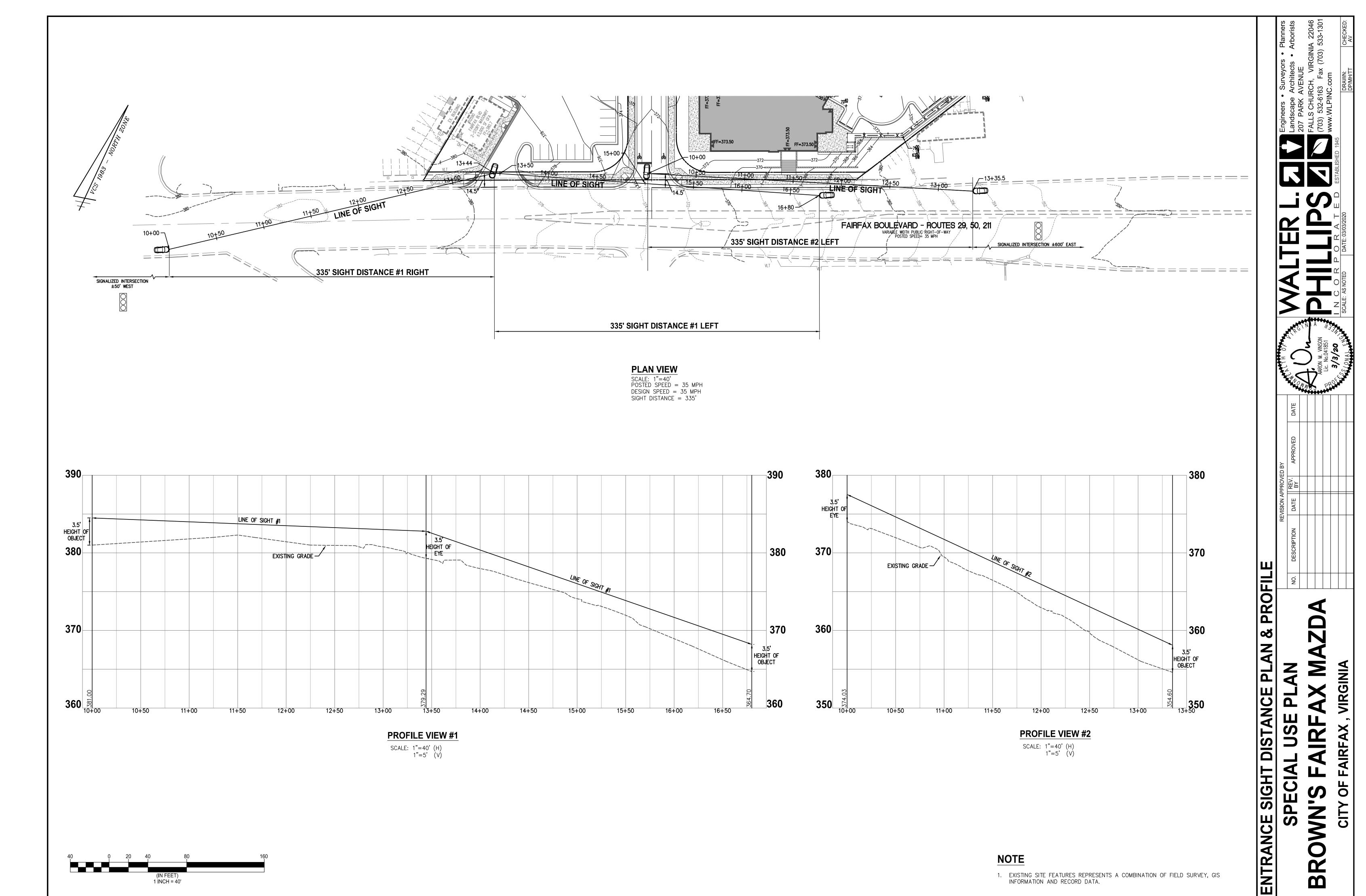








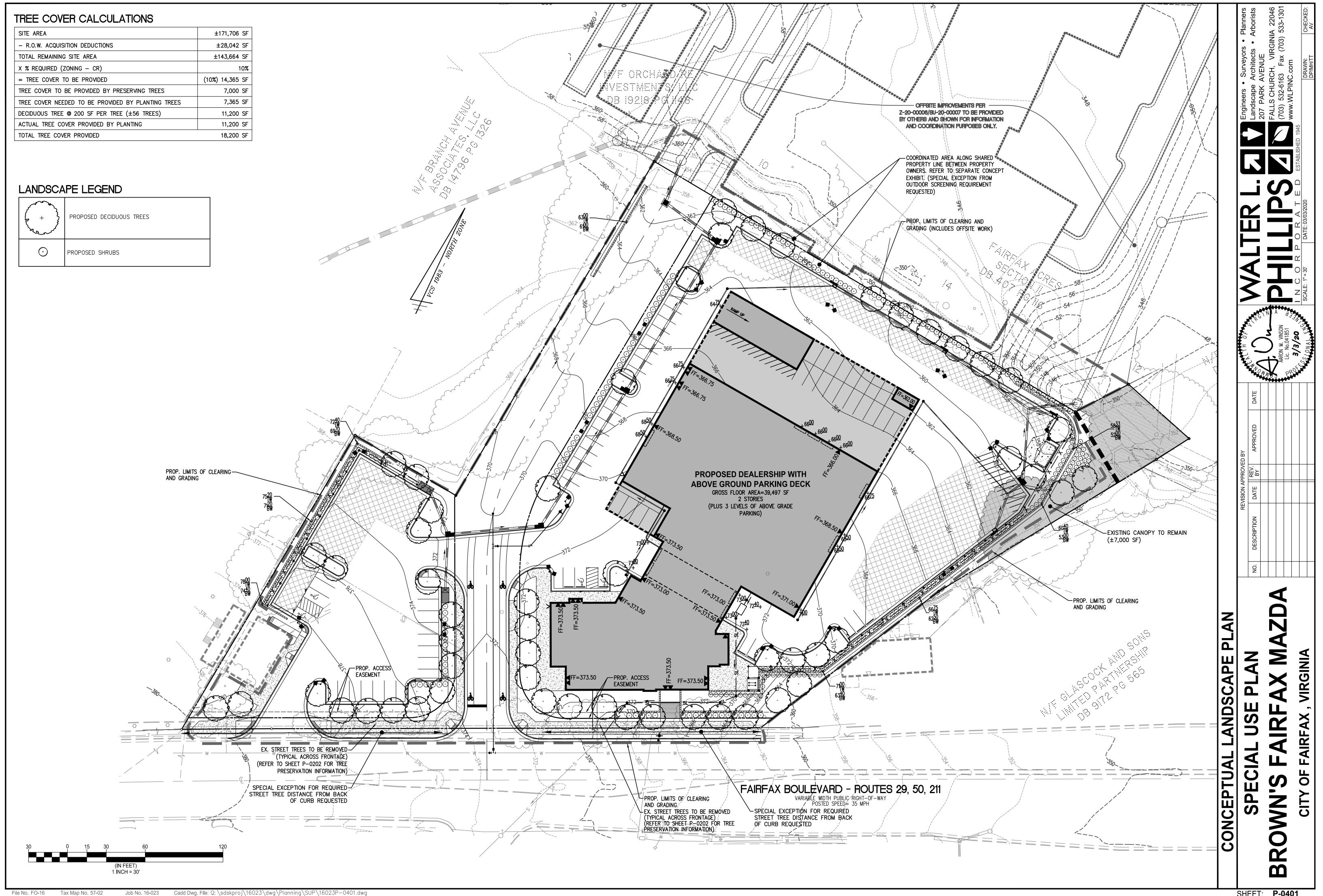


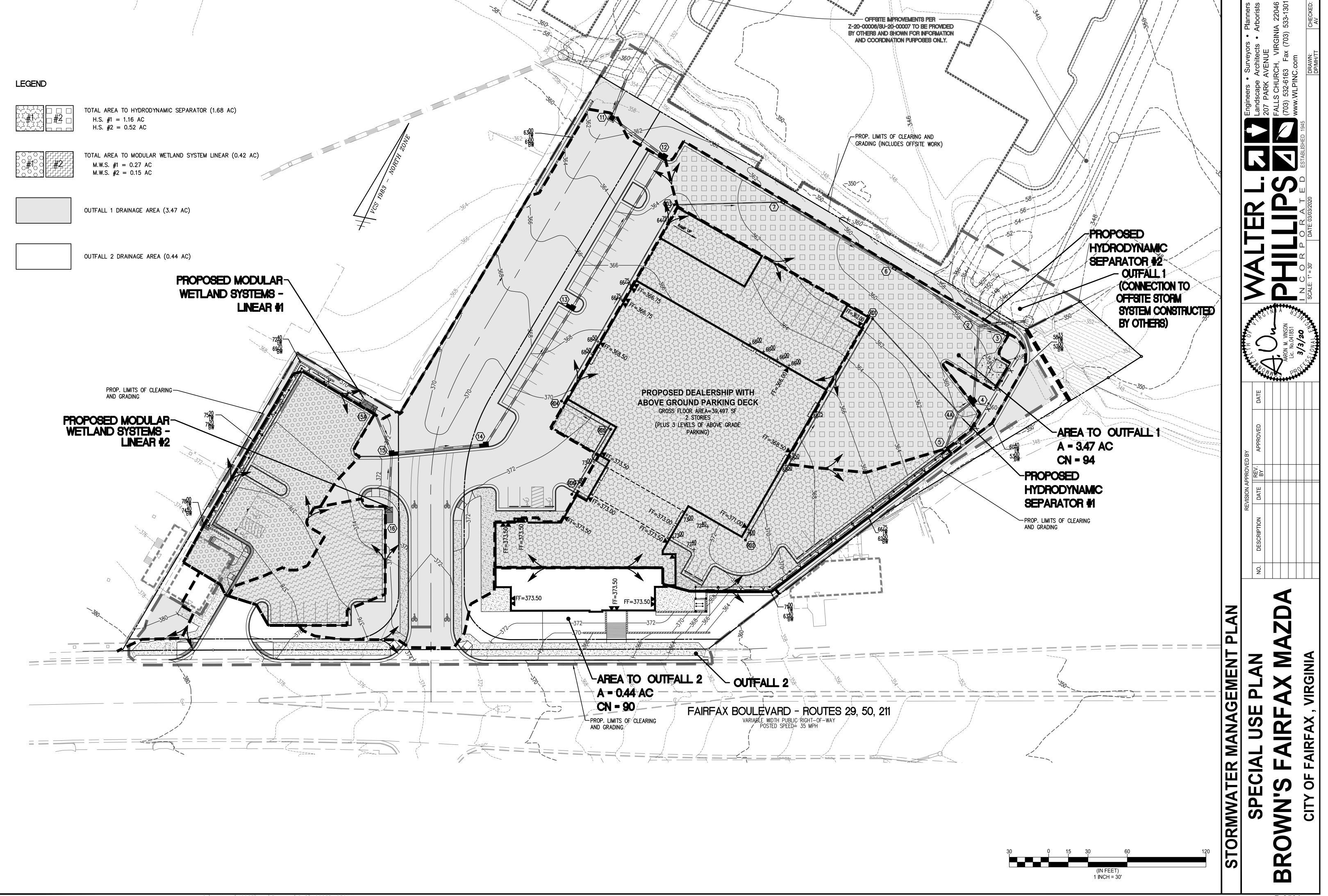


### NOTE

EXISTING SITE FEATURES REPRESENTS A COMBINATION OF FIELD SURVEY, GIS INFORMATION AND RECORD DATA.

(IN FEET) 1 INCH = 40'





### **OUTFALL ANALYSIS NARRATIVE**

- 1. THE EXISTING SITE DRAINS TO TWO STORMWATER OUTFALLS (REFER TO PLAN ON SHEET P-0501) AS FOLLOWS:
- 1.1. OUTFALL 1 MUCH OF THE SITE DRAINS NORTHWARD INTO AN EXISTING STREAM THAT IS LOCATED JUST NORTH OF THE PROPERTY'S NORTHERN PROPERTY LINE. THIS STREAM IS A TRIBUTARY OF THE UPPER REACHES OF ACCOTINK CREEK.
- 1.2. OUTFALL 2 RUNOFF FROM THE SOUTHERN PORTION OF THE SITE SHEET FLOWS INTO FAIRFAX BOULEVARD'S GUTTER. THIS RUNOFF THEN FLOWS EASTWARD UNTIL IT JOINS THE OUTFALL 1 RUNOFF IN THE ACCOTINK CREEK
- 2. AFTER THE PROPOSED REDEVELOPMENT, SITE RUNOFF WILL CONTINUE TO DRAIN TO THE SAME TWO OUTFALLS WITH NO CHANGE TO THE SIZE OF EACH OUTFALL'S DRAINAGE AREA. RUNOFF TO THE STREAM ON THE NORTH SIDE (OUTFALL 1) WILL BE COLLECTED IN PROPOSED CURB INLETS AND CONVEYED VIA PROPOSED STORM SEWERS TO THE EXISTING STREAM. OUTFALL 2 RUNOFF WILL CONTINUE TO FLOW TO THE FAIRFAX BOULEVARD GUTTER AS SHEET FLOW. RUNOFF TO BOTH OUTFALLS WILL BE REDUCED DUE TO THE DECREASE IN SITE IMPERVIOUSNESS.

### STORMWATER MANAGEMENT AND BEST MANAGEMENT PRACTICES NARRATIVES

- 1. THE EXISTING SITE CURRENTLY SERVES AS A MOTOR VEHICLE SALES AND SERVICE ESTABLISHMENT AND IT IS HIGHLY IMPERVIOUS. THE EXISTING SITE HAS NO STORMWATER MANAGEMENT OR WATER QUALITY FACILITIES. ALMOST THE ENTIRE PROPERTY WILL BE RECONSTRUCTED WITH THE PROPOSED REDEVELOPMENT PROJECT. THIS WILL RESULT IN A NET DECREASE IN OVERALL IMPERVIOUS AREA.
- 2. ACCORDING TO CITY CODE. THE STORMWATER QUANTITY REQUIREMENTS ARE AS FOLLOWS:
- 2.1. BECAUSE THE SITE STORMWATER OUTFALLS INCLUDE A NATURAL STREAM THE CHANNEL PROTECTION REQUIREMENT IS TO REDUCE THE SITE RUNOFF FOR A 1-YEAR STORM BY AN AMOUNT DETERMINED USING AN ENERGY BALANCE EQUATION. A TABULATION CAN BE FOUND ON THIS SHEET WHICH SUMMARIZES THE STORMWATER RUNOFF DATA AND ALLOWABLE SITE PEAK RUNOFF RATES. USING THE ENERGY BALANCE EQUATION, THE ALLOWABLE PEAK RUNOFF RATE FOR THE 1-YEAR STORM IS 10.01 CFS. EVEN WITHOUT STORMWATER DETENTION, THE POST-DEVELOPMENT SITE PEAK RUNOFF RATE WILL BE REDUCED TO LESS THAN ALLOWABLE WITH A RATE OF 9.99 CFS DUE TO THE PROPOSED REDUCTION IN SITE IMPERVIOUSNESS.
- 2.2. THE FLOOD PROTECTION REQUIREMENT WILL BE MET WITH THE PROPOSED REDUCTION IN THE PEAK RUNOFF RATE FOR THE 10-YEAR STORM, AGAIN DUE TO THE REDUCTION IN IMPERVIOUSNESS.
- 3. THE STORMWATER QUALITY (BMP) REQUIREMENT HAS BEEN DETERMINED USING THE VIRGINIA RUNOFF REDUCTION METHOD SPREADSHEET ISSUED BY THE VIRGINIA DEQ. A COPY OF THE COMPLETED SPREADSHEET CAN BE FOUND ON SHEET P-0503. THIS SPREADSHEET SHOWS THAT 0.62 POUNDS OF PHOSPHOROUS PER YEAR MUST BE REMOVED FROM THE SITE RUNOFF. THIS REQUIREMENT WILL BE MET THROUGH THE USE OF TWO HYDRODYNAMIC SEPARATORS AND TWO MODULAR WETLAND SYSTEM - LINEAR BMP STRUCTURES (OR SIMILAR). REFER TO SHEET P-0501 FOR A PLAN SHOWING THEIR LOCATIONS AND DRAINAGE AREAS. REFER TO SHEET P-0504 FOR DETAILS OF THESE PROPOSED WATER QUALITY DEVICES. IN LIEU OF THE MODULAR WETLAND SYSTEM STRUCTURES, THE APPLICANT MAY CHOSE TO USE TWO FILTERRA BMP STRUCTURES. THE FILTERRAS HAVE THE SAME PHOSPHOROUS REMOVAL EFFICIENCY, WOULD BE LOCATED IN THE SAME LOCATIONS, WOULD HAVE THE SAME PLANTS, AND WOULD FUNCTION THE SAME AS THE MODULAR WETLAND STRUCTURES.

### STORMWATER MANAGEMENT DATA AND CALCULATIONS

### PRE-DEVELOPMENT

DRAINAGE AREA	TOTAL	IMPERVIOUS	LANDSCAPED	CN	1-YR RUNOFF	PEAK FLC	WS Q <sup>(1)</sup>
	AREA (AC)	AREA (AC)	OR TURF (AC)		VOLUME <sup>(1)</sup> (CF)	1 YEAR (CFS)	10 YEAR (CFS)
OUT FALL 1/TO CTDFAAA)	• •			07	(CF)	(0.0)	(CF3)
OUT FALL 1 (TO STREAM)	3.47	3.27	0.2	97			
OUTFALL 2 (TO FAIRFAX BOULEVARD)	0.44	0.38	0.06	96			
SITE TOTALS	3.91	3.65	0.26	97	33,405	10.88	20.72

### POST-DEVELOPMENT

	. 05	DEVELO					
DRAINAGE AREA	TOTAL	IMPERVIOUS	LANDSCAPED	CN	1-YR RUNOFF	PEAK FLC	WS Q (1)
	AREA (AC)	AREA (AC)	OR TURF (AC)		VOLUME <sup>(1)</sup> (CF)	1 YEAR (CFS)	10 YEAR (CFS)
OUTFALL 1 (TO STREAM)	3.47	2.79	0.68	94			
OUTFALL 2 (FAIRFAX BOULEVARD)	0.44	0.24	0.20	90			
SITE TOTALS	3.91	3.03	0.88	94	29,042	9.99	20.07
				ALLOWABLE S	SITE RUNOFF <sup>(2)</sup>	10.01	20.72

(1) PEAK FLOWS AND RUNOFF VOLUMES OBTAINED FROM HYDRAFLOW SOFTWARE. REFER TO HYDROGRAPHS FOUND ON SHEET P-0504. (2) OUTFALL INCLUDES A STREAM SO ALLOWABLE Q1 IS  $Q_{Dev} < (IF = .8)(Q_{PREDEV} \times RV_{PREDEV})/RV_{Dev}$ . ALLOWABLE Q10 IS PRE-DEVELOPMENT VALUE.

### NOTES

- 1. THE POST-DEVELOPMENT CONDITIONS REFLECT THE IMPROVEMENTS SHOWN ON THIS PLAN AND INCLUDE THE IMPERVIOUS AREA ASSOCIATED WITH THE INTERIM PARKING
- 2. INFORMATION PROVIDED ON THIS SHEET IS PRELIMINARY AND SUBJECT TO CHANGE PENDING FINAL DESIGN.

**ATIONS** 

3. ALTERNATIVE BMPS MAY BE PROVIDED SO LONG AS REQUIREMENTS OF THE DEQ VRRM SPREADSHEET ARE MET.

**BROWN'S FAIRFAX MAZDA** 2/28/2020 Linear Development Project? No CLEAR ALL

data input cells constant values calculation cells

### **Site Information**

### Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area (acres) → 3.91

S. Control Statement State	
Maximum reduction required:	20%
The site's net increase in impervious cover (acres) is:	0
Post-Development TP Load Reduction for Site (lb/yr):	0.62

### Check: BMP Design Specifications List: 2013 Draft Stds & Specs

Line	ar project?	No
Land cover areas entered	correctly?	~
Total disturbed are	a entered?	V

### Pre-ReDevelopment Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) undisturbed,					0.00
protected forest/open space or reforested					0.00
Managed Turf (acres) disturbed, graded					0.26
for yards or other turf to be				0.26	0.20
Impervious Cover (acres)				3.65	3.65
	,				3.91

### Post-Development Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) undisturbed,					0.00
protected forest/open space or reforested					0.00
Managed Turf (acres) disturbed, graded					0.88
for yards or other turf to be				0.88	0.88
Impervious Cover (acres)				3.03	3.03
Area Check	OK.	OK.	OK.	OK.	3.91

### Runoff Coefficients (Rv)

Kunon Coemcients (KV)								
	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				

77%

% Impervious

Final Site Area (acres)

Final Post Dev Site Rv

### Constants

43
1.00
0.26
1.86
0.41
0.90

(unitiess correction factor)	0.90	
LAND COVER SUMMARY P	RE-REDEVE	LOPMENT

Land Cover Summary-Pre					
Pre-ReDevelopment	Listed	Adjusted <sup>1</sup>			
Forest/Open Space Cover (acres)	0.00	0.00			
Weighted Rv(forest)	0.00	0.00			
% Forest	0%	0%			
Managed Turf Cover (acres)	0.26	0.26			
Weighted Rv(turf)	0.25	0.25			
% Managed Turf	7%	7%			
Impervious Cover (acres)	3.65	3.65			
Rv(impervious)	0.95	0.95			
% Impervious	93%	93%			
Total Site Area (acres)	3.91	3.91			
Site Rv	0.90	0.90			

### Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.2944	0.2944
Pre-ReDevelopment Treatment Volume (cubic feet)	12,823	12,823
Pre-ReDevelopment TP Load (lb/yr)	8.06	8.06
Pre-ReDevelopment TP Load per acre (Ib/acre/yr)	2.06	2.06

<sup>1</sup> Adjusted Land Cover Summary: Pre ReDevelopment land cover minus pervious land cover (forest/open space or managed turf) acreage proposed for new impervious cover.

Adjusted total acreage is consistent with Post-ReDevelopment acreage (minus acreage of new impervious cover).

Column I shows load reduction requriement for new impervious cover (based on new development load limit, 0.41 lbs/acre/year).

Land Cover Summar	ry-Post (Final)	Land Cover Sum	mary-Post	Land Cover Sumr	nary-Post
Post ReDev. & Nev	v Impervious	Post-ReDeve	lopment	Post-Development No	ew Impervious
Forest/Open Space Cover (acres)	0.00	Forest/Open Space Cover (acres)	0.00		
Weighted Rv(forest)	0.00	Weighted Rv(forest)	0.00		
% Forest	0%	% Forest	0%		
Managed Turf Cover (acres)	0.88	Managed Turf Cover (acres)	0.88		
Weighted Rv (turf)	0.25	Weighted Rv (turf)	0.25		
% Managed Turf	23%	% Managed Turf	23%		
Impervious Cover (acres)	3.03	ReDev. Impervious Cover (acres)	3.03	New Impervious Cover (acres)	0.00
Rv(impervious)	0.95	Rv(impervious)	0.95	Rv(impervious)	

% Impervious Total ReDev. Site Area

ReDev Site Rv

		-0-			<u> </u>
		Treatment Volume ar	nd Nutrient Lo	oad	
Final Post- Development Treatment Volume (acre-ft)	0.2582	Post-Re De ve lopmen Tre atment Volume (acre-ft)	0.2582	Post-Development Treatment Volume (acre-ft)	
Final Post- Development Treatment Volume (cubic feet)	11,248	Post-Re De ve lopmen Tre atment Volume (cubic feet)	t 11,248	Post-Development Treatment Volume (cubic feet)	
Final Post- Development TP Load (lb/yr)	7.07	Post-Re De ve lopmen Load (TP) (lb/yr)*	7.07	Post-Development TP Load (lb/yr)	
Final Post-Development TP Load per acre (lb/acre/yr)	1.81	Post-ReDevelopment TP Load per acre (lb/acre/yr)	1.81		

Max. Reduction Requi (Below Pre-

(lb/yr)

77%

3.91

0.79

TP Load Reduction Required for Redeveloped Area

**TP Load Reduction** Required for New Impervious Area (lb/yr)

### **Post-Development Requirement for Site Area**

TP Load Reduction Required (lb/yr)	0.62		- PHOSPHOROUS REDUCTION REQUI
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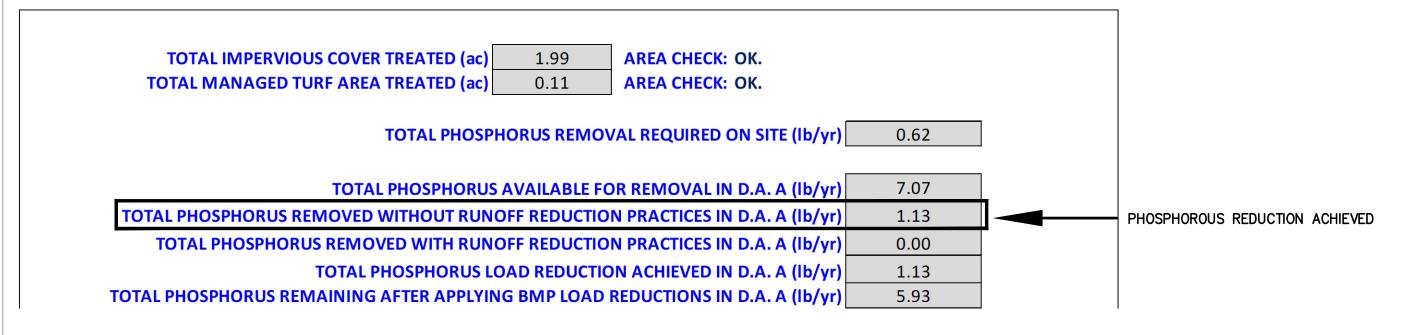
### Drainage Area A

inage Area A Land Cover (acres)						
	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				0.88	0.88	0.25
Impervious Cover (acres)				3.03	3.03	0.95
				Total	3 91	

CLEAR BMP AREAS

Total Phosphorus Available for Removal in D.A. A (lb/yr) 7.07 Post Development Treatment Volume in D.A. A (ft<sup>3</sup>) 11,248

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft <sup>3</sup> )	Runoff Reduction (ft <sup>3</sup> )	Remaining Runoff Volume (ft <sup>3</sup> )	Total BMP Treatment Volume (ft <sup>3</sup> )	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (Ib)	Downstream Practice to be Employed
14. Manufactured Treatment Devices (	14. Manufactured Treatment Devices (no RR)												
14.a. Manufactured Treatment Device- Hydrodynamic	0	0.08	1.60	0	0	5,590	5,590	20	0.00	3.51	0.70	2.81	
14.b. Manufactured Treatment Device-Filtering	0	0.03	0.39	0	0	1,372	1,372	50	0.00	0.86	0.43	0.43	
	·	_	·		·	·	·	·					



### **Site Results (Water Quality Compliance)**

Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
FOREST/OPEN SPACE (ac)	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER (ac)	3.03	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	1.99	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	0.88	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.11	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft<sup>3</sup>) 11,248

### Runoff Reduction Volume and TP By Drainage Area

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft <sup>3</sup> )	0	0	0	0	0	0
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	7.07	0.00	0.00	0.00	0.00	7.07
TP LOAD REDUCTION ACHIEVED (lb/yr)	1.13	0.00	0.00	0.00	0.00	1.13
TP LOAD REMAINING (lb/yr)	5.93	0.00	0.00	0.00	0.00	5.93
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	0.00	0.00	0.00	0.00	0.00	0.00

### Total Phosphorus

Total Phosphorus	
FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	7.07
TP LOAD REDUCTION REQUIRED (lb/yr)	0.62
TP LOAD REDUCTION ACHIEVED (lb/yr)	1.13
TP LOAD REMAINING (lb/yr):	5.93

REMAINING TP LOAD REDUCTION REQUIRED (lb/yr): \*\* TARGET TP REDUCTION EXCEEDED BY 0.51 LB/YEAR \*\*

COMPLIANCE VERIFICATION

NOTES

1. INFORMATION PROVIDED ON THIS SHEET IS PRELIMINARY AND SUBJECT TO CHANGE PENDING FINAL DESIGN.

2. ALTERNATIVE BMPS MAY BE PROVIDED SO LONG AS REQUIREMENTS OF THE DEQ VRRM SPREADSHEET ARE MET.

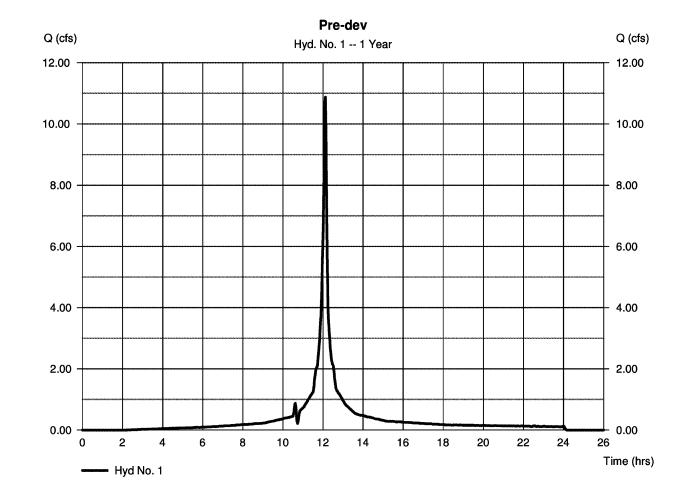
Wednesday, Nov 21, 2018

Wednesday, Nov 21, 2018

### **Hydrograph Report**

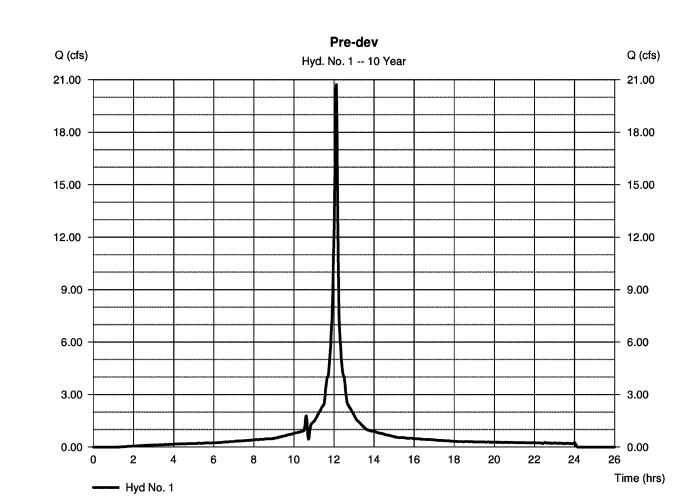
Hyd. No. 1			
Pre-dev			
Hydrograph type Storm frequency	= SCS Runoff = 1 vrs	Peak discharge Time to peak	= 10.88 cfs = 727 min
Time interval	= 1 min = 3.910 ac	Hyd. volume Curve number	= 33,405 cu = 97
Drainage area	= 3.910 ac	Curve number	= 97





### Hydrograph Report

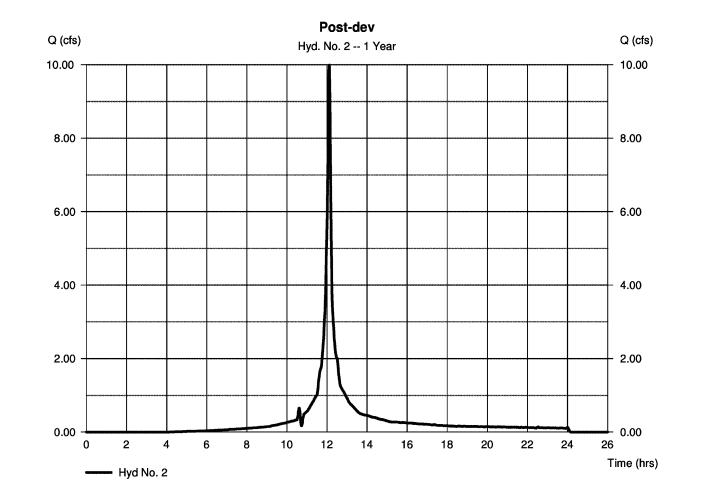
Pre-dev			
Hydrograph type	= SCS Runoff	Peak discharge	= 20.72 cfs
Storm frequency	= 10 yrs	Time to peak	= 727 min
Time interval	= 1 min	Hyd. volume	= 66,123  cuft
Drainage area	= 3.910 ac	Curve number	= 97
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 6.00 min
Total precip.	= 4.87 in	Distribution	= Custom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484



### **Hydrograph Report**

draflow Hydrographs by	ow Hydrographs by Intelisolve v9.22		Wednesday, Nov 21, 2018	
yd. No. 2				
ost-dev				
ydrograph type torm frequency	= SCS Runoff = 1 vrs	Peak discharge Time to peak	= 9.994 cfs = 727 min	

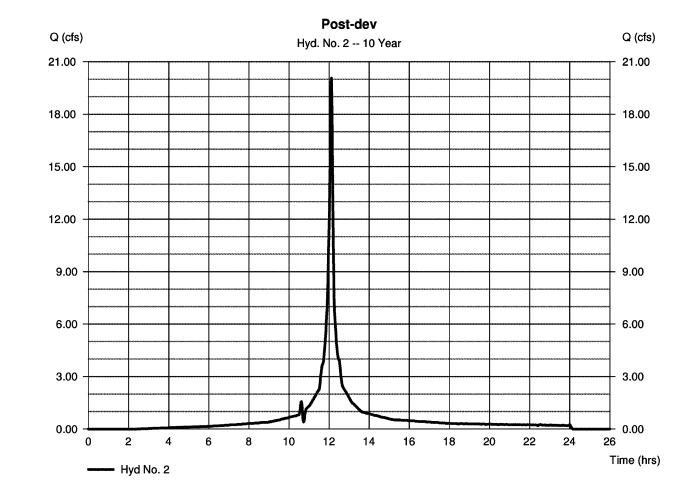
nyuloglapii type	= 3C3 Hulloll	reak discriarye	= 5.55	4 615
Storm frequency	= 1 yrs	Time to peak	= 727	min
Time interval	= 1 min	Hyd. volume	= 29,0	42 cuff
Drainage area	= 3.910 ac	Curve number	= 94	
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft	
Tc method	= USER	Time of conc. (Tc)	= 6.00	min
Total precip.	= 2.62 in	Distribution	= Cust	tom
Storm duration	= NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484	
	• 1	•		



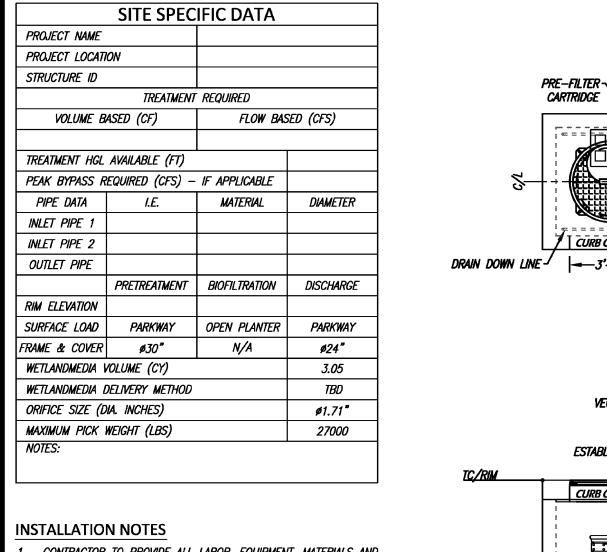
### Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.22	Wednesday, Nov 21, 2
Hyd. No. 2	

Hy	ydrograph type =	SCS Runoff	Peak discharge	= 20.07 cfs
St	orm frequency =	: 10 yrs	Time to peak	= 727 min
Tir	me interval =	: 1 min	Hyd. volume	= 61,179  cut
Dr	rainage area =	3.910 ac	Curve number	= 94
Ba	asin Šlope	0.0 %	Hydraulic length	= 0 ft
To	e method =	USER	Time of conc. (Tc)	= 6.00 min
To	otal precip. =	4.87 in	Distribution	= Custom
St	orm duration =	NOAA Type C Rainfall 1 Min interval.cds	Shape factor	= 484



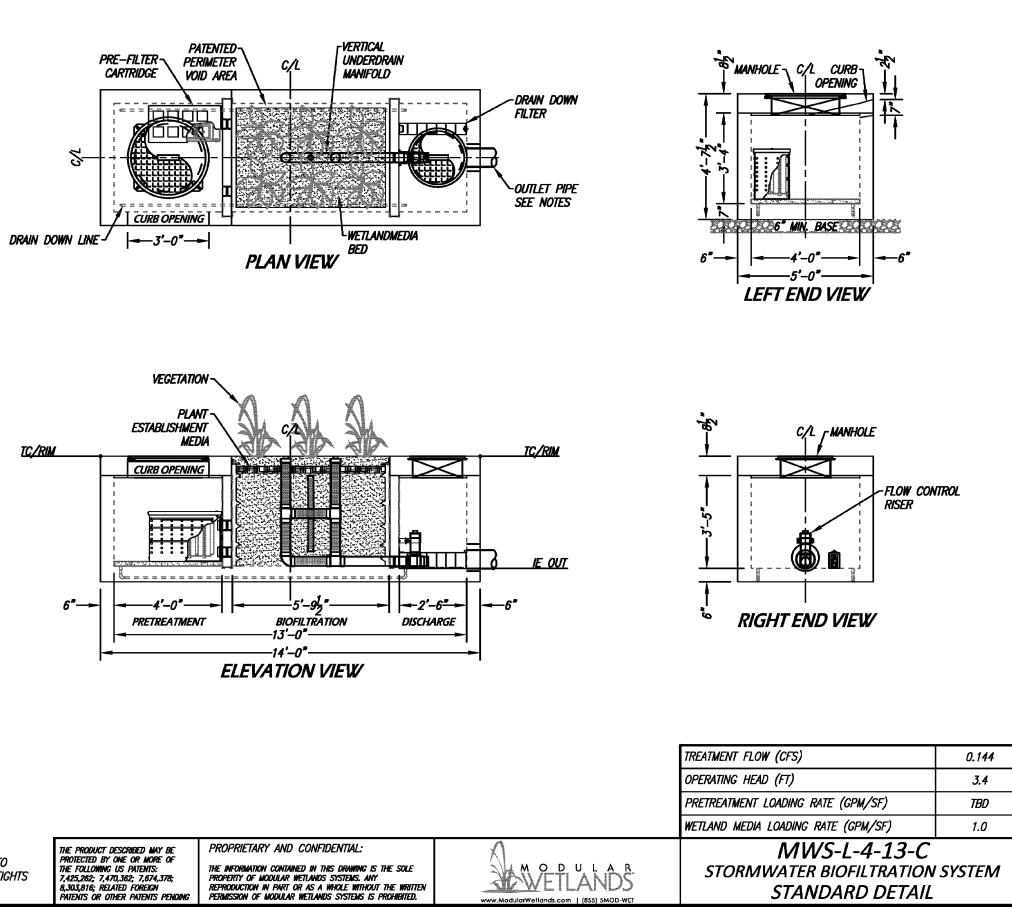
### **CONCEPTUAL BMP DETAILS**

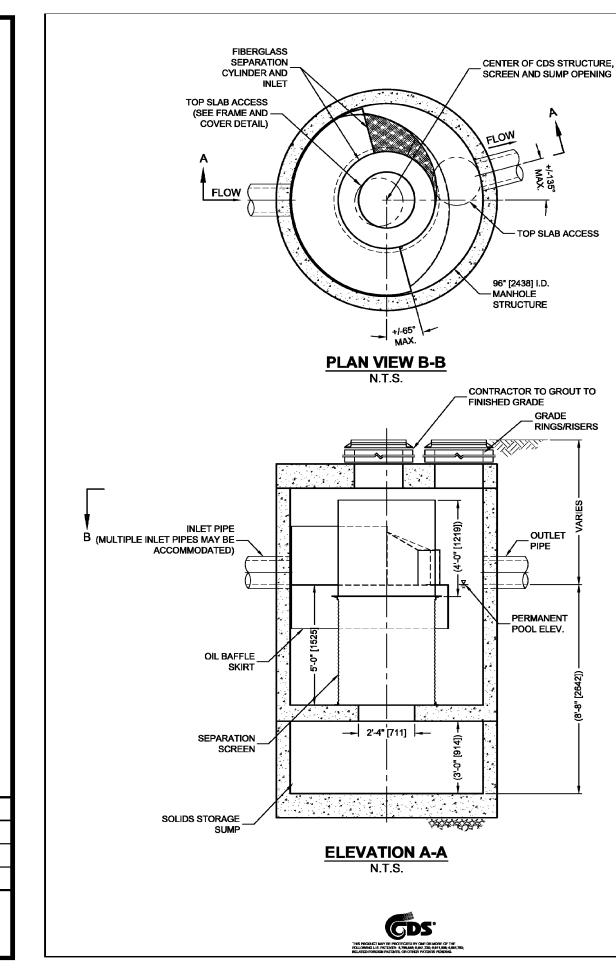


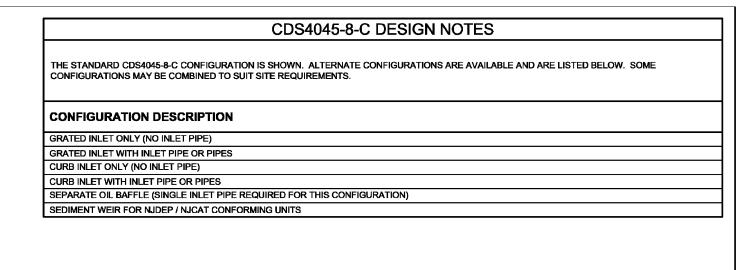
- CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS SPECIFICATIONS, UNLESS OTHERWISE STATED IN
- MANUFACTURERS CONTRACT. Unit must be installed on level base. Manufacturer RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE TO VERIFY PROJECT ENGINEERS RECOMMENDED BASE SPECIFICATIONS.
- ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE. (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL GAPS AROUND PIPES SHALL BE SEALED WATER TIGHT WITH A NON-SHRINK GROUT PER MANUFACTURERS STANDARD CONNECTION DETAIL AND SHALL MEET OR EXCEED REGIONAL PIPE CONNECTION STANDARDS. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING
- CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO GROUT ALL MANHOLES AND
- HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE. DRIP OR SPRAY IRRIGATION REQUIRED ON ALL UNITS WITH VEGETATION.

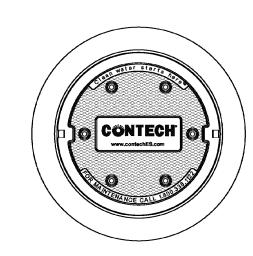
### **GENERAL NOTES**

MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT MANUFACTURER.









FRAME AND COVER (DIAMETER VARIES) N.T.S.

STRUCTURE ID					
WATER QUALITY FLOW RATE (CFS OR L/s)				*	
PEAK FLOW RAT	E (CFS OR I	∟/s)			*
RETURN PERIOD OF PEAK FLOW (YRS)			*		
SCREEN APERTU	JRE (2400 C	R 4	700)		*
PIPE DATA:	I.E.	N	MATERIAL	D	IAMETER
INLET PIPE 1	*		*	*	
INLET PIPE 2	*		*	*	
OUTLET PIPE	*		*		*
RIM ELEVATION					*
ANTI-FLOTATION BALLAST WIDTH			HEIGHT		
			*	T	*
NOTES/SPECIAL	REQUIREM	ENT	rs:		·

GENERAL NOTES

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.

2. DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY. 3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED

- SOLUTIONS LLC REPRESENTATIVE. www.contechES.com

  4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. 5. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.

  6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING
- INSTALLATION NOTES

  A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.

  B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
- CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
  CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.



CDS4045-8-C INLINE CDS STANDARD DETAIL

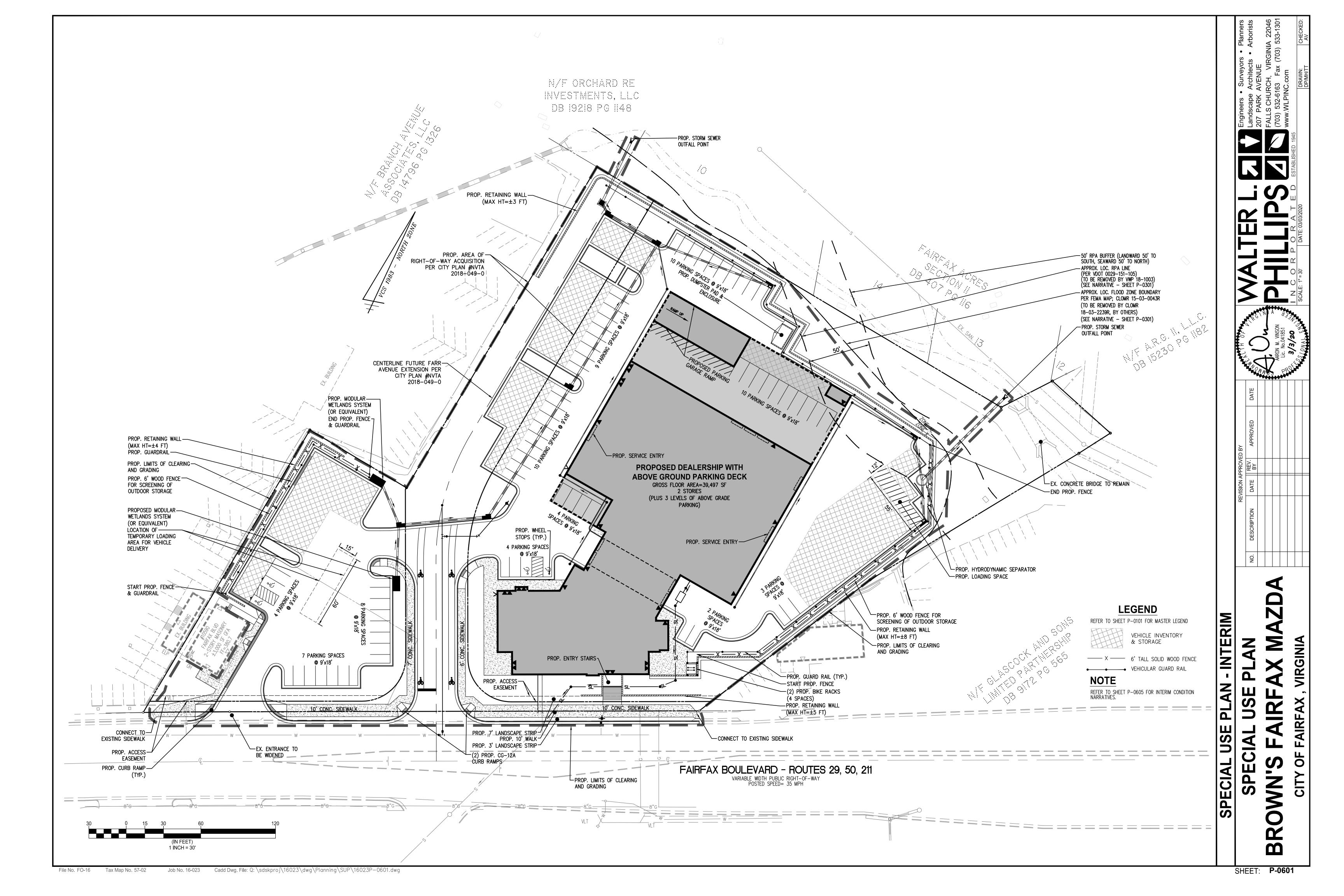
### **NOTES**

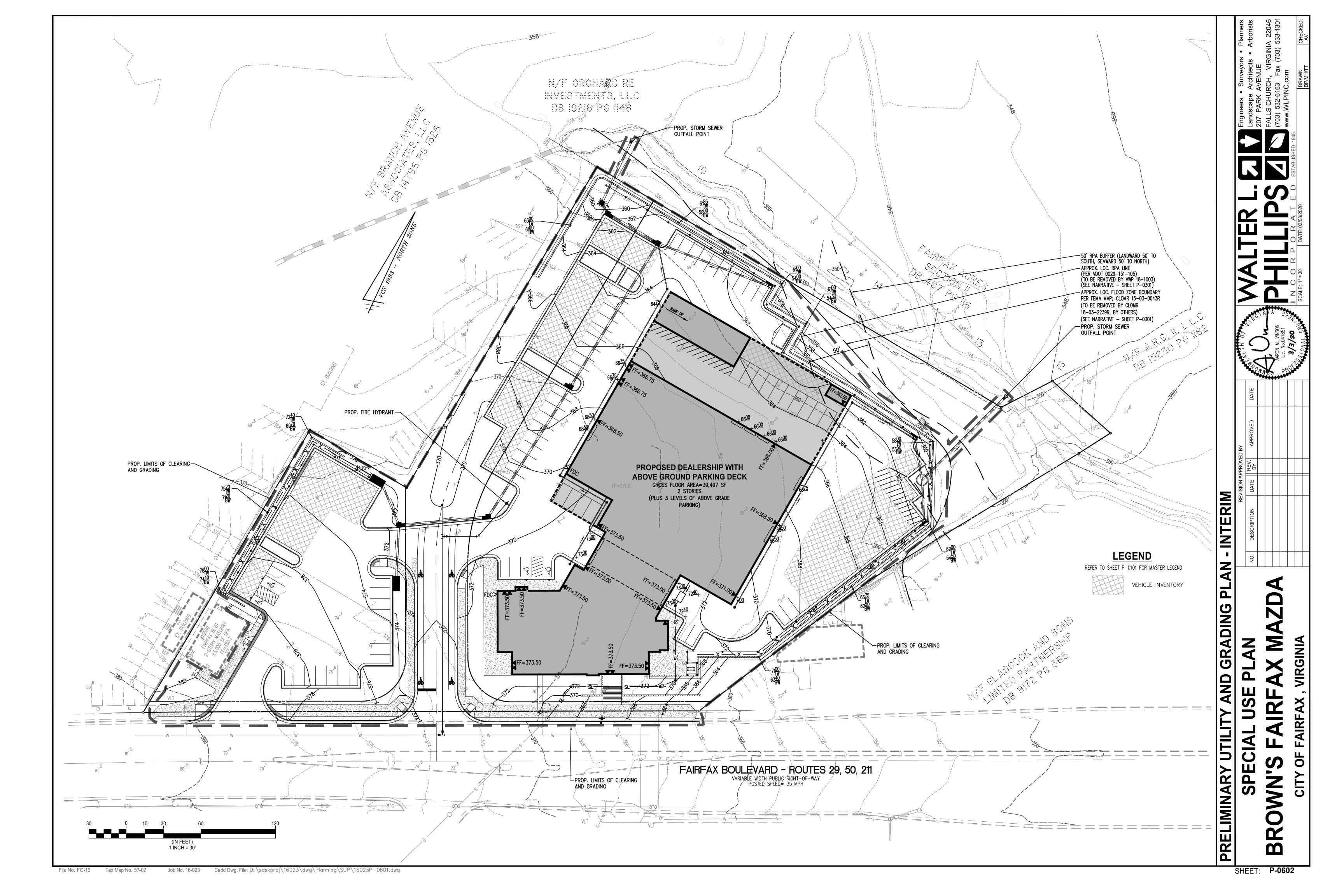
- 1. INFORMATION PROVIDED ON THIS SHEET IS PRELIMINARY AND SUBJECT TO CHANGE PENDING FINAL DESIGN.
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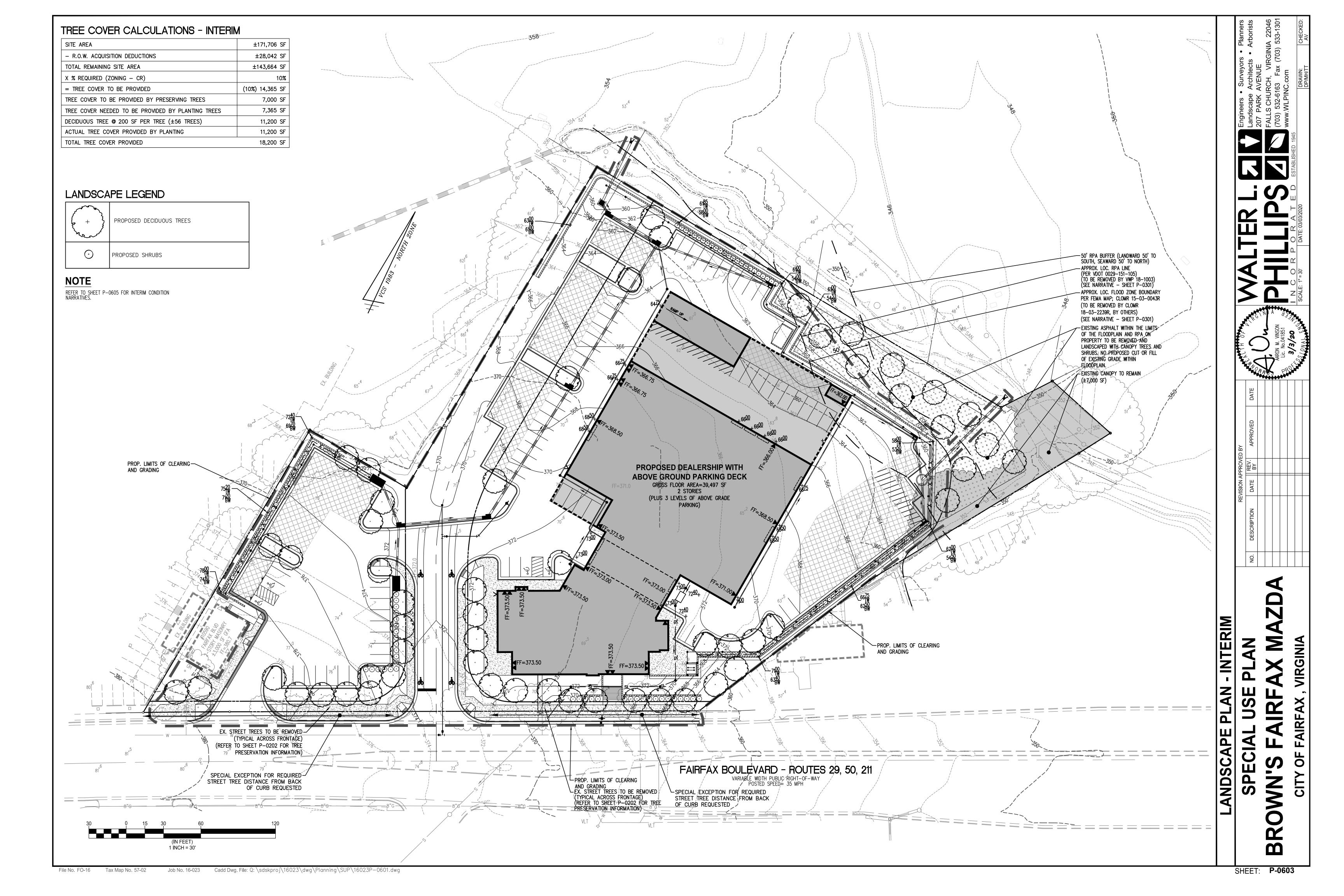
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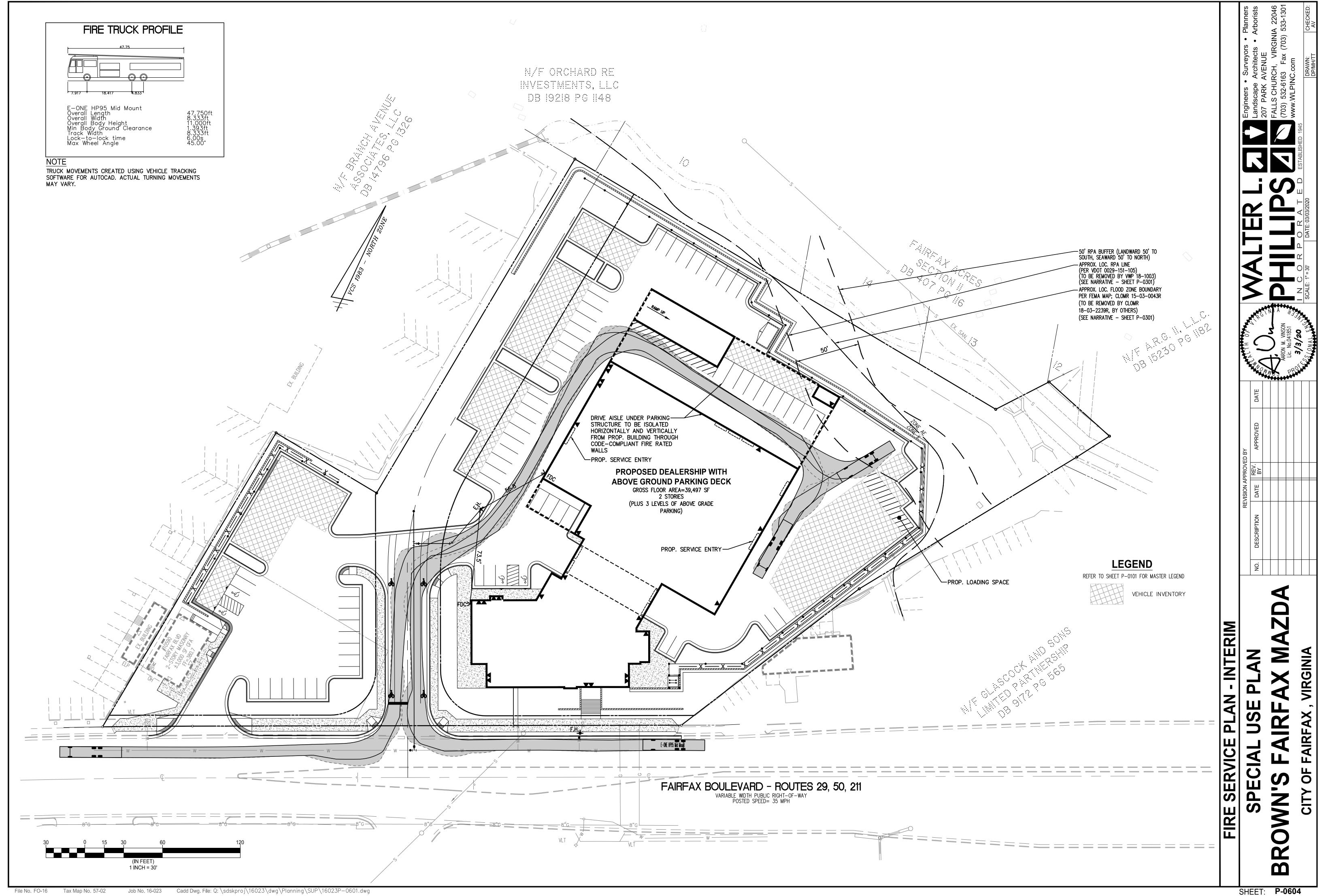
BM

ROGRAPH









### **INTERIM CONDITIONS NARRATIVE**

THE APPLICANT INTENDS TO CONSTRUCT ALL REQUIRED IMPROVEMENTS IN ACCORDANCE WITH THE SPECIAL USE PLAN ON SHEET P-0301. HOWEVER, FULL DEVELOPMENT OF THE SITE AS SHOWN ON THAT SHEET PRESUMES THAT OFFSITE STORM DRAINAGE IMPROVEMENTS ARE APPROVED. OFFSITE DRAINAGE IMPROVEMENTS PLANNED BY OTHERS INCLUDE CONSTRUCTION OF A STORM CULVERT WHICH WILL PLACE TWO EXISTING STREAM CHANNELS INTO A PIPE SYSTEM. ONE OF THE TWO STREAM CHANNELS TO BE PIPED INCLUDES THE STREAM CHANNEL LOCATED ADJACENT TO THE SUBJECT SITE, JUST NORTH OF THE NORTHERN PROPERTY LINE. WHEN THE EXISTING STREAM CHANNEL IS PIPED, THE RESOURCE PROTECTION AREA (RPA) DELINEATION ASSOCIATED WITH THAT STREAM WILL BE REMOVED, THEREBY REMOVING AN RPA BUFFER FROM THE SUBJECT SITE. FURTHER, THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THAT STREAM WILL ALSO BE REMOVED, THEREBY REMOVING A FLOODPLAIN FROM THE SUBJECT SITE.

IT IS CURRENTLY THE EXPECTATION OF THE APPLICANT THAT THESE OFFSITE DRAINAGE IMPROVEMENTS WILL BE COMPLETED IN SUCH A TIMEFRAME AS TO ALLOW FULL BUILD OUT OF THIS SITE AS DEPICTED ON SHEET P-0301. HOWEVER, IN THE EVENT THAT THESE OFFSITE IMPROVEMENTS ARE NOT COMPLETED IN TIME FOR FULL BUILD OUT, THE APPLICANT PROPOSES TO DEVELOP THE SUBJECT SITE AS DEPICTED AND DESCRIBED ON SHEETS P-0601 TO P-0605.

AS SHOWN, INTERIM CONDITIONS WILL INCLUDE CONSTRUCTION OF THE FULL BUILDING, BUT WILL OMIT SITE IMPROVEMENTS IN THE NORTHEAST CORNER OF THE PROPERTY. AN INTERIM DUMSPTER ENCLOSURE WILL BE CONSTRUCTED IN THE LOCATION SHOWN AND THE RETAINING WALL WHICH WILL ULTIMATELY RUN ACROSS THE NORTHERN PROPERTY LINE WILL TERMINATE OUTSIDE OF THE FLOODPLAIN. NO MORE THAN 18" OF FILL WILL BE PLACED WITHIN THE FLOODPLAIN, AND NO IMPROVEMENTS WILL BE CONSTRUCTED WITHIN THE 50 SEAWARD FEET OF THE RPA BUFFER. THIS APPLICATION INCLUDES A REQUEST FOR ADMINISTRATIVE WAIVER TO PERMIT ENCROACHMENT INTO THE 50 LANDWARD FEET OF THE RPA BUFFER.

THE APPLICANT WISHES TO RESERVE FLEXIBILITY TO IMPLEMENT REQUIRED IMPROVEMENTS IN THE MOST EFFICIENT AND ADVANTAGEOUS WAY POSSIBLE. OTHER CHANGES BEYOND THOSE LISTED ABOVE MAY BE MADE AS DESIGN PROGRESSES. FINAL DESIGN AND FINAL DETERMINATION OF INTERIM CONDITIONS, IF NECESSARY, WILL BE MADE AT TIME OF SITE PLAN.

### INTERIM LANDSCAPE NARRATIVE

AS SHOWN ON SHEET P-0603, THE APPLICANT PROPOSES LANDSCAPING CONSISTENT WITH THE FULL DEVELOPMENT OF THE SITE, WITH THE EXCEPTION OF THE AREAS WITHIN THE FLOODPLAIN AND RPA AT THE NORTHEASTERN PORTION OF THE PROPERTY. IN THESE AREAS, WHILE THE APPLICANT DOES NOT PROPOSE TO CONSTRUCT ANY IMPROVEMENTS OR ADJUST GRADING WITHIN THE FLOODPLAIN, THEY INTEND TO REMOVE THE EXISTING ASPHALT WITHIN THE LIMITS OF THE FLOODPLAIN AND RPA AND LANDSCAPE IT WITH CANOPY TREES AND SHRUBS.

THE PROPOSED INTERIM LANDSCAPING IS DESIGNED TO MEET BOTH THE PROJECT'S SCREENING AND TREE COVER REQUIREMENTS. THE INTERIM PLAN DOES NOT PROPOSE ANY DEVIATIONS FROM THE TREE PRESERVATION AND REMOVAL DETAILS SHOWN ON SHEET P-0202.

### INTERIM STORMWATER MANAGEMENT NARRATIVE

NO CHANGES ARE PROPOSED TO THE DRAINAGE PATTERNS AND GENERAL LOCATIONS OF THE TWO SITE OUTFALLS DESCRIBED IN THE STORMWATER MANAGEMENT PLAN FOR THE FULL DEVELOPMENT (SHEETS P-0501 TO P-0504). HOWEVER, AS THE INTERIM PLAN ASSUMES THAT THE OFFSITE STORM DRAINAGE IMPROVEMENTS TO THE NORTH HAVE NOT YET BEEN COMPLETED, THE ONSITE STORM SEWERS ARE PROPOSED TO DISCHARGE INTO THE EXISTING STREAM TO THE NORTH. THE LOCATIONS OF THE TWO PROPOSED MODULAR WETLANDS SYSTEMS AT THE SOUTHWEST PORTION OF THE SITE REMAIN CONSISTENT WITH WHAT IS PROPOSED WITH THE FULL DEVELOPMENT. IN THE INTERIM PLAN, ONE OF THE HYDRODYNAMIC SEPARATORS HAS BEEN REMOVED DUE TO THE OMISSION OF PORTIONS OF THE DRIVE AISLE AND PARKING AREAS AS THEY WOULD HAVE BEEN LOCATED WITHIN THE EXISTING FLOODPLAIN. CONSISTENT WITH THE FULL DEVELOPMENT DESIGN, THE REMAINING HYDRODYNAMIC SEPARATOR IS LOCATED SUCH THAT IT WILL CAPTURE AND TREAT A MAJORITY OF THE ONSITE IMPERVIOUS SURFACES FROM THE BUILDING AND PAVED AREAS AND PROVIDE THE NECESSARY PHOSPHORUS REDUCTION FOR THE DEVELOPMENT.

IT IS THE APPLICANT'S INTENT TO CONTINUE TO MEET THE PROJECT'S STORMWATER MANAGEMENT REQUIREMENTS FOR BOTH WATER QUALITY AND QUANTITY IN THE INTERIM PLAN THRU THE USE OF ON-SITE BMPS AND A GENERAL REDUCTION OF ONSITE IMPERVIOUS AREA FROM PRE TO POST-DEVELOPMENT.

### **INTERIM PARKING TABULATION**

### **REQUIRED:**

8,877 SF SALES AREA 8,877 SF @ 1 SP/500 SF = 18 SPACES

24 SERVICE BAYS 24 @ 2 SP/BAY = 48 SPACES

TOTAL PARKING REQUIRED: 66 SPACES

### TOTAL PARKING PROVIDED: 71 SPACES (INCL. 4 HC)

\*THE 71 PARKING SPACES PROVIDED DOES NOT INCLUDE THE ADDITIONAL PARKING LOT AREA DESIGNATED FOR INVENTORY AND DISPLAY PURPOSES, AS SHOWN ON SHEET P-0601. ALL SPACES WITHIN PROPOSED PARKING STRUCTURE ARE DESIGNATED FOR VEHICLE STORAGE AND ARE ALSO NOT INCLUDED IN THE 71 SPACES LISTED ABOVE.

### **BICYCLE PARKING**

REQUIRED: 4 (61-80 REQD. SPACES) PROVIDED: 4 (2 RACKS) (SEE SHEET P-0601 FOR LOCATION)

### INTERIM LOADING TABULATION

### REQUIRED:

LOADING REQUIRED = 1 SPACE (10,000 - 49,999 SF COMM. USE)

1 LOADING SPACE (SEE SHEET P-0601 FOR LOCATION)

# ATION

File No. FO-16 Tax Map No. 57-02 Job No. 16-023 Cadd Dwg. File: Q: \sdskproj\16023\dwg\Planning\SUP\16023P-0601.dwg

SHEET: **P-0605**