



Town of Truro New Public Works Facility



Conceptual Alternatives Review
January 30, 2025

Town of Truro
New Public Works Facility

January 30th AD Hoc Meeting goals

- Present single facility with updated cost estimate.
- Present campus plan with updated cost estimate.
- Review the study groups campus plan and provide a cost estimate.
- Provide a cost for three material types (see attachment)
- Provide a cost estimates with each scenario showing gas vehicles stored outside and note the reduction in SF.

Town of Truro
New Public Works Facility

Programming Summary

Town of Truro New Public Works Facility

Proposed Program

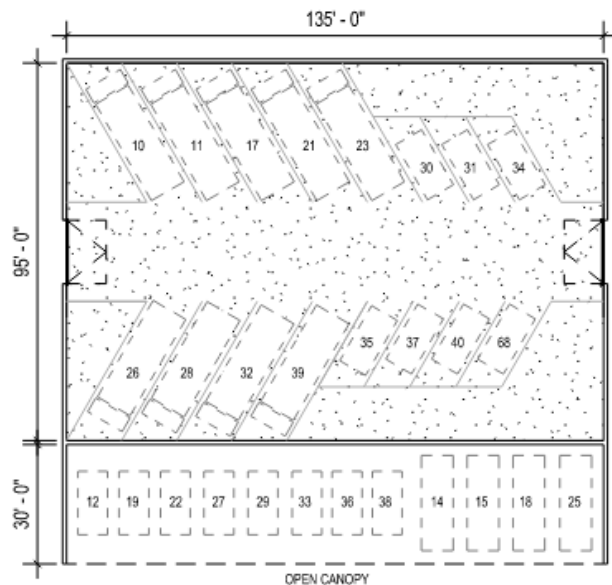
<u>Space Needs Assessment</u>	<u>Initial Needs</u>	<u>Rev 1</u>	<u>Rev 2</u>	<u>Final</u>
• Office / Office Support	2,035 SF	1,525 SF	1,300 SF	1,300 SF
• Employee Facilities	2,144 SF	1,936 SF	1,700 SF	1,700 SF
• Workshops	3,929 SF	3,192 SF	2,900 SF	1,700 SF
• Vehicle Maintenance	7,279 SF	5,532 SF	5,400 SF	4,200 SF
• Wash Bay	1,750 SF	1,350 SF	1,350 SF	1,350 SF
• Vehicle & Equipment Storage	19,551 SF	18,953 SF	16,958 SF	9,900 SF
Subtotal:	36,689 SF	32,487 SF	29,608 SF	20,150 SF

Note – the above totals do not include canopy storage

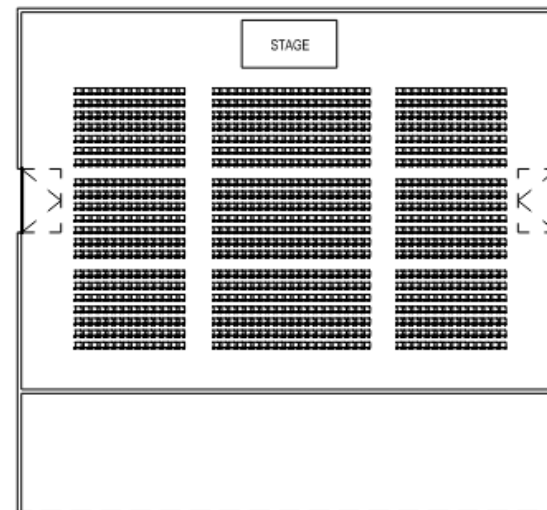
Town of Truro New Public Works Facility

Review & Confirmation Exercise

- Met with DPW to review current program
- Identified some minor increase in office area (100 SF) for future office
- Reviewed vehicle storage garage options to support future town meetings (+/- 3,000 SF in additional storage garage space to support +/- 900 seats)



FLEET STORAGE GARAGE; ASSEMBLY SPACE FOR TOWN MEETINGS



Town of Truro
New Public Works Facility

Consolidated Option

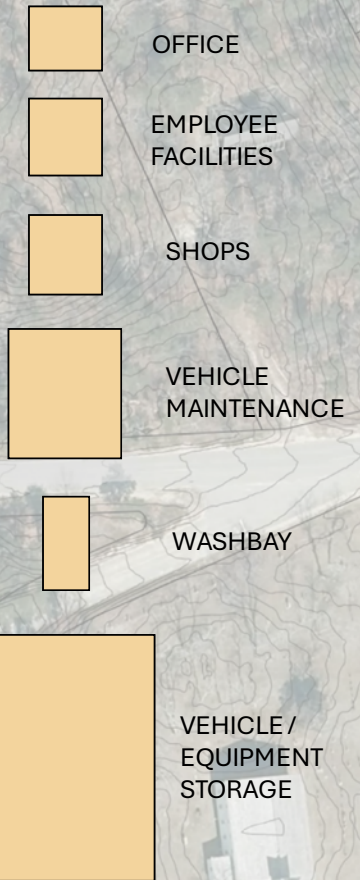
Town of Truro New Public Works Facility



Option 1
DPW Consolidated Option

Town of Truro New Public Works Facility

23,135 SF Enclosed Space
3,850 SF Canopy Space



Option 1
DPW Consolidated Option



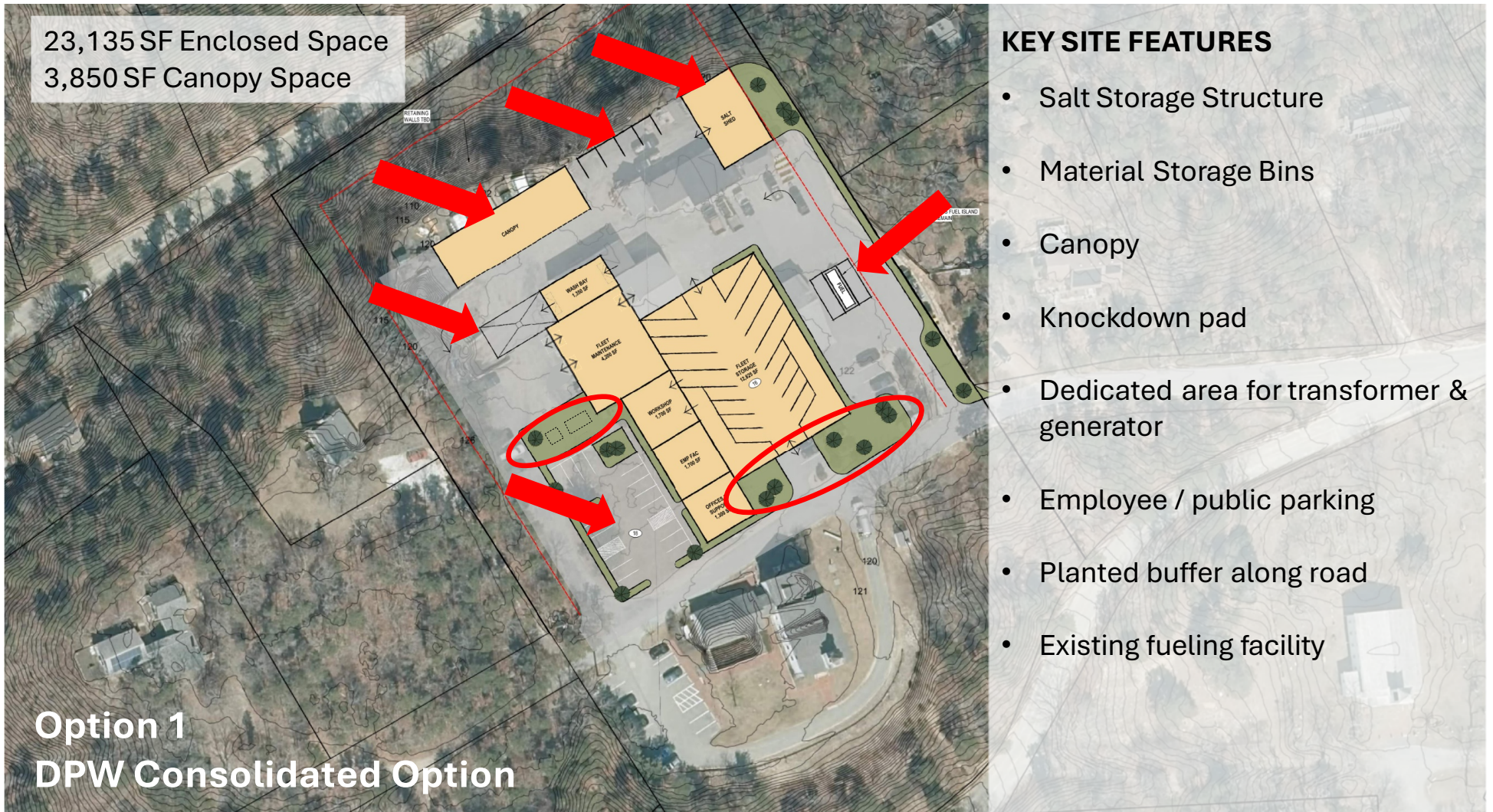
Town of Truro New Public Works Facility

23,135 SF Enclosed Space
3,850 SF Canopy Space

KEY SITE FEATURES

- Salt Storage Structure
- Material Storage Bins
- Canopy
- Knockdown pad
- Dedicated area for transformer & generator
- Employee / public parking
- Planted buffer along road
- Existing fueling facility

Option 1
DPW Consolidated Option



Town of Truro New Public Works Facility

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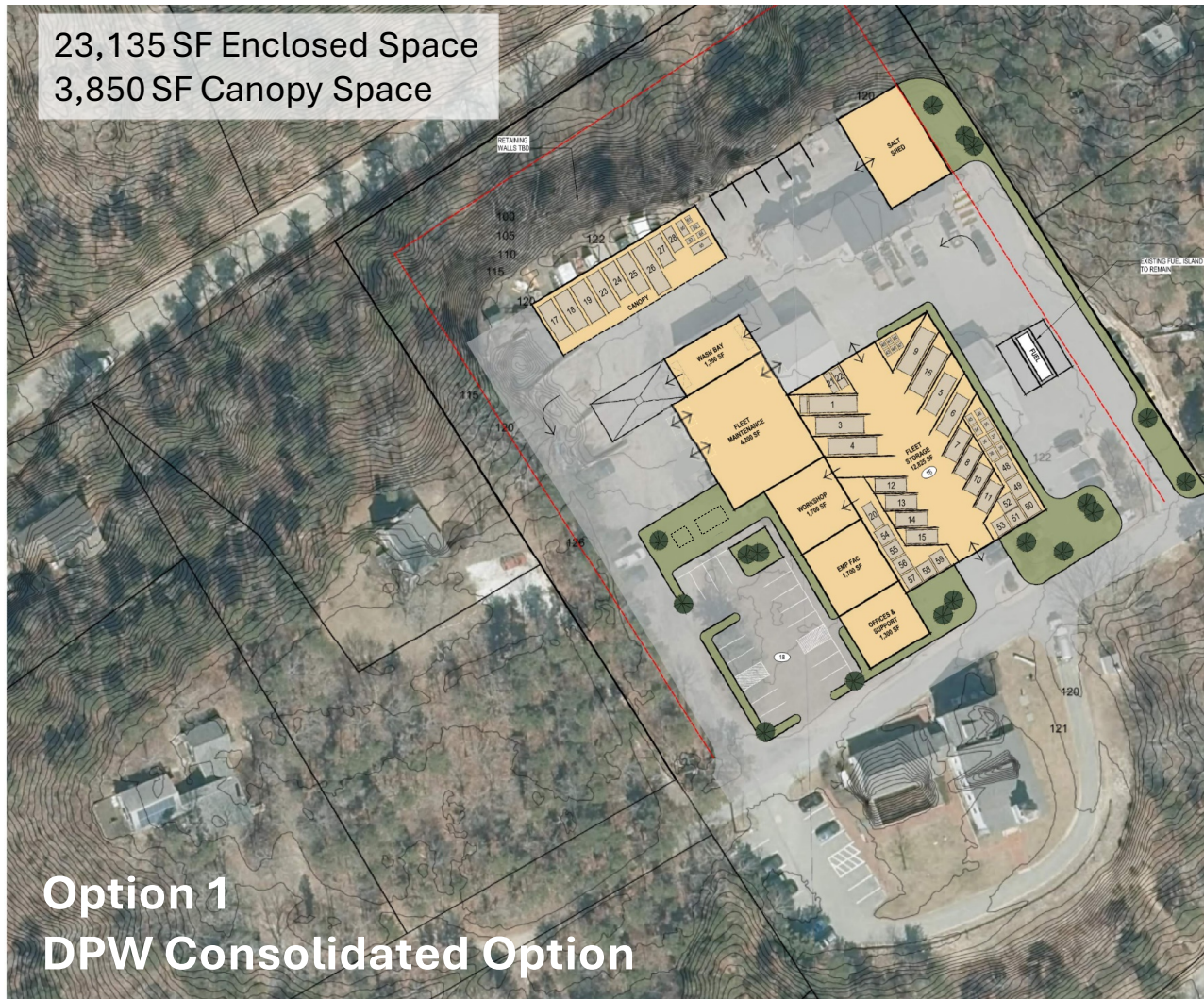
Option 1
DPW Consolidated Option

CONCEPT CONSIDERATIONS

- Combined storage garage limits impacts to abutters by placing vehicle operations indoors (limits backup noise impacts)
- Drive-thru access for one maintenance bay
- Maintain existing fueling facility
- Salt operations located away from residences
- Salt Shed center access providing improved storage of salt and sand
- Counterclockwise circulation
- Ability to secure site from public
- Office / employee functions adjacent to Town Hall
- Parking located to allow for use by Town Hall (overflow)
- All equipment is under cover

Town of Truro New Public Works Facility

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DPW Consolidated Option

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Town of Truro New Public Works Facility

Option 1 DPW Consolidated Option



Example of Massing for a Consolidated DPW Facility



Town of Truro New Public Works Facility



Example Photos of Office & Employee Support Spaces

Town of Truro New Public Works Facility



Example Photos of Vehicle Maintenance, Shops, and Wash Bay

Town of Truro New Public Works Facility

Vehicle / Equipment Storage



Example Photos of Drive-Thru Vehicle Storage

Town of Truro
New Public Works Facility



Fabric Salt Shed



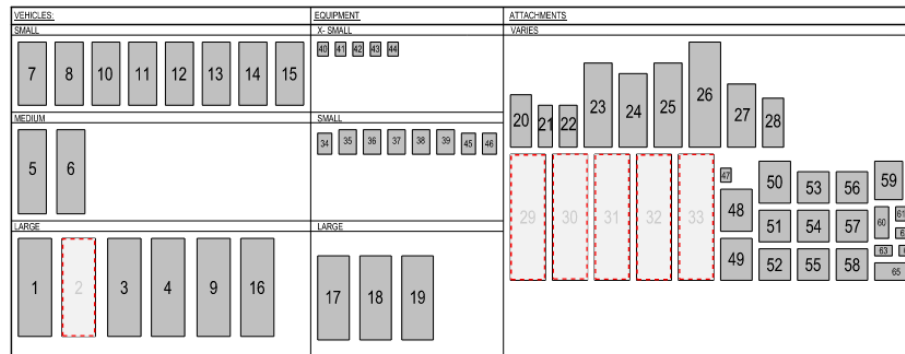
Timber Salt Shed

Example Photos of Salt Storage Structure Options

Town of Truro New Public Works Facility

Fleet & Equipment List

WSE ID #	TOWN ID #	DIVISION	MODEL TYPE	MAKE / MODEL	SIZE	FLEET TYPE	DIMENSIONS			STORAGE NEEDS			
							LENGTH	WIDTH	SF	STALL	FLOOR	CANOPY	OUTSIDE
1	T-29	DPW	TRUCK	PETERBILT 389	LARGE	VEHICLE	28	10	280	•			
2		DPW	TRACTOR	PETERBILT	LARGE	VEHICLE	28	10	280	•			
3		DPW	TRUCK	INTERNATIONAL 7400	LARGE	VEHICLE	28	10	280	•			
4		DPW	DUMP TRUCK	INTERNATIONAL 7400	LARGE	VEHICLE	24	9	216	•			
5	T-3	DPW	PICK UP TRUCK	FORD F450	MEDIUM	VEHICLE	21	8	168	•			
6		DPW	DUMP TRUCK	FORD F450	MEDIUM	VEHICLE	21	8		•			
7	T-6	DPW	PICK UP	FORD F350	SMALL	VEHICLE	18	8	144	•			
8	S-1	DPW	PICK UP	FORD F350	SALL	VEHICLE	18	8	144	•			
9		DPW	DUMP TRUCK		LARGE	VEHICLE	24	9	216	•			
10	T-8	DPW	PICK UP	FORD F-350	SMALL	VEHICLE	18	8	144	•			
11	T-4	DPW	PICK UP	FORD F350	SMALL	VEHICLE	18	8	144	•			
12	T-2	DPW	PICK UP	FORD F350	SMALL	VEHICLE	18	8	144	•			
13	T-9	DPW	PICK UP	FORD F350	SMALL	VEHICLE	18	8	144	•			
14		DPW	PICK UP	FORD F350	SMALL	VEHICLE	18	8	144	•			
15		DPW	VAN	E150 ECONOLINE	SMALL	VEHICLE	18	8	144	•			
16		DPW	SWEEPER	ELGIN	LARGE	VEHICLE	26	9	234	•			
17		DPW	EXCAVATOR	JOHN DEERE 130G	LARGE	EQUIPMENT	21	9	189			•	
18		DPW	LOADER	JOHN DEERE	LARGE	EQUIPMENT	25	9	225			•	
19		DPW	LIFT	JLG 600S	LARGE	EQUIPMENT	30	9	270			•	
20		DPW	GENERATOR BOX TRAILER		MEDIUM	ATTACHMENT	15	6	90		•		
21		DPW	GENERATOR TRAILER		MEDIUM	ATTACHMENT	12	4	48		•		
22		DPW	WOOD CHIPPER	BANDIT	OBLONG	ATTACHMENT	12	5	60		•		
23		DPW	TRAILER	TIMPTE	MEDIUM	ATTACHMENT	24	8	192			•	

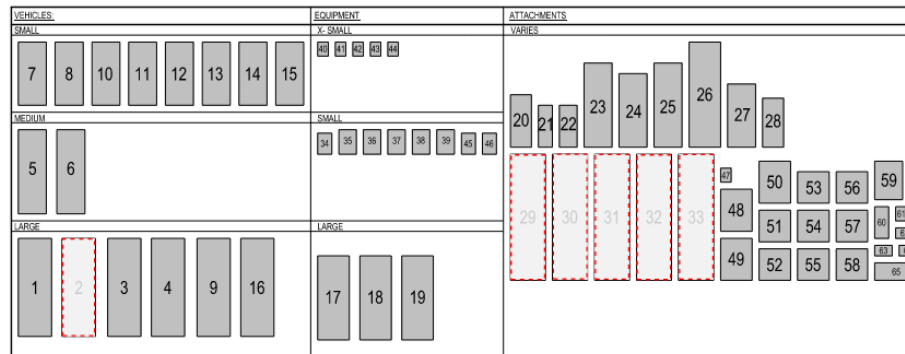


 Indicates storage at transfer station

Town of Truro New Public Works Facility

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							LENGTH	WIDTH	SF	STALL	FLOOR	CANOPY	OUTSIDE
24		DPW	TRAILER	CAM	MEDIUM	ATTACHMENT	21	8	168			•	
25		DPW	TRAILER	KAUFMAN	MEDIUM	ATTACHMENT	24	8	192			•	
26		DPW	TRAILER	INTERSTATE	LARGE	ATTACHMENT	30	9	270			•	
27		DPW	TRAILER	BENCE	MEDIUM	ATTACHMENT	18	8	144			•	
28		DPW	TRAILER		SMALL	ATTACHMENT	14	6	84			•	
29		DPW/TS	TRASH TRACTOR	SPECTOR	X-LARGE	ATTACHMENT	36	10	360			•	
30		DPW/TS	TRASH TRACTOR	SPECTOR	X-LARGE	ATTACHMENT	36	10	360			•	
31		DPW/TS	TRASH TRACTOR	SPECTOR	X-LARGE	ATTACHMENT	36	10	360			•	
32		DPW/TS	TRASH TRACTOR	SPECTOR	X-LARGE	ATTACHMENT	36	10	360			•	
33		DPW/TS	TRASH TRACTOR	WARREN	X-LARGE	ATTACHMENT	36	10	360			•	
34		DPW	RIDE MOWER	JOHN DEERE	SMALL	EQUIPMENT	4	6	24		•		
35		DPW		HYSTER	SMALL	EQUIPMENT	7	5	35		•		
36		DPW	SKID STEER	JOHN DEERE 323E	SMALL	EQUIPMENT	7	5	35		•		
37		DPW	RIDE MOWER	TORO	SMALL	EQUIPMENT	7	5	35		•		
38		DPW	RIDE MOWER	TORO	SMALL	EQUIPMENT	7	5	35		•		
39		DPW	RIDE MOWER	BOB CAT	SMALL	EQUIPMENT	7	5	35		•		
40		DPW	??		X-SMALL	EQUIPMENT	4	3	12		•		
41		DPW	PUSH MOWER		X-SMALL	EQUIPMENT	4	3	12		•		
42		DPW	PAINT MACHINE		X-SMALL	EQUIPMENT	4	3	12		•		
43		DPW	POWER WASHER		X-SMALL	EQUIPMENT	3	3	9		•		
44		DPW	WALK BEHIND SAW	EDCO	X-SMALL	EQUIPMENT	3	4	12		•		
45		DPW	LIFT	JLG	SMALL	EQUIPMENT	6	4	24		•		
46		DPW	FORKLIFT	YALE	SMALL	EQUIPMENT	6	3	18		•		
47		DPW	MOWER	TIGER	X-SMALL	ATTACHMENT	3	4	12		•		

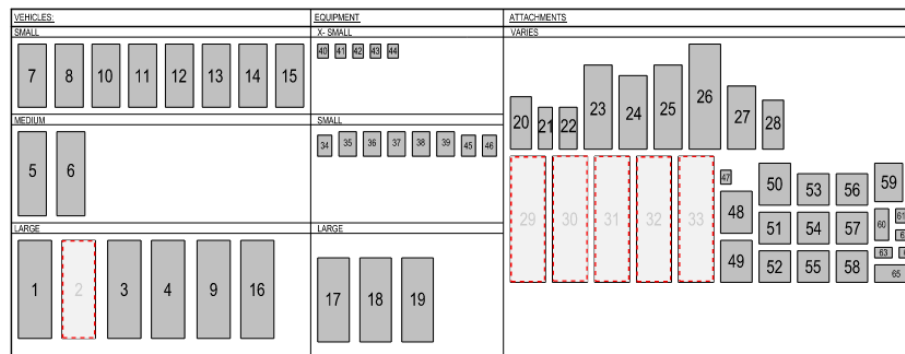


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Town of Truro New Public Works Facility

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							LENGTH	WIDTH	SF	STALL	FLOOR	CANOPY	OUTSIDE
48		DPW	WING PLOW			ATTACHMENT	9	12	108		•		
49		DPW	WING PLOW			ATTACHMENT	9	12	108		•		
50		DPW	WING PLOW			ATTACHMENT	9	12	108		•		
51		DPW	STANDARD PLOW			ATTACHMENT	5	9	45		•		
52		DPW	STANDARD PLOW			ATTACHMENT	5	9	45		•		
53		DPW	STANDARD PLOW			ATTACHMENT	5	9	45		•		
54		DPW	STANDARD PLOW			ATTACHMENT	5	9	45		•		
55		DPW	STANDARD PLOW			ATTACHMENT	5	9	45		•		
56		DPW	STANDARD PLOW			ATTACHMENT	5	9	45		•		
57		DPW	STANDARD PLOW			ATTACHMENT	5	9	45		•		
58		DPW	STANDARD PLOW			ATTACHMENT	5	9	45		•		
59		DPW	PLOW (ORANGE)			ATTACHMENT	8	11	88		•		
60		DPW	LOADER PLOW			ATTACHMENT	4	9	36			•	
61		DPW	LOADER PLOW			ATTACHMENT	3	4	12			•	
62		DPW	SANDER BODY			ATTACHMENT	5	3	15			•	
63		DPW	SANDER BODY			ATTACHMENT	5	3	15			•	
64		DPW	SANDER BODY			ATTACHMENT	5	3	15			•	
65		DPW	FORKLIFT			ATTACHMENT	12	5	60			•	
		TRANSFER STATION	TRACTOR	WHGM-ACLACL									
		TRANSFER STATION	TRACTOR	INTERNATIONAL									
		TRANSFER STATION	LOADER	JOHN DEERE 544H									



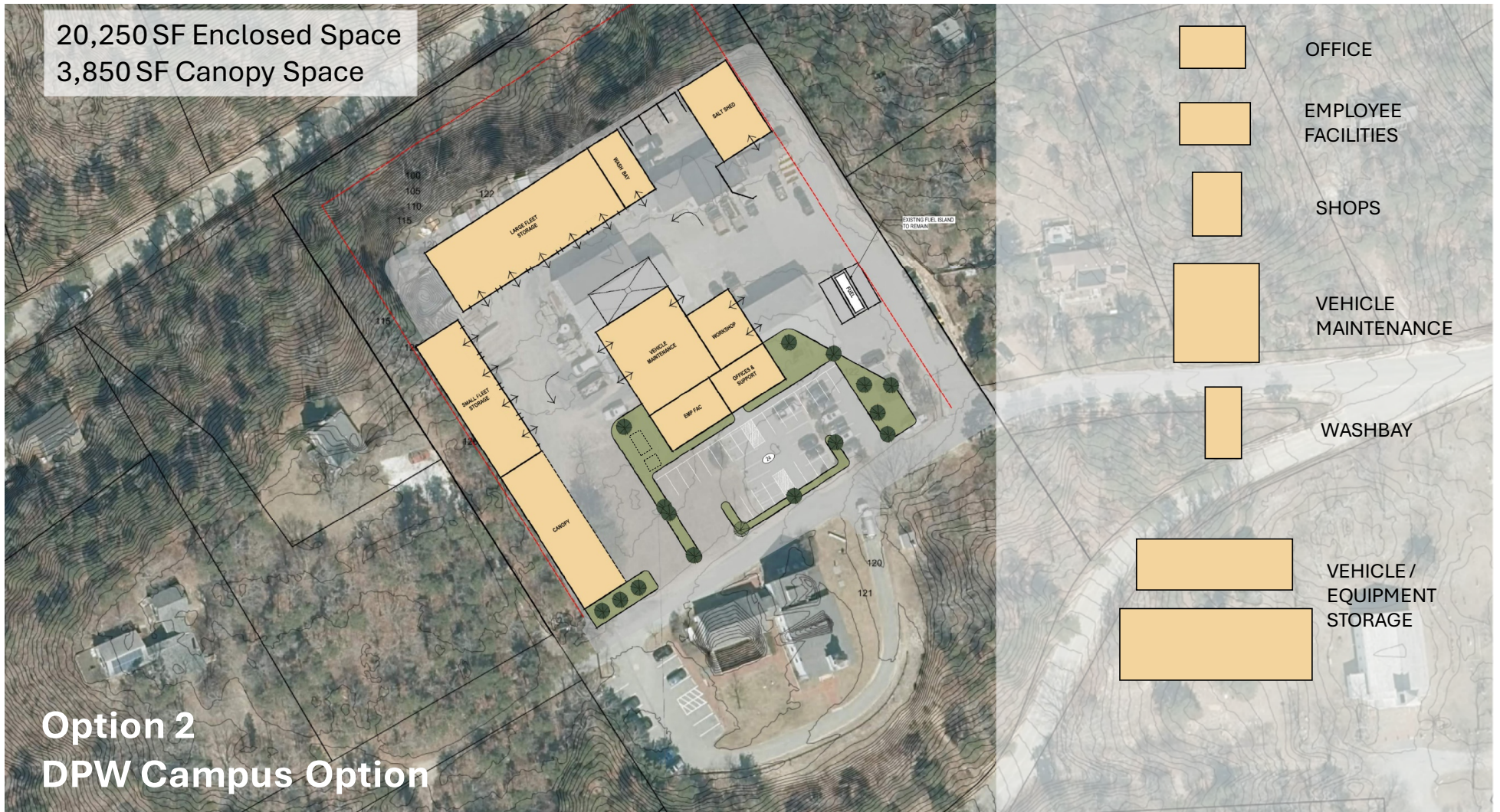
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Town of Truro
New Public Works Facility

Campus Option

Town of Truro New Public Works Facility

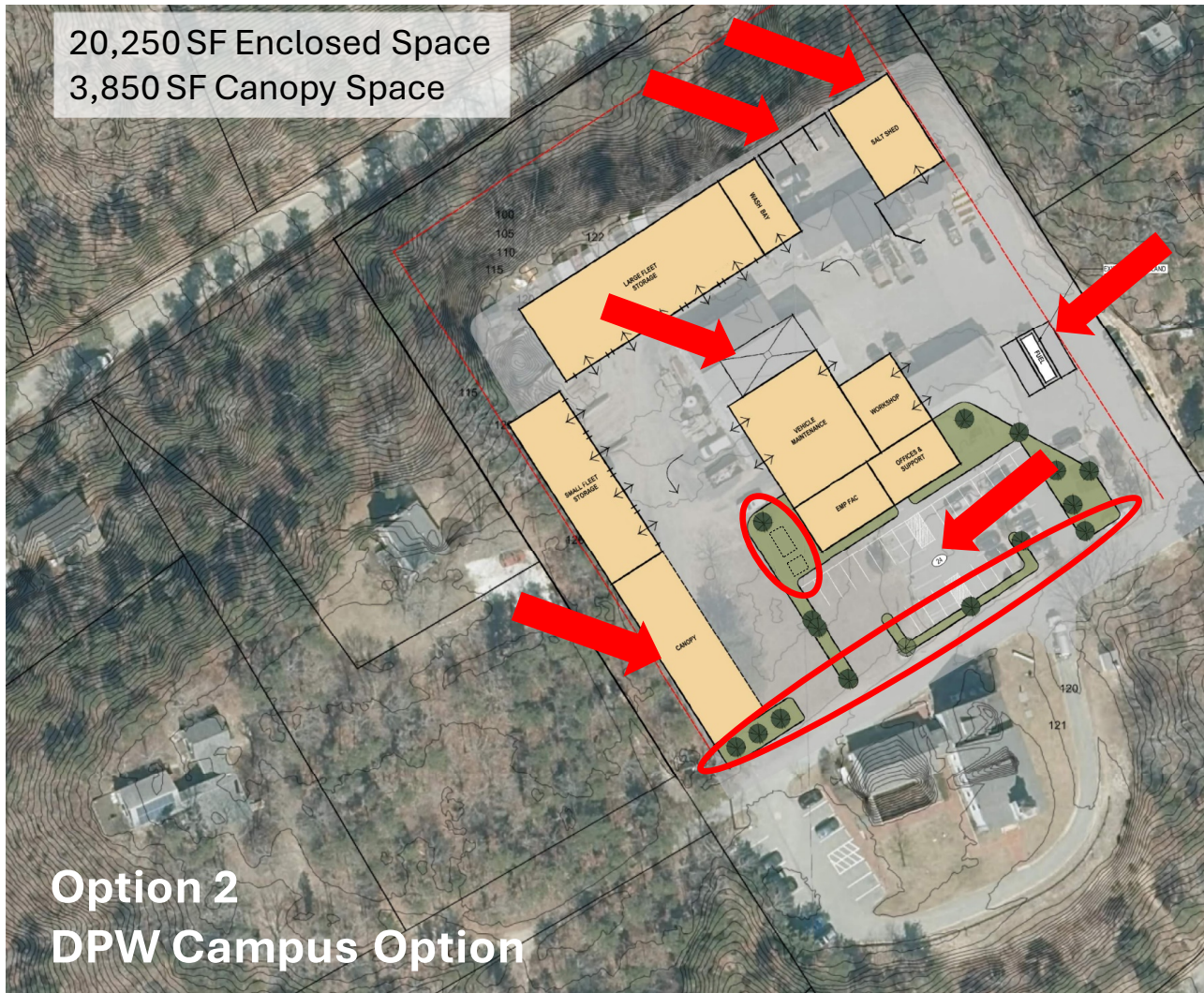
20,250 SF Enclosed Space
3,850 SF Canopy Space



Option 2
DPW Campus Option

Town of Truro New Public Works Facility

20,250 SF Enclosed Space
3,850 SF Canopy Space



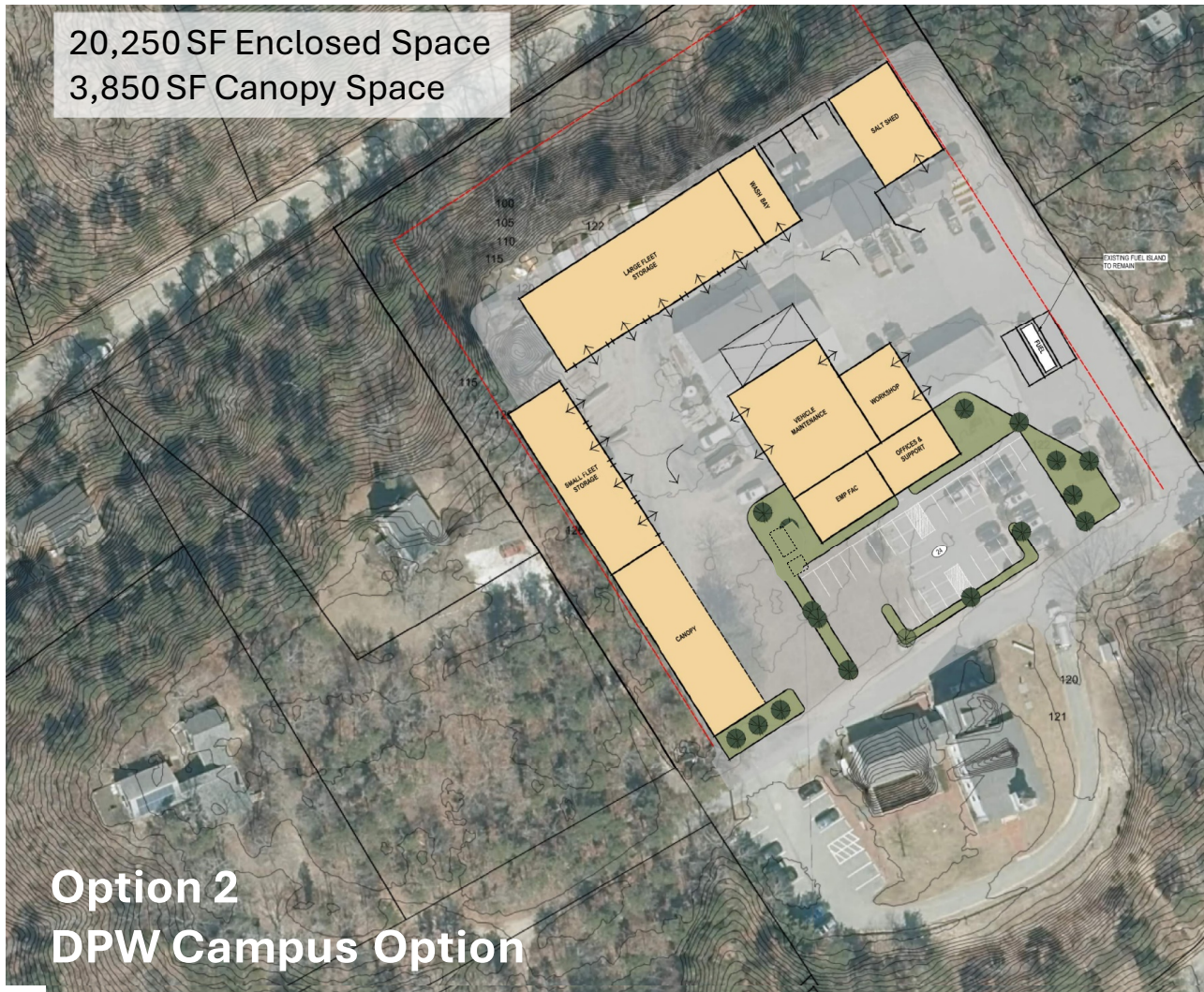
Option 2
DPW Campus Option

KEY SITE FEATURES

- Salt Storage Structure
- Material Storage Bins
- Canopy
- Knockdown pad
- Dedicated area for transformer & generator
- Employee / public parking
- Planted buffer along road
- Existing fueling facility

Town of Truro New Public Works Facility

20,250 SF Enclosed Space
3,850 SF Canopy Space



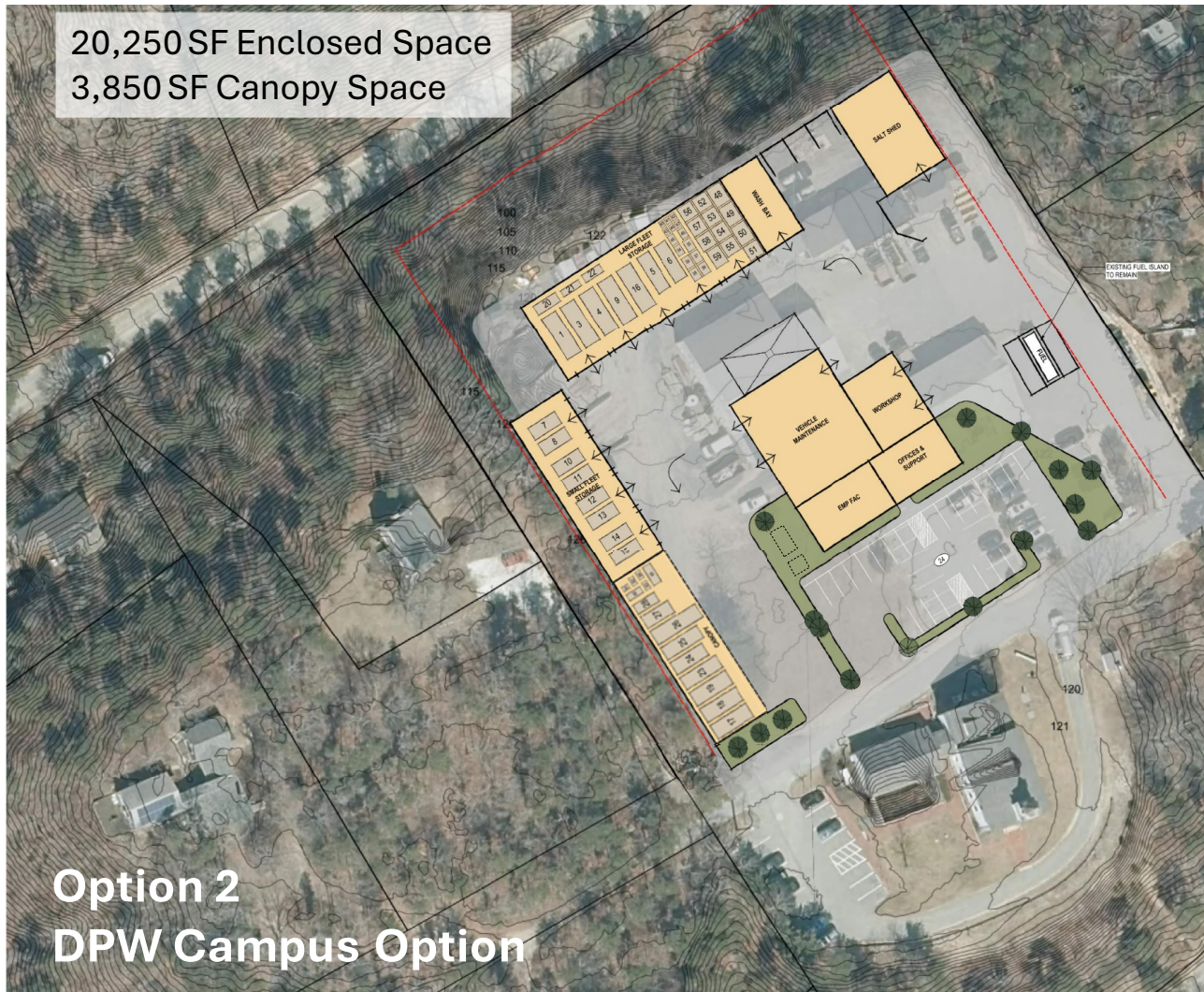
Option 2
DPW Campus Option

CONCEPT CONSIDERATIONS

- Drive-in / back-out vehicle storage operations
- Shield DPW yard operations from abutters using buildings
- Maintain existing fueling facility
- Salt operations located away from residences
- Counterclockwise circulation
- Ability to secure site from public
- Office / employee functions adjacent to Town Hall
- Parking located to allow for use by Town Hall (overflow)
- All equipment is under cover

Town of Truro New Public Works Facility

20,250 SF Enclosed Space
3,850 SF Canopy Space



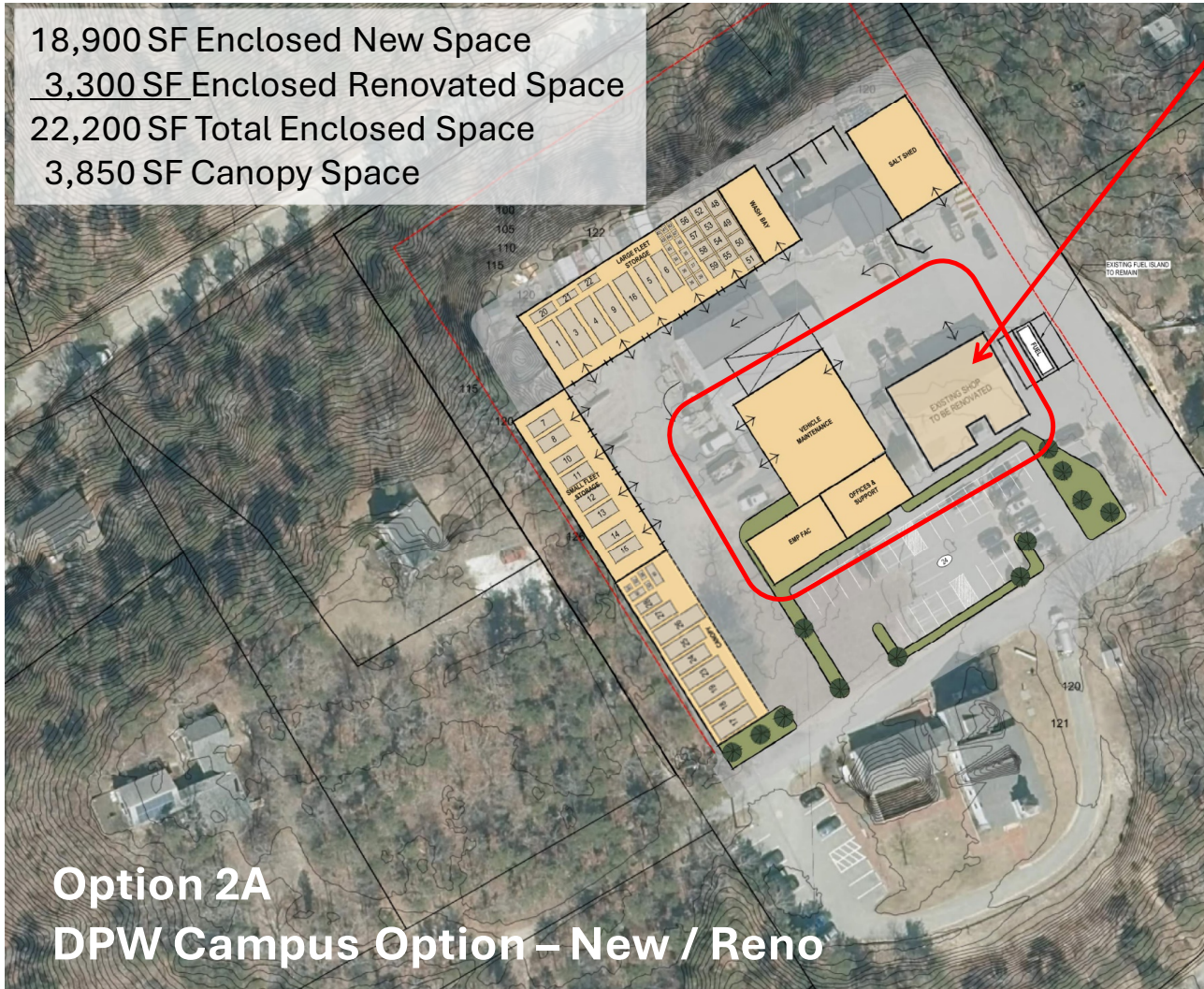
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Town of Truro New Public Works Facility

18,900 SF Enclosed New Space
3,300 SF Enclosed Renovated Space
22,200 SF Total Enclosed Space
3,850 SF Canopy Space



Option 2A
DPW Campus Option – New / Reno

CONCEPT CONSIDERATIONS

- Reuse existing building for shop space
- Drive-in / back-out vehicle storage operations
- Shield DPW yard operations from abutters using buildings
- Maintain existing fueling facility
- Salt operations located away from residences
- Counterclockwise circulation
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Town of Truro New Public Works Facility

Vehicle / Equipment Storage



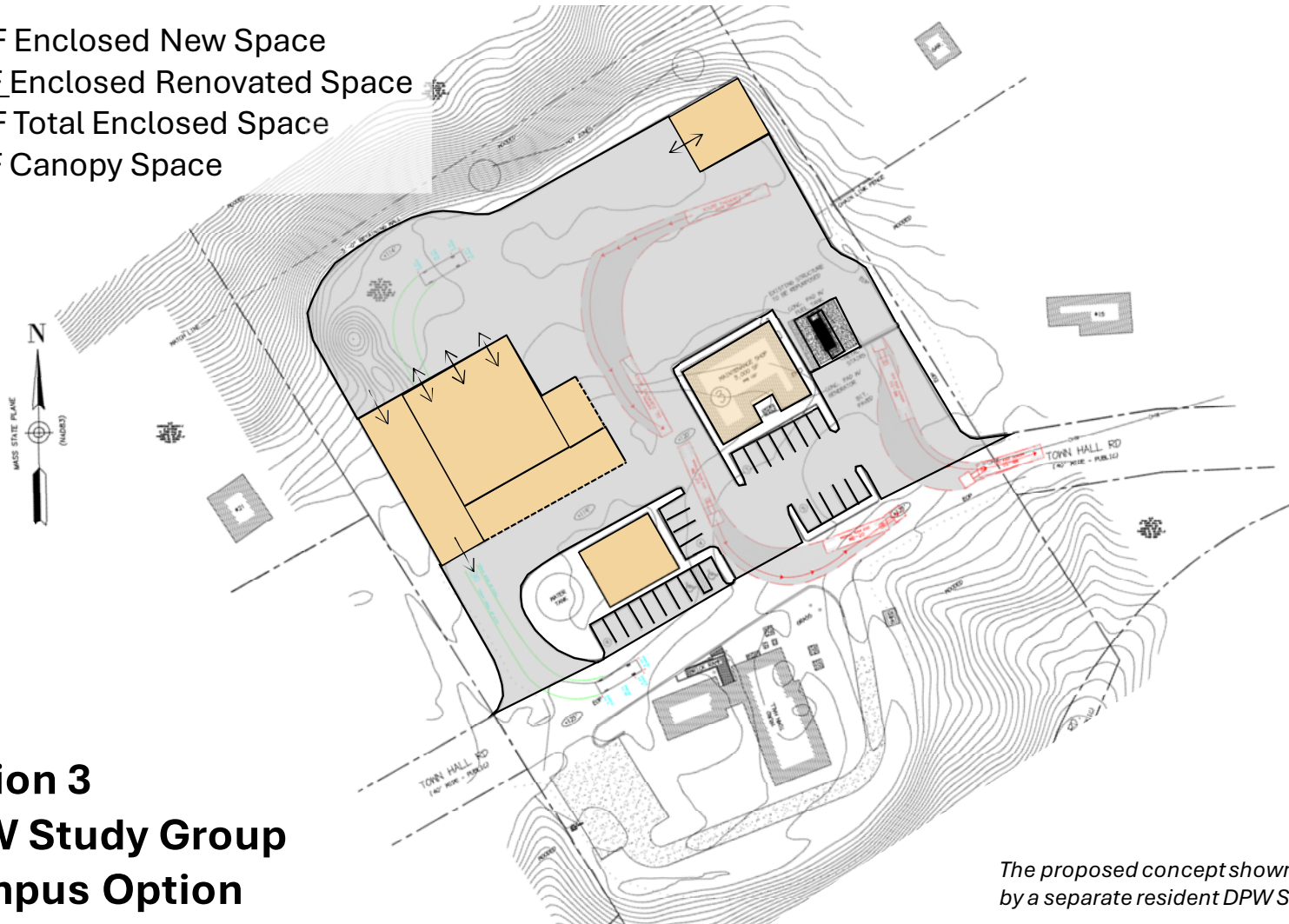
Example Photos of Drive-in / Back-out Vehicle Storage

Town of Truro
New Public Works Facility

DPW Study Group Option

Town of Truro New Public Works Facility

11,500 SF Enclosed New Space
3,300 SF Enclosed Renovated Space
14,800 SF Total Enclosed Space
3,525 SF Canopy Space



Option 3
DPW Study Group
Campus Option

*The proposed concept shown here was developed
by a separate resident DPW Study Group*

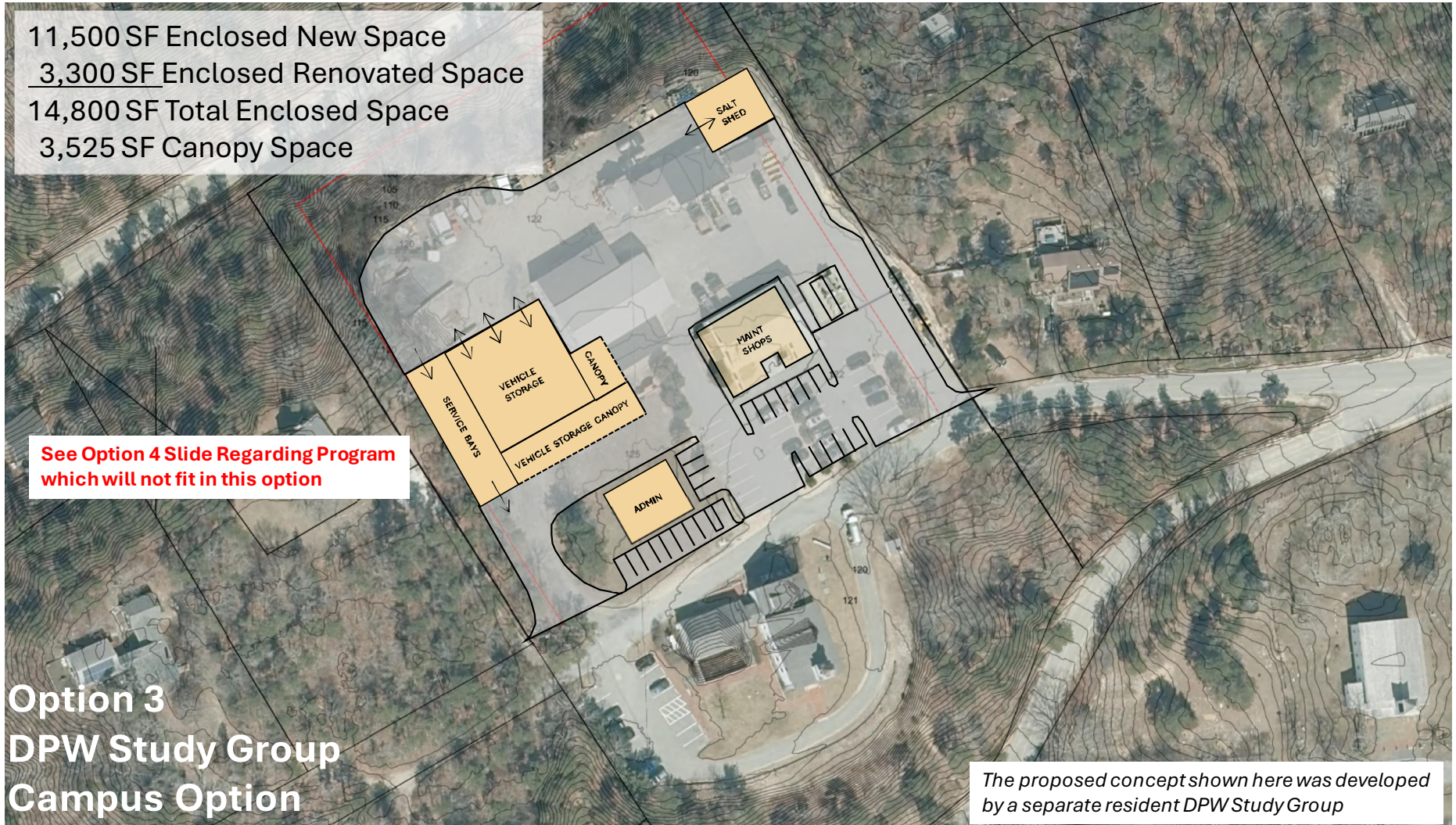
Town of Truro New Public Works Facility

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See Option 4 Slide Regarding Program
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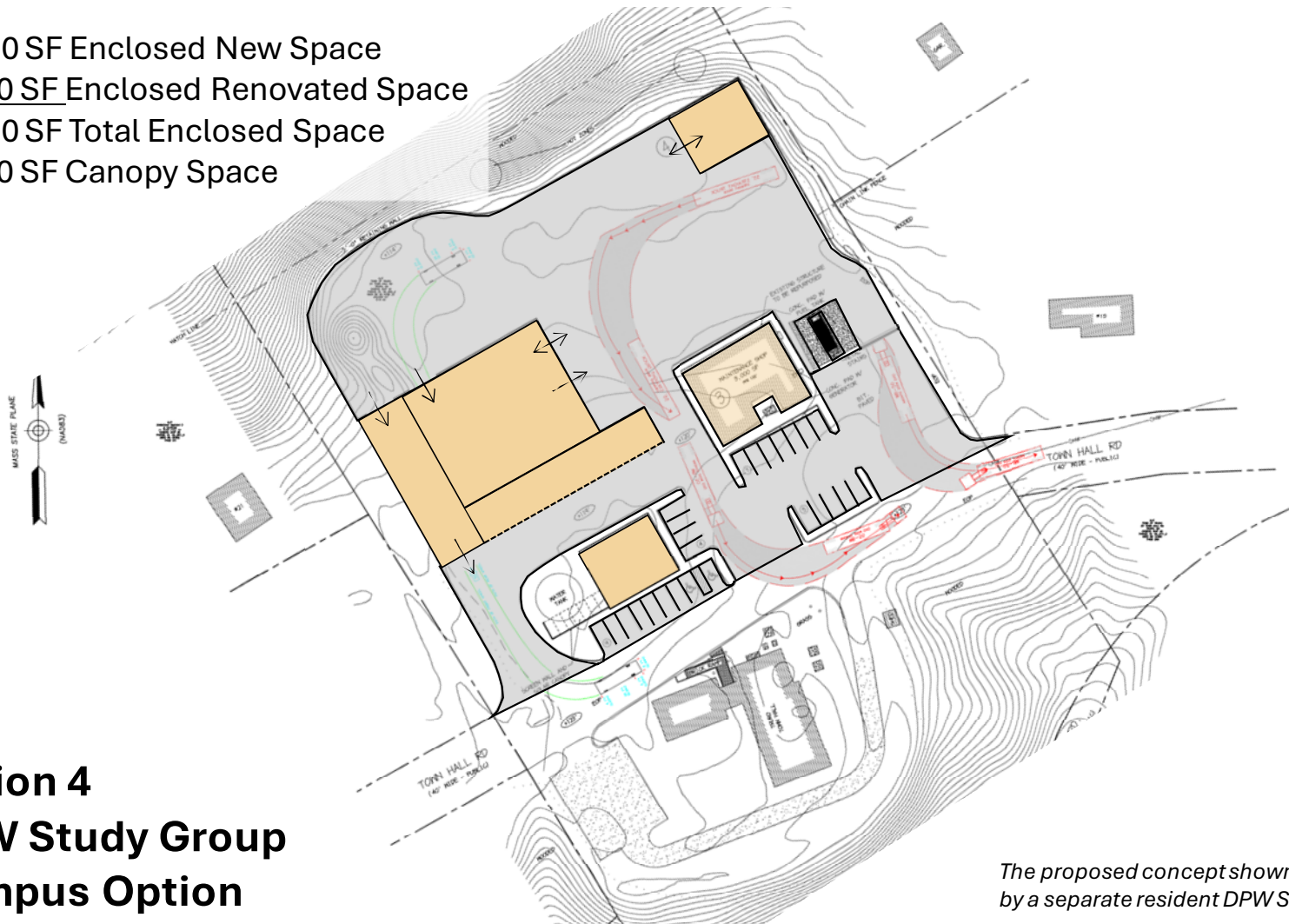
Option 3
DPW Study Group
Campus Option

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Town of Truro New Public Works Facility

13,300 SF Enclosed New Space
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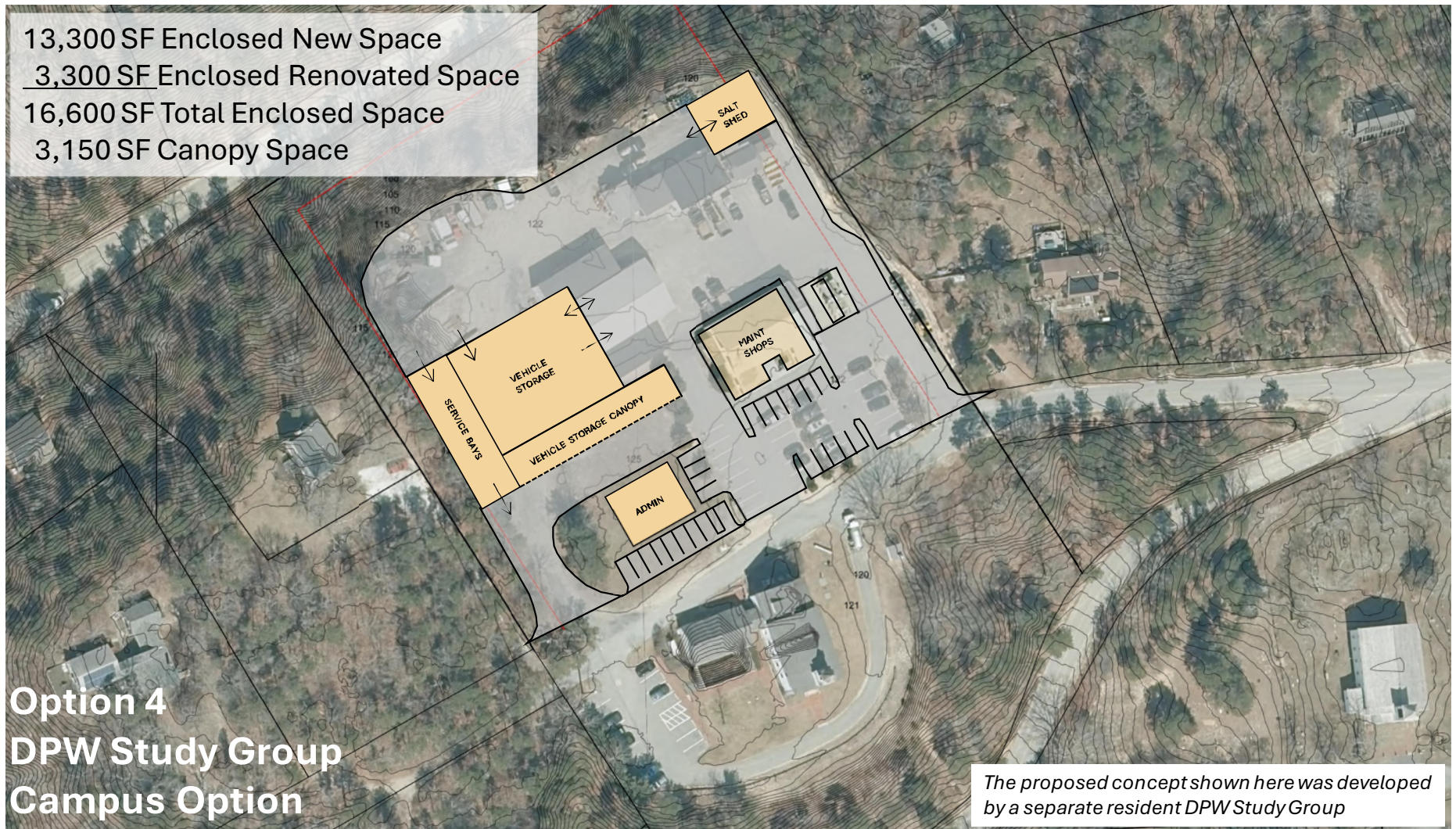


Option 4
DPW Study Group
Campus Option

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Town of Truro New Public Works Facility

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Town of Truro New Public Works Facility



Town of Truro New Public Works Facility

Reuse of Existing Building

- Existing Building consists of:
 - Concrete base walls to approximately 5'-0" AFF
 - Upper walls at the garage are single-wythe CMU
 - Upper walls at the south additions are wood-framed
 - The roof is wood-framed. The main garage has gable trusses with 2x4 chord members and 2x6 rafters
 - The roof of the Maintenance shop is covered with standard asphalt shingles which are in poor condition
 - There is fiberglass batt insulation in the attic floor over the garage - the thickness of the insulation or the presence of any vapor barrier in the ceiling assembly was not noted
 - The walls of the original garage portion are uninsulated cast-in-place concrete and CMU, painted inside and out
 - There is no sprinkler system
 - Toilet facilities are outdated and limited. There are no separate male and female restrooms, and no showers
 - Mechanical system is lacking basic code required ventilation and is outdated
- Overall, the weathertightness and energy efficiency of the roofs and garage walls is substandard, leading to wind and water infiltration and excessive heating costs



Town of Truro New Public Works Facility

Reuse of Existing Building

- Suitability To Purpose:
 - The size and configuration of the building do not naturally accommodate any of the functional areas identified in the DPW building program without considerable modification
 - It is too small and lacks sufficient height for large vehicle storage, vehicle maintenance or a wash bay, although it could be used with modifications for some portion of the DPW's vehicle and equipment storage needs
 - It is about 47% oversized for workshops
 - It is about the right size for a combined office / office support and employee support facility, but would require extensive upgrades and renovations to accommodate those uses
 - Without major structural upgrades, any new attached construction cannot exceed the height of the existing roof due to snow drift
 - Generally, this suggests that the Maintenance Shop would need to remain free-standing and would require upgrades to building envelope and mechanical systems



Town of Truro
New Public Works Facility

OPTION SPACE COMPARISON

Town of Truro New Public Works Facility

<u>Space Needs Assessment</u>	<u>2024 Final Program</u>	<u>W&S Option 1</u>	<u>W&S Option 2</u>	<u>DPW Study Group Option 3</u>	<u>DPW Study Group Option 4</u>
• Office / Office Support	1,300 SF	1,500 SF	1,450 SF	2,000 SF	2,000 SF
• Employee Facilities	1,700 SF	1,680 SF	1,500 SF	0 SF	0 SF
• Workshops	1,700 SF	1,680 SF	1,350 SF	3,300 SF	3,300 SF
• Vehicle Maintenance	4,200 SF	4,200 SF	4,200 SF	3,500 SF	3,500 SF
• Wash Bay	1,350 SF	1,250 SF	1,250 SF	0 SF*	0 SF*
• Vehicle & Equipment Storage	9,900 SF	12,825 SF	10,500 SF	6,000 SF	7,800 SF

ENCLOSED PROGRAM

Subtotal:	20,150 SF	23,135 SF	20,250 SF	14,800 SF	16,600 SF
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• Canopy	3,850 SF	3,850 SF	3,850 SF	3,525 SF	3,150 SF
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TOTAL	24,000 SF	26,985 SF	24,100 SF	18,025 SF	19,450 SF
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ENCLOSED AND CANOPY PROGRAM

** Included in vehicle storage area*

Town of Truro
New Public Works Facility

Costs

Town of Truro New Public Works Facility

Size (enclosed + canopy): 26,985 SF 24,100 SF 18,025 SF 19,450 SF

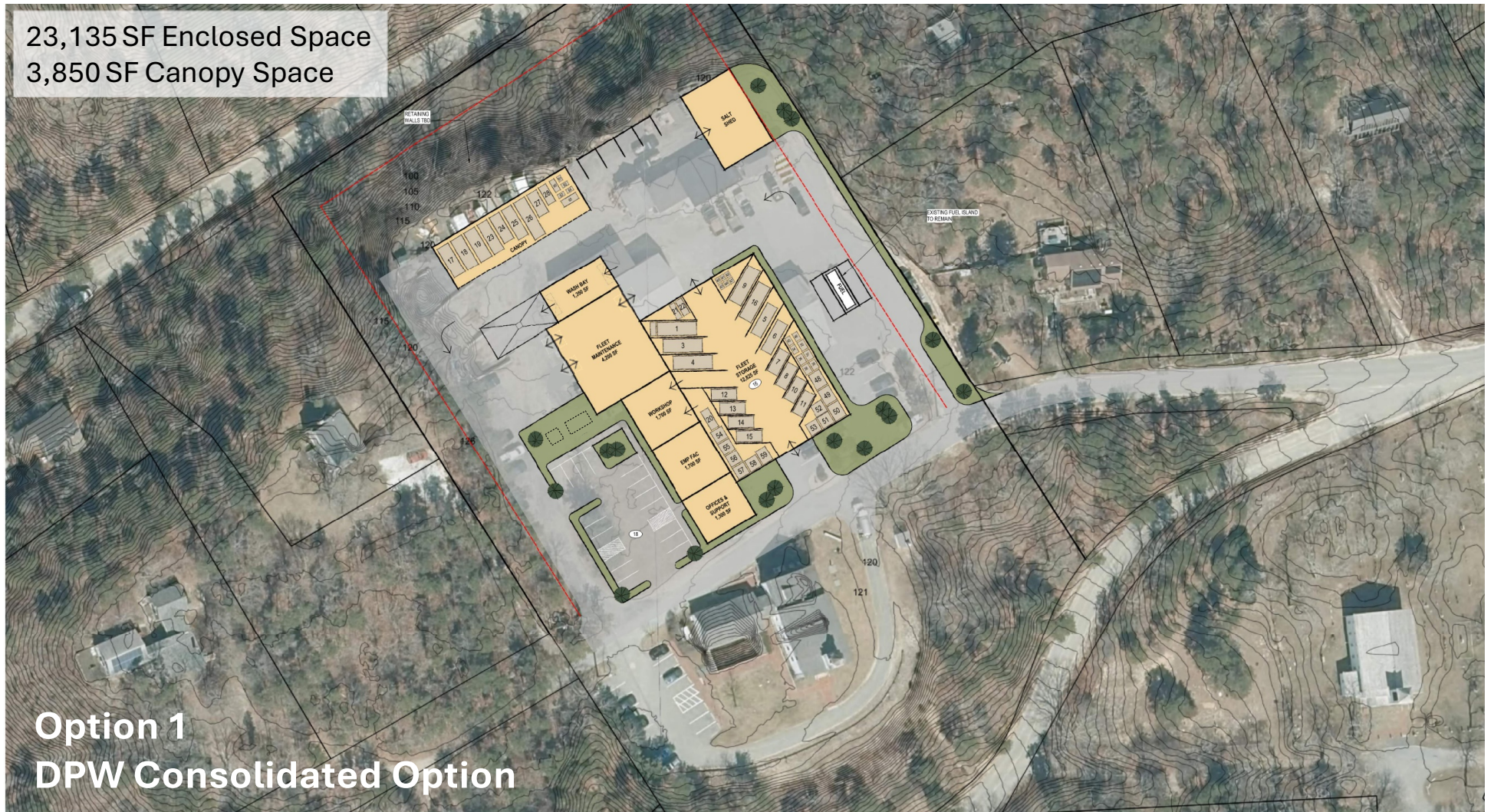
Base Pricing Item:	Option 1 Consolidated Option	Option 2 Campus Buildings	Option 3 Campus Buildings	Option 4 Drive Thru Campus Buildings
Construction Costs:	\$ 23,610,000	\$ 23,550,000	\$ 19,090,000	\$ 20,000,000
New Energy Code Costs:	\$ 1,190,000	\$ 1,100,000	\$ 870,000	\$ 920,000
Soft Costs:	\$ 7,270,000	\$ 6,860,000	\$ 5,850,000	\$ 6,050,000
Subtotal:	\$ 32,070,000	\$ 31,510,000	\$ 25,810,000	\$ 26,970,000
Design Modifications:				
Phased Construction (2 Phases), add:	N/A	\$ 1,560,000	\$ 1,560,000	\$ 1,560,000
		\$ 33,070,000	\$ 27,370,000	\$ 28,530,000
Re-Purposing of Building, add:	N/A	\$ (690,000)	Included	Included
Repurposed building increases total bldg by 1,300 sf		\$ 30,820,000		
Replace Small Vehicle Storage with a Canopy, add:	\$ (795,000)	\$ (795,000)	Included	Included
	\$ 31,275,000	\$ 30,715,000		
Hybrid Building (PEMB & Timber). add:	\$ (434,481)	\$ (403,057)	\$ (273,259)	\$ (273,259)
	\$ 31,635,519	\$ 31,106,943	\$ 25,536,741	\$ 26,696,741
Timber Building, add:	\$ (3,160,920)	\$ (2,766,745)	\$ (1,571,238)	\$ (1,817,171)
	\$ 28,909,080	\$ 28,743,255	\$ 24,238,762	\$ 25,152,829

Town of Truro
New Public Works Facility

Next Steps – Option Selection

Town of Truro New Public Works Facility

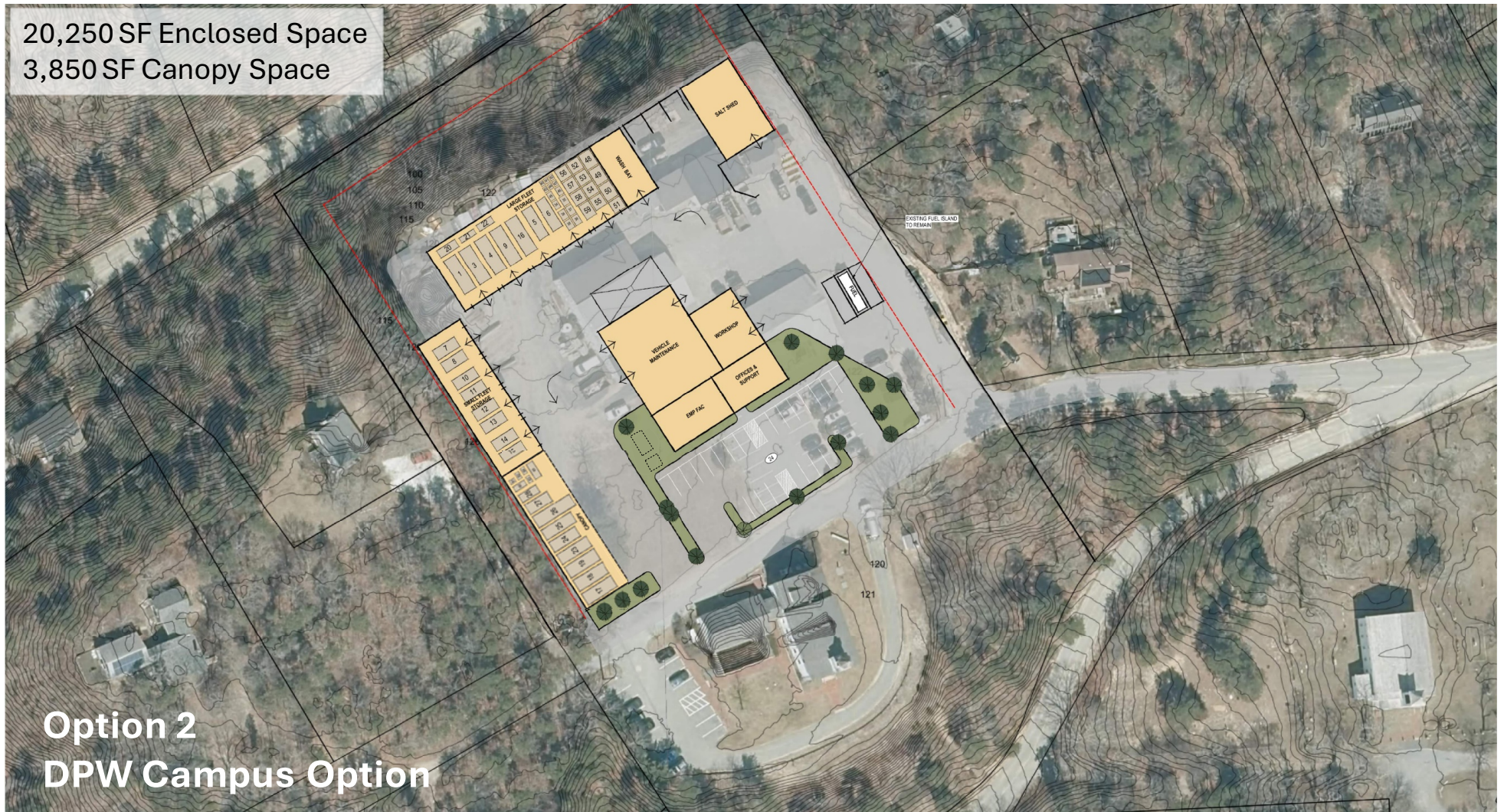
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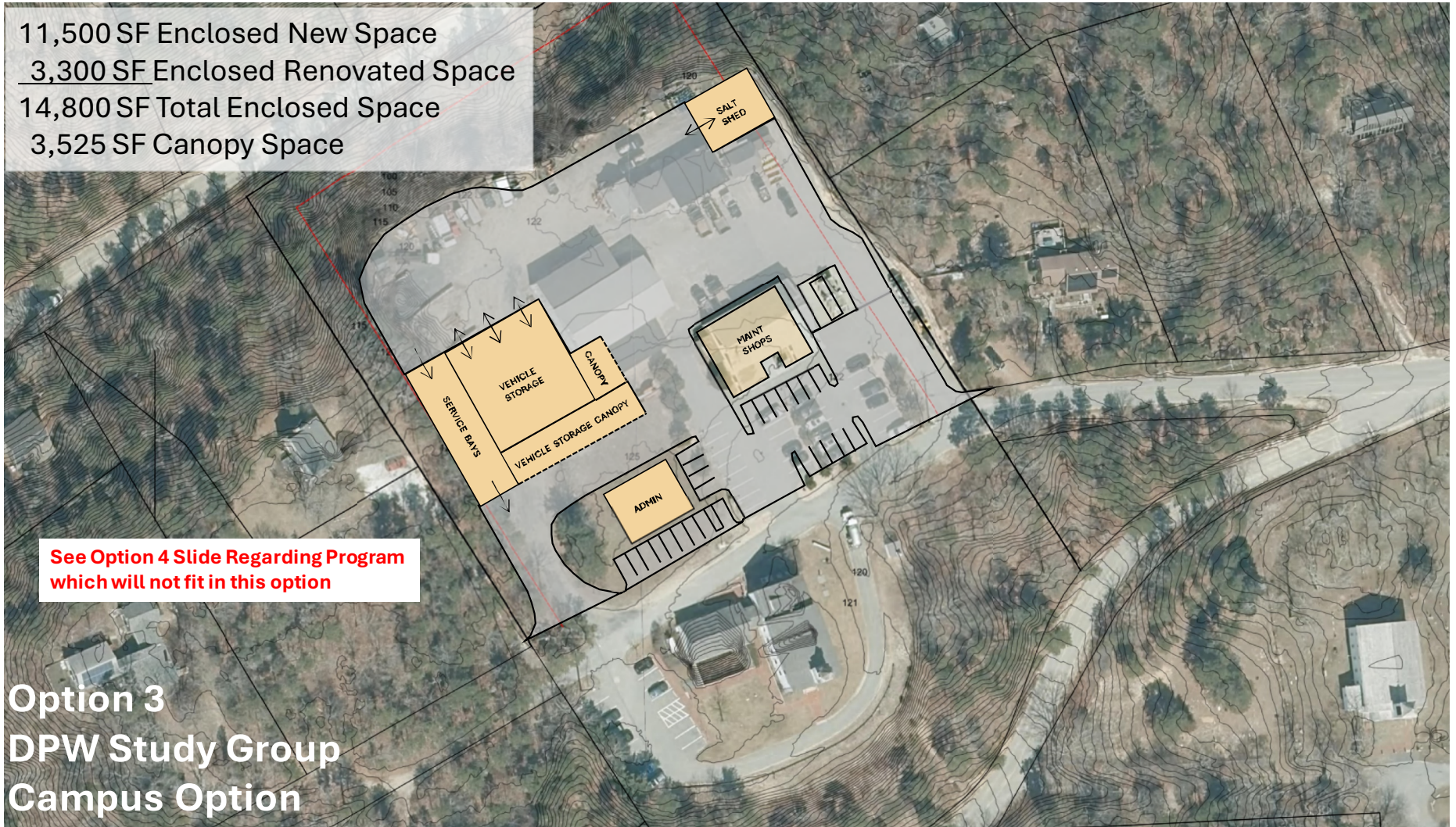


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DPW Study Group
Campus Option



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