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# Town of Truro New Public Works Facility

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Feasibility Study - Update Presentation

March 8, 2023

Town of Truro  
**New Public Works Facility**

**High-Level Recap of the Feasibility Study**

Town of Truro  
**New Public Works Facility**

**Public Works Responsibilities**

# Town of Truro

## New Public Works Facility

**The DPW touches the lives of the residents everyday by maintaining the infrastructure that the community relies on including...**

- Town roads ←
- Storm drainage system ←
- Street sweeping
- Sidewalks
- Roadside brush cutting
- Public buildings ←
- Vehicle Maintenance
- Beaches ←
- Transfer Station operations
- Management of capital improvement projects ←



# Town of Truro

## New Public Works Facility

**The DPW touches the lives of the residents everyday by maintaining the infrastructure that the community relies on including...**

On call 24 hours a day to handle incidents & emergencies including:

- Snow and ice removal operations
- Hurricane / windstorm cleanup
- Flooding
- Removal of road hazards
- Oil spills / accidents
- Emergency road repairs
- Emergency response / consequence management
- The support of other emergency departments



Town of Truro  
**New Public Works Facility**

**Why Does the Town Need a New Facility?**

# Town of Truro

## New Public Works Facility

Why does the Town need a new Public Works facility?

- Operating out of multiple buildings ranging from 40 - 70 years old
- Responsibilities have increased significantly but facility has not
- The facilities no longer serve the needs of the Town
- Facility does not meet current codes
- Large portion of multi-million dollar fleet is stored outdoors impacting vehicle life expectancy, maintenance costs, and operations
- Efficiency of operations and employee safety are negatively impacted



Town of Truro  
**New Public Works Facility**

**Facility Programming**

# 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>
• Office / Office Support	2,035 SF	1,525 SF	1,300 SF
• Employee Facilities	2,144 SF	1,936 SF	1,700 SF
• Workshops	3,929 SF	3,192 SF	2,900 SF
• Vehicle Maintenance	7,279 SF	5,532 SF	5,400 SF
• Wash Bay	1,750 SF	1,350 SF	1,350 SF
• Vehicle & Equipment Storage	19,551 SF	18,953 SF	16,958 SF
<b>Subtotal:</b>	<b>36,689 SF</b>	<b>32,487 SF</b>	<b>29,608 SF</b>
		<b>11.5% Reduction</b>	<b>19.3% Reduction</b>

# Town of Truro

## New Public Works Facility

### Proposed Program

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Vehicle storage garage is 57% of the facility - so why does the DPW need to put the equipment indoors

# Town of Truro New Public Works Facility

Why put the vehicles and equipment indoors.....

- 1. Employee Safety**
2. Public Safety
3. Protection of Equipment
4. Stormwater Pollution Control
5. Cost Effective Operations
6. Efficient Operations



Employee safety is compromised when trying to clear off large equipment in inclement weather conditions as shown above

# Town of Truro

## New Public Works Facility

Why put the vehicles and equipment indoors.....

1. Employee Safety
- 2. Public Safety**
3. Protection of Equipment
4. Stormwater Pollution Control
5. Cost Effective Operations
6. Efficient Operations



Vehicles / equipment which are covered by snow or ice may take longer to respond to the needs of the community which could result in unsafe conditions for the public



# Town of Truro New Public Works Facility

Why put the vehicles and equipment indoors.....

1. Employee Safety
2. Public Safety
- 3. Protection of Equipment**
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6. Efficient Operations



Outdoor storage contributes to accelerated equipment deterioration

# Town of Truro

## New Public Works Facility

Why put the vehicles and equipment indoors.....

1. Employee Safety
2. Public Safety
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- 4. Stormwater Pollution Control**
5. Cost Effective Operations
6. Efficient Operations



Vehicles stored outdoors on the existing site  
have inadequate environmental control  
measures

# Town of Truro New Public Works Facility

Why put the vehicles and equipment indoors.....

1. Employee Safety
2. Public Safety
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- 4. Stormwater Pollution Control**
5. Cost Effective Operations
6. Efficient Operations



Any drips or spills from vehicles stored inside will be collected in a closed floor drain system preventing them from reaching the environment

# Town of Truro

## New Public Works Facility

Why put the vehicles and equipment indoors.....

1. Employee Safety
2. Public Safety
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- 5. Cost Effective Operations**
6. Efficient Operations

### Cost to Construct Storage Garage

- Construction
- Maintenance
- Operation

**VERSUS**

### Cost Associated with Exterior Storage

- Increased Vehicle Maintenance
- Decrease in Vehicle Life Expectancy
- Non-Productive Labor
- Operational impacts
- Employee Safety & Environmental

**Analyses has shown that it will cost 2 times more to store equipment outdoors over the life of a building**

# Town of Truro

## New Public Works Facility

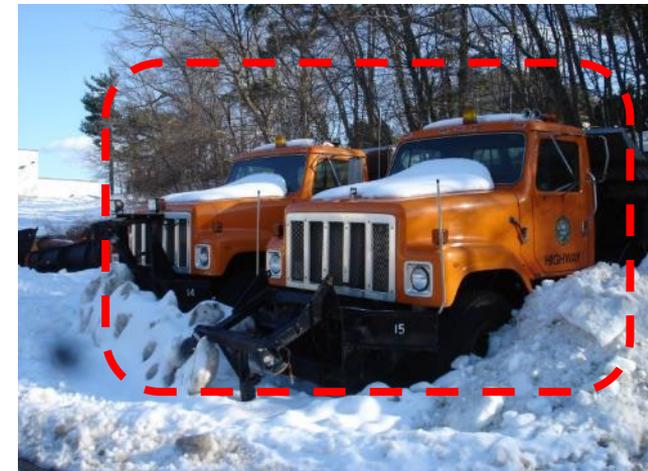
Why put the vehicles and equipment indoors.....

Case Study for increased vehicle life expectancy associated with storage of equipment indoors

- A Town purchased three large dump trucks
- Town only had room to store one indoors
- Remaining two vehicles were stored outdoors
- Two vehicles stored outdoors were removed from service early due to equipment deterioration. Equipment conditions were so poor that they were sold as scrap.
- The vehicles which was stored indoors **remained in service for three more years** and was in suitable condition when it reached its service life that it was able to be sold at auction



*Only room to store one (1) new dump truck indoors*



*Two (2) vehicles stored outdoors due to limited availability of covered storage*

Town of Truro  
**New Public Works Facility**

Why put the vehicles and equipment indoors.....

1. Employee Safety
2. Public Safety
3. Protection of Equipment
4. Stormwater Pollution Control
5. Cost Effective Operations
- 6. Efficient Operations**

Town of Truro  
**New Public Works Facility**

Why put the vehicles and equipment indoors.....



**Vehicle starting when stored indoors – minimally heated garage**

Town of Truro  
**New Public Works Facility**

Why put the vehicles and equipment indoors.....



**Vehicle starting when stored outdoors**

Town of Truro  
**New Public Works Facility**

**Site Selection Process**

# Town of Truro New Public Works Facility

## Initial Site Selection Process

- Worked with the Town to identify potential sites
  - Site 1** – 340/344 Route 6 (Town owned)
  - Site 2** – 5 Town Dump Road Transfer Station (Town owned)
  - Site 3** – Lot 104 Route 6 Adjacent State Parcel (State owned)
  - Site 4** – 24 Town Hall Road Existing DPW Site (Town owned)



- Conducted a screening analysis of the parcels
  - Size** – Prepared conceptual generic “test-fit” site plans to determine if site can meet DPW operational requirements.
  - Environmental Receptor Maps** – Prepared receptor maps to identify potential permitting restrictions which could hinder development.

- Site 1 – 340/344 Route 6 passed the size and environmental receptor map screening



# Town of Truro New Public Works Facility

## Site Selection Process

- Site 1 – 340/344 Route 6
  - Size: **Passed**
  - Environmental Receptors: **Passed**



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**Project Inquiries & Responses**

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**Summary of Previous Presentations**

- Initial Select Board presentation of feasibility study in December 2019
- Follow up Select Board presentations to address questions / comments
  - February 2020
  - February 2022
- Responded to numerous project inquiries

# Town of Truro

## New Public Works Facility

### Summary of Previous Presentations

- Summary of Project inquires discussed in prior presentations
  - Site analysis and rankings
  - Water for domestic and fire protection
  - Environmental protective measures for salt shed and fuel system
  - Environmental protective measures for the new building
  - Stormwater management system
  - Existing buildings evaluation
  - Noise / visual barriers around the site
  - Rotation or reconfiguration of facility at existing site
  - Relocation from existing site to Snow's Field or to abutting parcels
  - Relocation of the salt storage structure to alternate locations
  - Cost-benefit analysis on indoor vs. outdoor vehicle storage
  - Explored variance and regulatory options that might open up other sites.
  - Reviewed cell tower fall zone and potential impact to the proposed concept.
  - Reviewed Zone II restrictions
  - Discussed traffic and other studies at proposed Rt 6 site
  - Discussed impacts associated with moving portion of operations to another location
  - Discussed Public discussion related to long-term regionalization plans for the DPW
  - Discussed endangered species / priority habitat status for all proposed sites

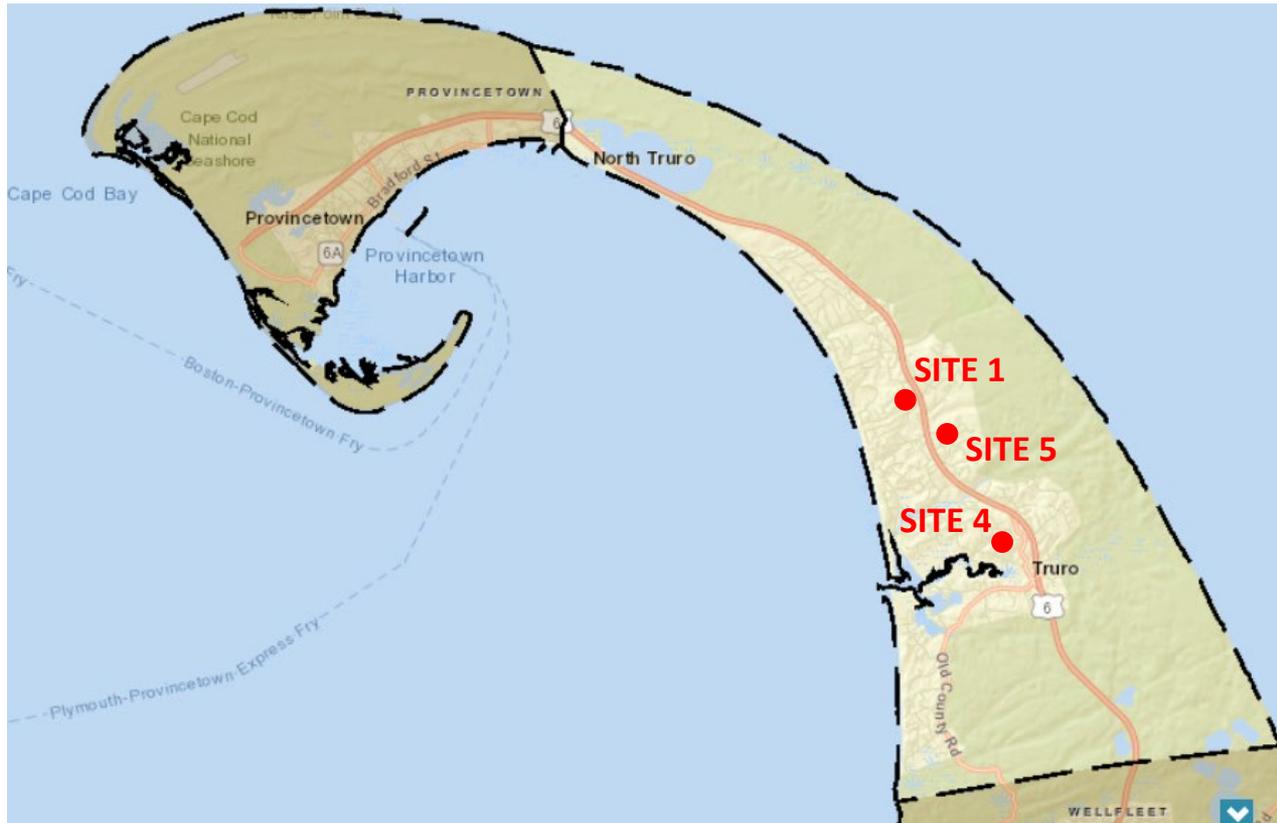
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**Additional Site Analysis  
Completed in 2022**

# Town of Truro New Public Works Facility

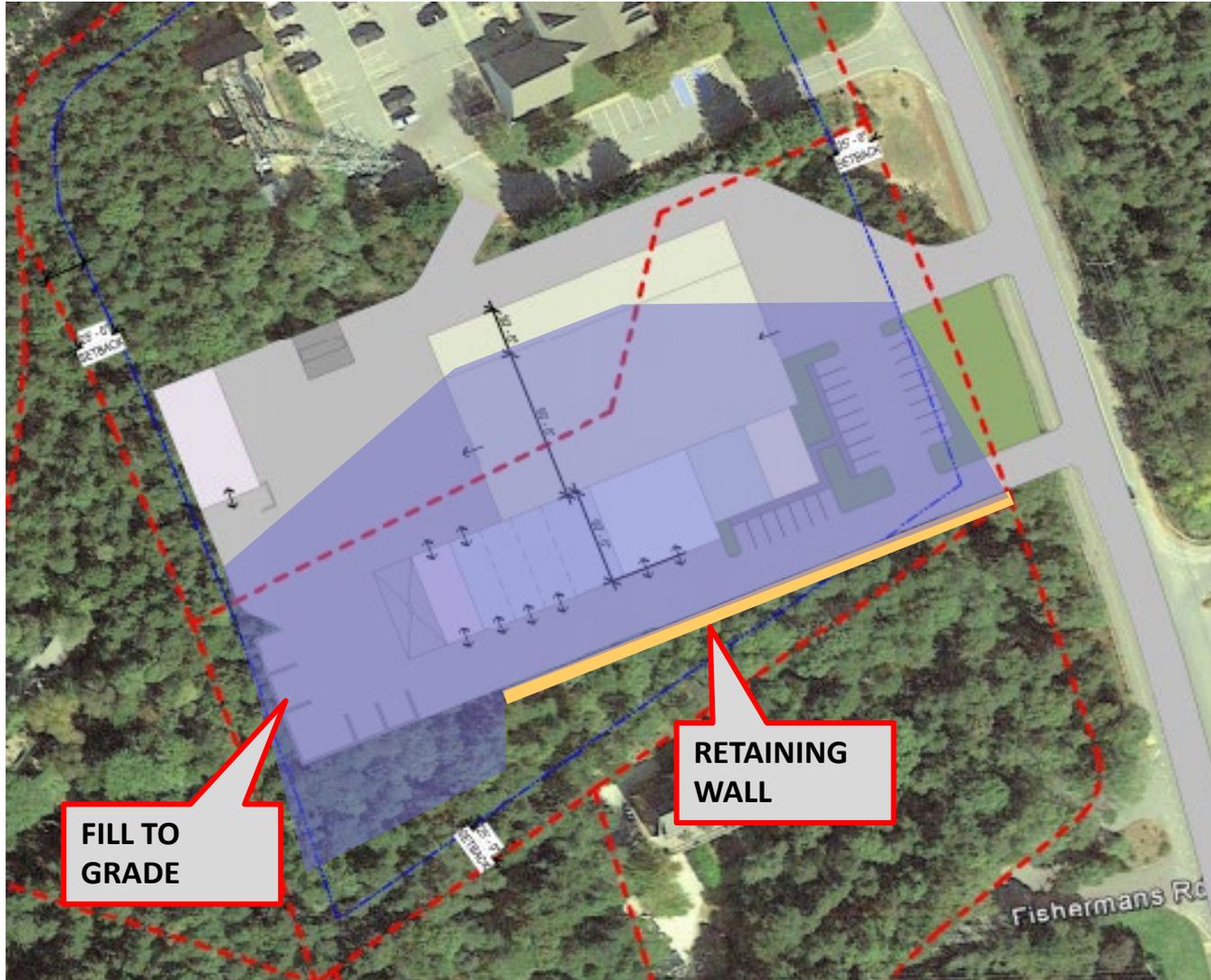
## Site Comparison

- **Site 1** – 340/344 Route 6 (Town owned)
- **Site 4** – 24 Town Hall Road Existing DPW Site (Town owned)
- **Site 5** – Walsh Way (Town owned) – **New Site**



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New Public Works Facility

SITE 1 - 340/344 Route 6

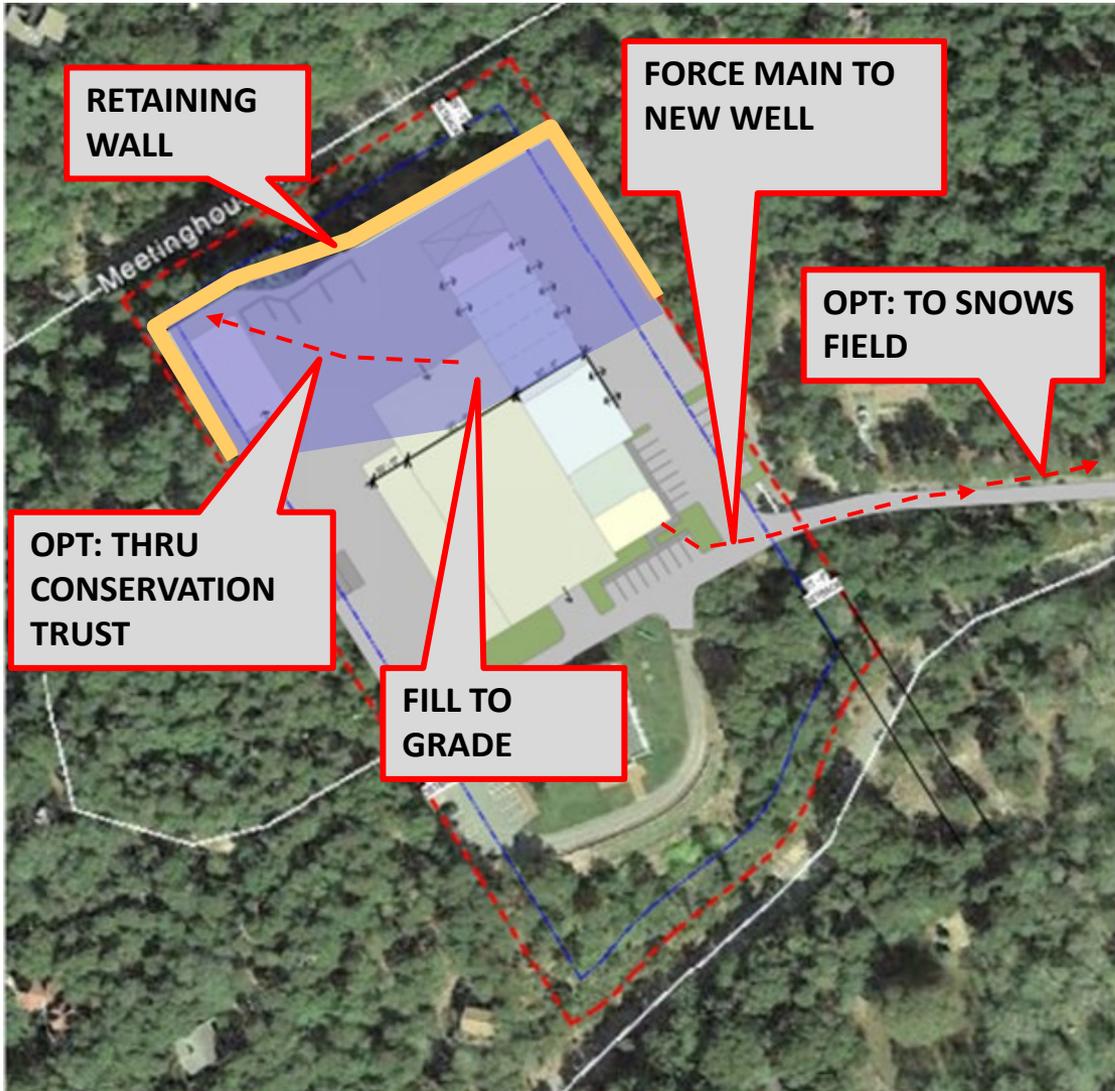


**SITE SPECIFIC COST DRIVERS:**

- Fill to grade
- Retaining wall
- Fire pump

# Town of Truro New Public Works Facility

## SITE 2 – 24 Town Hall Road



### SITE SPECIFIC COST DRIVERS:

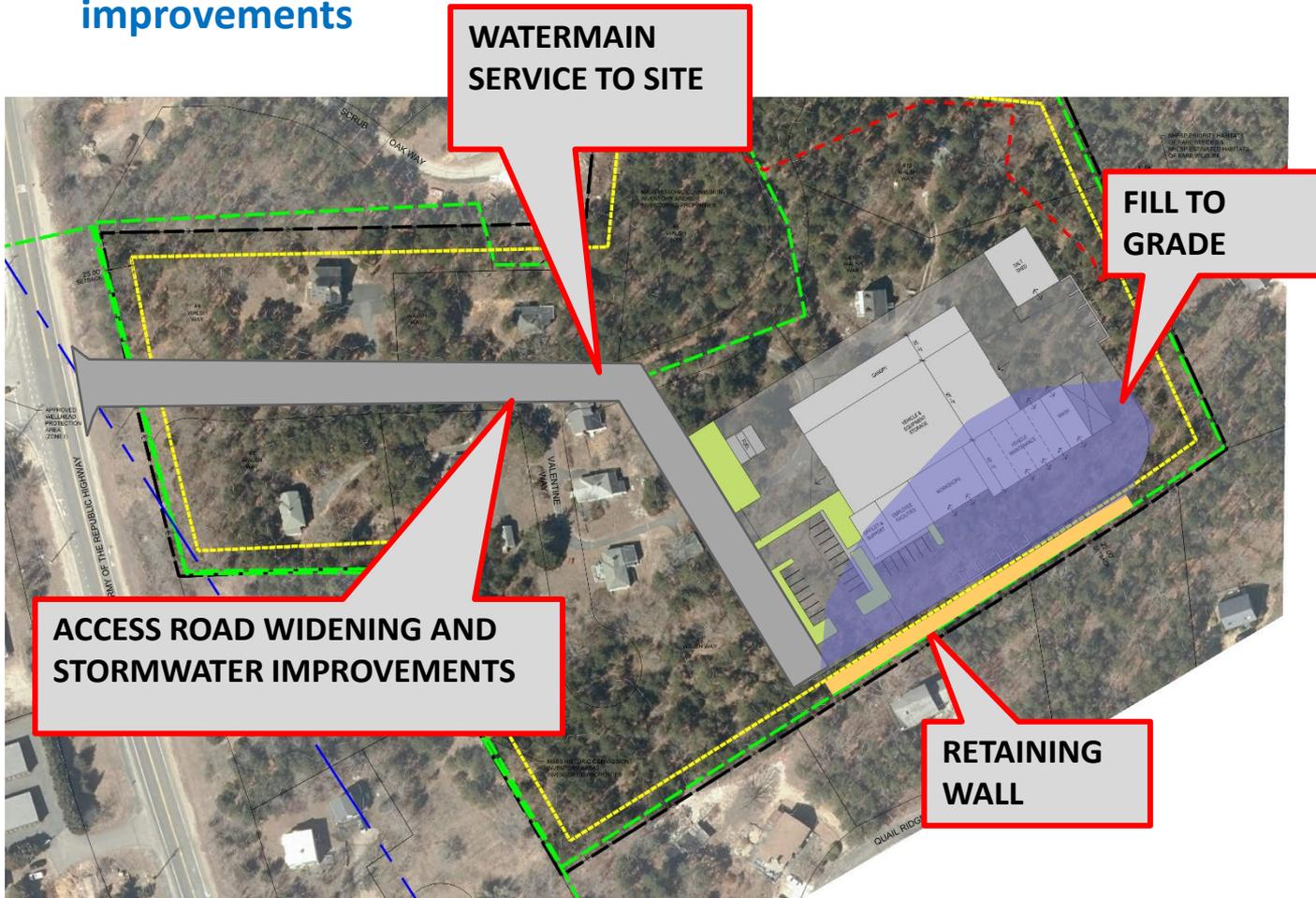
- Fill to grade
- Retaining wall
- New off-site well and force main
- Fire pump and cistern system
- Temporary facilities during construction

# Town of Truro New Public Works Facility

## SITE 3 – Walsh Way

### SITE SPECIFIC COST DRIVERS :

- Access road widening
- Access road stormwater structures & improvements
- Fire pump and cistern system
- Fill to grade
- Retaining wall



# Town of Truro New Public Works Facility

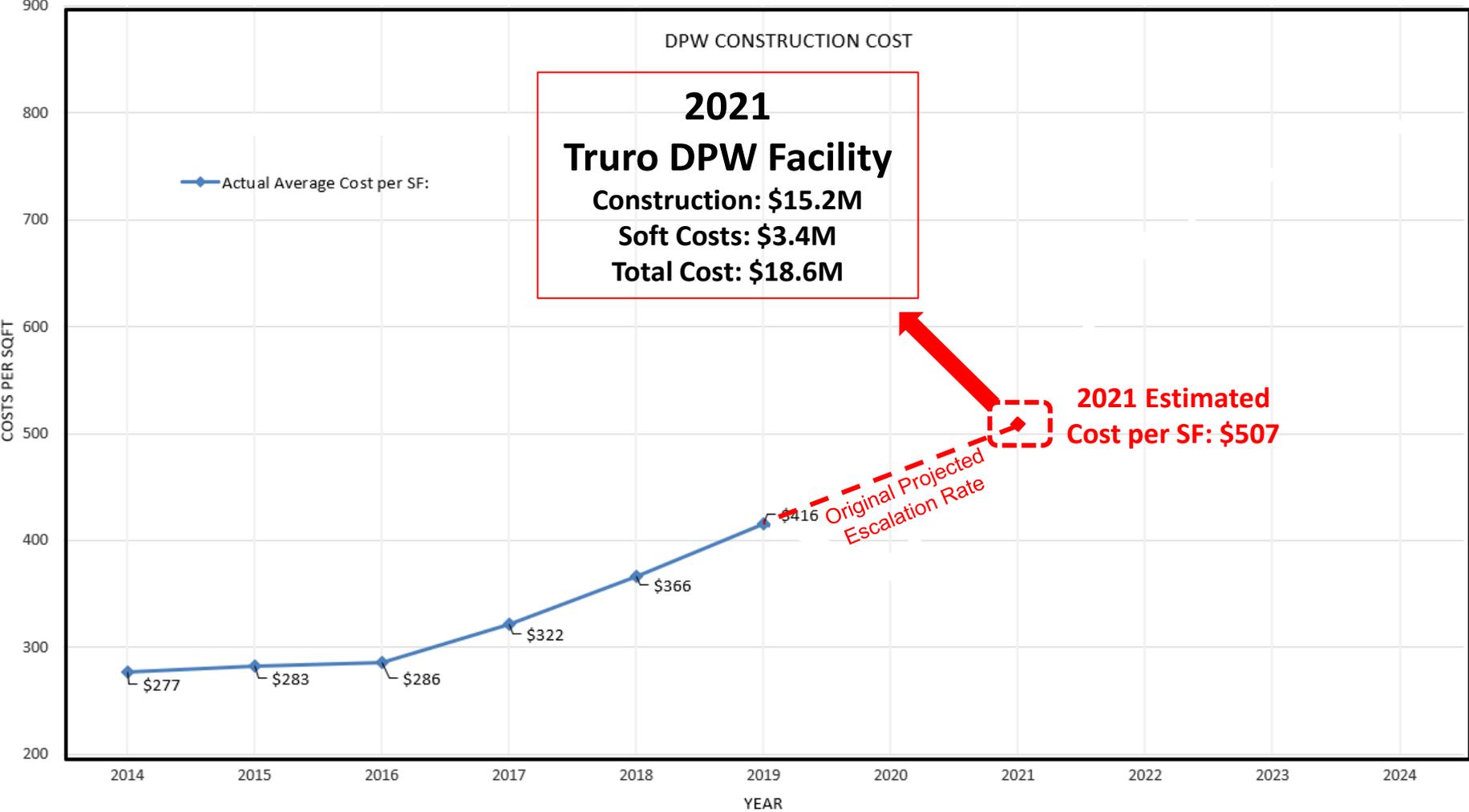
## SITE SPECIFIC COST DRIVERS SUMMARY:

Item Description		Town Hall Rd Property	Town Hall Rd Property	
	340 Rt 6 Property	Well @ Snows Field	Well @ Alternative	Walsh Property
Site Preparation (site specific)	\$ 1,264,000	\$ 346,000	\$ 346,000	\$ 314,000
Retaining Wall	\$ 271,000	\$ 485,000	\$ 485,000	\$ 155,000
Site Access	\$ 14,000	\$ -	\$ -	\$ 97,000
Stormwater Improvements	\$ 278,000	\$ 243,000	\$ 243,000	\$ 333,000
Water Distribution	\$ 74,000	\$ 74,000	\$ 74,000	\$ 633,000
Additional Fire Suppression Pump System	\$ 43,000	\$ -	\$ -	\$ -
Water Line Construction from New Well	\$ -	\$ 400,000	\$ 210,000	\$ -
Cistern (20,000 gal tank and piping)	\$ -	\$ 120,000	\$ 120,000	\$ 120,000
Fire Pump and Vault	\$ -	\$ 70,000	\$ 70,000	\$ 70,000
Snow's Field Modifications and Fencing for Well Relocation	\$ -	\$ 905,000	\$ -	
Temporary Operations/Conditions	\$ -	\$ 250,000	\$ 250,000	\$ -
<b>Subtotal Site Specific Cost Difference:</b>	<b>\$ 1,944,000</b>	<b>\$ 2,893,000</b>	<b>\$ 1,798,000</b>	<b>\$ 1,722,000</b>
Design Contingency (4%):	\$ 77,760	\$ 115,720	\$ 71,920	\$ 68,880
Escalation - Yr 1 (11% per year):	\$ 222,394	\$ 330,959	\$ 205,691	\$ 196,997
Escalation - Yr 2 (6% per year):	\$ 134,649	\$ 200,381	\$ 124,537	\$ 119,273
Location Factor (4%):	\$ 95,152	\$ 141,602	\$ 88,006	\$ 84,286
<i>Site Specific Escalation &amp; Design Contingency:</i>	<i>\$ 529,955</i>	<i>\$ 788,662</i>	<i>\$ 490,154</i>	<i>\$ 469,435</i>
<b>Site Specific Construction Cost Difference:</b>	<b>\$ 2,473,955</b>	<b>\$ 3,681,662</b>	<b>\$ 2,288,154</b>	<b>\$ 2,191,435</b>
A&E Fees (design, bid, const.); Assume 10% of Const. Value	\$ 247,395	\$ 368,166	\$ 228,815	\$ 219,144
Construction Contingency (6%)	\$ 148,437	\$ 220,900	\$ 137,289	\$ 131,486
<b>Rounded Total</b>	<b>\$ 2,870,000</b>	<b>\$ 4,271,000</b>	<b>\$ 2,654,000</b>	<b>\$ 2,542,000</b>
	<b>+ \$328,000</b>	<b>+ \$1,729,000</b>	<b>+ \$112,000</b>	<b>\$ ----</b>

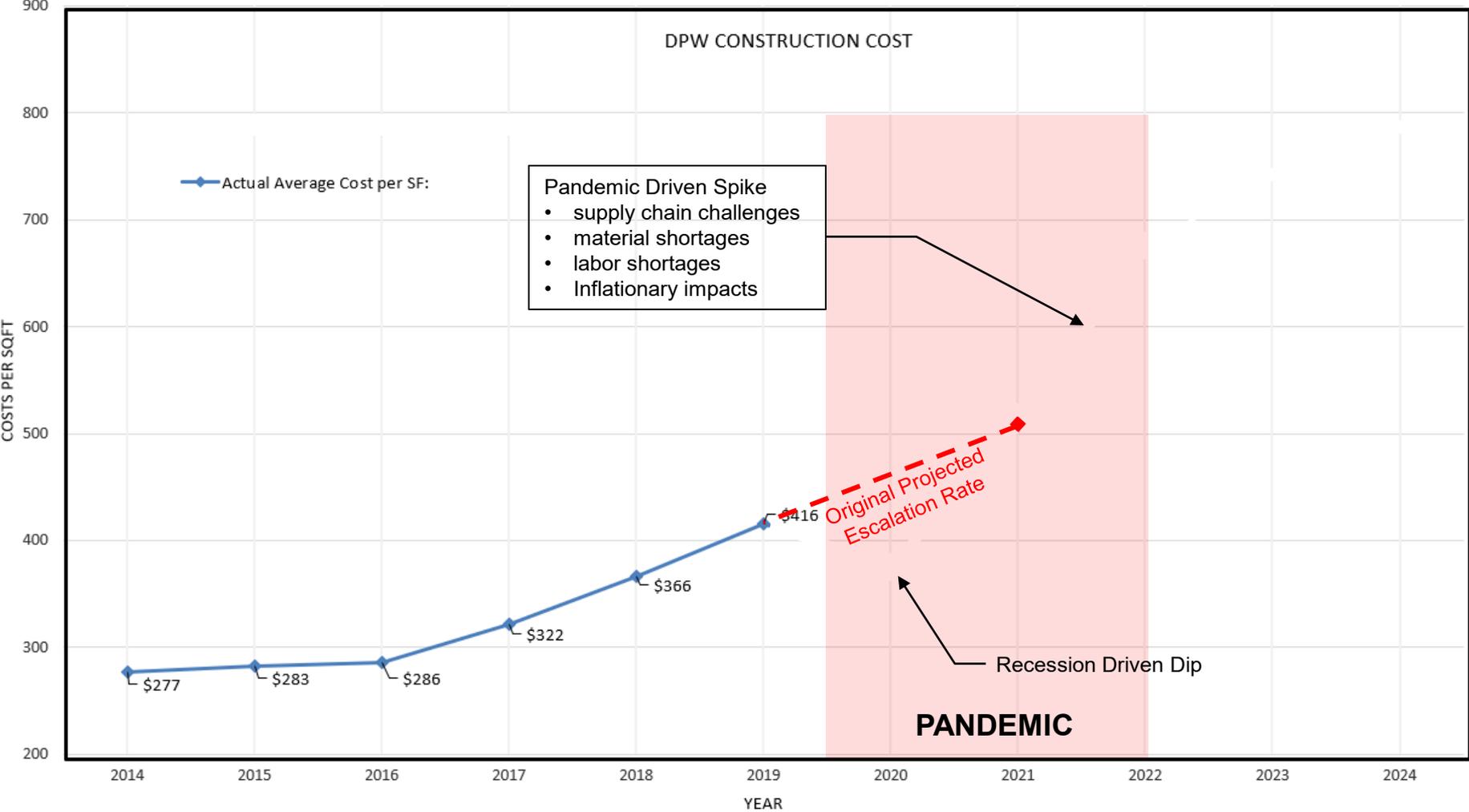
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**Updated Cost Analysis**

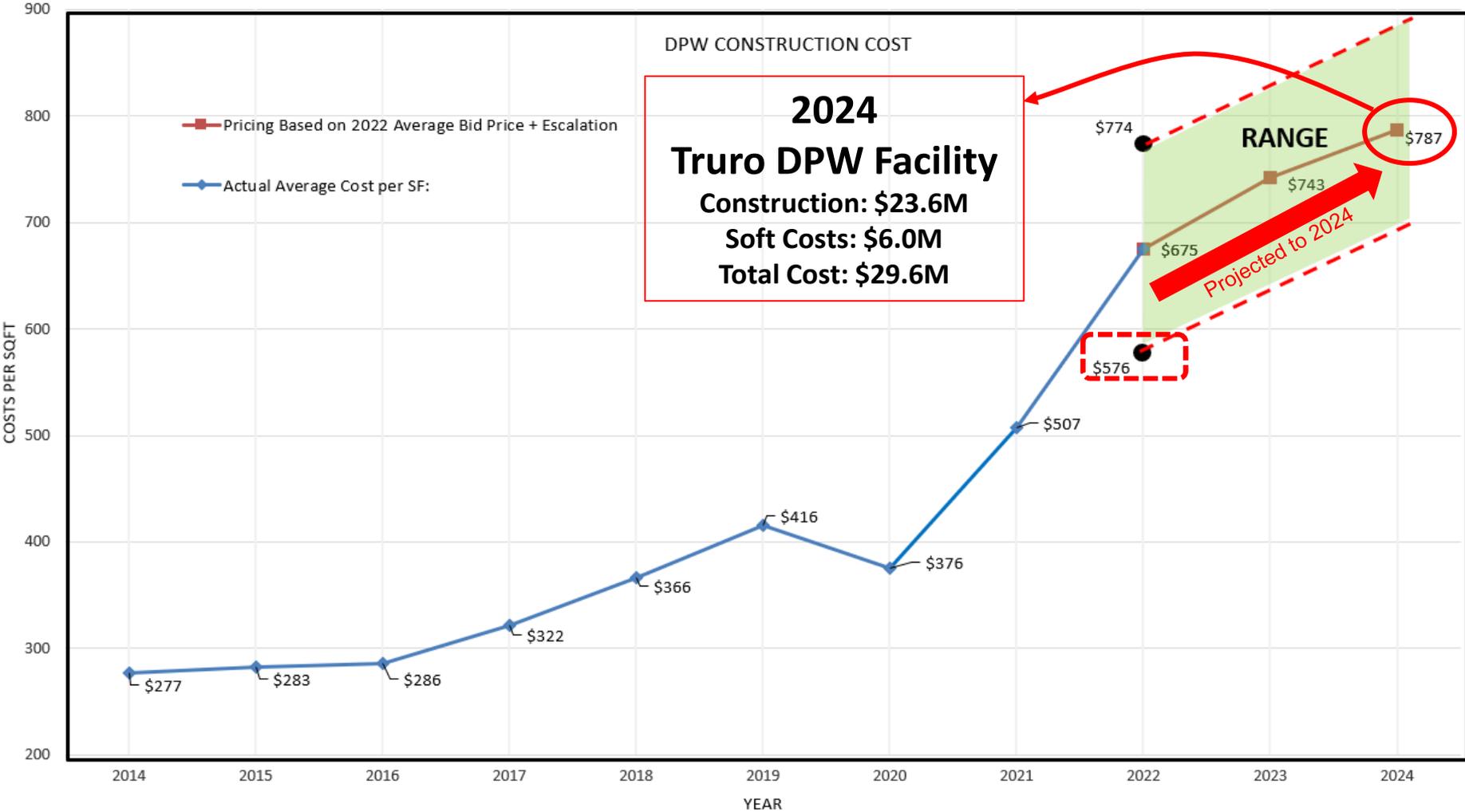
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# Town of Truro New Public Works Facility



# Town of Truro New Public Works Facility



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**New Public Works Facility**

**Cost of Inaction**

- **Temporary Repairs**
- **Escalation**
- **Vehicles & Equipment Long Term Costs**
- **Non-Tangible Items**

# Town of Truro New Public Works Facility

## Cost of Inaction

### Temporary Repairs

- Band-aiding 5-7 years
- Typically Ranges between \$63/sf - \$180/sf
- Results in anticipated costs \$352,00 - \$1,011,000

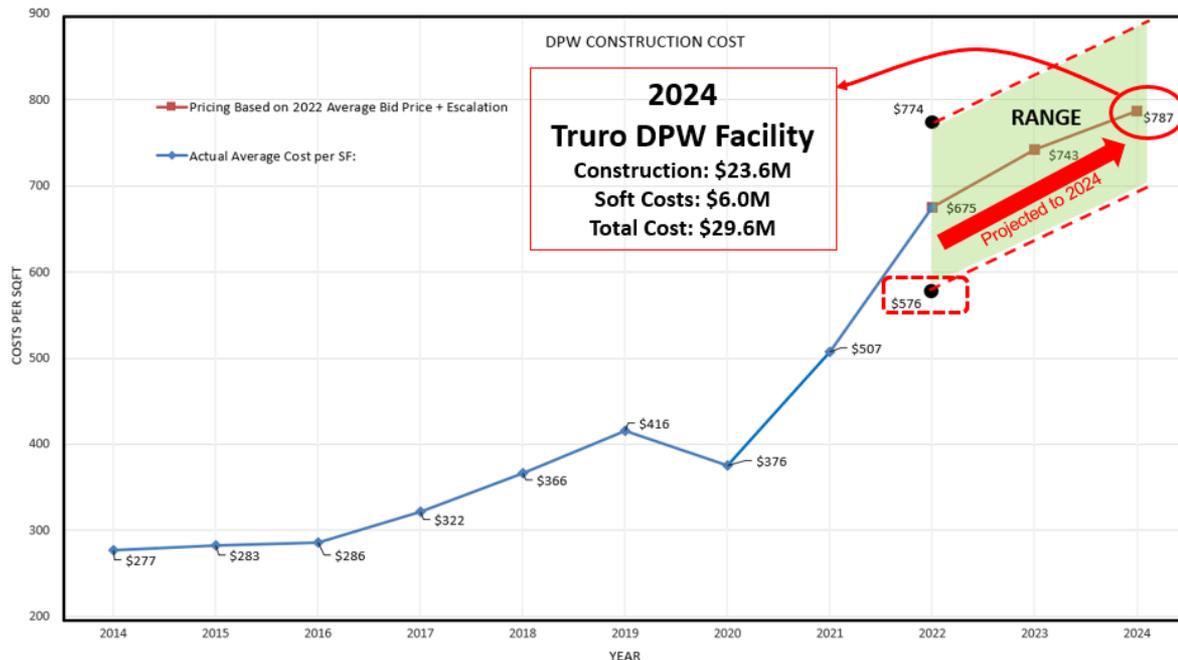
Cost Type	Typical Upgrades	
	Min	Max
Accessibility	\$ 1.61	\$ 1.61
Life Safety	\$ 9.49	\$ 30.57
Site Improvements	\$ 4.73	\$ 7.17
Building Utilities	\$ 3.66	\$ 3.66
Building Envelope	\$ 1.83	\$ 8.04
Building Interior	\$ 1.15	\$ 2.44
Building Systems	\$ 4.37	\$ 7.98
DPW Operations	\$ 10.56	\$ 42.56
Sub TOTAL	\$ 36.25	\$ 104.02
GC Overhead (20%)	\$ 7.25	\$ 20.80
<b>SUBTOTAL CONSTRUCTION COSTS</b>	<b>\$ 43.50</b>	<b>\$ 124.82</b>
Escalation (to 2023)	\$ 4.79	\$ 13.73
Escalation (to 2024)	\$ 2.90	\$ 8.31
Owner's Soft Costs (26%)	\$ 3.58	\$ 10.28
Design & Estimating Contingency (30%)	\$ 3.83	\$ 11.00
Small Project Adjustment (15%)	\$ 4.10	\$ 11.77
<b>Subtotal Potential Project Cost (\$/sf)</b>	<b>\$ 62.71</b>	<b>\$ 179.92</b>
Existing Building (sf)	5,620	5,620
<b>TOTAL Potential Project Cost (rounded)</b>	<b>\$ 352,000</b>	<b>\$ 1,011,000</b>

# Town of Truro New Public Works Facility

## Cost of Inaction

### Escalation

- Industry Cost Estimators Recommendations
  - CY '23 11%
  - CY '24 7%
  - CY '25 6%
  - CY '26 5%
  - CY '27 4%
- Result is approximately \$1,000,000/year



# Town of Truro New Public Works Facility

## Cost of Inaction

### Vehicles & Equipment Long Term Costs

- Impacts:
  - Additional vehicle maintenance costs
  - Additional vehicle life reduction
  - Non-productive labor
  - Environmental impacts
- Impact to Town is approximately \$20 Million over the typical life of a new building



# Town of Truro New Public Works Facility

## Cost of Inaction

### • Non-Tangible Items

- Staff retention
- Ability to attract new / talented staff
- Staff morale and production
- Long term health impacts
- Staff safety



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**Questions**