

**FSMC Task Force  
Peterborough Town Library  
February 10, 2022 @ 6:30pm**

**Members Present:** Bill Kennedy, Selectboard; Alan Zeller, Citizen-at-Large; Kate Coon, Recreation Committee\*; Jon Hampson, Fire Department; Peter LaRoche, Zoning Board of Adjustment\*; Colin Murdough, Heritage Commission; Sarah Steinberg Heller, Planning Board; Beth Alpaugh-Cote, Master Plan Steering Committee\*; Roland Patton, Citizen-at-Large; Rich Clark, Budget Committee.

**Others Present:** Ed Walker, Fire Chief; Danica Melone, Town Planner; Nicole MacStay, Town Administrator; Lisa Betz, Recreation Director; Janet Slemenda, HKT Architects; Jim Boudreau, Rist-Frost-Shumway.

\* Attended virtually

## **CTO**

The meeting was called to order by Chief Walker at 6:30 PM.

## **Update on progress / site options**

The meeting began with an update and overview of the project to date at which time the meeting was turned over to Janet Slemenda of HKT Architects and Jim Boudreau of Rist-Frost-Shumway.

Janet then gave a presentation (attached) on the project to date which included a review of the original options and the rationale for the final decision; discussion of the construction materials and features; The concept of the civil plan for the site including the increased benefits to the wetlands areas and need to work with the Conservation Commission on the work within the Wetlands Buffer area; the concepts for the landscaping on the site including how the green space will fit in with current and proposed buildings; the specific building systems and how they impact the cost; a preliminary cost estimate; and finally a discussion of the next steps for the project. Janet was joined by Jim Boudreau of Rist-Frost-Shumway, the firm working on the mechanical, electrical, and plumbing (MEP) for the design phase.

Janet began with an overview of the site plan that the task force had decided to move forward with a focus on the critical considerations and how these were met. They included separation of traffic for the community center, regular traffic for the fire station and department of public works (DPW), as well as a dedicated area for responding emergency vehicles. Part of this discussion included two areas where wetland crossing would be considered as well as the need to place some parking in the wetland buffer on the south side of the site. Janet indicated that preliminary discussions had begun with zoning, planning, and conservation around this and any other potential permitting needs.

Janet then described the process that HKT had gone through with the fire and police departments to quantify their operations and how that analysis led to the square footage determinations of the building. (This process is referred to as the "programmatic study" and is a common method to identify

the needs of the building owner/occupant.) Several DRAFT renderings were shown to indicate what the various elevations of the building would look like.

From there the conceptual civil plan was outlined to include how the needs of the community were being met on a site that, despite being rather large, has several constraints including existing buildings and wetland. A DRAFT landscaping design was then shown to demonstrate the use of trees and other features to break up the buildings.

Jim then began an overview of the MEP portion of the project and described the “path to sustainability” and how this is utilized to reach the clients end goal. He then presented four (4) potential heating, ventilation, and air conditioning (HVAC) models. The group quickly determined that option 1, fossil fuel based, was NOT a consideration for this project based on the petition warrant article that had passed in 2021 committing the town to 100% renewable energy by 2030. With that discussion additional sustainable options were discussed including wood chip/pellet systems and with the fact that there are other town buildings currently utilizing wood chips or pellets (including the recently constructed library) this option will be added to the plan for consideration.

Janet then continued with an overview of the unique considerations necessary in the design of public safety facilities including the need for backup power and that the building is in operations 24/7 unlike most other types of buildings.

The final piece of the presentation was an overview of the DRAFT cost estimates which was anticipated to not exceed \$25 million dollars. This cost is allocated as 62% for the actual building, 3.5% for demolition and site prep, 6.5% for site work, 28% for “soft costs” including engineering, permits, testing and inspections, furniture, fixtures, and equipment, owner’s contingency, and a 7% annual escalation cost.

Janet then outlined the process going forward including refinement of the project with more specific numbers for both the March 1<sup>st</sup> bond hearing as well as the May 11 Town Meeting.

During the presentation by Janet and Jim, the following questions/points were brought up and addressed:

- Status with the Conservation Commission? After the discussion tonight, and finalization of the plan, these discussions will begin in earnest around any needed variances.
- The draft drawings did not show any roof top units (RTUs), will there be any and how will they impact the look of the building? If we go with a rooftop solar array on the building, then all the mechanicals will be located inside. If we do put some roof top units on the building, you will most likely not be able to see them from the adjacent areas due to the height of the building. They would of course be visible driving down the hill on Dublin Rd., but not up close on the site.
- How will humidity be handled on the apparatus floor? There are several options to get around that including dehumidification and air conditioning. Once the final building systems are being designed this can be addressed.
- What about the runoff from the apparatus floor since the building is so close to wetlands? There are several environmental protection standards that will address what happens with the water from the floor drains, parking lots, and roof.

Once the presentation was over, the following questions/points were brought up and discussed:

- We have been “kicking the can down the road” for years but how is this a reasonable cost? If you look at the programmatic studies that have been done going back to 2004 and then add in the changes to the mission of the department along with the changes in standards impacting the building, the proposed numbers are pretty close to where we would be based on inflation.
- Does this cover the total cost of the project? Yes, the initial number of \$25M is truly a not to exceed number. This number will continue to come down between now and the May 11<sup>th</sup> Town Meeting. Additionally, it includes contingency figures which will most likely not all be needed.
- What is the value of the current building and property at 16 Summer St. and what is the intention of that parcel? It is the intention of the town to sell the parcel for development. The current property is assessed at \$709,100 however the value of this land when developed will most likely exceed this amount.
- At this point Nicole asked if we, as a committee, needed to “pump the breaks on the project.” It was the majority consensus that we needed to continue the discussions, but that it is a lot of money.
- There was then a discussion, without resolution, as to how we could help to continue to move this forward. Examples included: removing the costs associated with the Peterborough Community Center; further explaining the costs to the voters; and trying to save some money over the next few years to not have to bond all of it.
- Additional discussion of the benefits to the new building. These included not having emergency apparatus responding through downtown, our ability to attract and retain department members, the health and safety of our staff, and investing in the community.
- Anyone who has visited the existing facility will be well aware that it is deficient in a number of key ways and that there is a real need to take care of our employees and provide them with a safe and comfortable environment.
- Roland noted that the fire department outgrew this building within five (5) years of moving into it and we have been studying a new facility for two decades. It will never be less expensive, and we need to address this.
- Questions were raised as to the validity of these numbers. Janet explained that the estimation process attempts to look at the cost of the mid-point cost of a project and build the estimates from there. The costs that are presented are based on starting now, but since the actual start date is a year away, there is a 7% escalation included. It is also reasonable to expect the cost to continue to increase by 7% annually for the foreseeable future.
- Will there be an analysis of the cost of this building and a comparison to other fire stations including the size and shape? Nicole responded to this with a reminder to the group that is very difficult to compare one communities fire station to another’s. The programmatic study process that we went through was specific to the needs of Peterborough and aimed at building a facility that will serve us well into the future. In looking at other stations, it is difficult to compare the specific features as each community has variation in staffing, equipment, call volume, site considerations, and future needs. When combined, these result in not being able to make accurate comparisons.

**Next steps / meetings / costs**

The Budget and Bond hearing is scheduled for March 1 at 6:00 in the Select Board Meeting Room. At this meeting there will be a formal presentation to the Budget Committee and Select Board on the project. It is anticipated that the total project cost will be refined before that meeting and the refinement process will continue right up to Town Meeting.

All Task Force members were encouraged to attend the March 1 meeting.

**Approve minutes from the January 10, 2021 meeting**

Motion by Alan with one change noted on page 1. Second by Bill K.

Unanimously approved.

**Adjourn**

The meeting adjourned in a motion made/seconded (Zeller/Hampson) with all in favor at 8:15 PM.





**NEW FIRE STATION - MUNICIPAL CAMPUS DESIGN**  
**PETERBOROUGH, NH**  
FEBRUARY 10, 2022

## AGENDA

- Selected Option Review
- Discussion of Materials + Massing
- Conceptual Civil Plan
- Conceptual Landscape
- Discussion of Building Systems
- Preliminary Budget: Hard and Soft Costs
- Discuss Next Steps





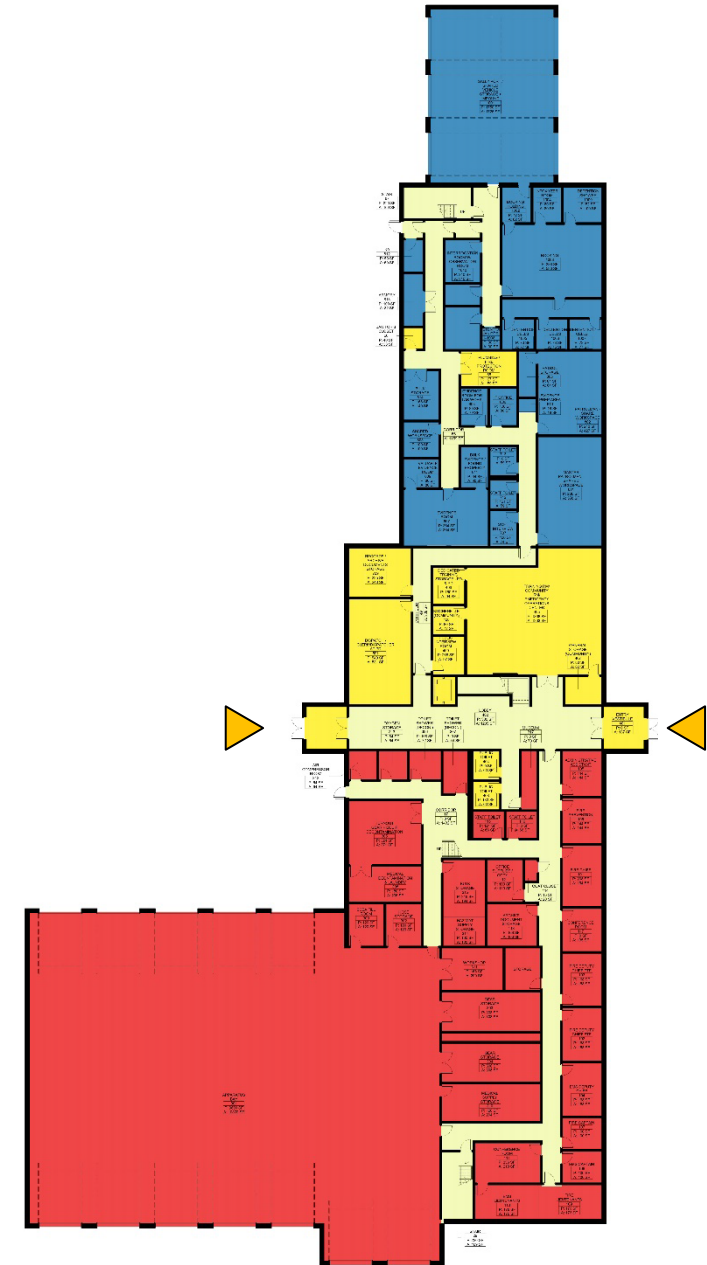
## OPTION 03 Selected Option

- Multiple Users: Separation of use groups
  - Two entry points
- Circulation
  - No dead-ended pathways
  - Direct access for Apparatus
- Wetland Impact
  - Crossings, parking + edge of future building
- Public Use Outdoor Spaces
  - Event Plaza
  - Gardens
  - Sidewalk access



## OPTION 03 - Plan: Floor 1

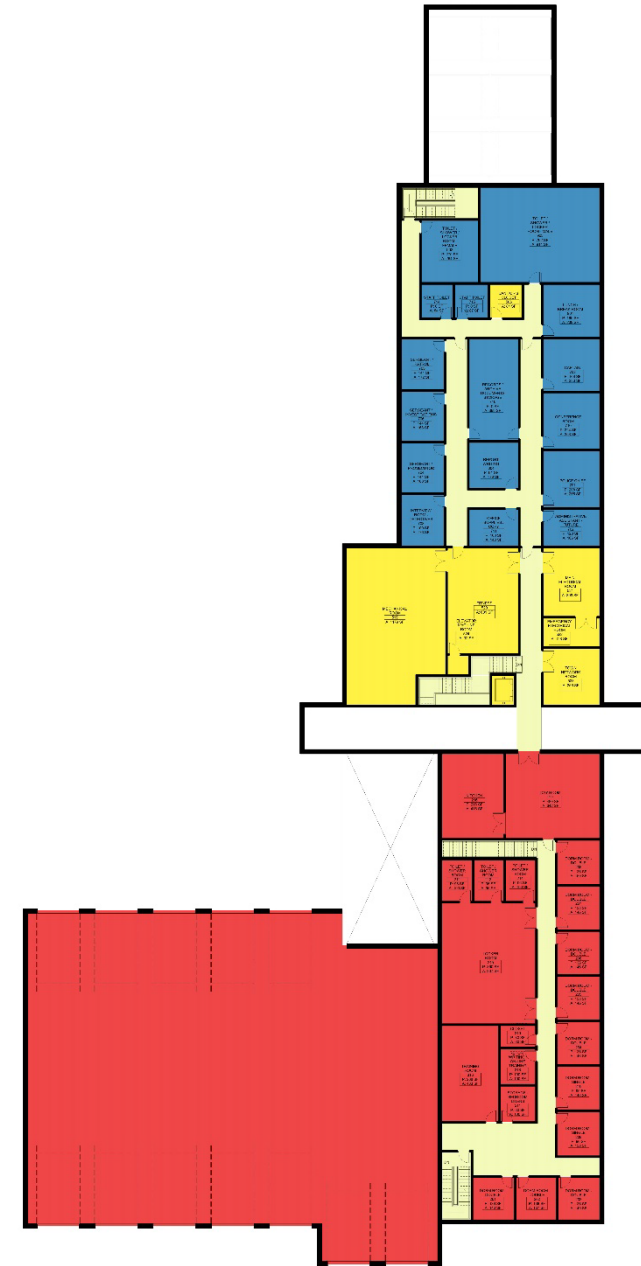
- Shared Spaces: Centered between FD + Future PD
  - Connecting 2 level Corridor at Entry
  - Dispatch
  - Community/Training Room
  - Vertical Circulation
- FD:
  - 7 Apparatus Bays – 5 with front + rear doors
  - Apparatus Support Access: Along perimeter
  - Administration: Linear Configuration
- PD:
  - Operations + Detention on Level 1



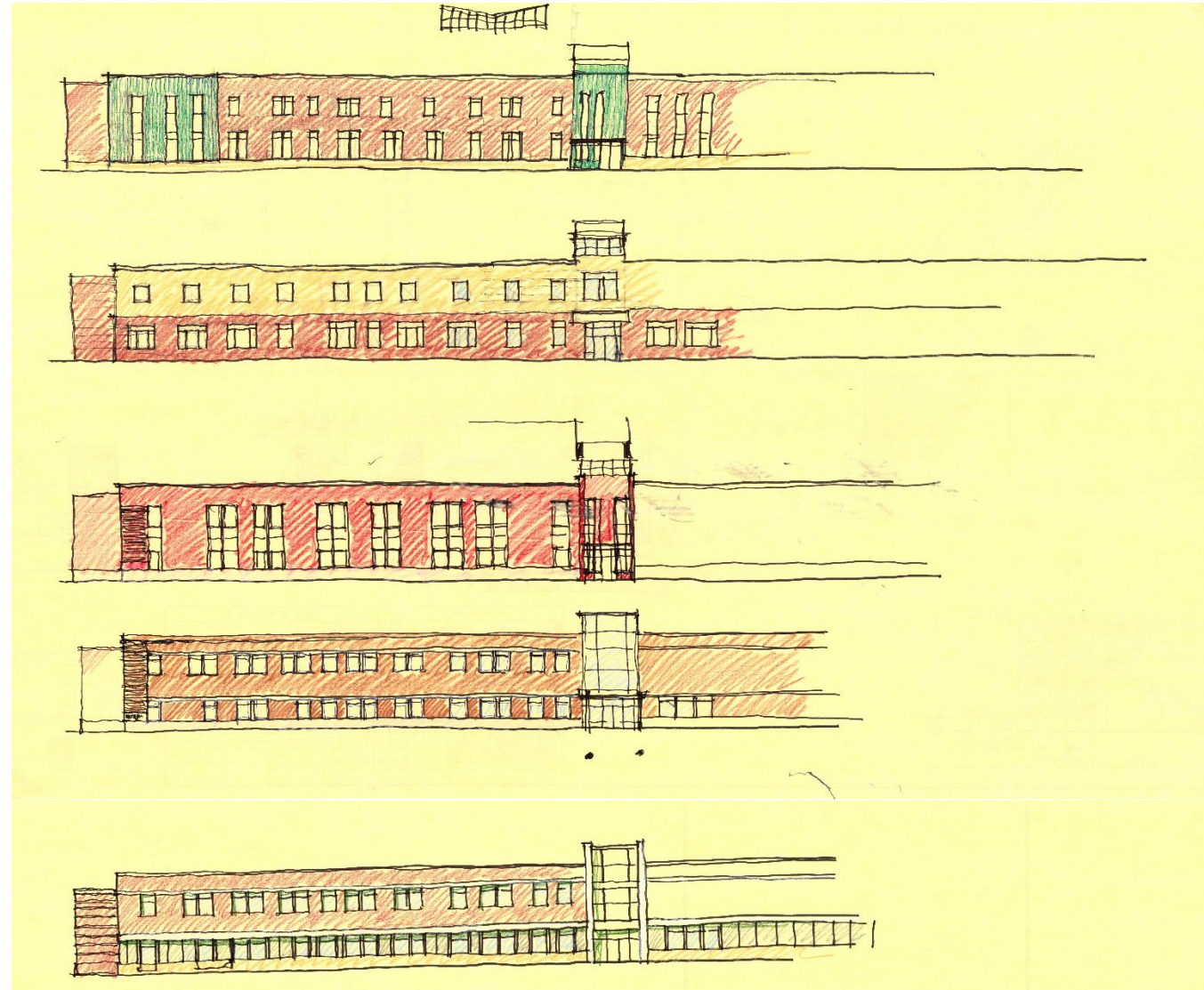


## OPTION 03 - Plan: Floor 2

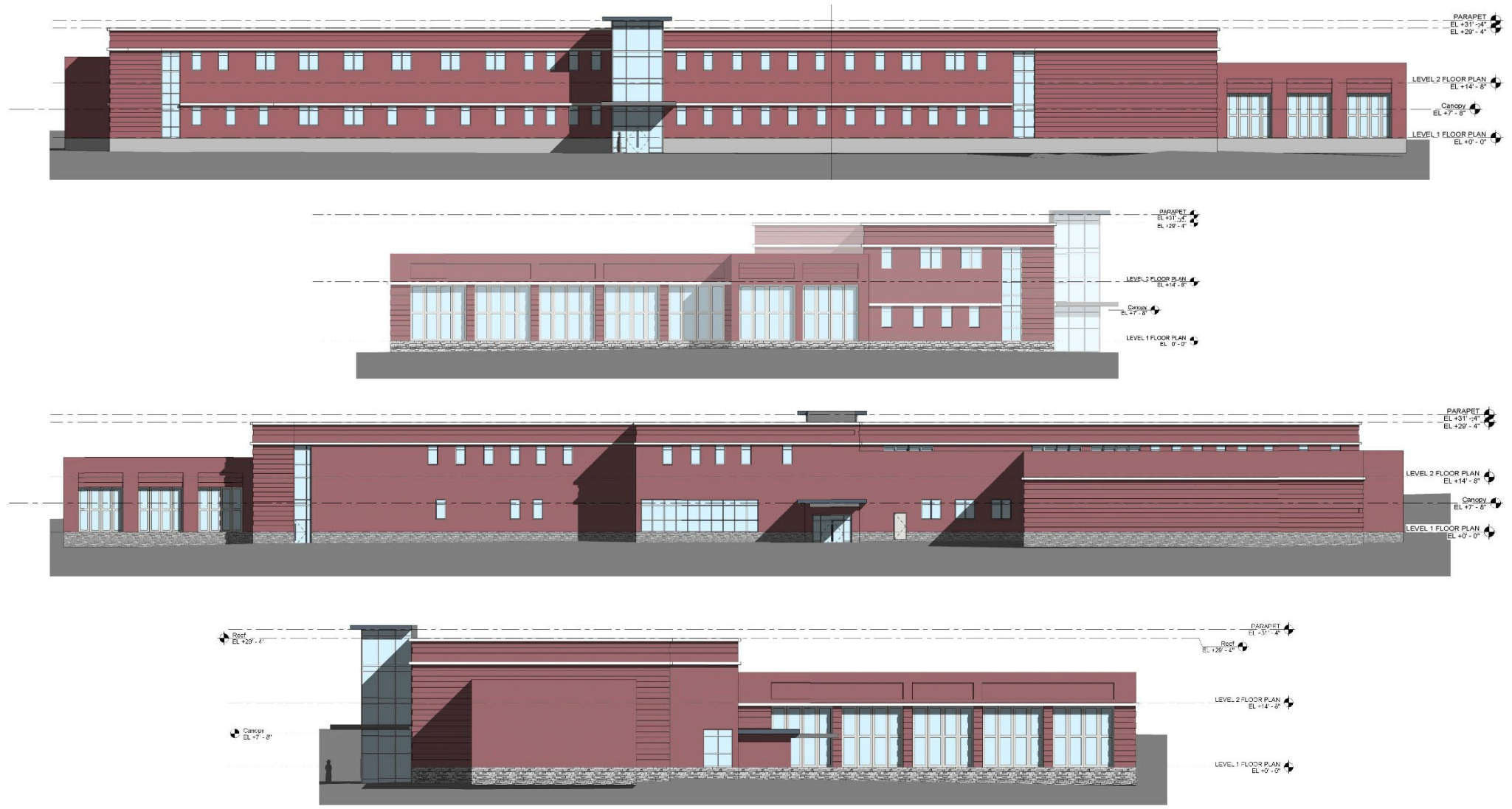
- Shared Spaces: Centered between FD + Future PD
  - Fitness
  - MEPFP
  - Vertical Circulation
  - Lock Down at bridge across to FD
- FD:
  - Dorms linear configuration; Interior support spaces
  - 2 Stairs to Apparatus
- PD:
  - Administration + Employee Support on Level 2



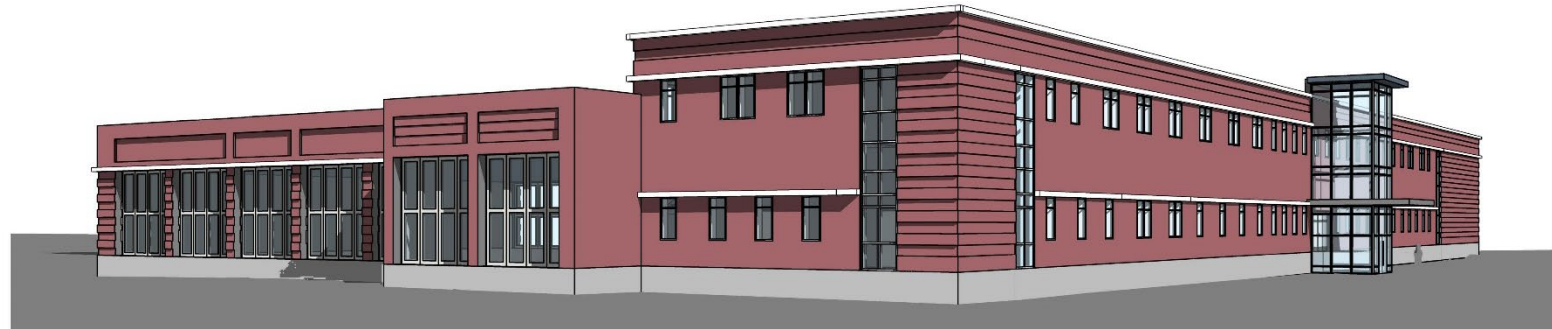
### 3D Conceptual Images – Option 3



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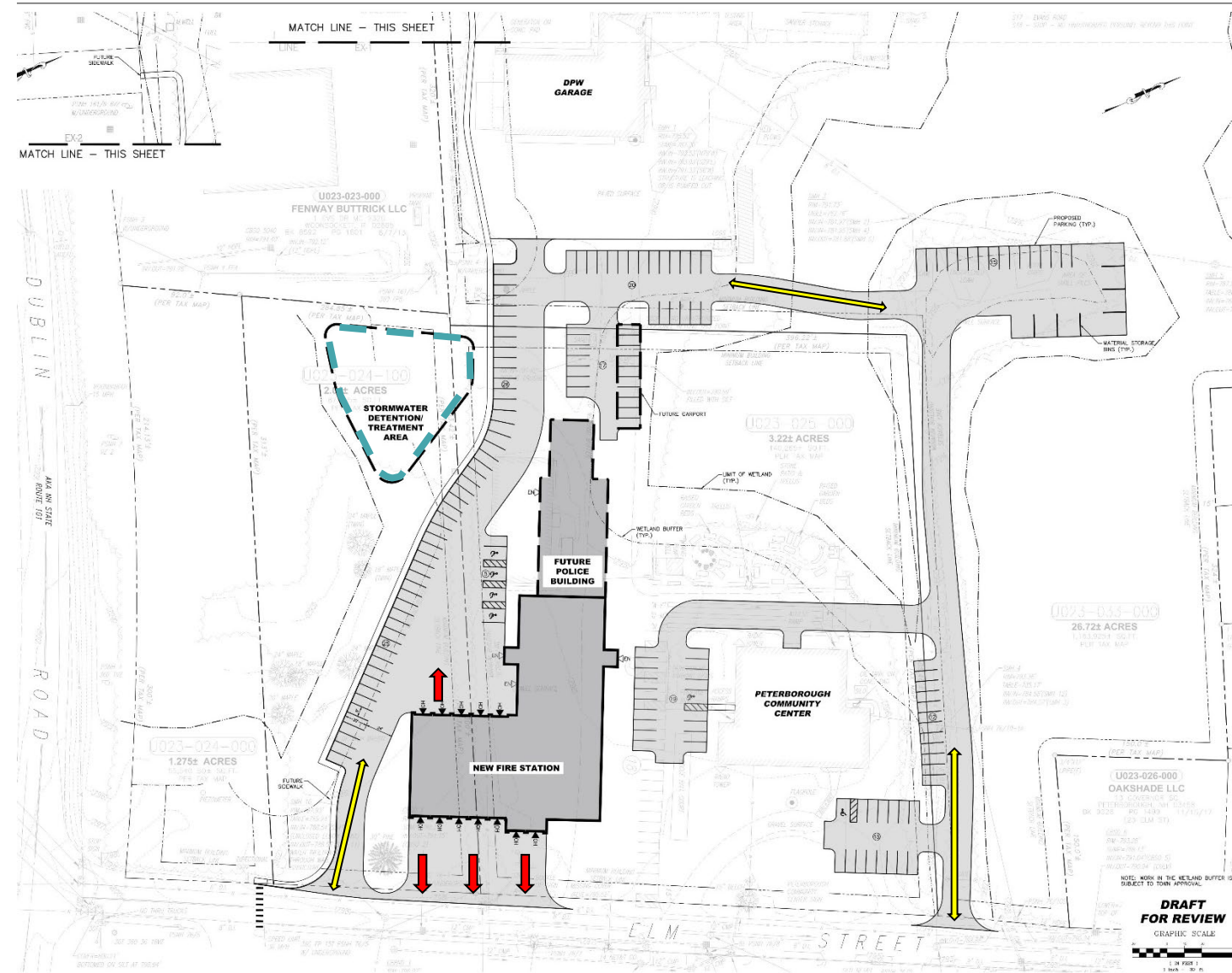
### 3D Conceptual Images – Option 3





### OPTION 03 Selected Option: Conceptual Civil - Constrained Site

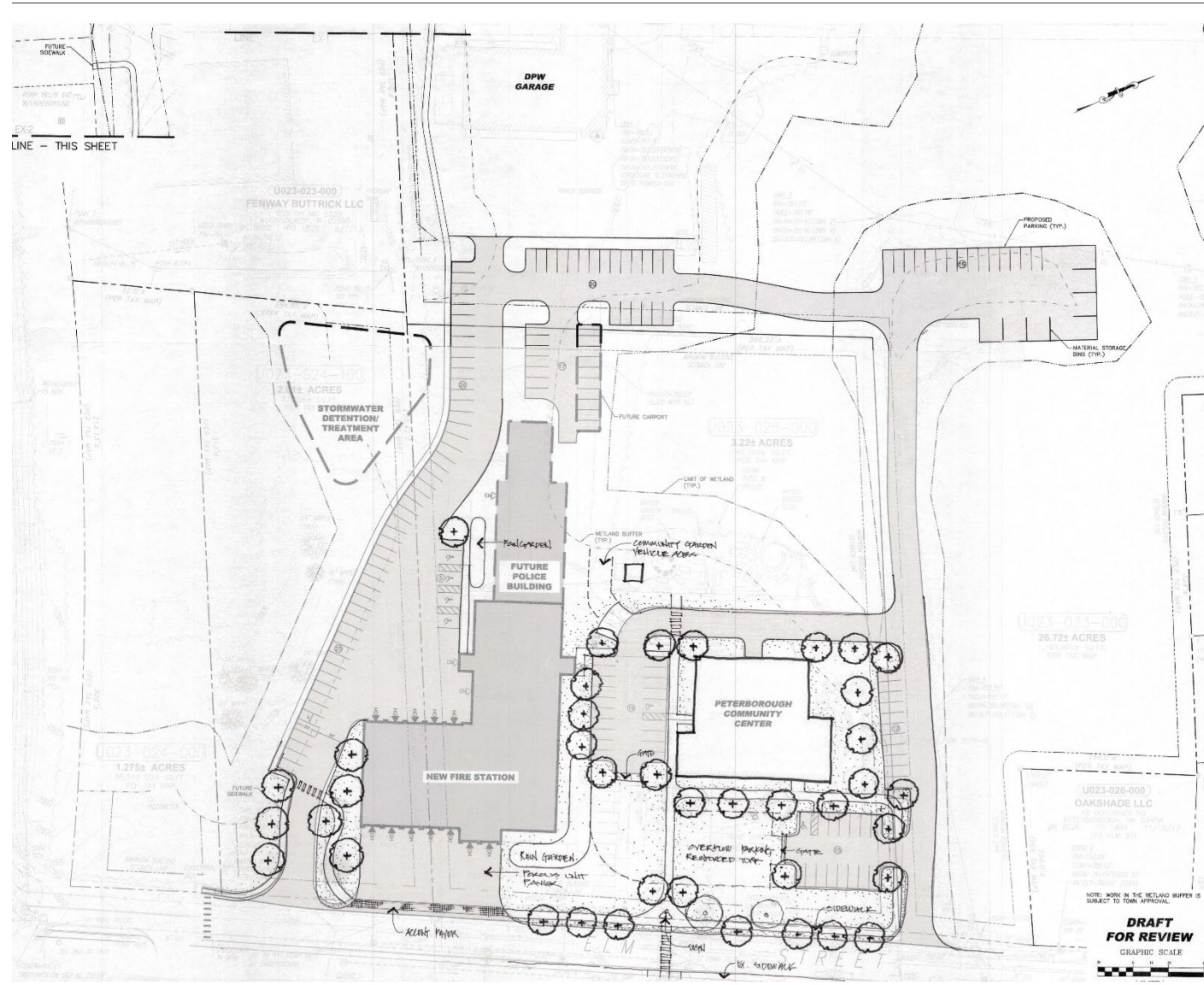
- Parking for First Responders along access drive
- ADA Parking near main entry; Parking areas +145 spaces
- Turning radius for trucks at rear doors
- Permitting: Wetlands + Buffers
  - Crossings
  - Parking + Roadways
  - Sidewalk grading
  - Stormwater detention; near wetland
  - Corner of future building



**DRAFT FOR REVIEW**  
GRAPHIC SCALE  
1" = 100'  
DATE: 10/11/17

### OPTION 03 Selected Option: Conceptual Landscape

- Elm Street Gateway / Streetscape
  - Redevelopment potential to be explored as a more active + civic node
- Promote pedestrian + multi-modal uses
- Catalyst for change?
  - Traffic calming
  - Lighting
  - Placemaking

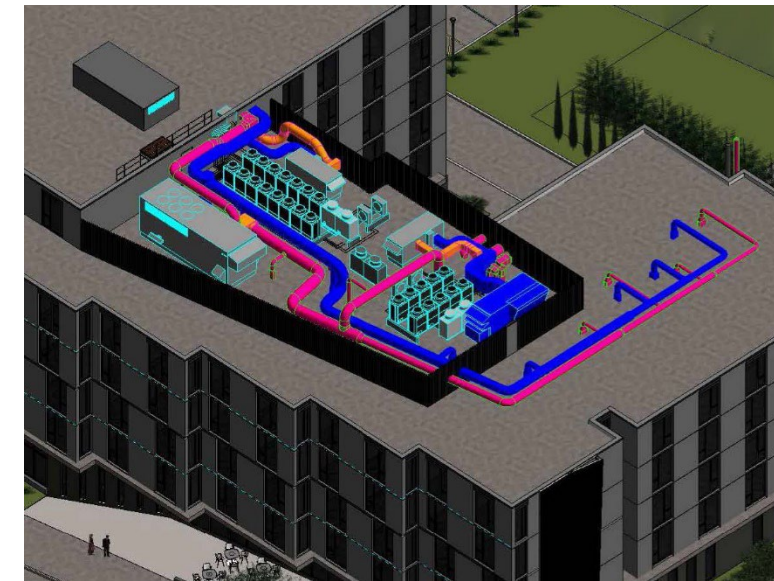


**DRAFT FOR REVIEW**  
GRAPHIC SCALE

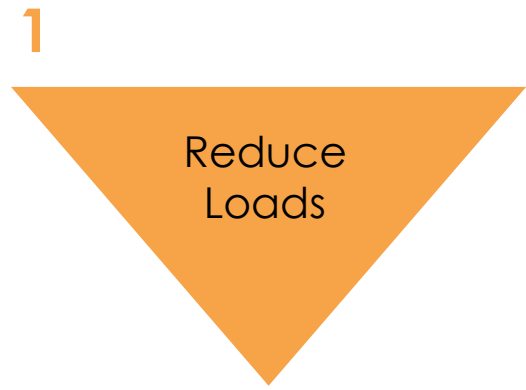


## MEP - Criteria for Success

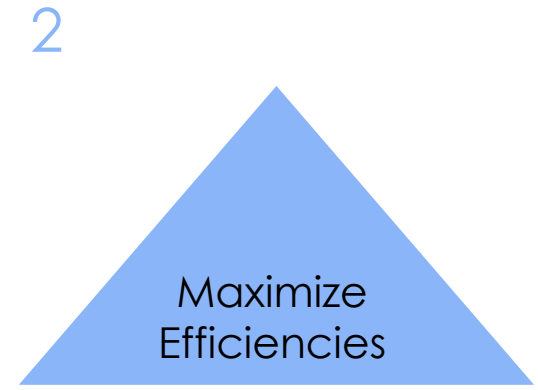
- Provide thermal, visual + acoustical comfort
- Be durable and robust over the long-term
- Be maintainable by available staff
- Be adaptable + flexible to future additions, renovations, etc.
- Be resource efficient – fuel, electricity, water use, etc.



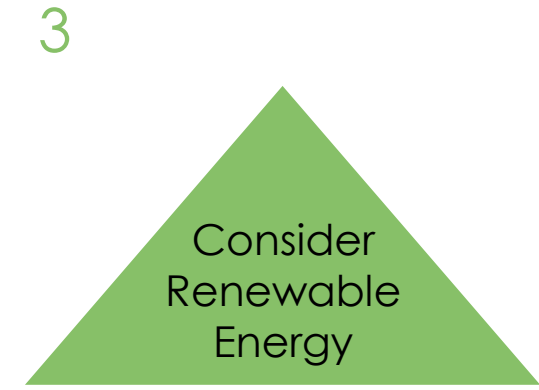
## Path to Sustainability



- Optimal Building Area
- Optimal Solar Orientation
- Super-Insulated Envelope
- Mixed-mode Ventilation
- Demand-control Ventilation
- Dedicated Outdoor Air Ventilation
- Daylight Harvesting
- Window Interlocks



- High-COP Thermal Heating
- HVAC Types by Program Area
- Ventilation Energy Recovery
- LED Lighting
- Advanced Lighting Controls
- Premium Efficient Motors & Controls
- Well-considered Control Sequences



- Photovoltaic
- Solar Thermal
- Wind
- Biomass
- Geothermal

Design ← → Operation



- User Group Education
- Strategic Operating Parameters
- Energy Star Equipment
- Benchmarking at Quarterly Intervals
- Data Trend Analysis



## Potential HVAC System Options

Option	Description	Heating Source	Cooling Source	Notes
1 <i>(fossil fuel based)</i>	Central Boiler and Chillers or DX Cooling	Gas-Fired Condensing Boilers	Air-Cooled Chillers	<ul style="list-style-type: none"> <li>• High carbon emissions.</li> <li>• Does not support Net Zero goal.</li> <li>• Potential for central plant to serve other buildings on site.</li> </ul>
2 <i>(primarily electric)</i>	ASHPs with Supplemental Boilers	VRF Air-Source Heat Pumps with Supplemental Gas-Fired Condensing Boilers	VRF Air-Source Heat Pumps	<ul style="list-style-type: none"> <li>• Supplemental boiler suitable for radiant in-floor heating potential at apparatus bay.</li> </ul>
3 <i>(all electric)</i>	GSHP	Ground Source Heat Pumps	Ground Source Heat Pumps	<ul style="list-style-type: none"> <li>• Eliminates outdoor chiller.</li> <li>• Lowest carbon emissions.</li> <li>• Supports Net Zero goal.</li> </ul>
4 <i>(all electric)</i>	GSHPs with ASHPs	Ground Source Heat Pumps with Air-Source Heat Pumps	Ground Source Heat Pumps with Air-Source Heat Pumps	<ul style="list-style-type: none"> <li>• ASHP for office, GSHP for app. Bay</li> <li>• Low carbon emissions.</li> <li>• Supports Net Zero goal.</li> </ul>

## Fire/Police Building Considerations

- Consider Radiant Heating at apparatus bay
  - Pairs well with boilers or geothermal
- Stand-by power requirements (Generator size will be impacted by system type)
- Maximize areas for Solar PV on roof & site
  - Potential for 350K-450K kWh/year on the roof
- Geothermal – 30-40 wells for Fire & Police



## OVERALL TOTAL PROJECT COSTS

- Building Costs: 62% of TPC
  - Fire Department
    - Administration
    - Staff Support
    - Operations
  - Shared
    - Entry
    - Communications
    - Staff Support
    - Building Systems



## OVERALL TOTAL PROJECT COSTS

- Sitework: 3.5% of TPC
  - Demolition of Existing Building
  - Site demolition and prep
  - Site earthwork





## OVERALL TOTAL PROJECT COSTS

- Sitework: 6.5% of TPC
  - Utilities: Stormwater, water, electric + sewer
  - New Finishes: Pavement + walkways
  - Landscaping + site improvements
  - Bin Storage for DPW



## OVERALL TOTAL PROJECT COSTS

- Soft Costs: 28% of TPC
  - Architectural + Engineering Fees, Specialty Engineering, OPM, Printing Costs, Legal Costs, Permitting, Commissioning, Testing + Inspections, FFE, Communications, Utility Company Backcharges, Moving Costs
  - Owners Contingency
  - Escalation + Market Conditions





## NEXT STEPS

- **Continued Work on Preferred Option**
  - Working with Consultants to refine scheme
    - Building systems
    - Site: Parking and pathways; Permitting
    - Landscape: Green Space; Public Use; Area along Elm Street, Connections to Community Building
  - Fine tune Total Project Cost Estimate For Budget Meeting



**THANK YOU**