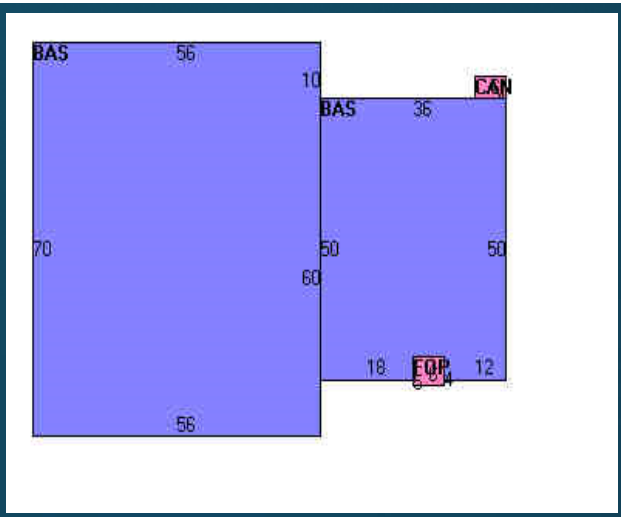
Tolland Fire Department Facilities History

Station 140
64 Crystal Lake Road
Certificate of Occupancy
May 1995



Current Building Square Feet: 5,720 square feet

Proposed Expansion Square Feet: Apparatus Bays – 3,920 square feet
Living Quarters – 432 square feet

Total Square Feet After Expansion: 10,072 square feet

Needs: In addition to addressing the crumbling concrete issue, Station 140 is in need of additional depth in the apparatus bays for proper storage of apparatus. This upgrade will adjust the apparatus bays to be an additional 56'wide by 70' deep. An additional 12' x 36' space will be added to the back of the living area of the firehouse for storage of light miscellaneous equipment, supplies, and include proper sleeping quarters in the event career or volunteer staff are required to stay over during severe weather or other necessary operational considerations.

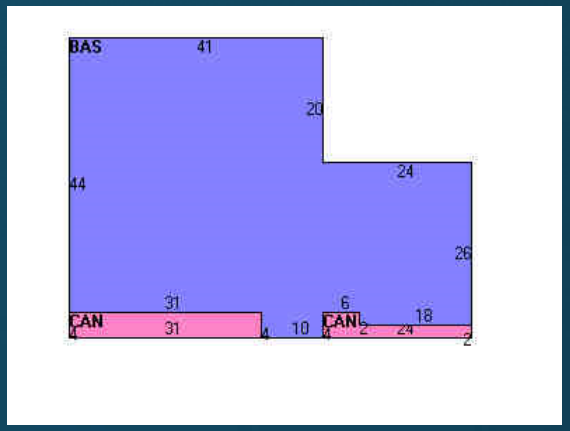
In May of 2019, core samples of the concrete confirmed the presence of pyrrhotite. An engineer hired by the town recommended monitoring the exposed concrete for new cracks and changes in crack characteristics. In September of 2019, large cracks down the exterior building walls were noticed. It is unclear what caused the cracks. It is possible that they are a result of shifting in the foundation.

This is one of the newest firehouses located at 64 Crystal Lake Road and has been in operation since 1998. This firehouse is a three bay double deep, drive through that currently houses 1 ambulance, 1 Engine Tank, 1 Tanker, the Special Hazards trailer and a Duty vehicle. The Station has a day room, office, full kitchen along with two bathrooms. The bay area has a utility/work room where most of the mechanical items such as furnace and water system are located. There is one other room which houses the commercial washer and dryer. The department is responsible to launder all of its Firefighter and EMS gear as well as any other items such as linens.

This station was slated in previous years for expansion. The expansion was to construct an addition on the back of the station to allow adequate bay space to truly position apparatus back to back. Additionally, we planned to expand the side of the firehouse to allow for a large training room area, storage and sleeping quarters. Expanding the side of the firehouse would allow additional space concerns to be addressed now as well as to plan for future growth of the department. Sleeping quarters are necessary to provide adequate facilities for both career and volunteer staff during storm holdovers.

Station 340
247 Gehring Road

Built October 1975



Current Building Square Feet: 2,428 square feet

Proposed Expansion Square Feet: 660 square feet

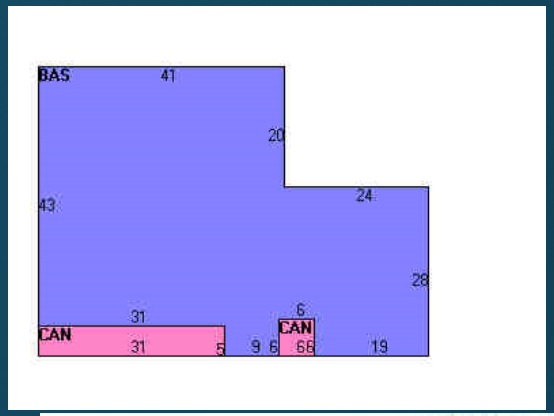
Total Square Feet After Expansion: 3,088 square feet

Needs: Station 340 is in need of an additional apparatus bay, modern bathrooms and a proper kitchen. Station 340's brick facade is deteriorating and should be covered with vinyl siding before the problem worsens. The roof is nearing the end of its useful service life and should be replaced with a pitched, asphalt shingle roof. This station is at capacity for room and storage. The expansion of the apparatus bay would allow for proper rotation of equipment and allow for inside storage of equipment that is currently kept outside. Updated bathrooms and a proper kitchen are desperately needed as well. The current bathroom facilities are in poor condition and are less than adequate for today's needs. The kitchen consists of a stove located in the apparatus bay making this configuration simply inadequate.

Built in 1975, this firehouse currently houses 1 Engine Tank and 1 Tanker. Inside the firehouse there is a small day room. The office consists of just a desk in the bay area similar to the configuration of the kitchen. The mechanical room and two bathrooms are housed in a small room off the bay area. Over the last 40 years there have been a few updates to this station. One was an addition of a new oil tank which is now housed inside the station. Another was the addition of an exhaust system to capture the diesel fumes from the apparatus. When diesel engines are started inside the building this system is designed to capture those fumes to reduce carbon elements from collecting inside the firehouse. The firehouse has also finally been outfitted with a generator that was procured through a grant. The repaving of the parking lot occurred a few years ago as part of the Town's Paving Management Plan. Finally, Public Works and Fire Department staff recaptured the pond located in the front of the station. The pond, which has always been a part of the make-up of the property became filled in and overgrown with road sediment and natural elements over the past 40 years. The Town was able to drain and dredge the pond making it once again a water resource as well as a wonderful habitat for nature's creatures. Not only did the recapture project beautify the property, the department was able to install a dry hydrant to draw out the pond's water in case of an emergency need in the area. The department began the process of requesting upgrades to this station 10 years ago. Requested items included two additional bays, demolition and reconstruction of the current bathrooms adding showers, a full kitchen located away from the apparatus bays to allow staff to prepare food in a clean environment as well as to incorporate a proper day room which would allow the current day room to be designated as an office.

Station 440
107 Plains Road

Certificate of Occupancy
July 1989



Current Building Square Feet: 2,428 square feet

Proposed Expansion Square Feet: 660 square feet

Total Square Feet After Expansion: 3,088 square feet

Needs: Station 440 is in need of an additional apparatus bay, modern bathrooms and a proper kitchen. Station 440's brick facade is deteriorating and should be covered with vinyl siding before the problem worsens. The roof is nearing the end of its useful service life and should be replaced with a pitched, asphalt shingle roof. This station is at capacity for room and storage. The expansion of the apparatus bay would allow for proper rotation of equipment and allow for inside storage of equipment that is currently kept outside. Updated bathrooms and a proper kitchen are desperately needed as well. The current bathroom facilities are in poor condition and are less than adequate for today's needs.

In operation since 1988, this firehouse currently houses 2 Engine Tanks. Inside the firehouse includes one small day room/office, one small mechanical room and a work room is housed in a small room off the bay area. The station has two bathrooms with showers as well as an updated kitchen which is separated from the firehouse bays. The only updates to this station over the last 28 years were the installation of a larger propane tank as well as an exhaust system to capture the diesel fumes from the apparatus. When diesel engines are started inside the building this system is designed to capture those fumes to reduce carbon elements from collecting inside the firehouse. The firehouse has also finally been outfitted with a generator that was procured through a grant. The department started the process to make upgrades to this station 10 years ago; the items asked for were an additional apparatus bay as well as maybe expanding the foot print to allow for future sleeping quarters.

Tolland Fire Stations
Scope of Work Narrative

September 18, 2020 – Revised December 15, 2020

Station 140

Maintenance, code, and improvement items for the upgrade of Station 140 are listed in detail below.

Summary of estimated costs to complete these items:
Maintenance and Code Items Subtotal: $50,000
Improvement Items Subtotal: $1,350,000
Total Items Cost: $1,400,000

The concrete foundation of Station 140 contains pyrrhotite, which may cause the concrete to expand and deteriorate. Moisture speeds this process. The maintenance items for Station 140 include drainage to maintain a dry foundation environment. The life expectancy of the foundation is not known. The Town of Tolland should discuss the value of replacing the station's foundation prior to making any significant upgrades, such as additions to the existing building.

Estimated cost to replace Station 140 foundation: $390,000
If the foundation replacement were to be added to the Maintenance, Code, and Optional Items the total estimated cost would be: $1,790,000

Recommended Scope of Work: Maintenance and Code Items

1. The bathrooms in this building meet ADA requirements, but lockers have been installed that negate some of the required clearances. We recommend the lockers be adjusted so that the ADA requirements can still be complied with. This does not have to be part of the scope of work provided by CHA, but if new space needs to be found for location of these lockers we can review for the client.

2. The kitchen in this space is not installed at ADA height. As you will note below, code does not require us to bring the kitchen up to current ADA requirements unless we do work in this area. Please note we recommend at least one of these buildings be adapted to meet accessibility codes to provide a reasonable accommodation. **($15K)**

3. We recommend surge protection be put in the place as surge issues have been reported in the past. **($6K)**

4. For safety, we recommend electrical work for the following: **($1.2K)**
    a. Move one receptacle in the decontamination room 6 feet from the sink and put on a GFCI circuit. Replace one receptacle in the same room with a GFCI type receptacle.
    b. Put one exterior receptacle on GFCI circuit as all others appear to be on this type of circuit already.
    c. Note: if either of these can be proven that they are on a GFCI we can remove this scope, but this was the findings of the visit on 9/3/20.

5. Add new drains to the bays, as well as a holding tank. **($25K)**
    a. This work would require sloping at the garage slab and trenching next to the foundation.

49 Dartmouth Street, Portland, ME 04101
T 207.775.1059 • F 207.775.2694 • www.chaarchitecture.com

Scope of Work: Improvements

1. Client would like to extend the existing service bays in length. This scope would result in the following: **($500K & $160K for roof updates)**
    a. Demolition of the existing 3'-8" column wraps, steel column and moment frame systems.
        - Alternatively, to save some costs, the 3'-8" column wraps could remain in place with the expansion. We understand that this may limit maneuvering around the vehicles and may not be desired by the client.
    b. New CMU walls to the east or west and a suitable sized wall foundation underneath them.
    c. New trusses to match would be provided, as well as new roof sheathing to continue the roof.
    d. Install a new lateral structural system to replace the demolished steel moment frame system. This will need to permanently attach the addition to the existing garage to provide stability to the existing garage. An evaluation of the existing building's entire lateral force resisting system [masonry shear walls] will be required to make sure it is capable of resisting wind and seismic loading – if it is not, then the existing building's lateral force system will need to be reinforced or supplemented with an additional lateral force system.
    e. This scope would also result in a replacement of the roof at this portion of the building. We would recommend taking core samples of the existing roof and determining if the insulation meets current building code. The addition would need to meet new building code and we would want the roof to be cohesive.
        - If we continue with this scope, please know we will need to evaluate the existing structure to make sure it is capable of resisting 75% of the IBC wind loads – if it does not, additional reinforcing will be designed for the existing portion of the roof.

2. The client would like additional space in this building. **($550K, estimate includes new fire pump, well, generator, and primary electric service)**
    a. Any new space, whether an addition or a separate building (potentially PEMB, as discussed with our structural engineer) would need to comply with new building codes.
    b. This would likely require sprinkler upgrades and would require a review of the well and well pump capacity. Our engineer also noted a fire pump would likely be required. A new well may also be required depending on it's capacity.
    c. These new spaces would also require outside ventilation to occupiable spaces.
    d. Depending on the location of new addition or separate building, the generator and underground electrical service may need to replaced or relocated.
    e. While specific SF have not been discussed, we are assuming the following:
        - A new training room to serve 125 people. This would be about 875 SF to comply with occupant loading. This is assuming an assembly space without fixed seats, that will be used with temporary chairs as needed (no tables.) If fixed seats or space for tables and chairs is desired, the overall SF would increase.
        - Additional storage space for medical supplies. We are estimating an additional 100 SF for this space at this time or an approximate 10X10 space.
        - Expansion of laundry facilities. We are not assuming for new SF in this scope. We intend to move medical supplies out of the existing laundry room into additional storage noted above. New updates to the laundry room would also include making at least one washer/one dryer ADA accessible. This scope may also require grit containment on the drainage line.

3. Additional outlets in support spaces to eliminate power strip and extension cord usage. **($10K)**

4. Add air conditioning to the existing building. **($50K)**

5. Domestic hot water generation requires boiler operation all year long, suggesting switch to other energy means. **($75K)**

CHA ARCHITECTURE

6. Upgrade lighting to all LED for potential energy savings and less maintenance needed for future replacements. **($3K)**

Station 340

Maintenance, code, and improvement items for the upgrade of Station 340 are listed in detail below.

Summary of estimated costs to complete these items:
Maintenance and Code Items Subtotal: $535,000
Improvement Items Subtotal: $685,000
Total Items Cost: $1,220,000

Razing the existing fire station and constructing a new fire station is an alternative to performing this maintenance and upgrades. The square footage of existing Station 340 is approximately 2,650 SF. If a new fire station was constructed with an additional bay the overall square-footage would be 3,700 SF. Based on discussion with the Town, a pre-engineered building (metal building) would be suitable for a replacement building.

Estimated cost to replace Station 340 with a pre-engineered building and added bay (3,700 SF): $925,000
Estimated cost to demolish the existing Station 340: $40,000

Recommended Scope of Work: Maintenance and Code Items

1. We recommend repointing at least 50% of the building as it appears there has been moisture behind the bricks which is ruining the mortar and integrity of the masonry wall. **($90K)**
    a. Add masonry control joints to minimize future wall cracking. **($15K)**
    b. Own a SF number for brick replacement to remove damaged brick. **($15K for 250SF)**

2. Scrape all steel lintels, provide a rust inhibitive primer review for structural integrity and paint if integrity is still in good shape. **($15K)**

3. Replace roof and flashing materials. Take test cores of the existing roof to determine if additional insulation is adequate. Structural review of the roof will also need to be taken into consideration. Additional roof structure may be required to meet wind loading requirements. **($100K, additional $25K with structural additions)**

4. Code does not require us to bring the bathroom area up to current ADA requirements unless we touch them. If the client desires to do any adjustments to this space we would need to bring them up to all handicap accessible requirements. Please note we recommend at least one of these buildings be adapted to meet accessibility codes to provide a reasonable accommodation. **($100K)**

5. The kitchen area is in bad shape and we recommend replacing everything and making sure everything meets ADA codes. **($15K)**

6. Demo and replace concrete slab in apparatus bays. **($45K)**

7. For safety, we recommend the following electrical work: **($5K)**
    a. Replacing receptacles in the restrooms and circuits to be on GFCI
    b. Provide new light fixtures in the equipment and boiler rooms to be energy efficient fixtures that will have proper protection or materials to avoid breaking.

8. Remove existing oil tank currently located within the building. Provide new tank and pump for outside installation and secondary containment measures. **($95K)**

9. Remove hose dryers that are no longer in use. **($5K)**

10. Provide a holding tank so that the drains may be used properly and disconnect from septic system. **($15K)**

11. Fix cross connection protection at domestic water make-up boiler. **($5K)**

Scope of Work: Improvements

1. Client would like an additional bay space at this location. **($660K)**
   This scope of work would include reviewing the roof structure to be sure it supports wind loading as noted in IBC.
   a. New CMU walls, concrete foundation, and slab.
   b. Replacement of existing high roof and new roof at addition.
   c. Provide new openings with lintels between the existing and new spaces
   d. It is assumed that the new garage bay will be seismically isolated from the existing structure. If that assumption is incorrect, then the entire building's lateral force system [masonry shear walls] will need to be reviewed for IBC level wind and seismic loading. If the existing building is not capable of withstanding code-level forces, then the existing building's lateral force system will need to be reinforced or supplemented with an additional lateral force system.

2. Additional outlets in support spaces to eliminate power strip and extension cord usage. **($5K)**

3. The electrical panelboards in this facility has few spares. If the client foresees additional electrical equipment/loading required in the future we would recommend an update to the panel. **($5K)**

4. Add air conditioning to the office space. **($10K)**

5. Upgrade lighting to all LED for potential energy savings and less maintenance needed for future replacements. **($3K)**

Station 440

Maintenance, code, and improvement items for the upgrade of Station 440 are listed in detail below.

Summary of estimated costs to complete these items:
Maintenance and Code Items Subtotal: $375,000
Improvement Items Subtotal: $705,000
Total Items Cost: $1,080,000

Razing the existing fire station and constructing a new fire station is an alternative to performing this maintenance and upgrades. The square footage of existing Station 440 is approximately 2640 SF. If a new fire station was constructed with an additional bay the overall square-footage would be 3400 SF. Based on discussion with the Town, a pre-engineered building (metal building) would be suitable for a replacement building.

Estimated cost to replace Station 440 with a pre-engineered building and added bay (3400 SF): $895,000
Estimated cost to demolish the existing Station 440: $40,000

Based on discussions with the Town, Station 440 would be a lower priority than Station 140 and 340. If razing and replacing Station 440 were significantly delayed into the future, CHA recommends that the roof of Station 440 be replaced immediately. The roof is currently leaking, causing deterioration of the building.

Recommended Scope of Work: Maintenance and Code Items

1. New roof, roof insulation, and parapet flashing throughout. This new roof scope will trigger us to do a structural review of the existing roof to make sure it complies with the wind loading required by current code. The existing roof has leaked and we found the pitch of the roof is not adequate to shed water. We also noted the parapet flashing is loose and is likely causing water to get behind the masonry walls. **($125K)**

2. We recommend repointing at least 50% of the building where water infiltration (likely from the roof as noted above) has been an issue. **($90K)**
    a. Add masonry control joints to minimize future wall cracking. **($15K)**

3. Code does not require us to bring the kitchen and bathroom areas up to current ADA requirements unless we touch them. If the client desires to do any adjustments to these spaces we would need to bring them up to full handicap accessible requirements. Please note we recommend at least one of these buildings be adapted to meet accessibility codes to provide a reasonable accommodation. **($100K bathrooms, $15K kitchen)**

4. For safety and security we would recommend adding exterior light fixtures to the building or site dependent on the client needs, as none is currently present. **($10K)**

5. Add emergency lighting and exit signs. **($15K)**

6. Replace broken infrared shields. **($5K)**

Scope of Work: Improvements

1. Client requested one additional bay at this station location. By code this would be considered an addition and would need to meet all new building code requirements. **($660K)**
    a. This scope of work would include reviewing the roof structure to be sure it supports wind loading as noted in IBC.
    b. New CMU walls, concrete foundation, and slab.
    c. Replacement of existing high roof and new roof at addition.
    d. Provide new openings with lintels between the existing and new spaces
    e. It is assumed that the new garage bay will be seismically isolated from the existing structure. If that assumption is incorrect, then the entire building's lateral force system [masonry shear walls] will need to be reviewed for IBC level wind and seismic loading. If the existing building is not capable of withstanding code-level forces, then the existing building's lateral force system will need to be reinforced or supplemented with an additional lateral force system.

2. Additional outlets in support spaces to eliminate power strip and extension cord usage. **($5K)**

3. Add AC to existing office space. **($10K)**

4. Add new drains to the bays, as well as a holding tank. **($25K)**
    a. This work would require sloping at the garage slab and trenching next the foundation.

5. Add 120 SF day room as desired by the client. We would recommend this scope be done in collaboration with item 1 above. **(Estimated with item 1)**

6. Upgrade lighting to all LED for potential energy savings and less maintenance needed for future replacements. **($3K)**

CHA ARCHITECTURE

This timeline is based upon our review of the Connecticut General Statutes, the Town Charter, and Town ordinances, regulations or guidelines governing the scheduling of meetings for the Town Council and public hearings and the making of notices related thereto.

We have used May 4, 2021 as the date for the referendum and March 23, 2021 as the date for the public hearing.

Town Manager (March 9, 2021)	Town Manager to recommend and certify to Town Council as to additional appropriation for a project. (Charter § 9-14)
Town Council (March 9, 2021)	Town Council introduces appropriation and bond authorization and approves by at least four (4) votes the date, place and purpose for the public hearing. (Charter §§ 4-3 and 4-5)
Notice of Public Hearing (By March 17, 2021)	Notice of time, place and purpose of the public hearing is publicized within the Town in accordance with Connecticut General Statutes at least five (5) days prior to public hearing. (Charter § 4-5)
Public Hearing and Town Council Authorization (March 23, 2021)	Town Council holds public hearing, non-binding straw poll of voters present may be taken, and at least four members of Town Council vote to authorize appropriation, issuance of bonds and submission of bond issue to referendum. (Charter §§ 4-3, 4-5, 9-14 and 9-16)

Publication and Effectiveness of Bond Authorization (If publish by April 1, 2021, effective by April 16, 2021)	Within ten (10) days of passage by Town Council, entire bond resolution to be published in newspaper having general circulation in Town or publicized within Town in accordance with Connecticut General Statutes and shall become effective fifteen (15) days after publication. (Charter § 4-6)
Planning and Zoning Commission	Proposed project to be referred to Planning and Zoning Commission (the "Commission") for a report prior to the commencement of work on the project unless determined to be exempt. While the Town may approve an appropriation for projects prior to approval by the Commission, it is strongly recommended that proposed project be approved by the Commission prior to enactment of bond resolution. (C.G.S. § 8-24)
Mandatory Referendum Vote	Mandatory referendum held on bond resolution if bond amount authorized in particular fiscal year exceeds 5% of current tax levy in that fiscal year. (Charter § 9-16)
Notice of Referendum (To be published no later than April 28, 2021)	Published in newspaper having general circulation within Town at least five (5) days prior to referendum. Estimated associated operating costs and estimated tax rate ramifications to be posted as part of explanatory text available at polling places. (Charter § 9-16; C.G.S. § 7-9c)
Referendum Vote (May 4, 2021)	Voters approve or reject resolution. Referendum must be held at least within the hours of 12:00 p.m. but may be held as early as 6:00 a.m. by vote of Town Council (C.G.S. § 7-9b)

Samples and Examples of Morton Building Designs

Wilton Fire District Sample


PLEASANT PLAINS FIRE & RESCUE DEPARTMENT
PLEASANT PLAINS, MO.


LEXINGTON FIRE & RESCUE