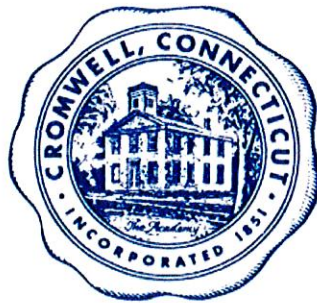


# CROMWELL TOWN HALL SENIOR CENTER, 19 COMMUNITY FIELD ROAD & 20 JAMES MARTIN DRIVE FEASIBILITY / SPACE NEEDS STUDY



## Phase 1: Former Public Works Garages Assessment Report

8/11/2021



SILVER / PETRUCELLI + ASSOCIATES



**LANGAN**

**MHAI** Michael Horton Associates, Inc.  
CONSULTING STRUCTURAL ENGINEERS

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## SECTION I – INTRODUCTION

### Acknowledgements

Silver Petrucelli & Associates would like to thank the town of Cromwell for the opportunity to serve the town with the preparation of this study. We would also like to thank the participating members for their enthusiasm, helpfulness, and input.

### Report Overview and Purpose

This report is the result of a study commissioned by the Town of Cromwell, to determine and assess the current conditions of 3 town garages in anticipation of future conversion to other town uses.

This report analyzes the current facilities and grounds regarding code compliance, accessibility (ADA), on-going and future maintenance needs, and recommendations or modifications for programmatic needs.

The issues addressed in this report include the assessment of the current physical plant deficiencies at each station. The conditions include a broad range from building and fire code conformance, including accessibility and the Americans with Disabilities Act guidelines for barrier-free buildings (Title II ADA), health and life safety issues, mechanical, electrical, and plumbing system conditions, site, technology, and on-going and long-term maintenance issues. These concerns are addressed and are included in this report. The conditions are assigned a priority ranking and specific conceptual cost. This Capital Needs Assessment is the first tool to create a Master Plan.

The code compliance effort has been undertaken to determine the relative compliance of the facility and grounds and their architectural, mechanical, plumbing, or electrical systems with the current building and life safety codes. The State of Connecticut's Building, Fire, and Health Codes as well as Federal OSHA and Americans with Disabilities Act (ADA) requirements are incorporated into the review of the facility. The Connecticut Fire Safety Code is the only retroactive and "immediately" enforceable code. The balance of the code conditions noted are "prescriptive" and apply to future projects with local and state authorities having jurisdiction. Should any of the code conformance or renovation work disturb existing hazardous materials or systems, the required abatement work would need to be performed.

*This report was prepared by the architectural and engineering firm of Silver Petrucelli + Associates, Inc., (S/P+A) of Hamden Connecticut, a firm specializing in municipal programming, planning and design, feasibility analyses and building condition investigations including building envelope surveys, window and roof repair and replacements.*

### Process

S/P+A gathered the information in this report through walk throughs of each station and associated discussions with various members of the department.

Architects, mechanical and electrical engineers conducted extensive on-site facility evaluations and investigations. Town records including many of the buildings floor plans and

## Report Findings

This report identifies the individual needs of each of the three garages which will assist the town in determining how to continue with their current usage. Overall, many physical needs arose out of the facility needs assessment. All of the garages need some physical improvements and upgrades especially if converting to another use such as business or assembly.

If the town is planning on keeping these buildings, the recommendation herein is to proceed with focused improvements to all the buildings. The pedagogy existing today is beginning to "age in place" and cannot remain stagnant. These buildings need to be repaired, improved, brought up to code compliance, safety conformity and enhanced to meet the general standards. If conversion to another occupancy such as business or assembly, further work needs to be conducted to bring each building up to a higher level of standards including but not limited to code and the overall finish of these buildings.

These garages have not seen many improvements over the decades. There is a distinction in the age of these buildings regarding their needs. The Sewer garage is the oldest of the three garages. While the highway building is not quite as old, they both require extensive work to the exterior of the building envelope. Both have significant cracking in the slabs. However, the slab settlement issues at the Highway garage are more concerning and should be evaluated by a geotechnical engineer. Overall, they are generally in the poorest condition. All the buildings require some infrastructure and code upgrades no matter the future usage of each building.

Together these 3 garages have a rather large list of facility assessment needs. The buildings infrastructure needs significant improvements including its building systems. Many items date to the original construction and have outlived their life expectancy. Additionally, many Americans with Disabilities Act (ADA) and building code violations need to be rectified and finish upgrades are needed. To maintain current usage these items should be addressed. In order to convert these structures to a new use such as a Business or Assembly, further upgrades and renovations will need to occur.



## SECTION II – FACILITY CONDITIONS ASSESSMENT

The facility conditions assessment is the visual inspection of the physical building and its grounds. This analysis reviews code compliance, accessibility (ADA), health and life safety issues, mechanical, electrical systems, plumbing systems, civil, technology, environmental hazards, and on-going and future maintenance needs. This comprehensive review evaluates the needs of each building.

A team of architects and engineers conducted these extensive on-site facility evaluations and investigations. Facility condition assessments were prepared after the field surveys were conducted. The existing facility and grounds were surveyed by architects and engineers regarding site, exterior envelope, interior building, mechanical, electrical, fire protection and plumbing systems. In addition, a visual survey of potential hazardous materials was conducted and is included in the appendix of this report.

These field surveys generate this section and include narratives and cost matrices. The building narratives for each station describes the conditions reviewed and call out the items that should be addressed. The matrices detail each condition and are organized by category, site, exterior, interior, plumbing, mechanical and electrical. The first column contains a tag number, then the assessment, then a possible code reference may be listed when applicable. Next, these issues are ranked on a scale from 1 to 4 with 1 being the most urgent.

### LEGEND PRIORITY - RANK

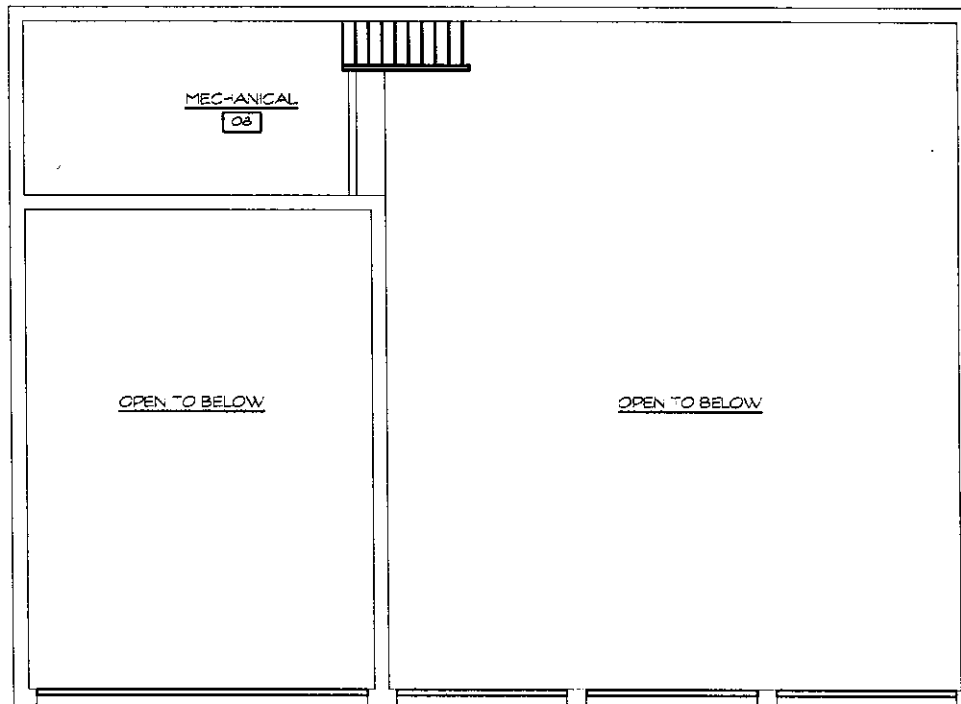
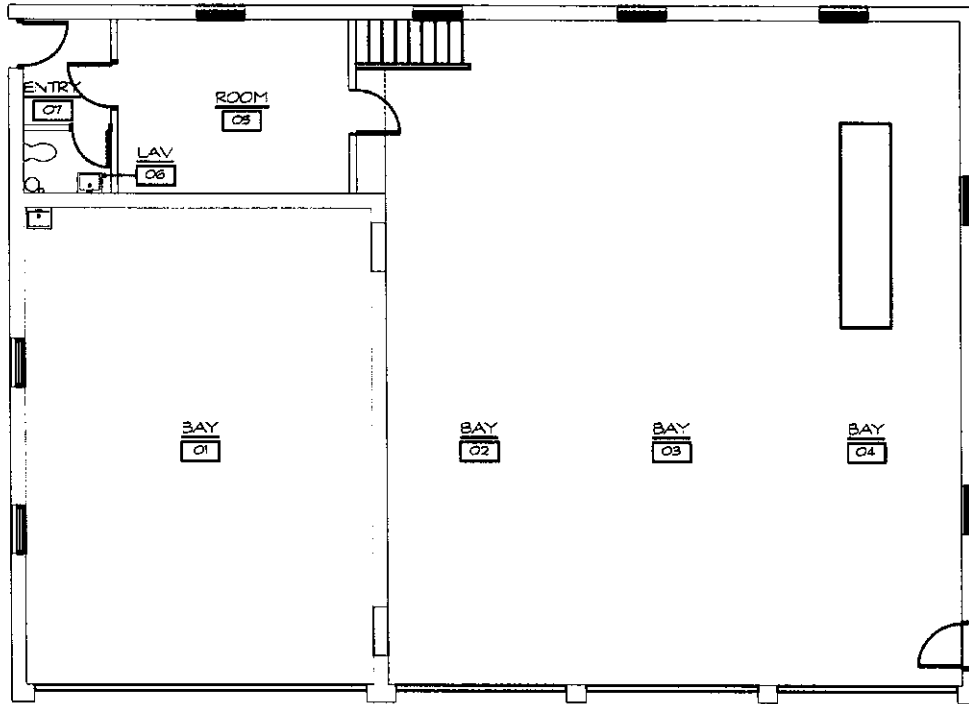
1	Urgent priority - These items should be corrected as soon as possible and most likely encompass code, health and life safety issues.
2	High priority - These items should be corrected within a reasonable amount of time after the highest priorities referenced above. These may be associated with high priority maintenance issues or accessibility issues for the physically challenged. Maintenance items have a remaining useful life from 1-3 years.
3	Moderate priority - These items may be associated with aesthetic or general maintenance issues. Remaining useful life of 3-5 years.
4	Low priority - These items include maintenance and aesthetic issues that are not in current need of replacement, but should continue to be monitored on a regular basis. These items typically have a remaining useful life of 5-10 years or greater.

A corrective action or suggestive recommendations to the specific code, repair, maintenance, or deficiencies are provided to address these issues. Associated cost estimates are also prepared for the applicable items. The remarks column may list any additional information such as how cost was derived or additional options.

The facility conditions assessment provides the design team with a vital understanding of these buildings, and it provides the client with a better understanding of their building's issues. It also helps to prioritize their needs and understanding of the potential costs that can be incurred moving forward. This type of assessment is truly the first step in this process.

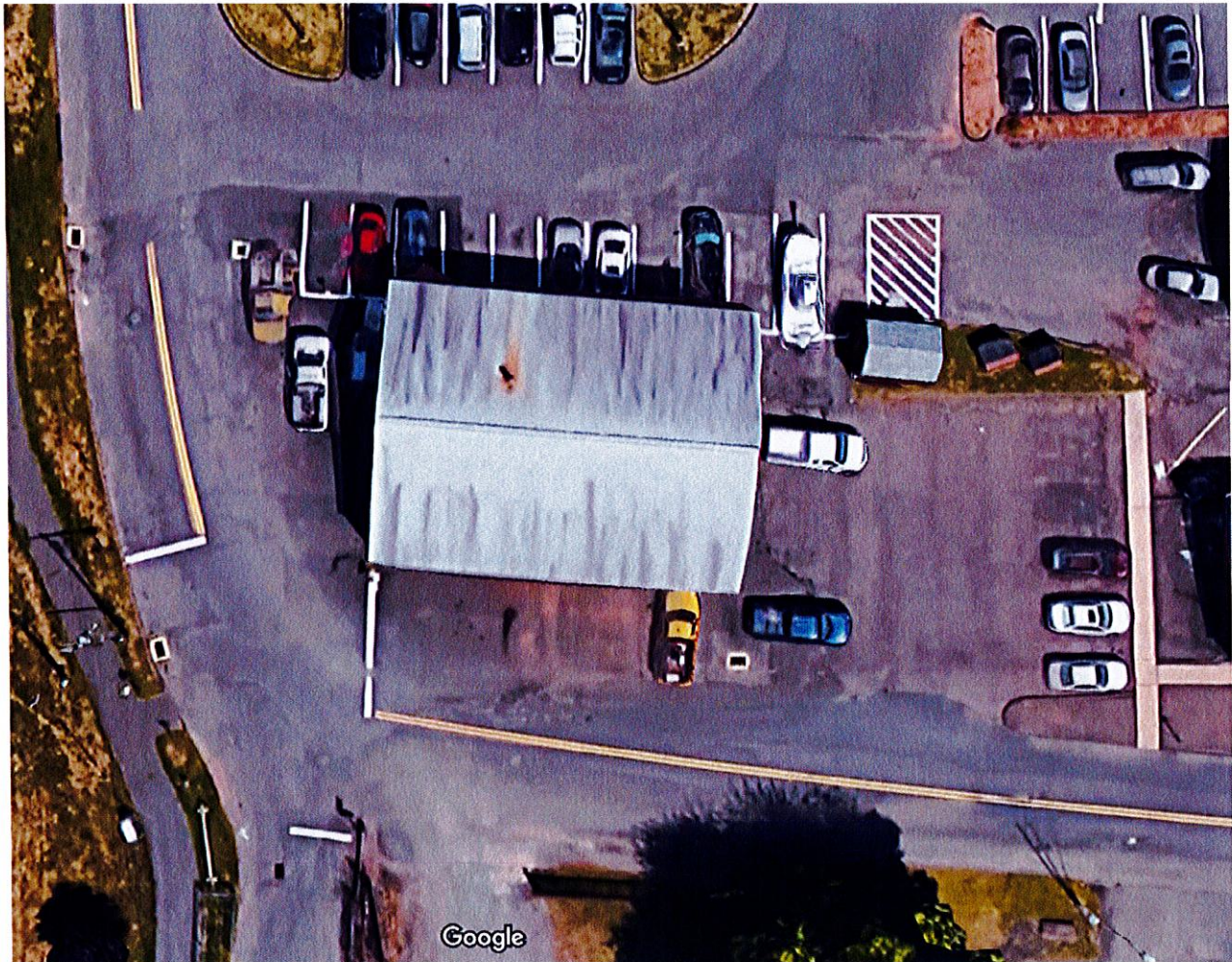
## **Sewer Department Building – 19 Community Field Road**

The Sewer Building was originally constructed in 1948. It served as the Sewer Departments garage until the new public works garages were constructed. It is approximately 3200 square feet. Aside from the large expansion to the north and east and the roof construction this building has received limited building modifications and upgrades during its lifetime.





## Site



The building is located on Community Field Road. It is located behind the Police Station and Fire Station. The building is on a shared parcel with the Police Station and the parking lot is primarily for police usage. The building is surrounded by parking with limited planting areas. The east side of the building sits directly on the property line and the parking to the east is not included in this site.

### Drainage:

The catch basins in Community Field Road adjacent the site appear to be functional. There is a catch basin frame/grate at a low point adjacent the northeast corner of the site (Figure 2). It appears that there is an existing 30" RCP pipe running directly under the pavement and a hole was cut over the top of the pipe and the grate placed directly over the hole. This is not a preferred solution, and it is assumed this grate was an afterthought to deal with local site ponding. The pipe and the grate/structure should be replaced.



Figure 2



### Bituminous Pavement

The bituminous pavement (vehicular areas and sidewalks) (Figure 3) is in disrepair and requires replacement. Depending on the nature and depth of the existing base material, as well as the proposed site grading for a future site renovation, the pavement will require mill/overlay, full depth replacement or in-place reclamation. In addition to the dependency on the proposed grading, the type of pavement renovation can be determined by performing several test pits to determine the depth of pavement and base material, and the testing of the base material for grain size analysis.



Figure 3

### Landscaping

The minor amount of landscaping, which is located east of the facility, between the parking lots, is not maintained and it is utilized as a location for several dumpsters (Figure 4). While this is used by the Police Station, future site programming should account for dedicated dumpster pad locations and enhanced landscaping for both buildings to utilize.



Figure 4

### ADA Accessibility

The pedestrian doors (front and rear) are not flush with the adjacent bituminous pavement and therefore do not meet accessibility requirements (Figure 5). If the building were to be reused, one of the doors would require site renovations to provide accessibility.

### Concrete

There is a raised concrete pad adjacent the front door on the west side. (Figure 6) Although it exhibits some minor deterioration, the pad and associated bollards appear to be functional and in working condition.



Figure 5

### Utilities

There are no known issues with the existing domestic water, sanitary or storm system.



*Figure 6*



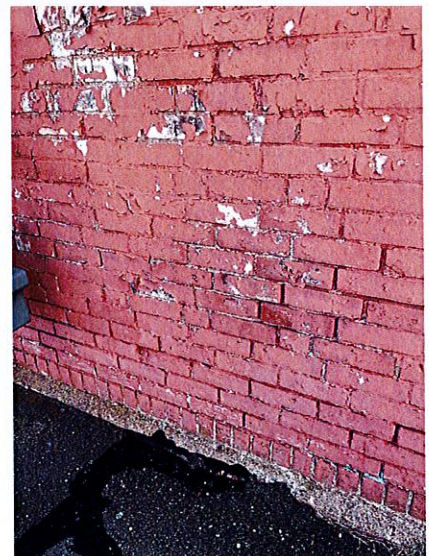
## Architecture

The original single bay garage was built in 1948 and then expanded with three additional bays likely during the 60s or 70s. Drawings indicate that the truss roof system was added sometime after 1987. This building has been used as the Sewer Department garage until recently. It has been vacated for roughly a year. Having been built in 1948, the building was designed under an older code therefore results in some accessibility and energy efficiency deficiencies.



### Exterior Building Envelope

The exterior of the building is in disrepair. A variety of materials are evident with both brick and concrete masonry units (CMU) painted. The existing construction is brick masonry which is evident at the west elevation. It then meets the addition constructed from concrete masonry units (CMU) at the rear portion and all the way around. The energy efficiency of the original construction is very low, and typical in the 1950s and 1960s ("pre energy crisis"), and not one that is easily corrected. Both the brick and CMU have areas of stepped cracking at mortar joints, spalling bricks with areas in need of repointing or replacement. Overall, the mortar is in fair condition with wall areas of roughly 30% in need of repointing. The exterior is also painted. Most areas, aside from the mural at the north, need repainting as the paint is peeling. The gable ends of the roof and the south portion around the

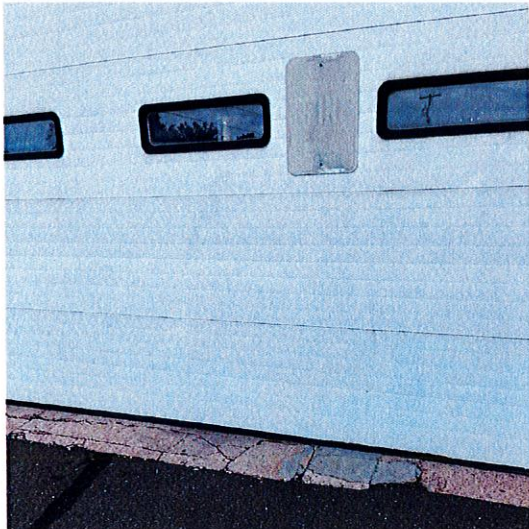
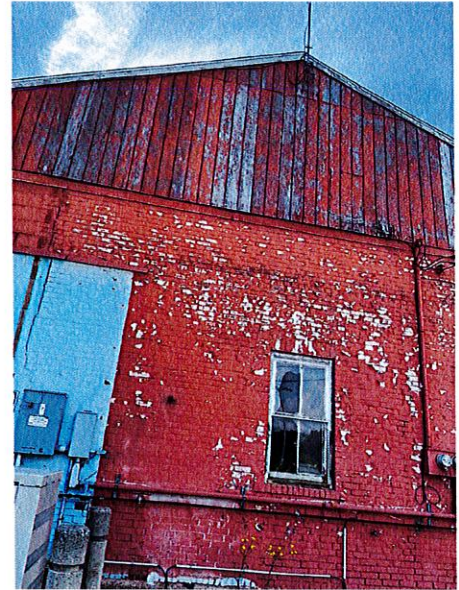




garage doors are sheathed in vertical wood siding which also needs some replacement, and repainting. Areas low to the ground are deteriorating more than others. Above the garage doors, metal siding covers the remainder of this exterior wall. This portion is in fair condition with a few dents and areas where lights were replaced that need paint.

### Windows

When evaluating the energy efficiency of a building, it is known that nearly 25–40% of all heat energy is lost through windows. The windows are double hung systems in punched openings. There are at least two vintages of window systems. Some are replacement double-glazed vinyl frame windows that are in fair condition. Others are older wood systems. These have peeling paint, and some have broken panes. Caulk is beginning to fail and in need of replacement.



### Doors

There are a variety of exterior doors. First and foremost, there are 4 large overhead doors. These aluminum doors appear in fair condition however, their operability was not reviewed. If converted to a to business or assembly use, these doors will likely be removed. An additional 2 exterior doors are hollow metal and in fair condition. However, they are set within wood frames that are beginning to show their age. Additionally, both doors have knobs that require twisting. These should be upgraded to meet current federal, building and accessibility codes. Many of the concrete sills or aprons at the doors are cracking. It is evident that repairs have been made to some areas over time.

### Roof

Inside the existing metal deck is evident but as previously discussed, the roof was a low slope assembly but then a truss system roof was constructed on top after 1987. This gable roof currently has an asphalt shingle system. It is evident it is nearing the end of its useful life. The wood fascia at the gable ends needs repainting and some replacement. The metal overhang appears to be in good condition. However, it is not vented nor are there any gable vents. Additionally, there is only a gutter at the south with one down spout that appears to be connected underground. It appears one downspout is missing on the opposite side. There is no gutter system at the north. When the roof is replaced, appropriate drainage should be considered to help maintain the building and site.

Overall, the exterior needs improvements. The roof should be replaced and vented. The windows and doors should be replaced. The masonry and CMU should be replaced and repointed as needed then cleaned and sealed or repainted. Properly maintaining the exterior of the building will provide lasting effects to the interior of the building as well.

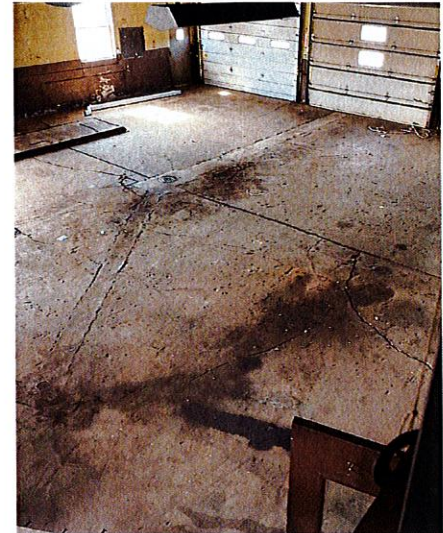


## Interior Conditions

The interior building assessment is a visual surveillance of the physical materials, architectural components, building layout and all code issues. The interior of the building is in fairly poor shape. Many systems and finishes are nearing the end of their useful life.

### Floors

The floors are a variety of materials. The main level consisting largely of the apparatus bays are a concrete slab. Accessory spaces such as the lavatory and storage rooms are also an exposed concrete floor. A recessed pit is in one bay. There is cracking and staining throughout much of the areas. Slabs will need some repairs to the cracks. A finished flooring will not adhere well to this oil-soaked slab so if this building is converted to another use that will require finished level flooring it is advised to install a new floor supported on sleepers over the existing slab.



### Walls



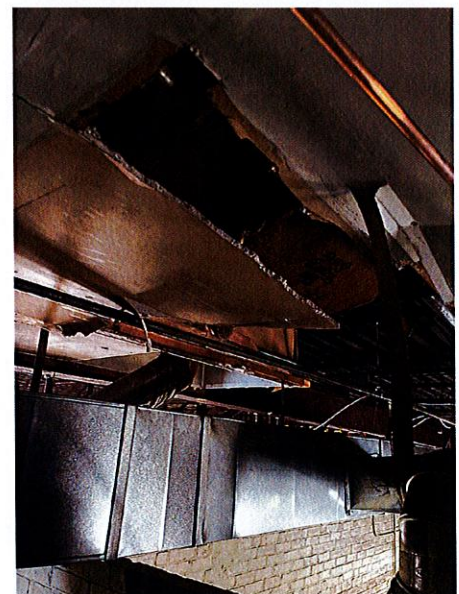
The interior walls are CMU and brick with limited sheet rock walls. The CMU and brick need repairs as the stepped cracking is evident inside the building as it was on the outside. Some have foam insulation sprayed in between them. After repairing these cracks, furring out walls the with insulation and sheetrock may be the best option to create a finished more energy efficient space. Some other walls are constructed out of plywood and sheetrock.

### Ceilings

There are limited ceilings throughout the facility as most of the space is an exposed metal deck. The lower level has a sheet rock ceiling in the restroom, entry room and storage room. There are many cracks in the storage room. The mezzanine area has a sheetrock ceiling with a large, damaged area that should be replaced.

### Doors

There are very few doors located throughout the facility. There are two wood doors, and they are in satisfactory condition.





## Stairs

The mezzanine stairs are not a code compliant means of egress and should be modified to conform. The handrails are also not compliant.

## Building Code & American Disabilities Act

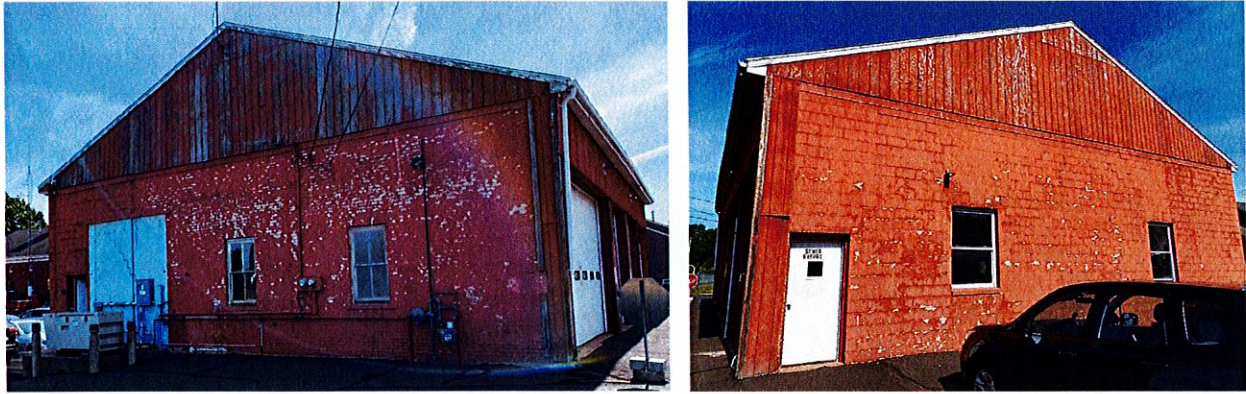
There are numerous code and American Disability Act (ADA) accessibility issues noted at this facility. The entry sequence at the west is not compliant as it does not meet dimensional requirements or clearances. Additionally, the stairs are needed to gain access while a ramp should be included. The restroom is not ADA compliant with handicap fixtures or proper clearances. The space needs to be enlarged and reconfigured to conform. The ceiling height is also below the code minimum. As mentioned, the stairs are not compliant but also the mezzanine itself does not have a conforming railing or low wall at the edge. Door hardware that requires twisting also needs to be changed.

Overall, the interior needs extensive improvements. If converted to other uses such as Business or Assembly, the overall construction type, building height and area could support the change of use. The focuses should include slab and wall repair and ADA upgrades.





## Structural



The original one-story structure was modified at least twice, subsequent to the original construction. Based on the change in exterior wall construction, the structure was expanded to both the north and east directions. Sometime later, a gable roof was erected over the flat roof structure, which remains in place.

### Ground Floor

The foundation system for this structure is unknown. The floor is an exposed, cast-in-place concrete slab. A large, approximately 6-foot-deep pit with a removable cover, is located in the eastern side of the garage bays. Significant cracking of the slab was observed throughout and requires repair. Note: The slab appears to be oil soaked, therefore bonding of any proposed finishes could be an issue.

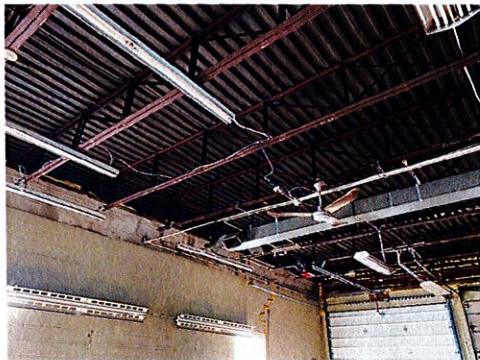




### Mezzanine Framing

The mezzanine is a small area located over the office/bathroom spaces which supports a mechanical unit and provides minor storage space. The load capacity of the mezzanine is posted as 125 psf which is consistent with the Connecticut State Building Code live load requirement for light storage. The floor framing consists of a plywood deck over wood framing supported on load bearing partitions. As previously stated, the structural framing was not visible due to in place ceilings, therefore, we were unable to inspect the condition of the framing. There were no areas of inordinate deflection or distress observed.

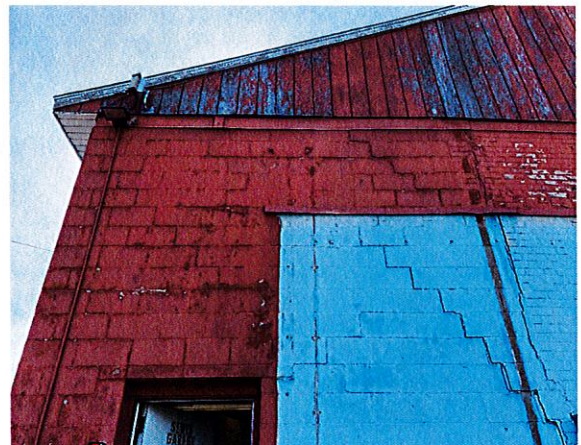
### Roof Framing



The roof structure of the original building and subsequent addition are steel joists supported on masonry load bearing walls at the exterior and interior steel beams and columns. There were no areas of deflection or distress observed in the steel. As previously stated, a gable roof was erected over the flat roof structure. The framing of this gable roof was not accessible for our inspection. The condition of the roofing materials should be inspected by the architect or a roofing consultant.

### Exterior Walls

The exterior walls of the original building are multiwythe brick masonry, and the exterior walls of the addition are concrete masonry units (CMU) with three courses of brick above the CMU on the east elevation. Cracking of the CMU was observed in numerous locations at the perimeter of the addition. The masonry (brick and CMU) should be re-pointed throughout the structure. The jambs of the overhead door openings should have the trim removed and the masonry inspected. Water infiltration is evident throughout the structure. The envelope should be addressed by the architect or a building envelope consultant.



### Interior Walls

The north and east walls of the original building (multiwythe brick masonry) became interior walls when the addition was constructed. These walls are unbraced at the top and should be braced and loose bricks repaired.

## Plumbing

The gas service is routed from a gas main in Community Field Road to the exterior east wall of the building, where the service pressure regulator, gas meter, and additional building pressure regulators are located. Gas is distributed to the emergency generator and the furnace, using black steel pipe. Exterior gas piping surface corrosion is present.

The domestic water service is routed from Community Field Road, entering a pit in the corner of the smaller Bay 01.

Building sanitary is collected from the toilet room and Bay 01 wash-up sink drainage and exits underground in the corner of the toilet room towards the Community Field Road. Actual exit location will require field verification.

Domestic water was heated for the toilet room and the wash-up sink in Bay 1 by a (2013) Rheem, 2,000 Watt, 6 gallon electric water heater, located in an elevated platform, in the corner of the toilet room. The electric water heater does not have hot water recirculation. The current code-required thermal expansion tank and ASSE1017 mixing valve were not found.

Existing plumbing fixtures in the toilet room include a vitreous china, floor-mounted tank-type water closet and a wall mounted lavatory. Additional fixtures in the building include a water cooler and fiberglass service sink. These fixtures are either at the end or beyond their useful service life.

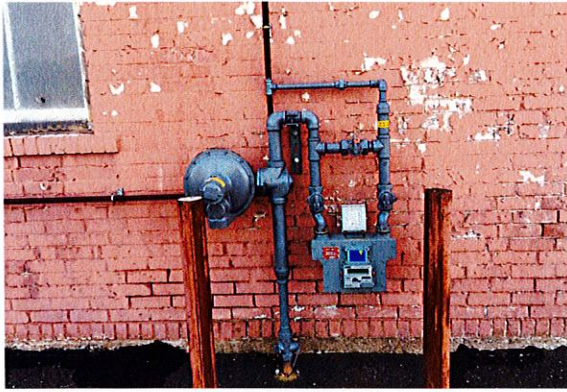
An emergency eyewash located in the Large Bay is fed with cold water only. Current OSHA/ANSI standards require a supply temperature range of 60-100 deg F to emergency fixtures. Adding hot water supply and a thermostatic mixing valve to the current installation will provide a safe, inviting code-compliant water temperature at this fixture. Tankless heaters will eliminate the large standby losses associated with hot water storage (about 90 gallons of 120 deg F hot water) required by the emergency fixture's flow requirement of 23 GPM of 60 deg F (minimum) tempered water for a 15-minute duration. The tankless heater could be located in the mezzanine.

A Worthington Corporation air compressor/receiver is located southeast corner of the large Bay, generating compressed air for garage needs.

If the building is converted to other use such as Business or Assembly, all existing piping distribution, plumbing fixtures will be replaced and all industrial related fixtures and associated piping will be removed. The domestic hot water heater will be replaced with properly sized heater, complete with required expansion tank, mixing valve and recirculating pump, to accommodate the new occupancy needs.

The existing sanitary pipe exit, water main pipe and gas service location may be relocated to accommodate renovation needs.

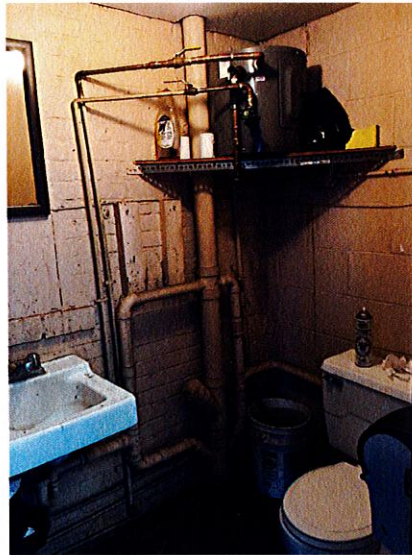




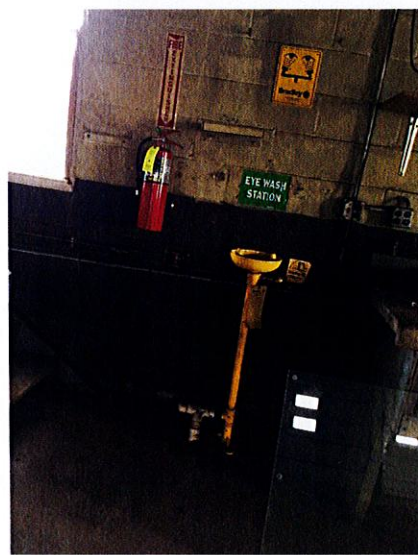
Gas meter



Water meter in pit



Water heater; uninsulated piping



Emergency Eyewash



Water cooler

### Fire Protection

There is no fire protection sprinkler system in the building.

If the building is converted to other use such as Business or Assembly, requirements for sprinkler systems may be triggered and would require a more thorough analysis, specific to the scope of work being performed.



## Mechanical

The entire building is heated by a furnace located in the mezzanine. The furnace, manufactured in 2006, is originally oil fired and was converted to gas fired. The date of conversion is not known at the time of visit. Duct distribution throughout the building is overhead. The return grille is located on the furnace cabinet. Return duct connection was added on the corner of the grille to pull air from the room below the mechanical mezzanine. Outside air is provided through operable window and/or overhead door opening.

There are two(2) ceiling fans to help circulate the air in the large bay.

There is an existing exhaust fan above the large Bay worktable. The exhaust fan is mounted on a piece of plywood attached to the wall terminating at the upper portion of an operable window.

There is no exhaust provided in the toilet room.

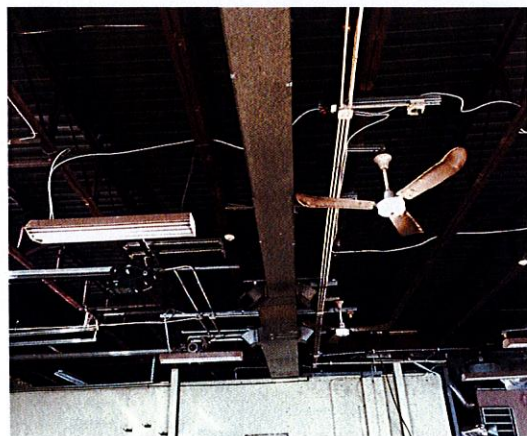
The system is beyond its useful service life and was designed for industrial use. If the building is converted to other use such as Business or Assembly, the HVAC system will need to be replaced with systems applicable for its intended use in providing thermal comfort and acceptable indoor air quality.



Gas Furnace in mezzanine



Exhaust Fan above worktable



Ceiling fans and ductwork routing

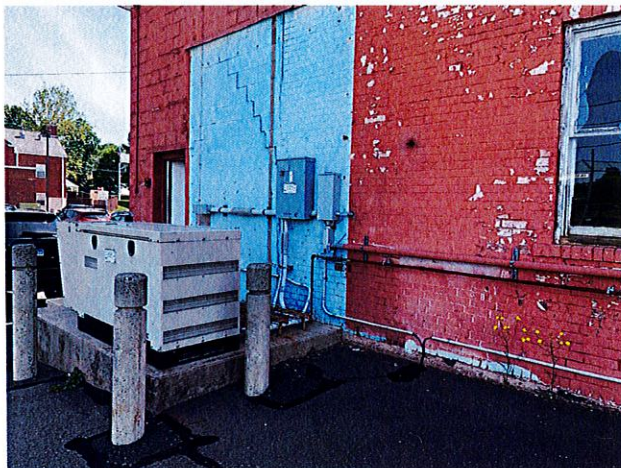


## Electrical

### Building Electrical Service and Power Distribution

The building electrical service is 200 amp, 120/240V-1 Phase, 3-wire. The building service entrance is overhead via a utility pole-mounted transformer located at Community Field Road. In addition to the utility service, the building has a natural gas standby generator rated for 30kw, 120/240V-1 Phase, 125 amp output, manufactured by Cummins Onan.

Power distribution is based on a 200 amp enclosed circuit breaker that is interconnected with the generator manual transfer switch. The manual transfer switch is interconnected with the generator and main electrical panel that feeds the entire building. The main enclosed circuit breaker and the manual transfer switch are located on the building exterior wall, and the main electrical panel is in the interior of the building. Based on observation, the main electrical panel serving the entire building is near the end of its useful life. The enclosed main circuit breaker, generator, and manual transfer switch appear to be added later as part of the generator installation. The service main enclosed circuit breaker and infrastructure is in fair condition. However, the main electrical panel is in poor condition, and given the age of the panel, replacement parts may be difficult to obtain. Therefore, it is not viable for reuse as part of any future project. The standby generator, associated manual transfer switch, and infrastructure appear to be in fair condition. It is important to note that the evaluation was based on observation and therefore, electrical components and wiring within the electrical equipment were not inspected or tested for performance. Since some electrical infrastructure is original from when the building was constructed, it is highly recommended that a certified professional performs additional investigations to determine the integrity of critical components inside the electrical equipment.

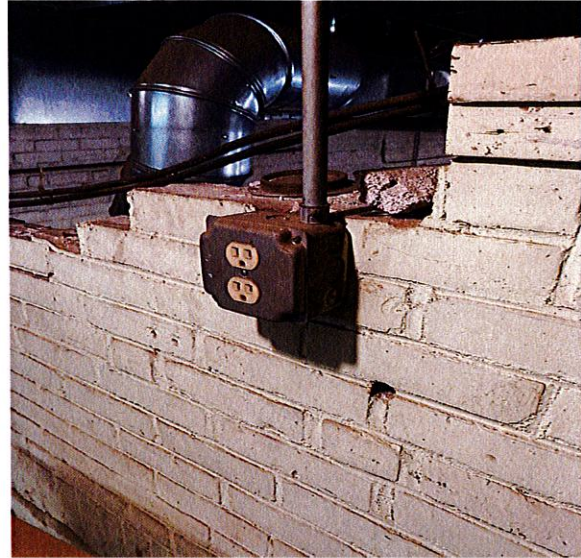


### Power receptacles

Power receptacles throughout the building are surface mounted receptacles mounted at approx. 36" above the finished floor. Receptacles are fed via surface-mounted EMT conduit. Power receptacles seem to be original from when the building was constructed. Most power receptacles, surface backboxes, and associated conduits are in deteriorated condition. Since power receptacles are in deteriorated condition, performance and effectiveness can be affected and create a potentially hazardous environment. No ground fault interrupter power



receptacles were found. Power receptacles will need to be tested and mounting height rearranged if use in a future project is desired.



### Lighting

The interior lighting throughout the building consists of a combination of 1' x 4' pendant, surface, and wall-mounted industrial light fixtures with fluorescent lamps. Fixtures are obsolete, outdated, and in deteriorated condition. Illumination levels were not measured, and fixtures were not tested for performance. The typical light fixture lifespan is 15 to 20 years and replacement of these fixtures should be anticipated for any future project along with associated control/light switches. LED fixtures are recommended to be used in future projects. Exterior light fixtures are not original, and they were replaced with LED fixtures. They are controlled via photocell and fixtures appear to be in good condition, however, they need to be cleaned.



Former Public Works Garages  
Assessment Report



Silver Petrucelli & Associates, Inc. ©  
August 11, 2021



### Emergency Lighting

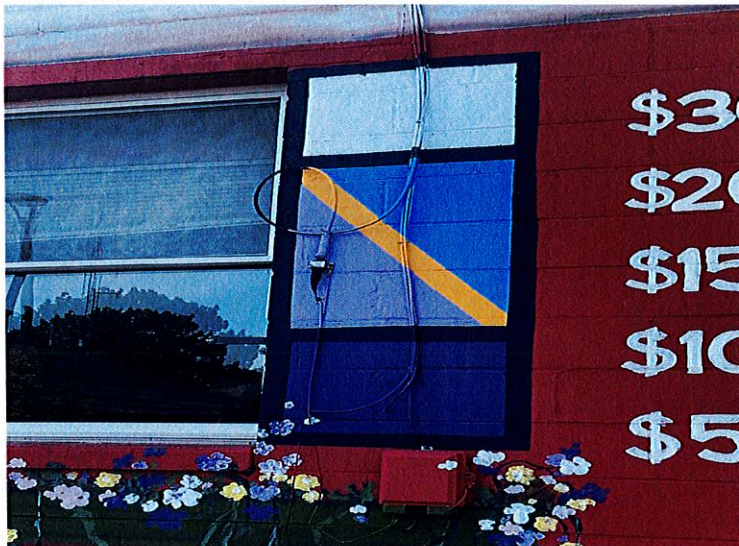
Although there is an existing standby generator backing up the entire building, emergency relays to suit emergency lighting and additional emergency lighting source required by code were not observed throughout the building. Egress exit signs are paper and not self-luminous. Illuminated exit signs are highly recommended to comply with code in any future project.



### Fire Alarm

The building does not have a fire alarm system. Depending on the future use classification and occupant load, a fully monitored fire alarm system would be required. This system will include initiation and notification peripheral devices.

### Communication



The communication system is based on an overhead connection from a utility pole located at Community Field Road and terminated at a utility Dmarc<sup>1</sup> located at the exterior wall. The Dmarc is connected to a punch-down terminal located inside the building. The Dmarc, punch-down block and infrastructure are obsolete and should be replaced with a new system. No data network system was observed.

<sup>1</sup> It is the dividing line which determines who is responsible for installation and maintenance of wiring and equipment—customer/subscriber, or telephone company/provider. The demarcation point varies between countries and has changed over time. Demarcation point is sometimes abbreviated as demarc, DMARC, or similar.



# Capital Needs Assessment Matrix – Sewer Department Building

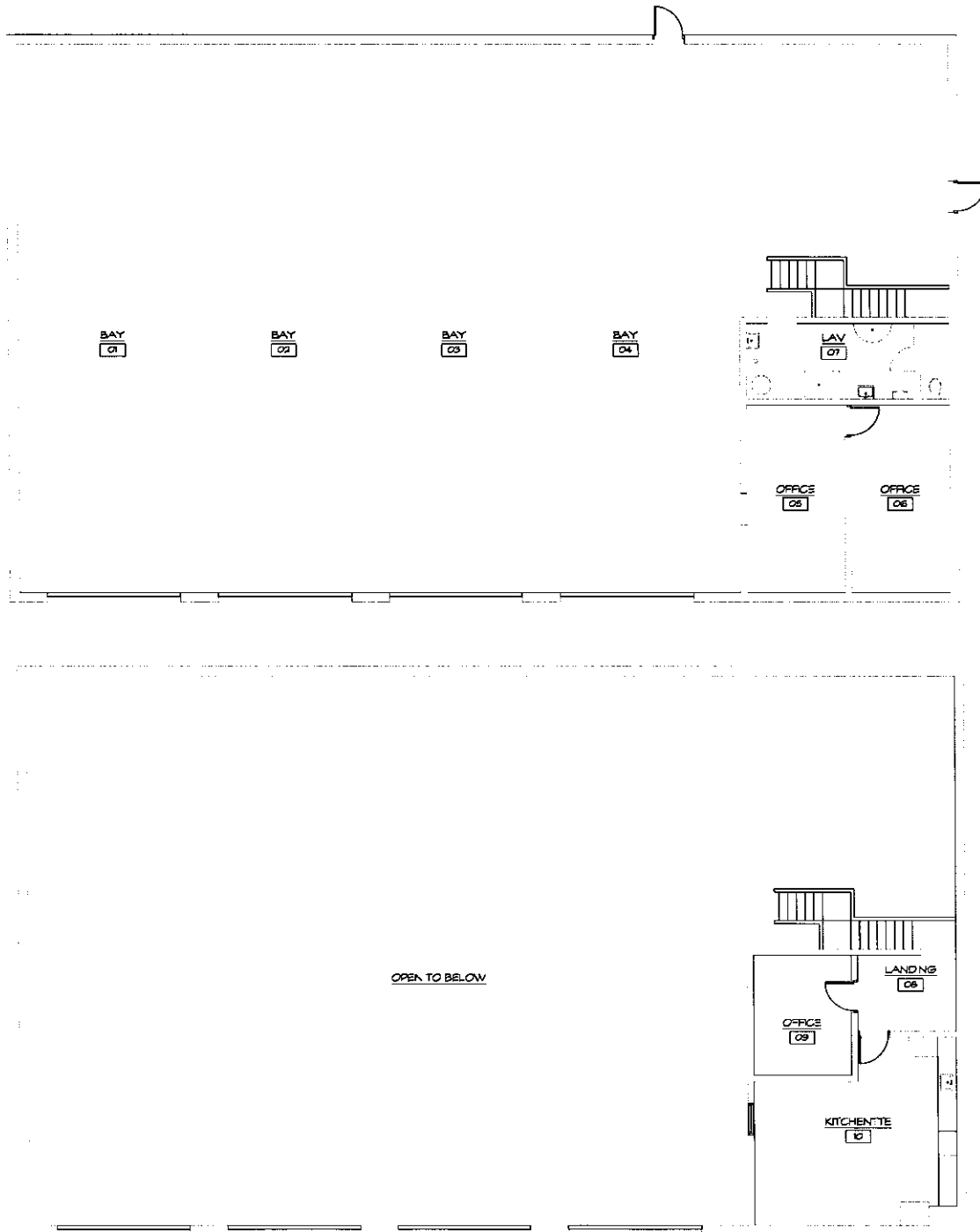
SEWER DEPARTMENT BUILDING - 19 COMMUNITY FIELD ROAD									
TAG NO.	ASSESSMENT	SYSTEM/ CODE REF.	RANKING					ITEMIZED ESTIMATED COST	REMARKS
			4	3	2	1	n/a		
<b>SITE CONDITIONS</b>									
S01	Drainage, parking, sidewalks and accessibility improvements	General		2					Conceptual site repairs and design cost \$ 200,000
<b>SITE SUBTOTAL</b>									<b>\$ 200,000</b>
<b>HAZARDOUS MATERIALS CONDITIONS</b>									
HM01	Visual inspection of abatement items	General							See appendix for report, section 7.0 for abatement cost range high range included below
<b>HAZARDOUS MATERIALS SUBTOTAL</b>									<b>\$ 60,350</b>
<b>EXTERIOR CONDITIONS</b>									
A01	Brick & CMU is spalling or mortar is in need of repointing	General			1			\$ 150,000	Patch, repair, or replace block and repoint as necessary.
A02	The exterior wood siding needs to be replaced	General		2				\$ 10,000	Remove old wood siding at gables and front, repair wall and install new siding
A03	The exterior needs to be repainted	General		2				\$ 25,200	Scrape, prime and paint brick, CMU and wood
A04	Windows need to be replaced	General		2				\$ 8,000	Replace all existing windows with retrofit systems
A05	Exterior doors and hardware need to be replaced	4.13.9 (ADA) 404.2.6 (ANSI 117.1)		2				\$ 5,000	Replace exterior doors with aluminum doors and frames and accessible hardware
A06	The roof needs to be replaced and vented	General		3				\$ 83,200	Remove and replace with asphalt shingles
A07	Concrete thresholds at garage doors is cracked	General		3				\$ 3,000	Remove and replace with concrete
<b>EXTERIOR SUBTOTAL</b>									<b>\$ 284,400</b>
<b>INTERIOR CONDITIONS</b>									
A07	The concrete slab needs to be repaired/repoured	General		2				\$ 80,000	Epoxy fill cracks
A08	Interior CMU or brick is spalling or mortar is in need of repointing	General			1			\$ 75,000	Patch, repair, or replace block and repoint as necessary.
A09	Sheet rock ceiling is failing at mezzanine	General			1			\$ 2,000	Patch, tape, prime, paint sheetrock
A10	The mezzanine stairs and railing are not code compliant	General		2				\$ 5,000	Rebuild code complaint stairs and handrails
A11	The entry room does not meet the required maneuvering clearances at manual swinging doors	413.6 (ADA) 1101.2 (IBC) ANSI 117.1		2				\$ 7,500	Reconfigure room to comply (enlarge)
A12	Due to the size, restrooms do not meet accessibility requirements.	(B)1108.0 (ANSI A117.1) 603-606		2				\$ 25,000	Reconfigure the room to enlarge and provide the minimum dimensional requirements.
A13	Some door hardware is not accessible. Knob handles require grasping and twisting.	4.13.9 (ADA) 404.2.6 (ANSI 117.1)		2				\$ 2,000	Remove door locksets and install new accessible lever handle locksets where designated.
A14	Top of interior masonry wall is not supported at deck	General		2				\$ 2,500	Brace top of masonry wall
<b>INTERIOR SUBTOTAL</b>									<b>\$ 199,000</b>





## Highway Department Building – 20 James Martin Drive

The Highway Building was originally constructed in 1982. It served as the Highway Departments garage until the new public works garages were constructed. It is approximately 6000 square feet. This building has received limited building modifications and upgrades during its lifetime although it is evident that the office bay was added after the original construction.





## Site



The building is located to the south of Pierson Park. This building is at the southeast portion of the property within a complex of public works buildings, many of which are being demolished. The rear of the building sits on the property line.

### Drainage

There are two (2) drainage structures located on the north side of the facility. It is unclear if they are catch basins or dry wells. Both were inundated with sediment. The structure just northwest appeared to be clogged as it was filled with water (Figure 1) and the structure just to the northeast was dry. The structure tops had minor cracking but appeared to be functional. Both should be cleaned, with the sediment removed, and the inside inspected for structural integrity.



Figure 3



### Fencing

The site is bordered on the south by a fence adjacent a retaining wall, separating it from the adjacent site (Figure 2) and to the east separating it from the playing field, both of which appeared to be functional although there are a couple sections that need replacement. There is also a fence directly behind the facility to the west (Figure 3) that appears to be functional, but it has trees and landscaping growing through it.

### Bituminous Pavement

The pavement is in disrepair and requires replacement. Depending on the nature and depth of the existing base material, as well as the proposed site grading for a future site renovation, the pavement will require mill/overlay, full depth replacement or in-place reclamation (Figure 4). In addition to the dependency on the proposed grading, the type of pavement renovation can be determined by performing several test pits to determine the depth of pavement and base material, and the testing of the base material for grain size analysis.

### Landscaping

The landscaping behind the facility on its west side is overgrown and not maintained (Figure 5). Depending on future site programming behind the building, this can either be cleaned up and maintained, or it can be replaced with new landscaping.

### ADA Accessibility

The pedestrian doors are not flush with the adjacent bituminous pavement and therefore do not meet accessibility requirements (Figure 6). If the building was to be reused, the grade of any new pavements or walkways should be raised to be flush with the pedestrian doors.

### Concrete

There is a concrete pad adjacent the southwest and northeast portions of the facility, both of which exhibit signs of slight deterioration (Figure 7). The pad on the southwest portion of the site should be demolished and removed. Depending on the future programming, if the concrete pad on the northeast portion of the building was to be reused, it could potentially be repaired using appropriate concrete repair materials.

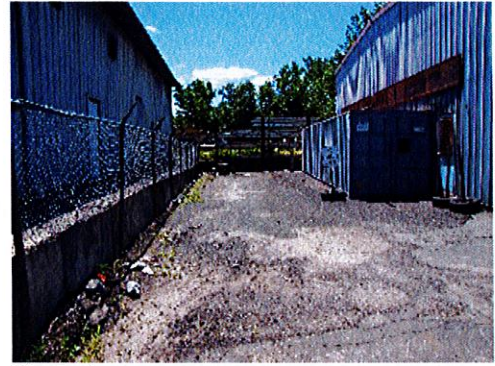


Figure 4



Figure 3



Figure 4

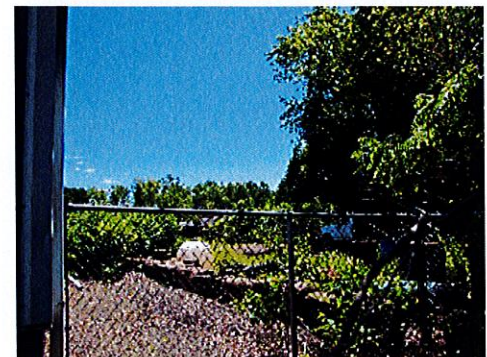


Figure 5



*Figure 6**Figure 7*

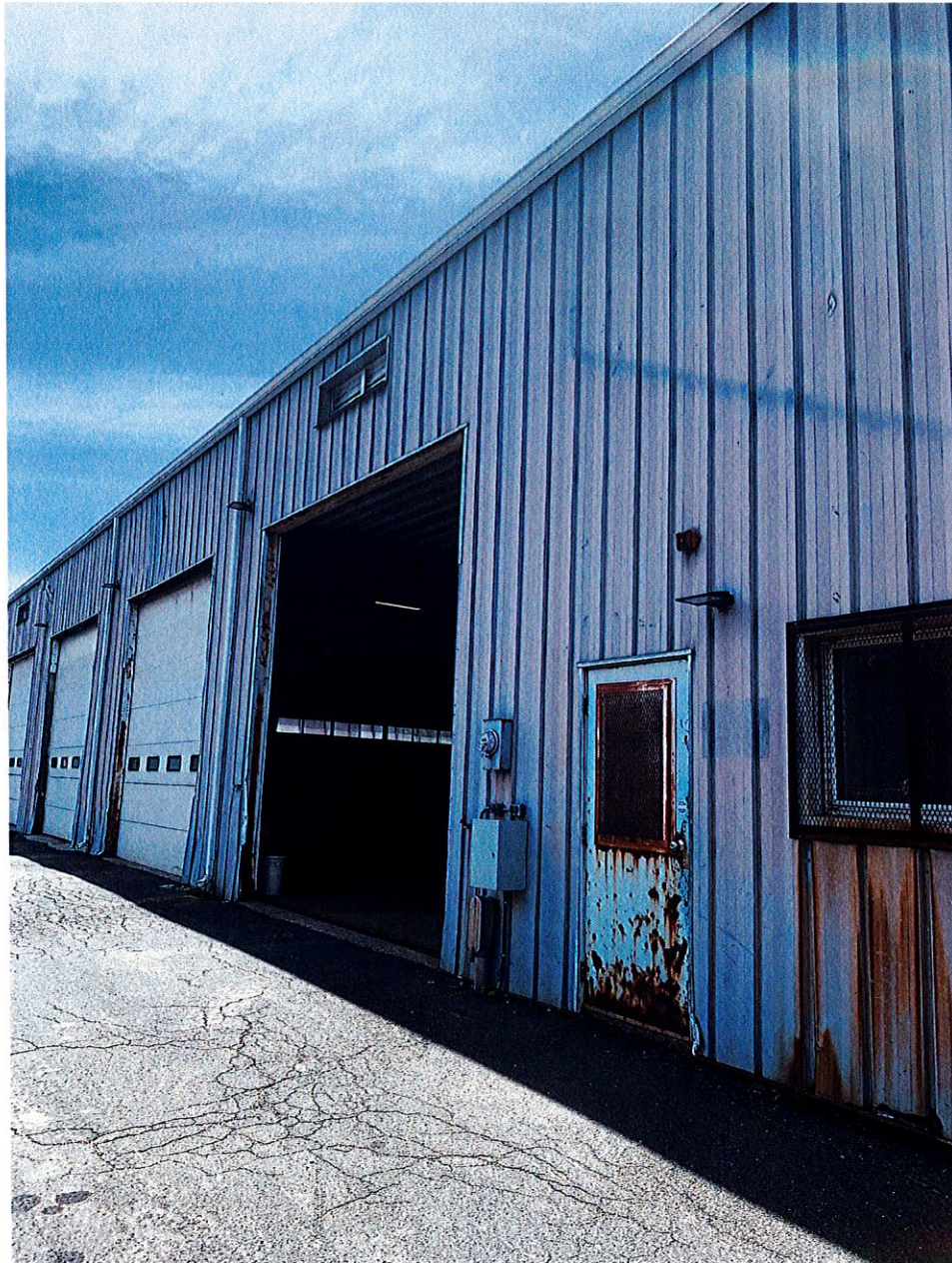
### Utilities

There are no known issues with the existing domestic water, sanitary or storm system. The sanitary system includes a pump as it is not able to be gravity flowed to the sanitary main.



## Architecture

The garage was built in 1982. The office space was added on at a later point. This building has been used as the Highway Department garage until recently. It has been vacated since February. This prefabricated metal building is nearing 40 years old and will require code and energy efficiency upgrades along with repairs.



### Exterior Building Envelope

The exterior of the building is in poor condition. The vertical metal siding is dented and rusted in many locations. Many of the dents occur around the door openings and in some areas, it is even punctured. The color has faded. The foundation has a parge coat that is falling off in many locations.

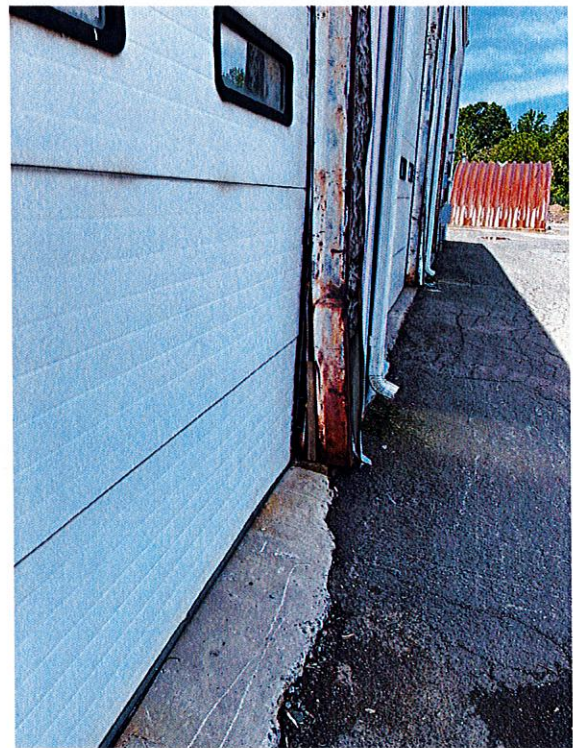


### Windows

The windows are in similar condition, showing their age. The ribbon window system has been covered with metal security screens which are rusting and causing staining on the metal siding. Windows and caulk need replacement.

### Doors

The exterior doors are metal and like the other exterior materials they too are nearing the end of their useful life. They are showing signs of rust and deterioration. The door hardware is not compliant. The caulking needs to be replaced. These doors should be replaced. The garage doors were not tested for their operability but appear to be in fair condition. The jambs of the doors are in disrepair. They are mangled, bent and rusting. Wood is exposed and, in some cases, deteriorating. Insulation is also exposed at some of the jambs. These should be replaced and repaired.



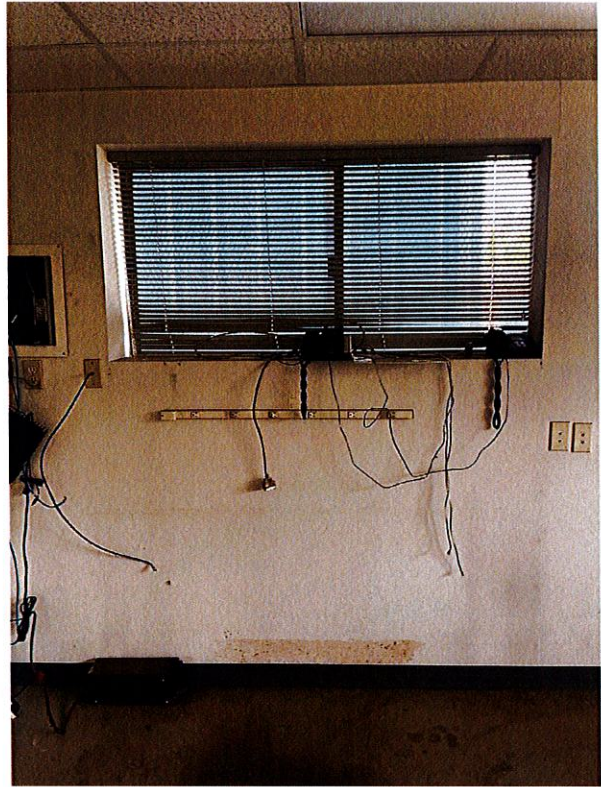
### Roof

The low slope metal roof was not able to be viewed. However, given the age, the overall condition of the exterior and the sagging-stained insulation on the interior, it is likely in need of replacement. Some of the gutters and some downspouts are rusting.

Overall, the exterior envelope needs full replacement of siding, roofing, windows and doors in order to keep the building envelope from allowing water infiltration and to improve energy efficiency.



## Interior Conditions



The interior building assessment is a visual surveillance of the physical materials, architectural components, building layout and code issues. The interior of the building is in poor condition based on the existing conditions and existing systems.

### Floors

The floors are a variety of materials. The main level consisting largely of the apparatus bays, are a bare concrete slab. Accessory spaces on the lower level such as the lavatory and office rooms are also an exposed concrete floor. There is cracking and staining throughout much of the areas. Most notably, the western portion of the floor has seen evident settling. It apparently has been attempted to be corrected in the past with an overlay slab on top. However, there is still a significant change in elevation due to the movement and settlement. The route of the problem will need further evaluation and the slab will need some significant work to be converted to a space that will require finished level flooring. A geotechnical engineer should be retained to further evaluate the cause of this issue. If corrected and converted to other uses, floating a floor on sleepers over the concrete slab will be the best option for getting a finished floor to adhere.







### Walls

The interior walls are consistent with the exterior and are the vertical metal siding. They do have an interior insulated core. This insulation likely does not meet today's energy code and R-value. They have seen a significant amount of wear and tear due to the nature of the use of the space. Some areas are dented and rusting. There is also evidence of water infiltration. The structure itself is rusting and should be repaired before the column's integrity is affected. There are also some gypsum wall board finishes throughout the office area on the lower level and the upper level. Some areas are unfinished while upstairs there are painted walls. Rubber base is throughout the upstairs with a few areas missing.

### Ceilings

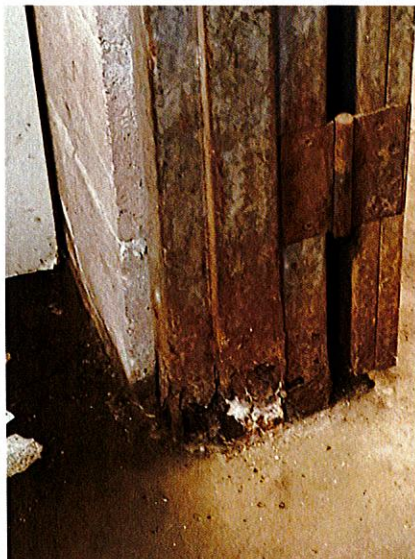
There are limited ceilings in this building. Most of the garage does not have a ceiling and is open to the deck with insulation is visible. One area has some insulation that is falling out. Other areas appear to be sagging and have stains. This indicates water or moisture infiltration. These also do not meet today's energy code and R-value requirements. These should be replaced. There is a dropped acoustical ceiling system in the office area on the lower level and upper mezzanine area. The 2x2 system is in fair condition. One area by the refrigerator does have a large stain and should be replaced. The restroom has a gypsum wall board finished ceiling and is in fair condition.

### Doors

There are a variety of doors in the facility. Some are hollow metal doors within hollow metal frames while others are wood. The hollow metal frame of the restroom is rusted through and needs to be replaced. The wood frames upstairs are in good condition. However, the wood door upstairs is punctured and should be replaced. All door hardware does not meet accessibility and should be replaced.



Former Public Works Garages  
Assessment Report



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August 11, 2021

### Building Code & American Disability Act

There are numerous code and American Disability Act (ADA) accessibility issues noted at this facility. The construction of the mezzanine is creating a code violation in this building. Mezzanines with over 10 occupants, which is the case as currently programed, must not be enclosed with full height walls. It is intended to be open and unobstructed to the room in which its located with a wall not higher than 42". However, it could be classified as a second floor and the occupancy count can be accommodated with one stair. Unfortunately, the construction type of this building then becomes an issue. The building as a prefabricated metal structure could be classified as Type 2B construction. However, with the construction of the wood joists and subfloor of the mezzanine, combustible materials have now been introduced into the building. It therefore would be classified as Type 5B. This creates a problem since there is no sprinkler system in this building only one floor is allowed per code. Currently the occupancy is classified as Storage, S-1. If converted to Assembly, it will be over the allowable size. A sprinkler system would rectify these issues. There also may be an opportunity for a code modification. Providing a fire rating over the wood structure with gypsum wall board may be an option too. The Authority Having Jurisdiction (AHJ) should be consulted to get their interpretation and recommendations for future use.

There is a code violation with the location of the two egress doors. They are placed too close together and per code they are required to be located at a distance apart equal to not less than  $\frac{1}{2}$  the length of the maximum diagonal of the area served. The door at the south should be shifted down at a minimum of 14'.

There are some ADA issues throughout this building. The restroom is not accessible. All fixtures should be made ADA complaint and the appropriate clearances around the fixtures and within the room should be rectified. The toilet partitions need to be modified and adjustments need to be made to the space to make it compliant. The location of the breakroom is not compliant and should be located on the main floor or an elevator should be provided. Door hardware and flush of  $\frac{1}{2}$ " or less of a level change at the doors should also be addressed.

Overall, the interior needs improvements. If converted to other uses such as Business or Assembly, a sprinkler system and modification to the mezzanine may be required. Other focus should include consulting a geotechnical engineer on the slab issues and ultimately any recommendations and repairs for this should be included. Other focuses should include walls replacement and column repairs along with the necessary ADA and code upgrades.



## Structure

### Ground Floor

The foundation system for this structure is unknown. The floor is an exposed, cast-in-place concrete slab with a series of floor drains extending east to west in the garage bays.

Significant settlement has occurred at the west end of the structure (office/bathroom areas). It appears the floor slab was previously topped with concrete to address the elevation differences; however, further settlement has occurred. A geotechnical engineer should be retained to investigate the soils in this area and provide recommendations for corrective measures.

### Mezzanine Framing

The mezzanine is a small area located at the west end of the building, over the office/bathroom spaces. The floor framing consists of a plywood deck over wood framing supported on load bearing CMU partitions. As previously stated, the structural framing was not visible due to in place ceilings, therefore, we were unable to inspect the condition of the framing. There are significant elevation changes in the floor of the mezzanine as a result of the slab settlement below, which supports the load bearing stud partitions.



Former Public Works Garages  
Assessment Report

### Roof Framing

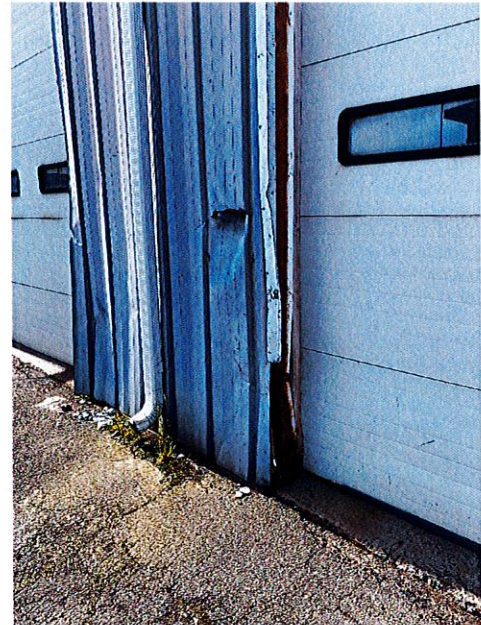
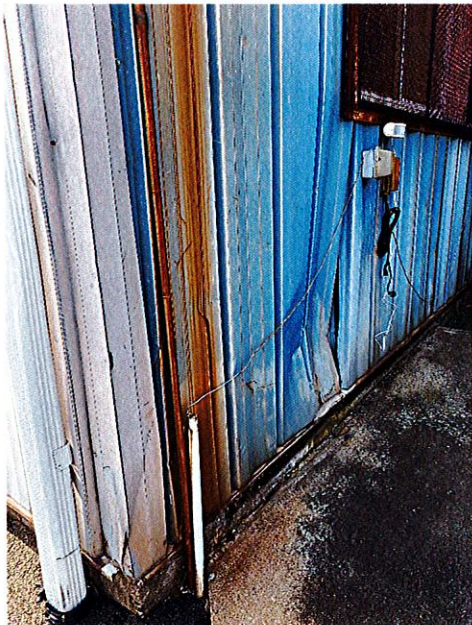
The roof structure consists of pre-engineered metal building components. There were no areas of deflection or distress observed in the steel.

Corrosion of the steel was observed at the base of the rigid building frames. The steel should be cleaned to bare metal and coated with an approved product to prevent further corrosion and potential loss of steel section. Left unaddressed, further corrosion of these frames could be detrimental to the structure.





### Exterior Walls



There is a small amount of cast-in-place concrete foundation wall exposed at the exterior walls. The concrete has been parged on the exterior face, which is failing in some areas, however, this does not present a structural concern. The exterior walls above the concrete foundation, consist of pre-engineered metal building components. The exterior metal panels have been damaged due to vehicle impact in numerous areas. The damage to the wall panels and siding allows for water infiltration and pest infestation, however, they do not present a structural concern at this time.



### Interior Walls

The interior walls of the office and bathroom at the ground floor level are load bearing CMU partitions, supporting the mezzanine framing above. The interior walls above the mezzanine level are wood studs. Some cracking and damage of the CMU was observed.





## Plumbing

The gas service is routed underground to the exterior west wall of the building, where the service pressure regulator, gas meter, and building pressure regulator are located. Gas is distributed to the unit heaters in the building, using black steel pipe. Exterior gas piping is exhibiting surface corrosion.

The Highway Department and mechanics buildings share the sanitary and water mains.

Domestic water was heated by a (2014) American Water Heater Proline, 40 gallon electric water heater, located in the first floor toilet room. The electric water heater does not have hot water recirculation. The current code-required thermal expansion tank and ASSE1017 mixing valve were not found.

Existing plumbing fixtures in the toilet room include a vitreous china floor-mounted tank-type water closet, wall mounted urinal, a wall mounted lavatory, a semi-circular wash fountain, a fiberglass shower, an emergency eyewash, and a fiberglass service sink. These fixtures are either at the end or beyond their useful service life.

An air compressor/receiver, is located in the Bay Area below the mezzanine stairs, generating compressed air for the garage needs.

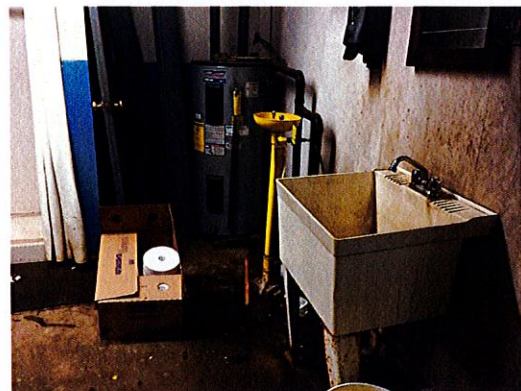
If the building is converted to other use such as Business or Assembly, all existing piping distribution and plumbing fixtures will need to be replaced and all industrial related fixtures and associated piping will be removed. The domestic water heater can remain and shall be provided with required expansion tank, mixing valve and recirculating pump. Additional water heater capacity, gas fired or electric, may need to be added to accommodate the new occupancy /use.

The existing gas service location may be relocated to accommodate renovation needs.

The existing drainage and venting systems will be replaced to accommodate renovation and updated occupancy needs.

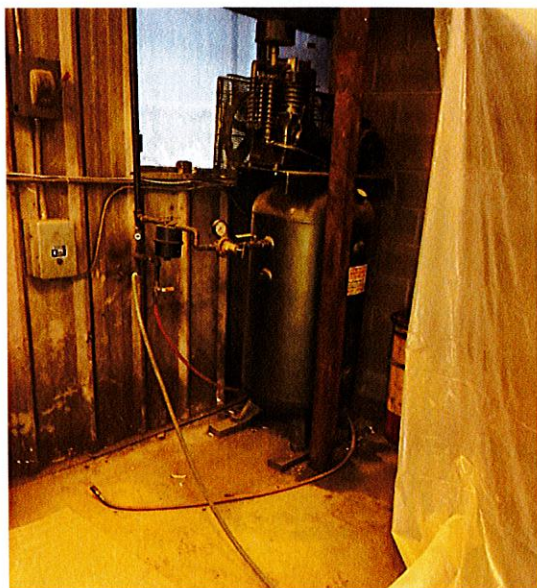


Domestic water from piping below floor



Water heater, emergency eyewash and Service sink





Air compressor

### **Fire Protection**

There is no fire protection sprinkler system in the building.

If the building is converted to other use such as Business or Assembly, requirements for sprinkler systems may be triggered and would require a more thorough analysis, specific to the scope of work being performed.



## Mechanical

The building has an existing oil fired furnace suspended from the roof structure and the associated duct distribution system. The oil furnace is no longer being used. The garage bay is currently heated by two gas fired unit heaters suspended from the structure.

Ventilation to the bay area is accomplished by wall mounted outdoor air intake louver with motorized damper interlocked with roof mounted relief vent and wall mounted propeller exhaust fan.

The first floor Office space is heated by two(2) wall mounted electric heaters. Outside air is provided through operable windows.

An existing ceiling mounted diffuser in the first floor toilet area appears to be fed from the oil fired furnace in the garage bay. There is no exhaust provided.

The second floor kitchenette is provided with window mounted air conditioning unit and a ceiling mounted exhaust fan. There is no exhaust hood above electric range.

The second-floor office space does not have heating, cooling, or ventilation.

The systems were designed for industrial use. If the building is converted to other use such as Business or Assembly, the HVAC systems will need to be replaced with systems applicable for intended use in providing thermal comfort and acceptable indoor air quality.



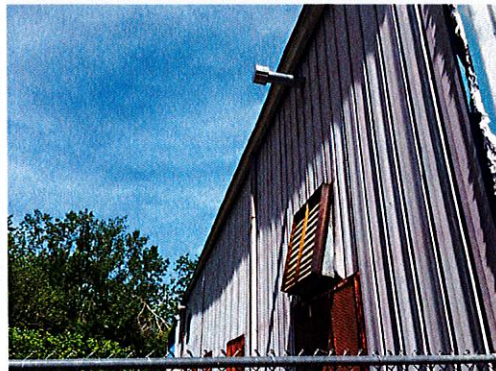
Ducted oil fired furnace



Gas fired unit heater



Kitchen range with no exhaust hood



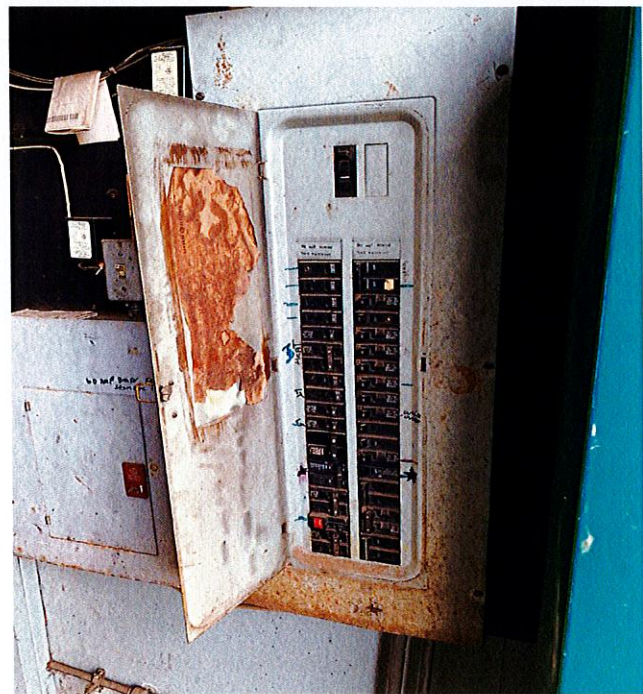
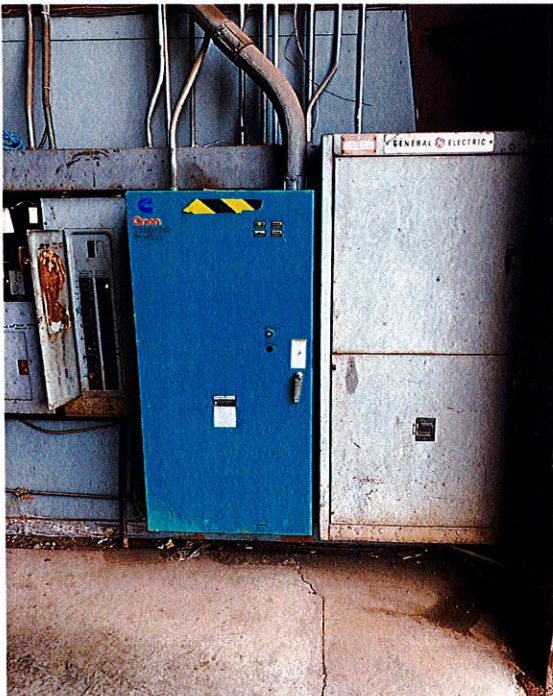
Outdoor air intake louver and gas fired unit heater flue piping



## Electrical

### Building Electrical Service and Power Distribution

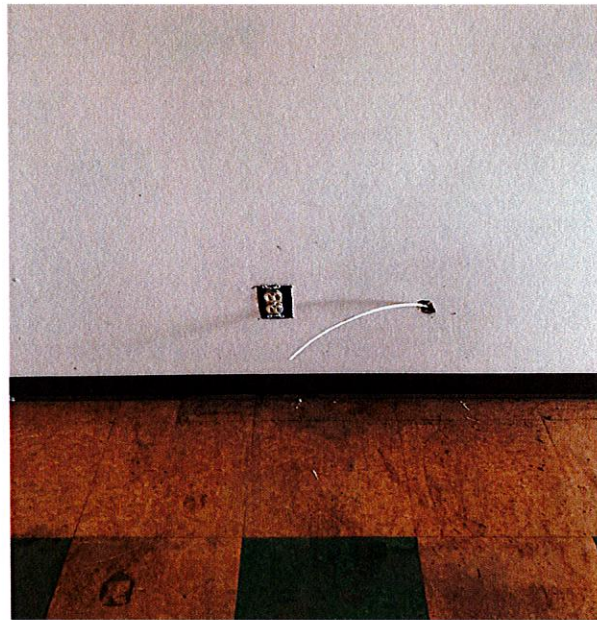
The building electrical service is 400 amp. Although the main switch cabinet is labeled as 120/208V-3 Phase, based on collected information, the service seems to be rated for 120/240V-1Phase. The building service entrance is underground via a utility pole-mounted transformer located near the building. This electrical service also feeds an electrical distribution panel located in the Mechanics Building. In addition to the utility service, the building has what appears to be a diesel standby generator manufactured by Cummins Onan. The generator was not accessible; therefore, the KW rating could not be verified. However, the information on the automatic transfer switch indicates that the generator is rated for 400 amp, 120/240V-1Phase. The generator appears to be backing up the entire electrical service. Power distribution is based on a 400-amp switch cabinet interconnected with a 400A automatic transfer switch which connects to the distribution electrical panel located in Highway Building and in Mechanics Building. There was no label indicating the panel's voltage and amperage rating. Based on observation, the main electrical panel serving the entire building seems to be original from when the building was constructed in 1982. The main switch cabinet and main electrical panel are in poor condition, and given the age of the panel, replacement parts may be difficult to obtain. Therefore, it is not viable for reuse as part of any future project. The standby generator, associated automatic transfer switch, and infrastructure appear to be in fair condition. It is important to note that the evaluation was based on observation and therefore, electrical components and wiring within the electrical equipment were not inspected or tested for performance. Since electrical infrastructure is original from when the building was constructed, it is highly recommended that a certified professional performs additional investigations to determine the integrity of critical components inside the electrical equipment.





### Power Receptacles

Power receptacles throughout the building are a combination of recessed and surface mounted receptacles mounted at approx. 36" above the finished floor in the garage area and 18" above the finished floor in the office area. Some power receptacles seem to be original from when the building was constructed in the garage area, and some seem to be more recently replaced. Most power receptacles, surface backboxes, and associated exposed conduits in the garage area are in fair condition. Power receptacles in the Office area seem to be in fair condition also; however, multiple receptacles lacked a cover plate. Power receptacles will need to be tested and mounting height rearranged if use in a future project is desired.



### Lighting

The interior lighting throughout the building consists of a combination of 1' x 4' pendant, wall-mounted industrial light fixtures with fluorescent lamps in the garage area and recessed 2'x2' with fluorescent lamps in the office area. Light fixtures in the garage seem to be original from when the building was constructed. Fixtures in the office area seem to be added later when office space was added. Fixtures in the garage area are obsolete, outdated, and in deteriorated condition. Fixtures in the office area are in fair condition, however, there were multiple inoperative fixtures. Illumination levels were not measured, and fixtures were not tested for performance. The typical light fixture lifespan is 15 to 20 years and replacement of these fixtures should be anticipated for any future project along with associated control/light switches. LED fixtures are recommended to be used in future projects. Exterior light fixtures are not original, and they were replaced with LED fixtures. They are controlled via photocell and fixtures appear to be in fair condition; however, they need to be cleaned.





### Emergency Lighting

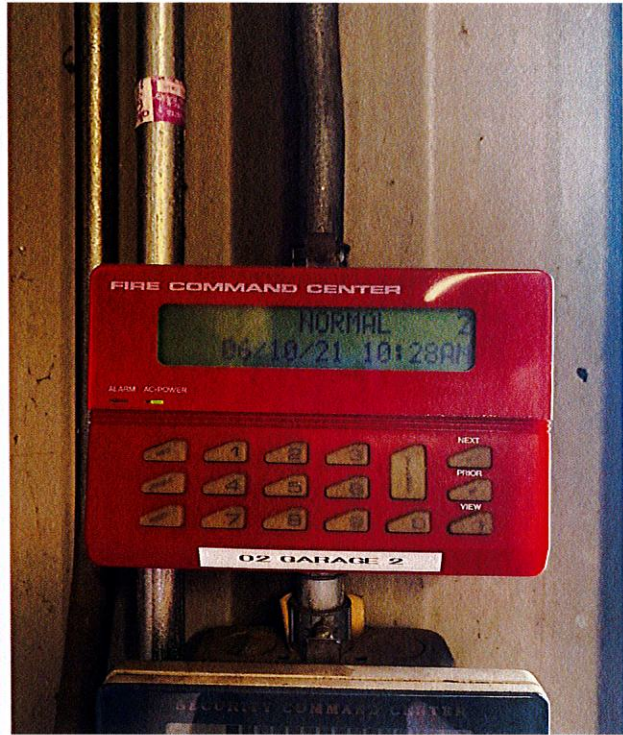
Although there is an existing standby generator backing up the entire building, emergency relays to suit emergency lighting and additional emergency lighting source required by code were not observed throughout the building. Exit signs are illuminated thermoplastic. Exit signs are in fair condition and provided in sufficient numbers for the current building layout.



### Fire Alarm

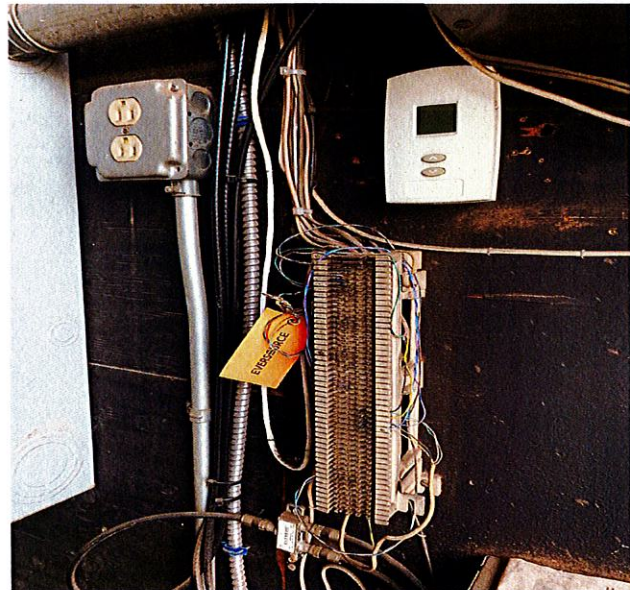
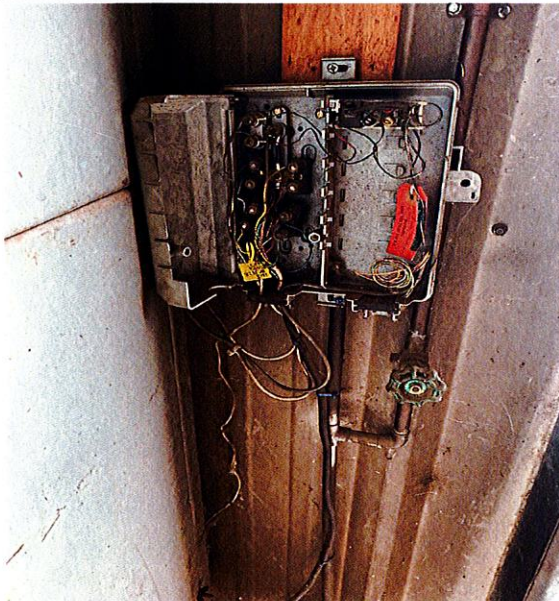
The building fire alarm system is based on a conventional zone fire alarm panel that appears to be inoperative. This system seems to be abandoned. However, there is a remote command center keypad that seems to be fed from the Mechanics Building. There are pull stations at each egress door, heat detectors throughout, and notification devices. Pull stations are in fair condition. Heat detectors are provided in sufficient numbers, and are in fair condition; however, there were many units missing covers. Notification devices were not provided in sufficient numbers, and there are assembly areas lacking notification units. The system should be updated if the building will be used for a future project.





### Communication

The communication system is an underground connection from a utility pole located near the building and terminated at a utility Dmarc terminal. The Dmarc, terminal, and infrastructure are obsolete and should be replaced with a new system. No data network system was observed.





## Capital Needs Assessment Matrix – Highway Department Building

HIGHWAY DEPARTMENT BUILDING - 20 JAMES MARTIN DRIVE									
TAG NO.	ASSESSMENT	SYSTEM/ CODE REF.	RANKING				CORRECTIVE ACTION	ITEMIZED ESTIMATED COST	REMARKS
			4	3	2	1	n/a		
<b>SITE CONDITIONS</b>									
S01	Drainage, parking, sidewalks and accessibility improvements			2			Conceptual site repairs and design cost	\$ 300,000	For both the Highway and Mechanics Site
<b>SITE SUBTOTAL</b>									<b>\$ 300,000</b>
<b>HAZARDOUS MATERIALS CONDITIONS</b>									
HM01	Visual inspection of abatement items						See appendix for report, section 7.0 for abatement cost range		high range included below
<b>HAZARDOUS MATERIALS SUBTOTAL</b>									<b>\$ 47,025</b>
<b>EXTERIOR CONDITIONS</b>									
A01	Exterior siding is in disrepair	General		2			Remove and replace siding	\$ 125,000	
A02	Exterior doors are beyond their useful life	General		2			Remove and replace doors	\$ 6,000	
A03	Exterior windows are beyond their useful life	General		2			Remove and replace windows	\$ 30,800	
A04	Garage door jambs need to be repaired	General		2			Remove and replace jambs	\$ 14,000	
A05	The roof is beyond its useful life	General			1		Remove and replace metal roof	\$ 210,000	
A06	Gutters and downspouts	General		2			Remove and replace gutters and downspouts	\$ 15,000	
A07	Parging coat	General		3			Repair parging coat	\$ 4,500	
<b>EXTERIOR SUBTOTAL</b>									<b>\$ 405,300</b>
<b>INTERIOR CONDITIONS</b>									
A08	Interior metal walls are damaged	General		3			Remove and replace wall finish	\$ 75,000	
A09	Interior walls	General		3			Patch and paint walls	\$ 5,000	
A10	Interior CMU or brick is spalling or mortar is in need of repointing	General		2			Patch, repair, or replace block and repoint as necessary.	\$ 6,000	
A11	Exposed insulation at the roof deck is wet and stained	General			1		Replace with roof outboard of structure	\$ -	in roof cost
A12	The floor slab has seen significant settlement	General			1		Hire a geotechnical engineer to investigate the soils in this area and provide recommendations for corrective measures	\$ -	
A13	Corrosion of the steel was observed at the base of the rigid building frames	General			1		Scrape and clean to bare metal. Coat with epoxy	\$ 3,000	
A14	Some acoustical ceiling tiles are stained	General		3			Remove and replace damaged tiles	\$ 1,000	
A15	Interior doors and frames need to be replaced. Door hardware requires grasping and twisting.	General		2			Replace doors and frames and provide accessible hardware.	\$ 7,500	
A16	Due to the configuration, restrooms do not meet accessibility requirements.	(B)1108.0 (ANSI A117.1) 603-606		2			Reconfigure the room to provide the minimum dimensional requirements.	\$ 30,000	
A17	Breakroom is not accessible on the mezzanine level	General		2			Relocated break room to lower level	\$ 25,000	Additional option: provide elevator
A18	The mezzanine stairs and railing are not code compliant	General		2			Rebuild code complaint stairs and handrails	\$ 2,500	
A19	Exterior egress doors are too close together per code requirements	1107.1.1 (IBC)			1		Provide door further apart to conform with code	\$ 5,000	
<b>INTERIOR SUBTOTAL</b>									<b>\$ 160,000</b>

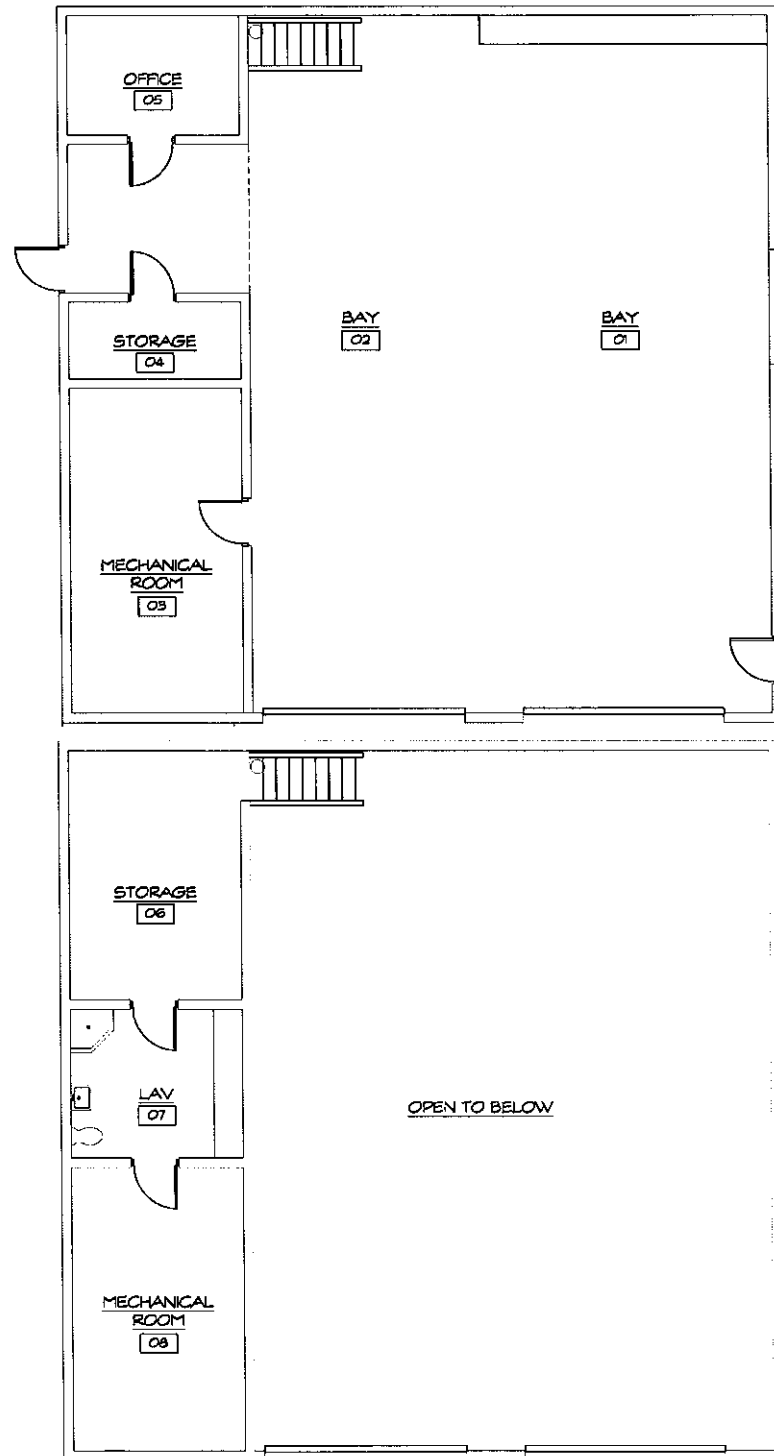






## Mechanics Department Building – 20 James Martin Drive

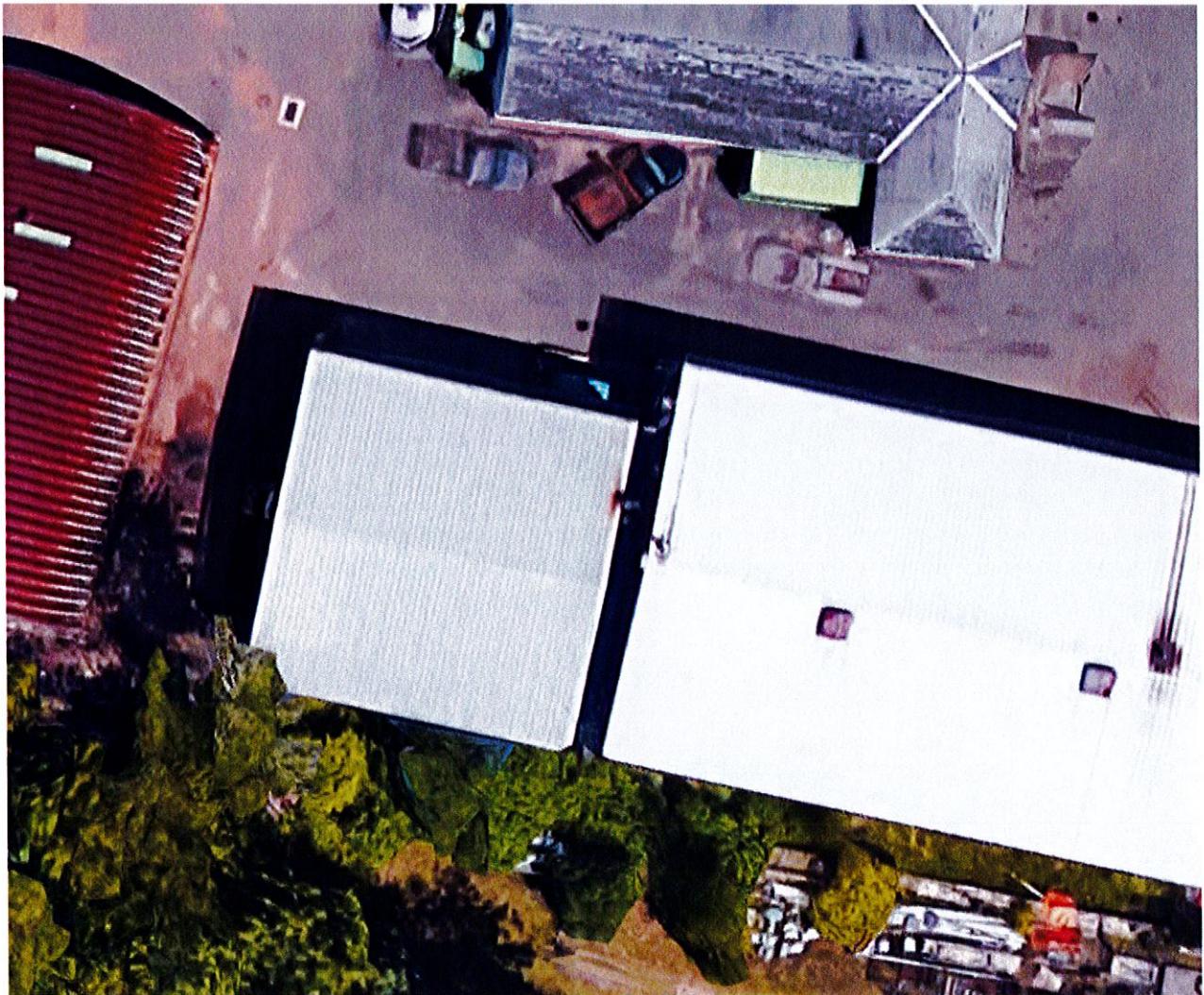
The Mechanics Building was originally constructed in 1993 and has been in use until recently when the new public works garages were constructed. It is approximately 2500 square feet. This building has received limited building modifications and upgrades during its lifetime.





## Site

The Mechanics Building is located to the south of Pierson Park immediately to the west of the Highway Building. This building is at the southeast portion of the property within a complex of public works buildings, many of which are being demolished. The rear of the building sits on the property line.



See the description within the Highway Building section for site information.



## Architecture

Overall, the building is in fair condition given its age. This prefabricated metal building is nearing 30 years old and will require code and finish upgrades.



### Exterior Building Envelope

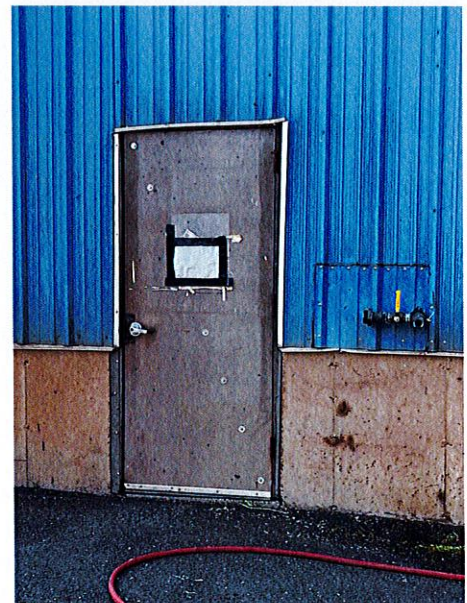
The exterior of the building is in fair condition. The vertical metal siding is in better condition than the Highway Building. The siding is raised up from the ground to the height of the foundation walls. Therefore, it has created a better scenario for the preservation of this material. No areas of rust or dents were observed on the exterior. Some limited areas of discoloration and staining were noted.

### Windows

There are no exterior windows at this building.

### Doors

The exterior doors are hollow metal. These doors are nearing the end of their useful life. The west door is in need



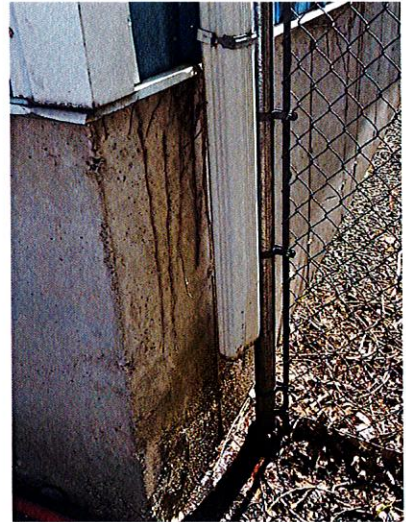


of paint, thresholds and weatherstripping. The garage doors were not tested for their operability but appear to be in good condition.

### Roof

The low slope metal roof was not able to be viewed. However, given the age, it may be in need of replacement. Gutters appear in good condition. Some portions of downspouts are missing. Other areas are cut short, therefore the water from the downspout is splashing against the foundation. This should be corrected so that water does not damage the concrete over time.

Overall, the exterior needs some minor work.



### Interior Conditions



The interior building assessment is a visual surveillance of the physical materials, architectural components, building layout and all code issues. The interior of the building is fair condition given its usage.

### Floors

The floors are a variety of materials. The main level consisting largely of the apparatus bays are a bare concrete slab. Given the use of the building there are lots of stains, oil-soaked areas. There are minor cracks noted, but none of major concern. Accessory spaces on the lower level are also an exposed concrete floor. The mezzanine level consists of exposed plywood floors and vinyl composite floor VCT. The plywood is in fair condition and the VCT seems ok too. These floors should be replaced if converted to other uses. For this to be converted into a business space a finished floor should be floated over the slab as the sloped oil-stained slab will not receive flooring well.

### Walls

The walls throughout the facility are a variety of materials. On the interior of the exterior walls, there is no finished system. Instead, the insulation is exposed and sits on top of the painted foundation walls. Due to the nature of the space some of these areas are damaged, stained, and dirty. Most interior walls are constructed from concrete masonry units (CMU) while some are painted, and others are bare. These walls are in fair



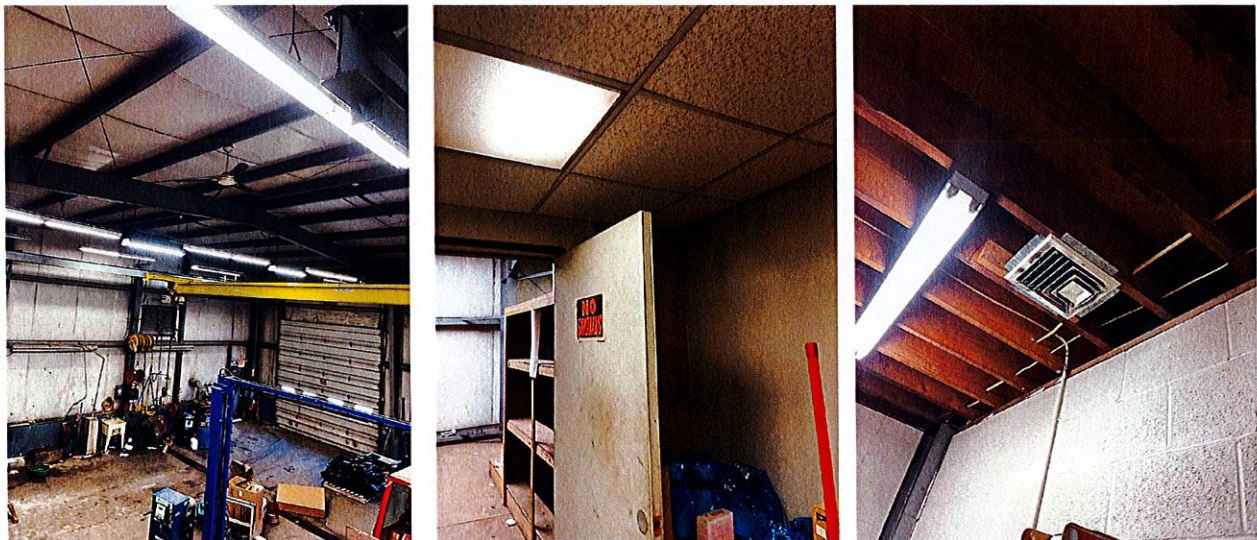




condition with some areas of stepped cracking at the mortar joints. Other walls are constructed with plywood, and some are painted, such as in the office on the lower level. These are in fair condition. On the mezzanine level there are wood stud walls. At the restroom, these walls have a painted gypsum wall board (GWB) finish while other spaces are not painted or have no GWB at all.

### Ceilings

The ceilings throughout the facility are limited. This structure is exposed with insulation panels installed below the deck. The office, storage and mechanical area on the lower level is under the mezzanine and is enclosed by the wood deck and joist system above. On the mezzanine most spaces are open to the structure above. There is a dropped acoustical ceiling system in the restroom. The 2x2 system is in fair condition.



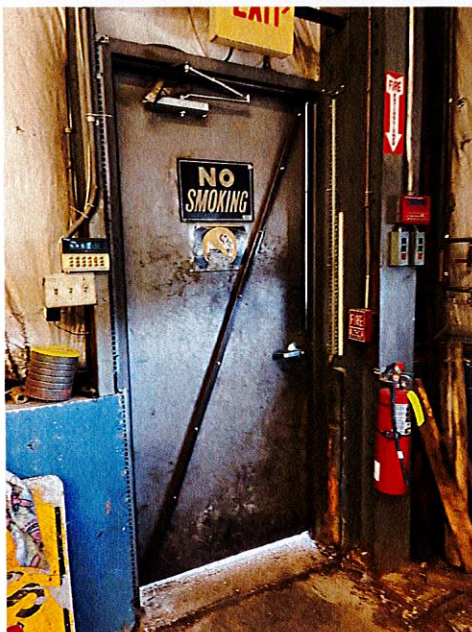
### Doors

There are a variety of doors in the facility. Hollow metal doors are used throughout the lower level while wood doors are used on the mezzanine. The hollow metal doors and frames are in fine condition. They could be painted and require new door hardware. The wood doors and frames on the mezzanine too require additional hardware, cleanup, and repainting.



### Building Code & American Disability Act

There are numerous code and American Disability Act (ADA) accessibility issues noted at this facility. Like the Highway building, this prefabricated metal structure could be classified as Type 2B construction, but with the construction of the wood joists and subfloor of the mezzanine, combustible materials have now been introduced into the building. It therefore would be classified as Type 5B. Although the walls are above the 42", this space can still be considered as a mezzanine since the occupant count is under 10 people. Therefore, it can meet the requirements of Type 5B. There are other issues involving the mezzanine. The restroom is not accessible due to its location on the mezzanine. It should be located to the lower level or an elevator should be included. The stairs and handrails are not compliant construction and would need to be rebuilt. Other issues are accessibility violations with push pull clearances at doors. Both egress doors have either walls or structure in the required clearances and should be adjusted.



Overall, the interior needs improvements. If converted to other uses such as Business or Assembly, the overall construction type, building height and area could support the change of use. The focuses should include floor and wall finish upgrades and ADA corrections.



## Structural

### Ground Floor

The foundation system for this structure is unknown. The floor is an exposed, cast-in-place concrete slab with floor drains extending east to west in the garage bays. There were no areas of settlement or distress observed in the floor.

### Mezzanine Framing

The mezzanine is a small area located over the east side of the building. The floor framing consists of a plywood deck over 2x12 wood joists, spaced at 12 inches on-center, supported on load bearing CMU partitions. There were no areas of deflection or distress observed in the floor.



### Roof Framing

The roof structure consists of pre-engineered metal building components. There were no areas of deflection or distress observed in the steel.

### Exterior Walls

The perimeter cast-in-place concrete foundation wall extends to approximately 3 feet above the top of concrete slab elevation. The walls appear to be in sound condition and there were no areas of concern observed. The exterior walls above the concrete foundation, consist of pre-engineered metal building components.





### Interior Walls

The interior walls of the office at the ground floor level are load bearing CMU partitions, supporting the mezzanine framing above. The interior walls above the mezzanine level are wood studs. Some cracking of the CMU partitions was observed.





## Plumbing

The gas service is routed underground to the exterior east wall of the building, where the service pressure regulator, gas meter, and building pressure regulator are located. Gas is distributed to the gas furnace in the building, using black steel pipe. Exterior gas piping is exhibiting surface corrosion.

Existing plumbing fixtures in the mezzanine toilet room include a vitreous china, floor-mounted tank-type water closet, a shower, and a fiberglass service sink. Sanitary pipe from the mezzanine toilet room is collected below the mezzanine floor and is routed exposed outside and connected to the main sanitary pipe in the Highway building. The exposed sanitary pipe is provided with heat tape.

Domestic water was heated by a (2011) Bradford White Corporation, 40 gallon electric water heater, located in the mechanics bay below the stairs. The electric water heater does not have hot water recirculation. The current code-required thermal expansion tank and ASSE1017 mixing valve were not found.

Additional fixtures in the building include an emergency shower and eyewash station, a water cooler, and a fiberglass service sink. The service sink drainage terminates into the trench drain. Trench drain is piped to an oil/water separator.

Maintenance/Repair Operations include lubrication, oil and tire changes, and belt and filter replacements. Storage containers are provided for waste oil, waste antifreeze, used oil filters are located outside. There is an existing pressure washer in the mechanical bay.

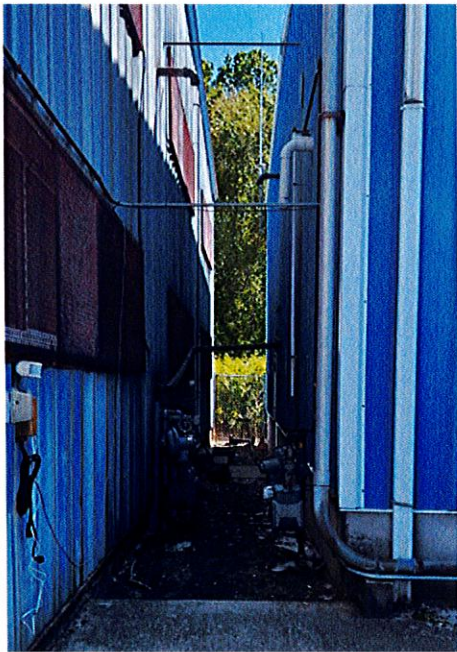
An emergency shower/eyewash is fed with cold water only. Current OSHA/ANSI standards require a supply temperature range of 60-100 deg F to emergency fixtures. Adding hot water supply and a thermostatic mixing valve to the current installation will provide a safe, inviting code-compliant water temperature at this fixture. Incorporating tankless heaters could eliminate the large standby losses associated with hot water storage (about 90 gallons of 120 deg F hot water) required by the emergency fixture's flow requirement of 23 GPM of 60 deg F (minimum) tempered water for a 15 minute duration. The tankless heater could be located in the mechanic's bay.

Because vehicle washing, oil changes and minor repairs are performed at the facility, CT DEEP regulations require that the floor drainage from the Maintenance Shop and Service/Wash Areas must route through an oil water separator. According to the Town Engineer, there is an existing oil water separator currently in use. The Owner should have a CT DEEP General Permit for the Discharge of Vehicle Maintenance Wastewater on file. Note: Refer to DEEP website regarding January 23, 2021 deadline for submitting a Notification Form under the Miscellaneous Industrial Users General Permit (MIU) to the POTW Authority. <https://portal.ct.gov/DEEP/Permits-and-Licenses/Water-Discharge-Permits-and-General-Permits#GeneralPermits>

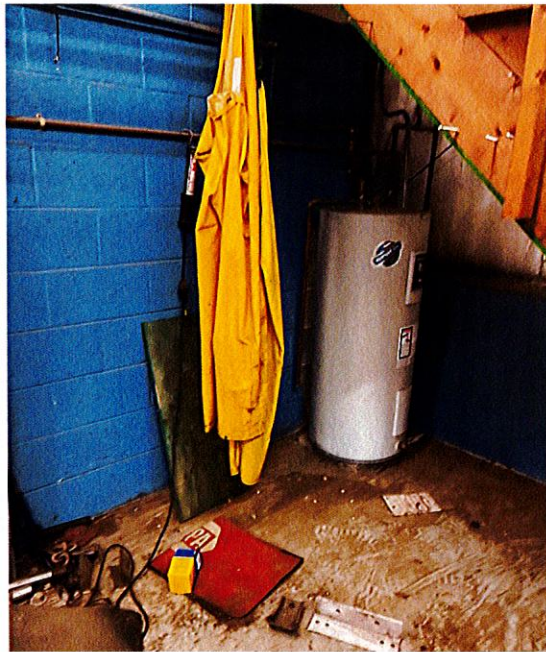
If the building is converted to other use such as Business or Assembly, all existing piping distribution, plumbing fixtures will be replaced and all industrial related fixtures, equipment and associated piping will be removed. The domestic hot water heater is at the end of its useful service life and is recommended to be replaced. The new heater will be provided with required expansion tank, mixing valve and recirculating pump, to accommodate the new occupancy needs.



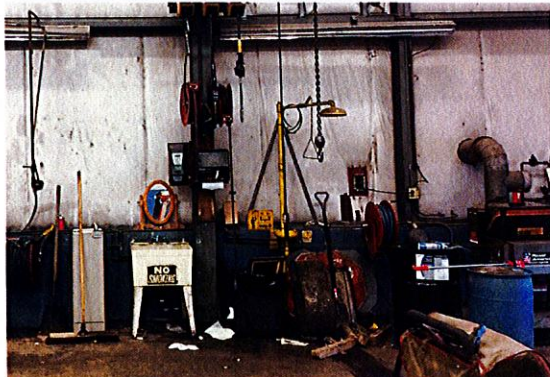
The existing gas service location may be relocated to accommodate renovation needs. The existing drainage and venting systems will be replaced to accommodate renovation needs.



Gas meter and sanitary pipe location



Water heater; uninsulated piping



Emergency Shower/Eyewash



Non-accessible trench drain grate (ADA requirement: 1/2" gap limit perpendicular to direction of pedestrian travel.



Waste storage containers  
Former Public Works Garages  
Assessment Report



**Fire Protection**

There is no fire protection sprinkler system in the building.

If the building is converted to other use such as Business or Assembly, requirements for sprinkler systems may be triggered and would require a more thorough analysis, specific to the scope of work being performed.



## Mechanical

The building is heated by a high efficiency gas fired furnace located in the mezzanine. The gas furnace is an American Standard, manufactured in 2017, with a 120 MBTUH input. Duct distribution is routed on the mezzanine floor to side wall registers in the mechanics bay. The return grille is located on the furnace return plenum and terminates in the mezzanine.

Ventilation to the bay area is accomplished by wall mounted outdoor air intake louver with motorized damper interlocked to a wall mounted propeller exhaust fan.

The first floor office is provided with a window mounted air conditioning unit. A ceiling mounted exhaust fan is provided above the shower.

The first floor mechanical room heating is provided from the building gas fired furnace. There is no exhaust provided.

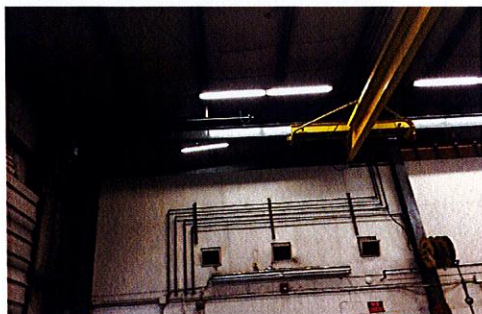
If the building is converted to other use such as Business or Assembly, the existing high efficiency gas furnace, at approximately 4 years old, can be reused. It is recommended to clean the heat exchanger thoroughly to remove any dirt and contaminants accumulated while being used in industrial setting. It is recommended to replace the duct distribution system with new. Additional HVAC systems will be provided for thermal comfort and acceptable indoor air quality.



Gas fired furnace serving the Building



First floor mechanical room



Sidewall supply registers serving Bay



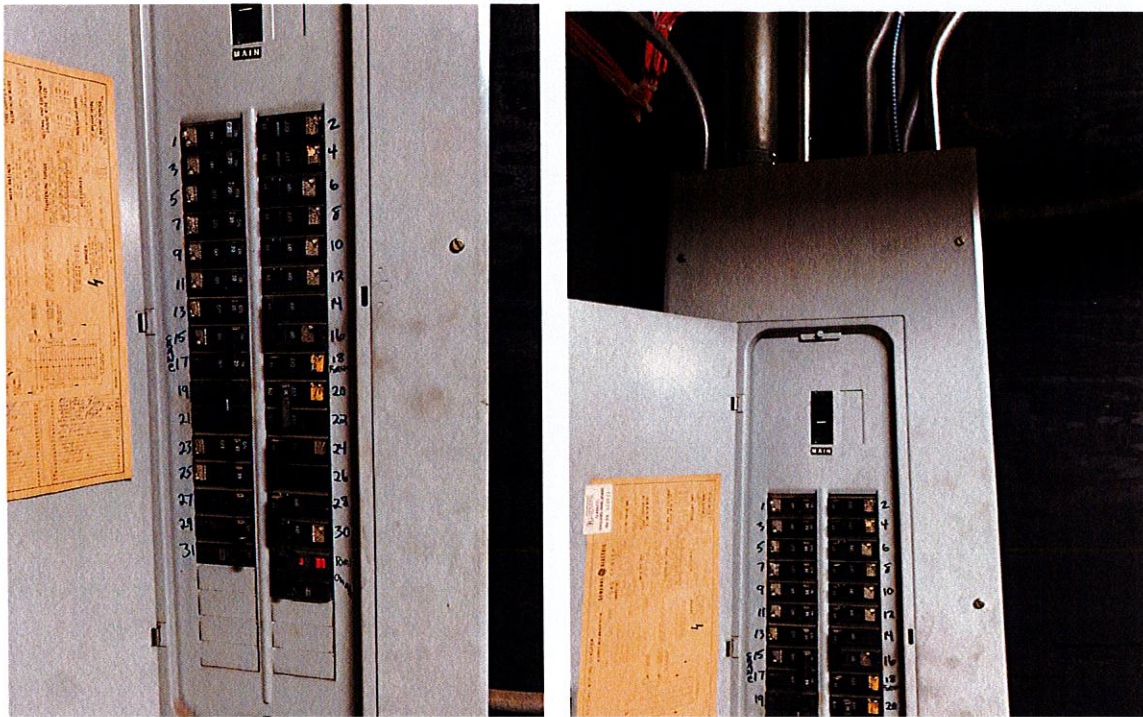
Wall exhaust fan and outdoor air intake louver



## Electrical

### Building Electrical Service and Power Distribution

The building electrical service is 200 amp. A 200 amp main electrical panel rated for 120/240V-1Phase is fed from the Highway Building via a 200A enclosed circuit breaker. This main electrical panel feeds the entire Mechanics Building and is original from when the building was constructed in 1993. Although this building seems to be backed up by the existing generator mentioned in the Highway Building report, there is a manual transfer switch for a portable generator connected to the panel. The main electrical panel is in fair condition. It is important to note that the evaluation was based on observation and therefore, electrical components and wiring within the electrical equipment were not inspected or tested for performance. Since electrical infrastructure is original from when the building was constructed, it is highly recommended that a certified professional performs additional investigations to determine the integrity of critical components inside the electrical equipment.



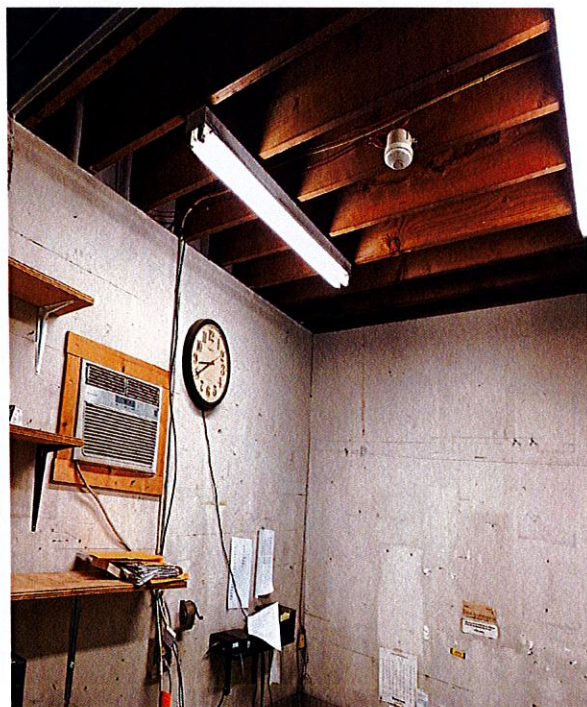
### Power receptacles

Power receptacles throughout the building are surface mounted receptacles mounted at approx. 36" above the finished floor. Receptacles are fed via surface-mounted EMT conduit. Power receptacles seem to be original from when the building was constructed in 1993. Most power receptacles, surface backboxes, and associated conduits are in fair condition. Power receptacles will need to be tested and mounting height rearranged if use in future project is desired.



### Lighting

The interior lighting throughout the building consists of a combination of 6" x 4' pendant, wall-mounted industrial light fixtures with fluorescent lamps. Light fixtures seem to be original from when the building was constructed in 1993. Light fixtures and associated controls seem to be in fair condition. Illumination levels were not measured, and fixtures were not tested for performance. The typical light fixture lifespan is 15 to 20 years and replacement of these fixtures should be anticipated for any future project, along with associated control/light switches. LED fixtures are recommended to be used in future projects. Exterior light fixtures are not original, and they were replaced with LED fixtures. They are controlled via photocell and fixtures appear to be in fair condition; however, they need to be cleaned.



### Emergency Lighting

Although there is an existing standby generator backing up the entire building, emergency relays throughout the building were not observed. A limited number of battery powered emergency lights are present. Exit signs are illuminated thermoplastic. Exit signs are in fair condition and provided in sufficient numbers.





## Fire Alarm

The building fire alarm system is based on a combination security and fire alarm zone cabinet that provides security and fire alarm protection. This system appears to be interconnected with alarm devices in the Highway Building. The system seems to be in fair condition. But its ability to be expanded for any future renovation needs to be evaluated.





## Capital Needs Assessment Matrix – Mechanics Department Building

MECHANICS DEPARTMENT BUILDING - 20 JAMES MARTIN DRIVE							
TAG NO.	ASSESSMENT	SYSTEM/ CODE REF.	RANKING				
			4	3	2	1	n/a
<b>SITE CONDITIONS</b>							
S01	Site costs are included with the Highway building	General					See highway building
<b>SITE SUBTOTAL</b>							\$ -
<b>HAZARDOUS MATERIALS CONDITIONS</b>							
HM01	Visual inspection of abatement items	General					See appendix for report, section 7.0 for abatement cost range
<b>HAZARDOUS MATERIALS SUBTOTAL</b>							\$13,500
<b>EXTERIOR CONDITIONS</b>							
A01	Exterior doors are nearing the end of their useful life	General			2		Replace doors with more efficient systems
A02	Roof is nearing replacement	General		3			Remove and replace metal roof and insulation
A03	some downspouts are not fully extended to the ground	General			2		Extend downspouts to splash pads at grade
<b>EXTERIOR SUBTOTAL</b>							\$ 94,750
<b>INTERIOR CONDITIONS</b>							
A04	Interior CMU or brick is spalling or mortar is in need of repointing	General			2		Patch, repair, or replace block and repoint as necessary.
A05	Walls have no finish, the insulation is stained and dirty	General		3			Provide a finished material depending on the use of the space. Repair any damaged insulation.
A06	Due to the location in the building, restrooms do not meet accessibility requirements.	(B)1108.0 (ANSI A117.1) 603-606			2		Reconfigure the room to enlarge and provide the minimum dimensional requirements.
A07	The mezzanine stairs and railing are not code compliant	General				1	Rebuild code complaint stairs and handrails
A08	Some door hardware is not accessible. Knob handles require grasping and twisting.	4.13.9 (ADA) 404.2.6 (ANSI 117.1)			2		Remove door locksets and install new accessible lever handle locksets where designated.
<b>INTERIOR SUBTOTAL</b>							\$ 86,000
<b>PLUMBING/FIRE PROTECTION</b>							
P01	Exterior gas piping is exhibiting surface corrosion	General	4				provide corrosion inhibitor and paint gas piping
P02	Exposed sanitary pipe is provided with heat tape	General	4				route duct underground to sanitary line. Excavation not included
P03	electric water heater does not have hot water recirculation	General				1	Provide domestic hot water recirculating pump and specialties
P04	current code-required thermal expansion tank and ASSE1017 mixing valve were not found	General				1	Provide mixing valve and expansion tank
P05	Emergency Shower Eyewash	OSHA				1	Water heater and mixing valve to provide tempered water to eyewash
P06	Water heater piping is uninsulated	IECC				1	provide insulation
<b>PLUMBING/FP SUBTOTAL</b>							\$ 20,750



MECHANICAL SYSTEMS											
M01	There is no exhaust provided at mechanical room	General				1		provide fan new and associated ductwork	\$	1,400	
M02	Gas fired furnace	IMC chapter 4				1		Add outside ductwork with motorized damper to gas fired heating system	\$	1,200	
M03	Mechanic's Bay ventilation	IMC chapter 4				1		Provide CO/NO2 monitoring	\$	4,500	
<b>MECHANICAL SUBTOTAL</b>											<b>\$ 7,100</b>
ELECTRICAL SYSTEMS											
E1	Lighting System	General		3				Replacement of light fixtures and associated controls	\$	9,000	
E2	Emergency Light System	General				1		Provision of illuminated exit signs and emergency relays	\$	1,500	
E3	Fire Alarm System	General			2			Provision of a complete fire alarm system	\$	8,000	
E4	New Mechanical Equip. Power	General		3				New mechanical equip. power connection	\$	5,000	
<b>ELECTRICAL SUBTOTAL</b>											<b>\$ 23,500</b>
<b>TOTAL ESTIMATED COSTS</b>											<b>\$ 245,600</b>

LEDGEND PRIORITY - RANK

1	Urgent priority - These items should be corrected as soon as possible and most likely encompass code, health and life safety issues.
2	High priority - These items should be corrected within a reasonable amount of time after the highest priorities referenced above. These may be associated with high priority maintenance issues or accessibility issues for the physically challenged. Maintenance items have a remaining useful life from 1-3 years.
3	Moderate priority - These items may be associated with aesthetic or general maintenance issues. Remaining useful life of 3-5 years.
4	Low priority - These items include maintenance and aesthetic issues that are not in current need of replacement, but should continue to be monitored on a regular basis. These items typically have a remaining useful life of 5-10 years or greater.



## CONCLUSIONS

The assessment of each garage has addressed a vast variety of needs required to improve these facilities. Both sites will require drainage, pavement, and accessibility improvements. The exterior and interior of the Sewer Building and Highway building need a significant amount of work. All buildings require infrastructure upgrades including water heaters, electrical systems, and HVAC systems. All restrooms are nearing the end of their useful life, nor do they ADA requirements. Other code and ADA items need to be addressed at each building.

The Sewer Building will require a large amount of work to the exterior and interior. It is also located on confined site with limited parking and room for expansion. The site of the Highway building and Mechanics building has much more promise for parking and expansion along with a desirable relationship to Pierson Park. However, the Highway building has had slab problems which need a detailed study of the underlying issues; therefore, a geotechnical engineer should be retained to provide further study of the soil conditions at this building and the site as a whole. If the slab can be rectified, it is critical that the envelope be addressed, and the structure cleaned and protected to maintain its integrity. The mezzanine and its conformity within the building's construction type and future occupancy classification should be considered. Adding a sprinkler system will likely be the most prudent route for its future use as Business or Assembly. The Mechanics garage is in better condition with less significant issues. However, it does need restroom access rectified along with other ADA items and if converted, a finished space incorporated. This building also has a mechanical system that may even be able to be reused to some degree for its new occupancy classification.

<b>ASSESSMENT COST COMPARISON CHART</b>			
	<b>SEWER BUILDING</b>	<b>HIGHWAY BUILDING</b>	<b>MECHANIC BUILDING</b>
<b>Square Footage</b>	3,200	6,000	2,500
<b>Site</b>	\$ 200,000	\$ 300,000	\$ -
<b>Haz. Materials</b>	\$ 60,350	\$ 47,025	\$ 13,500
<b>Exterior</b>	\$ 284,400	\$ 405,300	\$ 94,750
<b>Interior</b>	\$ 199,000	\$ 160,000	\$ 86,000
<b>Plumbing</b>	\$ 14,500	\$ 16,500	\$ 20,750
<b>Mechanical</b>	\$ 29,700	\$ 18,400	\$ 7,100
<b>Electrical</b>	\$ 46,725	\$ 65,625	\$ 23,500
<b>Total</b>	\$ <b>834,675</b>	\$ <b>1,012,850</b>	\$ <b>245,600</b>
<b>Cost per SQ FT</b>	\$ 261	\$ 169	\$ 98

Above is a chart summarizing the assessment needs of all 3 garages. Cost per square foot is included to begin to analyze the total facility conditions cost per building size. While this is not a perfect tool it does provide another lens to compare the needs of each building. Both the Sewer and the Highway building stand out for their higher cost per square foot but the Sewer Building greatly exceeds them both. The facility condition matrix with the prioritization ranking is now the tool to begin conceptual approaches to the future of these buildings.



**APPENDIX –****Limited Due Diligence Hazardous Materials Visual Survey Report and  
Abatement Cost Estimate Prepared by Langan CT, Inc.**



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**LIMITED DUE DILIGENCE HAZARDOUS BUILDING  
MATERIALS VISUAL SURVEY REPORT AND  
ABATEMENT COST ESTIMATE**

**for**

**Garage/Office Structures  
Mechanics and Highway Department  
20 James Martin Drive  
(End of Community Field Road)  
Sewer Department Building  
19 Community Field Road  
Cromwell, Connecticut 06416**

***Prepared For:***

**William Silver, AIA  
Principal  
Silver/Petrucelli & Associates  
3190 Whitney Avenue  
Building 2  
Hamden, Connecticut 06518**

***Prepared By:***

**Langan CT, Inc.  
555 Long Wharf Drive  
New Haven, Connecticut 06511**



**Matthew A. Myers  
Senior Project Manager**

**21 June 2021**

**140236401**

***LANGAN***



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## ACRONYMS

US EPA	United States Environmental Protection Agency
AHERA	Asbestos Hazard Emergency Response Act
OSHA	Occupational Safety and Health Administration
CFR	Code of Federal Regulation
NESHAPS	National Standards for Hazardous Air Pollutants
HUD	Housing and Urban Development
CT DPH	Connecticut Department of Public Health
RCRA	Resource Conservation and Recovery Act
PCB	PolyChlorinated Bi-Phenyls
PLM	Polarized Light Microscopy
TEM	Transmission Electron Microscopy
ACM	Asbestos-Containing Materials
LBP	Lead-Based Paint
PCB	Polychlorinated Biphenyls (PCB)
SF	Square Feet
LF	Linear Feet
mg/cm <sup>2</sup>	Milligrams per square centimeter
XRF	X-ray Fluorescence
TCLP	Toxicity Characteristic Leaching Procedure
AAS	Atomic Absorption Spectrometry



## 1.0 INTRODUCTION

Langan CT, Inc. (Langan) prepared this Limited Due Diligence Hazardous Building Materials Visual Survey Report and Abatement Cost Estimate on behalf Silver/Petrucelli & Associates and the Town of Cromwell. As part of this survey we conducted a visual assessment of interior and exterior building materials at the vacant garage structure at 19 Community Road (Sewer Department Building), and the two occupied garage/office structures at 20 James Martin Drive (located at end of Community Field Road) (Highway Department and Mechanics Department Garage Buildings). The adjacent Quonset Hut, Fueling Area Garage and other adjacent structures were not included in this visual survey. Please note that Langan was not authorized to collect bulk samples of building materials or perform destructive openings to access possible hidden suspect materials. The objectives of this limited survey are to visually identify accessible suspect hazardous building materials, prepare a summary report and an abatement cost estimate.

The following table provides a summary of relevant background project information.

### PROJECT INFORMATION

Client Name:	Mr. William Silver, AIA Principal Silver/Petrucelli & Associates 3190 Whitney Avenue Building 2 Hamden, Connecticut 06518	Property Visit Date:	10 June 2021
Professional's project #:	140236401	Construction Dates:	Sewer Department Building – 1948 with 1960/70's Addition and New Roof 1987 Highway Department Garage – 1982 Mechanics Department Garage – 1993
Consultant's Project Manager:	Matthew A. Myers	Number of Buildings/ Structures Surveyed:	Three
Phone No.:	203-562-5571	No. of Stories:	One with Lofts/ Mezzanines



Email:	<a href="mailto:mmyers@langan.com">mmyers@langan.com</a>		
Property Address:	Sewer Department Building – 19 Community Field Road  Highway Department and Mechanics Department Garage Buildings – 20 James Martin Drive (End of Community Field Road)	Bldg. Gross Footage in Square Feet:	Sewer Department Building – 3,200 Highway Department Garage – 6,000 Mechanics Department Garage – 2,500
Property Town, State:	Cromwell, Connecticut	Property Use:	Public Town Garage Structures

## 2.0 ASBESTOS-CONTAINING MATERIALS (ACM)

### Terminology

#### Suspect Asbestos-Containing Materials

Asbestos was used in certain types of construction and building materials and currently can be found in new building products. Until a material is examined by using polarized light microscopy (PLM) or a similar technique, the building material is considered as a suspect asbestos-containing material. A few examples of these materials include wall and ceiling plaster, sheetrock/taping compound, flooring materials, ceiling tiles/panels, thermal system insulation, fireproofing insulation, roofing materials, adhesives, damp-proofing/waterproofing materials, caulking and glazing compounds, etc. Any suspect ACM and/or building material of unknown asbestos content should be assumed to be an asbestos containing material and handled and disposed of accordingly. Demolition, renovation, maintenance or daily activities should not disturb building materials that are found to contain asbestos, assumed to contain asbestos or that have not been tested for possible asbestos content.

#### Asbestos-Containing Material

A material with an asbestos concentration greater than one percent by weight is considered as ACM by the United States Environmental Protection Agency (US EPA) and State of Connecticut Department of Public Health (CT DPH). Thus, a material which contains asbestos in concentrations greater than one percent by weight is considered "positive" while a material that does not contain asbestos or asbestos is detected in concentrations equal to or less than one percent by weight is considered "negative". However, for disposal purposes, materials that contain less than one percent asbestos may be required to be disposed of as an asbestos containing/contaminated material (not common construction waste) depending upon the hauler



and landfills requirements.

## **Regulatory Guidelines and Requirements**

### Federal

In accordance with the Clean Air Act (CAA), the U.S. EPA established National Emission Standards for hazardous Air Pollutants (NESHAP) to protect the public from exposure to airborne pollutants. Asbestos was one of the air pollutants, which was addressed under the NESHAP 40 CFR Part 61. The purpose of asbestos NESHAP regulations is to protect the public health by minimizing the release of asbestos when facilities, which contain ACM, are being renovated or demolished. EPA is responsible for enforcing regulations related to asbestos during renovation and demolition activities, however, the CAA allows the EPA to delegate this authority to State and Local Agencies. Even after EPA delegates responsibility to a state or Local agency, EPA retains the authority to oversee agency performance and to enforce NESHAP regulations as appropriate. Occupational Safety and Health Administration (OSHA) considers any amount of asbestos to be regulated.

### State

Asbestos in Connecticut is regulated by the State of Connecticut Department of Public Health, under Standards for Asbestos Abatement – Section 19a-333a-1 through 16 of Regulations of Connecticut State Agencies (RCSA) and Licensing and Training Requirements for Persons Engaged in Asbestos Abatement and Asbestos Consulting Services – Section 20-440-1 through 9 and Section 20-441 of RCSA.

## **Visual Survey**

During this survey, suspect ACM were separated into three US EPA categories. These categories are: thermal system insulation (TSI), surfacing materials and miscellaneous materials. TSI includes all materials used to prevent heat gain or loss or water condensation on mechanical systems. Typical examples of TSI are boiler, duct and tank insulation, pipe and pipe fitting insulation. Surfacing materials are sprayed, troweled or otherwise applied to an existing surface and common uses are fireproofing, decorative and acoustical plaster applications. Miscellaneous materials include all ACM not listed as TSI or surfacing and include: flooring materials, ceiling tiles, adhesives, caulking and glazing compounds, damp-proofing/tars/mastics, roofing materials, transite cement board, sink undercoating, sheetrock and taping compounds, cove base and other materials. CT DPH licensed asbestos inspectors Matthew Myers (#000041) and Pavel Zayenchik (#000869) performed the visual surveys.

**Table 1 - Summary of Assumed Asbestos-Containing Materials**

<b>Material</b>	<b>Location and Estimated Quantity</b>
<b>Sewer Department Building – 19 Community Field Road</b>	
Interior and Exterior Older Window and Door Caulking and Glazing Compounds (Visible in Some Locations, Assumed Behind Newer Caulking Compounds in Other Locations) – Miscellaneous Materials	Exterior and Interior – 12 Openings
Roof Field and Flashing Materials – Miscellaneous Materials	Assumed Throughout Above Ceilings and Below Pitched Roof – Unknown - Estimate 3,200 Square Feet

**Table 2 - Summary of Building Materials Than May Contain Asbestos**

**(These materials must be sampled and found not to contain asbestos prior to disturbance and disposing of them as non-asbestos containing)**

<b>Material</b>	<b>Location</b>
<b>Sewer Department Building – 19 Community Field Road</b>	
Sheetrock/Taping Compounds - Miscellaneous/Surfacing Materials	Garage above Garage Doors, Entry Area Room, Toilet Room and Adjacent Room, Loft – 600 Square Feet
Slate Blackboard/Wall Adhesives – Miscellaneous Materials	Room Adjacent Entry Area Room – 16 Square Feet
Duct and Floor Caulking Compounds – Miscellaneous Materials	Room Adjacent Entry Area Room and Garage Areas – Unknown Amount
Fire Door Insulation – Miscellaneous Material	Doors - Unknown
<b>Highway Department Garage Building – 20 James Martin Drive (End of Community Field Road)</b>	
12"x12" Floor Tiles and Mastic – Miscellaneous Material	Throughout Loft – 600 Square Feet



Material	Location
Cove Base/Adhesive – Miscellaneous Materials	First Floor Office and Throughout Loft – 200 Linear Feet
Sheetrock/Taping Compounds - Miscellaneous/Surfacing Materials	First Floor Entry Room, Toilet Room and Office and Throughout Loft - 2,500 Square Feet
Interior/Exterior Window, Door, Door Window, Louver/Vent, Pipe, Shower Caulking and Glazing Compounds – Miscellaneous Materials	Throughout – 23 Openings (Window/Door/Louver/Vent - Varying Sizes) and 25 Linear Feet
<b>Mechanics Department Garage Building – 20 James Martin Drive (End of Community Field Road)</b>	
12"x12" Floor Tiles and Mastic – Miscellaneous Material	Loft Bathroom – 100 Square Feet
Cove Base/Adhesive – Miscellaneous Materials	Loft Bathroom – 40 Linear Feet
Sheetrock/Taping Compounds - Miscellaneous/Surfacing Materials	Loft Areas - 750 Square Feet
Interior/Exterior Louver/Vent, Pipe, Shower, Hatch, Duct, Air Conditioning Unit Caulking Compounds – Miscellaneous Materials	Throughout – 100 Linear Feet

**Table 3 - Summary of Building Materials That Usually Do Not to Contain Asbestos**

**(These materials must be sampled and found not to contain asbestos prior to disturbance and disposing of them as non-asbestos containing)**

Material	Location
<b>Sewer Department Building – 19 Community Field Road</b>	
"Newer" Roofing Shingles and Paper Underlayment – Miscellaneous Material	Exterior
Paint – Miscellaneous/Surfacing Materials	Throughout Interior and Exterior
Brick/Concrete Block/Concrete and Mortar – Miscellaneous Materials	Throughout Interior and Exterior
<b>Highway Department Garage Building – 20 James Martin Drive (End of Community Field Road)</b>	
"Newer" Ceiling Tiles – Miscellaneous Materials	First Floor Office and Throughout Loft

Material	Location
"Newer" Roofing Materials Including Underneath Metal Roofing – Miscellaneous Materials	Exterior
Paint – Miscellaneous/Surfacing Materials	Throughout Interior and Exterior
"Newer" Fire Door Insulation – Miscellaneous Material	Doors - Unknown
Concrete/Concrete Block and Mortar – Miscellaneous Materials	Throughout Interior and Exterior
<b>Mechanics Department Garage Building – 20 James Martin Drive (End of Community Field Road)</b>	
"Newer" Ceiling Tiles – Miscellaneous Materials	Loft Bathroom
"Newer" Roofing Materials Including Underneath Metal Roofing – Miscellaneous Materials	Exterior
Paint – Miscellaneous/Surfacing Materials	Throughout Interior and Exterior
"Newer" Fire Door Insulation – Miscellaneous Material	Doors - Unknown
Concrete/Concrete Block and Mortar – Miscellaneous Materials	Throughout Interior and Exterior

**DISCLAIMERS:** Some locations/materials were not visually surveyed during this inspection due to current use, occupancy and damage required to inspect certain materials. Destructive openings were not permitted on the date of visual assessment.

It is important to note that the following materials are sometimes present in facilities of similar historic use and age, and therefore could be discovered during a NESHAP compliant pre-demolition/renovation survey:

- Wall adhesives behind mirrors, bulletin boards, "chalk" and white boards, plastic and other materials hanging on walls;
- Adhesives behind sheetrock and other wall materials;
- Adhesives and/or tars and mastic behind metal wall and roof systems;
- Interior and exterior "thick" paint and/or stucco type materials
- Additional layers of "older" wall, floor and ceiling materials hidden behind accessible wall, floor and ceiling materials (multiple layers of flooring materials (tiles, sheet



flooring, plywood, paper under original wood, etc.), multiple layers of walls and ceilings (plaster, sheetrock, etc.);

- Black tar papers behind walls;
- Damp-proofing/tars/paper behind exterior/interior walls, on foundations and slabs;
- Transite cement board (walls, ceilings, behind soffits, roofing, radiators, etc.);
- Vermiculite inside/behind walls, ceilings and floors, etc;
- Duct and pipe insulation, tars and/or transite cement piping buried underground and inside/behind fixed ceilings, walls and chases;
- Door insulation within metal/wood doors;
- Duct seam and flange sealants, fire penetration materials, interiors of mechanical and duct systems - damp-proofing, duct adhesives, etc.;
- Materials inside boilers and other mechanical systems;
- Electrical wire insulation; and
- Light Backing Paper/Insulation.

NESHAP pre-demolition/renovation survey(s) are required by EPA and CT DPH for all buildings to be renovated or demolished. These surveys will also require destructive sampling techniques to investigate for possible hidden asbestos containing materials. Building materials should not be assumed to NOT contain asbestos (must be sampled to prove non-asbestos containing unless the material is glass, wood and/or metal (unpainted)).

### **3.0 LEAD-BASED PAINT (LBP)**

Langan is assuming the sewer department building constructed prior to 1980 could have lead-based paint. Other materials that may contain lead include caulking and glazing compounds, piping, etc.

X-ray Fluorescence (XRF) lead-based paint testing, dust, soil and water testing was not performed as part of this limited visual survey. XRF screening and Toxicity Characteristic Leaching Procedure (TCLP) sampling should be performed if building materials are to be disturbed/removed/demolished to determine the proper method of disposal (normal construction debris versus regulated hazardous lead waste). It is assumed TCLP sampling will find the building materials (that do not contain other hazardous materials) can be disposed of as

normal construction debris. Metal surfaces covered with lead-based paint may be segregated and recycled as scrap metal (without grinding, sawing, sanding or torch cutting).

Contractors should be aware that OSHA has not established a level of lead in a material below which 29 CFR 1926.62 does not apply. Contractor shall comply with exposure assessment criteria, interim worker protection and other requirements of the federal, state and local regulations as necessary to protect workers and occupants/residents.

#### **4.0 POLYCHLORINATED BIPHENYLS (PCBs)**

PCBs can be found in several building materials installed between 1940's – 1984. PCBs can be found in source sealant compounds (glazing and caulking compounds), paints, roofing, wall and floor adhesives/mastics, tars/damp-proofing, other building materials, etc. These source materials can also contaminate adjacent building materials and ground surfaces. Langan is assuming the "older" sealant compounds throughout the sewer department building contain greater than 50 parts per million PCB and is PCB bulk product waste mixed with asbestos.

Please note that although there is no legal obligation or governing regulation that requires sampling of building materials for PCBs during assessment, contractors/waste haulers may be required by the end disposal facility to sample for PCBs prior to disposal of the building materials. If PCBs are confirmed during construction/demolition phases, this could result in significant unanticipated contractor change orders. The issue of PCBs in building materials is in what we would consider a "Regulatory Gray Area", and we would recommend a detailed discussion prior to commencing with any sampling efforts.

#### **5.0 UNIVERSAL WASTE ASSESSMENT**

Completion of detailed Universal Waste Assessment (identifying the number and location of Universal Waste items) was not conducted as part of this visual survey. However, several universal waste items were observed during our building walkthrough. Universal wastes include suspect PCB/DEHP (di (2-ethylhexyl) phthalate) ballasts/capacitors associated with light fixtures, air conditioner and refrigerator coolants, mercury-containing florescent and other mixed used high intensity light bulbs, smoke detectors containing suspect radioactive materials, possible mercury-containing thermostats, gauges and electronics, exit signs, emergency lighting, etc.

All universal waste that is present in the buildings would need to be properly removed, recycled, and/or disposed of at a landfill permitted to accept such waste if these materials are



to be removed/replaced during maintenance/renovation/demolition activities. The removal, handling, recycling, and disposal must be performed in accordance with applicable Federal, State, and local regulations.

## 6.0 MISCELLANEOUS ENVIRONMENTAL CONDITIONS

Visual observations noted that some areas of the buildings also have had oils, chemicals, liquids, etc. used for maintenance operations and visible floor/ground staining and floor drains/trenches are present. Should these building be repurposed and/or demolished, further environmental evaluation(s)/assessment(s), including possibly indoor air quality sampling, may be warranted given there is a potential for releases of contaminants to indoor air and to the subsurface.

## 7.0 ABATEMENT COST ESTIMATE

ACM or Presumed ACM	Estimated Quantity of ACM or Presumed ACM	Unit Price	Budgetary Estimate
<b>Sewer Department Building – 19 Community Field Road</b>			
Interior and Exterior Older Window and Door Caulking and Glazing Compounds (Visible in Some Locations, Assumed Behind Newer Caulking Compounds in Other Locations) (Assumed to be PCB Containing Bulk Product Waste Also)	Exterior and Interior – 12 Openings	\$300/Opening	\$3,600 Labor \$3,400 Disposal
Roof Field and Flashing Materials	Assumed Throughout Above Ceilings and Below Pitched Roof – Unknown - Estimate 3,200 Square Feet (SF)	\$12/SF	\$0 - \$38,400
Sheetrock/Taping Compounds	Garage above Garage Doors, Entry Area Room, Toilet Room and Adjacent Room, Loft – 600 Square Feet	\$12/SF	\$0 - \$7,200
Slate Blackboard/Wall Adhesives	Room Adjacent Entry Area Room – 16 Square Feet	\$2,250/One Containment	\$0 - \$2,250
Duct and Floor Caulking Compounds	Room Adjacent Entry Area Room and Garage Areas – Unknown Amount		\$0 - \$5,000

Fire Door Insulation	Doors - Unknown		\$0 - \$500
<b>Visual Estimate Total</b>			<b>\$7,000 - \$60,350</b>
<b>Highway Department Garage Building – 20 James Martin Drive (End of Community Field Road)</b>			
12"x12" Floor Tiles and Mastic	Throughout Loft – 600 Square Feet	\$10/SF	\$0 - \$6,000
Cove Base/Adhesive	First Floor Office and Throughout Loft – 200 Linear Feet (LF)	\$25/LF	\$0 - \$5,000
Sheetrock/Taping Compounds	First Floor Entry Room, Toilet Room and Office and Throughout Loft - 2,500 Square Feet	\$10/SF	\$0 - \$25,000
Interior/Exterior Window, Door, Door Window, Louver/Vent, Pipe, Shower Caulking and Glazing Compounds	Throughout – 23 Openings (Window/Door/Louver/Vent - Varying Sizes) and 25 Linear Feet	\$425/Opening \$50/LF	\$0 - \$11,025
<b>Visual Estimate Total</b>			<b>\$0 - \$47,025</b>
<b>Mechanics Department Garage Building – 20 James Martin Drive (End of Community Field Road)</b>			
12"x12" Floor Tiles and Mastic	Loft Bathroom – 100 Square Feet	\$2,500/One Containment	\$0 - \$2,500
Cove Base/Adhesive	Loft Bathroom – 40 Linear Feet	\$2,500/One Containment	\$0 - \$2,500
Sheetrock/Taping Compounds	Loft Areas - 750 Square Feet	\$5,000/One Containment	\$0 - \$5,000
Interior/Exterior Louver/Vent, Pipe, Shower, Hatch, Duct, Air Conditioning Unit Caulking Compounds	Throughout – 100 Linear Feet	\$35/LF	\$0 - \$3,500
<b>Visual Estimate Total</b>			<b>\$0 - \$13,500</b>
<b>Estimated Total Abatement Budget Based on Visual Survey Only and Assumptions</b>			<b>\$7,000 - \$120,875</b>

Additional survey(s) that include bulk sampling of building materials would be necessary to confirm the presence of asbestos and other regulated materials throughout the structures. This sampling could result in changes to these estimated abatement budgets depending on the findings/results. This estimate is based on the following core assumptions:



- Lead TCLP sampling results would reveal that painted building/demolished materials could be disposed of as non-hazardous waste.
- Only includes possible PCB containing "older" sealant compounds from throughout the sewer department building.
- Does not include other source materials or possible PCB contaminated adjacent building materials and/or ground surfaces.
- Includes only estimated abatement contractor costs and does not include additional costs for required NESHAP pre-demolition/renovation survey(s), abatement design specifications or abatement project monitoring services.
- Does not include costs for universal waste disposal or recycling, or the mitigation of any environmental issues associated soil, groundwater, or indoor air quality.

## 8.0 LIMITATIONS

The conclusions and recommendations presented in this report are professional opinions based solely upon Langan's visual observations and current regulatory requirements. These conclusions and recommendations are intended exclusively for the purpose stated herein, at the site indicated, and for the project indicated.

It is important to recognize that even the most comprehensive scope of services may fail to detect all hazardous building materials that may be associated with the property. Therefore, Langan cannot act as insurers and cannot "certify" that all hazardous building materials associated with the property have been identified, and no expressed or implied representation or warranty is included or intended in our report, except that our services were performed, within the limits prescribed by our client, with the customary thoroughness and competence of our profession.

Any suspect material that is not listed in this report and/or not sampled must be assumed as ACM, lead-based paint, PCBs, other hazardous materials until confirmed otherwise via laboratory testing. This survey did not include any sampling of building materials or destructive techniques to look for currently inaccessible materials.

# **Appendix A**

## **Building Drawings**



Sewer Department Building



Imagery ©2021 Maxar Technologies, U.S. Geological Survey, USDA Farm Service Agency, Map data ©2021 50 ft



Highway Department Garage

Mechanics Department Garage

19 Community Field Rd



Directions



Save



Nearby



Send to your  
phone



Share

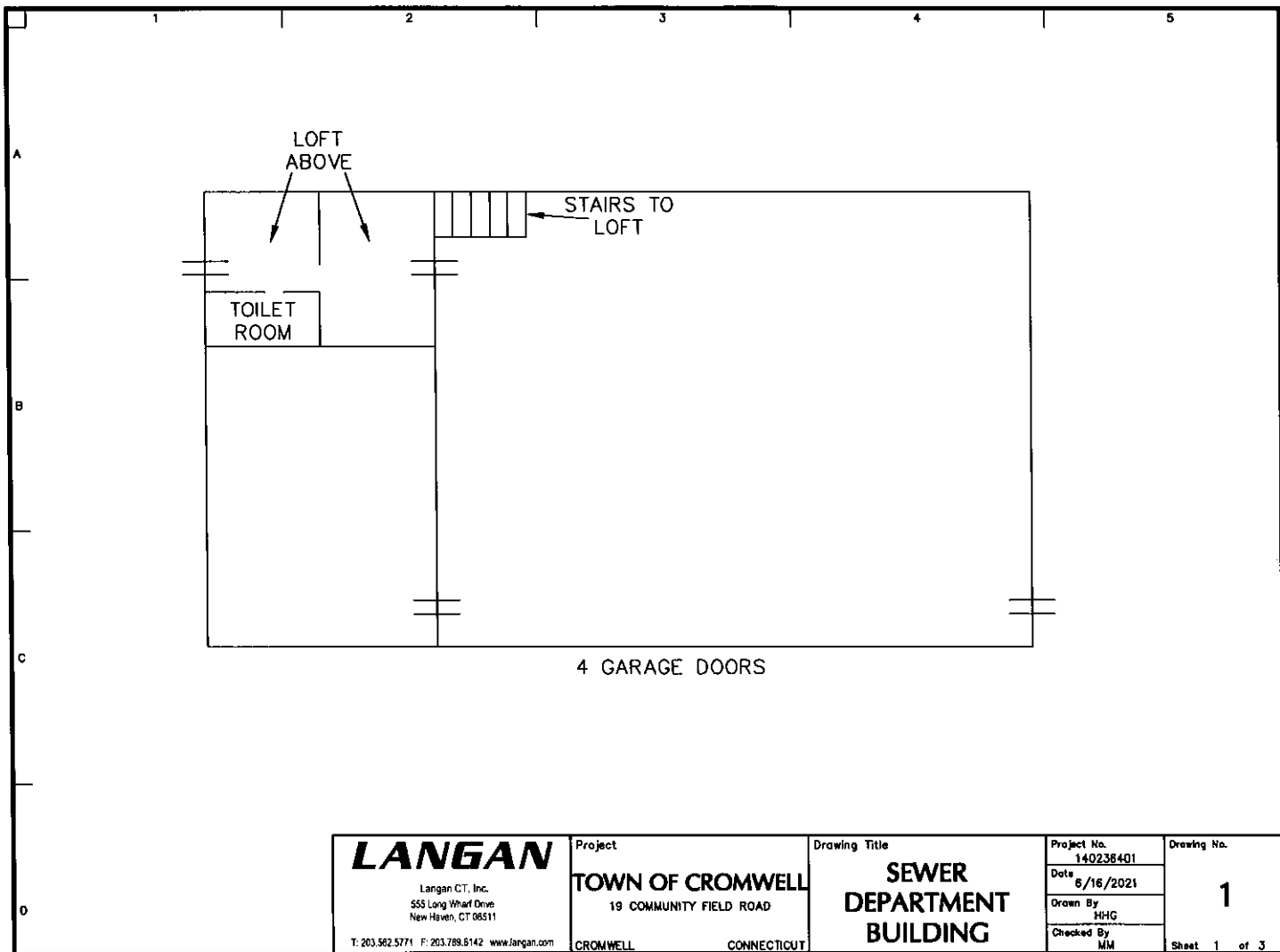


19 Community Field Rd, Cromwell, CT 06416



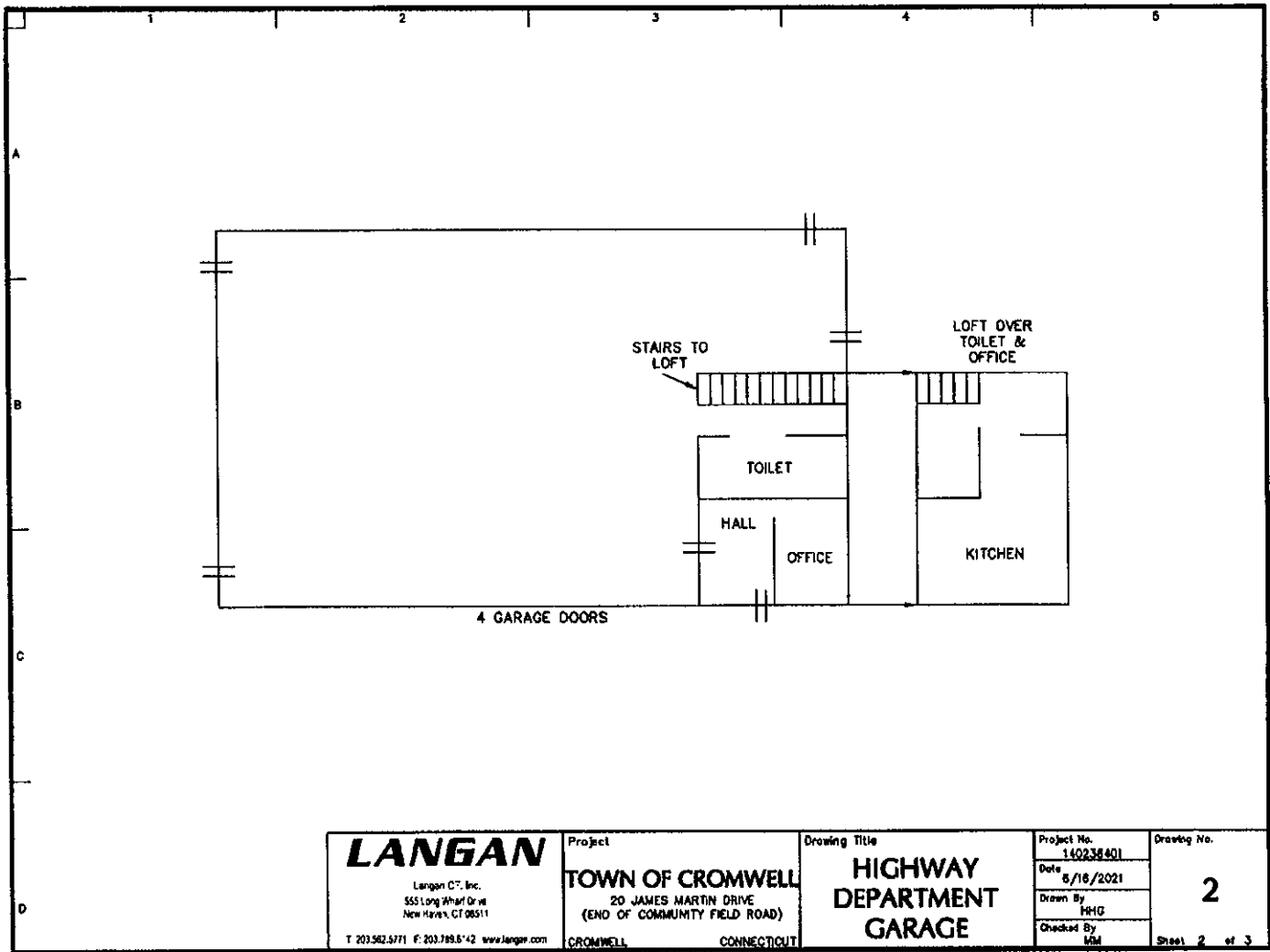
H9W3+46 Cromwell, Connecticut

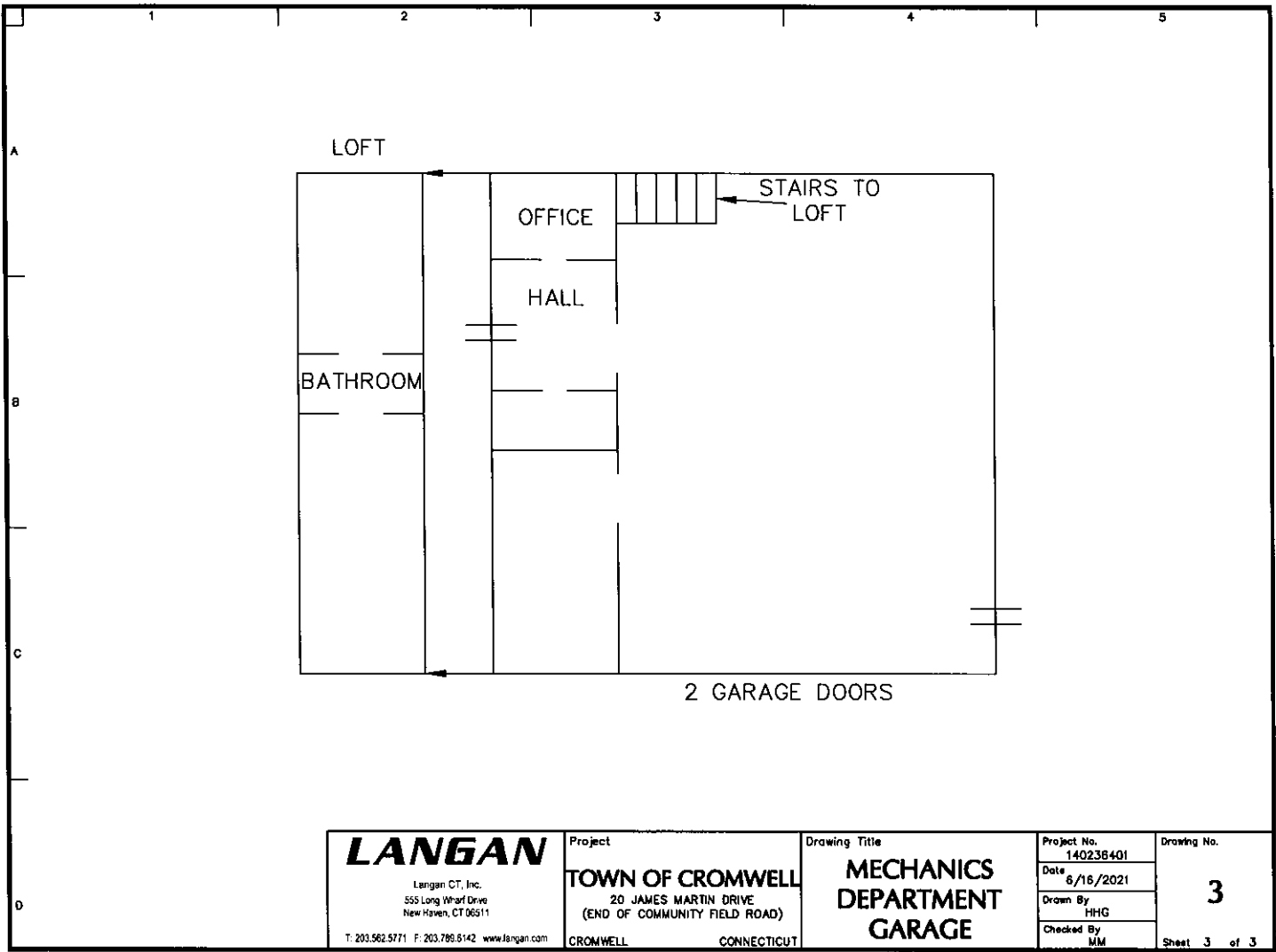
Photos



Filename: \\langan.com\desig\4\40236401\Project Data\CAD\21\2D-Design\Finish\Hazardous Materials\FG01-140236401-H-0101.dwg Date: 6/17/2021 Time: 10:45 User: hyr/ebach Style Table: Langan.stb Layout: Figure 1









## **Appendix B**

### **Langan Certifications and Accreditations**

**STATE OF CONNECTICUT**  
**DEPARTMENT OF PUBLIC HEALTH**

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS CERTIFIED  
BY THIS DEPARTMENT AS A  
**ASBESTOS CONSULTANT-INSP/MGMT PLANNER**

**MATTHEW A. MYERS**

CERTIFICATE NO.

**000041**

CURRENT THROUGH

**04/30/22**

VALIDATION NO.

**03-888299**

SIGNATURE

*David S. Gifford*  
ACTING COMMISSIONER



**STATE OF CONNECTICUT**  
**DEPARTMENT OF PUBLIC HEALTH**

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS CERTIFIED  
BY THIS DEPARTMENT AS A  
**LEAD INSPECTOR RISK ASSESSOR**

**MATTHEW A. MYERS**

CERTIFICATE NO  
**000191**

CURRENT THROUGH  
**04/30/22**

VALIDATION NO  
**03-888298**

\_\_\_\_\_  
SIGNATURE

*Deirdre S. Gifford*  
\_\_\_\_\_  
ACTING COMMISSIONER



**Q&S&T**

Quality Environmental Solutions & Technologies, Inc.  
1376 Route 9, Wappingers Falls, NY 12590  
Phone (845) 298-6031 Fax (845) 298-6251

HEREBY CERTIFIES THAT

**MATTHEW MYERS**

HAS SUCCESSFULLY COMPLETED A TRAINING SEMINAR IN:

**NYS/EPA INSPECTOR REFRESHER**

MEETING THE REQUIREMENTS OF NYSDOH 10 NYCRR, PART 73 AND  
TSCA TITLE II AND HAS BEEN AWARDED THIS CERTIFICATE BY:



**PAUL A. RODRIGUEZ**  
TRAINING DIRECTOR

NOTE: Official record of successful completion is DOH 2832 Certificate of Completion of Asbestos Safety  
Training

NOTE: DOH 2832 - A \$20 fee shall be charged for replacement of Certificate of Completion DOH 2832

ON THIS DATE: 8/12/2020

CERTIFICATE NUMBER: 862435 EXPIRATION DATE: 8/12/2021



CERT#: L-600-V1096

**CHEMSCOPE TRAINING DIVISION**  
**LEAD INSPECTOR/RISK ASSESSOR REFRESHER**  
**8-HOUR TRAINING CERTIFICATE**

**Matthew Myers**

**10 Lewis Street, Milford CT**

Has attended an 8-hour course on the subject discipline on  
12/04/2020 and has passed a written examination.

The above individual has successfully completed the above training course approved in accordance with the Department of Public Health Standards established pursuant to Section 20-477 of the Connecticut General Statutes.

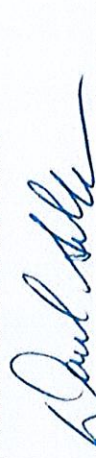
Course topics include all required topics of State of Connecticut DPH and EPA.

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (U.S.C. 1001 and 15 U.S.C. 2615), I certify that this training complies with all applicable requirements of Title IV of TSCA, 40 CFR part 745 and any other applicable Federal, State or local requirements.

**Examination Score: 96%**

**Exam Date: 12/04/2020**

**Expiration Date: 12/04/2021**



Daniel Sullivan  
Training Manager

Chem Scope, Inc.  
15 Moulthrop Street  
North Haven CT 06473  
Phone: 203.865.5605  
[www.chem-scope.com](http://www.chem-scope.com)





State of Connecticut

## Lookup Detail View

### Name

Name
PAVEL ZAYENCHIK

### License Information

lookup

License Type	License Number	Expiration Date	Granted Date	License Name	License Status		Licensure Actions or Pending Charges
Asbestos Consultant-Inspector	869	10/31/2021	02/03/2014	PAVEL ZAYENCHIK	ACTIVE	CURRENT	None

Generated on: 11/13/2020 5:33:52 PM





State of Connecticut

## Lookup Detail View

**Name**

Name
PAVEL ZAYENCHIK

**License Information**

lookup

License Type	License Number	Expiration Date	Granted Date	License Name	License Status		Licensure Actions or Pending Charges
Lead Inspector Risk Assessor	2262	10/31/2021	08/04/2015	PAVEL ZAYENCHIK	ACTIVE	CURRENT	None

Generated on: 12/14/2020 11:12:43 AM

**New York State Department of Health Certificate of Asbestos Safety Training**  
This form is the official record of successful completion of a New York State accredited asbestos safety training course.

Certificate No. **866058**

Name of Trainee (print) <b>DAVID L. DODSON</b>		NYS Dept. of Motor Vehicles ID (DMV ID) <b>165030051</b>	
Signature of Trainee <i>[Signature]</i>		Telephone Number <b>9175840013</b>	Date of Birth <b>10/23/1973</b>
Address <b>511 46th St Flushing</b> (Street or PO Box) (City) (State) (Zip Code) <b>NY 11354</b>		Telephone Number <b>212-210-6323</b>	
Provider: <b>BSI Services and Solutions (NYC) Inc.</b> <b>141 West 38th Street, 3rd Floor</b> <b>New York, NY 10018</b> (212) 290-6323		Course Location: <b>Online</b>	
Zip Code			

Course Title: **Inspector** Initial ☐ Refresh ☒ NYS DOH Reg. Only ☐ DOH Equivalency <sup>2</sup>

Training Language: ☒ English ☐ Other: Exam Grade/Date: **10/10/21**

Dates of Training: From: **10/21/20** To: **10/21/20** Expires: **10/21/21**

I certify that the asbestos safety training course given on the above date complied with both 10 NYCRR Part 73 and TSCA Title II, was consistent with the curriculum and instructors approved by the New York State Department of Health, and the trainee receiving this certificate completed the training course and successfully passed the examination.

Training Director: **DAVID L. DODSON** (Print) *[Signature]* (Signature) **STUDENT**



**Big Apple Occupational Safety Inc**

505 Eighth Avenue, #2305, New York, NY 10018  
(212) 684-7656

This Is To Certify That

**Pavel Zayenchik**

SS#: XXX-XX-XXXX  
25-11 Union Street #4H, Flushing, NY, 11354

HAS SUCCESSFULLY COMPLETED THE ENVIRONMENTAL PROTECTION AGENCY APPROVED COURSE

**EPA-Lead Based Paint Risk Assessor Refresher - CLASSROOM - NYC**


*THIS COURSE IS APPROVED FOR PURPOSES OF CERTIFICATION UNDER THE  
ENVIRONMENTAL PROTECTION AGENCY - 40 CFR PART 745.225*

Course Date: 11/25/2020

Course Completion Date: 11/25/2020

Certificate Number: LRAR-20-7927

Examination Grade: 92%

  
Radha Reddy  
Training Director