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REPORT

May 2021

TOWN OF
Acton
MASSACHUSETTS

Architecture and Engineering Evaluation for
the Department of Public Works and
Transfer Station & Recycling Facility



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DEPARTMENT OF PUBLIC WORKS AND TOWN TRANSFER STATION FACILITIES NEEDS ASSESSMENT & FEASIBILITY STUDY

Town of Acton MA Department of Public Works and Transfer & Recycle Facility at 14 Forest Road

Date: May, 2021

I. Introduction

The Town of Acton retained the services of Weston & Sampson to prepare a feasibility study to identify the current and future needs of the Department of Public Works (DPW) and Transfer Station & Recycling Facility (Transfer Station). The goal of the study was to develop an objective program of buildings and site features which are needed to cost effectively and efficiently support the services offered by the Department to the community. The study included inspecting existing facilities, identifying deficiencies, interviewing staff, identifying current and future needs, developing conceptual alternatives, evaluating the preferred conceptual alternatives with the DPW, and preparing budget cost estimates for the preferred alternatives.

II. Existing Buildings and Transfer Station Assessments

Weston & Sampson reviewed the existing facilities to identify the suitability of refurbishing the existing spaces for continued use as operations. Project notes and documentation of the existing conditions are included as **Appendix A**. The following sections present a summary of some of the deficiencies and/or inefficiencies associated with the existing facilities.

DPW Main Building:

1. The **Vehicle Storage** facilities are undersized and unable to efficiently support current operations, resulting in a portion of the department's multi-million dollar fleet being stored outdoors. The limited interior space results in the need to park vehicles in the main drive aisle requiring a daily shuffling of vehicles to allow circulation through the drive aisle. The already limited space is further reduced by tire storage, material storage, and a fluid storage area for collection and distribution of motor oils, hydraulic fluids, and transmission fluids. The interior space is poorly lit and ventilated. The limited vehicle storage area does not allow for interior plow storage, which then need to be located outside around the perimeter of the DPW yard. All of these factors impact DPW response times during cold and inclement weather conditions and contributes to the premature deterioration of high value Town owned equipment and

vehicle assets while also increasing overall vehicle maintenance costs. The size of industrial vehicles has grown significantly since the facility was constructed in the early 1970's, resulting in the need to park larger trucks very close to the exterior concrete block exterior walls in order to provide a clear drive aisle for vehicles entering and exiting the storage garage. This tight parking arrangement has resulted in trucks hitting the exterior wall, dislodging concrete block units and compromising the structural integrity of the building.

2. **Vehicle Maintenance** areas are undersized and lack adequate height for lifting of vehicles. The ventilation system is not per current mechanical code and lacks a toxic gas detection system which when activated would automatically remove excess carbon monoxide (CO) and nitrogen dioxide (NO₂) and flood the area with fresh air. The current system is manually operated and requires direct tailpipe hook-up.
3. **Employee facilities** are undersized and poorly arranged with a lack of code compliant Men's and Women's toilet/locker facilities. The current employee break/muster room is not sized to hold the entire DPW staff and is not adequately outfitted to provide on-going required employee training. The administrative offices lack adequate supervisor office space, conference rooms, storage areas, layout areas and dedicated public Men's and Women's bathroom facilities (not associated with locker rooms). The building lacks a vestibule as required by current energy codes and the main office area is not segregated from the public by means of either a vestibule with a transaction window or a secure transaction counter which allows the public direct access through the building unless the front door is locked or directly monitored by staff. This arrangement is a potential danger to both the DPW staff and the public. Administrative office areas are also immediately adjacent to existing carpentry and equipment maintenance workshop areas, which subjects the occupants to excessive noise, vibration and fumes.
4. The facilities lack a **Vehicle Wash Facility** to properly care for vehicles and other equipment exposed to dirt and corrosive chemicals. Localized washing takes place in the vehicle storage garage with a portable heated wash unit which is not adequately sized for the vehicle/equipment wash demands of the department. Vehicle washing in an interior environment not specifically outfitted with proper ventilation, drainage, and protected walls, ceiling and structural elements has caused rusting of the metal roof trusses, peeling paint and spalling of concrete masonry unit block walls.

These existing building deficiencies directly impact operations by reducing the efficiency of services the

DPW can provide to the town, increases potential impacts on the health and safety of department employees, and results in increased equipment and vehicle repair and replacement costs.

Transfer Station

The *Transfer Station and Recycling Facility* contains four operating areas:

1. Scale house & transaction window; small office and transaction window area where residents can pay for specialty items, ask questions, and purchase annual stickers.
2. Recycling area; where most of the facility recyclables are received, including donations. Additional area for tires and mattresses is located adjacent to the MSW tipping building.
3. Compost & organic material recycling; where compost and organic recycling materials are received. Compost materials are also processed here before being shipped off-site. Final product materials are available for residents and available adjacent to the scale house.
4. MSW tipping building; open building with tipping floor and trailer tunnel for receiving and preparing MSW for shipment off-site.



All traffic enters through the scale house & transaction window area. Traffic patterns are counterclockwise, moving patrons through each of the areas above in the order shown above. Residents can bypass the recycling area and move straight through to the compost and tipping building if desired. Patrons enter and exit from/onto Route 2.

The scale house is where the transfer station superintendent is based, but frequently is out in the other operations area, assisting and directing residents and operations. The operations at the scale house lacks modernized tracking software to adequately track incoming and outgoing materials, as well as transactions. The scale house also does not have restroom facilities.

The transfer building consists of a tipping floor where refuse is deposited. Before the end of the day, or as needed, a frontend loader crushes the material on the floor before moving the material from the

floor to an open top loader. The compaction on the floor provides improved material density in the transfer trailer. Trailers are hauled by the Town to Wheelabrator North Andover when full. Hauling occurs approximately every 4 to 5 operating days. The tipping floor building is in need of repair. Insulation has deteriorated and is sporadic throughout, hanging in pieces as seen in the photo to the left. Roll-up doors do not function, resulting in an unsecured facility, windblown litter, rodents and other vectors.

Peak demand hours occur on Saturday. During heaviest usage, queuing can back out to Route 2. The crux of the queuing issue appears to be the recycling area, where residents are funneled through four 90-degree turns, including perpendicular parking which often results in stalled movement while waiting for others to back out. We recorded video of the activities on a Saturday to better understand the usage and traffic patterns. From this added information, we were able to identify that approximately 90% of patrons visiting the facility during this period were there to drop off primary recyclables (paper, cardboard, glass, plastics, and metal [not scrap metal]) and refuse.

Operations of the Transfer Station are above the closed landfill. This should be taken into consideration for future improvement recommendations due to settlement issues and cost implications.

A summary of the benefits and detriments to the operations is provided in the table below:

Operating Area	Pros	Cons
Scale House & Transaction Window	<ul style="list-style-type: none"> Access point to operations – all traffic must pass scale house. Provides cover/shelter for employees and records. 	<ul style="list-style-type: none"> Far from operations, spreading staff out, limiting proper oversight / shared staff. No restroom facility, can result in unattended operations. Antiquated transaction and tracking software.
Recycling Area	<ul style="list-style-type: none"> Located first in the facility, to encourage recycling. Containers are adequately marked. 	<ul style="list-style-type: none"> Location and layout results in a bottleneck and traffic queuing. Operations are mixed in with residential.

Operating Area	Pros	Cons
Organics & Compost Recycling	<ul style="list-style-type: none"> Operations can be managed separate from residents. Storage capacity is adequate for operations. 	<ul style="list-style-type: none"> None
MSW Tipping Building	<ul style="list-style-type: none"> Tipping floor operations suits the Town's needs and provides efficient transfer options. 	<ul style="list-style-type: none"> Building is past its useful life and is in need of replacement or repair.
General	<ul style="list-style-type: none"> Counterclockwise traffic patterns. No crossing traffic patterns. Operations are generally separated from residents (except for recycling area). 	<ul style="list-style-type: none"> A separate exit drive onto Route 2 should be considered to mitigate patrons trying to access the site during closing time.

III. Space Needs Assessment

The Project Team prepared a space needs assessment to identify the current and future needs of the Department of Public Works and the Transfer Station and Recycling Facility. The assessment included analyzing current deficiencies at each area which need to be corrected with the construction of a new and/or renovated space. The assessment also included interviewing key staff to learn first-hand the operational issues with the existing buildings and site. The staff interviews were supplemented with support by the project team's knowledge of industry practices and familiarity with solutions which have been successfully implemented on recently constructed public works facilities and transfer/recycling facility projects.

Staff Interviews

The staff interviews conducted by the project team focused on identifying all DPW functions, identifying current deficiencies, and identifying current and future space requirements. The information obtained during these interviews included detailed accounts of space deficiencies in the existing facilities which affect day-to-day operations. A summary of the departmental organization and equipment inventory is as follows:

DIVISION/DEPARTMENT	Administration Full Time	Workforce Full Time	Part Time	Future/Vacant	Locker	Parking
Administration	7		1	1	-	9
Highway	-	11, 1*	-	4	16	16
Fleet Maintenance	-	3	-	-	3	3
Trees and Grounds	1	3	-	-	4	4
Transfer Station	-	2, 1*	-	-	2	2
Public facilities/Municipal Properties	2	-	-	-	-	2
Total Department of Public Works/Transfer (located at 14 Forest Road)	10	22	1	5	25	36
Public facilities/Municipal Properties (assigned to town properties)	2 (moved to DPW)	6	-	-	-	-
Parks and Cemeteries (Concord Road)	-	5	-	-	-	-
Total other Departments (not to be located at 14 Forest Road)		11	-	-	-	

*Heavy Equipment Operator splits time between the Highway Department and the Transfer Station

Vehicles / Equipment Inventory (not including small support equipment)

- Large Vehicles: 29
- Small Vehicles: 12
- Equipment: 6
- Towed Equipment: 28

Refer to **Appendix B** for a copy of the staff interview notes and the vehicle/equipment inventory list.

Programming Analysis

The data obtained from the operations analysis and interviews were compiled and analyzed by Weston & Sampson. The analysis consisted of individually identifying the space needs for the operations of

each function. The spaces were assembled into a space needs matrix identifying each space and providing a recommended program size. The space needs assessment identified an initial requirement of 52,606 square feet. The results of the initial space needs were then reviewed in detail by the Project Team and DPW staff to determine if the spaces could be reduced without negatively impacting operations. Based on input from DPW, the team was able to reduce, and in some cases combine, spaces in an effort to control the size and cost of the building program. These reductions resulted in a modified space needs projection of 48,184 square feet (including Transfer Station Scale House). This reflected an overall reduction in the space needs of 4,422 square feet, or approximately 8.4%. Refer to **Appendix C** for the space needs matrix and associated programming sketches (Room Data Sheets).

IV. Conceptual Design Alternatives

Department of Public Works Facility

Utilizing the results of the final space needs assessment, the Project Team prepared conceptual alternatives for the development of the Forest Street site. The alternatives were prepared with the following operational considerations in mind:

- Provide visual screening of DPW Yard operations from surrounding abutters.
- Segregate small/public vehicle traffic from heavy truck traffic.
- Provide adequate parking for public and employees.
- Provide full access and safe vehicle movement around the perimeter of the facility.
- Locate gas and diesel fuel island to allow for town vehicle use without having to enter the Public Works yard.
- Provide bulk material storage area with adequate yard area for large vehicle maneuvering.
- Maintain safe and functional access to/from the salt/sand operations area.
- Maintain a counterclockwise circulation pattern to promote safe turning movements for large vehicles.

The conceptual alternatives were prepared by developing “Block Building Plans”. These Block Building Plans were developed for each of the major space categories for the new facility as follows:

- Administration & Employee Facilities
- Shops
- Vehicle Maintenance

- Vehicle / Equipment Storage
- Wash Bay
- Fuel Island

The configuration and size of the planning “blocks” are developed by assembling the individual rooms identified during the space needs assessment and appropriate circulation and grossing factors. Multiple initial concepts were developed utilizing the approved space needs program. Refer to **Appendix E** for a copy of the initial alternatives. The advantages and disadvantages of each alternative were reviewed with the DPW Staff and a preferred alternative was selected.

Transfer Station & Recycling Facility

Using information obtained from the Town (including annual tonnages of materials, landfill closure drawings, permits, user counts, etc.), site observations, discussions with operators and Town personnel, and based on our experience, we prepared conceptual alternatives for the Facility. The alternatives were prepared with the following operational considerations in mind:

- Relocate scale house to be closer to the operations for better oversight and shared use of staff.
- Mitigate traffic queuing issues during peak hours.
- Safe vehicle traffic patterns.
- Segregation of operations from residents where possible.
- Limit disruption to the facility in consideration of the closed landfill, as well as to avoid disruption of the operations.
- Consideration for alternative MSW handling operations.

We were also asked to review potential compactor alternatives for handling and compaction MSW. A summary of our findings is included in **Appendix F**.

V. Conceptual Cost Estimate

A conceptual cost estimate was prepared for the preferred alternative, using square foot costs based on historical data for similar DPW facilities. In general, the cost estimate assumes cost effective building systems, finishes, and equipment as identified in the estimate spreadsheet and as described as follows:

- Construction of a new pre-engineered metal building with partial masonry wall finish and

concrete protection wall for the vehicle storage area and shops areas.

- Factory foam insulated architectural metal panel with improved exterior finish system.
- Primary industrial support equipment for vehicle maintenance operations
- Site improvements, including storm water management, utilities, fencing, and paving upgrades.
- New material storage bins
- Contingency allowance for unanticipated design and construction costs, pending final design.
- Pricing contingencies to account for the early nature of the project.

Upon completion of the initial estimate, the design team worked with the Town to identify potential cost savings measures to reduce the overall project cost. Based on these discussions, the design team identified the following recommended value engineering options to further reduce the total project cost of the new DPW facility:

- Refined program to implement the following revisions (4.8% reduction in program):
 - Administration / Employee Facilities: reduce by 340 SF
 - Trade Shops: reduce by 1,596 SF
 - Vehicle Maintenance: increase by 644 SF
 - Vehicle/Equipment Storage: reduce by 3,990 SF

These value engineering recommendations were implemented into the final cost estimate. The estimated costs for new building construction and site improvements are based on costs of similar construction for which bid prices are available, supplemented by cost data obtained from published sources. It is assumed that the project will be publicly bid under Chapter 149 requirements, and prices are based on 2019 bid pricing. The following is a summary of the anticipated total project costs:

Building Construction Costs*:	\$15,651,072
Industrial Equipment:	\$763,100
Fuel System:	\$931,799
Site Development-6 acres:	\$4,238,588
Contingencies:	\$1,726,765
Escalation:	\$2,389,411
Owner's Project Development Costs:	<u>\$6,418,651</u>

TOTAL PROJECT COST*:	\$32,119,386
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*Costs are escalated to the year 2023 and includes the cost of the Transfer Station renovations and site development costs associated with the DPW, the Transfer Station and the Recycling Area.

Additional escalation factors should be included if the Town does not move forward with funding of the project by Spring 2023. Escalation factors will vary depending on the construction market. As a guideline, the Town should expect escalation will typically range from 4% - 6% or \$1,284,775 - \$1,927,163. The results of the cost estimate, as well as a comparison of the cost to recent DPW projects, are included Section 7 of this report.

Current Construction Market Environment:

A confluence of factors related to COVID-19, construction material shortages and increased shipping costs have resulted recently in a significant spike in construction costs. It is not currently clear if this will be a short-term anomaly, with prices returning to an expected yearly rate of escalation, or if prices will remain elevated moving forward. The current cost estimate includes adjusted unit costs for 2021 beyond what was included in the estimate delivered previously to the town and includes 5% anticipated (normal) escalation for 2022 and 2023. Along with an 8% design contingency, it is hoped that this estimate will more accurately track the expected future cost of construction, but additional estimates and adjustments to the contingency will be required if/when the project moves forward beyond the feasibility stage.

The results of the cost estimate, as well as a comparison of the cost to recent DPW projects, are included in **Appendix G** of this report.

APPENDIX A

SUMMARY OF PROPOSED DPW PROGRAM / SITE AMENITIES:

OFFICES & SUPPORT AREAS: 4,668 SF

EMPLOYEE FACILITIES: 4,184 SF

WORKSHOPS: 5,137 SF

VEHICLE MAINTENANCE: 6,743 SF

WASH BAY: 1,750 SF

VEHICLE STORAGE: 30,240 SF

CANOPY: 7,050 SF

SALT SHED: 3,500 SF

MATERIAL STORAGE BINS

EMPLOYEE PARKING / PUBLIC PARKING

SUMMARY OF PROPOSED TRANSFER STATION PROGRAM / SITE AMENITIES:

OFFICES, SUPPORT SPACES & EMPLOYEE FACILITIES

SUMMARY OF EXISTING DPW PROGRAM / SITE AMENITIES:

BULK MATERIAL STORAGE

OUT BUILDINGS, STORAGE: +/- 6,700 SF

RESIDENCE ONLY SALT & SAND BULK MATERIAL STORAGE BINS CONTAINER STORAGE

FUEL ISLAND

PARKING AREA

SALT SHED: +/- 8,400

MAIN BUILDING: +/- 19,000 SF

SUMMARY OF EXISTING TRANSFER STATION PROGRAM / SITE AMENITIES:

PARKING

TRAILER ACCESS

RECYCLING CENTER

SCALE HOUSE

GATE HOUSE

ACTON DPW - EXISTING BUILDING PLAN

1/16" = 1'-0"

Project:

TOWN OF ACTON

INCORPORATED 1755
ACTON

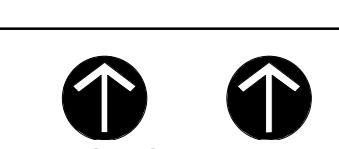
PUBLIC WORKS FACILITY,
TRANSFER STATION &
RECYCLING FACILITY
14 FOREST ROAD
ACTON, MA 01720

Weston & Sampson

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Drawing Title:

EXISTING SITE
OVERVIEW



SCALE: AS NOTED



ACTON DPW & TRANSFER STATION - EXISTING SITE PLAN OVERVIEW & SURROUNDING CONTEXT
1" = 80'-0"

<p>Project: TOWN OF ACTON INCORPORATED 1755 ACTON</p> <p>Weston & Sampson Weston & Sampson Engineers, Inc. 100 Foxborough Boulevard, Suite 250 Foxborough, MA 02035 (508) 698-3034 (800) 333-SAMPSON www.westonandsampson.com</p> <p>Drawing Title: EXISTING SITE OVERVIEW</p> <p>SCALE: AS NOTED</p>	
PROJECT	TRUE

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EXISTING CONDITIONS ASSESSMENTS

Town of Acton MA Department of Public Works and Transfer & Recycling Facility, 14 Forest Road

Visit Date: October 1, 2020

A team of Weston and Sampson Architects and Engineers conducted a site and existing building evaluation Thursday October 1, 2020. The evaluation involved observation and documentation of DPW operations and review of the current physical condition of the existing buildings and structures located at the 14 Forest Road site.

The Town's main Highway Department building was constructed in the early 1970's and currently houses the DPW's Administrative Offices, Highway Department, Fleet Maintenance and the Trees and Grounds Divisions. The facility is a single-story, 19,200SF structure with a low-pitched gable roof supported by 1'-0" concrete masonry unit block walls. The clear interior building envelope from the floor to the underside of the steel roof trusses is approximately 15' at the eaves and 19'-6" at the roof ridge.

DPW Building- Building Envelope

The existing DPW building dimensions are 160-ft long by 120-ft wide with an eave height of 17'-4" on top of concrete blocks. The exterior walls are a single wythe of 12" CMU bearing wall. The interior bearing wall is 12" CMU block wall located at the center of the building. The interior partition walls are 6" CMU block walls. The partition walls only extend to the bottom of a storage mezzanine with a height of 9'-4". The roof support is steel joists with metal deck on it. The steel joists are spaced at 5'-6" and span half from exterior CMU wall to the center CMU wall. The solar panels were visible on the top of building roof.

By examining the available structural drawings, the 12" bearing walls are vertically non-reinforced CMU walls. The roof steel joist size is 36LH09 with 1/12 slope.

The exterior CMU walls show the signs of cracking, corrosion, water infiltration and impact damage. On the south side of the building, the joint mortar show signs of loosening and water infiltration. The interior wall has a better condition. No cracking and corrosion are visible on the wall.

Unreinforced masonry walls do not have a grid of steel reinforcing bars embedded within them and perform poorly during an earthquake event. Poor building performance poses three basic types of risk in an earthquake: the risk of injury, property damage, and loss of use. Bearing walls perform the essential job of resisting gravity and holding a building up. Destruction of bearing walls in an earthquake leads to building collapse.

Many considerations should be considered to retrofit a building structure to reduce the earthquake risks of unreinforced masonry buildings. Retrofitting is the process of adding earthquake resistance to an existing building.

During the site visit, water can be seen dripping from the holes in the gutter which indicates the roof does not drain properly. It may cause the water infiltration in CMU wall. Many CMU units have been pushed out of the plane of the wall, most likely a result of vehicle impacts from the interior.

Any scenario involving renovation of the existing building would involve substantial structural upgrades to reinforce the existing CMU bearing walls to repair the damage and provide increase lateral resistance to seismic forces. The existing roof structure would need to be analyzed and structurally upgraded to account for additional snow dead loads to meet current code and snow drift loads resulting from proposed building additions.

EXISTING CONDITIONS ASSESSMENTS-PHOTOS

100 Foxborough Blvd., Suite 250, Foxborough, MA 02035

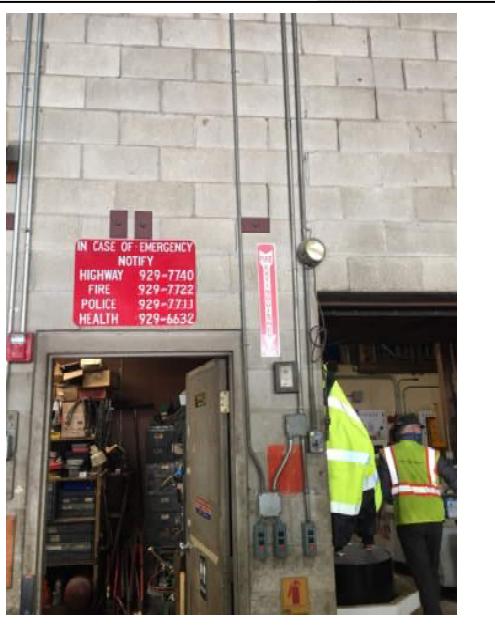
Tel: 508.698.3034

MAIN DPW BUILDING: BUILDING EXTERIOR



South Wall Water Damage

South Wall Impact Damage



West Wall Step Cracking



North Wall Water Infiltration at Grade

EXISTING CONDITIONS ASSESSMENTS-PHOTOS

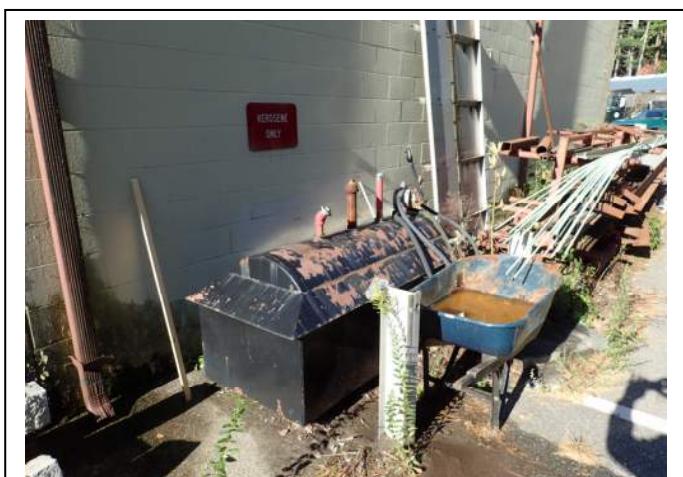
100 Foxborough Blvd., Suite 250, Foxborough, MA 02035

Tel: 508.698.3034

MAIN DPW BUILDING: BUILDING EXTERIOR



Main Entrance- East Elevation



North Elevation Material storage and Kerosene Fuel Tank

North Elevation



West Elevation- Vehicle Maintenance Garage Doors



South Elevation

EXISTING CONDITIONS ASSESSMENTS-PHOTOS

100 Foxborough Blvd., Suite 250, Foxborough, MA 02035

Tel: 508.698.3034

EXISTING ACCESSORY BUILDINGS: SALT SHED

The Salt Shed is newer wood framed building with an asphalt shingled Gambrel supported by engineered wood trusses. The base of the building is protected by 10'-0" tall cast in place concrete push walls. A wood framed canopy is framed off one side of the building, providing covered protection for equipment. There is no apparent damage to the structure, walls or roof and the building is in very good condition. It is our recommendation that the building remain in service in its current location.



Missing / Damaged Vehicle Bollard



SALT SHED CANOPY STORAGE

EXISTING ACCESSORY BUILDINGS: POLE BARN



Protected, Unheated Storage



Pole Barn Interior

EXISTING CONDITIONS ASSESSMENTS-PHOTOS

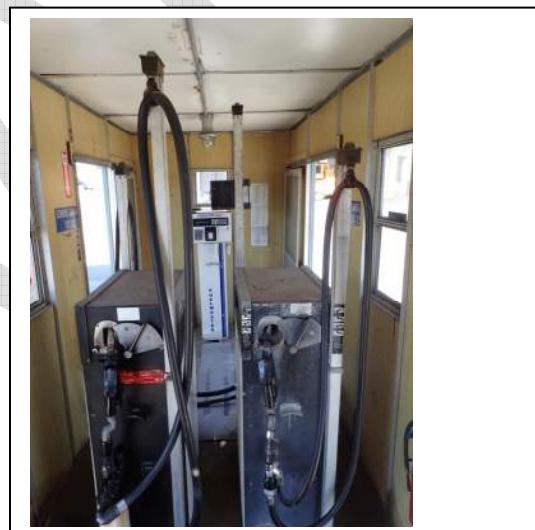
100 Foxborough Blvd., Suite 250, Foxborough, MA 02035

Tel: 508.698.3034

EXISTING ACCESSORY BUILDINGS: CONEX BOX STORAGE W/FABRIC ROOF STRUCTURE



EXISTING ACCESSORY BUILDINGS: FUELING STATION



Wood Fueling Building with Pumps located inside.

Interior Diesel and Gas Pumps for DPW, Town and School Buses

EXISTING CONDITIONS ASSESSMENTS-PHOTOS

100 Foxborough Blvd., Suite 250, Foxborough, MA 02035

Tel: 508.698.3034

TRANSFER STATION

Transfer Station Building

The existing Transfer Station Building is a pre-engineered metal building. The building structure consists of rigid frames with steel purlins and girts. The exterior walls are metal sidings and translucent panels. The roof is screw-down panels. The lateral resist system is cable cross bracing. The metal roof and wall panels are broken. The original batt insulation is almost gone. The steel main frames and purlins and girts are rusty.

It is our recommendation to replace all wall panels and roof panels. All rigid frames and purlins and girts need to be sand-blasted to bare metal and re-primed. Replace all flange braces and cable braces. Re-install the batt insulation under roof and walls.



Exterior View - Broken Wall Panels

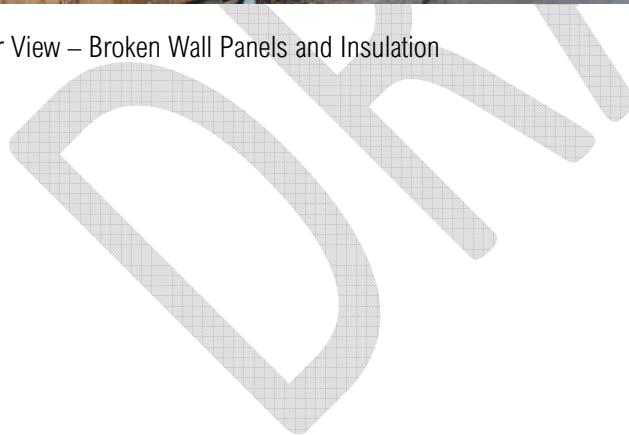
EXISTING CONDITIONS ASSESSMENTS-PHOTOS

100 Foxborough Blvd., Suite 250, Foxborough, MA 02035

Tel: 508.698.3034



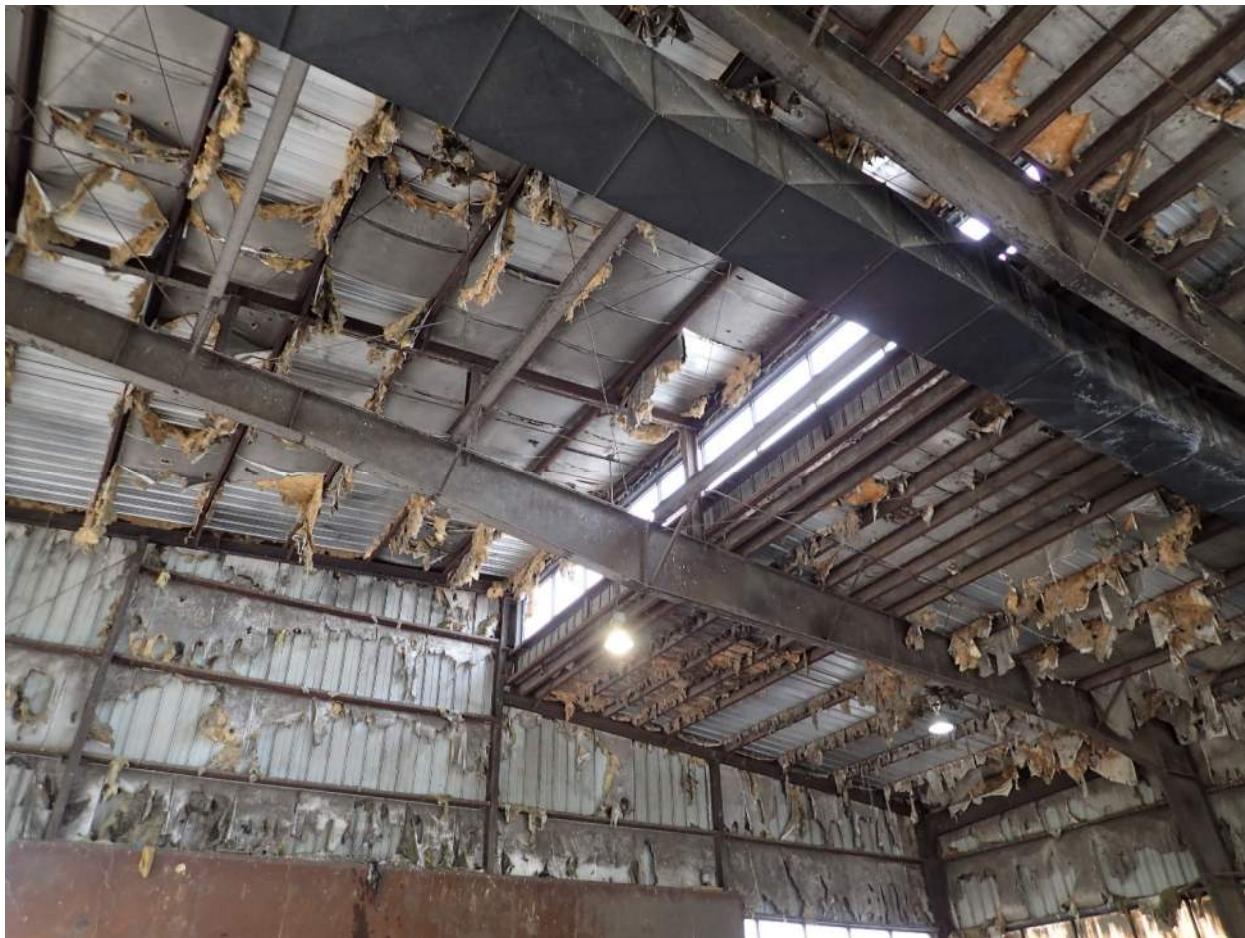
Interior View – Broken Wall Panels and Insulation



EXISTING CONDITIONS ASSESSMENTS-PHOTOS

100 Foxborough Blvd., Suite 250, Foxborough, MA 02035

Tel: 508.698.3034



Interior View – Rusty Rigid Frame and Purlins

PDF

MEMORANDUM

TO: File

FROM: Michael Richard, P.E.

DATE: October 22, 2020

SUBJECT: Acton Transfer Site Walk and Observations

Attendees:

Corey York, Town	John Comeau, W&S
Renato, Acting Crew Leader	Mike Richard, W&S

Staff:

1. Crew Leader
2. Heavy Equipment Operator (Hauling trailers and rolloffs)
3. Heavy Equipment Operator (shared with DPW Operations)

- Borrow additional crew as needed (i.e. during sticker season)
- Not anticipating growth
- Staff shares office space needs with DPW (muster room, lockers, etc.)

Equipment:

- Rolloff containers (4 Compactor rolloffs, 6 open top or other rolloffs)
- Yard Mule
- Tractor (for hauling MSW trailers to Wheelabrator North Andover)
- 4 walking floor trailers (since PAYT only need 2 plus spares)

General Description of Operations:

- Residents only, although have limited refuse from out of town.
- PAYT bag system; PAYT started in 2016.
- Operations have expanded in past 10-15 years, and need to re-think the layout
- Counterclockwise traffic flow pattern
- 4 operating areas; scale & transaction window, recycling, compost & organic recycling, and MSW
- Scale house for special transactions and stickers.
- Traffic queuing backs up to route 2 on weekends, peaks 2:00 – 3:00

- Longest transaction time is at recycling area
 - Try to get everyone in off rt 2, and into recycling area
 - Have 10 compactor/rolloff set up
 - Town owns and hauls rolloffs
 - Residents pull in headfirst or back-in. Some may pull ahead to metals bin.
 - Once leave recycling area, no more back up
 - Additional rolloffs outside of tip building for tires, mattresses
 - Most recycling goes to EL Harvey
- MSW operations consists of a tipping building
 - Tip floor,
 - Residential windows
 - Open top trailer – no compaction
 - No fire protection
 - Doors do not work – building not secured.
- Town hauls all MSW and most recycling. Hauled when full. No staging

Operational needs:

- Shared facilities with DPW, use timeclock system.
- Need restroom at scale house, else leave operations unattended.
- Desire for more automated systems; still need to process payments
- MSW compactors has been discussed in the past.
- Curbside collections has been considered in the past.
- Would like better tracking software for incoming/outgoing materials
- Would like consideration given to gate closure at end of business day (let people out, but not in).
- Been discussions with MassDOT about improving access to the transfer station (refer to email dated 10/29/20 from C. York)

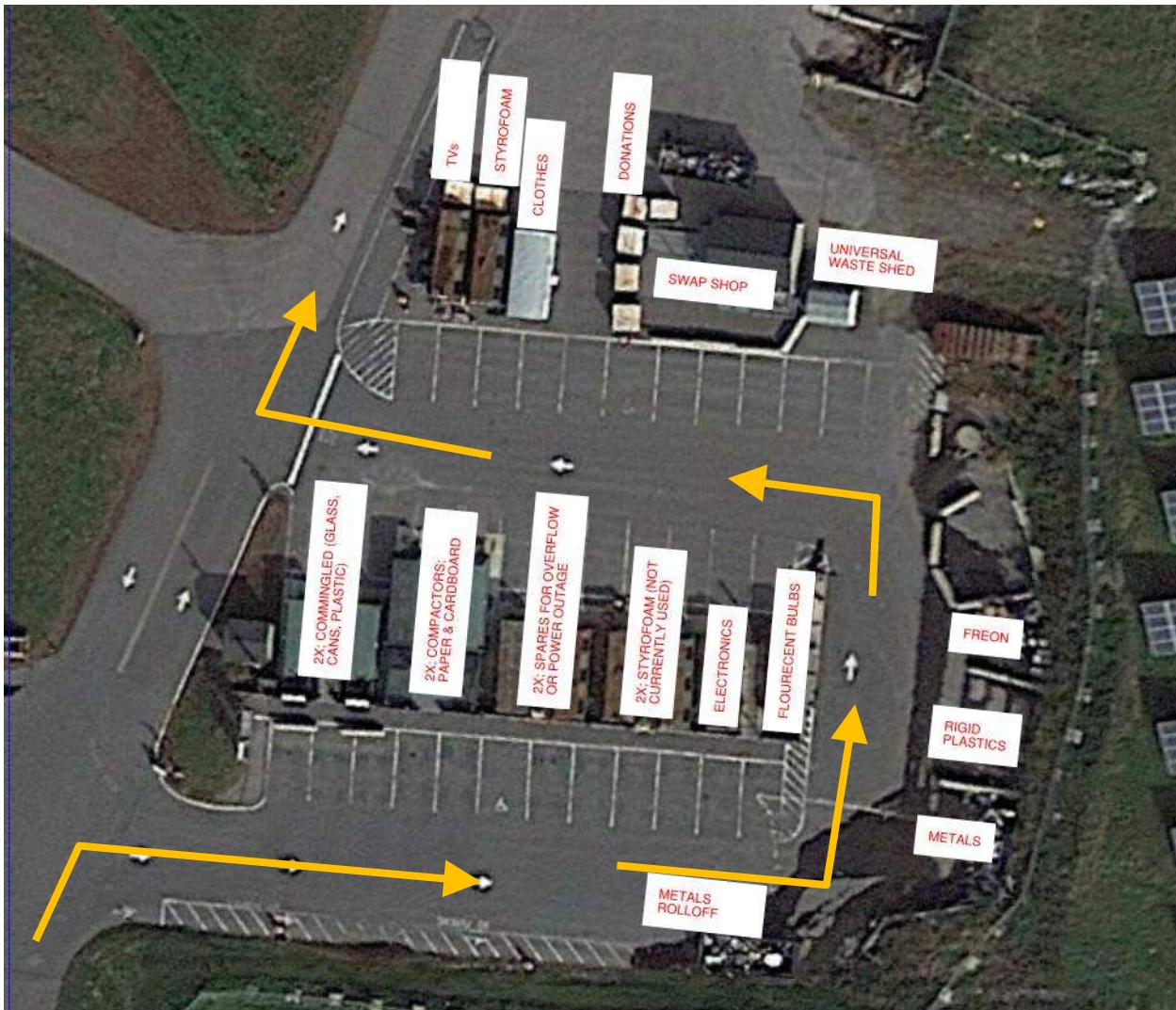


Figure 1 - Recycling Area

APPENDIX B



100 Foxborough Blvd., Suite 250
Foxborough, MA 02035

Project: DPW & Transfer Station Facilities

Address: 14 Forest Road, Acton, MA

Date: October 29, November 2, November 12, November 17

Subject: Staff Interviews - Administration

Attendees: *Weston & Sampson:* John Comeau, Mike Richard, Dan Tenney, Megan Fitzmaurice, Della Donahue
Town of Acton: Corey York, Karen Switzer-Neff, Kevin Farrell, Carl Maria, Evan, QinRui Pang, Andrea Ristine

STAFF SUMMARY:

Division/ Department	Admin	Workforce	Future / Vacant	Intern / Seasonal	Locker	Parking
Administration & Engineering	8	-	-	1	-	9
Highway	-	12*	4	-	16	16
Trees & Grounds	1	3	-	-	4	4
Fleet Maintenance	-	3	-	-	3	3
Transfer Station	-	2*	-	-	2	2
Municipal Properties**	2	6	-	-	6	8
Parks & Cemetery**	-	5	-	-	5	5
TOTAL (proposed program):	9	20	4	1	25	34***

*Highway & Transfer Station share a staff member, Heavy Equipment Operator/Waste Hauler

**Not to be programmed at new facility

***(34) employee parking, plus 5 visitors and +/- 4 flex

Sewer/WWTP → Contracted out, function off-site (Adam's Street)

Municipal Properties (public facilities) →

- currently off-site, crew members reporting to assigned building.
- Meeting room in Town Hall (where Super is) to gather and meet.
- Might be desirable to consider space for them at new facility.
- Currently, equipment storage in a garage at a house.

Parks & Cemetery? → Under Natural Resources

- Group of 4 with a foreman over it = 5
- Occupy a building at cemetery, Concord Rd.

Engineering

- 2-person operation
- 50% with DPW, 50% with land use (town hall)
 - o i.e. QinRui typically does a daily trip to Town Hall
- Layout area for them to work out property/development concerns
- Public access/lobby → interaction with subdivisions, contractors, etc.
 - o Frequency of public visitors = regular flow
- Desirable to have them at new facility for collaboration
- Overlap/reasons for collaboration with highway, etc.

Administration →

- One admin workstation (Karen), control public lobby

Highway →

- Plowing
- Basic vehicle/equipment repairs
- Street signage (conducted in wood shop area)
- Sanders (lift up and load onto trucks)
- Currently, use 18" x 24" lockers

Trees & Grounds →

- Tree Warden & 3 groundskeepers
- Small garage on off-site property for winter storage, 1% of equipment
 - o Morrison farm, concord road
- Maintenance equipment
- Basically, become a part of the DPW/highway group during the winter
- Currently, occupy 18" x 36" lockers

Fleet Maintenance →

- Currently 4 bays, could use 2 more
- Currently 2 mechanics, usually 3, sometimes get a 4th in the winter

- No fire or school fleet maintenance
- Provide minor & major repair bays, to distinguish
- Basic maintenance of transfer station trailers (mostly outside, sometimes pull in)

Transfer Station →

- Locker needs in DPW facility
- Muster room needs in DPW facility
- Toilet facility at Scale House
- Would be nice to have a kitchenette (sink/hot water, coffee maker)
- Sell the compost bags & run the sticker sales/payments at TS (cash/check/credit card)
 - o Storage & selling operations
 - o Basic storage closet
 - o Secure safe to handle money matters at the DPW (Karen's office)
- Scale House functions as an office space & file storage for staff
- Hard drive & paper shredding
- Renato mentioned it would be nice to have cameras on the compactors, with tv monitors at the scale house for surveillance
- Better organization for
- Possible talk of providing operations for food waste composting

Space Needs Assessment:

Office & Office Support	
Name of Space	Description
Public Access: Vestibule, Waiting, Reception Area	Public lobby: not much traffic for DPW, but a regular flow for engineering <ul style="list-style-type: none"> - Maybe a handful a day - Visibility for admin to see when visitors are coming - Good wayfinding to direct visitors to reception window - Public counter for kiosk use - Digital signboard for announcements
Staff Entrance	To maintain separation between admin/public access and employee activity <ul style="list-style-type: none"> - Time clock - Kiosk for staff use, too
Admin Area	One workstation (Karen)
Offices (private, shared, open)	Engineering: (1) private office for Town engineer & (1) workstation <ul style="list-style-type: none"> - public lobby access - proximity to layout area Admin: (3) private offices - director & 2 superintendents Trees & Grounds: (1) private office for tree warden <ul style="list-style-type: none"> - proximity to shops Highway: shared office, 2 workstations (Mike & Bill), file storage
Conference room	Ideally, both a large 8-10 & small 4-6 conference room
Copy / Mail Room	alcove
File Storage	Active file storage for daily use & archived file storage (on mezz?) Separate Engineering & DPW file storage?

	Future efforts to digitize files
Layout Area	Proximity to Engineering open office space - plotter
Toilet Facility (admin and/or public)	To serve admin staff
Kitchenette	To serve admin staff, basic alcove = microwave, sink, storage cabinets
Storage	1. Compost bins, etc. – storage area for public purchases 2. Basic office supplies
Janitor Closet	

Employee Facilities	
Name of Space	Description
Male Locker Room	3 toilet stalls / 2 urinals / 2 showers currently - T&G suggested 4-5 showers 18" x 24" lockers for highway / 18" x 36" lockers for T&G
Female Locker Room	
Wet gear area	alcove/row of hooks or separate room
Uniform Area	Uniform rolling racks from laundry service → storage area to house this - Bin(s) for dirty, area for clean uniform racks - 10 x 12? - Proximity to entrance for deliveries
Muster / Training Room	Multi-purpose space Sized for all divisions, even Public Facilities? (exception of Sewer) - T&G requested a cooktop and dishwasher - 3 microwaves, 2-3 toaster ovens - Commercial size fridge, w/ freezer - Fridge with water & ice? Or an ice machine & water station - Though, ice machine might be best to locate out in garage
Storm Events	- Dedicated storm event room? Contractor check-in counter? - - provisions for cot storage for staff to spread out
Storage (i.e. PPE, general)	1. Secured inventory closet 2. crew supply
Janitor Closet	Sizeable, mop basin, sink. Municipal Props is contracted for cleaning DPW. - Room for vacuum?
Tel/Data Room	
Electrical Room	
PL/F Protection	

Workshops	
Name of Space	Description
Carpentry Shop	Wood shop
Sign shop	Inventory storage space & fabrication - no printing/painting
Trees & Grounds Workshop	Space for small equipment repairs - small equipment storage (mowers, etc.) - hand tools
Highway Workshop	
Parts/Material Storage	
Secured Tool Cribs	

Fleet Maintenance	
Name of Space	Description
Maintenance Bays (quantity & sizes)	Currently 4 bays, could use 1-2 more. - Welding bay - At least (1) lg for transfer station trailer (55' long) - (4) standard/small veh bays = 20 x 30 - Typical large veh bay = 20 x 50, make it even larger to fit TS equip Gantry Lift (10 ton lift capabilities) 16' wide OHDs, at least (1) that is 14' tall to accommodate the excavator
Workshop (welding?)	Welding bay Sufficient workshop space
Fluids Room	
Parts / Material Storage	
Tire Storage / Repair Area	Proximity to maintenance area, ground level - They mount and dismount tires - Balancer & changer equipment
Hydraulic Hose Workshop	Yes
Mechanics Office	2-3 mechanics - currently, have their own microwave & mini fridge in the office
Toilet	
Compressor Room	

Request for radiant floor heating

Wash Area	
Name of Space	Description
Wash Bay	
Equipment Wash Room	

Vehicle / Equipment Storage	
Name of Space	Description
Fleet Storage	Ideally, 24' wide OHDs

Site	
Fuel Station	School & Fire use the fueling station, too - ask Karen for fuel system distribution data per group canopy cover
Parking	Staff & visitors
Residential Salt & Sand	Residential Salt & sand pick-up – locate near public entrance, away from operations. Small shed structure near Forest Rd
Salt Shed Ops	Use Magnesium Chloride – mix it in with the salt themselves - liquid tanks are inside salt shed

Sustainability Initiatives:

Renewable energy → geothermal field?

- Do not want to cause Acton to have to cancel their contract with current provider and pay a fee
- Full generator coverage in event of power outage.

No Fossil Fuel Mandate...

- Though, unavoidable when generator back up is needed (diesel powered, to be powerful enough for this type of facility)
- Cross-benefit exercise of different types of generators

Health Department's use of DPW site:

- Run their hazardous waste there twice a year (w/ clean harbor),
 - o Evan has a sketch of their drive-thru flow they use, counter-clockwise flow
 - o Currently use their vehicle storage garage to run the clinic
 - o Traffic flow from Forest Rd
- Drive thru flu-clinics annually (and eventually Covid vaccines, too)
 - o Similar operation as hazardous waste drop-off
- Emphasis on HVAC, healthiness, all the while still being nice & cozy
 - o Ionization systems for air quality

Municipal Props:

- Preference on finishes (Andrea to provide cut sheets)
 - o Low maintenance, durable materials choices for sustainability
- Preference of accessories (i.e. paper towel dispensers, etc.)
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ACTON, MA - VEHICLE/EQUIPMENT LIST MARCH 2020

OLD NO.	FUEL NO.	VEHICLE SIZE	DESCRIPTION	DEPARTMENT
14	98	Sm V	10 FORD RANGER	DPW DIRECTOR
12	97	Sm V	2012 FORD E-350 VAN	ENG
76	142	Sm V	2014 WACKER LOADER WL-32	HWY
89	86	Sm V	2012 BOBCAT EXCAVATOR MODEL E35	HWY
90	141	Sm V	2015 WACKER NEUSON LOADER (MODEL WL-32)	HWY
130	140	Sm V	2014 WACKER NEUSON LOADER (MODEL WL-30)	HWY
131	89	Sm V	2012 FORD F250 PICKUP	HWY
1	47	Sm V	2014 FORD F250 PICKUP	HWY
7	105	Sm V	04 FORD PKUP F-150	HIGHWAY (TRANSFER ST)
10	48	Sm V	2019 FORD F350 PICKUP	HWY
11	49	Sm V	2014 FORD F250 PICKUP	HWY
17	50	Sm V	08 FORD F350	HWY
43	6001	Lg V	2015 MACK GU712	HWY
44	51	Lg V	2011 MACK GU712	HWY
45	52	Lg V	2012 FORD F550	HWY
46	53	Lg V	06 MACK CV713 (GREEN)	HWY
47	54	Lg V	2017 FORD F550 CABCA	HWY
48	55	Lg V	07 FORD F550 DUMP (GREEN)	HWY
49	56	Lg V	98 MACK RD694P	HWY
50	57	Lg V	2020 MACK GR42P	HWY
51	58	Lg V	05 MACK CHN613	HWY
52	59	Lg V	2016 MACK GU713	HWY
53	60	Lg V	2013 MACK CHU613 TRACTOR	HWY
54	61	Lg V	99 MACK RD690P	HWY
55	62	Lg V	98 MACK RD690P	HWY
56	63	Lg V	2008 KALM OTT4X2 TRACTOR	HWY
57	64	Lg V	2019 MACK GR64F DUMP TRUCK	HWY
58	65	Lg V	87 MACK RD685P	HWY
59	66	Lg V	90 MACK RD690P	HWY
60	67	Lg V	13 MACK GU712	HWY
61	68	Lg V	2011 MACK GU700	HWY
62	69	Lg V	95 MACK RD690P	HWY
63	70	Lg V	99 CAT 938G LOADER	HWY
64	71	Lg V	08 CAT 938H LOADER	HWY
65	72	Lg V	2016 JD 710K BACKHOE	HWY
68	73	Lg V	92 MOBIL SWEEPER M-9B	HWY
69	74	Lg V	04 ELGIN PELICAN	HWY
70	75	Lg V	2013 930 CAT LOADER	HWY
71	76	Lg V	95 CAT D6B BULLDOZER	HWY
80	82	Lg V	CAT M313B EXCAVATOR	HWY
83	15	Lg V	08 938H CAT LOADER	HWY
86	-	Lg Equip	07 MCCLOSKEY S12R SCREENER	HWY
113	87	Equipment	2012 BOBCAT T670 LOADER	HWY
72	77	Equipment	00 CAT DP 30K FORKLIFT	HWY
73	78	Equipment	2016 BOBCAT SKIDSTEER T590 LOADER	HWY
78	81	Equipment	04 BOBCAT S160	HWY
138	90	Equipment	08 SNOGO MP-3D 08284	HWY
82	83	TOW	98 MQ POWER DCA 25SSIU GENERATOR	HWY
84	-	TOW	04 CONTRAIL C-10	HWY
85	84	TOW	88 IR 160 COMP 160	HWY
87	85	TOW	08 BANDIT RECYCLER 1680	HWY
91	-	TOW	2019 SURE-TRAC UTILITY TRAILER	HWY
92	-	TOW	97 HUDSON TRLR HS-10	HWY
93	-	TOW	2011 STECO TRAILER	HWY
94	-	TOW	84 ROGERS TRAILER	HWY
95	-	TOW	73 CENTERVILLE TRL	HWY
96	-	TOW	08 J&J DUMP TRAILER	HWY
97	-	TOW	99 SOMERSET TRL ALF04	HWY
98	-	TOW	01 SOMERSET TRL ALF04	HWY
99	-	TOW	00 SOMERSET TRL ALF04	HWY
127	88	TOW	2012 WACKER NEUSON TOWABLE GEN.	HWY
128	-	TOW	2013 CROSS COUNTRY TRAILER	HWY
116	-	TOW	2014 HEAT UTILITY TRAILER	HWY
119	-	TOW	SPORTSTER TRAILER (EMERGENCY RESP.)	HWY
133	-	TOW	11 CARMA Utility Trailer	HWY
91	TOW	06 ALLMAND LIGHT TOWER	HWY	
92	TOW	06 ALLMAND LIGHT TOWER	HWY	
93	TOW	06 ALLMAND NIGHT LIGHT PRO	HWY	
94	TOW	ALLMAND NIGHT LIGHT PRO	HWY	
	TOW	2014 FULL MATRIX MESSAGE BOARD #1	HWY	
	TOW	2014 FULL MATRIX MESSAGE BOARD #2	HWY	
	TOW	2014 FULL MATRIX MESSAGE BOARD #3	HWY	
	TOW	2016 FULL MATRIX MESSAGE BOARD #4	HWY	
	TOW	2016 FULL MATRIX MESSAGE BOARD #5	HWY	
	TOW	2016 FULL MATRIX MESSAGE BOARD #6	HWY	
138	-	PORTABLE FUEL TANKS (Diesel)	HWY	
139	-	OFF ROAD EQUIPMENT (Gasoline)	HWY	
81	-	???	96 READ CV90D	HWY
Other Town Divisions:				
100	106	Sm V	07 FORD F550 (GREEN)	MUN. PROP.
102	103	Sm V	10 JD 3720 TRACTOR	MUN. PROP.
103	107	Sm V	2011 CHEVY 3500 HD	MUN. PROP.
79	104	Sm V	02 JD 5420 TRACTOR	MUN. PROP.
108	108	Sm V	07 CHEV K2500	MUN. PROP.
109	109	Sm V	10 FORD 350	MUN. PROP.
110	110	Sm V	2013 FORD F-150	MUN. PROP.
1001	Sm V	2015 FORD F250 4x4 Super Cab	MUN. PROP.	
115	9001	Sm V	2016 FORD F-550	MUN. PROP.
	9002	Sm V	2013 FORD EXPLORER (GREEN)	MUN. PROP.
	9003	Sm V	2018 FORD TRANSIT VAN (WHITE)	MUN. PROP.
106	45	Lg V?	09 GIANT VAC	MUN. PROP.
101	102	TOW	2008 CARLTON MODEL #2012 BRUSH CHIPPER	MUN. PROP.
105	-	TOW	80 HUDSON TRAILER	MUN. PROP.
	-	TOW	05 BIG TEX TRAILER	MUN. PROP.
111	-	TOW	65 WATER TANK TRL	MUN. PROP.
90	8	TOW	90 BRUSH BANDIT-100	MUN. PROP.
6	3	Sm V	08 FORD F450	NATURAL RESOURCES
9	4	Sm V	2015 FORD F-150	NATURAL RESOURCES
16	5	Sm V	2017 FORD F350	NATURAL RESOURCES
74	7	Sm V	08 JD 4320 TRACTOR	NATURAL RESOURCES
104	9	Sm V	08 FORD F-350	NATURAL RESOURCES
112	11	Sm V	2015 FORD F-350	NATURAL RESOURCES
114	12	Sm V	12 FORD F350	NATURAL RESOURCES
66	6	Lg V	2011 JD 310J BACKHOE	NATURAL RESOURCES
141	-	TOW	08 BIG T UTILITY TRAILER (BLACK)	NATURAL RESOURCES
142	-	TOW	97 UTILIMASTER TRAILER (GREEN)	NATURAL RESOURCES
	-	TOW	2010 BIG TEX UTILITY TRAILER	NATURAL RESOURCES
14	TOW	2005 3001-CHW GIANT VAC	NATURAL RESOURCES	
	-	Equipment	JOHN DEERE MX6 ROTARY CUTTER	NATURAL RESOURCES

APPENDIX C

Town of Acton, MA
 Department of Public Works & Transfer Station
Space Needs Summary
 2/18/21

Base

Building Requirements

Area	Description	Initial Size (SF)	Revised Size (SF)*	Ref #	Room / Area Dimensions		
					length	width	size
Office & Office Support Areas	Vestibule/Public Lobby	224	180	A1	12	15	180
	Admin Open Office (5 Workstations)	100	624	A2	24	26	624
	DPW Director Office	192	192	A3	12	16	192
	DPW Operations Superintendent	144	144	A4	12	12	144
	Assistant DPW Superintendent	144	144	A4	12	12	144
	Tree Warden Office	144	144	A4	12	12	144
	Public Facilities Superintendent Office	-	144	A4	12	12	144
	Town Engineer Office	144	144	A4	12	12	144
	Assistant Town Engineer Office	144	-	A4	12	12	144
	Highway Crew Leader Alcove (in Shop)	168	60	A5	6	10	60
	Engineer Workstation	64	-	A6	8	8	64
	Auxiliary / Swing Space	120	-	A7	10	12	120
	Copy/Mail Area	80	80	A8	8	10	80
	Layout Area	216	216	A9	12	18	216
	DPW File Storage	225	225	A10	15	15	225
	Engineer File Storage	225	225	A10	15	15	225
	Large Conference Room	320	320	A11	16	20	320
	Small Conference Room	192	192	A12	12	16	192
	Office Supply Closet	24	24	A13	4	6	24
	Engineer Equip. Closet	24	24	A13	4	6	24
	Large Supply Closet	168	168	A14	12	14	168
	Kitchenette	50	50	A15	5	10	50
	Toilet Facility	152	152	A16	8	19	152
	Subtotal:	3,264	3,452				
	Area Grossing Factor (10%):	326	345				
	Circulation (30%):	1,077	1,139				
	TOTAL:	4,668	4,936				
Employee Facilities	Staff Entrance & Kiosk	56	56	B1	8	7	56
	Muster / Multipurpose Room	840	676	B2	26	26	676
	Men's Locker Room	780	780	B3	26	30	780
	Women's Locker Room	306	266	B4	14	19	266
	Wet Gear Area	72	72	B5	6	12	72
	Uniform Area	120	96	B6	6	16	96
	Secure Inventory Closet	48	48	B7	6	8	48
	Crew Supply Storage	20	20	B8	4	5	20
	Janitor Closet	36	36	B9	6	6	36
	Electric Room	168	168	B10	12	14	168
	Tel / Data Room	120	120	B11	10	12	120
	Mechanical Room	192	192	B12	12	16	192
	Plumbing/Fire Protection Room	168	168	B10	12	14	168
	Subtotal:	2,926	2,698				
	Area Grossing Factor (10%):	293	270				
	Circulation (30%):	966	890				
	TOTAL:	4,184	3,858				

Town of Acton, MA
 Department of Public Works & Transfer Station
Space Needs Summary
 2/18/21

Base

Building Requirements

Area	Description	Initial Size (SF)	Revised Size (SF)*	Ref #	Room / Area Dimensions		
					length	width	size
Work Shops & Material Storage	Sign Shop (Inventory Storage)	500	-	C4	20	25	500
	Carpentry Shop	1,386	1,386	C2	33	42	1,386
	Trees & Grounds Workshop / Small Engine Repair	1,386	840	C4	28	30	840
	Trees & Grounds Storage	168	(on Mezz)	C3	12	14	168
	Highway Workshop	840	840	C4	28	30	840
	Highway Storage	168	(on Mezz)	C3	12	14	168
	Subtotal:	4,448	3,066				
	Area Grossing Factor (5%):	222	153				
	Circulation (10%):	467	322				
	TOTAL:	5,137	3,541				
Vehicle Maintenance	Welding Bay	750	720	D1	24	30	720
	Large Maintenance Bay	1,200	1,440	D1	24	60	1,440
	Maintenance Bay	600	720	D1	24	30	720
	Maintenance Bay	600	720	D1	24	30	720
	Maintenance Bay	600	720	D1	24	30	720
	Fluid Storage Room	224	224	D2	14	16	224
	Maintenance Workshop	180	180	D3	10	18	180
	Maintenance Office	192	192	D4	12	16	192
	Parts & Materials Storage	432	432	D5	18	24	432
	Tire Storage & Repair Area	240	224	D6	8	28	224
	Hydraulic Hose Shop	100	100	D7	10	10	100
	Compressor Room	120	(on Mezz)	D8	10	12	120
	Subtotal:	5,838	6,392				
	Area Grossing Factor (5%):	292	320				
	Circulation (10%):	613	671				
	TOTAL:	6,743	7,383				
Wash Area	Wash Bay	1,650	1,650	E1	30	55	1,650
	Wash Equipment Room	100	100	E1	10	10	100
	Subtotal:	1,750	1,750				
	Circulation:	n/a	n/a				
	TOTAL:	1,750	1,750				
Vehicle & Equipment Storage	Vehicle / Equipment Storage	28,800	25,000	F1	100	250	25,000
	Subtotal:	28,800	25,000				
	Area Grossing Factor (5%):	1,440	1,250				
	Circulation:	n/a	n/a				
	TOTAL:	30,240	26,250				
DPW BUILDING TOTAL:		52,723	47,719	*Revised during Space Needs Review 2/17/21			

Town of Acton, MA
 Department of Public Works & Transfer Station
Space Needs Summary
 2/18/21

Base
Building Requirements

Area	Description	Initial	Size (SF)	Room / Area Dimensions		
		Size (SF)		length	width	size
Transfer Station	Open Office/File Storage	160	G1	10	16	160
	Kitchenette	50	G2	5	10	50
	Supply Storage Closet	60	G3	6	10	60
	Toilet Facility	56	G4	7	8	56
	Subtotal:	326				
	Area Grossing Factor (10%):	33				
	Circulation (30%):	108				
TRANSFER STATION PROGRAM TOTAL:		466				

Town of Acton, MA
 Department of Public Works & Transfer Station
Space Needs Summary
 2/18/21

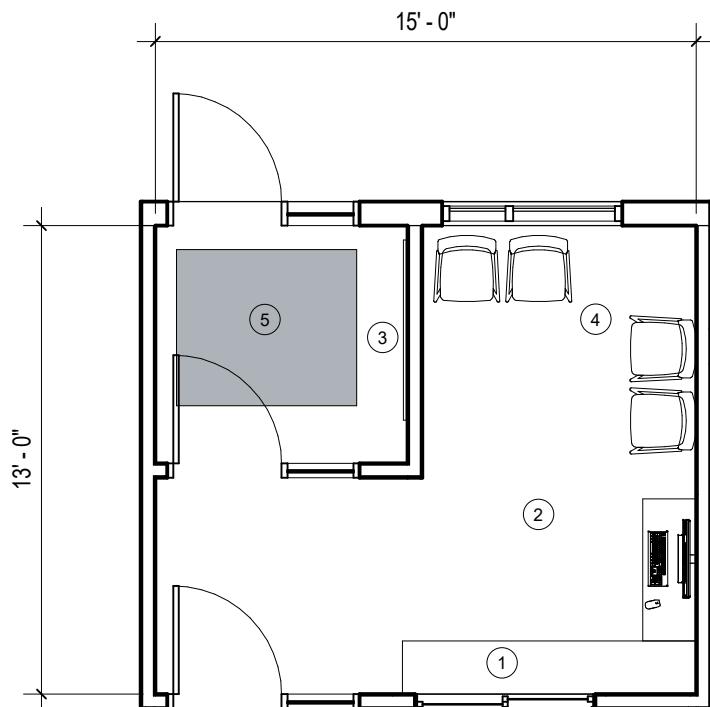
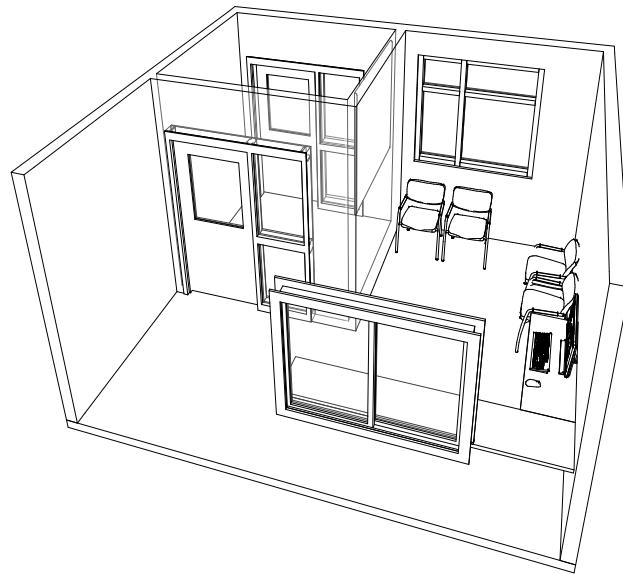
Base
Building Requirements

Area	Description	Initial Size (SF)	Size (SF)	Room / Area Dimensions		
				length	width	size
Public Facilities (Municipal Properties)	Superintendent Office	144		12	12	144
	Admin Workstation	100		10	10	100
	Crew Leader Workstation	80		8	10	80
	additional (10%) public lobby	22		0	0	-
	additional (10%) copy/mail area	8		0	0	-
	additional (20%) layout area	43		0	0	-
	additional (40%) file storage	90		0	0	-
	additional (10%) kitchenette	5		0	0	-
	additional (10%) toilet area	15		0	0	-
	additional locker room area (50sf/person)	300		0	0	-
	additional vehicle storage area (11 vehicles)	5,650		0	0	-
	Subtotal:	6,458				
	Area Grossing Factor (10%):	646				
Parks & Cemetery	Circulation (30%):	2,131				
	TOTAL:	9,235				
	Foreman Office	120		10	12	120
	additional (10%) public lobby	22		0	0	-
	additional (10%) copy/mail area	8		0	0	-
	additional (20%) layout area	43		0	0	-
	additional (40%) file storage	90		0	0	-
	additional conference room	120		10	12	120
	additional locker room area (50sf/person)	250		0	0	-
	additional vehicle storage area (7 vehicles)	3,850		0	0	-
	Subtotal:	4,504				
	Area Grossing Factor (10%):	450				
	Circulation (30%):	1,486				
	TOTAL:	6,440				

Town of Acton, MA
 Department of Public Works & Transfer Station
Staffing / Programming Needs
 5/13/2021

BASE							
Division	Staffing	Office	Workstation	Lockers	Muster	Parking	Location
Administration	DPW Director, Corey York	✓		CL in Office	✓	✓	DPW
	DPW Operations Superintendent, Carl Maria	✓		CL in Office	✓	✓	DPW
	Assistant DPW Superintendent, Kevin Farrell	✓		CL in Office	✓	✓	DPW
	Office Manager (Highway), Karen Switzer-neff		✓		✓	✓	DPW
	Town Engineer, QinRui	✓			✓	✓	DPW
	Civil Engineer/Surveyor		✓		✓	✓	DPW
	Engineer Intern		✓		✓	✓	DPW
	Public Facilities Superintendent, Andrea Ristine	✓			✓	✓	DPW
	Office Manager (Municipal Properties) Kim Gorman	✓			✓	✓	DPW
Highway 16	Crew Leader, Mike Ricard		✓	18 x 24	✓	✓	DPW
	Crew Leader, Bill Murphy			18 x 24	✓	✓	DPW
	Heavy Equipment Operator			18 x 24	✓	✓	DPW
	Heavy Equipment Operator			18 x 24	✓	✓	DPW
	Heavy Equipment Operator			18 x 24	✓	✓	DPW
	Truck Driver/Skilled Laborer			18 x 24	✓	✓	DPW
	Truck Driver/Skilled Laborer			18 x 24	✓	✓	DPW
	Heavy Equipment Operator			18 x 24	✓	✓	DPW
	Heavy Equipment Operator*			18 x 24	✓	✓	DPW
	Light Equipment Operator			18 x 24	✓	✓	DPW
	Truck Driver/Skilled Laborer			18 x 24	✓	✓	DPW
	Truck Driver/Skilled Laborer			18 x 24	✓	✓	DPW
	vacant			18 x 24	✓	✓	DPW
	vacant			18 x 24	✓	✓	DPW
	vacant			18 x 24	✓	✓	DPW
	vacant			18 x 24	✓	✓	DPW
Trees / Grounds 4	DPW Foreman - Tree Warden (Non-Union), Ryan Hunt	✓		18 x 36	✓	✓	DPW
	Senior Groundskeeper			18 x 36	✓	✓	DPW
	Groundskeeper			18 x 36	✓	✓	DPW
	Groundskeeper			18 x 36	✓	✓	DPW
Fleet Maintenance	Head Mechanic (Crew Leader), Mike Pacitto	✓		18 x 24	✓	✓	DPW
	Equipment Repair Person			18 x 24	✓	✓	DPW
	Equipment Maintenance Person			18 x 24	✓	✓	DPW
Transfer Station	Transfer Station (Crew Leader), Renato Savi		✓	18 x 24	✓	✓	DPW & TS
	Heavy Equipment Operator			18 x 24	✓	✓	DPW & TS
	Waste Hauler (same as one of the Highway HEO*)			(captured above)			
BASE TOTALS:		6	7	18" x 36" 4 18" x 24" 21	34	34 4 flex 5 public	

ALTERNATE							
Division	Staffing	Office	Workstation	Lockers	Muster	Parking	Location
Public Facilities (Municipal Properties)	Public Facilities Superintendent, Andrea Ristine	✓			✓	✓	assigned bldg
	Office Manager (Municipal Properties)		✓		✓	✓	assigned bldg
	Crew Leader/Equipment Operator		✓	18 x 24	✓	✓	assigned bldg
	Building Maintenance Worker			18 x 24	✓	✓	assigned bldg
	Building Maintenance Worker			18 x 24	✓	✓	assigned bldg
	Building Maintenance Worker			18 x 24	✓	✓	assigned bldg
	Building Maintenance Worker			18 x 24	✓	✓	assigned bldg
	Craftsperson			18 x 24	✓	✓	assigned bldg
Parks & Cemetery	Foreman		✓	18 x 24	✓	✓	Concord Rd
	Workforce			18 x 24	✓	✓	Concord Rd
	Workforce			18 x 24	✓	✓	Concord Rd
	Workforce			18 x 24	✓	✓	Concord Rd
	Workforce			18 x 24	✓	✓	Concord Rd
ALTERNATE TOTALS:		1	3	11	13	13	



1 VESTIBULE/PUBLIC LOBBY -195sf
3/16" = 1'-0"

ROOM FINISHES:

FLOORS: CERAMIC TILE

WALLS: GWB, PAINTED

CEILING: ACT

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

HEATING / COOLING

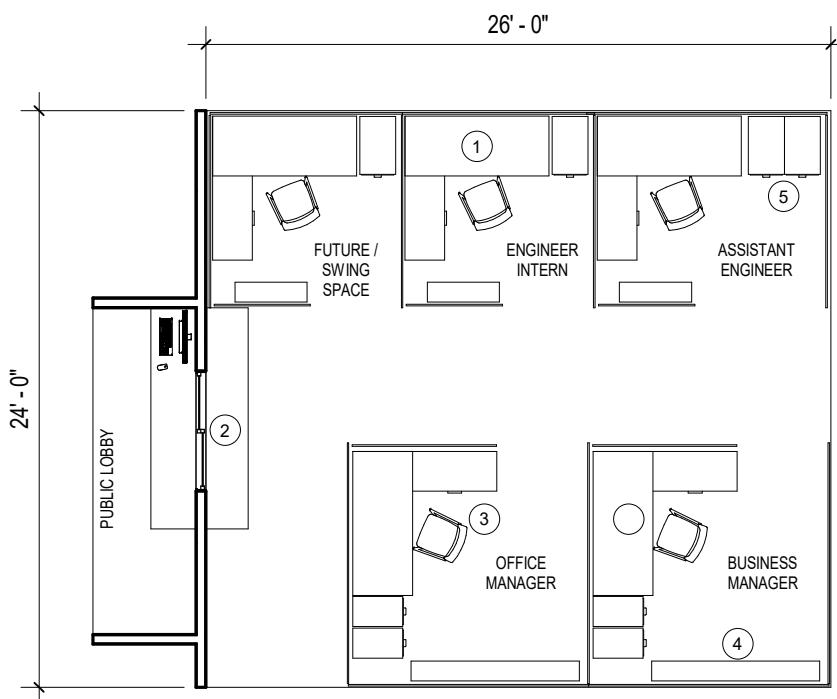
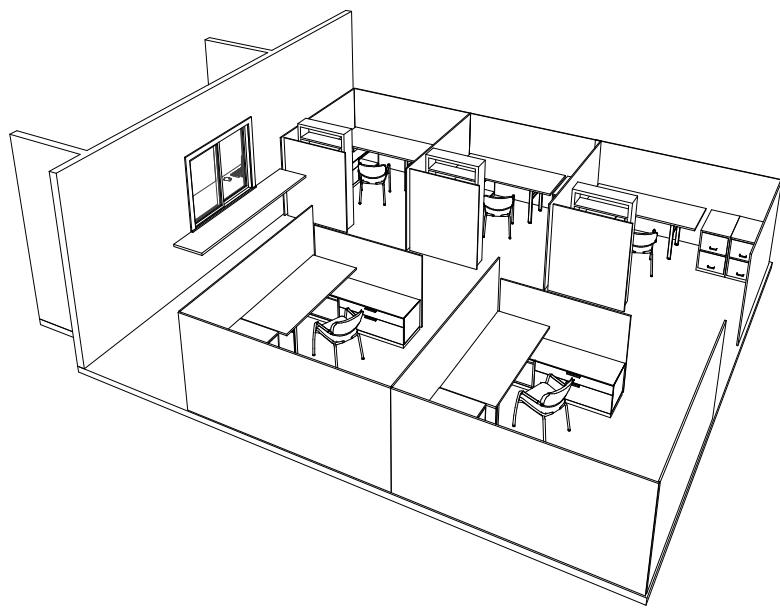
OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

NATURAL LIGHTING

COMPONENTS:

1. COUNTER & RECEPTION WINDOW
2. PUBLIC KIOSK - ADA COMPLIANT
3. BULLETIN BOARD
4. WAITING CHAIRS
5. WALK-OFF MAT

DRAFT



① ADMIN OPEN OFFICES - 624sf
1/8" = 1'-0"

ROOM FINISHES:

FLOORS: CARPET

WALLS: GWB PAINTED

CEILING: ACT TILE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL/DATA OUTLET JACKS

NATURAL LIGHTING W/ WINDOWS

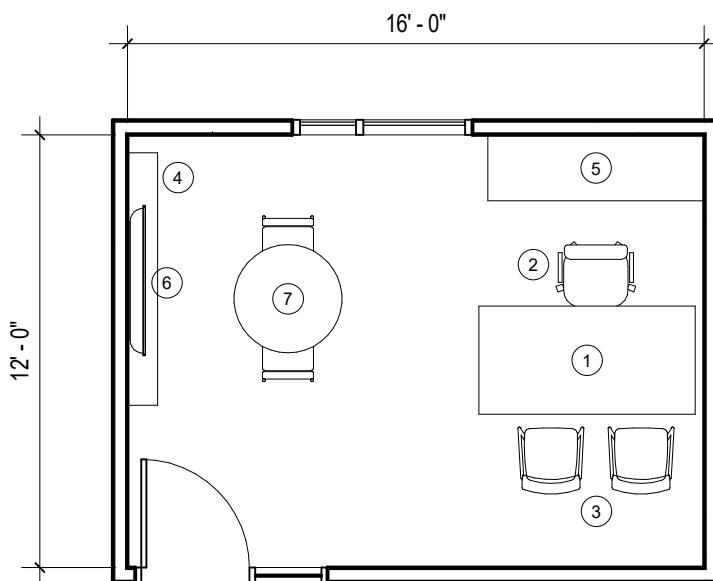
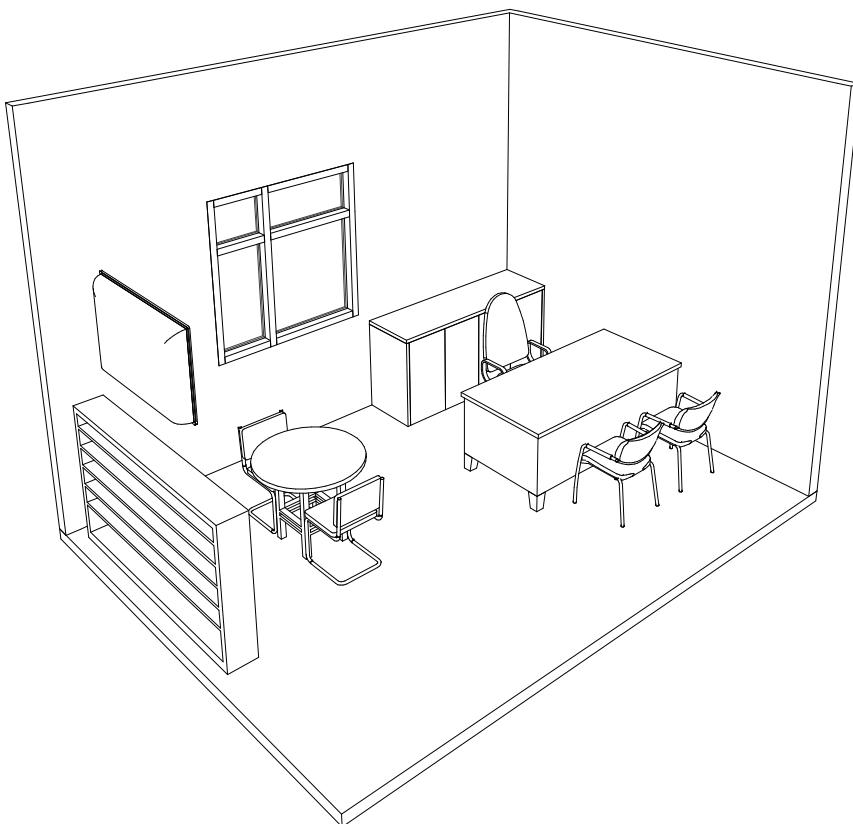
OCCUPANCY SENSORS FOR
LIGHTING CONTROLS

HEATING & COOLING

COMPONENTS:

1. (5) WORK STATIONS
 - BUSINESS MANAGER (10' X 10')
 - OFFICE MANAGER (10' X 10')
 - ASSISTANT ENGINEER (8' x 10')
 - ENGINEER INTERN (8' x 8')
 - FUTURE/SWING SPACE (8' X 8')
2. RECEPTION COUNTER
3. (5) EXECUTIVE CHAIRS
4. BOOKCASE
5. FILE CABINET

DRAFT



1 DPW DIRECTOR OFFICE - 192sf
 $3/16" = 1'-0"$

ROOM FINISHES:

FLOORS: CARPET

WALLS: GWB, PAINTED

CEILING: ACT TILE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

HEATING / COOLING

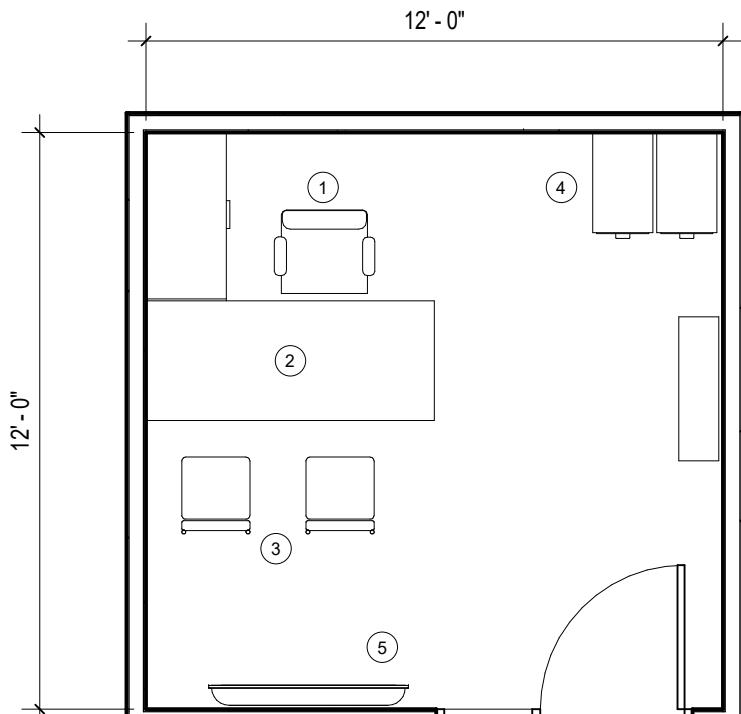
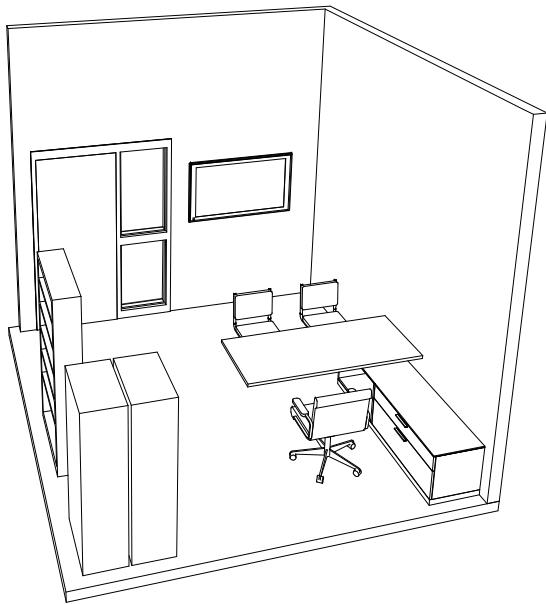
OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

NATURAL LIGHTING

COMPONENTS:

1. DESK
2. EXECUTIVE CHAIR
3. (4) CHAIRS
4. BOOKCASE
5. CRADENZA
6. TV MONITOR
7. SMALL TABLE

DRAFT



① OFFICE - 144sf
1/4" = 1'-0"

ROOM FINISHES:

FLOORS: CARPET

WALLS: GWB, PAINTED

CEILING: ACT TILE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

HEATING / COOLING

OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

NATURAL LIGHTING

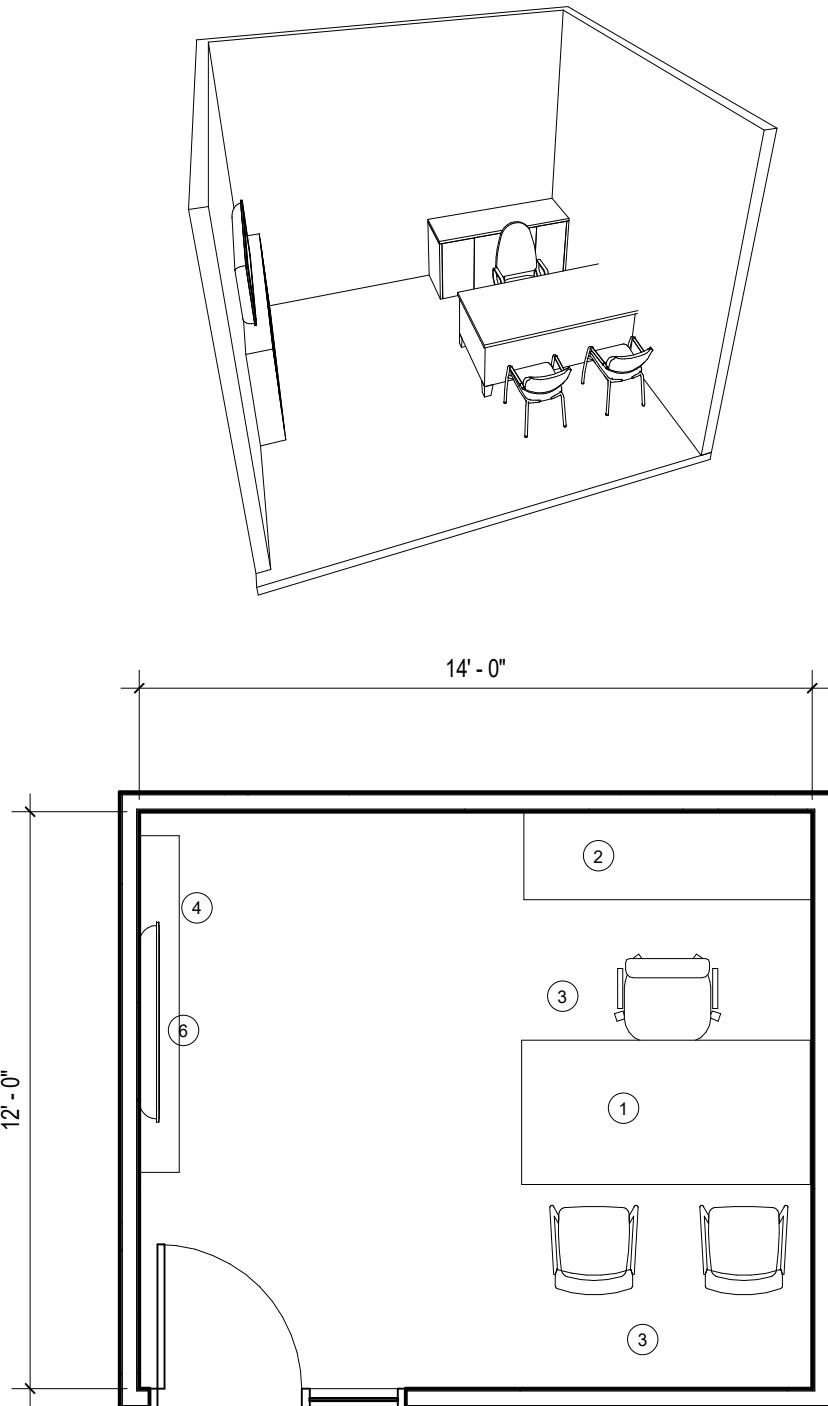
COMPONENTS:

1. EXECUTIVE CHAIR
2. DESK WITH SIDE RETURN
3. GUEST CHAIRS
4. BOOKCASE /
FILE CABINETS
5. BOOKCASE
6. TV MONITOR

APPLIES TO (5) STAFF MEMBERS:

- DPW OPERATIONS SUPERINTENDENT
- ASSISTANT DPW SUPERINTENDENT
- TREE WARDEN OFFICE
- TOWN ENGINEER OFFICE
- ASSISTANT TOWN ENGINEER OFFICE

DRAFT



① **HIGHWAY CREW LEADER OFFICE - 168sf**
1/4" = 1'-0"

ROOM FINISHES:

FLOORS: CARPET

WALLS: GWB, PAINTED

CEILING: ACT TILE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

HEATING / COOLING

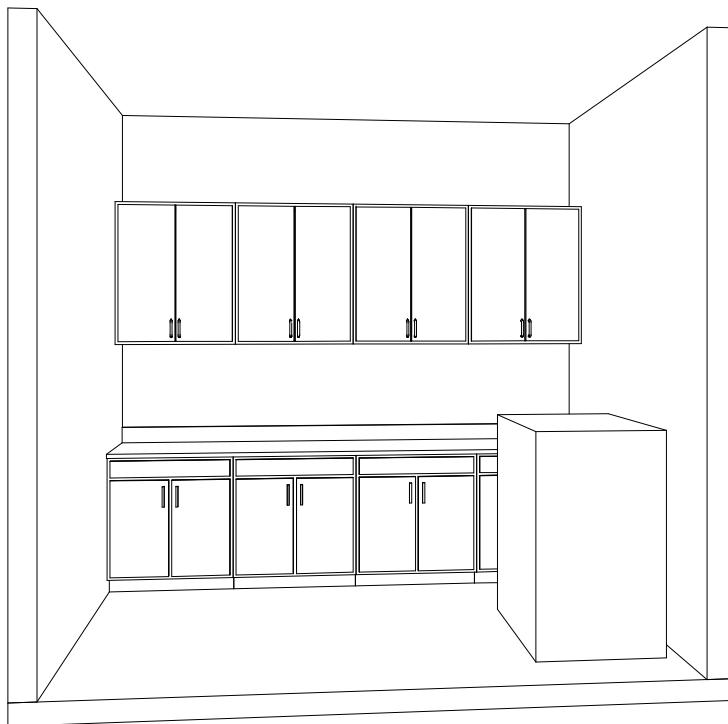
OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

NATURAL LIGHTING

COMPONENTS:

1. DESK
2. CREDENZA
3. EXECUTIVE CHAIR
4. (2) CHAIRS
5. BOOKCASE
6. FILE CABINET
7. TV MONITOR

DRAFT



ROOM FINISHES:

FLOORS: CARPET

WALLS: GWB, PAINTED

CEILING: ACT TILE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

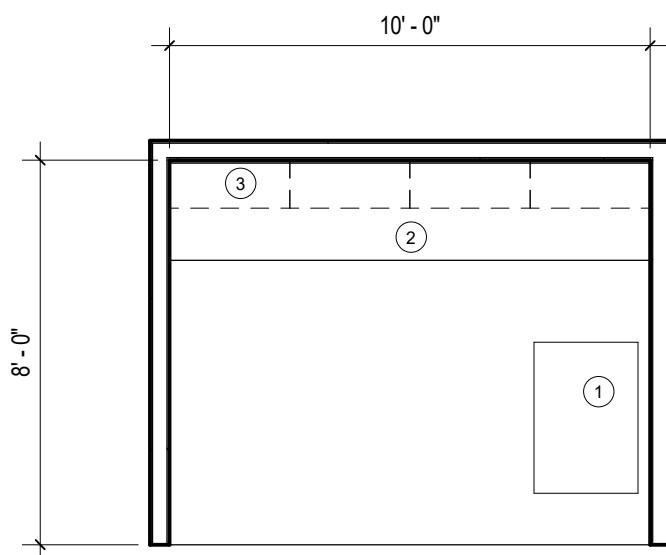
TEL / DATA OUTLET JACKS

HEATING / COOLING

OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

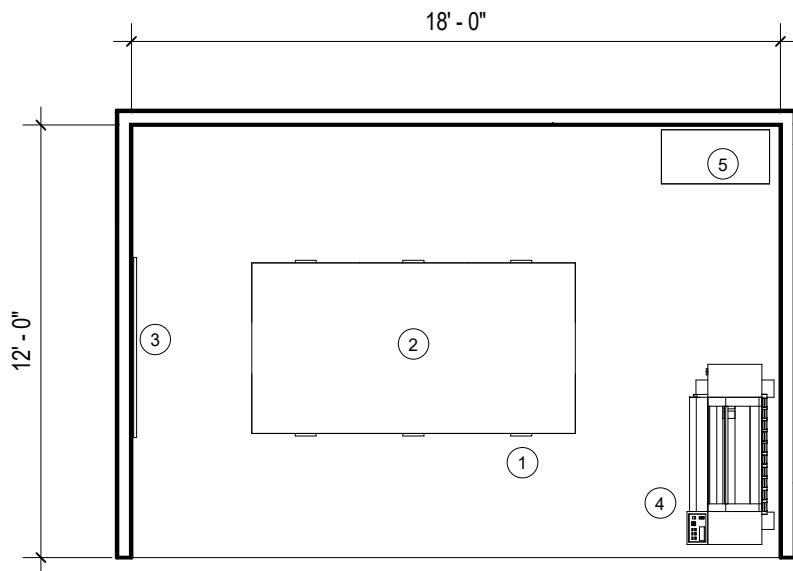
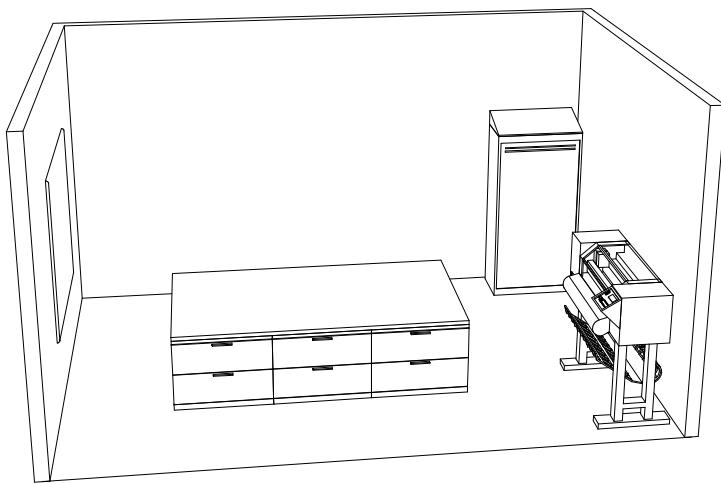
COMPONENTS:

1. PRINTER
2. WORK COUNTER / LOWER CABINETS
3. UPPER CABINETS W/U.C. LIGHTING



1 COPY/MAIL AREA - 80sf
1/4" = 1'-0"

DRAFT



① LAYOUT AREA - 216sf
 $3/16'' = 1'-0''$

ROOM FINISHES:

FLOORS: LINOLEUM SHEET

WALLS: GWB

CEILING: ACT TILE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

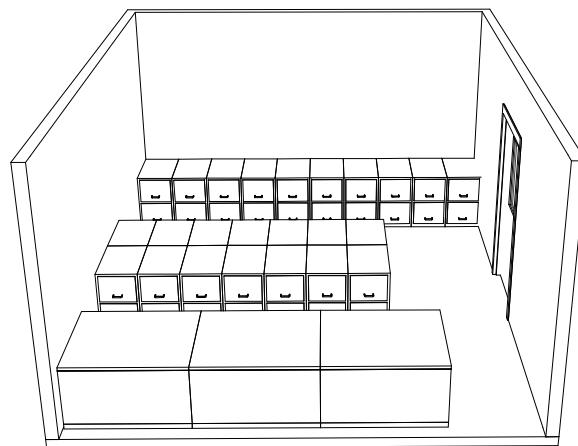
HEATING / COOLING

OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

COMPONENTS:

1. (6) FLAT FILES
2. 8' x 4'-2" LAYOUT COUNTER TOP
(ABOVE FLAT FILES)
3. DISPLAY BOARD
4. PLOTTER/SCANNER
5. SUPPLY CABINET

DRAFT



ROOM FINISHES:

FLOORS: CARPET TILES

WALLS: GWB PAINTED

CEILING: ACT TILES

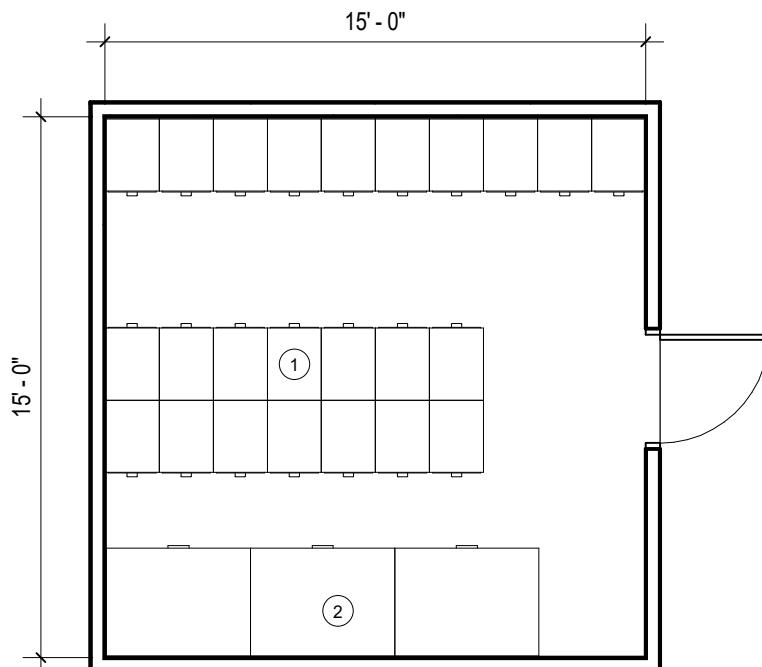
MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

HEATING / COOLING

OCCUPANCY SENSORS
FOR LIGHTING CONTROLS



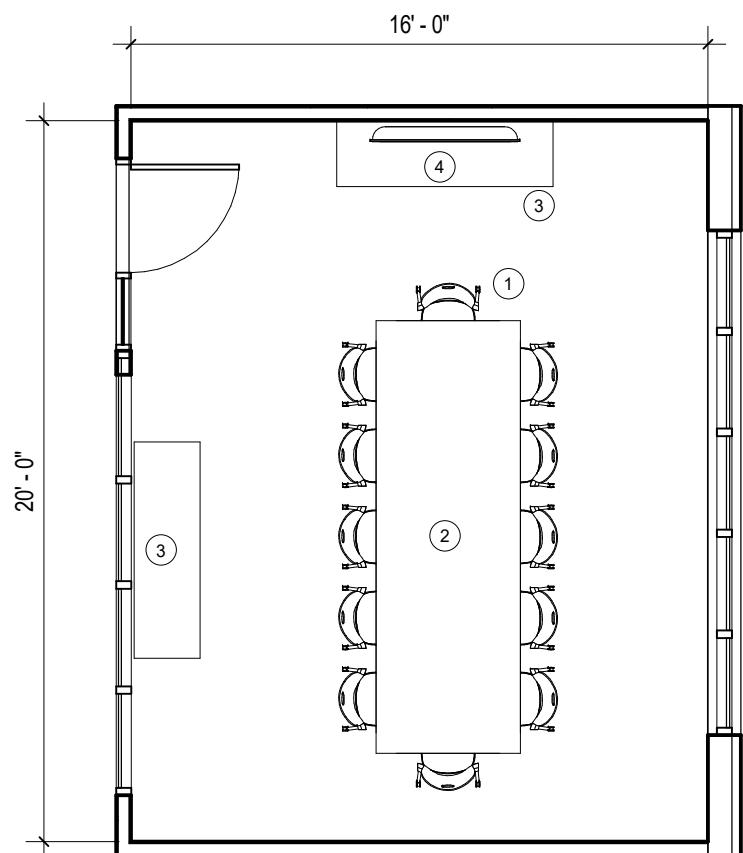
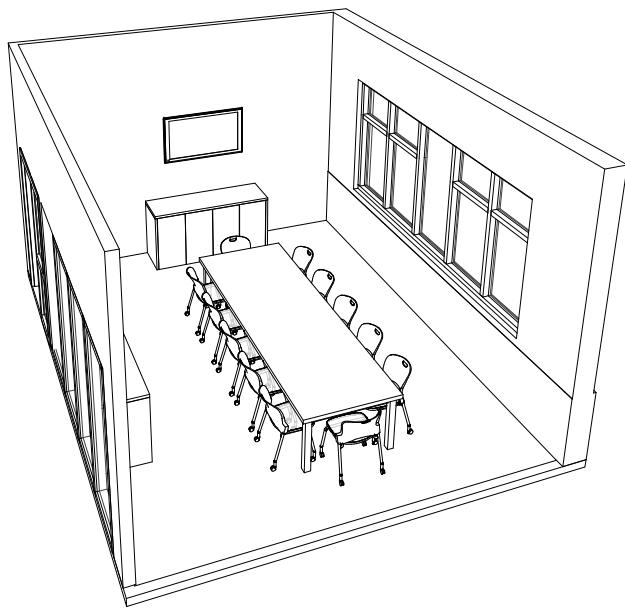
1 FILE STORAGE - 225sf
3/16" = 1'-0"

COMPONENTS:

1. (24) 18" X 24" FILE CABINETS

2. (3) FLAT FILES / ROLLED
DRAWING STORAGE

DRAFT



1 **LARGE CONFERENCE ROOM - 320sf**
3/16" = 1'-0"

ROOM FINISHES:

FLOORS: CARPET TILE

WALLS: GWB PAINTED

CEILING: ACT TILE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

(2) TEL / DATA OUTLET JACKS

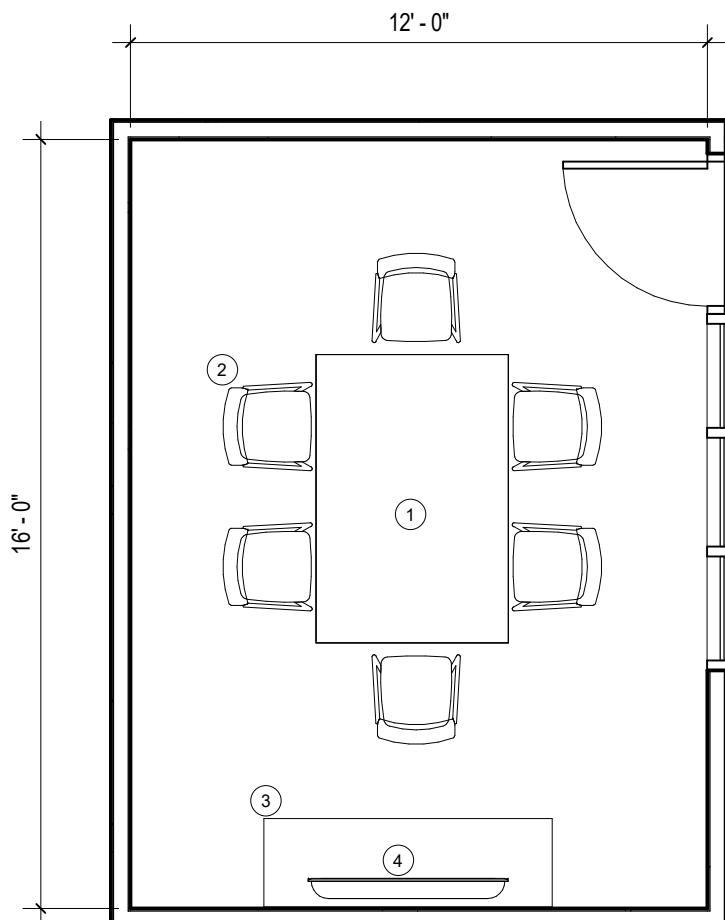
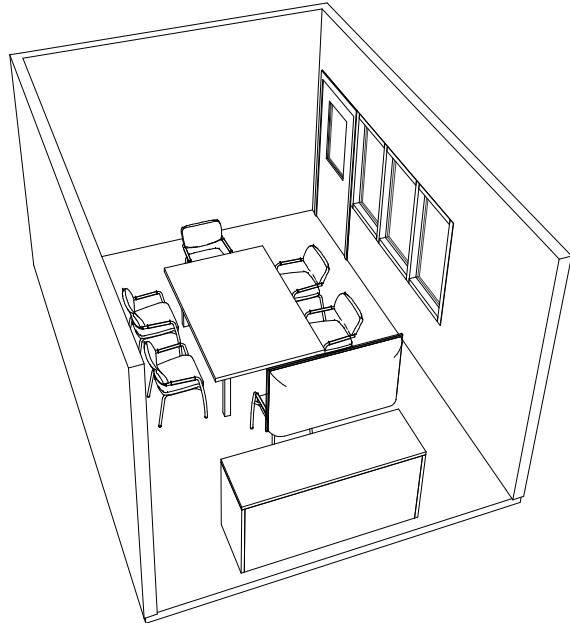
HEATING / COOLING

OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

COMPONENTS:

1. (12) CHAIRS
2. CONFERENCE TABLE
3. CREDENZA
4. TV MONITOR

DRAFT



① **SMALL CONFERENCE ROOM - 192sf**
1/4" = 1'-0"

ROOM FINISHES:

FLOORS: CARPET TILE

WALLS: GWB PAINTED

CEILING: ACT TILE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

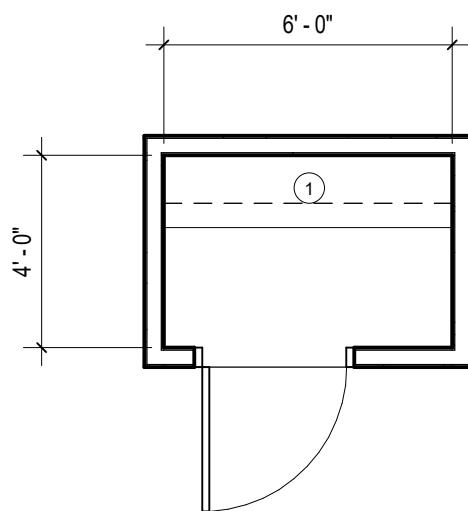
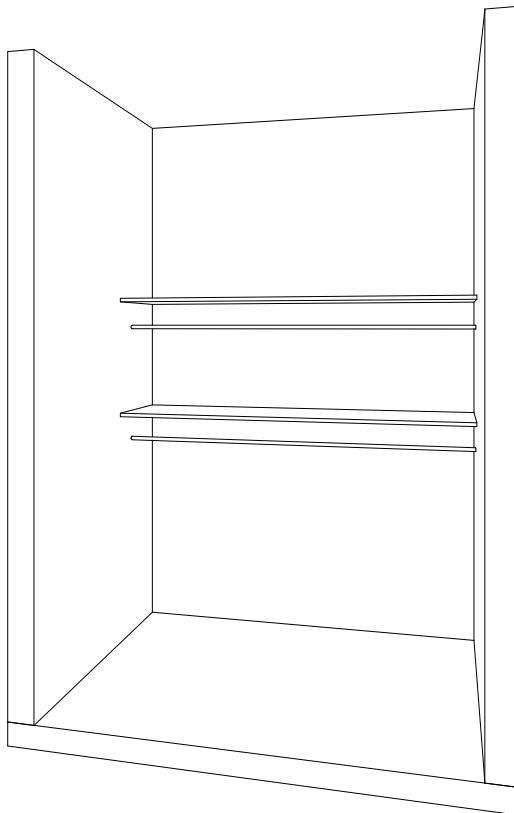
HEATING / COOLING

OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

COMPONENTS:

1. CONFERENCE TABLE
2. (6) CHAIRS
3. CREDENZA
4. WIDE SCREEN TV

DRAFT



1 OFFICE SUPPLY CLOSET - 24sf
1/4" = 1'-0"

ROOM FINISHES:

FLOORS: CARPET

WALLS: GWB PAINTED

CEILING: ACT TILE

MEP/DATA REQUIREMENTS:

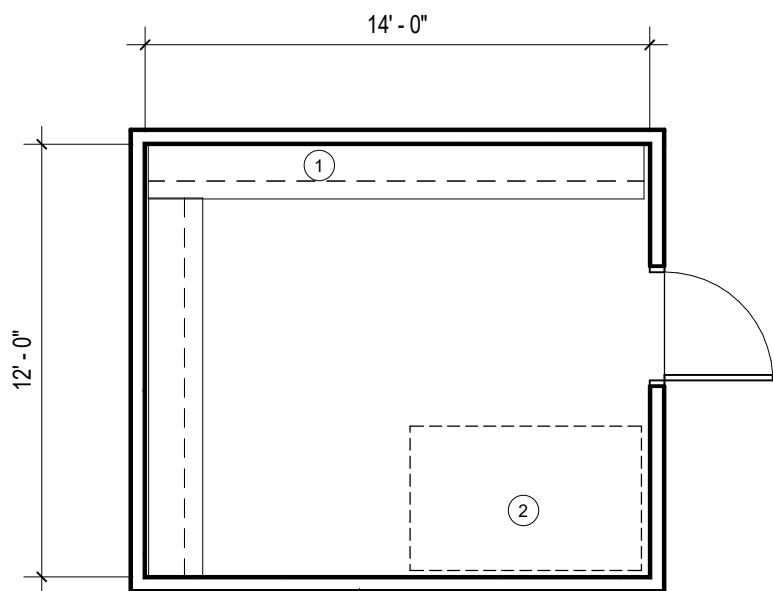
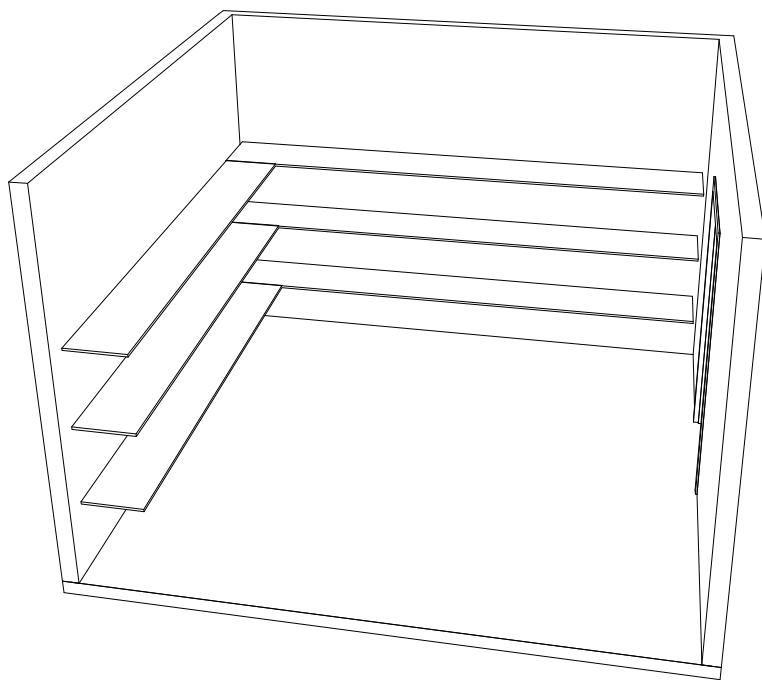
HEATING / COOLING

OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

COMPONENTS:

1. SHELF WITH POLE

DRAFT



(1) **LARGE SUPPLY CLOSET - 168sf**
3/16" = 1'-0"

ROOM FINISHES:

FLOORS: LINOLEUM

WALLS: GWB PAINTED

CEILING: ACT TILES

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

HEATING / COOLING

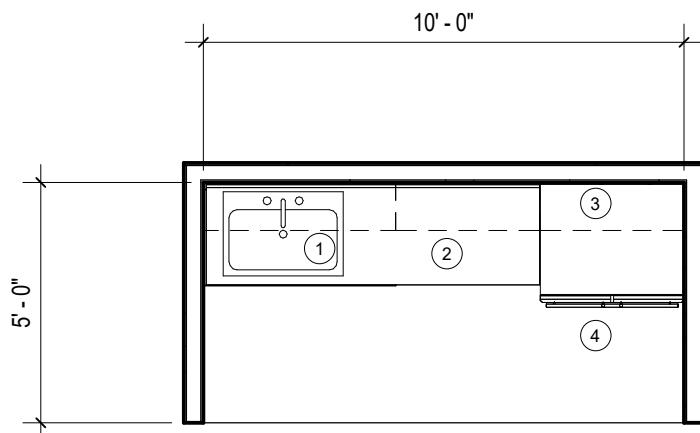
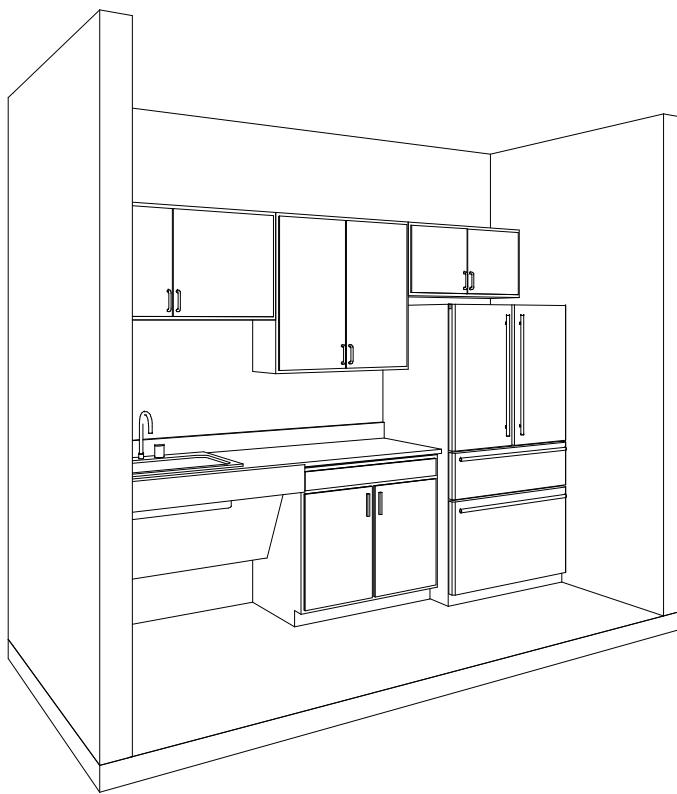
OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

COMPONENTS:

1. WALL MOUNTED SHELVES

2. DESIGNATED FLOOR STORAGE

DRAFT



1 KITCHENETTE - 50sf
1/4" = 1'-0"

ROOM FINISHES:

FLOORS: LINOLEUM

WALLS: GWB, PAINTED

CEILING: ACT TILE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

HEATING / COOLING

OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

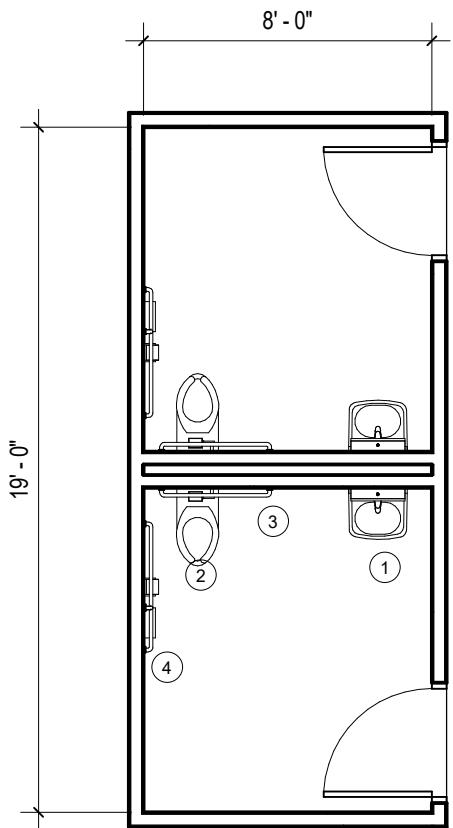
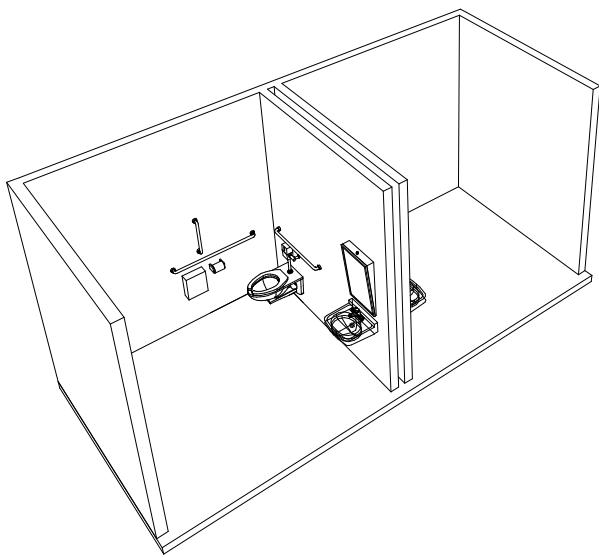
COMPONENTS:

1. STAINLESS STEEL SINK
ADA BASE
2. COUNTER & BASE CABINET
3. UPPER CABINETS
4. STAINLESS STEEL REFRIGERATOR

(BELOW ARE NOT REPRESENTED
ON THIS SHEET)

5. ICE MAKER
6. MICROWAVE
7. COFFEE STATION

DRAFT



1 TOILET FACILITY - 152sf
 $3/16" = 1'-0"$

ROOM FINISHES:

FLOORS: CERAMIC TILE

WALLS: CERAMIC TILE /
GWB PAINTED

CEILING: GYP, PAINTED

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

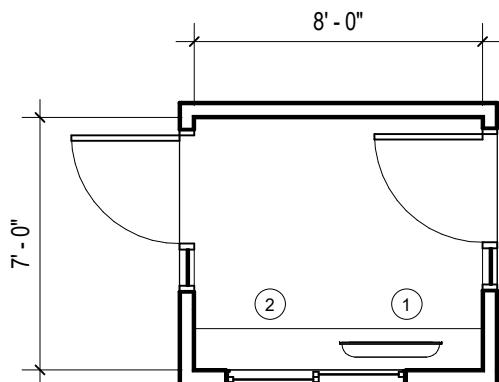
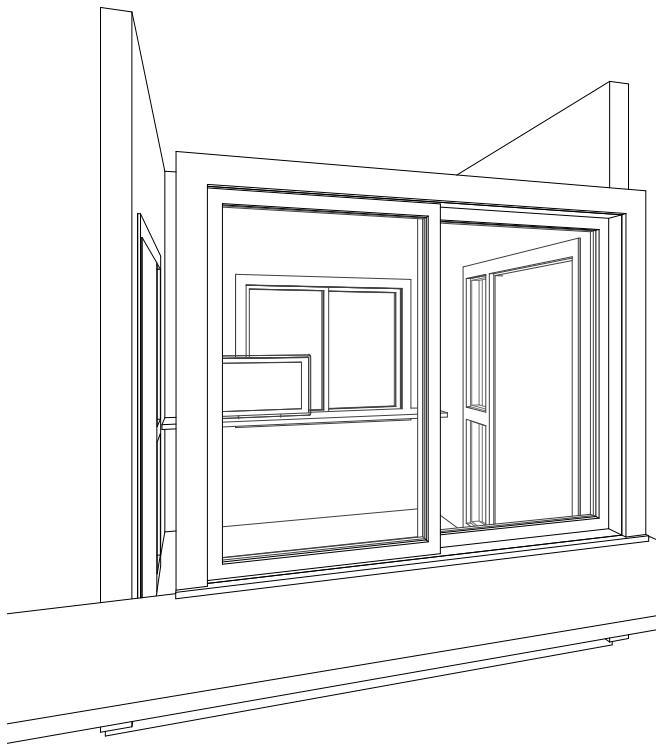
HEATING / COOLING

OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

COMPONENTS:

1. (2) WALL HUNG SINK
2. (2) WALL HUNG TOILET
3. (2) 36" GRAB BAR
4. (2) 48" GRAB BAR

DRAFT



1 STAFF ENTRANCE & KIOSK - 56sf
3/16" = 1'-0"

ROOM FINISHES:

FLOORS: LINOLEUM

WALLS: GWB

CEILING: GYP, PAINTED

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

HEATING / COOLING

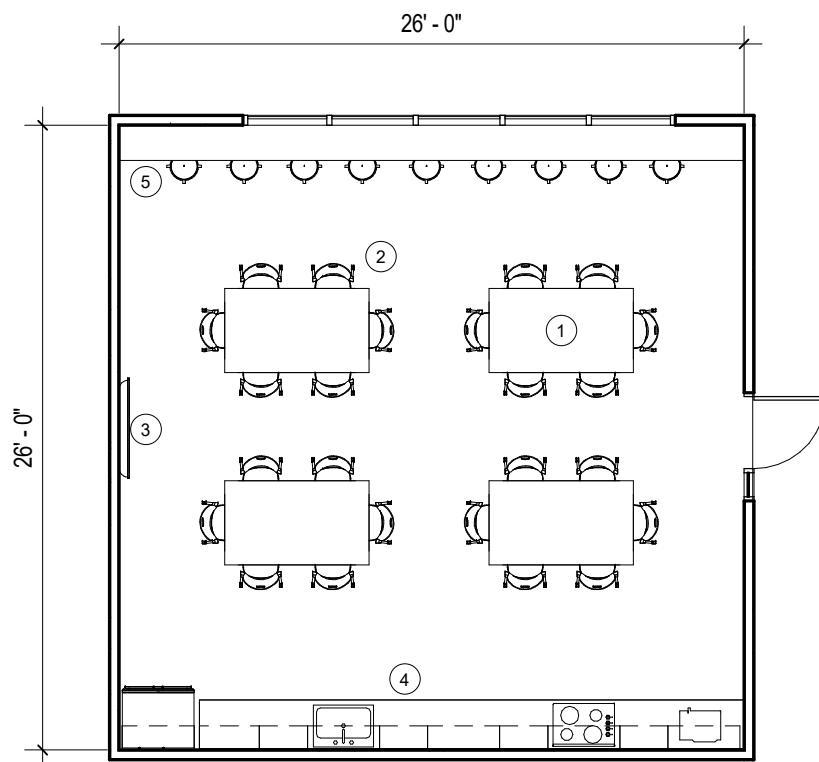
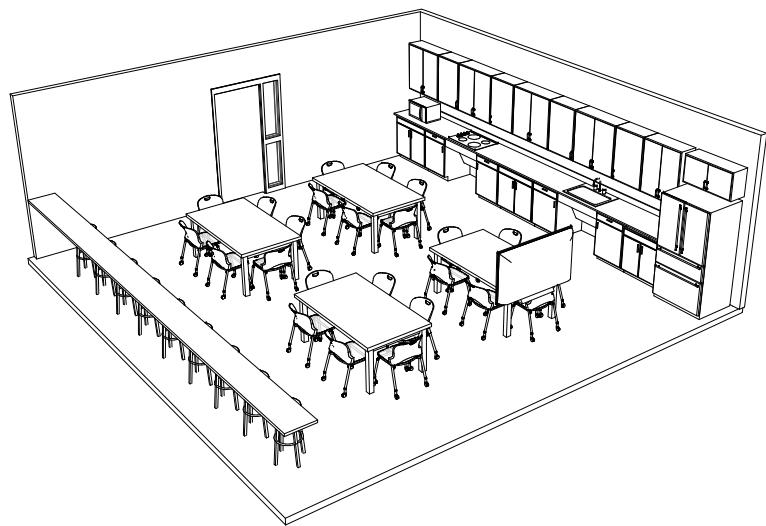
OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

NATURAL LIGHTING

COMPONENTS:

1. KIOSK
2. CUSTOMER SERVICE
COUNTER/WINDOW

DRAFT



① **MUSTER / MULTIPURPOSE ROOM - 676sf**
 $1/8" = 1'-0"$

ROOM FINISHES:

FLOORS: LINOLEUM

WALLS: GWB, PAINTED

CEILING: ACT

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

HEATING / COOLING

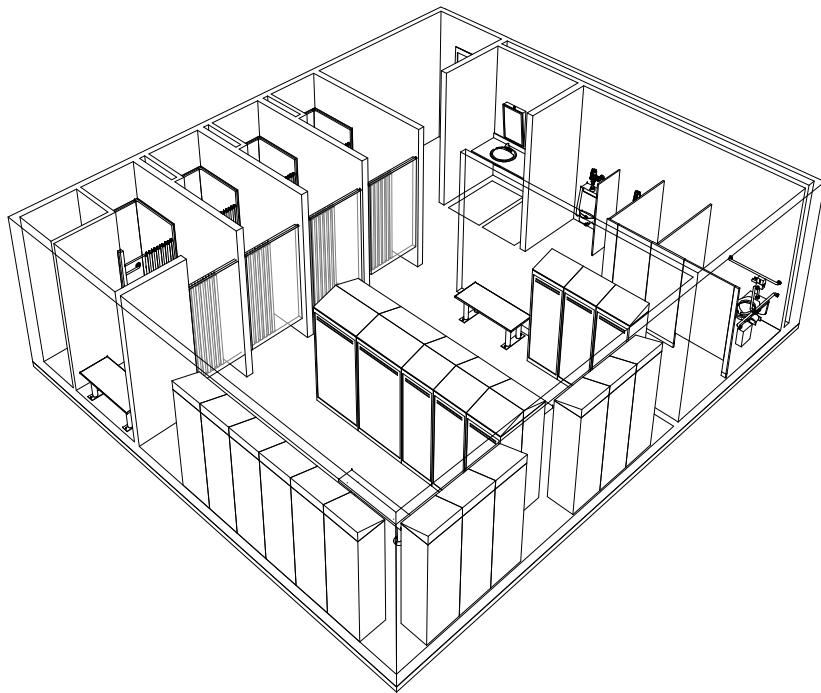
OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

NATURAL LIGHTING

COMPONENTS:

1. (4) TABLES
2. (24) CHAIRS
3. WALL MOUNTED TELEVISION
4. KITCHEN, INCLUDES:
 - SOLID SURFACE COUNTERS
 - BASE & WALL CABINETS
 - STAINLESS STEEL SINK
 - REFRIGERATOR
 - COOKTOP
 - MICROWAVES
 - TOASTER OVENS
 - COFFEE STATION
 - ICE MACHINE
5. COUNTER & STOOLS

DRAFT



ROOM FINISHES:

FLOORS: RESINOUS EPOXY

WALLS: CERAMIC TILE & GWB PAINTED

CEILING: MOISTURE RESISTANT ACT TILE & GWD, PNTD

MEP/DATA REQUIREMENTS:

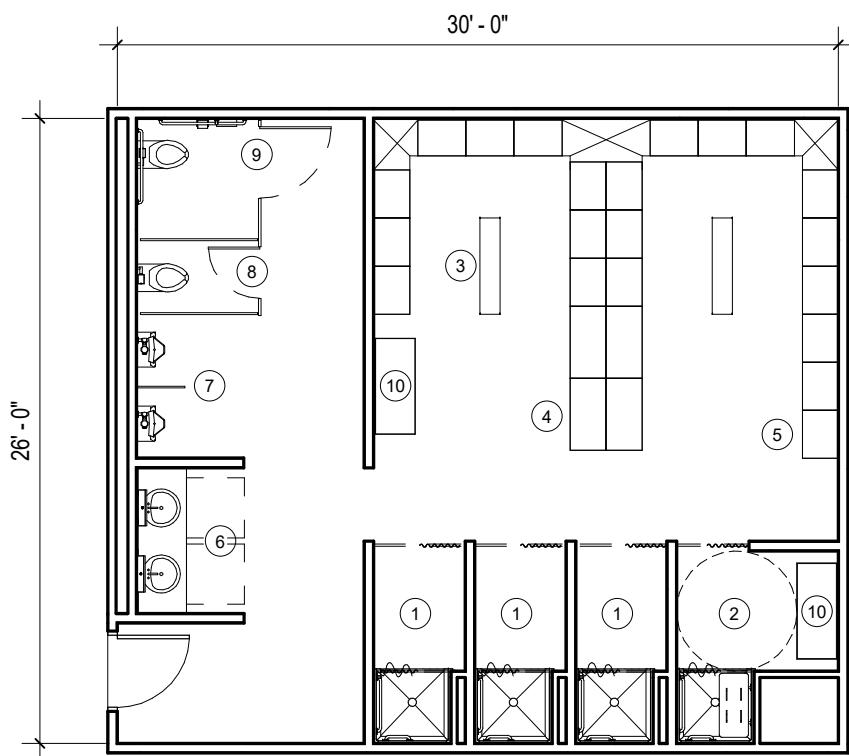
GFI ELECTRICAL OUTLETS

OCCUPANCY SENSORS FOR LIGHTING CONTROLS

HEATING

COOLING

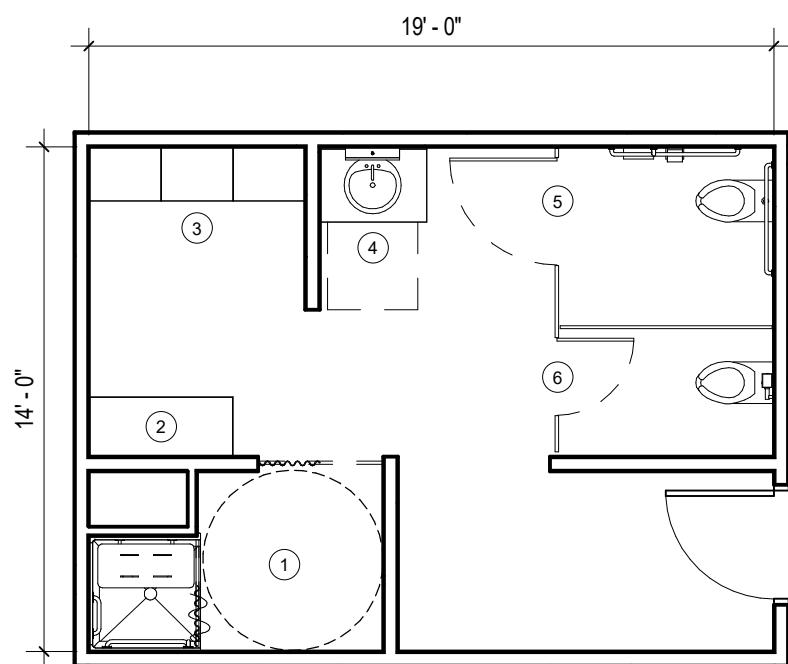
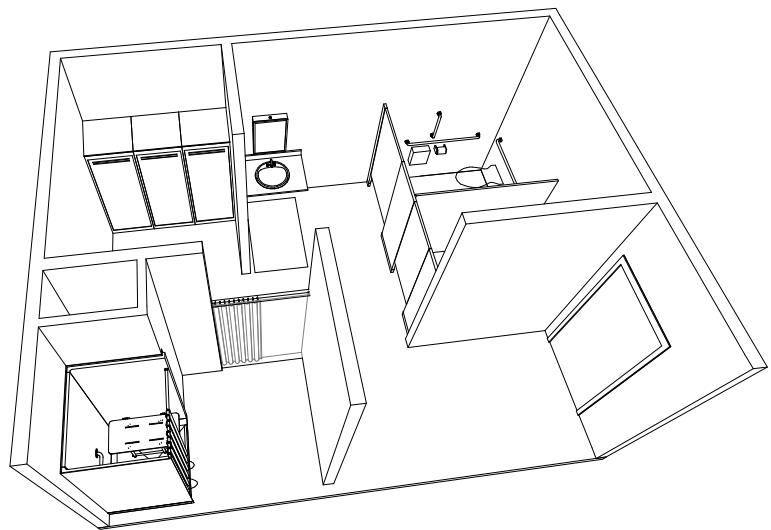
COMPONENTS:



1 MALE LOCKER ROOM - 780sf
1/8" = 1'-0"

1. STANDARD SHOWER STALL
2. ADA SHOW STALL
3. STANDARD BENCH
4. (4) 18" x 36" LOCKERS
5. (21) 18" x 24" LOCKERS
6. COUNTER, SINKS & MIRRORS
7. WALL HUNG URINALS
8. STANDARD TOILET STALL
9. ADA TOILET STALL
10. ADA BENCH

DRAFT



1 WOMEN'S LOCKER ROOM - 266sf
3/16" = 1'-0"

ROOM FINISHES:

FLOORS: RESINOUS

WALLS: CERAMIC TILES & GWB PAINTED

CEILING: MOISTURE RESISTANT ACT TILES

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

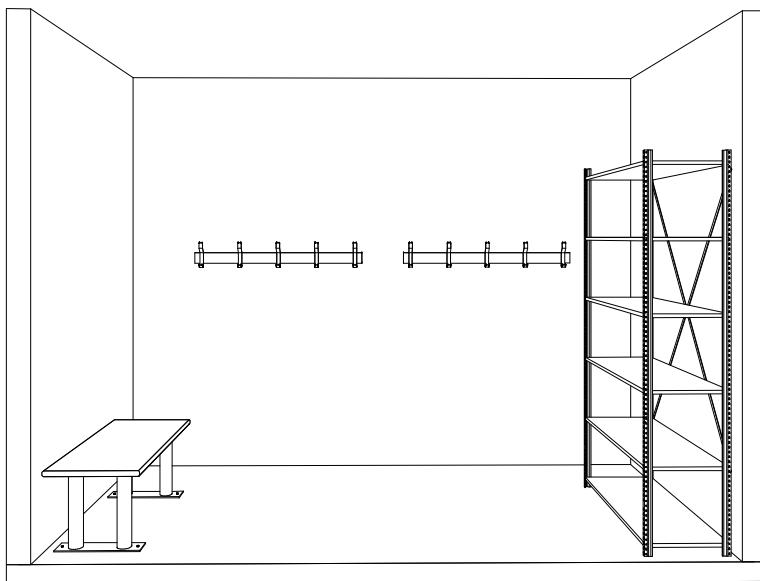
HEATING / COOLING

OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

COMPONENTS:

1. ADA SHOWER STALL
2. ADA BENCH
3. (3) 18" X 24" LOCKERS
4. COUNTER, SINK, & MIRROR
5. ADA TOILET STALL
6. STANDARD STALL

DRAFT



ROOM FINISHES:

FLOORS: RESINOUS EPOXY OR SEALED CONCRETE

WALLS: CMU OR GWB, PAINTED

CEILING: OPEN TO STRUCTURE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

HEATING / COOLING

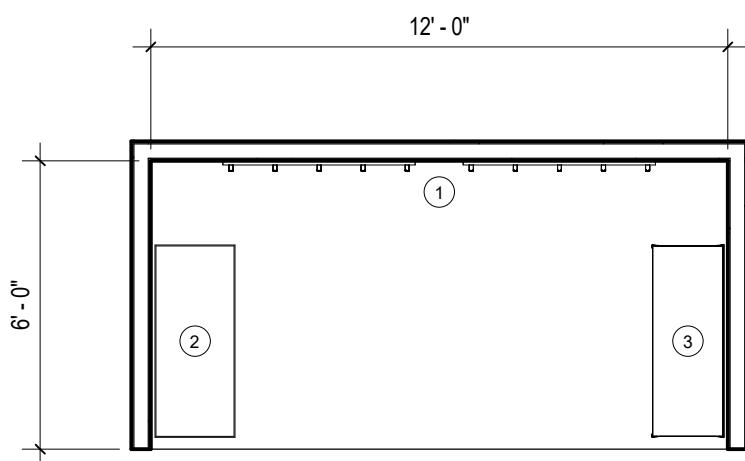
OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

COMPONENTS:

1. WET GEAR GOOKS

2. BENCH

3. UTILITY SHELVEING



① WET GEAR AREA - 72SF
1/4" = 1'-0"

DRAFT

ROOM FINISHES:

FLOORS: RESINOUS EPOXY OR SEALED CONCRETE

WALLS: GWB, PAINTED

CEILING: ACT TILES

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

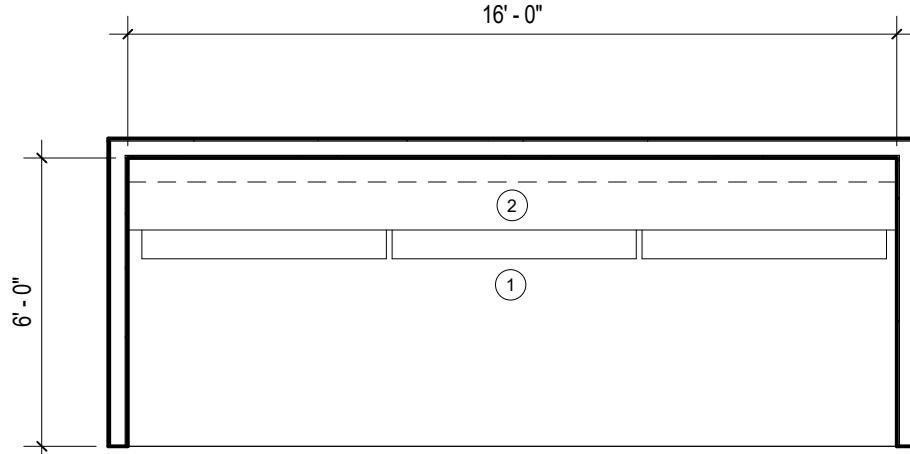
HEATING / COOLING

OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

COMPONENTS:

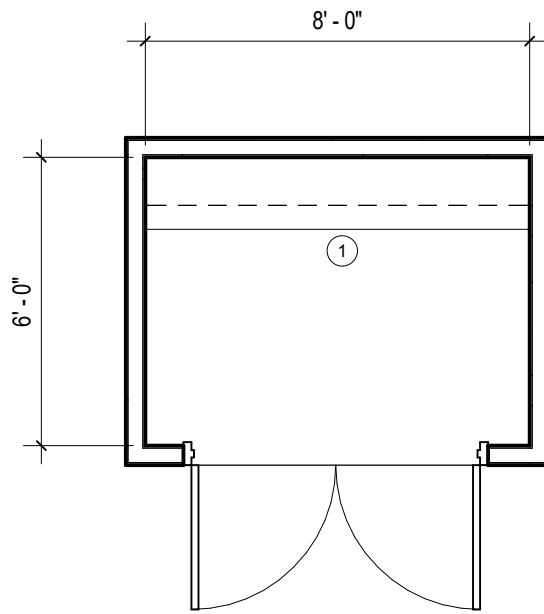
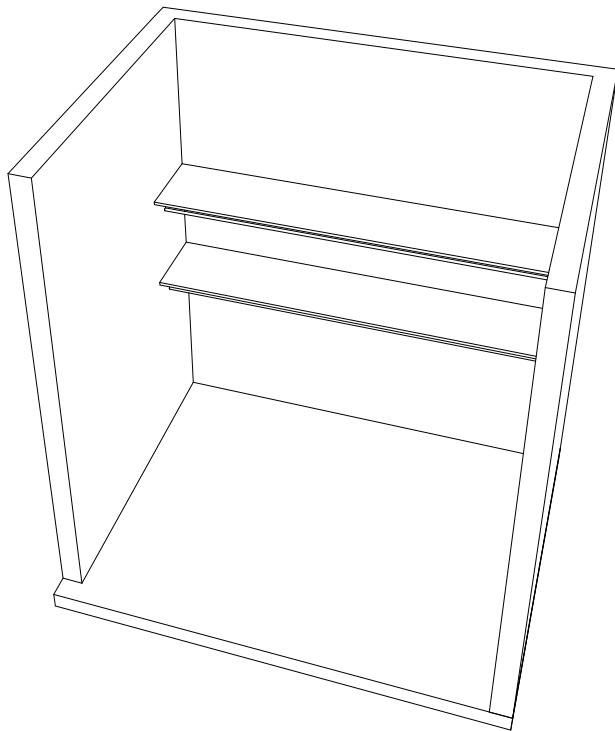
1. (3) UNIFORM RACKS

2. SHELVING



1 **UNIFORM AREA - 96sf**
1/4" = 1'-0"

DRAFT



1 SECURE INVENTORY CLOSET - 48sf
1/4" = 1'-0"

ROOM FINISHES:

FLOORS: CARPET TILE

WALLS: GWB PAINTED

CEILING: 2' X 2' ACT TILE

MEP/DATA REQUIREMENTS:

HEATING

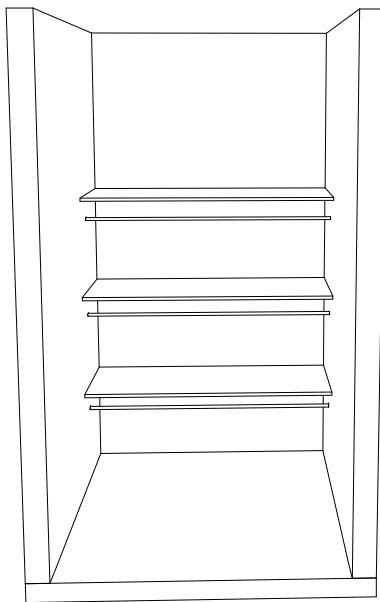
COOLING

DUPLEX ELECTRICAL OUTLETS

COMPONENTS:

1. WALL MOUNTED SHELVING

DRAFT



ROOM FINISHES:

FLOORS: CARPET TILE

WALLS: GWB PAINTED

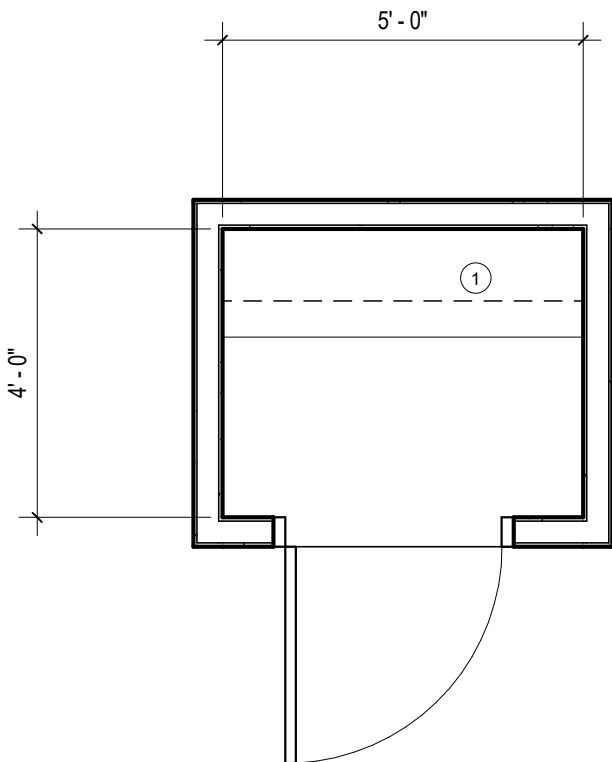
CEILING: 2' X 2' ACT TILE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

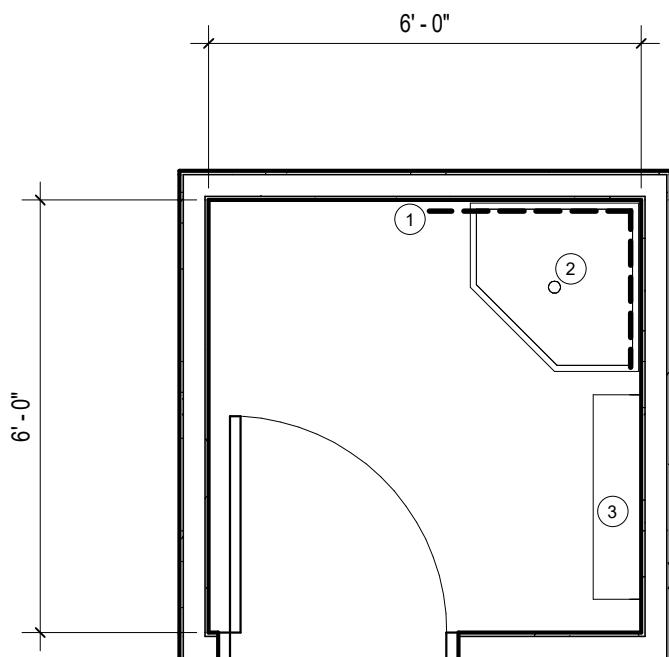
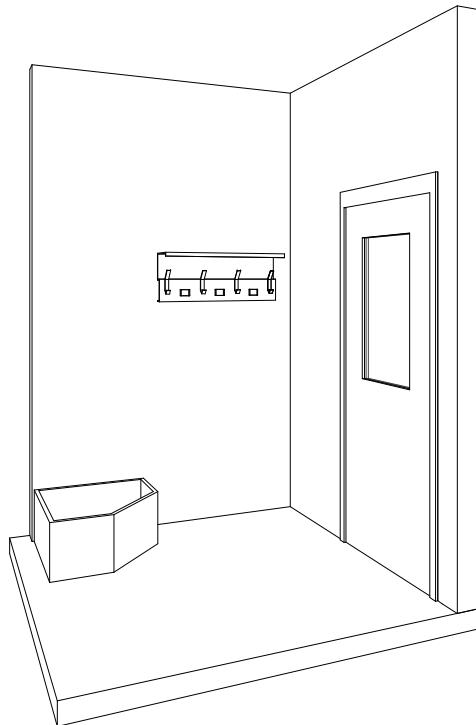
COMPONENTS:

1. WALL MOUNTED SHELVING



1 CREW SUPPLY STORAGE - 20sf
3/8" = 1'-0"

DRAFT



1 JANITOR CLOSET - 36sf
3/8" = 1'-0"

ROOM FINISHES:

FLOORS: 12X12 VCT TILE

WALLS: GWB PAINTED

CEILING: 2X2 ACT TILE

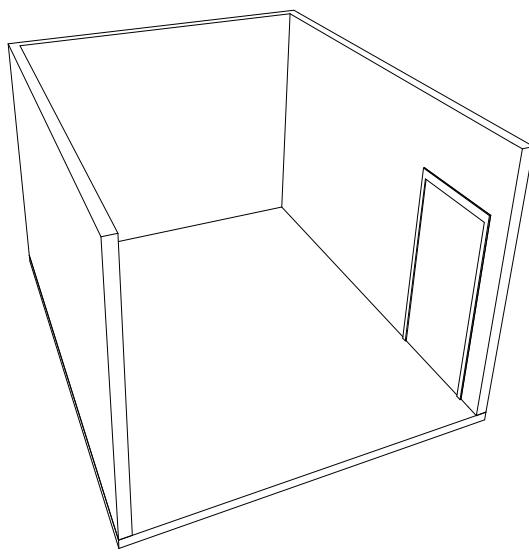
MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

COMPONENTS:

1. FRP PANELING AT SINK
2. UTILITY SINK
3. UTILITY SHELF W/
MOP & BROOM HOLDERS

DRAFT



ROOM FINISHES:

FLOORS: SEALED CONCRETE

WALLS: GWB, PAINTED

CEILING: OPEN TO STRUCTURE

MEP/DATA REQUIREMENTS:

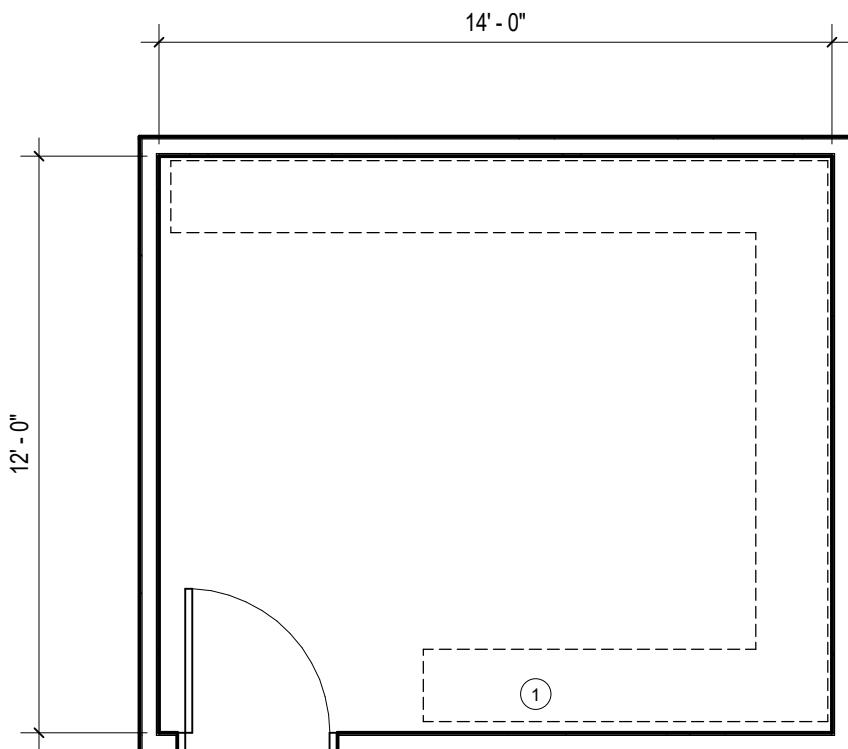
DUPLEX ELECTRICAL OUTLETS

DATA OUTLET JACKS

HEATING / COOLING

COMPONENTS:

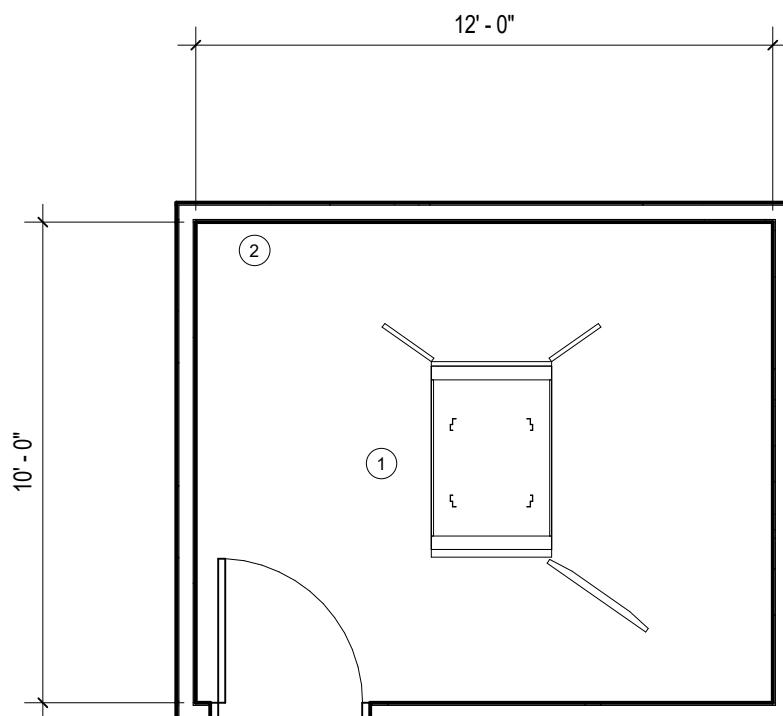
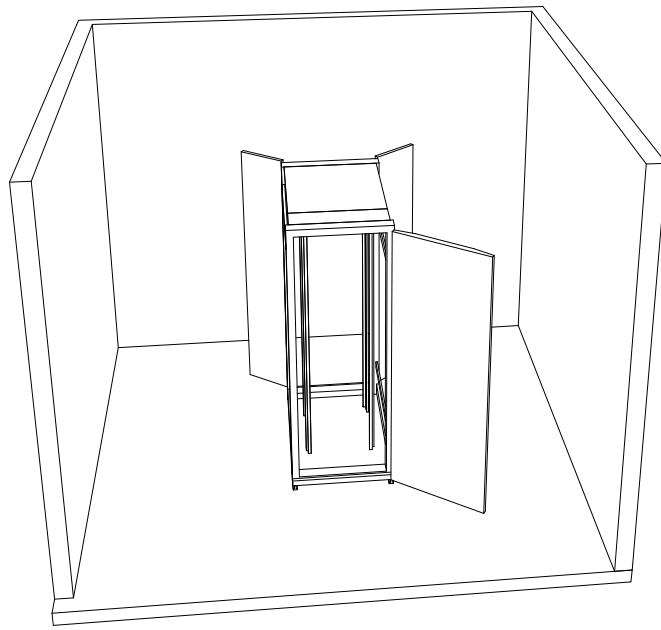
1. WALL MOUNTED UNITS



1 **UTILITY ROOM - 168sf**

1/4" = 1'-0"

DRAFT



1 TEL/DATA ROOM - 120sf
1/4" = 1'-0"

ROOM FINISHES:

FLOORS: SEALED CONCRETE

WALLS: CMU PAINTED

CEILING: OPEN TO STRUCTURE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

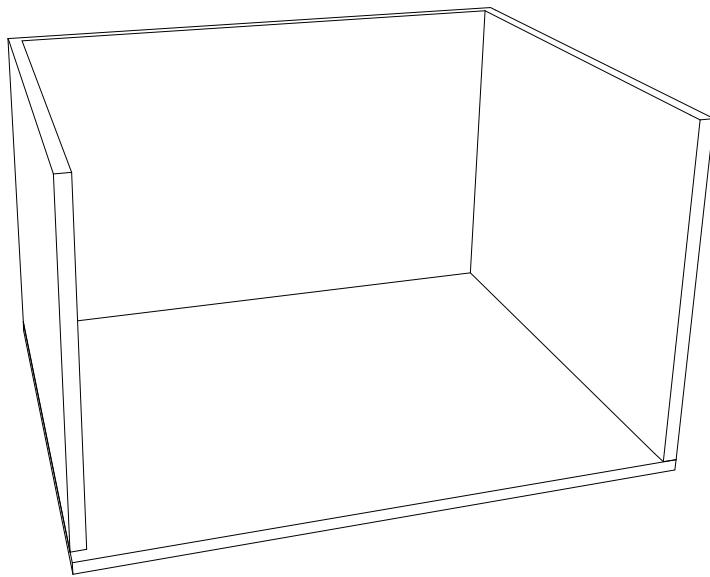
DATA OUTLET JACKS

FLOOR DRAIN

COMPONENTS:

1. DATA RACK
2. PLYWOOD BACK RACK BOARD FOR BUILDING SYSTEM COMPONENTS (SECURITY, CABLE, ETC.)

DRAFT



ROOM FINISHES:

FLOORS: SEALED CONCRETE

WALLS: CMU PAINTED

CEILING: OPEN TO STRUCTURE

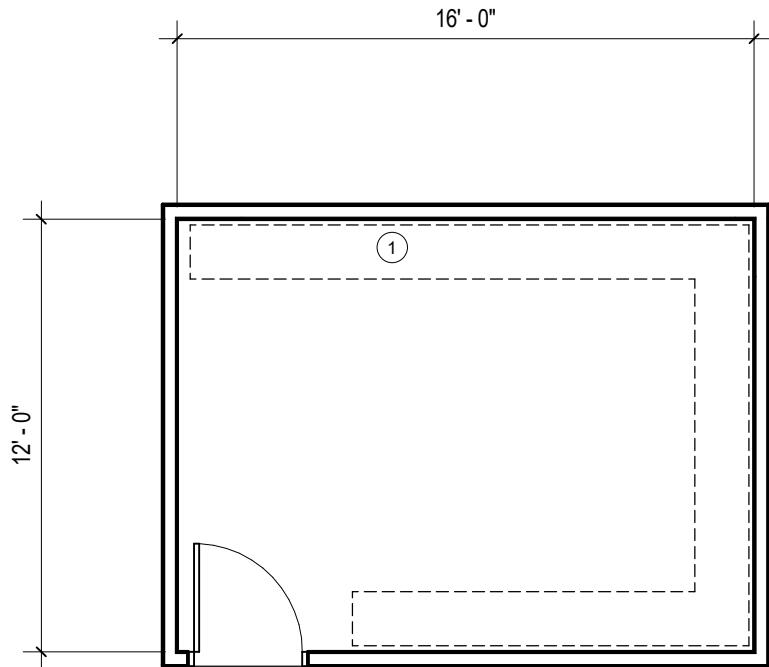
MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

DATA OUTLET JACKS

COMPONENTS:

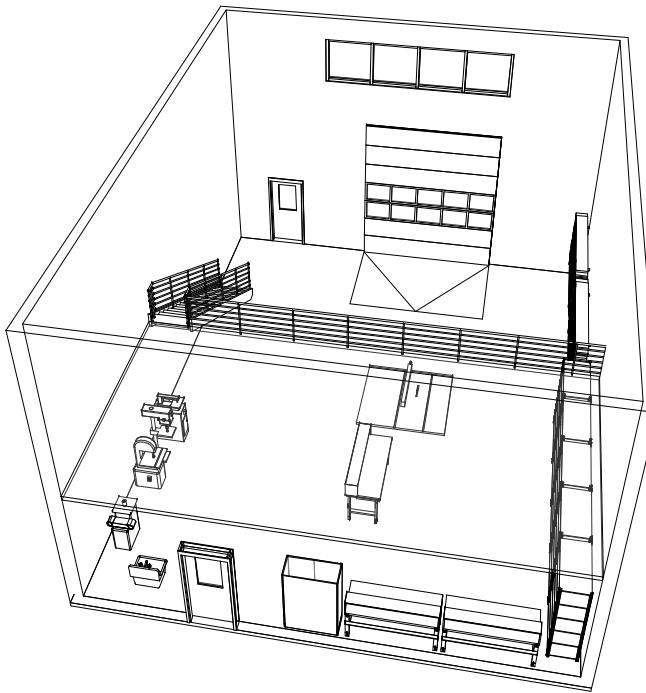
1. WALL MOUNTED PANELS



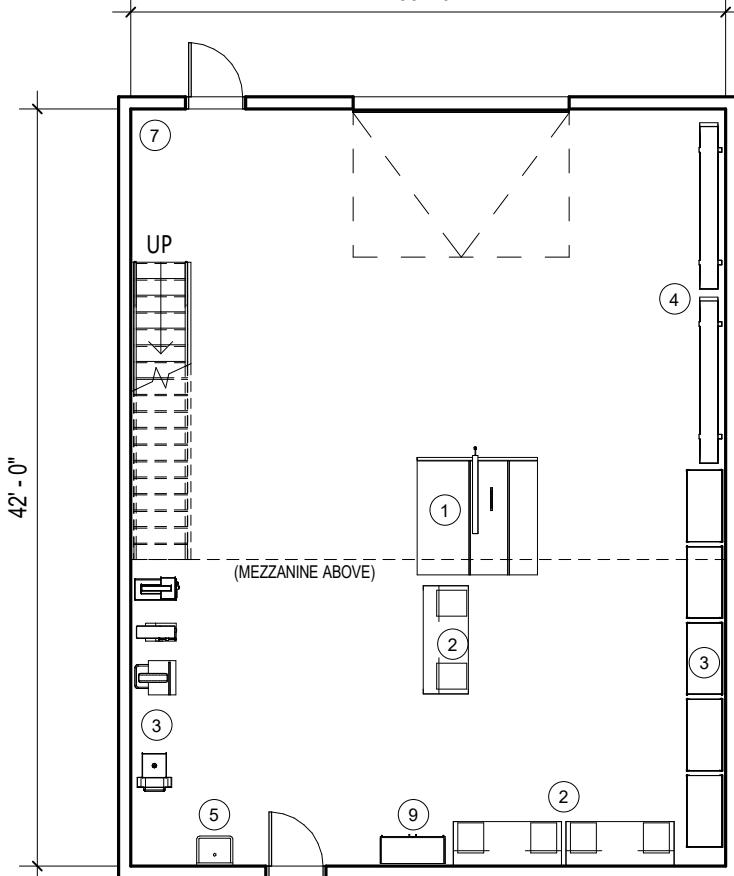
1 MECHANICAL ROOM - 192sf

3/16" = 1'-0"

DRAFT



33' - 0"



1 WORKSHOP - 1,386sf

3/32" = 1'-0"

ROOM FINISHES:

FLOORS: SEALED CONCRETE

WALLS: CMU PAINTED

CEILING: OPEN TO STRUCTURE

MEP/DATA REQUIREMENTS:

HEATING

COOLING

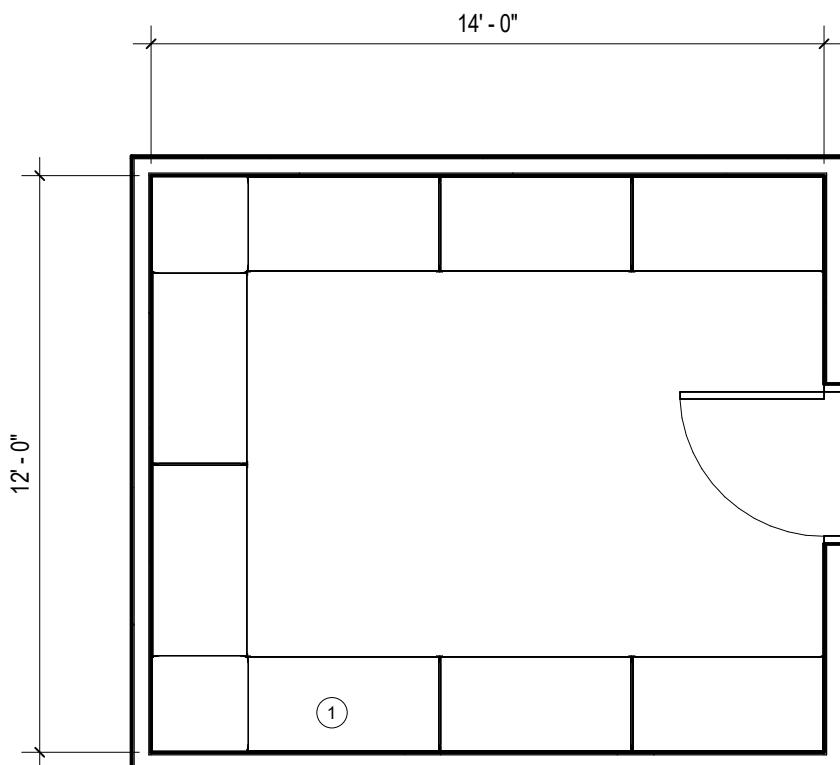
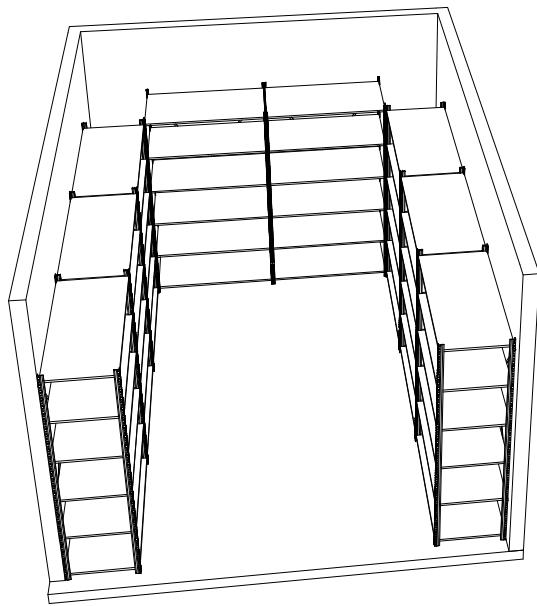
DUPLEX ELECTRICAL OUTLETS

DATA OUTLET JACKS

COMPONENTS:

1. TABLE SAW
2. WORKBENCH
3. UTILITY SHELVING
4. LUMBER STORAGE RACK
5. UTILITY SINK
6. FIRE CABINET
7. DUST COLLECTION
8. VARIOUS SMALL EQUIP. (TBD)

DRAFT



① STORAGE - 168sf
1/4" = 1'-0"

ROOM FINISHES:

FLOORS: SEALED CONCRETE

WALLS: CMU (Painted)

CEILING: OPEN TO STRUCTURE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

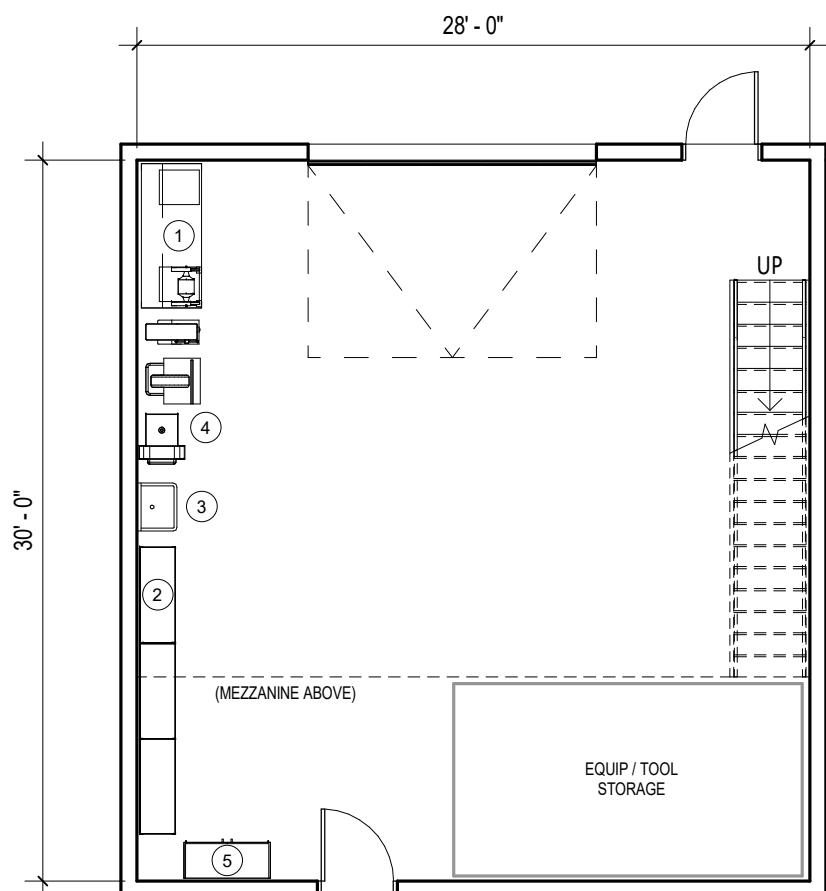
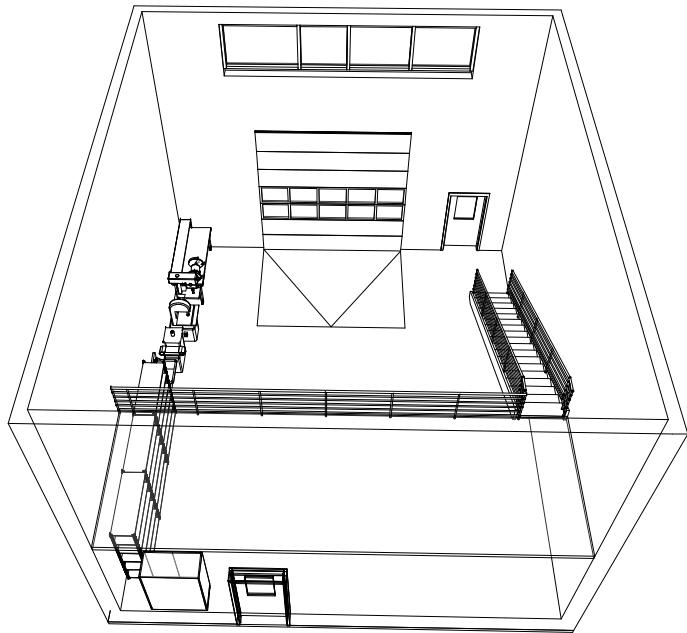
OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

NATURAL LIGHTING

COMPONENTS:

1. 48" X 24" UTILITY SHELVING

DRAFT



1 WORKSHOP - 840sf
1/8" = 1'-0"

ROOM FINISHES:

FLOORS: SEALED CONCRETE

WALLS: CMU PAINTED

CEILING: OPEN TO STRUCTURE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

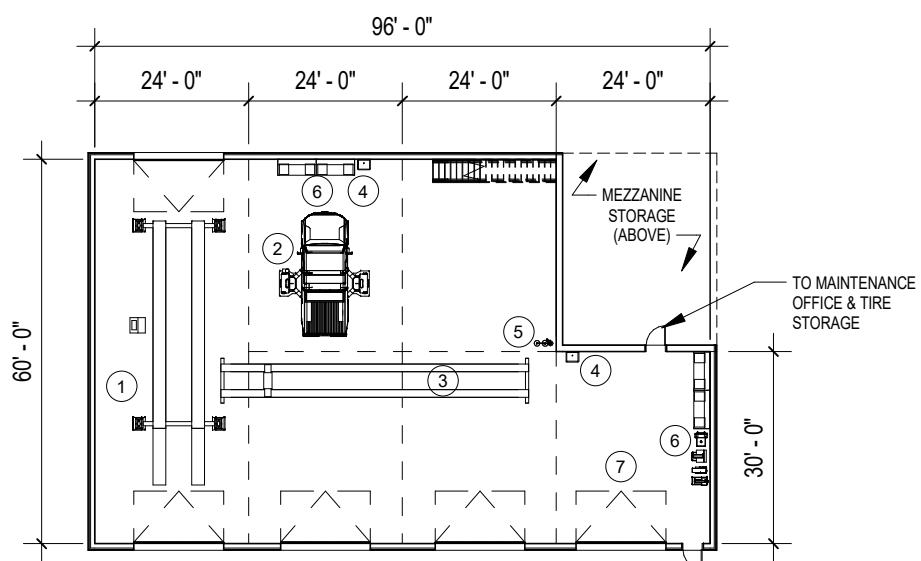
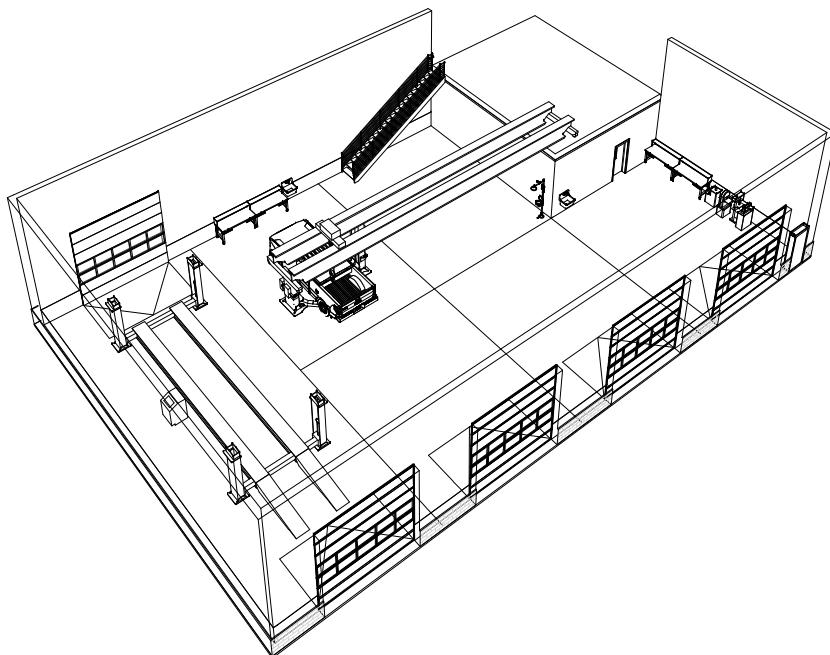
DATA OUTLET JACKS

NATURAL LIGHTING

COMPONENTS:

1. WORKBENCH
2. UTILITY SHELVING
3. UTILITY SINK
4. EQUIPMENT (TBD)
5. FIRE CABINET

DRAFT



1 VEHICLE MAINTENANCE BAYS - 5,040sf
1" = 30'-0"

ROOM FINISHES:

FLOORS: SEALED CONCRETE

WALLS: CMU TO 5'-4",
MTL PANEL ABOVE

CEILING: OPEN TO STRUCTURE

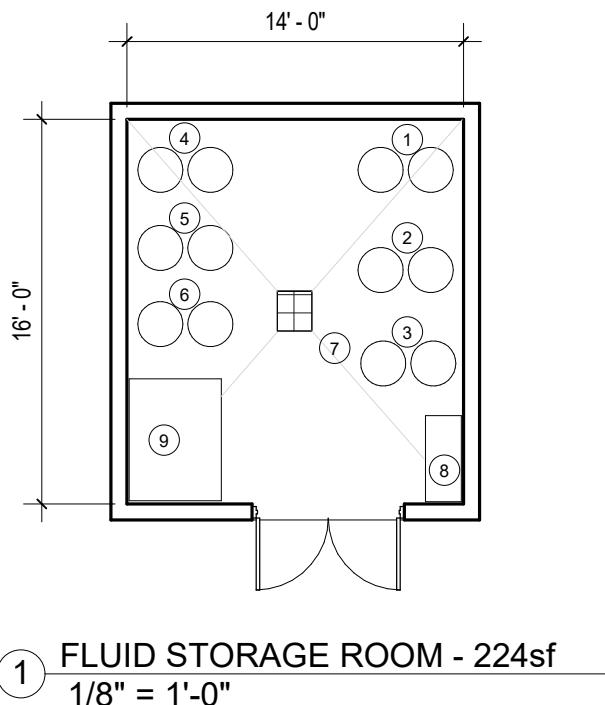
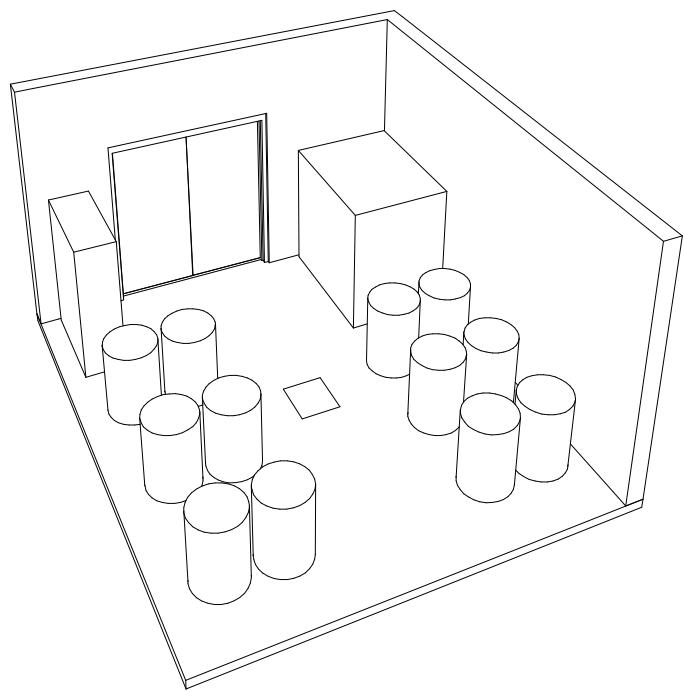
MEP/DATA REQUIREMENTS:

- DUPLEX ELECTRICAL OUTLETS
- TEL / DATA OUTLET JACKS
- OCCUPANCY SENSORS FOR LIGHTING CONTROLS
- SPECIALTY EQUIP. ELEC. OUTLETS
- HEATING (RADIANT FLOOR)
- NATURAL LIGHTING
- TOXIC ALERT SENSORS
- FLUID DISTRIBUTION SYSTEM
- COMPRESSED AIR

COMPONENTS:

1. HEAVY DUTY LIFT
2. LIGHT DUTY LIFT
3. OVERHEAD CRANE
4. SHOP SHINK
5. EMERGENCY EYE WASH STATION
6. SMALL EQUIP WORK SHOP (EQUIPMENT TBD)
7. WELDING BAY

DRAFT



ROOM FINISHES:

FLOORS: SEALED CONCRETE

WALLS: CMU PAINTED

CEILING: GWB PAINTED

MEP/DATA REQUIREMENTS:

HEATING

DEDICATED EXHAUST SYSTEM

GFI ELECTRICAL OUTLETS

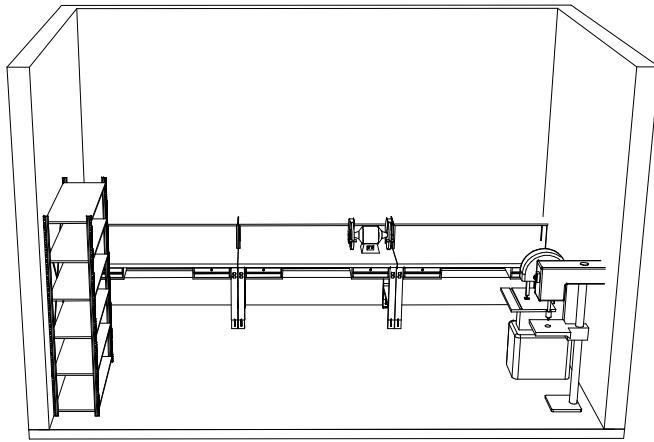
COMPRESSES AIR FOR PHNUMATIC PUMPS

CONTAINMENT SUMP

COMPONENTS:

1. 15W-40
2. 10-30
3. 5W-20
4. HYDROLIC FLUID
5. ANTIFREEZE
6. AUTOMATIC TRANSMISSION FLUID (ATF)
7. FLUID SPILL CONTAINMENT SUMP
8. WASTE ANTI-FREEZE
9. WASTE OIL

DRAFT



ROOM FINISHES:

FLOORS: SEALED CONCRETE

WALLS: CMU / GWB

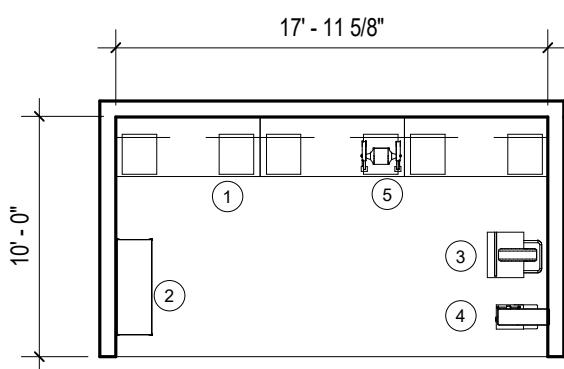
CEILING: OPEN TO ABOVE

MEP/DATA REQUIREMENTS:

- INDUSTRIAL MEP SYSTEMS
- DUPLEX ELECTRICAL OUTLETS
- TEL / DATA OUTLET JACKS
- OCCUPANCY SENSORS FOR LIGHTING CONTROLS
- SPECIALTY EQUIP. ELEC. OUTLETS
- NATURAL LIGHTING

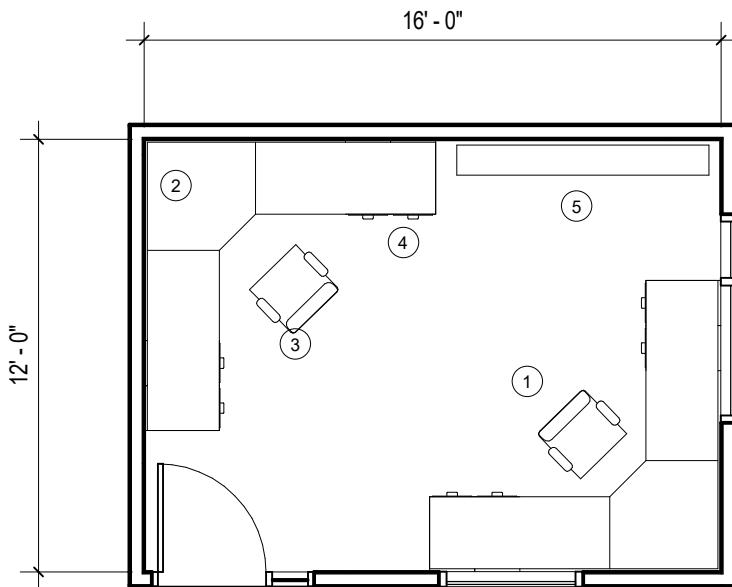
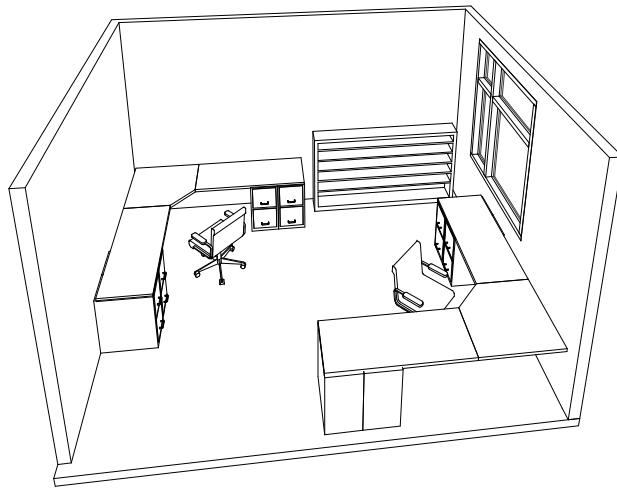
COMPONENTS:

1. WORKBENCH
2. UTILITY SHELVING
3. BAND SAW
4. DRILL PRESS
5. BENCH GRINDER



① MAINTENANCE WORKSHOP - 180sf
1/8" = 1'-0"

DRAFT



② MAINTENANCE OFFICE - 192sf
3/16" = 1'-0"

ROOM FINISHES:

FLOORS: LINOLEUM

WALLS: GWB OR CMU, PAINTED

CEILING: ACT TILE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

HEATING / COOLING

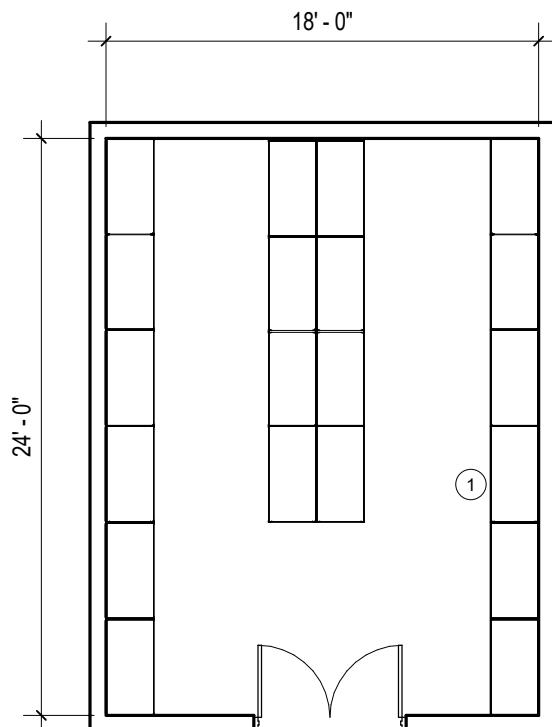
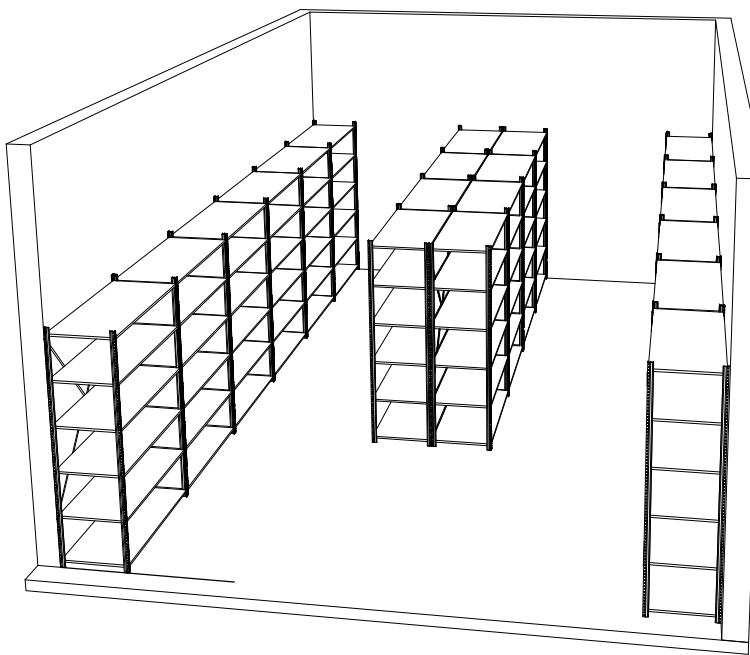
OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

NATURAL LIGHTING

COMPONENTS:

1. (2) WORKSTATION
2. DESK
3. EXECUTIVE CHAIR
4. FILE STORAGE
5. BOOKCASE

DRAFT



PARTS & MATERIAL STORAGE ROOM -

432sf

1/8" = 1'-0"

ROOM FINISHES:

FLOORS: SEALED CONCRETE

WALLS: CMU PAINTED

CEILING: OPEN TO STRUCTURE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

DATA OUTLET JACKS

SPECIALTY EQUIP. ELEC. OUTLETS

HEATING

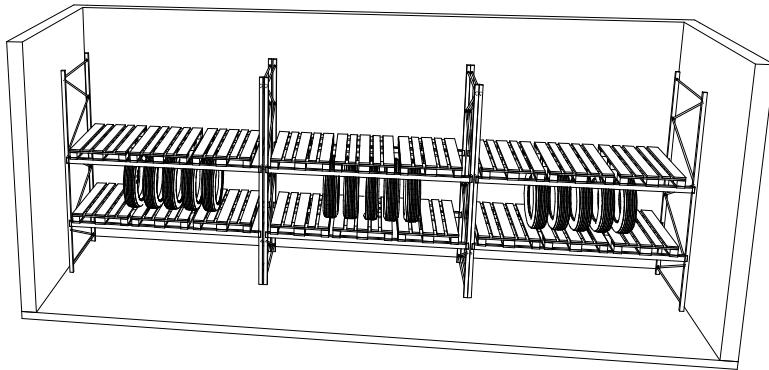
VENTILATION

COMPONENTS:

1. 48" W x 24" D UTILITY SHELVING

MAY BE LOCATED ON THE MEZZANINE

DRAFT



ROOM FINISHES:

FLOORS: SEALED CONCRETE

WALLS: CMU PAINTED

CEILING: OPEN TO STRUCTURE

MEP/DATA REQUIREMENTS:

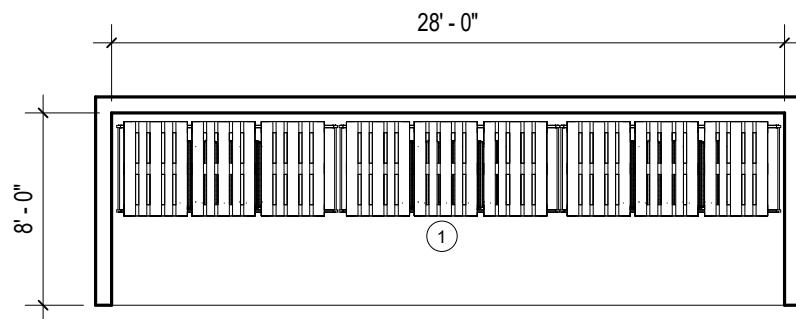
DUPLEX ELECTRICAL OUTLETS

DATA OUTLET JACKS

HEATING

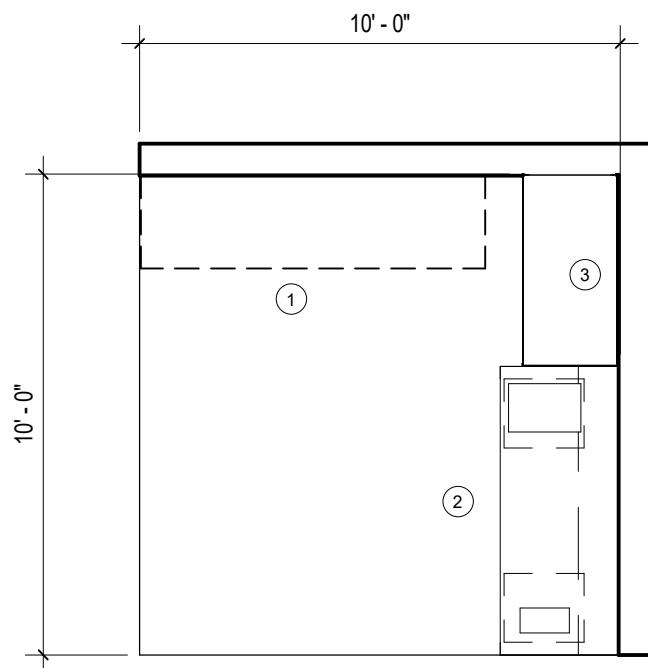
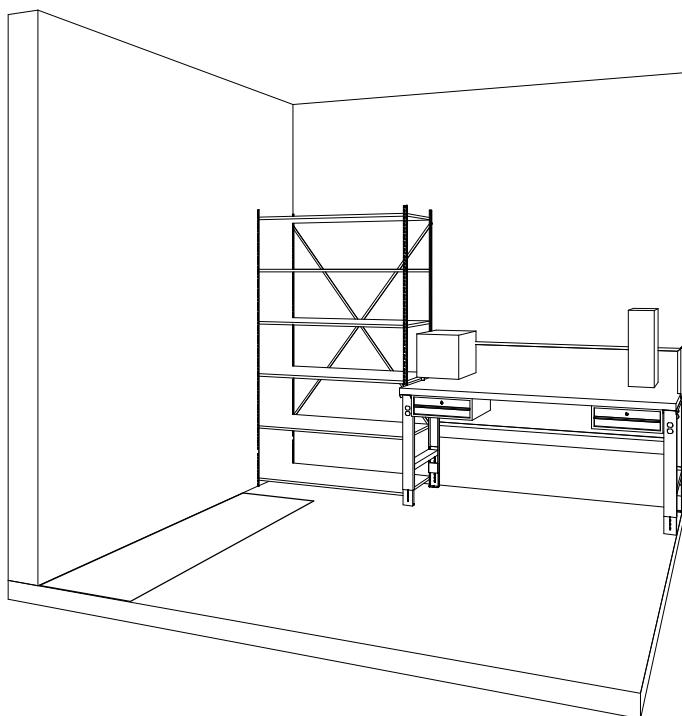
COMPONENTS:

1. TIRE STORAGE RACKS



1 TIRE STORAGE AREA - 224sf
1/8" = 1'-0"

DRAFT



② HYDROlic HOSE SHOP - 100sf
1/4" = 1'-0"

ROOM FINISHES:

FLOORS: SEALED CONCRETE

WALLS: CMU OR WIRE CAGE

CEILING: OPEN TO STRUCTURE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

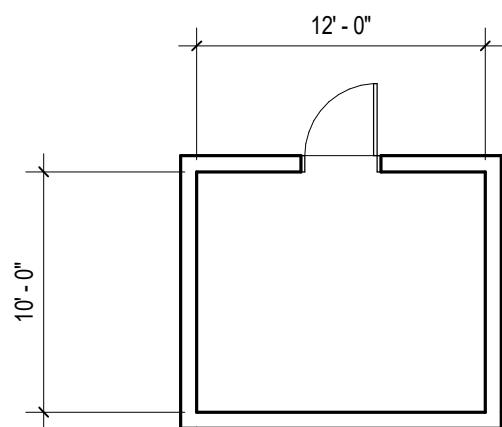
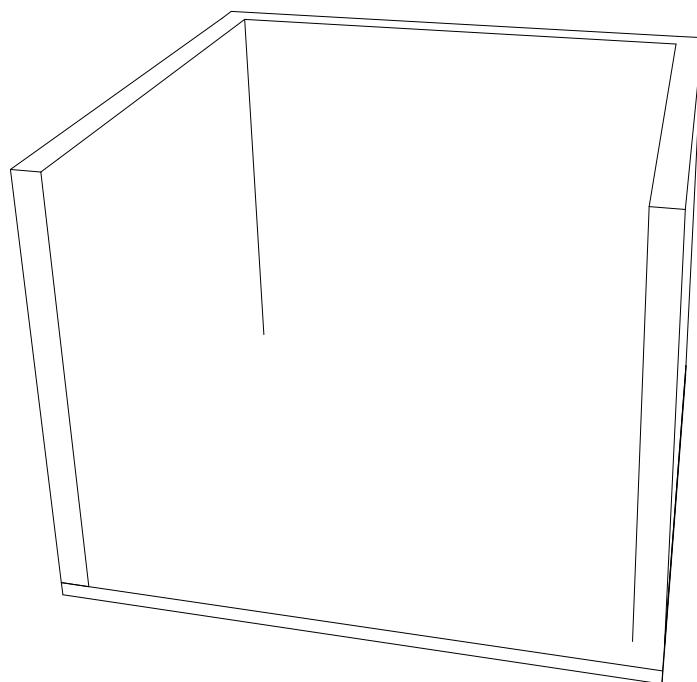
DATA OULET JACKS

HEATING

COMPONENTS:

1. HANGING REELS FOR HOSES (3)
2. CHOP SAW WORKBENCH
3. UTILITY SHELVING FOR PARTS STORAGE

DRAFT



① COMPRESSOR ROOM - 120sf
1/8" = 1'-0"

ROOM FINISHES:

FLOORS: LINOLEUM

WALLS: CMU OR GWB, PAINTED

CEILING: ACT TILES

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

HEATING / COOLING

OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

COMPONENTS:

DRAFT

ROOM FINISHES:

FLOORS: PVC PANELS

WALLS: PVC PANELS

CEILING: OPEN TO STRUCTURE

MEP/DATA REQUIREMENTS:

2" WATER SUPPLY

HEATING

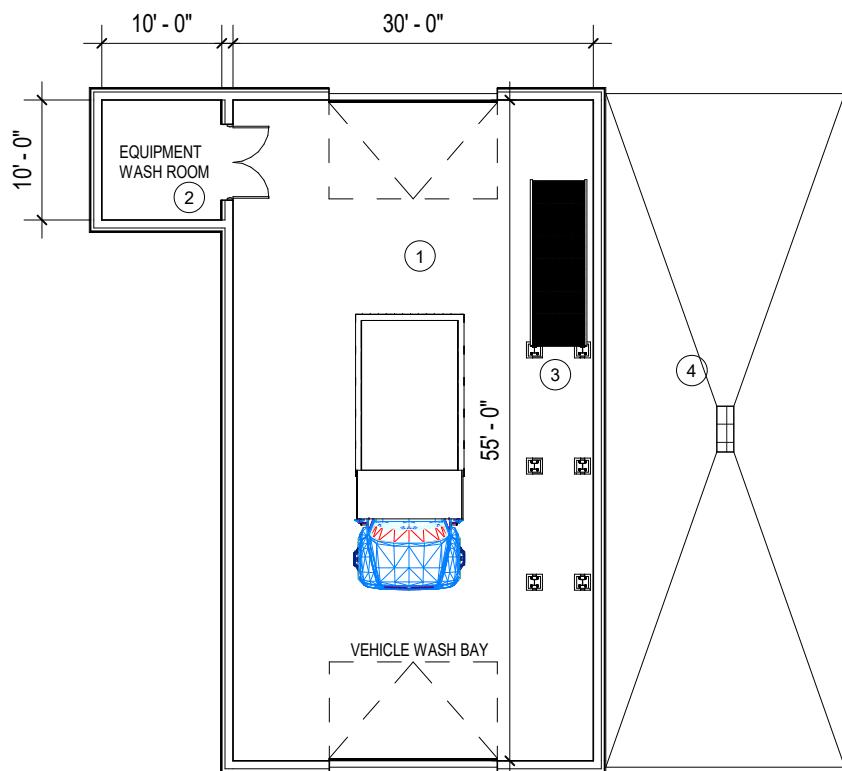
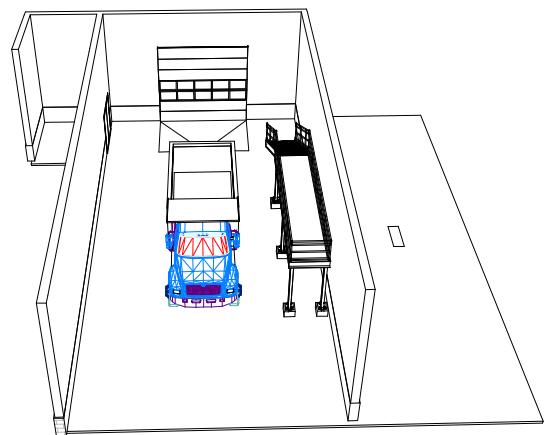
VENTILATION

WATERPROOF DEVICES

GFI ELECTRICAL OUTLETS

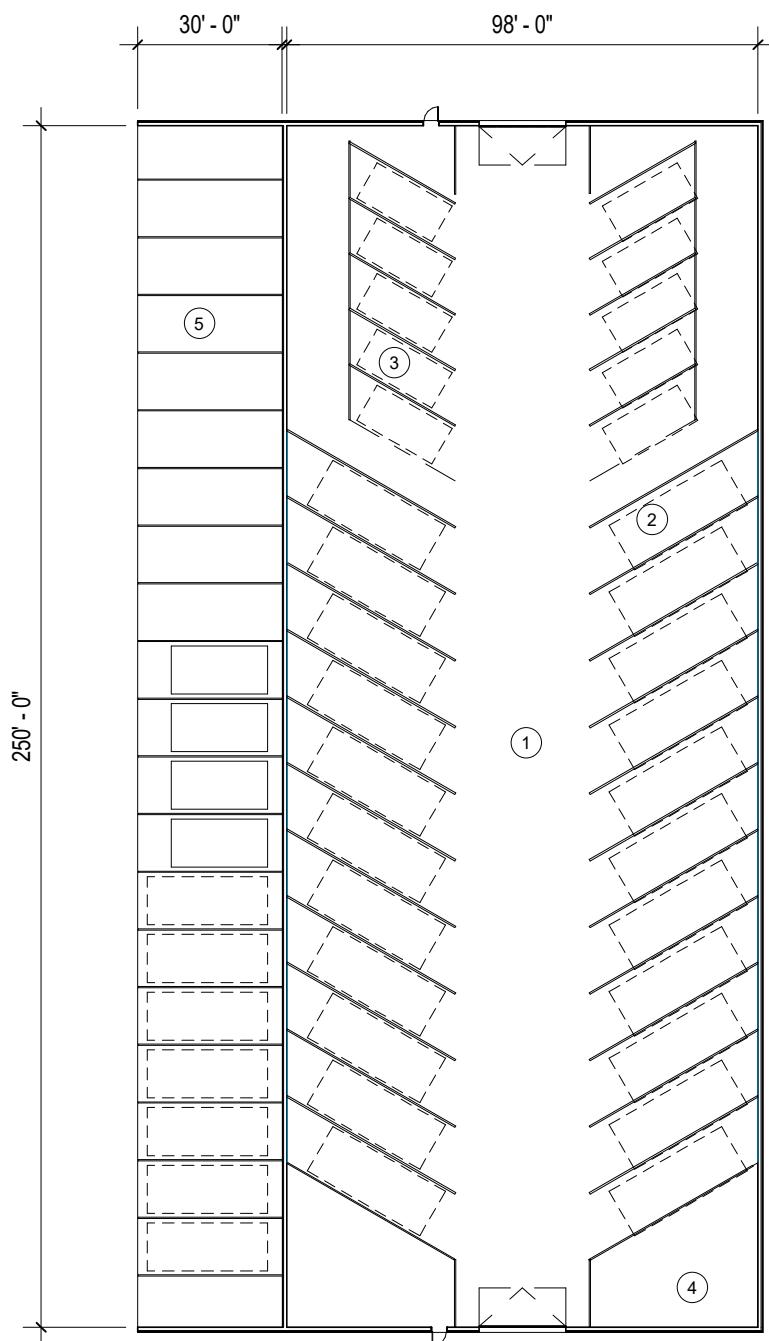
COMPONENTS:

1. UNDERCARRIAGE WASH
2. MANUAL WASH EQUIP. PACKAGE
3. CAT WALK
4. EXTERIOR KNOCK DOWN PAD



1 WASH BAY & EQUIPMENT ROOM - 1750sf
1/16" = 1'-0"

DRAFT



VEHICLE / EQUIPMENT STORAGE -

25,000sf

1" = 40'-0"

(1)

ROOM FINISHES:

FLOORS:

WALLS:

CEILING:

MEP/DATA REQUIREMENTS:

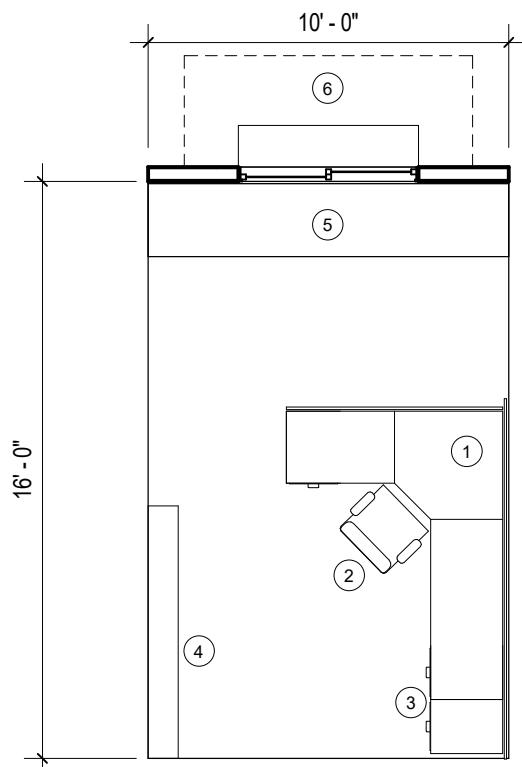
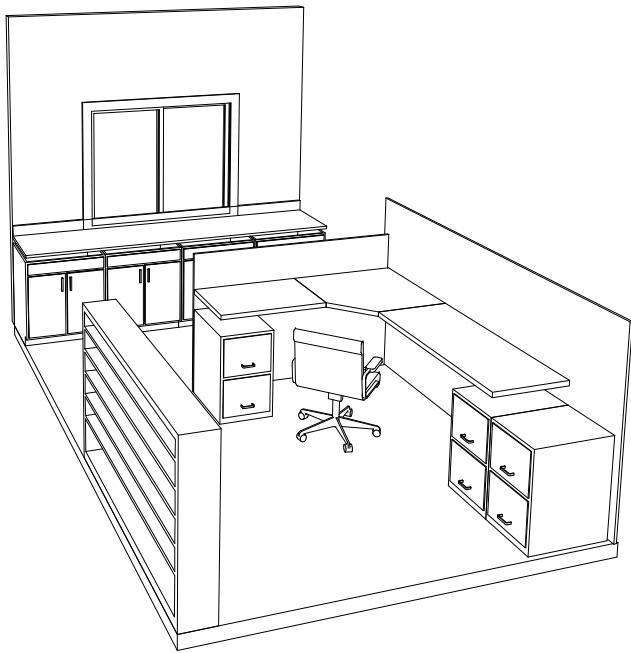
HEATING

VENTILATION

COMPONENTS:

1. DRIVE-THRU AISLE
2. (28) LG VEHICLE PARKING
3. (10) SM VEHICLE PARKING
4. EQUIPMENT STORAGE
5. (24) CANOPY STORAGE

DRAFT



① OPEN OFFICE/FILE STORAGE - 160sf
 $3/16" = 1'-0"$

ROOM FINISHES:

FLOORS: CARPET

WALLS: GWB, PAINTED

CEILING: ACT TILE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

HEATING / COOLING

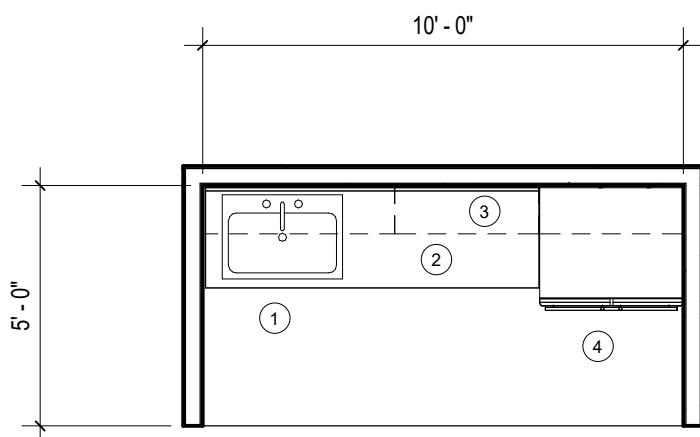
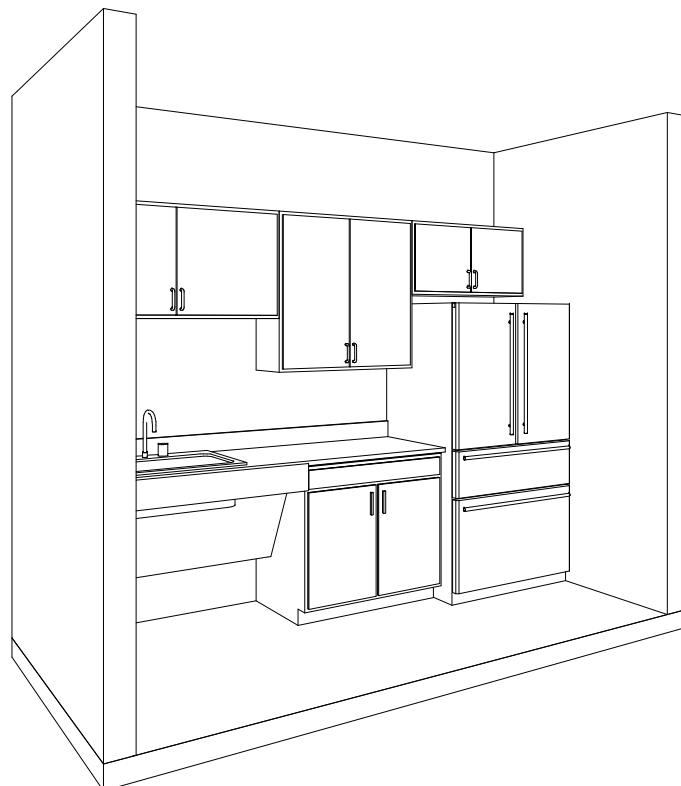
OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

NATURAL LIGHTING

COMPONENTS:

1. WORKSTATION
2. EXECUTIVE CHAIR
3. FILE STORAGE
4. SHELVING
5. TRANSACTION COUNTER & BASE CABINETS
6. WALK-UP WINDOW W/ CANOPY OVERHANG

DRAFT



② KITCHENETTE - 50sf
1/4" = 1'-0"

ROOM FINISHES:

FLOORS: LINOLEUM

WALLS: GWB, PAINTED

CEILING: ACT TILE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

HEATING / COOLING

OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

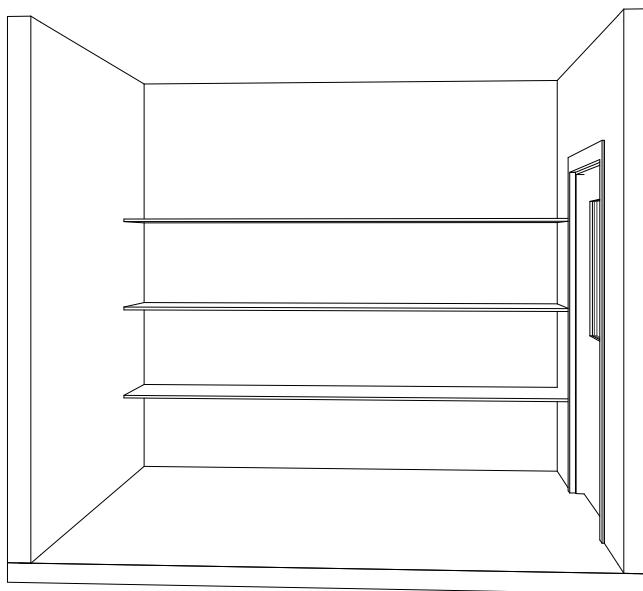
COMPONENTS:

1. STAINLESS STEEL SINK
ADA BASE
2. COUNTER & BASE CABINET
3. UPPER CABINETS
4. STAINLESS STEEL REFRIGERATOR

(BELOW ARE NOT REPRESENTED
ON THIS SHEET)

5. ICE MAKER
6. MICROWAVE
7. COFFEE STATION

DRAFT



ROOM FINISHES:

FLOORS: CARPET TILES

WALLS: GWB PAINTED

CEILING: ACT TILES

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

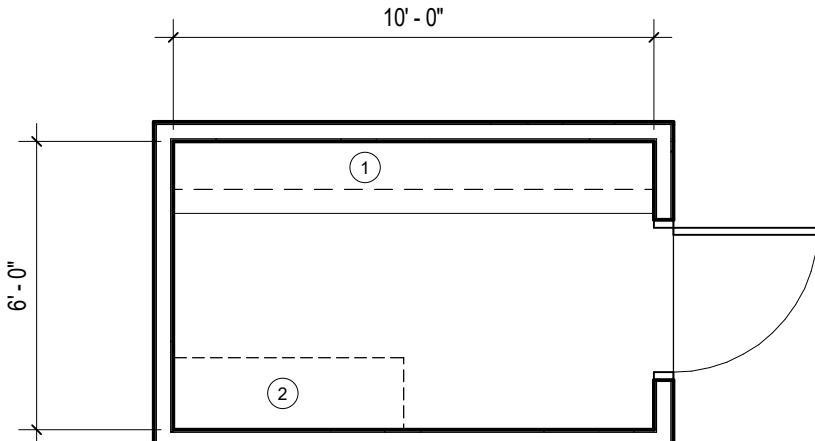
TEL / DATA OUTLET JACKS

HEATING / COOLING

OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

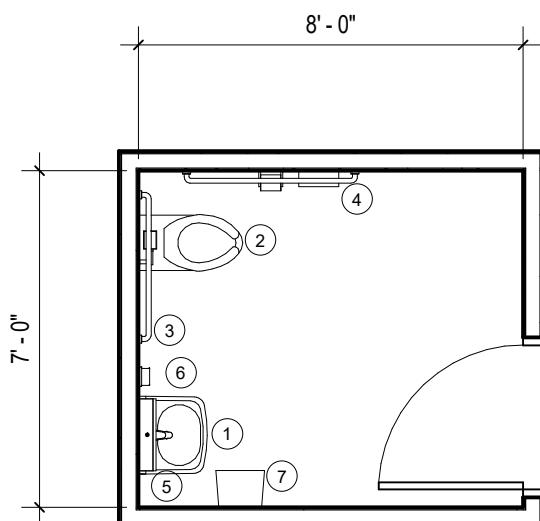
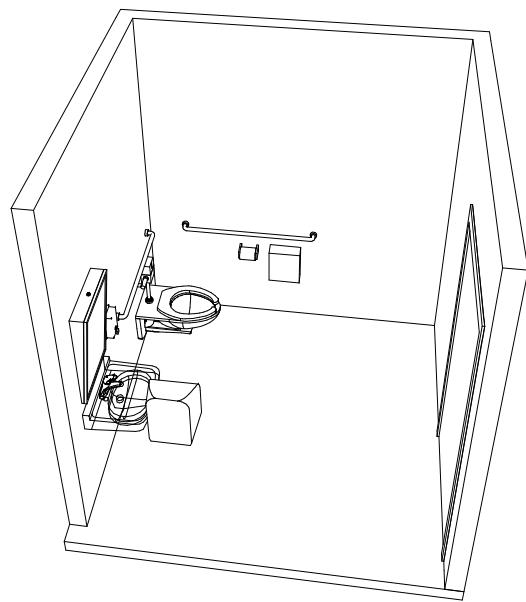
COMPONENTS:

1. WALL MOUNTED SHELVING
2. DESIGNATED FLOOR STORAGE



① SUPPLY STORAGE CLOSET - 60sf
1/4" = 1'-0"

DRAFT



1 ADMIN TOILET - 56sf
1/4" = 1'-0"

ROOM FINISHES:

FLOORS: CERAMIC TILE

WALLS: CERAMIC TILE /
GWB PAINTED

CEILING: ACT TILE

MEP/DATA REQUIREMENTS:

DUPLEX ELECTRICAL OUTLETS

TEL / DATA OUTLET JACKS

HEATING / COOLING

OCCUPANCY SENSORS
FOR LIGHTING CONTROLS

COMPONENTS:

1. WALL HUNG SINK
2. WALL HUNG TOILET
3. 36" GRAB BAR
4. 48" GRAB BAR
5. MIRROR
6. SOAP DISPENSER
7. PAPER TOWEL DISPENSER

DRAFT

APPENDIX D

M E M O R A N D U M

TO: File
FROM: Meghan Fitzmaurice
DATE: October 2020; Updated March 2021
SUBJECT: Town of Acton MA Department of Public Works and Transfer & Recycle Facility at 14 Forest Road Zoning and Permitting Analysis

Weston and Sampson has prepared this memorandum to summarize the findings of our analysis of the Town of Acton, MA zoning regulations as it pertains to the proposed Department of Public Works facility and Transfer Station to be located at **14 Forest Road**.

General Information:

Site Address: 14 Forest Road
Parcel Map/Lot: 76, 140
Acreage: 19.88, 4.40
Zoning District/Owner: R-2/Town-Owned
Land Use Code: 9030, 9035
Land Use Description: MUNICIPAL MDL-96, TOWN-PROP MDL-100
FEMA Flood Zone: X, Area of Minimal Flood Hazard
Groundwater Protection District: Zone 3

Overlay District	Applicability	Notes
Flood Plain District	No	
Open Space Development	No	
Groundwater Protection District	Yes	Located in Zone 3.
Affordable Housing Incentives and Overlay District	No	

Applicable Reference Documents:

- Town of Acton Zoning Bylaw, April 2019
- Zoning Map Town of Acton Massachusetts
- Groundwater Protection District Map of the Town of Acton Map Number 3 April 2011
- Rules and Regulations for Special Permits_Zoning Board of Appeals_Town of Acton
- FEMA Flood Map 25017C0356F_07/07/2014
- General Bylaws of the Town of Acton

Permitting Pathway:

Municipal projects are “permitted by right” in accordance with section 3, Table of Principal Uses, ¶3.4.1. A site plan special permit is not required in accordance to paragraph 3.1. This is to be verified.

Improvements at the transfer station will also require permitting through MassDEP for modifications to the transfer station, as well as for work above a landfill closure. This is expected to include a BWP SW 07 Large Handling Facility Modification permit application. Additional permitting may be required for a modification to the Post Closure Use permit as well. This will need to be reviewed and verified with MassDEP.

Applicable Zoning Bylaws:

Note: The following is an abbreviated list of key bylaws that may be applicable and may influence design considerations. Additional bylaws may apply. Refer to the bylaws.

TABLE OF STANDARD DIMENSIONAL REGULATIONS

Description	Required	Proposed	Notes
Minimum Lot Dimensions			
Area square feet	20,000		No anticipated changes
Frontage in feet	150		No anticipated changes
Lot Width in feet	50		No anticipated changes
Minimum Required Yard Dimensions/Setbacks			
Front Yard	30		
Side Yard	10		
Rear Yard	10		
Max. Bldg. Height			
Feet	36		
Minimum OPEN SPACE			
% of the LOT	NR		
Maximum floor area ratio			
	NR		

NR indicates no specific minimum or maximum regulation.

REGULATIONS	Notes
4.3 GROUNDWATER Protection District	
4.3.7.1 Permitted USES all ZONES – All USES allowed in the underlying zoning district except those which are prohibited or regulated in Section 4.3.7.2 are permitted.	Use appears permitted however, refer to TABLE 4.3.7.2 USE Regulations within the GROUNDWATER Protection District for restrictions
SECTION 5. DIMENSIONAL REGULATIONS	
5.3.5 Height of BUILDINGS	
5.3.5.1 In all districts appurtenant STRUCTURES located upon the roof of a BUILDING may extend above the height limit but in no case shall they exceed 45 feet in height when combined with the height of the BUILDING nor in the aggregate occupy more than 20% of the roof plan area unless in compliance with Section 5.3.5.2 of this Bylaw.	
SECTION 6. PARKING STANDARDS	
6.2.2 Undetermined USES – Where the USE of a BUILDING or BUILDINGS has not been determined at the time of application for a building permit or special permit, the parking requirements applicable to the most intensive	

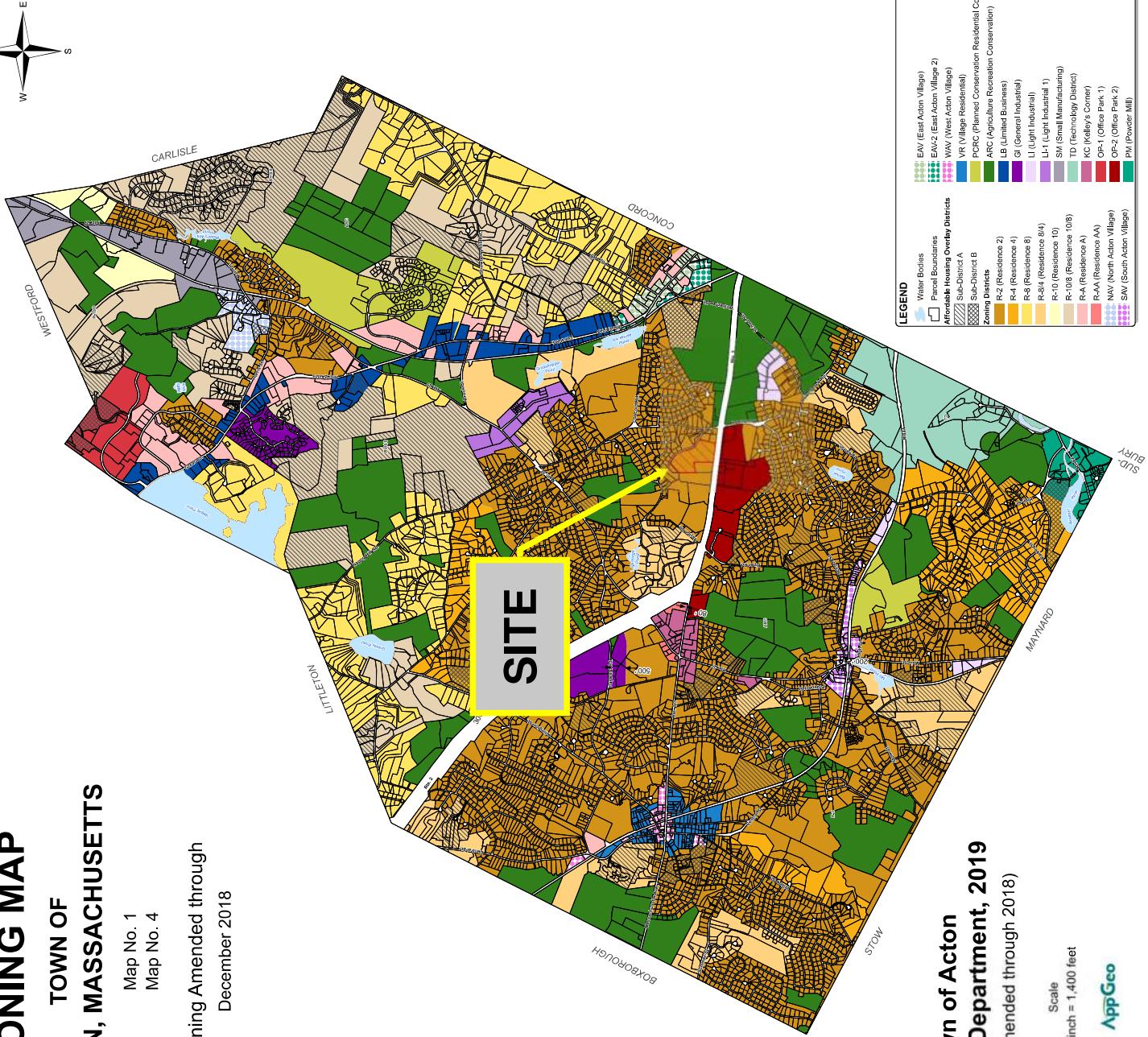
USE allowed in the district where such undetermined USE is to be located shall apply provided, however, that the number of parking spaces actually built need not exceed the number required by the actual USE or USES of the BUILDING.	
6.2.3 Relief from Parking Regulations by Special Permit from the Board of Selectmen – Relief from the parking regulations may be granted by special permit from the Board of Selectmen where the Board finds that it is not practicable to provide the number of parking spaces required, and either 1) in the case of a change from a nonconforming USE to a conforming USE, that the benefits of a change to a conforming USE outweigh the lack of parking spaces, or 2) in the case of a change from one conforming USE to another conforming USE, that the lack of parking spaces will not create undue congestion or traffic hazards on or off the site; provided that in either case the Board of Selectmen shall require the maximum practicable number of parking spaces. This Section shall not be construed to provide relief from the requirements of Section 5.4.6.2.	
6.3 Minimum Parking Space Requirements by USE	Refer to 6.3.1 Schedule. Listed uses do not appear to apply
6.3.3 Comparable USES – Where a USE is not specifically included in Section 6.3.1, it is intended that the requirements for the most nearly comparable USE specified shall apply.	
6.3.7.5 Bicycle parking spaces shall be provided for all USES, except single- to four-FAMILY Dwellings, at a rate of not less than one (1) bicycle parking space for each twenty (20) motor vehicle parking spaces in the parking facility, but never less than two (2) bicycle parking spaces; and no parking facility shall be required to have more than thirty (30) bicycle parking spaces overall.	Design requirement.
6.5 Standard Parking Dimensional Regulations – Off-STREET parking facilities shall be laid out and striped in compliance with the following minimum provisions:	Refer to associated table.
6.7 Parking Lot Design Requirements – All parking lots shall be designed in compliance with the following design standards, except as provided in Section 6.9. In addition, the following standards shall not apply to parking lots serving a single to four-FAMILY residential USE, an Assisted Living Residence with 10 or less residents, a religious USE, a Conservation USE, and a Municipal outdoor recreation USE. Required parking spaces, loading areas and driveways shall be provided and maintained with suitable grading, paved surfaces and adequate drainage. Any parking lot containing five (5) or more parking spaces shall include landscaping as required below which is, in the opinion of the Special Permit Granting Authority (if the parking area is related to a permitted USE for which a site plan or other special permit is required) or the Zoning Enforcement Officer (for other parking areas), located and designed to enhance the visual appearance of the parking or loading facility, to ensure traffic safety, and to minimize the adverse effects of the parking or loading facility on the natural environment.	Design requirements
6.7.2 Set-Backs – Except as may be required elsewhere in this Bylaw, no parking space or other paved surface, other than ACCESS driveways, common driveways, walkways, sidewalks or bikeways, shall be located within 30 feet of the front LOT line and within 10 feet of the side and rear LOT lines, and notwithstanding the foregoing, no parking space or other paved surface, other than ACCESS driveways, common driveways,	Design requirements. REFER TO ADDITIONAL REQUIREMENT IN SECTION 6.7.

walkways, sidewalks or bikeways, shall be located within the limits of a landscaped buffer area required under Section 10.4.3.5 and Section 10.4.3.6.	
SECTION 7. SIGNS AND ADVERTISING DEVICES	Refer to Section 7 regarding requirements and restrictions.
SECTION 10. ADMINISTRATION	REFER TO SECTION 10 FOR DESIGN REQUIREMENTS. VERIFY THAT MOST OF REQUIREMENTS LISTED APPLY ONLY TO SPECIAL PERMIT CONDITIONS.
10.2.1 Application – Any application for a building permit shall be accompanied by: 1) a description of the existing and the proposed USE of land or STRUCTURES on the development site; 2) a plan drawn to scale and prepared by a Registered Professional Engineer or a Registered Land Surveyor, as appropriate to the data, showing the dimensions of the development site, the location and dimensions of all existing and proposed STRUCTURES and the dimensions of all setbacks; and 3) such further information as the Zoning Enforcement Officer may require to ensure enforcement of this Bylaw. The Zoning Enforcement Officer may waive the requirements of the preceding sentence, if the Zoning Enforcement Officer determines that the proposed work is of a minor nature.	
10.4.3.4 Sidewalks – A sidewalk shall be required along the entire FRONTAGE of a LOT. The Board of Selectmen may also require other walkways and paths as it deems necessary to accommodate the safe movement of pedestrians and bicyclists.	Requirement for a site plan special permit. Should be verified that this is not required. Important - This should be reviewed and taken under consideration. See waiver exceptions allowed by Board of Selectmen
The Board of Selectmen may waive the sidewalk requirement provided it finds that such a sidewalk is not necessary for the safe movement of pedestrians and bicyclists.	

ZONING MAP TOWN OF ACTON, MASSACHUSETTS

Map No. 1
Map No. 4

Zoning Amended through
December 2018



**Town of Acton
Planning Department, 2019**
(parcels amended through 2018)

Scale
1 inch = 1,440 feet

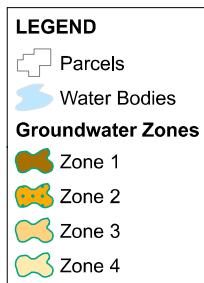
AppGeo

GROUNDWATER PROTECTION DISTRICT MAP OF THE TOWN OF ACTON

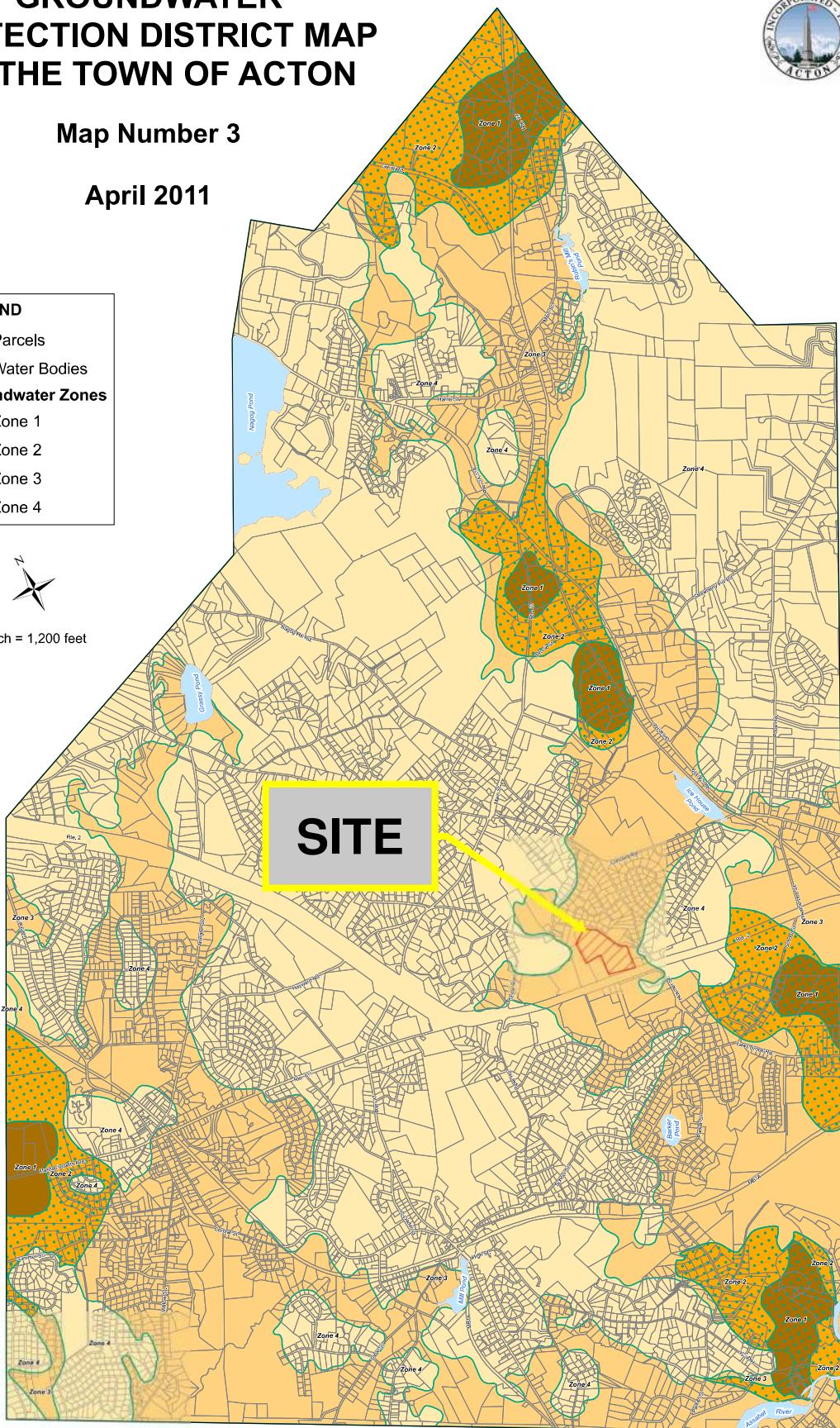


Map Number 3

April 2011



1 inch = 1,200 feet



Map created by



April 2011

DWLRQDO ORRGGDNU)SWWH



FEMA

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2-5962
12/15

265	SHDR QALBO PRCG-PJUG II-FVL YHIV	SHDR QALBO PRCG-PJUG II-FVL YHIV
266	SHDR QALBO PRCG-PJUG II-FVL YHIV	SHDR QALBO PRCG-PJUG II-FVL YHIV

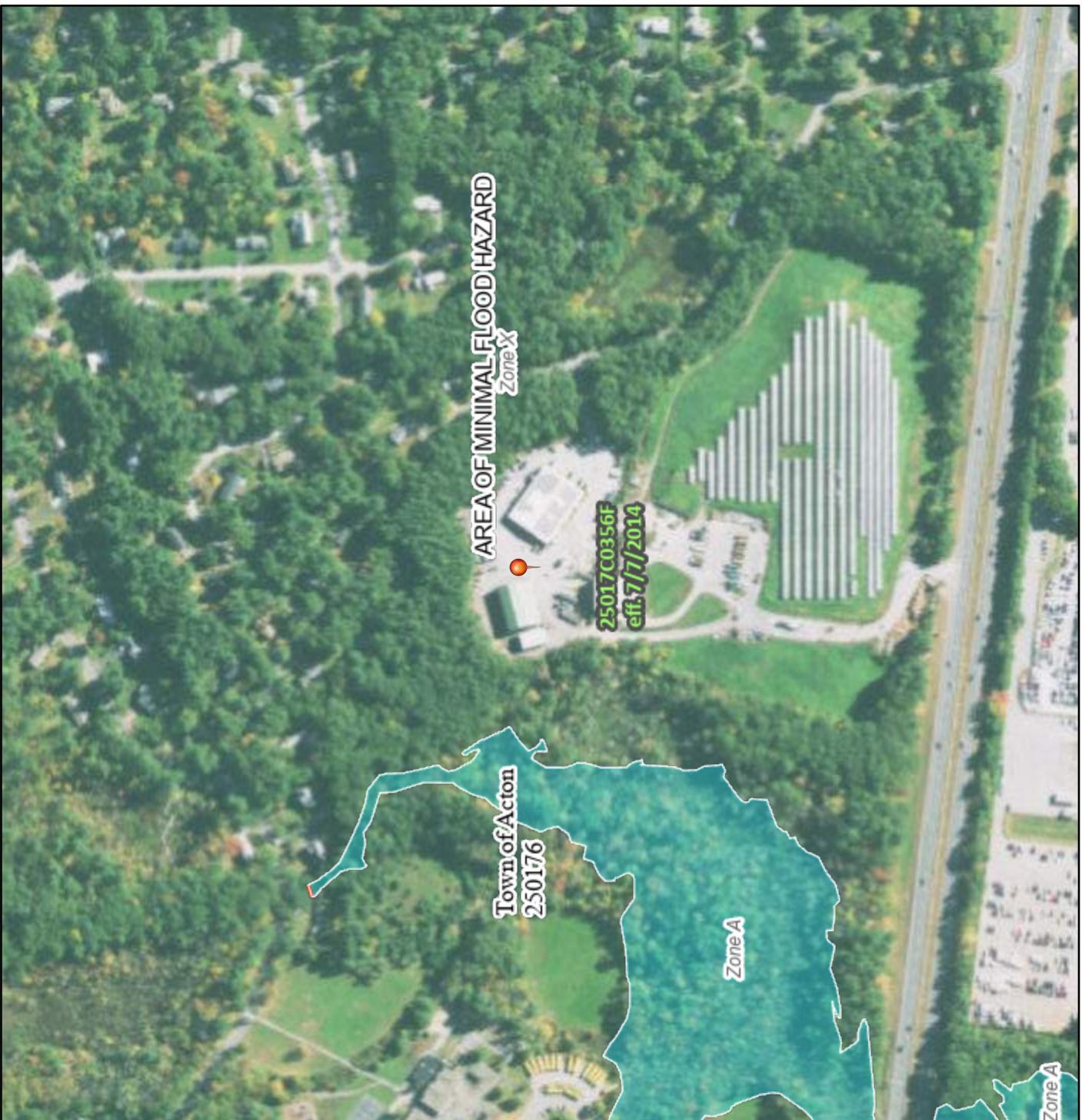
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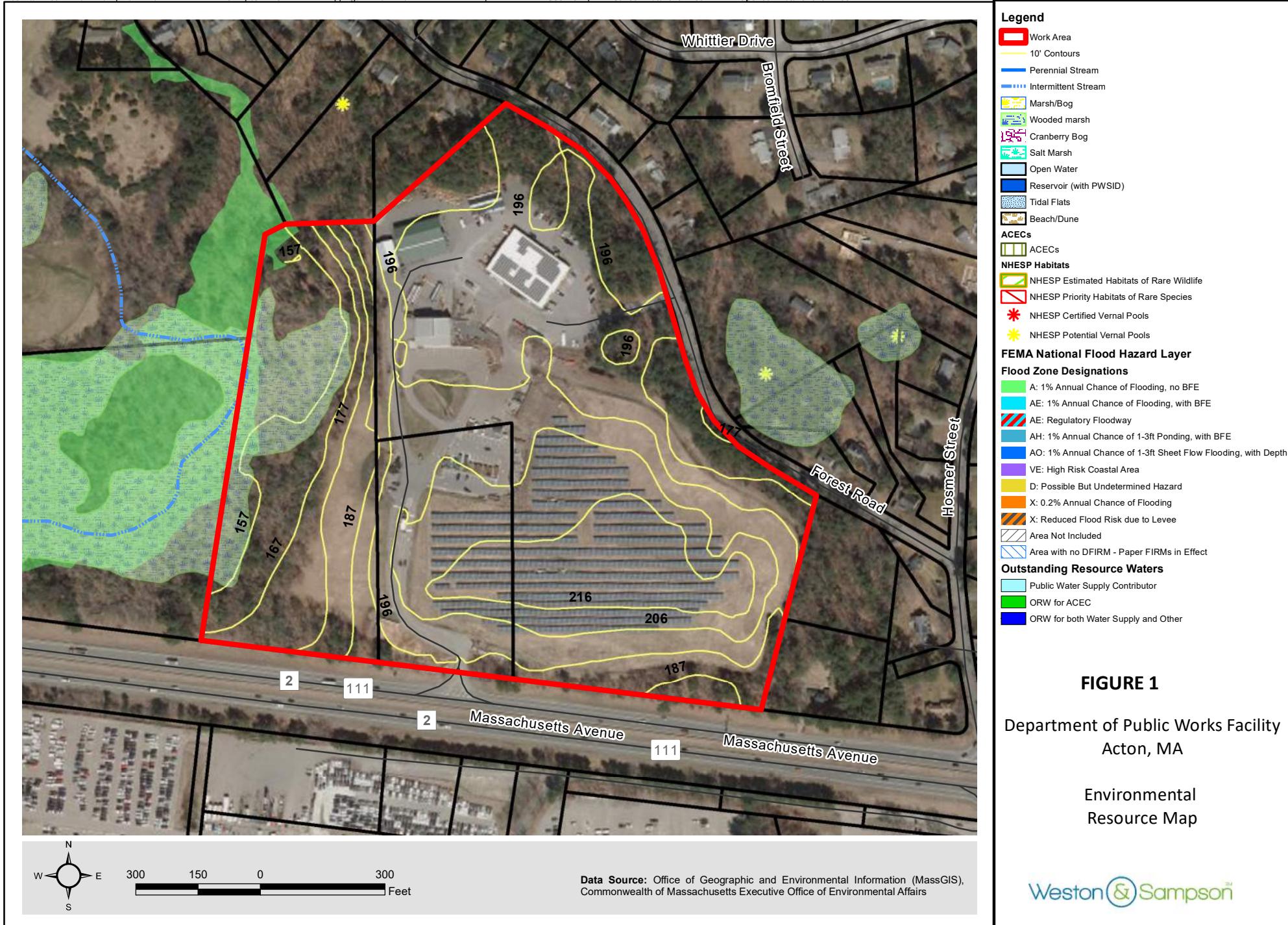
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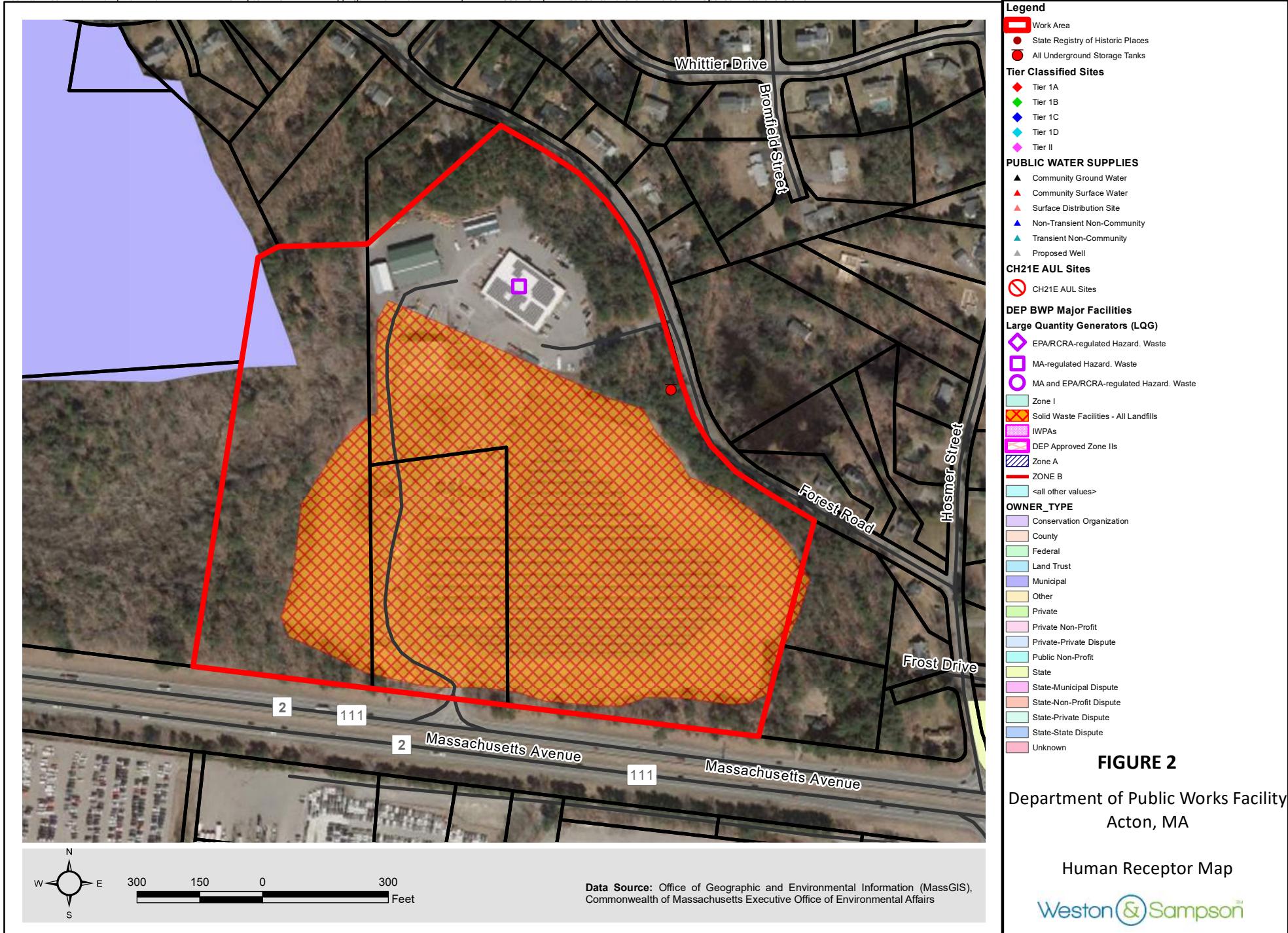
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DFAUDWWDZGJ
74HORRGHNDGJLDRBWLRLVGHLYGGUHFWOULWPKH
DWRULWDWLHYHFEWYLPHSURLGEGEFLVBS
D/FRWNGRO **DV 3** DOGEHJ CRW
UHOTWHDQHJRWDRDOWVWENHHDWWRWKVGDMHDS
WLH 74 HGDHHWYHLQJUBWQBRDQHJ
BFRVASHJWBGEGQZGMDRNUWLH
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OHHGWDHEDUBRJHDWLQGDWHRQDMLHJW
KEDQDQHJEDGJHFWLYHGDWHSBLBH/IRU
LHGDQDQHJEDGJHFWLYHGDWHSBLBH/IRU
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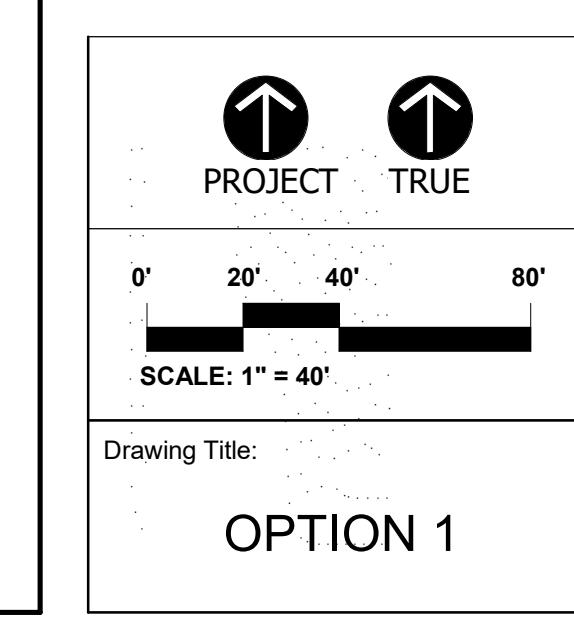


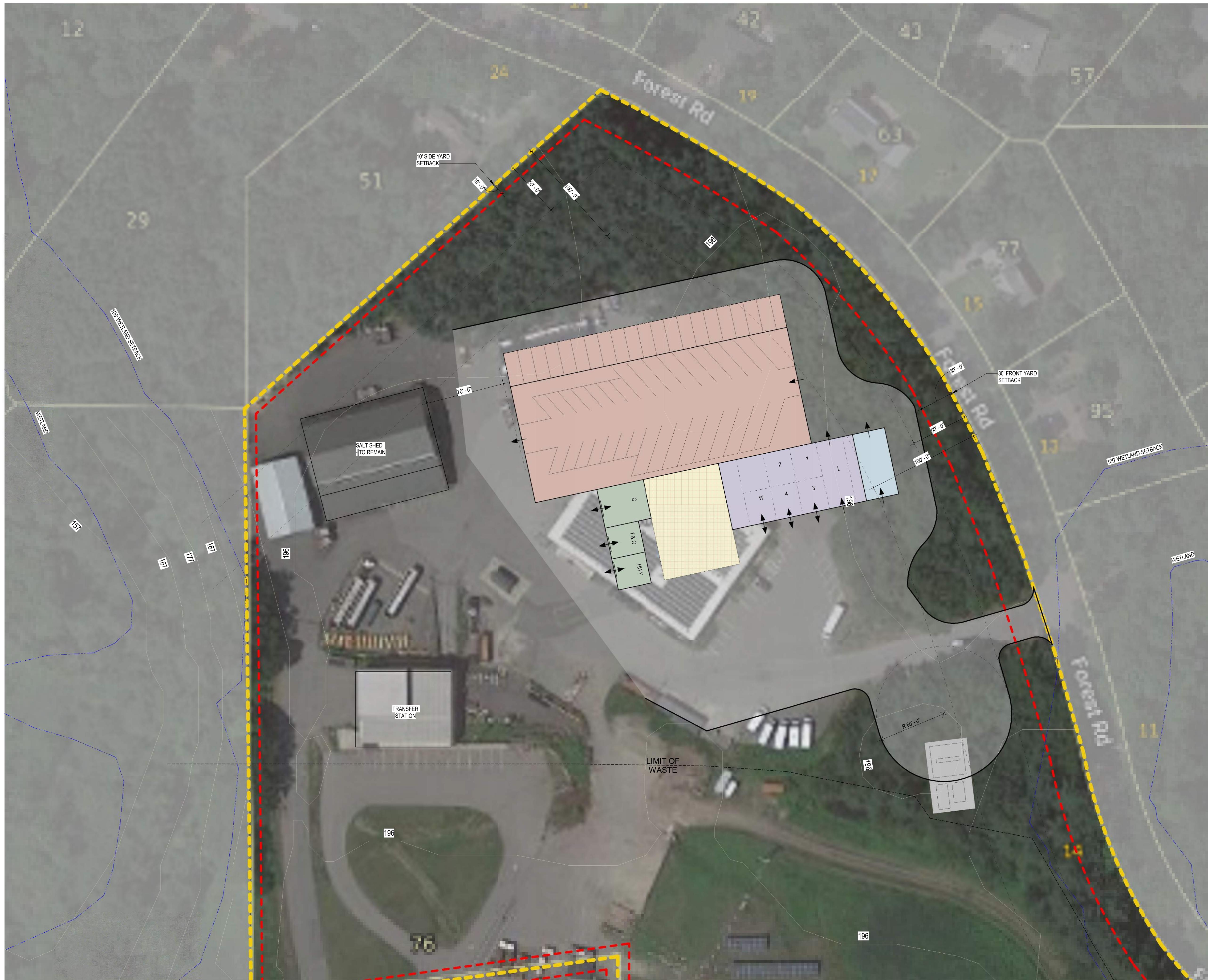
APPENDIX E



CONCEPTUAL SITE LAYOUT - OPTION 1
1" = 40'-0"

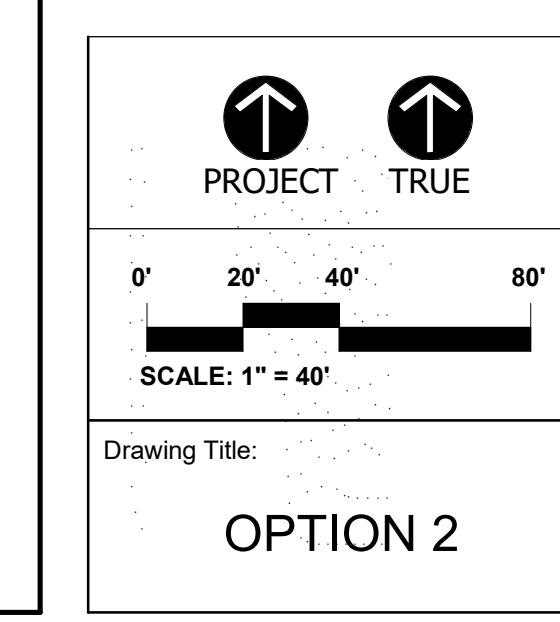
PROPOSED PROGRAM LEGEND:	
OFFICES & OFFICE SUPPORT AREAS	= 4,668 SF
EMPLOYEE FACILITIES	= 4,184 SF
WORKSHOPS	= 5,137 SF
VEHICLE MAINTENANCE	= 6,743 SF
VEHICLE STORAGE	= 30,240 SF
WASH BAY	= 1,750 SF
CANOPY	= 7,050 SF
TRANSFER STATION	= 443 SF
DPW BUILDING TOTAL = 52,723 SF	



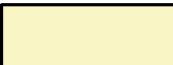


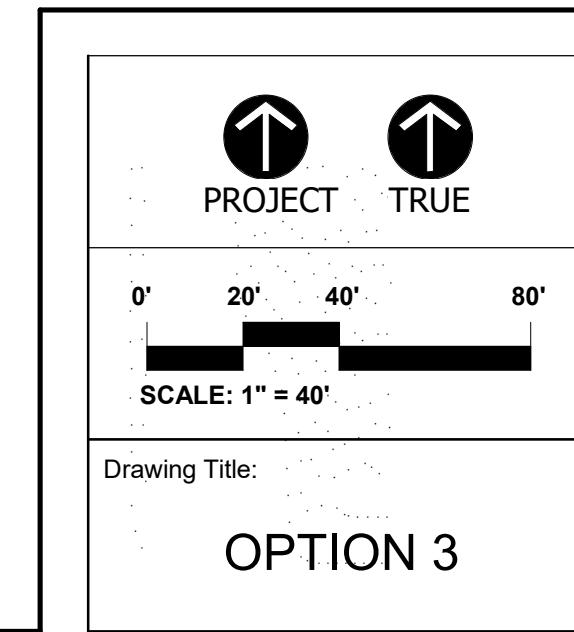
PROPOSED PROGRAM LEGEND:	
OFFICES & OFFICE SUPPORT AREAS	= 4,668 SF
EMPLOYEE FACILITIES	= 4,184 SF
WORKSHOPS	= 5,137 SF
VEHICLE MAINTENANCE	= 6,743 SF
VEHICLE STORAGE	= 30,240 SF
WASH BAY	= 1,750 SF
CANOPY	= 7,050 SF
TRANSFER STATION	= 443 SF
DPW BUILDING TOTAL = 52,723 SF	

① CONCEPTUAL SITE LAYOUT - OPTION 2
1" = 40'-0"





PROPOSED PROGRAM LEGEND:		
	OFFICES & OFFICE SUPPORT AREAS	= 4,668 SF
	EMPLOYEE FACILITIES	= 4,184 SF
	WORKSHOPS	= 5,137 SF
	VEHICLE MAINTENANCE	= 6,743 SF
	VEHICLE STORAGE	= 30,240 SF
	WASH BAY	= 1,750 SF
	CANOPY	= 7,050 SF
	TRANSFER STATION	= 443 SF
DPW BUILDING TOTAL = 52,723 SF		

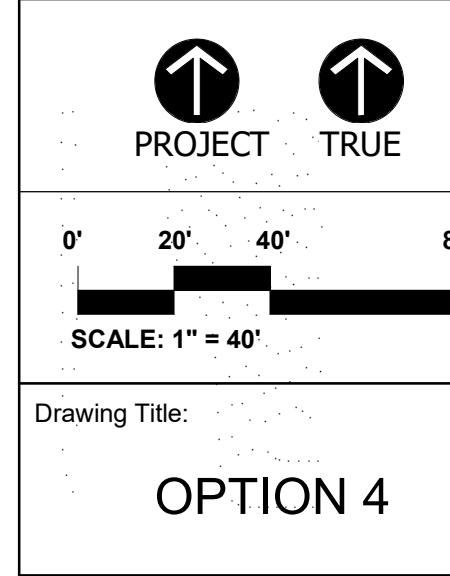




CONCEPTUAL SITE LAYOUT - OPTION 4
1" = 40'-0"

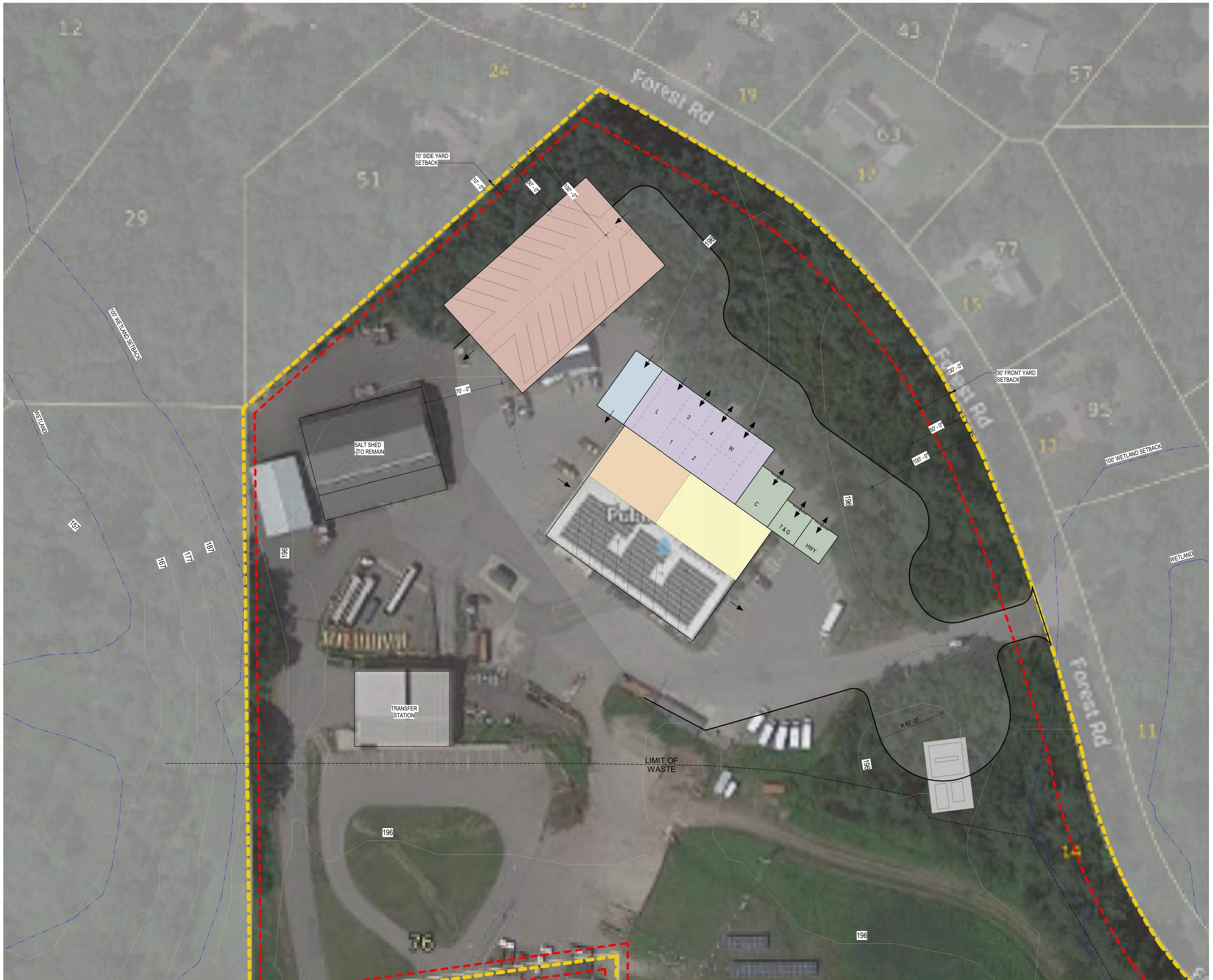
PROPOSED PROGRAM LEGEND:

OFFICES & OFFICE SUPPORT AREAS	= 4,668 SF
EMPLOYEE FACILITIES	= 4,184 SF
WORKSHOPS	= 5,137 SF
VEHICLE MAINTENANCE	= 6,743 SF
VEHICLE STORAGE	= 30,240 SF
WASH BAY	= 1,750 SF
CANOPY	= 7,050 SF
TRANSFER STATION	= 443 SF
DPW BUILDING TOTAL = 52,723 SF	



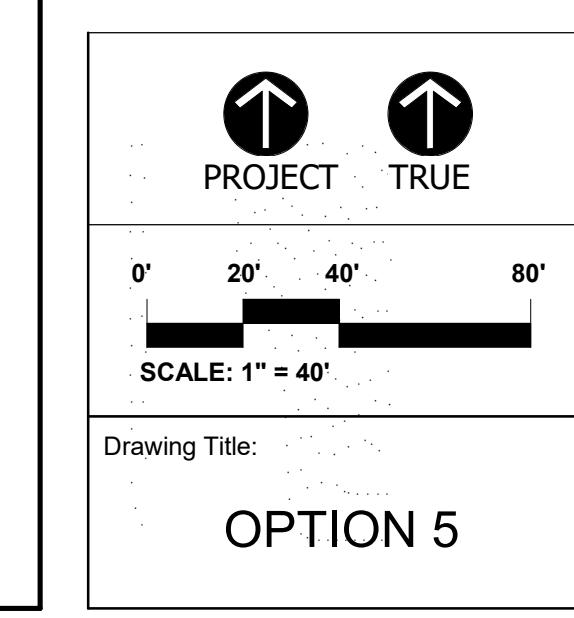
SCALE: 1" = 40'

Drawing Title: *OPTION 4*



CONCEPTUAL SITE LAYOUT - OPTION 4 Copy 1
1" = 40'-0"

PROPOSED PROGRAM LEGEND:	
OFFICES & OFFICE SUPPORT AREAS	= 4,668 SF
EMPLOYEE FACILITIES	= 4,184 SF
WORKSHOPS	= 5,137 SF
VEHICLE MAINTENANCE	= 6,743 SF
VEHICLE STORAGE	= 30,240 SF
WASH BAY	= 1,750 SF
CANOPY	= 7,050 SF
TRANSFER STATION	= 443 SF
DPW BUILDING TOTAL = 52,723 SF	

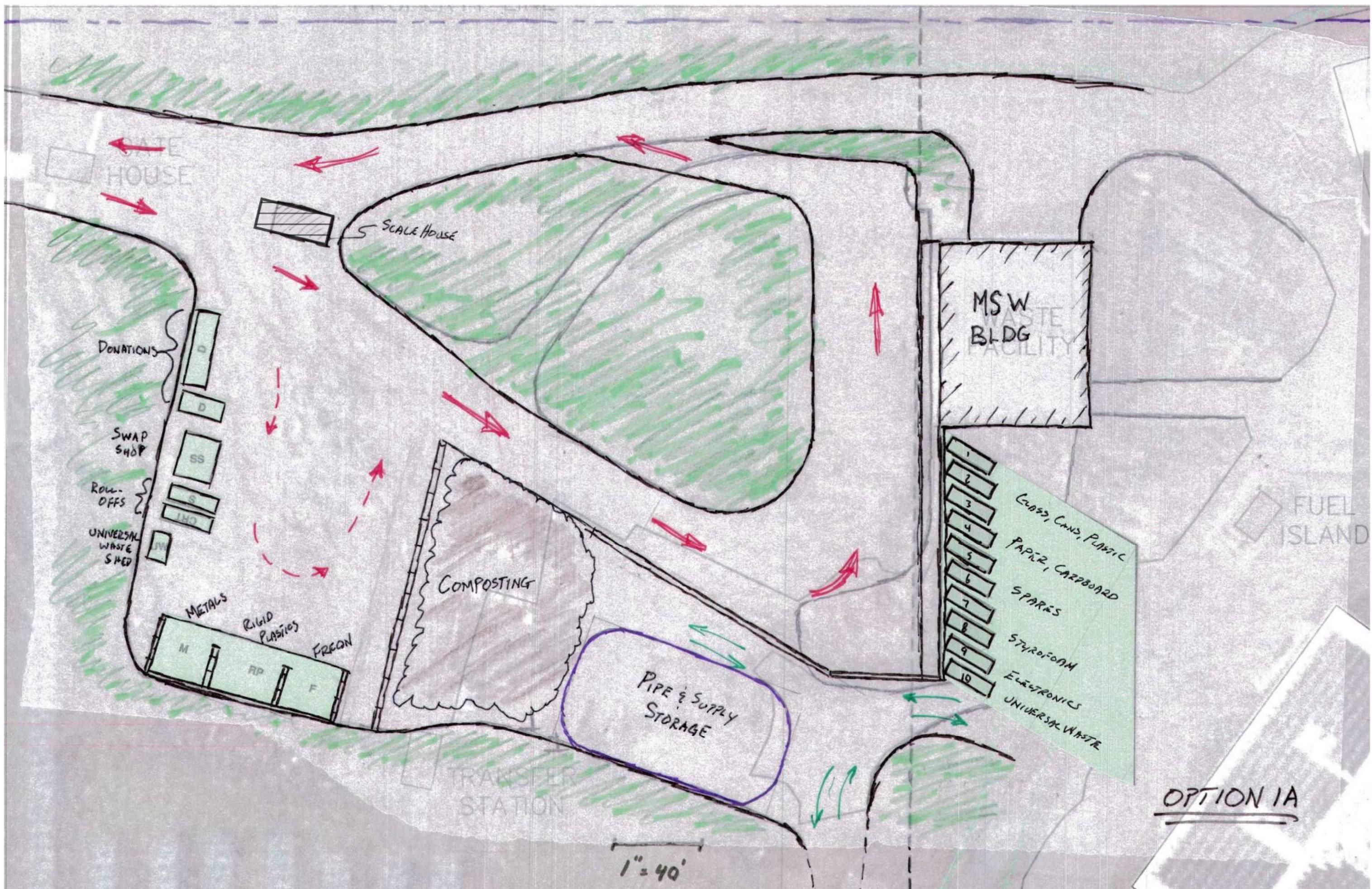


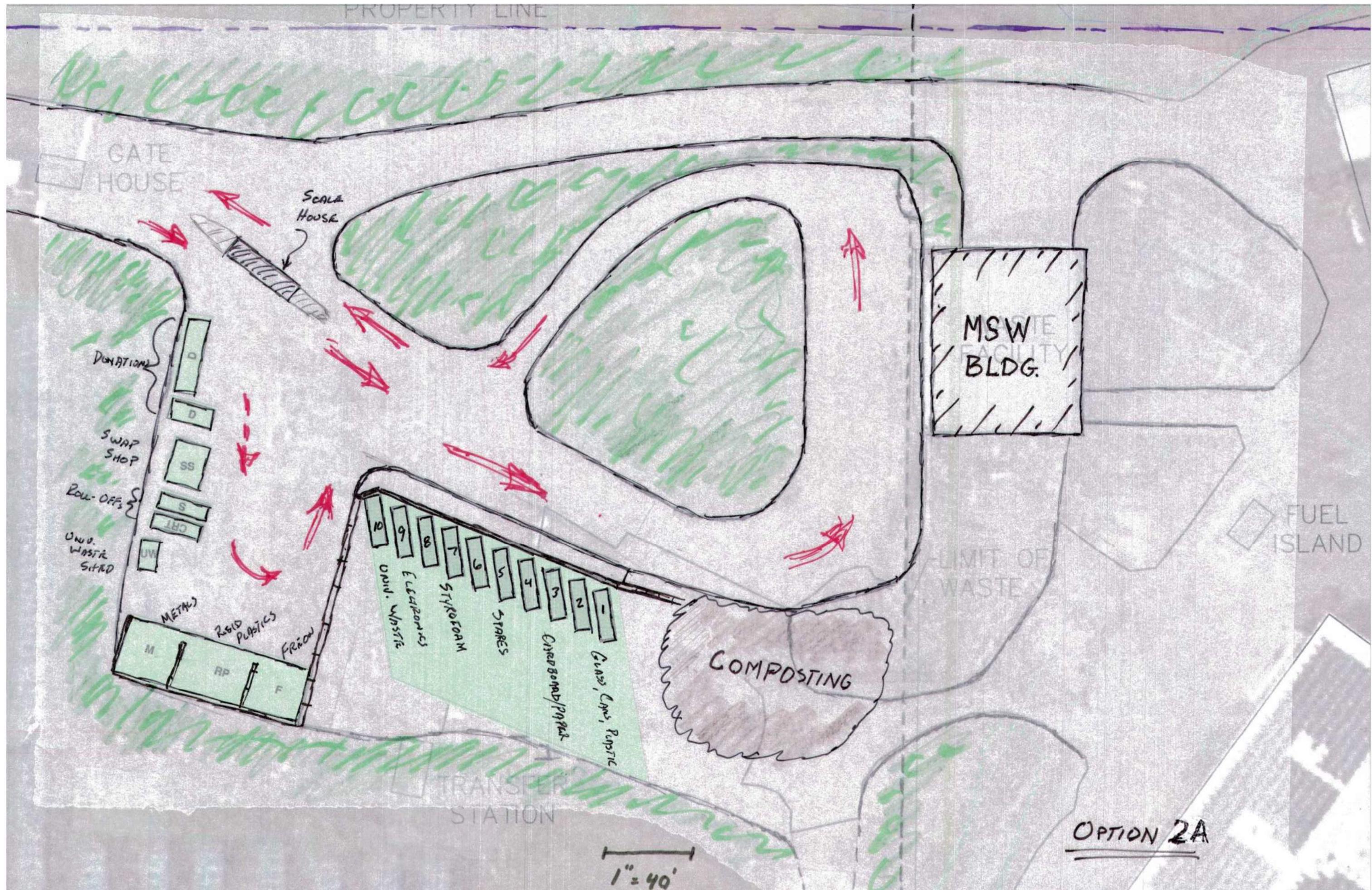
ACTON DPW
CONCEPTUAL SITE ALTERNATIVES
1"=40' 4-8-21
OPTION 1A

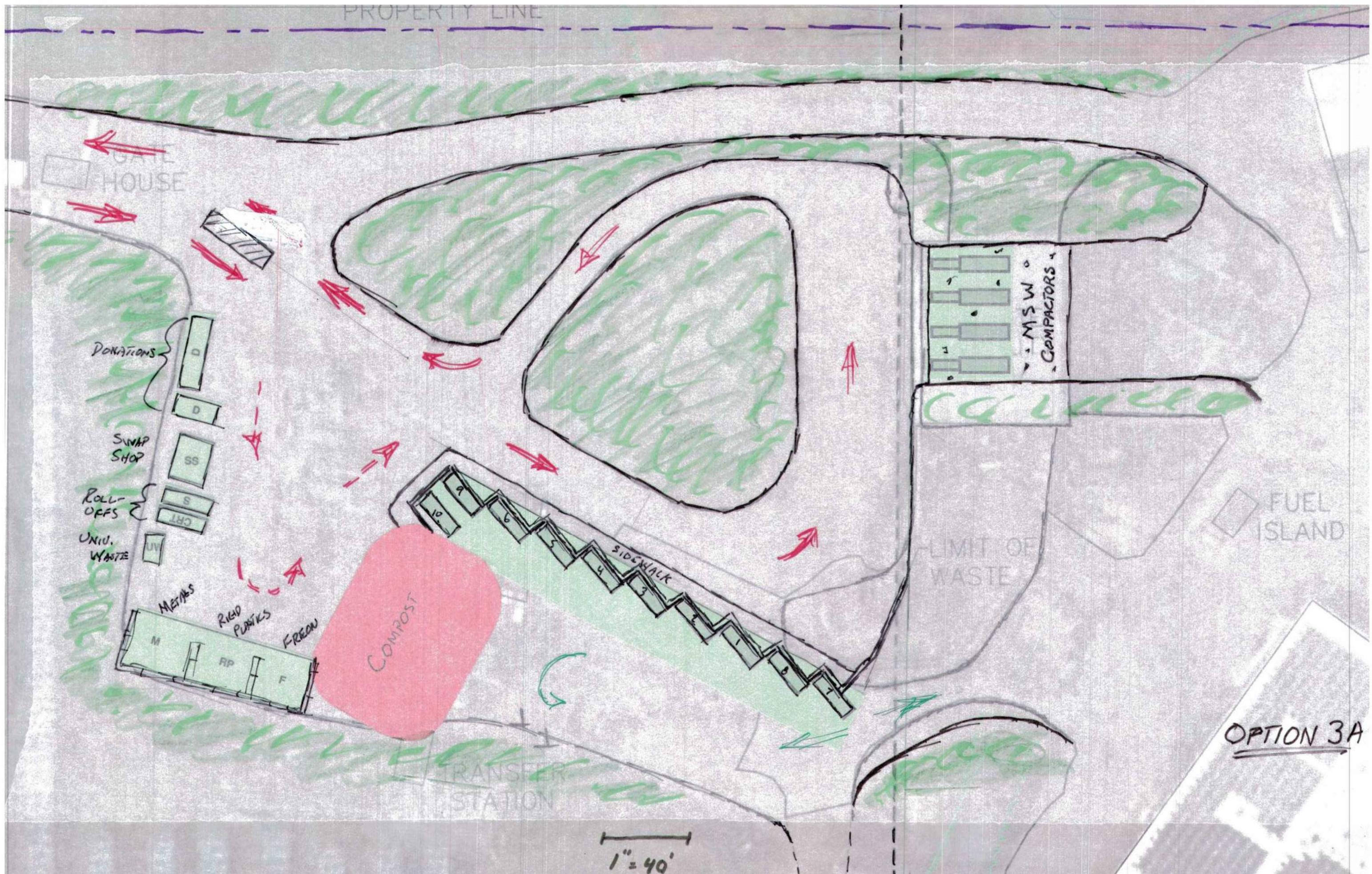


ALTON DPW
CONCEPTUAL SITE ALTERNATIVES
1"=40' 4-8-21
OPTION 2 -









PROPERTY LINE

LANDFILL/RECYCLE/COMPOST CENTER

GATE
HOUSE

DONATION

SWAP
SHOP

ROLL-
OFFS

UNI. WASTE
SHED

METALS

READ
PLATES

FRON

M
F
RP

SIDEWALK
(1) (2) (3) (4) (5) (6)

(7) (8) (9) (10)

COMPOST

TRANSFER
STATION

1" = 40'

OPTION 3B

MSW
COMPACTORS

FUEL
ISLAND

APPENDIX F

MEMORANDUM

TO: File
FROM: Michael Richard, P.E.
DATE: April 2, 2021
SUBJECT: Acton Waste Compaction and Hauling Method Evaluation

We were asked to evaluate the benefits of revising the trash (MSW) system to include compactors. The current system involves a tipping floor and open top trailer configuration. Below we will identify some options available to the Town, in comparison to their existing operations.

Tipping Floor; Existing Configuration

In this configuration, waste is deposited by residents directly on the tipping floor. Access to the tipping floor is through windows (roll-up doors) as seen in the photo to the right. When enough waste has accumulated, the waste is crushed and compacted on the floor using heavy equipment, and then placed into an open top transfer trailer. This trailer is then hauled from the site when full. The crushing and compaction on the floor method allows more material to fit in the transfer trailer, maximizing the amount of material for each haul.



It is our experience that this is the most efficient method for hauling of waste longer distances (see summary table at end of this memorandum).



The tipping floor building is in need of repair. Insulation has deteriorated and is sporadic throughout, hanging in pieces as seen in the photo to the left. Roll-up doors do not function, resulting in an unsecured facility, windblown litter, rodents and other vectors. If the Town were to continue to operate the tipping floor, the transfer station building would require repairs and upgrades. The town has the equipment needed to continue operations in this manner.

Trailer Compactor

In this configuration, waste is deposited by residents into a hopper (chute) that feeds the compactor sitting on a lower level. An example of a hopper is shown in the photo to the right. The compactor then rams the waste into the back of a trailer that is connected to the compactor (trailer shown in photo to lower right).

For Acton, the existing trailer pit on the east edge of the building can be reconfigured to include a compactor and hopper. The town would benefit by adding a canopy above the hopper to minimize rainwater from entering the system, resulting in excessive tonnage and leachate. The conceptual canopy location can be seen in the image to the left. The canopy would also minimize windblown litter and protect residents during times of inclement weather. The red arrows



indicate the access locations for the residents. The north side of the tipping floor may be salvaged to conduct other solid waste operations or to fulfill storage needs.



Upper Level Hopper



Lower Level Compactor and Trailer

Benefits	Limitations
<ul style="list-style-type: none"> • Waste is enclosed in the trailer, minimizing rodents and other vectors, and windblown litter. • The existing trailer pit creates a suitable grade separation between the hopper and compactor. 	<ul style="list-style-type: none"> • Limited area where residents can deposit waste into the hopper, could result in bottle neck during peak demand hours. • Town would need to reconfigure the transfer station, procure the compaction equipment, and procure new trailers. • The Town would need to budget for routine maintenance and repair of the compactor. • There is no backup in the event of mechanical failure or power outage (which can be avoided through a generator).

This option is not as hauling efficient as a tipping floor operation; however, some manhours will be saved with the reduction of the tipping floor operations.

Stationary Compactors

Stationary compactors compact waste into roll-off containers. Because the roll-offs are small, multiple compactor stations would be required.

This option has much of the same benefits as a trailer compactor, plus provides more resident exposure at the face of the hopper or doghouse.

The town can consider setting the compactors on the existing tipping floor. This would allow for grade separation where a hopper configuration may be used, in lieu of a doghouse which provides a smaller area for depositing MSW.



Stationary Compactor with Doghouse

Benefits	Limitations
<ul style="list-style-type: none"> • Waste is enclosed in the rolloff, minimizing rodents and other vectors, and windblown litter. • The existing grade separation at the transfer building creates a suitable grade separation for hopper configuration. 	<ul style="list-style-type: none"> • Town would need to reconfigure the transfer station, procure the compaction equipment, and procure new rolloffs. • The Town would need to budget for routine maintenance and repair of the compactors. • There is no backup in the event of power outage (which can be avoided through a generator). • Limits options for longer transport when negotiating for future disposal when contract ends.

Transportation Economic Analysis

To help assist the Town in evaluating the options, we have identified the annual hauling cost for the options presented above. The alternatives information presented in the table below is based on transportation density from other municipalities that we have compiled through the years. The assumed travel rate is an industry rule of thumb and includes wages, fuel, and maintenance expenses.

From the table below, we see that the hauling costs using the current tipping floor method is the most cost effective option, while the stationary compactor more than doubles the operating costs.

Estimated Transportation Operating Costs				
Description	Existing Transport Method	Alternatives		
		Trailer Compactor	Stationary Compactor	
Assumed Haul Weight, (tons)	24.8	20	11	
No. of Round Trips/Year	88	109	197	
Travel Time / Trip (min.'s)	90	90	90	
Annual Travel Time (min.'s/year)	7,920	9,810	17,730	
Assumed Travel Rate, \$/HR	\$ 145	\$ 145	\$ 140	
Annual Transportation Operating Expense	\$ 19,140	\$ 23,708	\$ 41,370	

Summary

The Town is able to choose the future of waste deposition and transfer for the next several decades. Based on our experience, we have found that the tipping floor approach typically results in the most efficient hauling method. Stationary compactors offer better compaction; however, limitations on the container size requires frequent haul trips.

Table of Densities

Method		Container Size (cy)	Average Density (lbs/cy)	Average Trip Tonnage
Tipping Floor with Open Top Trailer		90	541	24.35
Trailer and Large Compactor		90	440	19.80
Stationary Small Compactor		40	585	11.70

Tipping Floor (existing)	Trailer Compactor	Stationary Compactors
The Town has the infrastructure to support the current method. Upgrades will be required to the existing building.	A trailer compactor will provide marginal hauling cost increases and the town would incur capital expenses in purchasing equipment and modifying the transfer station.	Stationary compactors increase hauling costs, and the town would incur capital expenses in purchasing equipment and modifying the transfer station.

APPENDIX G

Town of Acton
New Public Works Facility
Conceptual Level Construction and Total Project Cost

13-May 2021

New Construction	Area	2021 Cost/SF		
		Size (SF)	(w/ markups)	Cost
Administration / Employee Facilities		8,794	\$ 412	\$ 3,623,128
Shops		3,541	\$ 290	\$ 1,026,890
Vehicle Maintenance (not including equipment)		7,383	\$ 290	\$ 2,141,070
Wash		1,750	\$ 548	\$ 959,000
Vehicle/Equipment Storage		26,250	\$ 229	\$ 6,011,250
Added Cost for Specialty Foundations (Based on 1st Floor Area)		48,184	\$ 16	\$ 770,944
Transfer Station Renovations		5,400	\$ 180	\$ 972,000
Transfer Station Check-in		466	\$ 315	\$ 146,790
New Construction Subtotal:		53,584		\$ 15,651,072
Building Cost per SF:		292		
Place a "x" here if included				
Industrial Equipment				
- Wash Equipment		\$ 84,000	x	\$ 84,000
- Wash Equipment - Undercarriage Wash		\$ 53,100	x	\$ 53,100
- Heavy Duty Vehicle Lift (Fixed)		\$ 128,000	x	\$ 128,000
- Heavy Duty Vehicle Lift (Portable)		\$ 109,000	x	\$ 109,000
- Light Duty Vehicle Lift (16,000 lb capacity minimum)		\$ 40,000	x	\$ 40,000
- Bridge Crane		\$ 73,500	x	\$ 73,500
- Overhead Lubrication System		\$ 130,700	x	\$ 130,700
- Miscellaneous Shop and Support Equipment		\$ 56,000	x	\$ 56,000
- Storage Shelving / Benches / Racks		\$ 44,800	x	\$ 44,800
- Exhaust Removal System (2 units)		\$ 44,000	x	\$ 44,000
Industrial Equipment Subtotal:				\$ 763,100

Town of Acton
New Public Works Facility
Conceptual Level Construction and Total Project Cost

			13-May	2021
Fuel System				
- Fuel System Equipment 2 - 10,000 Gallon Tanks + Dispensers etc.	\$	381,000	x	\$ 381,000
- Freight, Misc Accessories, SS Form, Pad, Island	\$	265,700	x	\$ 265,700
- Bollards	\$	20,300	x	\$ 20,300
- Tank/System Testing	\$	5,700	x	\$ 5,700
- Tank Setting & Crane	\$	17,100	x	\$ 17,100
- Canopy and Foundations	\$	152,000	x	\$ 152,000
- Fire Suppression	\$	52,000	x	\$ 52,000
- Permits	\$	2,500	x	\$ 2,500
- Startup & Closeout	\$	35,500	x	\$ 35,500
Fuel System Subtotal:				\$ 931,799
	Building & Equipment Total:			\$ 17,345,972
Mezzanines		2,731	\$ 130	\$ 355,223
Open Canopy Storage		6,750	\$ 100	\$ 678,362
Site Development (acres) - assumes level site with no contamination, existing structures/utilities, etc.		6.0	\$ 492,500	\$ 2,955,003
Specialty Site Work		1	\$ 250,000	\$ 250,000
Salt/Sand Sheds		-	\$ 129	\$ -
			Subtotal Bldg, Equip, & Site:	\$ 21,584,560
			Design Contingency (8%):	\$ 1,726,765
	2022		Escalation - Year 1 (5% per year):	\$ 1,165,566
	2023		Escalation - Year 2 (5% per year):	\$ 1,223,845
			Total Construction:	\$ 25,700,735
			Total Construction Cost/SF:	480

Town of Acton
New Public Works Facility
Conceptual Level Construction and Total Project Cost

13-May 2021

Department of Public Works	
Budget Total Project Cost	
<u>Owner's Soft Costs</u>	
A&E Fees (design, bid, const.)	\$ 2,570,074 (Assume 10% of Const. Value)
A&E Special Services	\$ 385,511 (Assume 1.5% of Const. Value)
Owner's Project Manager Fees	\$ 1,028,029 (Avg 4% of Const. Value)
Furnishings (FFE)	\$ 150,000 allowance
Communic. / Low Voltage System	\$ 250,000 allowance
Temporary Facilities	\$ 300,000 allowance
Printing Cost - Advertisement	\$ 10,000 allowance
Legal Costs	\$ 20,000 allowance
Utility Backcharges	\$ 50,000 allowance
Commissioning	\$ 50,000 allowance
Moving Costs	\$ 20,000 allowance
Chapter 17 Test & Inspections	\$ 50,000 allowance
Owner's Contingency	\$ 250,000 allowance
Construction Contingency (5%)	\$ 1,285,037 allowance
Total Soft Costs: \$ 6,418,651	
TOTAL PROJECT COST \$ 32,119,386	

**Department of Public Works Facilities
SUMMARY - Recent Cost Data
CONSTRUCTION COST**

Description	Size (SF)	Bid Date	Average Bid Price	2014 Avg Cost per SF	2015 Avg Cost per SF	2016 Avg Cost per SF	2017 Avg Cost per SF	2018 Avg Cost per SF	2019 Avg Cost per SF	2020 Avg Cost per SF	2021 Avg Cost per SF	2022 Avg Cost per SF	2023 Avg Cost per SF
Wayland Public Works Facility	39,869	2014	\$ 10,519,754	\$264	\$275	\$287	\$324	\$351	\$398	\$422	\$439	\$456	\$479
Medford Public Works Facility	45,000	2014	\$ 12,340,333	\$274	\$286	\$299	\$336	\$364	\$414	\$439	\$456	\$474	\$498
Bourne Public Works Facility	39,040	2014	\$ 11,063,598	\$283	\$296	\$309	\$348	\$377	\$428	\$453	\$471	\$490	\$515
Norwood Public Works Facility	53,870	2014	\$ 15,437,343	\$287	\$299	\$312	\$352	\$381	\$432	\$458	\$477	\$496	\$521
Boylston Highway Facility	13,926	2015	\$ 3,935,419	--	\$283	\$295	\$332	\$360	\$409	\$433	\$451	\$469	\$492
Hopkinton Public Works Facility	42,410	2016	\$ 12,112,833	--	--	\$286	\$322	\$349	\$396	\$420	\$436	\$454	\$476
Orleans Public Works Facility	42,278	2017	\$ 12,833,834	--	--	--	\$304	\$329	\$373	\$396	\$412	\$428	\$450
Andover Municipal Services Facility	54,088	2017	\$ 18,413,675	--	--	--	\$340	\$368	\$418	\$443	\$461	\$479	\$503
Longmeadow Public Works Facility	44,858	2018	\$ 14,773,364	--	--	--	--	\$329	\$374	\$396	\$412	\$429	\$450
Rye Brook NY Public Works Facility	32,883	2018	\$ 13,184,654	--	--	--	--	\$401	\$455	\$483	\$502	\$522	\$548
Grafton DPW Facility	33,710	2018	\$ 12,399,201	--	--	--	--	\$368	\$418	\$443	\$460	\$479	\$503
Middleboro DPW Facility	34,000	2019	\$ 14,355,199	--	--	--	--	--	\$422	\$448	\$465	\$484	\$508
Yarmouth DPW Facility	37,990	2019	\$ 16,367,227	--	--	--	--	--	\$431	\$457	\$475	\$494	\$519
Burlington DPW Facility	66,200	2019	\$ 26,074,333	--	--	--	--	--	\$394	\$418	\$434	\$452	\$474
Holden DPW Facility	42,000	2020	\$ 15,780,624	--	--	--	--	--	--	\$376	\$391	\$406	\$427
Average Cost per SF:				\$277	\$288	\$298	\$332	\$361	\$412	\$432	\$450	\$468	\$491