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report

Final Report

Facility Needs Assessment and Feasibility Study

Department of Public Works Nantucket, MA

January 27, 2017

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Town of Nantucket, MA
Department of Public Works
Facility Needs Assessment and Feasibility Study

Section 1 – Executive Summary

I. Executive Summary

The Nantucket Department of Public Works operates primarily out of a site to the north of the landfill and transfer station on Madaket Road. The portion of the site used by the DPW, comprised of approximately 13 acres, is a generally irregular shape and includes a total of 10 connected and free-standing buildings, an above-ground fueling facility, plus miscellaneous small structures and shipping containers scattered across the acreage.

The Madaket Road facility has been developed in a generally haphazard fashion over many decades, and while some structures are structurally sound and operationally useful, others have long since exceeded their expected lives and are not suitable for redevelopment or continued use. In addition, some are located in such a way as to inhibit the efficient modernization and redevelopment of the site.

The DPW administrative headquarters operates out of a free-standing, purpose-built wood-frame building, which is functionally suitable and in good condition.

There is currently no single operational or habitable headquarters where employees can report for work, change and store their belongings, wash-up, eat their lunch, or assemble for training or other purposes.

There is inadequate interior vehicle storage resulting in exterior storage of much of the Department's fleet, including emergency response vehicles. This exterior storage, especially in Nantucket's windy marine environment, contributes to decreased service life and increased maintenance cost to the equipment. This is amplified by the absence of vehicle washing facilities to control salt corrosion. In addition, there is inadequate storage space for construction materials, supplies, and handling of waste materials and out-of-service vehicles.

There is inadequate general shop space, which is exacerbated by the need to use vehicle service bays for protected equipment storage. The very small size of the free-standing carpentry shop requires much work to be performed outdoors.

The site is generally favorable, in particular being large enough to support the Department's operations and with good access via two driveways from Madaket Road. This can allow safe and efficient circulation of Department vehicles and a reasonable separation of public access

and Department operations. However, the current arrangement of shared access roads with the adjacent landfill and transfer station creates safety and security concerns.

The DPW's sign shop currently operates out of a remote location. While the sign shop facilities there are adequate, the space is in demand by other Town departments and the DPW would prefer to consolidate all its operations at the Madaket Road site.

In summary, this report confirms the deficiencies in the existing facilities as well as the impacts to the operations associated with those deficiencies. The report recommends a combination of renovation and new construction to develop a new/renovated Public Works Facility comprising approximately 27,975 square feet of enclosed space, 1,250 square feet of renovated/repurposed space, 5,625 square feet of open canopy storage, and the continued use of 2,300 square feet from the existing DPW Administration building and 4,200 square feet square feet from the existing Vehicle Maintenance building to serve the current and anticipated future needs of the Department.

II. Introduction

In early 2016 the Town of Nantucket retained the services of Weston & Sampson to prepare a feasibility study for the assessment of the existing Madaket Road facility to determine its suitability for the current needs of the Department of Public Works (DPW). 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, including phased implementation.

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. The assessment included analyzing current deficiencies in the facility 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.

Operational Analysis

The operational analysis was based on inspection of the existing facilities which are used to support the Department of Public Works' operations, and a determination of the functional inadequacies and space limitations of the existing buildings and site. The following is a summary of some of the deficiencies and/or inefficiencies associated with the existing facilities:

- The Vehicle Storage facilities are undersized and are unable to efficiently support current operations, resulting in a large portion of the multi-million dollar fleet being stored outdoors. This impacts DPW response times during cold and inclement weather conditions. It also contributes to the rapid deterioration of high value Town owned equipment and increases vehicle maintenance costs.
- The employee facilities are undersized and lack adequate supervisor office space, conference room, storage areas, and code compliant Men's and Women's toilet/locker facilities.
- The facilities do not have a vehicle wash facility to properly care for vehicles which are exposed to corrosive chemicals. This decreases vehicle life expectancy and increases vehicle maintenance costs.
- Inadequate working environment, including:
  -Poor ventilation
  -Inadequate lighting
  -Confined workshop areas
  -Inadequate facilities for state mandated training

These deficiencies directly impact operations and the efficiency of service that the DPW is able to provide to the town.

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	Supervisor Office	Admin Shared Office	Workstations	Staff Full-Time	Future Staff	Total Staff
Administration	3	2	2	5	2	7
Vehicle Maint.	1	0	0	2	0	2
Highway / Workforce	0	3	2	18	3	21
TOTAL	4	5	4	25	5	30

Vehicles / Equipment	**Quantity**
Large Vehicles o Dump Trucks o Loaders / Backhoes o Sweepers	14
Small Vehicles o Sedans o Utility Vehicles o Pickups / 1 Ton / ¾ tons	26

This listing does not include small support equipment such as tractors, mowers, chippers, trailers, compressors, pumps, hand tools, etc. However, provisions for storage of these types of items have been included in the final program. Refer to **Section 3** for a copy of the staff interview notes.

Space Needs / Room Part Plans

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 by developing sketches of individual rooms. Sketches were prepared for each major space including office and office support areas, employee facilities, shop spaces, vehicle maintenance, wash area, and vehicle/equipment storage areas. These space requirements were then assembled into a comprehensive space allocation matrix. The space needs assessment identified an initial requirement of approximately 54,000 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 valuable input from management and staff, 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 43,800 square feet. This reflected an overall reduction in the space needs of 10,200 square feet, or approximately 20%.
Refer to **Section 4** for space needs matrix, room data sheets, and the vehicle/equipment list.

The results of the final space needs assessment were then compared to Weston & Sampson's in-house *Department of Public Works Space Needs Guidelines.* These guidelines have been developed utilizing historic data from similar DPW facilities which have been programmed and constructed for other New England communities. Utilizing the size of the Nantucket DPW staff and and the associated vehicle fleet, the guidelines identify a facility size ranging from approximately 47,440 square feet to 55,812 square feet. These guidelines indicate that the final detailed space needs assessment falls somewhat below today's standards for similar facilities. This reduced program is reflective of the effort made by the DPW and the Design Team to utilize a creative approach to combine spaces or use alternate storage techniques (such as canopies and mezzanines) to reduce the overall building footprint in an attempt to control construction costs.

A copy of the space needs guidelines worksheet has been included as **Section 5** of this Report.

IV. Conceptual Design Alternatives

Based on the results of the final space needs assessment, the Project Team prepared conceptual alternatives for the redevelopment of the existing DPW site. The alternatives were prepared with the following operational considerations in mind:

- Attempt to reuse as many as possible of the existing structures on the site without compromising operational efficiency.
- Arrange interior space to provide efficient circulation patterns.
- Provide visual screening of DPW Yard operations from surrounding abutters.
- Attempt to segregate small/public vehicle traffic from heavy truck traffic.
- Providing adequate parking for public and employees.
- Provide full access and safe vehicle movement around the perimeter of the facility.
- 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
- Salt and Fuel

The configuration and size of the planning "block" for each building was developed by assembling the individual room sketches identified during the space needs assessment. Care was taken to appropriately re-program existing elements, and to add new facilities to create a comprehensive master plan, to consolidate the number of buildings on the DPW site, and locate programmatic elements in order to optimize operational efficiencies. In all, seven conceptual alternatives (Concepts A through G) were initially generated. A copy of the initial alternatives is included as **Section 6** of this report.

The Project Team reviewed each alternative and eliminated the concepts which did not effectively meet the operational criteria established above. A comparative list of advantages and disadvantages were presented for each alternative. After completing a comprehensive assessment of the alternatives with the DPW, a hybrid Preferred Alternative, including elements of several of the initial Concepts, was developed. A copy of the Preferred Alternative is included as **Section 7** of this report.

V. Phasing Plan for Preferred Design Alternative

After selection of the preferred alternative concept plan, the DPW requested that the project team develop a phasing plan for design and construction. Based on operational priorities and likely budgeting, the plan anticipates two distinct and sequential phases as follows:

<u>Phase I</u>

- Construct a single combined pre-engineered metal building for employee facilities, shops, vehicle storage, and canopy. The vehicle storage and canopy will be finished areas. The employee facilities and shops will be an empty shells with basic utility services.
- Continue the use of the Administration building and Vehicle Maintenance building.

- Provide temporary trailers to support supervisor office and employee facilities (muster/break room, toilet facilities).
- Construct a new fueling facility.
- Construct a new salt storage structure.
- Construct associated site improvements including drainage, utilities, paving, fencing, and site lighting.

Phase II

- Interior fit-out of the employee facilities area (walls, ceilings, flooring, utility services, HVAC, sprinklers, plumbing, and electric/lighting).
- Interior fit-out of the shop area (walls, utility services, heating/ventilation, sprinklers, plumbing, and electric/lighting).
- Renovation/repurpose of one (1) maintenance bay to be converted to a drive-thru wash bay.
- New industrial equipment for the existing maintenance area.
- Miscellaneous site improvements (utility connections, minimal paving, wash bay knockdown pad).

VI. 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.

- Renovation/repurpose of a portion of the existing single story Vehicle Maintenance building for a new wash bay including a complete gut of interior and new perimeter partition walls (waterproof), doors, windows, and insulation.
- Primary industrial support equipment for vehicle maintenance operations
- Site improvements, including storm water management, utilities, fencing, and paving upgrades
- New fuel system including aboveground storage tanks, canopy, and fuel pumps
- New salt storage structure, salt loading ramp, and material storage bins
- Contingency allowance for unanticipated design and construction costs, pending final design.
- Location factor to account for costs associated with work on the island.

Our estimated costs for new building construction, building renovations 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 costs for the single project or initial phase and 2021 for the second phase (if the Town selects a phased approach). Additional escalation factors should be included if the Town selects an alternate project time line. The results of the cost estimate are included **Section 8** of this report.

Town of Nantucket, MA
Department of Public Works
Facility Needs Assessment and Feasibility Study

Section 2 – Overall Existing Conditions Plans

EX EXISTING DPW SITE PLAN
SCALE: 1" = 40'-0"

0 20' 40' 80'
1" = 40'-0"

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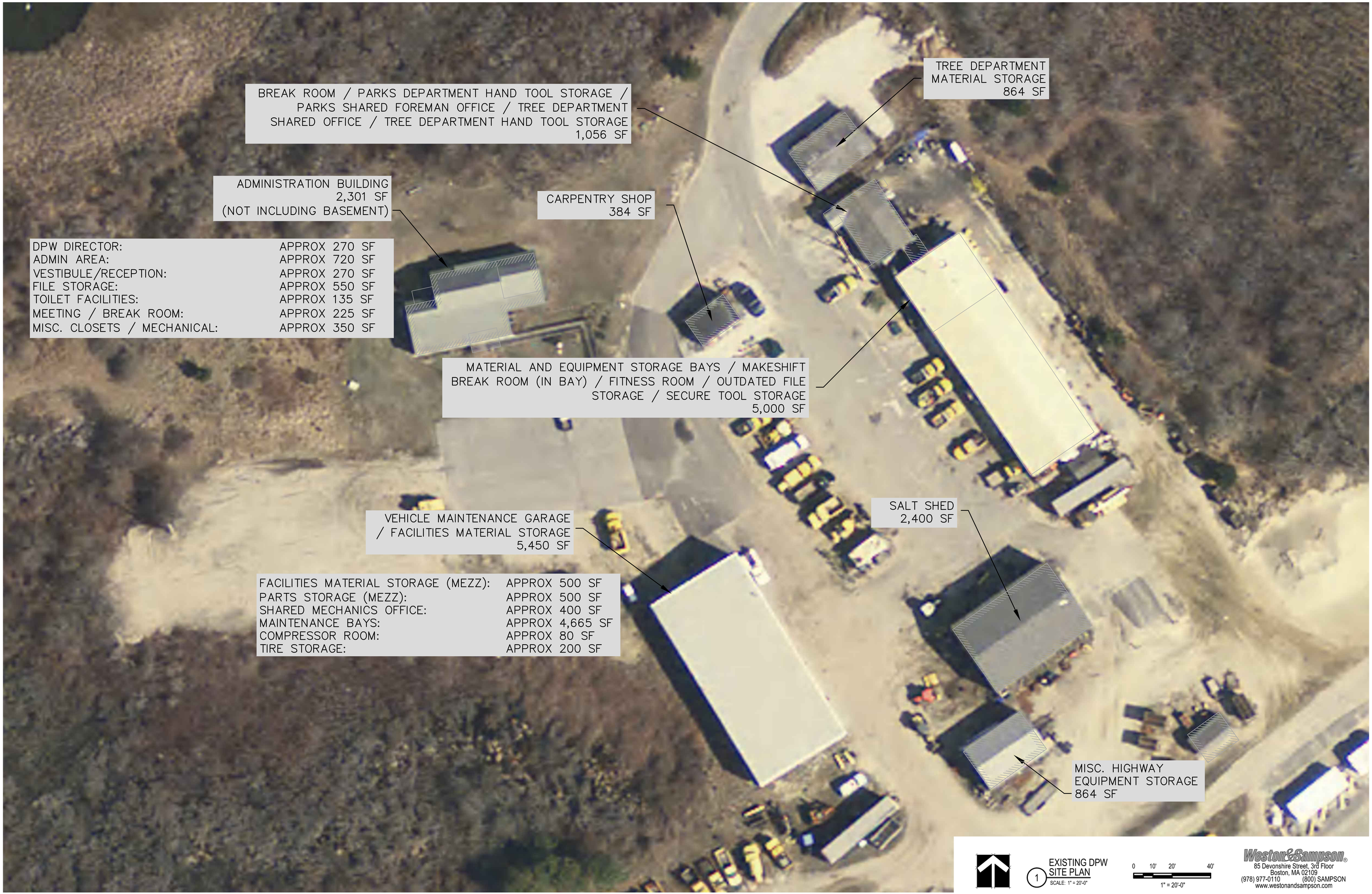

1 EXISTING DPW SITE PLAN
SCALE: 1" = 20'-0"

0 10' 20' 40'
1" = 20'-0"

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Section 3 – Staff Interview Notes

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MEMORANDUM

TO: Nantucket DPW Study File
FROM: Joseph M. Fitzpatrick, PE
DATE: 07 April 2016
SUBJECT: Staff Interviews at DPW Administration Building – 188 Madaket Road

Consultant Team: Daniel Tenney III, WSE
Michael Hicks, WSE
Joseph M. Fitzpatrick, WSE

Client Representatives: Kara Buzanoski – Director of Public Works
Richard E. Moore – General Foreman

MISSION STATEMENT

The mission of the Nantucket Department of Public Works is to provide public safety and to provide and maintain public services necessary for the economy, growth, and quality of life for the citizens and visitors to Nantucket.

GENERAL

- The Department of Public Works staff consists of 33 employees in 6 divisions responsible for the maintenance of Nantucket's infrastructure and public facilities.
- The Director would like to see a solid project estimate in time for the Capital budgets due in September 2016. The funding for the execution of the project would have to be approved at the Spring Town Meeting in April 2017. That funding would become available in July and CA could start in the fall.
- Due to the influx of tourists / visitors in the summer months, construction should not be scheduled to start until after Labor Day. The weather / conditions typically allow for winter construction and that is when the majority of projects are underway on the island.
- WSE should plan for an informal preliminary hearing with the Historic District Commission.
- Consider a phased approach for the building of the new facility. The site is large enough to support this and several of the buildings on site can still be used throughout the transition.

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DIVISIONS

- Administration (Admin.)
- Engineering
- Highway (Hwy)
- Facilities (Fac)
- Wastewater
- Solid Waste

STAFFING

- Administration **(5)**: Director (Kara Buzanoski), Town Engineer (Silvio Genao), Facilities Manager (Larry Kester), Office Administrator (Denese Allen), Administrative Clerk (Lora Kebatti), Proposed Future Deputy DPW Director, Proposed Future Assistant Town Engineer
- Highway **(20)**: Future Fleet Manager, (3) Foremen, (2) Mechanics, (4+1 future) Operators, (7+2 future) Laborers, (6) Seasonal, (7) Additional Seasonal Staff Budgeted for.
- Wastewater **(9)**: Chief Operator (David Gray), Assistant Chief Operator (Kevin Manning), Station Operator (Ardis Gary), General Foreman (Richard Moore), Sconset Operator (Robert Inglis), (3) O&M Techs (Shaun Mooney, James Hardy, Paul Frazier), Lab Tech (Willie Levielle)

ADMINISTRATION

The administration consists of the Public Works Director, The Town Engineer, The Facilities Manager and Office Administrators.

- Responsibilities include:
    - Preparing the annual operating budget for the department and overseeing expenditures of all divisions
    - Preparing clerical and accounting support to the department for the processing of payrolls, purchase orders, invoices, and the management of the departmental budget
    - Developing and updating the department's long term Capital Plan for all divisions
    - Supervising Department personnel, including ensuring that personnel are properly trained and motivated
    - Ensuring compliance with federal, state, and local laws and regulations relative to public works operations
    - Receiving inquiries and complaints from citizens relative to the public works infrastructure and forwarding the information to the appropriate division for action

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  - Interfacing with town boards, commissions, and other departments, as well as providing coordination with state and federal agencies, other municipalities, and outside utilities relative to public works projects
- They currently see public interaction in the form of customer in-house and outside requests for service mostly. The DPW handles sewer, road cuts, curb cuts, road opening, storm drainage, and over the road large load moving permits. Most of the face to face public interactions are with contractors though landfill fees can still be paid for at the Admin building. To dispose of construction and demolition waste, paying a fee is still required, most other refuse items are handled by the Transfer Station free-of-charge.
- There is no central air cooling system in the Admin building. Air conditioning window units are installed in the spring. Many of the public buildings in Town use window units for air conditioning.

HIGHWAY / WORKFORCE

- Nantucket has approximately (95) miles of paved road, (10) miles of gravel road, (1.5) miles of cobblestone roads and (35) miles of bike path to maintain. The bike path is maintained year round using trackless sidewalk plows and sweepers. Brush cutting along the paths is done using a Kubota tractor and hand tools. The gravel and cobblestone roads require different equipment than the paved roads. Grading equipment is necessary for maintaining the gravel roads and plows with rubber blades are required to clear the cobblestone.
- They typically use an outside vendor for paving jobs. The DPW reclaims and recycles the used asphalt material. The equipment they use for road construction includes: infrared heater / repair unit, small roller, reclaim / recycler, pavement cutter attachment for a Bobcat, compactor, stand-up road saw, a multitude of hand tools, and road striping / painting equipment. Plan for the purchase of a large compactor and a utility truck that can securely store all of the smaller road repair equipment.
- In the past the DPW has used a sand/salt mix to treat the roads for winter weather. More recently, they have switched to only salt, which they buy pretreated. Due to their limited storage capacity, the DPW had to refill the stockpile twice this past winter. When Massachusetts runs into salt shortages or distribution issues, it can disproportionally affect Nantucket due to logistical complications being on an island can create.
- **Storm Events**: During snow events, all staff is designated for road clearing duties and the DPW is responsible for all the plowing of public ways on the island. They occasionally hire loaders to clear certain problem areas, an operation they may take on in-house in the future. (4) staff members focus on clearing sidewalks downtown by hand, while all others plow in trucks. There are approx. (15) pieces of snow fighting equipment and (15) slide in spreader bodies. In the future, they would like to install GPS systems in the trucks which could be linked back to dispatch for monitoring. They typically do not see much snow carry over from storm to storm. During last winter's

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historic snow fall levels, the DPW used the alternate parking lot at Jetties Beach for snow storage. On the eastern side of the island, snow drifts can be an issue. The DPW often finds themselves clearing snow from certain areas days after a snow event due to these snow drifts. To combat this issue, the Town has approx. 8,000 lf of snow fence (wooden slats) with 4"x4" posts which get installed using a backhoe. This fencing is stored at the DPW.

- During long storm events, the staff does not have a space designated to take their required rest. Sending the workforce home to rest tends to result in a dispersed staff which is tough to monitor and ensure they are able to return to their shifts at the appropriate time. The basement of the Admin building may be suitable for a multipurpose swing space equipped with cots (approx. 4) for resting, but they would lose the area they currently use for storing files. Makeshift sleeping areas can be found around the existing DPW facility as a result of the lack of proper resting quarters.
- Highway typically hires approximately (6) seasonal staff for help during the summer months. They are also responsible for changing trash cans and combing the sand at the beaches (up to the dunes, the Harbor Master is responsible from there).
- **Employee Facilities / Break Room**: There is a break room is located in an old school building. Within that building there is: a room to take a break for a couple of the staff, a room used for hand tool storage including weed whackers which should be secure, a kitchen area, a homemade storage cabinet, an office used by the tree guys, a shared working foremen's office used by the parks division, a room to muster with (2) black boards, and a small locker room. There is an area in the (2) bay garage that has been set up as an additional break room.
- **Garage Bays**: The garage has (2) bays which are used for misc. storage. Within the bays you will find: pallets of highway safety spheres / line paint, a shop area with hand tools, and misc. equipment including (3) paint machines. They have converted a utility mezzanine into a workout / physical training room. They acquired used equipment and weights from the high school and brought in some of their own personal equipment. Provide a workout area in the new facility. Within this workout room there are also several filing cabinets which hold misc. files and records. These files should be secured or archived. There is a compressor room adjacent to this garage that is used for flammable material storage.
- **Construction Garage**: There is a storage area on the site which houses the Thermo street machine, a Bobcat S185, a Volvo truck, a Bobcat 590, and multiple attachments.
- **Tree Work (Dale and Scotty)**: (2) workforce staff are assigned the tree work on the island. The use a boom truck and have a chipper which they tow behind as well as a stump grinder. An integrated chipper/bucket truck would be ideal. The tree shop/storage area is currently in one of the modular building at the DPW yard that was once used as a class room by the School Department. This building is dank and smells of mold/mildew. The tree crew make due. In that structure they store bags of fertilizer,

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compost/manure, peat moss, and bone material. There is also a hazardous materials cabinet used to store hazardous and flammable materials. Hand tools, harnesses, spikes, gear/chain oil, etc. are also stored in the tree house, unsecured.

- **Drainage**: There are essentially no open culverts in Town due to the nature of the soil composition. They typically use leaching basins and infiltration galleries to control the flow of storm water.
- **Sewer**: Sewer repair is the Town's responsibility. They are not responsible for the maintenance / repair of the water distribution system. Consists mostly of cleaning out lines and occasionally raising sewer manholes. They have discovered large cisterns buried under the streets that were once used as holding tanks for fire-fighting purposes in the late 1800's. These abandoned structures have created maintenance problems in the past. When the DPW discovers/uncovers these cisterns, they typically crush the structure than fill them in.
- **Trash (Kenny and Tris)**: The DPW is responsible for changing out the public barrels in the downtown area as well as at the beaches. They currently have (1) small packer truck. A new facility should be designed to accommodate (2) large packer trucks in addition to other misc. pieces of equipment (e.g. the Gator). (4) staff members are assigned to this duty for the entirety of the summer season.
- **Parks (Paul Boucher)**: There are (3) parks with play fields ((2) soccer/lacrosse, (1) baseball) and (4) passive parks without fields on Nantucket. The DPW is responsible for mowing the grass, carpentry (e.g. fixing benches), maintaining the fields (e.g. line marking), and maintaining equipment stored at the fields, often times making repairs back at the DPW yard. They have (3) staff members assigned to full-time mowing of these parks. There is also a playground at Jetties Beach that the DPW is responsible for. The Parks Department is lacking storage. They need space for (2) trailers, (4) lawn mowers, and a gator. Remote Location: They have a storage area at a remote location that will be discontinued in the near future. They will need to find a place to store (2) tractors, the community dunk tank, beach wheel chairs, and misc. parks department materials. These materials are covered by a low arch structure, approx. 40' in length that was left behind by the military. Storage from Delta field will remain there, storage from Nobadeer field will be coming over.
- **Wastewater**: Wastewater operations use (2) remote locations which will remain separate and in place

Facilities (Larry) / Signs (Ray)

- The current space used for the carpentry shop is undersized at approximately 16'x30'.
- The Facilities Department, (3) staff, is responsible for the bulk of the carpentry work throughout Town buildings, however, a shared carpentry shop could be provided to serve both the Facilities Department and sign making operations.

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- The Facilities Department has a need for storage. They store paper supplies for several public bathrooms that they are responsible for in addition to other materials associated with Fac. Operations. The cleaning of public buildings is done by an outside vendor for the most part, supplies are provided by the DPW.
- The sign shop (staffed with (1) employee) is responsible for the vast majority of the signs throughout Town (approx. 4,000 individual signs throughout Town). Sign making (wooden, hand painted) operations are currently housed at a satellite location in a facility which is also used as file storage for the Town Planner and headquarters for the IT Department. The sign shop supports other municipal and public entities (e.g. transit authority).
- The office used now, which requires a separate, clean, climate controlled space, is larger than necessary but could use additional racks to store the vinyl rolls. The shop is currently located in a (5) bay garage area. Having overhead door access to the outside is helpful, though one door would be sufficient.

Fleet Maintenance

- Fleet Maintenance consists of (2) mechanics.
- The DPW maintains vehicles for all Town Departments except for the School and Police Departments. Large repairs or those that require specialized equipment or certifications (e.g. Fire Trucks) are not done by the DPW. The vactor truck is maintained in-house except for the pump components. They have a mobile inspection truck visit the DPW to complete yearly inspections.
- There are plans to hire a Fleet Manager within the next 2 years to address current operational deficiencies. There is a need for fleet monitoring software for keeping track of maintenance, parts, etc. The parts storage area is currently located on an unsecured mezzanine above the offices in the maintenance garage. The other half of that mezzanine is used by the Facilities Department to store paper goods, air conditioners, supplies, etc.
- Fleet Maintenance does tire work, including balancing, in-house. They require a relatively small amount of storage (approximately 20 tires stored). Painting and body work is contracted out.
- They currently have a Mohawk 2-post lift in one of the maintenance bays. Consider adding another.
- They store the bulk of their maintenance fluids (i.e. oils, grease, antifreeze, etc.), lubrications and waste product in 55 gal. drums. They do not currently have an overhead fluid distribution system in their (4) bay maintenance building, consider providing one. In the past a waste oil heater was used. It became contaminated over time, the burner faulted and it is no longer used. They have a strong interest in a new waste oil burner for supplemental heat. Any hazardous waste is hauled out and disposed of properly.

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Storage Needs

- Holiday Decorations – hung up and taken down by the DPW staff (electric tree lights)
- ¾" Stone – Approx. 60 CY
- 1-½" Stone – Approx. 60 CY
- Stone Dust – Approx. 60 CY
- Road Mix Dirt/Processed Materials – Approx. 100 CY
- Sewer/Drainage/Water Piping
- Pallets of Bagged Cement (a larger cement mixer would be helpful)
- Construction could use (1) bay to securely store materials and hand tools
- Highway needs covered storage for the Infrared asphalt machine, pallets of ice melt, walk-behind snow blowers, etc.

Programming

- The drive-thru layout for the vehicle storage garage would be ideal. Vehicle and equipment storage is lacking and should be incorporated into the new facility.
- They do not currently have a vehicle washing area. Provide enclosed wash bay in the new facility.
- Provide a workout room, locker room, break room, and laundry facilities for the workforce.
- Provide a shop for small equipment repair (mowers, blades, etc.).

Security / Access Control

- The DPW yard currently shares a back road with the Transfer Station. There is no gate separating the two areas which leaves valuable equipment vulnerable to theft and the DPW vulnerable to liabilities associated with an unsecured site. This issue is exacerbated by the fact that the Transfer Station is open on the weekends when the DPW is typically closed.
- Remote controlled gates would be idea. Fencing is necessary in several locations around the yard. Consider keeping the existing gates for aesthetic/historical purposes and adding a more modern locking gate farther up the access drive.
- A CATV system was installed with a few cameras focused on the most critical locations. This system has the capacity to be augmented with additional cameras.

Fueling / Utilities

- They currently have a 6,000 gal. capacity ConVault AST for gasoline at the existing DPW facility. It is a two cell storage tank and one of the cells is cracked.
- They currently have a 4,000 gal. capacity storage tank for diesel gasoline at the Fire Department

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- They currently use a Fuel Master fuel management system which is operated using a key. It is administered by the Fire Department.
- There is currently a 60kW full automatic emergency generator at the DPW yard. This generator feeds the fleet maintenance shop and the admin building. There is also a underground storage tank for propane behind the fleet maintenance shop. The highway garage will need to have a generator as backup power.

Town of Nantucket, MA
Department of Public Works
Facility Needs Assessment and Feasibility Study

Section 4 – Space Needs Matrix / Room Data Sheets / Vehicle & Equipment List

Town of Nantucket, Massachusetts
Department of Public Works
Space Needs Summary
Date: June 2016

Building Requirements

Area	Description	Size (SF)	Ref #	Sheet No.	Room / Area Dimensions length	width	size
Office & Office Support Areas	Vestibule/Waiting/Reception	260		1	--	--	260
	Administration Area (2 Workstations)	320		1	20	16	320
	DPW Director	270		2	15	18	270
	Facilities Manager	180		2	12	15	180
	Town Engineer	180		2	12	15	180
	Copy/File/Mail Area	112		3	8	14	112
	Active File Storage	196		3	14	14	196
	Archive File Storage	288		3	16	18	288
	Conference Room	192		3	12	16	192
	Administration Lunch Room	120		4	10	12	120
	Supply Closet	36		4	6	6	36
	Telephone / Data Room	80		4	8	10	80
	General Closet	18		4	3	6	18
	Janitor Closet	36		4	6	6	36
	Admin Toilet Facilities	150		4	7.5	20	150
	Subtotal:	2,438					
	Area Grossing Factor (15%):	366					
	Circulation (20%):	561					
	TOTAL:	**3,364**					
Employee Facilities	Male Locker/Shower/Toilet	770		5	27.5	28	770
	Female Locker/Shower/Toilet	150		5	10	15	150
	Workforce Lunch Room	525		6	21	25	525
	Multipurpose Room	486		6	18	27	486
	Shared Foreman Office	240		7	15	16	240
	Tree Office	192		7	12	16	192
	Fitness Room	324		7	18	18	324
	Laundry Facilities	48		7	6	8	48
	Main Electric Room	150		8	10	15	150
	Secondary Electric Room	80		8	8	10	80
	Plumbing/Fire Protection Room	160		8	10	16	160
	Subtotal:	3,125					
	Area Grossing Factor (15%):	469					
	Circulation (20%):	719					
	TOTAL:	**4,313**					

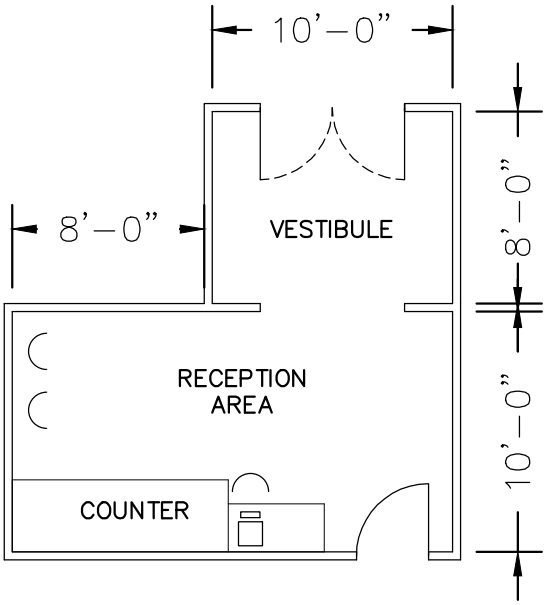
Town of Nantucket, Massachusetts
Department of Public Works
Space Needs Summary
Date: June 2016

Building Requirements

Area	Description	Size (SF)	Ref #	Sheet No.	Room / Area Dimensions length	width	size
Work Shops & Material Storage	Sign Shop	500		9	20	25	500
	Sign Storage	400		9	20	20	400
	Trees Workshop	1,452		10	33	44	1,452
	Parks Workshop	1,452		11	33	44	1,452
	Shared Carpentry Shop	980		12	28	35	980
	Subtotal:	4,784					
	Area Grossing Factor (10%):	478					
	Circulation (10%):	526					
	TOTAL:	**5,789**					
Vehicle Maintenance	Maintenance Fluid Storage	352		13	16	22	352
	Welding Bay	1,210		14	22	55	1,210
	Heavy Equipment End Bay	1,210		14	22	55	1,210
	Heavy Equipment Bay	1,100		14	20	55	1,100
	Heavy Equipment Bay	1,100		14	20	55	1,100
	Hydraulic Hose Workshop	180		15	12	15	180
	Fleet Manager Office	168		15	12	14	168
	Mechanic Office	144		15	12	12	144
	Maintenance Reference Room	120		15	10	12	120
	Maintenance Workshop	160		16	8	20	160
	Parts Storage Room	700		16	25	28	700
	Tire Storage & Shop	200		17	10	20	200
	Compressor Room	60		17	6	10	60
	Secured Tool Storage	120		17	10	12	120
	Subtotal:	6,824					
	Area Grossing Factor (10%):	682					
	Circulation (10%):	751					
	TOTAL:	**8,257**					
Wash Area	Wash Bay / Combo Storage Bay	1,375		18	25	55	1,375
	Wash Equipment Room	100		18	10	10	100
	Subtotal:	1,475					
	Area Grossing Factor (5%):	74					
	Circulation:	n/a					
	TOTAL:	**1,549**					
Vehicle and Equipment Storage	Large Vehicle Storage	9,025		19	95	95	9,025
	Small Vehicle & Equipment Storage	17,955		19	95	189	17,955
	Subtotal:	26,980					
	Area Grossing Factor (5%):	1,349					
	Circulation:	n/a					
	TOTAL:	**28,329**					
	TOTAL:	**51,601**					

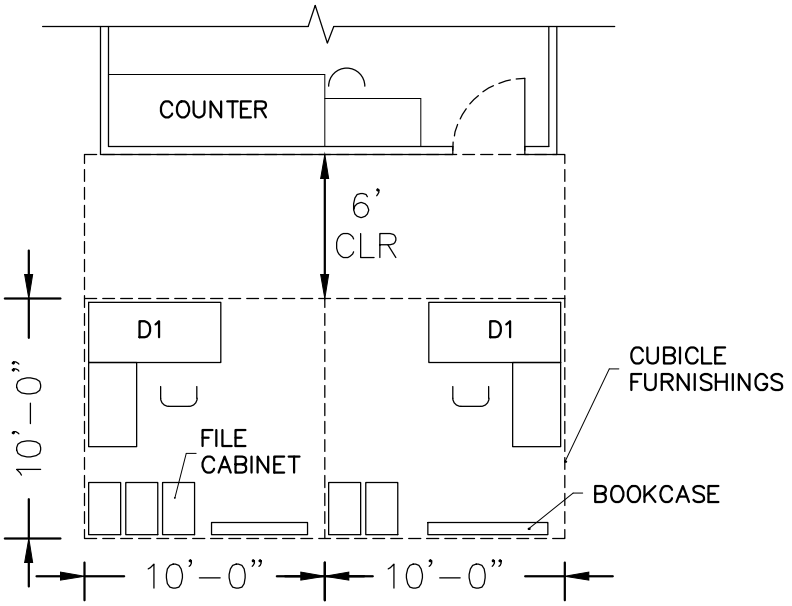
20,528 with alternate storage per sheet 20

43,800 with alternate storage per sheet 20



VESTIBULE/WAITING/RECEPTION AREA

10' x 8' = 80 SF
18' x 10' = 180 SF



ADMINISTRATION AREA

20' x 16' = 320 SF

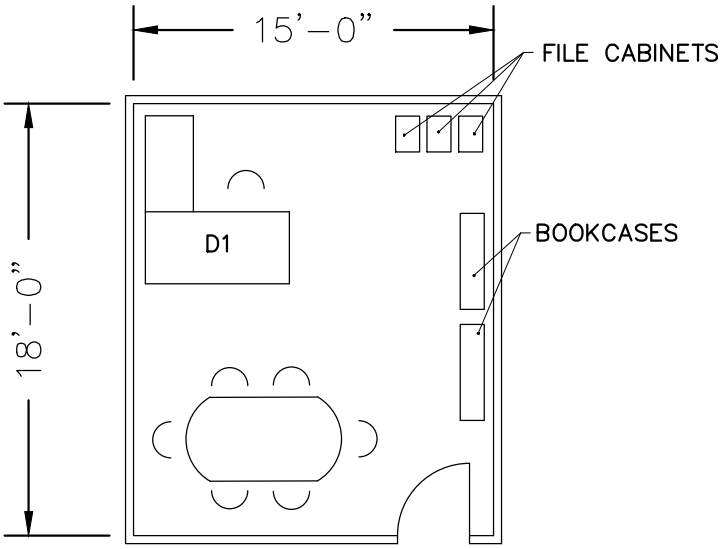
SPACE NEEDS ASSESSMENT

JUNE 2016

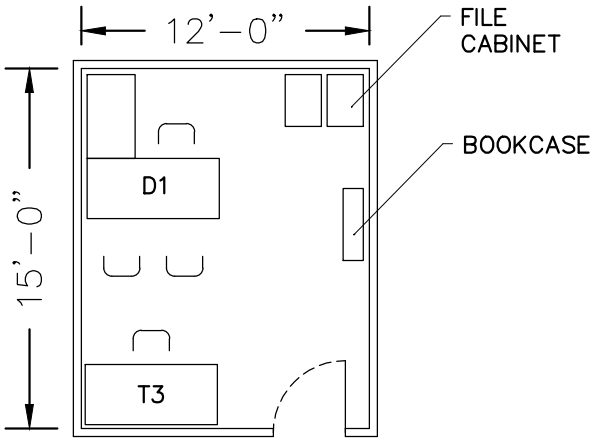
NANTUCKET, MASSACHUSETTS

Scale: 1/8"=1'–0"

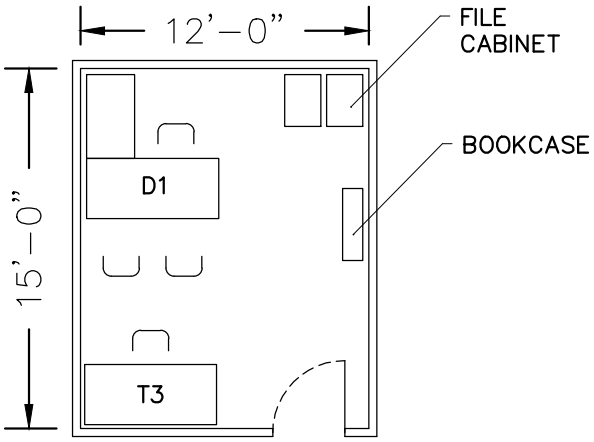
Sheet 1



DPW DIRECTOR
15' x 18' = 270 SF



FACILITIES MANAGER
12' x 15' = 180 SF



TOWN ENGINEER
12' x 15' = 180 SF

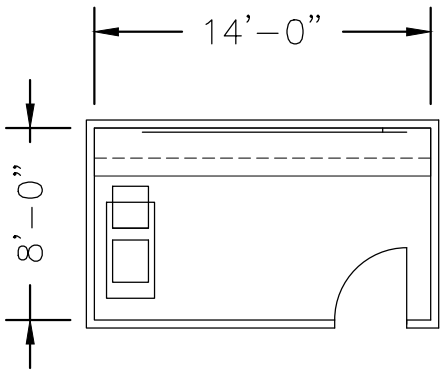
SPACE NEEDS ASSESSMENT

JUNE 2016

NANTUCKET, MASSACHUSETTS

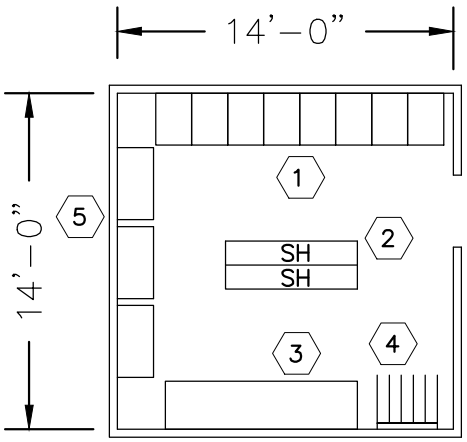
Scale: 1/8"=1'-0"

Sheet 2



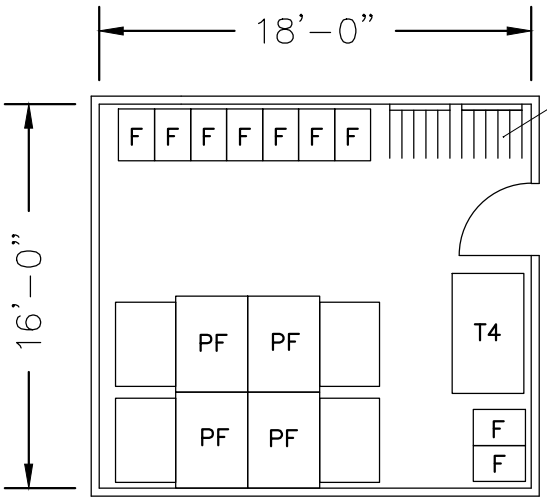
COPY-FILE-MAIL AREA

8' x 14' = 112 SF



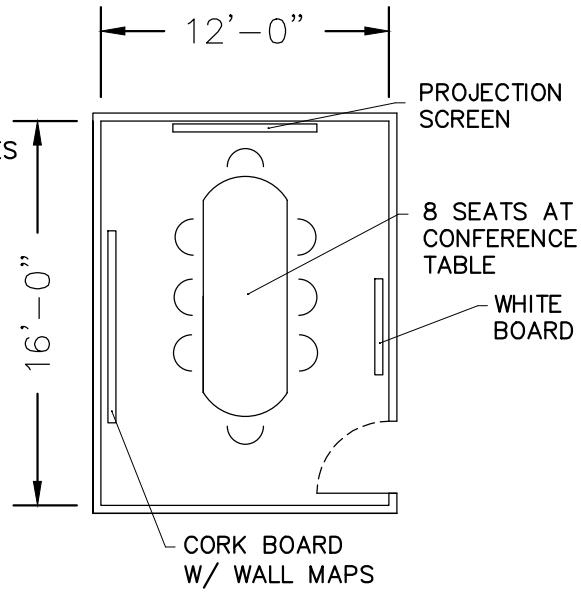
ACTIVE FILE STORAGE

14' x 14' = 196 SF



ARCHIVE FILE STORAGE

16' x 18' = 288 SF



CONFERENCE ROOM

12' x 16' = 192 SF

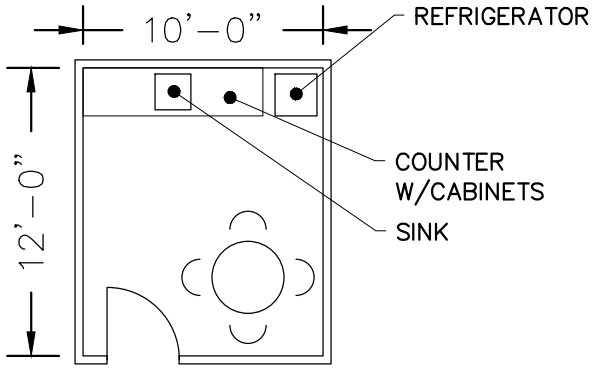
SPACE NEEDS ASSESSMENT

JUNE 2016

NANTUCKET, MASSACHUSETTS

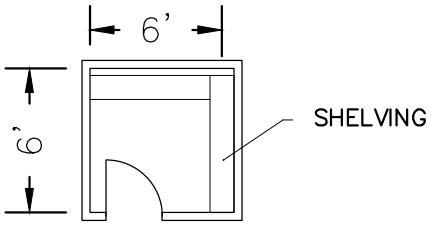
Scale: 1/8"=1'-0"

Sheet 3



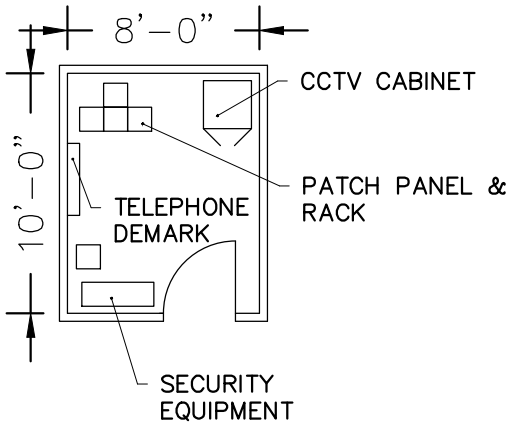
ADMINISTRATION LUNCH ROOM

10' x 12' = 120 SF



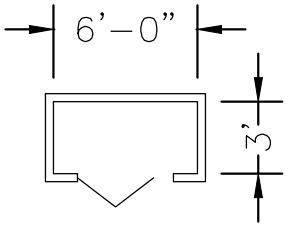
SUPPLY CLOSET

6' x 6' = 36 SF



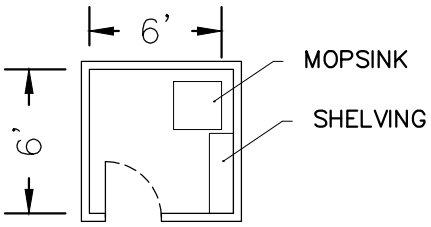
TELEPHONE/DATA ROOM

8' x 10' = 80 SF



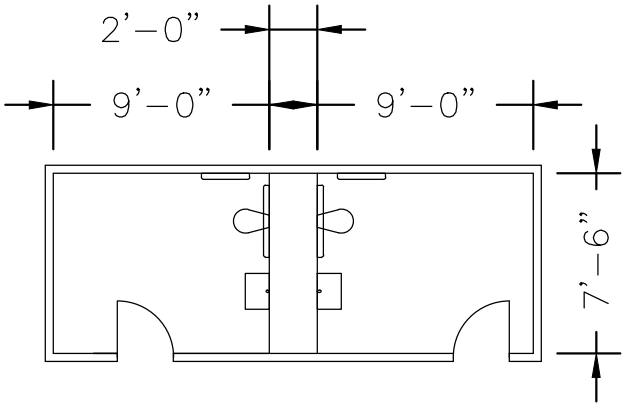
GENERAL CLOSET

3' x 6' = 18 SF



JANITOR CLOSET

6' x 6' = 36 SF



ADMINISTRATION TOILET FACILITIES

7'-6" x 20' = 150 SF

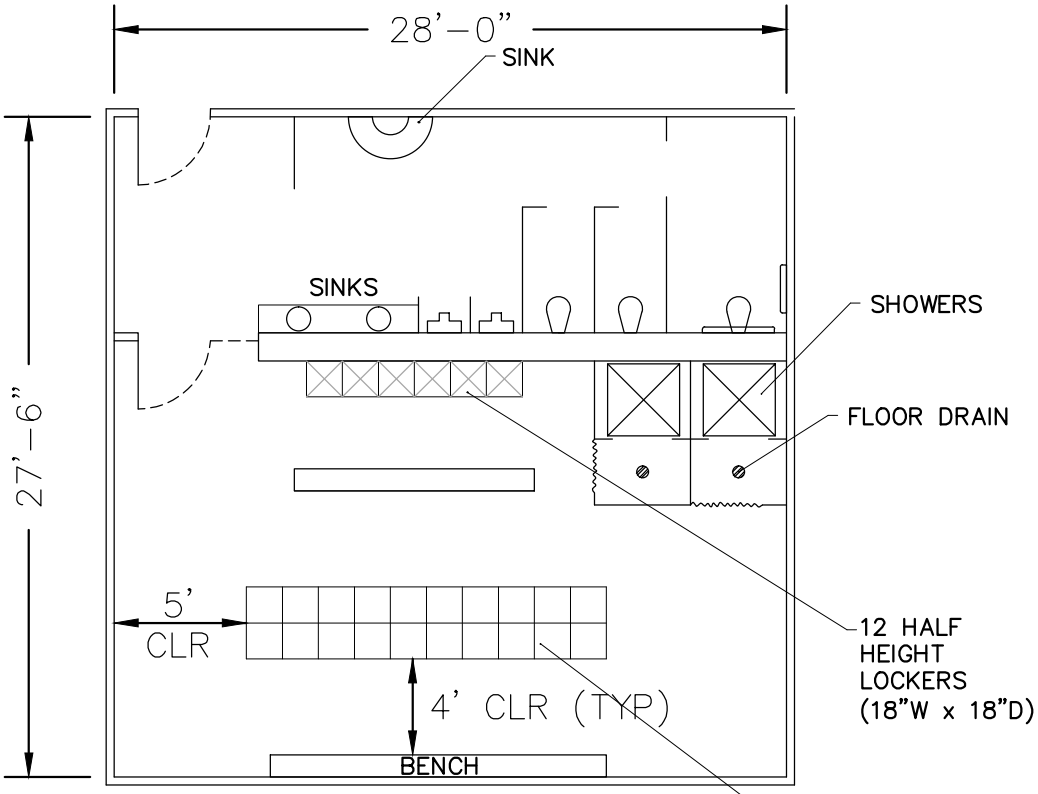
SPACE NEEDS ASSESSMENT

JUNE 2016

NANTUCKET, MASSACHUSETTS

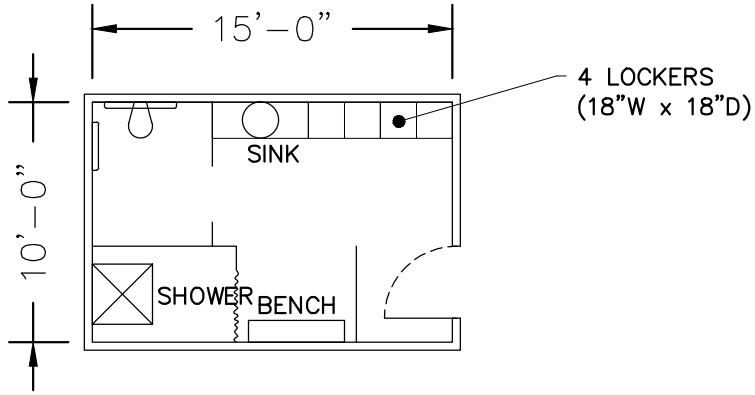
Scale: 1/8"=1'-0"

Sheet 4



MALE LOCKER/SHOWER/TOILET

27'-6"' x 28' = 770 SF



FEMALE LOCKER/SHOWER/TOILET

15' x 10' = 150 SF

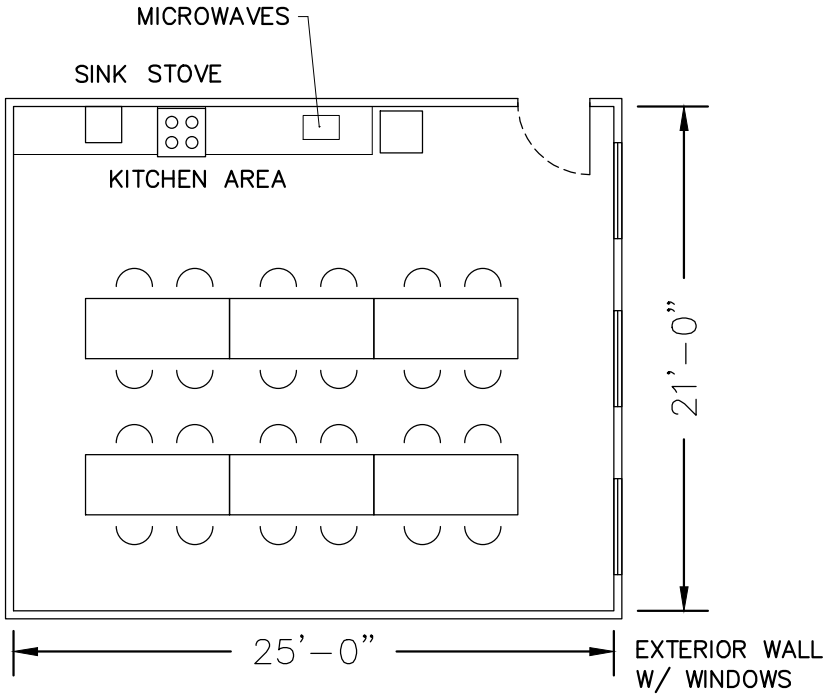
SPACE NEEDS ASSESSMENT

JUNE 2016

NANTUCKET, MASSACHUSETTS

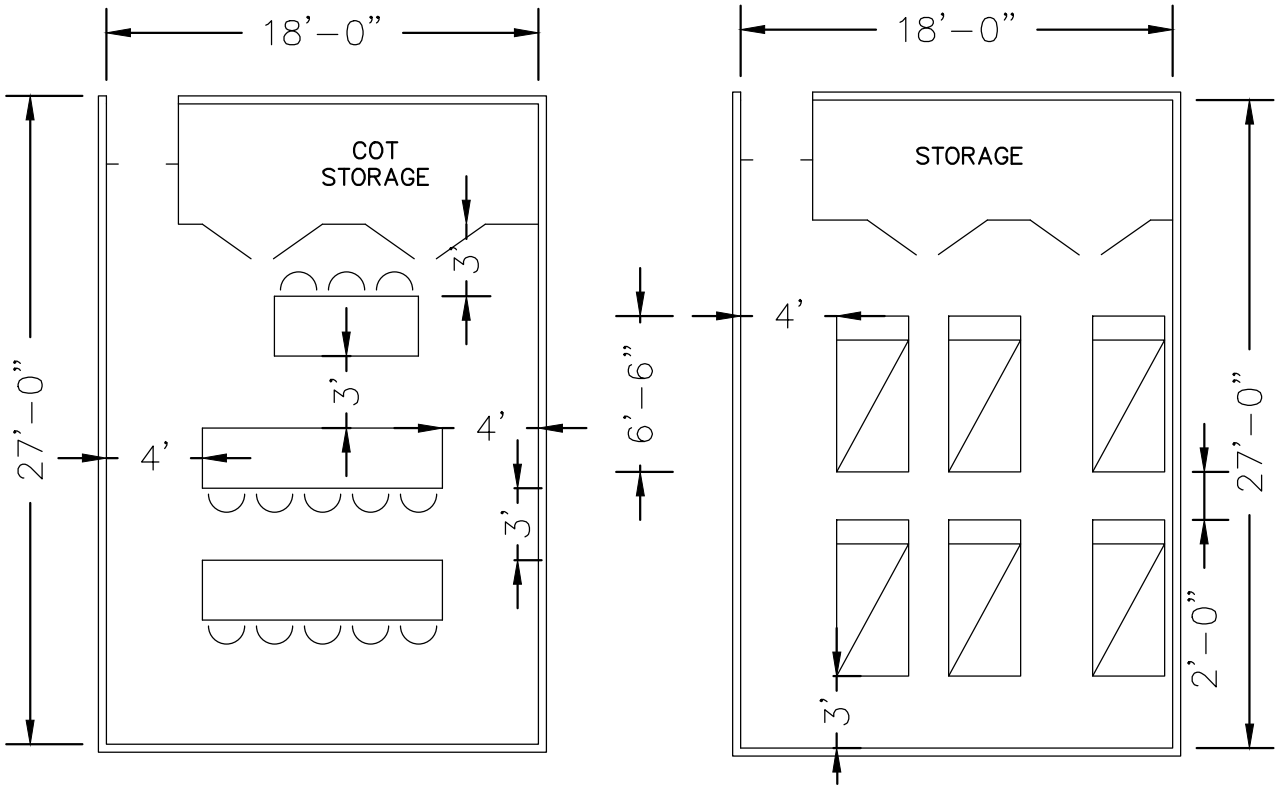
Scale: 1/8"=1'-0"

Sheet 5



WORK FORCE LUNCH ROOM

21' x 25' = 525 SF



TRAINING ROOM SETUP

STORM EVENT SETUP

MULTIPURPOSE ROOM

18' x 27' = 486 SF

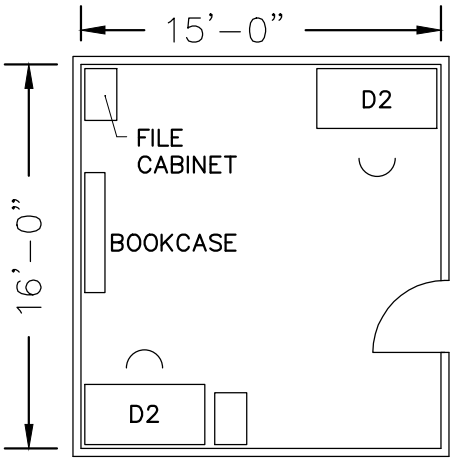
SPACE NEEDS ASSESSMENT

JUNE 2016

NANTUCKET, MASSACHUSETTS

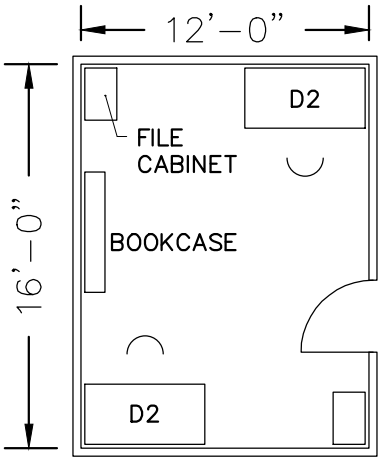
Scale: 1/8"=1'-0"

Sheet 6



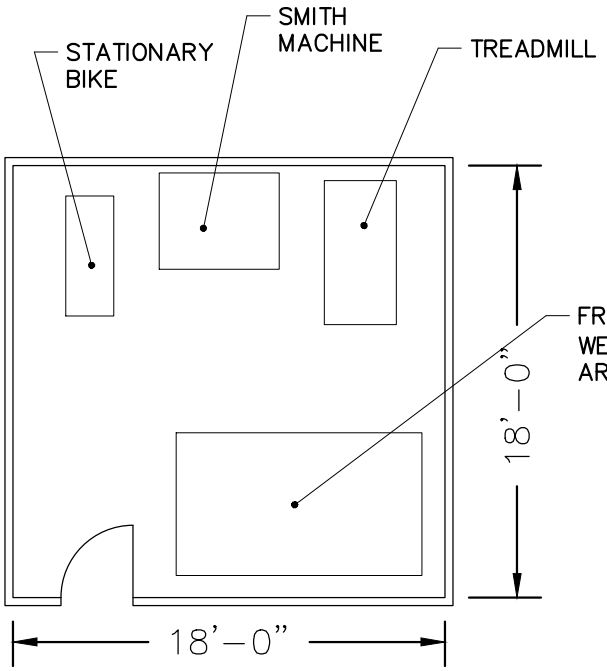
SHARED FOREMAN OFFICE

15' x 16' = 240 SF



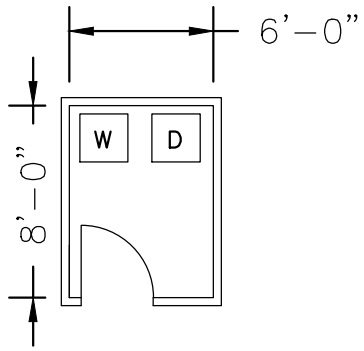
TREE OFFICE

12' x 16' = 192 SF



FITNESS ROOM

18' x 18' = 324 SF



LAUNDRY FACILITIES

6' x 8' = 48 SF

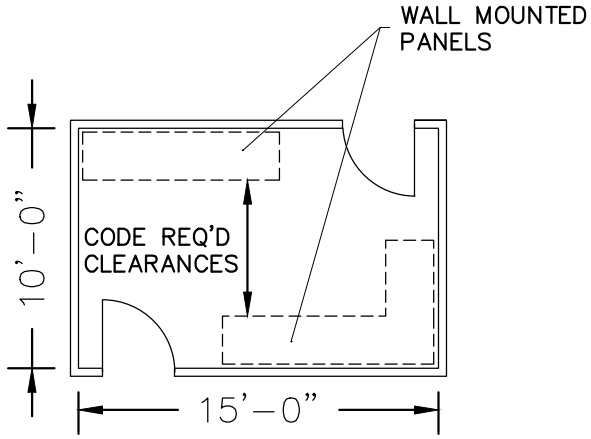
SPACE NEEDS ASSESSMENT

JUNE 2016

NANTUCKET, MASSACHUSETTS

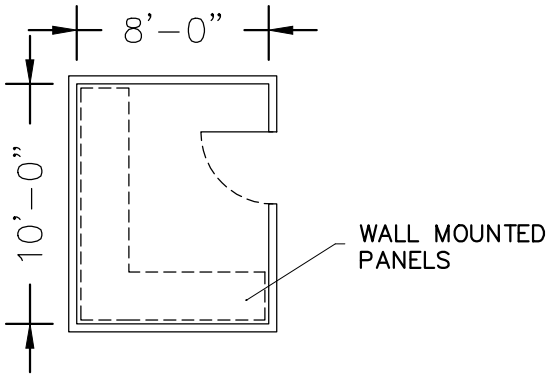
Scale: 1/8"=1'-0"

Sheet 7



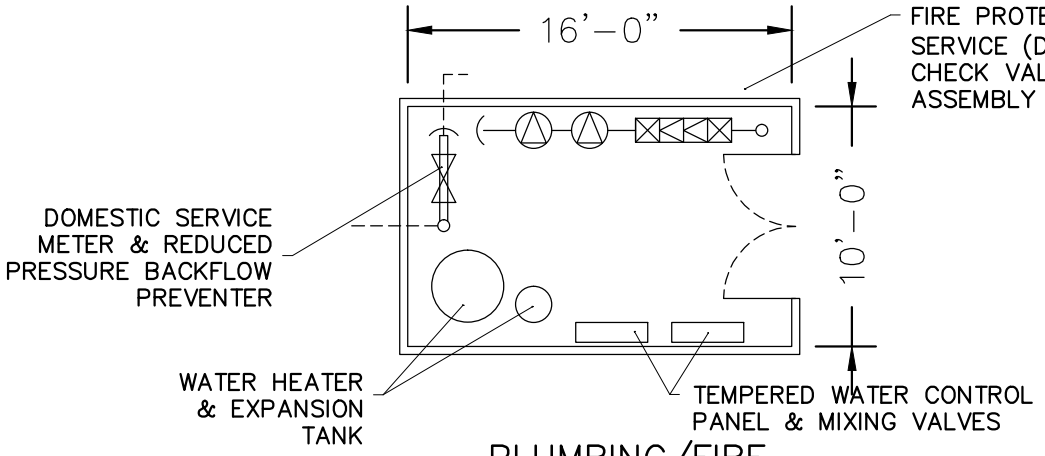
MAIN ELECTRIC ROOM

10' x 15' = 150 SF



SECONDARY ELECTRIC ROOM

8' x 10' = 80 SF



PLUMBING/FIRE PROTECTION ROOM

16' x 10' = 160 SF

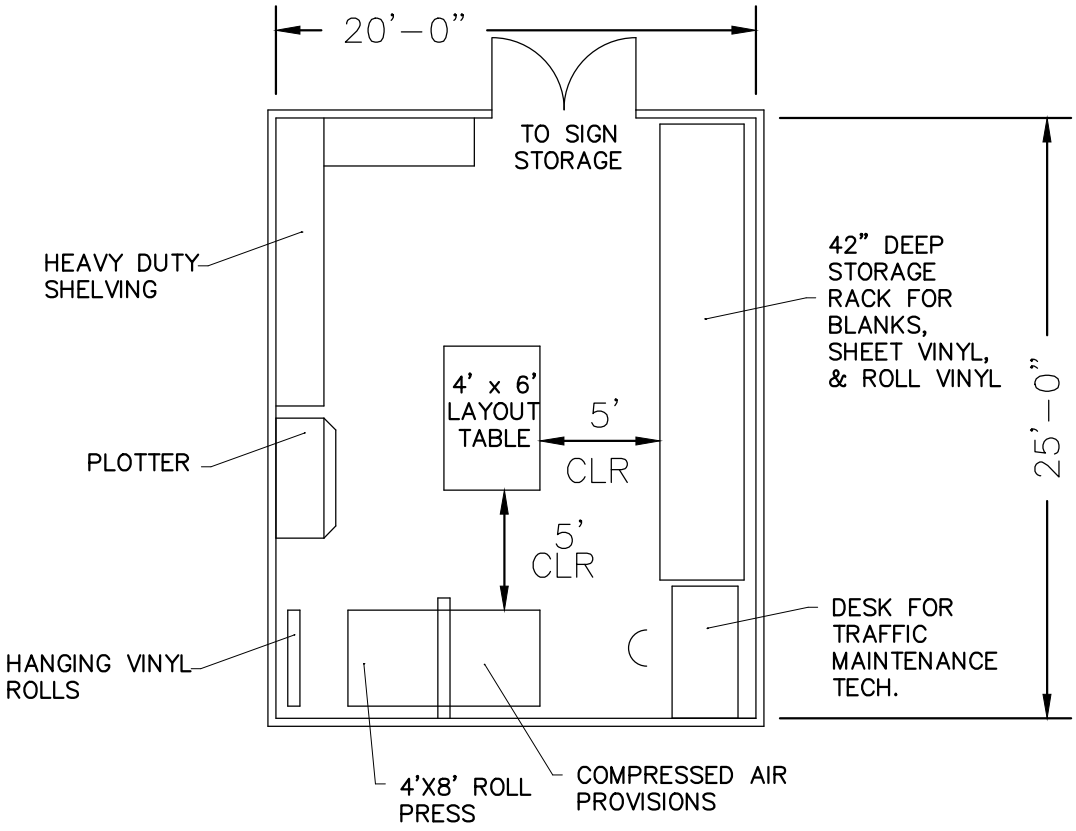
SPACE NEEDS ASSESSMENT

JUNE 2016

NANTUCKET, MASSACHUSETTS

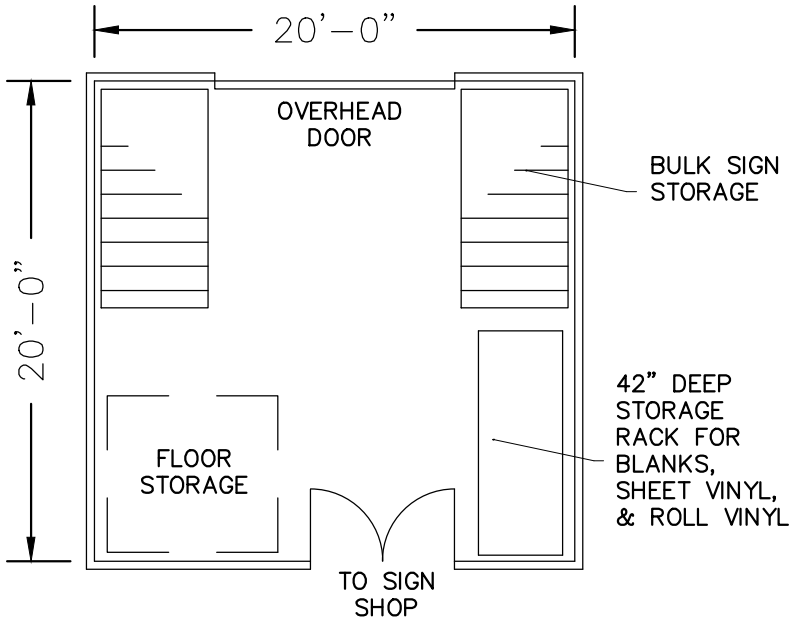
Scale: 1/8"=1'-0"

Sheet 8



SIGN SHOP

25' x 20' = 500 SF



SIGN STORAGE

20' x 20' = 400 SF

SPACE NEEDS ASSESSMENT

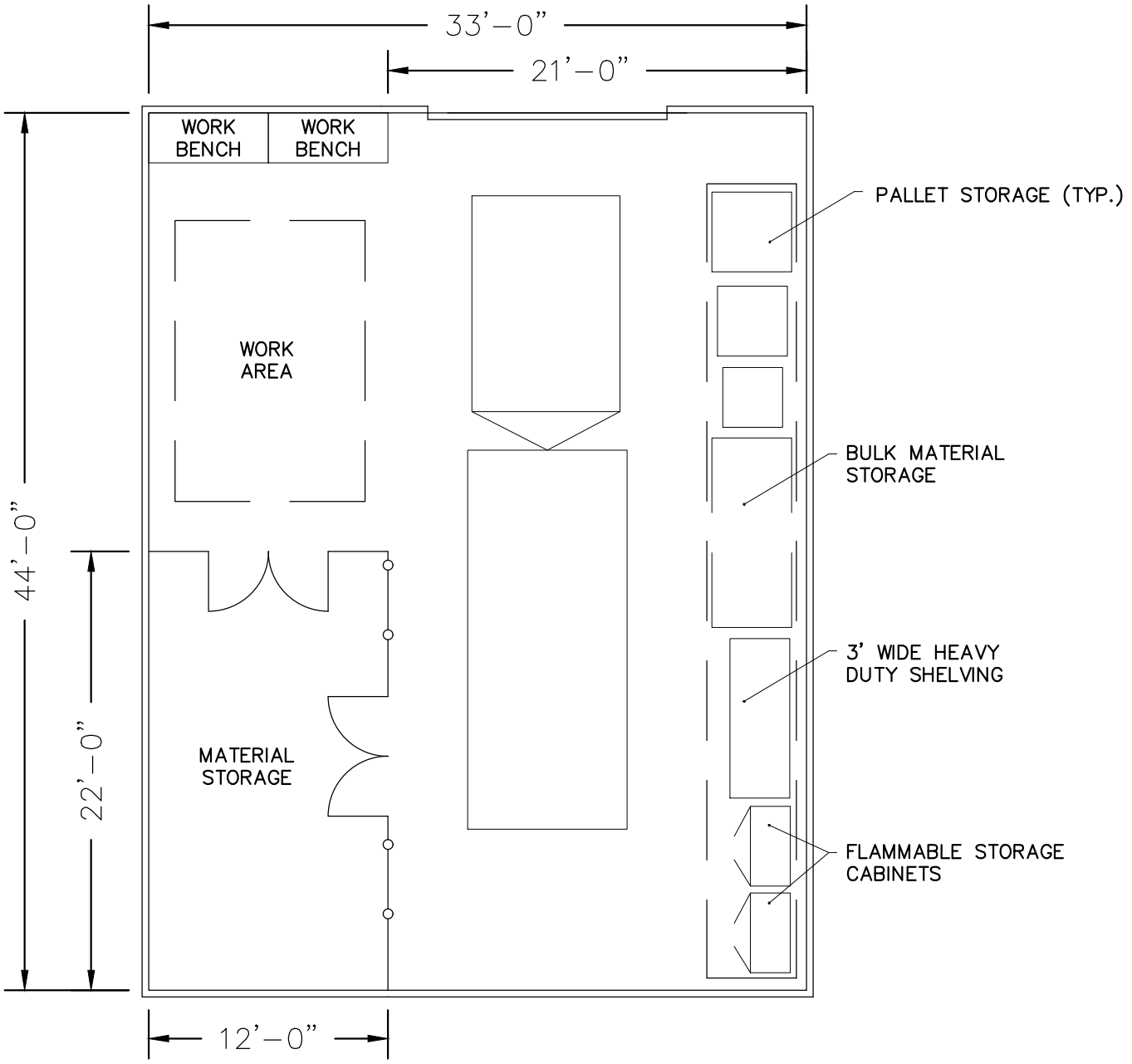
JUNE 2016

NANTUCKET, MASSACHUSETTS

Scale: 1/8"=1'-0"

Sheet 9

WESTON & SAMPSON ENGINEERS, INC.



TREES WORKSHOP

33' x 44' = 1,452 SF

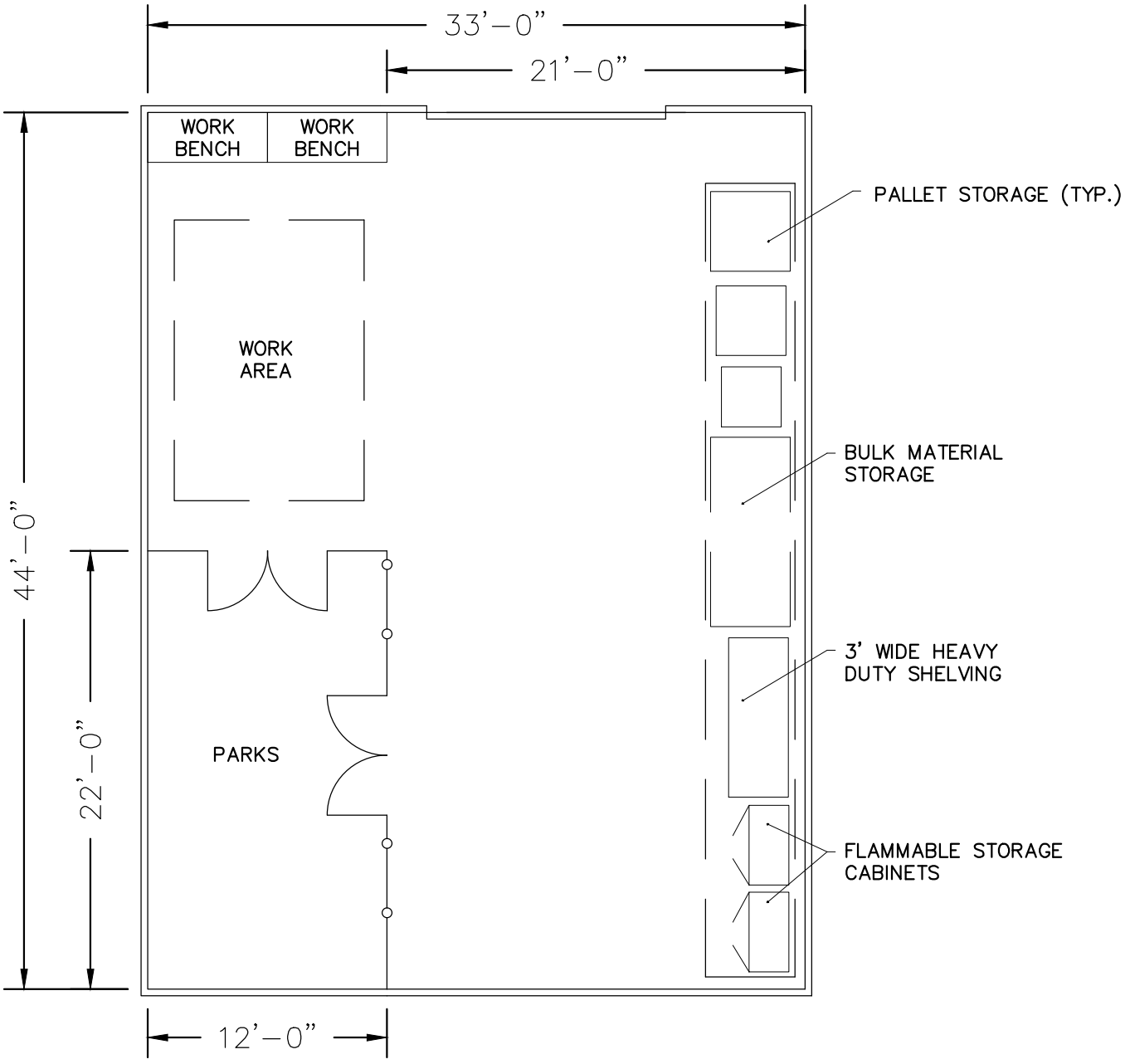
SPACE NEEDS ASSESSMENT

JUNE 2016

NANTUCKET, MASSACHUSETTS

Scale: 1/8"=1'-0"

Sheet 10



PARKS WORKSHOP

33' x 44' = 1,452 SF

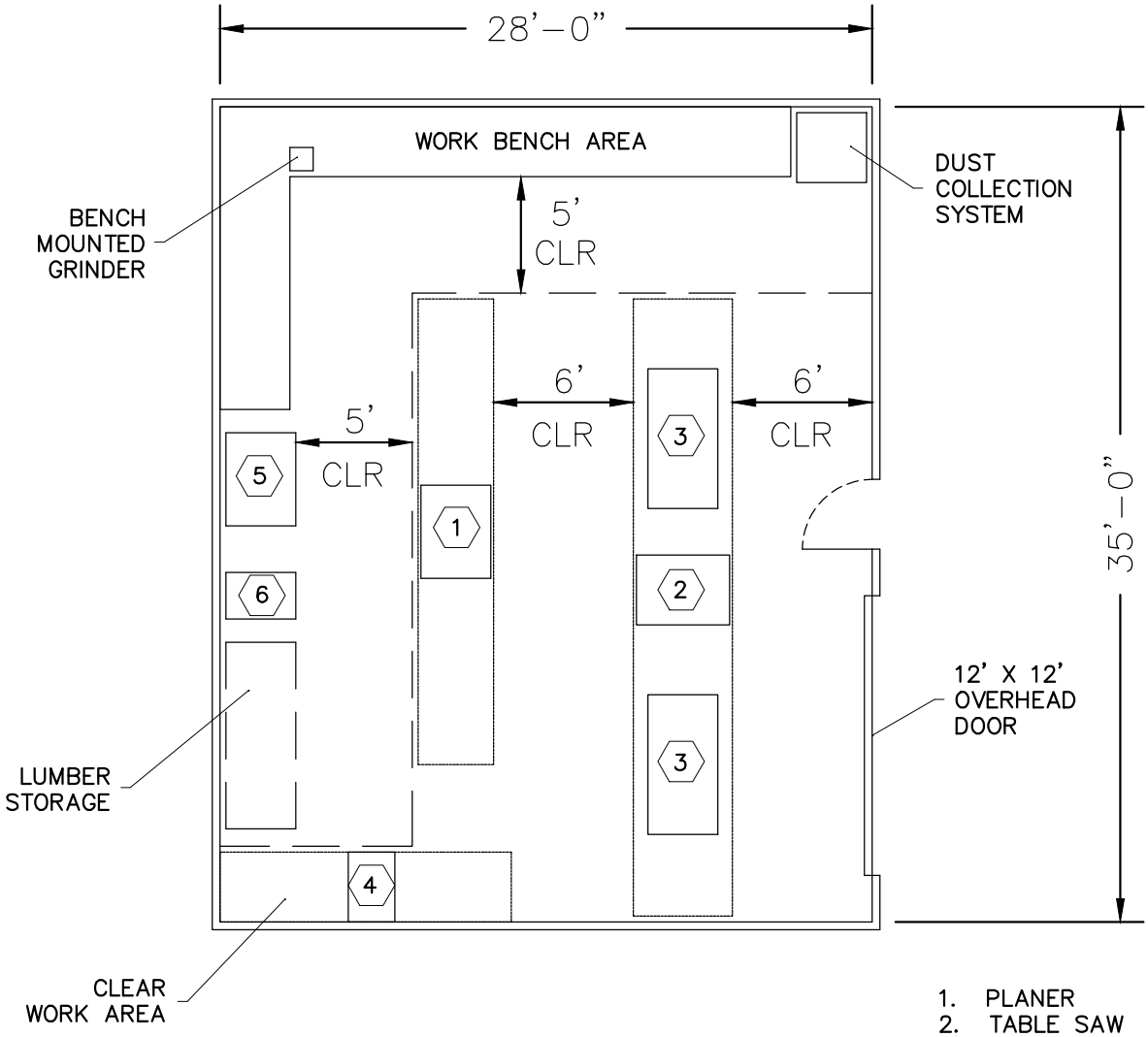
SPACE NEEDS ASSESSMENT

JUNE 2016

NANTUCKET, MASSACHUSETTS

Scale: 1/8"=1'-0"

Sheet 11



SHARED CARPENTRY SHOP

28' x 35' = 980 SF

1. PLANER
2. TABLE SAW
3. WORK BENCH
4. RADIAL ARM SAW
5. JOINTER
6. DRILL PRESS

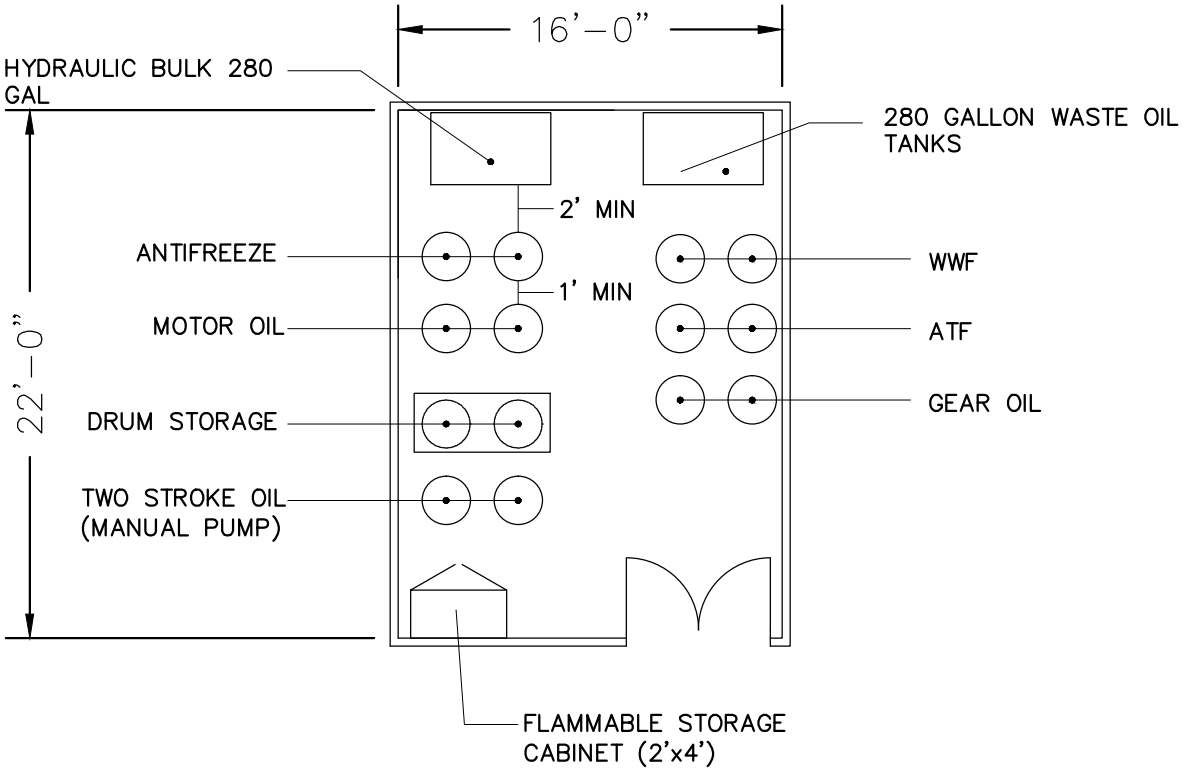
SPACE NEEDS ASSESSMENT

JUNE 2016

NANTUCKET, MASSACHUSETTS

Scale: 1/8"=1'-0"

Sheet 12



MAINTENANCE FLUID STORAGE

16' x 22' = 352 SF

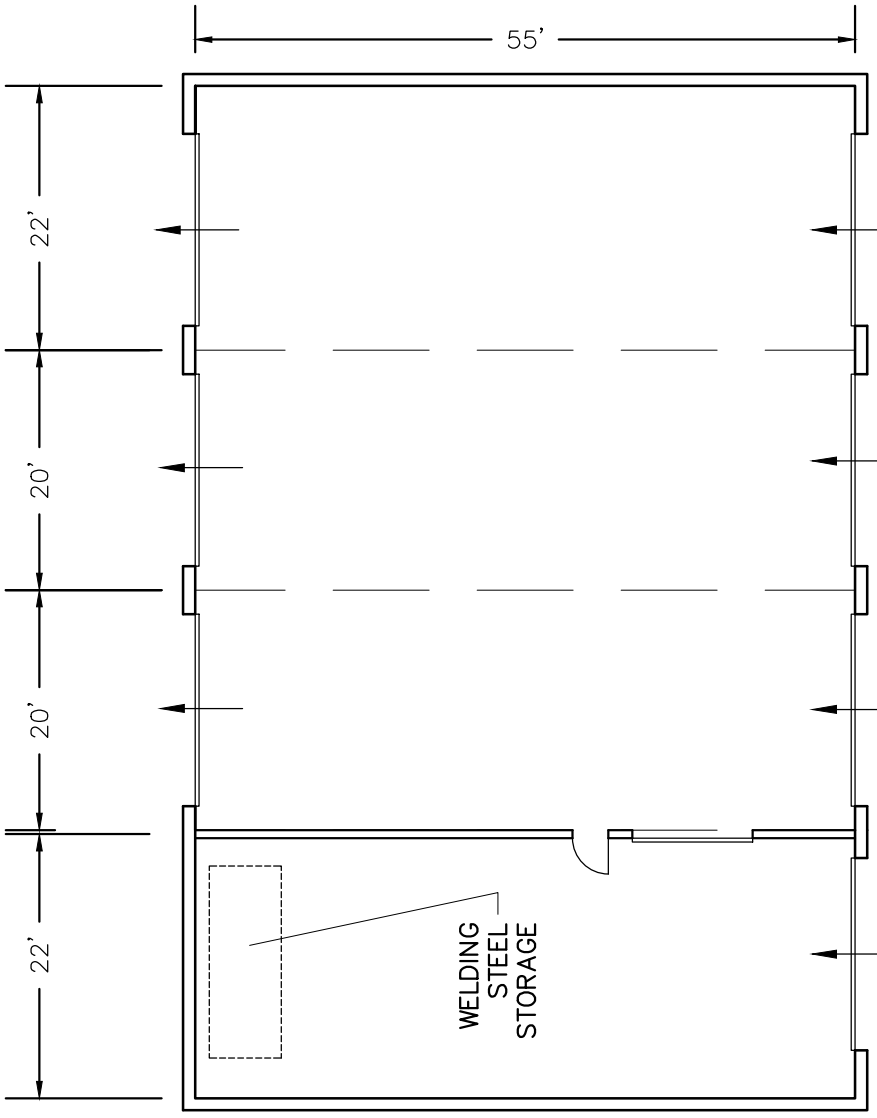
SPACE NEEDS ASSESSMENT

JUNE 2016

NANTUCKET, MASSACHUSETTS

Scale: 1/8"=1'-0"

Sheet 13



VEHICLE/EQUIPMENT MAINTENANCE BAYS

BAY DIMENSIONS AND AREAS VARY

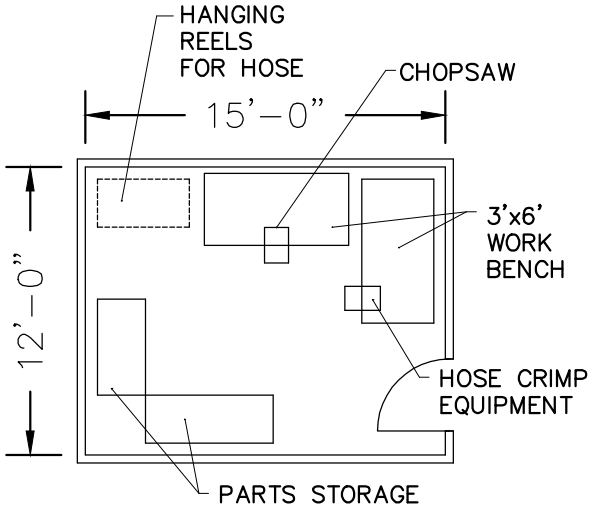
SPACE NEEDS ASSESSMENT

JUNE 2016

NANTUCKET, MASSACHUSETTS

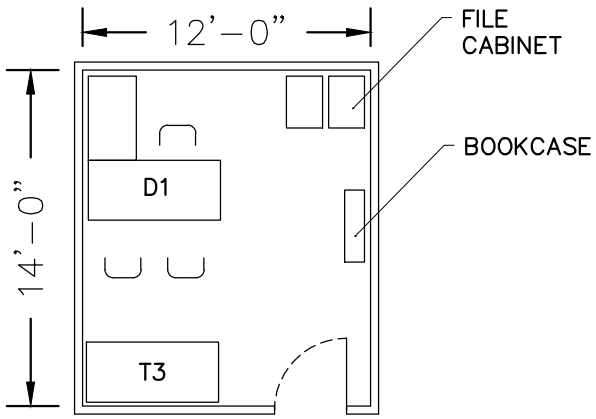
Scale: 1/16"=1'-0"

Sheet 14



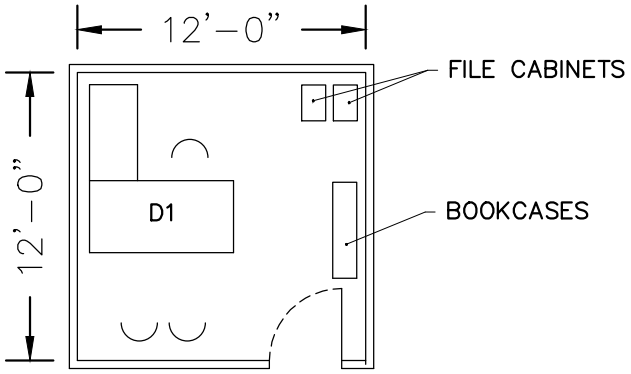
HYDRAULIC HOSE WORKSHOP

12' x 15' = 180 SF



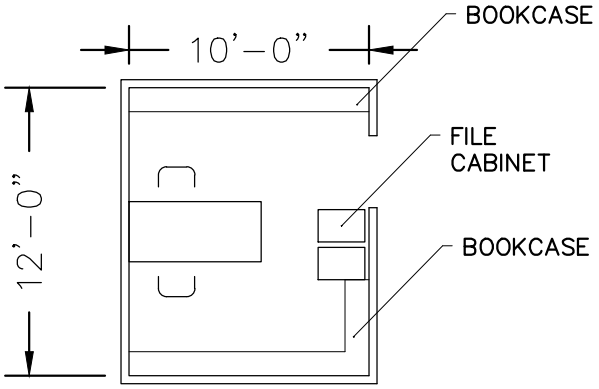
FLEET MANAGER OFFICE

12' x 14' = 168 SF



MECHANIC OFFICE

12' x 12' = 144 SF



MAINTENANCE REFERENCE ROOM

10' x 12' = 120 SF

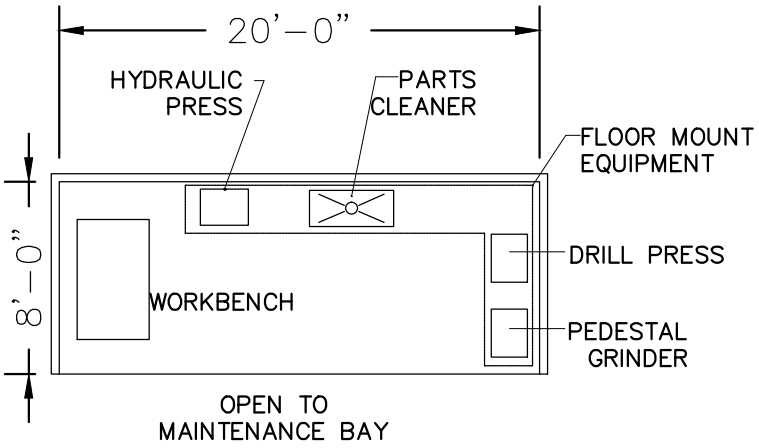
SPACE NEEDS ASSESSMENT

JUNE 2016

NANTUCKET, MASSACHUSETTS

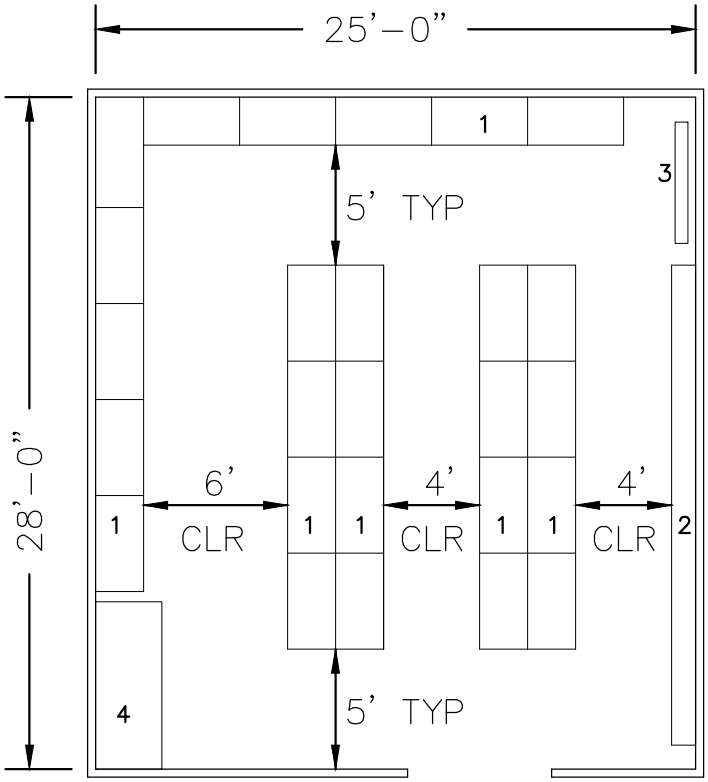
Scale: 1/8"=1'-0"

Sheet 15



MAINTENANCE WORKSHOP

8' X 20' = 160 S.F.



PARTS STORAGE ROOM

25' x 28' = 700 SF

NOTES:

1. 24" HEAVY DUTY SHELVING
2. SMALL PARTS BIN
3. WALL STORAGE (HANGING HOSES, BELTS, ETC.)
4. BULK FLOOR STORAGE
5. PROVIDE MIN. 1 – 24"x48" SHELF PER VEHICLE

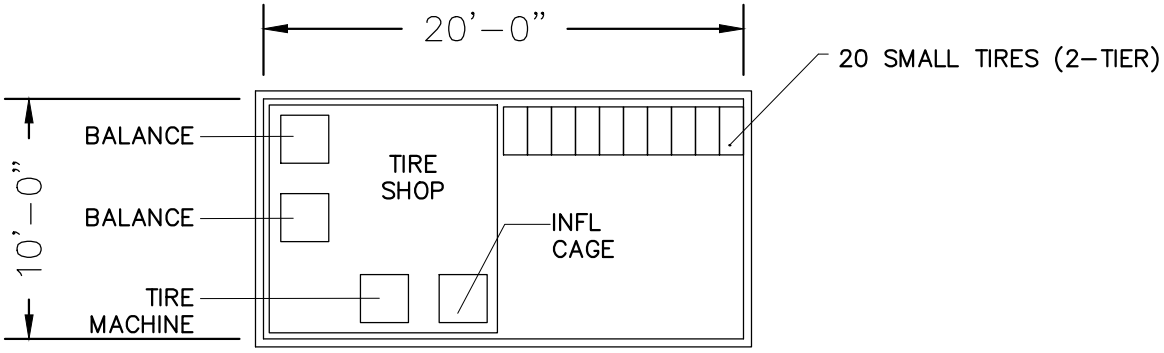
SPACE NEEDS ASSESSMENT

JUNE 2016

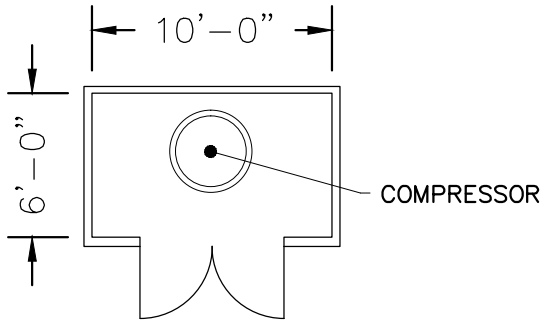
NANTUCKET, MASSACHUSETTS

Scale: 1/8"=1'-0"

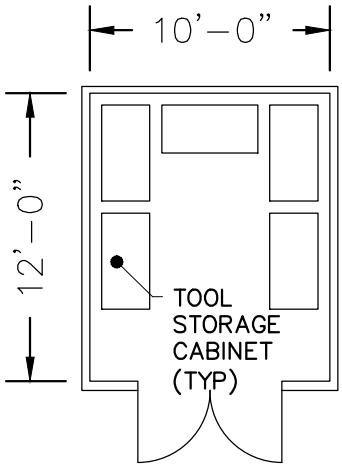
Sheet 16



TIRE STORAGE & SHOP
10' x 20' = 200 S.F.



COMPRESSOR ROOM
10' x 12' = 120 SF



SECURED TOOL STORAGE AREA
10' x 12' = 120 SF

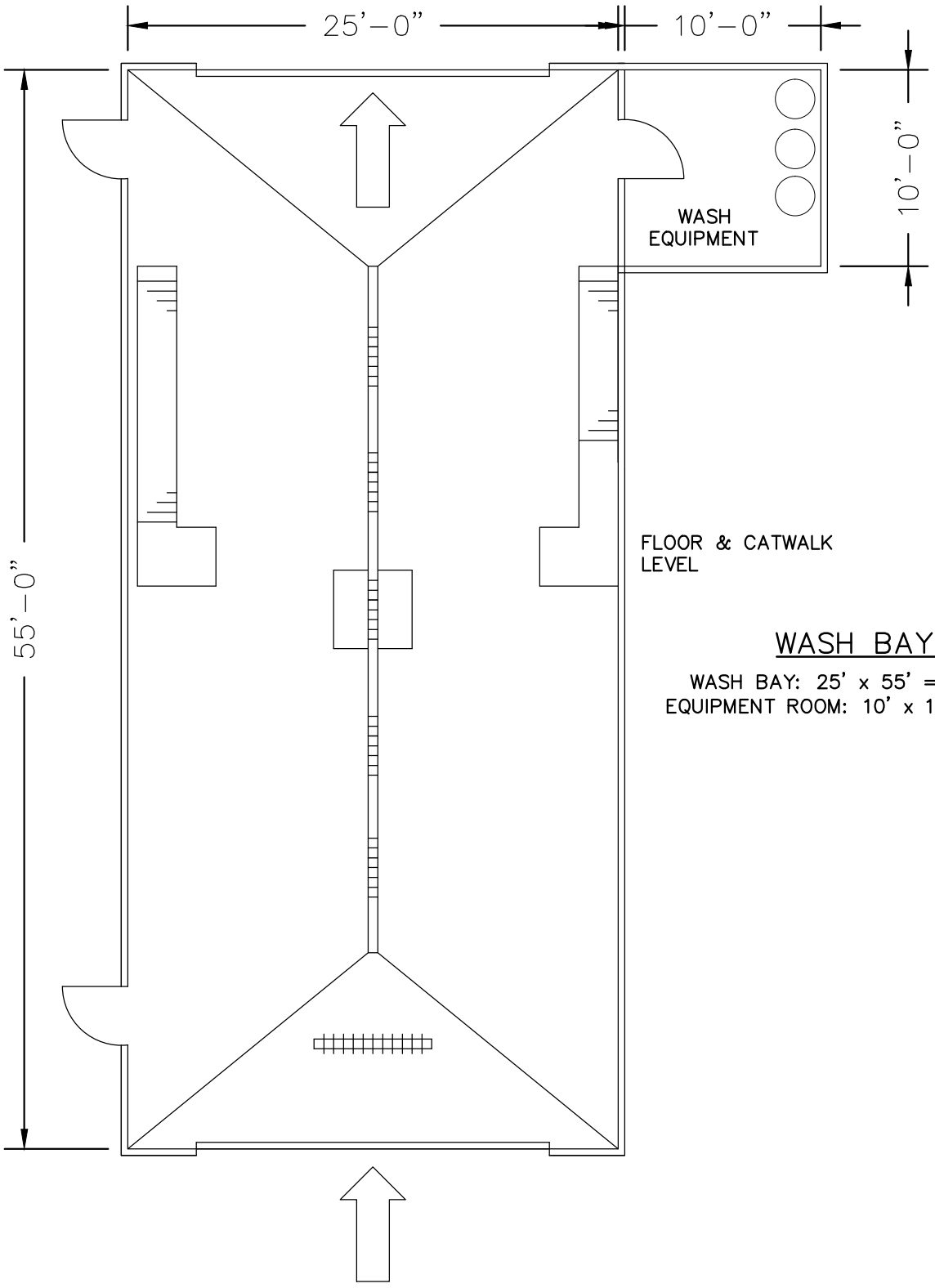
SPACE NEEDS ASSESSMENT

JUNE 2016

NANTUCKET, MASSACHUSETTS

Scale: 1/8"=1'-0"

Sheet 17



WASH BAY

WASH BAY: 25' x 55' = 1,375 SF
EQUIPMENT ROOM: 10' x 10' = 100 SF

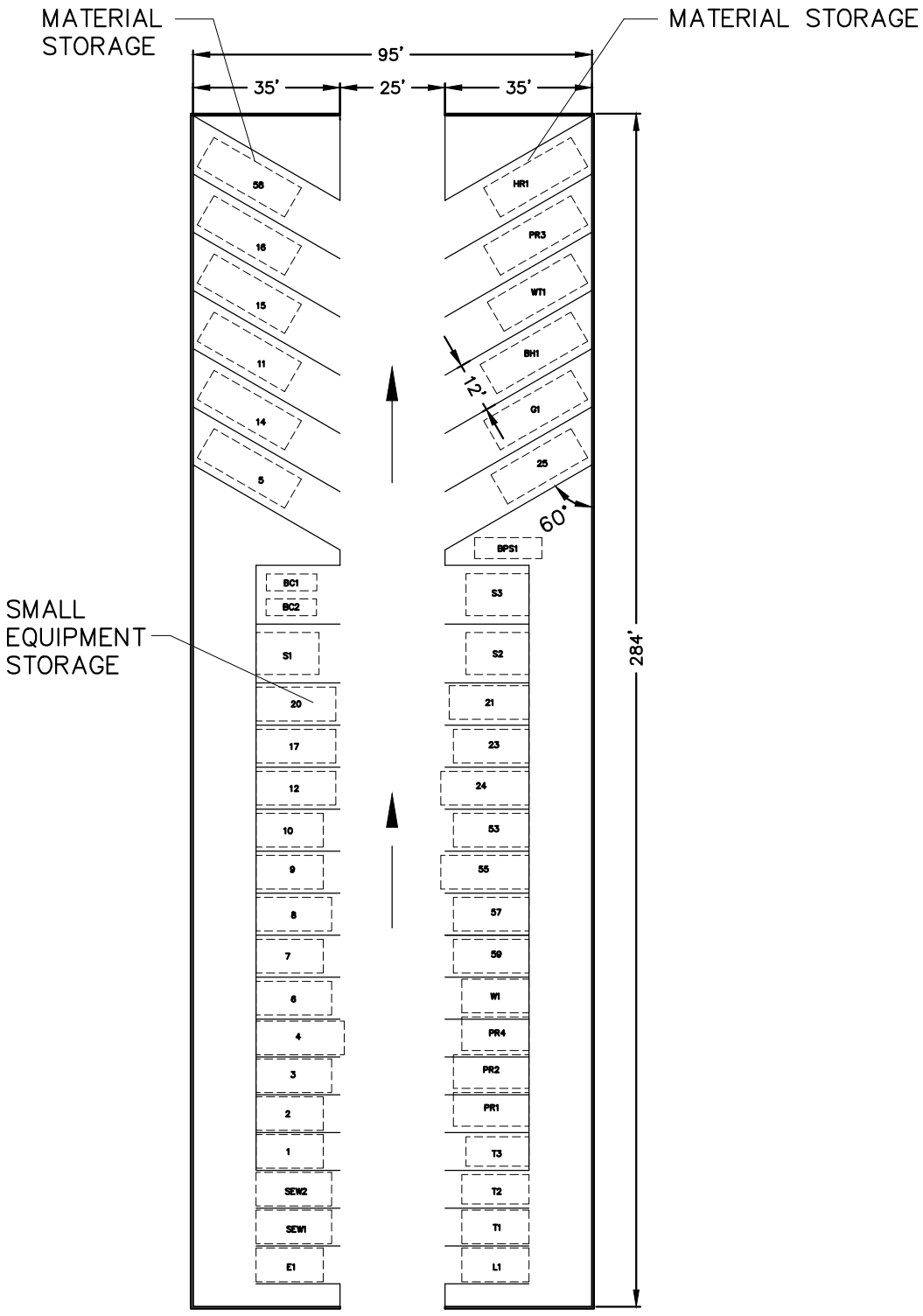
SPACE NEEDS ASSESSMENT

JUNE 2016

NANTUCKET, MASSACHUSETTS

Scale: 1/8"=1'-0"

WESTON & SAMPSON ENGINEERS, INC.



VEHICLE & EQUIPMENT STORAGE

95' x 284' = 26,980 SF

SPACE NEEDS ASSESSMENT

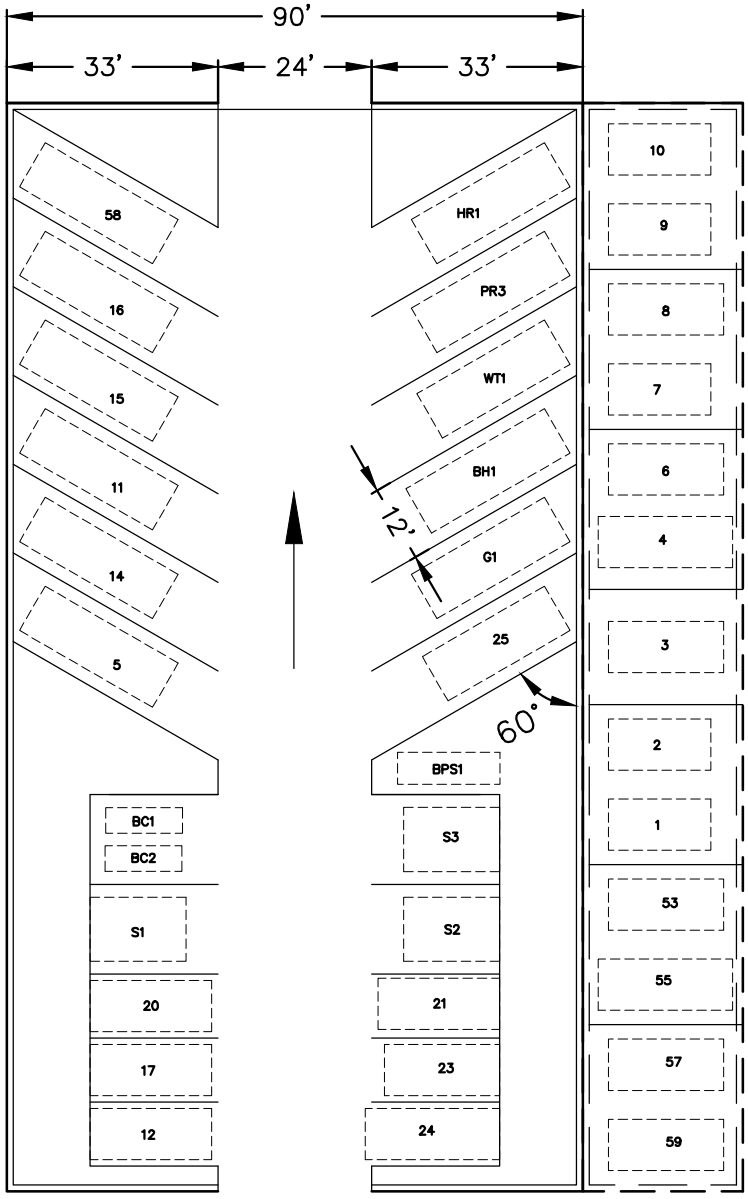
JUNE 2016

NANTUCKET, MASSACHUSETTS

Scale: 1"=40'-0"

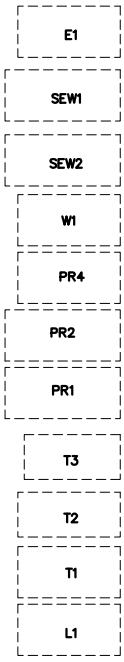
Sheet 19

WESTON & SAMPSON ENGINEERS, INC.



VEHICLE & EQUIPMENT STORAGE
90' x 170' = 15,300 SF

CANOPY
25' x 170' = 4,250 SF



VEHICLES CURRENTLY WITHOUT DESIGNATED INDOOR PARKING

SPACE NEEDS ASSESSMENT

JUNE 2016

NANTUCKET, MASSACHUSETTS

Scale: 1"=30'-0"

Sheet 20

NANTUCKET DPW
FLEET INVENTORY

VEHICLES										Last Revised 6/16/2016
#	YR	MAKE	MODEL	WIDTH	LENGTH	CLASSIFICATION				
						1	2	3	4	
1	2009	FORD	ESCAPE	8	16		1			Sm. Veh.
2	2007	FORD	RANGER	8	16		1			Sm. Veh.
3	2006	FORD	F-250	8	18		1			Sm. Veh.
4	2011	FORD	F-450	8	21		1			Sm. Veh.
5	1997	FORD	F-800	8	24	1				Lg. Veh.
6	2006	FORD	F-250	8	18		1			Sm. Veh.
7	2003	FORD	RANGER	8	16		1			Sm. Veh.
8	1996	FORD	F-250	8	18		1			Sm. Veh.
9	1996	FORD	RANGER	8	16		1			Sm. Veh.
10*	2004	FORD	RANGER	8	16		1			Sm. Veh.
11	2013	INTERNATIONAL	400SER	8	24	1				Lg. Veh.
12	2007	FORD	F-350	8	19		1			Sm. Veh.
13	2007	FORD	F-350	8	19					
14*	2012	FORD	TRASH PACKER	8	24	1				Lg. Veh.
15**	1995	INTERNATIONAL	4700	8	24	1				Lg. Veh.
16	2009	STERLING	L8500	8	24	1				Lg. Veh.
17*	2007	FORD	F-350	8	19		1			Sm. Veh.
18	2007	FORD	F-350	8	19					
20**	2004	FORD	F-350 DUMP	8	19		1			Sm. Veh.
21	2004	FORD	F-350 DUMP	8	19		1			Sm. Veh.
23**	1994	FORD	F-250	8	18		1			Sm. Veh.
24**	1993	FORD	F-450	8	21		1			Sm. Veh.
25	2007	FORD	F-550 DUMP	8	22		1			Sm. Veh.
53	2000	FORD	F-250	8	18		1			Sm. Veh.
55	2010	FORD	F-450 DUMP	8	21		1			Sm. Veh.
57	2005	FORD	F-250	8	18		1			Sm. Veh.
58	2013	INTERNATIONAL	700SER	8	24	1				Lg. Veh.
59	2012	FORD	DRWSUP	8	18		1			Sm. Veh.
HR1	2009	STERLING	L8500	8	24	1				Lg. Veh.
PR1	2008	FORD	F-150	8	18		1			Sm. Veh.
PR2	1994	FORD	E-250	8	18		1			Sm. Veh.
PR3	2000	FORD	STAKE BODY	8	24	1				Lg. Veh.
PR4	2006	FORD	RANGER	8	16		1			Sm. Veh.
SEWER1							1			Sm. Veh.
SEWER2							1			Sm. Veh.
W1	2014	FORD	EXPLORER	8	16		1			Sm. Veh.
WT1	2004	FREIGHT LINER	MEDCON	8	23	1				Lg. Veh.

*Vehicle added or vehicle description changed based on new list received 6/2/2016

**Vehicle status listed as "oc" on list received 6/2/2016. It is assumed these vehicles will be replaced

NANTUCKET DPW

EQUIPMENT

Last Revised 6/16/2016

#	YR	MAKE	MODEL	WIDTH	LENGTH	CLASSIFICATION				
						1	2	3	4	
BH1	2008	CAT	420E	8	25			1		Lg. Equip.
E1	2005	KUBOTA	EXCAVATOR	7	16				1	Sm. Equip.
L1	2006	VOLVO	L70E	8	16				1	Sm. Equip.
BC1	2005	BOBCAT	S185	4	12				1	Sm. Equip.
BC2	2014	BOBCAT	T570	4	12				1	Sm. Equip.
G1	2001	VOLVO	G60	8	24			1		Lg. Equip.
T1	2006	JOHN DEERE	TRACTOR	7	16				1	Sm. Equip.
S1	2005	ELGIN	PELICAN	10	15	1				Lg. Veh.
S2	2005	ELGIN	PELICAN	10	15	1				Lg. Veh.
T2	2011	KUBOTA	M7040	7	16				1	Sm. Equip.
T3	2014	JOHN DEERE	5085M	7	15				1	Sm. Equip.
BPS1	2015	TRACKLESS	MT6	5	16				1	Sm. Equip.
S3	2016	ELGIN	PELICAN	10	16	1				Sm. Veh.

		TOTALS
CLASSIFICATIONS:	1. Large Vehicles	**12**
	2. Small/Midsize Vehicles	**26**
	3. Large Equipment	**2**
	4. Small/Towed Equipment	**8**

Town of Nantucket, MA
Department of Public Works
Facility Needs Assessment and Feasibility Study

Section 5 – Space Needs Guidelines Worksheet

Department of Public Works
Space Needs Guidelines
WORK SHEET

These guidelines have been prepared by Weston & Sampson based upon our experience with more than 100 public works facility projects in the last 15 years. These guidelines can be utilized by communities to identify an estimated facility size prior to undertaking a comprehensive programming effort.

Guidelines (as developed from similar completed DPW projects):		Ideal		Minimum
Administration	Average SF per Admin Person	670		569
Employee Facilities	Average SF per Work Force Person	130		110
Shops (including Maintenance)	Average SF per Division	3,554		3,021
Vehicle / Equipment Storage (for centre drive-thru)	Average SF per Rolling Stock	817		695
Vehicle / Equipment Storage (for stacked parking)	Average SF per Rolling Stock	695		591
Wash /Other	Average SF	2,955		2,512

Note: Average SF guidelines include all common spaces including circulation, toilets, common reception, etc.

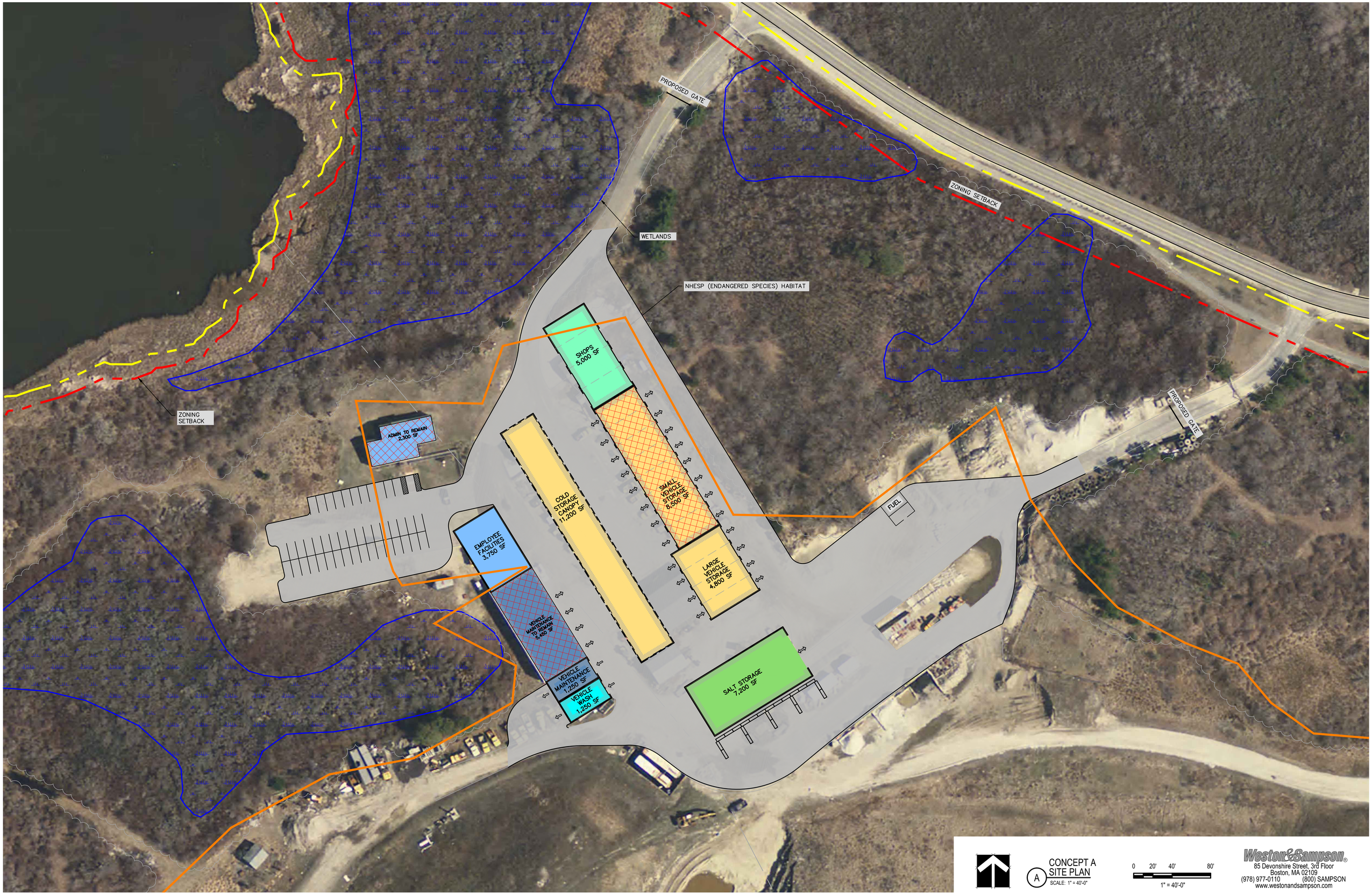
IDEAL SPACE NEEDS		Qty		SF		Ideal SF
Administration	Number of Administration Personnel	5	x	670	=	3,350
Employee Facilities	Number of Work Force Employees	20	x	130	=	2,596
Shops	Number of Divisions (see list below) - Highway - Vehicle Maintenance - Facilities - Parks and Forestry	4	x	3,554	=	14,216
Vehicle / Equipment Storage	Number of Vehicles (see note 1)	40	x	817	=	32,695
Wash / Other	(see note 2)	1	x	2,955	=	2,955
				TOTAL:		**55,812**

MINIMUM SPACE NEEDS		Qty		SF		Minimum SF
Administration	Number of Administration Personnel	5	x	569	=	2,847
Employee Facilities	Number of Work Force Employees	20	x	110	=	2,207
Shops	Number of Divisions (see list below) - Highway - Vehicle Maintenance - Facilities - Parks and Forestry	4	x	3,021	=	12,084
Vehicle / Equipment Storage	Number of Vehicles (see note 1)	40	x	695	=	27,791
Wash / Other	(see note 2)	1	x	2,512	=	2,512
				TOTAL:		**47,440**

Notes:
1. When determining number of vehicles, include all pickups, sedans, medium & large trucks, large tractors, and construction equipment. Do not include small equipment such as trailers, sidewalk plows, mowers, etc. This smaller equipment is built into the guidelines.
2. "Other" includes open canopies for cold storage or sander body storage (this is a fixed #)
3. The minimum SF guidelines are based on a 15% reduction in the ideal space needs.

Town of Nantucket, MA
Department of Public Works
Facility Needs Assessment and Feasibility Study

Section 6 – Concept Plans A-G



CONCEPT A
SITE PLAN
SCALE: 1" = 40'-0"

0 20' 40' 80'
1" = 40'-0"

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PROPOSED GATE

ZONING SETBACK

WETLANDS

NHESP (ENDANGERED SPECIES) HABITAT

ZONING SETBACK

ADMIN TO REMAIN
2,300 SF

EMPLOYEE FACILITIES
4,200 SF

HIGHWAY GARAGE BUILDING TO REMAIN
5,000 SF

VEHICLE STORAGE
23,750 SF

CANOPY

FUEL

VEHICLE MAINTENANCE TO REMAIN
5,400 SF

VEHICLE MAINTENANCE
1,250 SF

VEHICLE WASH
1,250 SF

SALT STORAGE
7,200 SF

BULK MATERIAL STORAGE BINS

PROPOSED GATE

B CONCEPT B
SITE PLAN
SCALE: 1" = 40'-0"

0 20' 40' 80'
1" = 40'-0"

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PROPOSED GATE

ZONING SETBACK

WETLANDS

NHESP (ENDANGERED SPECIES) HABITAT

ZONING SETBACK

ADMIN TO REMAIN
2,300 SF

SHOPS
5,700 SF

VEHICLE STORAGE
22,325 SF

CANOPY STORAGE
7,050 SF

SALT STORAGE
7,200 SF

PROPOSED GATE

BULK MATERIAL STORAGE BINS

EMPLOYEE FACILITIES
1,200 SF

VEHICLE MAINTENANCE TO REMAIN
5,400 SF

VEHICLE MAINTENANCE
1,250 SF

VEHICLE WASH
1,250 SF

N

C CONCEPT C
SITE PLAN
SCALE: 1" = 40'-0"

0 20' 40' 80'
1" = 40'-0"

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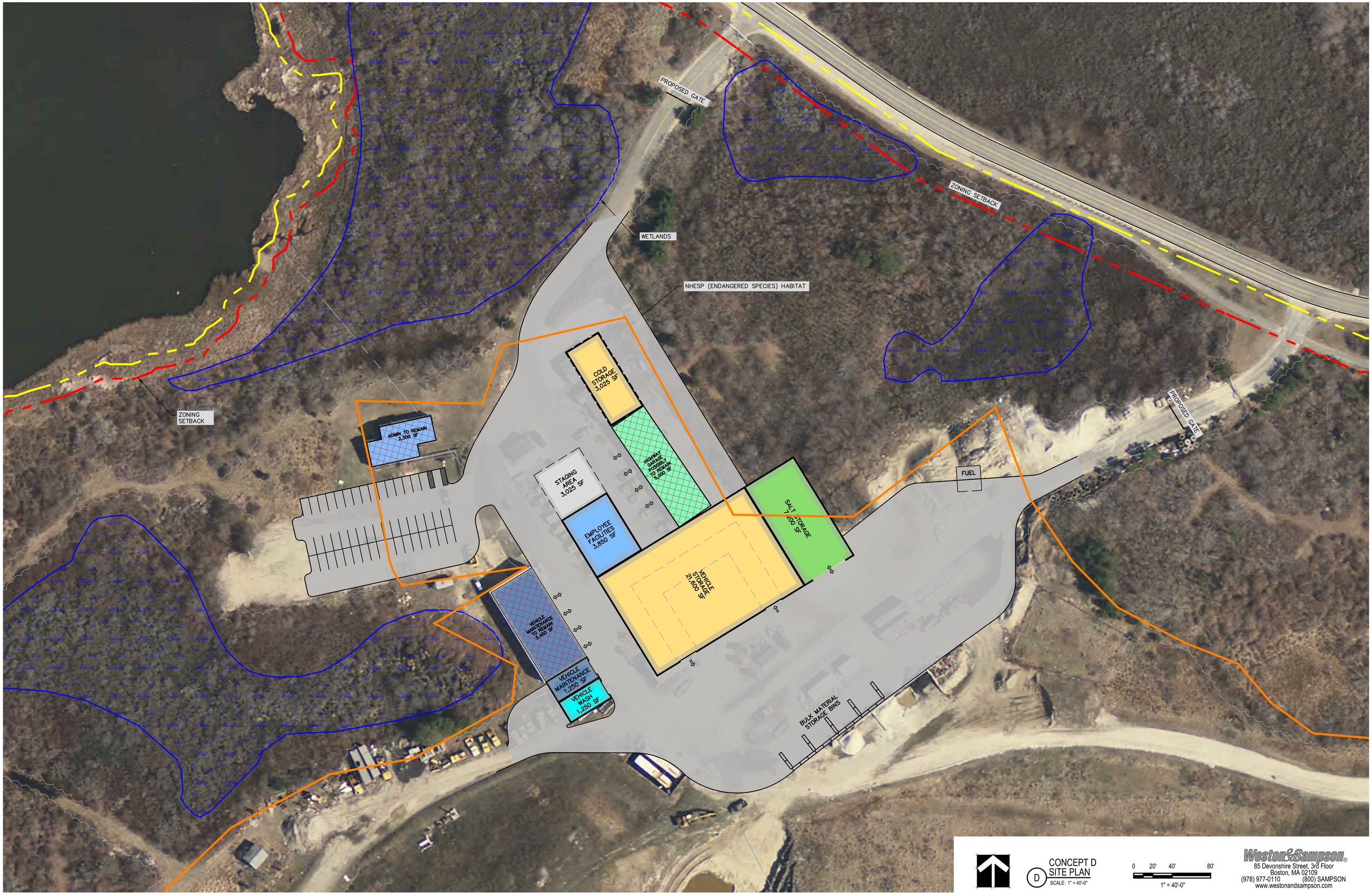

CONCEPT D
SITE PLAN
SCALE: 1" = 40'-0"

0 20' 40' 80'
1" = 40'-0"

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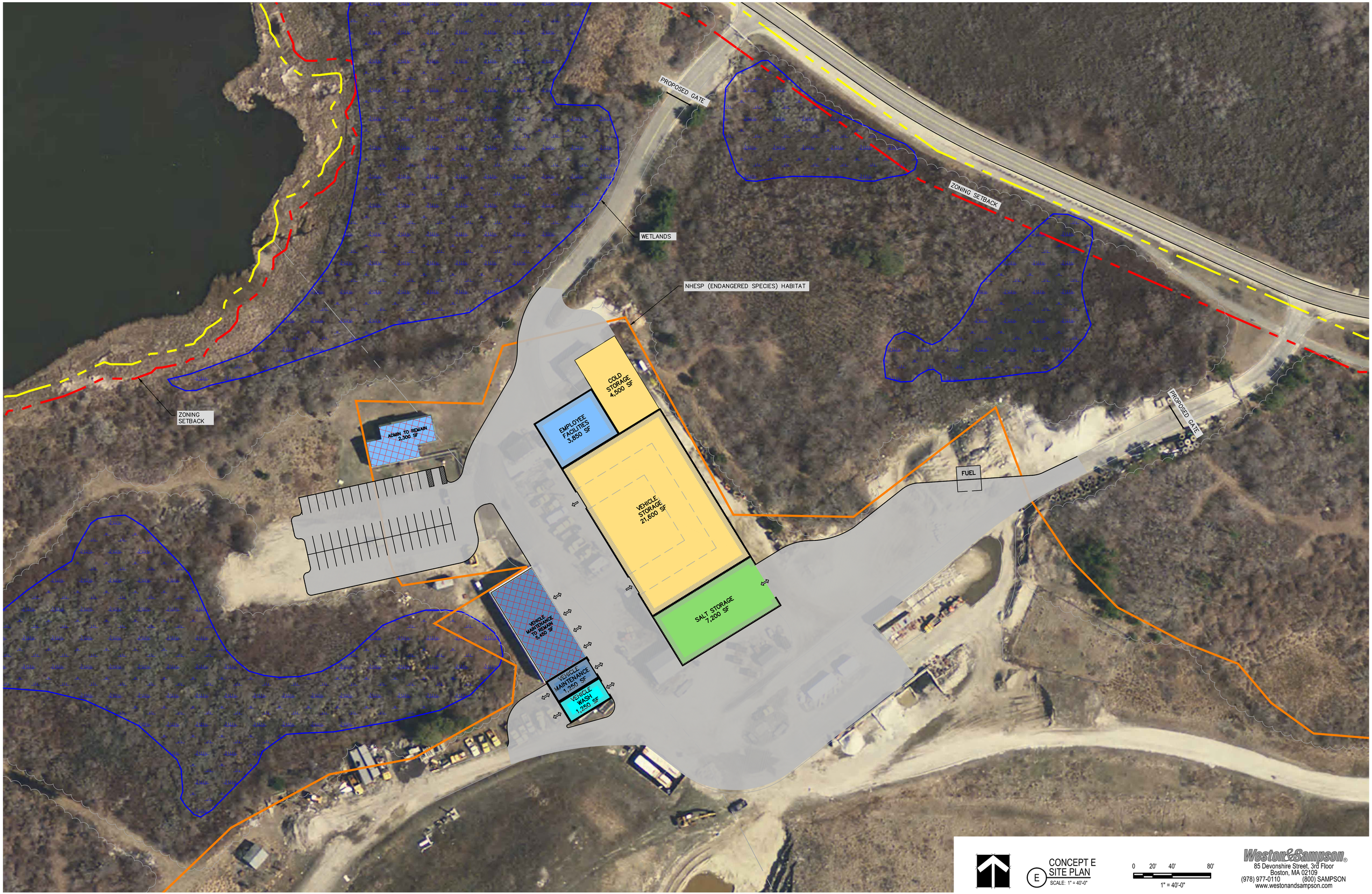

CONCEPT E
SITE PLAN
SCALE: 1" = 40'-0"

0 20' 40' 80'
1" = 40'-0"

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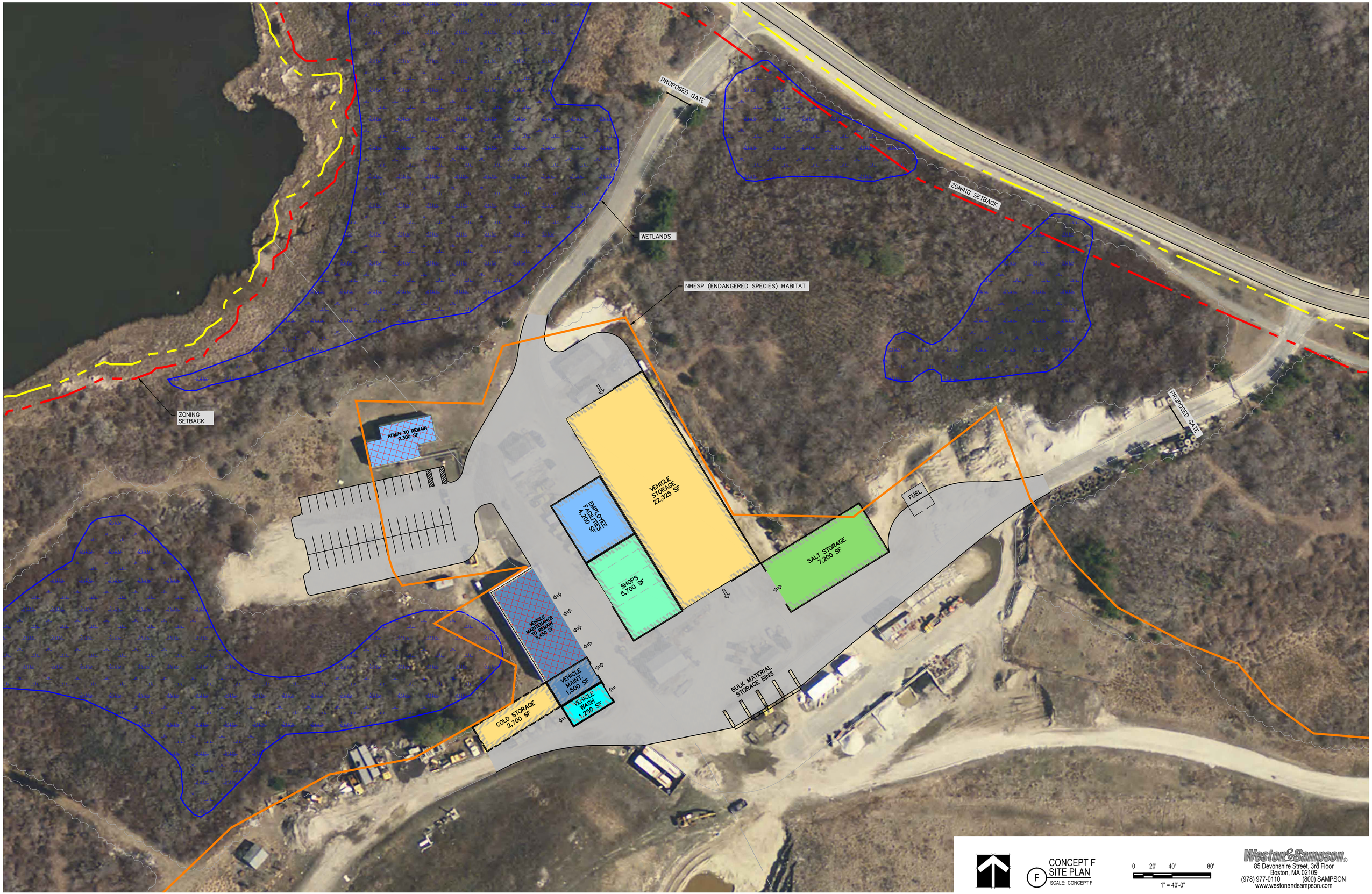

CONCEPT F
SITE PLAN
SCALE: CONCEPT F

0 20' 40' 80'
1" = 40'-0"

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PROPOSED GATE

ZONING SETBACK

WETLANDS

NHESP (ENDANGERED SPECIES) HABITAT

ZONING SETBACK

ADMIN TO REMAIN
2,300 SF

EMPLOYEE FACILITIES
5,000 SF

HIGHWAY GARAGE ROSEBRIAR TO REMAIN
5,000 SF

FUEL

SHOPS/STORAGE
3,400 SF

CANOPY

VEHICLE WASH
1,500 SF

KNOCK DOWN PAD

VEHICLE MAINTENANCE TO REMAIN
2,460 SF

MAINTENANCE
1,500 SF

CANOPY

CANOPY

SALT STORAGE
7,200 SF

VEHICLE STORAGE
16,625 SF

PROPOSED GATE

CONCEPT G
SITE PLAN
SCALE: CONCEPT F

0 20' 40' 80'
1" = 40'-0"

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Section 7 – Preferred Design Alternative

PROPOSED SLIDING GATE

ZONING SETBACK

WETLANDS

NHESP (ENDANGERED SPECIES) HABITAT

NEW STAIR AND RAMP TO ADMINISTRATION BUILDING

EMPLOYEE PUBLIC PARKING 12 SPACES

SLIDING GATE

ZONING SETBACK

ADMIN TO REMAIN 2,300 SF

FUEL

SLIDING GATE

TEMPORARY TRAILERS FOR STAFF

EMPLOYEE PARKING 26 SPACES

EMPLOYEE FACILITIES 3,000 SF

VEHICLE STORAGE 20,175 SF + MEZZANINE 4,500 SF

SHOPS 4,800 SF

CANOPY 5,625 SF

LIMITS OF PAVING

VEHICLE MAINTENANCE TO REMAIN 3,400 SF

WASH BAY RENO

KNOCK DOWN PAD

PROPOSED GATE

SALT LOADING

RAMP UP

BERM

SALT STORAGE (1,100 TON CAP.) 2,400 SF

PROPOSED GATE

PROPOSED GATE

ORDNANCE AREA

PROPOSED SLIDING GATE

2 PROPOSED DPW SITE PLAN

SCALE: 1" = 40'-0"

0 20' 40' 80'

1" = 40'-0"

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Town of Nantucket, MA
Department of Public Works
Facility Needs Assessment and Feasibility Study

Section 8 –Project Budget (Single Project & Phased Project)

Town of Nantucket
New Public Works Facility

Cost Estimate Summary

Town of Nantucket
New DPW Facility
Phasing Scenarios

1/25/2017

SINGLE PHASE CONSOLIDATED OPTION

	Description	Construction Period	New Construction (SF)	Canopy (SF)	Building Shell Only (SF)	Renovations (SF)	Total Program (SF)	Construction Cost	Soft Cost	Total Project Cost
I	Single Phase Consolidated Facility	2019	27,975	5,625	N/A	1,250	34,850	$ 16,465,357	$ 4,301,686	$ 20,767,043

PHASED CONSTRUCTION

Phase	Description	Construction Period	New Construction (SF)	Canopy (SF)	Building Shell Only (SF)	Renovations (SF)	Total Program (SF)	Construction Cost	Soft Cost	Total Project Cost
I	Vehicle Storage, Canopy, Shop Shell, Employee Facility Shell, Fueling, Salt Shed, and Associated Site Work	2019	20,175	5,625	7,800	0	33,600	$ 12,727,890	$ 3,314,694	$ 16,042,584
II	Shop Fit-Out, Employee Facilities Fit-Out, Wash Bay Renovations, Industrial Maintenance Equipment, and Miscellaneous Site Work	2021	0	0	(Fit-Out Phase I)	1,250	1,250	$ 4,302,533	$ 1,242,608	$ 5,545,141
		TOTAL:	**20,175**			**1,250**	**34,850**	**17,030,423**	**4,557,302**	**21,587,725**

Note: Phasing Scenarios assume no renovations to the existing DPW office area or Vehicle Maintenance Area

Town of Nantucket
New Public Works Facility

Single Phase Project
Cost Estimate

Town of Nantucket
New Public Works Facility
SCENARIO 1 - SINGLE PHASE - Budget Total Project Cost

1/25/2017

New Construction **Area**	**Size (SF)**	**2017 Cost/SF (w/ markups)**	**Cost**
Employee Facilities	3,000	$ 320	$ 960,419
Shops	4,800	$ 225	$ 1,079,822
Vehicle/Equipment Storage	20,175	$ 177	$ 3,578,533
Added Cost for Specialty Foundations (based on 1st floor area)	27,975	$ 23	$ 641,523
New Construction Subtotal:	**27,975**		**$ 6,260,296**
Building Cost per SF:	224		
Fit-Out / Renovation			
Full Office Interior Renovation	N/A	$ 254	$ -
Maintenance Renovations	N/A	$ 205	$ -
Shops Renovation (Sign Shop Only)	N/A	$ 96	$ -
Wash Bay Renovations	1,250	$ 326	$ 406,875
Renovation Subtotal:	**1,250**		**$ 406,875**
Building Cost per SF:	326		
		Place a "x" here if included	
Industrial Equipment			
- Wash Equipment	$ 63,063	x	$ 63,063
- Heavy Duty Vehicle Lift (Portable)	$ 91,728	x	$ 91,728
- Overhead Lubrication System	$ 84,000	x	$ 84,000
- Miscellaneous Shop and Support Equipment	$ 57,330	x	$ 57,330
- Storage Shelving / Benches / Racks	$ 45,864	x	$ 45,864
- Exhaust Removal System	$ 34,398	x	$ 34,398
Industrial Equipment Subtotal:			**$ 376,383**
Fuel System			
- Fuel System Equipment 2 - 10,000 Gallon Tanks + Dispensers etc.	$ 327,218	x	$ 327,218
- Freight, Misc Accessories, SS Form, Pad, Island	$ 216,467	x	$ 216,467
- Bollards	$ 16,560	x	$ 16,560
- Tank/System Testing	$ 4,637	x	$ 4,637
- Tank Setting & Crane	$ 13,910	x	$ 13,910
- Canopy and Foundations	$ 123,866	x	$ 123,866
- Fire Suppression	$ 42,393	x	$ 42,393
- Permits	$ 1,987	x	$ 1,987
- Startup & Closeout	$ 28,941	x	$ 28,941
Fuel System Subtotal:			**$ 775,977**
Building & Equipment Total:			**$ 7,819,532**

Town of Nantucket
New Public Works Facility
SCENARIO 1 - SINGLE PHASE - Budget Total Project Cost

1/25/2017

Mezzanines	4,500	$	85	$	382,500
Open Canopy Storage	5,625	$	65	$	365,625
Site Development (acres) - assumes level site with no contamination, existing structures/utilities, etc.	1.8	$	382,200	$	687,960
Salt/Sand Sheds	2,400		105	$	252,000
			Subtotal Bldg, Equip, & Site:	**$**	**9,507,617**
			Market Adjustment (2%):	$	190,152
			Design Contingency (10%):	$	969,777
			Escalation to 2018 (5% per year):	$	533,377
			Escalation to 2019 (5% per year):	$	560,046
			Location Adjustment Factor (0.4):	$	4,704,388
			Total Construction:	**$**	**16,465,357**
			Total Construction Cost/SF:		**563**

Department of Public Works **Budget Total Project Cost**			
Owner's Soft Costs			
A&E Fees (design, bid, const.)	$ 1,646,536	(Assume 10% of Const. Value)	
A&E Special Services	$ 329,307	(Assume 2% of Const. Value)	
Owner's Project Manager Fees	$ 658,614	(Avg 4% of Const. Value)	
Furnishings (FFE)	$ 50,000	allowance	
Communic. / Low Voltage System	$ 30,000	allowance	
Temporary Facilities	$ 150,000	allowance	
Printing Cost - Advertisement	$ 10,000	allowance	
Legal Costs	$ 5,000	allowance	
Commissioning	$ 25,000	allowance	
Abatement	$ 40,000	allowance	
Chapter 17 Test & Inspections	$ 40,000	allowance	
Construction Contingency (8%)	$ 1,317,229	allowance	
		Total Soft Costs: (current dollars)	**$ 4,301,686**

	TOTAL PROJECT COST (Average Bid Price)	**$ 20,767,043**

Town of Nantucket
New Public Works Facility

Phased Project
Phase I Cost Estimate

Town of Nantucket
New Public Works Facility
SCENARIO 2 - 1st PHASE - Budget Total Project Cost

1/25/2017

New Construction **Area**	**Size (SF)**	**2017 Cost/SF (w/ markups)**		**Cost**
Employee Facilities (Shell Only)	3,000	$ 61	$	183,938
Shops (Shell Only)	4,800	$ 100	$	481,430
Vehicle/Equipment Storage	20,175	$ 177	$	3,578,533
Added Cost for Specialty Foundations (based on 1st floor area)	27,975	$ 23	$	641,523
New Construction Subtotal:	**27,975**		**$**	**4,885,423**
Building Cost per SF:	175			
Fit-Out / Renovation				
Full Office Interior Renovation	N/A	$ 254	$	-
Maintenance Renovations	N/A	$ 205	$	-
Employee Facilities Fit-Out	-	$ 259	$	-
Shops Fit-Out	-	$ 125	$	-
Wash Bay Renovations	-	$ 326	$	-
Renovation Subtotal:	**-**		**$**	**-**
Building Cost per SF:	#DIV/0!			
		Place a "x" here if included		
Industrial Equipment				
- Wash Equipment	$ 63,063			
- Heavy Duty Vehicle Lift (Portable)	$ 91,728			
- Overhead Lubrication System	$ 84,000			
- Miscellaneous Shop and Support Equipment	$ 57,330			
- Storage Shelving / Benches / Racks	$ 45,864			
- Exhaust Removal System	$ 34,398			
Industrial Equipment Subtotal:			**$**	**-**
Fuel System				
- Fuel System Equipment 2 - 10,000 Gallon Tanks + Dispensers etc.	$ 327,218	x	$	327,218
- Freight, Misc Accessories, SS Form, Pad, Island	$ 216,467	x	$	216,467
- Bollards	$ 16,560	x	$	16,560
- Tank/System Testing	$ 4,637	x	$	4,637
- Tank Setting & Crane	$ 13,910	x	$	13,910
- Canopy and Foundations	$ 123,866	x	$	123,866
- Fire Suppression	$ 42,393	x	$	42,393
- Permits	$ 1,987	x	$	1,987
- Startup & Closeout	$ 28,941	x	$	28,941
Fuel System Subtotal:			**$**	**775,977**
Building & Equipment Total:			**$**	**5,661,400**

Town of Nantucket
New Public Works Facility
SCENARIO 2 - 1st PHASE - Budget Total Project Cost

1/25/2017

Mezzanines	4,500	$	85	$	382,500
Open Canopy Storage	5,625	$	65	$	365,625
Site Development (acres) - assumes level site with no contamination, existing structures/utilities, etc.	1.8	$	382,200	$	687,960
Salt/Sand Sheds	2,400		105	$	252,000
			Subtotal Bldg, Equip, & Site:	**$**	**7,349,485**
			Market Adjustment (2%):	$	146,990
			Design Contingency (10%):	$	749,648
			Escalation to 2018 (5% per year):	$	412,306
			Escalation to 2019 (5% per year):	$	432,921
			Location Adjustment Factor (0.4):	$	3,636,540
			Total Construction:	**$**	**12,727,890**
			Total Construction Cost/SF:		**455**

Department of Public Works **Budget Total Project Cost**			
Owner's Soft Costs			
A&E Fees (design, bid, const.)	$ 1,272,789	(Assume 10% of Const. Value)	
A&E Special Services	$ 254,558	(Assume 2% of Const. Value)	
Owner's Project Manager Fees	$ 509,116	(Avg 4% of Const. Value)	
Furnishings (FFE)	$ -	allowance	
Communic. / Low Voltage System	$ 10,000	allowance	
Temporary Facilities	$ 150,000	allowance	
Printing Cost - Advertisement	$ 10,000	allowance	
Legal Costs	$ 5,000	allowance	
Commissioning	$ 25,000	allowance	
Abatement	$ 30,000	allowance	
Chapter 17 Test & Inspections	$ 30,000	allowance	
Construction Contingency (8%)	$ 1,018,231	allowance	
		Total Soft Costs: (current dollars)	**$ 3,314,694**

	TOTAL PROJECT COST (Average Bid Price)	**$ 16,042,584**

Town of Nantucket
New Public Works Facility

Phased Project
Phase II Cost Estimate

Town of Nantucket
New Public Works Facility
SCENARIO 2 - 2nd PHASE - Budget Total Project Cost

1/25/2017

New Construction **Area**	**Size (SF)**	**2017 Cost/SF (w/ markups)**	**Cost**
Employee Facilities (Shell Only)	-	$ 61	$ -
Shops (Shell Only)	-	$ 100	$ -
Vehicle/Equipment Storage	-	$ 177	$ -
Added Cost for Specialty Foundations (based on 1st floor area)	-	$ 23	$ -
New Construction Subtotal:	**-**		**$ -**
Building Cost per SF:			
Fit-Out / Renovation			
Full Office Interior Renovation	N/A	$ 254	$ -
Maintenance Renovations	N/A	$ 205	$ -
Employee Facilities Fit-Out	3,000	$ 259	$ 776,063
Shops Fit-Out	4,800	$ 125	$ 598,570
Wash Bay Renovations	1,250	$ 326	$ 406,875
Renovation Subtotal:	**9,050**		**$ 1,781,508**
Building Cost per SF:	197		
		Place a "x" here if included	
Industrial Equipment			
- Wash Equipment	$ 63,063	x	$ 63,063
- Heavy Duty Vehicle Lift (Portable)	$ 91,728	x	$ 91,728
- Overhead Lubrication System	$ 84,000	x	$ 84,000
- Miscellaneous Shop and Support Equipment	$ 57,330	x	$ 57,330
- Storage Shelving / Benches / Racks	$ 45,864	x	$ 45,864
- Exhaust Removal System	$ 34,398	x	$ 34,398
Industrial Equipment Subtotal:			**$ 376,383**
Fuel System			
- Fuel System Equipment 2 - 10,000 Gallon Tanks + Dispensers etc.	$ 327,218		
- Freight, Misc Accessories, SS Form, Pad, Island	$ 216,467		
- Bollards	$ 16,560		
- Tank/System Testing	$ 4,637		
- Tank Setting & Crane	$ 13,910		
- Canopy and Foundations	$ 123,866		
- Fire Suppression	$ 42,393		
- Permits	$ 1,987		
- Startup & Closeout	$ 28,941		
Fuel System Subtotal:			**$ -**
Building & Equipment Total:			**$ 2,157,891**

Town of Nantucket
New Public Works Facility
SCENARIO 2 - 2nd PHASE - Budget Total Project Cost

1/25/2017

Mezzanines	-	$	85	$	-
Open Canopy Storage	-	$	65	$	-
Site Development (acres) - assumes level site with no contamination, existing structures/utilities, etc.	0.25	$	382,200	$	95,550
Salt/Sand Sheds	-		105	$	-
			Subtotal Bldg, Equip, & Site:	**$**	**2,253,441**
			Market Adjustment (2%):	$	45,069
			Design Contingency (10%):	$	229,851
			Escalation to 2018 (5% per year):	$	126,418
			Escalation to 2019 (5% per year):	$	132,739
			Escalation to 2020 (5% per year):	$	139,376
			Escalation to 2021 (5% per year):	$	146,345
			Location Adjustment Factor (0.4):	$	1,229,295
			Total Construction:	**$**	**4,302,533**
			Total Construction Cost/SF:		**475**

Department of Public Works **Budget Total Project Cost**				
Owner's Soft Costs				
A&E Fees (design, bid, const.)	$ 430,253	(Assume 10% of Const. Value)		
A&E Special Services	$ 86,051	(Assume 2% of Const. Value)		
Owner's Project Manager Fees	$ 172,101	(Avg 4% of Const. Value)		
Furnishings (FFE)	$ 50,000	allowance		
Communic. / Low Voltage System	$ 20,000	allowance		
Temporary Facilities	$ 80,000	allowance		
Printing Cost - Advertisement	$ 10,000	allowance		
Legal Costs	$ 5,000	allowance		
Commissioning	$ 25,000	allowance		
Abatement	$ 10,000	allowance		
Chapter 17 Test & Inspections	$ 10,000	allowance		
Construction Contingency (8%)	$ 344,203	allowance		
		Total Soft Costs: (current dollars)	**$**	**1,242,608**
		TOTAL PROJECT COST (Average Bid Price)	**$**	**5,545,141**