



westonandsampson.com

5 Centennial Drive
Peabody, MA 01960 (HQ)
tel: 978.532.1900

REPORT

June 2018

TOWN OF

Montague

MASSACHUSETTS

Montague Department of Public Works
Facility

Master Plan - Feasibility Study



Table of Contents

List of Appendices	ii
I. Introduction	1
II. Space Needs Assessment	1
III. Conceptual Design Alternatives	4
IV. Conceptual Cost Estimate	6

List of Appendices

Appendix A.....	Space Needs
Appendix B.....	Preferred Building & Site Concept Plans
Appendix C	Cost Summary

I. Introduction

The Town of Montague retained the services of Weston & Sampson to prepare a feasibility study for a new facility to house the Department of Public Works (DPW). The object of the study was to develop a DPW building program and site features which are capable of cost effectively and efficiently supporting the services offered by the DPW to the community. The study included inspecting the existing facilities, identifying deficiencies, interviewing staff, identifying current and future needs, developing conceptual alternatives on two sites, evaluating the preferred conceptual alternative with DPW Committee (Committee), and preparing budget cost estimates for the preferred alternative.

II. Space Needs Assessment

The Project Team prepared a space needs assessment to identify the current and future needs of the Department of Public Work. The assessment included analyzing current deficiencies in the facility which need to be corrected with the construction of a new facility. The assessment also included interviewing key staff to learn first-hand the operational issues with the existing facility. The staff interviews were supplemented with support by the project team's knowledge of industry practices and familiarity with solutions which have been implemented on recently constructed public works facilities. A copy of our staff interview notes is included in Appendix A.

Operational Analysis

The operational analysis was based on inspection of the existing facilities which are used to support the Department of Public Works, and a determination of the functional inadequacies and space limitations of the existing building and site.

The DPW is composed of six divisions, including; Administration, Highway, Grounds, Building Maintenance, Sewer and Drainage, and Vehicle Maintenance. These divisions are responsible for maintenance, repair and construction of the town's infrastructure, public building and property including its parks, playgrounds, streetscapes, sewers drainage systems, street lighting and 108 miles of road ways.

The existing operations are supported out of two facilities around town. The main DPW yard is located at 500 Avenue A, and includes a building, a salt shed, and a number of storage structures and sheds scattered across the site. The building was built in 1948 and is approximately 12,000 square feet, and includes the director's office, administration staff offices and workstations, the public counter area, vehicle storage, and vehicle maintenance. A portion of the operations is located at the Town Hall parcel located at 1 Avenue A. This area includes vehicle and equipment storage and shops.

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:

DPW Staffing Summary

Position	Staff
Office/Administration	3
Mechanics	2
Workforce	12
Seasonal	2
Future Needs	6 to 7
Total Staff	26

DPW Vehicle and Equipment Summary

Type	Large	Small	Equipment	Trailers
Total	15	17	30	6

This listing does not include small support equipment such as pumps, hand tools, etc. However, provisions for storage of these types of items have been included in the final program.

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 32,600 square feet. The results of the initial space needs were then reviewed in detail by the Project Team, DPW staff and the Committee to determine if the spaces could be reduced without negatively impacting operations. Based on valuable input from the DPW and the Committee, 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 27,974 square feet. This reflected an overall reduction in the space needs of 4,601 square feet, or approximately 14%. Refer to Appendix A for space needs matrix and room data sheets.

III. Conceptual Design Alternatives

Based on the results of the final space needs assessment, the Project Team initially prepared conceptual alternatives for the development of the DPW Yard site at the Town owned parcel located off of Sandy Lane. The alternatives were prepared with the following operational considerations in mind:

- Arrange interior space to provide efficient circulation patterns
- 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 future salt/sand operations area

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

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. Following the development of these initial alternatives, Weston & Sampson conducted a subsurface investigation to determine the suitability of the Sandy Lane site to cost effectively support DPW operations. Based on the results of this subsurface investigation, it was determined that substantial costs would need to be invested in foundation/ground improvements due to past uses of the site. A copy of the subsurface investigation can be found under separate cover in a report dated August 31, 2016 and titled Master Plan - Feasibility Study Supplemental Information.

Consequently, the Town requested that Weston & Sampson prepare new alternatives for an alternate site located on Turners Falls Road. The alternatives were reviewed with the Committee and the building footprint and program were adjusted to develop a cost effective and efficient building layout. After completing a comprehensive assessment of the alternatives with the DPW Committee, a final preferred alternative was identified as the most desirable, cost effective, and efficient concept based on input received from the DPW Committee. This alternative was developed in a manner to simplify structural framing and resulted in the consolidation of the building program presented in Appendix A.

The following is a summary of the final program based on the preferred alternative:

- Office / Employee Facilities: 3,617 SF
- Trade Shops: 1,834 SF
- Vehicle Maintenance: 4,219 SF
- Wash Bay: 1,060 SF
- Enclosed Vehicle/Equipment Storage: 14,773 SF
- Subtotal: 25,503 SF

The building also includes a 4,821 SF open lean-to canopy to provide covered storage of miscellaneous equipment and vehicles. A copy of the floor plan and site plan for the preferred alternative is included in Appendix B of this report.

IV. 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, maintenance area, wash bay, and shop 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 and paving upgrades
- Contingency allowance for unanticipated design / construction costs

Our 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 2017 costs. Our cost projection does account for one (1) year of cost escalation. Additional escalation factors should be included once the project time line has been established by the Town. A summary of the results of this cost estimate is included below:

Building / Equipment Cost:	\$7,125,745
Site Development and Support Structure Costs:	\$1,033,200
Escalation / Construction Market Adjustment:	\$748,991
Professional Service Fees:	\$1,445,270
Building Systems / Final Fit-out:.....	\$120,000
Miscellaneous Soft Costs:	\$50,000
Construction Contingency:	\$623,556
Total Project Cost DPW Facility:.....	\$11,146,762

Due to the preliminary nature of the development of the design for this project, many budget items are based on general building costs per square foot, with site development costs per acre. Estimates include a design contingency to allow for scope adjustments identified during design development. In addition, the estimate includes a construction contingency to account for potential unforeseen conditions which may be discovered during construction. A copy of our conceptual cost estimate as well as a comparison to recently completed/bid DPW facilities is included in Appendix C.

Appendix A

Space Needs

M E M O R A N D U M

TO: Montague DPW Study File
FROM: Joseph M. Fitzpatrick, PE
DATE: 01 January 2016
SUBJECT: Staff Interviews at Montague DPW – 500 Avenue A

Consultant Team: Jeffrey Alberti, WSE
Mike Richard, WSE
Joseph M. Fitzpatrick, WSE

Client Representatives: Walter Ramsey – Town Planner
Tom Bergeron – Superintendent
Matt Cadran – Office Administrator
Dick Clough – Working Foreman
David Finn – Maintenance

Divisions

- Highway, Grounds, Building Maintenance, Sewer & Drainage, Vehicle Maintenance

Staffing / Fleet

- 17 current staff; plan for 25-26 total staff including future workforce. There is one female in the workforce
 - 3 office/admin (Superintendent, Office Administrator, Working Foreman)
 - 2 mechanics
 - 12 workforce (2 Grounds)
 - 6 future workforce
 - 2 summer
- 32 vehicles or equipment (15 large, 17 small). Approx. 30 pieces of small equipment

General

- Existing building constructed in 1946
- Current building undersized, design new facility with space for future expansion.
- 109 miles of road in Town.
- Town sewer ends somewhere near Turnpike Road. Sewer provisions should be included in this project.

Office/Administration

- Provide 3 offices. The office for the administrator (Matt) should be adjacent to the public reception area with a counter in between with visual access. Provide a buffer area between the public window and the administrator's workspace. Working foreman's office should be adjacent to the administrator's office with a clear path to the public counter for situations when Matt is out of the office. His office should also be adjacent to the muster room.
- Public reception area should have a unisex public toilet separate from the facilities used by the staff. Public comes in for things like permitting and picking up recycling bins. Provide a workstation in the waiting area.

- Superintendent's office should have a small conference table for private meetings. Office should be carpeted.
- Provide a closet for office supplies and a separate secured storage area for items to be distributed by the admin. Provide storage for both archive and active files. The archive file room should have ample hanging file storage and file cabinets as well.
- Provide a copy/file/mail area.
- Administration will share a break room and toilet facilities with the workforce. A conference room is also unnecessary as the break room will be used for meetings. The police station is used for training, presentations, or any other large events.

Employee Facilities

- Muster/break room shared by admin and workforce. No need for projectors or any presentation equipment. Provide 2 microwaves.
- Provide basic locker room with 2' wide lockers (match current locker size) as well and shower and toilet facilities. Provide a supply closet near this area.
- The uniforms are sent out for cleaning, there is no real need for a laundry area. They currently have a small area set up with a rack for hanging clean uniforms and a bin for soiled linens.
- Provide a work station in the employee facilities area with a desk, phone, etc. This will be used by the tree warden or by the workforce if they receive phone calls.
- Provide a janitor closet with a mop sink.
- Consider Terrazzo flooring or epoxy flooring in the high traffic areas. Consider raised rubber flooring or epoxy in the locker room.
- They do not have a need for bunk rooms.

Shops

- Sign shop – provide an area for sign making, assembly, and storage. They are planning on making their own signs in the future. Provide bake machine.
- General/Building Maintenance/Grounds shop – provide a shared shop with separate secured storage for the building maintenance department. This area should have overhead door access and clearance to pull in and store a full size truck (truck 43). Provide an area adjacent to the bay to be used as a laydown or working area.
- The Grounds Department needs approximately 2.5 bays to store all of their equipment (mowers, shop equipment, hand tools, backpack blowers, weed whackers, chain saws, etc.). They have 4 walk-behind snow blowers.

Vehicle Maintenance

- 2 mechanics. They service all DPW vehicles and provide oil changes for the police department.
- Provide 3 bays, one of which should be double long at approximately 100'. They should be tall enough to raise a dump body (approximately 26', max lift height for the 10-wheelers is 22'). Provide a bridge crane. Provide a recessed, drive-on, platform lift in one of the single depth bays. They do not have a need for the portable 4-post style lifts. Provide jacks and jack-stands. Provide a dedicated laydown area for misc. equipment and workspace.
- Provide a mezzanine area (with bridge crane access) and a fork lift.
- They do not do any major tire work in-house. Provide only a storage area, no need for a tire shop. Provide a hydraulic hose workshop. Provide a small mechanics workshop for fabrication,

welding, etc. They don't currently do much painting but could expand painting operations in the future. Provide a shop sink and clean-up area.

- Provide the following fluid storage:
 - 55 gallon drums – hydraulic fluid, 15-40 motor oil, 5-30 motor oil, antifreeze type-1, antifreeze type-2, windshield wiper fluid, and DEF
 - Waste oil collection system
 - (2) Flammable cabinets
- Provide a parts storage area. Provide a separate secured tool storage area.
- Provide a mechanics office with 2 desks. Provide a separate mechanic's reference room.
- Provide a separate compressor room.

Wash Bay

- Provide a manual wash bay with catwalks and a piece of equipment/attachment to wash the undercarriage of the vehicles.
- Provide a knock-down pad with compressed air and high volume, low pressure hose bibs.
- There is sewer in Town.

Vehicle Storage

- See list: 11 large trucks (10-wheelers, dumps, etc.), 4 large pieces of equipment (loaders, backhoes, graders, etc.), 17 small trucks/ pieces of medium sized equipment (1-tons, pick-ups, smaller loaders, etc.), 5 trailers, 17 listed pieces of small equipment (mowers, trackless, etc.), approximately 10 pieces of misc. small equipment (walk-behind blowers/paint strippers, leaf vacuum, etc.)
- Provide ample space for small equipment in the storage garage. Provide a drive-thru style garage with minimal heating.
- Provide an adjacent canopy for cold storage of spreaders, misc. stock, barricades, cones, etc. The Town plans to keep the existing building which will be used for additional cold/seasonal storage. There are certain items that should be kept in cold storage at the new facility and items that are used infrequently or only seasonal which should be storage at the existing facility. Provide an area under this canopy for slide-in spreader bodies. The Town has (1) extra-large, (4) large, and (4) small spreader bodies.
- The Parks Department should have a separate area for chippers, etc.
- They currently have several diesel trucks stored outside with engine block heaters. Provide indoor storage.
- The Grounds Department needs approximately 2.5 bays to store all of their equipment (mowers, shop equipment, hand tools, backpack blowers, weed whackers, chain saws, etc.). They have 4 walk-behind snow blowers. They also have several walk-behind paint strippers.

Bulk Material Storage / Yard Needs

- The Town has local businesses nearby that can meet their bulk material needs on-demand so the DPW does not need excessive space in the yard for bulk materials. They just need space for small amounts of processed gravel, loam, sand, and stone.
- Provide an area for piping and other sewer stock.

Montague Department of Public Works
Vehicle and Equipment Inventory List
Feasibility Study - January 2016

						Total	15	17	17	6
ID#	Year	Make	Model	License#	Length (ft)	Width (ft)	Classification			
							L	S	EQ	TR
1	2013	Ford	F350 4WD PU	M 86102	21	8		1		
2	2015	Komatsu	WA-270-7 Loader	M 90927	24	9	1			
3	2003	International	7400 10-Wheel Dump	M 68104	27	8	1			
4	2014	Ford	F450 2-Ton Dump	M 89619	20	8		1		
6	2008	Ford	F350 1-Ton Dump	M 82317	21	8		1		
7	2005	International	7400 Vactor	M 72443	30	8	1			
8	2010	International	7400 Dump	M 82664	22	8	1			
9	2000	Sterling	L-7501 Dump	M 93006	22	8	1			
10	2010	International	7400 Dump	M 83248	23	8	1			
11	2016	International	7400 Dump	M 93007	23	8	1			
12	2008	International	7400 Dump	M 94215	24	8	1			
13	2002	International	4900 Dump	M 67113	21	8	1			
14	2011	Elgin	Eagle Sweeper	M 87867	24	8		1		
15	1997	Ford	L-8000 Dump	M 56177	22	8	1			
16	1980	Ford	L-8000 Dump	M 34483	22	8	1			
17	2001	Dodge	3500 1-Ton Dump	M 88646	20	8		1		
18	1981	John Deere	A-670 Road Grader	M 53719	30	8	1			
19	2008	Komatsu	W-156 Backhoe	M 76500	19	8		1		
20	2011	Komatsu	WA-250-6 Loader	M 87865	24	9	1			
21	1988	Bowmag	BW-154 8-Ton Roller	M 109	18	8		1		
22	1997	Elgin	Eagle Sweeper	M 79982	24	9		1		
23	1998	New Holland	Alamo Flail	M 58658	21	8			1	
24	1989	Sreco	Sewer Rodder	M 42385	14	5			1	
25	2006	Dodge	Dokata 4WD PU	M 84072	18	8		1		
26	1984	Leroi	Compressor	M 30086	12	6			1	
27	1987	PB	Power Paver	NA	10	6			1	
29	1971	Sicard	Snow Blower	NA	9	8			1	
30	2009	Komatsu	WA-250-6 Loader	M 78669	24	9	1			
32	2006	Ford	F350 4WD PU	M 75294	19	8		1		
33	2005	Ford	F450 2-Ton Dump	M 72431	20	8		1		
34*	1979	Stone	Cement Mixer	M 35840	6	3			1	
35	2004	Chevrolet	2500 HD PU	M 78663	19	8		1		
36	2002	Graco	Line Lazer 5900	NA	9	2			1	
37	2013	Morbark	Chipper	M 86426	17	6			1	
38	2009	Graco	3400 Line Painter	NA	9	2			1	
40	2010	Ford	F350 4WD PU	M 75296	19	8		1		
41	2013	Wacker Neuson	RD 12-A Roller	NA	7	4			1	
42	2015	Ford	F350 4WD PU	M 92779	20	8		1		
43	2015	Ford	F250 PU	M 91590	19	8		1		
44	2014	Ford	F450 PU	M 89620	21	8		1		

46	2015	John Deere	Sulky Mower	NA	5	5			1		
47	2008	John Deere	0-Turn Mower	NA	6	6			1		
48	2014	John Deere	2032R Tractor	M 46016	12	5			1		
49	2001	John Deere	4600 Tractor	NA	16	7			1		
50	1995	York	Road Rake	NA	7	4			1		
51	2016	Vermeer	Stump Grinder	NA	10	3			1		
53	2013	International	7400 Dump	M 86101	25	8	1				
54	1969	Allis Chalmers	Forklift	NA	10	3			1		
55	2010	Ford	Focus	M 86194	16	7		1			
57	1987	Wright	10-Ton Trailer	M 62426	30	8				1	
58	1998	Hudson	3-Ton Trailer	M 58426	22	8				1	
59	2013	Cross	Trailer	M 86184	13	8				1	
60	1997	Homemade	Utility Trailer	M 54050	21	8				1	
61	2016	Felling	Trailer	M 93024	14	8				1	
62	1984	Knowles	Trailer	M 33179	17	8				1	
							Type	L	S	EQ	TR
							Total	15	17	17	6

Town of Montague
Department of Public Works
Space Needs Summary
Date: February 2016

Building Requirements

Area	Description	Original Size (SF)	Rev 1 Size (SF)	Rev 2 Size (SF)	Rev 3 Size (SF)	Ref #	Room / Area Dimensions		
							length	width	size
Office & Office Support Areas	Reception/Vestibule/Waiting Area	200	164	164	164	1	--	--	164
	Office Administrator Workstation	196	224	224	224	1	14	16	224
	Superintendent's Office	224	210	180	224	2	14	16	224
	Working Foreman's Office (with admin)	144	-	-	-		0	0	-
	Copy/File/Mail Area	112	-	-	-		0	0	-
	Active File Storage	144	120	-	-	2	0	0	-
	Archive File Storage / Map Room	234	-	-	-		0	0	-
	Office Supply Closet (with secured storage)	36	-	-	-		0	0	-
	Secured Storage	48	60	60	60	2	6	10	60
	Telephone / Data Room	80	-	-	-		0	0	-
	General Closet	72	18	-	-	2	0	0	-
	Janitor Closet	36	36	36	36	2	6	6	36
	Public Toilet Facilities	54	54	-	-	2	0	0	-
	Subtotal:	1,580	886	664	708				
	Area Grossing Factor (15%):	237	133	100	106				
	Circulation (20%):	363	204	153	163				
	TOTAL:	2,180	1,223	916	977				
	DIFF		958	1,264	1,203				

Town of Montague
Department of Public Works
Space Needs Summary
Date: February 2016

Building Requirements

Area	Description	Original Size (SF)	Rev 1 Size (SF)	Rev 2 Size (SF)	Rev 3 Size (SF)	Ref #	Room / Area Dimensions		
							length	width	size
Employee Facilities	Male Locker/Shower/Toilet	690	546	546	546	3	21	26	546
	Supply Closet	36	36	36	36	3	6	6	36
	Female Locker/Shower/Toilet	180	160	160	160	3	10	16	160
	Staff/Meeting Room	525	525	441	441	4	21	21	441
	Guest Workstation	64	64	-	-	4	0	0	-
	Electric/IT Room	80	80	80	80	4	8	10	80
	Plumbing/Fire Protection Room	140	140	140	140	4	10	14	140
	Subtotal:	1,715	1,551	1,403	1,403				
	Area Grossing Factor (15%):	257	233	210	210				
	Circulation (20%):	394	357	323	323				
	TOTAL:	2,367	2,140	1,936	1,936				
	DIFF		226	431	431				

Town of Montague
Department of Public Works
Space Needs Summary
Date: February 2016

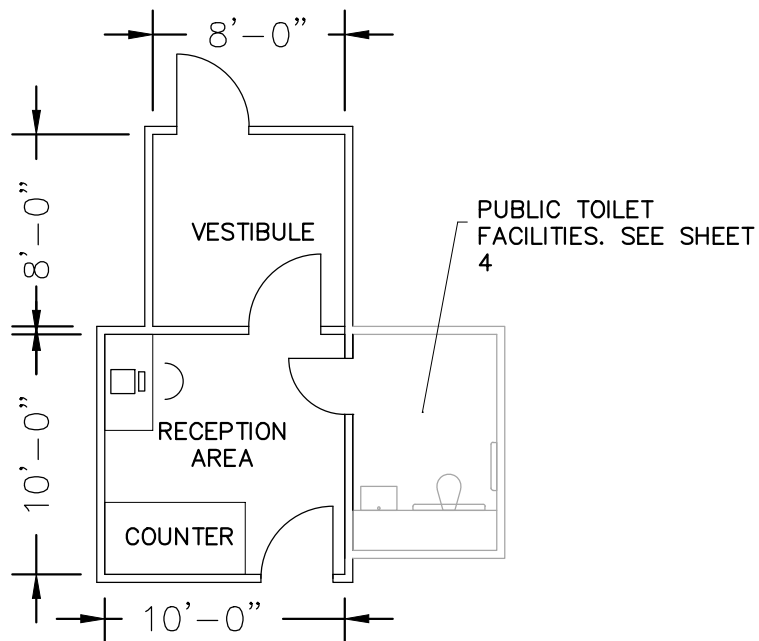
Building Requirements

Area	Description	Original Size (SF)	Rev 1 Size (SF)	Rev 2 Size (SF)	Rev 3 Size (SF)	Ref #	Room / Area Dimensions		
							length	width	size
Work Shops & Material Storage	Sign Shop	500	400	400	400	5	20	20	400
	Shared General Workshop	1,120	780	780	780	6	26	30	780
	Grounds Storage and Maintenance Shop	1,120	1,120	-	1,120	7	28	40	1,120
	Building Maintenance Secured Storage	-	-	-	-		--	--	--
	Subtotal:	2,740	2,300	1,180	2,300				
	Area Grossing Factor (10%):	274	230	118	230				
	Circulation (10%):	301	253	130	253				
	TOTAL:	3,315	2,783	1,428	2,783				
	DIFF	532	1,888	532					
Vehicle Maintenance	Fluid Storage Room	196	168	168	168	8	12	14	168
	Maintenance Dedicated Floor Storage	300	240	240	240	8	12	20	240
	Heavy Duty Drive-Thru Double Bay	2,112	1,100	1,100	1,100	9	20	55	1,100
	Heavy Equipment Bay	1,100	1,100	1,100	1,100	9	20	55	1,100
	Heavy Equipment Bay	1,100	1,100	-	1,100	9	20	55	1,100
	Hydraulic Hose Workshop	120	100	100	100	10	10	10	100
	Mechanics' Office	144	144	144	144	10	12	12	144
	Maintenance Reference Room	100	-	-	-		0	0	-
	Maintenance Workshop	160	160	160	160	10	8	20	160
	Secured Tool Storage	120	-	-	-		0	0	-
	Maintenance Tire Storage	270	150	150	-		0	0	-
	Parts Storage Room	528	336	336	336	11	14	24	336
	Compressor Room	80	-	-	-	11	0	0	-
	Subtotal:	6,330	4,598	3,498	4,448				
	Area Grossing Factor (10%):	633	460	350	445				
	Circulation (10%):	696	506	385	489				
	TOTAL:	7,659	5,564	4,233	5,382				
	DIFF	2,096	3,427	2,277					

Town of Montague
Department of Public Works
Space Needs Summary
Date: February 2016

Building Requirements

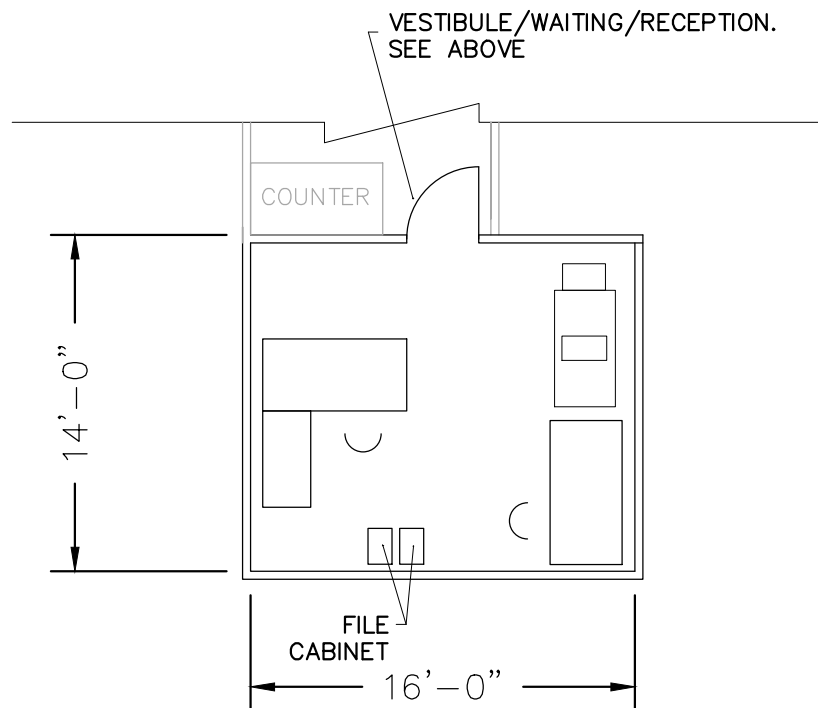
Area	Description	Original Size (SF)	Rev 1 Size (SF)	Rev 2 Size (SF)	Rev 3 Size (SF)	Ref #	Room / Area Dimensions		
							length	width	size
Wash Area	Wash Bay	1,375	1,375	1,265	1,265	12	23	55	1,265
	Wash Equipment Room	140	100	100	100	12	10	10	100
	Subtotal:	1,515	1,475	1,365	1,365				
	Area Grossing Factor (5%):	76	74	68	68				
	Circulation:	n/a	n/a	n/a	n/a				
	TOTAL:	1,591	1,549	1,433	1,433				
	DIFF	42	158	158					
Vehicle and Equipment Storage	Large Vehicle Storage	14,725	13,300	10,640	14,725	13	95	155	14,725
	Subtotal:	14,725	13,300	10,640	14,725				
	Area Grossing Factor (5%):	736	665	532	736				
	Circulation:	n/a	n/a	n/a	n/a				
	TOTAL:	15,461	13,965	11,172	15,461				
	DIFF	1,496	4,289	-					
TOTAL:		32,575	27,224	21,119	27,974				
Total Reduction in Space Needs:			5,350	11,456	4,601				



RECEPTION/VESTIBULE/WAITING AREA

8' x 8' = 64 SF

10' x 10' = 100 SF



OFFICE ADMINISTRATOR/WORKING FOREPERSON'S WORKSTATION

14' x 16' = 224 SF

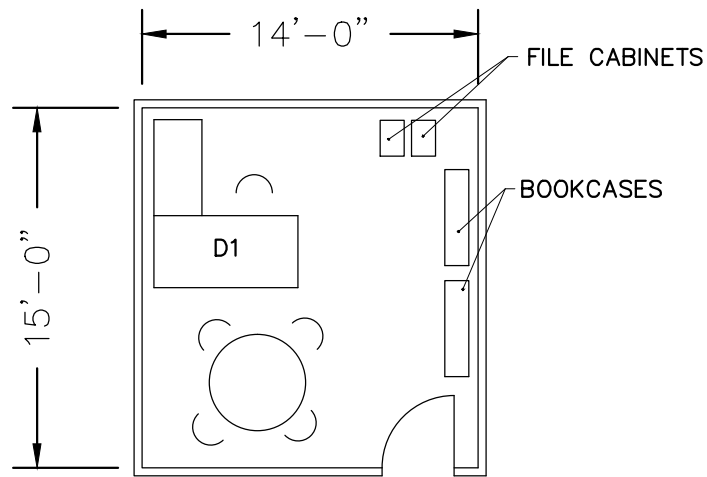
SPACE NEEDS ASSESSMENT

FEBRUARY 2016

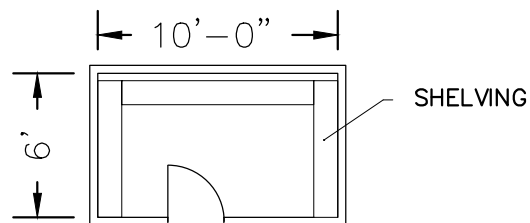
MONTAGUE, MASSACHUSETTS

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

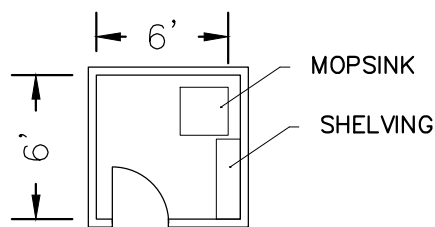
Sheet 1



SUPERINTENDENT'S OFFICE
 14' x 15' = 210 SF



OFFICE SUPPLY/SECURED STORAGE
 6' x 10' = 60 SF



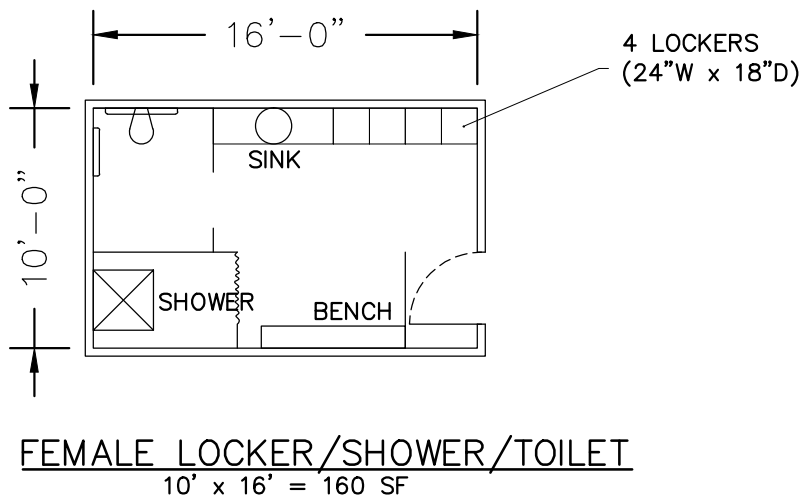
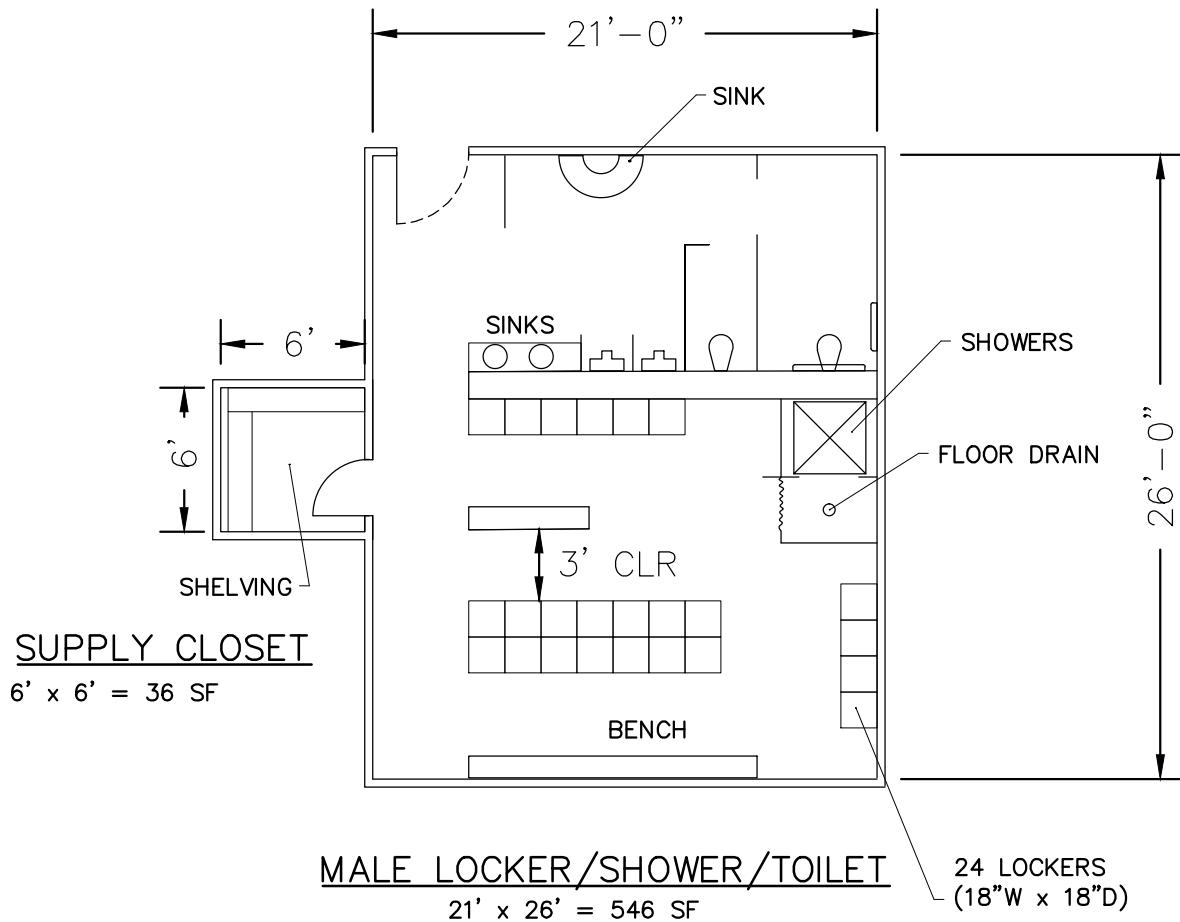
JANITOR CLOSET
 6' x 6' = 36 SF

SPACE NEEDS ASSESSMENT

FEBRUARY 2016
 MONTAGUE, MASSACHUSETTS

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

Sheet 2

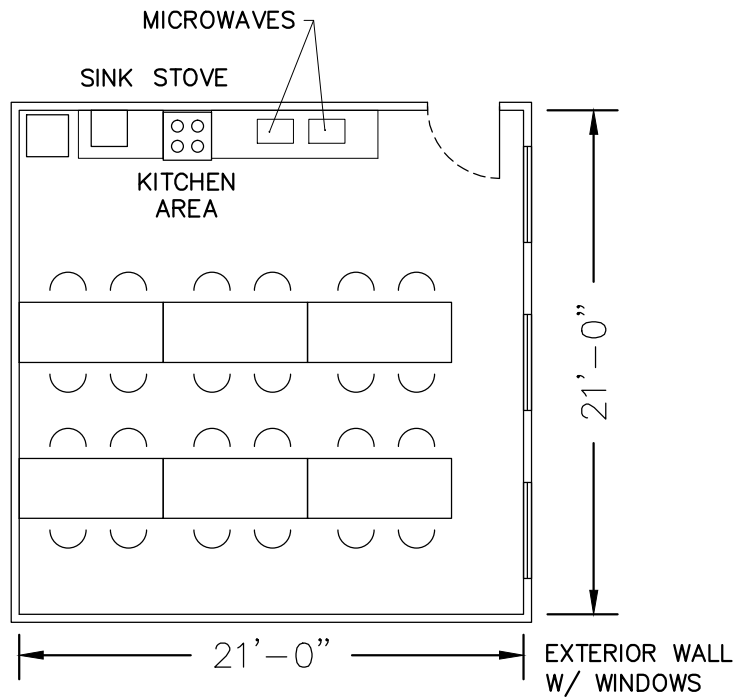


SPACE NEEDS ASSESSMENT

FEBRUARY 2016
MONTAGUE, MASSACHUSETTS

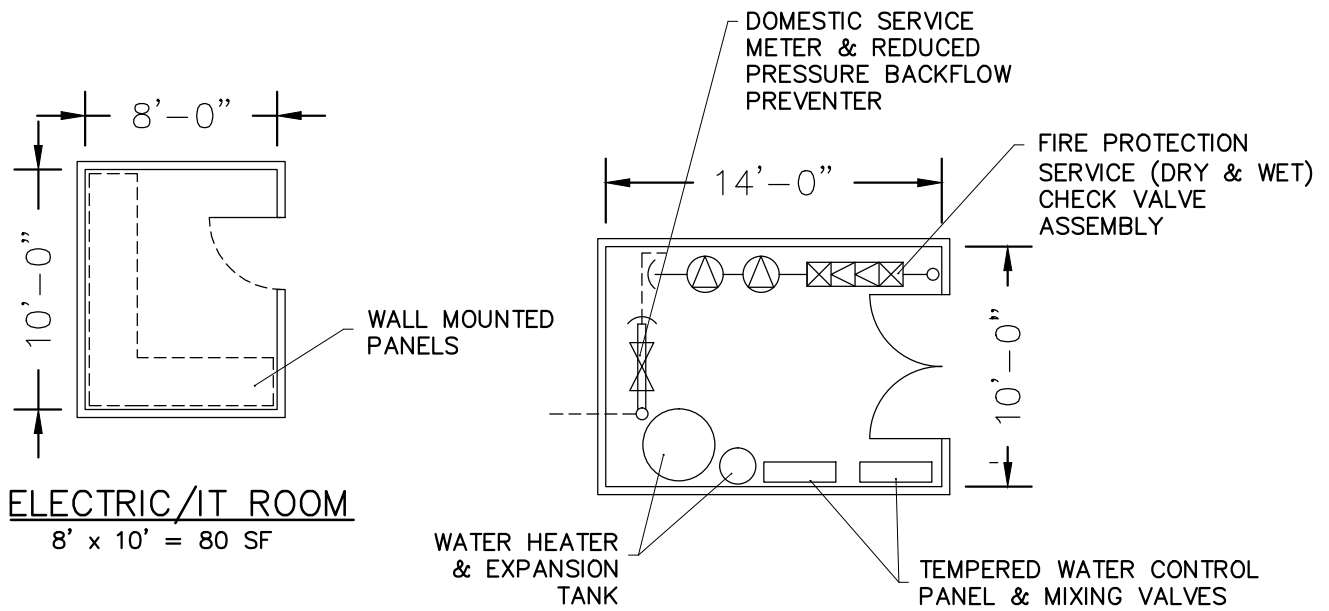
Scale: 1/8"=1'-0"

Sheet 3



STAFF/MEETING ROOM

21' x 21' = 441 SF



ELECTRIC/IT ROOM

8' x 10' = 80 SF

PLUMBING/FIRE PROTECTION ROOM

10' x 14' = 140 SF

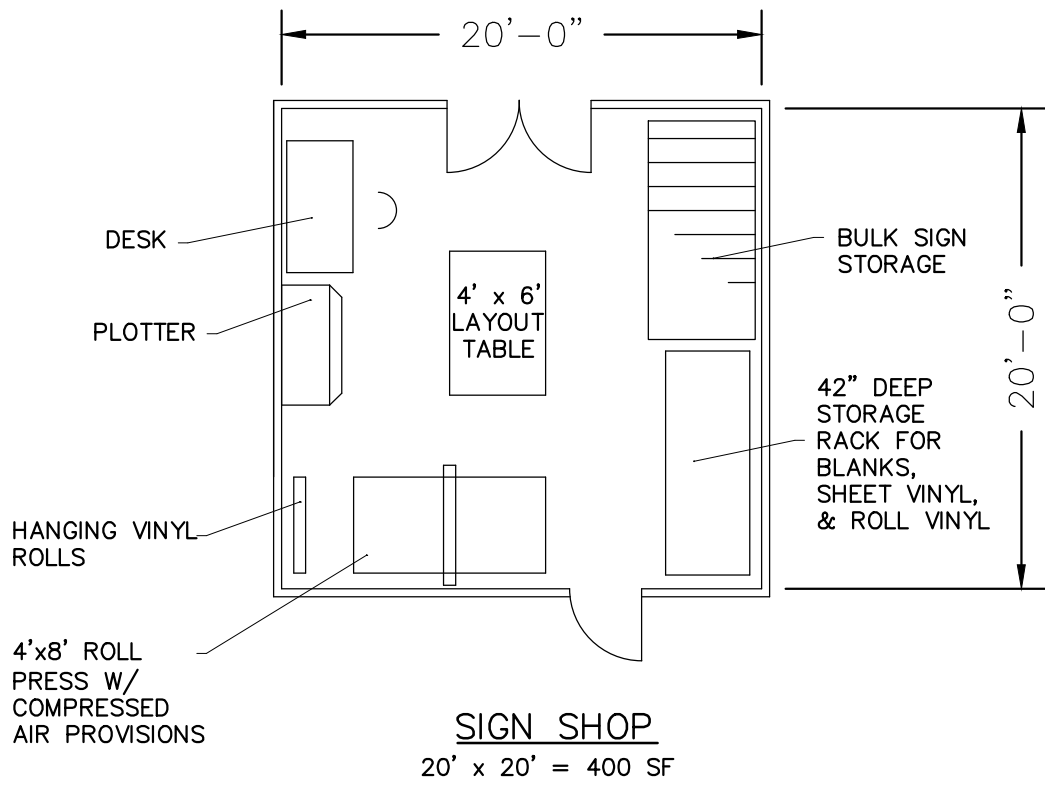
SPACE NEEDS ASSESSMENT

FEBRUARY 2016

MONTAGUE, MASSACHUSETTS

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

Sheet 4

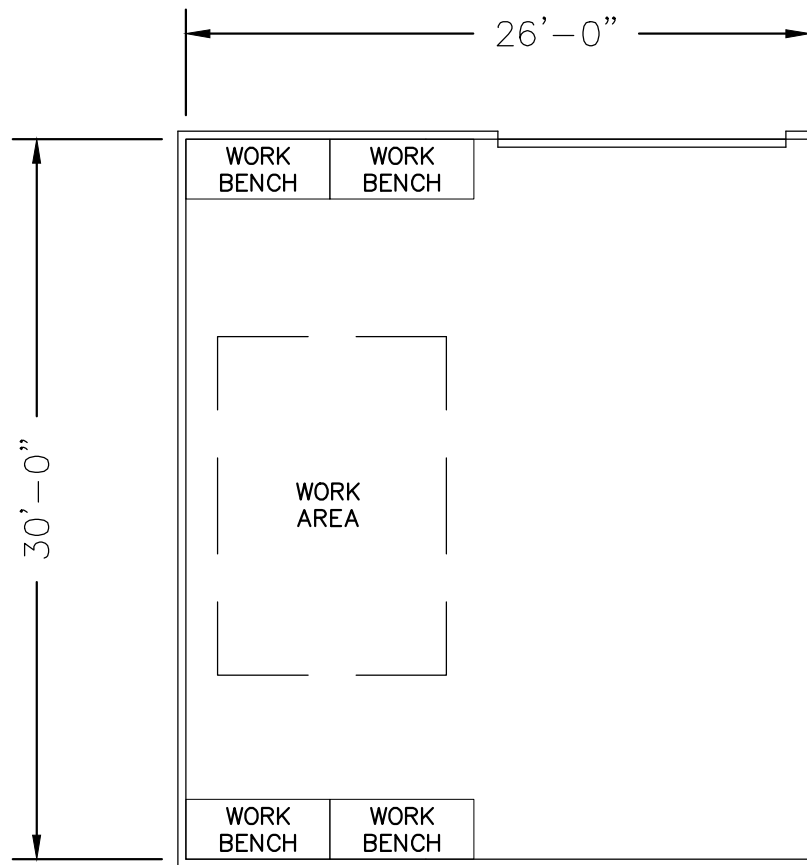


SPACE NEEDS ASSESSMENT

FEBRUARY 2016
MONTAGUE, MASSACHUSETTS

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

Sheet 5



SHARED GENERAL WORKSHOP

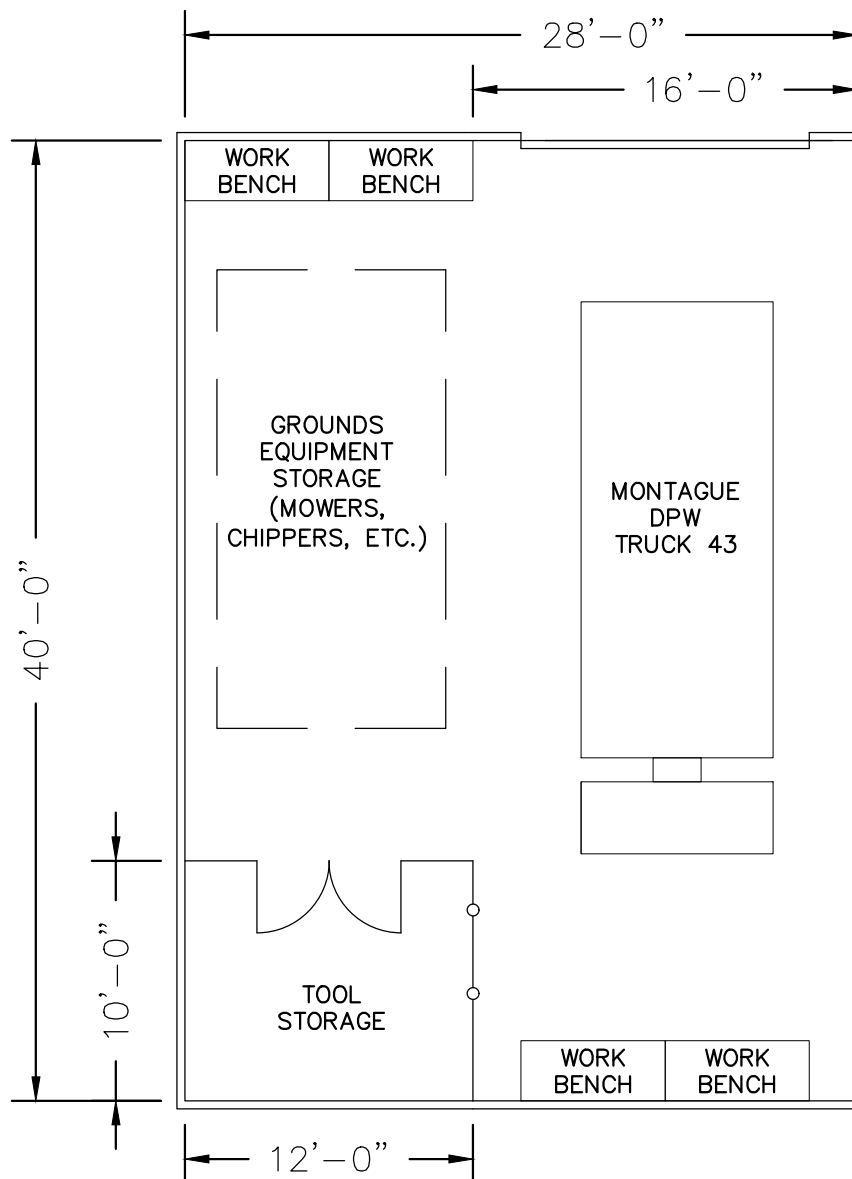
26' x 30' = 780 SF

SPACE NEEDS ASSESSMENT

FEBRUARY 2016
MONTAGUE, MASSACHUSETTS

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

Sheet 6



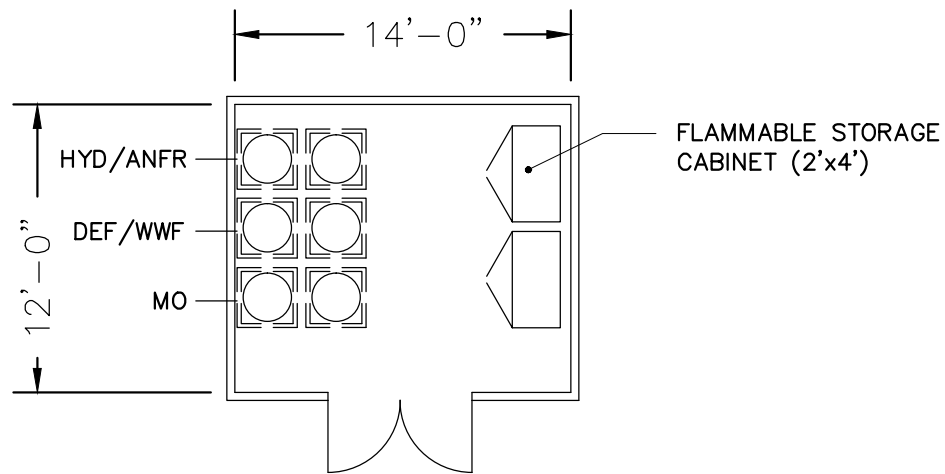
GROUNDS STORAGE AND
MAINTENANCE SHOP
28' x 40' = 1,120 SF

SPACE NEEDS ASSESSMENT

FEBRUARY 2016
MONTAGUE, MASSACHUSETTS

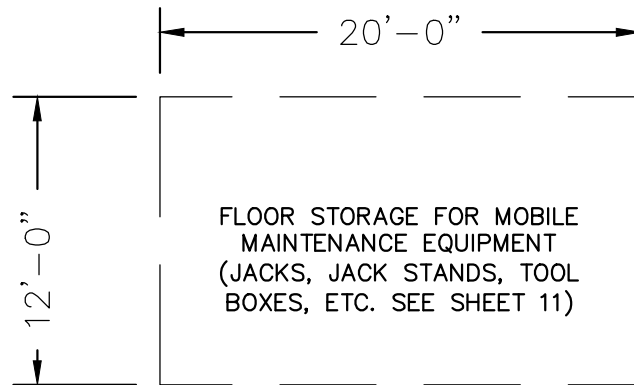
Scale: 1/8"=1'-0"

Sheet 7



FLUID STORAGE ROOM

12' x 14' = 168 SF



MAINTENANCE DESIGNATED FLOOR STORAGE

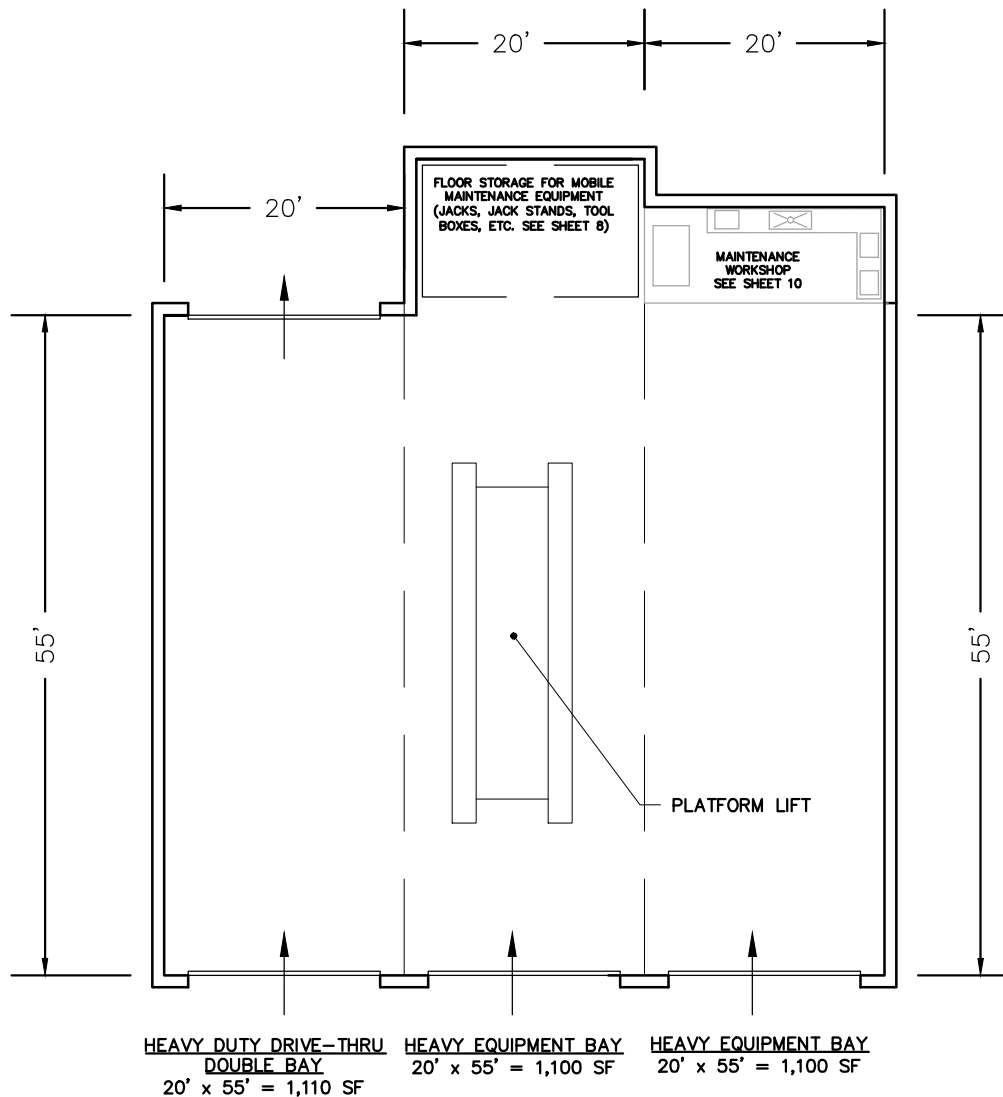
12' x 20' = 240 SF

SPACE NEEDS ASSESSMENT

FEBRUARY 2016
MONTAGUE, MASSACHUSETTS

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

Sheet 8



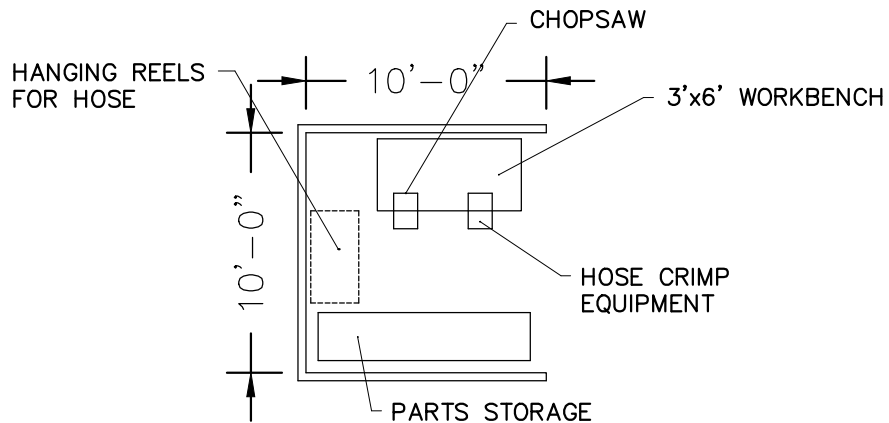
VEHICLE/EQUIPMENT MAINTENANCE BAYS
BAY DIMENSIONS AND AREAS VARY

SPACE NEEDS ASSESSMENT

FEBRUARY 2016
MONTAGUE, MASSACHUSETTS

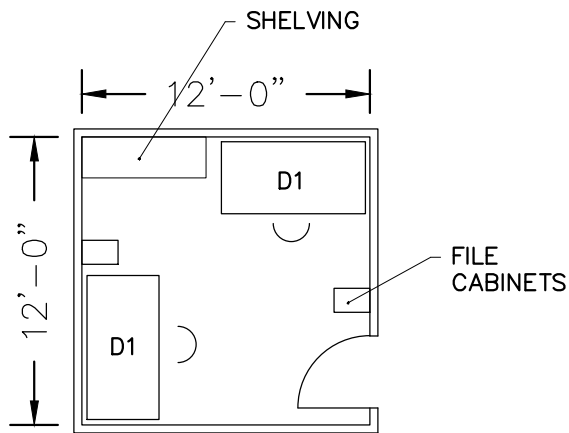
Scale: 1/16"=1'-0"

Sheet 9



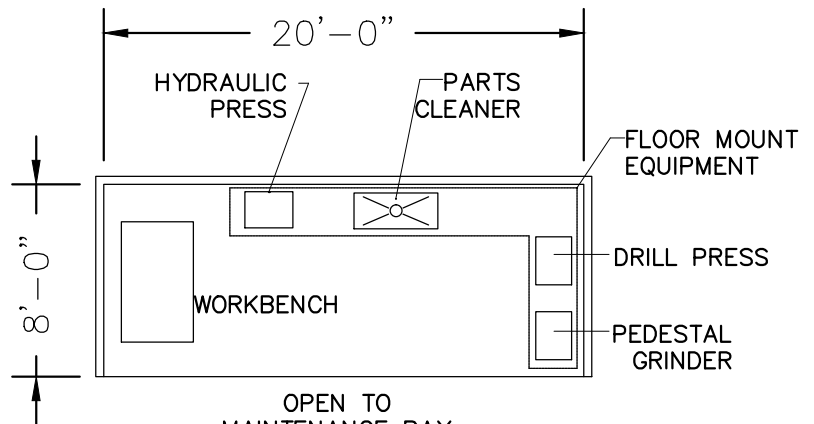
HYDRAULIC HOSE WORKSHOP

10' x 10' = 100 SF



MECHANICS' OFFICE

12' x 12' = 144 SF



MAINTENANCE WORKSHOP

8' X 20' = 160 S.F.

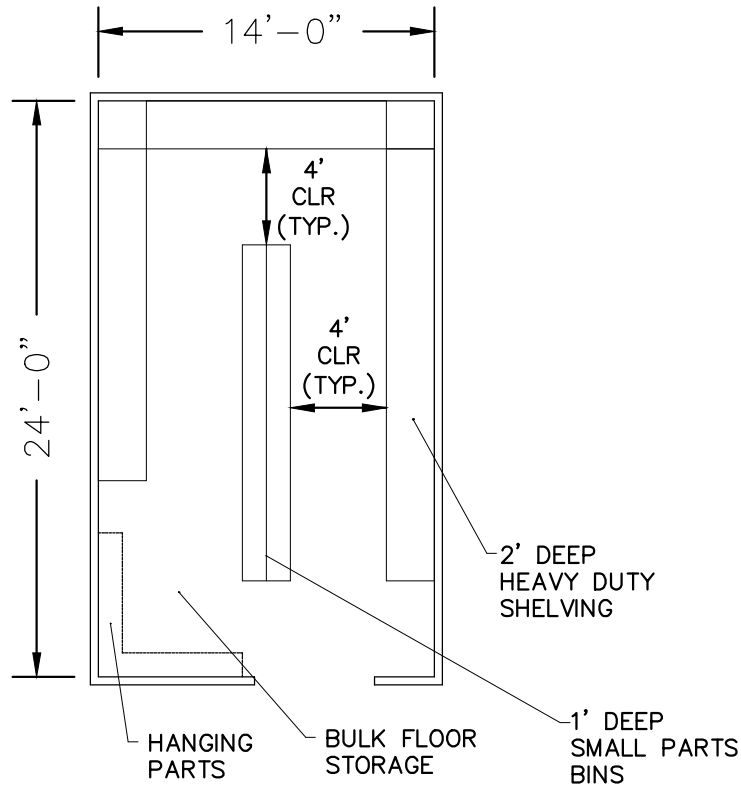
SPACE NEEDS ASSESSMENT

FEBRUARY 2016

MONTAGUE, MASSACHUSETTS

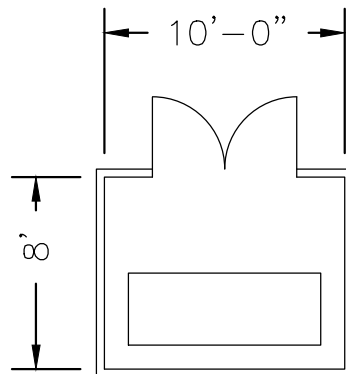
Scale: 1/8"=1'-0"

Sheet 10



PARTS STORAGE ROOM

14' x 24' = 336 SF



COMPRESSOR ROOM

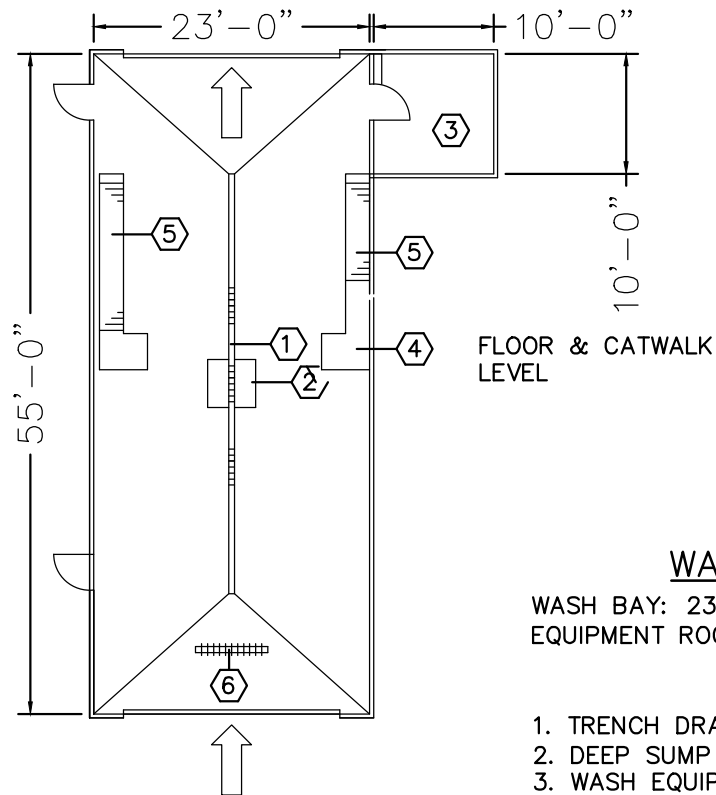
8' x 10' = 80 S.F.
(ON MEZZANINE)

SPACE NEEDS ASSESSMENT

FEBRUARY 2016
MONTAGUE, MASSACHUSETTS

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

Sheet 11



WASH BAY

WASH BAY: 23' x 55' = 1,265 SF

EQUIPMENT ROOM: 10' x 10' = 100 SF

1. TRENCH DRAIN
2. DEEP SUMP (MIN. 4' OVERBURDEN)
3. WASH EQUIPMENT & RECLAIM EQUIPMENT
4. HIGH FLOW WATER CONNECTION
5. GALVANIZED STEEL CATWALK
6. UNDERCARRIAGE WASH SYSTEM

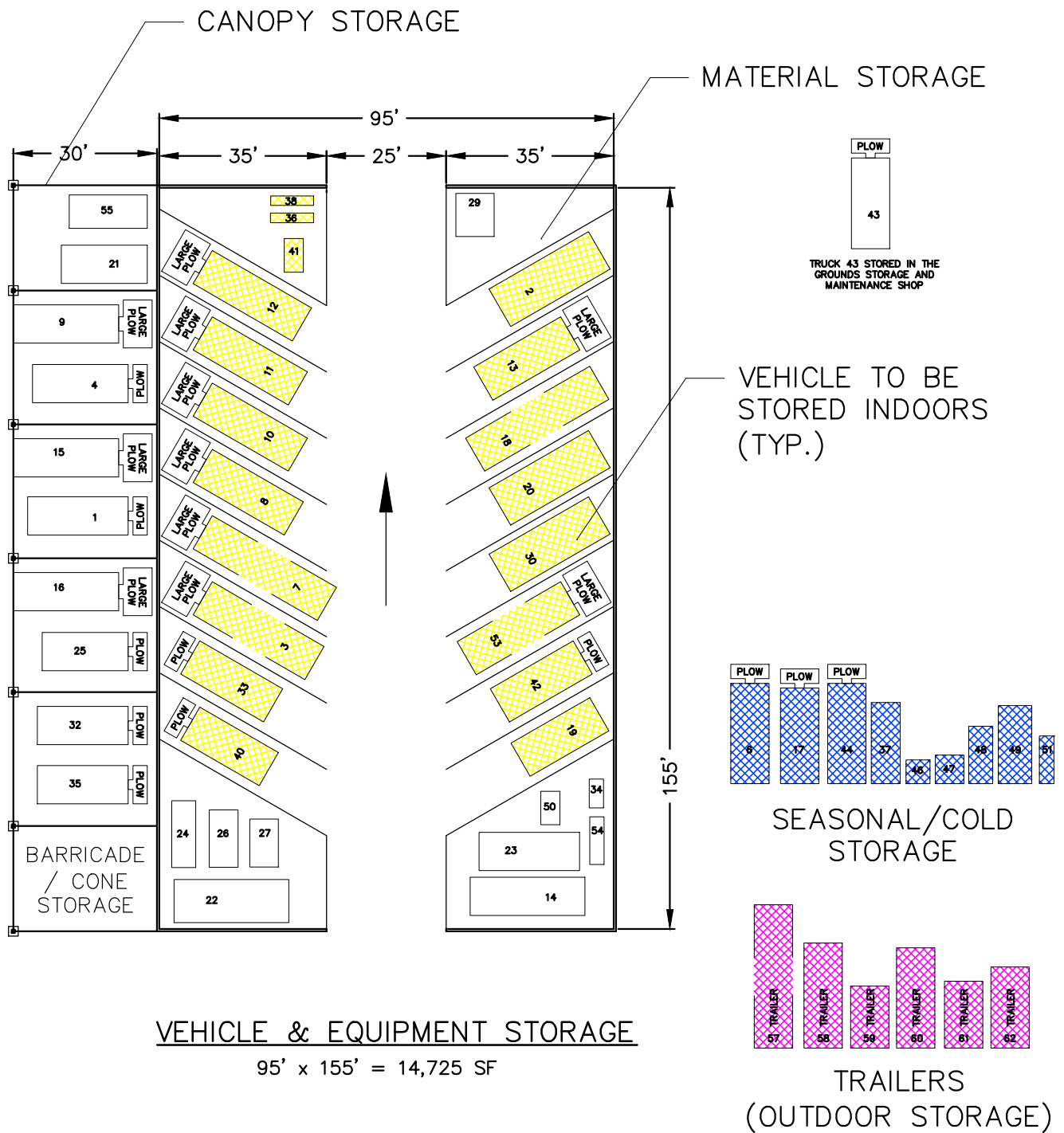
SPACE NEEDS ASSESSMENT

JANUARY 2016

MONTAGUE, MASSACHUSETTS

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

Sheet 12



SPACE NEEDS ASSESSMENT

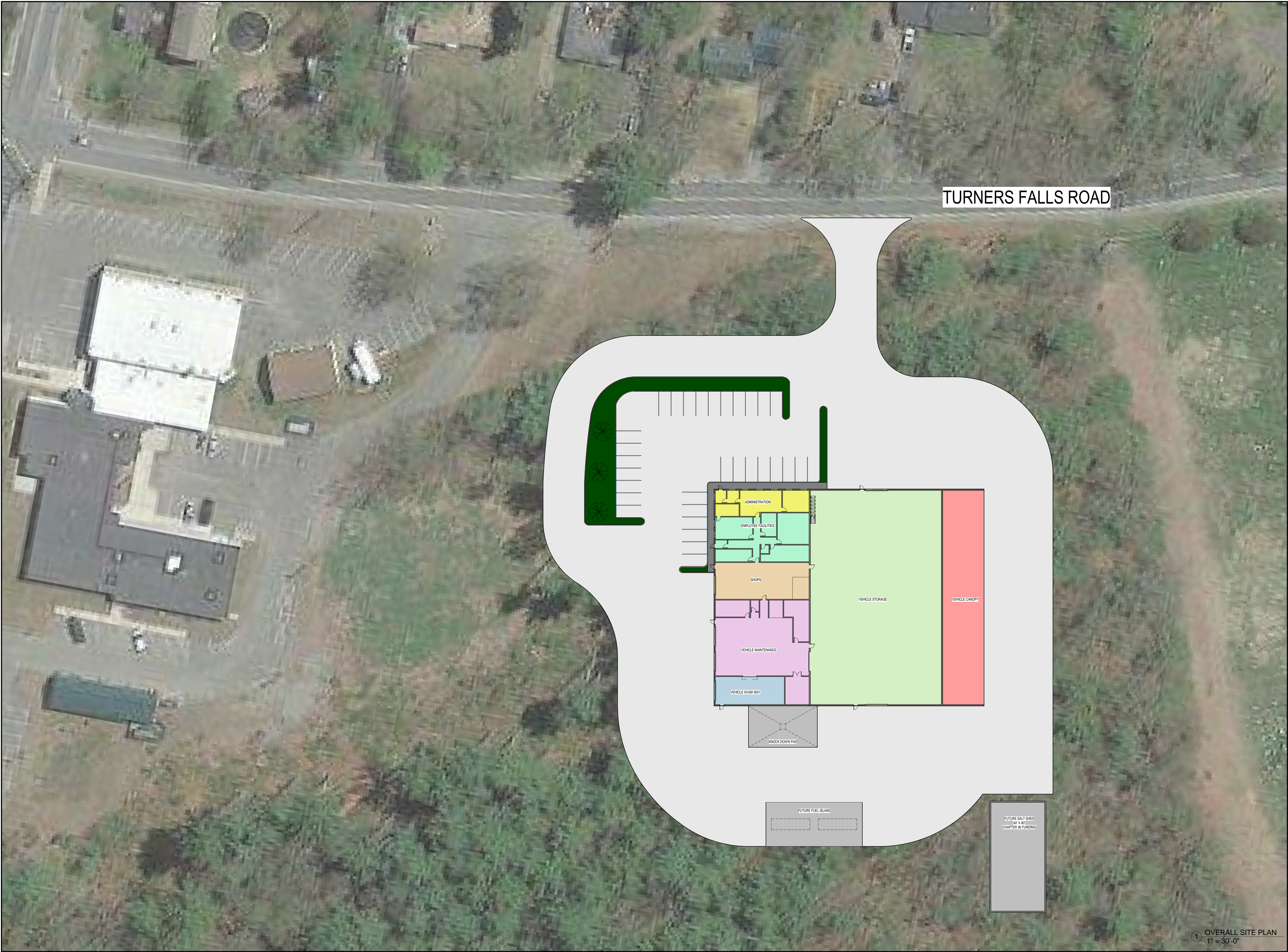
JANUARY 2016
 MONTAGUE, MASSACHUSETTS

Scale: 1/32"=1'-0"

Sheet 13


Appendix B

Preferred Building & Site Concept Plans



TURNERS FALLS ROAD

Project:
MONTAGUE DEPARTMENT
OF PUBLIC WORKS



DPW FACILITY
MONTAGUE, MA

Weston & Sampson

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard Suite 250
Foxborough, MA 02035
(508) 698-3034 (800) SAMPSON
www.westonandsampson.com


Consultants:


Seal:

Revisions:

Rev	Date	Description

Issued For: Project Status

 PROJECT

 TRUE

SCALE: 1" = 30'-0"

SCALE: AS NOTED

Date: OCTOBER 16, 2017

Drawn By: MMS

Reviewed By: JJA

Approved By: JJA

W&S Project No: Project Number

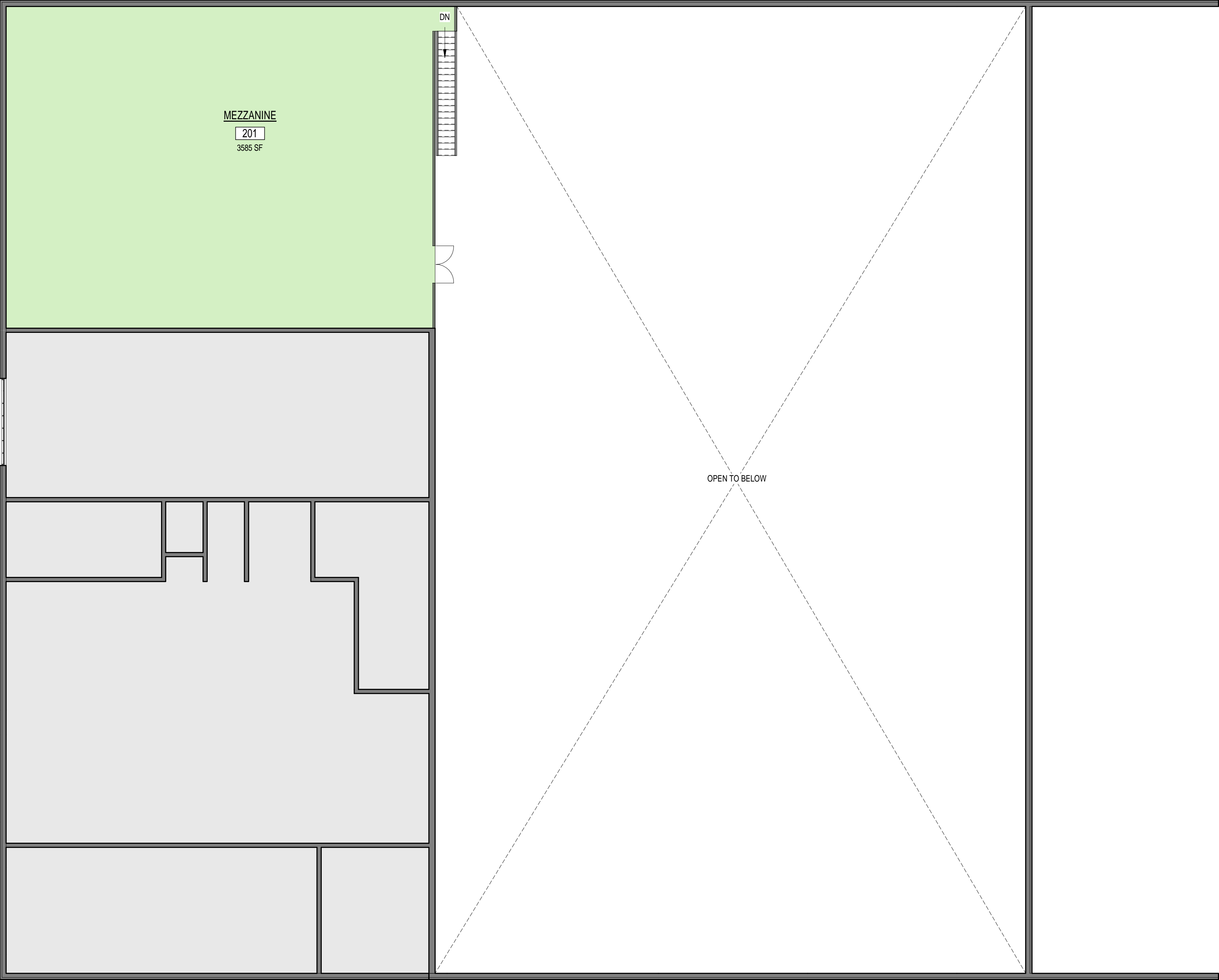
Drawing Title:

OVERALL SITE PLAN

Sheet Number:

A1.03

WESTON & SAMPSON COPYRIGHT 2017




① MEZZANINE FLOOR PLAN
3/32" = 1'-0"

Department Legend

Vehicle Storage

MEZZANINE SCHEDULE			
ROOM		Department	Area
#	NAME		
Vehicle Storage			
201	MEZZANINE	Vehicle Storage	3585 SF
			3585 SF
Subtotal			3585 SF

Project:
MONTAGUE DEPARTMENT
OF PUBLIC WORKS



DPW FACILITY
MONTAGUE, MA

Weston & Sampson



Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard Suite 250
Foxborough, MA 02035
(508) 698-3034 (800) SAMPSON
www.westonandsampson.com

Consultants:

Seal:

Revisions:		
Rev	Date	Description

Issued For: Project Status

 PROJECT  TRUE

SCALE: AS NOTED

Date: OCTOBER 16, 2017

Drawn By: MMS

Reviewed By: JJA

Approved By: JJA

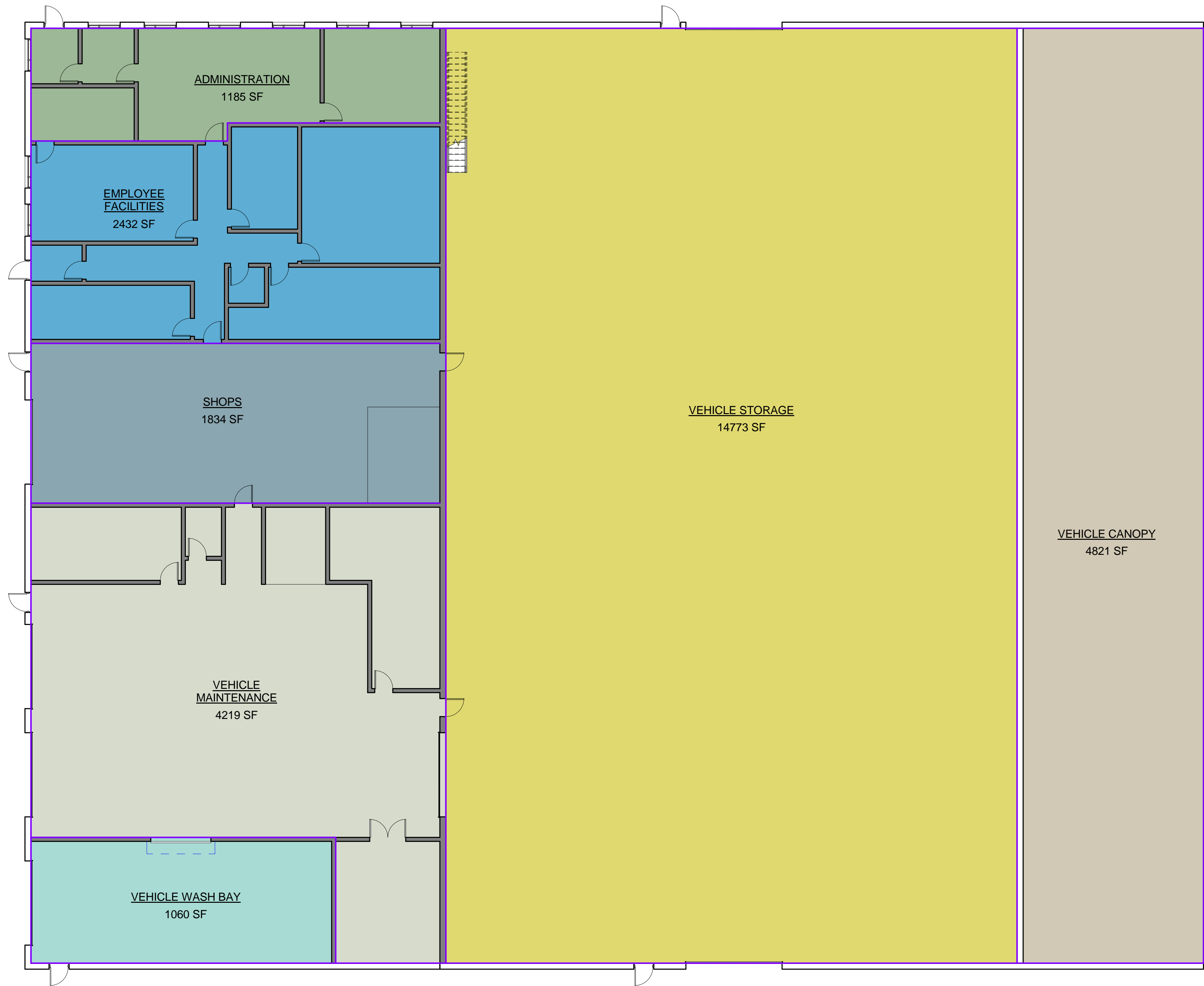
W&S Project No: Project Number

Drawing Title:

OVERALL
MEZZANINE
FLOOR PLAN

Sheet Number:

A1.01




Building Area Legend

- ADMINISTRATION
- EMPLOYEE FACILITIES
- SHOPS
- VEHICLE CANOPY
- VEHICLE MAINTENANCE
- VEHICLE STORAGE
- VEHICLE WASH BAY

GROSS AREA	
DEPARTMENT	GROSS AREA
ADMINISTRATION	1185 SF
EMPLOYEE FACILITIES	2432 SF
SHOPS	1834 SF
VEHICLE CANOPY	4821 SF
VEHICLE MAINTENANCE	4219 SF
VEHICLE STORAGE	14773 SF
VEHICLE WASH BAY	1060 SF
Grand total	30323 SF

1 FLOOR PLAN - GROSS BUILDING AREA
3/32" = 1'-0"

Project:
MONTAGUE DEPARTMENT
OF PUBLIC WORKS



DPW FACILITY
MONTAGUE, MA

Weston & Sampson

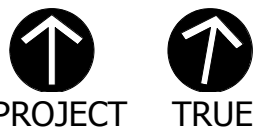
Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard Suite 250
Foxborough, MA 02035
(508) 698-3034 (800) SAMPSON
www.westonandsampson.com

Consultants:

Seal:

Revisions:		
Rev	Date	Description

Issued For: Project Status



SCALE: AS NOTED

Date: OCTOBER 16, 2017

Drawn By: MMS

Reviewed By: JJA

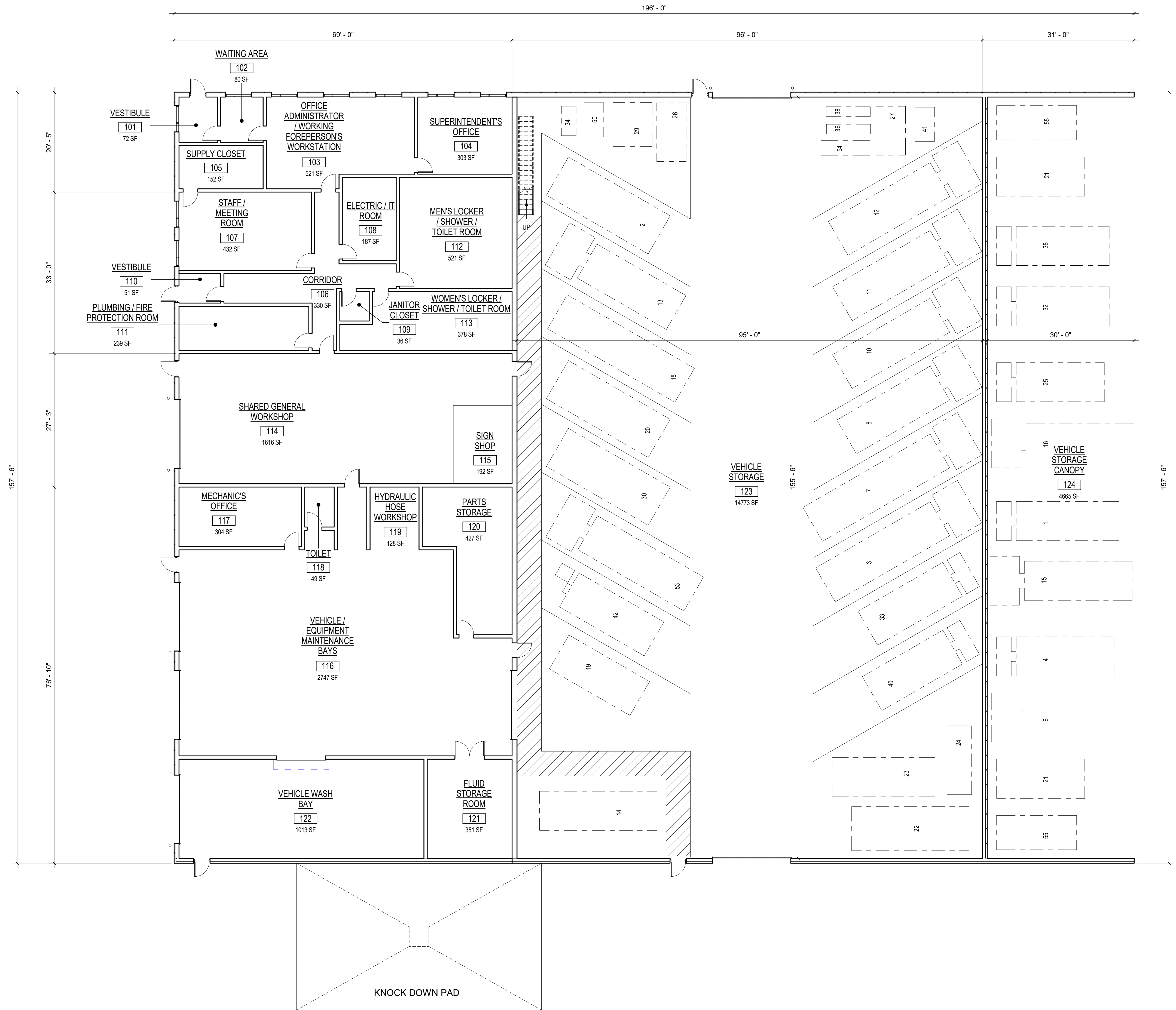
Approved By: JJA

W&S Project No: Project Number

Drawing Title:


GROSS BUILDING
AREA

Sheet Number:



① GROUND FLOOR PLAN
3/32" = 1'-0"

Project:
MONTAGUE DEPARTMENT
OF PUBLIC WORKS



DPW FACILITY
MONTAGUE, MA

Weston & Sampson

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard Suite 250
Foxborough, MA 02035
(508) 598-3034 (800) SAMPSON
www.westonandsampson.com


Consultants:


Seal:

Revisions:

Rev	Date	Description

Issued For: Project Status

 PROJECT

 TRUE

SCALE: AS NOTED

Date: OCTOBER 16, 2017

Drawn By: MMS

Reviewed By: JA

Approved By: JA

W&S Project No: Project Number

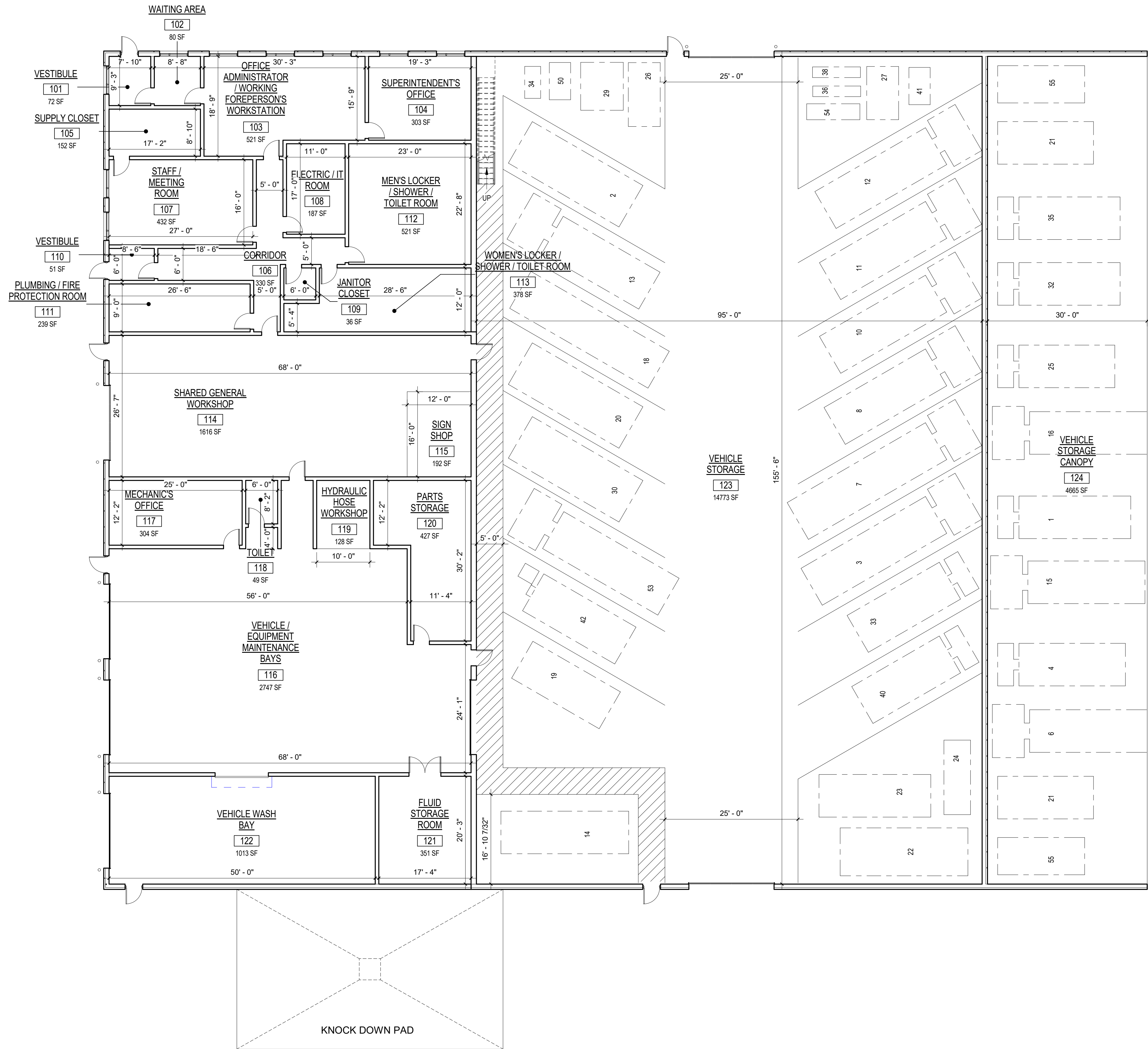
Drawing Title:

FLOOR PLAN

Sheet Number:

A1.00

WESTON & SAMPSON COPYRIGHT 2017



① GROUND FLOOR PLAN
3/32" = 1'-0"

Project:
MONTAGUE DEPARTMENT
OF PUBLIC WORKS



DPW FACILITY
MONTAGUE, MA

Weston & Sampson

Weston & Sampson Engineers, Inc.
100 Foxborough Boulevard Suite 250
Foxborough, MA 02035
(508) 598-3034 (800) SAMPSON
www.westonandsampson.com

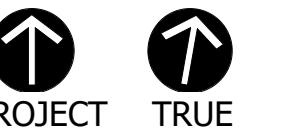
Consultants:

Seal:

Revisions:

Rev	Date	Description

Issued For: Project Status



SCALE: AS NOTED

Date: OCTOBER 16, 2017

Drawn By: MMS

Reviewed By: JA

Approved By: JA

W&S Project No: Project Number

Drawing Title:

FLOOR PLAN

Sheet Number:

A1.00



Montague, MA
Public Works Facility

Conceptual Rendering
Bird's Eye View

Weston & Sampson



Montague, MA
Public Works Facility

Conceptual Rendering
Street View

Weston & SampsonTM

Appendix C
Cost Summary

Town of Montague



New Public Works Facility Project Cost Summary

CONSTRUCTION COSTS

Building/Equipment Construction Cost: \$7,125,745

Site Development Costs: \$1,033,200

Escalation / Construction Market
Adjustment: \$748,991

SOFT COSTS (including State mandated services)

Professional Services Fees: \$1,445,270

- Architectural/Engineering Fees
- Owner's Project Manager Fees
- Commissioning

Building Systems / Final Fit-out: \$120,000

- Communications System
- Furnishings

Miscellaneous Soft Costs: \$50,000

- Utility back charges
- Moving costs
- Printing/advertising costs

Construction Contingency: \$623,556

TOTAL PROJECT COST: \$11,146,762

**Town of Montague
New Public Works Facility
Budget Total Project Cost**

10/23/2017

<u>New Construction</u>		2017 Cost/SF		
Area	Size (SF)	(w/ markups)	Cost	
Administration / Employee Facilities	3,617	\$ 320	\$	1,157,945
Shops	1,834	\$ 225	\$	412,582
Vehicle Maintenance (not including equipment)	4,219	\$ 225	\$	949,119
Added Cost for Radiant Floor Heating	4,219	\$ 12	\$	50,628
Wash	1,060	\$ 350	\$	371,000
Vehicle/Equipment Storage	14,773	\$ 177	\$	2,620,355
Added Cost for Higher Roof at Admin / Empl Facil Area	3,617	\$ 10	\$	36,170
Foundation Prep (assumes native material / shallow foundations)	25,503	\$ 15	\$	382,545
New Construction Subtotal:	25,503		\$	5,980,343
Building Cost per SF:	234	Place a "x" here if included		
Industrial Equipment				
- Wash Equipment Allowance for Portable Manual System	\$ 7,500	x	\$	7,500
- Heavy Duty Vehicle Lift (75K Capacity Scissor Lift)	\$ 105,000	x	\$	105,000
- Light Duty Vehicle Lift (16,000 lb capacity minimum)	\$ 27,300			
- Bridge Crane	\$ 60,000	x	\$	60,000
- Overhead Lubrication System	\$ 89,000			
- Miscellaneous Shop and Support Equipment	\$ 15,000	x	\$	15,000
- Storage Shelving / Benches / Racks	\$ 20,000	x	\$	20,000
- Exhaust Removal System (1 Reel)	\$ 8,000	x	\$	8,000
Industrial Equipment Subtotal:			\$	215,500
Building & Equipment Total:			\$	6,195,843
Mezzanines	3,585	\$ 55	\$	195,741
Open Canopy Storage	4,821	\$ 82	\$	394,840
Site Development (acres) - assumes level site with no contamination, existing structures/utilities, etc.	2.4	\$ 410,000	\$	984,000
	Subtotal Bldg, Equip, & Site:		\$	7,770,424
	Design Contingency (5%):		\$	388,521
	Market Adjustment (6%):		\$	489,537
	Escalation - 1 Year (3% per year):		\$	259,454
	Total Construction:		\$	8,907,937
	Total Construction Cost/SF:			349

**Town of Montague
New Public Works Facility
Budget Total Project Cost**

10/23/2017

Department of Public Works	
Budget Total Project Cost	
<u>Owner's Soft Costs</u>	
A&E Fees (design, bid, const.)	\$ 890,794 (Assume 10% of Const. Value)
A&E Special Services	\$ 178,159 (Assume 2% of Const. Value)
Owner's Project Manager Fees	\$ 356,317 (Avg 4% of Const. Value)
Furnishings (FFE)	\$ 50,000 allowance
Communic. / Low Voltage System	\$ 70,000 allowance
Printing Cost - Advertisement	\$ 5,000 allowance
Commissioning	\$ 20,000 allowance
Utility Company Backcharges	\$ 30,000 allowance
Owner Miscellaneous Costs (moving, etc.)	\$ 15,000 allowance
Construction Contingency (7%)	\$ 623,556 allowance
Total Soft Costs: \$ 2,238,825 (current dollars)	
TOTAL PROJECT COST \$ 11,146,762 (Average Bid Price)	

**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
Wayland Public Works Facility	39,869	2014	\$ 10,519,754	\$264	\$275	\$287	\$323	\$339	\$353
Medford Public Works Facility	45,000	2014	\$ 12,340,333	\$274	\$286	\$299	\$336	\$352	\$366
Bourne Public Works Facility	39,040	2014	\$ 11,063,598	\$283	\$296	\$309	\$347	\$364	\$379
Norwood Public Works Facility	53,870	2014	\$ 15,437,343	\$287	\$299	\$312	\$351	\$368	\$383
Boylston Highway Facility	13,926	2015	\$ 3,935,419	--	\$283	\$295	\$331	\$348	\$362
Hopkinton Public Works Facility	42,410	2016	\$ 12,112,833	--	--	\$286	\$321	\$337	\$351
Orleans Public Works Facility	42,278	2017	\$ 12,833,834	--	--	--	\$304	\$319	\$331
Andover Municipal Services Facility	54,088	2017	\$ 18,413,675	--	--	--	\$340	\$357	\$371
Longmeadow Public Works Facility	44,858	2018	\$ 14,773,364	--	--	--	--	\$329	\$343
Last Five (5) Years - Average Cost per SF:				\$277	\$288	\$298	\$332	\$346	\$360
Montague DPW Facility	25,503	est. 2019	\$8,907,937	--	--	--	--	\$349	\$367