Town of Merrimac
Department of Public Works
Merrimac, MA

Study for New Department of Public Works Facility Building

Prepared for:
The Department of Public Works
4 School Street, Merrimac MA 01860

Prepared by:

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Luna Design Group Project No: 24018a

DRAFT Report
April 2025

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Purpose
The purpose of this study is to provide recommendations to the Town of Merrimac for the design of a new public works facility building.

Project Description
The project consists of constructing a free-standing 15,259 +/- GSF public works building, which includes vehicle storage, vehicle wash and maintenance bays, administrative offices, a salt storage structure, and a vehicle yard. The proposed design and initial program requirements are based on the previously prepared Feasibility Study for the Merrimac Public Safety Complex, dated July 27, 2016, by HKT Architects Inc. The HKT study proposed a 26,789 +/- GSF facility with a hard cost construction budget of $8,438,535, and an overall total project cost of $11,251,380.

Luna Design Group, the author of this study, has been requested by Robert Sinibaldi, Director of Public Works to redesign this building with the primary objective of reducing the building size and its anticipated construction cost to a more affordable budget. The proposed design substantially reduces the size of the facility by 42% to approximately 15,610 sq. ft. by eliminating redundant program elements and utilizing space more efficiently. Additional cost savings are achieved through simplified building design and construction methods.

While cost savings were the primary objective, the proposed building design presents a blend of functionality and modern architectural aesthetics. The building's facade showcases a thoughtful design that balances practicality with visual appeal using a multicolor metal panel palette, accent building trims, and window placement.

Two site options are conceptually presented in this study, with the pros and cons addressed accordingly. This study has determined the Federal Way site as the preferred option due to its lesser impact on the community and proximity to currently used DPW sites.

Estimated Project Costs
The Estimated Total Construction Cost (ETCC) is $3,986,967. The projected Estimated Total Project Cost (ETPC), which includes fixtures, furnishings, equipment, and additional project soft costs, is $4,983,709. This represents an approximate 44% reduction in cost from the previous study.

Project Schedule
The estimated time for completion of Design Development and Construction Drawings is five months from the notice to proceed with final design services. Contract award is expected to take three months, with construction requiring nine to ten months.

1- EXISTING DEPARTMENT OF PUBLIC WORKS FACILITY

A. OVERVIEW

An extensive study of all municipal properties was prepared in 2016 by HKT Architects Inc., addressing the conditions and needs of these facilities, including the existing Town of Merrimac DPW facility. This current study aims to build on the previous work, addressing the specific concerns regarding the use and conditions of these facilities, but moreover, their proposed replacement as noted in the prior report. To provide context for the new DPW study, the following overview of the existing DPW facility should be noted:

B. SUMMARY OF 2016 KHT FEASIBILITY STUDY FOR THE MERRIMAC PUBLIC SAFETY COMPLEX

- **ARCHITECTURAL ASSESSMENT**
  The Merrimac Public Safety Complex, originally a wood structure from the 1890s, was rebuilt as a masonry building after a fire. Renovations included new mechanical systems, interior masonry walls, floor slab adjustments, exterior façade restructuring, and construction of a second level and mezzanines.

- **SITE DESCRIPTION**
  Located at 16 East Main Street (Route 110), the 1.02-acre site houses the Police and Fire Departments and the Highway Division of the Department of Public Works. It includes paved areas for equipment storage and abuts Cobbler Brook, within the wetlands buffer zone. The site is zoned Agricultural Residential District (AR) and Village Residential (VR), with the building's use grandfathered despite not meeting current zoning regulations. It should be noted that salt and accessory storage are located at remote sites.

- **BUILDING DESCRIPTION**
  The masonry structure spans approximately 18,782 square feet on the grade level and 3,624 square feet on the second floor. It features a low pitched tar and gravel roof, skylights, and various types of windows and doors. Interior elements include masonry bearing walls, steel beams, wood roof deck, and diverse wall and ceiling materials. The HVAC system, installed around 1999/2000, is nearing the end of its useful life, and the plumbing and electrical systems require replacement.

- **ACCESSIBILITY AND SAFETY**
  The building lacks accessible pathways from parking to the front entry and does not have an elevator for upper levels. Egress requirements need updating to ensure two independent exits for spaces accommodating more than 50 people. Mechanical systems are outdated and should be replaced with energy-efficient alternatives. The building envelope has limited insulation, necessitating upgrades to meet current energy codes.

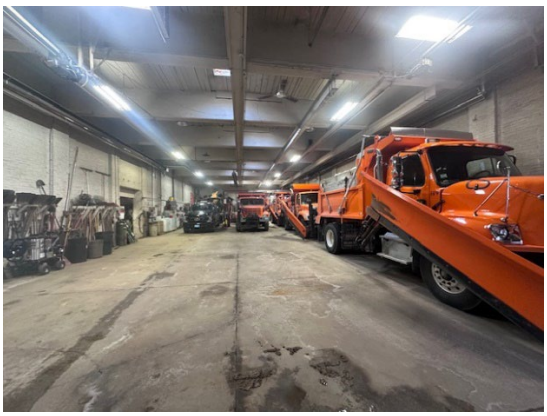
C. RECOMMENDATION

Given the extensive renovations required to bring the existing structure up to modern standards for safety, accessibility, and energy efficiency, it the opinion of Robert Sinibaldi, Director of Public Works and Luna Design Group (Author of this report) to recommended to the Town of Merrimac the construction of a new DPW facility. A new building would better meet the current and future needs of the Merrimac Department of Public Works, ensuring compliance with all relevant codes and providing a more efficient and sustainable environment for all users.

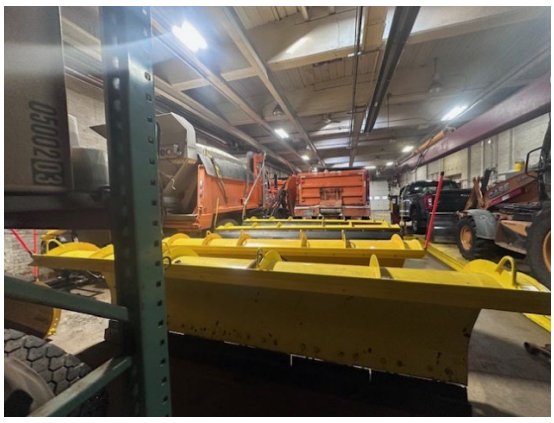
D. PHOTOGRAPHS

Existing Merrimac DPW Building
16 East Main Street

Existing Merrimac DPW Building & Yard
16 East Main Street

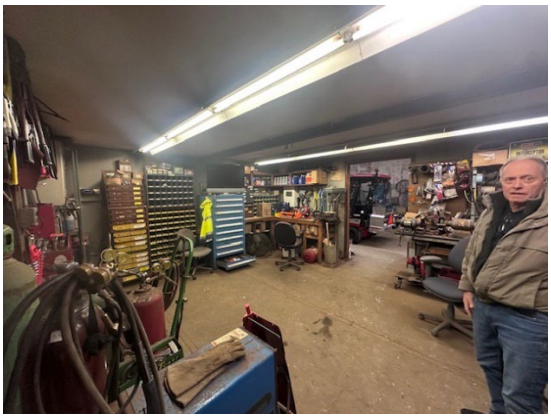


Existing Merrimac DPW Vehicle Storage

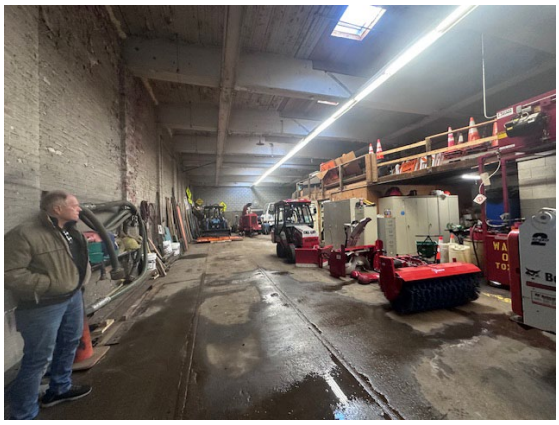


Existing Merrimac DPW Vehicle Storage

PHOTOGRAPHS (CONTINUED)



Existing Merrimac DPW Office Work Area



Existing Merrimac DPW Maintenance Bay

Federal Way Salt Storage

Broad Street Storage Yard

A. PROPOSED DPW BUILDING OVERVIEW

The original program requirements from the 2015 HKT feasibility study were incorporated into this new study. However, the primary design objective was to reduce the building size from the originally proposed 26,789 +/- square feet to a more affordable and usable design solution. Several building design options were explored, along with two potential sites for the proposed Department of Public Works Facility. Conceptual site plans were prepared for these sites, but no additional investigation or analysis of grading, drainage, utilities, and other pertinent site parameters was conducted. At this phase of project development, the site plans should be viewed as diagrammatic only.

B. DESIGN ALTERNATIVE OPTIONS – PROPOSED BUILDING FLOOR PLANS

B.1 - OVERALL GOALS & OBJECTIVES:

1. ***Reduce Building Size***
   As previously noted, the 2015 HKT study proposed a 26,789 square foot DPW facility. To achieve significant cost reductions, the proposed building size would need to be reduced by 30% to 40%. The following area reductions were considered in this report:

   - Reduce vehicle parking from 16 to 14 bays within the vehicle storage area. If additional parking is needed, vehicles could be parked in tandem in the drive aisle.
   - Reduce overall dimensions within each of the three bays (wash, vehicle storage, and maintenance/office bays).
   - Incorporate unused floor area within the vehicle storage structure to provide storage and mechanical space.
   - Reduce dedicated mechanical and storage space within the building footprint.
   - Supplement additional storage and mechanical space with a mezzanine above the maintenance bay and office area.
   - Reduce the maintenance bay from two service stations to one.

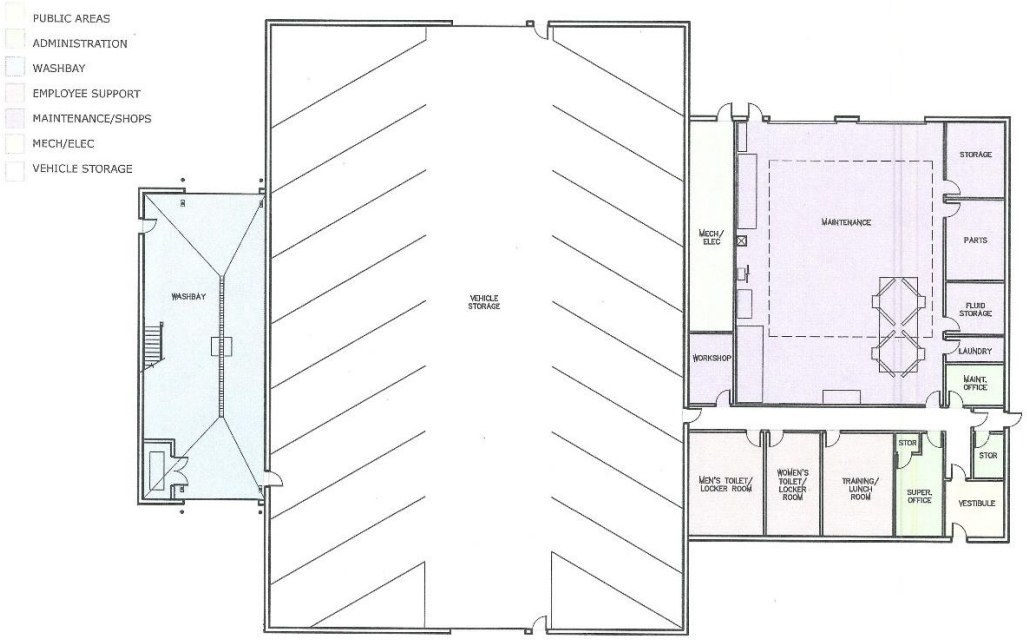
2. ***Provide a Simplified Overall Building Structure Using a Combination of Pre-engineered Steel Structures.***
   Construction costs can be substantially reduced by using a pre-engineered steel structure. Pre-engineered steel structures offer numerous advantages, including cost efficiency, quick construction, and design flexibility. They are durable, low-maintenance, and environmentally friendly due to their recyclability. These structures also provide superior strength and resistance to harsh weather conditions, making them ideal for this application.

3. ***Provide an Environmentally Sensitive Structure by Incorporating LEED Elements into the Building's Design.***
   Incorporating LEED elements into the proposed DPW building promotes sustainability and energy efficiency, as well as indoor air quality, water conversation and material reuse.

LEED certification also boosts environmental responsibility and community health, ensuring the building meets high standards for green construction and operational performance.

4. ***Provide a Well Designed Efficient & Attractive Building.***
Good design in a DPW (Department of Public Works) building ensures efficient workflow, safety, and functionality. A well-designed facility minimizes hazards and ensures a safe working environment for employees, while also meeting all operational needs, from vehicle maintenance & storage, to office space. Thoughtful design promotes sustainability by incorporating eco-friendly practices and materials, supporting environmental goals. Additionally, creating a comfortable and well-equipped workspace boosts employee morale and efficiency. An attractive building fosters civic engagement and a sense of community pride. Overall, a DPW building that balances these elements can significantly benefit both the employees and the community it serves, creating a space that stands the test of time.

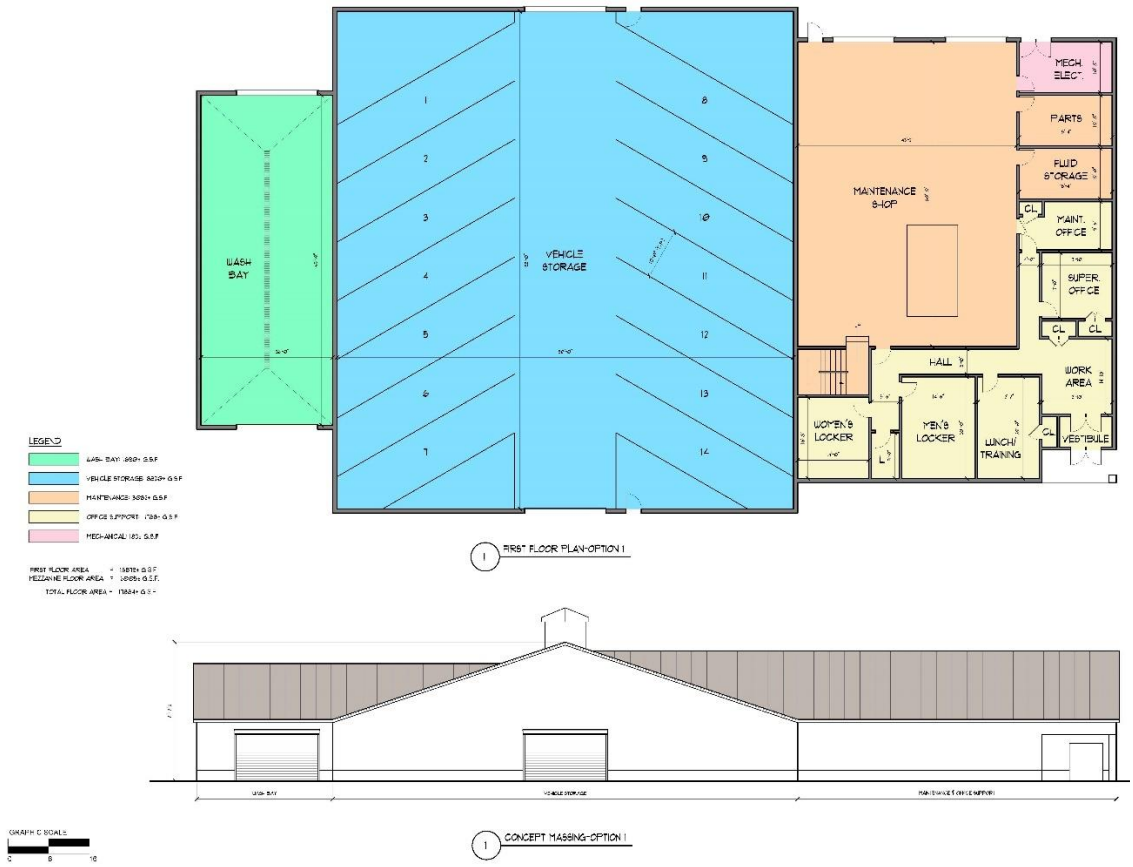
B.2 - ORIGINAL 2015 HKT STUDY FLOOR PLAN



2015 HKT Proposed First Floor Plan

The proposed building size was approximately 26,789 +/- square feet on a single level. All design schemes studied in this report are originally based on this layout; however, they have been refined as necessary to reduce the building area and improve efficiency.

B. 3 DESIGN OPTION 1 – MEZZANINE SCHEME



Option 1 – First Floor Plan & Concept Elevation

The proposed scheme consists of three pre-engineered, interconnected structural bays incorporating a mezzanine for additional mechanical and storage areas. The building footprint has been reduced as outlined in the project goals for area reduction. Two service bays remain in the maintenance shop. The total building footprint is approximately 15,879 square feet, with a mezzanine area of approximately 2,005 square feet, for a combined area of approximately 17,884 square feet. This represents a total floor area reduction of 33% from the 2015 HKT plan.

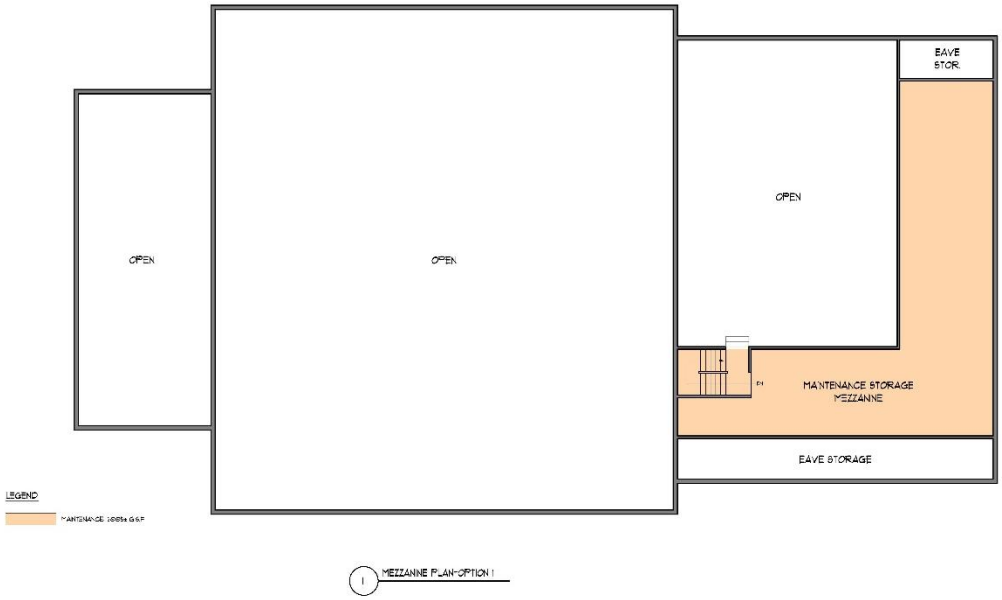
Pros:

- Reduces building area.
- Provides additional storage at mezzanine level.

Cons:

- Reduction in building area is still insufficient to reduce projected cost to an acceptable amount for the Town of Merrimac DPW.
- Inefficient use of residual space in vehicle bay.

B. 3 DESIGN OPTION 1 – MEZZANINE SCHEME



Option 1 – Mezzanine Plan

B. 4 DESIGN OPTION 2- LINK SCHEME

Option 2 – First Floor Plan & Concept Elevation

The proposed scheme incorporates four single story interconnected structural bays. The connecting link houses the storage and mechanical areas. Two service bays are provided in the maintenance bay. The reduced building height eliminates the mezzanine. The total building footprint area is approximately 16,863 square feet, representing a 37% reduction in floor area from the 2015 HKT plan.

Pros:

- Reduces building area.

Cons:

- Reduction in building area is still insufficient to reduce projected cost to an acceptable amount for the Town of Merrimac DPW.
- Inefficient use of residual space in vehicle bay.
- Massing is more complicated as it requires an additional structural bay.

B. 5 DESIGN OPTION 3 – MEZZANINE SCHEME WITH REDUCED SIZE WASH AND MAINTENANCE BAYS (PREFERRED STUDY OPTION)

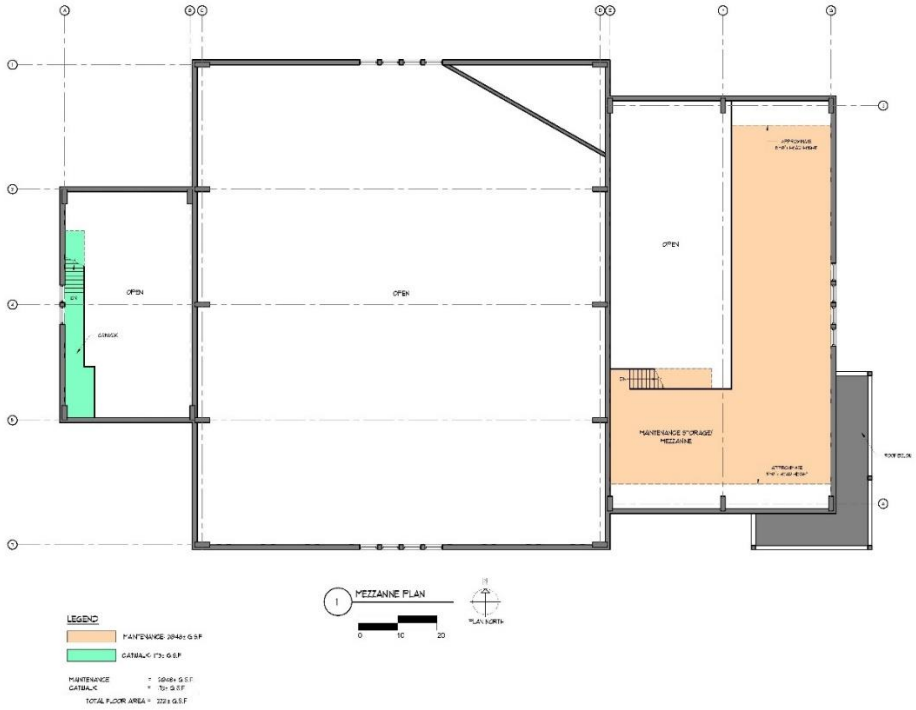
Option 3 – First Floor Plan

Similar to Option 1, the design consists of three pre-engineered, interconnected structural bays incorporating a mezzanine for additional mechanical and storage areas. However, the wash and maintenance bays are reduced in size, with the maintenance bay reduced to a single service bay. The total first floor gross floor area is approximately 12,865 square feet, with a mezzanine area of approximately 2,221 square feet. The combined area of approximately 15,259 square feet, representing a total floor area reduction of 43% from the 2015 HKT plan.

Pros:

- Reduces building area.
- Provides additional storage at mezzanine level.
- Use residual spaces in maintenance bay for storage and mechanical use.
- Provided a more efficient floor plan layout.

Refer to Recommendation Section for additional description of the Preferred Study Option



Option 3 Mezzanine Plan

C. POTENTIAL SITE CONSIDERATIONS:

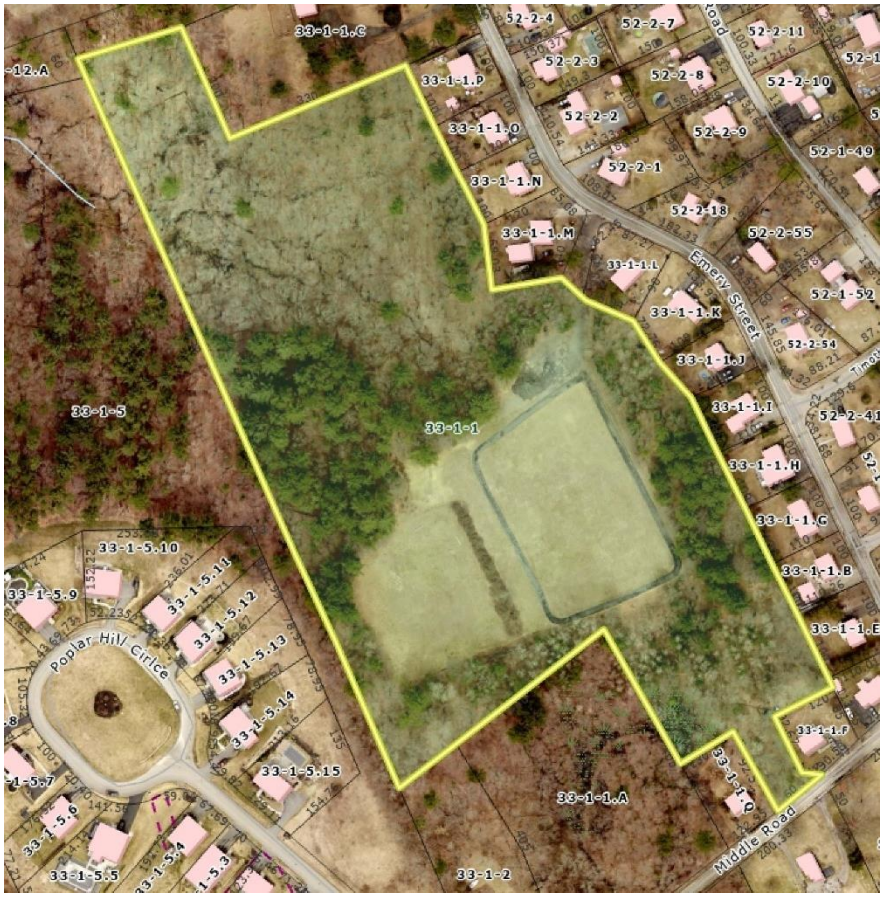
C.1. SITE OVERVIEW

Two sites were considered in the preparation of this feasibility study:

- **33 Emery Street**: Parcel ID 33-1-1, Size 17.94 +/- Acres
- **50 Federal Way**: Parcel ID 37-2-2D, Size 3.89 +/- Acres

The 2015 HKT Feasibility Study, initially proposed for the new DPW facility be constructed at 33 Emery Street.. However, during the preparation of this current study, the DPW Chairman suggested an alternate site at 50 Federal Way. Both sites were preliminarily for conceptual building placement, parking and vehicle access, but no additional site investigation was performed. The opinion in this report regarding the best site choice for the new facility is based on observations and publicly available information. All preliminary site plans are designed around the Option 3 floor plan as the preferred building scheme.

C.2.1 - 33 EMERY STREET. Parcel ID 33-1-1



C.2.2 - 33 EMERY STRET SITE DESCRIPTION

The parcel is located in the AR (Agricultural, Residential) Zoning District and borders the SR (Single Family) Zoning District to the east. Surrounded by single-family residences, the site is currently used as a playfield. Access is available through a small drive on the northeast side of the parcel. The field area is situated towards the south, with wetlands immediately to both the south and north. Although there is potential access from Middle Road, it would require lengthy conservation permitting to construct an access drive through the wetlands. To avoid this disruption, the proposed access would remain via the existing Emery Street drive.

This site is part of the Town of Merrimac Open Space Committee's (OSC) six-year "Open Space and Recreation Plan" (OSRP) and is being evaluated for optimal recreational use and is referred to as "Carriagetown Park" in this study. In 2023, the Select Board secured a grant to update the Town's Master Plan, and the OSC issued a public survey to gather residents' input on maximizing recreational use of the property. The survey, now published, indicates a clear preference for maintaining the site for recreational purposes.

While the site is large enough to accommodate a new DPW facility, the structure would need to be placed in the primary field area to minimize disruption to the wetlands. Access would continue through the existing drive, requiring DPW vehicles to enter and exit via the Emery Street neighborhood. Refer to the conceptual site plan below for additional details.

Entrance to Emery Street Field/ "Carriagetown" Park

C.2.3 - 33 EMERY STRET CONCEPTUAL SITE PLAN FOR DPW FACILITY

C.2.4 - 33 EMERY STRET SITE CONSIDERATION PROS AND CONS

Pro Considerations:

- Town owned land.
- Extensive site work not required as the site is primarily flat.
- Additional site area for expansion.
- Permitting could be potentially simplified if the new facility is located outside of required conservation buffer zones. Additional analysis required.
- Site is large enough for future expansion or yard use.

Con Considerations:

- Access would be through the existing residential neighborhood increasing noise and traffic.
- Permitting could require additional time if the facility is located within the Conservation Commission jurisdiction.
- The new facility would take away preexisting recreational land use.
- The proposed DPW use is not in line with the Town of Merrimac Open Space Committee Master Plan for enhancing town owned property for recreational use.
- Although the site is large, approximately two thirds of the parcel is wetlands.
- Concerns about salt shed runoff into wetlands.

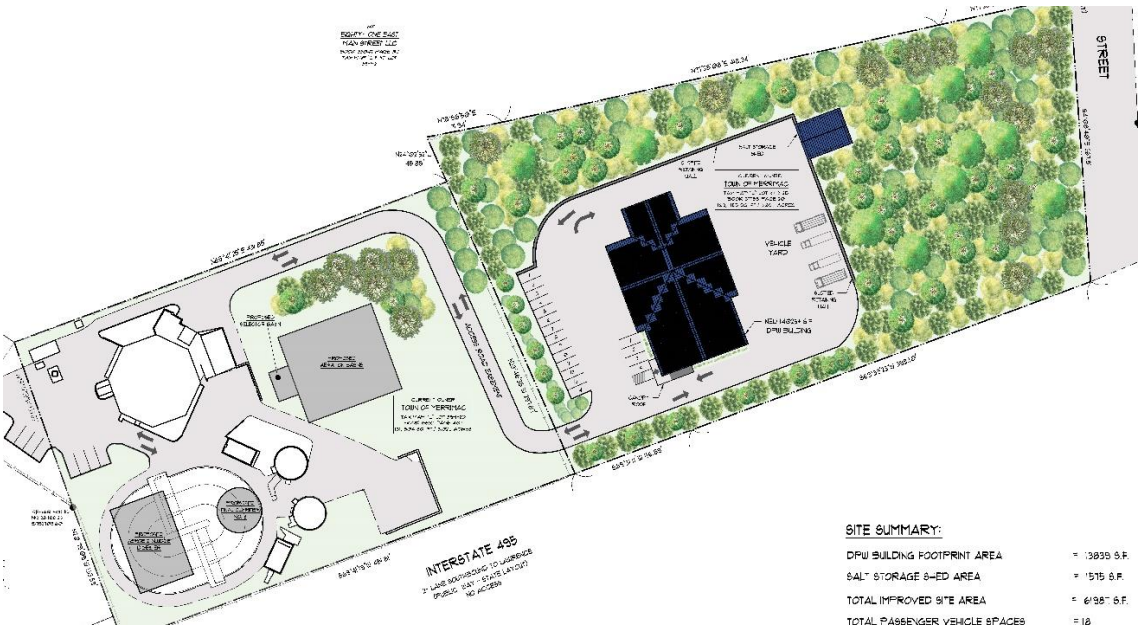
C.2.5 – 50 FEDERAL WAY: Parcel ID 37-2-2D

C.2.6 – 50 FEDERAL WAY SITE DESCRIPTION

50 Federal Way is home to the Merrimac Wastewater Treatment Facility. The proposed parcel is to the rear of the wastewater treatment facility and is undeveloped consisting of a sloping grade and undisturbed vegetation. There are no streams or ponds on the site, and it does not appear at this time that site is subject to conservation jurisdiction, although additional study will be required. The site is to the immediate north of Interstate 495 and within the OI (Office Light Industrial) District, with no residential properties surrounding its perimeter. Access to the site is limited and will require an access road through the existing Merrimac Wastewater Treatment Facility. This will require possible reconfiguration of the roads and other structures withing the facility. Furthermore, natural gas is unavailable at Federal Street into the wastewater facility and will require an extension of the gas line into the property. In addition, the wastewater facility is currently in the process of redesigning its oxidation basins and that any access roads to the rear site will need to be coordinated with this project. Neither of this related work is factored into this study.

Refer to the conceptual site plan below for additional details.

C.2.7 – 50 FEDERAL WAY CONCEPTUAL SITE PLAN FOR DPW FACILITY



C.2.8 – 50 FEDERAL WAY CONSIDERATION PROS AND CONS

Pro Considerations:

- Town owned land.
  Site is in a preexisting industrial area and will have no impact on any residential neighborhoods.
- The new facility will not negatively impact the Town of Merrimac Open Space Committee Master Plan for enhancing town owned property for recreational use.
- The permitting should be simplified.
- No potential impact on wetlands.
- Proximity to other DPW sites for general use and salt storage.

Con Considerations:

- Site access will be through the Town of Merrimac Wastewater Facility requiring coordination with proposed improvements to this facility (Not factored into project cost).
- Natural gas service will need to be extended to the site along Federal Street (Not factored into project cost)..
- Sitework will be more extensive than the Emery Street site due to site clearing, potential ledge removal and topography.

Based upon discussions between the report's author and the Town of Merrimac project team, it is recommended that the proposed DPW facility be located at 50 Federal Way. Refer to the Recommendations section of this study for additional information.

A. OVERVIEW

Based on the original program requirements from the 2016 HKT feasibility study, subsequent design options, and meetings, a preferred design option for the building has been selected.

Option 3 meets the primary design objective by reducing the building size from the originally proposed 26,789 square feet to a minimum workable facility of approximately 15,610 square feet. The proposed design represents a 42% reduction in building area from the initial HKT proposal. The hard cost budget provided in the 2016 study was $8,438,535. With the reduction in area, the proposed site and building budget is reduced to $3,986,967 with design and construction contingencies, plus a one-year cost escalation factored in. Additionally, as part of an overall strategy to decrease the construction cost per square foot, the proposed DPW facility will be constructed using three interconnected pre-engineered rectangular structural bays. Refer to Section 4 -Appendix for literature regarding pre-engineered steel building construction.

A mezzanine is located within the Maintenance/Office Bay to provide additional storage and floor area for future expansion, should the DPW require more program floor area.

B. PREFERRED DESIGN SUMMARY

B.1 PROPOSED DPW FACILITY BUILDING

As previously stated, the proposed building design consists of three interconnected pre-engineered structural bays with the areas for major program elements:

- Maintenance Bay: 3,910 +/- GSF
- Office/ Support: 1,776 +/- GSF
- Vehicle Storage Bay: 7,797+/- GSF
- Vehicle Wash Bay: 1,196 +/- GSF
- Total Footprint Size: 13,839+/- GSF
- Additional Mezzanine Area: 2,221+/- GSF
- Total Gross Floor Area: 15,259 +/- GSF

To reduce damage to the exterior envelope and steel structure, a 42-inch-tall concrete apron will wrap around the perimeter of the building.

The exterior walls will be clad with vertical ribbed metal panels and trim in a multicolor scheme. The roof will also use colored steel panels that complement the final exterior color palette.

Natural light will be provided through strategically placed metal windows throughout each bay. Interior finishes will be typical of utilitarian municipal buildings.

The building will be equipped with solar panels and additional elements to enhance sustainability, energy efficiency, indoor air quality, water conservation, and material reuse.

B.2 PROPOSED DPW FACILITY SITE

The preferred site for the new DPW facility is 50 Federal Way. Although work will be required at the existing wastewater facility and the installation of an extended gas line at Federal Way, this site has little to no impact on Merrimac residents and does not conflict with the Town of Merrimac Open Space Committee Master Plan to enhance existing recreational use at the Emery Street site.

C. SCOPE OF WORK – OUTLINE SPECIFICATION
UNIFORMAT II – SYSTEMS FORMAT

A. Substructure

- **A10 Foundations**
  - **A1010 Standard Foundations**: Provide reinforced concrete spread footings designed to support the loads imposed by the superstructure. Concrete shall have a minimum compressive strength of 3000 psi at 28 days.
  - **A1020 Special Foundations**: Include deep foundations such as piles or caissons if required by soil conditions. Design and install according to geotechnical recommendations.
  - **A1030 Slab on Grade**: Install a 6-inch thick reinforced concrete slab on grade with a vapor barrier. Concrete shall have a minimum compressive strength of 3000 psi at 28 days.

B. Shell

- **B10 Superstructure**
  - **B1010 Floor Construction**: Provide a composite steel deck with concrete topping for elevated floors. Design to support office and warehouse loads.
  - **B1020 Roof Construction**: Use pre-engineered steel trusses and purlins with metal decking. Design for local wind and snow loads.
- **B20 Exterior Enclosure**
  - **B2010 Exterior Walls**: Install insulated metal wall panels with a minimum R-value of 20. Panels to be factory-finished with a weather-resistant coating. Provide multiple panel colors and trim sections as indicated on the drawings.
  - **B2020 Exterior Windows**: Provide double-glazed, low-E coated aluminum-framed windows. Ensure windows meet energy efficiency standards. Color from manufacturer's full range.

- **B2030 Exterior Doors**: Install insulated metal doors with weather stripping and thermal breaks. Include panic hardware for emergency exits.

- **B30 Roofing**
  - **B3010 Roof Coverings**: Apply a standing seam metal roof system with a minimum R-value of 30. Ensure roof is watertight and resistant to local weather conditions. Provide solar panel mounting brackets and snow guards.
  - **B3020 Roof Openings**: Provide roof hatches, skylights as required. Ensure all openings are properly flashed and sealed.

C. Interiors

- **C10 Interior Construction**
  - **C1010 Partitions**: Construct interior partitions with metal studs and gypsum board. Provide sound insulation for office areas.
  - **C1020 Interior Doors**: Install solid core wood doors with metal frames for offices. Use hollow metal doors for warehouse areas.
  - **C1030 Fittings**: Include built-in cabinetry, shelving, and other fittings as required for office functionality.
- **C20 Stairs**
  - **C2010 Stair Construction**: Provide steel-framed stairs with concrete treads and risers. Ensure stairs meet local building codes.
  - **C2020 Stair Finishes**: Finish stairs with non-slip coatings and handrails.

- **C30 Interior Finishes**
  - **C3010 Wall Finishes**: Apply paint or wall coverings to gypsum board walls. Use durable finishes in high-traffic areas.
  - **C3020 Floor Finishes**: Install carpet tiles in office areas and epoxy coatings in warehouse areas.
  - **C3030 Ceiling Finishes**: Provide suspended acoustic ceiling tiles in office areas. Use exposed structure in warehouse areas.

D. Services

D20 - Plumbing

- **D2010.10.01 - Wash Bay:**
  - Furnish and install Power Wash (spraying) Equipment.
  - Furnish and Install Power Wash (water heating) Equipment.
  - Furnish and install a reduced pressure backflow preventor for water make up.
  - Furnish and Install trench drains with all associated piping.
  - Furnish and install general purpose hose bibbs. (2 interior & 2 Exterior).
  - Furnish and install Gas Sand Interceptor **(N1)** with all associated piping.
  - Furnish and install Natural gas to all gas fired equipment.
  .
- **D2010.10.02 Vehicle Storage:**
  - Furnish and Install Trench Drains with all associated piping.

- Furnish and install Gas Sand Interceptor **(N1)** with all associated piping.
- Furnish and install a reduced pressure backflow preventor.
- Furnish and install general purpose hose bibbs. (2 interior & 2 Exterior)
- Furnish and install non-potable water to trap primer connections.
- Furnish and install Natural Gas to all gas fired equipment.

- **D2010.10.03 Maintenance Bay and Mezzanine:**
  - Furnish and install Trench Drains with all associated piping.
  - Furnish and Install Gas Sand Interceptor **(N1)** with all associated piping.
  - Furnish and install a reduced pressure backflow preventor.
  - Furnish and install general purpose hose bibbs. (2 interior & 2 Exterior).
  - Furnish and install all non-potable hot and non-potable cold water to all equipment.
  - Furnish and install Natural Gas to all equipment requiring same.

- **D2010.10.04 - Public Areas**
  - Furnish and install Plumbing Fixtures and Faucets.
  - Furnish and Install Domestic Water Heating Equipment.
  - Furnish and install a reduced pressure backflow preventor.
  - Furnish and install general purpose hose bibbs. (2 exterior & 1 at each toilet room).
  - Furnish and Install floor drains with all associated piping.
  - Furnish and install all waste, vent, hot and cold water piping to all plumbing fixtures.
  - Furnish and install Natural Gas to all Gas Fired Equipment.

Notes:
(N1) Three (3) Gas Sand Interceptors may be able to consolidate into one (1) unit pending piping design, layouts and final destinations.

D30 - HVAC

- **D3010.10 - Wash Bay:**
  - Furnish and install an HTP model UFT-175 175,000 BTUH input wall hung high efficiency, sealed combustion condensing boiler in the Mechanical Room which is situated in the southwest corner of the Wash Bay.
  - Furnish and install 3" stainless steel flue gas vent and 3" PVC combustion air piping and terminate concentric fitting through roof.
  - Furnish and install primary hot water piping loop with expansion tank, minimum flow pump and city water makeup.
  - Furnish and install a hydronic radiant slab system connected to the boiler primary piping loop. The system shall consist of a 30% glycol solution, stainless steel supply and return manifolds with zone pumps, isolation and mixing valves, floor sensors and four (4) 325 feet long cross-linked high-density polyethylene tubbing (PEX) piping circuits, expansion tank and automatic glycol feeder tank.

- **D3010.10.02-Vehicle Storage**

- Furnish and install one Greenheck model SBE-2l-20 4,000 cfm, direct drive 208-1-60 ½ HP wall mounted exhaust fan at each gable end.
- Each fan shall be furnished and installed with HOA switch factory Vari-Green speed control, inlet guard and automatic gravity shutter outlet insect screens.
- Furnish and install two 36" w x 60" h x 4" D intake air louvers on west side of building. Provide sheet metal plenum with automatic control dampers and 5/8" wire mesh screen. Interlock operation with associated exhaust fan.
- Furnish and Install (4) Modine model HDS-125 125,000 BTUH input separated combustion gas fired unit heaters with space thermostats.
- Furnish and install 4" diameter galvanized steel combustion air intake and flue gas exhaust piping and terminate through roof with concentric fitting.
- Furnish and install INTEC models SGC6 stand-alone gas detector and all necessary wiring, interlocks and devices specific for garage ventilation control,
- Furnish and install Carbon Monoxide (Co) and Nitrous Dioxide (NO2) Gas sensors. Sensors to be placed throughout the vehicle storage area to provide 50-foot detection radius.
- Furnish and install two Big Ass model Powerflow D direct drive fan with factory digital standard controller.

- **D3010.10.03-Maintenance Bay & Mezzanine**
  - Furnish and install an HTP model UFT-199 199,000 BTUH input wall hung high efficiency, sealed combustion condensing boiler in the Mechanical Room which is situated in the northeast corner of the vehicle storage area.
  - Furnish and install 3" stainless steel flue gas vent and 3" PVC combustion air piping and terminate concentric fitting through roof.
  - Furnish and install primary hot water piping loop with expansion tank, minimum flow pump and city water makeup.
  - Furnish and install shell and tube heat exchanger to raise radiant floor glycol solution 20 degrees F. Include all necessary valves, pumps and controls.
  - Furnish and install a hydronic radiant slab system connected to the boiler primary piping loop. The system shall consist of a 30% glycol solution, stainless steel supply and return manifolds, zone pumps, isolation and mixing valves, floor sensors and four (5) 290 feet long cross-linked high-density polyethylene tubbing (PEX) piping circuits, expansion tank and automatic glycol feeder tank.
  - Furnish and install one Greenheck model BSQ-140-VG in-line belt drive exhaust fan, ¾ HP, 1500 CFM with remote speed control panel, direct drive 115-1-60 1/4 HP wall mounted exhaust fan at each gable end.
  - Furnish and install exhaust suction side ductwork and registers, extend discharge duct and exit. Through east exterior wall with 48"x18"x4" aluminum louver.

- **D3010.10.04-Men's Toilet and Locker Rooms**
  - At men's room furnish and install Lossnay 300 cfm energy recovery unit and associated exhaust, return, fresh air intake and supply ductwork, provide 18"x18"x4" louvers on south exterior wall for fresh air intake and exhaust. Provide exhaust registers in men's room and distribute supply air at hallway.

- At men's locker room furnish and install five (5) foot 9,000 BTUH hot water baseboard radiation with thermostat-controlled zone valve.
- At men's toilet furnish and install 12.4 MBH, 1.3 GPM, 115-1-60, 0.7-amp hot water cabinet unit heater with integral tamper-proof thermostat.

- **D3010.10.05-Women's Toilet and Locker Rooms**
  - At women's room furnish and install Lossnay 300 cfm energy recovery unit and associated exhaust, return, fresh air intake and supply ductwork, provide 18"x18"x4" louvers on south exterior wall for fresh air intake and exhaust. Provide exhaust registers in the women's room and distribute supply air to the office area.
  - At women's toilet furnish and install 12.4 MBH, 1.3 GPM, 115-1-60, 0.7-amp hot water cabinet unit heater with integral tamper-proof thermostat.

- **D3010.10.06-Office Area**
  - Furnish and install Mitsubishi model SM60NAMZ-U1 5-ton multizone inverter heat pump condensing unit, voltage shall be 208v-1-60, unit shall be located on a 6" concrete equipment pad and be mounted on a Big Foot 16" minimum tall all aluminum equipment stand.
  - Furnish and install wall mounted indoor fan coil complete with condensate pump accessory.
    1. At Maintenance Office – (1) model MSZ-FS09NA with wired thermostat
    2. At Conference room – (1) model MSZ-FS12NA with wired thermostat
    3. At Directors Office - (1) model MSZ-FS12NA with wired thermostat
    4. At Work Room - (1) model MSZ-FS12NA with wired thermostat
    5. At Hall - (1) model MSZ-FS06NA with wired thermostat
  - Furnish and install all necessary refrigerant piping, piping on interior to be insulated and jacketed with PVC pipe covers, Piping located outside to be insulated and covered with aluminum sheet metal pipe cover.

- **D3010.10.07-Laundry Room**
  - Furnish and install recessed aluminum wall box, connection to dryer shall be a high temperature flexible connector. Dryer exhaust duct shall be constructed of 4" galvanized sheet metal. Extend to the east exterior wall and terminate with wall cap.

- **D3010.10.08- Fluid Storage Room**
  - Furnish and install Sterling model HD-850 hot water baseboard four (4) feet long with 16-gauge cover, 1" hot water supply and return with zone valve and thermostat.

- **D3010.10.09- Parts Room**
  - Furnish and Install Modine model HC18 hot water unit heater, 12.6 MBH, 1.3 GPM, 1/60 HP, 115-1-60 with wall bracket, zone valve and thermostat.

D40 – Fire Protection & Fire Alarm

- **D4010.10 - Fire Protection**
  - Furnish and install a wet pipe sprinkler system throughout the building in accordance With the Merrimac Fire Department standards & Specifications. The equipment shall include but not limited to be as follows: Backflow preventor, tamper switches, pressure switch, water flow switch, piping, check valves, ball drip, FDC, sprinklers, guards, hangers, fittings, couplings, and valves.
  - Proposed design criteria for the following areas:
    1. Wash Bay: Ordinary Hazard (Group 1)
    2. Vehicle Storage: Ordinary Hazard (Group 2)
    3. Maintenance Bay and Mezzanine: Ordinary Hazard (Group 2)
    4. Public Areas, Locker, Restrooms, and Offices: Light Hazard
    5. Laundry room: Ordinary Hazard (Group 1)
    6. Fluid Storage Room: Extra Hazard (Group 2)
    7. Parts Room: Ordinary Hazard (Group 2)

- **D4010.20 - Fire Alarm**
  - Furnish and install a fire alarm system throughout the building in accordance With the Merrimac Fire Department standards & Specifications. The equipment shall be as follows:
    1. Fire Alarm Control Panel with communicator
    2. Smoke, heat & CO detectors
    3. Audio / visual horn & strobe lights
    4. Manual pull stations
    5. Wiring of sprinkler flow & tamper switches

D50 - Electrical

- **D5010.10 - Electrical**
  - Furnish and install a 120/208 V, 3-phase, 4 – wire underground electric service from Merrimac Light Co.
  - Furnish and install a 400 Amp,42 pole service entrance rated panelboard.
  - Furnish and install 2 @ 200 Amp 3-phase, 4-wire 42 pole sub panels. One in the maintenance area the other in the office area to power lighting, receptacles, maintenance, office & building equipment and HVAC equipment.
  - Furnish and install solar panel conduits on roof.
  - Furnish and install solar panel arrays as indicated in study design.

- **D5010.20 – Telephone Data Service**
  - Furnish and install underground telephone and internet 2” conduits to a 4’X8’ plywood backboard with a quad receptacle for equipment power.

- Furnish and install conduit and outlet boxes with pull strings in the maintenance and office areas.
- Furnish and install telephone & Data outlets & faceplates.

- **D5010.30 – Lighting**
  - Furnish and install LED lighting throughout the building:
    1. High bay waterproof lighting fixtures switch controlled in the wash area.
    2. High bay fixtures in the maintenance area switch controlled
    3. Office lighting fixtures in the office area
    4. Battery backup exit signs & 2-head wall mounted emergency lighting. fixtures throughout the building.
    5. Wall pack building exterior lighting for security.

- **D5010.30 – Receptacles**
  - Furnish & install duplex receptacles throughout the building, GFI protected where required by code

E10- Equipment & Furnishings

- **E10 Equipment**
  - **E1010 Commercial Equipment**: Provide equipment for break rooms and other common areas.
  - **E1020 Institutional Equipment**: Include any specialized equipment required for office operations.

- **E20 Furnishings**
  - **E2010 Fixed Furnishings**
  - **E2011 Built-in Casework:** Custom-built cabinets, countertops, and shelving units.
  - **E2020 Movable Furnishings**
    1. **E2021 Desks**: Office desks, workstations, and conference tables.
    2. **E2022 Chairs:** Office chairs, task chairs, and conference room seating.
    3. **E2023 Storage Unit**s: Filing cabinets, bookcases, and storage lockers.
    4. **E2024 Breakroom Furniture**: Tables, chairs, and kitchen units for breakrooms.

F10- Special Construction & Demolition

- **F10 Special Construction**
  - **F1010 Special Structures**: Use pre-engineered metal building systems for the main structure.
  - **F1020 Integrated Construction**: Coordinate with other building systems to ensure seamless integration.
  - **F1030 Special Construction Systems**: Include any unique construction systems required for the project.

- **F2020 Hazardous Components Abatement**: Safely remove and dispose of any hazardous materials.

G10- Sitework

- **G10 Site Preparation**
  - **G1010 Site Clearing**
  - **G1011 Clearing and Grubbing:** Removal of vegetation, debris, and topsoil to prepare the site for construction.
  - **G1012 Tree Removal:** Cutting and removal of trees, including stump grinding and disposal.
  - **G1020 Site Demolition and Relocations**
  - **G1021 Building Demolition:** Demolition of existing structures, including removal of foundations and utilities.
  - **G1022 Site Element Demolition:** Removal of existing site elements such as pavements, curbs, and fences.

- **G20- Site Improvements**
- **G2010 Roadways**
  - **G2011 Paving:** Asphalt or concrete paving for access roads and driveways.
  - **G2012 Curbs and Gutters:** Concrete curbs and gutters for drainage and roadway definition.

- **G2020 Parking Lots**
  - **G2021 Paving:** Asphalt or concrete paving for parking areas.
  - **G2022 Striping**: Painting of parking spaces, directional arrows, and other markings.

- **G2030 Pedestrian Paving**
  - **G2031 Sidewalks:** Concrete sidewalks for pedestrian access.
  - **G2032 Plazas:** Paved areas for pedestrian gathering and circulation.

- **G2040 Site Development**
  - **G2041 Fencing and Gates**: Installation of perimeter fencing and access gates.
  - **G2042 Retaining Walls**: Construction of retaining walls to manage changes in site elevation.
    1. **Materials**: Concrete, masonry, or segmental block units.
    2. **Design**: Engineered to resist earth pressures and provide stability.
    3. **Drainage**: Incorporation of drainage systems to prevent water buildup behind the wall.
    4. **Reinforcement**: Use of geogrids or steel reinforcement as required.

- **G2050 Landscaping**
  - **G2051 Planting:** Installation of trees, shrubs, and ground cover.
  - **G2052 Irrigation Systems:** Installation of irrigation systems for landscaped areas.

- **G30-Site Mechanical Utilities**
  - **G3010 Water Supply**
    1. **G3011 Distribution: I**nstallation of water mains, service lines, and hydrants.
  - **G3020 Sanitary Sewer**
    1. **G3021 Sanitary Sewerage:** Installation of sanitary sewer mains and service laterals.
  - **G3030 Storm Sewer**
    1. **G3031 Storm Drainage**: Installation of storm sewer pipes, catch basins, and manholes.
    2. **G3032 Retention Systems**: Construction of retention ponds or underground detention systems.

- **G3040 - Fuel Distribution**
  - **G3041 - Natural Gas Supply Systems**
    1. Natural gas supply systems for site utilities
  - **G3042 - Heat Generating Systems**
    1. Boilers and furnaces using natural gas
  - **G3043 - Cooling Generating Systems**
    1. Chillers and cooling systems powered by natural gas
  - **G3044 - Distribution Systems**
    1. Piping and ductwork for natural gas distribution
  - **G3045 - Terminal & Package Units**
    1. Gas-fired unit heaters and rooftop units
  - **G3046 - Controls & Instrumentation**
    1. Control systems for natural gas equipment
  - **G3047 - Systems Testing & Balancing**
    1. Testing and balancing of natural gas systems

- **G40- Site Electrical Utilities**
  - **G4010 Electrical Distribution**
    1. **G4011 Primary Distribution:** Installation of primary electrical distribution lines and transformers.
    2. **G4012 Secondary Distribution**: Installation of secondary electrical distribution lines and service connections.

  - **G4020 Site Lighting**
    1. **G4021 Roadway Lighting: I**nstallation of streetlights along access roads.

2. **G4022 Parking Lot Lighting**: Installation of lighting fixtures in parking areas.

- **G4030 Site Communications and Security**
  1. G4031 Telephone Distribution: Installation of telephone lines and communication infrastructure.
  2. G4032 Security Systems: Installation of security cameras, access control systems, and alarm systems.
- **G4040 Site Communications and Security**
  1. G4031 Telephone Distribution: Installation of telephone lines and communication infrastructure.
  2. G4032 Security Systems: Installation of security cameras, access control systems, and alarm systems.

- **G50 -Salt Storage Shed**
- **G5010 Foundations**
  - **G5011 - Standard Foundations**
    1. Concrete footings with precast foundation block
  - **G5012 - Special Foundations**
    1. Reinforced concrete slab on grade

- **G5020 Shell**
- **G5021 - Superstructure**
  - **G5022 - Floor Construction**
    1. Concrete slab floor
  - **G5023 - Roof Construction**
    1. Steel frame structure supporting fabric roof

- **G51-Retaining Walls**
  - **G5110 Materials**
    1. **Concrete**: Cast-in-place or precast concrete retaining walls.
    2. **Masonry**: Concrete block or brick retaining walls.
    3. **Segmental Block Units**: Modular concrete block systems designed for retaining walls.
    4. **Design**
       - **Structural Design**: Engineered to resist lateral earth pressures, including consideration of surcharge loads and seismic forces.
       - **Drainage Design**: Incorporation of drainage systems such as weep holes, drainage pipes, and geotextiles to prevent hydrostatic pressure buildup.
       - **Reinforcement**: Use of steel reinforcement, geogrids, or other reinforcement methods to enhance stability and strength.
       - **Construction**
         1. **Excavation**: Excavation to the required depth and width for the retaining wall foundation.

2. **Foundation**: Construction of a stable foundation, typically consisting of compacted gravel or a concrete footing.
3. **Wall Construction**: Erection of the retaining wall using specified materials and methods.
4. **Backfill**: Placement and compaction of backfill material behind the retaining wall in layers.
5. **Drainage Installation**: Installation of drainage systems to manage water flow and prevent pressure buildup.

D. PROJECT SCHEDULE

The estimated time for completion of Design Development and Construction Drawings is five months from the notice to proceed with final design services. Contract award will require an additional three months, with construction taking 9 to 10 months from the notice to proceed. FF&E installation and networking are expected to take an additional month, with move-in approximately one year from the beginning of construction.

E. COST ESTIMATE

Refer to Section E for detailed cost estimate.

F. CONCEPT PLANS

Refer to Conceptual Options – Section F for detailed conceptual plans

LUNA | Design Group
ARCHITECTURE INTERIORS PLANNING

Town of Merrimac DPW Facility
50 Federal Way, Merrimac MA
Feasibility Study Conceptual Cost Estimate

14-Apr-24

Hard Costs	
Initial Conceptual Estimated Hard Cost (See Attached)	$3,205,666
Schematic Design Contingency (5%)	$160,283
Subtotal:	***$3,365,949***
Cost Escalation Factor (.03% Annual)	$100,978.48
Subtotal with Escalation - 1 year duration	***$3,466,928***
Construction Contingency (15%)	$520,039
Estimated Total Construction Cost (ETCC) with Escalation & Contingencies	**$3,986,967**
Additional Costs	
Design/ Engineering (Architectural, MEP,FP, Civil/Landscape (12.5% of TCC)	$498,371
Miscellaneous/ Testing/ Borings/ Geotech/ Move/FF&E (12.5% of TCC)	$498,371
Total Additional Cost	**$996,742**
Estimated Total Project Cost (ETPC)	**$4,983,709**

See attached bid summary for description of work and associated cost.

Estimate of Materials and Cost of Construction

Date: 4/10/2025
Project: Department of Public Work Facility
Project Location: 50 Federal Way Merrimac, Essex County, MA

Sub Contractor's Company
Phone
Email

Grace Architecture & Estimating LLC

BID SUMMARY

Summary	Amount
Subtotal	$ 3,053,015
Overhead	$ 152,651
Bid	$ 3,205,666

ITEM #	REF. SHEET	DETAIL	CSI SECT	DESCRIPTION	TOTAL QTY.	WASTAGE	QTY WITH WASTAGE	UNIT	UNIT LABOR HOURS	TOTAL LABOR HOURS	PER HOUR LABOR RATE	TOTAL LABOR COST	UNIT MATERIAL COST	TOTAL MATERIAL COST	ITEM COST	TRADE COST
			DIV-01	General												$ 146,060
1				Permit	1	0%	1	LS		-	$ -	$ -			$ -	
2				Supervision & Project Management	1	0%	1	LS	1550.000	1,550.00	$ 64.0	$ 99,200.0			$ 99,200	
3				Final Cleanup	1	0%	1	LS	250.000	250.00	$ 64.0	$ 16,000.0			$ 16,000	
4				Trash Containers/Dumpsters/Hauling	1	0%	1	LS	-	-	$ -	$ -			$ -	
5				Mobilization Cost	1	0%	1	LS	350.000	350.00	$ 64.0	$ 22,400.0			$ 22,400	
6				Project Overheads	1	0%	1	LS		-	$ -	$ -			$ -	
7				Bonds	1	0%	1	LS		-	$ -	$ -			$ -	
8				Fees (Architect & Engineer)	1	0%	1	LS		-	$ -	$ -			$ -	
9				Salt Shed	1	0%	1	LS	15.000	15.00	$ 64.0	$ 960.0	$ 7,500.0	$ 7,500.0	$ 8,460	
9				Temporary Control & Facilities	1	0%	1	LS		-	$ -	$ -			$ -	
			DIV-03	Concrete												$ 228,219
				Slab												
10	1	Plan notes	DIV-03	6" Thick Reinforced Concrete Slab (170081.31 SF) - Vapor Barrier Note: Based solely on the specifications provided in the Word document, as detailed construction drawings were not Provided.	1	0%	1	LS	1144.048	1,144.05	$ 64.0	$ 73,219.0	$ 155,000.0	$ 155,000.0	$ 228,219	0
			DIV-05	Metals												$ 163,118
				Stair												
11	1	Plan notes	DIV-05	Steel-Framed Stairs with Concrete Treads & Risers - Finish: Non-Slip Coatings & Handrails	1	0%	1	EA	5.794	5.79	$ 64.0	$ 370.8	$ 785.0	$ 785.0	$ 1,156	
				Roof Framing												
12	1	Plan notes	DIV-05	Pre-Engineered Steel Trusses & Purlins with Metal Decking (170081.31 SF) Note: Based solely on the specifications provided in the Word document, as detailed construction drawings were not Provided.	1	0%	1	LS	811.905	811.90	$ 64.0	$ 51,961.9	$ 110,000.0	$ 110,000.0	$ 161,962	
			DIV-07	Thermal & Moisture Protection												$ 125,152
				Roofing												
13	1	Plan notes	DIV-07	Standing Seam Metal Roof System (170081.31 SF) - Minimum R-value of 30 - Ensure Roof is Watertight and Resistant to Local Weather Conditions - Solar Panel Mounting Brackets & Snow Guards Note: Based solely on the specifications provided in the Word document, as detailed construction drawings were not Provided.	1	0%	1	LS	627.381	627.38	$ 64.0	$ 40,152.4	$ 85,000.0	$ 85,000.0	$ 125,152	
			DIV-09	Finishes												$ 533,332
				Walls												
14	1	Plan notes	DIV-09	Insulated Metal Wall Panels (H=12'-0") - Minimum R-value of 20 - Panels to be Factory-Finished with a Weather-Resistant Coating	20,917	5%	21,963	SF	0.036	786.23	$ 64.0	$ 50,319.0	$ 4.9	$ 106,522.1	$ 156,841	
				Interior Finishes												
				Floor finishes												
15	1	Plan notes	DIV-09	**Carpet Tile Flooring (170081.31 SF)** - (In Office Areas)	1	0%	1	LS	553.571	553.57	$ 64.0	$ 35,428.6	$ 75,000.0	$ 75,000.0	$ 110,429	
16	1	Plan notes	DIV-09	**Epoxy Coated Flooring (170081.31 SF)** - (In Warehouse Areas)	1	0%	1	LS	369.048	369.05	$ 64.0	$ 23,619.0	$ 50,000.0	$ 50,000.0	$ 73,619	
				Ceiling finishes												
17	1	Plan notes	DIV-09	Suspended Acoustic Ceiling Tiles (170081.31 SF) - (In Office Areas)	1	0%	1	LS	428.095	428.10	$ 64.0	$ 27,398.1	$ 58,000.0	$ 58,000.0	$ 85,398	
18	1	Plan notes	DIV-09	Exposed Structure (170081.31 SF) - (In Warehouse Areas)	1	0%	1	LS	280.476	280.48	$ 64.0	$ 17,950.5	$ 38,000.0	$ 38,000.0	$ 55,950	
				Wall Paint												
19	1	Plan notes	DIV-09	Paint or Wall Coverings (H=12'-0") - Durable Finishes in High-Traffic Areas Note: Based solely on the specifications provided in the Word document, as detailed construction drawings were not Provided.	20,917	5%	21,963	SF	0.012	256.13	$ 64.0	$ 16,392.6	$ 1.6	$ 34,702.0	$ 51,095	
			DIV-11	Equipment												$ 115,582
				Equipment												
20	1	Plan notes	DIV-11	Equipments for Break Rooms and Other Common Areas (170081.31 SF) - Include any Specialized Equipment for Office Operations	1	0%	1	LS	553.571	553.57	$ 64.0	$ 35,428.6	$ 75,000.0	$ 75,000.0	$ 110,429	
21	1	Plan notes	DIV-11	Power Wash (Spraying) Equipment Note: Based solely on the specifications provided in the Word document, as detailed construction drawings were not Provided.	1	0%	1	EA	25.833	25.83	$ 64.0	$ 1,653.3	$ 3,500.0	$ 3,500.0	$ 5,153	
			DIV-12	Furnishing												$ 66,257
				Millwork												
22	1	Plan notes	DIV-12	Built-In Casework & Movable Furnishings (170081.31 SF) Note: Based solely on the specifications provided in the Word document, as detailed construction drawings were not Provided.	1	0%	1	LS	332.143	332.14	$ 64.0	$ 21,257.1	$ 45,000.0	$ 45,000.0	$ 66,257	
			DIV-22	Plumbing												$ 232,636
				Fixture & Accessories												
23	1	Plan notes	DIV-22	Plumbing Fixtures & Faucets (170081.31 SF) - Domestic Water Heating Equipment Note: Based solely on the specifications provided in the Word document, as detailed construction drawings were not Provided.	1	0%	1	LS	1166.190	1,166.19	$ 64.0	$ 74,636.2	$ 158,000.0	$ 158,000.0	$ 232,636	
			DIV-23	Mechanical												$ 198,758
				Unit												
24	1	Plan notes	DIV-23	HTP Model UFT-175 175,000 BTUH Input	1	0%	1	EA	25.464	25.46	$ 64.0	$ 1,629.7	$ 3,450.0	$ 3,450.0	$ 5,080	
25	1	Plan notes	DIV-23	Greenheck Model SBE-2I-20 4,000 cfm - Direct Drive 208-1-60 - ½ HP	1	0%	1	EA	31.369	31.37	$ 64.0	$ 2,007.6	$ 4,250.0	$ 4,250.0	$ 6,258	
26	1	Plan notes	DIV-23	Modine Model HC18 Hot Water Unit Heater - 12.6 MBH - 1.3 GPM - 1/60 HP	1	0%	1	EA	40.300	40.30	$ 64.0	$ 2,579.2	$ 5,460.0	$ 5,460.0	$ 8,039	
27	1	Plan notes	DIV-23	Modine Model HDS-125 125,000 BTUH Input Separated Combustion Gas Fired Unit Heaters	4	0%	4	EA	18.083	72.33	$ 64.0	$ 4,629.3	$ 2,450.0	$ 9,800.0	$ 14,429	
28	1	Plan notes	DIV-23	INTEC Models SGC6 Stand-Alone Gas Detector	1	0%	1	EA	0.433	0.43	$ 64.0	$ 27.7	$ 58.7	$ 58.7	$ 86	
29	1	Plan notes	DIV-23	Big Ass Model Powerflow D Direct Drive Fan With Factory Digital Standard Controller	2	0%	2	EA	1.070	2.14	$ 64.0	$ 137.0	$ 145.0	$ 290.0	$ 427	
30	1	Plan notes	DIV-23	HTP Model UFT-199 199,000 BTUH Input	1	0%	1	EA	2.104	2.10	$ 64.0	$ 134.6	$ 285.0	$ 285.0	$ 420	
				Lovers												
31	1	Plan notes	DIV-23	48"x18"x4" Aluminum Louver	1	0%	1	EA	1.166	1.17	$ 64.0	$ 74.6	$ 158.0	$ 158.0	$ 233	
32	1	Plan notes	DIV-23	36" w x 60" h x 4" D Intake Air Louvers	2	0%	2	EA	1.048	2.10	$ 64.0	$ 134.2	$ 142.0	$ 284.0	$ 418	
33	1	Plan notes	DIV-23	18"x18"x4" Louvers	1	0%	1	EA	0.812	0.81	$ 64.0	$ 52.0	$ 110.0	$ 110.0	$ 162	
				Equipment												
34	1	Plan notes	DIV-23	Power Wash (Water Heating) Equipment	1	0%	1	EA	6.237	6.24	$ 64.0	$ 399.2	$ 845.0	$ 845.0	$ 1,244	
				Pipes												
35	1	Plan notes	DIV-23	3" Stainless Steel Flue Gas Vent (170081.31 SF) - 3" PVC Combustion Air Piping & Terminate Concentric Fitting	1	0%	1	LS	332.143	332.14	$ 64.0	$ 21,257.1	$ 45,000.0	$ 45,000.0	$ 66,257	
36	1	Plan notes	DIV-23	4" Dia. Galvanized Steel Combustion Air Intake & Flue Gas Exhaust Piping & Terminate (170081.31 SF) Note: Based solely on the specifications provided in the Word document, as detailed construction drawings were not Provided.	1	0%	1	LS	479.762	479.76	$ 64.0	$ 30,704.8	$ 65,000.0	$ 65,000.0	$ 95,705	
			DIV-26	Electrical												$ 350,166
				Light Fixtures												
37	1	Plan notes	DIV-26	LED Lighting Fixtures (170081.31 SF)	1	0%	1	LS	300.000	300.00	$ 64.0	$ 19,200.0	$ 90,000.0	$ 90,000.0	$ 109,200	
				Receptacles												
38	1	Plan notes	DIV-26	Duplex Receptacles (170081.31 SF) - (GFI Protected where Required)	1	0%	1	LS	310.000	310.00	$ 64.0	$ 19,840.0	$ 42,000.0	$ 42,000.0	$ 61,840	
				Solar Panels												
39	1	Plan notes	DIV-26	Solar Panels	1	0%	1	LS	145.000	145.00	$ 64.0	$ 9,280.0	$ 55,000.0	$ 55,000.0	$ 64,280	
				Wiring & Conduits												
40	1	Plan notes	DIV-26	120/208 V, 3-phase, 4 – Wire Underground Electric Service (170081.31 SF) - 400 Amp,42 Pole Service Entrance Rated Panelboard - 2 @ 200 Amp 3-phase, 4-wire 42 Pole Sub Panels - Solar Panel Conduits (On Roof) - 2" Telephone & Internet Conduits (To a 4'X8' Plywood Backboard) Note: Based solely on the specifications provided in the Word document, as detailed construction drawings were not Provided.	1	0%	1	LS	575.714	575.71	$ 64.0	$ 36,845.7	$ 78,000.0	$ 78,000.0	$ 114,846	
			DIV-32	Exterior Improvement												$ 893,735
				Site Demolition												
41	1	Plan notes	DIV-32	Remove Existing Vegetation, Debris & Topsoil (170081.31 SF) - (To Prepare the Site For Construction)	1	0%	1	LS	280.476	280.48	$ 64.0	$ 17,950.5	$ 38,000.0	$ 38,000.0	$ 55,950	

ITEM #	REF. SHEET	DETAIL	CSI SECT	DESCRIPTION	TOTAL QTY.	WASTAGE	QTY WITH WASTAGE	UNIT	UNIT LABOR HOURS	TOTAL LABOR HOURS	PER HOUR LABOR RATE	TOTAL LABOR COST	UNIT MATERIAL COST	TOTAL MATERIAL COST	ITEM COST	TRADE COST
42	1	Plan notes	DIV-32	Remove & Cut Existing Trees (170081.31 SF) - (Including Stump Grinding & Disposal) - Remove Existing Site Elements (Such as Pavements, Curbs & Fences)	1	0%	1	LS	339.524	339.52	$ 64.0	$ 21,729.5	$ 46,000.0	$ 46,000.0	$ 67,730	
				Site Work												
43	1	Plan notes	DIV-32	Asphalt or Concrete Paving (170081.31 SF)	1	0%	1	LS	1107.143	1,107.14	$ 64.0	$ 70,857.1	$ 150,000.0	$ 150,000.0	$ 220,857	
44	1	Plan notes	DIV-32	Concrete Curbs & Gutters (170081.31 SF)	1	0%	1	LS	206.667	206.67	$ 64.0	$ 13,226.7	$ 28,000.0	$ 28,000.0	$ 41,227	
45	1	Plan notes	DIV-32	Painting of Parking Spaces, Directional Arrows & Other Markings (170081.31 SF)	1	0%	1	LS	110.714	110.71	$ 64.0	$ 7,085.7	$ 15,000.0	$ 15,000.0	$ 22,086	
46	1	Plan notes	DIV-32	Concrete Sidewalks (170081.31 SF)	1	0%	1	LS	1291.667	1,291.67	$ 64.0	$ 82,666.7	$ 175,000.0	$ 175,000.0	$ 257,667	
47	1	Plan notes	DIV-32	Fencing & Access Gates (170081.31 SF)	1	0%	1	LS	398.571	398.57	$ 64.0	$ 25,508.6	$ 54,000.0	$ 54,000.0	$ 79,509	
48	1	Plan notes	DIV-32	Irrigation System (170081.31 SF)	1	0%	1	LS	339.524	339.52	$ 64.0	$ 21,729.5	$ 46,000.0	$ 46,000.0	$ 67,730	
49	1	Plan notes	DIV-32	Landscaped Area (170081.31 SF)	1	0%	1	LS	405.952	405.95	$ 64.0	$ 25,981.0	$ 55,000.0	$ 55,000.0	$ 80,981	
				Note: Based solely on the specifications provided in the Word document, as detailed construction drawings were not Provided.												
SUB TOTAL									**Total Labor Hours**	**16312.74**	**Total Lab. Cost**	**1,044,015**	**Total Mat. Cost =**	**2,009,000**	**3,053,015**	**3,053,015**
MATERIAL TAX									**0.0%**					$ -	$ -	$ -
OVERHEAD AND PROFIT									**5%**			$ 52,201		$ 100,450	$ 152,651	$ 152,651
TOTAL BASE BID															$ 3,205,666	$ 3,205,666

Proposed Department of Public Works Facility

Town of Merrimac

50 Federal Way, Merrimac MA

LUNA | Design Group
ARCHITECTURE INTERIORS PLANNING

February, 2025

Building Feasibility Study For New

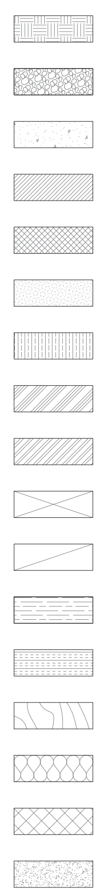
DPW Facility At

50 Federal Way
Merrimac, MA 01860

TYPICAL ABBREVIATIONS:

A.C.T.	Acoustic Ceiling Tile	I.D.	Inside Diameter
A.F.F	Above Finished Floor	IN.	Inch
A.F.G.	Above Finish Grade	INCAN.	Incandescent
A.F.S.	Above Finish Slab	INSUL.	Insulation
ACOUS.	Acoustic	INT.	Interior
ADJ.	Adjustable	INV.	Invert
ALUM.	Aluminum	J.B.	Junction Box
ANCH.	Anchor	JT.	Joint
APPROX.	Approximately	L.V.L.	Laminated Veneer Lumber
ATTEN.	Attenuation	LAV.	Lavatory
B.O.	Bottom of	M.D.F.	Medium Density Fiberboard
BD.	Board	M.D.O.	Medium Density Overlay
BLDG.	Building	M.H.	Manhole
BLK.	Block	M.L.	Micro-Lam
BM.	Beam	M.O.	Masonry Opening
BOT.	Bottom	MANUF.	Manufacturer
C.B.	Catch Basin	MAX.	Maximum
C.I.P.	Cast in Place	MECH.	Mechanical
C.J.	Control Joint	MIN.	Minimum
C.M.U.	Concrete Masonry Unit	MTL.	Metal
C.O.	Clean Out	N.I.C.	Not In Contract
C.T.	Counter Top	NOM.	Nominal
CAB.	Cabinet	O.C.	On Center
CEM.	Cement	O.D.	Outside Diameter
CER.	Ceramic	P. LAM.	Plastic Laminate
CLG.	Ceiling	P.S.L.	Parallel Strand Lumber
CLR.	Clear	P.T.	Pressure Treated
COL.	Column	PL.	Plate
COMP.	Composition	POLY V.B.	Polyethylene Vapor Barrier
CONC.	Concrete	PTD.	Painted
CONST.	Construction	Q.T.	Quarry Tile
CONT.	Continuous	R.	Risers
D.S.	Down Spout	R.D.	Roof Drain
D.W.	Dish Washer	R.O.	Rough Opening
DBL.	Double	RAD.	Radius
DET.	Detail	REF.	Refer
DIA.	Diameter	REFRIG.	Refrigerator
DIAG.	Diagonal	REINF.	Reinforced
DIM.	Dimension	REQ.	Required
DISP.	Dispenser	RES.	Resistant
DN.	Down	RET.	Retaining
DP.	Deep	RM.	Room
DWG.	Drawing	S.& P.	Shelf and Pole
E.F.	Each Face	S.S.	Stainless Steel
E.J.	Expansion Joint	S.V.	Sheet Vinyl
E.O.	Edge of	SCHED.	Schedule
E.W.	Each Way	SECT.	Section
EA.	Each	SHT.	Sheet
ELECT.	Electrical	SIM.	Similar
ELEV., EL.	Elevation	SPEC.	Specification
ENAM.	Enamel	SQ.	Square
EQ.	Equal	STD.	Standard
EQUIP.	Equipment	STL.	Steel
EXIST.	Existing	STRUCT.	Structural
EXT.	Exterior	SUSP.	Suspended
F.D.	Floor Drain	T.	Treads
F.O.	Face of	T.& B.	Top and Bottom
F.W.	Foundation Wall	T.& G.	Tongue and Groove
FDN.	Foundation	T.O.	Top of
FIN.	Finish	T.O.C.	Top of Concrete
FLR.	Floor	TEL.	Telephone
FLUOR.	Fluorescent	THRU	Through
FRM.	Frame	TYP.	Typical
FT.	Feet	U.O.N.	Unless Otherwise Noted
FTG.	Footing	UR.	Urinal
G.C.	General Contractor	V.C.T.	Vinyl Composition Tile
GA.	Gauge	V.I.F.	Verify In Field
GALV.	Galvanized	VERT.	Vertical
GEN.	General	W.	Wide
GL.	Glass	W.C.	Water Closet
GRT.	Grout	W.F.	Wide Flange
GYP.	Gypsum	W.P.	Waterproof
H.	High	W.W.F.	Woven Wire Fabric
HD.	Head	W.W.M.	Welded Wire Mesh
HDWD.	Hardwood	W/	With
HORIZ.	Horizontal	WD.	Wood
HT.	Height	WT.	Weight

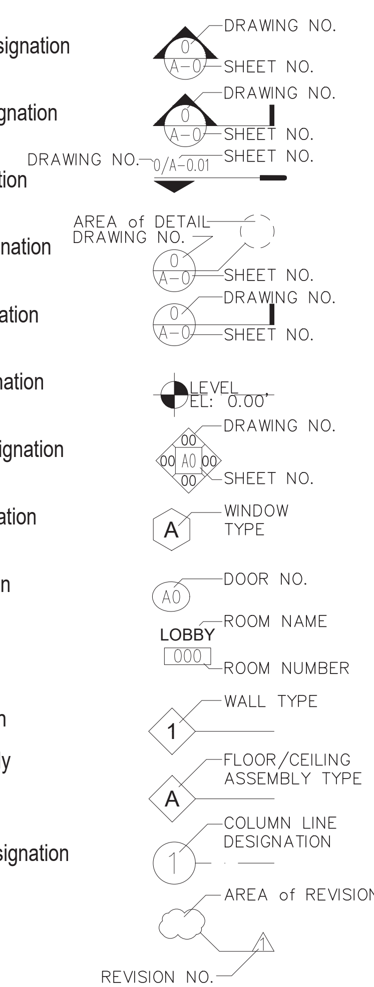
TYPICAL GRAPHIC SYMBOLS:



- Earth
- Gravel Fill
- Concrete
- Brick
- Concrete Masonry Unit
- Stone
- Granite
- Aluminum
- Steel
- Wood-Rough
- Wood-Blocking
- Plywood
- Plywood-M.D.O.
- Wood-Finish
- Batt Insulation
- Rigid Insulation
- Gypsum Wallboard

TYPICAL SYMBOLS:

- Exterior Elevation Designation
- Building Section Designation
- Wall Section Designation
- Enlarged Detail Designation
- Detail Section Designation
- Spot Elevation Designation
- Interior Elevation Designation
- Window Type Designation
- Door Type Designation
- Room Designation
- Wall Type Designation
- Floor/Ceiling Assembly Designation
- Column Grid Line Designation
- Revision Designation



LIST OF DRAWINGS:

T-1.00	Title Sheet Abbreviations Graphic Symbols Drawing List
SP-1.01	Conceptual Site Plan
A-1.01	First Floor Plan
A-1.02	Mezzanine Plan
A-3.01	Building Sections
A-4.01	Elevations

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Architecture Interiors Planning

Consultant:

Owner:
Public Works Facility
50 Federal Way
Merrimac, MA 01860

Project:
Building Feasibility Study For New DPW Facility At
50 Federal Way
Merrimac, MA 01860

Locus Plan:

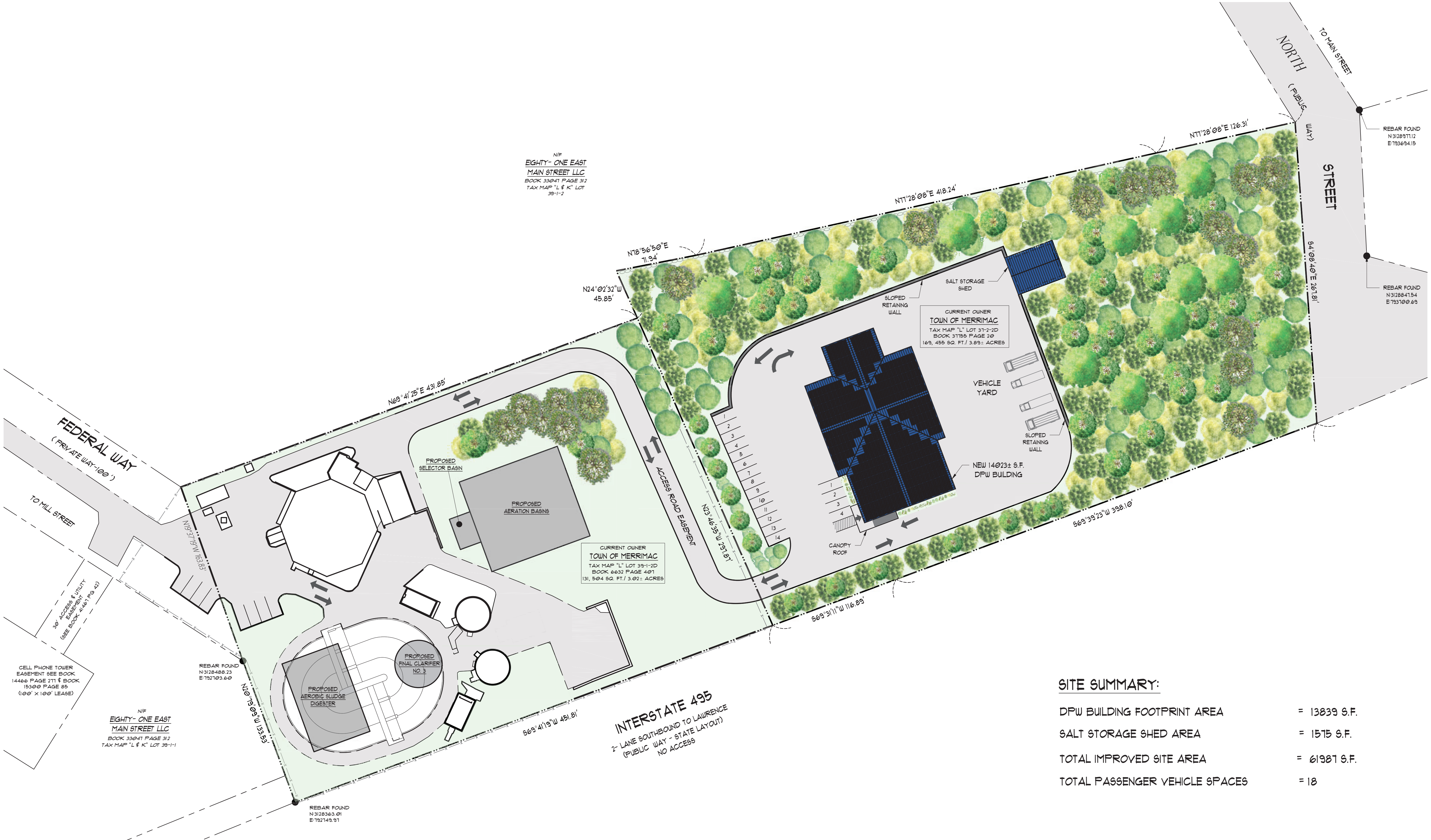
No.	Date	Revision/Issue

Stamp:

Date: February 11, 2025
Scale: 1/4"=1'-0"
Job No.: MPD24018_a
File: Proposed

Sheet Title:
Title Sheet

Sheet No.:
T-1.00


N/F
EIGHTY- ONE EAST MAIN STREET LLC
BOOK 33047 PAGE 312
TAX MAP "L & K" LOT 39-1-2
NORTH (PUBLIC WAY) STREET
TO MAIN STREET
REBAR FOUND
N:3128977.12
E:793694.15
REBAR FOUND
N:3128847.54
E:793700.69
N77°28'08"E 126.31'
N77°28'08"E 418.24'
N78°56'50"E 71.94'
N24°02'32"W 45.85'
S4°08'40"E 287.81'
SALT STORAGE SHED
SLOPED RETAINING WALL
CURRENT OWNER
TOWN OF MERRIMAC
TAX MAP "L" LOT 37-2-2D
BOOK 37155 PAGE 20
169, 455 SQ. FT./ 3.89± ACRES
VEHICLE YARD
SLOPED RETAINING WALL
NEW 14023± S.F. DPW BUILDING
CANOPY ROOF
S69°39'23"W 398.10'
S69°31'11"W 116.83'
ACCESS ROAD EASEMENT
N23°46'35"W 297.87'
N69°41'25"E 431.85'
PROPOSED SELECTOR BASIN
PROPOSED AERATION BASINS
CURRENT OWNER
TOWN OF MERRIMAC
TAX MAP "L" LOT 39-1-2D
BOOK 6632 PAGE 407
131, 504 SQ. FT./ 3.02± ACRES
FEDERAL WAY
(PRIVATE WAY-100')
TO MILL STREET
N19°37'19"W 163.83'
30' ACCESS & UTILITY EASEMENT (SEE BOOK 41461 PG 42)
CELL PHONE TOWER EASEMENT SEE BOOK 14466 PAGE 277 & BOOK 15300 PAGE 85 (100' x 100' LEASE)
REBAR FOUND
N:3128488.23
E:792703.60
N/F
EIGHTY- ONE EAST MAIN STREET LLC
BOOK 33047 PAGE 312
TAX MAP "L & K" LOT 39-1-1
PROPOSED FINAL CLARIFIER NO. 3
PROPOSED AEROBIC SLUDGE DIGESTER
N20°18'59"W 133.53'
S69°41'19"W 451.81'
INTERSTATE 495
2- LANE SOUTHBOUND TO LAWRENCE (PUBLIC WAY - STATE LAYOUT) NO ACCESS
REBAR FOUND
N:3128363.01
E:792749.97

SITE SUMMARY:

DPW BUILDING FOOTPRINT AREA	= 13839 S.F.
SALT STORAGE SHED AREA	= 1575 S.F.
TOTAL IMPROVED SITE AREA	= 61987 S.F.
TOTAL PASSENGER VEHICLE SPACES	= 18

1 CONCEPTUAL SITE PLAN

GRAPHIC SCALE
0 20 40 80

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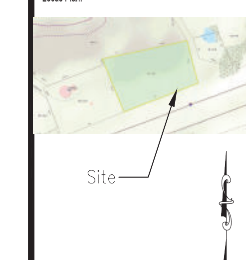
Locus Plan:



No.	Date	Revision/Issue

Stamp:

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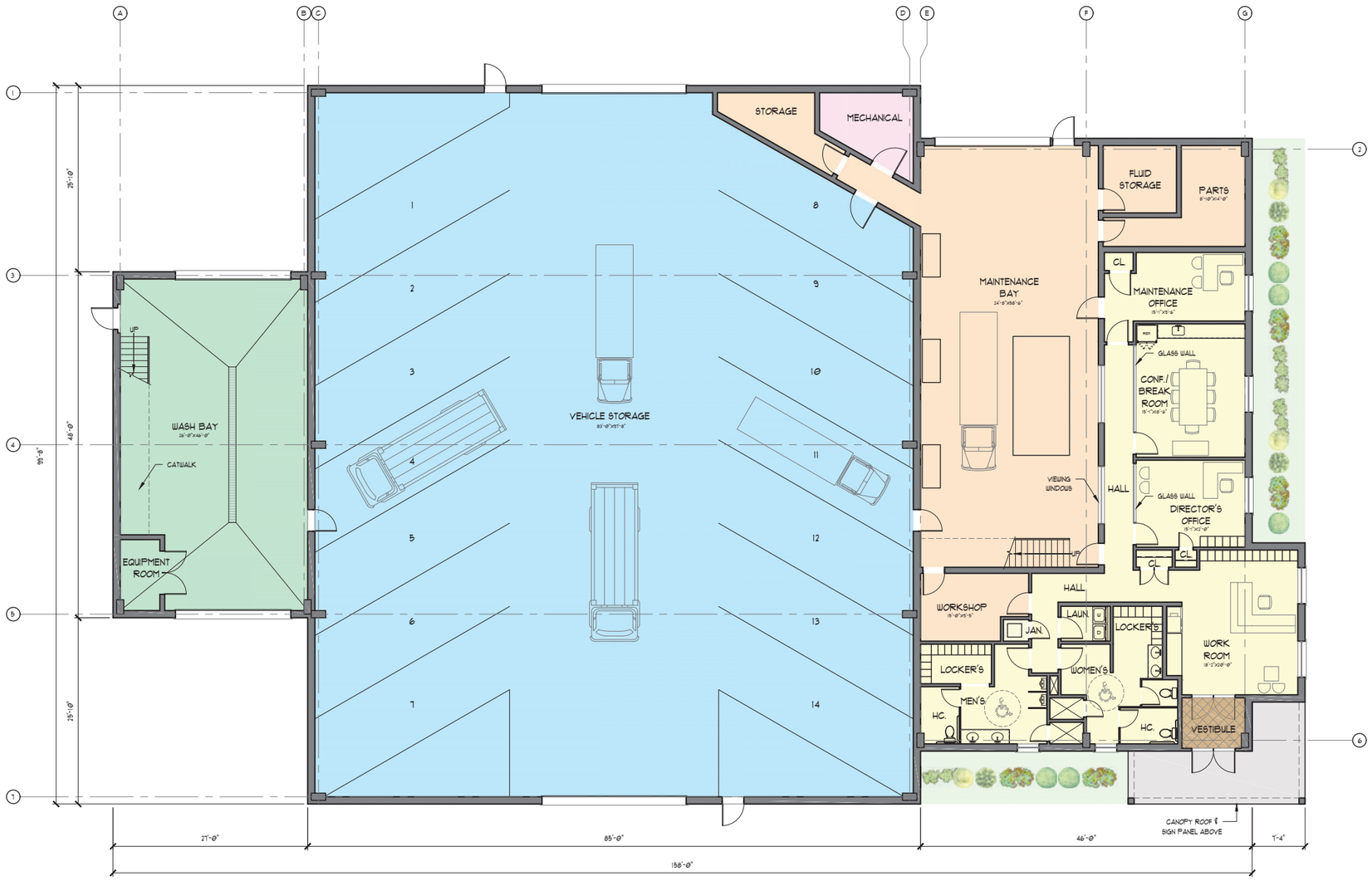
Job No.: MPD24018_a
File: Proposed

Sheet Title:
Conceptual Site Plan

Sheet No.:
SP-1.01



LEGEND

- WASH BAY: 1196± G.S.F
- VEHICLE STORAGE: 7797± G.S.F
- MAINTENANCE: 1981± G.S.F
- OFFICE SUPPORT: 1776± G.S.F
- MECHANICAL: 115± G.S.F

FIRST FLOOR AREA = 12865± G.S.F.
MEZZANINE FLOOR AREA = 2221± G.S.F.
CATWALK = 173± G.S.F.

TOTAL FLOOR AREA = 15259± G.S.F.
TOTAL FOOTPRINT AREA: 13839+/- G.S.F.

1 FIRST FLOOR PLAN

0 10 20

N
PLAN NORTH

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Locus Plan:

No.	Date	Revision/Issue

Stamp:

Date: February 11, 2025
Scale: 1/8"=1'-0"
Job No.: MPD24018_a
File: Proposed

Sheet Title:
First Floor Plan

Sheet No.:
A-1.01

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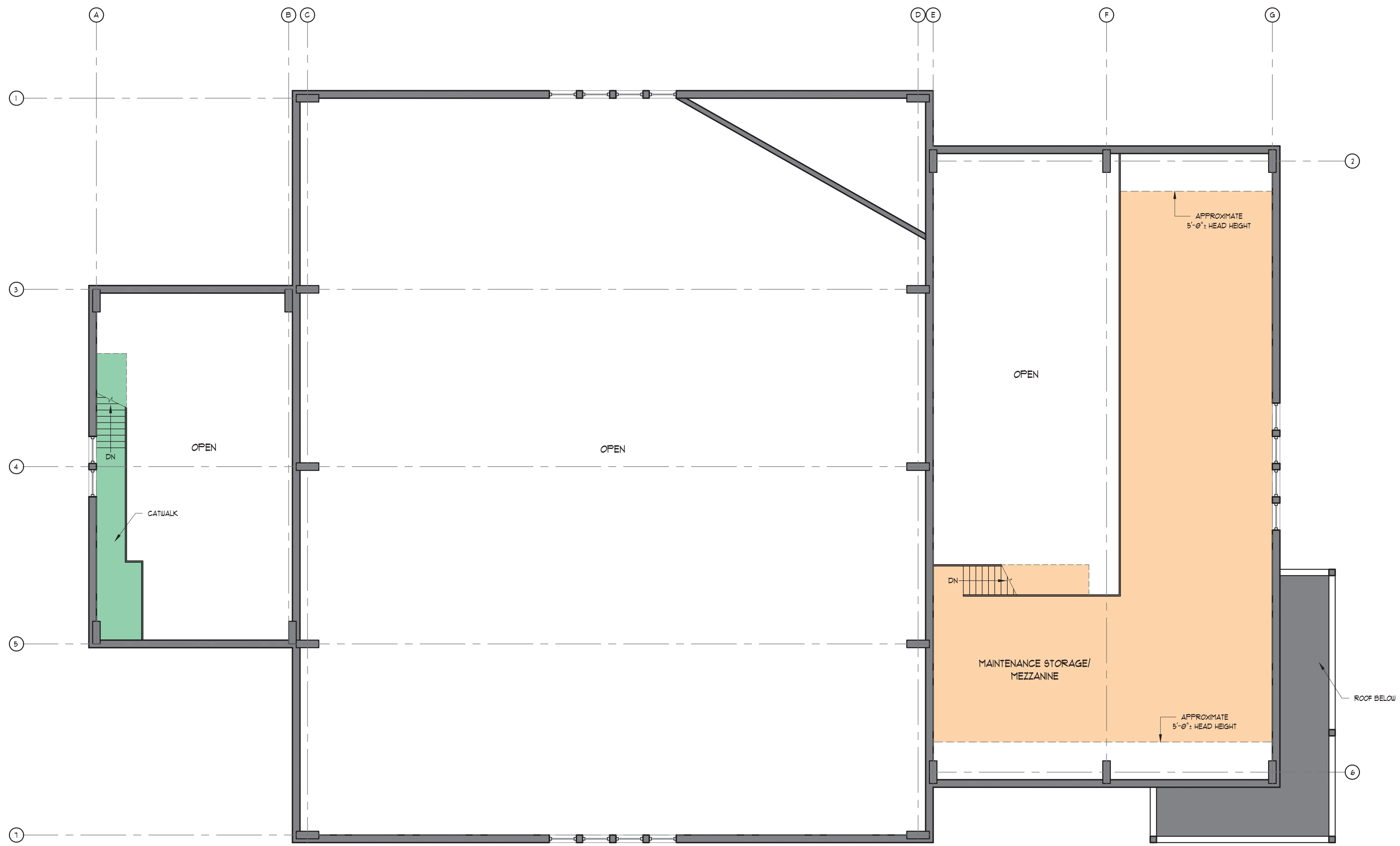

1 MEZZANINE PLAN

LEGEND

MAINTENANCE: 2048± G.S.F

CATWALK: 173± G.S.F

MAINTENANCE	=	2048± G.S.F.
CATWALK	=	173± G.S.F.
TOTAL FLOOR AREA	=	2221± G.S.F.

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50 Federal Way
Merrimac, MA 01860

Project:

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50 Federal Way
Merrimac, MA 01860

Locus Plan:

No.	Date	Revision/Issue

Stamp:

Date: February 11, 2025

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

Job No.: MPD24018_a

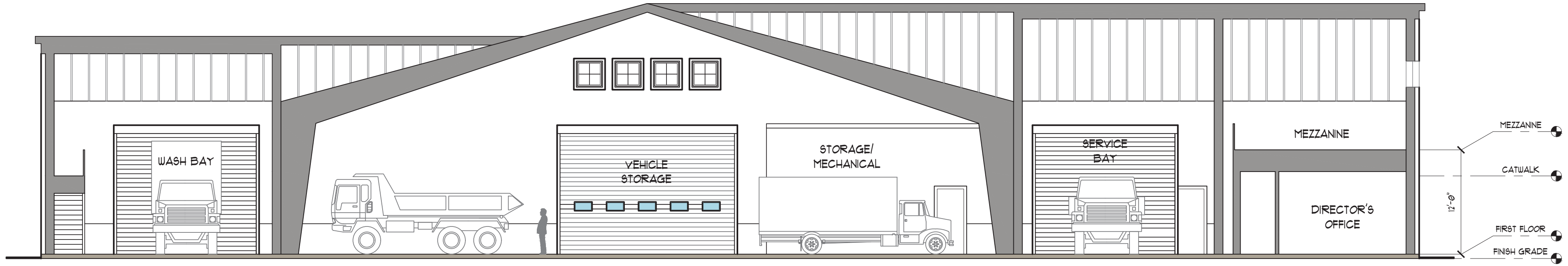
File: Proposed

Sheet Title:

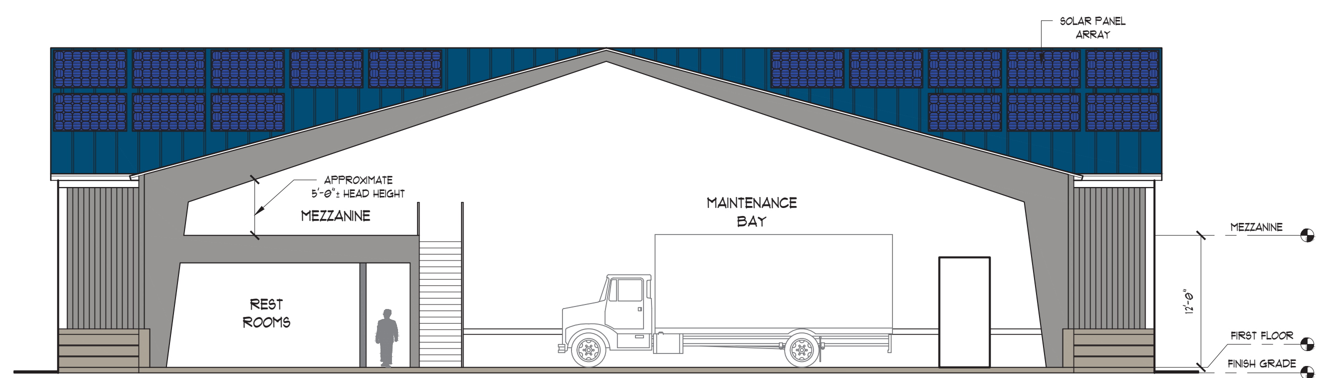
Mezzanine Plan

Sheet No.:

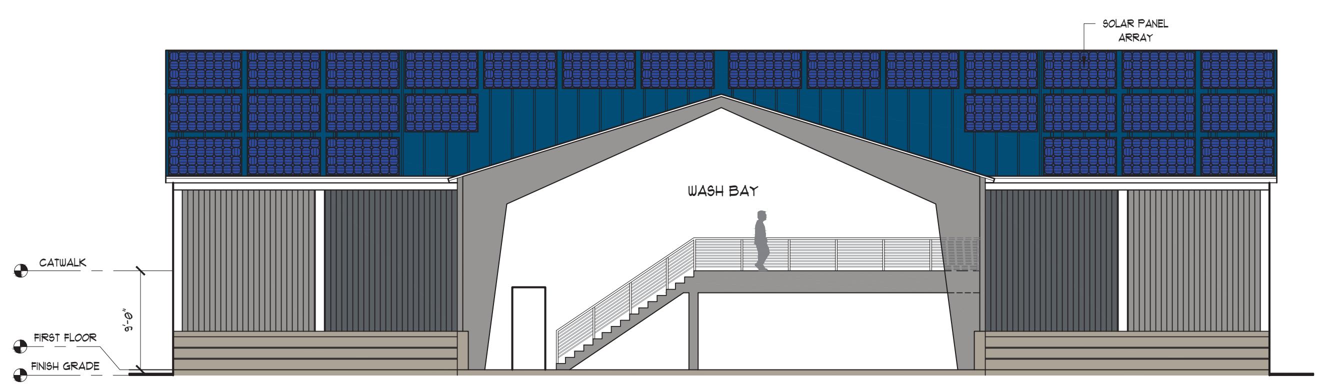
A-1.02



1 LONGITUDINAL BUILDING SECTION



2 MEZZANINE SHOP SECTION



3 WASH-BAY SECTION

0 10 20

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Locus Plan:

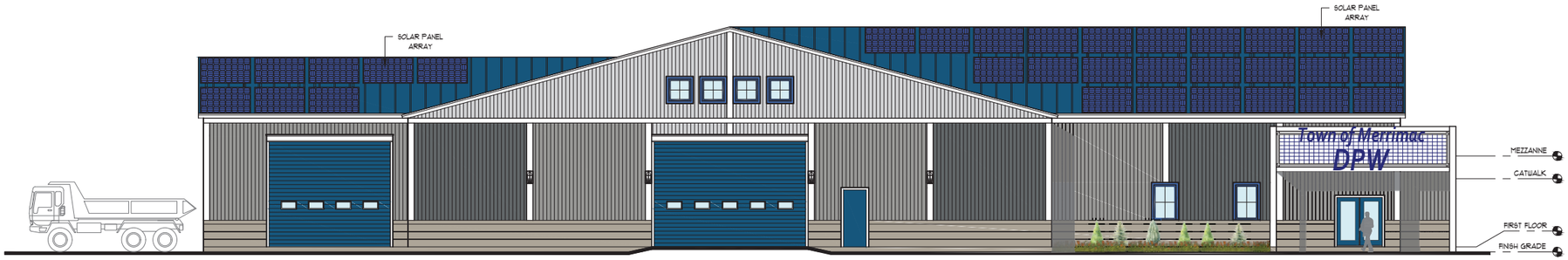
No.	Date	Revision/Issue

Stamp:

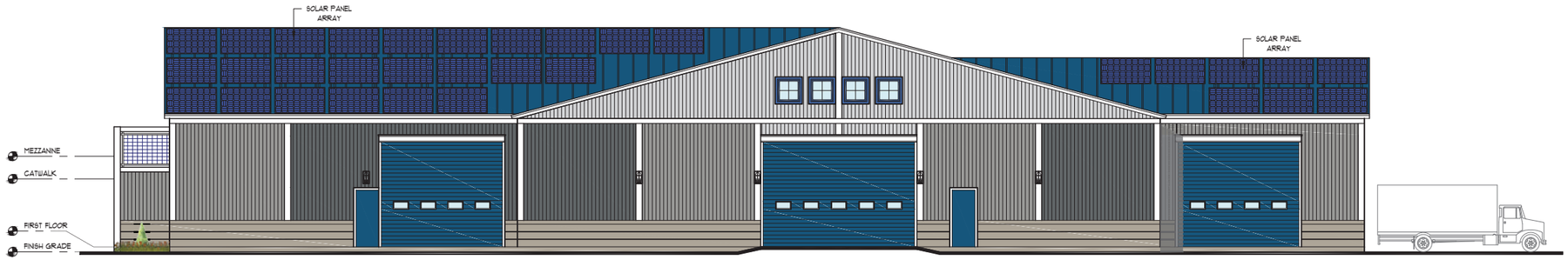
Date: February 11, 2025
Scale: 1/8"=1'-0"
Job No.: MPD24018_a
File: Proposed

Sheet Title:
Building Sections

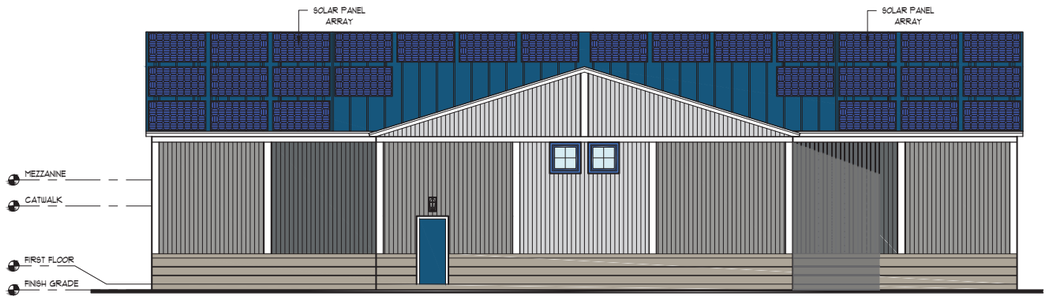
Sheet No.:
A-3.01



1 SOUTH ELEVATION



2 NORTH ELEVATION



3 WEST ELEVATION

4 EAST ELEVATION

0 10 20

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Locus Plan:

No.	Date	Revision/Issue

Stamp:

Date: February 11, 2025
Scale: 1/8"=1'-0"
Job No.: MPD24018_a
File: Proposed

Sheet Title:
Elevations

Sheet No.:
A-4.01

LUNA | Design Group
ARCHITECTURE INTERIORS PLANNING

Town of Merrimac
Department Public Works
Merrimac, MA

Project Conference Memorandum No. 1

Project: Study for new DPW Facility
LDG Job No.: MDP 24018ac
Date/Time of Meeting: December 20, 2024
Location of Meeting: Town of Merrimac Town Offices
Present: **Robert Sinibaldi,** *(RS) – Town of Merrimac- DPW Director, Client*
Mark Tocci, *(MT) –Crossfield Engineering – Principal - MEP Consultant*
Joseph Luna AIA, *(JL) – Luna Design Group- Principal (LDG) Architects*

cc.: **All participants**

Meeting Minutes

12:20:24 -1 Summary:
Review of Design Options

A) Joe Luna summarized the design objectives and proposed plan diagrams (dated: 12/6/24) previously forwarded to Robert Sinibaldi. The following comments were specifically noted:
   1. Scheme A – The Mezzanine Scheme is the preferred design option.
   2. Joe Luna advised that the program requirements were based upon the original HKT study, however, LDG reduced the size of the vehicle storage shed, along with interior support rooms.
   3. The building footprint area on Scheme A is approximately 16,000 +/- s.f. plus the 2,000 +/- s.f. mezzanine. At a rouge construction cost of $300/ s.f. this would have hard construction cost of $5.4 million, plus site and soft costs.
   4. Robert Sinibaldi advised that this budget was still too high and that there needs to be further reductions in the building size in order to get the anticipated total project cost closer to $3.5 million.
   5. The project team reviewed the proposed plan and made a list of the following modifications to reduce the building size.
      - Reduce the maintenance workshop from one to two bays.
      - Reduce the length of the vehicle parking bays, thereby reducing the width of the vehicle storage shed.
      - Repurpose the unused sections of the vehicle parking area to storage.

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- Reduce the length of the wash bay.
- Further reduce the accessory use spaces in size.

6. Joe Luna noted that even with these modifications, it would be difficult to bring the project below the $3.5 million hard cost, but these changes should still make a substantial difference in the anticipated project cost. These reductions will be shown in the next round of preliminary plan diagrams.
7. Joe Luna noted that the initial plan diagrams are designed as three interconnecting pre-engineered steel buildings. Bob Sinibaldi advised that there should be a 4-foot-high minimum concrete skirt to prevent damage to the steel structure from vehicles entering and exiting the vehicle storage shed.
8. Bob Sinibaldi advised that the doors to both the vehicle storage and wash bay need to be a minimum of 14 feet tall.
9. Bob further indicated that the freestanding salt shed should bb 38'x40' in size and will also be a pre-engineered structure of either steel or fabric.

12:20:24 - Action:

A) LDG will incorporate the aforementioned comments into the next design round.

12:20:24 -2 Summary
Potential Alternate Site

A) Robert Sinibaldi advised that there may be another site available that will have less impact on the neighborhood. The alternate site is located off of Federal Way adjacent to the wastewater treatment plant.
B) If this site is to be considered it would require additional road work to be performed at Federal Way along with an easement through the water treatment plant. It was also noted that the site is steeply sloped and could potentially have some of the program requirements integrated into the hill.
C) Joe Luna advised that this saves space but is not necessarily contusive to using a pre-engineered building.
D) Joe Luna requested that Robert Sinibaldi forward a site plan of the alternate site, as necessary to see how the new facility could integrate with it.

12:20:24 - Action:

A) Robert Sinibaldi will forward LDG a copy of the alternate site plan for their use.
B) LDG will incorporate this information into its next round of design alternatives.

Next Scheduled Meeting: Pending
End of Notes

Any questions or concerns regarding these notes should be brought to the immediate attention of Luna Design Group.

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LUNA | Design Group
ARCHITECTURE INTERIORS PLANNING

Town of Merrimac
Department Public Works
Merrimac, MA

Project Conference Memorandum No.2

Project: Study for new DPW Facility
LDG Job No.: MDP 24018ac
Date/Time of Meeting: January 30, 2023: 9:00 am
Location of Meeting: Town of Merrimac Town Offices
Present: **Robert Sinibaldi,** *(RS) – Town of Merrimac- DPW Director, Client*
Mark Tocci, *(MT) –Crossfield Engineering – Principal - MEP Consultant*
Joseph Luna AIA, *(JL) – Luna Design Group- Principal (LDG) Architects*

cc.: **All Participants**

Meeting Minutes

12:20:24 -1
01:30:25 Summary:
Review of Design Options

A) Joe Luna presented the revised mezzanine scheme noting the following changes and design development:

- The footprint area from the original KHT study has been reduced from 26,789 s.f. to 14,023 s.f.
- With the mezzanine and catwalk factored in, the overall building area is 15,073 s.f.
- The footprint area has been reduced by 12,766 s.f. representing a 48% reduction in size from the KHT study.
- With the mezzanine and catwalk factored in, the overall building area is reduced by 44% from the prior study.
- More developed floor plans illustrating the layouts for the offices and toilet rooms were included in the revised plans.
- Elevations were also developed, with all 4 cardinal elevations presented.
- Site plans were presented for both the Emery Street and Federal Way sites. It was agreed that the Federal Way site was the preferred site. Robert Sinibaldi advised the wastewater facility was currently in the process of being redesigned, and that there may be a better means to access the rear site than having to drive through the facility. Robert noted that he will forward the proposed site plan to the project team accordingly.

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B) Joe Luna presented the outline specification to the project team and advised that once he receives the narrative for the MEP & FP systems the schematic cost estimate can be prepared. Joe Luna noted that the following contingencies will be included in the estimate:

1. Design Contingency: 5%
2. Construction Contingency 15%
3. Cost Escalation: 3%

C) Robert Sinibaldi advised that the conceptual design is approved by the Merrimac DPW and that LDG should proceed in completing the study.

D) Mark Tocci agreed to provide the system narratives based upon the approved design to LDG as necessary to complete their work.

E) Joe Luna advised that as part of the study, he would like to tour the existing DPW facility to include in the study narrative.

F) Joe Luna advised that with the approval of the schematic design, LDG will now prepare the project rendering.

01:30:25 - Action:

A) Mark Tocci will forward the system narrative to LDG as soon as possible.

B) Upon receipt of the narrative, LDG will have the schematic cost estimate prepared and complete the final study.

C) Joe Luna will coordinate with Robert Sinibaldi about getting a tour of the existing DPW facility.

D) Robert Sinibaldi will forward LDG and Mark Tocci a copy of the proposed changes to the wastewater facility.

Next Scheduled Meeting: Pending

End of Notes

Any questions or concerns regarding these notes should be brought to the immediate attention of Luna Design Group.

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Tier II Classic™ Building System

Simply designed for greater affordability and faster construction

The Tier II Classic™ building system, offered by Butler Manufacturing™, is a functional metal building designed to keep the weather out and look like new long after it is built. It offers design flexibility, fast construction, superior performance, and low-maintenance—all provided by a reputable local Butler Builder®.

Flexible Design Options

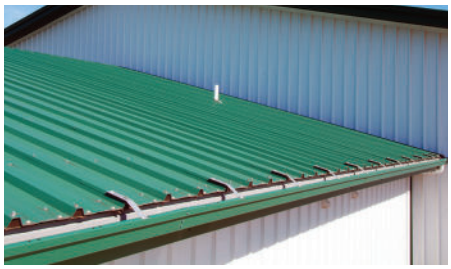
You may be surprised by the options available with the Butler Tier II Classic building system. Available in a wide variety of slopes, widths, and heights, your Tier II Classic building can be used for almost any building end-use. To meet your exterior design requirements, you can choose from the wide variety of high-quality Butler roof and wall systems in standard and custom colors. In addition, our array of accessories enhances your building's appearance while improving its' functionality. These accessories include, but are not limited to:

Structural:

- Straight or tapered columns
- Eave heights up to 30' with high eave (single slope) to 35'
- Overhangs and canopies (at or below eave and at endwalls)
- Multiple units (at or below eave)
- Wainscot and skirt walls
- Rod, portal frames, or diaphragm bracing options

Roof:

- Gutters and downspouts
- Butlerib® II or MR-24® roof panels in standard colors and gauges
- Accommodates roof top units



Wall:

- Wind loaded partitions with skirt walls
- TextureWall™ and Butler Thermawall™ insulated wall panels in standard colors and gauges
- Butler Lite*Panl® translucent roof and wall panels
- Traditional wainscot to 8'

Other:

- Butler Express Mezz™ integrated stairs & railings
- Overhead hydraulic doors
- Personnel doors
- Interior liners & soffit

Fast, Functional, and Affordable

A Tier II Classic building system by Butler® is designed to assemble quickly, enabling it to be built up to 30% faster than is possible with conventional construction methods or wood frame buildings. That means you will be open for business faster and getting to work sooner. And because of the efficiencies of a Classic building and the design-build methods of your Butler Builder®, you will save time and money.

Performance You Can Rely On

The unmatched performance of Butler buildings supply years of low-maintenance ownership. The Tier II Classic building features the high-quality Butler-Cote™ premium paint finish and the MR-24® roof system. Made with a 70-percent Kynar 500® or Hylar 5000® resin, Butler-Cote is a durable fluoropolymer finish which carries a 25-year warranty against blistering, peeling, cracking, or chipping of the finish. With more than 3 billion square feet installed since 1969, the MR-24 roof system boasts an in-place performance record of 50+ years. In fact, the MR-24 roof system has been documented to save up to 90% in roof maintenance costs vs. traditional roofing materials*.

More Flexibility with Tier II Classic Buildings

Butler Offers You More

Butler Builders provide complete construction services with single-source responsibility

- Reputable professionals with extensive knowledge of local building codes

Maximize your building's performance with a complete Butler® system solution

- Innovative structural, wall and roof systems
- Precision-engineered for seamless integration

Key Benefits

- Versatile system can be used with Butler structural, roof, and wall systems for all building types.
- Fast construction – designed to assemble up to 30% faster than conventional construction.
- Exclusive factory-punched roof and wall panels allow for speedy installation and ensure long-term building performance.
- Allows for a wide variety of accessories for building enhancement and functionality.
- High-performing Butler-Cote™ 25-year fluoropolymer finish resists chalking and fading.

* Based on initial 5-year lowest annual maintenance costs.

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