**The Charter Township of Orion**
**Space Allocation Study**
October 2018

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## Study Background Introduction

This 2018 Auger Klein Aller (AKA) study was contracted to determine the current condition and needs of the Township Hall and Sheriff Sub-station as well as project their future needs. These findings were then overlaid onto the current facilities to determine the feasibility of renovation of the existing space as well as look at what a new facility footprint layout might look like.

Orion Township continues to search for appropriate facilities solutions for the services it provides to the general public and the citizens of Orion Township. The township population has grown from 30,748 (2000) to 35,951 (2017) and projected to be 37,329 (2040). As a result of the Townships growth and the age of its current facilities, it is prudent to take the initial steps that could lead to a plan of action in addressing facility needs. This is the third such study commissioned since 2002.

Needs were first documented in a Straub Petite Yaste (SPY) study in the summer of 2002 indicating the need for a 15,000 sf Central Fire Station a 12,000-sf dedicated Sheriff's sub-station and a 12,000-sf DPW building to be built on the current Senior Center Site off Joslyn Road. This same study indicated, but did not quantify, expansion and improvements to the current Township Hall of $6 million (approximately $8.5 million in 2018 dollars).

The 2002 SPY study was followed by a study by PM CRESA in January 2008. This study identified needs for the Fire Department (18,200-sf), a stand-alone Sheriff Sub-Station (11,200 -sf) and DPW facilities (17,700-sf) totaling 47,000 sf, again located on the current Senior Center property at a cost of $11.9 million. This study also discussed other facilities needing improvements including needed improvements at Gingellville Station No. 2 and Village Fire Station No. 1. It also asked the question (but did not answer) if a Public Safety complex should be a stand-alone building?

It should be noted that as a result of these previous study recommendations a central fire station, Station No. 2, has been added, Gingellville Station No. 3 has been replaced, and the Village Station No. 1 has been fully renovated. The Oakland County Sheriff sub-Station was renovated in 2013 but only involved the division of existing space into smaller spaces to accommodate additional staffing. No new facilities or improvements were completed involving DPW facilities nor improvements to the Township Hall as recommended in the two previous studies.

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AUGER KLEIN ALLER
ARCHITECTS INC.

# 1. Leadership Summary

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## 1.1 Project Objective

The purpose of this study is to:

- Take inventory of current facility usage
- Identify current facility shortcomings
- Projected facility needs.
- Responsibly plan for current and future Township needs.

## 1.2 Project Approach

To achieve the project Objective the following approach was used:

1.2.1 Gather relevant data:

- Make site visits to various recently renovated city and township hall facilities to observe trends and business flow (results on following page).
- Meet with key Township personnel to understand their current working arrangements and conditions.
- Review current staff versus projected staffing.
- Review previous facility studies.
- Accurately depict existing buildings and assess their respective conditions.

## 1.3 Space Usage Confirmation and Projections

From the information gathered create graphic representations of findings.

## 1.4 Opinion of Probable Project Costs

From square footage projections create Opinion of Probable Costs Estimates to describe the order of magnitude for improvements under consideration.

# Facility Tour – Average Scores

From a scale from 0 to 5 (0 being the worst, to 5 being the best), please rate the following city facilities.

## Farmington Hills

31555 W. Eleven Mile Road, Farmington Hills, MI 48334

| | | |
|---|---|---|
| **Site** | 3.375 | **Comments** |
| **Exterior** | | Main entrance not clear |
| Appearance | 2.875 | A little too much unused space |
| Layout/Flow | 2.625 | Good Public Hallway |
| **Interior** | | Nice Board Room |
| Appearance | 4 | Elevation is not very inviting |
| Layout/Flow | 3 | Layout does not flow |
| **Amenities/Features** | 3.75 | |
| **Total** | 19.625 | |

## Novi

45175 W. Ten Mile Road, Novi, MI 48375

| | | |
|---|---|---|
| **Site** | 3.875 | **Comments** |
| **Exterior** | | Better wayfinding in upper than lower level |
| Appearance | 4 | Too big |
| Layout/Flow | 3.625 | Nice front entrance |
| **Interior** | | Good that community service is together |
| Appearance | 3.75 | |
| Layout/Flow | 3 | |
| **Amenities/Features** | 3 | |
| **Total** | 21.25 | |

## Canton

1150 S. Canton Center Road, Canton, MI 48188

| | | |
|---|---|---|
| **Site** | 3.123 | **Comments** |
| **Exterior** | | Too closed in |
| Appearance | 3 | Difficult wayfinding |
| Layout/Flow | 3.625 | Nice front entrance |
| **Interior** | | |
| Apperance | 2.75 | |
| Layout/Flow | 3 | |
| **Amenities/Features** | 2.75 | |
| **Total** | 18.25 | |

## Westland

36300 Warren Road, Westland, MI 48185

| | | |
|---|---|---|
| **Site** | 4 | **Comments** |
| **Exterior** | | Good wayfinding |
| Appearance | 4.5 | Nice aesthetic |
| Layout/Flow | 4.5 | Good use of space |
| **Interior** | | Feels more open |
| Appearance | 4.5 | Nice council chamber |
| Layout/Flow | 4.75 | |
| **Amenities/Features** | 4.5 | |
| **Total** | 26.75 | |

## Oak Park

14000 Oak Park Boulevard, Oak Park, MI 48327

| | | |
|---|---|---|
| **Site** | 4 | **Comments** |
| **Exterior** | | Simple concept |
| Appearance | 4 | No private meeting spaces |
| Layout/Flow | 4.25 | Appropriate Sizing |
| **Interior** | | Good space utilization |
| Appearance | 3.625 | |
| Layout/Flow | 4.125 | |
| **Amenities/Features** | 3.375 | |
| **Total** | 23.375 | |

## Rochester Hills

1000 Rochester Hills Drive, Rochester Hills, MI 48309

| | | |
|---|---|---|
| **Site** | 4 | **Comments** |
| **Exterior** | | Too Open |
| Appearance | 4 | Appropriate Size |
| Layout/Flow | 4 | Choppy department locations |
| **Interior** | | Good Parking |
| Appearance | 3.75 | |
| Layout/Flow | 3.75 | |
| **Amenities/Features** | 3.5 | |
| **Total** | 23 | |

# 2. Community Profile

## 2. Community Profile

The Charter Township of Orion is located 45 minutes north of Detroit in Oakland County, Michigan. The community is a popular bedroom community, known for good schools, recreational lakes and Orion and State parklands. The Township's largest employer is General Motors Assembly Plant, with several Tier 1, 2 and 3 suppliers as well. Between 1990 and 2000 the Township's population and structures grew nearly 50%.

Key information economic profile information provided by SEMCOG is provided in the chart below:

| **Demographic** | **2000** | **2010** | **2017** | **2040** |
|---|---|---|---|---|
| **Population** | 30,748 | 35,460 | 35,951 | 37,269 |
| **Households** | 11,409 | 12,515 | 13,313 | 14,652 |
| **Household Size** | 2.7 | 2.7 | 2.8 | 2.5 |
| **Median Home Value** | $ 200,000 | 240,971 | $ 202,320 | |
| **Median Household Income** | $ 73,755 | $ 84,823 | $ 85,603 | |
| **Building Permits** | 233 | 11 | 628 | |

# 3. Study Observations

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## 3.1 Township Hall

The original building was built in 1974 and was later expanded in 1996 for a footprint totaling roughly 20,000-sf. The building has served Orion Township residents well. The quality of the construction type would be considered class C office, or that similar to a well-built residence. As with any building of this vintage it is starting to see significant signs of wear, specifically the continued water infiltration and mold build up along the west lower level foundation wall, roof damages along this same elevation, and porch and exterior stair deterioration. These issues have been ongoing maintenance issues for the past 10 years and will need to be addressed again regardless of the determination of this study.

Existing building systems are actually in good condition and have been updated within the past 5 years (see report included Tab 3.5). The back-up generator, installed in the 1996 addition, is not adequate for the building's current demands and should be re-sized and replaced. ADA compliance and compliance to the Michigan Energy Code have fallen behind current standards and need to be addressed as well.

Besides the lack of adequate space for current staff, as documented in this study, the most common need seems to be dedicated storage allocated, monitored and controlled by each department and various sized meeting rooms, for use by all departments, for meetings with staff and clients of the township.

In addition, the Mechanical Electrical and Plumbing Engineering review (see Section 3.5) has identified necessary improvements of $65,000 immediately, $230,000 of within the next 5 years, and $190,000 of necessary improvements within a 10-year window.

Security is another factor that needs to be considered within the current facility. Best practice security protocols that did not exist 10 years ago now must be considered. Secured staff, trustee and sheriff parking along with guarded site lines should be minimum considerations.

### 3.2 Oakland County Sheriff Sub-Station

Although renovated in 2013, the current sub-station is undersized by any method of measurement. Staffing targets 1 officer for each 1,000 residents. Currently the Orion sub-stations respond to 15,000 calls per year. There currently is not a space to gather, let alone train, a shift of officers. Officers, particularly female officers, have minimal to non-existent facilities. Currently, Patrol Sergeants share a closet for an office. There is no secure method of booking a perpetrator. There is no security for officers or patrol vehicles.

### 3.3 Fire Department Administration

The Fire Department needs a permanent home for the Fire Chief and his staff, whether that be accomplished in the existing Township Hall or at Station No. 3 (as a schematic drawing indicates in this report) needs to be determined.

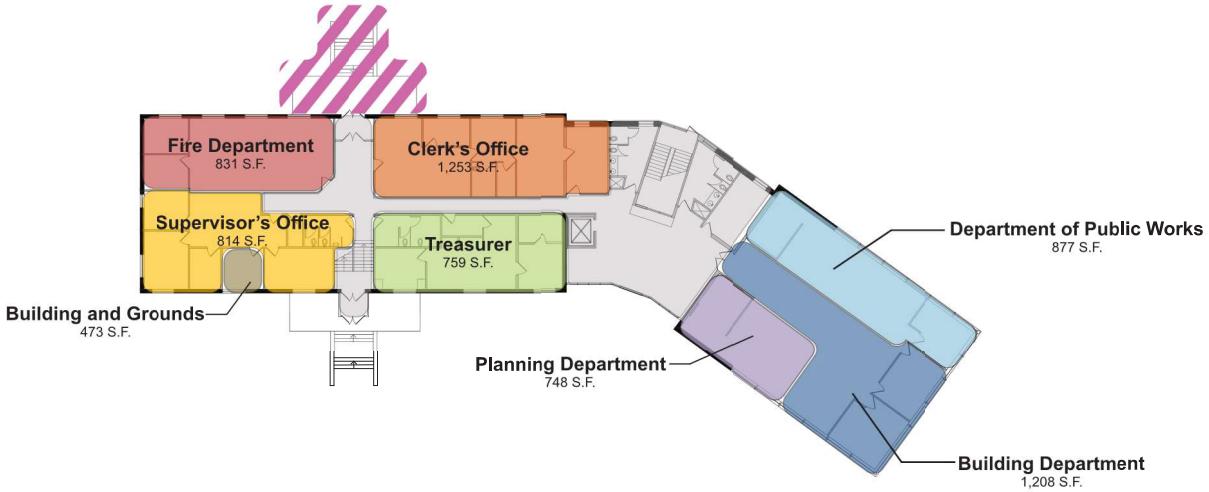
### 3.4 DPW Garage

The current DPW garage, built in 1983, is in immediate need of expansion by a minimum of 2 vehicular service bays as well as improved amenities (lockers, training, storage) for the growing. staff, especially female facilities. The building also needs to have all door and window frames replaced as they are showing signs of deterioration and rusting through in many locations.

The DPW storage yard also needs to be enlarged to allow for the bulk storage required to reduce trips of vehicles to distribution facilities.

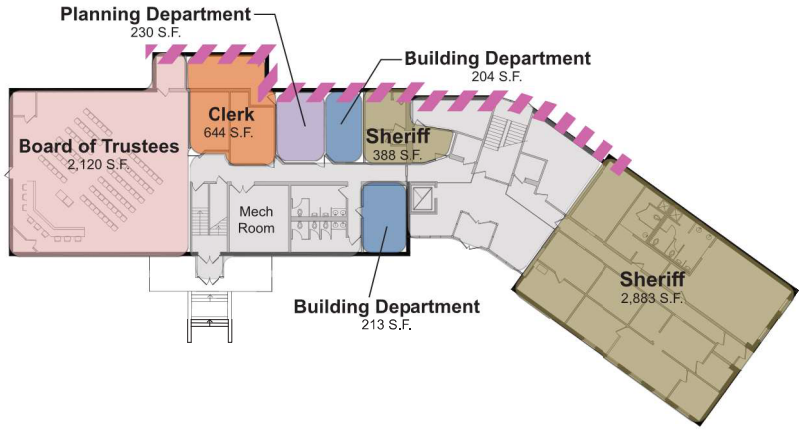
## Program Legend

- Township Supervisor
- Building & Grounds
- Parks & Recreation
- Fire Department
- Clerk's Office
- Treasurer
- Planning Department
- Building Department
- Department of Public Works
- Board of Trustees
- Oakland County Sheriff
- Common Areas (6,299 S.F.)
- Areas of Water Infiltration




0' 5' 10' 20'

Upper Level Existing Space Allocation
Scale: 1/32" : 1'




0' 5' 10' 20'

Lower Level Existing Space Allocation
Scale: 1/32" : 1'

# 3.5 Existing Mechanical & Electrical Condition Assessment

Orion Twp. Hall Facility
Assessment
Lake Orion, Michigan

# Mechanical & Electrical Condition Assessment

Prepared by:

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# REPORT ON BUILDING CONDITION SURVEY

## OBSERVATIONS

### Heating, Ventilating and Air Conditioning Systems

One natural gas fired atmospheric boilers, (Lochinvar model CBN399), provides heating hot water for the building. (Refer to photo M1) The boiler is rated for 399 MBH input and 328 MBH output, (82% efficient when first put into operation). The boiler is approximately 16 years old, appear to be in good condition and should have approximately 8 more years of useful life, (24-year useful life per ASHRAE). The boiler has its own individual pump and air separator, (Refer to photo M2), which are 16 years old as well.

A ceiling hung expansion tank appear to be of the same age as the boiler.

Heating hot water supply and return piping is routed throughout the building to baseboard fin tube radiation and a ceiling mounted cabinet unit heater. (Refer to photo M6) There is also at least one electric cabinet unit heater serving an entrance. (Refer to photo M5) Some of the baseboard's cover is in fair to poor condition. (Refer to photos M3 & M4) Heating hot water is also supplied to a central heating and ventilation unit located in the same room as the boiler, Trane model MCCA017, manufactured in 2002, 16 years old. (Refer to photo M12) This unit appears to be in fair condition, though it is approaching the end of its useful life. (Coils 20-year useful life, and centrifugal fans 25-year useful life, per ASHRAE).

One 30-ton air cooled chiller, Trane model CGAFC30EAFA1000DF, manufactured in 2002, serves the indoor air handling unit. (Refer to photo M9) This chiller is 16 years old and approaching the end of its useful life, (20-year useful life per ASHRAE). A chilled water circulating pump located in a small closet at the northwest corner of the building on the lower level, (Refer to photo M8), circulates chilled water to the indoor air handling unit. This pump appears to be in good condition.

Two packaged grade-mounted, gas fired rooftop units appear to serve the 1996 addition. (Refer to photo M11) One is a 15-ton Rheem model RKKL-B180CL35E manufactured in 2014 and the other is a 12.5 ton Rheem model RKKL-B151CL25E, manufactured in 2015. Both are only approximately 3-1/2 years old and in good condition. The wrapped supply and return air ductwork from these should be provided with positive water drainage to prevent cladding deterioration and rusting. (Refer to photo M13)

Ducts coming off one or both of the grade mounted rooftop units incorporate electric duct heaters to provide individual zone temperature control, Markel models. (Refer to photo M7)

There is an outdoor grade mounted 1.5-ton condensing unit, Mitsubishi model PUY-A18NHA4, that appears to be in fair condition. This is split system cooling associated with an indoor fan coil unit. (Refer to photo M10)

There is one abandoned supply fan on the roof. The toilet room exhausts fans are at least 22 years and at the end of their useful life.

Temperature controls consists of individual thermostats controlling individual heating or air conditions equipment. There is no central building management system for the HVAC systems.

**Plumbing Systems**

The building's 4" sanitary waste, which exits out the north side of the building through the wall in the lower level mechanical room, is served by a septic field. (Refer to photo P1)

A 6" water main enters the building from the north side and then splits into a 4" for fire protection and a 2" for domestic water. (Refer to photos P2 & P3) Originally the building was served by well and associated compression tank, (Refer to photos P4 & P5), which is currently utilized only for irrigation.

Gas enters the south side of the basement and serves the boiler, domestic water heater and generator.

One 11-year-old 18 KW, 52-gallon electric domestic water heater, Lochinvar model HST18-052 located in the 1996 addition serves that portion of the building. (Refer to photo P6) There appears to be continuous leak, either from the tank, relief valve or circulating pump. (Refer to photo P7). This water heater is in fair to poor condition and should be replaced. (12-year average useful life per ASHRAE)

One 16-year-old 50 MBH gas fired domestic water heater, Lochinvar model STN050-4, serves the original portion of the building. (Refer to photo P8) It is in fair to poor condition and beyond the end of its useful life.

Most of the domestic water piping appears to be copper, all of which appears to be uninsulated. (Refer to Photo Existing main shutoff valves are in fair condition and may not completely close if needed. These should be replaced.

Two storm water sump pumps, each with one pump in the basin, serve the building. One located in the lower level mechanical room in the original part of the building, was completely dry inside. (Refer to photo P11) The other one is in the small closet at the northwest corner of the building. This one had standing water in it. (Refer to photo P12)

The plumbing fixtures appear to be original and in good condition. (Refer to photos P9, P13, P14 & P15) The lavs did not have the code required thermostatic mixing valve to prevent scalding. There was also a standalone hot and cold-water dispenser. (Refer to photo P10)

**Electrical Service**

The building electrical service is supplied by a 150KVA DTE owned pad mounted transformers 13.2kV – 4800V down to 208Y/120V 3 phase 4 wire system. The transformer is located outdoors near the main entrance on the South end of the building. The feeders from the outdoor transformer enter the building underground to a Main Distribution Panel (MDP) located in the main electrical room on the first level of this 2 story complex **(See Picture E1).**

The main distribution panel (MDP) was installed as part of the addition in 1996. The MDP is 1000A 208Y/120V 3 phase 4 wire manufactured by "Park Metal" a Detroit based power distribution company specializing in custom electrical distribution equipment. Park Metal is still in business and it can support its equipment **(See Picture E2)**. The MDP was designed to back feed the original electrical system distribution panel DP-1 located in the mechanical room of the original building.

Distribution Panel DP-1 is 400A 208Y/120V 3 phase 4 wire, manufactured by "Federal Pacific". This company is no longer in business and replacement parts are hard to come by. DP-1 is approximately 50 years old and it certainly exceeded its life expectancy. **(See Picture E3)**.

**Electrical Distribution Equipment**

The original building and the addition in 1996 have two sets of electrical distribution equipment that vary in age and life expectancy. The 1996 branch panelboards are over 20 years old but appear to be in good condition. As for the original building electrical panelboards, they appear to have been replaced in 1996. The only original building panel is DP-1. This distribution panel is over 50 years old and in need of upgrade due to age and lack of replacement parts. **(See picture E3).**

**Emergency Power**

The building is currently equipped with a 100Kva 208/120v 3 phase 4 wire Natural Gas generator. The generator is located on the North side of the building, house in a sound attenuating enclosure, and is manufactured by "Onan/Cummins". The generator was installed in 1996 with the new addition. It appears to be in good shape and in good working condition according to building owner **(See picture E4)**. The feeders from the generator enter the building underground to a 400A 3P automatic Transfer Switch (ATS) located in the main electrical room. The generator and the ATS are connected on the load side to distribution panel DP-SB (600A-208Y/120V 3 phase 4wire) which in turn feeds the entire original building distribution panel DP-2 (400A-208Y/120V 3 phase 4wire) along with the elevator and other HVAC units. The generator appears to be overloaded. **(See picture E5)**.

The emergency lighting system consist of Emergency Battery Units (EBU) scattered throughout the building and battery-operated exit signs. The Egress pathway needs to have sufficient spacing to provide the 1 foot-candle average and a 0.1 minimum. The exit signs and the EBU appears to be in good condition. We need to review maintenance schedule with the owner to verify working conditions. No exterior egress lighting was observed which is a current code requirement. **(See picture E6)**.

**Lighting**

The lighting system in general consist of 2x4 lay-in fluorescent fixtures with T8 lamps and electronic ballasts in the open areas and office areas. The main lobby consist of 6" round compact fluorescent downlights. The corridor had track lighting to highlight wall pictures and frames, along with compact fluorescent downlights in the center. **(See picture E7)**.

The lighting system appears to be in good working condition. However, it does not meet the current ASHRAE 90.1 2013 energy codes required by the state in case of any revisions or additions to the building.

**Fire Alarm System**

The building fire alarm system is an electronic addressable system consisting pull stations, Horns and Horn/strobes located throughout the building as required by current codes. The Fire Alarm control panel is located in the original building mechanical room. For any building addition, this panel will need to be replace with a new control panel due to age and the lack of support regarding older models. **(See picture E8)**.

# CONCLUSIONS AND RECOMMENDATIONS

**Conclusions**

Except for the boilers and the outdoor grade mounted rooftop units, the remaining mechanical, plumbing equipment and systems are at or approaching the end of their useful life and should be considered for replacement immediately or in the next 5 to 7 years. New mechanical air conditioning and gas fired equipment would also have the benefit of being more efficient then the equipment it is replacing.

The electrical distribution system is over twenty (20) years old but is appears to be in good shape except for one distribution panel in the original building mechanical room.

The lighting system is fluorescent and does not meet today's energy codes, but it appears to be in good condition.

The emergency lighting system is battery operated, may not meet code in certain areas, and will need to be maintained in good condition by replacing batteries every 5 years.

The generator system is over twenty (20) years old and it appears to be overloaded, it also does not back up the entire building.

The fire alarm panel will need to be updated if an addition is planned. It currently meets codes.

During our observations, we encountered conditions that should be further explored, as noted above, to determine the extent of additional deferred maintenance.

- Scope out all sanitary and storm piping to determine condition. Hydro-Jet clean as required.
- Electrical.

**Recommendations**

Costs indicated in the table below, are order of magnitude values that should be used for comparison and rough budgeting only. They are based on current year and would need to be adjusted for inflation depending on the number of years out work would be performed.

The replacement/upgrade costs in the table should be compared with costs for new construction. New construction costs for mechanical and electrical systems would be estimated to be;

HVAC – $22/SF  Plumbing – $8/SF  Electrical - $20/SF

| Description | Immediate Replacement/ Upgrade $ | With-in 5 Years Replacement/ Upgrade $ | Within 10 years Replacement/ Upgrade |
|---|---|---|---|
| **M1**-Replace 400 MBH boiler, pump & expansion tank with high efficiency boiler. | | | $30,000 |
| **M2**- Replace 30-ton chiller and pump with new higher efficiency air cooled chiller & pump | | $50,000 | |
| **M3**-Replace cabinet unit heaters & fin tube radiation with new | | $40,000 | |
| **M4**-Replace indoor air handling unit with new | | $60,000 | |
| **M5**-Replace two outdoor grade mounted rooftop units with new. | | | $40,000 |
| **M6**- Replace 1.5 ton split system cooling system with new | $6000 | | |
| **M7**- Replace roof mounted toilet room exhaust fans. | $4000 | | |
| **P1**- Replace both domestic water heaters with new. | $14,000 | | |
| **P2**- Replace sump pumps with duplex sump pumps. | $8000 | | |
| **P3**-Scope & hydro jet sanitary and sewer lines | $5000 | | |
| **P4**- Provide thermostatic mixing valves for all lavs. | $4000 | | |
| **P5**- Insulate all domestic water piping | $9,000 | | |
| | | | |
| **Mechanical/Plumbing Totals** | **$50,000** | **$150,000** | **$70,000** |
| | | | |
| **E1**- Replace existing Distribution panel DP-2 | $15000 | | |
| **E2**-Replace existing lighting system with new LED lighting system to meet latest energy codes | | $90000 | |
| **E3**-Replace existing generator with new to back up the entire building | | | $80,000 |
| **E4**-New Fire Alarm control system | | | $20,000 |
| **E5**-New emergency lighting inverter system | | | $20,000 |
| | | | |
| **Electrical Totals** | **$15,000** | **$90,000** | **$120,000** |
| | | | |
| **MEP Totals** | **$65,000** | **$230,000** | **$190,000** |
| **GRAND TOTAL** | **$485,000** | | |

# Appendix A

## Photographs

M1 Gas Fired Boiler

M2 Heating system pump and air separator

M3 Baseboard Fin Tube Radiation

M4 Baseboard Fin Tube Radiation

M5 Electric Cabinet unit heater


M6 Hydronic Cabinet Unit Heater


M7 Electric Duct Coil

M8 Remote Heating Hot Water Circulating Pump

M9 Air Cooled Chiller

M10 Condensing Unit

M11 Gas Fired Roof top units on grade

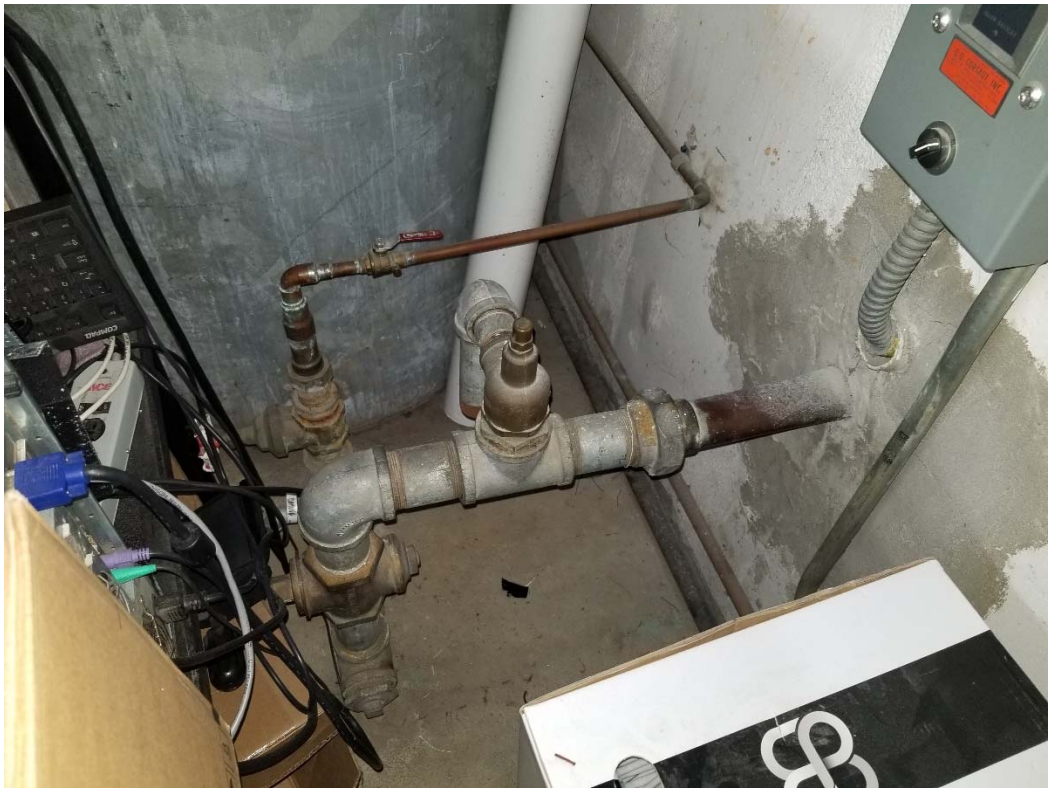

M12 Indoor Air Handling Unit

M13 Rusted Duct Covering


P1 Sanitary out of Building to Septic Field


P2 Fire Protection Assembly

P3 Domestic Water Meter



P4 Original Well Water Entry into Building

P5 Well Compression Tank


P6 Electric Domestic Water Heater

P7 Leak at domestic water heater


P8 Gas Fired Domestic Water Heater

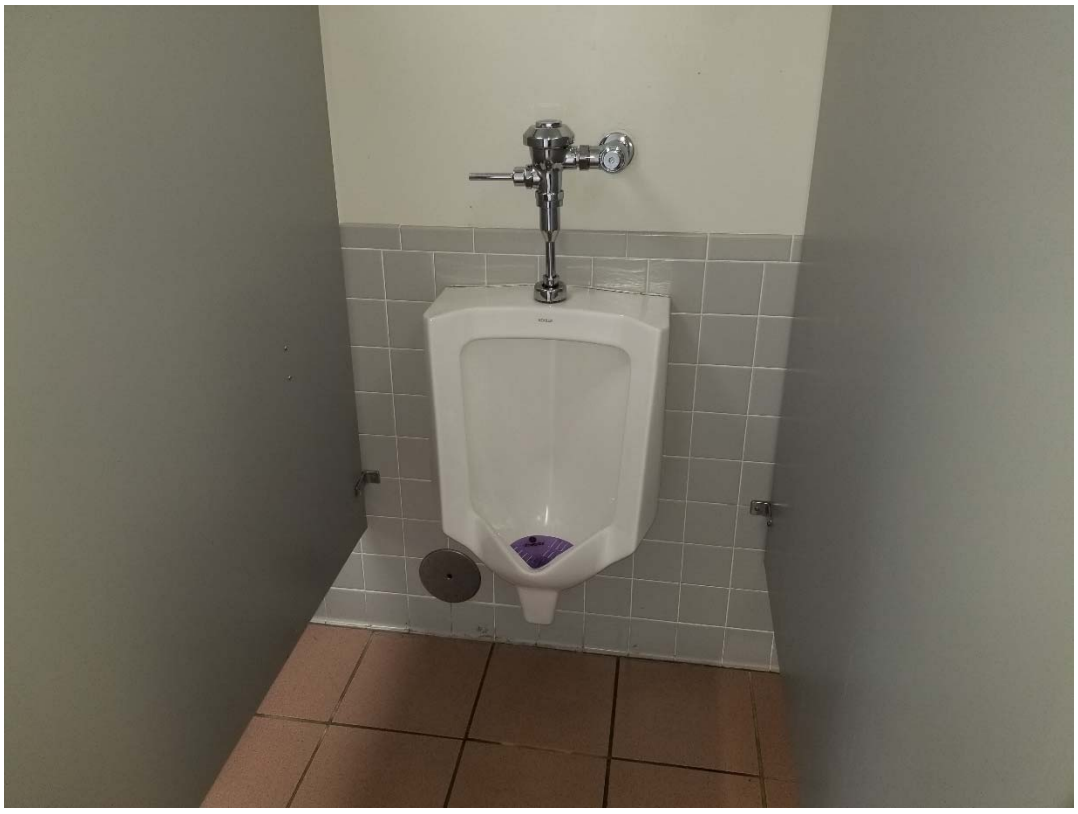

P9 Electric Water Cooler


P10 Portable Hot and Cold-Water Dispenser

P11 Sump Pump (dry)

P12 Sump Pump

P13 Typical Lavs



P14 Urinal

P15 Water Closet

Picture E1 – DTE Pad Mounted Transformer

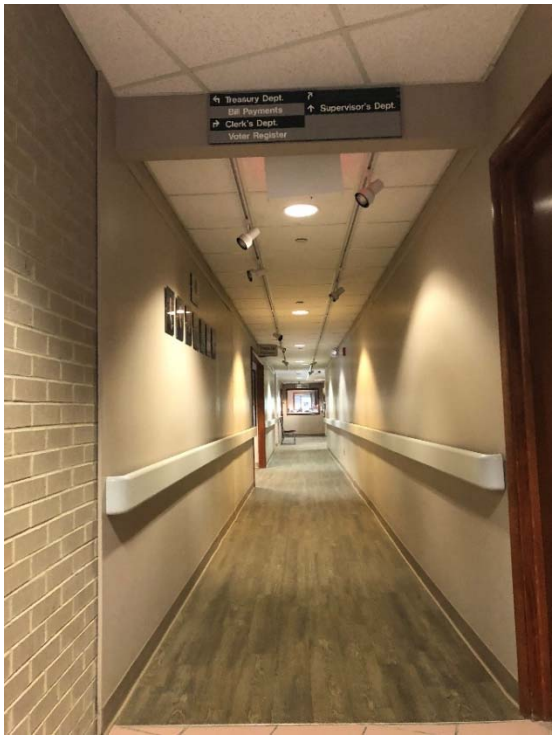

Picture E2 – Main Distribution Panel (MDP)

Picture E3 – DP-1 Original Building

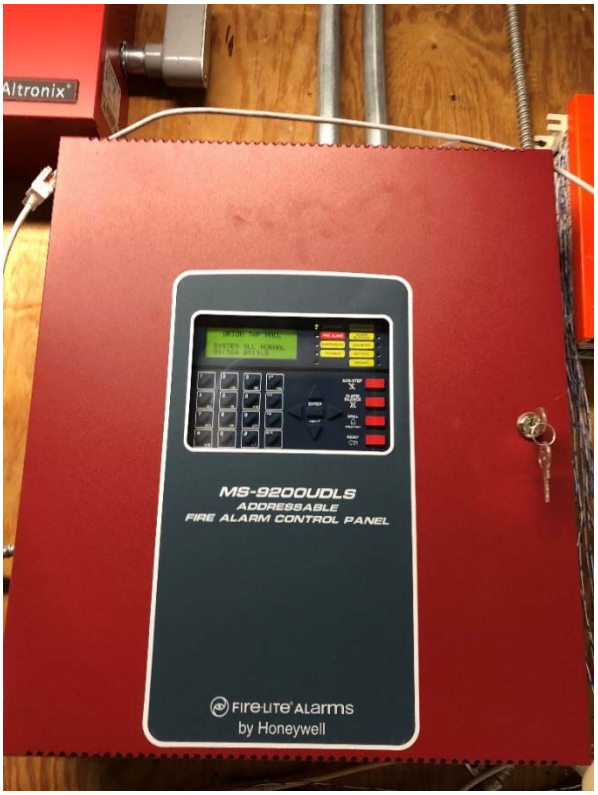
Picture E4 – Existing 100KW Generator


Picture E5 – Existing ATS and Emergency Load panel DP-SB


Picture E6 – Existing Emergency Lighting




Picture E7 – Typical Corridor Lighting




Picture E8 – Existing Fire Alarm Control Panel

# 4. Space Program Methodology

## 4. Programming Matrix

The Preliminary Programming Matrix was developed through on-site field measurements and observations and the quantification of current square footage allocations and usages within the existing facilities. This information was then input into a spreadsheet and reviewed and approved by each department head.

Upon the collection of that data department heads where asked to identify improvements desired within their existing space that would improve efficiencies of both staff and service to the general public. They were also asked about potential staffing levels within the next 10 years.

This information was again quantified and then based on industry standards and historical experience.

Orion Township
Summary of Program Spaces

7/30/2019

| 1 | CLERK'S OFFICE | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | SUBTOTAL | 8 | 1,729 | 7 | 1 | 8 | 2,349 | |
| | TOTAL PROGRAMED AREA | | 2,075 | | | | 3,242 | 56% |

| 2 | TREASURER | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | SUBTOTAL | 4 | 690 | 2 | 2 | 4 | 976 | |
| | TOTAL PROGRAMED AREA | | 828 | | | | 1,347 | 63% |

| 3 | PLANNING + ZONING | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | SUBTOTAL | 3 | 680 | 3 | 1 | 4 | 1,169 | |
| | TOTAL PROGRAMED AREA | | 748 | | | | 1,613 | 116% |

| 4 | BUILDING DEPT. | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | SUBTOTAL | 16 | 1,205 | 20 | 2 | 22 | 2,649 | |
| | TOTAL PROGRAMED AREA | | 1,326 | | | | 3,656 | 176% |

| 5 | PARKS + RECREATION (currently off site) | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | SUBTOTAL | 8.5 | 946 | 7 | 5 | 8.5 | 1,740 | |
| | TOTAL PROGRAMED AREA | | 1,041 | | | | 2,401 | 131% |

Prepared by: **AKA Architects**

| 6 | TOWNSHIP SUPERVISOR | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | SUBTOTAL | 5 | 740 | 3 | 2 | 6 | 1,545 | |
| | TOTAL PROGRAMED AREA | | 814 | | | | 2,132 | 162% |

| 7 | BOARD OF TRUSTEES | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | SUBTOTAL | 100 | 2,190 | | | 100 | 3,480 | |
| | TOTAL PROGRAMED AREA | | 2,409 | | | | 4,802 | 99% |

| 8 | OAKLAND COUNTY SHERIFF | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | SUBTOTAL | 16 | 2,974 | 15 | 8 | 26 | 7,918 | |
| | TOTAL PROGRAMED AREA | | 3,271 | | | | 10,927 | 234% |

| 9 | DEPARTMENT OF PUBLIC WORKS ADMIN | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | SUBTOTAL | 257 | 797 | 3 | 1 | 5 | 1,355 | |
| | TOTAL PROGRAMED AREA STAFF | | 877 | | | | 1,870 | 113% |

| 10 | FIRE DEPT. (potentially at Station No. 2) | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | SUBTOTAL | 6 | 755 | 5 | 2 | 7 | 1,625 | |
| | TOTAL PROGRAMED AREA | | 831 | | | | 2,243 | 170% |

| 11 | GENERAL | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | SUBTOTAL | | 6,299 | | | 84 | 4,640 | |
| | TOTAL PROGRAMED AREA | | 6,299 | | | | 6,403 | 2% |

| | | | |
|---|---|---|---|
| GRAND TOTALS EXISITNG FACILITIES | 20,518 | | |
| GRAND TOTALS PROGRAMED FACILITIES | | 40,635.48 | 98% |
| GRAND TOTALS PROGRAMED FACILITIES (w/out Fire Admin.) | | 38,392.98 | 87% |
| TOTAL PROGRAME NEW CONSTRUCTION | | 17,875 | |

**Programmed Areas Outside of Current Facilities**

| 12 | DPW GARAGE (stand alone building) | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | SUBTOTAL | 8 | 10,310 | | | 15 | 19,021 | does not include corral bins |
| | TOTAL PROGRAMED AREA GARAGE | | 10,310 | | | | 19,021 | 84% |
| | GRAND TOTAL PROGRAMED TOWNSHIP SERVICE AREAS | | 30,828 | | | | 59,656 | 94% |

**Program Matrix Space Allocation by Function**

| 1 | CLERK'S OFFICE | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | Clerk | 1 | 96 | | 1 | 1 | 225 | |
| | Deputy Clerk | 1 | 96 | 1 | | 1 | 120 | |
| | Accounts Controller | 1 | 130 | 1 | | 1 | 120 | |
| | Accounts Payable / Payroll | 1 | 90 | 1 | | 1 | 120 | |
| | Accounting Controller | 1 | 90 | 1 | | 1 | 120 | |
| | Records Coordinator | 1 | 90 | 1 | | 1 | 140 | |
| | Vote Registration Clerk | 1 | 90 | 1 | | 1 | 140 | |
| | Counter Help | 1 | 275 | 1 | | 1 | 100 | |
| | Conference Room | | | | | | 100 | accessible to public for training and questions |
| | Service Counter (3 Stations) | | | | | | 64 | Public Space |
| | Work Room /Storage | | 247 | | | | 300 | Secured |
| | Storage (Pre-Archive) | | 180 | | | | 200 | Secured |
| | Archives | | 160 | | | | 300 | Secured |
| | Election Equipment | | 185 | | | | 300 | Secured |
| | Elections Training and staging | | | | | | - | large area (currently use boardroom) |
| | Election Sequester Area | | | | | | | Need self contained area for election day |
| | **SUBTOTAL** | **8** | **1,729** | **7** | **1** | **8** | **2,349** | |
| | Circulation + Net to Gross 20% | | 346 | | | | 470 | |
| | Growth Factor 15% | | | | | | 423 | |
| | **TOTAL PROGRAMED AREA** | | **2,075** | | | | **3,242** | 56% |

| 2 | TREASURER | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | Treasurer | 1 | 125 | 1 | | 1 | 168 | |
| | Deputy Treasurer | 1 | 125 | | 1 | 1 | 120 | |
| | Open office (2 Positions) | 2 | 275 | | 1 | 2 | 290 | |
| | Hotel Office /Small Conf. | | | 1 | | | 168 | |
| | Service Counter (3 Stations) | | 80 | | | | 80 | optional seated station |
| | Storage (Pre-Archive) | | 85 | | | | 150 | |
| | **SUBTOTAL** | **4** | **690** | **2** | **2** | **4** | **976** | |
| | Circulation + Net to Gross 20% | | 138 | | | | 195 | |
| | Growth Factor 15% | | | | | | 176 | |
| | **TOTAL PROGRAMED AREA** | | **828** | | | | **1,347** | 63% |

| 3 | PLANNING + ZONING | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | Director | 1 | 135 | | 1 | 1 | 225 | |
| | Open Office Space (2 Positions) | 2 | 235 | 3 | | 3 | 200 | |
| | Common Work table | | | | | | 64 | |
| | Common Lobby | | | | | | 100 | |
| | Storage | | 250 | | | | 500 | desire for high density storage system |
| | Service Counter | | 60 | | | | 80 | |
| | **SUBTOTAL** | **3** | **680** | **3** | **1** | **4** | **1,169** | |
| | Circulation + Net to Gross 20% | | 136 | | | | 234 | |
| | Growth Factor 15% | | | | | | 210 | |
| | **TOTAL PROGRAMED AREA** | | **816** | | | | **1,613** | 98% |

| 4 | BUILDING DEPT. | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | Building Official | 1 | 180 | | 1 | 1 | 225 | |
| | Open Office Space (15 Positions) | 15 | 480 | 17 | | 17 | 1,200 | |
| | Service Counter | | 100 | 3 | | 3 | 100 | |
| | Plan Storage | | 130 | | | | 300 | |
| | Plan Reading Room | | 85 | | 1 | 1 | 200 | |
| | Lobby | | 50 | | | | 200 | waiting area for meeting attendances |
| | Medium Conference Room | | | | | | 144 | 8 person |
| | Large Conference Room | | | | | | 280 | 16 person |
| | Storage Space | | | | | | | |
| | Archives | | 180 | | | | 500 | secure |
| | **SUBTOTAL** | **16** | **1,205** | **20** | **2** | **22** | **2,649** | |
| | Circulation + Net to Gross 20% | | 241 | | | | 530 | |
| | Growth Factor 15% | | | | | | 477 | |
| | **TOTAL PROGRAMED AREA** | | **1,446** | | | | **3,656** | 153% |

| 5 | PARKS + RECREATION (currently off site) | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | Director | 1 | 217 | 1 | | 1 | 200 | |
| | Assistant | 1 | 113 | 1 | | 1 | 120 | |
| | Program Director | | | 1 | | 1 | 120 | |
| | Offices | 3.5 | 216 | 3.5 | 4 | 7.5 | 300 | |
| | Service Counter (2 Positions) | 3 | 200 | | | 2 | 200 | |
| | Work Room | | 100 | | | | 100 | dedicated to department |
| | Office Storage | | | | | | 100 | |
| | Off Site Storage | | | | | | 300 | |
| | Program + Equipment Storage | | 100 | | | | 300 | Secure |
| | **SUBTOTAL** | **8.5** | **946** | **7** | **4** | **12.5** | **1,740** | |
| | Circulation + Net to Gross 20% | | 189 | | | | 348 | |
| | Growth Factor 15% | | | | | | 313 | |
| | **TOTAL PROGRAMED AREA** | | **1,135** | | | | **2,401** | 112% |

| 6 | TOWNSHIP SUPERVISOR | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | Supervisor | 1 | 160 | | 1 | 1 | 250 | toilet / shower / changing |
| | Reception/ Assistant | 2 | 100 | 1 | | 2 | 160 | |
| | Administrative Assistant | 1 | 100 | 1 | | 1 | 120 | |
| | Human Resources | 1 | 115 | | 1 | 2 | 230 | |
| | Work Room | 0 | - | 1 | | | 120 | |
| | Information Technology | 0 | - | | 1 | | 200 | |
| | Storage (File Room) | 0 | 80 | | | | 160 | secure |
| | Hotel/ Small Conference Room | | | | | | 120 | 4-6 person shared w/ other departments |
| | Conference Room | 12 | 185 | | | | 185 | 16 persons (currently shared w/entire building) |
| | **SUBTOTAL** | **5** | **740** | **3** | **3** | **6** | **1,545** | |
| | Circulation + Net to Gross 20% | | 74 | | | | 309 | |
| | Growth Factor 15% | | | | | | 278 | |
| | **TOTAL PROGRAMED AREA** | | **814** | | | | **2,132** | 162% |

| 7 | BOARD OF TRUSTEES | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | Board Room | 100 | 1,700 | | | 100 | 2,000 | 100 seats |
| | Board Dias | | 425 | | | | 500 | |
| | A/V Control Room | | 65 | | | | 100 | |
| | Trustee Conference Room | | | | | | 280 | 16 persons |
| | Kitchenette | | | | | | 100 | |
| | Hoteling Flex Office / Lounge | | | | | | 500 | |
| | Secured Ingress/Egress | | | | | | | |
| | **SUBTOTAL** | **100** | **2,190** | | | **100** | **3,480** | |
| | Circulation + Net to Gross 20% | | 438 | | | | 696 | |
| | Growth Factor 15% | | | | | | 626 | |
| | **TOTAL PROGRAMED AREA** | | **2,628** | | | | **4,802** | 83% |

**Program Matrix Space Allocation by Function**

| 8 | OAKLAND COUNTY SHERIFF | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | Lobby / Corridor | | 490 | | | | 250 | adjacent soft interview |
| | Soft Interview room | | - | | 1 | 4 | 120 | neutral meeting room (can be used for hoteling) |
| | Reception / Tech Assistant | 1 | 95 | 2 | | 2 | 154 | secure BR area |
| | Patrol Sargent | 2 | 60 | | 1 | 4 | 240 | 4 open work stations |
| | General Storage | | | | | | 200 | |
| | Storage/ Supply / Tel.Com | | 160 | | | | 300 | |
| | Report Writing | | 223 | 6 | | | 300 | |
| | Men's Locker Room | | 515 | | | | 960 | 28- 36" lockers projected for 40 officers |
| | Men's Toilet/Shower | | 170 | | | | 300 | |
| | Reserve / FTO Lockers | | | | | | 100 | 3 lockers |
| | Women's Locker Room | 6 | 108 | | | | 450 | 15-24" lockers |
| | Women's Toilet/Shower | | 108 | | | | 300 | |
| | Reserve / FTO Lockers | | | | | | 100 | 3 lockers |
| ` | Unisex Shower | | | | | 1 | 100 | stand alone shower & changing room |
| | Unisex Shower | | | | | 1 | 100 | stand alone shower & changing room |
| | Break Room | | 135 | | | | 300 | 15 person capacity |
| | Lieutenant's Office | 1 | 135 | | 1 | 1 | 225 | |
| | Processing | | 135 | | 1 | | 200 | |
| | Interview Room | | 58 | | 1 | | 75 | |
| | Detective Sergeant's Office | 1 | 102 | | 1 | 2 | 160 | |
| | A/V Closet | | | | | | 32 | secure closet for monitor equipment |
| | Detective's Office | 3 | 195 | 4 | | 4 | 320 | |
| | Video Arraignment | | 72 | | 1 | | 100 | serve as secondary interview room |
| | Property / Evidence Lock-up | | 80 | | | | 160 | visible secure lockers adjacent sally -port |
| | Conference Room | | 133 | | | | 320 | 8 person conference room |
| | Hoteling Office | | | | 1 | 4 | 120 | doubles as small conference or interview |
| | Seminar / Briefing Room | | | | | | 300 | 20 seats |
| | Public Toilet | | - | | | | 64 | |
| | Armory Closet | | - | | | | 100 | rifle cleaning in sally-port |
| | School Liaison Office | 2 | - | 3 | | 3 | 240 | |
| | General Storage | | | | | | 200 | |
| | Janitor Closet | | | | | | 64 | |
| | Flammable Storage | | | | | | 64 | |
| | Sally Port | | | | | | 900 | equipment for vehicle cleaning |
| | Secure Covered Car Port Parking | | | | | | | 16 patrol cars |
| | **SUBTOTAL** | **16** | **2,974** | **15** | **8** | **26** | 7,918 | |
| | Circulation + Net to Gross 20% | | 595 | | . | | 1,584 | |
| | Growth Factor 15% | | | | | | 1,425 | |
| | **TOTAL PROGRAMED AREA** | | **3,569** | | | | **10,927** | 206% |

| 9 | DEPARTMENT OF PUBLIC WORKS ADMIN | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | DPW Director | 1 | 190 | | 1 | 1 | 225 | |
| | Assistant Director | 1 | 85 | 1 | | 1 | 150 | |
| | Plumbing Inspector | 1 | 72 | 1 | | 1 | 80 | |
| | Administrative/ Billing | 3 | 240 | 3 | | 1 | 240 | |
| | Hoteling workstation | | - | 1 | | 1 | 80 | |
| | Conference Room | | - | | | 1 | 300 | 12 person capacity |
| | Supply Area | | 50 | | | | 80 | |
| | Plan Room (storage) | | 160 | | | | 200 | |
| | **SUBTOTAL** | **6** | **797** | **6** | **1** | **7** | **1,355** | |
| | Circulation + Net to Gross 20% | | 159 | | | | 271 | |
| | Growth Factor 15% | | | | | | 244 | |
| | **TOTAL PROGRAMED AREA STAFF** | | **956** | | | | **1,870** | 96% |

| 10 | FIRE DEPT. (potentially at Station No. 3) | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | Lobby/ Vestibule | | 75 | | | | 100 | |
| | Fire Chief Office | 1 | 100 | | 1 | 1 | 225 | |
| | Assistant Fire Chief Office | 1 | 100 | 1 | | 1 | 150 | |
| | Fire Marshal | 1 | 80 | 2 | | 1 | 100 | |
| | Fire Inspector | 1 | 80 | 1 | | 1 | 80 | |
| | EMS Coordinator | 1 | 80 | | 1 | 1 | 80 | |
| | Hotel Office / Small Conference | | | | | | 120 | 4 person conference / office |
| | General Office / Administration | 1 | 240 | 1 | | 2 | 150 | |
| | Conference Room | | | | | | 240 | 10 person |
| | Plan Storage | | | | | | 150 | |
| | Code Library | | | | | | 80 | |
| | Work Room/ Copy | | | | | | 150 | |
| | **SUBTOTAL** | **6** | **755** | **5** | **2** | **7** | **1,625** | |
| | Circulation + Net to Gross 20% | | 151 | | | | 325 | |
| | Growth Factor 15% | | | | | | 293 | |
| | **TOTAL PROGRAMED AREA** | | **906** | | | | **2,243** | 148% |

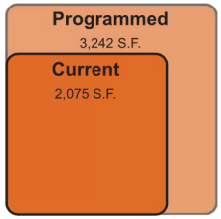
| 11 | GENERAL | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | Public Restrooms | 12 | 360 | | | 16 | 880 | public facilities count |
| | Family Restroom | | 64 | | | 2 | 160 | Non-ambulatory / assistance needed |
| | Elevator/ EMR | | 100 | | | | 300 | |
| | Employee Kitchen/Commissary | | 100 | | | | 300 | 15 person |
| | Mechanical Room | | 240 | | | | 300 | |
| | Electrical Room | | - | | | | 240 | |
| | Telephone / Communications | | - | | | | 160 | |
| | Vertical & Horizontal Circulation | | 4,500 | | | | 1,000 | |
| | Janitor Closet | | 40 | | | | 100 | |
| | Loading Dock | | - | | | | 1,200 | dedicated area for shipping and receiving |
| | Unaccounted | | 895 | | | | | |
| | **SUBTOTAL** | | **6,299** | | | | **4,640** | |
| | Circulation + Net to Gross 20% | | - | | | | 928 | |
| | Growth Factor 15% | | | | | | 835 | |
| | **TOTAL PROGRAMED AREA** | | **6,299** | | | | **6,403** | 2% |

| | |
|---|---|
| **GRAND TOTALS EXISITNG FACILITIES** | **21,472** |

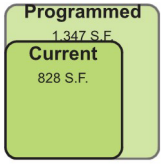
| | | |
|---|---|---|
| **GRAND TOTALS PROGRAMED FACILITIES** | **40,635** | 89% |

**Programmed Areas Outside of Current Facilities**

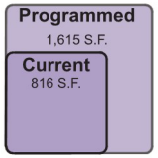
| 12 | DPW GARAGE (stand alone building) | Current Occ. Load | Actual SF | Open Office | Private Office | Proposed Occupant Load | Calculated Proposed SF | Comments |
|---|---|---|---|---|---|---|---|---|
| | Lunch Room | 7 | 200 | | | 14 | 400 | large enough for seminar training for 15 |
| | Garage Office | 1 | 100 | | | 1 | 200 | |
| | Locker Room / Toilets (Men) | | 140 | | | | 300 | 15-24" lockers |
| | Shower (Men) | | 36 | | | | 80 | |
| | Locker Room / Toilets (Women) | | 90 | | | | 140 | 6-24" lockers |
| | Shower (Women) | | 27 | | | | 80 | |
| | **SUBTOTAL HABITABLE SPACES** | | **593** | | | | **1,200** | |
| | Circulation + Net to Gross 20% | | 555 | | | | 240 | |
| | Growth Factor 15% | | | | | | 216 | |
| | **TOTAL HABITAL SPACES** | | | | | | **1,656** | |
| | Repair/Maintenance Bays | | 6,120 | | | | 6,120 | add OH door at SE bay, replace all OH doors |
| | 2 Addition Maintenance Bays | | - | | | | 4,000 | |
| | Tools & Parts Storage | | 200 | | | | 400 | |
| | Hoist Bay | | 625 | | | | 625 | |
| | Meter Room | | 120 | | | | 120 | |
| | Tool Crib | | 280 | | | | 400 | |
| | Mezzanine Storage | | 1,528 | | | | 1,652 | with 1 ton hoist access |
| | Yard Storage Corrals | | 1,600 | | | | 3,200 | 4 additional corral bins + covered |
| | **SUBTOTAL** | **8** | **10,614** | | | **15** | **18,173** | does not include corral bins |
| | **TOTAL PROGRAMED AREA GARAGE** | | **10,614** | | | | **18,173** | 71% |
| | **GRAND TOTAL PROGRAMED AREAS** | | **32,086** | | | | **58,808** | 83% |



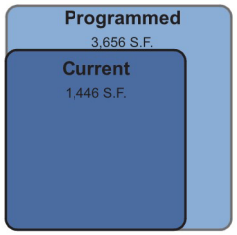

1. Clerk's Office



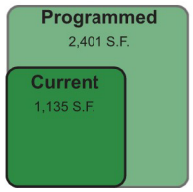

2. Treasurer's Office



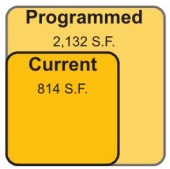

3. Planning + Zoning Department



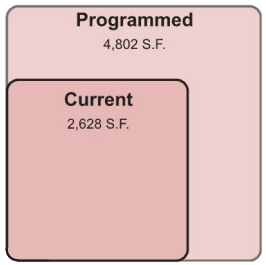

4. Building Department



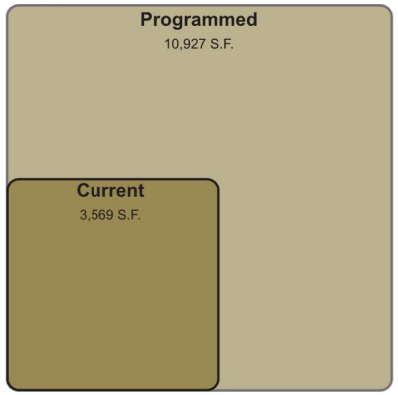

5. Parks & Recreation



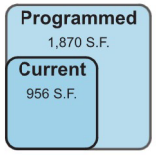

6. Supervisor's Office



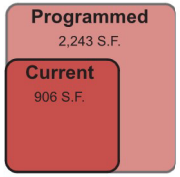

7. Board of Trustees



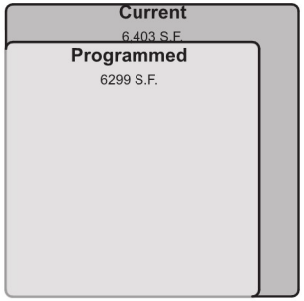

8. Oakland County Sheriff



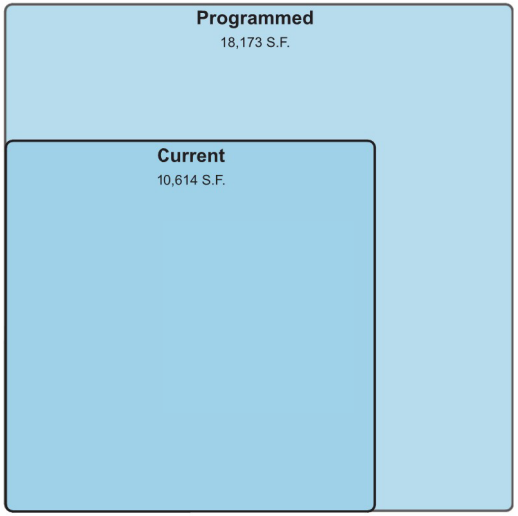

9. DPW Administration




10. Fire Department




11. General




12. DPW Garage

# 5. Opinion of Probable Project Costs

## 5. Opinion of Probable Project Costs

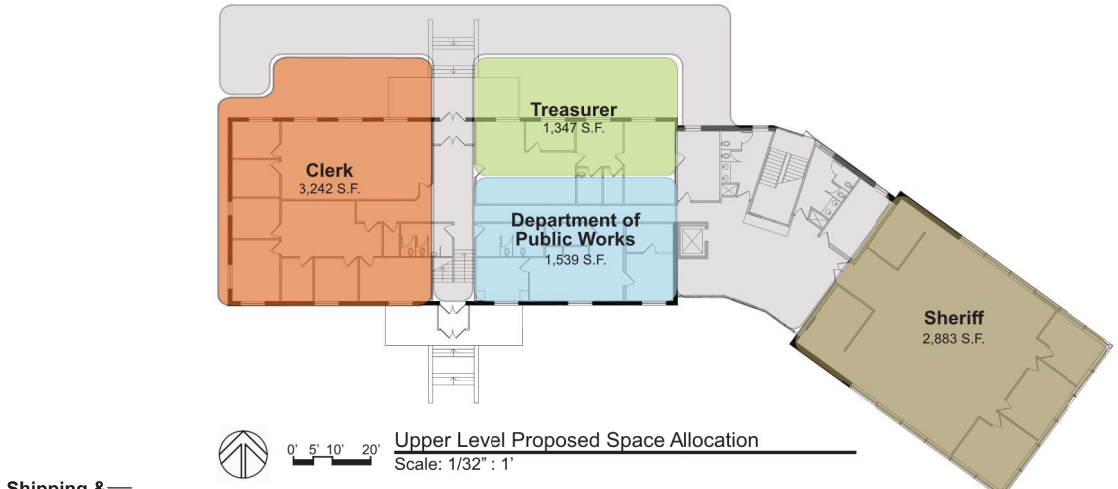
We have taken the current understanding of the scope for each project and constructed an Opinion of Probable Projects Costs. Project costs includes an Opinion of Probable **Construction Costs** which represent the physical construction of the project ("bricks and sticks").

The **Project Costs** include **Construction Costs** as well as "soft costs" which vary from project to project, but would include items such as Professional Fees, Permitting Fees, Furnishings, IT, Construction Managers Fees and Owners Contingencies (see accompanying charts).

Probable Costs should be corroborated by an independent estimator or Construction Manager, who have day-to-day interaction with current market and constructability trends, prior to the start of the design process as well as at the end of Schematic Design and Design Development to ensure the project is tracking **ON BUDGET**.

## Program Legend

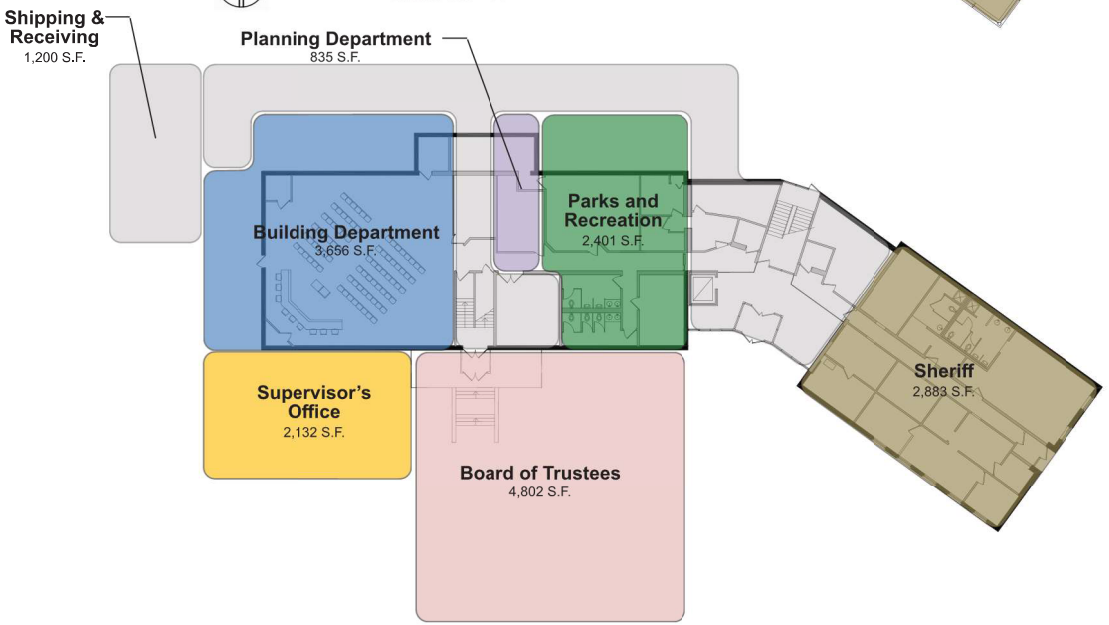
- Township Supervisor
- Parks & Recreation
- Clerk's Office
- Treasurer
- Planning Department
- Building Department
- Department of Public Works
- Board of Trustees
- Oakland County Sheriff
- Common Areas




0' 5' 10' 20'

Upper Level Proposed Space Allocation

Scale: 1/32" : 1'




0' 5' 10' 20'

Lower Level Proposed Space Allocation

Scale: 1/32" : 1'

AUGER KLEIN ALLER ARCHITECTS INC.

**Estimated Probable Project Costs**

## Orion Township Expansion of Existing Facility

**Hard Costs**

**Site Work**

| Area | Square Footage | | Unit Cost | Initial Phase |
|---|---|---|---|---|
| Site Preparation - grading, utilities, parking | allowance | | | $ 250,000 |
| Sanitary Sewer 8" | allowance | 1500 | $ 75 | $ 112,500 |
| **Probable Construction Costs** | | | | **$ 362,500** |

**Building Renovations**

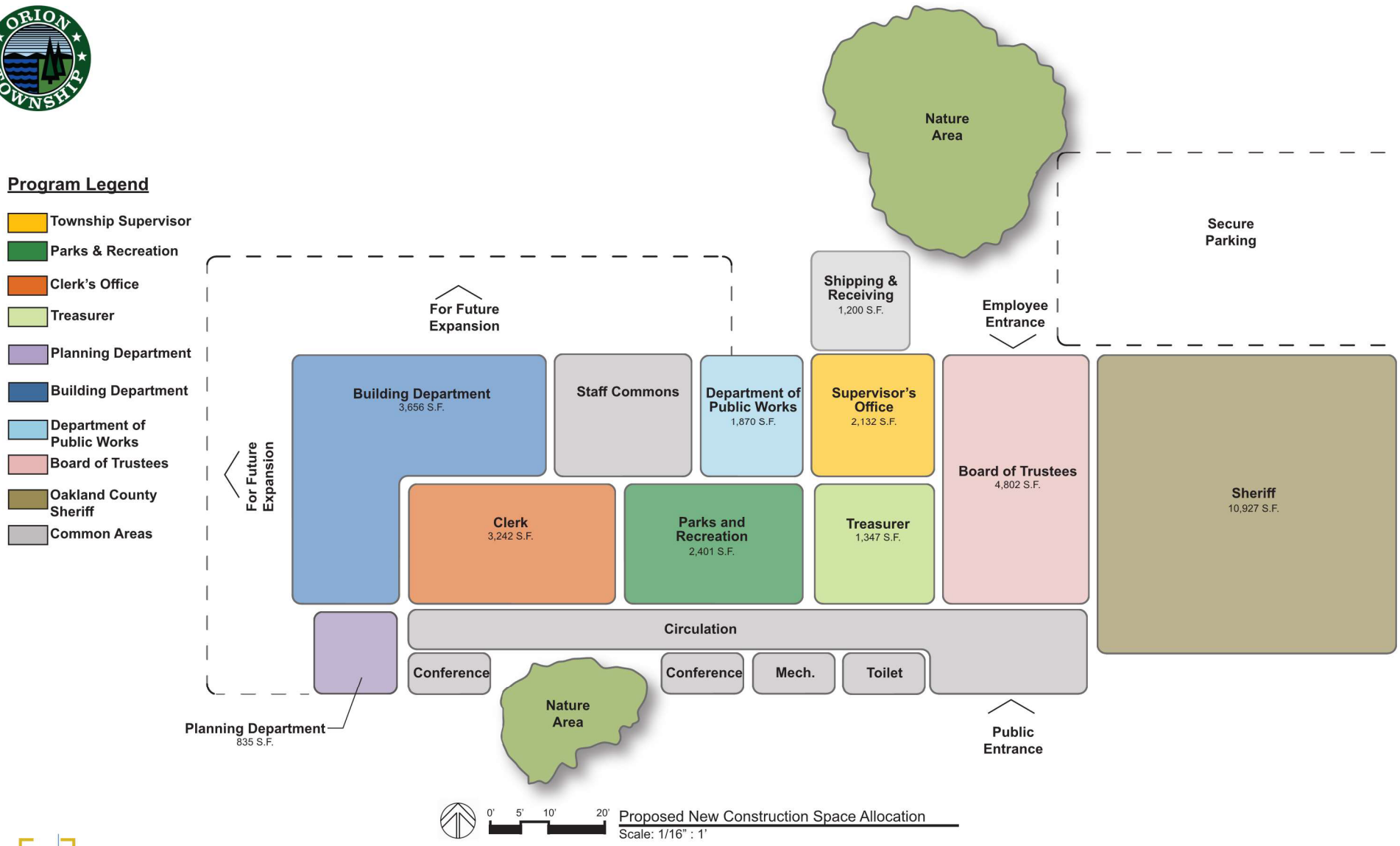
| | | | | |
|---|---|---|---|---|
| Aesbestos Encapsulation | - | | $ 6 | $ - |
| General Demolition | 21,472 | | $ 2 | $ 42,944 |
| Major Renovation | 11,000 | | $ 125 | $ 1,375,000 |
| Minor Renovation | 10,000 | | $ 75 | $ 750,000 |
| New Construction | 17,875 | | $ 225 | $ 4,021,875 |
| Construction Contingency (5%) | | | | $ 309,491 |
| **Total Area** | **38,875** | | | |
| **Probable Construction Costs** | | $ 167 | SF | **$ 6,499,310** |

| | |
|---|---|
| **TOTAL PROBABLE CONSTRUCTION COSTS** | **$ 6,861,810** |

**Soft Costs**

| | | | | | |
|---|---|---|---|---|---|
| General Conditions | $20,000 | per month | 18 | months | $ 360,000 |
| Contractor Fee (3%) | | | | | $ 205,854 |
| Civil Engineering | | | | | $ 30,000 |
| Proposed Architectural & Engineering Fee (8%) | | | | | $ 548,945 |
| Permits (1% Cost of Construction) | | | | | $ 68,618 |
| Owner's Contingency (10%) | | | | | $ 686,181 |
| Furnishings | $3,000 | allowance | 85 | persons | $ 255,000 |
| IT/Audio / Visual | | allowance | | | $ 100,000 |
| Testing | | allowance | | | $ 20,000 |
| Misc Owners Expense | | | | | $ 15,000 |
| **Total Probable Soft Costs** | | **$ 59** | **SF** | | **$ 2,289,598** |
| **Total Probable Project Cost** | **38,875** | **$ 235** | **SF** | | **$ 9,151,408** |

Please note these estimates are developed compared to costs on similar projects and represents our best judgment as design professionals. We have no control over the Constractors methods of determining prices or general market conditions.




AUGER KLEIN ALLER ARCHITECTS INC.

Orion Township Facility Study

Proposed New Construction

October 2018

**Estimated Probable Project Costs**

## Orion Township New Construction

**Hard Costs**

**Site Work**

| **Area** | **Square Footage** | **Unit Cost** | **Initial Phase** |
|---|---|---|---|
| Site Preparation - grading, utilities, parking | 5 acres | $ 85,000 per acre | $ 425,000 |
| Sanitary Sewer | allowance | | $ 250,000 |
| **Probable Construction Costs** | | | **$ 675,000** |
| | | | |
| **Building Renovations** | | | |
| New Construction | 38,441 | $ 200 | $ 7,688,200 |
| Construction Contingency (5%) | | | $ 384,410 |
| **Total Area** | **38,441** | | |
| **Probable Construction Costs** | **$ 210 SF** | | **$ 8,072,610** |
| | | | |
| **TOTAL PROBABLE CONSTRUCTION COSTS** | | | **$ 8,747,610** |

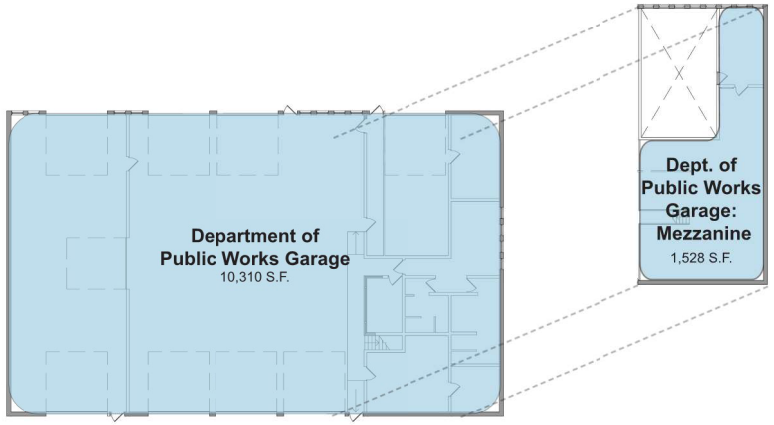
**Soft Costs**

| | | | | | |
|---|---|---|---|---|---|
| General Conditions | $20,000 | per month | 16 | months | $ 320,000 |
| Contractor Fee (4.5%) | | | | | $ 393,642 |
| Civil Engineering | | | | | $ 80,000 |
| Proposed Architectural & Engineering Fee (7%) | | | | | $ 612,333 |
| Permits (1% Cost of Construction) | | | | | $ 87,476 |
| Demolition of Existing Township Hall | $5 | sf | | | $ 100,000 |
| Owner's Contingency (10%) | | | | | $ 874,761 |
| Furnishings | $3,000 | allowance | 85 | persons | $ 255,000 |
| IT/Audio / Visual | $6 | /sf allowance | | | $ 230,646 |
| Testing | | allowance | | | $ 15,000 |
| Misc Owners Expense | | | | | $ 10,000 |
| **Total Probable Soft Costs** | | **$ 77 SF** | | | **$ 2,978,858** |
| | | | | | |
| **Total Probable Project Cost** | **38,441** | **$ 305 SF** | | | **$ 11,726,468** |

Please note these estimates are developed compared to costs on similar projects and represents our best judgment as design professionals.
We have no control over the Constractors methods of determining prices or general market conditions.

**Program Legend**

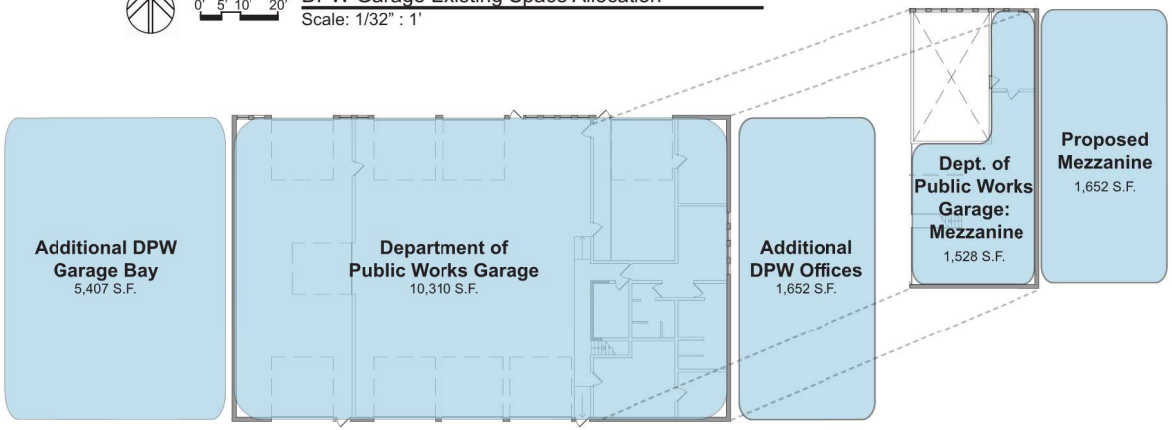
Department of Public Works Garage




0' 5' 10' 20'

DPW Garage Existing Space Allocation

Scale: 1/32" : 1'




0' 5' 10' 20'

DPW Garage Proposed Space Allocation

Scale: 1/32" : 1'

**Estimated Probable Project Costs**

## Orion Township Expansion of DPW Garage

**Hard Costs**

**Site Work**

| Area | Square Footage | Unit Cost | Initial Phase |
|---|---|---|---|
| Site Preparation - grading, utilities, parking | allowance | | $ 125,000 |
| Sanitary Sewer | allowance | | $ 50,000 |
| **Probable Construction Costs** | | | **$ 175,000** |

**Building Renovations**

| | | | |
|---|---|---|---|
| Aesbestos Encapsulation | - | $ 6 | $ - |
| General Demolition | 11,962 | $ 2 | $ 23,924 |
| Minor Renovation | 11,962 | $ 50 | $ 598,100 |
| New Construction | 7,059 | $ 135 | $ 952,965 |
| New Construction Mezzanine | 1,652 | $ 70 | $ 115,640 |
| Construction Contingency (5%) | | | $ 84,531 |
| **Total Area** | **20,673** | | |
| **Probable Construction Costs** | | $ 86 SF | **$ 1,775,160** |

| | |
|---|---|
| **TOTAL PROBABLE CONSTRUCTION COSTS** | **$ 1,950,160** |

**Soft Costs**

| | | | | | |
|---|---|---|---|---|---|
| General Conditions | $20,000 | per month | 8 | months | $ 160,000 |
| Contractor Fee (3%) | | | | | $ 58,505 |
| Civil Engineering | | allowance | | | $ 20,000 |
| Proposed Architectural & Engineering Fee (7%) | | | | | $ 136,511 |
| Permits (1% Cost of Construction) | | | | | $ 19,502 |
| Owner's Contingency (10%) | | | | | $ 195,016 |
| Furnishings | $3,000 | allowance | 15 | persons | $ 45,000 |
| IT/Audio / Visual | | allowance | | | $ 35,000 |
| Testing | | allowance | | | $ 15,000 |
| Misc Owners Expense | | | | | $ 10,000 |
| **Total Probable Soft Costs** | | | **$ 34** | **SF** | **$ 694,534** |
| **Total Probable Project Cost** | | **20,673** | **$ 128** | **SF** | **$ 2,644,694** |

Please note these estimates are developed compared to costs on similar projects and represents in our best judgment as design professionals. We have no control over the Constractors methods of determining prices or general market conditions.

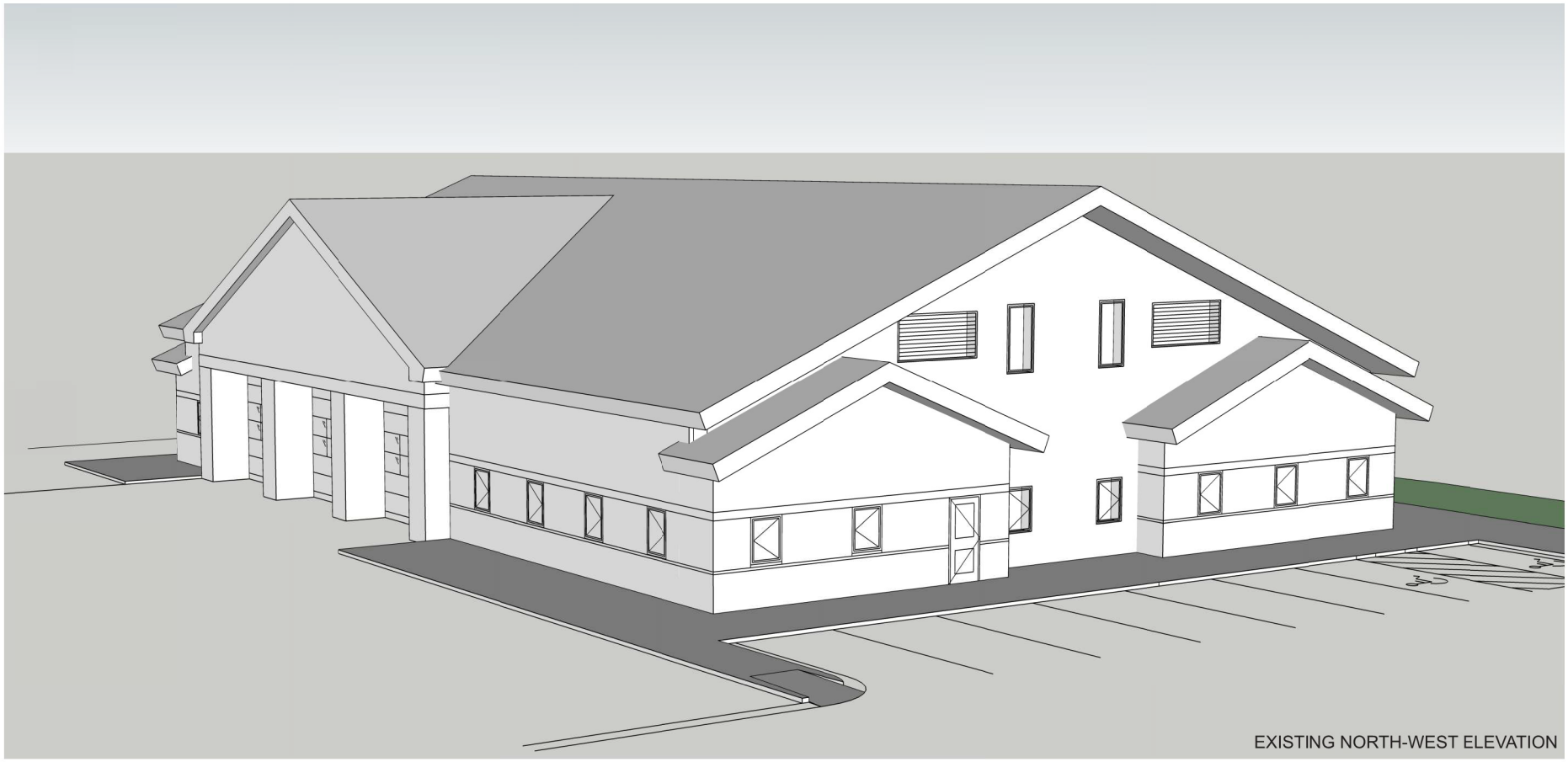

1 SK-03 Schematic Floor Plan
SCALE: 1/4"=1' 1,600 GSF NEW 1,000 SF RENOVATED

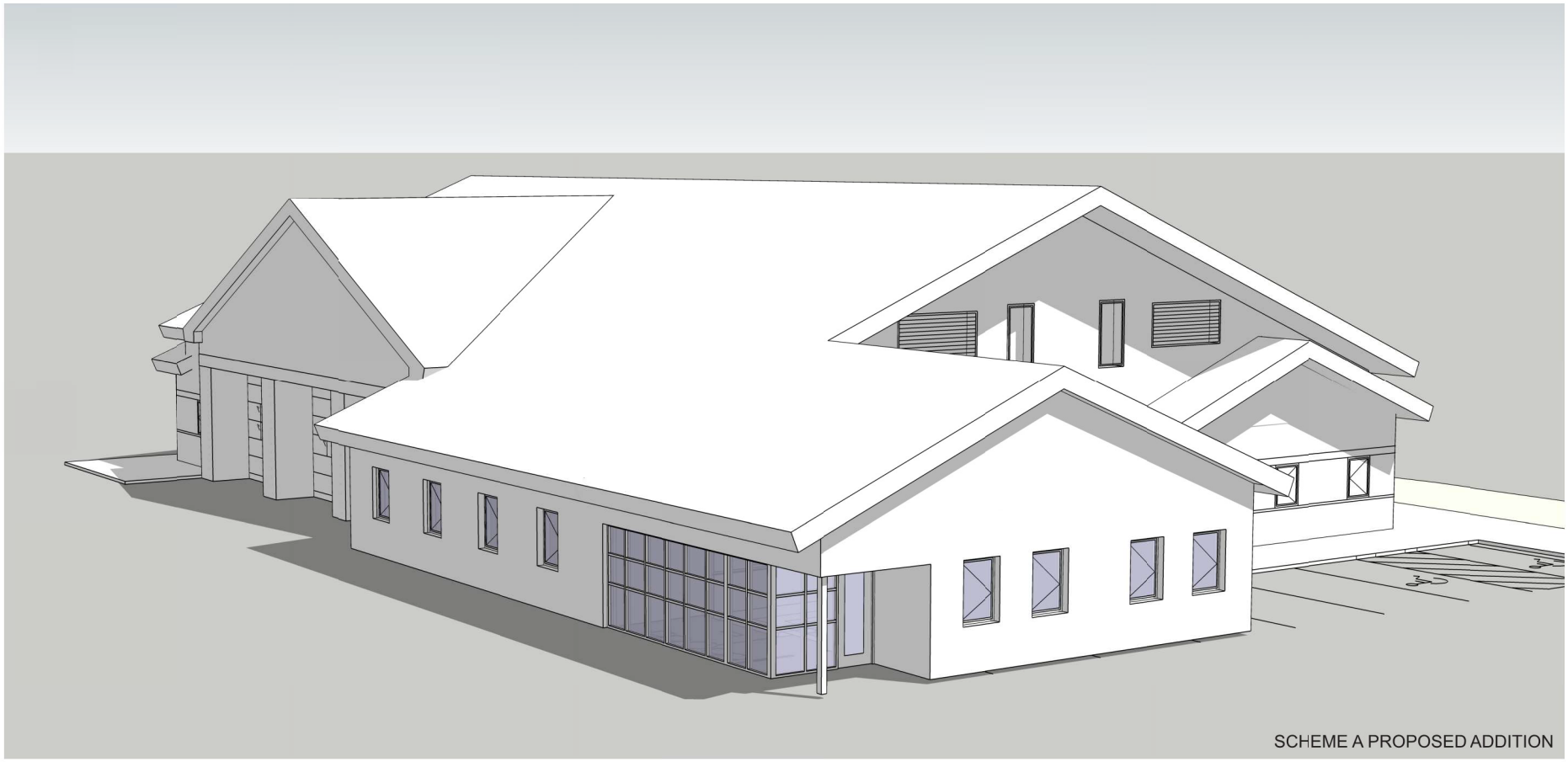
AUGER KLEIN ALLER ARCHITECTS INC.

# Orion Township Fire Admin Study

Proposed New and Renovated Construction

October 2018


EXISTING NORTH-WEST ELEVATION



SCHEME A PROPOSED ADDITION

**Estimated Probable Project Costs**

## Orion Township Expansion of Fire No. 3

**Hard Costs**

**Site Work**

| Area | Square Footage | Unit Cost | Initial Phase |
|---|---|---|---|
| Site Preparation - grading, utilities, parking | allowance | | $ 100,000 |
| Sanitary Sewer | allowance | | $ - |
| **Probable Construction Costs** | | | **$ 100,000** |

**Building Renovations**

| | | | |
|---|---|---|---|
| Aesbestos Encapsulation | - | $ 6 | $ - |
| General Demolition | 1,000 | $ 2 | $ 2,000 |
| Major Renovation | 500 | $ 75 | $ 37,500 |
| Minor Renovation | 500 | $ 50 | $ 25,000 |
| New Construction (actual program space -see drawings) | 2,000 | $ 175 | $ 350,000 |
| Construction Contingency (5%) | | | $ 20,725 |
| **Total Area** | **3,000** | | |
| **Probable Construction Costs** | **$ 145 SF** | | **$ 435,225** |

| | |
|---|---|
| **TOTAL PROBABLE CONSTRUCTION COSTS** | **$ 535,225** |

**Soft Costs**

| | | | | | |
|---|---|---|---|---|---|
| General Conditions | $20,000 | per month | 8 | months | $ 160,000 |
| Contractor Fee (3%) | | | | | $ 16,057 |
| Civil Engineering | | allowance | | | $ 20,000 |
| Proposed Architectural & Engineering Fee (15%) | | | | | $ 80,284 |
| Permits (1% Cost of Construction) | | | | | $ 5,352 |
| Owner's Contingency (10%) | | | | | $ 53,523 |
| Furnishings | $3,000 | allowance | 7 | persons | $ 21,000 |
| Car Port | $2,000 | allowance | 8 | spaces | $ 16,000 |
| IT/Audio / Visual | | allowance | | | $ 35,000 |
| Testing | | allowance | | | $ 15,000 |
| Misc Owners Expense | | | | | $ 10,000 |
| **Total Probable Soft Costs** | | **$ 144 SF** | | | **$ 432,215** |
| **Total Probable Project Cost** | **3,000** | **$ 322 SF** | | | **$ 967,440** |

Please note these estimates are developed compared to costs on similar projects and represents our best judgment as design professionals. We have no control over the Constractors methods of determining prices or general market conditions.

# 6. Preliminary Milestone Schedule

## 6. Milestone Schedule

At this time, we recognize the following milestones that need to be achieved. It is possible to run some of these tasks concurrently to shorten the overall project window. However, it is also possible to have the project stretched out due to the Township approval process, feedback from the community and/or any state approvals that may or may not be necessary. Currently, we see the Township Hall project broken out as follows:

**Site Due Diligence** (by Orion Township) 2-3 months (can run concurrently with Schematic Design).

**Survey**

- Topographic & Wetlands
- Soil Borings & Geotechnical Investigation
- Conceptual Site Layout
- Conceptual Engineering
- Probable Costs

**Project Design** 8-12 months

**Schematic Design** 1-2 months

**Design Development** 2-3 months

- Special Land Use / Site Plan Approval
- MDEQ Review and Approval

**Construction Drawings** 5-7 months

**CM Bid and Construction** 12-18 months

**Move and Coordination** 2 months

**Project Closeout** 1 month

**Total Time Required** **25-36 months**
**(January 2020-February 2021)**

**Please note** the timeframes estimated for each phase do not represent only the period of time to provide the Architecture and Engineering required for the project phase, but includes such things as Owner Review and Feedback, presentations to the public and the Board of Trustees, review by Construction Managers and the Township approval process.

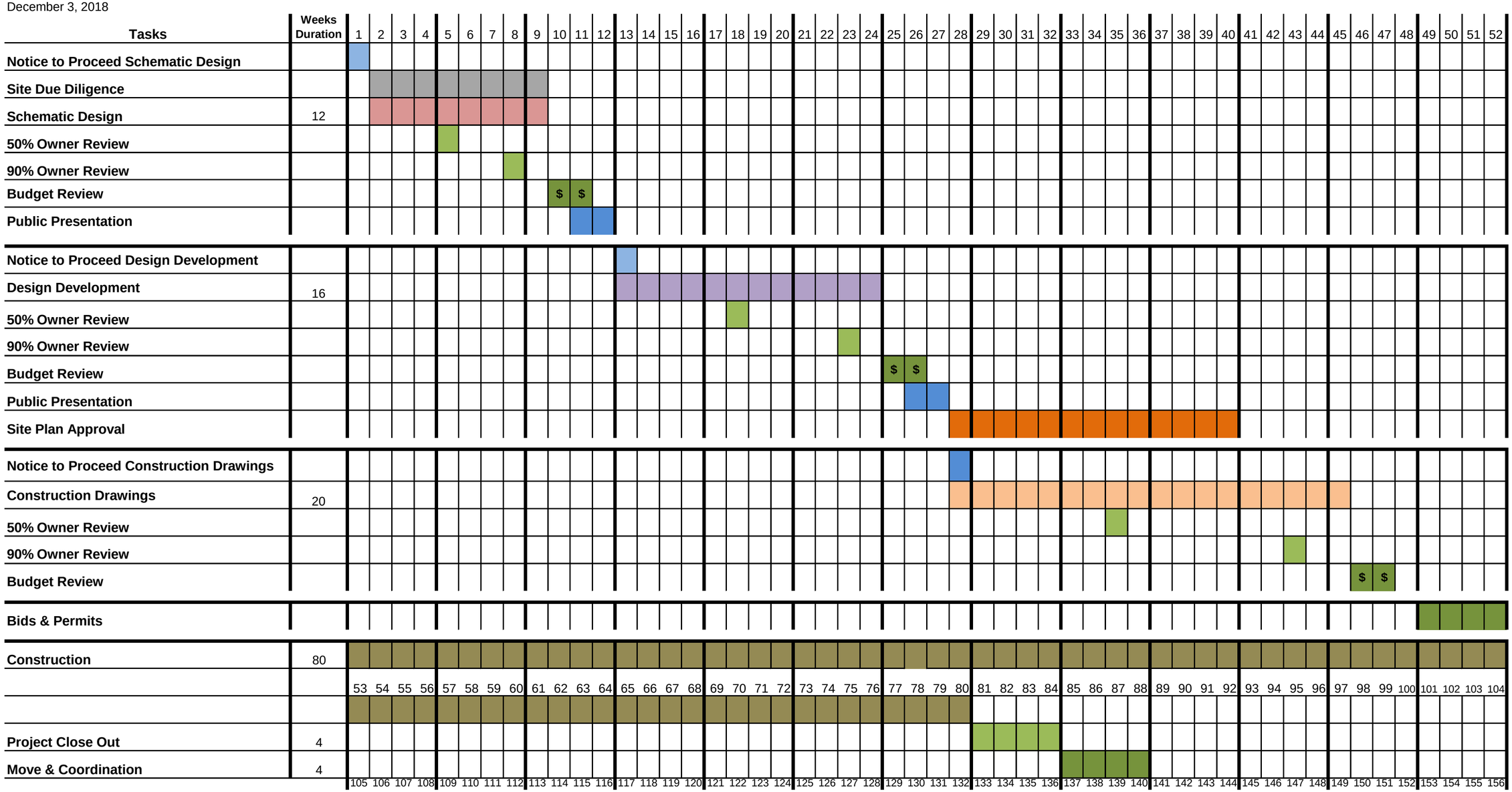
**Preliminary Schedule**

## Orion Township Hall Project

December 3, 2018

This representive schedule describes a comfortable timeline that identifies the tasks in our scope of work would allow for timely decisions by Township Leadership & Project Team.

| Tasks | Weeks Duration |
|---|---|
| Notice to Proceed Schematic Design | |
| Site Due Diligence | |
| Schematic Design | 12 |
| 50% Owner Review | |
| 90% Owner Review | |
| Budget Review | |
| Public Presentation | |
| Notice to Proceed Design Development | |
| Design Development | 16 |
| 50% Owner Review | |
| 90% Owner Review | |
| Budget Review | |
| Public Presentation | |
| Site Plan Approval | |
| Notice to Proceed Construction Drawings | |
| Construction Drawings | 20 |
| 50% Owner Review | |
| 90% Owner Review | |
| Budget Review | |
| Bids & Permits | |
| Construction | 80 |
| Project Close Out | 4 |
| Move & Coordination | 4 |
| **Anticipated Project Window in Weeks** | **136** |



# 7. Next Steps

## 7. Next Steps

7.2 Determine if the Board of Trustees concurs with the findings of the report, or has a request for additional information.

7.3 Decide on the direction the board would like AKA to take moving forward. If the board wishes to move forward in gathering more information to determine the actual feasibility and budgets of the options presented, we would recommend one of the following steps in what would still be considered an information gathering stage:

7.3.1 Create Schematic Designs for both the current site and proposed site. (approximately $110,000)

7.3.2 Create Schematic Design for renovation of current building. (approximately $50,000)

7.3.3 Create Schematic Design for new building. (approximately $60,000)