

FIRE STATION NO. 2 LONG TERM NEEDS ASSESSMENT

INTRODUCTION

The City of Novi, in continuing its efforts to monitor and evaluate the present facilities of the Department of Public Service and Department of Public Safety, commissioned the firm of Sidock Architects to conduct an inspection and evaluation of the conditions of those physical plant facilities. This inspection and evaluation included the physical assessment of each facility's capability to accomplish the operational needs of the Department and to recommend short and long term improvements to further that mission.

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EXISTING FACILITY ASSESSMENT

SITE VISIT

On November 8, 2013, Sidock Architects conducted an on-site inspection and analysis of Fire Station No. 2 with the assistance of the Novi Fire Department administration and staff, and representatives from the City of Novi Facility Operations. The inspection included brief discussions with the fire fighters and staff at the station and a general inspection tour of the facility.

Brief Building History and Operations

Fire Station No. 2 was built in 1981 to serve the northwestern area of the City of Novi. The station is located in a residential district on the north side of Thirteen Mile Road west of Novi Road on the northeast corner of Paramount Street. The station was expanded and updated in 2009 following a needs assessment report. Fire fighters at this station also respond to water/ice rescues on Walled Lake.

The station is staffed as follows:		Monday – Sunday	12 Hour Shifts
- 1 Asst. Shift Supervisor (Lt.)	2-4 fire fighters	Monday - Friday	6 am to 6 pm
- 1 Asst. Shift Supervisor (Lt.)	2 fire fighters	Monday - Sunday	6 pm to 6 am

Facility Description

Station No. 2 is a two-bay drive-through station with a one story area adjacent to the apparatus bay housing support spaces and administration and living quarters. The building is approximately 5,120 sq. ft. in size.

The building is constructed with concrete masonry exterior bearing walls with a brick veneer. The apparatus bay walls are composed of 8” concrete masonry units (CMU) and a 4” brick veneer. The one story support and living area is composed of an 8” concrete masonry unit, a 2” rigid cavity insulation and 4” brick veneer. The roof is a single ply roof membrane over rigid insulation on metal roof decking on structural steel joist and beams bearing on the masonry walls with a pre-finished sheet metal coping on the entire perimeter.

- Interior walls are either CMU or metal stud with gypsum wallboard, all painted.
- Interior floor finishes include carpeting in the Watch Room, Living Area/Lockers and corridors, vinyl tile in the Kitchen/Dining area, ceramic tile in the toilet/shower areas and concrete floors in the Apparatus, Mechanical/Electrical and Hose Drying/Work Area. There is a rubber floor in the Exercise Area.
- Clear height to the underside of the metal decking in the Apparatus Bay is 15’-4”, 11’-0” in the support areas and 10’-6” in the living areas.

- The floor slab in the Apparatus Bay is 6" lower than that of the Living Area and has an epoxy surface and cast-in-place trench drains with removable painted metal grating centered in each bay.
- Ceilings in the Living Areas are 2' x 2' acoustical ceiling tile and are 8'-0" high. Toilet rooms have painted gypsum wallboard ceilings.
- Windows are aluminum framed with insulated glass.
- The station has fire protection sprinklers located only in the mechanical and storage rooms.

Summary of Areas

<u>EXISTING PROGRAM AREAS</u>	<u>APPROXIMATE AREA</u>
Apparatus Bays (2@17'-3" x 58')	2,000
Hose Drying/Work Space	230
Watch Room	195
Living Area	590
Kitchen/Dining	280
Locker/Sleeping	490
Men's Toilet and Shower Room	145
Women's Toilet and Shower Room	95
Mechanical Room	180
Laundry	80
Exercise	230
Vestibule	<u>50</u>
Sub-Total	4,370 Sq. Ft.
Circulation Space/Walls	<u>750</u>
TOTAL AREA	5,120 Sq. Ft.

Site Description

The site is rectangular in shape and is approximately 0.62 acre in size. The site is located in a residential district. The site slopes from west to east with the most severe slope to the east end of the site. The site has three (3) parking spots on the west side of the site including one (1) barrier free space, four (4) parking spots located at the immediate east side adjacent to the building and six (6) spaces on the eastern edge of the site for staff and visitors. The station has grass/landscaped areas on the south side of the building along Thirteen Mile Road and natural vegetation on the north and east ends of the site. An emergency generator and electrical transformer are located on the south side of the station on concrete pads, screened by landscaping.

There is a concrete drive and parking on the west side of the building exiting onto Paramount Street. The entry drive off Thirteen Mile Road and parking is asphalt paved with a 10 ft. concrete apron on the east side of the Apparatus Bays.

ARCHITECTURAL ASSESSMENT

A. Site and Access

1. Parking is adequate for the current staffing.
2. The concrete drive at the egress side (west end) of the Apparatus Bay is adequate in length, but is in fair to poor condition.



3. The asphalt drive and parking on the east side of the site is in fair condition. The City has conducted a paving assessment and schedule for repair and/or replacement.

B. Exterior Building Envelope

1. Exterior Walls

- a. Brick veneer appears to be in good condition.
- b. Steel angles at base of jamb at the overhead doors show some signs of rusting.
- c. On the west elevation the overhead door lintel needs some tuckpointing repair.



- d. At the concrete curbs at the overhead doors, there is a gap between the concrete slab and the wall that should be sealed.

2. Exterior Doors and Windows

- a. Overhead doors are in very good condition. They are insulated metal panels with insulated glazing units. The south door on the east side needs some adjustment to the weatherstripping at the door jamb.
- b. Exterior doors are key access only.
- c. Exterior aluminum framed windows are in good condition.

3. Exterior Soffits and Lighting

- a. Exterior building soffits under canopies are in good condition.
- b. There are three (3) exterior light poles on the site.

- c. On the south elevation, the Novi Fire Department lighted badge is not working and the artwork appears to be faded.



- 4. Roofing
 - a. Roof appears to be in good condition with no reported leaks.

C. Interior Construction

- 1. Generally, the Interior finishes are in good condition.

D. Functional Assessment

- 1. Apparatus Bays
 - a. Apparatus Bay overhead doors are 14 ft wide x 12 ft high with a 2 ft. wide pier between them.
 - b. There is an emergency vehicle exhaust system in place – by Plymovent. One (1) additional drop is needed to complete the coverage for this station.
 - c. Apparatus Bay epoxy floor finish has one area at the end of the trench drain in the northeast bay that has bubbled and must be repaired. There is also some minor cracking along the trench drain in certain locations that should also be repaired.
 - d. Currently there are one (1) Engine, one (1) Rescue, one (1) command SUV, a boat and trailer and one (1) pick-up truck.

2. Hose Drying/Work Space



- a. This space incorporates multiple activities:
 - (1) Emergency eyewash
 - (2) Turnout Gear Lockers
 - (3) Roof hatch ladder access
 - (4) Work counter
 - (5) Miscellaneous storage

3. Watch Room/Control Room



- a. Includes computer and communications equipment.
- b. Viewing window into Apparatus Bay with fire shutter.
- c. Several chargers are scattered about and on the floor for various devices.

4. Living Area/Kitchen/Dining

- a. All finishes are in good condition.

5. Locker/Sleeping Room



- a. The locker room is combined with the sleeping area.
- b. There is no separation of male and female lockers or bunk spaces.

- c. One sleeping space has been converted into a Lieutenant's Office.
- d. Curtains have been added in the opening to each bunk space. A café style door for more privacy was requested.
- 6. Men's Toilet/Shower Room
 - a. All finishes are in good condition.
 - b. There has been a problem with water splashing out of the shower stall onto the toilet room floor. A curb could installed as the shower does not need to be handicapped accessible.
- 7. Women's Toilet/Shower Room
 - a. All finishes are in good condition.
- 8. Exercise Room
 - a. Room has new finishes including rubber floor, all in good condition.
- 9. Vestibule
 - a. All finishes are in good condition.
- 10. General
 - a. Overall, the station is in good condition and requires little maintenance and repair.
 - b. During the last renovation, the existing outdoor storage space was captured for the Exercise Room. As a result, some seasonal items (lawnmower, for example) are now stored in the Apparatus Bay.

E. Mechanical Assessment

- 1. All mechanical systems appear to be operating satisfactorily.

F. Electrical Assessment

- 1. The exterior wall-mounted "badge sign" needs to be repaired and/or replaced.
- 2. A number of receptacles for chargers for portable electronic devices are needed to avoid devices laying on the floor.



G. Summary/Evaluation

Station No. 2 is over 30 years old, but remains in very good physical condition due to the expansion and renovation completed in 2009. Due to the assignment of a command officer to the station, there is a need for a separate office for this position. A make-shift office has been created in the sleeping quarters area, but needs to be formalized to minimize disruption to that area. A request for café-style doors for each of the bunk spaces was requested for greater privacy.

Cosmetic Flaws

- The west concrete drive and the east asphalt entry drive paving have cracking, spalling and are in poor condition. This may be addressed in the City's pavement assessment/replacement program.
- Minor brick tuckpointing is needed on the west elevation adjacent to the overhead doors.

Design/Functional Flaws

- Additional space could be added to provide and consolidate seasonal storage items outside of the Apparatus Bay.



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Key Plan: NO SCALE

Client:
CITY OF NOVI
MICHIGAN

Project:
NEEDS ASSESSMENT

Seal:

Date Issued For

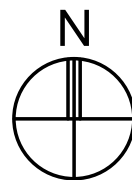
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FIRE STATION #2
AERIAL VIEW

Project Number: 1343C

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FIRE STATION #2 - AERIAL VIEW

FIRE STATION NO. 2 – RECOMMENDATIONS

Fire Station No. 2, constructed in 1981 with an expansion/renovation project in 2009 has been well maintained and is in very good physical condition. Our evaluation of Fire Station No. 3 has identified the following items requiring maintenance and/or replacement based on the physical inspection of the facility, discussions with Fire Department staff and our experience with the design of fire stations:

HIGH PRIORITY ITEMS

1. Create New Office	\$ 22,800.00
New door and frame, enclose former sleeping space.	
2. Vehicle Exhaust Drop	\$ 5,000.00
New Plymovent exhaust drop	
3. Parking Lot Repair & Drive Replacement	\$ 53,600.00*
Crack repair and concrete replacement	
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High Priority Total	\$ 81,400.00

MEDIUM PRIORITY ITEMS

1. New telephone line in Exercise Room	\$ 350.00
2. Café-style doors for sleeping spaces (3)	\$ 800.00
3. Wall-mounted plug strip for chargers	\$ 2,500.00
4. Overband crack seal	\$ 1,100.00*
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Medium Priority Total	\$ 4,750.00

*-As per URS Parking Lot Inventory and Maintenance Plan report dated January 17, 2014.

