PRELIMINARY DESIGN REPORT

for

Rochester Hills
Rochester Hills Fire Station
1111 Horizon Court
Rochester Hills, Michigan 48309

JULY 18, 2014

CHMP, INC.
architecture • engineering
planning • interior design
landscape architect
surveying

5198 Territorial Road • Grand Blanc, Michigan 48439 • 810-695-5910

INDEX

Section 1

Building Program

Project Name: ROCHESTER HILS FIRE DEPARTMENT
STATION NO. 2

May 27, 2014

CHMP INC. PROJECT NO. 14002200

BUILDING PROGRAM

DEPARTMENT	UNIT IDENTIFICATION	NUMBER OF UNITS	EMPLOYEES PER UNIT	DIMENSIONS	CURRENT OCCUPIED AREA	REQUIRED AREA	DEGREE OF PRIVACY	REFERENCED NOTES
ADMINISTRATION	OFFICE	1	2	10'-0" X 12'-0"	72	120	HIGH	NOTE-1 □ 11
	UNISEX TOILET	1	0	7'-0"X7'-0"	65	49	HIGH	NOTE-2
LIVING QUARTERS	DAY ROOM	1	0	16'-0" X 26'-0"	413	416	HIGH	NOTE-3
	KITCHEN	1	0	12'-0"X16'-0"	176	192	HIGH	NOTE-4
	PANTRY	1	0	2'-0"X 9'-0"	6	18	HIGH	NOTE-4
	DINING	1	SEAT 6	10'-0" X 12'-0"	0	120	LOW	
	DORMITORY - MEN □ WOMEN	1	SLEEP 6	22 FT. X 26 FT.	144	572	HIGH	NOTE-5
	SHOWERS/LOCKER/TOILET RM - MEN	1	0	12'-0"X25'-0"	108	300	HIGH	NOTE-6
	SHOWERS/LOCKER/TOILET RM-WOMEN	1	0	12'-0" X 16'-0"	0	192	HIGH	NOTE-7
	CLEAN LINEN STORAGE	1	0	6'-0"X4'-0"	0	24	HIGH	
TRAINING	FITNESS ROOM	1	0	16 '-0"X24'-0"	0	384	HIGH	NOTE-8
FIRE & LIFE SAFETY	APPARATUS BAYS	2	0	16FT. X 80 FT.	2320	2,560	HIGH	NOTE-9 □ 11
	APPARATUS BAYS	1	0	16FT. X 55 FT.	770	880	HIGH	NOTE-9 □ 11
	WORKSHOP/STORAGE	1	0	14'-0"X16'-5"	231	231	HIGH	
	EMS STORAGE	1	0	8'-0"X6'-0"		48	HIGH	
BUILDING SUPPORT	MECHANICAL ROOM	0	0		0	0	HIGH	
	ELECTRICAL ROOM	1	0	2'-0"X7'-0"	14	14	HIGH	
	□ANITOR CLOSET/GENERAL STOR.	1	0	6'-0"X6'-0"	0	36	HIGH	
SUB-TOTAL					4,319	6,348		
CIRCULATION/STRUCTURE (15□)					296	952		
SUB-TOTAL PAGE 1					4,615	7,300		NOTE-12

BUILDING PROGRAM

DEPARTMENT	UNIT IDENTIFICATION	NUMBER OF UNITS	EMPLOYEES PER UNIT	DIMENSIONS	CURRENT OCCUPIED AREA	REQUIRED AREA	DEGREE OF PRIVACY	REFERENCED NOTES
ADMINISTRATION	OFFICE	1	2	10'-0" X 12'-0"	49	120	HIGH	NOTE-1 □ 11
	UNISEX TOILET	1	0	7'-0"X7'-0"	0	49	HIGH	NOTE-2
LIVING QUARTERS	DAY ROOM	1	0	16'-0" X 26'-0"	500	416	HIGH	NOTE-3
	KITCHEN	1	0	12'-0"X16'-0"	57	192	HIGH	NOTE-4
	PANTRY	1	0	3'-0" X 12'-0"	0	18	HIGH	NOTE-4
	DINING	1	SEAT 6	10'-0" X 12'-0"	0	120	LOW	
	DORMITORY - MEN □ WOMEN	1	SLEEP 6	22 FT. X 26 FT.	0	572	HIGH	NOTE-5
	SHOWERS/LOCKER/TOILET RM - MEN	1	0	12'-0"X25'-0"	210	300	HIGH	NOTE-6
	SHOWERS/LOCKER/TOILET RM - WOMEN	1	0	12'-0" X 16'-0"	68	192	HIGH	NOTE-7
	CLEAN LINEN STORAGE	1	0	6'-0"X4'-0"	0	24	HIGH	
TRAINING	FITNESS ROOM	1	0	16 '-0"X24'-0"	0	384	HIGH	NOTE-8
FIRE & LIFE SAFETY	APPARATUS BAYS	2	0	16FT. X 80 FT.	2320	2,560	HIGH	NOTE-9 □ 11
	APPARATUS BAYS	1	0	16FT. X 55 FT.	770	880	HIGH	NOTE-9 □ 11
	WORKSHOP/STORAGE	1	0	14'-0"X16'-5"	231	231	HIGH	
	EMS STORAGE	1	0	8'-0"X6'-0"	64	48	HIGH	
BUILDING SUPPORT	MECHANICAL ROOM	1	0		0	0	HIGH	
	ELECTRICAL ROOM	1	0	2'-0"X7'-0"	0	0	HIGH	
	□ANITOR CLOSET/GENERAL STOR.	1	0	6'-0"X6'-0"	0	36	HIGH	
SUB-TOTAL					4,269	6,142		
CIRCULATION/STRUCTURE (15□)					296	921		
SUB-TOTAL PAGE 2					4,565	7,063		NOTE-12

Project Name: ROCHESTER HILS FIRE DEPARTMENT
STATION NO. 4

May 27, 2014

CHMP INC. PROJECT NO. 14002200

DEPARTMENT	UNIT IDENTIFICATION	NUMBER OF UNITS	EMPLOYEES PER UNIT	DIMENSIONS	CURRENT OCCUPIED AREA	REQUIRED AREA	DEGREE OF PRIVACY	REFERENCED NOTES
ADMINISTRATION	OFFICE	1	2	10'-0" X 12'-0"	109	120	HIGH	NOTE-1 □ 11
	UNISEX TOILET	1	0	7'-0"X7'-0"	0	49	HIGH	NOTE-2
LIVING QUARTERS	DAY ROOM	1	0	16'-0" X 26'-0"	292	416	HIGH	NOTE-3
	KITCHEN	1	0	12'-0"X16'-0"	175	192	HIGH	NOTE-4
	PANTRY	1	0	2'-0" X 9'-0"	0	18	HIGH	NOTE-4
	DINING	1	SEAT 6	10'-0" X 12'-0"	0	120	LOW	
	DORMITORY - MEN □ WOMEN	1	SLEEP 6	22 FT. X 26 FT.	208	572	HIGH	NOTE-5
	SHOWERS/LOCKER/TOILET RM - MEN	1	0	12'-0"X25'-0"	160	300	HIGH	NOTE-6
	SHOWERS/LOCKER/TOILET RM - WOMEN	1	0	12'-0" X 16'-0"	84	192	HIGH	NOTE-7
	CLEAN LINEN STORAGE	1	0	6'-0"X4'-0"	0	192	HIGH	
						24		
TRAINING	FITNESS ROOM	1	0	16 '-0"X24'-0"	128	384	HIGH	NOTE-8
FIRE & LIFE SAFETY	APPARATUS BAYS	2	0	16FT. X 80 FT.	1998	2,560	HIGH	NOTE-9 □ 11
	APPARATUS BAYS	1	0	16FT. X 55 FT.	0	880	HIGH	NOTE-9 □ 11
	WORKSHOP/STORAGE	1	0	14'-0"X16'-5"	144	231	HIGH	
	EMS STORAGE	1	0	8'-0"X6'-0"	36	48	HIGH	
BUILDING SUPPORT	MECHANICAL ROOM	1	0	6'-0" x 8'-0"	0	48	HIGH	
	ELECTRICAL ROOM	1	0	6'-0" x 8'-0"	0	48	HIGH	
	□ANITOR CLOSET/GENERAL STOR.	1	0	6'-0"X6'-0"	0	36	HIGH	
SUB-TOTAL					3,334	6,430		
CIRCULATION/STRUCTURE (15□)					296	965		
SUB-TOTAL PAGE 3					3,630	7,395		NOTE-12

Project Name: ROCHESTER HILS FIRE DEPARTMENT
STATION NO. 5

May 27, 2014

CHMP INC. PROJECT NO. 14002200

BUILDING PROGRAM

DEPARTMENT	UNIT IDENTIFICATION	NUMBER OF UNITS	EMPLOYEES PER UNIT	DIMENSIONS	CURRENT OCCUPIED AREA	REQUIRED AREA	DEGREE OF PRIVACY	REFERENCED NOTES
ADMINISTRATION	OFFICE	1	2	10'-0" X 12'-0"	205	120	HIGH	NOTE-1 □ 11
	UNISEX TOILET	1	0	7'-0"X7'-0"	90	49	HIGH	NOTE-2
LIVING QUARTERS	DAY ROOM	1	0	16'-0" X 26'-0"	379	416	HIGH	NOTE-3
	KITCHEN	1	0	12'-0"X16'-0"	280	192	HIGH	NOTE-4
	PANTRY	1	0	3'-0" X 12'-0"	0	18	HIGH	NOTE-4
	DINING	1	SEAT 6	10'-0" X 12'-0"	0	120	LOW	
	DORMITORY - MEN □ WOMEN	1	SLEEP 6	22 FT. X 26 FT.	0	572	HIGH	NOTE-5
	SHOWERS/LOCKER/TOILET RM - MEN	1	0	12'-0" X 16'-0"	144	192	HIGH	NOTE-7
	SHOWERS/LOCKER/TOILET RM-WOMEN	1	0	12'-0" X 16'-0"	0	192	HIGH	
	CLEAN LINEN STORAGE	1	0	6'-0"X4'-0"	0	24	HIGH	
TRAINING	FITNESS ROOM	1	0	16 '-0"X24'-0"	0	384	HIGH	NOTE-8
FIRE & LIFE SAFETY	APPARATUS BAYS	2	0	16FT. X 80 FT.	1882	2,560	HIGH	NOTE-9 □ 11
	APPARATUS BAYS	1	0	16FT. X 55 FT.	800	880	HIGH	NOTE-9 □ 11
	WORKSHOP/STORAGE	1	0	14'-0"X16'-5"	160	231	HIGH	
	EMS STORAGE	1	0	8'-0"X6'-0"	32	48	HIGH	
BUILDING SUPPORT	MECHANICAL ROOM	1	0	0	0	0	HIGH	
	ELECTRICAL ROOM	1	0	0	0	0	HIGH	
	□ANITOR CLOSET/GENERAL STOR.	1	0	6'-0"X6'-0"	0	36	HIGH	
SUB-TOTAL					4,080	6,334		
CIRCULATION/STRUCTURE (15□)					296	950		
SUB-TOTAL PAGE 4					4,376	7,284		NOTE-12

REFERENCED NOTES

NOTE 1 PROVIDE SPACE FOR 3 INDEPENDENT WORK STATIONS AND COMMON FILE STORAGE.

NOTE 2 PROVIDE ACCESSIBLE TOILET FOR USE BY STAFF AND GENERAL PUBLIC.

NOTE 3 PROVIDE BUILT-IN ENTERAINMENT CENTER. PROVIDE MULTI LEVEL LIGHTING SYSTEM.

NOTE 4 PROVIDE THREE (3) 36" WIDE X 24" DEEP FULL HEIGHT PANTRY UNIT AND PROVIDE SPACE FOR (3) 36" WIDE REFRIDGERATORS (ONE FOR EACH SHIFT PLUS).

NOTE 5 PROVIDE (3) BUILT-IN WARDROBE UNITS □ (1) DESK FOR EACH SLEEPING COMPARTMENT. PROVIDE (2) SLIGHTLY LARGER SLEEPING UNITS FOR RANKING OFFICERS. PROVIDE 72" HIGH SEPARATION PARTITIONS BETWEEN EACH SLEEPING COMPARTMENTS WITH LOW LEVEL TASK LIGHTING.

NOTE 6 PROVIDE 12 DOUBLE TIERED ATHLETIC LOCKERS (15" X 18") WITH BENCH SEATING. PROVIDE ONE (2) SHOWER WITH TOWEL HOOKS AND BENCH SEATING. PROVIDE ONE (1) WATERCLOSETS,ONE (1)URINALS, TWO (2) LAVATORIES. PROVIDE SPACE FOR CLEAN AND DIRTY LINEN. PROVIDE SPACE FOR TOILET/CLEANING SUPPLIES.

NOTE 7 PROVIDE THREE (3) DOUBLE TIERED ATHLETIC LOCKERS (15" X 18") WITH BENCH SEATING. PROVIDE ONE (1) SHOWER WITH TOWEL HOOKS AND BENCH SEATING. PROVIDE ONE (1) WATER CLOSET AND ONE (1) LAVATORY. PROVIDE SPACE FOR CLEAN AND DIRTY LINEN. PROVIDE SPACE FOR TOILET/CLEANING SUPPLIES.

NOTE 8 PROVIDE SPECIALTY EXERCISE FLOORING □ MINIMUM 9'-6" CEILING HEIGHT. PROVIDE WALL MOUNTED TV WITH DVD PLAYER AND RADIO

NOTE 9 REPLACE EXISTING OVERHEAD DOORS WITH COMMERCIAL GRADE DOORS AND OPERATORS, DOORS WITH ONE FULL PANEL OF WINDOWS. PROVIDE 1 1/2" TANKER FILL HOSE CONNECTION. REPLACE EPOXY FLOOR FINISH.

NOTE 10 PROVIDE WORK AREA COUNTERSPACE. PROVIDE SUFFICIENT ELECTRICAL FOR RECHARGING EQUIPMENT. PROVIDE SPACE FOR ALARM EQUIPMENT AND PUBLIC ADDRESS SYSTEM. PROVIDE SHARED COMPUTER.

NOTE 11 PROVIDE (1) NEWTURN-OUT GEAR RACKS.

NOTE 12 PROVIDE ON SITE PARKING FOR 12 VEHICLES PLUS 1 BARRIER FREE SPACE

Section 2

Station No. 2
Outline Specifications
Preliminary Statement of Probable Construction Costs

C H M P, I N C.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439

TELEPHONE (810) 695-5910
FACSIMILE (810) 695-0680

July 18, 2014

OUTLINE SPECIFICATIONS

ROCHESTER HILLS
ROCHESTER HILLS FIRE STATION NO. 2

Project No: 14002200

Building Area:

Existing Building	4,440 s.f.
Proposed Addition	1,741 s.f.
	6,181 sq. ft.

I. SITEWORK

A. Site Preparation/Clearing/Demolition

B. Removal of Trash & Miscellaneous Debris

C. Earthwork/Excavation Support & Protection

D. Bituminous Paving

E. Concrete Walks

F. Concrete Curbing/Paving

G. Temporary Facilities

H. Pavement Marking

I. Water Service – Re-use existing

J. Gas Service – Re-use existing

K. Storm Sewer

L. Sanitary Service – Re-use existing

M. Fire Protection

N. Electric Service (see Electrical section)

O. Site Lighting (see Electrical section)

P. Landscaping

II. FOUNDATIONS

A. Concrete footings with steel reinforcing as required at new addition.

III. BASIC CONSTRUCTION

Main Floor

A. Floor
1. New 4" reinforced concrete slab on vapor barrier and compacted sand fill below office areas, Kitchen, Dayroom, Dining and Dormitories.
2. Existing 4" reinforced concrete slab below Fitness, Men's Toilet/Locker Room, Women's Toilet/Locker Room, and Storage rooms.
3. Existing 8" reinforced concrete slab on compacted sand fill at Apparatus Bay areas.

B. Walls
1. Exterior – Composite masonry wall – 4" concrete masonry split-faced units on 8" concrete masonry unit back-ups.
2. Interior – 8" and 12" concrete masonry units (with 5/8" gypsum board on 1-1/2" metal furring at office area only).
3. Interior – 4-7/8" thick, 5/8" gypsum board over 3-5/8" metal studs.

C. Roof
1. Architectural grade standing seam metal roofing panels over roof felt over non-combustible plywood sheathing over pre-engineered metal trusses.
2. Fully adhered PVC membrane roofing over rigid insulation over metal decking over steel joists at new addition.
3. Prefinished metal gutters, downspouts and scuppers.

D. Insulation
1. New Exterior Wall – Combination 1-1/2" (R-8) rigid insulation (interior face) and core foam fill insulation in block cavities (R-5).
2. Building Addition Roof – 3" polyisocyanurate rigid insulation (R 15) – low slope roof.
3. Under Slab – 2"x24" perimeter rigid insulation.
4. Attic insulation 10" cellular (R-40) = high slope roofs.

E. Finishes
1. Floor
   a. Epoxy quartz finish in Apparatus Bays and adjacent Storage/Utility.
   b. Carpet – Offices, Day room, Radio room, and Dormitories
   c. Ceramic Tile – Toilet, Locker and Shower rooms.
   d. Porcelain Tile – Kitchen and Dining

e. Resilient Tile –Office Storage, Pantry, and Janitor closets.
f. Special rubber floor in Fitness room.

2. Walls
   a. Epoxy paint in Apparatus Bays and adjacent Storage/Utility.
   b. Ceramic tile at main Toilet, Locker and Shower rooms.
   c. Painted gypsum board with 4" resilient base in all other rooms.
3. Ceilings
   a. Painted exposed structure in Apparatus room (dry fall paint).
   b. Painted gypsum board ceiling system in Toilet, Locker, and Shower rooms.
   c. 2x2 tegular edge lay-in vinyl coated ceiling tiles in Kitchen.
   d. 2x2 tegular edge lay-in ceiling tile in all remaining spaces.

F. Doors and Frames
1. Exterior – Prefinished bronze anodized aluminum doors and frames (entryways); galvanized hollow metal-painted, all other locations
2. Exterior insulated overhead steel sectional doors with motor operators with timer and remote transmitters including door clearance signal lights.
3. Interior – Prefinished solid core wood doors with hollow metal frames in Office areas and hollow metal doors in hollow metal frames in Apparatus Bays and adjacent Storage/Utility.
4. Electronic key phob lock all exterior passage doors.
5. Door enunciator buzzer for main public entrance door.

G. Windows
1. Exterior – Prefinished bronze anodized aluminum windows (fixed type) with bronze tinted insulated glazing.

H. Specialties
1. Millwork
   a. Prefabricated wall and base cabinetry for Kitchen, EMS Supply, Toilet rooms, Dormitory, and Office.
   b. Custom plastic laminated millwork for Toilet rooms, Offices, Dormitory, and Entertainment Center.
   c. Built in melamine shelving in linen closets and EMS Supply.
   d. Stainless steel counters in Workshop and Kitchen.
2. Toilet Accessories – Stainless steel toilet paper dispensers, waste receptacles, soap dispensers, coat hooks, mirror and mop racks.
3. Pre-finished wall hung gear racks (18 total) in Apparatus Bay.
4. Prefabricated metal lockers and benches in Locker rooms.

I. Contract Items
1. In contract equipment:
   a. Range hood
   b. Dishwasher(s)
   c. Garbage Disposal
   d. Refrigerator(s)
   e. Microwave
   f. Stove

2. Not in contract equipment (by owner):
   a. Dining Furniture
   b. Day Room Furniture and TV
   c. Dormitory Beds and Linens
   d. Radio Room Chairs
   e. Exercise Equipment

IV. MECHANICAL AND ELECTRICAL SYSTEMS

A. Plumbing
1. Water closets – Floor-mounted, flush vales, low consumption type with plastic seats.
2. Urinals – Wall-hung vitreous china with low consumption flush valve.
3. Lavatories – Wall-hung or counter top vitreous china with grid strainer and single level mixing faucet.
4. Sinks:
   a. Double compartment stainless steel sink with strainer and single lever mixing faucet and garbage disposal.
5. Service sink – Fiberglass floor-mounted sink with drain. Faucet with vacuum breaker and hose.
6. Refrigerators will be provided with cold water connections for icemakers.
7. Floor drains – Mechanical Rooms, Toilet Rooms, Showers and Locker rooms.
8. Non-freeze exterior hydrants – as required.
9. Gas-fired water heater for Toilet Rooms, Locker Rooms, and Kitchen.
10. Showers with single lever fixtures, PH compatible.
11. Storm sewer including roof sumps.
12. Water for the building to be provided from an existing domestic water service.
13. Fire protection system modification.
14. Gas piping system to water heaters, roof top units, radiant heaters, unit heaters, and emergency generator.
15. Oil separator for Apparatus Bay.
16. Building services to include natural gas, sanitary/storm sewers, city water and fire protection.
17. Demolition of existing plumbing, piping, fixtures, ets.
18. Water heater upgrade.

B. Heating, Ventilating, and Air Conditioning Systems
1. HVAC units for Day Room, Dormitory, Kitchen, Toilets, Locker area. And Fitness Room shall be constant volume, packaged roof-mounted HVAC units. Each unit will have gas heat, electric DX cooling, and economizer packages. Variable volume boxes with reheat will be utilized to provide separate control of areas.
2. Exhaust fans shall be provided for the following areas:
   a. Toilet Rooms
   b. Locker Rooms
   c. Kitchen
   d. Janitor Closets
3. All systems have ducted supply, return, and exhaust, including grilles, fire dampers, etc.

C. Apparatus Bay
1. Area will be heated by gas-fired infrared heaters.
2. Ventilation will be provided by exhaust fans and air intake louvers. Controlled by manual On-Off and NO^2/CO sensors.

3. Carbon monoxide exhaust system for the trucks similar to Neederman.
4. Hose bibs spotted throughout the bays for cleanup and maintenance.

D. Fire Suppression
1. Hydraulically calculated NFPA approved wet pipe sprinkler system and day pipe for attic.

E. Electrical
1. Underground primary cable will be provided from utility pole to pad-mounted transformer at building by Detroit Edison Company. Contractor to provide underground secondary electrical service from pad-mounted transformer to main switchboard and concrete pad for transformer.
2. Provide wiring and conduit for receptacles, lights, signs, heating and cooling systems, P.A. system, and power hook-ups for equipment.
3. Provide recessed fluorescent lighting in Corridors, Office, Kitchen, Fitness Room, Toilets, Day Room, Locker Rooms, and Dining. High bay fluorescent lighting in Apparatus Bays to remain.
4. Provide exit and emergency egress lighting throughout building.
5. Provide LED lighting for exterior building including time clocks, lighting contactors, and photo cells. Existing sign and flag pole lighting to remain.
6. Provide conduit, wiring, jacks, back boxes, and plywood backboards for telephone system. Telephones and equipment by Owner.
7. Emergency power generator to be relocated (see Special Systems).
8. Provide conduit, wiring, jacks, patch panel, and back boxes for data system. Fiber equipment cabinet by Owner.
9. Provide electrical distribution equipment including switchboard, distribution panels, panelboards, starters, disconnect switches, etc., including associated conduit and wiring.
10. Provide surface-mounted strip fluorescent lighting in Storage Rooms, Janitor's Closet, Work Shop, and linen closet.
11. Provide separate new circuits for existing cord reel.
12. Provide a combination of under-cabinet and wall-mounted fluorescent lighting and recessed incandescent lighting in Dorms.
13. Provide recessed incandescent accent lighting on dimmers in Day Room, Kitchen, and Dining in addition to general fluorescent lighting.
14. Provide recessed incandescent wet location lighting in Showers.

F. Special Systems
1. Provide power for mechanical equipment.
2. Provide P.A. system horn-type speakers for Apparatus Bay.
3. Relocate natural gas emergency generator which will provide power for selected items in the building. It will be replaced with a new larger generator if intent is to feed the entire building. Additional automatic transfer switches to be provided to comply with NEC code.
4. Fire alarm system for building is not required. Smoke detectors will be provided in living quarters.
5. Provide buzzer/chime system for office entrance.
6. Provide conduit and back boxes for cable TV systems, wiring and equipment by Owner.
7. Provide lightning protection systems for building.
8. Provide P.A. system round ceiling speakers and volume controls for entire building (linked into telephone system).
9. Provide occupancy sensors to control lighting.

C H M P, I N C.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439

TELEPHONE (810) 695-5910
FACSIMILE (810) 695-0680

July 18, 2014

ROCHESTER HILLS FIRE STATIONS #14002200

ROCHESTER HILLS, MICHIGAN

PRELIMINARY STATEMENT OF PROBABLE CONSTRUCTION COSTS – RENOVATION (STATION 2)

Site: 0.83 Ac.

Building Area: Existing 4,440 s.f.
New Addition 1,741 s.f.
Total: 6,181 s.f.

I. SITEWORK

A.	Site Preparation/Clearing/Demolition	$ 26,000.00
B.	Earthwork/Excavation Support & Protection	$ 40,000.00
C.	6" Bituminous Paving/8" Aggregate Base	$ 32,400.00
D.	Concrete Walks/Paving	$ 32,400.00
E.	Concrete Curbing	$ 11,280.00
F.	Pavement Markings	$ 400.00
G.	Water Service	By Owner
H.	Gas Service	$ 1,500.00
I.	Storm Sewer	$ 16,000.00
J.	Sanitary Service	By Owner
K.	Electric Service	$ 19,500.00
L.	Fire Protection	$
M.	Site Lighting	$ 16,000.00
N.	Emergency Power Generator (entire bldg. 150 kw)	$ 35,000.00
	Sub-Total:	$ 230,480.00

II. ARCHITECTURAL		
A.	Concrete/Footings & Flatwork (New Addition)	$ .00
B.	Masonry	$ 185,000.00
C.	Structural Steel/Misc. Steel/Steel Roof Trusses	$ 60,000.00
D.	Metal Roofing/Gutters/Downspouts/Metal Siding	$ 42,000.00
E.	Membrane Roofing	$ 12,000.00
F.	Rough Carpentry/Drywall	$ 37,900.00
G.	Doors/Windows	$ 40,000.00
H.	Overhead Doors	$ 34,500.00
I.	Cabinetry	$ 20,000.00
J.	Epoxy Floor Treatment	$ 31,920.00
K.	Miscellaneous Floor Treatment (Carpet/Tile)	$ 24,500.00
L.	Selective Demolition/Walls	$ 39,500.00
	Sub-Total:	$ 527,320.00
III. MECHANICAL		
A.	Plumbing	$ 70,000.00
B.	HVAC	$ 54,740.00
C.	Fire Protection	$ 14,600.00
D.	Mechanical Demolition	$ 14,500.00
E.	Vehicle Exhaust	$ 60,000.00
F.	Miscellaneous Upgrades	$ 32,100.00
	Sub-Total:	$ 238,940.00
IV. ELECTRICAL		
A.	First Floor Electric – Power/Lighting	$ 229,000.00
B.	Electrical Demolition	$ 8,500.00
C.	PA System	$ 5,000.00
D.	Telephone System – Conduit/Wiring	$ 10,000.00
E.	Cable TV	$ 3,000.00
F.	Fiber Optic System – Conduit/Wiring	$ 5,000.00
G.	Lightning Protection System	$ 10,000.00
	Sub-Total:	$ 270,500.00
	Sub-Total All Construction (Station 2)	$1,267,240.00
V.	Overhead & Profit, Bonds (8%)	
	Includes: Special Inspections, Testing & Permits	$ 101,379.00
	Total Construction Costs:	$1,368,619.00
VI.	Contingency (5%)	$ 68,431.00
	Sub-Total:	$1,437,050.00
VII.	Architectural/Engineering Fees (7.5%)	$ 107,779.00
VIII.	Equipment, Furnishings:	$ 50,000.00
IX.	Temporary Trailer Allowance (8 months)	$ 80,000.00
	Total All Construction (Station 2):	**$1,674,829.00**

Section 3

Station No. 3
Outline Specifications
Preliminary Statement of Probable Construction Costs

C H M P, I N C.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439

TELEPHONE (810) 695-5910
FACSIMILE (810) 695-0680

July 18, 2014

OUTLINE SPECIFICATIONS

ROCHESTER HILLS
ROCHESTER HILLS FIRE STATION NO. 3

Project No: 14002200

Building Area:

1st Floor	4,402 s.f.
Mezzanine	886 s.f.
Total	5,288 s.f.

I. SITEWORK

A. Removal of Hazardous Materials

B. Removal of Trash & Miscellaneous Debris

C. Temporary Facilities

D. Pavement Marking

E. Water Service – Re-use existing

F. Fire Protection – Re-use existing

G. Gas Service – Re-use existing

H. Storm Sewer

I. Sanitary Service – Re-use existing

J. Electric Service (see Electrical section)

K. Irrigation System

L. Site Lighting (see Electrical section)

M. Signage (traffic directional signage)

N. Emergency Power Generator (see Electrical section)

O. Masonry Trash Enclosure

II. FOUNDATIONS

A. Existing concrete spread footing with steel reinforcing.

III. BASIC CONSTRUCTION

Main Floor

A. Floor
1. Existing 4" reinforced concrete slab on vapor barrier and compacted sand fill below office areas, Fitness, Locker, Kitchen, Dayroom, Dining and Dormitories.
2. Existing 8" reinforced concrete slab on compacted sand fill at Apparatus Bay areas.

B. Walls
1. Exterior – Composite masonry wall – Existing 4" brick on existing 8" concrete masonry unit.
2. Interior – Existing and new 8" concrete masonry units with 5/8" gypsum board on 1-1/2" metal furring (Office area only).
3. Interior – 4-7/8" thick, 5/8" gypsum board over 3-5/8" metal studs.

C. Roof
1. Existing architectural grade standing seam metal roofing panels (paint) over roof felt over non-combustible plywood sheathing over pre-engineered metal trusses.
2. Prefinished metal gutters, downspouts and scuppers.

D. Insulation
1. Office Roof – 10" Kraft faced fiberglass insulation (R-30) at above ceiling.
2. Sound insulation in office interior walls.

E. Finishes
1. Floor
   a. Epoxy quartz finish in Apparatus Bays and adjacent Storage/Utility.
   b. Carpet – Office, Day room and Dormitories
   c. Ceramic Tile – Toilet, Locker and Shower rooms.
   d. Porcelain Tile – Kitchen and Dining area.
   e. Special rubber floor in Fitness room/
2. Walls
   a. Epoxy paint in Apparatus Bays and adjacent Storage/Utility.
   b. Ceramic tile at main Toilet, Locker and Shower rooms.
   c. Painted gypsum board with 4" resilient base in all other rooms.
3. Ceilings
   a. Painted exposed structure in Apparatus room and adjacent Storage/Utility rooms.
   b. Painted gypsum board ceiling system in Locker and Shower rooms.
   c. 2x2 tegular edge lay-in vinyl coated ceiling tiles in Kitchen.

d. 2x2 tegular edge lay-in ceiling tile in all remaining spaces.

F. Doors and Frames
1. New exterior insulated overhead steel sectional doors with motor operators with timer and remote transmitters including door clearance signal lights.
2. Interior – Prefinished solid core wood doors with hollow metal frames in Office areas and hollow metal doors in hollow metal frames in Apparatus Bays and adjacent Storage/Utility.
3. Electronic key phob lock on all exterior doors.
4. Door enunciator buzzer for main public entrance door.

G. Windows
1. Exterior – Prefinished bronze anodized aluminum windows (fixed type) with bronze tinted insulated glazing.

H. Specialties
1. Millwork
   a. Prefabricated wall and base cabinetry for Kitchen, EMS Supply, Toilet rooms, Dormitory, and Office.
   b. Custom plastic laminated millwork for Toilet rooms, Dormitory, and Entertainment Center.
   c. Built in melamine shelving in linen closets and EMS Supply.
   d. Stainless steel counters in Workshop and Kitchen.
2. Toilet Accessories – Stainless steel toilet paper dispensers, waste receptacles, soap dispensers, coat hooks, mirror and mop racks.
3. Pre-finished wall hung gear racks in Apparatus Bay.
4. Prefabricated metal lockers and benches in Locker rooms.
5. Apparatus gear racks (18 total)

I. Contract Items
1. In contract equipment:
   a. Range hood
   b. Dishwasher(s)
   c. Garbage Disposal
   d. Refrigerator(s)
   e. Microwave
   f. Stove
2. Not in contract equipment (by owner):
   a. Dining Furniture
   b. Day Room Furniture and TV
   c. Dormitory Beds and Linens
   d. Office Chairs
   e. Exercise Equipment

IV. MECHANICAL AND ELECTRICAL SYSTEMS

A. Plumbing
1. Water closets – Floor-mounted, flush vales, low consumption type with plastic seats.
2. Urinals – Wall-hung vitreous china with low consumption flush valve.

3. Lavatories – Wall-hung or counter top vitreous china with grid strainer and single level mixing faucet.
4. Sinks:
   a. Double compartment stainless steel sink with strainer and single lever mixing faucet and garbage disposal.
5. Service sink – Fiberglass floor-mounted sink with drain. Faucet with vacuum breaker and hose.
6. Refrigerators will be provided with cold water connections for icemakers.
7. Floor drains – Mechanical Rooms, Toilet Rooms, Showers and Locker rooms.
8. Non-freeze exterior hydrants – as required.
9. Gas-fired water heater for Toilet Rooms, Locker Rooms, and Kitchen.
10. Showers with single lever fixtures, PH compatible.
11. Storm sewer including roof sumps.
12. Water for the building to be provided from an existing domestic water service.
13. Fire protection system modification.
14. Gas piping system to water heaters, roof top units, radiant heaters, unit heaters, and emergency generator.
15. Oil separator for Apparatus Bay.
16. Building services to include natural gas, sanitary/storm sewers, city water, and fire protection.
17. Demolition of existing plumbing fixtures, piping, etc.
18. Water heater upgrade.

B. Heating, Ventilating, and Air Conditioning Systems
1. HVAC units for Day Room, Dormitory, Kitchen, Toilets, Locker area. And Fitness Room shall be constant volume, packaged roof-mounted HVAC units. Each unit will have gas heat, electric DX cooling, and economizer packages. Variable volume boxes with reheat will be utilized to provide separate control of areas.
2. Exhaust fans shall be provided for the following areas:
   a. Toilet Rooms
   b. Locker Rooms
   c. Kitchen
   d. Janitor Closets
3. All systems have ducted supply, return, and exhaust, including grilles, fire dampers, etc.

C. Apparatus Bay
1. Area will be heated by existing gas-fired infrared heaters.
2. Ventilation will be provided by exhaust fans and air intake louvers. Controlled by manual On-Off and NO^2/CO sensors.
3. Carbon monoxide exhaust system for the trucks similar to Neederman.
4. Hose bibs spotted throughout the bays for cleanup and maintenance.

D. Fire Suppression
1. Hydraulically calculated NFPA approved wet pipe sprinkler system and dry pipe for attic.

E. Electrical
1. Underground primary cable will be provided from utility pole to pad-mounted transformer at building by Detroit Edison Company. Contractor to provide underground secondary electrical service from pad-mounted transformer to main switchboard and concrete pad for transformer.

2. Provide wiring and conduit for receptacles, lights, signs, heating and cooling systems, P.A. system, and power hook-ups for equipment.
3. Provide recessed fluorescent lighting in Corridors, Office, Kitchen, Stairs, Toilets, Day Room, and Locker Rooms. High bay fluorescent lighting in Apparatus Bays to remain.
4. Provide exit and emergency egress lighting throughout building.
5. Existing metal halide lighting for exterior building including time clocks, lighting contactors, and photo cells to remain. Replace one lens. Existing sign and flag pole lighting to remain.
6. Provide conduit, wiring, jacks, back boxes, and plywood backboards for telephone system. Telephones and equipment by Owner.
7. Existing 47KW emergency power generator to remain (see Special Systems).
8. Provide conduit, wiring, jacks, patch panel, and back boxes for data system. Fiber equipment cabinet by Owner.
9. Provide electrical distribution equipment including switchboard, distribution panels, panelboards, starters, disconnect switches, etc., including associated conduit and wiring.
10. Provide surface-mounted strip fluorescent lighting in Storage Rooms, Mezzanine, and Work Shop.
11. Replace existing normal receptacles with ground fault type in Appartus Bay, Kitchen, Toilets, and Locker rooms.
12. Provide a combination of under-cabinet and wall-mounted fluorescent lighting and recessed incandescent lighting in Dorms.
13. Provide recessed incandescent accent lighting on dimmers in Day Room and Kitchen in addition to general fluorescent lighting.
14. Provide recessed incandescent wet location lighting in Showers.

F. Special Systems

1. Provide power for mechanical equipment.
2. Provide P.A. systems horn-type speakers for Apparatus Bays.
3. Existing natural gas emergency generator which will provide power for selected item in the building shall remain. It will be replaced with a new larger generator if intent is to feed the entire building. Additional automatic transfer switches to be provided to comply with NEC code.
4. Fire alarm system for building is not required. Smoke detectors will be provided in living quarters.
5. Provide buzzer/chime system for office entrance.
6. Provide conduit and back boxes for cable TV systems, wiring and equipment by Owner.
7. Existing radio antenna, associated grounding, and power for related radio equipment to remain.
8. Provide lightning protection systems for building.
9. Provide P.A. system round ceiling speakers and volume controls for entire building (linked into telephone system).
10. Provide occupancy sensors to control lighting.

C H M P, I N C.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439

TELEPHONE (810) 695-5910
FACSIMILE (810) 695-0680

July 18, 2014

ROCHESTER HILLS FIRE STATIONS #14002200

ROCHESTER HILLS, MICHIGAN

PRELIMINARY STATEMENT OF PROBABLE CONSTRUCTION COSTS – RENOVATION (STATION 3)

Site: 0.67 Ac.

Building Area:	Existing	4,402 s.f.
	Mezzanine	886 s.f.
	Total:	5,288 s.f.

I. ARCHITECTURAL

A.	Concrete/Footings, Flatwork & Masonry	$ 56,000.00
B.	Structural Steel/Misc. Steel/Floor Truss	$ 45,000.00
C.	Rough Carpentry/Drywall	$ 26,500.00
D.	Doors/Windows	$ 21,000.00
E.	Overhead Doors	$ 26,600.00
F.	Cabinetry	$ 20,000.00
G.	Epoxy Floor Treatment	$ 22,496.00
H.	Miscellaneous Floor Treatment (Carpet/Tile)	$ 24,500.00
I.	Selective Demolition/Walls	$ 39,500.00
	Sub-Total:	$ 281,596.00

II. MECHANICAL

A.	Plumbing	$ 55,000.00
B.	HVAC	$ 40,740.00
C.	Fire Protection – Rework	$ 14,800.00
D.	Mechanical Demolition	$ 7,500.00
E.	Vehicle Exhaust	$ 60,000.00
F.	Miscellaneous Upgrades	$ 32,100.00
	Sub-Total:	$ 210,140.00

III. ELECTRICAL

A.	Electric – Power/Lighting	$ 92,400.00
B.	Electrical Demolition	$ 8,500.00
C.	PA System	$ 4,000.00
D.	Telephone System – Conduit/Wiring	$ 5,000.00
E.	Cable TV	$ 2,000.00
F.	Fiber Optic System – Conduit/Wiring	$ 4,000.00
G.	Lightning Protection System	$ 8,000.00
	Sub-Total:	$ 123,900.00

Sub-Total All Construction (Station 3): $ 615,636.00

VI. Overhead & Profit, Bonds (8%)	$ 49,251.00
Total Construction Costs:	$ 664,887.00
VII. Contingency (5%)	$ 33,244.00
Sub-Total:	$ 698,131.00
VII. Architectural/Engineering Fees (7.5%)	$ 52,360.00
VIII. Equipment, Furnishings:	$ 50,000.00
IX Temporary Trailer Allowance (8 months)	$ 80,000.00

Total Estimated Project Costs: $ 844,754.00

Section 4

Station No. 4
Outline Specifications
Preliminary Statement of Probable Construction Costs

C H M P, I N C.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439

TELEPHONE (810) 695-5910
FACSIMILE (810) 695-0680

July 18, 2014

OUTLINE SPECIFICATIONS

ROCHESTER HILLS
ROCHESTER HILLS FIRE STATION NO. 4

Project No: 14002200

Building Area:
1st Floor 7,521 s.f.

I. SITEWORK

A. Removal of Hazardous Materials

B. Site Preparation/Clearing/Demolition

C. Removal of Trash & Miscellaneous Debris

D. Earthwork/Excavation Support & Protection

E. Bituminous Paving

F. Concrete Walks

G. Concrete Curbing/Paving

H. Temporary Facilities

I. Pavement Marking

J. Water Service

K. Fire Protection System

L. Gas Service

M. Storm Sewer

N. Sanitary Service

O. Electric Service (see Electrical section)

P. Irrigation System

Q. Site Lighting (see Electrical section)

R. Landscaping

S. Emergency Power Generator (see Electrical section)

T. Flagpole

U. Masonry Trash Enclosure

II. FOUNDATIONS

A. Concrete spread footing with steel reinforcing as required.

III. BASIC CONSTRUCTION

Main Floor

A. Floor
1. 4" reinforced concrete slab on vapor barrier and compacted sand fill below office areas, Fitness, Locker, Kitchen, Dayroom, Dining and Dormitories.
2. 8" reinforced concrete slab on compacted sand fill at Apparatus Bay areas.

B. Walls
1. Exterior – Composite masonry wall – 8" and 12" concrete masonry split-faced units (with 5/8" gypsum board on 1-1/2" metal furring at office area only).
2. Exterior – Composite masonry wall – 4" concrete masonry split-faced units on existing 8" concrete masonry unit back-ups.
3. Interior –8" and 12" concrete masonry units (with 5/8" gypsum board on 1-1/2" metal furring at office area only).
4. Interior – 4-7/8" thick, 5/8" gypsum board over 3-5/8" metal studs.

C. Roof
1. Architectural grade standing seam metal roofing panels over roof felt over non-combustible plywood sheathing over pre-engineered metal trusses.
2. Fully adhered PVC membrane roofing over rigid insulation over metal decking over steel joists at Office area mechanical equipment and Apparatus Bays.
3. Prefinished metal gutters, downspouts and scuppers.

D. Insulation
1. Exterior Wall – Combination 1-1/2" (R-8) rigid insulation (interior face) and core foam fill insulation in block cavities

2. Office Roof – Combination 10" Kraft faced fiberglass insulation (R-30) and 3" polyisocyanurate (R-15) on low sloped roofs only.

3. Under Slab: 2"x24" perimeter rigid insulation.
4. Sound insulation in office interior walls.

E. Finishes
   1. Floor
      a. Epoxy quartz finish in Apparatus Bays, adjacent Storage/Utility and Turn-out Gear rooms.
      b. Carpet – Offices, Day room and Dormitories
      c. Ceramic Tile – Toilet, Locker and Shower rooms.
      d. Resilient Tile –Storage and Janitor closet.
      e. Special rubber floor in Fitness room.
      f. Porcelain Tile – Kitchen and Dining area
   2. Walls
      a. Epoxy paint in Apparatus Bays and adjacent Storage/Utility.
      b. Ceramic tile at main Toilet, Locker and Shower rooms.
      c. Painted gypsum board with 4" resilient base in all other rooms.
   3. Ceilings
      a. Painted exposed structure in Apparatus room and adjacent Storage/Utility rooms.
      b. Painted gypsum board ceiling system in Toilet, Locker, and Shower rooms.
      c. 2x2 tegular edge lay-in vinyl coated ceiling tiles in Kitchen.
      d. 2x2 tegular edge lay-in ceiling tile in all remaining spaces.

F. Doors and Frames
   1. Exterior – Prefinished bronze anodized aluminum doors and frames (entryways); galvanized hollow metal-painted, all other locations.
   2. Exterior insulated overhead steel sectional doors with motor operators with timer and remote transmitters including door clearance signal lights.
   3. Interior – Prefinished solid core wood doors with hollow metal frames in Office areas and hollow metal doors in hollow metal frames in Apparatus Bays and adjacent Storage/Utility.
   4. Electronic key phob lock on all exterior doors.
   5. Door enunciator buzzer for main public entrance door.

G. Windows
   1. Exterior – Prefinished bronze anodized aluminum windows (fixed type) with bronze tinted insulated glazing.

H. Specialties
   1. Millwork
      a. Prefabricated wall and base cabinetry for Kitchen, Pantry, EMS Supply, Toilet rooms, Dormitory, and Office.
      b. Custom plastic laminated millwork for Toilet rooms, Radio room, Dormitory, and Entertainment Center.
      c. Built in melamine shelving in linen closets and EMS Supply.
      d. Stainless steel counters in Workshop and Kitchen.
      e. Illuminated city map at main public entrance.

2. Toilet Accessories – Stainless steel toilet paper dispensers, waste receptacles, soap dispensers, coat hooks, mirror and mop racks.
3. Pre-finished wall hung gear racks in Apparatus Bay.
4. Prefabricated metal lockers and benches in Locker rooms.

I. Contract Items
1. In contract equipment:
   a. Range hood
   b. Dishwasher(s)
   c. Garbage Disposal
   d. Refrigerator(s)
   e. Microwave
   f. Stove
2. Not in contract equipment (by owner):
   a. Dining Furniture
   b. Day Room Furniture and TV
   c. Dormitory Beds and Linens
   d. Office Chairs
   e. Exercise Equipment

IV. MECHANICAL AND ELECTRICAL SYSTEMS

A. Plumbing
1. Water closets – Floor-mounted, flush vales, low consumption type with plastic seats.
2. Urinals – Wall-hung vitreous china with low consumption flush valve.
3. Lavatories – Wall-hung or counter top vitreous china with grid strainer and single level mixing faucet.
4. Sinks:
   a. Double compartment stainless steel sink with strainer and single lever mixing faucet and garbage disposal.
5. Service sink – Fiberglass floor-mounted sink with drain. Faucet with vacuum breaker and hose.
6. Refrigerators will be provided with cold water connections for icemakers.
7. Floor drains – Mechanical Rooms, Toilet Rooms, Showers and Locker rooms.
8. Non-freeze exterior hydrants – as required.
9. Gas-fired water heater for Toilet Rooms, Locker Rooms, Lounge and Kitchen.
10. Showers with single lever fixtures, PH compatible.
11. Storm sewer including roof sumps.
12. Water for the building to be provided from an existing 2” domestic water service.
13. A limited fire protection system will be provided from the existing water service.
14. Gas piping system to water heaters, roof top units, radiant heaters, unit heaters, and emergency generator.
15. Oil separator and drains from Apparatus Bay.
16. Building services to include natural gas, sanitary/storm sewers, fire protection, and city water.

B. Heating, Ventilating, and Air Conditioning Systems
1. HVAC units for Day Room, Dormitory, Kitchen, Toilets, Locker area, and Fitness Room shall be constant volume, packaged roof-mounted HVAC units. Each unit will have gas

heat, electric DX cooling, and economizer packages. Variable volume boxes with reheat will be utilized to provide separate control of areas.

2. Exhaust fans shall be provided for the following areas:
   a. Toilet Rooms
   b. Locker Rooms
   c. Kitchen
   d. Janitor Closets
3. All systems have ducted supply, return, and exhaust, including grilles, fire dampers, etc.

C. Apparatus Bay
1. Area will be heated by gas-fired infrared heaters.
2. Ventilation will be provided by exhaust fans and air intake louvers. Controlled by manual On-Off and NO^2/CO sensors.
3. Carbon monoxide exhaust system for the trucks similar to Neederman.
4. Hose bibs spotted throughout the bays for cleanup and maintenance.

D. Fire Suppression
1. Hydraulically calculated NFPA approved wet pipe sprinkler system and dry pipe for attic.

E. Maintenance Shop and Mechanical/Electrical Room
1. Area to be heated by ceiling-mounted electric radiant heaters.
2. Exhaust ventilation provided to meet Mechanical Code.

F. Electrical
1. Underground primary cable will be provided from utility pole to pad-mounted transformer at building by Detroit Edison Company. Contractor to provide underground secondary electrical service from pad-mounted transformer to main switchboard and concrete pad for transformer.
2. Provide wiring and conduit for receptacles, lights, signs, heating and cooling systems, P.A. system, and power hook-ups for equipment.
3. Provide recessed fluorescent lighting in Corridors, Offices, Kitchen, Stairs, Fitness Room, Toilets, Day Room, Locker Rooms, and Dining. Provide surface-mounted metal halide lighting in Apparatus Bays.
4. Provide exit and emergency egress lighting throughout building.
5. Provide metal halide lighting for exterior building, sign, flag pole, roadway, and parking lot, including poles, concrete bases, time clocks, lighting contactors, and photo cells.
6. Provide conduit, wiring, jacks, back boxes, and plywood backboards for telephone system. Telephones and equipment by Owner.
7. Provide emergency power generator, including automatic transfer switch (see Special Systems).
8. Provide conduit, wiring, jacks, patch panel, and back boxes for data system. Fiber equipment cabinet by Owner.
9. Provide electrical distribution equipment including switchboard, distribution panels, panelboards, starters, disconnect switches, etc., including associated conduit and wiring.
10. Provide surface-mounted strip fluorescent lighting in Storage Rooms, Janitor's Closets, Mezzanine, Work Shop, and Mechanical/Electrical Room.
11. Provide electrical cord-reel drops in Apparatus Bays.
12. Provide a combination of under-cabinet and wall-mounted fluorescent lighting and recessed incandescent lighting in Dorms.

13. Provide recessed incandescent accent lighting on dimmers in Day Room, Kitchen, Dining, and Radio Room in addition to general fluorescent lighting.
14. Provide recessed incandescent wet location lighting in Showers.

G. Special Systems

1. Provide power for mechanical equipment.
2. Provide P.A. systems horn-type speakers for Apparatus Bays.
3. Provide natural gas emergency generator which will provide power for the entire building.
4. Provide limited fire alarm system for building.
5. Provide buzzer/chime system for office entrance.
6. Provide conduit and back boxes for cable TV systems, wiring and equipment by Owner.
7. Provide radio antenna, associated grounding, and power for related radio equipment by Owner.
8. Provide lightning protection systems for building.
9. Provide P.A. system round ceiling speakers and volume controls for entire building (linked into telephone system).
10. Provide occupancy sensors to control lighting.
11. Provide West Net System.
12. Provide UPS system for data equipment.
13. Provide strobe light fixtures in Fitness Area (linked into West Net System);

C H M P, I N C.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439

TELEPHONE (810) 695-5910
FACSIMILE (810) 695-0680

July 18, 2014

ROCHESTER HILLS FIRE STATIONS #14002200

ROCHESTER HILLS, MICHIGAN

PRELIMINARY STATEMENT OF PROBABLE CONSTRUCTION COSTS – RENOVATION (STATION 4)

Site: 0.83 Ac.

Building Area: New Construction 7,521 s.f.

I. SITEWORK

A.	Site Preparation/Clearing/Demolition	$ 36,000.00
B.	Earthwork/Excavation Support & Protection	$ 50,000.00
C.	6" Bituminous Paving/8" Aggregate Base	$ 32,400.00
D.	Concrete Walks/Paving	$ 32,400.00
E.	Concrete Curbing	$ 11,280.00
F.	Pavement Markings	$ 400.00
G.	Water Service	$ 5,000.00
H.	Gas Service	$ 1,500.00
I.	Storm Sewer	$ 12,000.00
J.	Sanitary Service	$ 12,000.00
K.	Electric Service	$ 15,000.00
L.	Site Lighting	$ 16,000.00
M.	Signage	$ 6,000.00
N.	Emergency Power Generator (relocated)	$ 12,000.00
	Sub-Total:	$ 231,980.00

II. ARCHITECTURAL

A.	Concrete/Footings & Flatwork (New Addition)	$ .00
B.	Masonry	$ 240,000.00
C.	Structural Steel/Misc. Steel/Steel Roof Trusses	$ 80,000.00
D.	Metal Roofing/Gutters/Downspouts/Metal Siding	$ 62,000.00
E.	Membrane Roofing	$ 12,000.00
F.	Rough Carpentry/Drywall	$ 47,900.00
G.	Doors/Windows	$ 40,000.00
H.	Overhead Doors	$ 54,500.00

I.	Cabinetry	$ 25,000.00
J.	Epoxy Floor Treatment	$ 31,920.00
K.	Miscellaneous Floor Treatment (Carpet/Tile)	$ 14,500.00
	Sub-Total:	$ 606,920.00

III. MECHANICAL

A.	Plumbing	$ 78,000.00
B.	HVAC	$ 54,740.00
C.	Fire Protection	$ 14,600.00
D.	Vehicle Exhaust	$ 60,000.00
	Sub-Total:	$ 217,340.00

IV. ELECTRICAL

A.	Electric – Power/Lighting	$ 229,000.00
B.	Electrical Demolition	$ 8,500.00
C.	PA System	$ 5,000.00
D.	Telephone System – Conduit/Wiring	$ 10,000.00
E.	Cable TV	$ 3,000.00
F.	Fiber Optic System – Conduit/Wiring	$ 5,000.00
	Sub-Total:	$ 260,500.00

Sub-Total All Construction (Station 4):	**$1,316,740.00**
V. Overhead & Profit, Bonds (8%)	$ 105,339.00
Total Construction Costs:	$1,422,790.00
VI. Contingency (5%)	$ 71,103.00
Sub-Total	$1,493,893.00
VII. Architectural/Engineering Fees (7.5%)	$ 112,041.00
VIII. Equipment, Furnishings:	$ 50,000.00
IX Temporary Trailer Allowance (8 months)	$ 80,000.00
Total Estimated Project Costs:	**$1,735,934.00**

Section 5

Station No. 5
Outline Specifications
Preliminary Statement of Probable Construction Costs

C H M P, I N C.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439

TELEPHONE (810) 695-5910
FACSIMILE (810) 695-0680

July 18, 2014

OUTLINE SPECIFICATIONS

ROCHESTER HILLS
ROCHESTER HILLS FIRE STATION NO. 5

Project No: 14002200

Building Area:

1st Floor	4,630 s.f.
Mezzanine	1,060 s.f.
Total	5,690 s.f.

I. SITEWORK

A. Removal of Hazardous Materials

B. Removal of Trash & Miscellaneous Debris

C. Temporary Facilities

D. Pavement Marking

E. Water Service – Re-use existing

F. Gas Service – Re-use existing

G. Storm Sewer

H. Sanitary Service – Re-use existing

I. Fire Protection

J. Electric Service (see Electrical section)

K. Irrigation System

L. Site Lighting (see Electrical section)

M. Signage (traffic directional signage)

N. Emergency Power Generator (see Electrical section)

O. Masonry Trash Enclosure

II. FOUNDATIONS

A. Existing concrete footing with steel reinforcing.

III. BASIC CONSTRUCTION

Main Floor

A. Floor
1. Existing 4" reinforced concrete slab on vapor barrier and compacted sand fill below office areas, Fitness, Locker, Kitchen, Dayroom, Dining and Dormitories.
2. Existing 8" reinforced concrete slab on compacted sand fill at Apparatus Bay areas.

B. Walls
1. Exterior – Composite masonry wall – Existing 4" brick on 8" concrete masonry unit.
2. Interior – Existing and new 8" concrete masonry units with 5/8" gypsum board on 1-1/2" metal furring (Office area only).
3. Interior – 4-7/8" thick, 5/8" gypsum board over 3-5/8" metal studs.

C. Roof
1. Existing architectural grade standing seam metal roofing panels (paint) over roof felt over non-combustible plywood sheathing over pre-engineered metal trusses.
2. Prefinished metal gutters, downspouts and scuppers.

D. Insulation
1. Office Roof – 10" Kraft faced fiberglass insulation (R-40) at above ceiling.
2. Sound insulation in office interior walls.

E. Finishes
1. Floor
   a. Epoxy quartz finish in Apparatus Bays and adjacent Storage/Utility.
   b. Carpet – Office, Day room, Radio room, and Dormitories
   c. Ceramic Tile – Toilet, Locker and Shower rooms.
   d. Porcelain Tile – Kitchen and Dining
   e. Resilient Tile – Kitchen and Dining area.
   f. Special rubber floor in Fitness room/
2. Walls
   a. Epoxy paint in Apparatus Bays and adjacent Storage/Utility.
   b. Ceramic tile at main Toilet, Locker and Shower rooms.
   c. Painted gypsum board with 4" resilient base in all other rooms.
3. Ceilings
   a. Painted exposed structure in Apparatus room (dry fall paint).
   b. Painted gypsum board ceiling system in Locker and Shower rooms.
   c. 2x2 tegular edge lay-in vinyl coated ceiling tiles in Kitchen.

d. 2x2 tegular edge lay-in ceiling tile in all remaining spaces.

F. Doors and Frames
1. New exterior insulated overhead steel sectional doors with motor operators, pull string closers with timer and remote transmitters including door clearance signal lights.
2. Interior – Prefinished solid core wood doors with hollow metal frames in Office areas and hollow metal doors in hollow metal frames in Apparatus Bays and adjacent Storage/Utility.
3. Electronic key phob lock on all exterior passage doors.
4. Door enunciator buzzer for main public entrance door.

G. Windows
1. Exterior – Prefinished bronze anodized aluminum windows (fixed type) with bronze tinted insulated glazing.

H. Specialties
1. Millwork
   a. Prefabricated wall and base cabinetry for Kitchen, EMS Supply, Toilet rooms, Dormitory, and Office.
   b. Custom plastic laminated millwork for Toilet rooms, Dormitory, and Entertainment Center.
   c. Built in melamine shelving in linen closets and EMS Supply.
   d. Stainless steel counters in Workshop and Kitchen.
2. Toilet Accessories – Stainless steel toilet paper dispensers, waste receptacles, soap dispensers, coat hooks, mirror and mop racks.
3. Pre-finished wall hung gear racks (18 total) in Apparatus Bay.
4. Prefabricated metal lockers and benches in Locker rooms.

I. Contract Items
1. In contract equipment:
   a. Range hood
   b. Dishwasher(s)
   c. Garbage Disposal
   d. Refrigerator(s)
   e. Microwave
   f. Stove
2. Not in contract equipment (by owner):
   a. Dining Furniture
   b. Day Room Furniture and TV
   c. Dormitory Beds and Linens
   d. Office Chairs
   e. Exercise Equipment

IV. MECHANICAL AND ELECTRICAL SYSTEMS

A. Plumbing
1. Water closets – Floor-mounted, flush vales, low consumption type with plastic seats.
2. Urinals – Wall-hung vitreous china with low consumption flush valve.

3. Lavatories – Wall-hung or counter top vitreous china with grid strainer and single level mixing faucet.
4. Sinks:
   a. Double compartment stainless steel sink with strainer and single lever mixing faucet and garbage disposal.
5. Service sink – Fiberglass floor-mounted sink with drain. Faucet with vacuum breaker and hose.
6. Refrigerators will be provided with cold water connections for icemakers.
7. Floor drains – Mechanical Rooms, Toilet Rooms, Showers and Locker rooms.
8. Non-freeze exterior hydrants – as required.
9. Gas-fired water heater for Toilet Rooms, Locker Rooms, and Kitchen.
10. Showers with single lever fixtures, PH compatible.
11. Storm sewer including roof sumps.
12. Water for the building to be provided from an existing domestic water service.
13. Fire protection system modifications.
14. Gas piping system to water heaters, roof top units, radiant heaters, unit heaters, and emergency generator.
15. Oil separator for Apparatus Bay.
16. Building services to include natural gas, sanitary/storm sewers, city water, and fire protection.
17. Demolition of existing plumbing, piping, fixtures, etc.
18. Water heater upgrade.

B. Heating, Ventilating, and Air Conditioning Systems
1. HVAC units for Day Room, Dormitory, Kitchen, Toilets, Locker area. And Fitness Room shall be constant volume, packaged roof-mounted HVAC units. Each unit will have gas heat, electric DX cooling, and economizer packages. Variable volume boxes with reheat will be utilized to provide separate control of areas.
2. Exhaust fans shall be provided for the following areas:
   a. Toilet Rooms
   b. Locker Rooms
   c. Kitchen
   d. Janitor Closets
3. All systems have ducted supply, return, and exhaust, including grilles, fire dampers, etc.

C. Apparatus Bay
1. Area will be heated by gas-fired infrared heaters.
2. Ventilation will be provided by exhaust fans and air intake louvers. Controlled by manual On-Off and NO^2/CO sensors.
3. Carbon monoxide exhaust system for the trucks similar to Neederman.
4. Hose bibs spotted throughout the bays for cleanup and maintenance.

D. Fire Suppression
1. Hydraulically calculated NFPA approved wet pipe sprinkler system and dry pipe for attic.

E. Maintenance Shop and Mechanical/Electrical Room
1. Exhaust ventilation provided to meet Mechanical Code.

F. Electrical

1. Underground primary cable will be provided from utility pole to pad-mounted transformer at building by Detroit Edison Company. Contractor to provide underground secondary electrical service from pad-mounted transformer to main switchboard and concrete pad for transformer.
2. Provide wiring and conduit for receptacles, lights, signs, heating and cooling systems, P.A. system, and power hook-ups for equipment.
3. Provide recessed fluorescent lighting in Corridors, Office, Kitchen, Stairs, Pantry, Toilets, Day Room, Locker Rooms, and Dining. Provide high bay energy efficient lighting in Apparatus Bays.
4. Provide exit and emergency egress lighting throughout building.
5. Existing metal halide lighting for exterior building including time clocks, lighting contactors, and photo cells to remain.
6. Provide conduit, wiring, jacks, back boxes, and plywood backboards for telephone system. Telephones and equipment by Owner.
7. Existing emergency power generators, to remain (see Special Systems).
8. Provide conduit, wiring, jacks, patch panel, and back boxes for data system. Fiber equipment cabinet by Owner.
9. Provide electrical distribution equipment including switchboard, distribution panels, panelboards, starters, disconnect switches, etc., including associated conduit and wiring.
10. Provide surface-mounted strip fluorescent lighting in Storage Rooms, Linen Closet, Mezzanine, Work Shop, and Laundry Room.
11. Provide separate circuits for electrical cord-reel drops in Apparatus Bays.
12. Provide a combination of under-cabinet and wall-mounted fluorescent lighting and recessed incandescent lighting in Dorms.
13. Provide recessed incandescent accent lighting on dimmers in Day Room, Kitchen, and Dining in addition to general fluorescent lighting.
14. Provide recessed incandescent wet location lighting in Showers.
15. Replace existing normal receptacles with ground fault type in Apparatus Bay, Kitchen, Toilets, and Locker room.

G. Special Systems

1. Provide power for mechanical equipment.
2. Provide P.A. systems horn-type speakers for Apparatus Bays.
3. Existing natural gas emergency generators which will provide power for selected items in building shall remain. They will be replaced with a new larger generator if intent is to feed the entire building. Additional automatic transfer switches to be provided to comply with NEC code.
4. Fire alarm system for building is not required. Smoke detectors will be provided in living quarters.
5. Provide buzzer/chime system for office entrance.
6. Provide conduit and back boxes for cable TV systems, wiring and equipment by Owner.
7. Existing radio antenna, associated grounding, and power for related radio equipment to remain.
8. Provide lightning protection systems for building.
9. Provide P.A. system round ceiling speakers and volume controls for entire building (linked into telephone system).
10. Provide occupancy sensors to control lighting.

C H M P, I N C.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439

TELEPHONE (810) 695-5910
FACSIMILE (810) 695-0680

July 18, 2014

ROCHESTER HILLS FIRE STATIONS #14002200

ROCHESTER HILLS, MICHIGAN

PRELIMINARY STATEMENT OF PROBABLE CONSTRUCTION COSTS – RENOVATION (STATION 5)

Site: 1.65 Ac.

Building Area: Existing 4,630 s.f.
Mezzanine 1,060 s.f.
Total: 5,690 s.f.

I. ARCHITECTURAL

A.	Concrete/Footings, Flatwork & Masonry	$ 56,000.00
B.	Structural Steel/Misc. Steel/Floor Truss	$ 45,000.00
C.	Rough Carpentry/Drywall	$ 26,500.00
D.	Doors/Windows	$ 21,000.00
E.	Overhead Doors	$ 26,600.00
F.	Cabinetry	$ 20,000.00
G.	Epoxy Floor Treatment	$ 22,496.00
H.	Miscellaneous Floor Treatment (Carpet/Tile)	$ 14,500.00
I.	Selective Demolition/Walls	$ 39,500.00
	Sub-Total:	$ 271,596.00

II. MECHANICAL

A.	Plumbing	$ 70,000.00
B.	HVAC	$ 54,740.00
C.	Fire Protection – Rework	$ 20,000.00
D.	Mechanical Demolition	$ 14,500.00
E.	Vehicle Exhaust	$ 60,000.00
F.	Miscellaneous Upgrades	$ 32,100.00
	Sub-Total:	$ 210,140.00

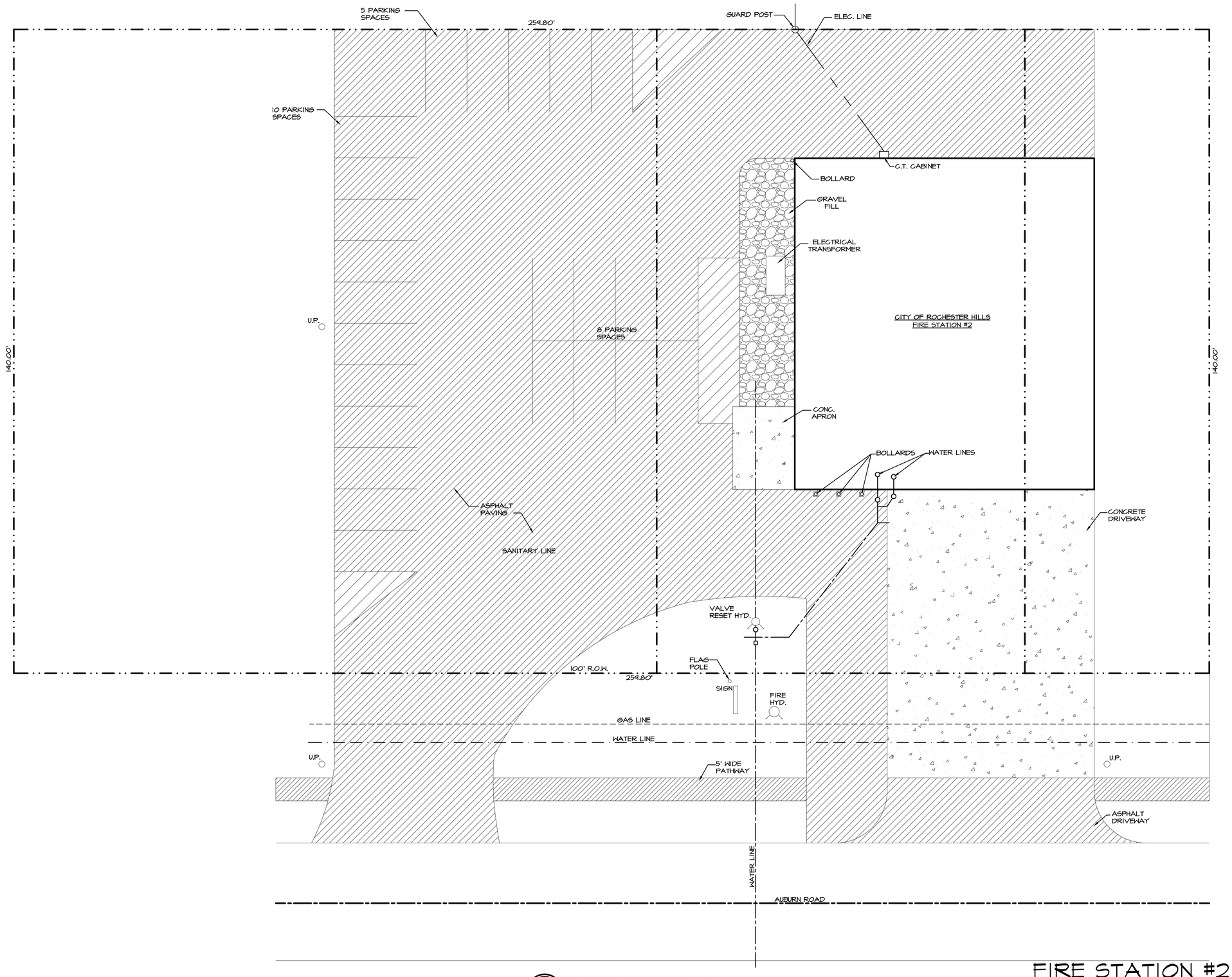
III. ELECTRICAL

A.	Electric – Power/Lighting	$ 91,200.00
B.	Electrical Demolition	$ 8,500.00
C.	PA System	$ 4,000.00
D.	Telephone System – Conduit/Wiring	$ 5,000.00
E.	Cable TV	$ 2,000.00
F.	Fiber Optic System – Conduit/Wiring	$ 4,000.00
G.	Lightning Protection System	$ 8,000.00
	Sub-Total:	$ 122,700.00

Sub-Total All Construction (Station 5):	**$ 604,436.00**
IV. Overhead & Profit, Bonds (8%)	$ 48,355.00
Total Construction Costs:	$ 652,791.00
V. Contingency (5%)	$ 32,640.00
Sub-Total	$ 685,431.00
VII. Architectural/Engineering Fees (7.5%)	$ 51,407.00
VIII. Equipment, Furnishings:	$ 50,000.00
IX Temporary Trailer Allowance (8 months)	$ 80,000.00
Total Estimated Project Costs:	**$ 866,838.00**

Section 6

Preliminary Drawings



N

EXISTING SITE PLAN

SCALE 1" = 10'-0" 36572 SQUARE FEET

FIRE STATION #2
EXISTING SITE PLAN

CHMP INC.
5108 TERRITORIAL ROAD
GRAND BLANC, MI 48439
TELEPHONE 810/695-5910

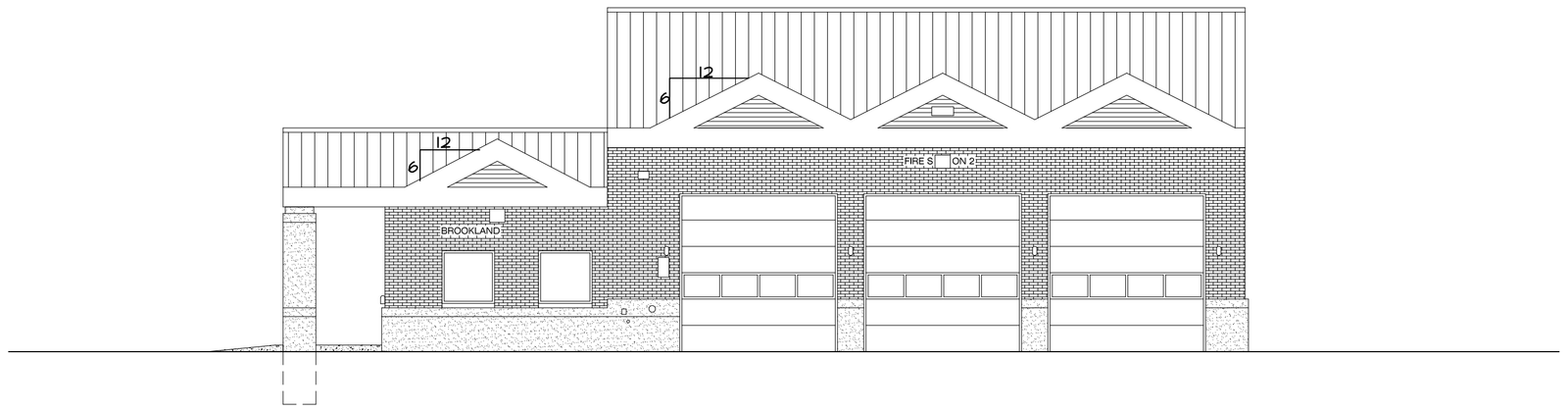
ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
SURVEYING

MASTER PLAN FOR:
CITY OF ROCHESTER HILLS
FIRE STATIONS #2- #5
ROCHESTER HILLS, MICHIGAN 48309

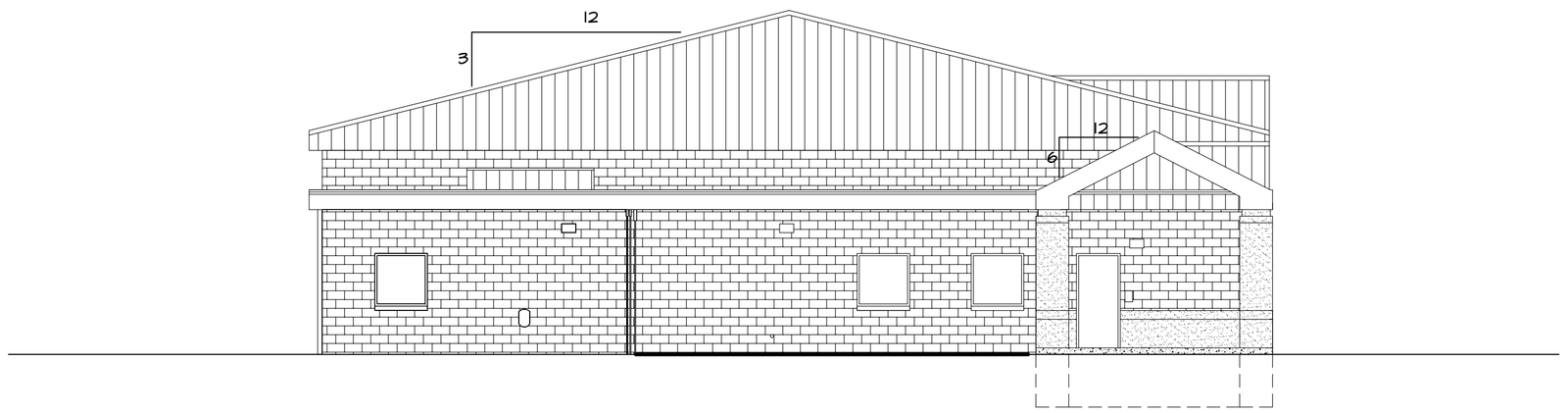
PROJECT NO.	14002200
DATE	MAY 8, 2014
AS BUILT DATE	.
DRAWN BY	XX
CHECKED BY	GNM
SCALE	AS NOTED
ISSUED FOR:	DATE
X	XXX. XX, 2014

SHEET NO.

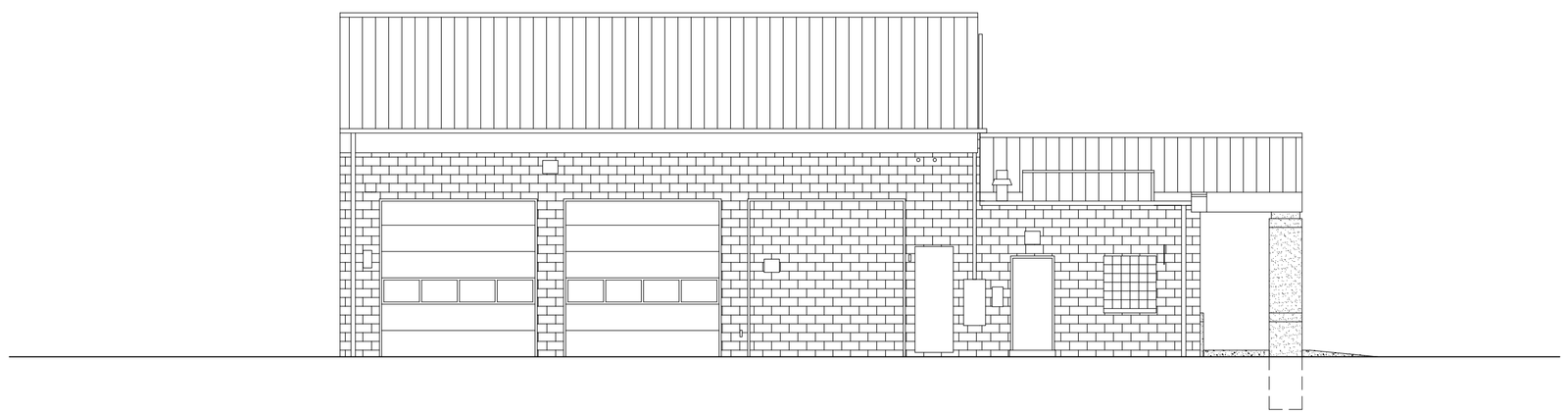
OF



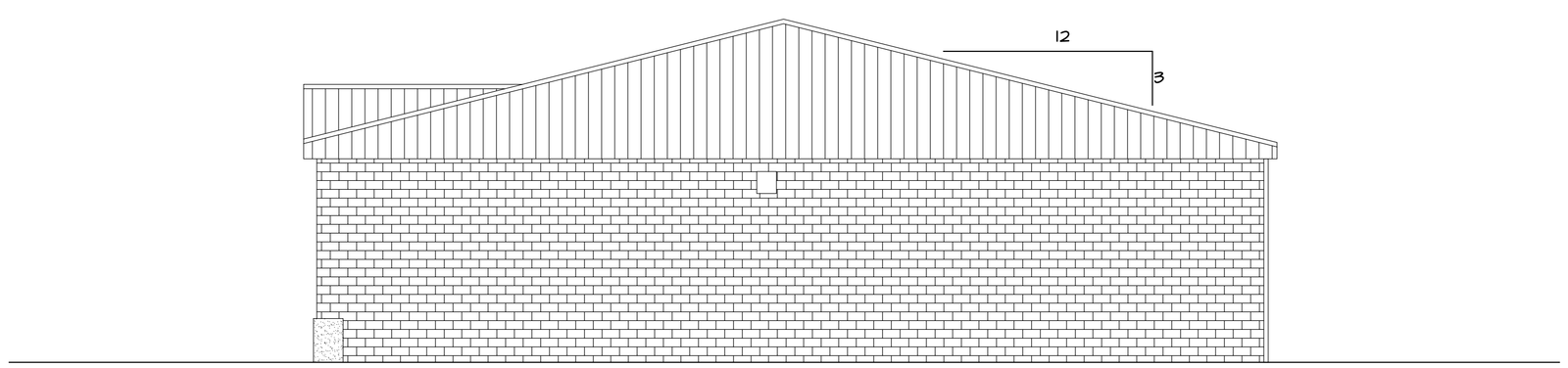
EXISTING SOUTH ELEVATION
SCALE 1/8" = 1'-0"



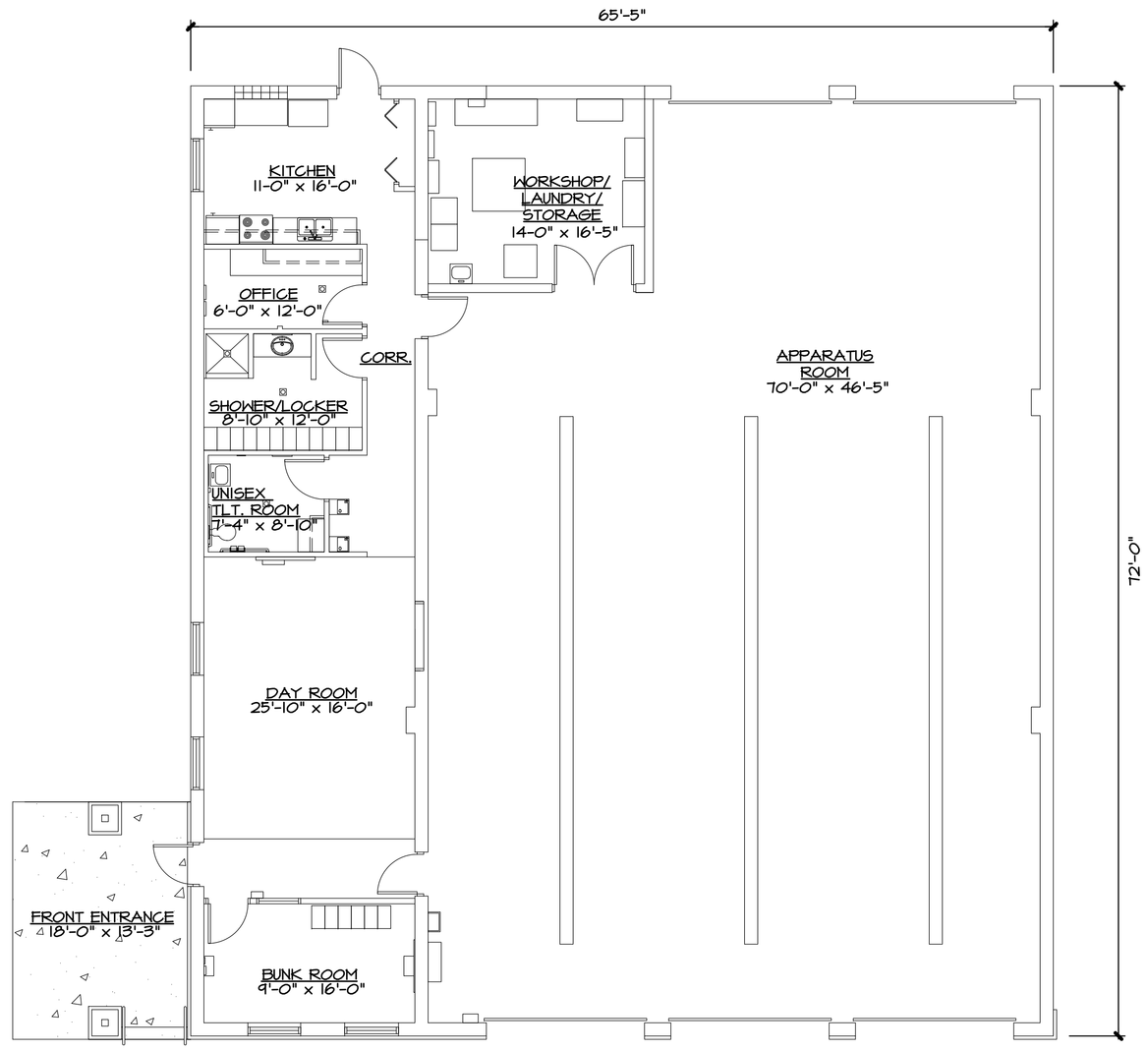
EXISTING WEST ELEVATION
SCALE 1/8" = 1'-0"



EXISTING NORTH ELEVATION
SCALE 1/8" = 1'-0"



EXISTING EAST ELEVATION
SCALE 1/8" = 1'-0"



EXISTING FLOOR PLAN
SCALE 1/8" = 1'-0" 4440 SQUARE FEET

FIRE STATION #2 EXISTING FLOOR PLAN AND ELEVATIONS

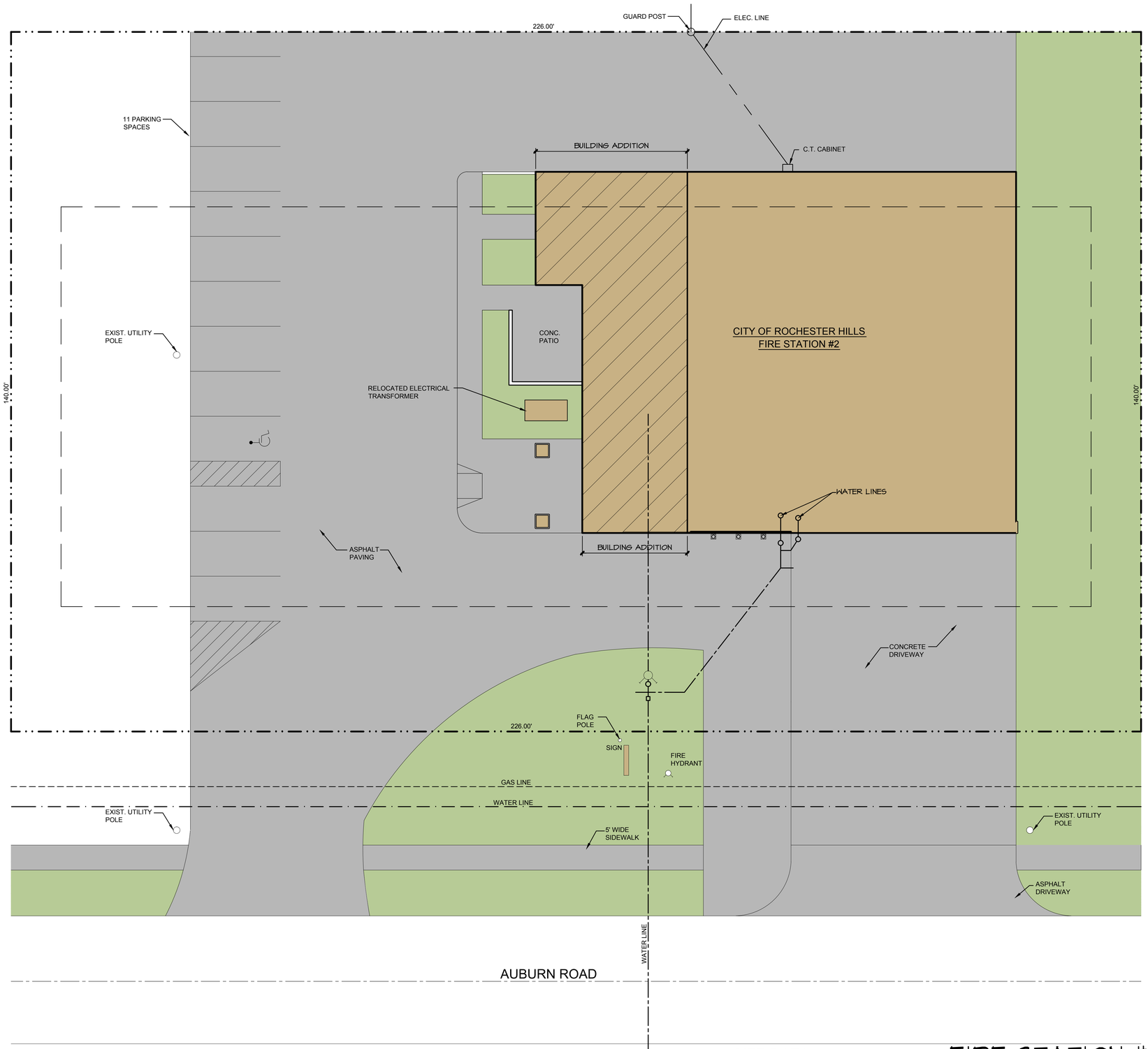
CHMP INC.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439
TELEPHONE 810/695-5910

ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
SURVEYING

MASTER PLAN FOR:
CITY OF ROCHESTER HILLS
FIRE STATIONS #2- #5
ROCHESTER HILLS, MICHIGAN 48309

PROJECT NO.	14002200
DATE	MAY 8, 2014
AS BUILT DATE	-
DRAWN BY	XX
CHECKED BY	GNM
SCALE	AS NOTED
ISSUED FOR:	DATE
X	XXX, XX, 2014

SHEET NO.
EX-2
OF X



SITE PLAN

SCALE 1" = 10'-0" 36372 SQUARE FEET

SITE DATA

EXISTING BUILDING.....4,440 SQ. FT.
PROPOSED ADDITION.....1,741 SQ. FT.
TOTAL.....6,181 SQ. FT.

FIRE STATION #2 PROPOSED SITE PLAN

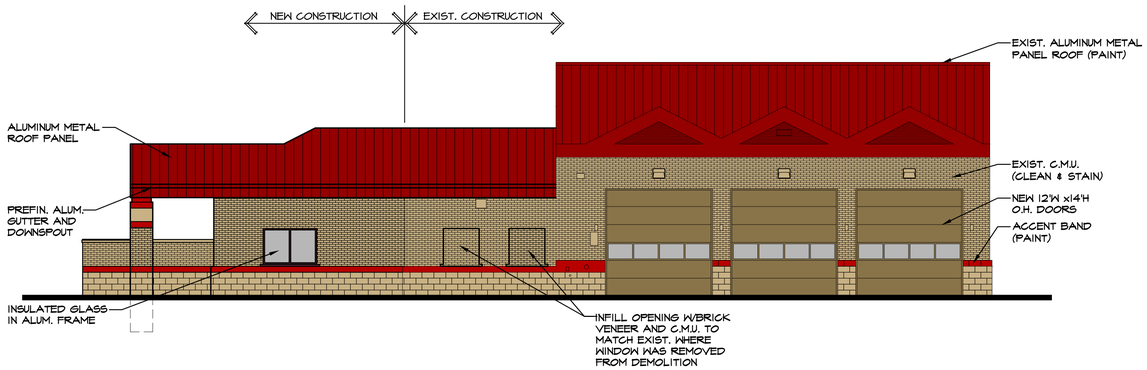
CHMP INC.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439
TELEPHONE 810/695-5910

ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
SURVEYING

MASTER PLAN FOR:
CITY OF ROCHESTER HILLS
FIRE STATIONS #2- #5
ROCHESTER HILLS, MICHIGAN 48309

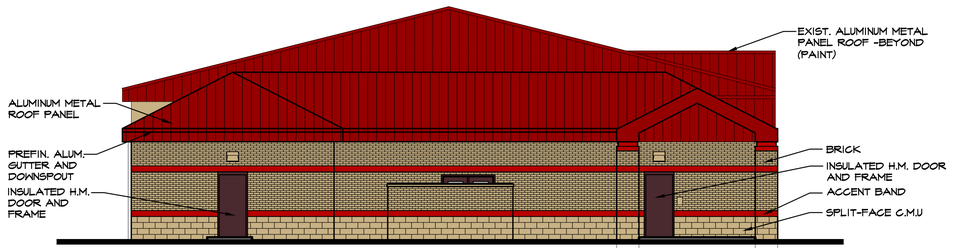
PROJECT NO.	14002200
DATE	MAY 8, 2014
AS BUILT DATE	.
DRAWN BY	JTS
CHECKED BY	GNM
SCALE	AS NOTED
ISSUED FOR:	DATE
DESIGN REPORT	JULY 18, 2014

SHEET NO.
P-1
OF



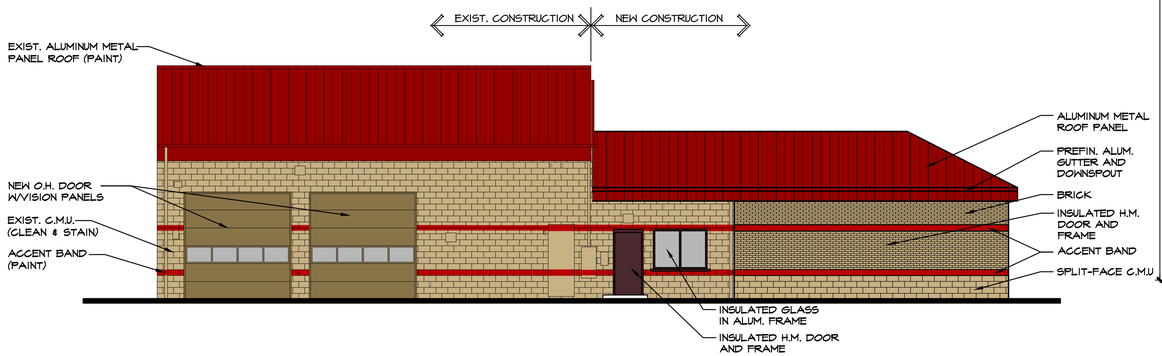
PROPOSED SOUTH ELEVATION

SCALE 1/8" = 1'-0"



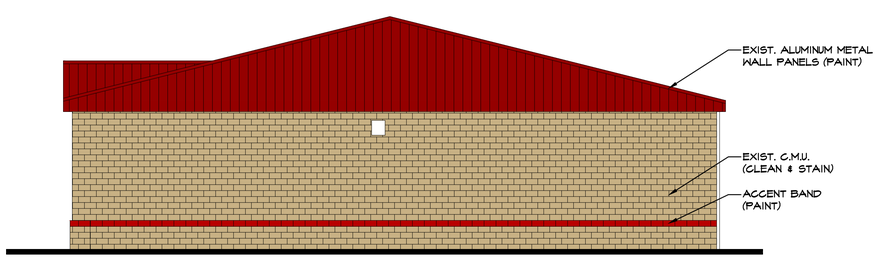
PROPOSED WEST ELEVATION

SCALE 1/8" = 1'-0"



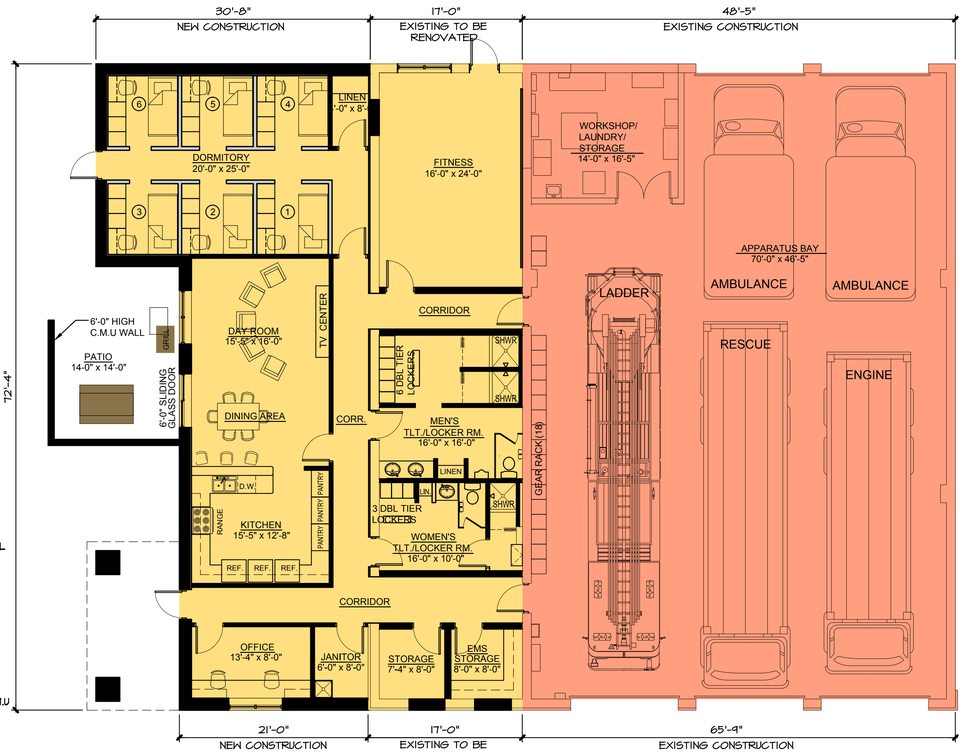
PROPOSED NORTH ELEVATION

SCALE 1/8" = 1'-0"



PROPOSED EAST ELEVATION

SCALE 1/8" = 1'-0"



PROPOSED FLOOR PLAN

SCALE 1/8" = 1'-0"

BUILDING DATA

EXISTING BUILDING.....4,440 SQ. FT.
PROPOSED ADDITION.....1,741 SQ. FT.
TOTAL.....6,181 SQ. FT.

APPARTUS BAY AREA

LIVING QUARTERS AREA

FIRE STATION #2 PROPOSED FLOOR PLAN AND ELEVATIONS

CHMP INC.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439
TELEPHONE 810/695-5910

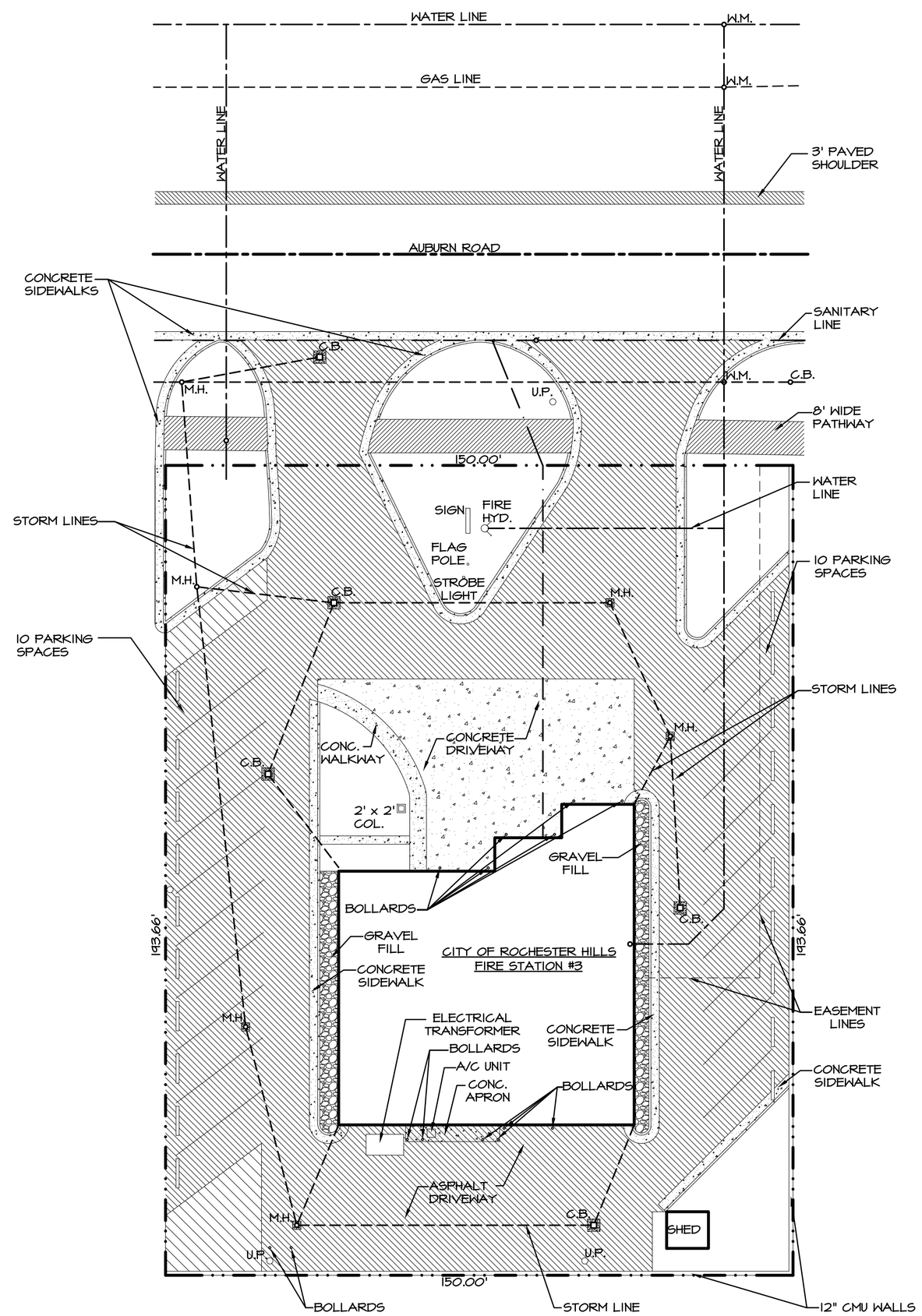
ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
SURVEYING

MASTER PLAN FOR:
CITY OF ROCHESTER HILLS
FIRE STATIONS #2- #5
ROCHESTER HILLS, MICHIGAN 48309

PROJECT NO.	14002200
DATE	MAY 8, 2014
AS BUILT DATE	.
DRAWN BY	JTS
CHECKED BY	GNM
SCALE	AS NOTED
ISSUED FOR: DESIGN REPORT	DATE JULY 18, 2014

SHEET NO. P-2

OF



EXISTING SITE PLAN

SCALE 1" = 20'-0" 29061 SQUARE FEET

FIRE STATION #3
EXISTING SITE PLAN

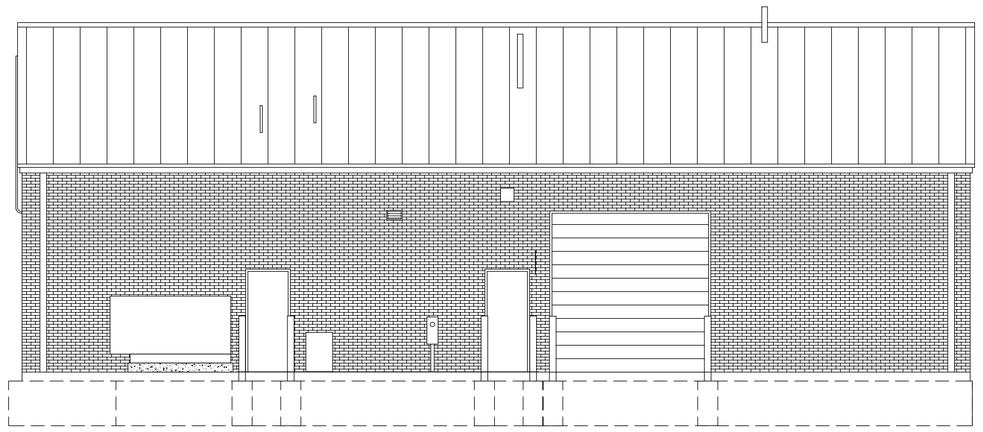
CHMP INC.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439
TELEPHONE 810/695-5910

ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
SURVEYING

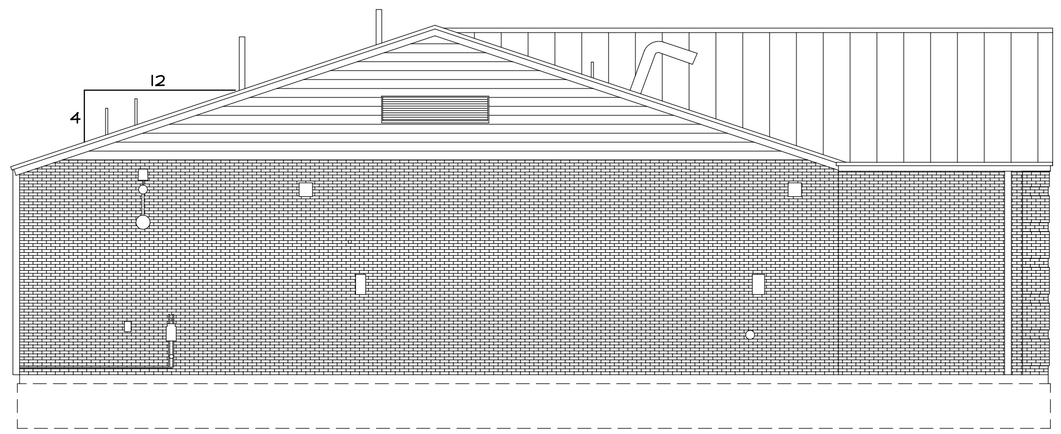
MASTER PLAN FOR:
CITY OF ROCHESTER HILLS
FIRE STATIONS #2- #5
ROCHESTER HILLS, MICHIGAN 48309

PROJECT NO.	14002200
DATE	MAY 8, 2014
AS BUILT DATE	-
DRAWN BY	XX
CHECKED BY	GNM
SCALE	AS NOTED
ISSUED FOR:	DATE
X	XXX. XX, 2014

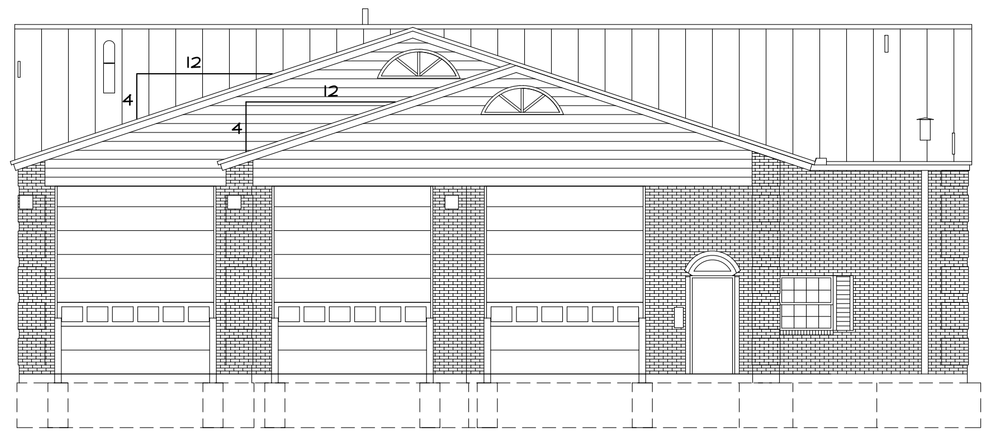
SHEET NO.
EX-1
OF X



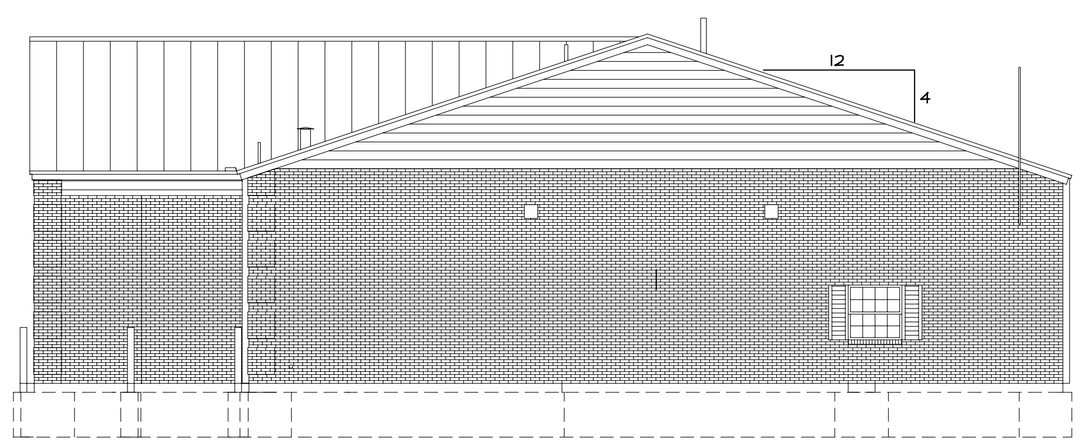
EXISTING SOUTH ELEVATION
SCALE 1/8" = 1'-0"



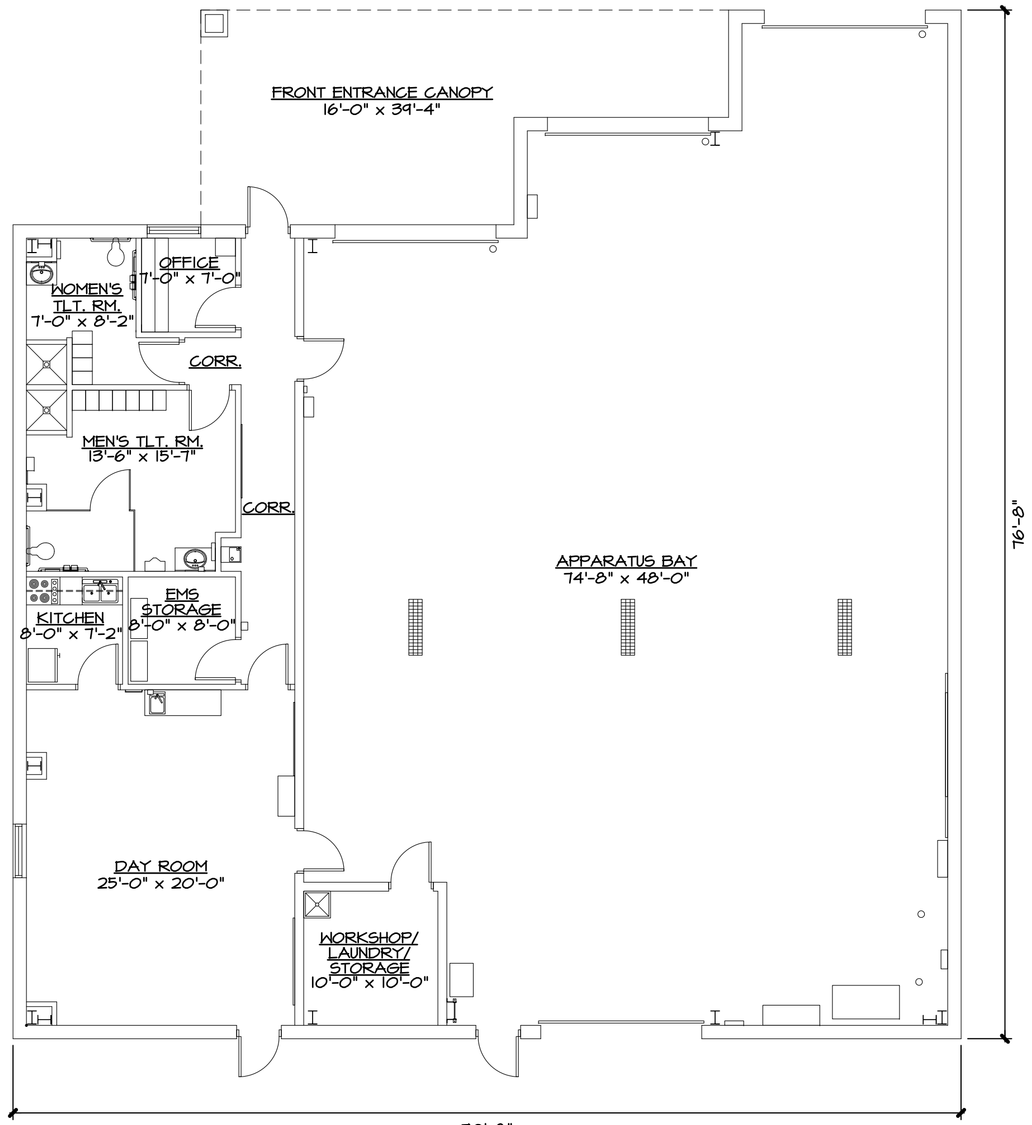
EXISTING EAST ELEVATION
SCALE 1/8" = 1'-0"



EXISTING NORTH ELEVATION
SCALE 1/8" = 1'-0"



EXISTING WEST ELEVATION
SCALE 1/8" = 1'-0"



EXISTING FLOOR PLAN
SCALE 1/8" = 1'-0" 4402 SQUARE FEET

FIRE STATION #3
EXISTING FLOOR PLAN AND ELEVATIONS

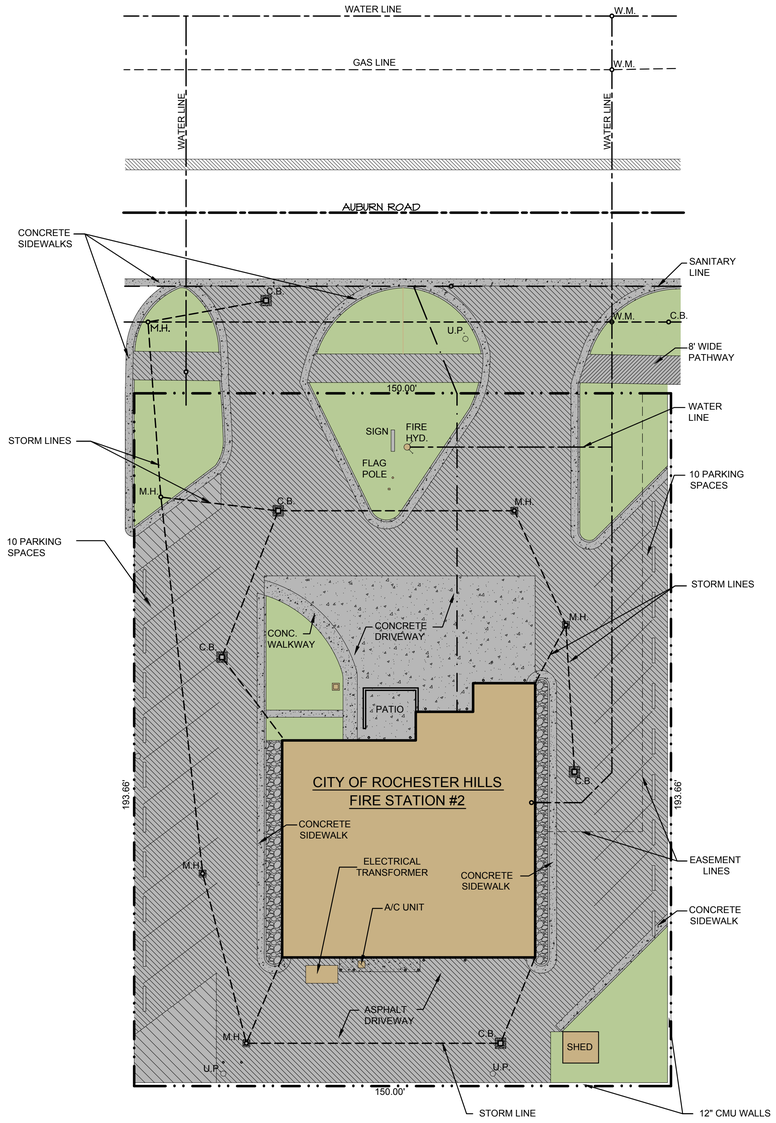
CHMP INC.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439
TELEPHONE 810/695-5910

ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
SURVEYING

MASTER PLAN FOR:
CITY OF ROCHESTER HILLS
FIRE STATIONS #2- #5
ROCHESTER HILLS, MICHIGAN 48309

PROJECT NO.	14002200
DATE	MAY 8, 2014
AS BUILT DATE	-
DRAWN BY	XX
CHECKED BY	GNM
SCALE	AS NOTED
ISSUED FOR:	DATE
X	XXX. XX, 2014

SHEET NO.
EX-2
OF X



PROPOSED SITE PLAN

SCALE 1" = 20'-0"

SITE DATA

EXISTING BUILDING.....4,402 SQ. FT.

FIRE STATION #3
PROPOSED SITE PLAN

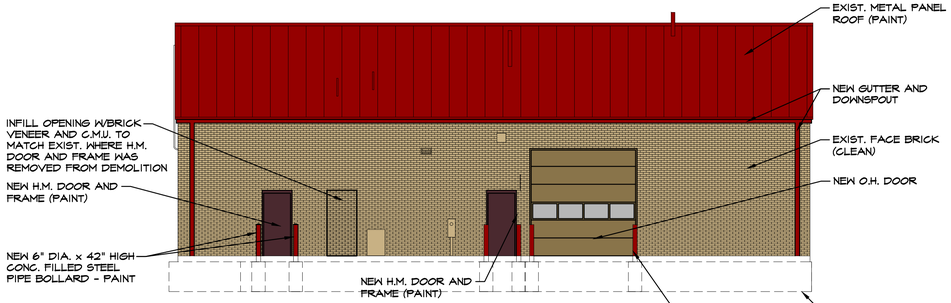
CHMP INC.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439
TELEPHONE 810/695-5910

ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
SURVEYING

MASTER PLAN FOR:
CITY OF ROCHESTER HILLS
FIRE STATIONS #2- #5
ROCHESTER HILLS, MICHIGAN 48309

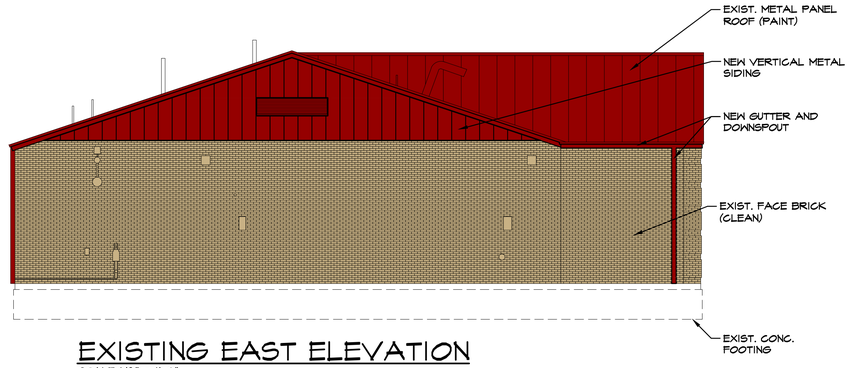
PROJECT NO.	14002200
DATE	MAY 8, 2014
AS BUILT DATE	.
DRAWN BY	JTS
CHECKED BY	GNM
SCALE	AS NOTED
ISSUED FOR:	DATE
DESIGN REPORT	JULY 18, 2014

SHEET NO.
P-1
OF



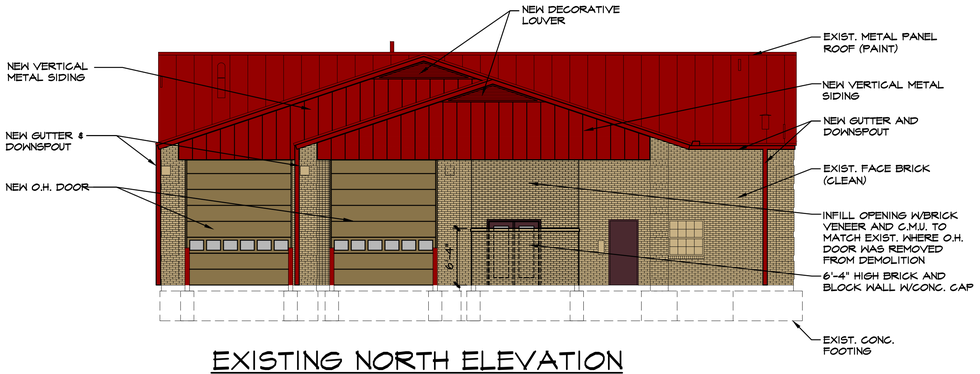
EXISTING SOUTH ELEVATION

SCALE 1/8" = 1'-0"



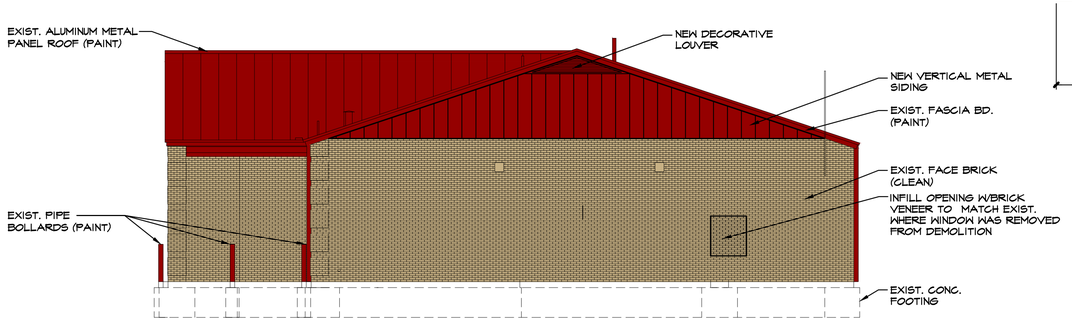
EXISTING EAST ELEVATION

SCALE 1/8" = 1'-0"



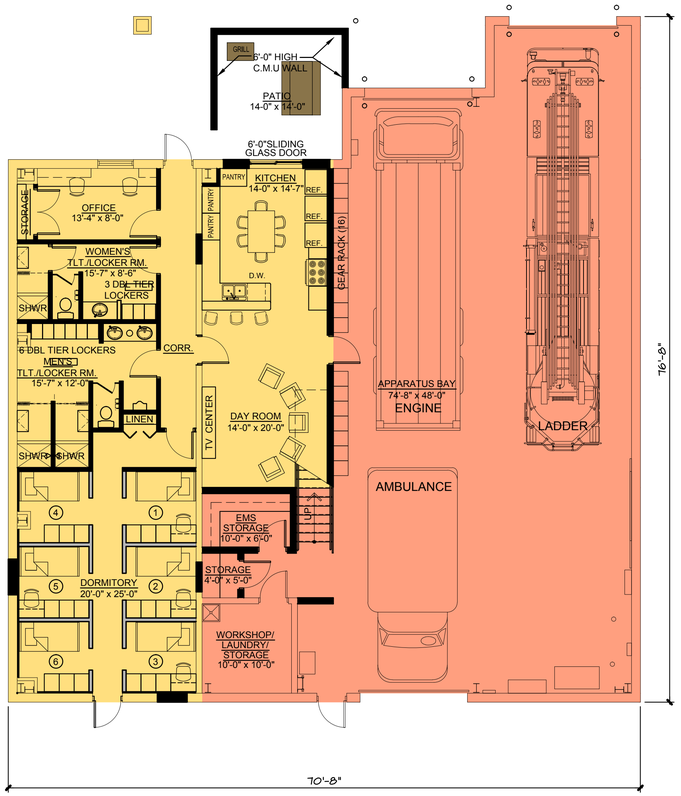
EXISTING NORTH ELEVATION

SCALE 1/8" = 1'-0"



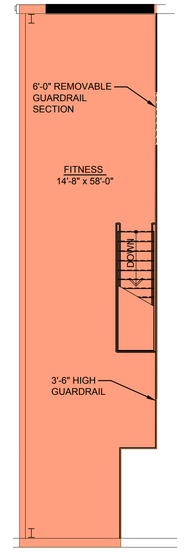
EXISTING WEST ELEVATION

SCALE 1/8" = 1'-0"



FIRST FLOOR PLAN

SCALE 1/8" = 1'-0"



MEZZANINE

SCALE 1/8" = 1'-0" 886 SQUARE FEET

BUILDING DATA

EXISTING BUILDING.....4,402 SQ. FT.
MEZZANINE.....886 SQ. FT.
TOTAL.....5,288 SQ. FT.

APPARTUS BAY AREA

LIVING QUARTERS AREA

FIRE STATION #3 PROPSED FLOOR PLAN AND ELEVATIONS

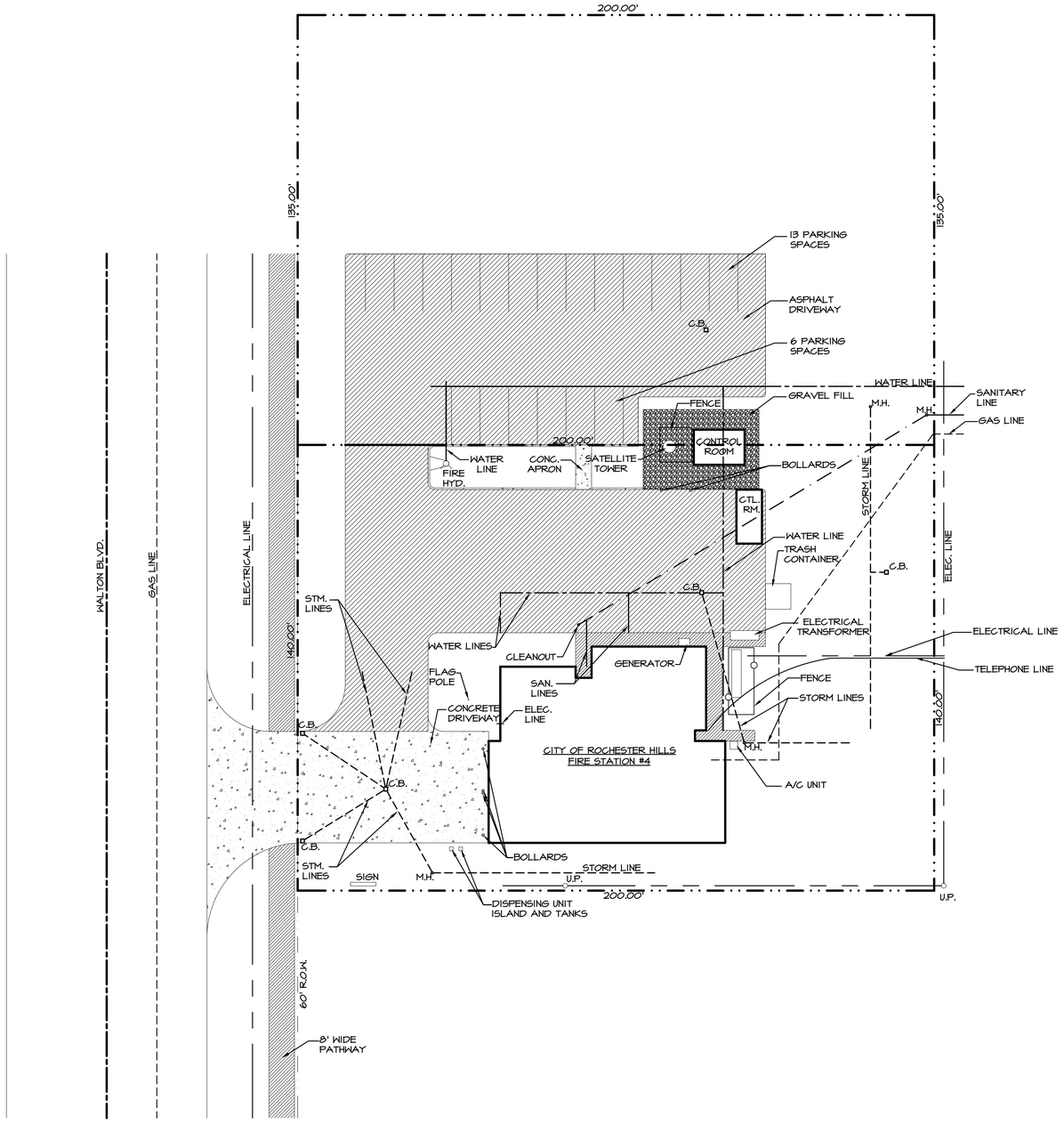
CHMP INC.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439
TELEPHONE 810/695-5910

ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
SURVEYING

MASTER PLAN FOR:
CITY OF ROCHESTER HILLS
FIRE STATIONS #2- #5
ROCHESTER HILLS, MICHIGAN 48309

PROJECT NO.	14002200
DATE	MAY 8, 2014
AS BUILT DATE	.
DRAWN BY	JTS
CHECKED BY	GNM
SCALE	AS NOTED
ISSUED FOR:	DATE
DESIGN REPORT	JULY 18, 2014

SHEET NO.
P-2
OF



EXISTING SITE PLAN

SCALE 1" = 20'-0" 54994 SQUARE FEET

FIRE STATION #4
EXISTING SITE PLAN

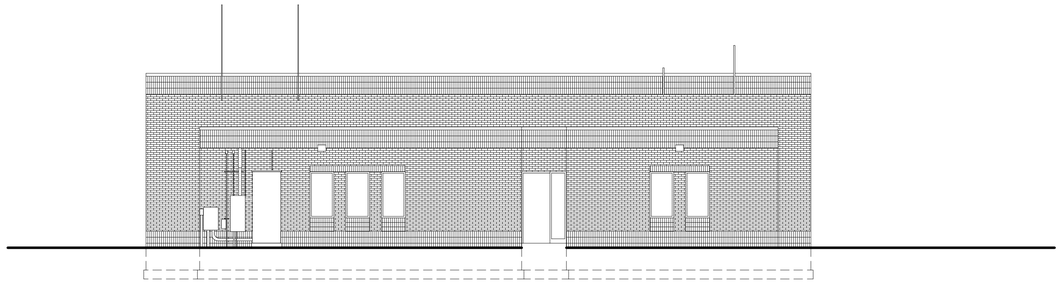
CHMP INC.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439
TELEPHONE 810/695-5910

ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
SURVEYING

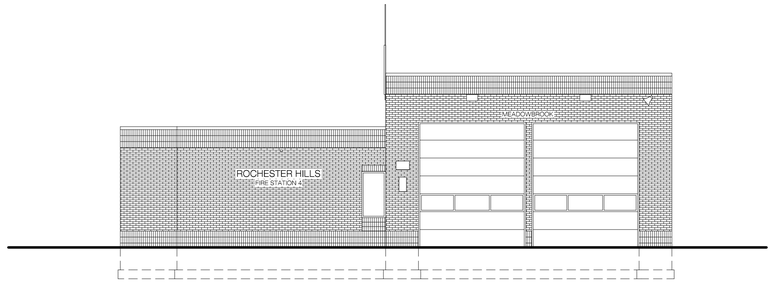
MASTER PLAN FOR:
CITY OF ROCHESTER HILLS
FIRE STATIONS #2- #5
ROCHESTER HILLS, MICHIGAN 48309

PROJECT NO.	14002200
DATE	MAY 8, 2014
AS BUILT DATE	-
DRAWN BY	XX
CHECKED BY	GNM
SCALE	AS NOTED
ISSUED FOR:	DATE
X	XXX. XX, 2014

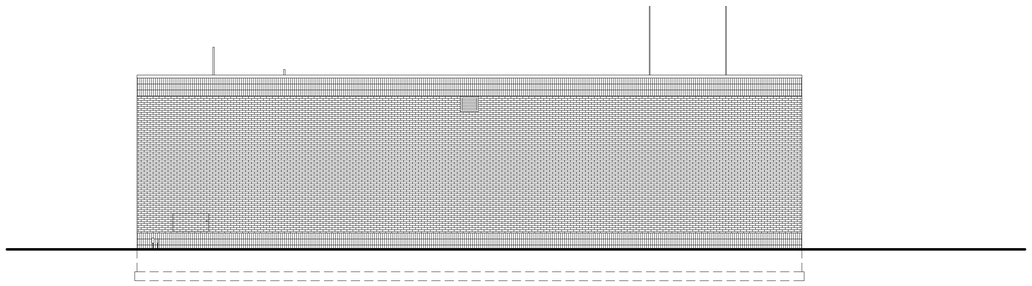
SHEET NO.
EX-1
OF X



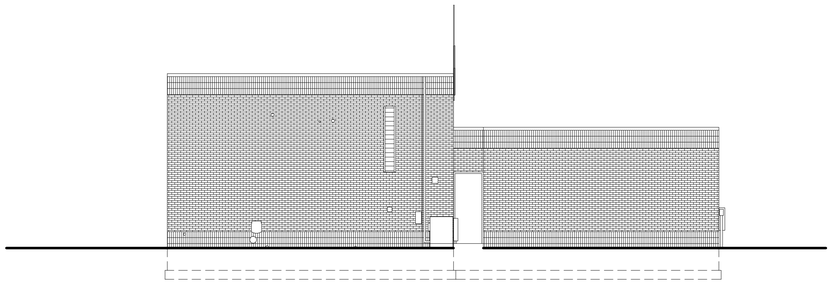
EXISTING EAST ELEVATION
SCALE 1/8" = 1'-0"



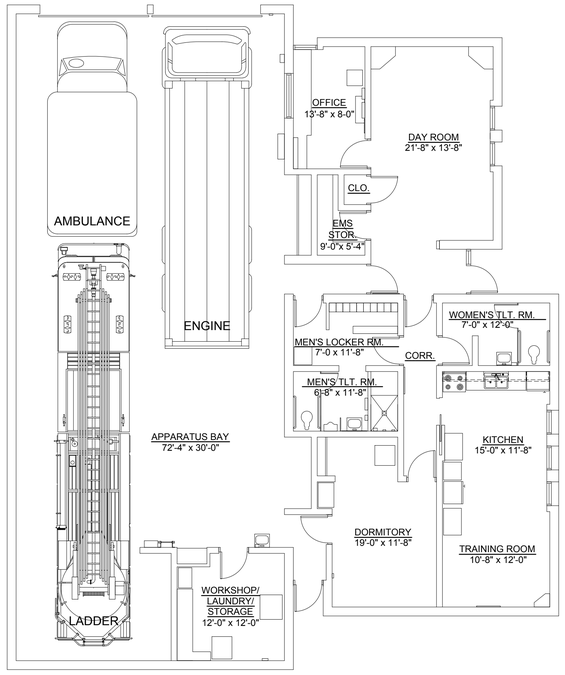
EXISTING NORTH ELEVATION
SCALE 1/8" = 1'-0"



EXISTING WEST ELEVATION
SCALE 1/8" = 1'-0"



EXISTING SOUTH ELEVATION
SCALE 1/8" = 1'-0"



EXISTING FLOOR PLAN
SCALE 1/8" = 1'-0" 3806 SQUARE FEET

FIRE STATION #4
EXISTING FLOOR PLAN AND ELEVATIONS

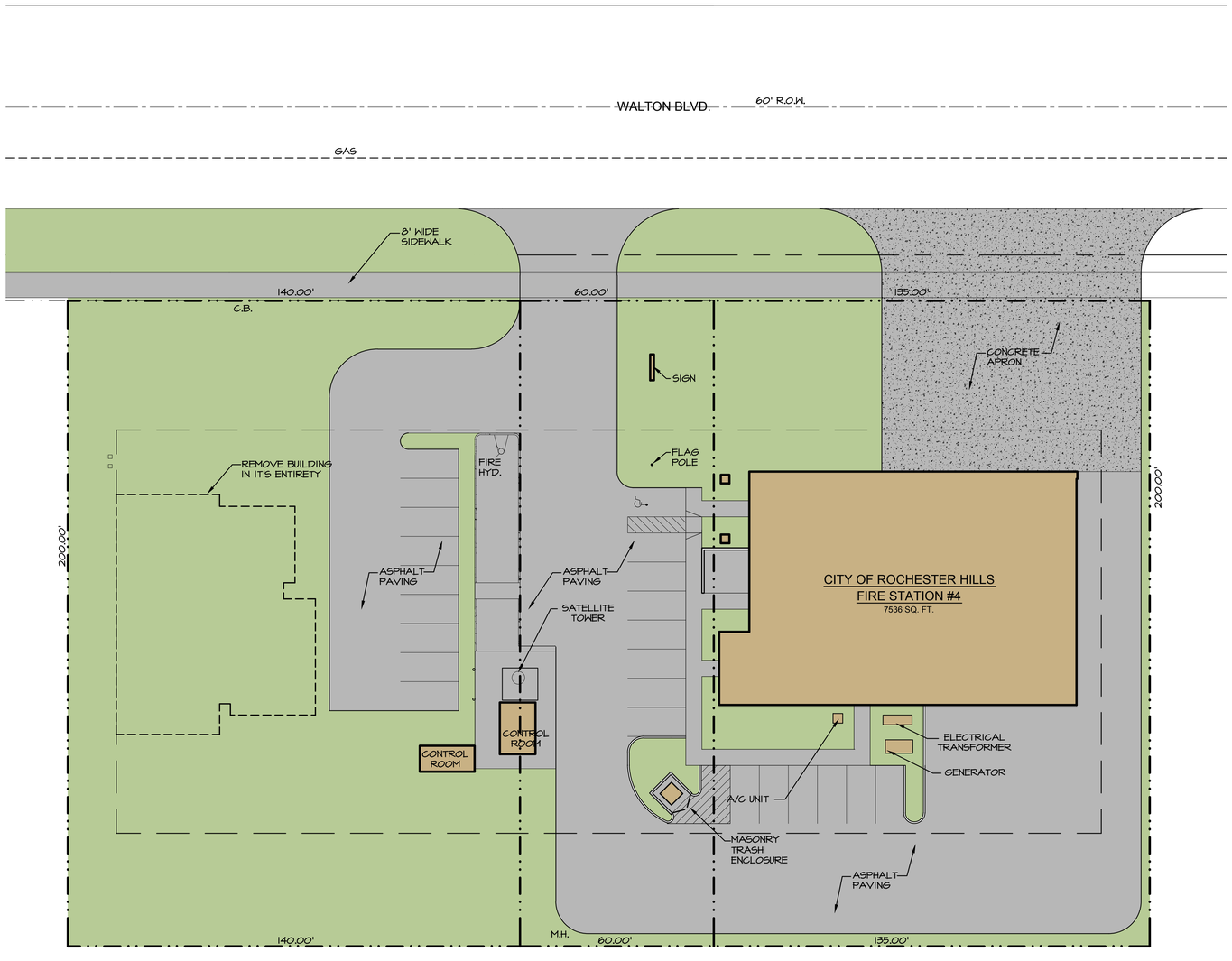
CHMP INC.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439
TELEPHONE 810/695-5910

ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
SURVEYING

MASTER PLAN FOR:
CITY OF ROCHESTER HILLS
FIRE STATIONS #2- #5
ROCHESTER HILLS, MICHIGAN 48309

PROJECT NO.	14002200
DATE	MAY 8, 2014
AS BUILT DATE	.
DRAWN BY	JTS
CHECKED BY	GNM
SCALE	AS NOTED
ISSUED FOR:	DATE
DESIGN REPORT	JULY 18, 2014

SHEET NO.
EX-2
OF



PROPOSED SITE PLAN

SCALE 1" = 20'-0" 54994 SQUARE FEET

FIRE STATION #4
PROPOSED SITE PLAN

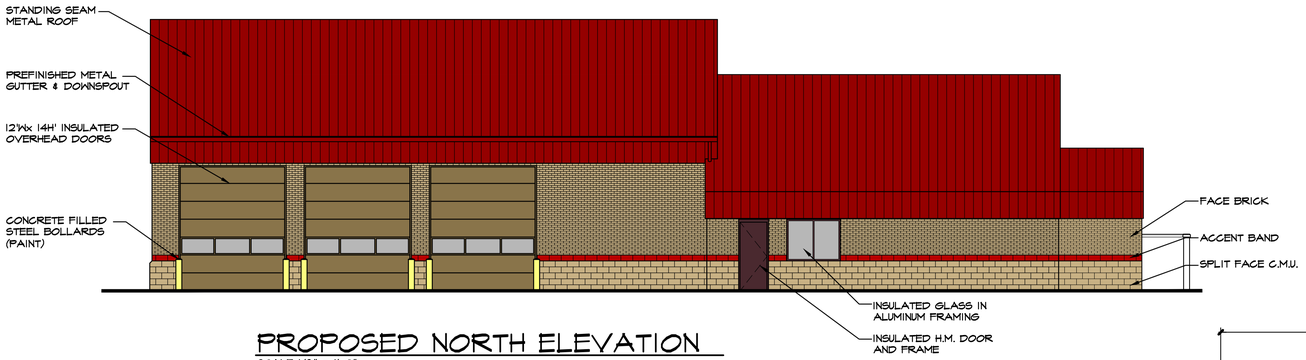
CHMP INC.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439
TELEPHONE 810/695-5910

ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
SURVEYING

MASTER PLAN FOR:
CITY OF ROCHESTER HILLS
FIRE STATIONS #2- #5
ROCHESTER HILLS, MICHIGAN 48309

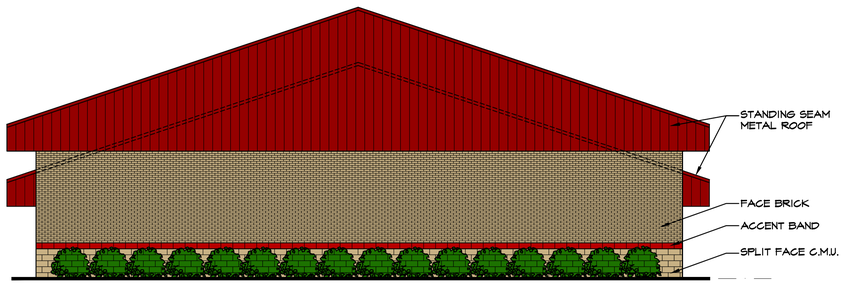
PROJECT NO.	14002200
DATE	MAY 8, 2014
AS BUILT DATE	.
DRAWN BY	JTS
CHECKED BY	GNM
SCALE	AS NOTED
ISSUED FOR: DESIGN REPORT	DATE JULY 18, 2014

SHEET NO.
P-1
OF



PROPOSED NORTH ELEVATION

SCALE 1/8" = 1'-0"



PROPOSED EAST ELEVATION

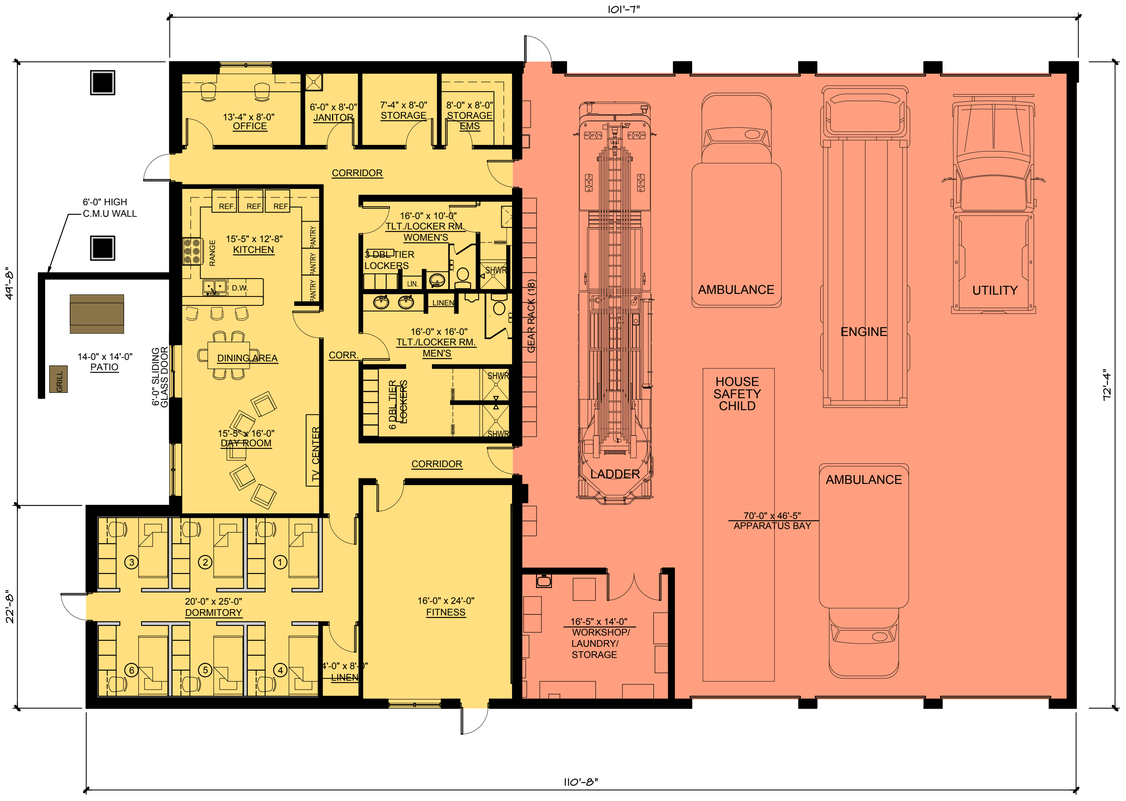
SCALE 1/8" = 1'-0"

PROPOSED WEST ELEVATION

SCALE 1/8" = 1'-0"

PROPOSED SOUTH ELEVATION

SCALE 1/8" = 1'-0"



PROPOSED FLOOR PLAN

SCALE 1/8" = 1'-0"

BUILDING DATA

PROPOSED BUILDING.....7,521 SQ. FT.

APPARTUS BAY AREA

LIVING QUARTERS AREA

FIRE STATION #4 PROPOSED FLOOR PLAN AND ELEVATIONS

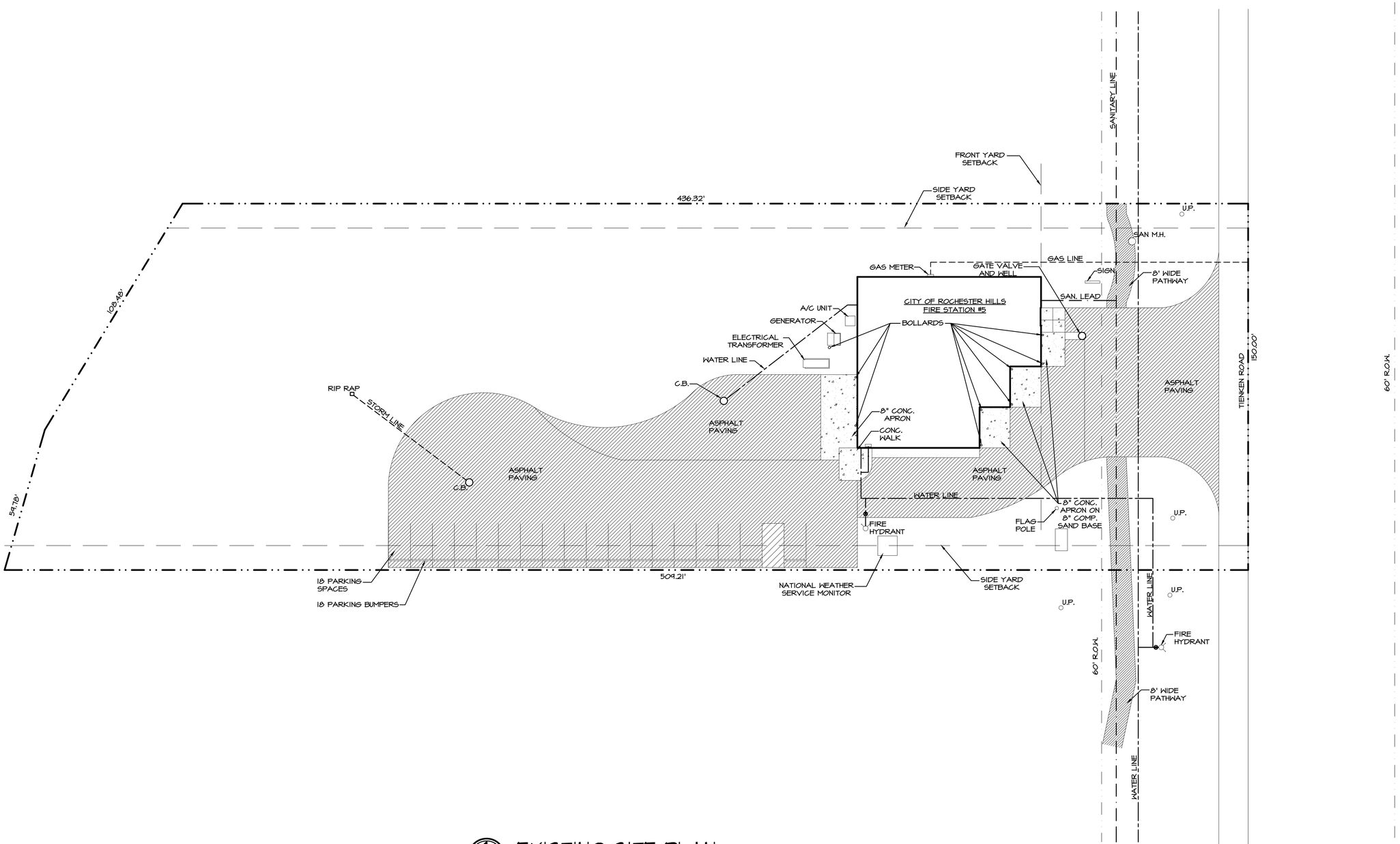
CHMP INC.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439
TELEPHONE 810/695-5910

ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
SURVEYING

MASTER PLAN FOR:
CITY OF ROCHESTER HILLS
FIRE STATIONS #2- #5
ROCHESTER HILLS, MICHIGAN 48309

PROJECT NO.	14002200
DATE	MAY 8, 2014
AS BUILT DATE	-
DRAWN BY	JTS
CHECKED BY	GNM
SCALE	AS NOTED
ISSUED FOR:	DATE
DESIGN REPORT	JULY 18, 2014

SHEET NO.
P-2
OF



N

EXISTING SITE PLAN

SCALE 1" = 20'-0" 71770 SQUARE FEET

FIRE STATION #5
EXISTING SITE PLAN

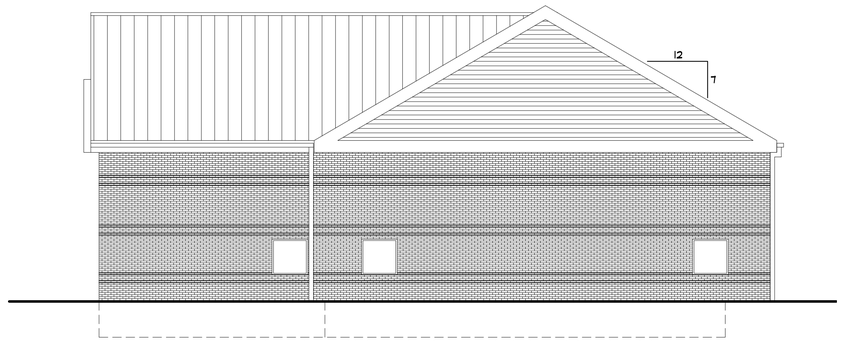
CHMP INC.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439
TELEPHONE 810/695-5910

ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
SURVEYING

MASTER PLAN FOR:
CITY OF ROCHESTER HILLS
FIRE STATIONS #2- #5
ROCHESTER HILLS, MICHIGAN 48309

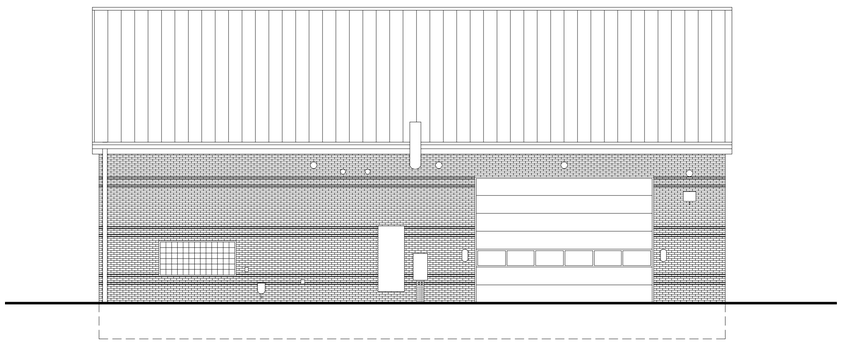
PROJECT NO.	14002200
DATE	MAY 8, 2014
AS BUILT DATE	-
DRAWN BY	XX
CHECKED BY	GNM
SCALE	AS NOTED
ISSUED FOR:	DATE
X	XXX. XX, 2014

SHEET NO.
EX-1
OF X



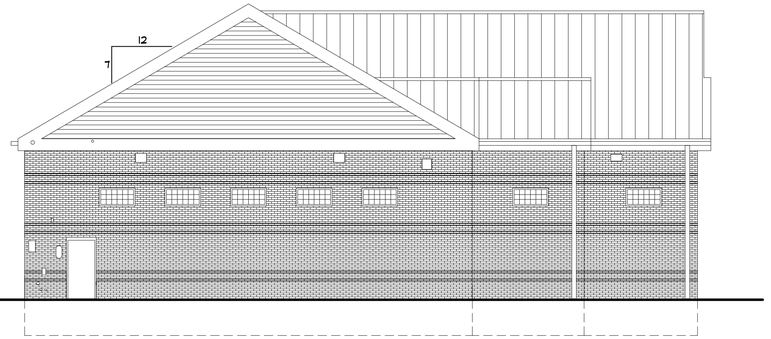
EXISTING EAST ELEVATION

SCALE 1/8" = 1'-0"



EXISTING NORTH ELEVATION

SCALE 1/8" = 1'-0"

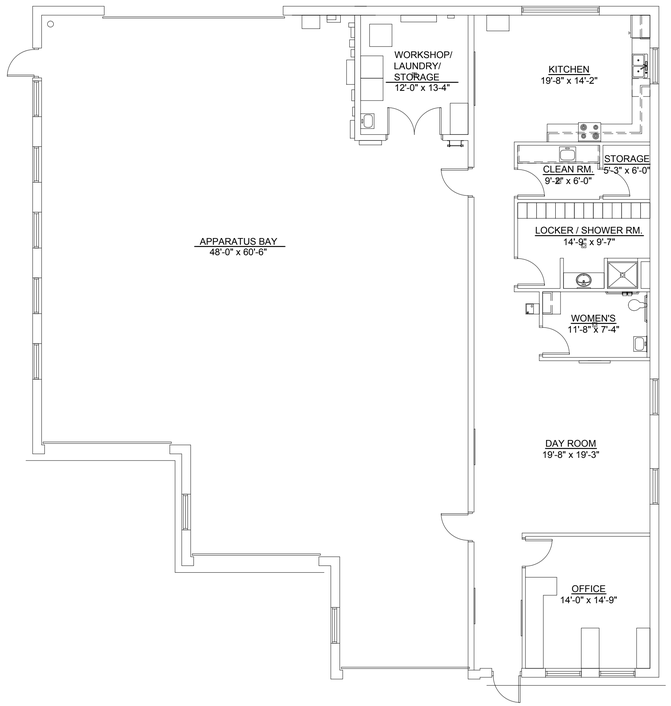


EXISTING WEST ELEVATION

SCALE 1/8" = 1'-0"

EXISTING SOUTH ELEVATION

SCALE 1/8" = 1'-0"



EXISTING FLOOR PLAN

SCALE 1/8" = 1'-0" 4344 SQUARE FEET

FIRE STATION #5
EXISTING FLOOR PLAN AND ELEVATIONS

CHMP INC.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439
TELEPHONE 810/695-5910

ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
SURVEYING

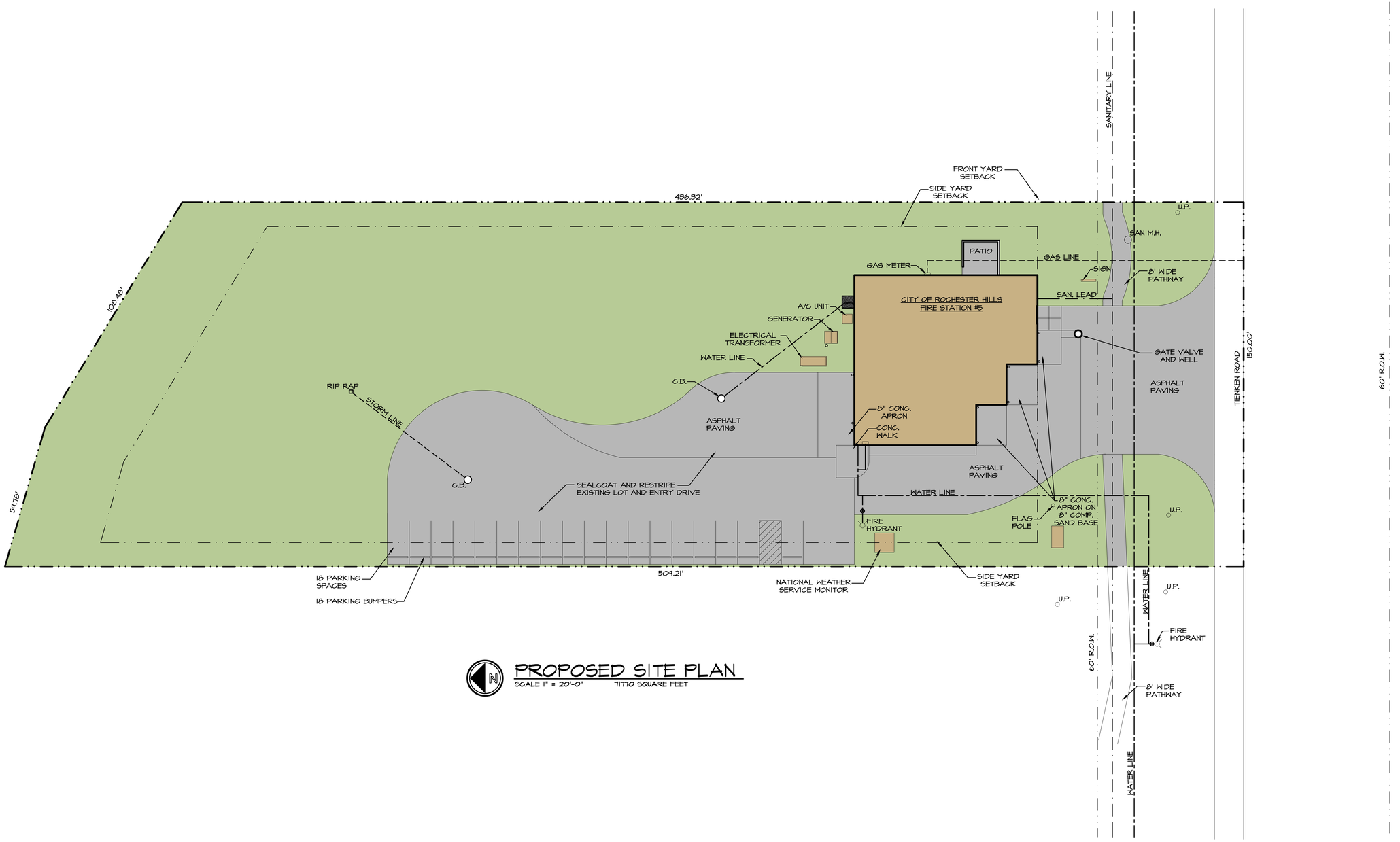
MASTER PLAN FOR:
CITY OF ROCHESTER HILLS
FIRE STATIONS #2- #5
ROCHESTER HILLS, MICHIGAN 48309

PROJECT NO.	14002200
DATE	MAY 8, 2014
AS BUILT DATE	.
DRAWN BY	JTS
CHECKED BY	GNM
SCALE	AS NOTED
ISSUED FOR: DESIGN REPORT	DATE JULY 18, 2014

SHEET NO.
EX-2
OF

CHMP INC.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439
TELEPHONE 810/695-5910

ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
SURVEYING



PROPOSED SITE PLAN

SCALE 1" = 20'-0" 71170 SQUARE FEET

SITE DATA

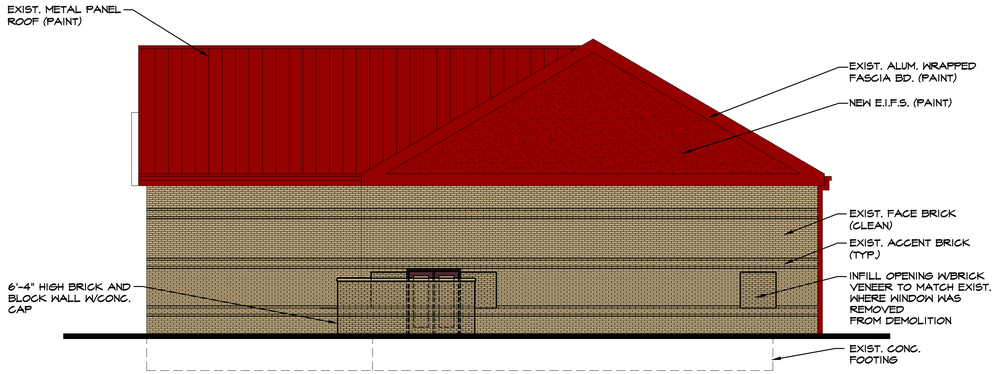
EXISTING BUILDING.....4,630 SQ. FT.

FIRE STATION #5
PRPOSED SITE PLAN

MASTER PLAN FOR:
CITY OF ROCHESTER HILLS
FIRE STATIONS #2- #5
ROCHESTER HILLS, MICHIGAN 48309

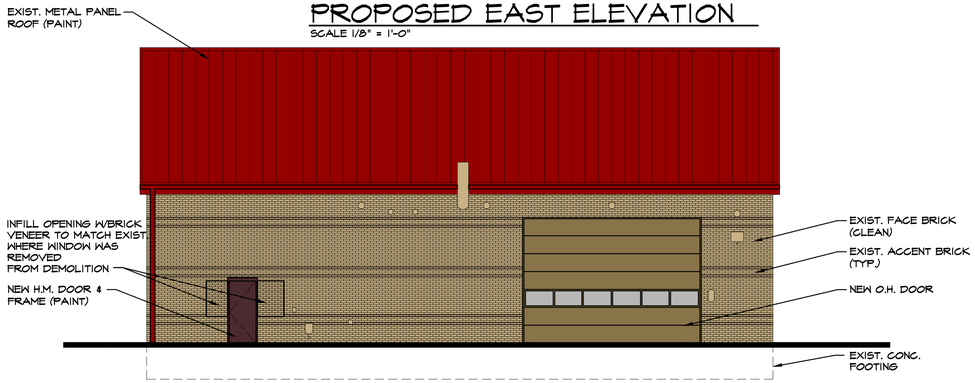
PROJECT NO.	14002200
DATE	MAY 8, 2014
AS BUILT DATE	.
DRAWN BY	JTS
CHECKED BY	GNM
SCALE	AS NOTED
ISSUED FOR:	DATE
DESIGN REPORT	JULY 18, 2014

SHEET NO.
P-1
OF



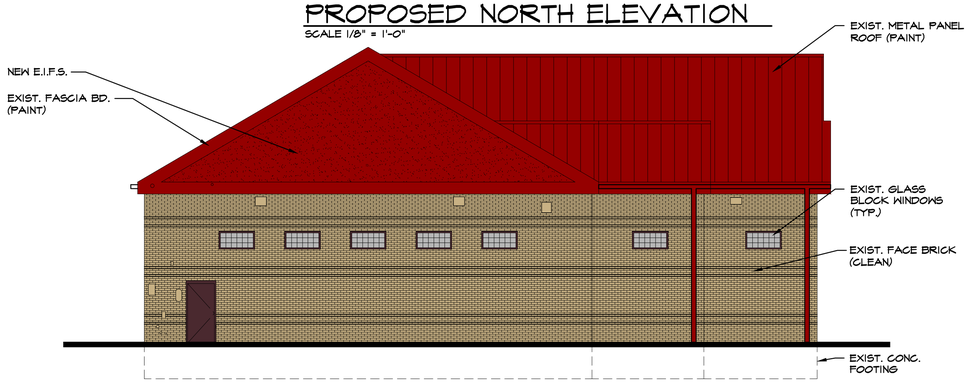
PROPOSED EAST ELEVATION

SCALE 1/8" = 1'-0"



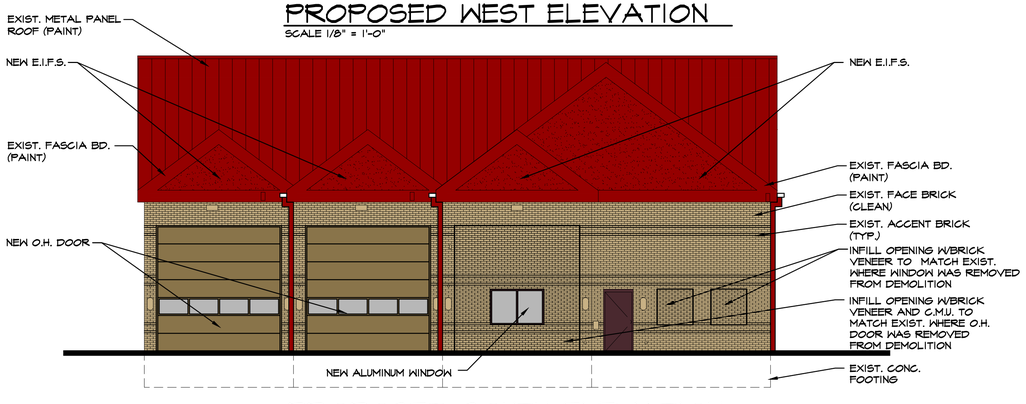
PROPOSED NORTH ELEVATION

SCALE 1/8" = 1'-0"



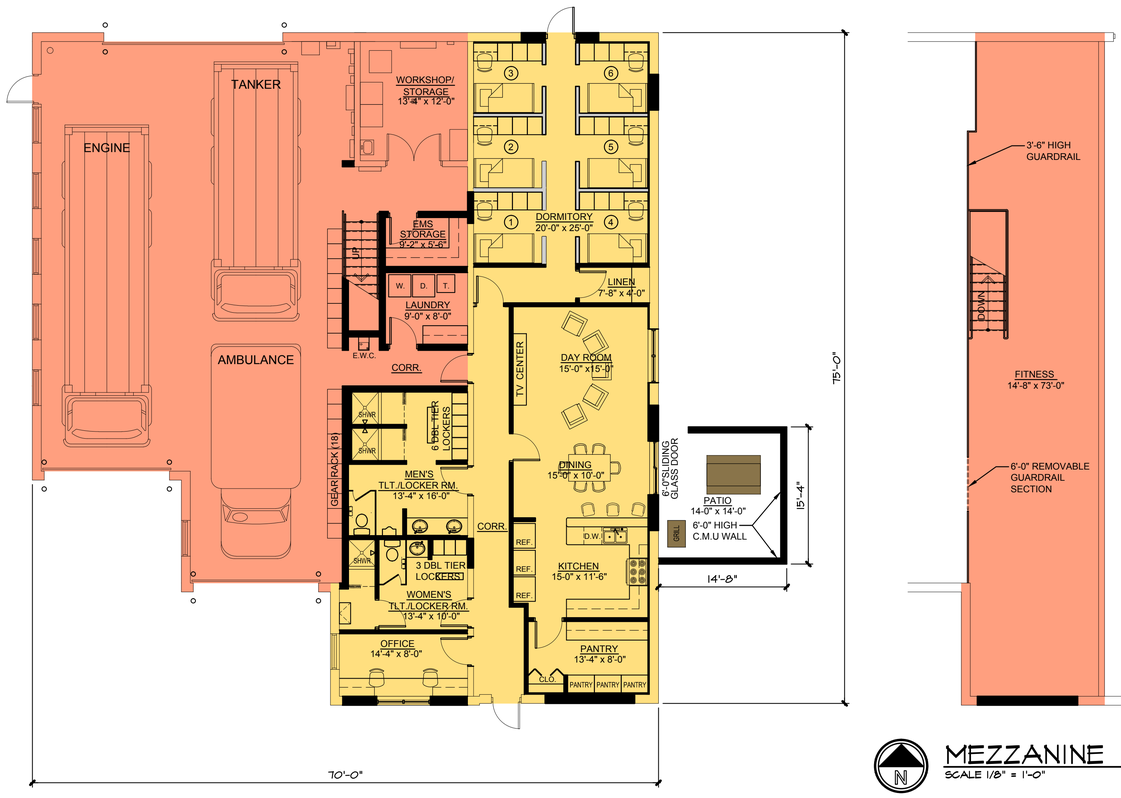
PROPOSED WEST ELEVATION

SCALE 1/8" = 1'-0"



PROPOSED SOUTH ELEVATION

SCALE 1/8" = 1'-0"



FIRST FLOOR PLAN

SCALE 1/8" = 1'-0"

MEZZANINE

SCALE 1/8" = 1'-0"

BUILDING DATA

EXISTING BUILDING.....4,630 SQ. FT.
MEZZANINE.....1,060 SQ. FT.
TOTAL.....5,690 SQ. FT.

APPARTUS BAY AREA

LIVING QUARTERS AREA

FIRE STATION #5 PROPOSED FLOOR PLAN AND ELEVATIONS

CHMP INC.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439
TELEPHONE 810/695-5910

ARCHITECTURE
ENGINEERING
LANDSCAPE ARCHITECTURE
SURVEYING

MASTER PLAN FOR:
CITY OF ROCHESTER HILLS
FIRE STATIONS #2- #5
ROCHESTER HILLS, MICHIGAN 48309

PROJECT NO.	14002200
DATE	MAY 8, 2014
AS BUILT DATE	-
DRAWN BY	JTS
CHECKED BY	GNM
SCALE	AS NOTED
ISSUED FOR: DESIGN REPORT	DATE JULY 18, 2014

SHEET NO.
P-2
OF

Section 7

Deficiency Reports

C H M P, I N C.
5198 TERRITORIAL ROAD
GRAND BLANC, MI 48439

TELEPHONE (810) 695-5910
FACSIMILE (810) 695-0680

May 27, 2014

City of Rochester Hills
Fire Department Master Plan & Needs Assessment
Station No. 2 1251 E. Auburn
Station No. 3 2137 W. Auburn
Station No. 4 2723 Walton Blvd.
Station No. 5 251 E. Tienken

CHMP Job No. 14002200

Deficiency Report

Inspected by: Gregory Mason (CHMP); Dan Lutes (DSDI); Bob Sopko (DSDI)

Dates of Inspections: May 9, 2014, 9 a.m. May 19, 2014 9 a.m.

Weather Conditions: Overcast – 65 degrees Fahrenheit

PURPOSE

Provide a visual assessment of existing Stations No. 2, 3, 4, & 5 using CHMP's standard "Facility Checklist" for evaluating existing conditions relative to building code compliance and the physical conditions of the existing construction. The intent is to identify deficiencies recommended for corrective action as part of an overall plan to upgrade and expand the existing stations targeted under this evaluation.

STATION NO. 2
1251 E. Auburn

I. GENERAL INFORMATION

A. Site Area: 0.83 Acres
B. Year Constructed: 1968 Remodeled 1999
C. Building Area: 4,400 s.f.
D. Building Use: Fire Station
E. General Observations:

This Fire Station was originally built in 1968 with three drive thru bays, later remodeled to (2) drive thru bays. This Station also contains: workshop with mezzanine; kitchen/dining, office, (1) locker/shower room; (1) unisex toilet room; a dayroom; and a dormitory. The building exterior construction consists of brick/block construction (original building) and EIFS (Exterior Insulating Finish System)/wainscoting 1999

remodel. In 1999 the building was remodeled and a standing seam metal roofing system was added over an existing flat roof. In general the building appears to have been very well maintained with minor defects noted in the EIFS exterior and minor deficiencies in the site paving.

Total cost of all identified deficiencies for Station No. 2 is $188,145.00

II. SITE DEFICIENCIES

A. Parking/Paving Areas: There is an area of asphalt pavement that has deteriorated south of the apron in front of the building overhead doors adjacent to Auburn that will need to be replaced. There was also several cracks in the existing asphalt paving that will need to be sealed. Cost is $6,500.00

B. Pedestrian Walks: The existing sidewalk along Auburn is in fair condition.

C. Irrigation System: No lawn irrigation system was noted during the walk thru.

D. Signage: An illuminated building identification sign located in the front of the building is in good condition. The signage on the building is broken up by a wall mounted light fixture and should be removed. Cost is $500.00

E. Lighting: The building has surface mounted light fixtures. There are no light fixtures in the parking lot area or entrance drives.

F. Drainage: Two drainage problem areas were identified during the walk-thru. The first area of ponding was noted on the west side of the west parking lot entrance drive. The second area noted for ponding was the south west corner of the main entrance drive/approach into the apparatus garage. Regrading will be necessary to correct these deficiencies. Cost is $7,000.00

G. Landscaping: The site has minimal landscaping. A small lawn area exists in the front of the site with ground cover and plantings around the flagpole and building sign. All look to be well maintained and in fair condition. There is also a stone/gravel filled area west of the building where the transformer and picnic tables are located.

III BUILDING DEFICIENCIES

A. Architectural

1. Building Envelope:

(a) Roof: A standing seam pitched roof system was installed in 1996 and appears to be in good condition and includes 6” of fiberglass insulation (R-19). A membrane roof system over 2 ½” rigid insulation (R-12) was installed during this renovation over the Dayroom and Office area wing with no evidence of leakage noted during the walk-thru. The overall insulation value of the roof is substandard to the Michigan Energy Code (R-38 is recommended)

(b) Exterior Wall: The exterior walls consist of brick and block composite construction on the south elevation and concrete block on all other elevations with a painted finish. The original building was built in 1968 and the drawings

do not indicate any insulation in the block cavities. There were no visible evidence of movement; however, the brick and mortar joints are stained and unsightly. Exterior brick should be stained. The Exterior Insulated Finish System installed in the 1999 renovations is broken and damaged in several locations and should be repaired. The overall insulation value of the wall is substandard to today's building codes. The existing wall provides an R-5 and R-11.4 is the minimum recommended. Cost is $8,500.00

(c) Windows: Fixed windows were installed during the 1996 remodel project and consist of insulated glass in aluminum frames and appear to be in good condition.

(d) Doors: Interior and exterior passage doors are hollow metal doors in hollow metal frames. Doors appear to be in good condition with updated lever type hardware; however, the exterior door frames are believed to be original and are rusted at the bottom needing repair or replacement. The existing overhead doors are operable but old, frames are rusted at the bottom and in need of repair or replacement. Consideration should be given for replacement of the existing overhead doors based upon age and condition. Cost is $34,500.00

2. Interior Finishes:

(a) Ceilings: The Living area/Office wing ceiling is a 2x4 lay-in suspended ceiling installed in 1999 and is in fair condition. The ceiling in the apparatus bay is exposed structure painted and is in fair condition.

(b) Interior Partitions: Interior partitions consist of a combination of drywall and concrete block partitions (at Living/Office wing). Partitions are painted and in fair condition. Toilet/shower rooms has ceramic tile on walls up 6 feet high.

(c) Floors: The Living/Office wing consist of a combination of carpet and resilient floor tile finish with 4" resilient base and are in fair condition. The Apparatus Bays have a worn epoxy floor finish in need of recoating. The walls in the Apparatus Bays are painted block in fair condition. Cost is $25,000.00

(f) Miscellaneous: Kitchen cabinets are plastic laminate with plastic laminate counter tops installed in 1999 and are in fair condition. No dishwasher provided and the range and hood are residential quality. CHMP typically recommends a commercial hood and range, stainless steel countertops and a high grade dishwasher for a full time fire department use. Costs will be determined with the recommended building improvements package.

B. Structural

1. Existing Systems*:* The Building structure consists of steel roof joists supporting metal decking bearing on 12" concrete block (17'-4" at Apparatus Bays & 11'-4" at Living/Office wing) bearing on concrete spread footings (Apparatus Bays) & concrete trench footings (Living/Office wing). No evidence of any structural concerns were noted during the walk-thru. Roof structure added in 1999 consists of plywood decking over wood trusses. No evidence of problems were noted during the walk-thru.

C. Building Code Compliance

1. Life Safety: An emergency escape is required for sleeping rooms (MBC 1029.1). The Existing Dormitory does not comply, replace existing windows with operable escape windows. Architect also recommends a direct egress door from the Apparatus Bays. Cost is $6,500.00
2. The existing building envelope does not comply with the current Michigan Energy Code (MBC 1301.1.1). No cost determined at this time.

D. HVAC

1. The humidity levels in the office/ kitchen/day room area are extremely high requiring the use of floor mounted portable dehumidifiers in the space. One possible cause is that the existing rooftop serving the area is oversized and does not run long enough to dehumidify the space. Another cause could be the lack of ventilation in the apparatus bay where humidity levels rise when the vehicles are washed.

2. Recommend a certified air balance for the existing HVAC system including the rooftop unit, exhaust fans, diffusers, etc. Cost is $3,100.00.

3. Provide and install a Rawal refrigeration valve in the rooftop unit which will make the unit operate longer so it dehumidifies better. Cost is $3,650.00.

4. Provide a ventilation system for the apparatus bay consisting of exhaust and make up air. (See Item #2 below.)

5. Provide minimum ventilation system per MMC 2012 Table 403.3 for the apparatus bay sized for 0.75 cfm per sq. ft. of floor area consisting of ducted high-low exhaust and a gas fired makeup air unit. Cost is $20,000.00.

6. Provide a CO/NO_2 ventilation control system required by the MMC 2012 Section 404.1 for Item #2 listed above. The ventilation system will not be required to operate 24/7/365 when controlled by a CO/NO_2 sensor. Cost is $8,600.00.

7. Provide low level continuously operated exhaust system per MMC 404.2 for the apparatus bay sized for 0.05 cfm per sq. ft. of floor area. Cost is $3,500.00.

E. Plumbing

1. Provide backflow preventers for the CW hose bibs per MPC 2012 Section 608.13.6. Cost is $550.00.

2. Provide expansion tank and relief valve on the CW line to the water heater. Cost is $950.00.

3. Provide a drain pan for the water heater. Cost is $270.00.

4. Provide a listed and labeled oil interceptor for the trench drains in the apparatus bay per MPC 2012 Section 1003. Cost is $13,250.00

5. Provide inline trap primers for existing floor drains per MPC 2012 Section 1002.4. Cost is $875.00.

6. Insulate HW & CW piping at water heater, water meter and in laundry room per ASHRAE 90.12007 Michigan energy code and MPC 2012 Section 607.5. Cost is $1,500.00.

7. Label and paint all gas piping per International Fuel Gas Code. Cost is $1,750.00.

8. Label all piping per MPC 2012 Section 606.7. Cost is $650.00

F. Fire Protection

1. The building is 100% fire protected except for the attic. Cost is $16,500.00.

G. Lighting

1. Most of the interior general lighting fixtures are 2' x 4' recessed fluorescent type. Chain hung industrial open reflector fixtures are used in storage areas and Apparatus Room. Most have T8 type lamps while the Apparatus Room has more energy efficient T5 type lamps. Some have broken lenses and are old with stained dirty lenses with the exception of the Apparatus Room which appear to be newer and in good condition. Cost to replace broken lenses is $1,000.00.

2. The flag pole is lighted from a spot light mounted to the building sign.

.

H. Power

1. The building has a Siemens 400 amp-120/240 volt-three phase-four wire fused switch type electrical service main distribution panel located in a closet off Kitchen #108 which appears to be in good condition.

2. Branch electrical panels in the building are a good brand, "Siemens", 120/240V-1ø-3W, and appear to be in good condition.

3. The building seems to have an adequate amount of electrical outlets

4. The drop cords that provide power to the trucks in the Apparatus Room are not on separate circuits and get overloaded. Cost is $1,500.00.

5. There is a 47KW Cummins natural gas stand-by generator and automatic transfer switch that serves the building which appears to be in good working condition. It is not required by code, but if provided it has to be designed per NEC code. If considered a "stand-by" generator it requires three levels of backup power and transfer switches; it currently only has one. If the building is considered a "Critical Operations Power System" for the community to use during an emergency it can be considered an "Emergency" generator which only requires one automatic transfer switch.

6. The building electrical and telephone services are both overhead wiring into the building.

I. Electrical Systems:

1. The building does not have a fire alarm system but has one combination fire alarm horn/strobe device for the fire suppression system. A fire alarm system is not required by code for the building although smoke detectors are required in the living quarters which the building has.

J. Electrical Code Violations:

1. The lighting in the building does not meet the ASHRAE Energy Code, which limits the interior lighting power density to 1.0 watts per square foot, which the lighting exceeds. Cost is $5,000.00.

2. There is not enough emergency egress lighting in the building to comply with NFPA Life Safety Code which requires a minimum of one foot candle of lighting along the entire area of egress passageways. Cost is $3,000.00.

3. There is not enough night lighting in the building to comply with the NFPA Life Safety Code. Cost is $2,500.00.

4. The building has no occupancy sensors to control the lighting which are required by the ASHRAE Energy Code for all rooms in the building. Cost is $7,000.00.

5. All of the duplex receptacles in the bathrooms, locker room, kitchen and apparatus room are not ground fault type which is required by the National Electrical Code (NEC). Cost is $3,000.00.

6. There is not enough emergency egress exit lighting in the building to guide people to the emergency exits and comply with the NFPA Life Safety Code. Cost is $1,500.00.

STATION NO. 3
2137 W. Auburn

I. GENERAL INFORMATION

A. Site Area: 0.67 Acres
B. Year Constructed: 1993
C. Building Area: 4,402 s.f.
D. Building Use: Fire Station
E. General Observations:

This Fire Station was rebuilt in 1993 and contains 1 drive thru bay and 2 non drive thru bays, small office area, dayroom, (2) toilet/shower rooms, kitchen/dining area, and a storage room with mezzanine. The building exterior construction consists of brick/block construction (original building) and is in fair condition. The roofs are high pitch metal panel roof systems. The site is small with no room for future expansion. Although the finishes are dated the building in general is clean and well maintained.

Total cost of all identified deficiencies for Station No. 3 is $ 128,395.00.

II. SITE DEFICIENCIES

A. Parking/Paving Areas: The apron approach to the building is concrete and is in good condition. The existing asphalt parking areas and drives have been recently reconstructed and are in excellent condition.

B. Pedestrian Walks: The existing sidewalk immediately in front of the building found in good condition.

C. Irrigation System: No evidence of a lawn irrigation system was noted during the walk thru.

D. Signage: An illuminated building identification sign located in the front of the building is in good condition.

E. Lighting: The building has surface mounted light fixtures. There are no Light fixtures in the parking lot area or entrance drives.

F. Drainage: No evidence of any drainage problems were noted during the walk-thru

G. Landscaping: The site has a small lawn area at the front of the building and was noted to be in good condition

III. BUILDING DEFICIENCIES

A. Architectural

1. Building Envelope:

(a) Roof: Roof system is comprised of painted metal roof panels over a pitched (4:12) steel framing system. There were a minor number of interior ceiling panels reflecting past leaks, source is unknown but could be attributed to the roof system failure. Client noted there is a persistent ice damming problem on the west side of the north elevation by the main entrance. We recommend heat tape on a timer be installed. It would appear from the original construction drawings the roof insulation consist of 2 inches of rigid insulation (R-10) which is deficient in complying with the current Michigan Energy Code. No cost for correcting this is included at this time. Cost for heat tape is $1,500.00

(b) Exterior Wall: The exterior walls consist of brick and block composite construction on all elevations. Original (incomplete) construction drawings provided make no mention of insulation however based upon the date of construction it was common practice to fill the block cores with foam insulation. The composite wall assuming block fill insulation would provide an R value of approximately 11. This will be close to complying with the R-11.4 minimum recommended insulating value per the Michigan Energy Code.

No cost for upgrading the wall insulation has been determined.

(c) Windows: Operable double hung type windows appear to with insulated glass and in fair condition.

(d) Doors: Interior and exterior passage doors consist of hollow metal doors in hollow metal frames with painted finish. Door hardware is old style knobs, non-compliant with Barrier Free requirements. Doors appear to be in good working condition with some evidence of frames rusting at ground level and in need of painting and perimeter caulking. The existing overhead doors are operable but old, minor areas of frames rusted at the bottom were noted and in need of repair or replacement. Consideration should be given for replacement of the existing overhead doors based upon age and condition. Cost is $26,500.00

2. Interior Finishes:

(a) Ceilings: The Living area/Office wing ceiling is a 2x4 lay-in suspended ceiling appear to be original and shop minor evidence of past roof leaks, in general these ceilings are older with our recommendation for replacement. The ceiling in the apparatus bay is exposed structure painted and is in need of painting. Cost is $9,750.

(b) Interior Partitions: Interior partitions are concrete block partitions. All partitions are painted and are in need of painting. Toilet/shower rooms has ceramic tile on walls up 4 feet high. The walls in the Apparatus Bays are painted block and require painting. Cost is $10,500.00

(c) Floors: The Living/Office wing consist of a combination of carpet and resilient floor tile finish with 4" resilient base and are in poor condition and in need of replacement. The Apparatus Bays have an epoxy floor finish found in satisfactory condition. $7,750.00

(f) Miscellaneous: Kitchen cabinets are plastic laminate with plastic laminate counter tops installed in 1999 and are in fair condition. No dishwasher provided and the range and hood are residential quality. CHMP typically recommends a commercial hood and range, stainless steel countertops and a high grade dishwasher for a full time fire department use. Costs will be determined with the recommended building improvements package.

B. Structural

1. Existing Systems*:* The Building structure consists of a steel roof framing system supporting metal decking. Perimeter composite masonry walls are load bearing on concrete trench footings. No evidence of any structural concerns were noted during the walk-thru.

C. Building Code Compliance

1. Life Safety: No life safety concerns were noted during the walk-thru.

2. The existing building envelope does not comply with the current Michigan Energy Code (MBC 1301.1.1). No cost determined at this time.

D. HVAC

1. Provide minimum ventilation system per MMC 2012 Table 403.3 for the apparatus bay sized for 0.75 cfm per sq. ft. of floor area consisting of ducted high-low exhaust and a gas fired makeup air unit. Cost is $20,000.00.

2. Provide a CO/NO_2 ventilation control system required by the MMC 2012 Section 404.1 for Item #2 listed above. The ventilation system will not be required to operate 24/7/365 when controlled by a CO/NO_2 sensor. Cost is $8,600.00.

3. Provide low level continuously operated exhaust system per MMC 404.2 for the apparatus bay sized for 0.05 cfm per sq. ft. of floor area. Cost is $3,650.00.

E. Plumbing

1. Provide backflow preventers for the CW hose bibs per MPC 2012 Section 608.13.6. Cost is $550.00.

2. Provide expansion tank and relief valve on the CW line to the water heater. Cost is $950.00.

3. Provide a drain pan for the water heater. Cost is $270.00.

4. Provide a listed and labeled oil interceptor for the trench drains in the apparatus bay per MPC 2012 Section 1003. Cost is 13,250.00.

5. Provide inline trap primer for existing floor drains per MPC 2012 Section 1002.4. Cost is $875.00.

6. Insulate HW & CW piping at water heater and in laundry room per ASHRAE 90.1-2007 Michigan Energy Code. Cost is $1,500.00.

7. Provide hot water recirculating system including pump, piping, aqua- stat, etc. per MPC 2012 Section 607.2.2. Cost is $2,750.00.

8. Insulate all HW & CW piping at water heater, water meter, laundry room, etc. per ASHRAE 90.1-2007 Michigan Energy Code and MPC 2012 Section 607.5. Cost is $1,500.00.

9. Label and paint all gas piping per International Fuel Gas Code. Cost is $1,750.00.

10. Label all piping per MPC 2012 Section 606.7. Cost is $650.00.

F. Fire Protection

1. The building is 100% fire protected except for the attic. Cost is $14,500.00.

G. Lighting

1. The interior lighting fixtures in the building do not have any broken lenses.

2. Lighting in storage rooms is 8’ fluorescent strips, surface mounted.

3. There are some recessed square metal halide type exterior canopy lights. One is missing a lens. Cost is $100.00 to provide a lens.

4. The flag pole is lighted from a ground mounted spot light.

.

H. Power

1. There are no branch electrical panels in the building.

2. The building has a General Electric 200 amp-120/240 volt-single phase-three wire electrical service main panel, located in Janitor Room #108 which appears to be in good condition.

3. Electrical and telephone services are both underground wiring into the building.

STATION NO. 4
2723 Walton Blvd.

I. GENERAL INFORMATION

A. Site Area: 1.26 Acres
B. Year Constructed: 1976
C. Building Area: 3,806 s.f.
D. Building Use: Fire Station
E. General Observations:

This Fire Station was originally built in 1976 and contains 2 narrow truck bays, office area, dayroom, toilet/shower rooms, kitchen/dining area, and a converted fitness area and dormitory room. The building exterior construction consists of brick/block construction (original building) and is in fair condition. The roofs are low pitch membrane type roofs. The site is larger than the other sites with a cell tower and cell tower building leased out a larger parking lot and vacant lot to the east at a slightly lower elevation. Although the finishes are dated, the building in general is clean and well maintained.

Total cost of all identified deficiencies for Station No. 4 is $150,675.00.

II. SITE DEFICIENCIES

A. Parking/Paving Areas: The apron approach to the building is concrete and is in good condition. The existing asphalt parking areas is in poor condition with our recommendation to provide a 1 ½" asphalt cap and restripe. Cost is $ 17,500.00

B. Pedestrian Walks: The existing sidewalk immediately in front of the building is in good condition with the balance in fair condition.

C. Irrigation System: Evidence of a lawn irrigation system was noted during the walk thru.

D. Signage: An illuminated building identification sign located in the front of the building is in good condition. The signage on the building is also noted to be in good condition.

E. Lighting: The building has surface mounted light fixtures. There are no Light fixtures in the parking lot area or entrance drives.

F. Drainage: No evidence of any drainage problems were noted during the walk-thru.

G. Landscaping: The site has lawn areas around the building including an island between parking lots with flowering trees. Some minor lawn damage was noted in the front, overall in satisfactory condition. Cost is $200.00

III. BUILDING DEFICIENCIES

A. Architectural

1. Building Envelope:

(a) Roof: Unable to access roof during walk-thru. Owner has indicated a roof was installed in 2004 with a 24 year warranty. No evidence of leakage was noted during the walk thru. No information on level of insulation provided.

(b) Exterior Wall: The exterior walls consist of brick and block composite construction on all elevations. Original construction drawings make no mention of insulation however based upon the date of construction it was common practice to fill the block cores with vermiculite insulation. The composite wall assuming block fill insulation would provide an R value of approximately 8. The overall insulation value of the wall is substandard to today's building codes. The existing wall provides an R-8 and R-11.4 is the minimum recommended.

No cost for upgrading the wall insulation has been determined. There are control joints and caulking required around doors and windows and the brick is need of cleaning. Cost is $5,500.00

(c) Windows: Operable casement type windows appear to be single glazed (low energy efficient) and in fair condition. Consideration for replacement of existing windows is recommended based upon the Michigan Energy Code requirements. Cost is $ 4,000.00

(d) Doors: Interior and exterior passage doors are a combination of painted wood and hollow metal doors in hollow metal frames. Some hardware has been replaced with code compliant levers and some remain original knobs. Doors appear to be in good working condition with some evidence of frames rusting at ground level. The existing overhead doors are operable but old, frames are rusted at the bottom and in need of repair or replacement. Consideration should be given for replacement of the existing overhead doors based upon age and condition. Cost is $16,500.00

2. Interior Finishes:

(a) Ceilings: The Living area/Office wing ceiling is a 2x4 lay-in suspended ceiling appear to be original and shop minor evidence of past roof leaks, in general these ceilings are very old with our recommendation for replacement. The ceiling in the apparatus bay is exposed structure painted and is in need of painting. Cost is $9,750.

(b) Interior Partitions: Interior partitions are concrete block partitions. All partitions are painted and are in need of painting. Toilet/shower rooms has ceramic tile on walls up 4 feet high. The walls in the Apparatus Bays are painted block and require painting. Cost is $11,000.00

(c) Floors: The Living/Office wing consist of a combination of carpet and resilient floor tile finish with 4" resilient base and are in poor condition and in need of replacement. The Apparatus Bays have a worn epoxy floor finish with chips along trench drains and need of recoating. $24,500.00

(f) Miscellaneous: Kitchen cabinets are plastic laminate with plastic laminate counter tops installed in 1999 and are in fair condition. No dishwasher provided and the range and hood are residential quality. CHMP typically recommends a commercial hood and range, stainless steel countertops and a high grade dishwasher for a full time fire department use. Costs will be determined with the recommended building improvements package.

B. Structural

1. Existing Systems*:* The Building structure consists of steel roof joists supporting metal decking bearing on 12" concrete block (19'-0" at Apparatus Bays & 13'-0" at Living/Office wing) bearing on concrete spread footings. No evidence of any structural concerns were noted during the walk-thru.

C. Building Code Compliance

1. Life Safety: An emergency escape is required for sleeping rooms (MBC 1029.1). The Existing Dormitory does not comply; provide an emergency egress window. Architect also recommends a direct egress door from the Apparatus Bays. Cost is $7,500.00

2. The existing building envelope does not comply with the current Michigan Energy Code (MBC 1301.1.1). No cost determined at this time.

D. HVAC

1. Provide minimum ventilation system per MMC 2012 Table 403.3 for the apparatus bay sized for 0.75 cfm per sq. ft. of floor area consisting of ducted high-low exhaust and a gas fired makeup air unit. Cost is $20,000.00.

2. Provide a CO/NO_2 ventilation control system required by the MMC 2012 Section 404. for Item #2 listed above. The ventilation system will not be required to operate 24/7/365 when controlled by a CO/NO_2 sensor. Cost is $8,600.00.

3. Provide low level continuously operated exhaust system per MMC 404.2 for the apparatus bay sized for 0.05 cfm per sq. ft. of floor area. Cost is $3,500.00.

E. Plumbing

1. Provide backflow preventers for the CW hose bibs per MPC 2012 Section 608.13.6. Cost is $550.00.

2. Provide a listed and labeled oil interceptor for the trench drains in the apparatus bay per MPC 2012 Section 1003. Cost is $13,500.00.

3. Provide a floor drain in the laundry room. Cost is $1,500.00.

4. Repair/replace existing air intake louver. Cost is $1,500.00.

5. Provide inline trap primers for existing floor drains per MPC 2012 Section 1002.4. Cost is $875.00.

6. Insulate HW & CW piping at water heater, water meter laundry room, etc. per ASHRAE 90.1- 2007 Michigan Energy Code and MPC 2012 Section 607.5. Cost is $1,500.00.

7. Label and paint all gas piping per International Fuel Gas Code. Cost is 1,750.00.

8. Label piping per MPC 2012 Section 606.7. Cost is $650.00.

F. Fire Protection

1. The building is 100% fire protected.

G. Lighting

1. The interior lighting fixtures in the building do not have any broken lenses.

2. Lighting in the mezzanine storage room is 4' fluorescent strips, surface mounted.

3. There are some recessed square metal halide type exterior soffit lights.

4. The flag pole is lighted from a building mounted spot light.

5. There are some 1' x 4' recessed fluorescent lights.

6. The building only has one occupancy sensor located in Storage Room #115.

.

H. Power

1. Electrical and telephone services are both underground wiring into the building.

2. The building has a Square D exterior main switchboard electrical service.

3. The electrical panels in the building are Square D, 120/240V-3ø-4W.

4. There is a Kohler 20KW natural gas generator with a manual transfer switch, as well as the Cummins 47KW generator.

I. Electrical Code Violations:

1. The building does not have a combination fire alarm horn/strobe device. Cost is $300.00.

STATION NO. 5
251 E. Tienken

I. GENERAL INFORMATION

A. Site Area: 1.65 Acres
B. Year Constructed: 1999
C. Building Area: 4,344 s.f.
D. Building Use: Fire Station
E. General Observations:

This Fire Station was replaced with a new station in 1999 and contains 2 drive thru bays, 1 non drive thru bay, office area, dayroom, single occupancy toilet room, toilet/shower room, kitchen/dining area, and a storage room with mezzanine. The building exterior construction consists of brick/block construction (original building) and is in good condition. The roofs high pitch standing seam metal roofs that appear to be in good condition. The site is the largest of all the sites however the building is constructed on the edge of an apparent wetland to the east and the entrance drive to the west which limits the expandability of the building. This building is the newest of all the target facilities.

Total cost of all identified deficiencies for Station No. 5 is $122,875x.00.

II. SITE DEFICIENCIES

A. Parking/Paving Areas: The apron approach to the building is concrete and is in good condition. The existing asphalt parking areas is in fair condition with exception of the drive parking lot connection which is need of repair. Cost is $ 3,500.00

B. Pedestrian Walks: The existing paved walking path immediately in front of the building that is in fair condition.

C. Irrigation System: No evidence of a lawn irrigation system was noted during the walk thru.

D. Signage: An illuminated building identification sign located in the front of the building is in good condition.

E. Lighting: The building has surface mounted light fixtures. There are no light fixtures in the parking lot area or entrance drives.

F. Drainage: No evidence of any drainage problems were noted during the walk-thru

G. Landscaping: The site has lawn areas around the south, east, and west sides of the building. The lawn areas were in poor condition needing patching, seeding, and some repair. Cost is $1,000.00

III. BUILDING DEFICIENCIES

A. Architectural

1. Building Envelope:

(a) Roof: The roof consist of standing metal seam roofing over wood trusses and appear to be in good condition with exception of a number of ice guards missing over door openings. There is also a few areas of roof panels needing touch up paint (east elevation) Cost is $1,500.00

(b) Exterior Wall: The exterior walls consist of brick and block composite construction on all elevations. Original construction drawings make no mention of insulation however based upon the date of construction it was common practice to fill the block cores with foam insulation. The composite wall assuming block fill insulation would provide an R value of approximately 11. The overall insulation value of the wall is close to compliance with current building codes.

(c) Windows: The apparatus bays have glass block windows providing day lighting. The Office/Living wing has fixed insulated window units in metal frames and appear to be in good condition with exception of re-caulking required around the perimeter. Cost is $ 800.00

(d) Doors: Interior and exterior passage doors consist of hollow metal doors in hollow metal frames. Hardware appears code compliant levers s. Doors appear to be in good working and physical condition l. The existing overhead doors are operable but old, frames are rusted at the bottom and in need of repair or replacement. Consideration should be given for replacement of the existing overhead doors based upon age and condition. Cost is $16,500.00

2. Interior Finishes:

(a) Ceilings: The Living area/Office wing ceiling is a 2x4 lay-in suspended ceiling appear to be good condition. The ceiling in the apparatus bay is exposed structure painted and is in need of painting. Cost is $3,500.

(b) Interior Partitions: Interior partitions are concrete block partitions. All partitions have a painted finish and are in need of repainting. The walls in the Apparatus Bays are painted block and require painting. Cost is $11,000.00

(c) Floors: The Living/Office wing consist of a combination of carpet and resilient floor tile finish with 4” resilient base and are in fair condition. The Apparatus Bays have a worn epoxy floor finish and need of recoating. $19,500.00

(f) Miscellaneous: Kitchen cabinets are plastic laminate with plastic laminate counter tops installed in 1999 and are in fair condition. No dishwasher provided and the range and hood are residential quality. CHMP typically recommends a commercial hood and range, stainless steel countertops and a high grade dishwasher for a full time fire department use. Costs will be determined with the recommended building improvements package.

B. Structural

1. Existing Systems*:* There was insufficient information provided on the original building construction to determine the actual roof construction but appears to be wood trusses over loading bearing masonry walls. No evidence of structural concerns were noted during the walk-thru.

C. Building Code Compliance

1. Life Safety: Building appears to be compliant with life safety requirements.

2. There was insufficient information provided on the original building construction to determine compliance with the current Michigan Energy Code (MBC 1301.1.1). No cost determined at this time.

D. HVAC

1. Provide minimum ventilation system per MMC 2012 table 403.3 for the apparatus bay sized for 0.75 cfm per sq. ft. of floor area consisting of ducted high-low exhaust and a gas fired makeup air unit. Cost is $25,000.00.

2. Provide a CO/NO_2 ventilation control system required by the MMC 2012 Section 404 for Item #2 listed above. The ventilation system will not be required to operate 24/7/365 when controlled by a CO/NO_2 sensor. Cost is $8,600.00.

3. Provide low level continuously operated exhaust system per MMC 404.2 for the apparatus bay sized for 0.05 cfm per sq. ft. of floor area. Cost is $3,650.00.

E. Plumbing

1. Provide backflow preventers for the CW hose bibs per MPC 2012 Section 608.13.6. Cost is $550.00.

2. The existing oil interceptor for the trench drains in the apparatus bay appears to be undersized based on MPC 2012 Section 1003. Code requires 6 cu. ft. storage for the first 100 sq. ft. of floor space and an additional 1 cu. ft. of storage for each additional 100 sq. ft. of floor space. Cost is $15,000.00.

3. Provide trap primers for existing floor drains per MPC 2012 Section 1002.4. Cost is $1,875.00.

4. Insulate HW & CW piping at water heater and in laundry room per ASHRAE 90.1-2007 Michigan Energy Code. Cost is $1,500.00.

5. Insulate HW & CW piping at water heater, water meter, laundry room, etc. per ASHRAE 90.1-2007 Michigan Energy Code and MPC 2012 Section 607.5. Cost is $1,500.00.

6. Label and paint all gas piping per International Fuel Gas Code. Cost is $1,750.00.

7. Label piping per MPC 2012 Section 606.7. Cost is $650.00.

F. Fire Protection

1. The building is 100% fire protected including the attic with a dry pipe type system. .

G. Lighting

1. The lighting in the Apparatus Room is older fixtures with T8 lamps.

2. Most of the interior general lighting fixtures are surface mounted strip fluorescent type. Some have more energy efficient T8 type lamps while some have non-energy efficient old T12 type lamps, which are being discontinued by the lighting industry and will no longer be made. Some lamps are missing in the fixtures and some are burned out or not operating properly. Cost is $3,000.00 to make operational.

3. Three rooms have occupancy sensors.

H. Power

1. The building main distribution panel is located in Apparatus Room #101.

2. Electrical and telephone services are both underground wiring into the building.

3. There is a Winco natural gas generator with a Generac manual transfer switch, as well as the Cummins 47KW generator.

I. Electrical Code Violations:

1. The building does not have any smoke detectors. Cost is $2,500.00.

This concludes our assessment of the target facilities. Please forward any questions or additional information required to me at (810) 695-5910, gmason@chmpinc.com.

Respectfully Submitted,

CHMP, INC.

Gregory N. Mason, AIA
Architect

GNM:mfg