

ONEIDA COUNTY HIGHWAY DEPARTMENT STUDY PRESENTATION EXISTING CONDITIONS – RHINELANDER SITE

March 17, 2015

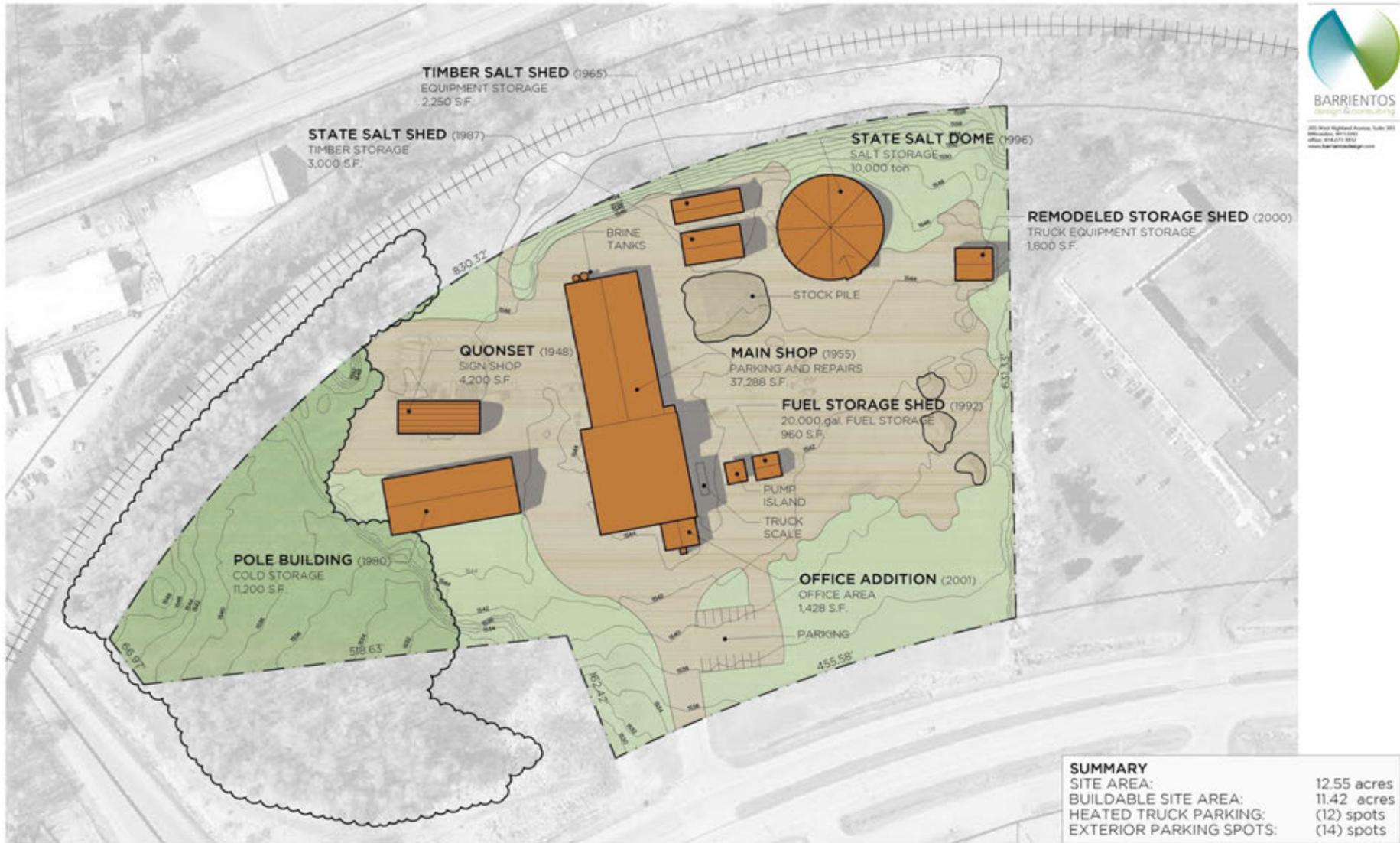
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EXISTING CONDITIONS – RHINELANDER SITE

- Since the mid-1950's, the existing Oneida County highway shop has been located at 730 W. Kemp St. in Rhineland, Wisconsin on 12.55-acre parcel of land. There are nine principal structures/buildings (and building additions) along with a truck scale and fueling island and stock pile area.
- The Rhineland site works in conjunction with satellite shops located in xxx and xxx. Vehicle storage requirements have taken into account trucks that are stored at remote locations.

EXISTING STRUCTURES AND BUILDINGS ON SITE (RHINELANDER)

- 0001 – Main Shop Building (originally constructed in 1955).
- 0002 – Quonset Hut (originally constructed in 1948).
- 0003 – Cold Storage Pole Building (originally constructed in 1980).
- 0004 – Remodeled Storage Building (remodeled in 2000).
- 0005 – Timber Salt Shed (originally constructed in 1965).
- 0011 – Fuel Storage Shed (originally constructed in 1992).
- 0014 – State Salt Shed (originally constructed in 1987).
- 0017 – State Salt Dome (originally constructed in 1996).
- 0018 – Office Addition (addition constructed in 2001).



SUMMARY	
SITE AREA:	12.55 acres
BUILDABLE SITE AREA:	11.42 acres
HEATED TRUCK PARKING:	(12) spots
EXTERIOR PARKING SPOTS:	(14) spots

Figure 9 - Existing Site Plan

EXISTING BUILDING EVALUATION

MAIN SHOP BUILDING - OVERVIEW

- Original Construction – 1955.
- Gross Building Area - 37,288 gsf.
- The building contains the repair garage, former welding shop, parking garage, parts department, and minimal locker area. Portions of the parking garage are currently utilized for cold patch storage, brine production and truck washing.
- The second floor contains a sign shop, offices, an open meeting area, as well as underutilized storage space.

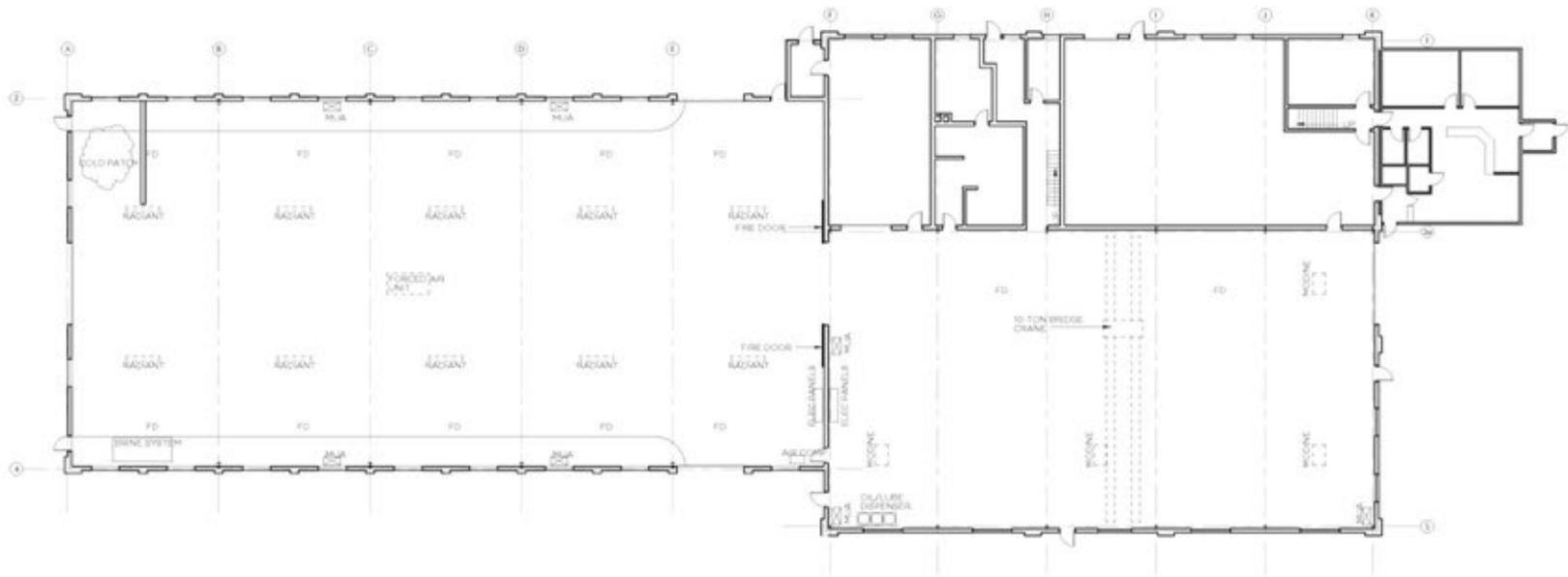


Figure 2 – Main Shop Building (1955) Existing Floor Plan

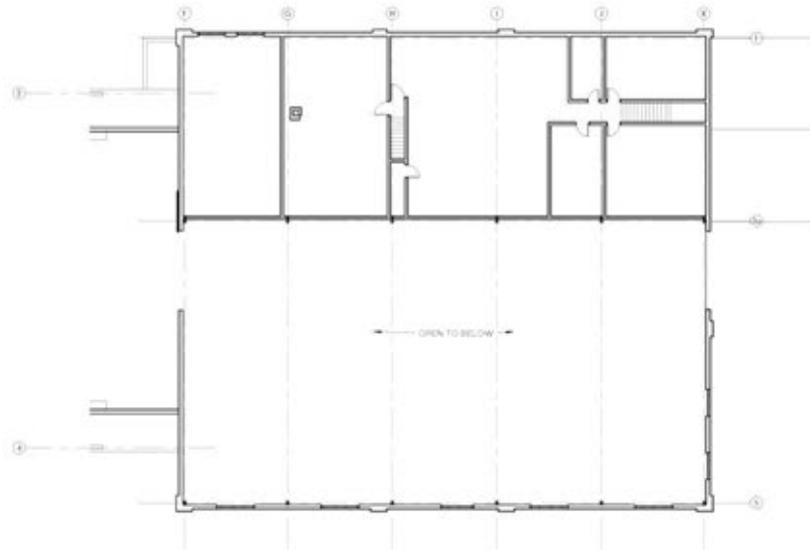


Figure 2 – Main Shop Building (1955) Existing Floor Plan

EXISTING BUILDING EVALUATION

MAIN SHOP BUILDING – BUILDING ENVELOPE

- Tall Roof: EPDM membrane over tapered insulation to internal drains – was replaced in late 1980's. The roof surface not visually inspected due to snow coverage. No leaks noted by building occupants. Remaining life expectancy – 5-10 years.
- Roof over Parking Garage: Metal panel roof with integral insulation. Visible portion of roof inspected from the ground. Evidence of thermal bridging and minimal insulation is evident by extensive icing. Remaining life expectancy – 10-15 years.
- Exterior walls: Mostly non-insulated, single-wythe masonry walls. Some areas of wall deterioration exist contributed by condensation of leaky windows. Could be re-insulated from either exterior or interior.

EXISTING BUILDING EVALUATION

MAIN SHOP BUILDING – BUILDING ENVELOPE

- **Windows:** Mixture of glass block and single-pane metal-framed windows. Most windows show evidence of significant deterioration and extensive condensation. Requires immediate attention to prevent further deterioration of surrounding wall area and improve thermal transfer.
- **Exterior Doors:** Most exterior man-doors are hollow metal that show typical deterioration based on the occupancy. Many of the overhead doors are extremely leaky (some have 1-inch gaps in areas). Requires immediate attention.

EXISTING BUILDING EVALUATION

MAIN SHOP BUILDING – **STRUCTURAL**

- Foundations: Foundation walls are concealed but little evidence of settlement was noted during site visits.
- Slabs on Grade: Most garage area slabs are in reasonable condition given the age of the building. The original wear-area of the slabs have worn down, exposing the underlying aggregate in several area (especially the truck wash area). Slabs are minimally pitched and are extremely dirty due to lack of trench drains.

EXISTING BUILDING EVALUATION

MAIN SHOP BUILDING – **STRUCTURAL**

- **Steel Structure:** The pre-engineered superstructure throughout the Main Shop Building is in very good shape with typical corrosion at the baseplates and some of the framing girts. The paint finish is severely deteriorated and should be re-painted with proper preparation of the surfaces. Steel columns below the second floor are in good shape with no significant corrosion.
- **Bearing Walls:** Masonry bearing walls below the second floor area are in good shape with little settlement or cracking.

EXISTING BUILDING EVALUATION

MAIN SHOP BUILDING – INTERIOR FINISHES

- Most of the garage area surfaces are dirty and covered in soot. This may be as a result of minimal make-up air supply and lack of convenient vehicle exhaust system.
- The paint finish on the exposed steel structure is extremely poor condition and is peeling. Although the facility was repainted in within the last 15 years, improper preparation/cleaning may be contributing to premature deterioration.
- Finishes in the parts area are general acceptable although improved workspace could be provided.
- Areas of the second floor were built-out by staff with wood paneling and are generally acceptable although some finish updates could be done if desired (ceilings, etc).

EXISTING BUILDING EVALUATION

MAIN SHOP BUILDING – **FIXED EQUIPMENT**

- **Vehicle Exhaust:** An existing, plug-in system runs along the west wall with a fan unit located on the north wall. The system was not observed to be operational and was not used during our site visit although vehicles were running indoors. A functional system with drop-down reels should be installed to improve convenience.
- **Vehicle Lifts:** No fixed vehicle lifts exist in the shop. Portable lifts are currently utilized. Most modern shops have either parallelogram or in-ground lifts (heavy vehicles) and post lifts (light duty vehicles). Portable lifts can still be used if desired by the Department.

EXISTING BUILDING EVALUATION

MAIN SHOP BUILDING – **FIXED EQUIPMENT**

- **Cranes:** An existing bridge crane spans the entire repair garage. The crane is in good working order and has a generous serviceable life.
- **Bulk-Fluids:** The system is haphazardly stored in the repair garage with localized spill containment. Most modern shops have dedicated fluid storage rooms for fire separation and convenient delivery/pickup.
- **Air Compressors:** Currently located in a corner of the parking garage. A new system was ready for installation at the time of our site visit. Could be re-located in a concealed room to reduce background noise.

EXISTING BUILDING EVALUATION

MAIN SHOP BUILDING – **PLUMBING SYSTEMS**

- Floor Drains: Extremely minimal for the drainage area. The staff has indicated that water can shoot out of drains during strong rainfalls.
- Separate facilities for male and female are not provided in the original building.
- Accessible toilet facilities are not provided.

EXISTING BUILDING EVALUATION

MAIN SHOP BUILDING – HVAC SYSTEMS

- **Repair Garage:** Served by (4) ceiling-mounted, “Modine” style heaters. Units were installed relatively recently and appear to have generous serviceable life remaining. One heater was recently damaged by the bridge crane – extents of damage were not accessed. Makeup air ducts are located in the corner of the space.
- **Parking Garage:** The forced-air unit in the parking garage is older and is no longer operational. The staff has indicated that the unit cannot be fixed (per recent repair visit). As a result, the parking garage does not have adequate amount of air changes.
- **CO detection system** was not observed during the site visit.

EXISTING BUILDING EVALUATION

MAIN SHOP BUILDING – HVAC SYSTEMS

- The space is heated by radiant heat tube units.
- Several of the make-up air ducts have been struck by trucks and are damaged or removed. The ducts are bringing in significant amount of cold air due to the lack of positive pressure.
- Other areas of the Main Shop Building are served by conventional furnaces. The parts department unit appears to have generous serviceable life remaining. The second floor units may need to be replaced within 5-10 year range.

EXISTING BUILDING EVALUATION

MAIN SHOP BUILDING – ELECTRICAL SYSTEMS

- **Repair Garage:** Power supply is minimal and located inconveniently. Extensive extension cord use was evident during our site visit. Modern shops utilize several methods to get power closer to the repair bays included power posts and reels.
- **Parking Garage:** Power supply is minimal. Code violations with power cords run through the building wall exist.
- **Lighting:** Lighting in the garage areas is well below optimal levels. No task lighting is provided and the repair staff needs to use headlamps. Lighting in the parts area is adequate. Lighting on the second floor is relatively dim.

EXISTING BUILDING EVALUATION

MAIN SHOP BUILDING – LIFE SAFETY ISSUES

- “Disproportionality” is a concept introduced by the International Existing Building Code. If Level 2 or Level 3 renovations are undertaken, a maximum of 20% of the total CONSTRUCTION budget must be devoted to addressing accessibility. Level 1 alterations do not require accessibility upgrades.
- Egress Access: Most of the building is at grade and exits are widely distributed and doors swing in the direction of egress.
- Stairs: The stairs to the second floor lack code-compliant guard rails. The stairs are unenclosed and do not exit directly to grade. This condition may trigger the construction of an elevator to serve the second floor.

EXISTING BUILDING EVALUATION

MAIN SHOP BUILDING – LIFE SAFETY ISSUES

- **Automatic Sprinkler System:** Currently, no sprinkler system exists in the building. It is highly likely that building renovations will trigger the installation of an automatic sprinkler system. Systems are highly desirable for life safety and nearly all modern shops have them.
- **Fire Extinguishers:** Verify these are properly located 75' apart.
- **Smoke Detection, CO detection and Fire Alarm:** Modern system was not observed during our site visit. A new system should be installed.
- **Fire Separation:** Separation between 2001 addition and 1955 building is properly maintained. However, separation between shops and staff service areas is no longer intact and should be reestablished. Sliding fire door between parking and repair no longer operates in the event of a fire (fusible link).

EXISTING BUILDING EVALUATION

MAIN SHOP BUILDING – LIFE SAFETY ISSUES

- Lighting levels are minimal for a repair shop and should be improved for safety.
- Forced air unit in the parking garage should be installed to provide makeup air.

EXISTING BUILDING EVALUATION

MAIN SHOP BUILDING – **ACCESSIBILITY ISSUES**

- Most areas of the Main Shop Building first floor are accessible with exception of the alcove between at the office addition (door clearances and maneuverability).
- Toilet facilities are not accessible.
- The second floor is not accessible – may require an elevator.

EXISTING BUILDING EVALUATION

QUONSET HUT - OVERVIEW

- Original Construction – 1948
- Gross Building Area – 4,200 gsf
- Typical, military surplus-style, metal Quonset hut. The building currently serves as cold storage space. The building appears to be in serviceable conditions for storage use. No plans to improved enclosure or add heating.

EXISTING BUILDING EVALUATION

COLD STORAGE POLE BUILDING - OVERVIEW

- Original Construction – 1980
- Gross Building Area – 11,200 gsf
- Standard, wood framed pole barn with metal panel siding and roof panels. The existing floor is concrete. The building currently serves as cold storage space.

EXISTING BUILDING EVALUATION OTHER STRUCTURES - OVERVIEW

REMODELED STORAGE BUILDING

- Remodeled for Storage Use – 2000
- Gross Building Area – 1,800 gsf

TIMBER SALT SHED AND STATE SALT BUILDING

- Original Construction – 1965 and 1987 respectively
- Gross Building Area – 2,250 gsf and 3,000 gsf respectively

EXISTING BUILDING EVALUATION OTHER STRUCTURES – OVERVIEW

FUEL STORAGE SHED

- Original Construction – 1992
- Gross Building Area – 960 gsf
- Pre-engineered metal building

STATE SALT DOME

- Original Construction – 1996
- Capacity – 10,000 tons

EXISTING BUILDING EVALUATION OFFICE ADDITION – OVERVIEW

- Original Construction - 2001
- Gross Building Area – 1,428 gsf
- The addition was constructed to house administrative functions for the Department and contains an office for the highway commissioner, a conference room, open office area, and accessible toilet room facilities.

EXISTING BUILDING EVALUATION

OFFICE ADDITION – **BUILDING ENVELOPE**

- **General Construction:** The addition is built with standard wood-framed construction for walls and gang-nailed wood trusses.
- **Building Envelope:** The walls are insulated with batt insulation and the roof is insulated within the truss space.
- **Windows** are aluminum-clad, low-e type.
- **HVAC system** is a conventional furnace located in a closet adjacent to the parts area.
- **Accessible, male-female toilet rooms** are provided.
- **No apparent code violations.**
- **No apparent accessibility issues.**