

Supplemental to ZBA Application Marblehead Transfer Station *Net Zero Investigation*

7/13/2023

The Town asked that WSA provide an informal investigation into the potential for a NetZero Marblehead Transfer Station project. The following is a rough estimate.

The current MTS yearly load is +/- 32,500kWH.

The anticipated MTS yearly load is +/- 40,000kWH

If we maintain a 4' path around the roof edge, we can fit:

- +/- 30 panels (44 will fit on the PIT STRUCTURE but this includes the vertical panels which are around 70% efficient – so effectively around **30** panels)
- **22** on the SWAP SHED
- **2** on the TRANSACTION HUT
- **8** on the SCALE HOUSE

For a total of **62** panels.

Assuming use of today's 400W panels, the project will require around **68** panels to accommodate the MTS yearly load of 40,000kWH

This 'rough order of magnitude' estimate indicates that the MTS is very close to attaining Net Zero using today's 400W panels alone. However, improved panel efficiency and promising new wind turbines confirms the feasibility of a future NetZero Transfer Station.