



“Green” Features of Marden Field House

SITE DESIGN

A new primary entrance was added to the site to avoid vehicle traffic over the Marden Creek to avoid the direct introduction of road salt during winter month plowing operations.

The Township and Burnside Engineering worked with the Grand River Conservation Authority to develop a Storm Water Management Plan that would maximize storm water infiltration on the site.

The plan implements underground utilities to maximize the planting of large native trees.

The Township maximized the building set back from Marden Creek beyond the 30m requirement by the Federal Government to eliminate any negative potential impacts on the Creek.

The Township maximized the facility set back from the road to minimize the impact of the esthetics of the rural landscape.

BUILDING DESIGN

Lighting

- use of high output t-5 lighting in the super structure
- use of T-8 and compact fluorescent fixtures in the remaining of the building
- motion activated light sensors in all rooms in amenity build
- Full cut off dark sky compliant exterior lighting (including sports field)
- Use of glazing in the super structure and amenity building to introduce natural light
- LED exit lights

Materials

- Complete structural steel construction
- Exterior walls are insulated wall panels with r21 value
- Double skin roofing system with r30 value
- Millwork using “Trex” recycled composite lumber
- Introduction of double door vestibules
- Staggered joint construction

Water Usage

- Auto shut-off fixtures including showers
- Low flow fixtures
- Hydration stations
- Drought tolerant landscaping around facility
- Pedestrian flow designed to minimize cleaning
- Full nitrate treatment on wastewater

Heating/Cooling

- High efficiency natural gas forced air furnaces.
- Thermal insulated duct work
- 0% roof penetration
- Exterior walls are insulated wall panel construction with R-21value (OBC r10)
- Roofing system is a double skin R-30 value (OBC r20)
- High Bay gymnasium ceiling fans in super structure
- Multiple zone HVAC system
- Operating and monitoring software for HVAC system
- 2” rigid insulation along perimeter of foundation wall to top of footings
- 4” rigid insulation under floor slab at all doors to help with thermal bridging
- Dehumidifier in change rooms to reduce the need for AC
- High efficiency cooling units
- Energy recovery on exhaust
- Free Cooling cycle in super structure