

9. TRADE-OFF ANALYSIS

Each of the following alternatives is compared in the following paragraphs as to their advantages and disadvantages if implemented.

9.1 Alternative 1 - Develop the Zilwaukee Township Site, West of Saginaw River, into a Dredged Material Disposal Facility.

Advantages: The DMDF location is within a reasonable dredged material haul distance for dredging the Upper Saginaw River. The site is adequate in size to meet the 20 - year capacity, engineering and environmental requirements.

Disadvantages: Temporary disturbance to wildlife habitat during construction.

9.2 Alternative 2 - Develop the Buena Vista Township Site, East of Saginaw River, into a Dredged Material Disposal Facility.

Advantages: The DMDF location is within a reasonable dredged material haul distance for dredging the Upper Saginaw River.

Disadvantages: MDEQ would require wetland mitigation at this site, meaning only 131 acres of land could be used for a DMDF; the reduced acreage will not meet requirements for the 20 - year capacity of 3,100,000 CY without constructing much larger perimeter dikes to create a taller facility. The much larger dikes would significantly increase construction costs, which would make the site more costly to develop than Alternative 1.

9.3 Alternative 3 - Place Dredged Material at the General Motors Powertrain (Saginaw) Metal Casting Operation Landfill.

Advantages: It has a 5,000,000 cubic yard capacity, which is beyond the 20-year capacity requirement.

Disadvantages: The lack of resolution regarding the indemnification for the dredged material and casting sand. General Motors decided to withdraw its site from further consideration.

9.4 Alternative 4 - Beach Nourishment

Advantages: This alternative could meet the 20 - year capacity.

Disadvantages: The dredged material is not suitable for beach nourishment.

9.5 Alternative 5 - Recycle Dredged Material

Advantages: After the hydrocyclone process, the clean portion of the sediments can be reuse

Disadvantages: This alternative is not the least costly. After the hydrocyclone process, the sediments will yield only approximately 15% clean usable sand and 85% silt that will require containment.

9.6 Alternative 6 - No Action

Advantages: No Federal dollars will be spent.

Disadvantages: The backlog of maintenance dredging would continue to accrue, which will continue to limit full utilization of the channel, resulting in increased transportation costs.