

2019 Master Plan Addendum A

Michigan Coastal Management Program - Coastal Community Resiliency

Master Plan Amendment to be included as a new addendum - (Approved at Village Council Regular Meeting on September 1, 2020).

1. The Great Lakes, including Lake Michigan/Huron, are currently experiencing record high water levels, and scientific models project that this trend is likely to continue for some years to come. The Village of Empire, as one of Michigan's pre-eminent coastal communities, has suffered damage to its public beach park, experienced high groundwater table levels resulting in flooded basements and water pumping to Village streets, and significant erosion to the shoreline at some riparian private properties. The Village of Empire is adapting to these changing conditions and planning for the possible continuation of high Lake Michigan water levels and its effects to shorelines, and the periodic blockage of S. Bar Lake's discharge to the big lake and thereby raising its water level.

2. The Lake Michigan/Huron water levels rose quickly in the past few years and in July of 2020 reached an all-time record elevation of more than 582 feet (International Great lakes Datum 85). In summary, the Great Lakes system experienced extremely low levels in the late 1920s, mid-1930s, and the mid-1960s. Water levels then climbed during the late-1960s and the 1970s. Lake levels were above average for some time reaching record highs in October of 1986 at 582.3 feet (IGLD85). Between 1999-2014, the lakes experienced an unprecedented period when water levels for Lake Michigan/Huron and Superior fell below their long-term average for 15 years. Notably, lakeshore property owners and coastal communities were fearful at that time that these low water levels might persist, and some complained of the emergence of coastal wetlands within former lake bottom area at that time. To be sure, the water levels of the Great Lakes are a dynamic system. In January 2013, Lake Michigan/Huron set an all-time record low of 576.02 feet (IGLD85), surpassing the previous record low of 576.05 feet (IGLD85) from March of 1964. The temperatures of the Great Lakes have similarly demonstrated great change, with temperatures increasing 6 - 11 degrees F in 2020 when compared to a 30-year average.

3. The Village of Empire embraces the goals of the Michigan Coastal Management Program (MCMP) to adapt to changes in Great Lakes water levels, coastal storms and floods, managing resulting social and environmental changes, and to build and maintain a reliable and sustainable economy. The Village acknowledges that "hazard-ready" communities provide space for changes in shoreline bluffs, beach, and dune migration, allowed for these area's continued use by and services to the community.

4. We believe that *scenario-based planning* can assist in devising best the plans and options to meet changing shoreline conditions, while maintaining the unique small, beach town character of the Village of Empire. Scenario-based planning incorporates best- and worst-case scenarios and their risks to assist a community planning and the adoption of zoning and other regulations by visualizing and anticipating a range of natural, physical conditions.

5. The Village of Empire embraces and incorporates a "Resilient Community Master Plan" to better align our community's vision for our changing coast and to assist in institutional management measures to adapt, accommodate and/or even consider 'stepping back' future development from sedative natural and dynamic coastal features.