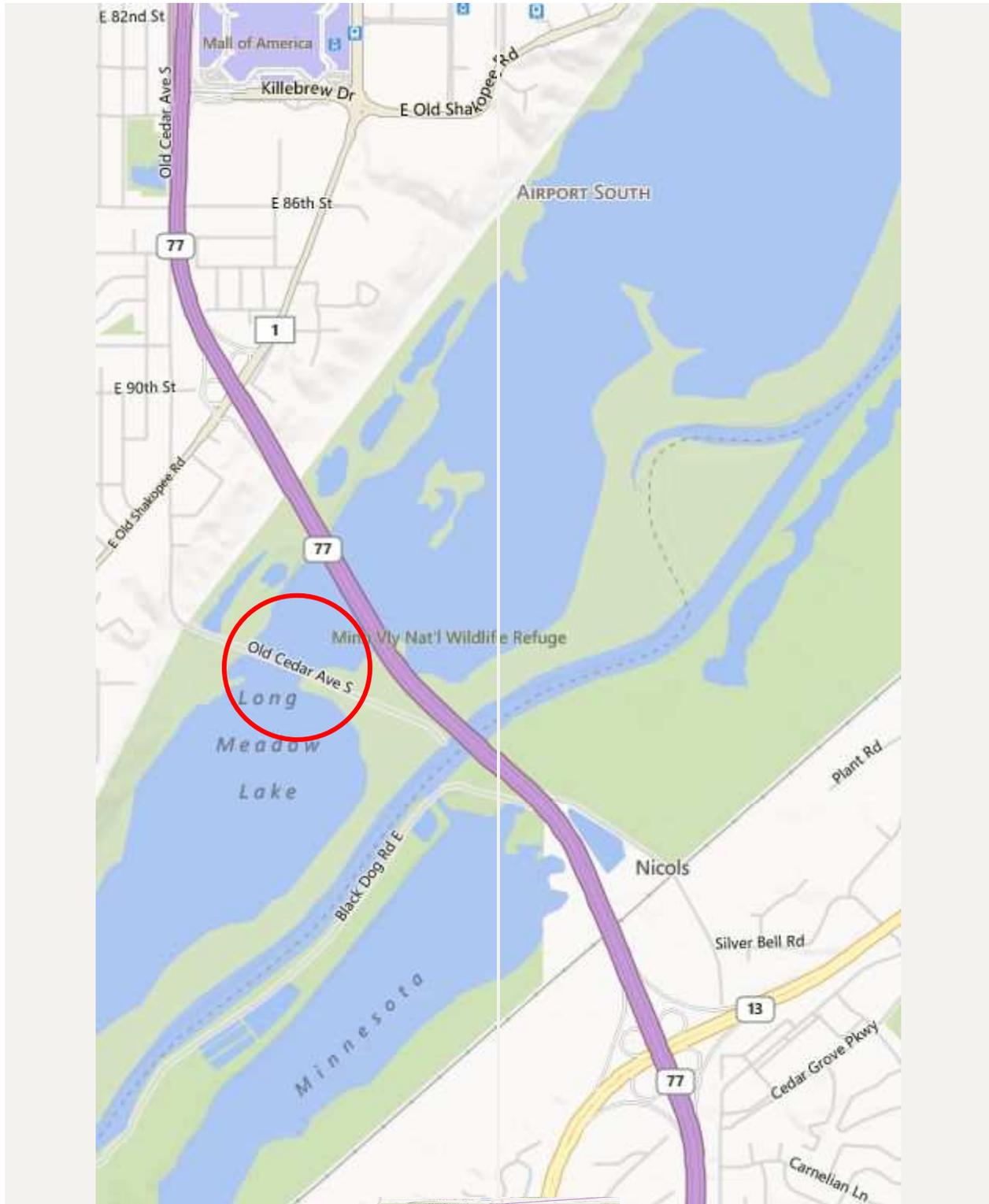


LOCATION MAP Bridge 3145



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EXECUTIVE SUMMARY

This report presents a generalized narrative of the conditions observed during the 2014 In-Depth Rehabilitation Inspection of the Bridge No. 3145. The inspection was performed by Matthew Cramer, P. E., Jamison Beisswenger, P. E., and Quianna Dolney, P.E.. of SRF Consulting Group, Inc. (SRF) along with Bradly Croop, P. E. and Austin Kieffer, E.I.T. of Modjeski & Masters Inc. (MM) during the period of April 7, 2014 through April 11, 2014.

The inspection scope of this project consisted of a detailed inspection of all substructure and superstructure components above water and ground of the bridge for the purpose of creating repair plans for the complete rehabilitation of the structure. Included in the substructure inspection were the abutment backwalls, bridge seats, stemwalls, wingwalls, pier columns, pier walls, pier caps and bearing pedestals. Included in the superstructure inspection were truss fixed and expansion bearings, truss gusset plates, lower chord members, vertical members, diagonal members, upper chord members, end posts, upper and lower lateral bracing, sway bracing, floorbeams and stringers. Detailed inspection findings with representative photographs of general and specific deficiencies are presented in this report.

Abutment Piers – The Abutment Piers are in poor condition and have undergone many repairs. The top of Abutment Pier 1 was completely rebuilt in 1957. Portions of the Abutment Pier 6 backwall have been replaced with steel. On both Abutments, the backwalls have cracked, spalled or shifted and the concrete endwalls have detached from the abutment backwalls.

Lake Piers - The Lake Piers are in a critical to imminent failure condition with large unsound and spalled areas. All the piers have suffered extensive deterioration due to freeze-thaw cycles in the vicinity of the water line and on the pier caps.

Bearings - The expansion and fixed bearings of the superstructure are in an imminent failure condition. All bearings have broken/corroded anchor rods, and partially undermined bearing masonry plates. All expansion bearings have displaced rollers and are frozen.

Truss Superstructure - The majority of the truss lower chord gusset plates are in critical condition with areas of severe section loss in almost all plates and in areas adjacent to connecting members. Pack rust is common adjacent to connecting truss members at most locations. The lower chord truss members are in fair to critical condition with localized areas of section loss. Several lower chord truss members along the north truss in Span 5 also have severe section loss and corrosion holes in the bottom flanges near mid-span.

The truss diagonal and vertical members are generally in fair condition with some localized section loss adjacent to the lower chord gusset plates. Several of the truss diagonals have impact damage that has significantly twisted the members.

The truss upper chords and upper portions of truss diagonal and vertical members are generally in good condition with almost no measurable section loss. The upper lateral bracing members are generally in good condition; however, the braces were noted to sag in every panel due to the slenderness of members. The sway bracing is typically in good condition except for the portal bracing which has sustained impact damages at several locations.

The lower lateral bracing is in a failed condition with all end connection plates and the majority of the bracing members exhibiting large areas of 100% section loss.

The floor system of the superstructure is in a failed condition with large areas of 100% section loss in most stringers and many floorbeams.

The paint protection system of the superstructure has failed completely in all areas.

Deck – Historical data indicates that the deck is not original and has been replaced. The timber exhibits severe splitting, missing boards and severe decayed areas throughout all surfaces and is an unsafe walking surface.

Railings – The two-pipe galvanized metal railing throughout all five spans is currently sub-standard and does not meet current standards for pedestrian traffic. Historical data and visual inspection indicate that the majority of the railing is not original and has been replaced.