

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE:

The existing structure is a 107'-10" wide railroad structure over 159th Street (US Rte. 6). The structure consists of four pre-cast concrete deck slab spans supported by gravity abutments and three reinforced concrete piers. This structure will be replaced by a two span, 73'-6" wide railroad structure. The existing structure No. is 016-0384 and was built in 1925. Staged construction will be utilized to maintain rail traffic. The roadway below will be closed during construction.

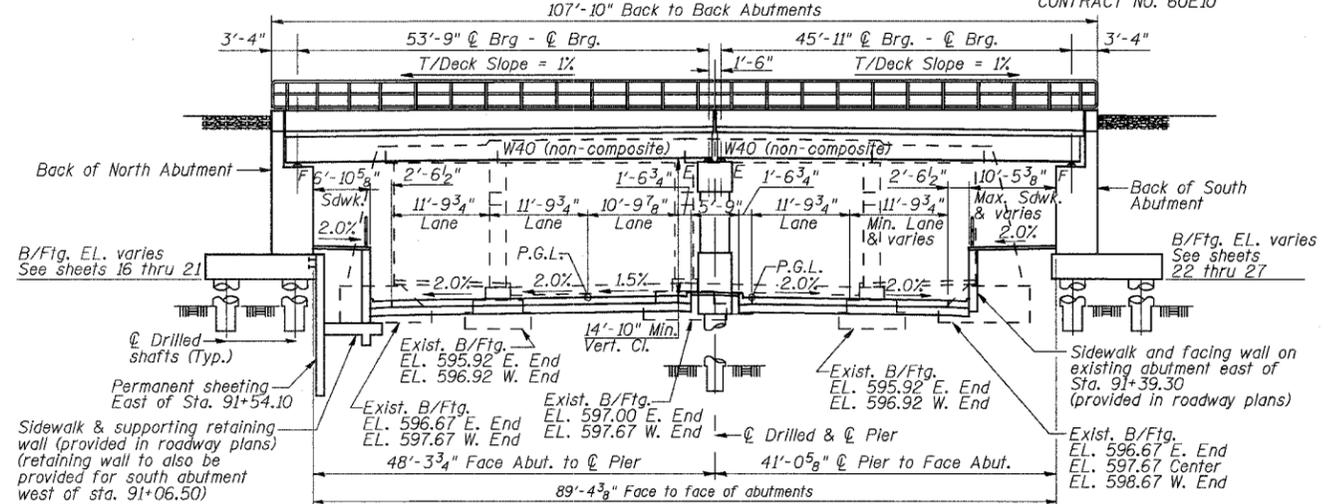
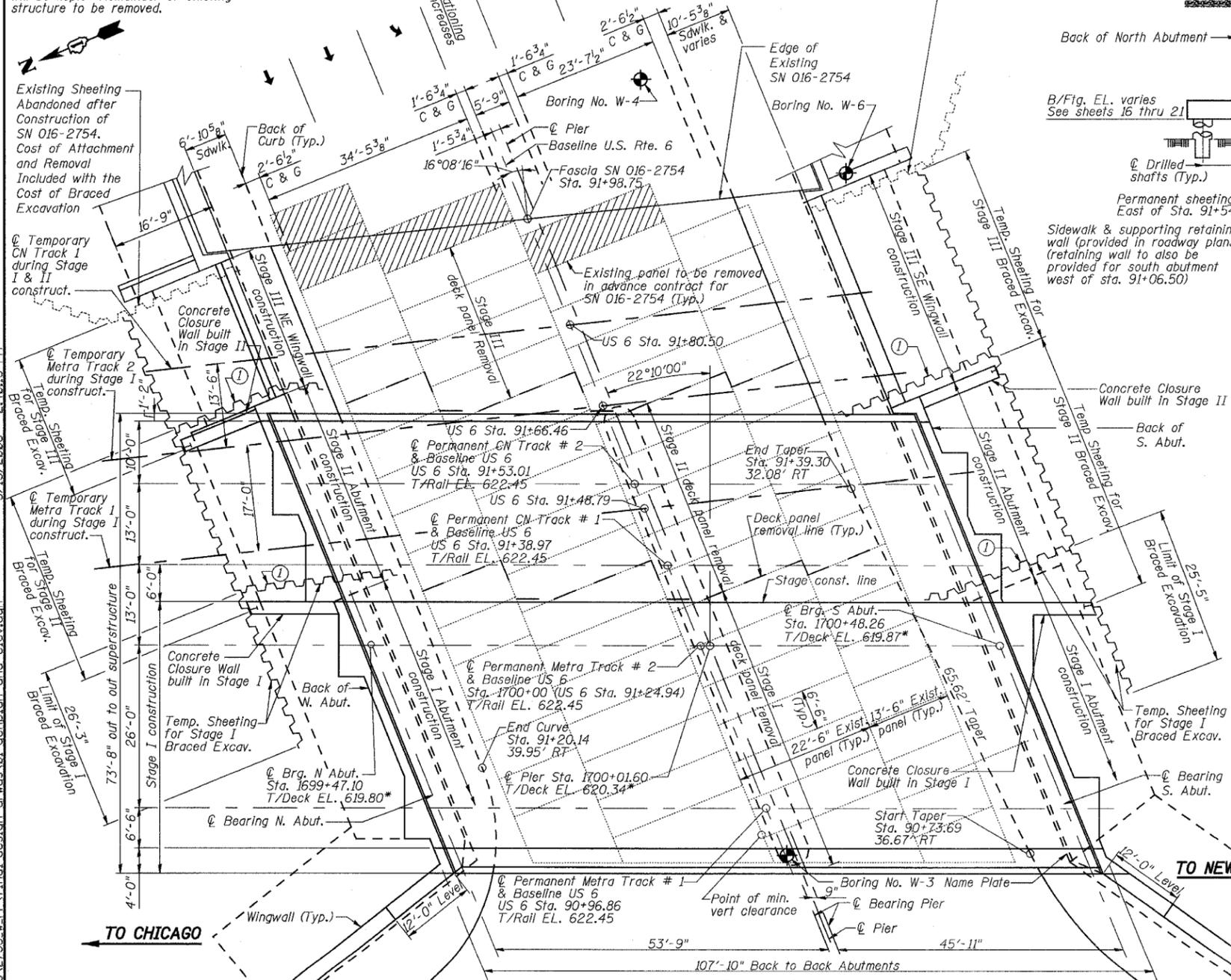
BENCHMARK:

"X" cut on the southeasterly corner of the R.R. bridge pier in the centerline of 159th Street at the east face of the bridge, approximately 98 feet west of Center Street. Elevation 603.25

Non-composite construction.

Limited portion of existing south abutment will be kept. Remainder of existing structure to be removed.

Existing Sheeting Abandoned after Construction of SN 016-2754. Cost of Attachment and Removal Included with the Cost of Braced Excavation



ELEVATION

(Looking East)
Note: Horizontal dimensions shown are at 90° to US Route 6 except span lengths. See roadway plans for limits of removal of sidewalk and the new retaining wall.

Note: No deck drains will be permitted on the bridge, slope the 1/2" deck 1/2" from pier to abutments and drain behind backwall.

DESIGN SPECIFICATIONS

American Railway Engineering & Maintenance-of-Way Association (AREMA) Manual for Railway Engineering, 2005.

DESIGN STRESSES

FIELD UNITS:
f'c = 3,500 p.s.i.
fy = 60,000 p.s.i. (Reinforcement)
fy = 50,000 p.s.i. (Struct.) (M270 Grade 50)
fy = 36,000 p.s.i. (Struct.) (M270 Grade 36)

LOADING

Superstructure: Cooper E80 with Impact for locomotives with hammer blow.
Substructure - Cooper E90 with Impact for rolling equipment without hammer blow
Service Load Design.
Allow for future addition of 15" ballast.

RAILROADS

CLASS: RAILROAD
ADT:
Metra Tracks 1 & 2 = 40 Trains per day
CN Tracks 1 & 2 = 20 Trains per day
Design Speed: 65 mph

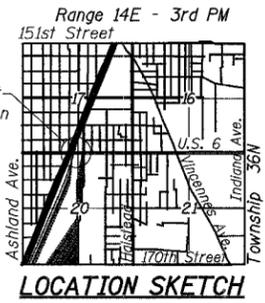
SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = .04g
Site Coefficient (S) = 1.0

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APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES



PLAN



JEROME J. GAP, P.E.
LICENSE NO. 081-004193
EXPIRES: 11/30/2008
DATE: 03-14-2008

URS
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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
US RTE 6 FROM I-294 TO IL RTE 1
GENERAL PLAN & ELEVATION

METRA & CN BRIDGE 20.6
OVER U.S. RTE. 6 (159TH STREET)
STATION 91+24.94 STRUCTURE NO. 016-2755
SCALE: DATE: 2/21/2008

3/13/2008 2:40:13 PM
 17049.069\structures\2755.w.r.r\final design.dwg
 01-general and elevation

DESIGNED DRS
CHECKED JGG
DRAWN SOI
CHECKED JGG

Sta. 1700+00 on Metra Track 2 = Railroad valuation station 1092+63.42

① See Abutment removal details Drawing (Sheet 14 of 37) for General Configuration of sloped back of existing Abutments and Footing.