APPROVED

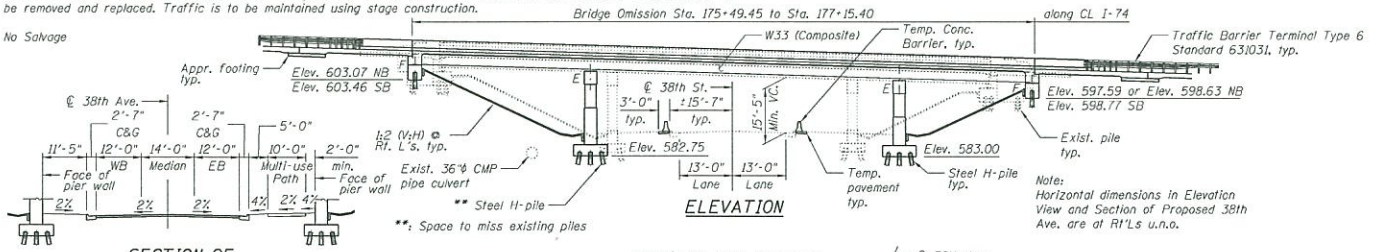
FEB 23 2016

AS A BASIS FOR PREPARATION OF DETAILED PLANS

Benchmark: N/A

Existing Structures: SN 081-0109 (SB) and SN 081-0110 (NB) were built in 1966 as FAI 74 Section 81-2HB at Sta. 403+20.46. Both structures consist of 3 continous span composite steel rolled beams on H-pile supported multi-column piers and open abutments, skewed at 23°09'25" left hand forward. In 1991, rehabilitation was conducted including entire deck scarification and overlay, abutment expansion joint and bearing replacement, and slopewall slurry pumping. In 2009, the deck was partially patched, and the overlay was replaced from micro silica to bituminous concrete. The expansion joints at both abutments were replaced. Both structures are 149'-6 1/8" bk. to bk. abutments. The NB Bridge is 49'-2"± to 52'-1"± o. to o. wide, the SB Bridge is 50'-3"± to 57'-9"± o. to o. wide. Both existing structures are to be removed and replaced. Traffic is to be maintained using stage construction.

No Salvage

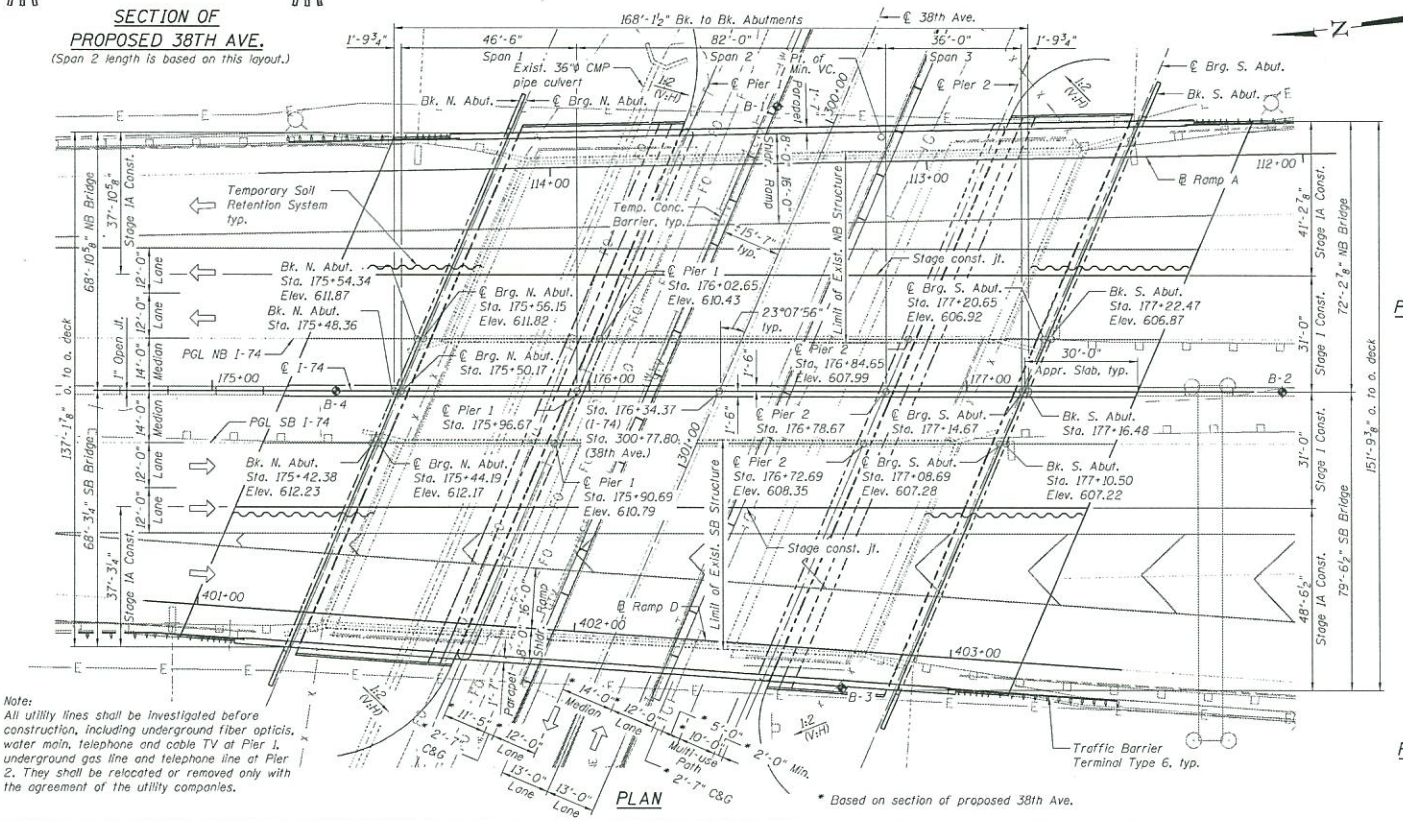



ELEVATION

SECTION OF PROPOSED 38TH AVE.

(Span 2 length is based on this layout.)

Note:
Horizontal dimensions in Elevation View and Section of Proposed 38th Ave. are at Rt'Ls u.n.o.




PLAN

Note:
All utility lines shall be investigated before construction, including underground fiber opticis, water main, telephone and cable TV at Pier 1, underground gas line and telephone line at Pier 2. They shall be relocated or removed only with the agreement of the utility companies.

## HIGHWAY CLASSIFICATION

F.A.I. 74 - I-74
Functional Class: Interstate
ADT: 42,000 (2025); 46,450 (2045)
ADTT: 2,520 (2025); 2,787 (2045)
DHV: 4,645 (2045)
Design Speed: 70 m.p.h.
Posted Speed: 65 m.p.h.
Two-Way Traffic
Directional Distribution: 50:50

38th Avenue (Cool Town Road)
Functional Class: Urban Collector
ADT: 14,250 (2025); 19,200 (2045)
ADTT: 371 (2025); 499 (2045)
DHV: 1,920 (2045)
Design Speed: 40 m.p.h.
Posted Speed: 40 m.p.h.
Two-Way Traffic
Directional Distribution: 50:50

## DESIGN STRESSES

FIELD UNITS

f'c = 4,000 psi (superstructure concrete)
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

## DESIGN SPECIFICATIONS

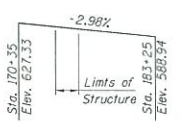
AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 Interim Revisions

## LOADING HL-93

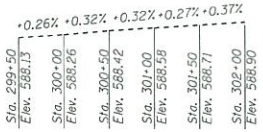
Allow 50#/sq. ft. for future wearing surface.

## SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. ($S_{D1}$) = 0.087g
Design Spectral Acceleration at 0.2 sec. ($S_{DS}$) = 0.128g
Soil Site Class = D

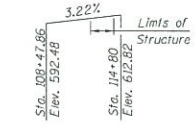



PROFILE GRADE I-74

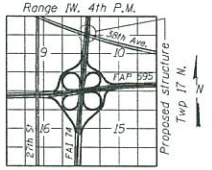



PROFILE GRADE 38TH AVE.

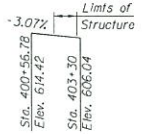
(along ℄ 38th Ave. from survey)




PROFILE GRADE RAMP A




LOCATION SKETCH




PROFILE GRADE RAMP D

GENERAL PLAN
I-74 OVER 38TH AVENUE
F.A.I. 74 SECTION (81-2)R
ROCK ISLAND COUNTY
STATION 176+34.37
STRUCTURE NO. 081-0202

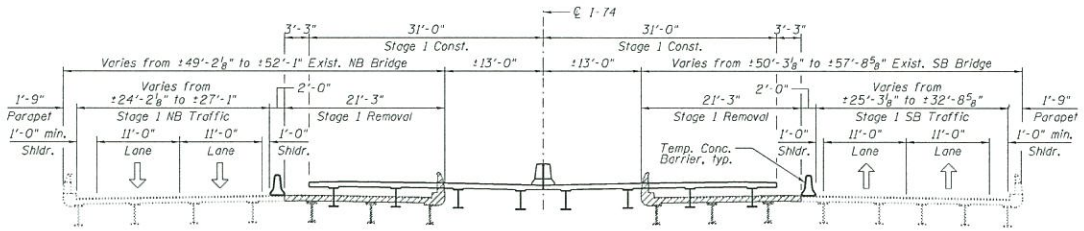
amec foster wheeler
8745 W. HIGGINS ROAD
SUITE 300
CHICAGO, IL 60631
(773) 693-6030

| | | | |
|---|---|---|---|
| USER NAME = | DESIGNED - JY | REVISED - | |
| | CHECKED - MPB | REVISED - | |
| PLOT SCALE = N/A | DRAWN - JY | REVISED - | |
| PLOT DATE = 2/9/2016 | CHECKED - MPB | REVISED - | |

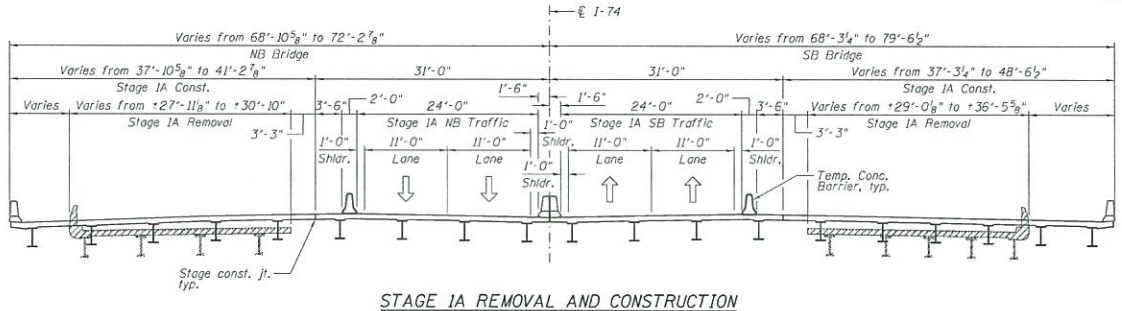
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 3 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 74 | (81-2)R | ROCK ISLAND | 3 | 1 |
| | | CONTRACT NO. 64H87 | | |
| | | ILLINOIS FED. AID PROJECT | | |



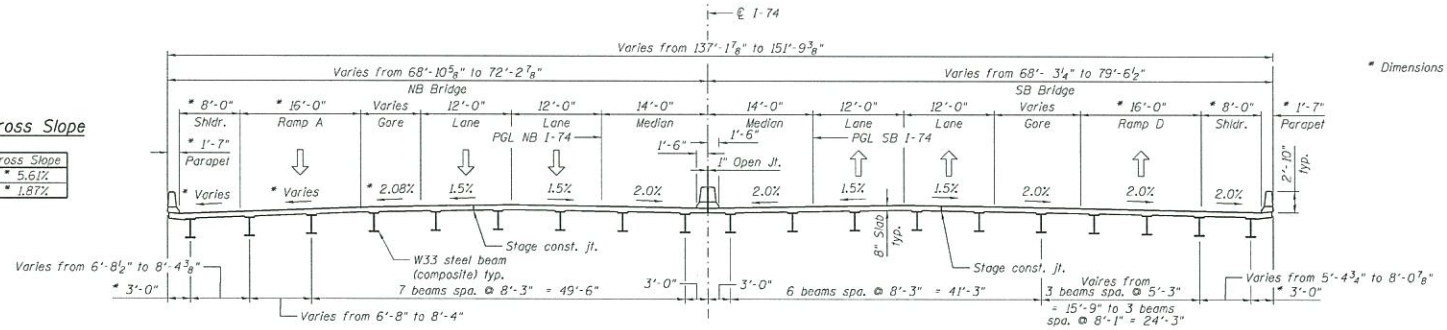

STAGE 1 REMOVAL AND CONSTRUCTION
(Looking South)




STAGE IA REMOVAL AND CONSTRUCTION
(Looking South)

LEGEND

Removal




TYPICAL SECTION
(Looking South)

* Dimensions are perpendicular to Ramp A or Ramp D.

Ramp A Cross Slope

| Station | Cross Slope |
|---|---|
| 111+78.41 | * 5.61% |
| 114+76.06 | * 1.87% |

CONSTRUCTION STAGING
I-74 OVER 38TH AVENUE
F.A.I. 74 SECTION (81-2)R
ROCK ISLAND COUNTY
STATION 176+34.37
STRUCTURE NO. 081-0202

APPROVED
FEB 23 2016
AS A BASIS FOR PREPARATION OF DETAILED PLANS

amec foster wheeler
8745 W. HIGGINS ROAD
SUITE 300
CHICAGO, IL 60631
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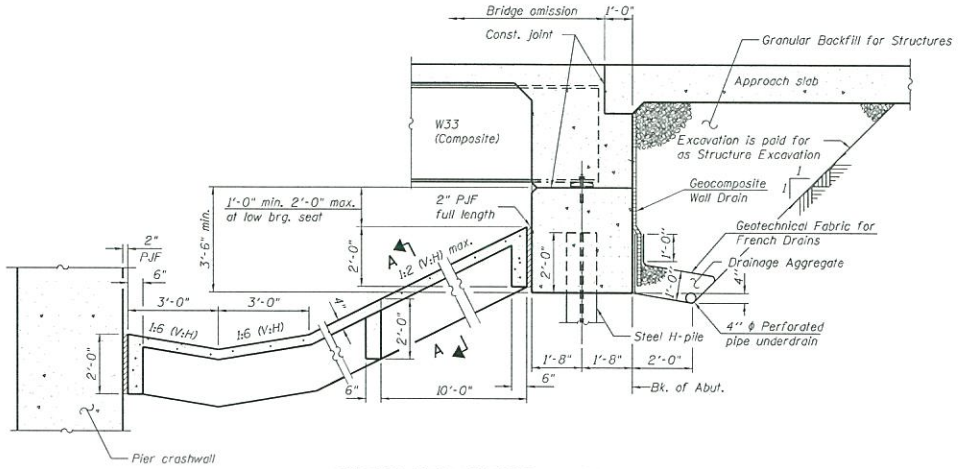
| | | | |
|---|---|---|---|
| USER NAME = | DESIGNED - JY | REVISED - | |
| | CHECKED - MPB | REVISED - | |
| PLOT SCALE = N/A | DRAWN - JY | REVISED - | |
| PLOT DATE = 2/9/2016 | CHECKED - MPB | REVISED - | |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

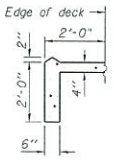
SHEET NO. 2 OF 3 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 74 | (81-2)R | ROCK ISLAND | 3 | 2 |
| | | CONTRACT NO. 64H87 | | |
| | | ILLINOIS FED. AID PROJECT | | |




SECTION THRU INTEGRAL ABUTMENT AND SLOPEWALL

(South Abutment shown, North Abutment similar)
(Horiz. dim. & slopewall slope ⊥ Rt. L's)



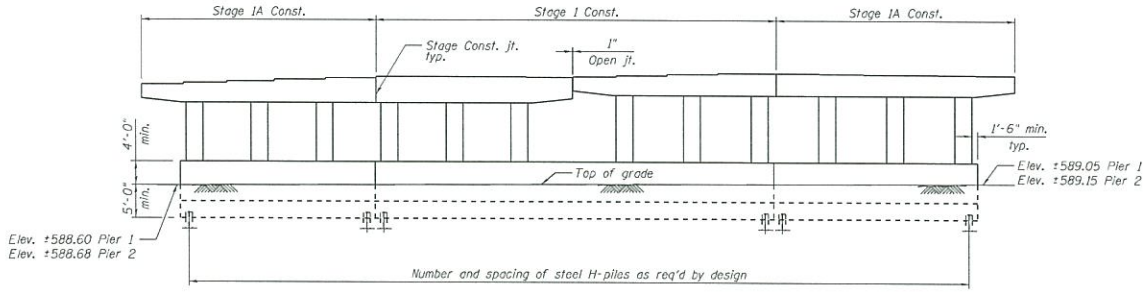

SECTION A-A

(at slopewall ends)

**APPROVED**

FEB 23 2016

**AS A BASIS FOR PREPARATION OF DETAILED PLANS**




TYPICAL PIER SKETCH

(Looking South)

ABUTMENT SECTION AND PIER ELEVATION
I-74 OVER 38TH AVENUE
F.A.I. 74 SECTION (81-2)R
ROCK ISLAND COUNTY
STATION 176+34.37
STRUCTURE NO. 081-0202

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|---|---|---|---|
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| | CHECKED - MPB | REVISED - | |
| PLOT SCALE = N/A | DRAWN - JY | REVISED - | |
| PLOT DATE = 2/9/2016 | CHECKED - MPB | REVISED - | |

**STATE OF ILLINOIS**
**DEPARTMENT OF TRANSPORTATION**

SHEET NO. 3 OF 3 SHEETS

| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 74 | (81-2)R | ROCK ISLAND | 3 | 3 |
| | | CONTRACT NO. 64H87 | | |
| | | ILLINOIS FED. AID PROJECT | | |