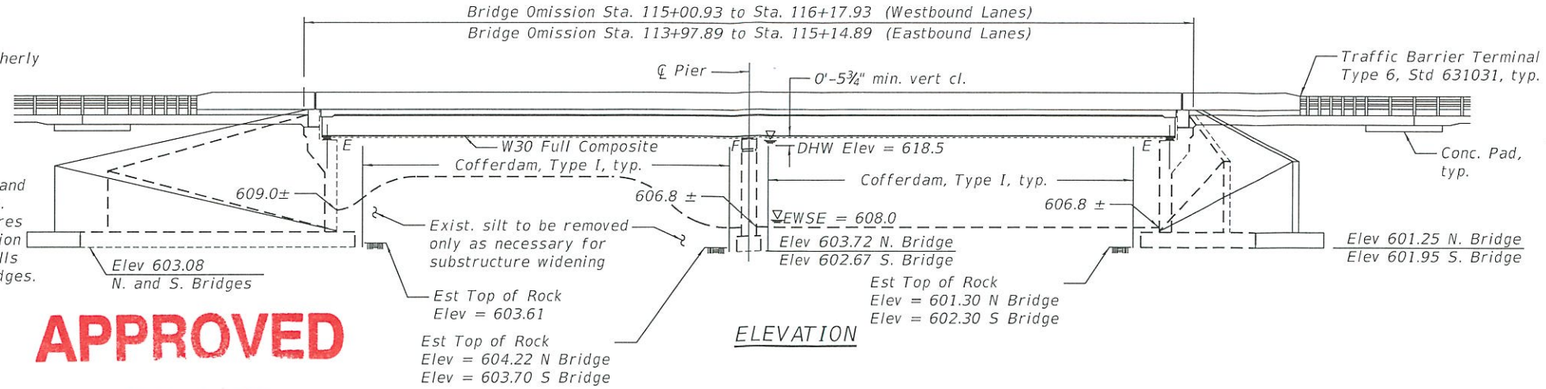
Benchmark:
Disk in concrete on northwest corner of northerly bridge. Elev. 623.13 (NAVD 88)

Existing Structure:
SN 046-0035 (EB) and 046-0036 (WB) were originally constructed in 1964 as F.A.P. 330, Section (1R) BR-1.
The original bridge decks are 36' out to out and 117'-0" back of abutment to back of abutment.
The Structures are to have the superstructures replaced and widened using staged construction with substructures widened and new wing walls constructed. There is no asbestos on the bridges.

No Salvage




ELEVATION

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## LOADING HL-93

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

## DESIGN SPECIFICATIONS

(For New Superstructure)
2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 & 2016 Interims

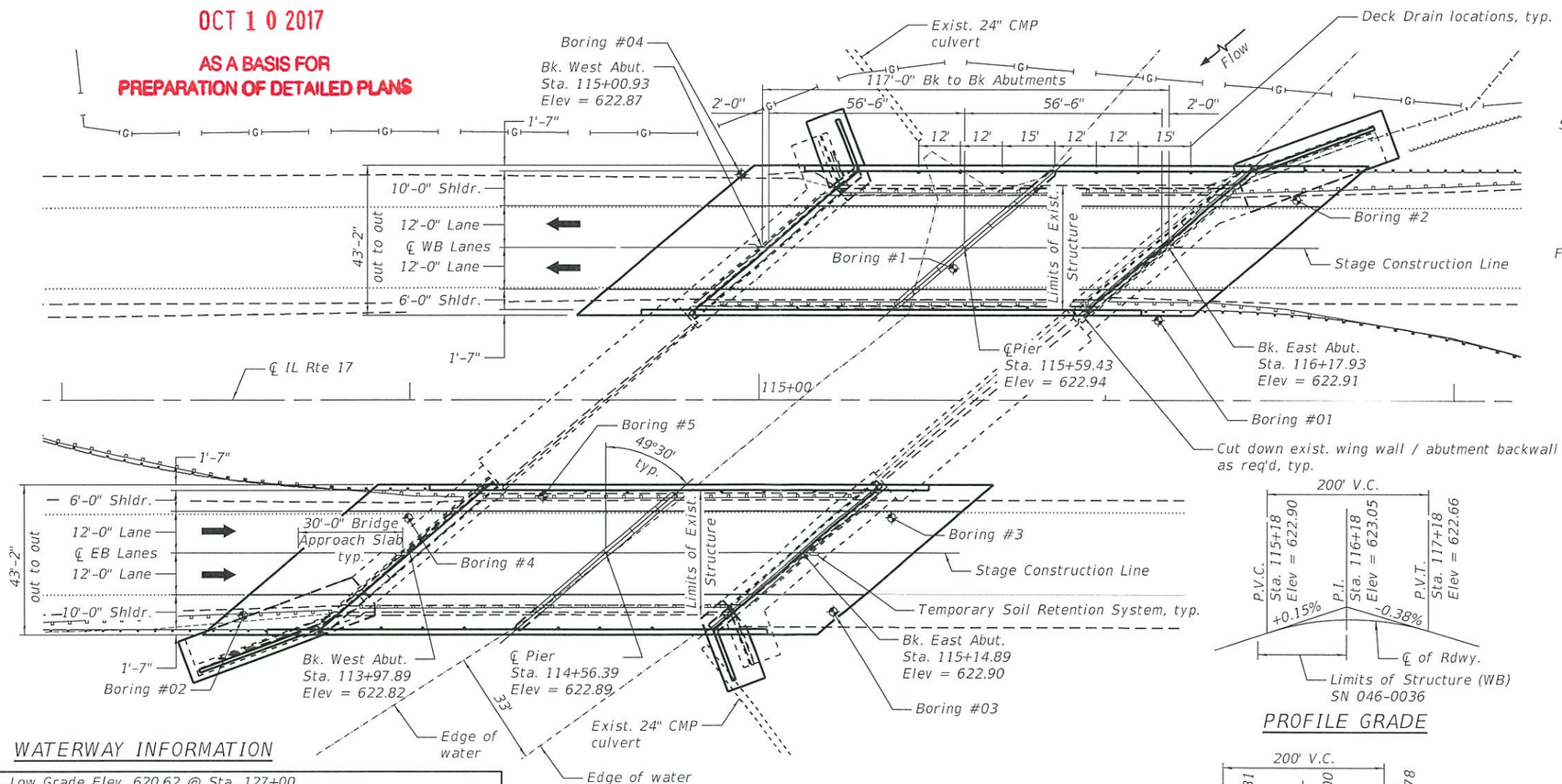
## DESIGN STRESSES

FIELD UNITS (New Construction)
f'c = 3,500 psi
f'c = 4,000 psi (Deck)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

FIELD UNITS (Existing Construction)
fc = 1,000 psi
vc = 75 psi (Footings)
fs = 20,000 psi (Reinforcement)
n = 10

## SOIL BORINGS

1964 Borings# 1-5
2016 Borings# 01-04




PLAN

## SEISMIC DATA

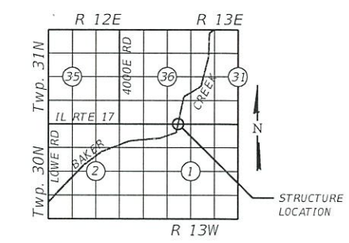
Seismic Performance Category (SPC) = A
Bedrock Acceleration = 0.042
Soil Coefficent = 1.0

## HIGHWAY CLASSIFICATION

Rte. 330 - IL Rte. 17
Functional Class: Other Principal Arterial
SN: 046-0035
ADT: 5408 (2019); 6448 (2039)
ADTT: 1352 (2019); 1612 (2039)
DHV: 514
SN: 046-0036
ADT: 5824 (2019); 6944 (2039)
ADTT: 1118 (2019); 1333 (2039)
DHV: 553
Design Speed: 55 m.p.h.
Posted Speed: 55 m.p.h.
One-Way Traffic, two bridges




PROFILE GRADE




LOCATION SKETCH

## WATERWAY INFORMATION

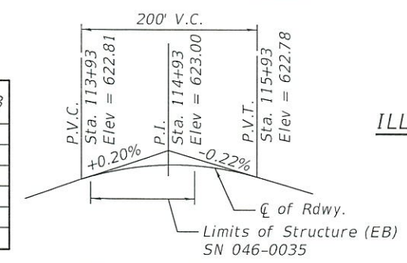
| Drainage Area = 41 sq mi | Exist. Low Grade Elev. 620.62 @ Sta. 127+00 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Prop. Low Grade Elev. 620.62 @ Sta. 127+00 | | | | | | | | |
| Flood | Frequency (yr.) | Q (cfs) | Opening - sq. ft. | | NAT. H.W.E. | Head - ft. | | Headwater Elev. | |
| | | | Exist.* | Prop.* | | Exist. | Prop. | Exist. | Prop. |
| | 10 | 1440 | 570 | 570 | 617.8 | 0.3 | 0.3 | 618.1 | 618.1 |
| Hydraulic Design | 50 | 2090 | 612 | 612 | 618.5 | 0.6 | 0.6 | 619.1 | 619.1 |
| Base/Scour Des. | 100 | 2370 | 625 | 625 | 618.7 | 0.9 | 0.9 | 619.6 | 619.6 |
| Scour Check | 200 | 2650 | 638 | 638 | 618.9 | 1.1 | 1.1 | 620 | 620 |
| Max. Calc. | 500 | 3020 | 650 | 650 | 619.2 | 1.4 | 1.4 | 620.6 | 620.6 |
| Overtopping | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

10-year velocity exist. 2.4 fps  10-year velocity prop. 2.4 fps

## DESIGN SCOUR ELEVATION TABLE

| Bridge | Event/Limit State | Design Scour Elevations (ft.) | | | Item 113 |
|---|---|---|---|---|---|
| | | W. Abut. | Pier | E. Abut. | |
| South | Q100 | 605.10 | 606.80 | 603.46 | 8 |
| | Q200 | 605.10 | 606.80 | 603.46 | 8 |
| | Design | 603.08 | 602.67 | 601.95 | 8 |
| North | Q100 | 605.10 | 606.80 | 603.46 | 8 |
| | Q200 | 605.10 | 606.80 | 603.46 | 8 |
| | Design | 603.08 | 603.72 | 601.25 | 8 |

Note: Bottom of footings are keyed 6" ± into dense limestone based on existing drawings and soil borings.




PROFILE GRADE

GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 17 OVER BAKER CREEK
F.A.P. 330 SECTION [(1R) BR-1] 1
KANKAKEE COUNTY
STATION 115+07.91
STRUCTURE NO. 046-0035 (EB)
STRUCTURE NO. 046-0036 (WB)

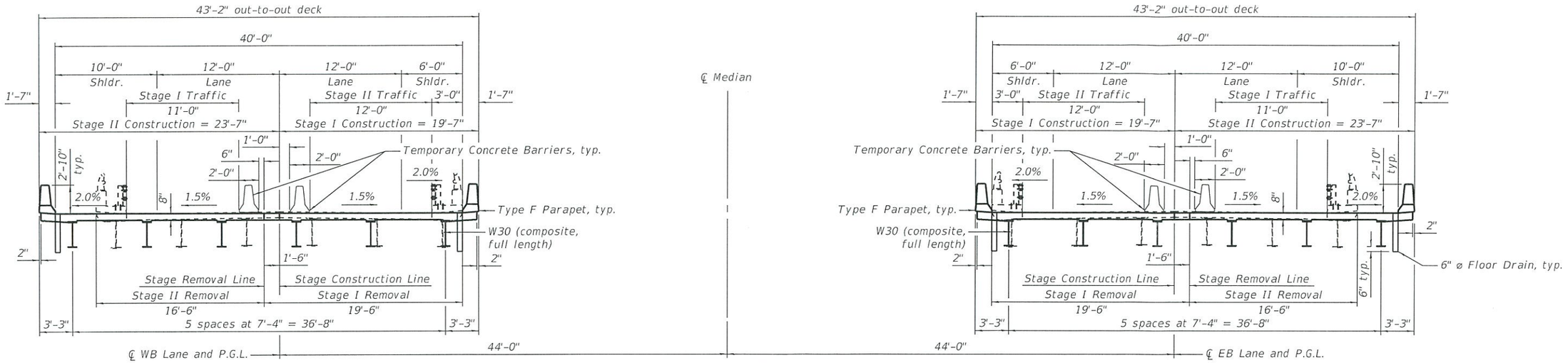
HRG PROJECT NO. 070696.22
HRG PROJ. CONTACT: Steve Schwartz
FILE NAME: 070696.22-TSL01.dgn
PLOT DRIVER: il_pdf.bwpltcfg
PEN TABLE: plotlabel.tbl

HRGreen
HRGreen.com
Illinois Professional Design Firm # 184-001322

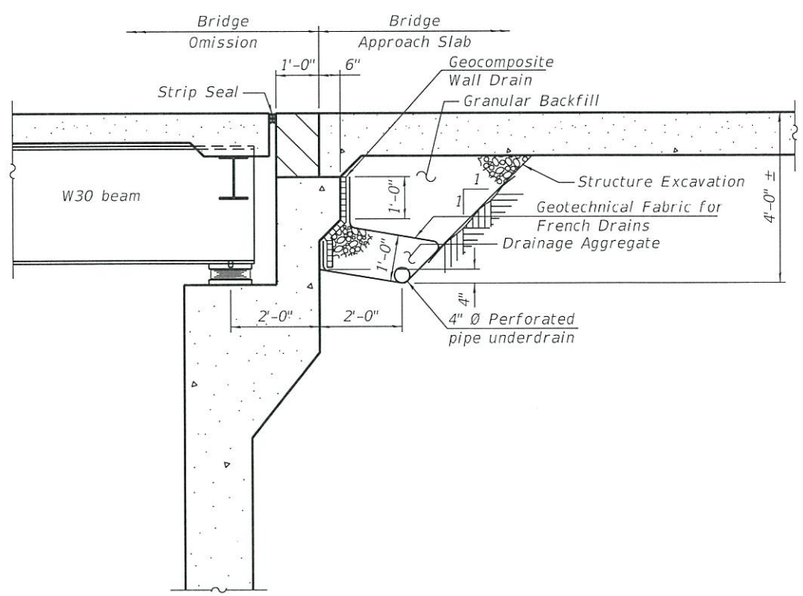
| | | | |
|---|---|---|---|
| USER NAME = | DESIGNED - SLS | REVISED - | |
| | CHECKED - RGD | REVISED - | |
| PLOT SCALE = | DRAWN - WJH | REVISED - | |
| PLOT DATE = | CHECKED - SLS | REVISED - | |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

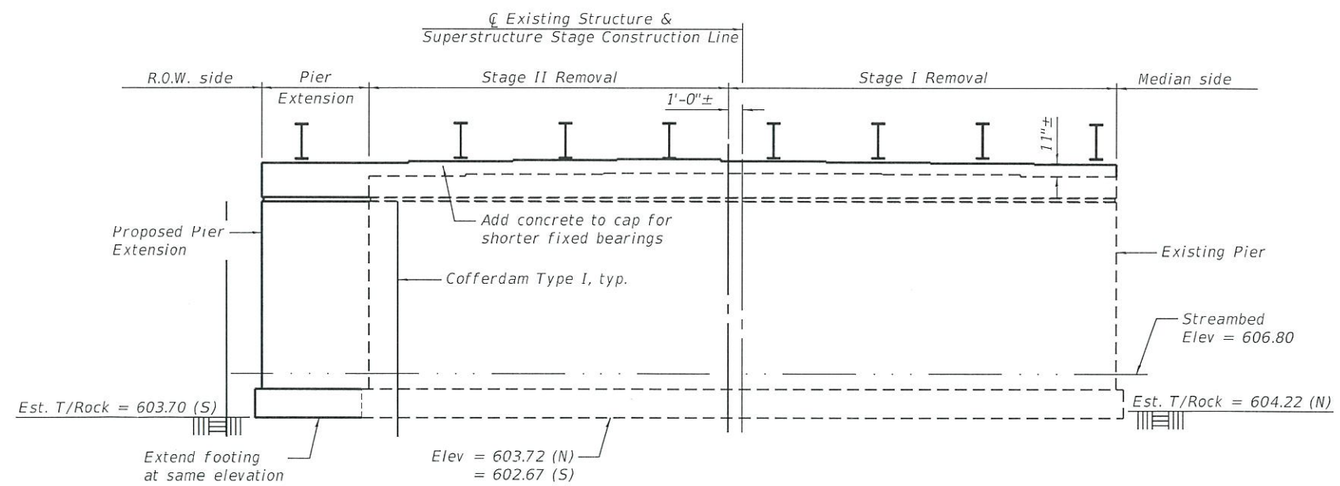
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 330 | [(1R) BR-1] 1 | KANKAKEE | 2 | 1 |
| | | CONTRACT NO. 66F57 | | |
| | | ILLINOIS FED. AID PROJECT | | |



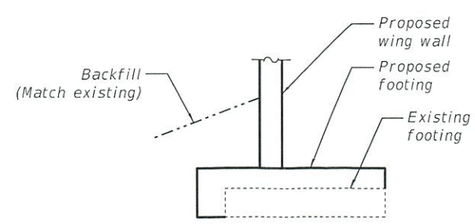

CROSS SECTION




SECTION THRU ABUTMENT
(Existing and Proposed)
(Horiz. dim. @ Rt. ∠'s)




PIER SKETCH




SECTION THRU
WING WALL FOOTING

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ILLINOIS ROUTE 17 OVER BAKER CREEK
F.A.P. 330 SECTION [(1R) BR-1] 1
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STRUCTURE NO. 046-0035 (EB)
STRUCTURE NO. 046-0036 (WB)

HRG PROJECT NO.: 070696.22
HRG PROJ. CONTACT: Steve Schwartz
FILE NAME: 070696.22-SL02.dgn
PLOT TIME: 10:00:00 AM
PLOT DATE: 10/5/17
PEN TABLE: pwtabwb.tbl

HRGreen
HRGreen.com
Illinois Professional Design Firm # 184-001322

| | | | |
|---|---|---|---|
| USER NAME = | DESIGNED - SLS | REVISED - | |
| | CHECKED - RGD | REVISED - | |
| PLOT SCALE = | DRAWN - WJH | REVISED - | |
| PLOT DATE = | CHECKED - SLS | REVISED - | |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 330 | [(1R) BR-1] 1 | KANKAKEE | 2 | 2 |
| | | CONTRACT NO. 66F57 | | |
| | | ILLINOIS FED. AID PROJECT | | |