

Bench Mark: BM 100, chiseled square on top of headwall, on the northeast corner of existing structure. Station 381+22.5, 23' left. Elevation 463.73

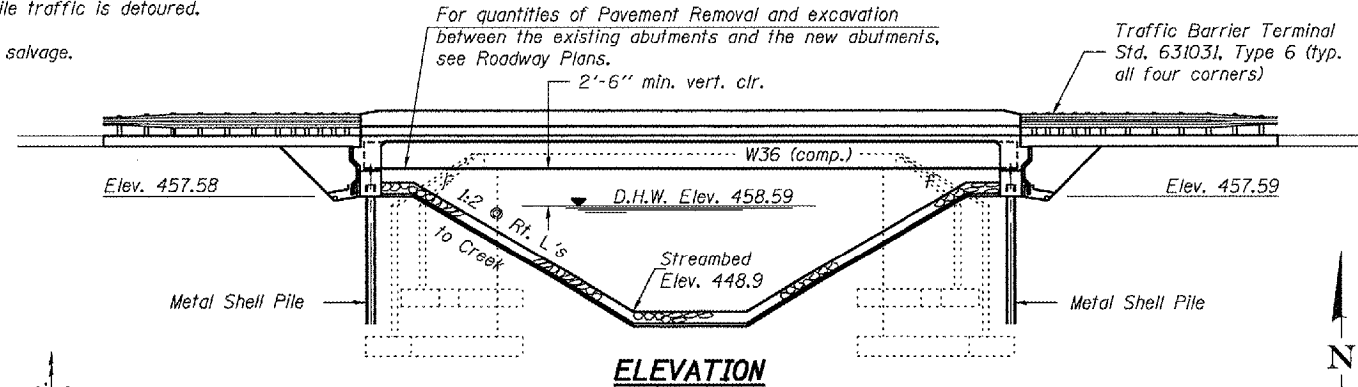
Existing Structure: S.N. 075-0025, originally built in 1930 as S.B.I. Route 106, Section 101 B. The original structure consisted of single span concrete T beam structure on closed abutments. In 1965 the substructure and superstructure were widened with precast deck beams. The back to back abutment length is 48'-0" and the out to out bridge width is 46'-4". The structure is to be removed and replaced while traffic is detoured.

No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| | | | | | |
|-----------------------|----------|------------------|--------------|-----------|--------------------------|
| ROUTE NO. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | SHEET NO. 1 14 SHEETS |
| F.A.P. 751 | 101B-2 | PIKE | 48 | 26 | |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT | | | |

Contract #72928

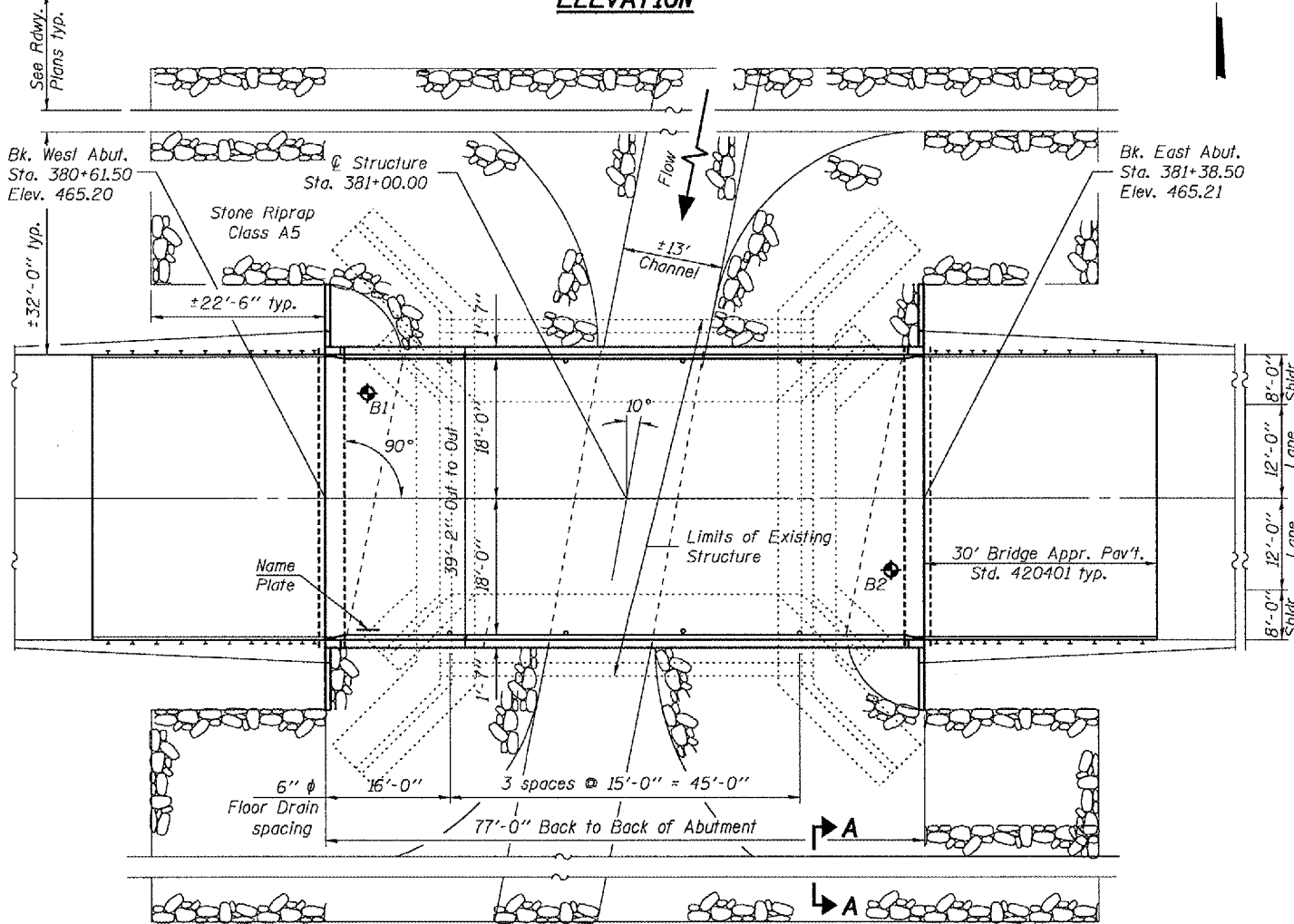


INDEX OF SHEETS

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- 10 East Abutment
- 11 Metal Shell Piles
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TOTAL BILL OF MATERIAL

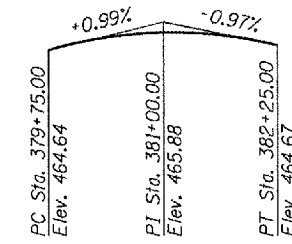
| ITEM | UNIT | SUPER | SUB | TOTAL |
|--|---------|-------|------|-------|
| Porous Granular Embankment (Special) | Cu. Yd. | | 128 | 128 |
| Stone Riprap Class A5 | Sq. Yd. | | | 1076 |
| Removal of Existing Structures | Each | | | 1 |
| Structure Excavation | Cu. Yd. | | 172 | 172 |
| Driving Piles | Foot | | 1340 | 1340 |
| Floor Drains | Each | 8 | | 8 |
| Concrete Structures | Cu. Yd. | | 33.0 | 33.0 |
| Concrete Superstructure | Cu. Yd. | 115.8 | | 115.8 |
| Bridge Deck Grooving | Sq. Yd. | 291 | | 291 |
| Protective Coat | Sq. Yd. | 372 | | 372 |
| Furnishing and Erecting Structural Steel | L. Sum | 1 | | 1 |
| Stud Shear Connectors | Each | 1116 | | 1116 |
| Reinforcement Bars, Epoxy Coated | Pound | 23680 | 4920 | 28600 |
| Furnishing Metal Shell Piles, 12" ϕ X 0.25" | Foot | | 1340 | 1340 |
| Test Pile Metal Shells | Each | | 1 | 1 |
| Name Plates | Each | 1 | | 1 |
| Geocomposite Wall Drain | Sq. Yd. | | 71 | 71 |
| Pipe Underdrain for Structure, 4" | Foot | | 145 | 145 |
| Bar Splicers | Each | | 72 | 72 |
| Anchor Bolts, 1" | Each | | 24 | 24 |
| Filter Fabric | Sq. Yd. | | | 1076 |



STATION 381+00.00
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RT. 751 SEC. 101B-2
LOADING HL93
STR. NO. 075-0507

NAME PLATE

See Std. 515001



PROFILE GRADE

(along $\&$ Roadway)

| | |
|------------------------|------------------------|
| DESIGN SCOUR ELEVATION | W. & E. Abut. 457.6 |
|------------------------|------------------------|

LOADING HL93

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

DESIGN SPECIFICATIONS

2004 AASHTO LRFD Bridge Design Specifications with 2005 Interlms

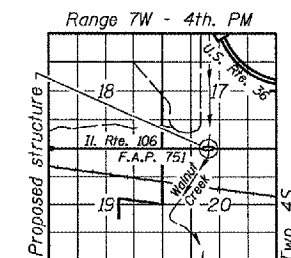
DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)
 $f_y = 50,000$ psi (M270 Gr. 50W)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Bedrock Acceleration Coefficient (A) = 0.046
Site Coefficient (S) = 1.0



LOCATION SKETCH

GENERAL PLAN AND ELEVATION

ILLINOIS ROUTE 106 OVER

WALNUT CREEK

F.A.P. RT. 751 - SEC. 101B-2

PIKE COUNTY

STATION 381+00.00

STRUCTURE NO. 075-0507

Note: See sheet 2 of 14 for Sec. A-A.

PLAN

WATERWAY INFORMATION

Existing Low Grade Elev. 462.19 @ Sta. 377+00
Proposed Low Grade Elev. 462.19 @ Sta. 377+00
Drainage Area = 6.5 sq. mi.

| Flood | Freq. Yr. | Q C.F.S. | Opening Sq. Ft. | | Nat. H.W.E. | | Head - Ft. | | Headwater El. | |
|-------------|-----------|----------|-----------------|-------|-------------|-------|------------|--------|---------------|-------|
| | | | Exist. | Prop. | Exist. | Prop. | Exist. | Prop. | Exist. | Prop. |
| Design | 10 | 1328 | 272 | 282 | 458.14 | 0.35 | 0.34 | 458.49 | 458.48 | |
| Base | 50 | 2017 | 296 | 311 | 458.59 | 0.76 | 0.74 | 459.35 | 459.33 | |
| Overlapping | 100 | 2312 | 303 | 321 | 458.75 | 0.99 | 0.96 | 459.74 | 459.71 | |
| Max. Calc. | 500 | 3022 | 326 | 349 | 459.1 | 1.8 | 1.7 | 460.9 | 460.8 | |

10 year velocity through Exist. Bridge = 5.03 fps 10 year velocity through Prop. Bridge = 4.88 fps

DESIGNED: [Signature] August 2007
CHECKED: [Signature]
DRAWN: [Signature]
CHECKED: NRB PRL

EXAMINED: [Signature]
PASSED: [Signature]
ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES



EXPIRES 11-30-2008