

| | | | | |
|-----------------------|----------|---------|-----------------|-------------|
| ROUTE NO. | SECTION | COUNTY | SHEET NO. | SHEET TOTAL |
| FAS 292 (CH 49) | * | GRUNDY | 17 | 1 |
| FED. ROAD DIST. NO. 7 | ILLINOIS | PROJECT | BRS-292(101) | |
| *03-00127-00-BR | | | CONTRACT #87282 | |

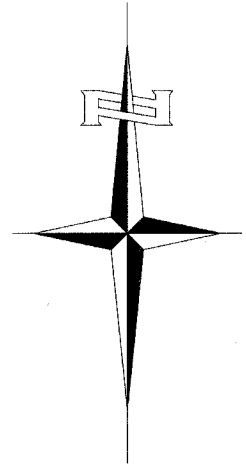
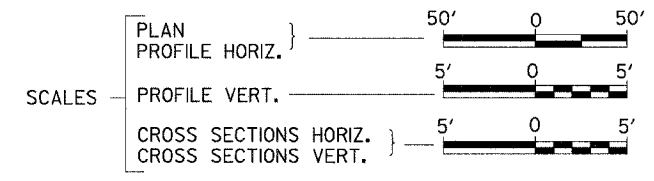
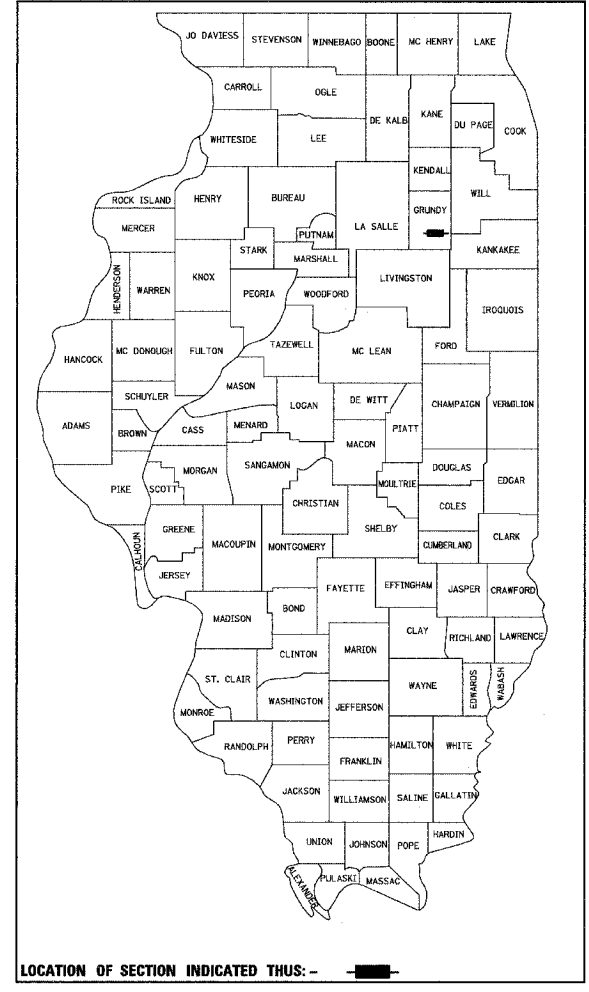
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
BRIDGE REPLACEMENT AND REHABILITATION PROGRAM
GRUNDY COUNTY
SECTION 03-00127-00-BR
F.A.S 292 (C.H. 49) OVER GOOSEBERRY CREEK
PROJECT NO. BRS-292(101)
JOB NUMBER C-93-088-04

INDEX OF SHEETS

| SHEET NO. | DESCRIPTION |
|-----------|---|
| 1. | COVER SHEET |
| 2. | GENERAL NOTES, DETAILS, TYPICAL SECTIONS, AND SUMMARY OF QUANTITIES |
| 3. | SCHEDULES OF QUANTITIES |
| 4. | TRAFFIC CONTROL PLAN |
| 5. | EROSION CONTROL PLAN |
| 6. | PLAN AND PROFILE |
| 7. -14. | STRUCTURE PLANS |
| 15. -17. | CROSS SECTIONS |

REQUIRED HIGHWAY STANDARDS

- 000001-04 - STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 280001-02 - TEMPORARY EROSION CONTROL SYSTEMS
- 515001-02 - NAME PLATES FOR BRIDGES
- 630301-03 - SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
- 631026-02 - TRAFFIC BARRIER TERMINAL, TYPE 5 & 5A
- 635006-02 - REFLECTOR AND TERMINAL MARKER PLACEMENT
- 702001-05 - TRAFFIC CONTROL DEVICES
- 780001-01 - TYPICAL PAVEMENT MARKINGS
- BLR-21-6 - TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON LOCAL RURAL HIGHWAYS

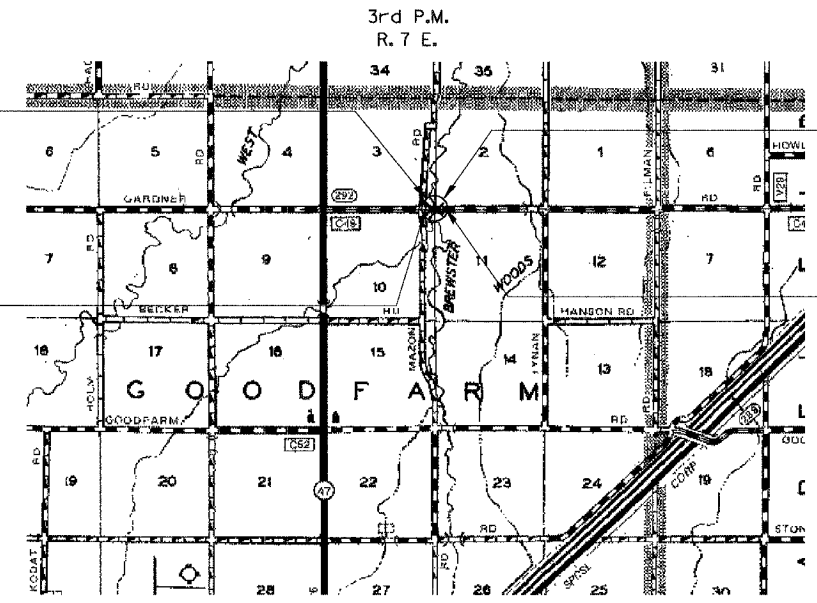


PROPOSED STRUCTURE 032-3295
 THREE SPAN P.P.C. DECK BEAM
 SUPERSTRUCTURE ON SPILL THRU PILE
 BENT ABUTMENTS & PILE BENT PIERS
 98'-0" BK-BK & 30'-0" O-O DECK

EXISTING STRUCTURE 032-3290
 THREE SPAN REINFORCED CONCRETE SLAB WITH
 MONOLITHIC CONCRETE RAIL SUPERSTRUCTURE
 SUPPORTED ON CONCRETE ENCASED PIERS AND
 CONCRETE VERTICAL ABUTMENTS 66'-0" BK-BK,
 25'-1" O-O DECK (TO BE REMOVED)

SECTION 03-00127-00-BR
 BEGINS
 STATION 17+00.00

SECTION 03-00127-00-BR
 ENDS
 STATION 22+00.00



NET LENGTH OF PROJECT 500.00 FEET = 0.095 MILES
 DESIGN CLASSIFICATION: MAJOR COLLECTOR (NON-URBAN)
 DESIGN SPEED = 50 MPH
 DESIGN ADT = 1,750 (22) - 12% TRUCKS
 CURRENT ADT = 900 (05) - 12% TRUCKS

PLANS DESIGNED IN ACCORDANCE WITH 3R
 GUIDELINES FOR FEDERAL AID PROCEDURES
 FOR LOCAL HIGHWAY IMPROVEMENTS.

APPROVED 2-5-05 2005

G. Curran
 GRUNDY COUNTY ENGINEER

APPROVED _____ 2005

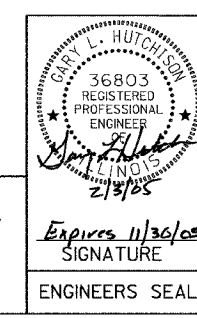
DISTRICT ENGINEER OF CONSTRUCTION

APPROVED 2/22 2005

J. J. J.
 DISTRICT ENGINEER OF LOCAL ROADS & STREETS

APPROVED 2/22 2005

Guy Meets
 DISTRICT ENGINEER
 STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION



Hutchison Engineering, Inc.
 JACKSONVILLE ILLINOIS
 JOLIET ILLINOIS
 2005 JOB#2211

UTILITY COMPANY

AMERITECH/SBC, JOLIET, ILLINOIS
 COMMONWEALTH EDISON, JOLIET, ILLINOIS

CALL J.U.L.I.E.
 BEFORE YOU DIG
 1-800-892-0123

CONTRACT NO. 87282

SUMMARY OF QUANTITIES

| | | | | |
|-----------------------|----------|---------|-----------------|-----------|
| ROUTE NO. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| FAS 292 (CH 49) | 16 | GRUNDY | 17 | 2 |
| FED. ROAD DIST. NO. 7 | ILLINOIS | PROJECT | BRS-292(101) | |
| *03-00127-00-BR | | | CONTRACT #87282 | |

| CODE NO. | ITEM | UNIT | QUANTITY |
|------------|--|--------|----------|
| 20100110 | TREE REMOVAL (6 TO 15 UNIT DIAMETER) | UNIT | 36 |
| 20200100 | EARTH EXCAVATION | CU YD | 650 |
| 20300100 | CHANNEL EXCAVATION | CU YD | 700 |
| ① 20400800 | FURNISHED EXCAVATION | CU YD | 685 |
| ① 25001000 | SEEDING, CLASS 2 (SPECIAL) | ACRE | 0.7 |
| 25100630 | EROSION CONTROL BLANKET | SQ YD | 180 |
| ① 28000250 | TEMPORARY EROSION CONTROL SEEDING | POUND | 350 |
| ① 28000300 | TEMPORARY DITCH CHECKS | EACH | 17 |
| ① 28100207 | STONE RIPRAP, CLASS A4 | TON | 695 |
| 28200100 | FILTER FABRIC FOR USE WITH RIPRAP | SQ YD | 1,030 |
| 28300400 | AGGREGATE DITCH | TON | 171 |
| ① 35100100 | AGGREGATE BASE COURSE, TYPE A | TON | 470 |
| 40600100 | BITUMINOUS MATERIALS (PRIME COAT) | GALLON | 554 |
| 48101200 | AGGREGATE SHOULDERS, TYPE B | TON | 55 |
| ① 50100100 | REMOVAL OF EXISTING STRUCTURES | EACH | 1 |
| ① 50300225 | CONCRETE STRUCTURES | CU YD | 41.5 |
| ① 50400305 | PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH) | SQ FT | 2,880 |
| 50800105 | REINFORCEMENT BARS | POUND | 4,620 |
| 50900205 | STEEL RAILING, TYPE S-1 | FOOT | 196 |
| 51201000 | FURNISHING METAL PILE SHELLS 12" | FOOT | 771 |
| 51202600 | DRIVING AND FILLING SHELLS | FOOT | 771 |
| 51203200 | TEST PILE METAL SHELLS | EACH | 2 |
| ① 51204315 | CONCRETE ENCASEMENT | CU YD | 16.5 |
| 51500100 | NAME PLATES | EACH | 1 |
| 58100200 | WATERPROOFING MEMBRANE SYSTEM | SQ YD | 320 |
| 58300100 | PORTLAND CEMENT MORTAR FAIRING COURSE | FOOT | 220 |
| ① 63100075 | TRAFFIC BARRIER TERMINAL, TYPE 5A | EACH | 4 |
| ① 63100167 | TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT) | EACH | 4 |
| ① 63200310 | GUARDRAIL REMOVAL | FOOT | 154 |
| 78001110 | PAINT PAVEMENT MARKING - LINE 4" | FOOT | 1,125 |
| ① 78201000 | TERMINAL MARKER - DIRECT APPLIED | EACH | 4 |
| ① X4066414 | BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE MIX "C", N50 | TON | 135 |
| ① X4066614 | BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE IL-19.0, N50 | TON | 155 |
| ① X5020501 | UNDERWATER STRUCTURE EXCAVATION PROTECTION, LOCATION 1 | EACH | 1 |
| ① X5020502 | UNDERWATER STRUCTURE EXCAVATION PROTECTION, LOCATION 2 | EACH | 1 |
| ① Z0013798 | CONSTRUCTION LAYOUT | L SUM | 1 |
| ① Z0013825 | CONTROLLED LOW-STRENGTH MATERIAL | CU YD | 14.0 |

① SEE SPECIAL PROVISIONS

CONSTRUCTION CODE TYPE: X080-2A

BITUMINOUS CONCRETE MIXTURE REQUIREMENTS

| ITEM | Binder, N50 | Surface (Mix "C"), N50 |
|-----------------------|-------------|------------------------|
| PG Grade | PG58-22 | PG58-22 |
| Max % RAP Allowable** | 25% | 15% |
| Design Air Voids | 4.0% | 4.0% |
| Mixture Composition | IL 19.0 | IL 12.5 or IL 9.5 |

** If RAP option is selected, the asphalt cement grade may need to be adjusted. This will be determined by the Engineer.

**STRUCTURAL DESIGN INFORMATION
F.A.S. 292 (COUNTY HIGHWAY 49)**

ROAD CLASSIFICATION: CLASS III
 STRUCTURAL DESIGN TRAFFIC:
 PV = 811 SU = 64 MU = 46
 PERCENT OF STRUCTURAL DESIGN TRAFFIC IN DESIGN LANE:
 P = 50% S = 50% M = 50%
 MINIMUM SUBGRADE SUPPORT RATING: POOR
 FLEXIBLE PAVEMENT DESIGN: MINIMUM TF = 0.180
 BITUMINOUS PAVEMENT THICKNESS: 4 1/2"
 AGGREGATE BASE COURSE, TYPE A: 8"

GENERAL NOTES

PLAN QUANTITIES FOR TREE REMOVAL HAVE BEEN BASED ON ALL TREES WITHIN THE LIMITS OF CONSTRUCTION. THIS QUANTITY MAY BE REVISED DURING CONSTRUCTION, AT THE DIRECTION OF THE ENGINEER, BY DELETING FROM THE TREE REMOVAL QUANTITIES, SUCH TREES THAT DO NOT INTERFERE WITH THE PROPOSED CONSTRUCTION.

THE REMOVAL OF EXISTING BITUMINOUS SURFACE AND GRAVEL OR CRUSHED STONE BASE COURSE WHICH MAY BE NECESSARY FOR THE CONSTRUCTION OF THE NEW BRIDGE/ROADWAY SHALL BE REMOVED AS EARTH EXCAVATION AND NO COMPENSATION WILL BE ALLOWED FOR ADDITIONAL LABOR OR EQUIPMENT REQUIRED.

ALL WASTE OR UNDESIRABLE MATERIAL AS IDENTIFIED BY THE ENGINEER SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY AT THE CONTRACTOR'S EXPENSE.

ALL EXISTING PRIVATELY OWNED UTILITIES REQUIRING ADJUSTMENT WILL BE MADE BY THE UTILITY COMPANY INVOLVED. WHERE NO PROVISIONS HAVE BEEN MADE FOR ADJUSTMENTS ON THE PLANS, NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO DELAYS OR INCONVENIENCES CAUSED BY THE SAID UTILITY ADJUSTMENTS.

THE PROFILE GRADE ELEVATIONS SHOWN ON THE PLAN AND PROFILE SHEETS AND IN THE STATION CROSS SECTIONS ARE TO THE TOP OF THE FINISHED SURFACE.

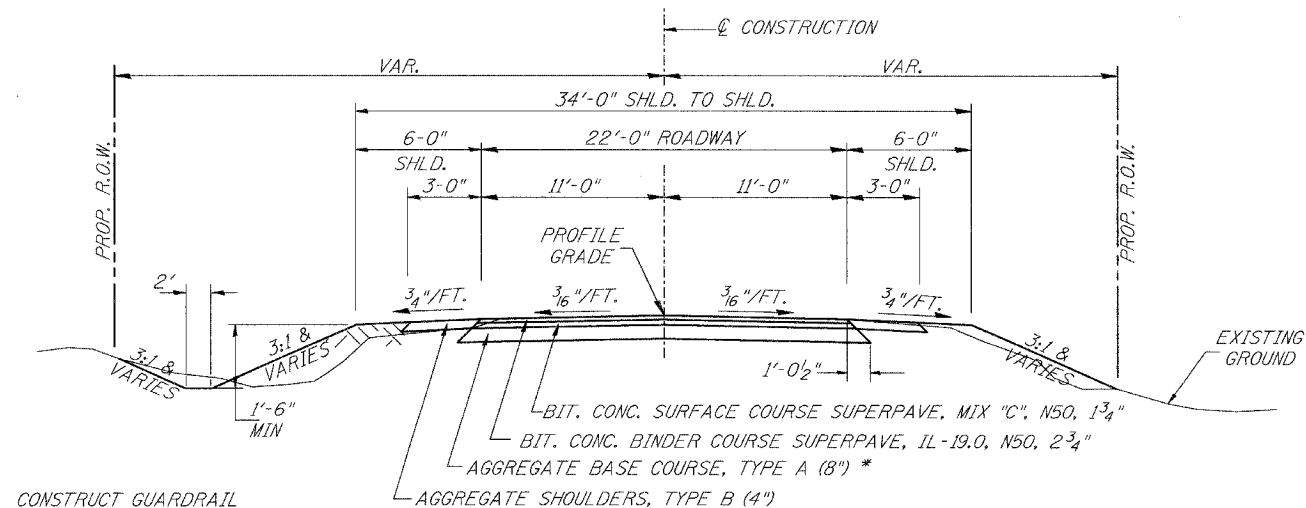
ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS SHALL BE INTERPRETED TO BE THE LATEST STANDARDS OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION

THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THE PLANS REPRESENTS THE BEST KNOWLEDGE OF THE COUNTY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY AS DETAILED IN SECTION 563 OF THE STANDARD SPECIFICATIONS, TO VERIFY LOCATIONS OF UNDERGROUND INSTALLATIONS BEFORE STARTING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL INDEMNIFY THE COUNTY, ITS OFFICERS AND EMPLOYEES AGAINST ALL CLAIMS DUE TO DAMAGE TO CORPORATE OR PRIVATE PROPERTY RESULTING FROM HIS CONSTRUCTION OPERATIONS AS DESCRIBED IN ARTICLES 107.20 AND 107.26 OF THE STANDARD SPECIFICATIONS.

THE CONTRACTOR MAY BE REQUIRED TO CONDUCT SOME OF HIS GRADING AND TRENCHING OPERATIONS AROUND TRANSMISSION POLES AND UNDER TRANSMISSION LINES. THE ADDED COST OF SO DOING SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND PRESERVE PROPERTY MARKERS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT, HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

ALL ELEVATIONS SHOWN REFER TO U.S.G.S. MEAN SEA LEVEL DATUM.

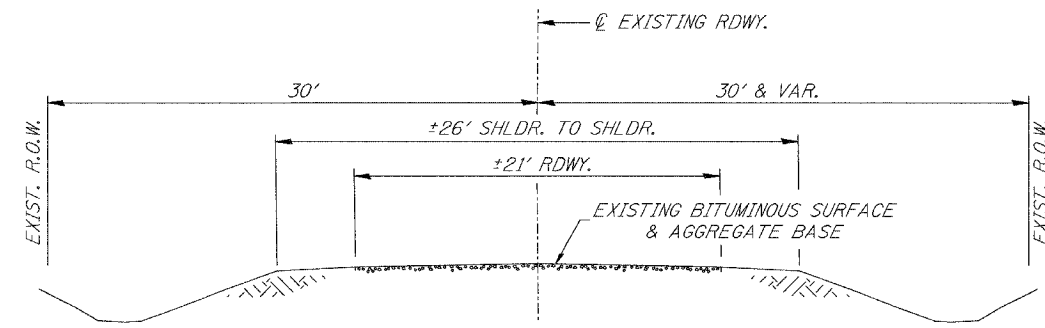


PROPOSED TYPICAL SECTION
 STA. 17+00.00 TO STA. 19+51.00
 STA. 20+49.00 TO STA. 22+00.00
 EXCEPT TRANSITIONS

* TAPER AGGREGATE FROM 22'-9" TO 26'-0" SURFACE WIDTH AND THICKEN AGGREGATE FROM 8" TO 12" WITHIN 25' OF ABUTMENTS.

BRIDGE OMISSION
 STA. 19+51.00 TO STA. 20+49.00

CONSTRUCT GUARDRAIL SHOULDER WIDENING IN ACCORDANCE WITH STD 630301



EXISTING TYPICAL SECTION

BITUMINOUS SCHEDULE

| STATION TO STATION | WIDTH | LENGTH | PRIME COAT* GALLON 0.50 GAL/SQ YD | BIT BINDER CSE TON 112#/SQ YD/IN | BIT SURF CSE TON 112#/SQ YD/IN |
|---------------------|-------------|---------|---|--|--------------------------------------|
| 17+00.00 - 17+50.00 | 23.90' AVG. | 50.00' | 66 | | |
| 17+50.00 - 19+26.00 | 24.75' | 176.00' | 242 | | |
| 19+26.00 - 19+51.00 | 26.38' AVG. | 25.00' | 37 | | |
| 20+49.00 - 20+74.00 | 26.38' AVG. | 25.00' | 37 | | |
| 20+74.00 - 21+50.00 | 24.75' | 76.00' | 105 | | |
| 21+50.00 - 22+00.00 | 24.00' AVG. | 50.00' | 67 | | |
| 17+00.00 - 17+50.00 | 21.67' AVG. | 50.00' | | 19 | |
| 17+50.00 - 19+51.00 | 22.52' | 201.00' | | 78 | |
| 20+49.00 - 21+50.00 | 22.52' | 101.00' | | 39 | |
| 21+50.00 - 22+00.00 | 21.77' AVG. | 50.00' | | 19 | |
| 17+00.00 - 17+50.00 | 21.30' AVG. | 50.00' | | | 12 |
| 17+50.00 - 19+51.00 | 22.15' | 201.00' | | | 49 |
| BRIDGE DECK | 30.00' | 98.00' | | | 37 |
| 20+49.00 - 21+50.00 | 22.15' | 101.00' | | | 25 |
| 21+50.00 - 22+00.00 | 21.40' AVG. | 50.00' | | | 12 |
| TOTAL | | | 554 | 155 | 135 |

* PRIME COAT APPLIED TO AGGREGATE BASE

EARTHWORK SUMMARY

| LOCATION | EARTH EXCAVATION | CHANNEL EXCAVATION | STRUCTURE EXCAVATION | FILL | WASTE (SHORTAGE) |
|--------------------------|------------------|--------------------|----------------------|--------------|------------------|
| | CU YD | CU YD | CU YD | CU YD | CU YD |
| RDWY 17+00.00 - 19+51.00 | 359 | | | 926 | (657) |
| RDWY 20+49.00 - 22+00.00 | 292 | | | 245 | (26) |
| CHANNEL | | 701 | | | |
| STRUCTURE | | | 91 | | |
| TOTAL | 651 | 701 | 91 | 1,171 | (683) |
| USE | 650 | 700 | | | (685) |

(@ 25% SHRINKAGE)

TRAFFIC BARRIER TERMINAL, TYPE 5A

| SIDE | STATION TO STATION | EACH |
|--------------|---------------------|----------|
| RIGHT | 19+37.75 - 19+51.00 | 1 |
| LEFT | 19+37.75 - 19+51.00 | 1 |
| RIGHT | 20+49.00 - 20+62.25 | 1 |
| LEFT | 20+49.00 - 20+62.25 | 1 |
| TOTAL | | 4 |

TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)

| SIDE | STATION TO STATION | EACH |
|--------------|---------------------|----------|
| RIGHT | 18+87.75 - 19+37.75 | 1 |
| LEFT | 18+87.75 - 19+37.75 | 1 |
| RIGHT | 20+62.25 - 21+12.25 | 1 |
| LEFT | 20+62.25 - 21+12.25 | 1 |
| TOTAL | | 4 |

EROSION CONTROL BLANKET

| STATION TO STATION | SIDE | WIDTH | LENGTH | AREA (SQ YD) |
|--------------------|-------|-------|--------|--------------|
| 17+00 - 19+70 | RIGHT | 6' | 270' | 180 |
| TOTAL | | | | 180 |

TREE REMOVAL

| STATION | OFFSET | SIDE | UNIT |
|--------------|--------|------|-----------|
| 19+79 | 34' | LEFT | 12 |
| 19+79 | 34' | LEFT | 6 |
| 19+79 | 34' | LEFT | 6 |
| 19+79 | 34' | LEFT | 6 |
| 19+79 | 34' | LEFT | 6 |
| TOTAL | | | 36 |

TEMPORARY DITCH CHECKS

| STATION | SIDE | EACH |
|--------------|-------|-----------|
| 17+25 | LEFT | 1 |
| 17+50 | LEFT | 1 |
| 17+60 | RIGHT | 1 |
| 18+30 | RIGHT | 1 |
| 18+60 | LEFT | 1 |
| 19+00 | RIGHT | 1 |
| 19+70 | LEFT | 1 |
| 19+70 | RIGHT | 1 |
| 20+35 | LEFT | 1 |
| 20+35 | RIGHT | 1 |
| 20+70 | LEFT | 1 |
| 20+75 | RIGHT | 1 |
| 21+05 | LEFT | 1 |
| 21+15 | RIGHT | 1 |
| 21+40 | LEFT | 1 |
| 21+55 | RIGHT | 1 |
| 21+75 | LEFT | 1 |
| TOTAL | | 17 |

AGGREGATE BASE COURSE, TYPE A

| STATION TO STATION | THICKNESS | WIDTH | LENGTH | TON |
|---------------------|-----------|-------------|---------|------------|
| 17+00.00 - 17+50.00 | 0.67' | 22.57' AVG. | 50.00' | 53 |
| 17+50.00 - 19+26.00 | 0.67' | 23.42' | 176.00' | 193 |
| 19+26.00 - 19+51.00 | 1.00' | 25.38' AVG. | 25.00' | 44 |
| 20+49.00 - 20+74.00 | 1.00' | 25.38' AVG. | 25.00' | 44 |
| 20+74.00 - 21+50.00 | 0.67' | 23.42' | 76.00' | 83 |
| 21+50.00 - 22+00.00 | 0.67' | 22.67' AVG. | 50.00' | 53 |
| TOTAL | | | | 470 |

AGGREGATE SHOULDERS, TYPE B

| STATION TO STATION | SIDE | WIDTH | LENGTH | TON |
|---------------------|-------|------------|---------|-------------|
| 17+00.00 - 17+50.00 | LEFT | 2.75' AVG. | 50.00' | 3.2 |
| 17+00.00 - 17+50.00 | RIGHT | 2.75' AVG. | 50.00' | 3.2 |
| 17+50.00 - 19+51.00 | LEFT | 3.00' | 201.00' | 14.1 |
| 17+50.00 - 19+51.00 | RIGHT | 3.00' | 201.00' | 14.1 |
| 20+49.00 - 21+50.00 | LEFT | 3.00' | 101.00' | 7.1 |
| 20+49.00 - 21+50.00 | RIGHT | 3.00' | 101.00' | 7.1 |
| 21+50.00 - 22+00.00 | LEFT | 2.75' AVG. | 50.00' | 3.2 |
| 21+50.00 - 22+00.00 | RIGHT | 2.75' AVG. | 50.00' | 3.2 |
| TOTAL | | | | 55.2 |
| USE | | | | 55 |

AGGREGATE DITCH

| STATION TO STATION | SIDE | WIDTH | TON | FILTER FABRIC (SQ YD) |
|--------------------|-------|-------|------------|-----------------------|
| 17+00 - 17+50 | LEFT | 6' | 23 | 35 |
| 20+35 - 22+00 | LEFT | 6' | 74 | 110 |
| 20+35 - 22+00 | RIGHT | 6' | 74 | 110 |
| TOTAL | | | 171 | 255 |

PAINT PAVEMENT MARKING - LINE 4"

| STATION TO STATION | SIDE | DESCRIPTION | FOOT |
|---------------------|------------|------------------|--------------|
| 17+00.00 - 22+00.00 | LEFT | WHITE EDGE LINE | 500 |
| 17+00.00 - 22+00.00 | CENTERLINE | YELLOW SKIP-DASH | 125 |
| 17+00.00 - 22+00.00 | RIGHT | WHITE EDGE LINE | 500 |
| TOTAL | | | 1,125 |

GUARDRAIL REMOVAL

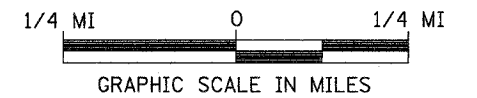
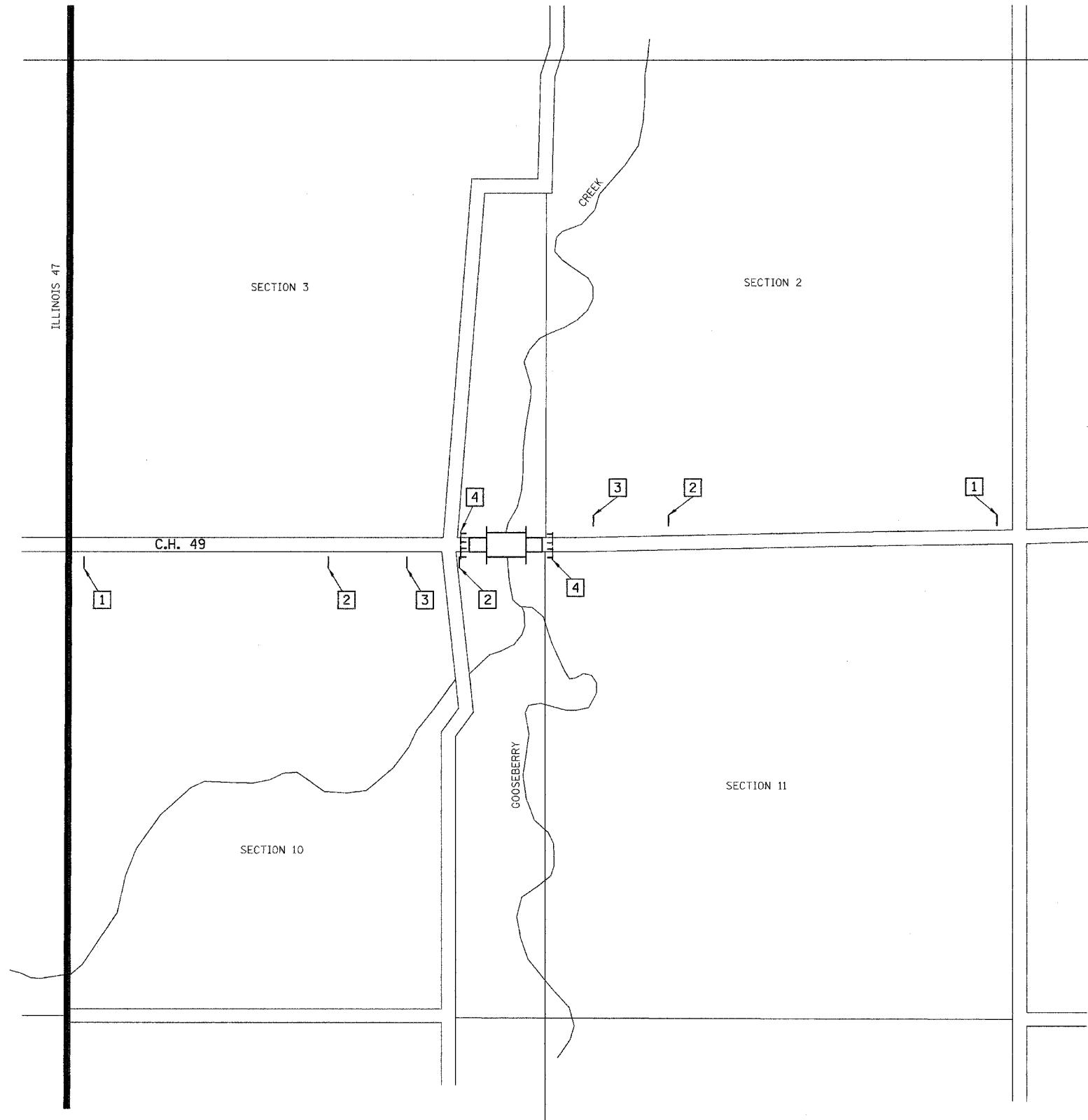
| STATION TO STATION | SIDE | FOOT |
|--------------------|-------|------------|
| 19+29 - 19+67 | LEFT | 38 |
| 19+27 - 19+67 | RIGHT | 40 |
| 20+33 - 20+71 | LEFT | 38 |
| 20+33 - 20+71 | RIGHT | 38 |
| TOTAL | | 154 |

T 31 N, R 7 E, 3rd PM

| | | | | |
|-----------------------|----------|---------|-----------------|-------|
| ROUTE NO. | SECTION | COUNTY | TOWNSHIP | RANGE |
| FAS 292 (CH 49) | * | GRUNDY | 17 | 4 |
| FED. ROAD DIST. NO. 7 | ILLINOIS | PROJECT | BRS-292(101) | |
| *03-00127-00-BR | | | CONTRACT #87282 | |

- 1 ROAD CLOSED
1 MILES AHEAD
LOCAL TRAFFIC ONLY ROAD CLOSED
1 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3
- 2 ROAD
CLOSED
AHEAD ROAD CLOSED
AHEAD
W20-3
- 3 ROAD
CLOSED
500 FT ROAD CLOSED
500 FT
W20-3
- 4 TYPE III BARRICADES

SEE STANDARD BLR 21
AND SPECIAL PROVISIONS

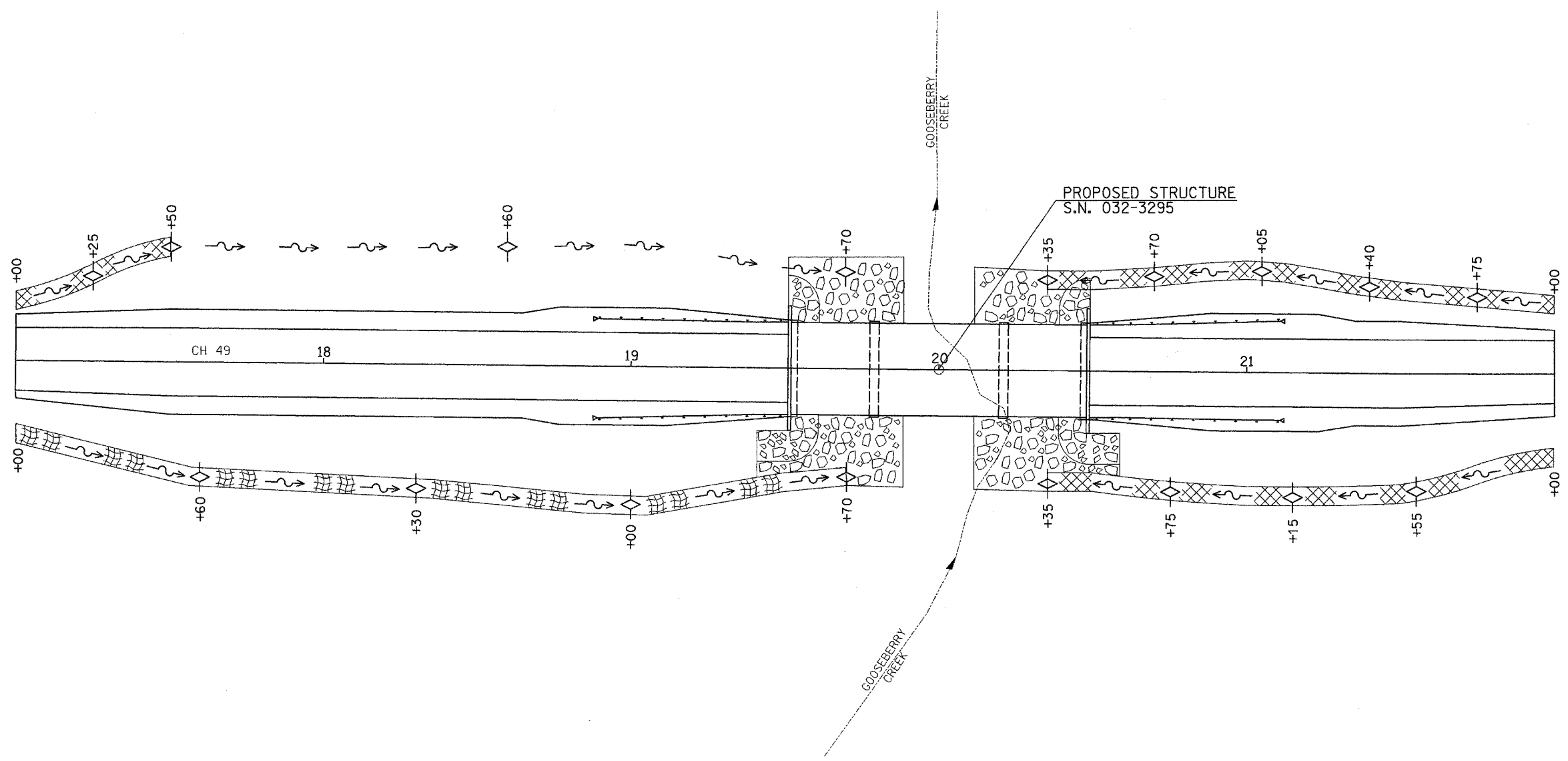


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


TRAFFIC CONTROL PLAN
F.A.S. 292 (C.H. 49) OVER GOOSEBERRY CREEK
SECTION 03-00127-00-BR
GRUNDY COUNTY

T 31 N, R 7 E, 3rd PM
SECTION 3

| ROUTE NO. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------------------|----------|----------------------|-----------------|-----------|
| FAS 292 (CH 49) | * | GRUNDY | 17 | 5 |
| FED. ROAD DIST. NO. 7 | ILLINOIS | PROJECT BRS-292(101) | | |
| * 03-00127-00-BR | | | CONTRACT #87282 | |



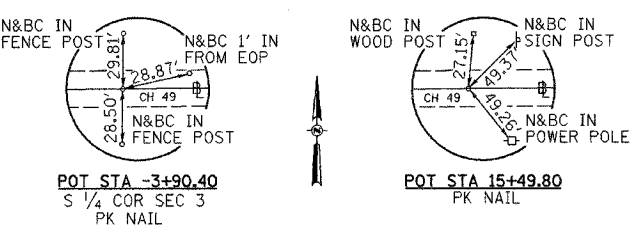
LEGEND

-  EROSION CONTROL BLANKET
-  AGGREGATE DITCH
-  TEMPORARY DITCH CHECK
-  SPECIAL DITCH - FLOW LINE AND DIRECTION
-  PROPOSED RIPRAP PLACEMENT

NOTE: TEMPORARY EROSION CONTROL SEEDING SHALL BE DONE IN ACCORDANCE WITH ARTICLE 280.04 OF THE STANDARD SPECIFICATIONS.

EROSION CONTROL PLAN
F.A.S. 292 (C.H. 49) OVER GOOSEBERRY CREEK
SECTION 03-00127-00-BR
GRUNDY COUNTY

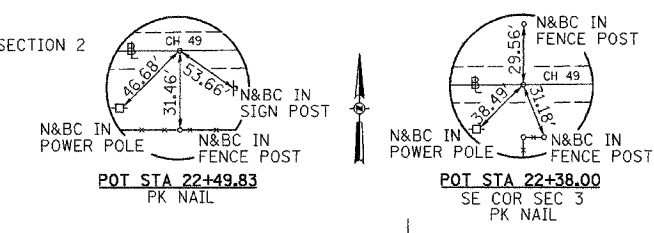
T 31 N, R 7 E, 3rd PM
SECTION 10



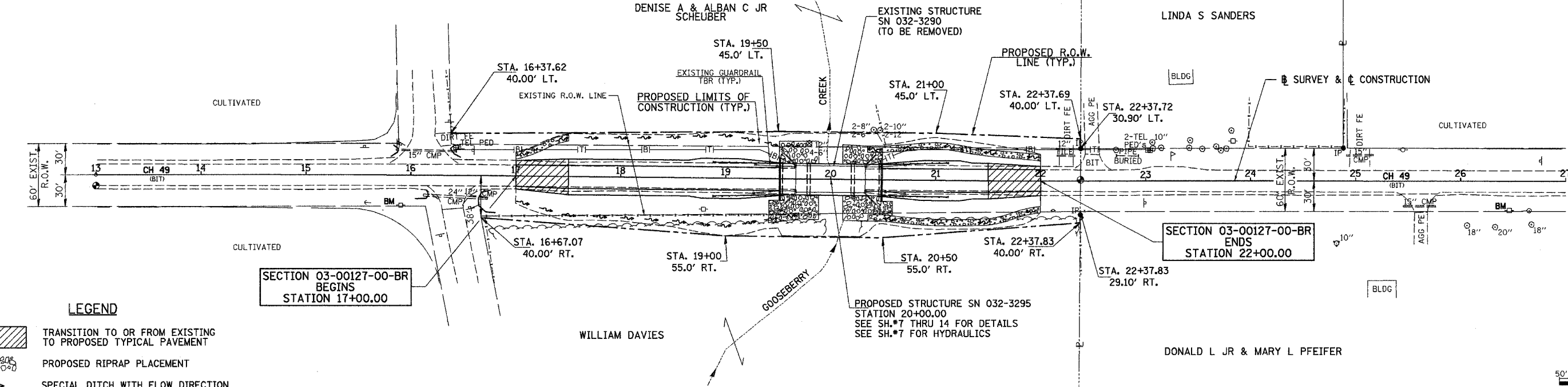
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SECTION 3

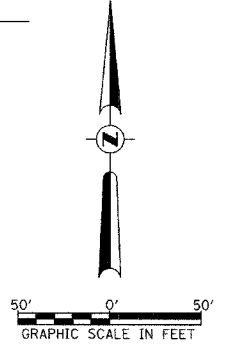
SECTION 2



| RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------------|---------|----------|--------------|-----------|
| * 03-00127-00-BR | GRUNDY | ILLINOIS | 17 | 6 |
| STA. 13+00 TO STA. 27+00 | | | | |
| FED. ROAD DIST. NO. 7 | | | | |
| * FAS 292 (CH 49) | | | | |
| CONTRACT #87282 | | | | |



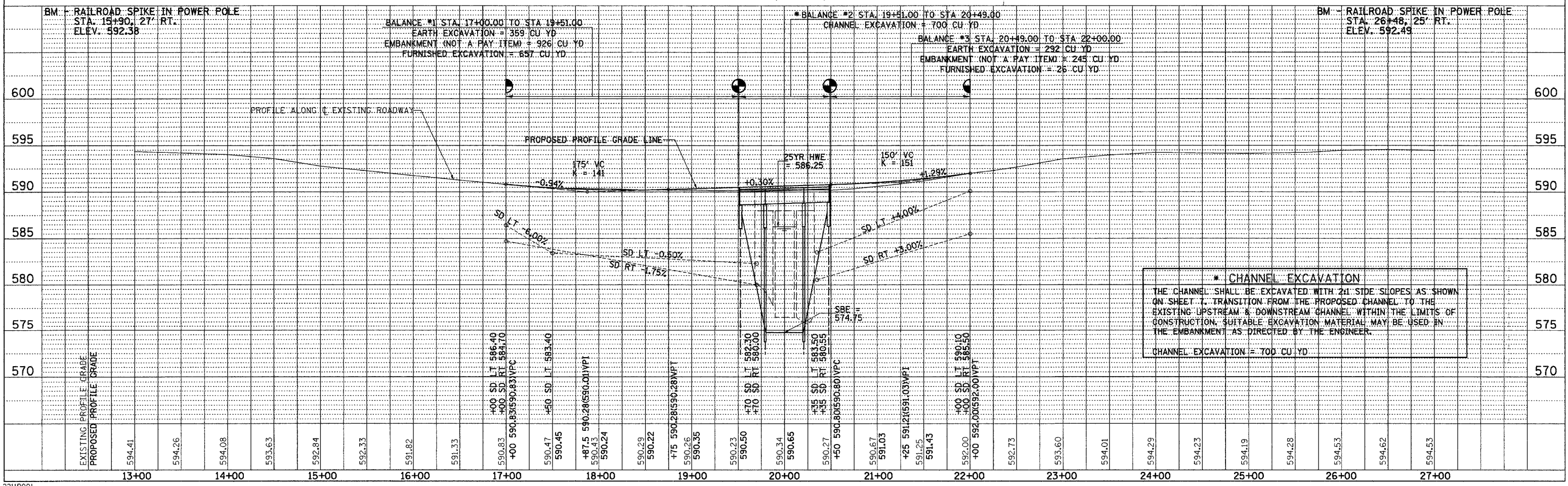
- LEGEND**
- TRANSITION TO OR FROM EXISTING TO PROPOSED TYPICAL PAVEMENT
 - PROPOSED RIPRAP PLACEMENT
 - SPECIAL DITCH WITH FLOW DIRECTION
 - BURIED TELEPHONE CABLE



T 31 N, R 7 E, 3rd PM

SECTION 10

SECTION 11



*** CHANNEL EXCAVATION**
 THE CHANNEL SHALL BE EXCAVATED WITH 2:1 SIDE SLOPES AS SHOWN ON SHEET 7. TRANSITION FROM THE PROPOSED CHANNEL TO THE EXISTING UPSTREAM & DOWNSTREAM CHANNEL WITHIN THE LIMITS OF CONSTRUCTION. SUITABLE EXCAVATION MATERIAL MAY BE USED IN THE EMBANKMENT AS DIRECTED BY THE ENGINEER.
 CHANNEL EXCAVATION = 700 CU YD

B.M.:

RR Spike in Power Pole
Sta. 15+90, 27' Rt.
Elev. 592.38

RR Spike in Power Pole
Sta. 26+48, 25' Rt.
Elev. 592.49

EXISTING STRUCTURE:

Three span reinforced concrete slab with monolithic concrete rail superstructure on concrete encased piers and concrete vertical abutments with concrete wingwalls, all supported by concrete footings on timber piling. The structure is 66'-0" back to back of abutments, 25'-1" out to out of deck, and on a 0° skew.

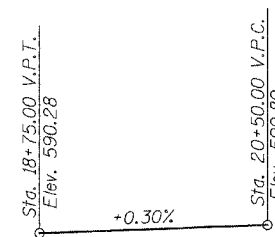
Salvage: None

Road to be closed to traffic during construction.

**GOOSEBERRY CREEK
BUILT 200_ BY
GRUNDY COUNTY
SEC. 03-00127-00-BR
F.A.S. 292 (C.H. 49) STATION 20+00.00
F.A. PROJ. BRS-292(101)
STR. NO. 032-3295 LOADING HS20-44**

NAME PLATE

Locate Name Plate at S.W. Wingwall
Corner of Bridge (See Std. 515001)



PROFILE GRADE

| | | | | | |
|---------------------------------|--------------|------------------|-------------------------|-----------------|-------------------------|
| ROUTE NO. FAS 292 (CH 49) | SECTION * | COUNTY GRUNDY | TOTAL SHEETS 17 | SHEET NO. 7 | SHEET NO. 1 8 SHEETS |
| FED. ROAD DIST. NO. 7 | | ILLINOIS | PROJECT BRS-292(101) | CONTRACT #87282 | |
| * 03-00127-00-BR | | | | | |

GENERAL NOTES

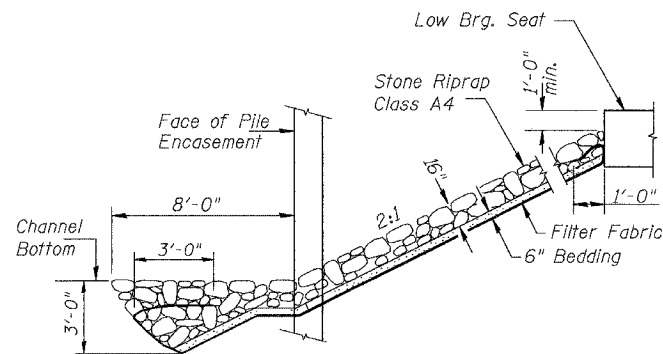
The Contractor shall drive 2 test piles, in permanent locations, one at the West Abutment and one at Pier #2, as directed by the Engineer before ordering the remaining piles.

For Soil Boring Logs, See Special Provisions.
A Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for Precast Prestressed Concrete Deck Beams.
Reinforcement Bars shall conform to AASHTO M-31 or M-322, Grade 60.
Layout of the slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
The top surface of the beams shall be finished in accordance with Article 504.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners, and the top edge of keys shall be rounded or chamfered a minimum of 1/4".

TOTAL BILL OF MATERIAL

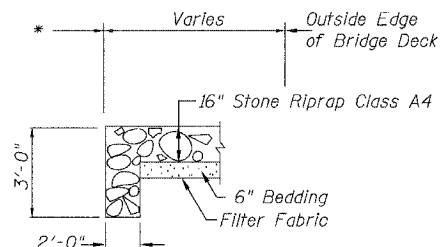
| ITEM | UNIT | SUPER | SUB | TOTAL |
|--|-------|-------|-------|-------|
| Channel Excavation | CU YD | — | 700 | 700 |
| Stone Riprap, Class A4 | TON | — | 695 | 695 |
| Filter Fabric for use with Riprap | SQ YD | — | 775 | 775 |
| Removal of Existing Structures | EACH | — | — | 1 |
| Concrete Structures | CU YD | — | 41.5 | 41.5 |
| Precast Prestressed Concrete Deck Beams (17" Depth) | SQ FT | 2,880 | — | 2,880 |
| Reinforcement Bars | POUND | — | 4,620 | 4,620 |
| Steel Railing, Type S-1 | FOOT | 196 | — | 196 |
| Furnishing Metal Pile Shells 12" | FOOT | — | 771 | 771 |
| Driving and Filling Shells | FOOT | — | 771 | 771 |
| Test Pile Metal Shells | EACH | — | 2 | 2 |
| Concrete Encasement | CU YD | — | 16.5 | 16.5 |
| Name Plates | EACH | — | 1 | 1 |
| Waterproofing Membrane System | SQ YD | 320 | — | 320 |
| Portland Cement Mortar Fairing Course | FOOT | 220 | — | 220 |
| Bituminous Concrete Surface Course, Superpave Mix "C", N50 | TON | 37 | — | 37 |
| Underwater Structure Excavation Protection, Location 1 (Pier #1) | EACH | — | 1 | 1 |
| Underwater Structure Excavation Protection, Location 2 (Pier #2) | EACH | — | 1 | 1 |
| Controlled Low-Strength Material | CU YD | — | 14.0 | 14.0 |

① See Special Provisions

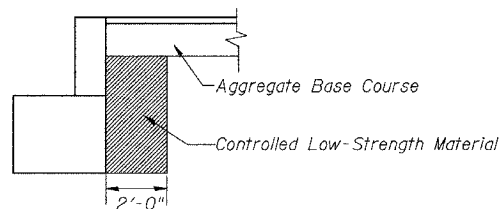


STONE RIPRAP DETAIL

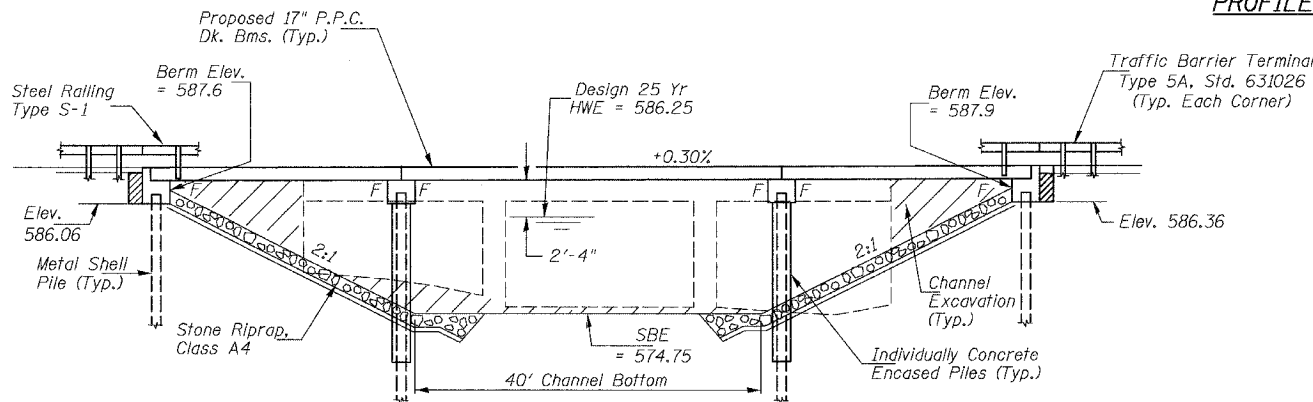
* Near Edge of Aggregate Ditch or Back Edge of Unprotected Ditch



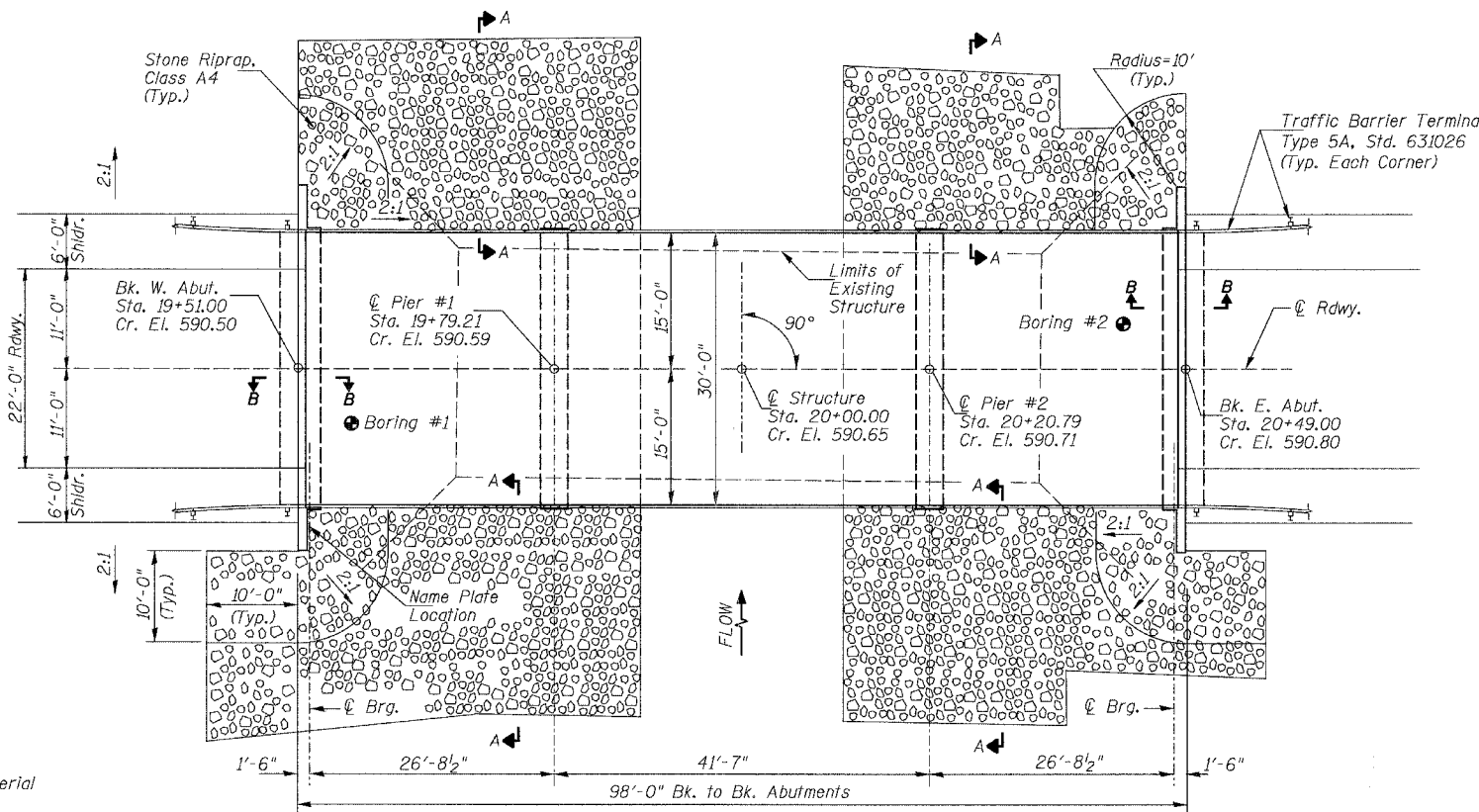
SECTION A-A



SECTION B-B



ELEVATION



PLAN

DESIGN SPECIFICATIONS

2002 AASHTO & Interims

DESIGN STRESSES

(FIELD UNITS) $f'_c = 3,500$ p.s.i., $f_y = 60,000$ p.s.i. (Rein.)

(PRECAST PRESTRESSED UNITS) $f'_c = 5,000$ p.s.i., $f'_{ci} = 4,000$ p.s.i., $f'_s = 270,000$ p.s.i. (1/2" Strands), $f'_{si} = 201,960$ p.s.i. (1/2" Strands)

LOADING HS20-44

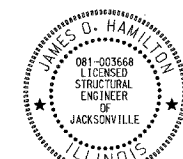
Allow 50#/sq. ft. future wearing surface.

WATERWAY INFORMATION

| Drainage Area = 39.18 Sq. Mi. | | Low Grade Elev. = 590.21 @ Sta. 18+32.00 | | | | | | | |
|-------------------------------|-----------|--|-----------------|-------|-----------------|------------|-------|-----------------------|--------|
| Flood | Freq. Yr. | Q C.F.S. | Opening Sq. ft. | | Nat. H.W.E. ft. | Head - ft. | | Headwater Elev. - ft. | |
| | | | Exist. | Prop. | | Exist. | Prop. | Exist. | Prop. |
| Design | 25 | 2,559 | 528 | 682 | 586.25 | 0.22 | 0.08 | 586.47 | 586.33 |
| Base | 100 | 3,314 | 573 | 744 | 587.01 | 0.33 | 0.11 | 587.34 | 587.12 |

Construction of this project complies with IDNR, Office of Water Resources Statewide Permit No. 12

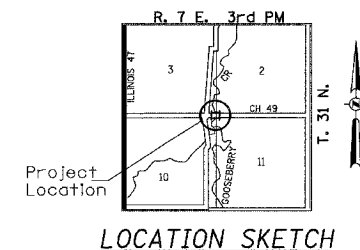
| | |
|----------|---------------|
| DESIGNED | J.E.H. |
| CHECKED | B.A.N. |
| DRAWN | T.A.C./T.R.D. |
| CHECKED | J.E.H. |



James O. Hamilton
2/3/2005
License Expires 11/30/2006

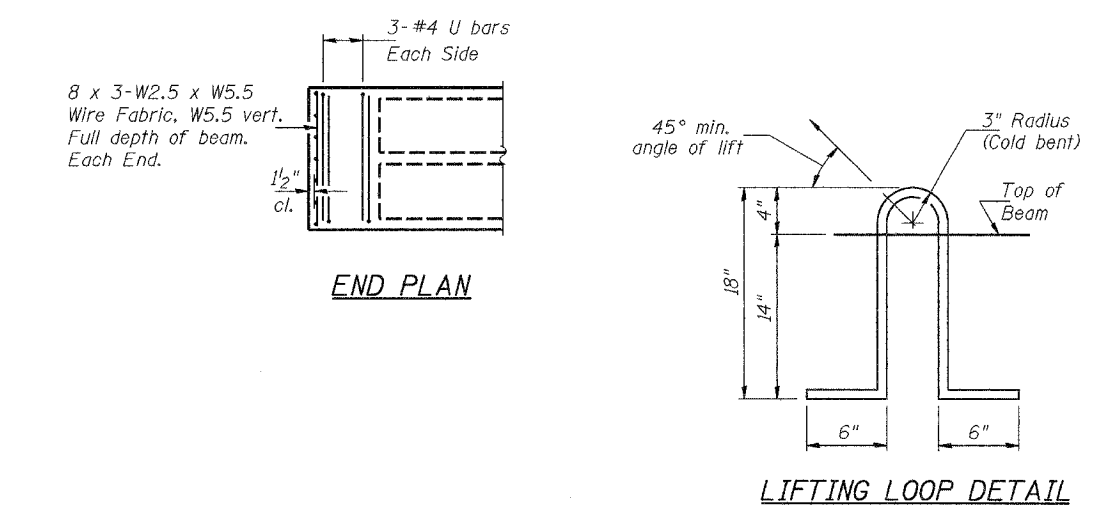
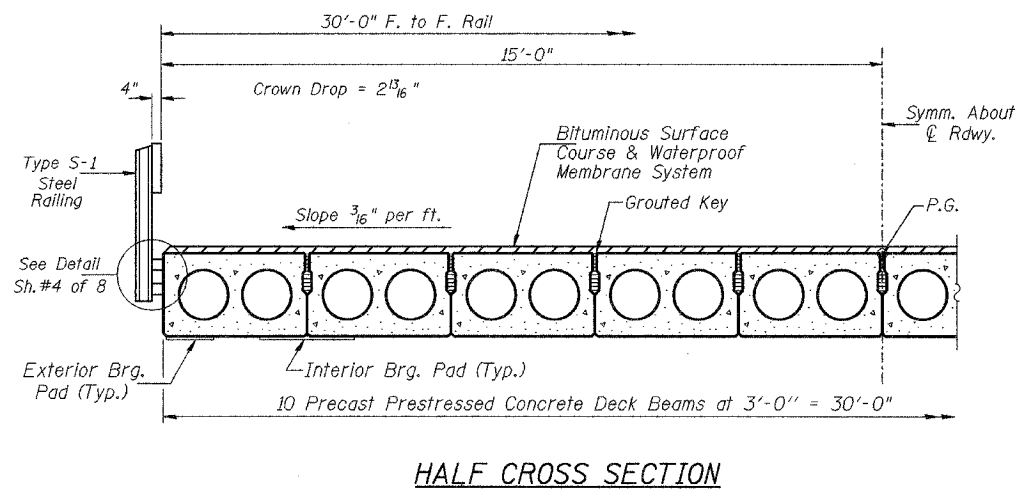
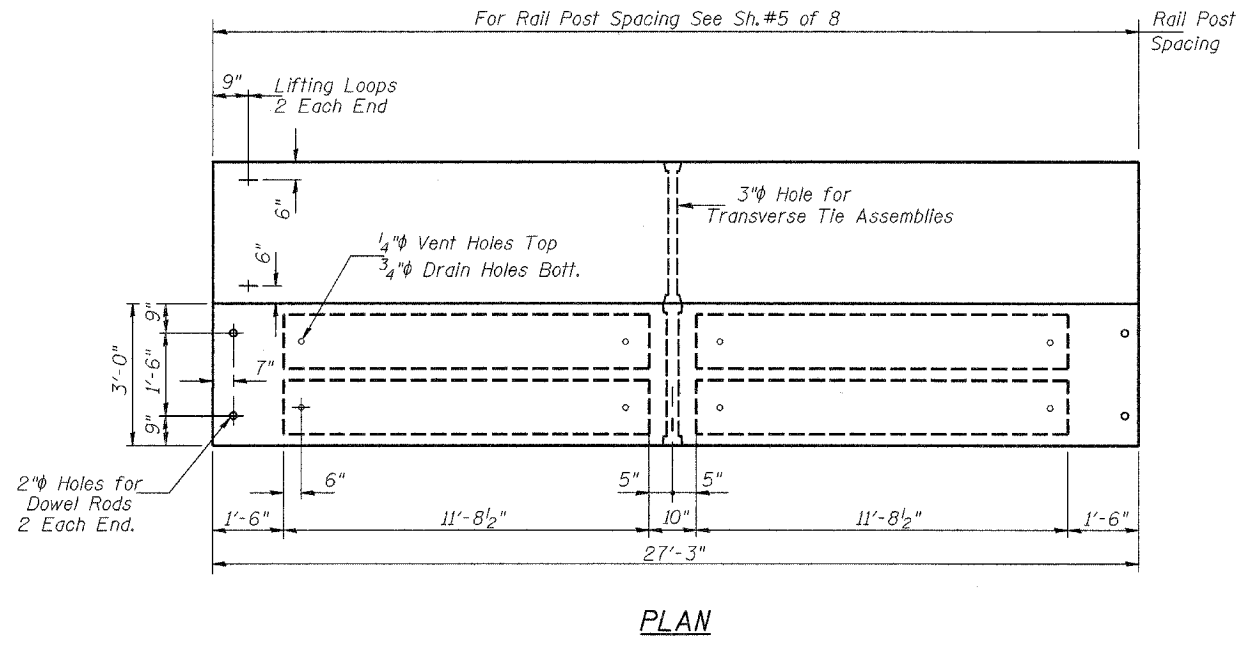
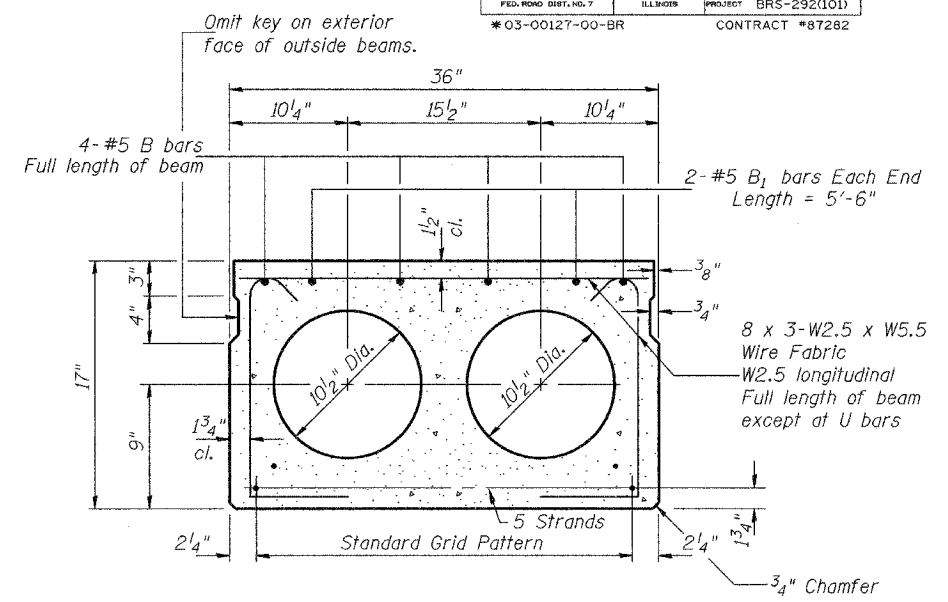
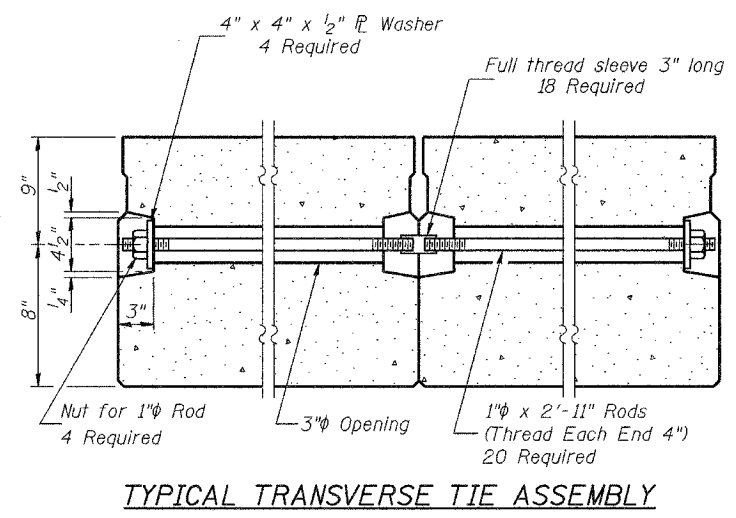
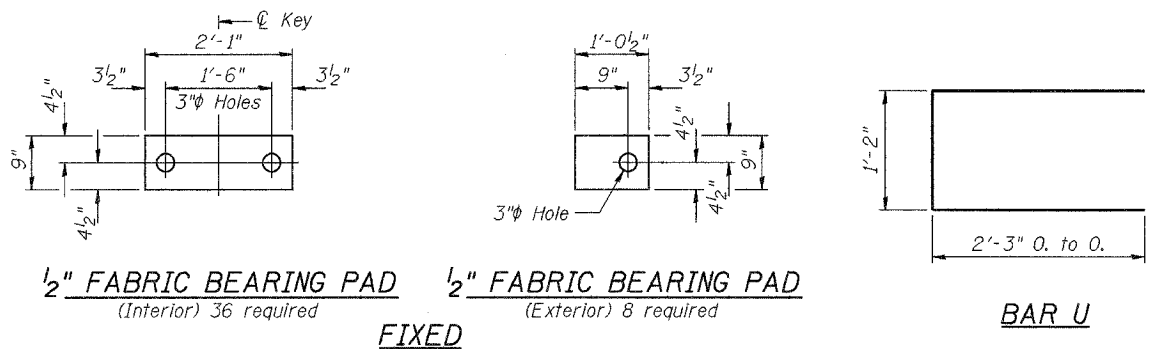
I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specification for Highway Bridges.
This design complies with all requirements of the current AASHTO Guide Specifications for Seismic Design of highway bridges.

James O. Hamilton
Illinois Structural No. 3668
Expires 11/30/2006



LOCATION SKETCH

**GENERAL PLAN & ELEVATION
F.A.S. 292 (C.H. 49) OVER GOOSEBERRY CREEK
SECTION 03-00127-00-BR
GRUNDY COUNTY
STATION 20+00.00
STR. NO. 032-3295**



NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2-1/2" 270 ksi strands, as shown.

The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.

Non prestressing steel shall conform to the requirements of AASHTO M-31 or M-322 Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.

Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.

A Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.

Required Release Strength, f'ci, shall be 4,000 p.s.i.

Rail post anchor devices shall be cast into outside face of exterior beams as specified elsewhere.

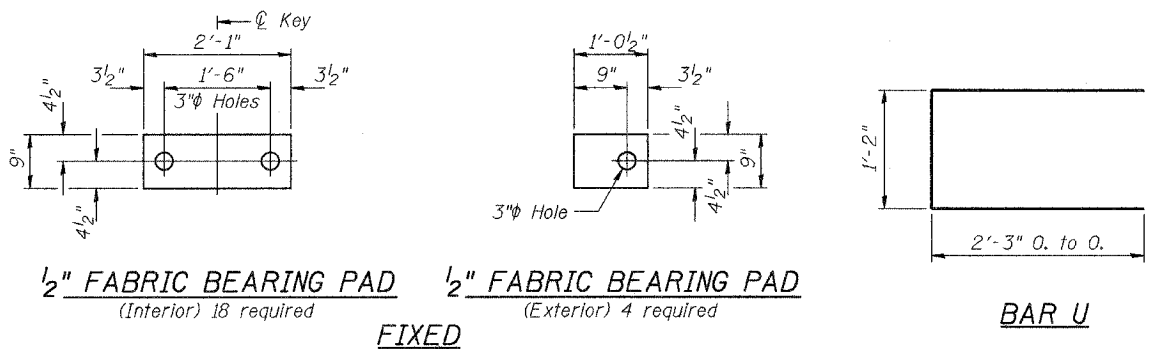
BILL OF MATERIAL-SPANS 1 & 3

| ITEM | UNIT | QUANTITY |
|---|-------|----------|
| Precast Prestressed Concrete Deck Beams (17" Depth) | SQ FT | 1,635 |

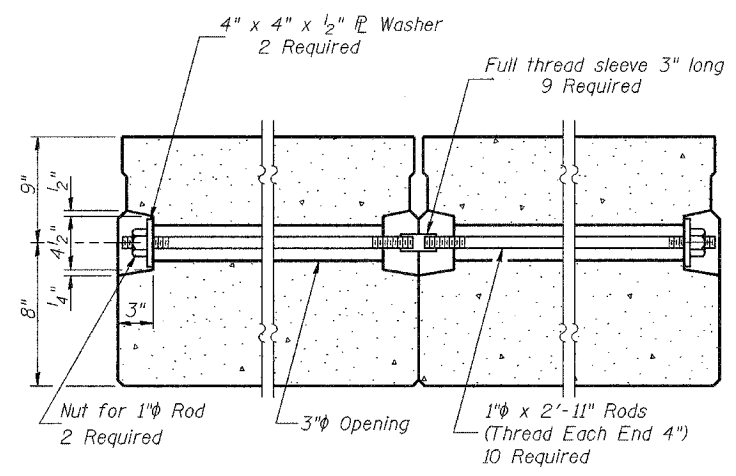
SUPERSTRUCTURE - SPANS 1 & 3
F.A.S. 292 (C.H. 49) OVER GOOSEBERRY CREEK
SECTION 03-00127-00-BR
GRUNDY COUNTY
STATION 20+00.00

| | | | | |
|-----------------------|---------|----------|---------|--------------|
| ROUTE NO. | SECTION | COUNTY | SHEET | SHEET |
| FAS 292 (CH 49) | * | GRUNDY | 17 | 9 |
| FED. ROAD DIST. NO. 7 | | ILLINOIS | PROJECT | BRS-292(101) |
| * 03-00127-00-BR | | CONTRACT | | #87282 |

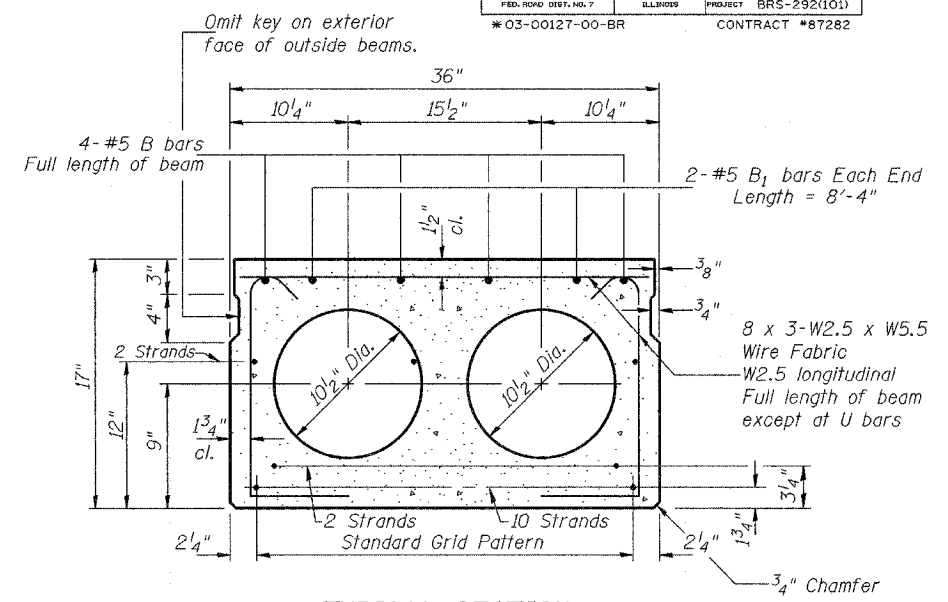
SHEET NO. 3
8 SHEETS



1/2" FABRIC BEARING PAD (Interior) 18 required
1/2" FABRIC BEARING PAD (Exterior) 4 required
FIXED
BAR U

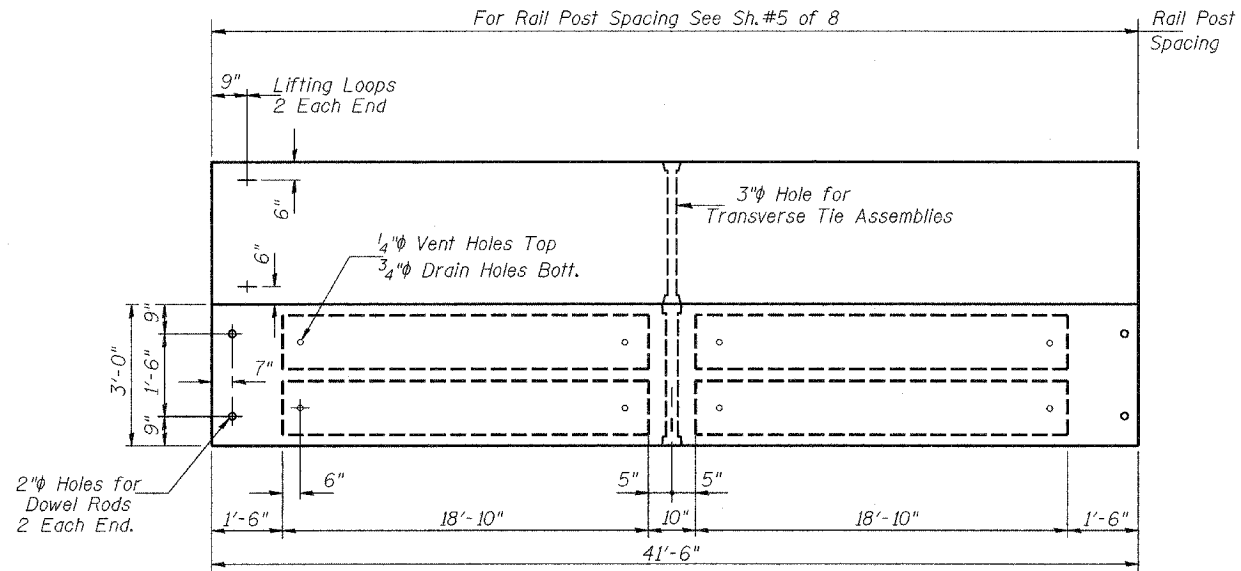


TYPICAL TRANSVERSE TIE ASSEMBLY

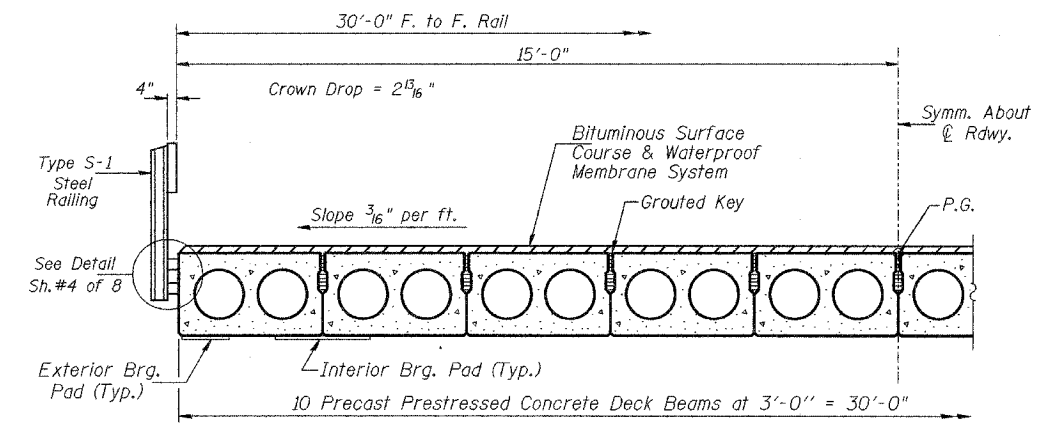


TYPICAL SECTION

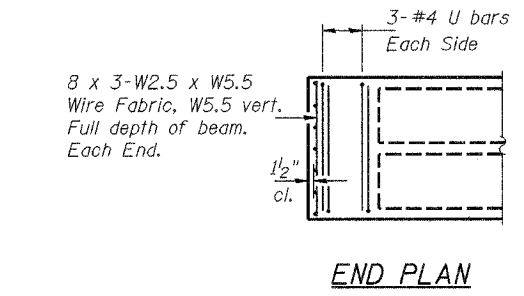
14-1/2" Strands, Each Strand Stressed to 30,900 Lbs.
10-Strands 1 3/4" up, 2-Strands 3/4" up, 2-Strands 12" up
Note: Place strands symmetrically about centerline of beam.



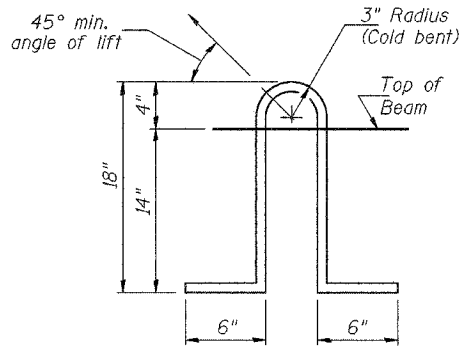
PLAN



HALF CROSS SECTION



END PLAN



LIFTING LOOP DETAIL

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2-1/2" 270 ksi strands, as shown.
The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.
Non prestressing steel shall conform to the requirements of AASHTO M-31 or M-322 Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.
Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.
A Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.
Required Release Strength, f'ci, shall be 4,000 p.s.i.
Rail post anchor devices shall be cast into outside face of exterior beams as specified elsewhere.

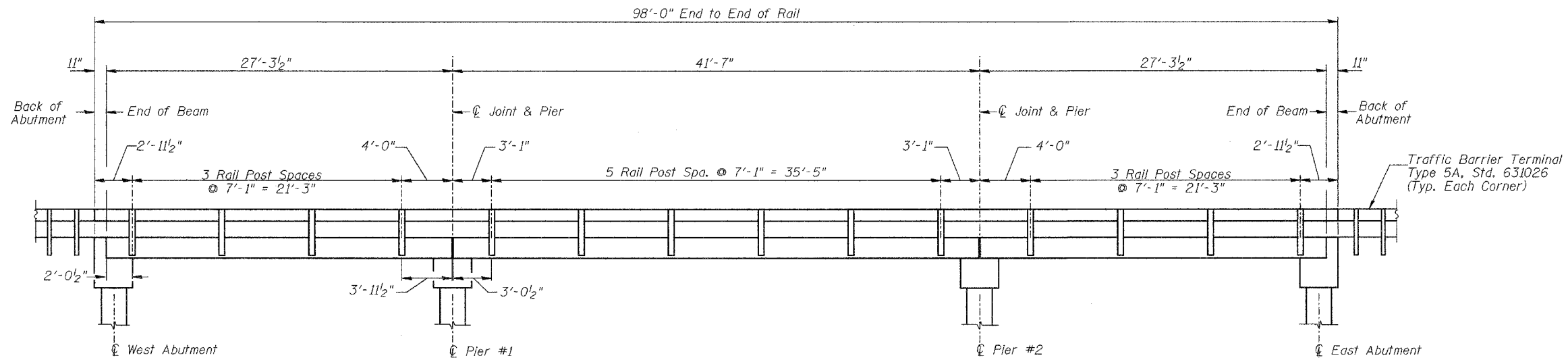
BILL OF MATERIAL - SPAN 2

| ITEM | UNIT | QUANTITY |
|---|-------|----------|
| Precast Prestressed Concrete Deck Beams (17" Depth) | SQ FT | 1,245 |

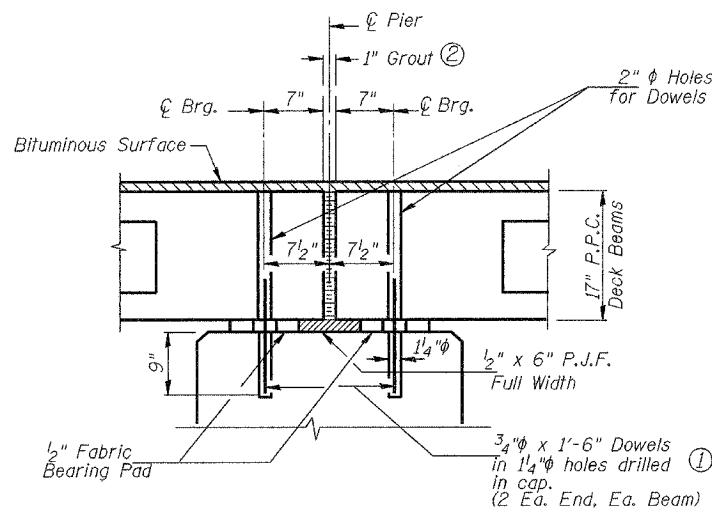
SUPERSTRUCTURE - SPAN 2
F.A.S. 292 (C.H. 49) OVER GOOSEBERRY CREEK
SECTION 03-00127-00-BR
GRUNDY COUNTY
STATION 20+00.00

| | | | | |
|-----------------------|---------|-----------------|---------|--------------|
| ROUTE NO. | SECTION | COUNTY | SHEETS | SHEET NO. |
| FAS 292 (CH 49) | * | GRUNDY | 17 | 11 |
| FED. ROAD DIST. NO. 7 | | ILLINOIS | PROJECT | BR5-292(101) |
| * 03-00127-00-BR | | CONTRACT #87282 | | |

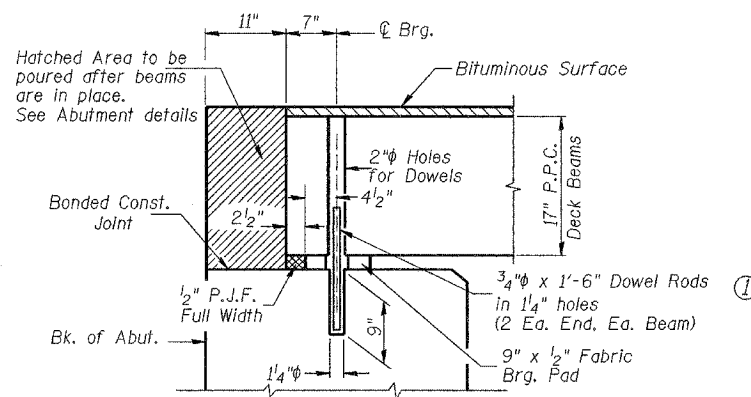
SHEET NO. 5
8 SHEETS



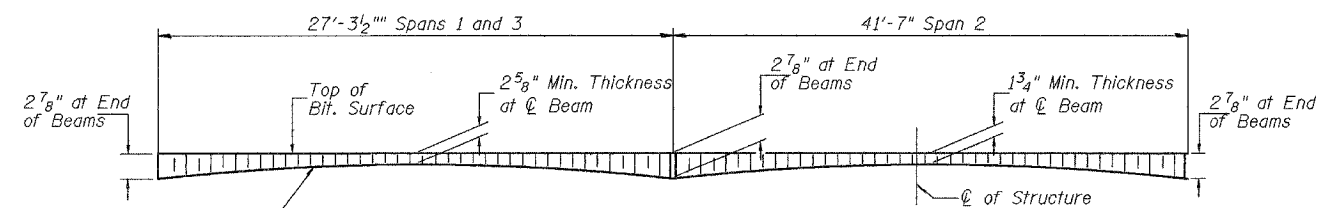
RAIL POST SPACING



SECTION THRU PIER



SECTION THRU ABUTMENT



BITUMINOUS SURFACE PROFILE
Includes Waterproofing Membrane System

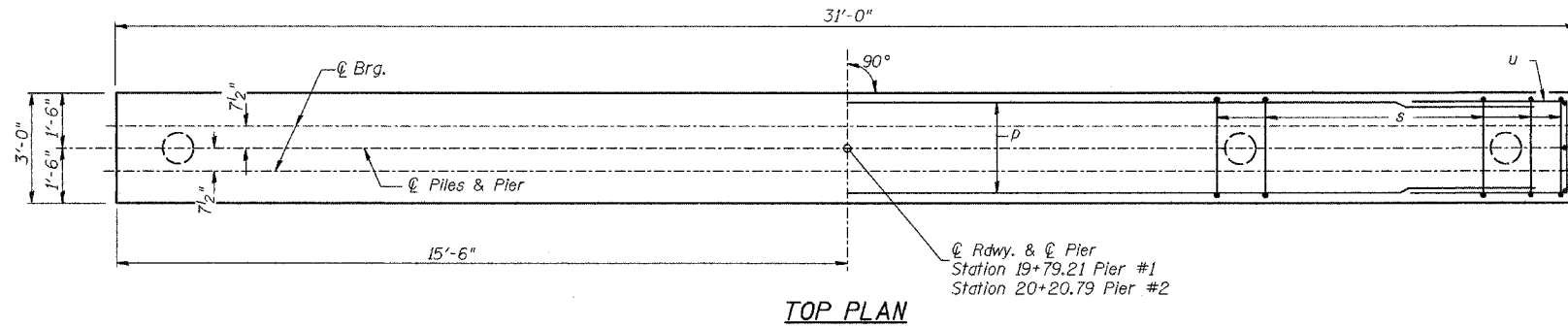
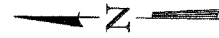
- ① Dowel Rods to be grouted after beams are in place and allowed to cure (Min. 24 hr.) prior to grouting the shear keys.
- ② 1" Joint shall be packed with a very dry mix of 2:1 sand and P.C. mortar. 1" Dimension may vary plus or minus to accommodate tolerance in beam lengths.

SUPERSTRUCTURE DETAILS
RAIL POST SPACING
F.A.S. 292 (C.H. 49) OVER GOOSEBERRY CREEK
SECTION 03-00127-00-BR
GRUNDY COUNTY
STATION 20+00.00

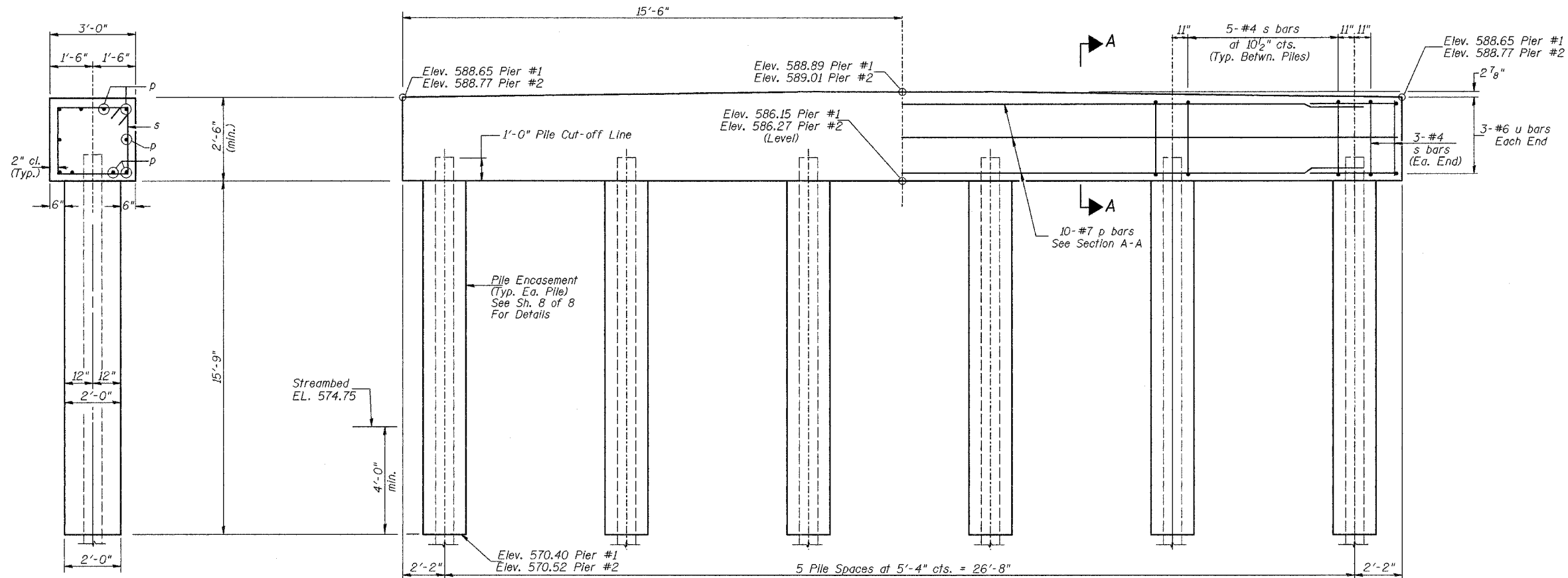
NOTES:
All edges shall have standard
3/4" chamfer.

| | | | | |
|-----------------------|---------|-----------------|--------------|--------------|
| ROUTE NO. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| FAS 292 (CH 49) | * | GRUNDY | 17 | 13 |
| FED. ROAD DIST. NO. 7 | | ILLINOIS | PROJECT | BRS-292(101) |
| *03-00127-00-BR | | CONTRACT #87282 | | |

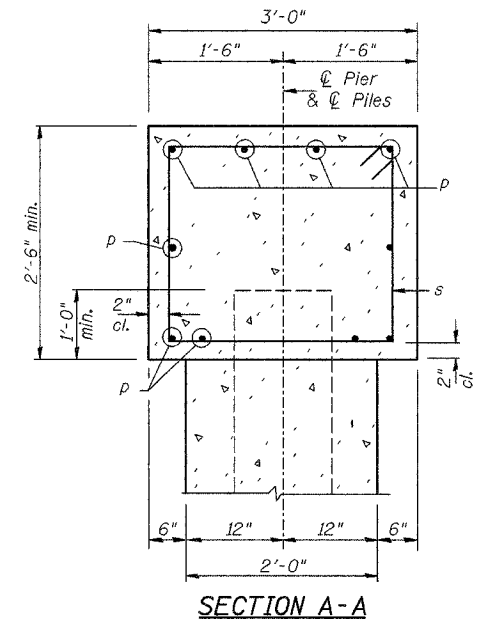
SHEET NO. 7
8 SHEETS



TOP PLAN



ELEVATION
(Looking Upstation)



SECTION A-A

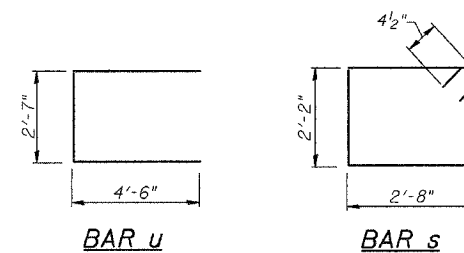
TWO PIERS
BILL OF MATERIAL

| BAR | NO. | SIZE | LENGTH | SHAPE |
|--|-----|------|--------|-------|
| p | 20 | #7 | 30'-8" | — |
| s | 62 | #4 | 10'-5" | □ |
| u | 12 | #6 | 11'-7" | □ |
| Concrete Structures | | | CU YD | 17.7 |
| Reinforcement Bars | | | POUND | 1,890 |
| Furnishing Metal Pile Shells 12" | | | FOOT | 539 |
| Driving and Filling Shells | | | FOOT | 539 |
| Test Pile Metal Shells | | | EACH | 1 |
| Concrete Encasement | | | CU YD | 16.5 |
| Underwater Structure Excavation Protection, Location 1 | | | EACH | 1 |
| Underwater Structure Excavation Protection, Location 2 | | | EACH | 1 |

① See Special Provisions

END VIEW

PILE DATA
Type: 12" Metal Shell
Capacity: 45 Tons
Est. Length: 49' (Pier #1)
49' (Pier #2)
No. Req'd.: 12 (Includes 1 Test
Pile at Pier #2)

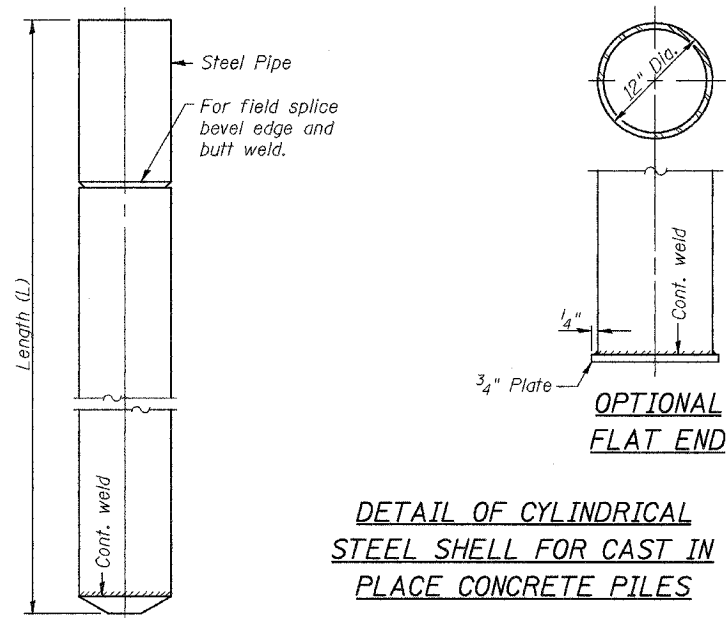


PIERS
F.A.S. 292 (C.H. 49) OVER GOOSEBERRY CREEK
SECTION 03-00127-00-BR
GRUNDY COUNTY
STATION 20+00.00

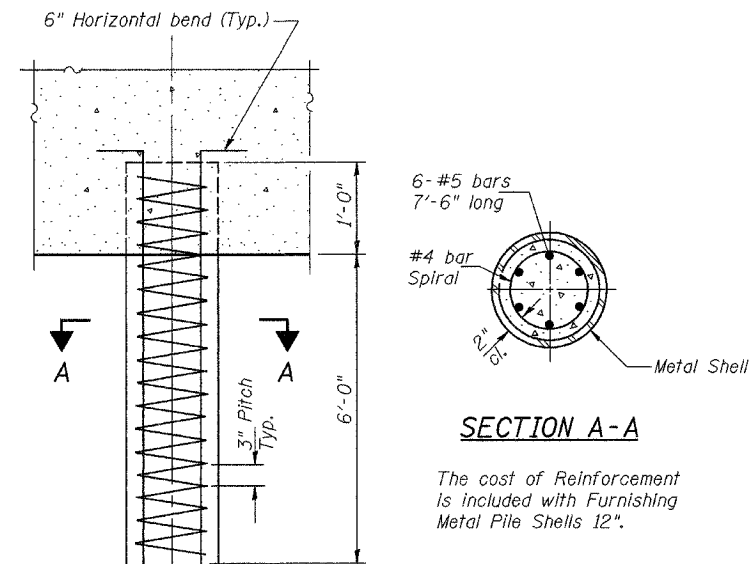
| | | | | |
|-----------------------|---------|-----------------|-----------|--------------|
| ROUTE NO. | SECTION | COUNTY | SHEET NO. | SHEET NO. |
| FAS 292 (CH 49) | * | GRUNDY | 17 | 14 |
| FED. ROAD DIST. NO. 7 | | ILLINOIS | PROJECT | BRS-292(101) |
| *03-00127-00-BR | | CONTRACT #87282 | | |

SHEET NO. 8
8 SHEETS

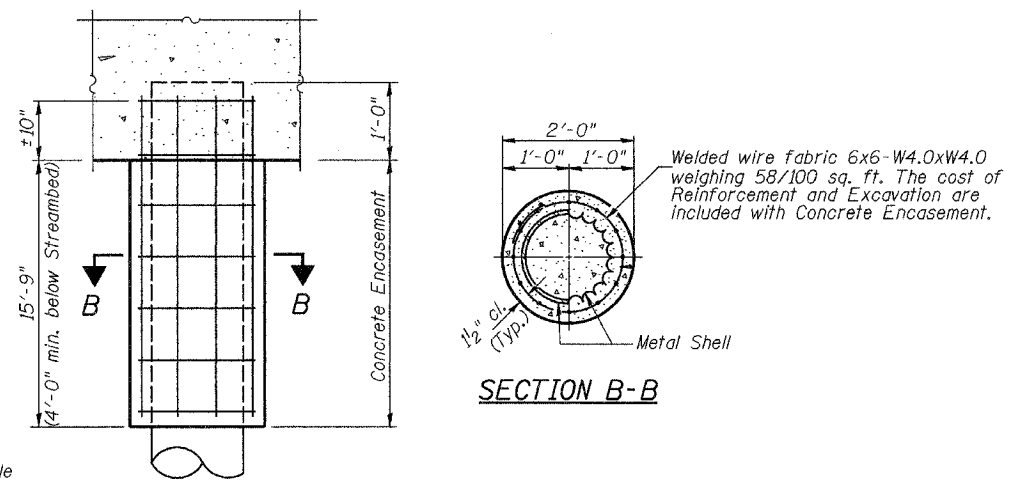
Notes: Driving and bearing ends of pipe shall be cut square. The thickness of the shell shall be 0.250 inches with a tolerance of 5%. The shell shall be according to Article 1006.05(a) of the Standard Specifications.



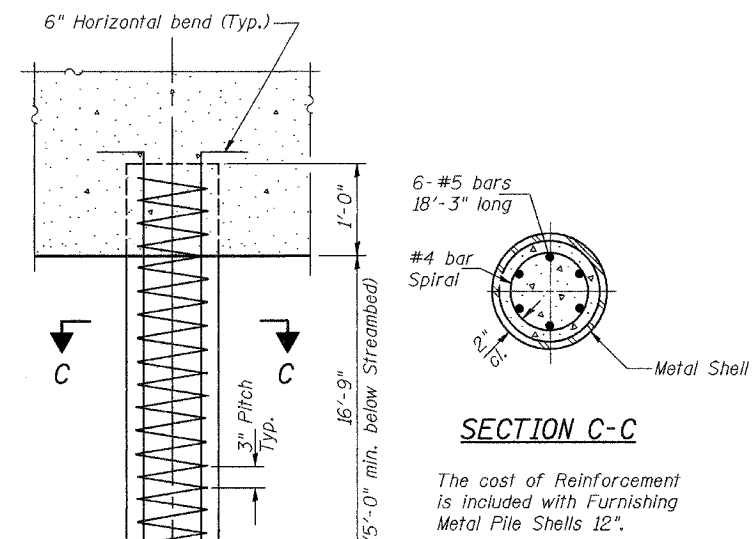
DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES



DETAIL OF REINFORCEMENT FOR METAL SHELLS AT ABUTMENTS



DETAIL OF METAL SHELL PILE ENCASEMENT AT PIERS

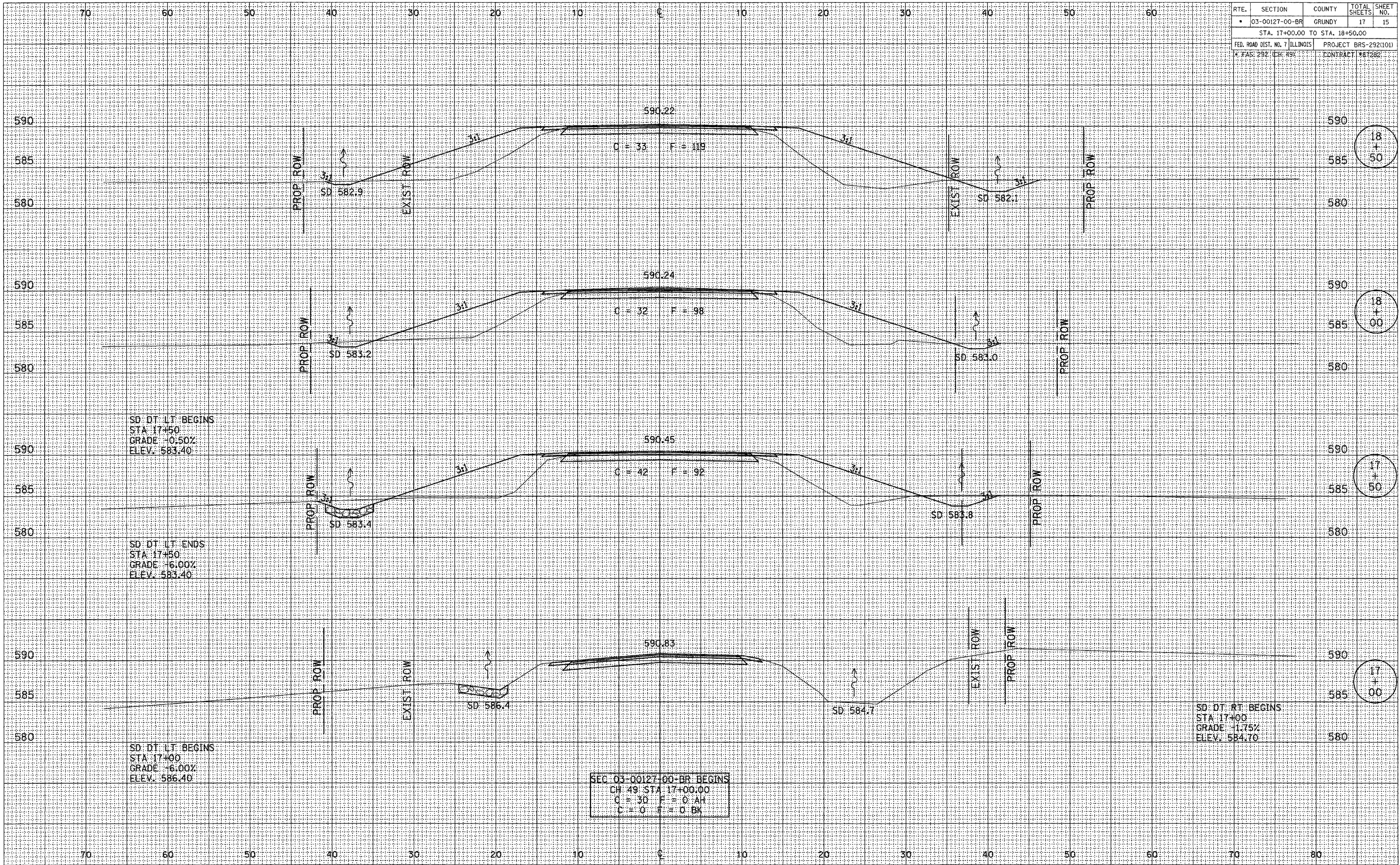


DETAIL OF REINFORCEMENT FOR METAL SHELLS AT PIERS

If a portion of the pile encasement is under water, Concrete Encasement shall be tremied under water into forms as necessary.

PILE DETAILS
F.A.S. 292 (C.H. 49) OVER GOOSEBERRY CREEK
SECTION 03-00127-00-BR
GRUNDY COUNTY
STATION 20+00.00

| | | | | |
|--------------------------------|----------------|--------|----------------------|-----------|
| RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| • | 03-00127-00-BR | GRUNDY | 17 | 15 |
| STA. 17+00.00 TO STA. 18+50.00 | | | | |
| FED. ROAD DIST. NO. 7 ILLINOIS | | | PROJECT BRS-292(101) | |
| * FAIS 292 CH. 49 | | | CONTRACT #87282 | |



18
+
50

18
+
00

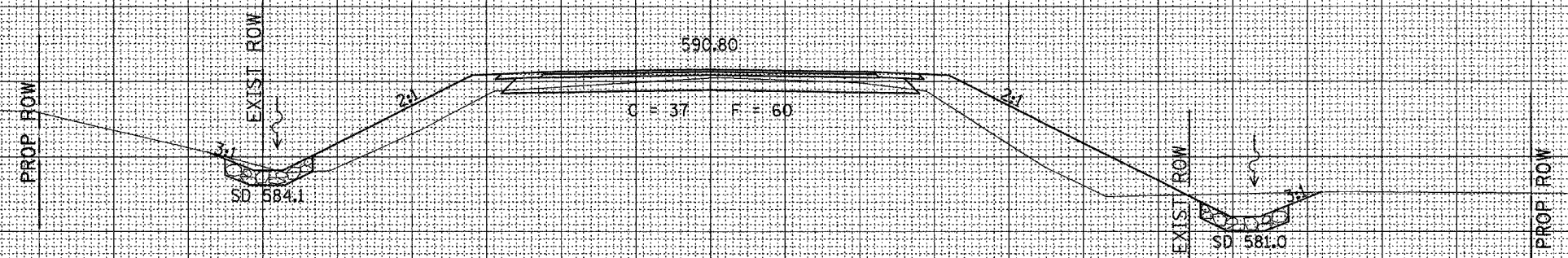
17
+
50

17
+
00

SURVEYED
 PLOTTED
 TEMPLATE
 NOTE BOOK
 NO.

SURVEYED
 PLOTTED
 TEMPLATE
 NOTE BOOK
 NO.

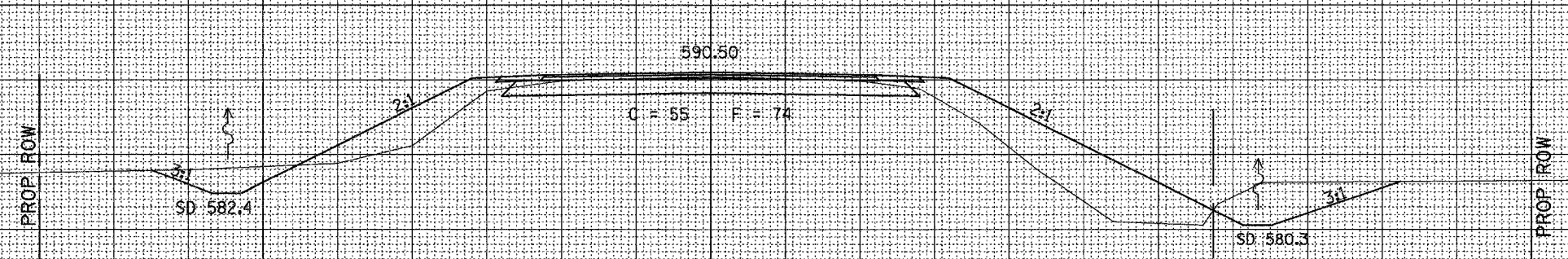
| RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------------------|----------------|--------|----------------------|-----------|
| • | 03-00127-00-BR | GRUNDY | 17 | 16 |
| STA. 19+00.00 TO STA. 20+50.00 | | | | |
| FED. ROAD DIST. NO. 7 ILLINOIS | | | PROJECT BRS-292(101) | |
| K FAS: 292 (CR: 49) | | | CONTRACT 181262 | |



SD DT LT BEGINS
STA 20+35
GRADE +4.00%
ELEV. 583.50

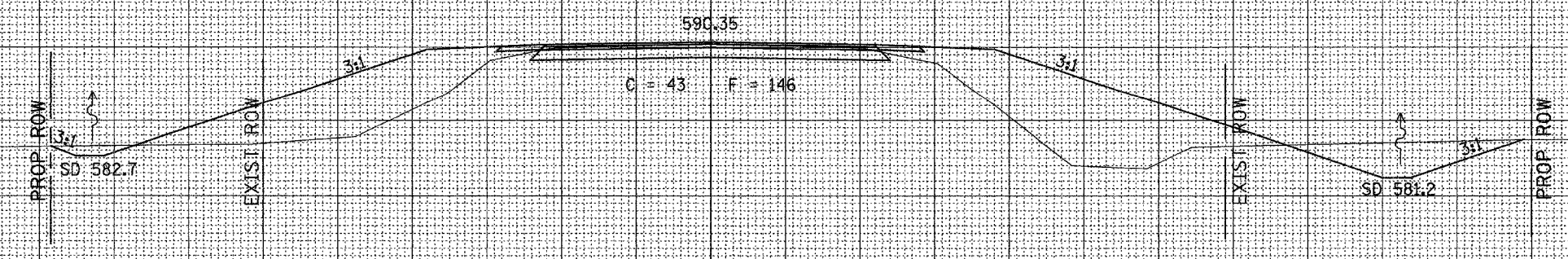
SD DT RT BEGINS
STA 20+35
GRADE +3.00%
ELEV. 580.55

STA 20+49.00
C = 37 F = 60 AH
C = 0 F = 0 BK
BRIDGE OMISSION
STA 19+51.00
C = 0 F = 0 AH
C = 55 F = 74 BK



SD DT RT ENDS
STA 19+70
GRADE -0.50%
ELEV. 582.30

SD DT RT ENDS
STA 19+70
GRADE -1.75%
ELEV. 580.00



SD DT RT ENDS
STA 19+50
GRADE -1.75%
ELEV. 582.30

SD DT RT ENDS
STA 19+50
GRADE -1.75%
ELEV. 580.00

20
+
50

19
+
50

19
+
00

SURVEYED
PLOTTED
NOTE BOOK
NO.

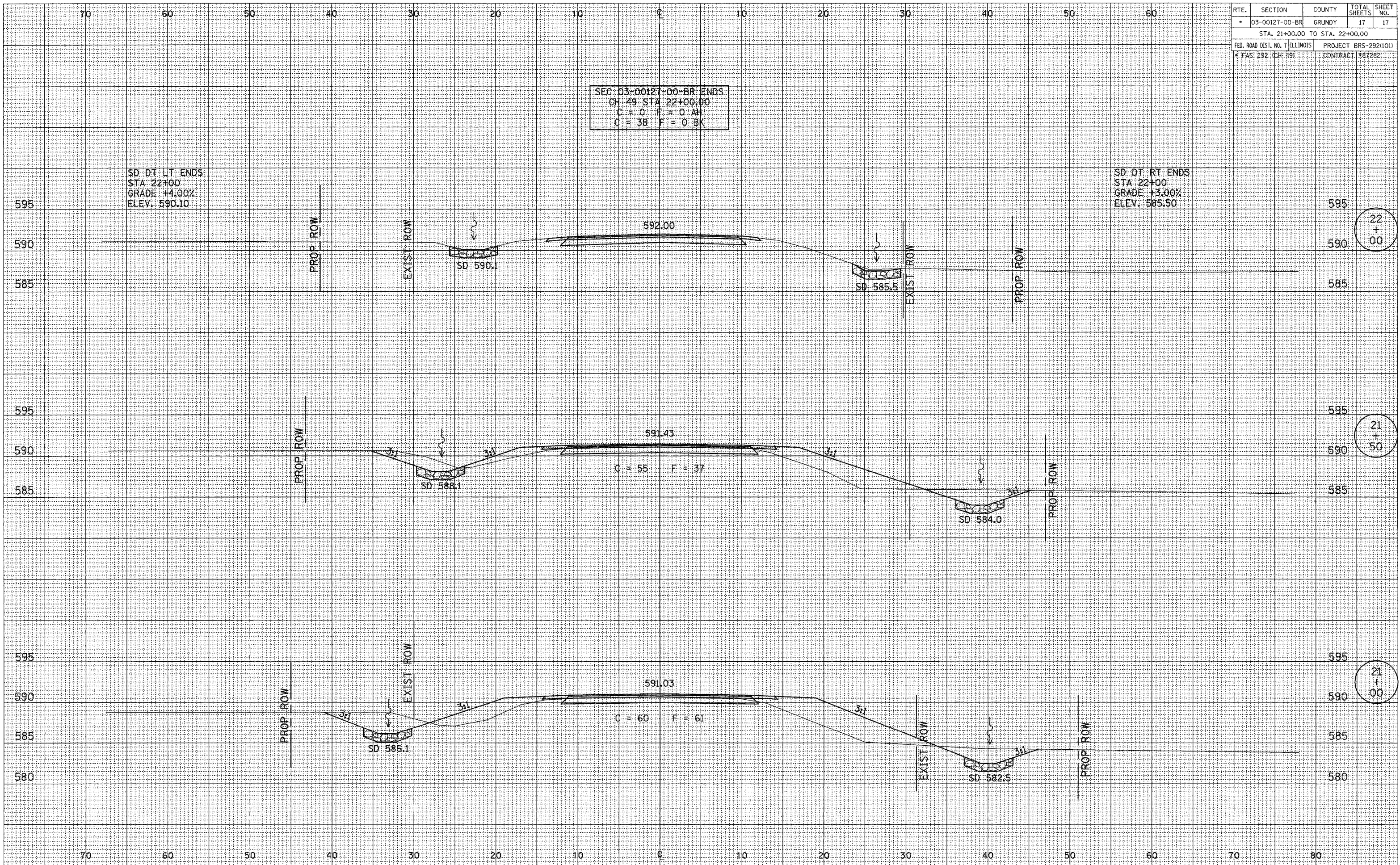
SURVEYED
PLOTTED
NOTE BOOK
NO.

| | | | | |
|--------------------------------|----------------|--------|----------------------|-----------|
| RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| • | 03-00127-00-BR | GRUNDY | 17 | 17 |
| STA. 21+00.00 TO STA. 22+00.00 | | | | |
| FED. ROAD DIST. NO. 7 ILLINOIS | | | PROJECT BRS-292(101) | |
| * FAS: 292 (CH 49) | | | CONTRACT #87282 | |

SEC 03-00127-00-BR ENDS
 CH 49 STA 22+00.00
 C = 0 F = 0 AH
 C = 38 F = 0 BK

SD DT LT ENDS
 STA 22+00
 GRADE +4.00%
 ELEV. 590.10

SD DT RT ENDS
 STA 22+00
 GRADE +3.00%
 ELEV. 585.50



22
+
00

21
+
50

21
+
00

SURVEYED
 PLOTTED
 TEMPLATE
 NOTE BOOK
 AREAS CHECKED

SURVEYED
 PLOTTED
 TEMPLATE
 NOTE BOOK
 AREAS CHECKED