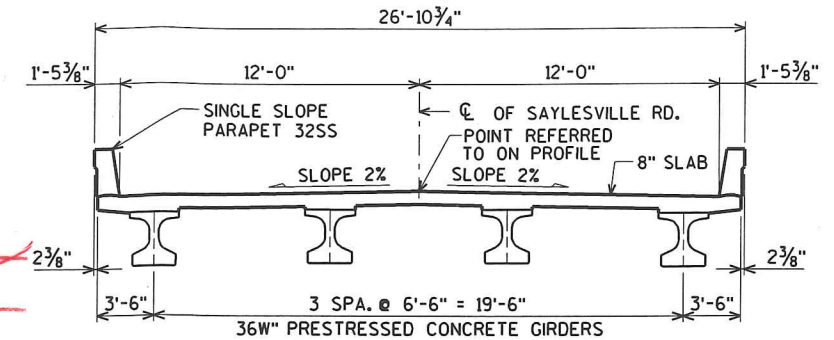


TYPE, SIZE  
& LOCATION  
APPROVED

BY MLH  
DATE 12-2-2015



### DESIGN DATA

#### LIVE LOAD:

DESIGN LOADING: HL-93  
INVENTORY RATING FACTOR:  
OPERATING RATING FACTOR:  
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20" S.F.

#### MATERIAL PROPERTIES:

CONCRETE MASONRY { SUPERSTRUCTURE  $f'_c = 4,000$  p.s.i.  
ALL OTHER  $f'_c = 3,500$  p.s.i.  
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60)  $f_y = 60,000$  p.s.i.

36W" PRESTRESSED GIRDER  
CONCRETE MASONRY  $f'_c = 8,000$  p.s.i.  
STRANDS - 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF  $= 270,000$  p.s.i.

#### HYDRAULIC DATA:

##### 100 YEAR FLOOD

DRAINAGE AREA = 55.3 sq. mi. ✓  
WATERWAY AREA = 380 sq. ft. ✓  
 $V = 7.5$  f.p.s. ✓  
 $Q_{100} = 2,830$  c.f.s. ✓  
HIGH WATER<sub>100</sub> EL. 907.0 ✓  
HIGH WATER<sub>2</sub> EL. 905.7 ✓  
RDWY. OVERFLOW = N/A ✓  
SCOUR CRITICAL CODE = 8 ✓  
NAVD 88 DATUM

REGULATORY HIGH WATER<sub>100</sub> EL. 907.0

#### FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS \* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 30'-0".

\* THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

#### TRAFFIC DATA:

A.D.T. = 150 (2018)  
A.D.T. = 180 (2038)  
R.D.S. = 35 M.P.H.

| NO. | DATE | REVISION | BY |
|-----|------|----------|----|
|-----|------|----------|----|

ORIGINAL PLANS PREPARED BY  
**AYRES ASSOCIATES**  
3433 Oakwood Hills Parkway  
Eau Claire, WI 54701  
www.AyresAssociates.com

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

ACCEPTED \_\_\_\_\_  
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-14-212

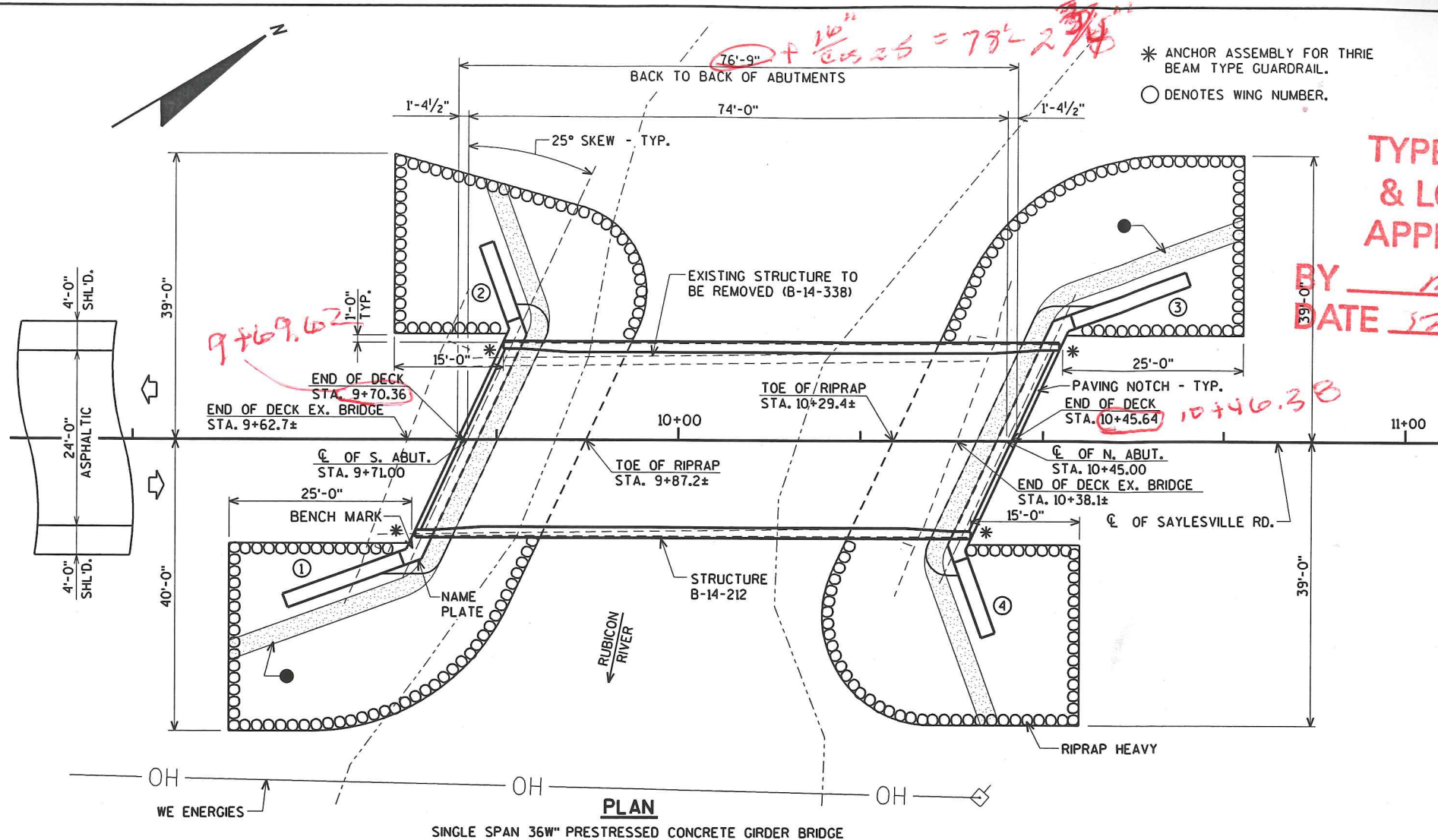
SAYLESVILLE ROAD OVER RUBICON RIVER

COUNTY DODGE TOWN/CITY/VILLAGE RUBICON

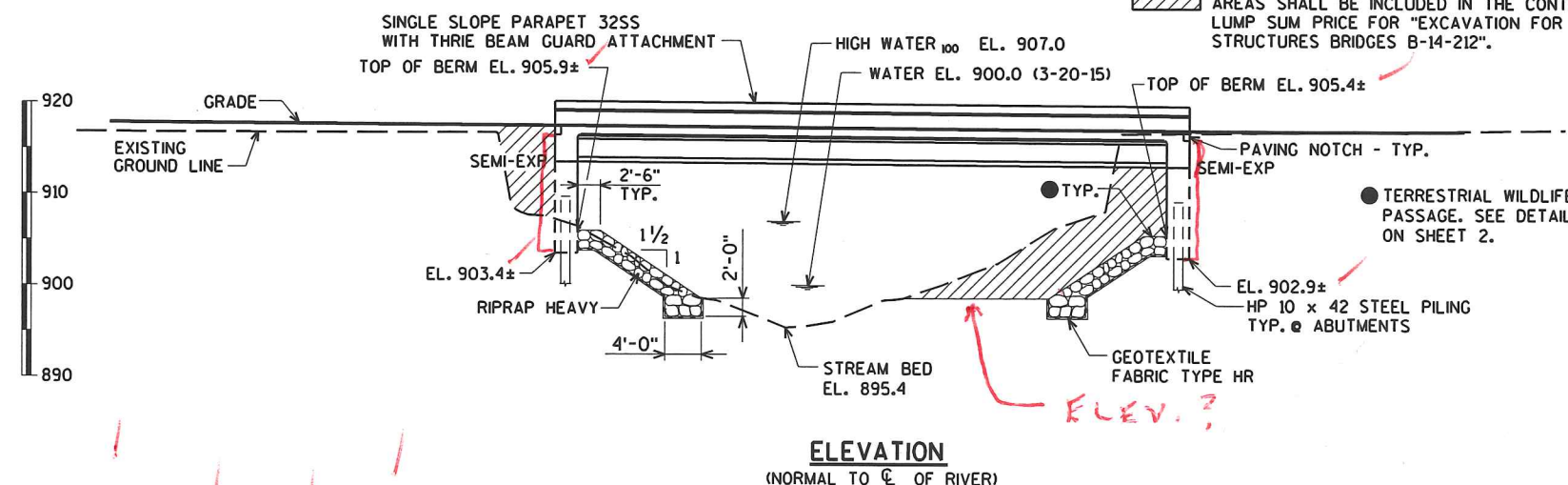
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS  
DESIGNED BY CBM CKD. DRAWN BY CLS PLANS CKD.

PRELIMINARY  
PLAN

SHEET 1 OF 3



COST OF EXCAVATION OR FILL IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-14-212".



PROFILE GRADE LINE  
(SAYLESVILLE RD.)

BENCH MARK:  
SPK IN POWER POLE  
STA. 7+30, 63' RT.  
EL. 921.41

### LIST OF DRAWINGS

1. PRELIMINARY PLAN
2. QUANTITIES AND NOTES
3. SUBSURFACE EXPLORATION

LOWER BRIDGE AND SHORTER  
ABUTMENTS HAVE HISTORICALLY BEEN  
LESS EXPENSIVE.

BRIDGE OFFICE CONTACT:  
WILLIAM DREHER  
(608)-266-8489

CONSULTANT CONTACT:  
CHRIS MCMAHON  
(715)-834-3161

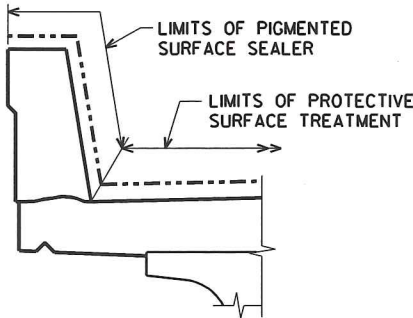


TOTAL ESTIMATED QUANTITIES

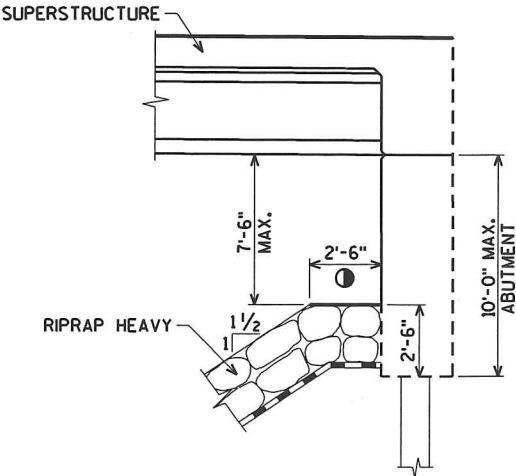
| BID ITEM NUMBER | BID ITEMS                                                              | UNIT | S. ABUT. | N. ABUT. | SUPER. | TOTAL       |
|-----------------|------------------------------------------------------------------------|------|----------|----------|--------|-------------|
| 203.0600.S      | REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00 | LS   | -----    | -----    | -----  | 1           |
| 206.1000        | EXCAVATION FOR STRUCTURES BRIDGES B-14-212                             | LS   | -----    | -----    | -----  | 1           |
| 210.0100        | BACKFILL STRUCTURE                                                     | CY   |          |          | -----  |             |
| 502.0100        | CONCRETE MASONRY BRIDGES                                               | CY   |          |          |        |             |
| 502.3200        | PROTECTIVE SURFACE TREATMENT                                           | SY   | -----    | -----    |        |             |
| 502.3210        | PIGMENTED SURFACE SEALER                                               | SY   | -----    | -----    |        |             |
| 503.0137        | PRESTRESSED GIRDER TYPE I 36W-INCH                                     | LF   | -----    | -----    |        |             |
| 505.0400        | BAR STEEL REINFORCEMENT HS STRUCTURES                                  | LB   |          |          | -----  |             |
| 505.0600        | BAR STEEL REINFORCEMENT HS COATED STRUCTURES                           | LB   |          |          |        |             |
| 506.2605        | BEARING PADS ELASTOMERIC NON-LAMINATED                                 | EACH | -----    | -----    |        |             |
| 506.4000        | STEEL DIAPHRAGMS B-14-212                                              | EACH | -----    | -----    |        |             |
| 516.0500        | RUBBERIZED MEMBRANE WATERPROOFING                                      | SY   |          |          | -----  |             |
| 550.0500        | PILE POINTS                                                            | EACH |          |          | -----  |             |
| 550.1100        | PILING STEEL HP 10-INCH x 42 LB                                        | LF   |          |          | -----  |             |
| 606.0300        | RIPRAP HEAVY                                                           | CY   |          |          | -----  |             |
| 612.0406        | PIPE UNDERDRAIN WRAPPED 6-INCH                                         | LF   |          |          | -----  |             |
| 645.0120        | GEOTEXTILE FABRIC TYPE HR                                              | SY   |          |          | -----  |             |
|                 |                                                                        |      |          |          |        |             |
|                 |                                                                        |      |          |          |        |             |
|                 | NON-BID ITEMS                                                          |      |          |          |        |             |
|                 | FILLER                                                                 | SIZE | -----    | -----    | -----  | 1/2" & 3/4" |
|                 |                                                                        |      |          |          |        |             |
|                 |                                                                        |      |          |          |        |             |

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.  
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.  
THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.  
JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.  
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE FABRIC TYPE HR TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.  
ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.  
THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.  
THE EXISTING STRUCTURE, B-14-338, TO BE REMOVED, IS A SINGLE SPAN STEEL THRU GIRDER BRIDGE, 76.75 FT. LONG WITH A 22.8 FT. CLEAR ROADWAY WIDTH.  
AT BACKFACE OF ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.  
PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.  
THE QUANTITY OF BACKFILL STRUCTURE, BID ITEM 210.0100, IS CALCULATED BASED ON APPLICABLE FIGURES 12.6-1 AND 12.6-2 IN THE WISCONSIN DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL.



PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER DETAIL



TERRESTRIAL WILDLIFE PASSAGE DETAIL

- 1. FILL VOIDS IN RIPRAP HEAVY WITH TRAFFIC BOND LIMESTONE SCREENINGS 3/8-INCH TO FULLY FILL ALL VOIDS AND LEAVE, ON AVERAGE, TWO INCHES ABOVE THE LOWEST ROCK POINTS WHERE THEY ABUT EACH OTHER. PROVIDE LEVEL SURFACE OF THE TERRESTRIAL WILDLIFE PASSAGE. TRAFFIC BOND LIMESTONE TO BE INCIDENTAL IN THE BID ITEM "RIPRAP HEAVY".

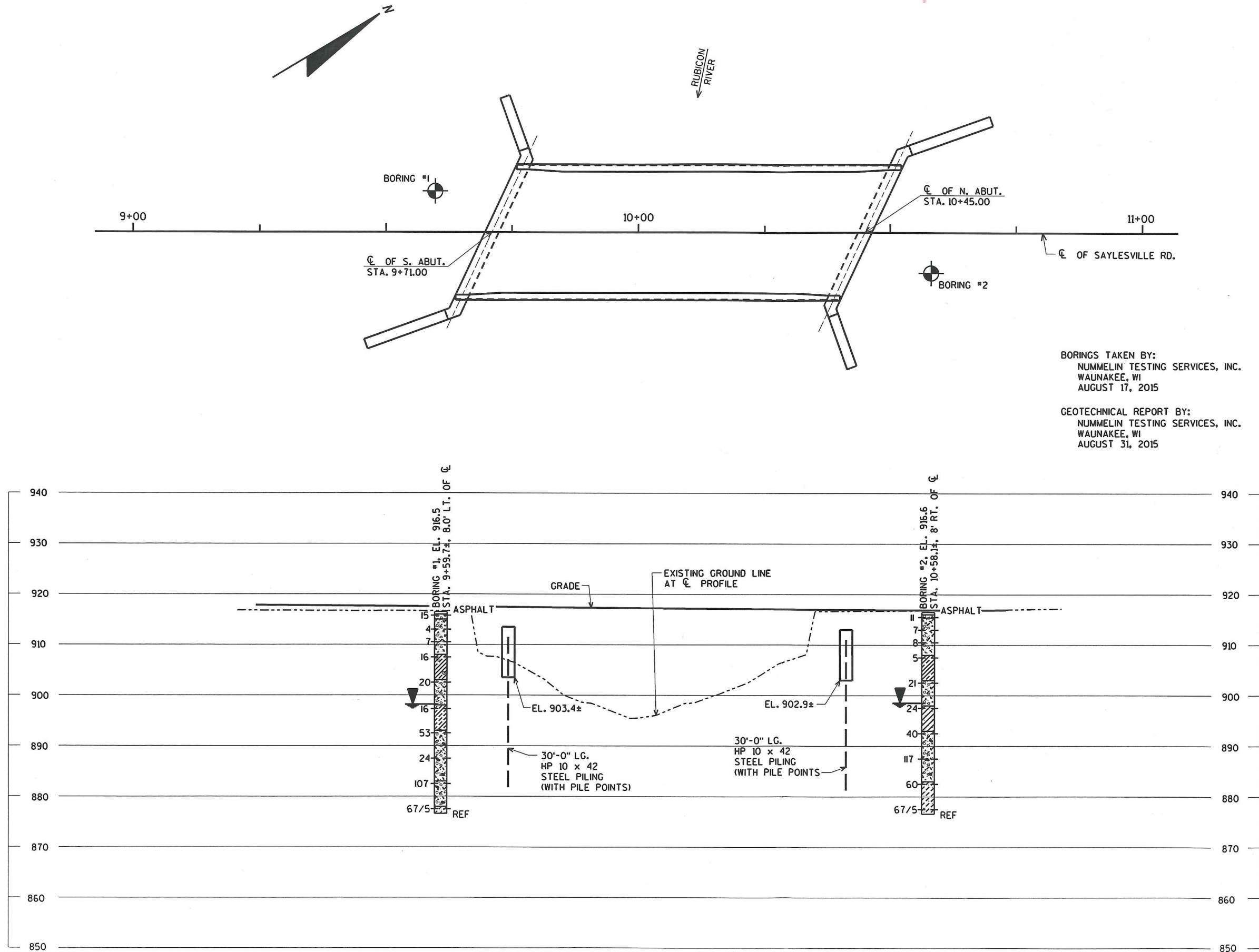
\$PRNAME\$  
U:\41-0698.00 - Dodge Co, Saylesville Road over Rubicon River\BRIDGE\410698 gp PREL.dgn

ORIGINAL PLANS PREPARED BY  
**AYRES ASSOCIATES**  
3433 Oakwood Hills Parkway  
Eau Claire, WI 54701  
www.AyresAssociates.com

|                                                    |      |          |              |
|----------------------------------------------------|------|----------|--------------|
| NO.                                                | DATE | REVISION | BY           |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |          |              |
| STRUCTURE B-14-212                                 |      |          |              |
| DRAWN BY                                           |      | CLS      | PLANS CK'D.  |
| QUANTITIES AND NOTES                               |      |          | SHEET 2 OF 3 |

\$PRJNAME\$  
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8



BORINGS TAKEN BY:  
NUMMELIN TESTING SERVICES, INC.  
WAUNAKEE, WI  
AUGUST 17, 2015

GEOTECHNICAL REPORT BY:  
NUMMELIN TESTING SERVICES, INC.  
WAUNAKEE, WI  
AUGUST 31, 2015

STATE PROJECT NUMBER

3819-00-72

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE  
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL SILT SANDSTONE  
SAND PEAT LIMESTONE  
GRAVEL CLAY IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO. STA. ELEVATION  
95/6=95 BLOWS FOR 6" PENETRATION  
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.  
7 AVERAGE BLOWS PER FOOT  
REFUSAL 95/6

LEGEND OF BORING

BORING NO. STA. ELEV.  
UNCONFINED STRENGTH 7.7  
BLOWS PER FT. USING 140# WT. FALLING 30"  
WASH SAMPLE  
SHELBY TUBE — S.T.  
GROUND WATER ELEVATION  
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION  
SANDY GRAVEL  
F. BOULDERS OR COBBLES  
SAND  
SILTY CLAY  
SO  
LIMESTONE

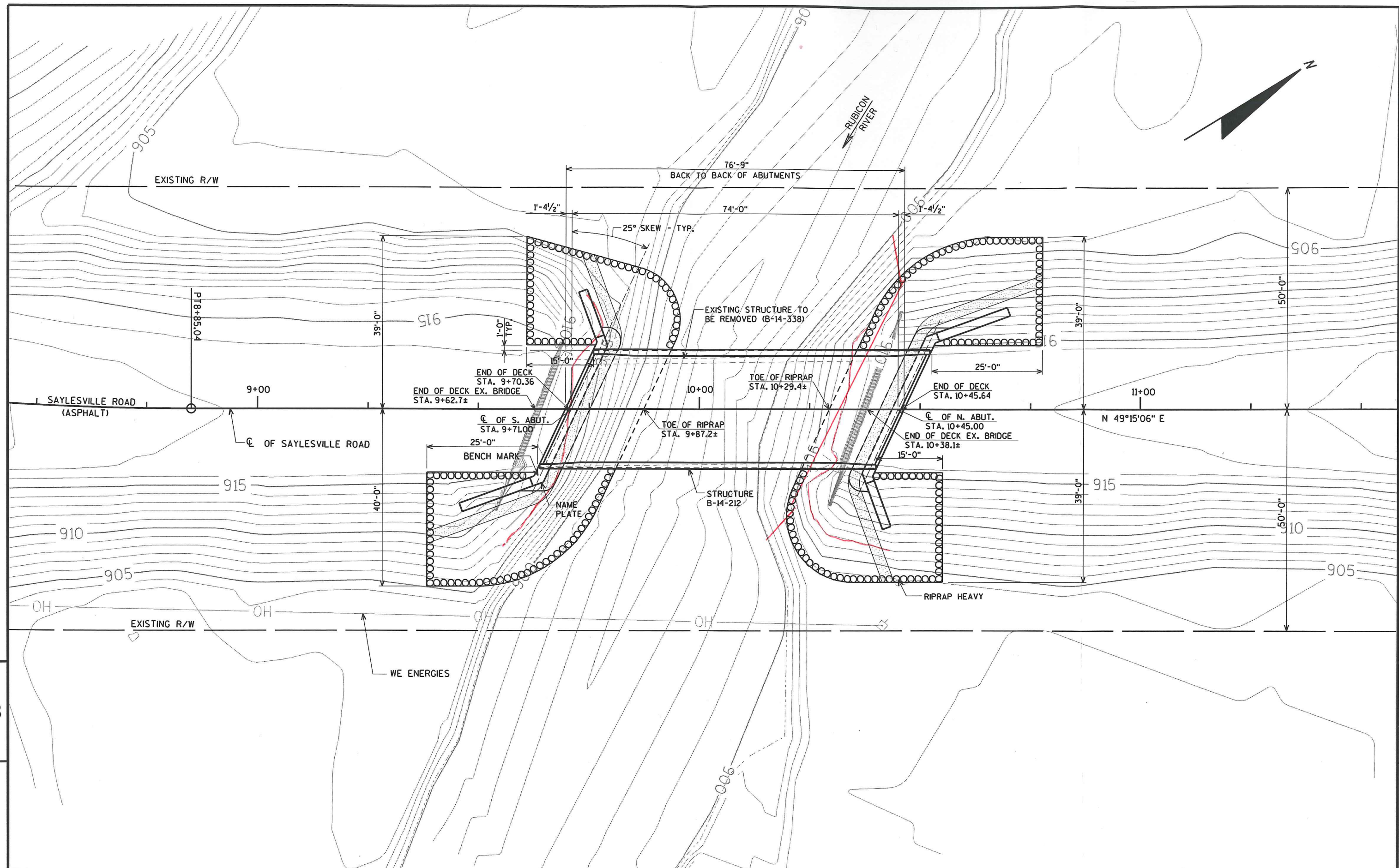
UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

| NO.                                                | DATE | REVISION | BY           |
|----------------------------------------------------|------|----------|--------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |          |              |
| STRUCTURE B-14-212                                 |      |          |              |
| DRAWN BY                                           |      | CLS      | PLANS CK'D.  |
| SUBSURFACE EXPLORATION                             |      |          | SHEET 3 OF 3 |





PROJECT NO: 3819-00-72

HWY: SAYLESVILLE ROAD

COUNTY: DODGE

CONTOUR MAP

SCALE, FEET 0 10 20

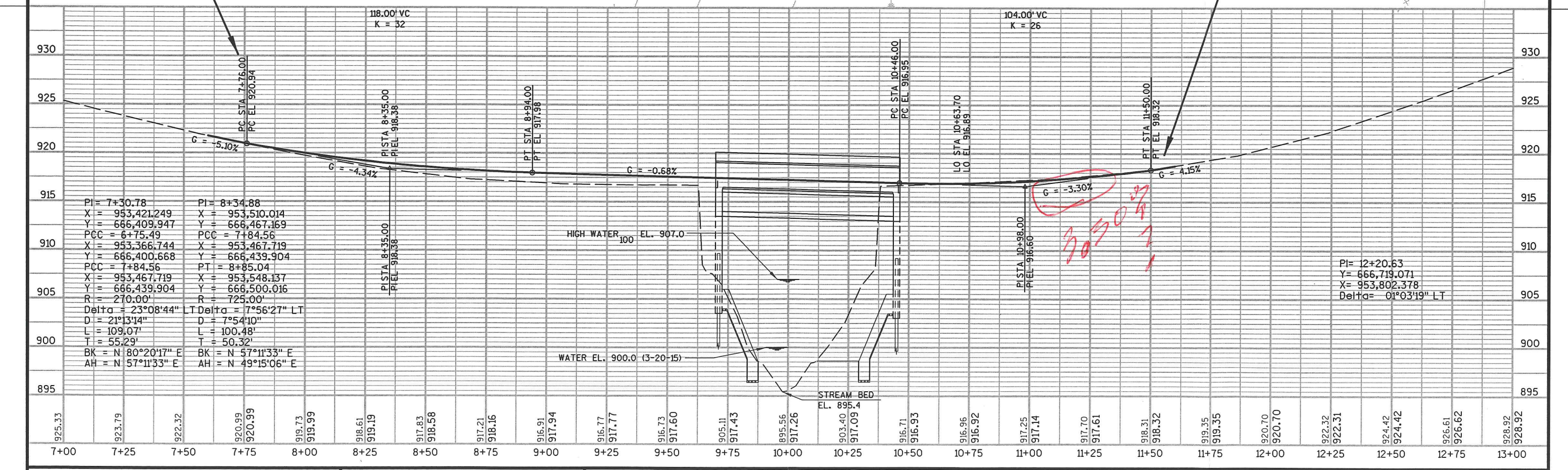
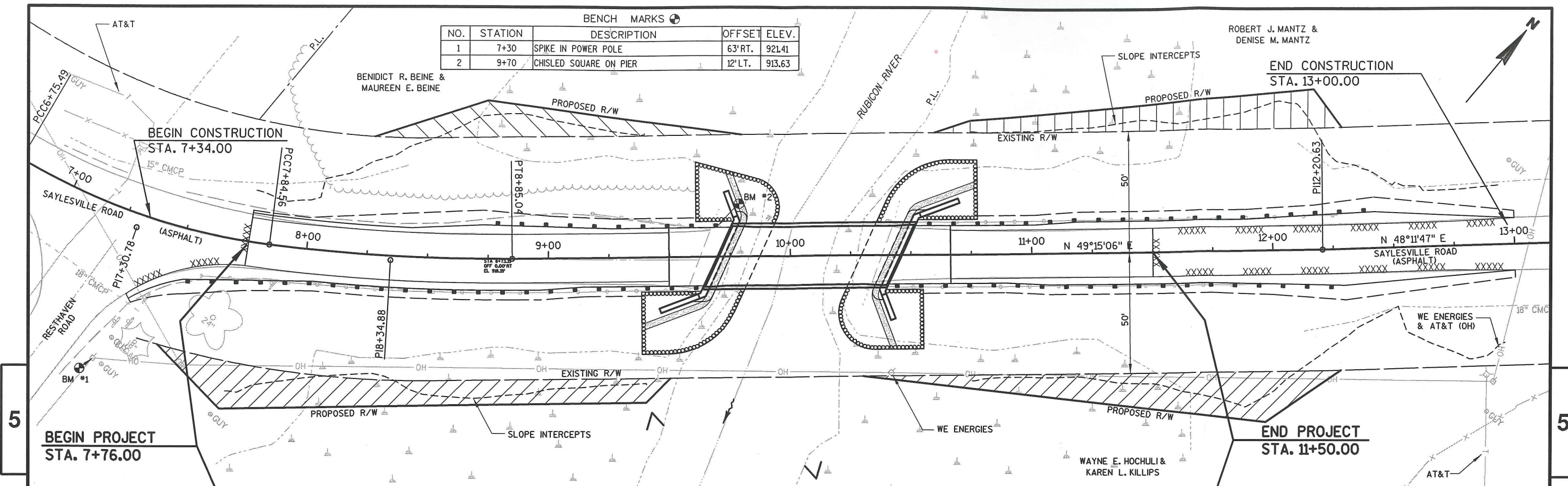
SHEET

E



| BENCH MARKS |         |                       |         |        |
|-------------|---------|-----------------------|---------|--------|
| NO.         | STATION | DESCRIPTION           | OFFSET  | ELEV.  |
| 1           | 7+30    | SPIKE IN POWER POLE   | 63' RT. | 921.41 |
| 2           | 9+70    | CHISEL SQUARE ON PIER | 12' LT. | 913.63 |

ROBERT J. MANTZ &  
DENISE M. MANTZ



PROJECT NO: 3819-00-72      HWY: SAYLESVILLE ROAD      COUNTY: DODGE      PLAN & PROFILE      SCALE, FEET 0 20 40      SHEET      E