

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

ERI-6-14.93 OHIO
FHWA REGION 5 1/29
M-BRM-6C00(I) FEDERAL PROJECT

ERIE COUNTY
ERI-6-14.93

ERI - 6 - 14.93 HURON TOWNSHIP ERIE COUNTY

M-BRM-6C00(I)

| DESIGN | DESIGNATION | ° DESIGN EXCEPTIONS APPROVED 5/17/89 | | |
|---------------------------|--------------------------|--------------------------------------|-------------------|-----------------|
| | | EXCEPTION ITEM | STANDARD REQUIRED | DESIGN PROVIDED |
| CURRENT ADT (1989) | = 9680 | SUPERELEVATION | 0.083 % | 0.077 % |
| DESIGN YEAR ADT (2009) | = 11620 | | | |
| D.H.V. | = 1160 | | | |
| D | = 55% | HOR. STOPPING SIGHT DISTANCE | 450' | 355' |
| T | = 2% | | | |
| °V | = 55 m.p.h. | | | |
| LEGAL SPEED | = 55 m.p.h. | HORIZONTAL ALIGNMENT | 6° | 8°-45' |
| FUNCTIONAL CLASSIFICATION | Urban Principal Arterial | | | |

CONVENTIONAL SIGNS

| | |
|--|--|
| County Line | Limited Access (only) LA |
| Township Line | Right of Way (only) RW |
| Section Line | Limited Access & Right of Way LA & RW |
| Corporation Line | Existing Right of Way |
| Fence Line (existing) (proposed) | Property Line (in existing fence) |
| Center Line | Railroad or |
| Trees , Stumps , (to be removed) | Guardrail (existing) (proposed) |
| Utility Poles: Telephone , Power , Light | |

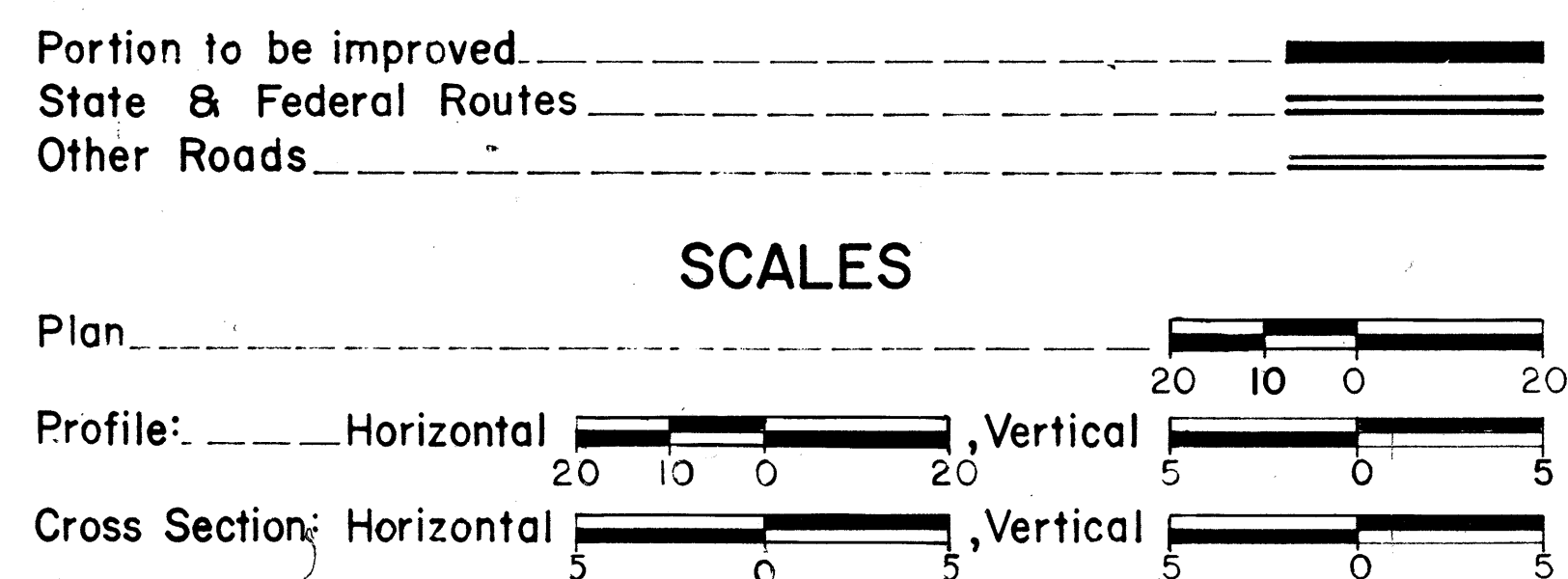
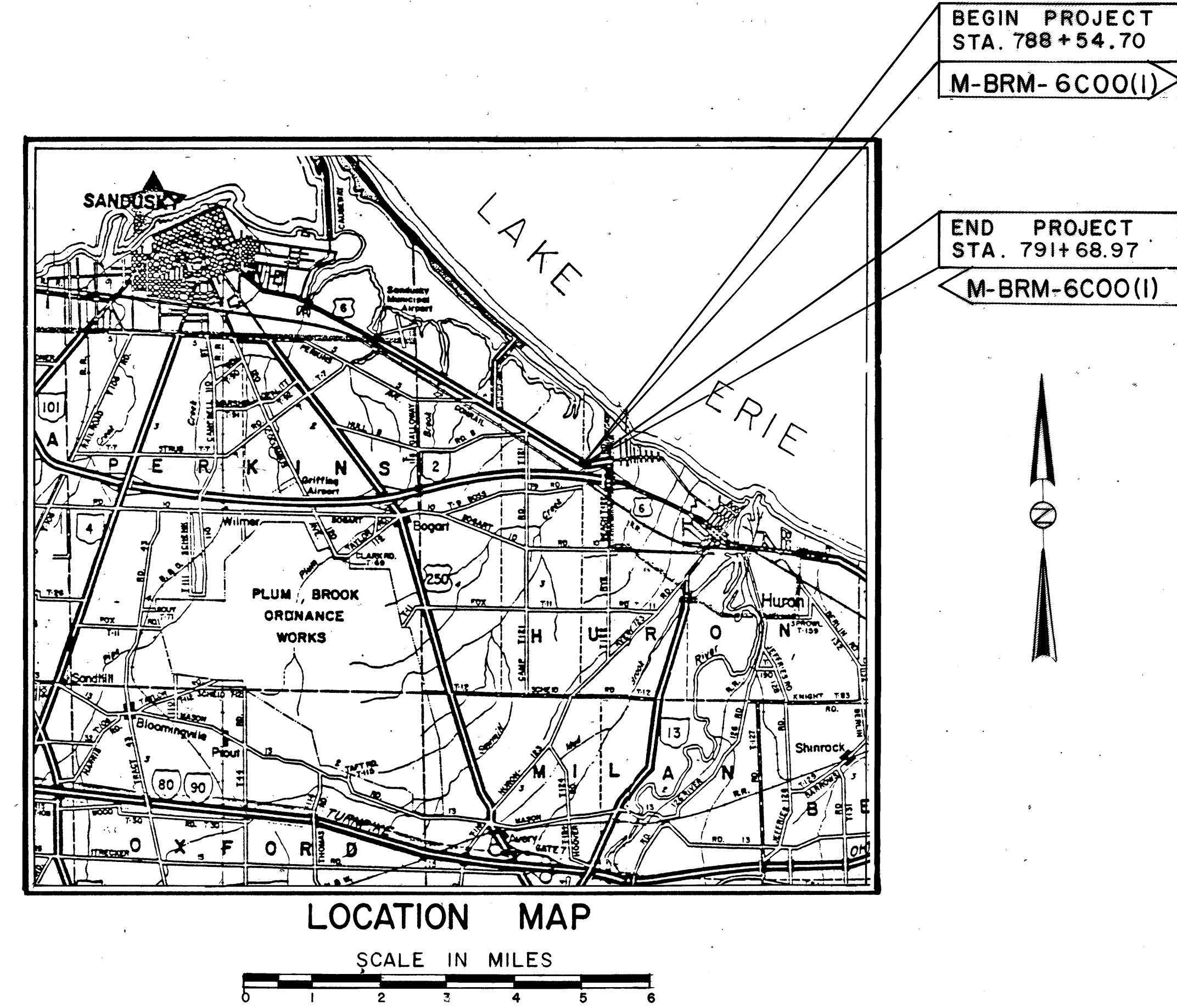
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LINE DATA

| | BRM-6C00(I) | M-6C00(I) | TOTAL |
|-------------------|--------------------------|--------------------------|--------------------------|
| BEGIN PROJECT | STA 788+54.70 | STA 790+50 | STA 788+54.70 |
| END PROJECT | STA 790+50 | STA 791+68.97 | STA 791+68.97 |
| LENGTH OF PROJECT | 195.30 L.F. 0.037 MI. | 118.97 L.F. 0.023 MI. | 314.27 L.F. 0.060 MI. |
| BEGIN WORK | STA 787+25 | STA 790+50 | STA 787+25 |
| END WORK | STA 790+50 | STA 794+00 | STA 794+00 |
| LENGTH OF WORK | 325.00 L.F. 0.062 MI. | 350.00 L.F. 0.066 MI. | 675.00 L.F. 0.128 MI. |

UNDERGROUND UTILITIES
 TWO WORKING DAYS
BEFORE YOU DIG
 Call--800-362-2764 (Toll free)
 OHIO UTILITIES PROTECTION SERVICE
 NON-MEMBERS
 MUST BE CALLED DIRECTLY



| SUPPLEMENTAL SPECIFICATIONS | |
|-----------------------------|----------|
| 802 | 5-4-88 |
| 847 | 10-17-83 |
| 849 | 12-24-85 |
| 944 | 6-24-89 |
| 947 | 10-17-83 |
| 949 | 9-29-86 |

1989 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of the highway and that detours will be provided as indicated on the plans.

Approved *Harry M. Lane*
 Date 8/11/89 District Deputy Director of Transportation

Approved *B.D. Henschelmann*
 Date 9/18/89 Engineer, Bureau of Bridges and Structural Design

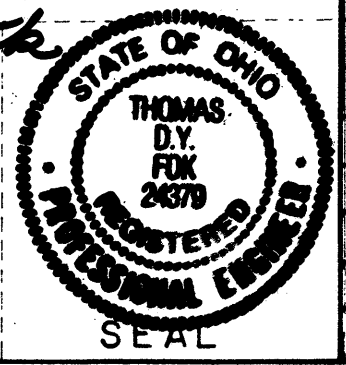
Approved *Charles J. Still*
 Date 10/4/89 Chief Engineer, Planning and Design

Approved *Bernard B. Hurst*
 Date 10/1/89 Director, Department of Transportation

| SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS | | | | | |
|---|---------|-------|---------|----------|---------------------------|
| BP-1 | 6-1-85 | MC-1 | 6-13-69 | | |
| BP-3 | 12-6-76 | MC-4 | 7-26-76 | HW-4B | 4-1-80 AS-1-81 11-27-81 |
| BP-4 | 10-1-87 | | | | |
| BP-5 | 10-1-87 | MC-II | 8-1-78 | MH-1 | 12-18-84 DBR-2-73 4-10-73 |
| | | | | MH-3 | 12-18-84 |
| GR-1 | 1-11-85 | HW-4A | 4-1-80 | MH-5 | 6-12-75 EXJ-2-81 4-2-84 |
| GR-2B | 2-5-82 | | | | |
| GR-3 | 1-21-85 | | | MT-99.10 | 11-14-86 SD-1-69 6-12-69 |
| GR-4 | 2-5-82 | | | TC-41.10 | 8-29-84 |
| | | | | TC-41.20 | 3-26-79 |

STRUCTURE PLANS REVIEWED BY:
Burgess & Niple, Limited
 Columbus, Ohio

Plan Prepared By *Thomas Fok*
THOMAS FOK & ASSOCIATES -
 3896 MAHONING AVENUE
 YOUNGSTOWN, OHIO 44515



Project: ERI-6-14.93 ERIE CO.
 Date of Letting: 19__ Contract No. ____
 LD0300 Rev. 1-1-81

DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____
 DIVISION ADMINISTRATOR DATE

ERIE COUNTY
ERI-6-14.93

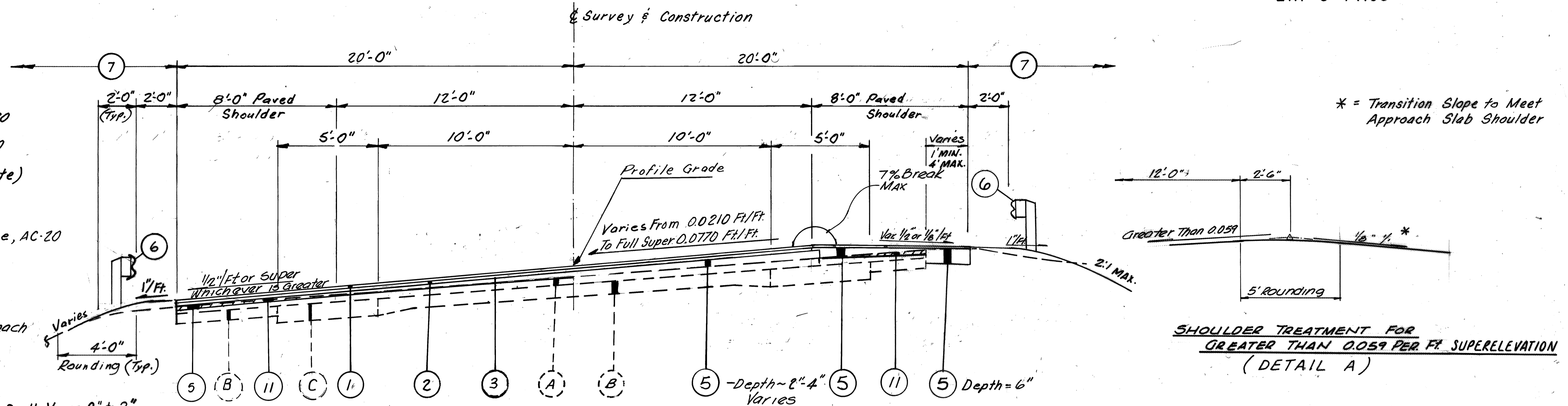
TYPICAL SECTION TYPE 404 ON 305

LEGEND (EXISTING)

- (A) --- 4"± Asphalt
- (B) --- 7"± Concrete
- (C) --- 9"± Concrete

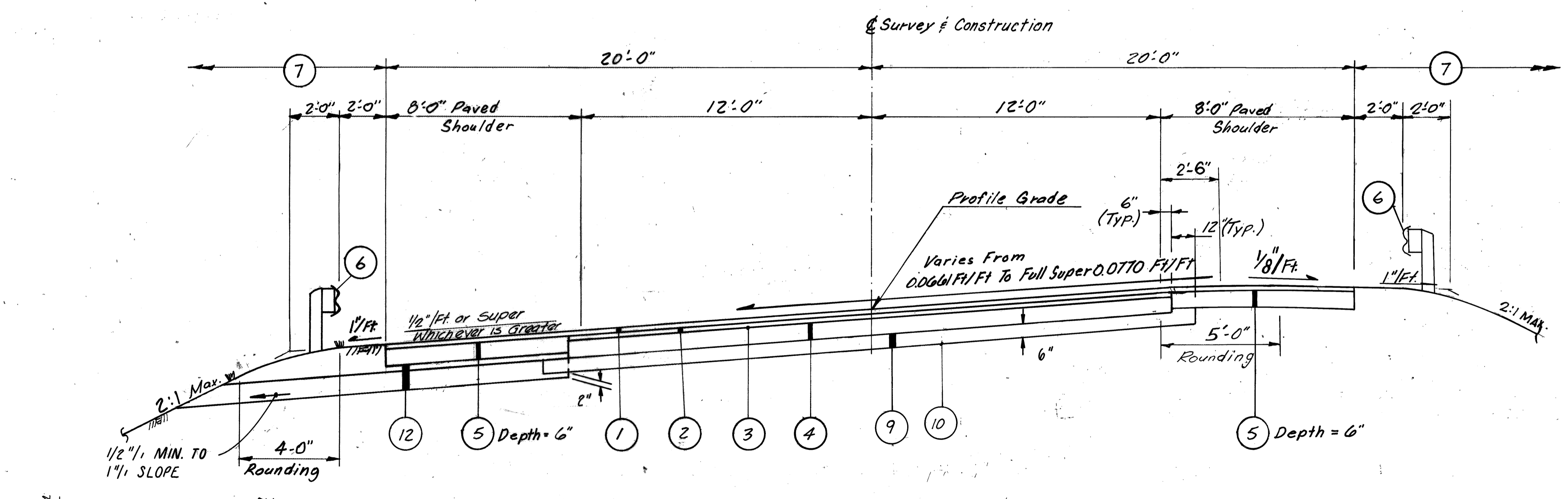
LEGEND (PROPOSED)

- 1 Item 404 - 1 1/4" Asphalt Concrete, AC-20
- 2 Item 402 - 1 3/4" Asphalt Concrete, AC-20
- 3 Item 407 - Tack Coat (See General Note)
- 4 Item 305 - 9" Concrete Base
- 5 Item 301 - Bituminous Aggregate Base, AC-20
- 6 Item 606 - Guardrail, Type 5
- 7 Item 659 - Seeding and Mulching
- 8 Item G11 - Reinforced Concrete Approach Slab T=15"
- 9 Item 304 - Aggregate Base, As per Plan
- 10 Item 203 - Subgrade Compaction
- 11 Item 254 - Pavement Planing, Bituminous, Depth Varies 0" to 2"
- 12 Item 605 - Aggregate Drains



SUPERELEVATED SECTION

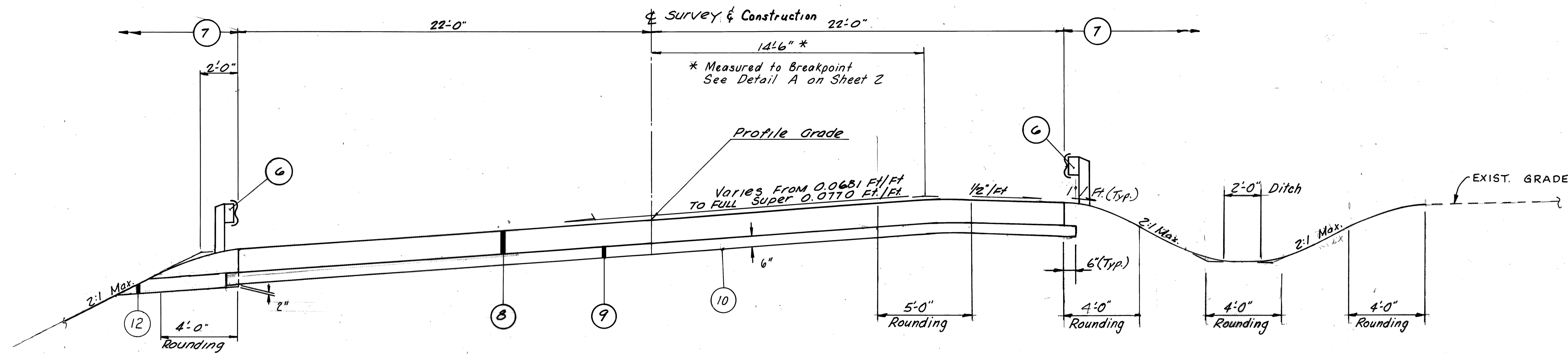
STA. 789+56.35 TO STA. 789+75 ~ Full Super = 18.65 Lin. Ft.
 STA. 790+75 TO STA. 791+68.97 ~ Transition = 93.97 Lin. Ft.
 Total = 112.62 Lin. Ft.



| Station | LEFT SIDE | | | | Profile Grade | RIGHT SIDE | | | |
|---------------|-----------|------------|---------|------------|---------------|------------|---------|---------|---------|
| | E/S 20' | Slope | E/P 12' | Slope | | Slope | E/P 12' | Slope | E/S 20' |
| *PT 791+68.97 | 585.44 | -0.0602 | 585.90 | -0.0602 | 586.64 | +0.0254 | 587.18 | +0.0454 | 587.54 |
| +50 | 585.58 | -0.0602 | 586.06 | -0.0602 | 586.78 | +0.0518 | 587.40 | -0.0182 | 587.25 |
| +25 | 585.70 | -0.0602 | 586.18 | -0.0602 | 586.90 | +0.0602 | 587.62 | 0.0104 | 587.56 |
| 791+00 | 585.64 | -0.0686 | 586.19 | -0.0686 | 587.01 | +0.0686 | 587.83 | | 587.77 |
| +75 | 585.60 | -0.077 | 586.22 | -0.077 | 587.14 | +0.077 | 588.06 | | 588.00 |
| +50 | 585.75 | FULL SUPER | 586.57 | FULL SUPER | 587.29 | FULL SUPER | 588.21 | | 588.15 |
| +25 | 585.92 | FULL SUPER | 586.54 | FULL SUPER | 587.46 | FULL SUPER | 588.38 | | 588.32 |
| 790+00 | 586.10 | FULL SUPER | 586.72 | FULL SUPER | 587.64 | FULL SUPER | 588.56 | | 588.50 |
| +75 | 586.29 | FULL SUPER | 586.91 | FULL SUPER | 587.83 | FULL SUPER | 588.75 | -0.0104 | 588.69 |
| +50 | 586.50 | FULL SUPER | 587.12 | FULL SUPER | 588.04 | FULL SUPER | 588.96 | -0.0261 | 588.82 |
| +25 | 586.73 | FULL SUPER | 587.35 | FULL SUPER | 588.27 | FULL SUPER | 589.19 | -0.0417 | 588.96 |
| 789+00 | 586.97 | FULL SUPER | 587.59 | FULL SUPER | 588.51 | FULL SUPER | 589.43 | -0.0417 | 589.20 |
| +75 | 587.22 | -0.0770 | 587.84 | -0.0770 | 588.76 | +0.0770 | 589.68 | -0.0417 | 589.45 |
| +50 | 587.67 | -0.0661 | 588.21 | -0.0661 | 589.01 | +0.0661 | 589.81 | -0.0417 | 589.67 |
| +25 | 588.16 | -0.0552 | 588.59 | -0.0552 | 589.26 | +0.0552 | 589.92 | -0.0338 | 589.65 |
| 788+00 | 588.63 | -0.0442 | 588.98 | -0.0442 | 589.51 | +0.0442 | 590.04 | -0.0258 | 589.83 |
| +75 | 589.43 | -0.0417 | 589.76 | -0.0333 | 590.16 | +0.0333 | 590.56 | -0.0367 | 590.27 |
| 787+51.94 | 590.01 | *0.0263 | 590.22 | *0.0358 | 590.61 | *0.0167 | 590.85 | +0.0220 | 591.03 |

* EXISTING

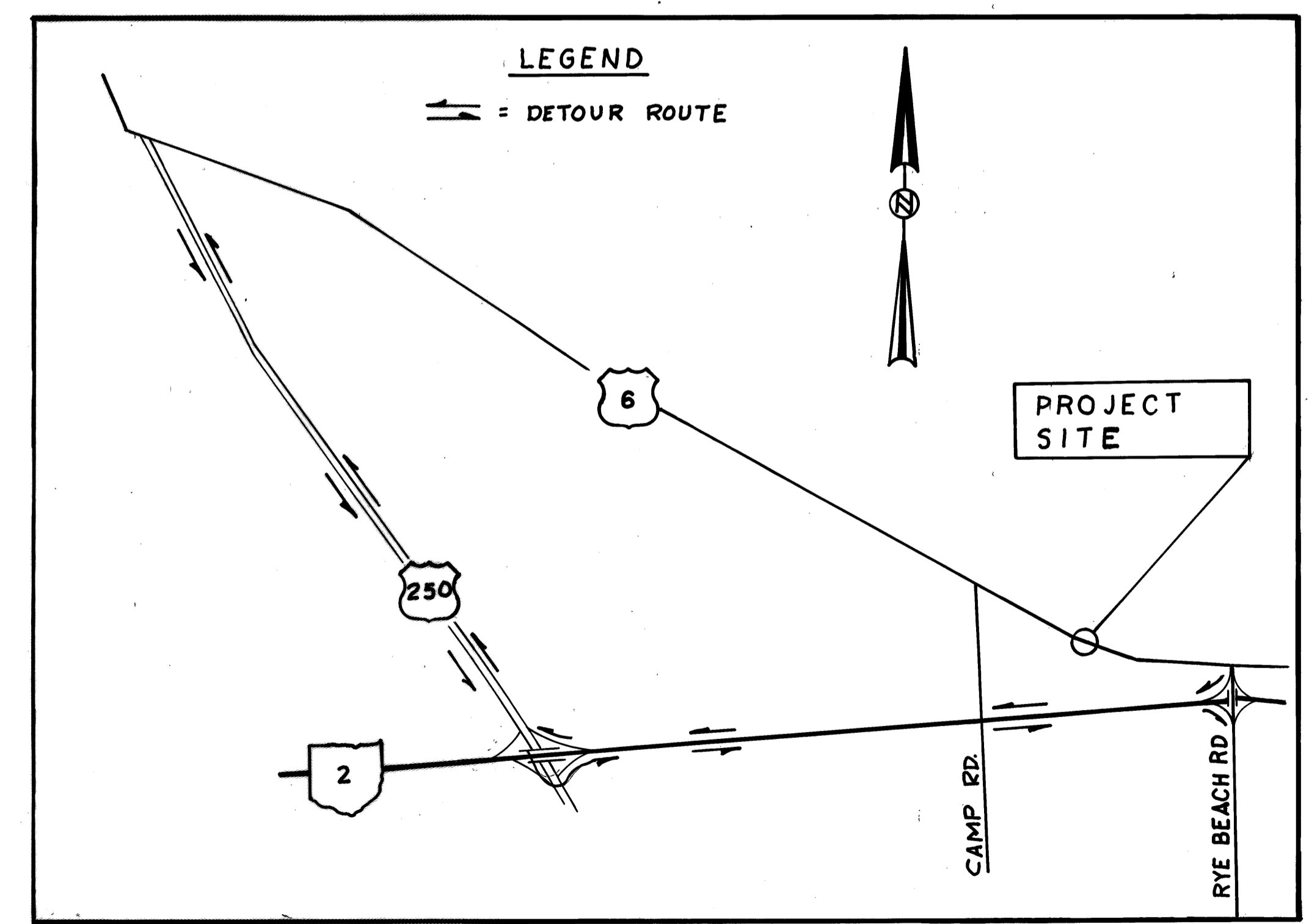
BUTT JOINT AT BEGIN PROJECT



APPROACH SLAB SUPERELEVATED SECTION

| | | | | |
|----------------|----|----------------|-------|-----------|
| STA. 788+54.70 | TO | STA. 788+79.70 | = | 25 L.F. |
| STA. 789+31.35 | TO | STA. 789+56.35 | = | 25 L.F. |
| | | | TOTAL | = 50 L.F. |

FOR LEGEND - SEE SHEET NO. 2.



DETOUR MAP

GENERAL NOTES

CALC. BY RS DATE 8/89
CK. BY WS DATE 8/89

ERIE COUNTY
ERI-6-14.93

| REGION | STATE | PROJECT |
|--------|-------|---------|
| 5 | OHIO | |

FIELD OFFICE: THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 300 SQ. FT. OF FLOOR SPACE. PAYMENT SHALL BE MADE AT THE LUMP SUM PRICE BID FOR ITEM 619, FIELD OFFICE.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS: THE ROUNDED CORNERS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS SECTIONS EVEN THOUGH OTHERWISE SHOWN ON THESE PLANS.

UNDERGROUND UTILITIES: THE LOCATION OF UNDERGROND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 ORC.

UTILITY OWNERSHIP: THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

| | |
|---|---|
| OHIO EDISON CO. MAIN OFFICE 76 SOUTH MAIN ST. AKRON, OHIO 44308 (216) 384-5244 | ERIE SANITARY SEWER AND WATER DISTRICT 554 RIVER ROAD P.O.BOX 370 HURON, OHIO 44839 (419) 433-7303 |
| GTE TELEPHONE OPERATION NORTH AREA 117 NORTH SANDUSKY ST. BELLEVUE, OHIO 44811 (419) 483-8158 | COLUMBIA GAS OF OHIO 2110 CALDWELL ST. SANDUSKY, OHIO 44870 (419) 625-4554 |

EROSION CONTROL: ITEM 601 IS PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE THIS ITEM. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES FOR THIS ITEM WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

CLEARING AND GRUBBING: ALTHOUGH THERE ARE NO TREES AND/OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THIS PROJECT, A LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

SEEDING: QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN TEN (10) FEET OUTSIDE THE WORK LIMITS, AS SHOWN ON THE CROSS SECTIONS, OR TO THE RIGHT-OF-WAY LINE, IF SUCH LINE IS LESS THAN TEN (10) FEET FROM THE WORK LIMITS.

WATERING PERMANENT SEEDED AREAS: THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR THE PERMANENT SEEDED AREAS, AS PER 659.09:

659 WATER.....4 MGAL

CONNECTION TO EXISTING PIPE: WHERE THE PLANS PROVIDE FOR PROPOSED CONDUIT TO BE CONNECTED TO, OR TO CROSS EITHER OVER OR UNDER AN EXISTING SEWER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE HE STARTS TO LAY THE PROPOSED CONDUIT.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 603 CONDUIT ITEMS.

FARM DRAINS: ALL FARM DRAINS WHICH ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS UNDER THE DIRECTION OF THE ENGINEER. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE RIGHT-OF-WAY LIMITS BY ITEM 603 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF THE ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE, IF POSSIBLE, ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL TILE FIELDS WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 603 TYPE E CONDUIT AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REQUIRED REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION, AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

| | | |
|----------|--------------------|-------------|
| ITEM 603 | 8"CONDUIT, TYPE E | 50 LIN. FT. |
| ITEM 603 | 8"CONDUIT, TYPE F | 50 LIN. FT. |
| ITEM 603 | 12"CONDUIT, TYPE B | 50 LIN. FT. |

NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM.

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL AUTHORIZED BY THE ENGINEER.

CONDUIT END TREATMENT: IMMEDIATELY AFTER PLACEMENT OF ANY CONDUITS, THE CONTRACTOR SHALL CONSTRUCT THE END TREATMENTS REQUIRED BY THE PLANS AT BOTH THE OUTLET AND INLET ENDS. THIS SHALL INCLUDE HEADWALLS, CONCRETE RIPRAP, ROCK CHANNEL PROTECTION, SODDING, ETC.

ITEM 705.04 HOT APPLIED CRACK AND JOINT SEALER: ALL REFERENCE TO 705.01 OR 705.02 APPEARING ON STANDARD DRAWINGS OR ON THE PLANS SHALL BE CONSIDERED TO READ 705.04.

LOCATION OF GUARDRAIL: THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

ITEM 407 TACK COAT: THE RATE OF APPLICATION OF 407 TACK COAT SHALL BE SUBJECT TO THE REQUIREMENTS OF 407.05. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.10 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

ITEM 304 AGGREGATE BASE, AS PER PLAN: MATERIALS FURNISHED FOR THIS ITEM SHALL EXCLUDE ALL SLAG EXCEPT GRANULATED SLAG OR CRUSHED AIR-COOLED BLAST FURNACE SLAG.

MONUMENT ASSEMBLY, AS PER PLAN: MONUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS SHOWN ON STANDARD CONSTRUCTION DRAWING MC-1, AND AS MODIFIED ON PLAN-SHEET NO. 28. FOR LOCATIONS, SEE PLAN-SHEET NO.7 & NO. 8.

DETOUR LIMITATION AND INTERIM COMPLETION DATE: TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 90 CONSECUTIVE CALENDER DAYS. THROUGH TRAFFIC WILL BE DETOURED AS SHOWN ON SHEET NO. 3. THE DETOUR MUST BE REMOVED BY MAY 25, 1990. THE CONTRACTOR SHALL NOTIFY THE DISTRICT TRAFFIC ENGINEER IN WRITING A MINIMUM OF SEVEN (7) DAYS IN ADVANCE OF THE DATE THE DETOUR IS NEEDED. THE STATE OF OHIO WILL INSTALL, MAINTAIN AND SUBSEQUENTLY REMOVE THE DETOUR SIGNING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE GATES AND BARRICADES AT THE APPROXIMATE WORK LIMITS OF THE PROJECT (SEE SHEET NO.6a.). THE MAY 25, 1990 DATE SHALL BE CONSIDERED AS AN INTERIM COMPLETION DATE (SECTION 108) AND FOR EACH CALENDAR DAY BEYOND MAY 25, 1990. THAT THE ROADWAY REMAINS CLOSED TO TRAFFIC, THE CONTRACTOR WILL BE ASSESSED LIQUIDATED DAMAGES, IN THE AMOUNT OF 500 DOLLARS PER CALENDAR DAY.

WORK ZONE PAVEMENT MARKINGS AND SIGNS: WORK ZONE PAVEMENT MARKINGS AND SIGNS SHALL BE FURNISHED, INSTALLED, MAINTAINED, AND REMOVED ACCORDING TO ODOT STANDARD CONSTRUCTION DRAWING MT 99.10.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO COVER THIS ITEM OF WORK:

| ITEM | UNIT | DESCRIPTION |
|------|------------|---------------------------------|
| 614 | 0.08 MILES | TEMPORARY CENTERLINES, CLASS II |
| 614 | 4 EACH | WORK ZONE MARKING SIGNS |

THESE ITEMS WILL BE NON-PERFORMED IF THE ITEM 621 PAVEMENT MARKINGS ARE IN PLACE PRIOR TO THE RE-OPENING OF U.S.R. 6 TO TRAFFIC.

DUST CONTROL: THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR PROJECT DUST CONTROL:

| | | |
|----------|------------------|---------|
| ITEM 616 | WATER | 6 MGAL |
| ITEM 616 | CALCIUM CHLORIDE | 21 TONS |

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL: THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER, FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

| | | | |
|-----|--------------------|-----|------|
| 207 | STRAW OR HAY BALES | 100 | EACH |
|-----|--------------------|-----|------|

CONTINGENCY QUANTITIES: THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

CALCULATIONS, SUMMARY OF QUANTITIES AND GENERAL SUMMARY

Sheets 4 & 5

Item 202 - Pavement Removed

Sta. 788+54.70 To Sta. 788+79.70 = 25.0'
(25')(36+40)(1/9) = 105.56 S.Y.

Sta. 789+31.35 To Sta. 789+75 = 43.65'
(43.65')(40)(1/9) = 194.00 S.Y.

Sta. 790+75 To Sta. 791+68.97 = 93.97'
(93.97')(40)(1/9) = 417.64 S.Y.
PARTICIPATION: BRM TOTAL - 300 S.Y.
M TOTAL - 418 S.Y.
COMBINED TOTAL - 718 S.Y.

Item 301 - Bituminous Aggregate Base, AC-20

Sta. 787+51.94 To Sta. 788+54.70 Rt = 102.76'
[(102.76)(1') + (1/2)(102.76)(3')](0.12)(1/27) = 4.76 C.Y.

Sta. 789+56.35 To Sta. 789+75 Rt Lt = 18.65'
(2)(18.65')(8')(1/2)(1/27) = 5.53 C.Y.

Sta. 790+75 To Sta. 791+68.97 Rt Lt = 93.97'
(2)(93.97')(8')(1/2)(1/27) = 27.84 C.Y.

Sta. 787+51.94 To Sta. 788+54.70 (Salvage Area)
(See Supplemental Calculations) = 2.84 C.Y.

Sta. 789+75 To Sta. 790+75 (Salvage Area)
(See Supplemental Calculations) = 10.29 C.Y.
PARTICIPATION: BRM TOTAL - 13 C.Y.
M TOTAL - 38 C.Y.
COMBINED TOTAL - 51 C.Y.

Item 601 - Rock Channel Prot., Type C w/o Filter

(CARRIED FROM SHEET N^o 7)
V_{RA} = 52.7 * 13.4 * 2.0 * 1/27 = 52.31 C.Y.
V_{FB} = 53.4 * 13.4 * 2.0 * 1/27 = 53.00 C.Y.
PARTICIPATION: BRM TOTAL - 106 C.Y.
COMBINED TOTAL - 106 C.Y.

Item 305 - 9" Concrete Base

Sta. 789+56.35 To Sta. 789+75 = 18.65'
(18.65')(25')(1/9) = 51.81 S.Y.
Sta. 790+75 To Sta. 791+68.97 = 93.97'
(93.97')(25')(1/9) = 261.03 S.Y.
PARTICIPATION: BRM TOTAL - 52 S.Y.
M TOTAL - 261 S.Y.
COMBINED TOTAL - 313 S.Y.

Item 402 - 1 3/4" Asphalt Concrete, AC-20

Sta. 787+71.94 To Sta. 787+81.94 = 10.00'
(10')(32')(20+40)(1/27) = 0.87 C.Y.

Sta. 787+81.94 To Sta. 788+54.70 = 72.76'
(72.76')(32')(13/12)(1/27) = 12.58 C.Y.

Sta. 789+56.35 To Sta. 789+75 = 18.65'
(18.65')(25')(13/12)(1/27) = 2.52 C.Y.

Sta. 789+75 To Sta. 790+75 = 100.00'
(100')(32')(13/12)(1/27) = 17.28 C.Y.

Sta. 790+75 To Sta. 791+68.97 = 93.97'
(93.97')(25')(13/12)(1/27) = 12.69 C.Y.
PARTICIPATION: BRM TOTAL - 29 C.Y.
M TOTAL - 17 C.Y.
COMBINED TOTAL - 46 C.Y.

Item 404 - 1 1/4" Asphalt Concrete, AC-20

Sta. 787+51.94 To Sta. 788+54.70 = 102.76'
(102.76')(40')(13/12)(1/27) = 15.86 C.Y.

Sta. 789+56.35 To Sta. 789+75 = 18.65'
(18.65')(40')(13/12)(1/27) = 35.13 C.Y.
PARTICIPATION: BRM TOTAL - 30 C.Y.
M TOTAL - 21 C.Y.
COMBINED TOTAL - 51 C.Y.

Item 611 - Reinforced Concrete Approach Slab T=15"

25' x 44' x 2/9 = 244.44 S.Y.
PARTICIPATION: BRM TOTAL - 245 C.Y.
COMBINED TOTAL - 245 C.Y.

Item 407 - Tack Coat (0.10 gal/sy)

Sta. 787+51.94 To Sta. 788+54.70 = 102.76'
(102.76')(36+40)(1/9)(0.10) = 43.39 GAL

Sta. 789+56.35 To Sta. 789+75 = 18.65'
(18.65')(25)(1/9)(0.10) = 5.18 GAL

Sta. 789+75 To Sta. 790+75 = 100.00'
(100')(40)(1/9)(0.10) = 44.44 GAL

Sta. 790+75 To Sta. 791+68.97 = 93.97'
(93.97')(25)(1/9)(0.10) = 26.10 GAL
Sta. 791+68.97 To Sta. 791+84 = 15.03'
(15.03')(40)(1/9)(0.10) = 6.68 GAL
PARTICIPATION: BRM TOTAL - 82 GAL
M TOTAL - 44 GAL
COMBINED TOTAL - 126 GAL

Item 203 - Subgrade Compaction

Sta. 788+54.70 To Sta. 788+79.70 = 25.00'
(25')(44')(1/9) = 122.22 S.Y.

Sta. 789+31.35 To Sta. 789+56.35 = 25.00'
(25')(44')(1/9) = 122.22 S.Y.

Sta. 789+56.35 To Sta. 789+75 = 18.65'
(18.65')(40)(1/9) = 82.89 S.Y.

Sta. 790+75 To Sta. 791+68.97 = 93.97'
(93.97')(40)(1/9) = 417.64 S.Y.
PARTICIPATION: BRM TOTAL - 327 S.Y.
M TOTAL - 418 S.Y.
COMBINED TOTAL - 745 S.Y.

Item 659 - Commercial Fertilizer

(1955 S.Y.)(9/1)(20/1000) = 2000 = 0.18 Ton
PARTICIPATION: BRM TOTAL - 0.12 Ton
M TOTAL - 0.06 Ton
COMBINED TOTAL - 0.18 Ton

Item 254 - Pavement Planing

Sta. 787+51.94 To Sta. 788+54.70 = 102.76'
(102.76)(20)(1/9) = 228.36 S.Y.
(102.76)(1/2)(4+7)(1/9) = 62.80 S.Y.
Sta. 789+75 To Sta. 790+75 = 100'
(100)(20)(1/9) = 222.22 S.Y.
(100)(1/2)(4+7)(1/9) = 61.11 S.Y.
Sta. 791+84 To Sta. 791+84 = 15'
(15)(40)(1/9) = 66.67 S.Y.
PARTICIPATION: BRM TOTAL - 504 S.Y.
M TOTAL - 137 S.Y.
COMBINED TOTAL - 641 S.Y.

| TOTAL FROM SHEET NO. | | | | | | BRM TOTAL | M TOTAL | ITEM | ITEM EXT. | GRAND TOTAL | UNIT | DESCRIPTION |
|----------------------|---|---|---|---|----|-----------|---------|------|-----------|-------------|------|--|
| 4 | 5 | 7 | 8 | 8 | 15 | | | | | | | |
| | | | | | | | | | | | | -ROADWAY- |
| | | | | | | | | | | | | CLEARING AND GRUBBING |
| | | | | | | | | | | | | PORTIONS OF STRUCTURES REMOVED |
| | | | | | | | | | | | | PIPE REMOVED, 24" AND UNDER |
| | | | | | | | | | | | | PAVEMENT REMOVED |
| | | | | | | | | | | | | GUARDRAIL REMOVED |
| | | | | | | | | | | | | EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION |
| | | | | | | | | | | | | EMBANKMENT |
| | | | | | | | | | | | | SUBGRADE COMPACTION |
| | | | | | | | | | | | | MONUMENT ASSEMBLY, AS PER PLAN |
| | | | | | | | | | | | | EMBANKMENT, USING GRANULAR MATERIAL |
| | | | | | | | | | | | | REFERENCE MONUMENT |
| | | | | | | | | | | | | GUARDRAIL, TYPE 5 |
| | | | | | | | | | | | | ANCHOR ASSEMBLY, TYPE A |
| | | | | | | | | | | | | BRIDGE TERMINAL ASSEMBLY, TYPE B |
| | | | | | | | | | | | | CALCIUM CHLORIDE |
| | | | | | | | | | | | | WATER |
| | | | | | | | | | | | | -EROSION CONTROL- |
| | | | | | | | | | | | | STRAW OR HAY BALES |
| | | | | | | | | | | | | ROCK CHANNEL PROTECTION, TYPE C, WITHOUT FILTER |
| | | | | | | | | | | | | ROCK CHANNEL PROTECTION, TYPE C, WITH FILTER |
| | | | | | | | | | | | | WATER |
| | | | | | | | | | | | | SEEDING AND MULCHING |
| | | | | | | | | | | | | COMMERCIAL FERTILIZER |

Item 304 - Aggregate Base, As Per Plan

Sta. 788+54.70 To Sta. 788+79.70 = 25'
Sta. 789+31.35 To Sta. 789+56.35 = 25'
(50 x 45) * 6/12 * 1/27 = 41.67 C.Y.
Sta. 789+56.35 To Sta. 789+75 = 18.65'
(18.65 x 27) * 6/12 * 1/27 = 9.33 C.Y.
Sta. 790+75 To Sta. 791+68.97 = 93.97'
(93.97 x 27) * 6/12 * 1/27 = 46.99 C.Y.
PARTICIPATION: BRM TOTAL - 51 C.Y.
M TOTAL - 47 C.Y.
COMBINED TOTAL - 98 C.Y.

Item 203 - Embankment Using Granular Material

(Carried From Sheet N^o 15)
2231 * 1 * 1/27 = 83 C.Y.
PARTICIPATION: M TOTAL - 83 C.Y.
COMBINED TOTAL - 83 C.Y.

MICROFILMED
SEP 17 1992

COMPUTED BY: WS DATE: 5/89
CHECKED BY: JT DATE: 5/89

| FHWA REGION | STATE | PROJECT |
|-------------|-------|------------|
| 5 | OHIO | M-BRM-6000 |

6
29

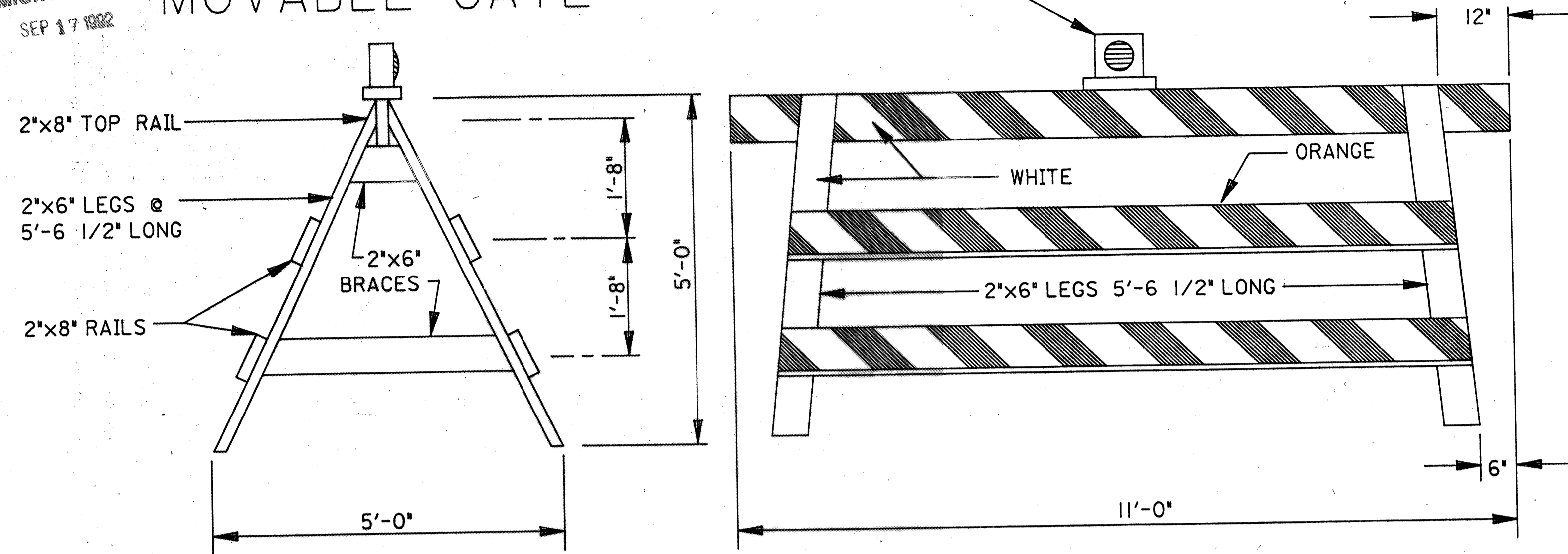
SUMMARY OF QUANTITIES AND GENERAL SUMMARY

ERIE COUNTY
ERI-6-14.93

| TOTAL FROM SHEET NO. | | | | | | | | | | | BRM TOTAL | M TOTAL | ITEM | ITEM EXT. | GRAND TOTAL | UNIT | DESCRIPTION |
|---|------|-------------|------|-----------|------|---|---|--|--|--|-----------|---------|------|-----------|-------------|------|---|
| | | BRM-6000(I) | | M-6000(I) | | | | | | | | | | | | | |
| 4 | 5 | 7 | 8 | 8 | 15 | 4 | 5 | | | | | | | | | | |
| -DRAINAGE- | | | | | | | | | | | | | | | | | |
| | | | 0.7 | | 1.4 | | | | | | | 0.7 | 1.4 | 602 | 2.1 | CY. | CONCRETE MASONRY |
| | 50 | | | | | | | | | | | 50 | | 603 | 50 | L.F. | 8" CONDUIT, TYPE E |
| | 50 | | | | | | | | | | | 50 | | 603 | 50 | L.F. | 8" CONDUIT, TYPE F |
| | 15 | 15 | | | 20 | | | | | | | 15 | 20 | 603 | 35 | L.F. | 12" CONDUIT, TYPE C |
| | | | | | 31 | | | | | | | | 31 | 603 | 31 | L.F. | 15" CONDUIT, TYPE C |
| | | | | | 95 | | | | | | | | 95 | 603 | 95 | L.F. | 36" CONDUIT, TYPE A |
| | 50 | 9 | | | | | | | | | | 59 | | 603 | 59 | L.F. | 12" CONDUIT, TYPE B |
| | | | | | 1 | | | | | | | | 1 | 604 | 1 | EA. | MANHOLE, NO. 1 |
| | | 16 | 15 | 45 | | | | | | | | 31 | 45 | 605 | 76 | L.F. | AGGREGATE DRAINS |
| | | 4 | | | | | | | | | | 4 | | 603 | 4 | L.F. | 24" CONDUIT, TYPE C |
| -PAVEMENT- | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | 13 | | | | | | | | | | | 13 | 38 | 301 | 51 | C.Y. | BITUMINOUS AGGREGATE BASE, AC-20 |
| | 51 | | | | | | | | | | | 51 | 47 | 304 | 98 | C.Y. | AGGREGATE BASE, AS PER PLAN |
| | 52 | | | | | | | | | | | 52 | 261 | 305 | 313 | S.Y. | 9" CONCRETE BASE |
| | 29 | | | | | | | | | | | 29 | 17 | 402 | 46 | C.Y. | ASPHALT CONCRETE, AC-20 |
| | 30 | | | | | | | | | | | 30 | 21 | 404 | 51 | C.Y. | ASPHALT CONCRETE, AC-20 |
| | 82 | | | | | | | | | | | 82 | 44 | 407 | 126 | GAL. | TACK COAT |
| | 504 | | | | | | | | | | | 504 | 137 | 259 | 641 | S.Y. | PAVEMENT PLANING, BITUMINOUS |
| | 245 | | | | | | | | | | | 245 | | 611 | 245 | S.Y. | REINFORCED CONCRETE APPROACH SLAB (T=15") |
| -TRAFFIC CONTROL- | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | 0.08 | 0.04 | 0.05 | | | | | | | 0.12 | 0.05 | 621 | 0.17 | MI. | EDGELINES |
| | | | 0.04 | 0.02 | 0.02 | | | | | | | 0.06 | 0.02 | 621 | 0.08 | MI. | CENTERLINES |
| | 0.06 | | | | | | | | | | | 0.06 | 0.02 | 614 | 0.08 | MI. | TEMPORARY CENTERLINES, CLASS II |
| | 2 | | | | | | | | | | | 2 | 2 | 614 | 4 | EA. | WORK ZONE MARKING SIGNS |
| | | 4 | 1 | | | | | | | | | 5 | | 802 | 5 | EA. | BARRIER REFLECTOR, TYPE A |
| | | 4 | 2 | 3 | | | | | | | | 6 | 3 | 802 | 9 | EA. | BARRIER REFLECTOR, TYPE A2 |
| -STRUCTURES, 20' AND OVER- | | | | | | | | | | | | | | | | | |
| FOR STRUCTURE QUANTITIES, SEE SHEET N ^o 18 | | | | | | | | | | | | | | | | | |
| | Lump | | | | | | | | | | | Lump | Lump | 614 | Lump | | MAINTAINING TRAFFIC |
| | Lump | | | | | | | | | | | Lump | Lump | 619 | Lump | | FIELD OFFICE |
| | | | | | | | | | | | | Lump | Lump | 623 | Lump | | CONSTRUCTION LAYOUT STAKES |
| | | | | | | | | | | | | Lump | Lump | 624 | Lump | | MOBILIZATION |

MOVABLE GATE

TYPE C STEADY BURNING
BARRICADE WARNING LIGHT



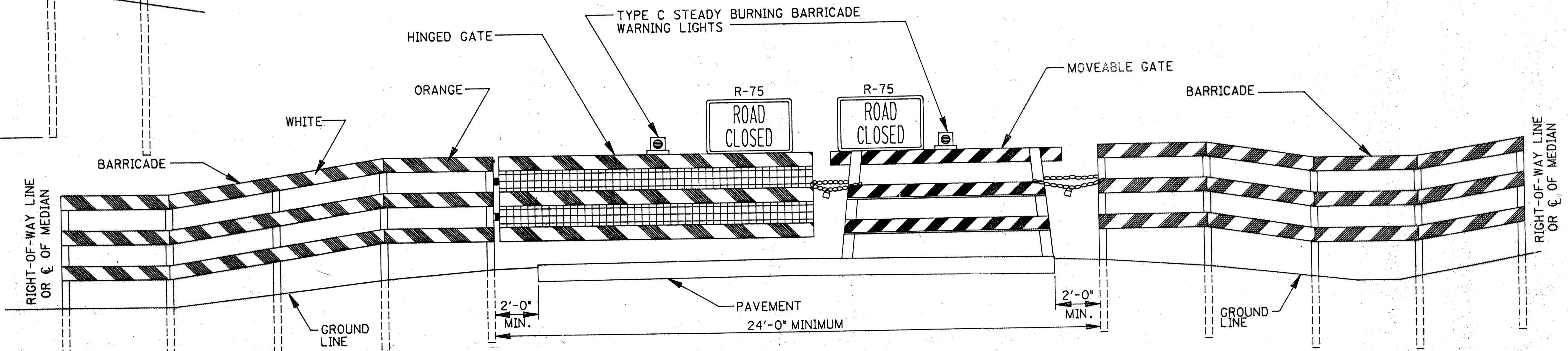
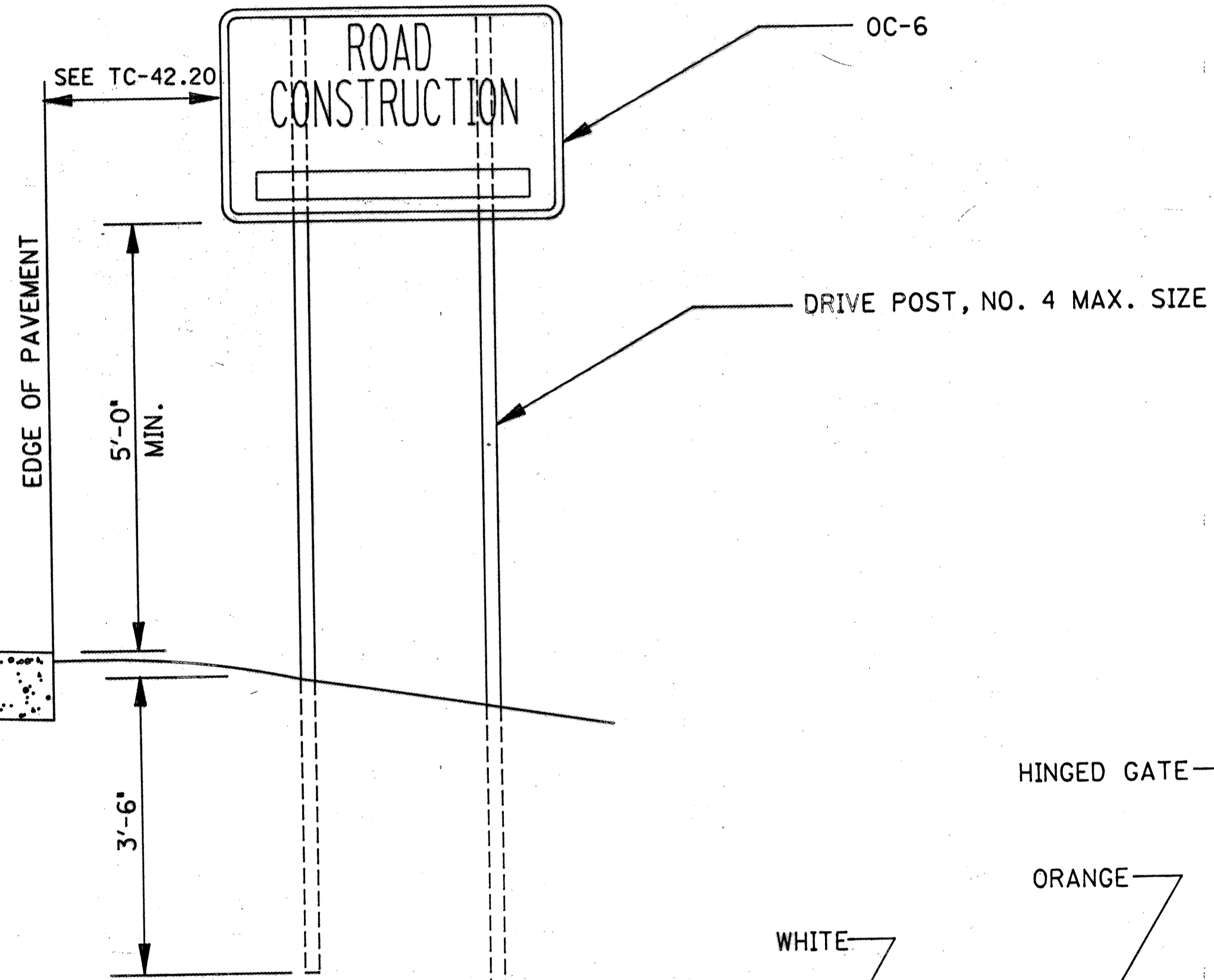
GATES SHALL BE WELL SPIKED USING SPIKES LONG ENOUGH TO CLINCH.

-NOTES-

- ① BARRICADES: BARRICADES SHALL BE CONSTRUCTED ACCORDING TO DETAILS SHOWN. WHEN THE ROAD IS CLOSED TO TRAFFIC, BARRICADES AND GATES SHALL BE USED TO EFFECTIVELY CLOSE THE ENTIRE ROADWAY INCLUDING THE MEDIAN OF DIVIDED HIGHWAYS. IN URBAN AREAS AND AT LOCATIONS WHERE IT IS IMPRACTICAL TO EXTEND THE BARRICADE TO THE RIGHT-OF-WAY LINE BECAUSE OF A SIDEWALK OR OTHER OBSTRUCTION, THE ENDS OF THE BARRICADE SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO EFFECT THE DESIRED CLOSING OF THE HIGHWAY.
- ② PAINTING AND REFLECTORIZATION: ALL RAILS OF THE BARRICADES AND GATES SHALL BE REFLECTORIZED WITH ORANGE AND WHITE REFLECTORIZED TYPE G SHEETING IN 6" WIDE ALTERNATE STRIPES WHICH SLOPE DOWNWARD TOWARD THE CENTER LINE OF THE ROAD AT AN ANGLE OF 45°. ALL THREE RAILS OF THE ROAD CLOSED BARRICADE SHALL BE STRIPED ON THE SIDE FACING TRAFFIC. ALL GATE RAILS SHALL BE STRIPED ON BOTH SIDES. ALL POSTS, BRACES, GATE LEGS, AND ANY UNSTRIPED RAILS SHALL BE PAINTED WHITE.
- ③ GATES: ONE GATE SHALL BE ERECTED FOR EACH TRAFFIC LANE. GATES SHALL BE CHAINED AND PADLOCKED TO ONE ANOTHER AND TO ADJACENT POSTS OF THE BARRICADES. CHAINS SHALL BE 1/4" STOCK OR LARGER WITH WELDED LINKS.

A HINGED GATE MAY BE USED AND SHALL BE AN APPROVED 12'x4' STEEL FRAME FARM TYPE, OR A TYPE APPROVED BY THE ENGINEER. THE GATE SHALL BE HUNG ON HINGE SCREW HOOKS, OR AS OTHERWISE APPROVED. STRIPING SIMILAR TO THAT USED ON THE MOVABLE GATE SHALL BE ACCOMPLISHED WITH 1"x8" LUMBER OR WITH METAL STRIPS FASTENED TO THE GATE. THE GATE SHALL BE SUPPORTED AT THE CENTER IN AN APPROVED MANNER.
- ④ TYPE C STEADY BURNING BARRICADE WARNING LIGHTS: EACH GATE SHALL BE EQUIPPED WITH A TYPE C STEADY BURNING BARRICADE WARNING LIGHT, CONSPICUOUSLY VISABLE AT ALL DISTANCES UP TO 1000' UNDER NORMAL ATMOSPHERIC CONDITIONS. THE LIGHT SHALL BE IN OPERATION AT ALL TIMES BETWEEN SUNSET AND SUNRISE DURING THE PERIOD THE HIGHWAY IS CLOSED.
- ⑤ SIGNS: WHERE THE ROAD IS CLOSED TO TRAFFIC BY THE ERECTION OF GATES AND BARRICADES, ROAD CLOSED SIGNS (R-75) SHALL BE MOUNTED ON THE GATES AS SHOWN.

WHERE TRAFFIC IS MAINTAINED, A ROAD CONSTRUCTION AHEAD SIGN (OW-128) SHALL BE USED ON THE RIGHT SHOULDER ON THE APPROACHES APPROXIMATELY 500 FEET IN ADVANCE OF THE PROJECT. A ROAD CONSTRUCTION NEXT MILES SIGN (OC-6) SHALL BE USED ON THE RIGHT SHOULDER ON THE APPROACHES TO ANY MAJOR CONSTRUCTION OR MAINTENANCE JOB OF TWO (2) MILES OR MORE IN LENGTH. AN END CONSTRUCTION SIGN (OC-8) SHALL BE ERECTED FACING TRAFFIC LEAVING THE CONSTRUCTION SECTION. THE SIGNS SHALL BE ERECTED AS DETAILED HEREON. DUAL MOUNTED SIGNS ARE REQUIRED FOR A FOUR LANE FACILITY.
- ⑥ LUMBER: LUMBER USED IN THE CONSTRUCTION OF THE GATES AND BARRICADES SHALL BE NO. 1 COMMON YELLOW PINE OR NO. 1 COMMON DOUGLAS FIR, SURFACED ON FOUR SIDES STANDARD, OR OTHER MATERIALS APPROVED BY THE ENGINEER. ALL SIZES ARE NOMINAL.
- ⑦ POSTS: POSTS SHALL BE SOUND 4"x4" SAWED OR 4-1/2" ROUND. RAILS OF THE BARRICADE SHALL BE BOLTED TO THE POSTS WITH 5/8" BOLTS.



GATES AND BARRICADES IN POSITION

OR 16/1/12

MICROFILMED
SEP 17 1982

4 SURVEY CURVE DATA
 $\Delta = 36^{\circ}31'30"$
 $R = 654.19'$
 $D_c = 8^{\circ}45'30"$
 $L = 417.03'$
 $T = 215.88'$
 $C = 410.01'$
 $e = 34.70'$
 PC STA. 787+51.94
 PI STA. 789+67.82
 PT STA. 791+68.97
 $V_D = 55$ MPH
 $V_{ACT} = 47$ MPH
 $SSD = 355'$

LIMITS OF ITEM 254
 PAVEMENT PLANING, BITUMINOUS

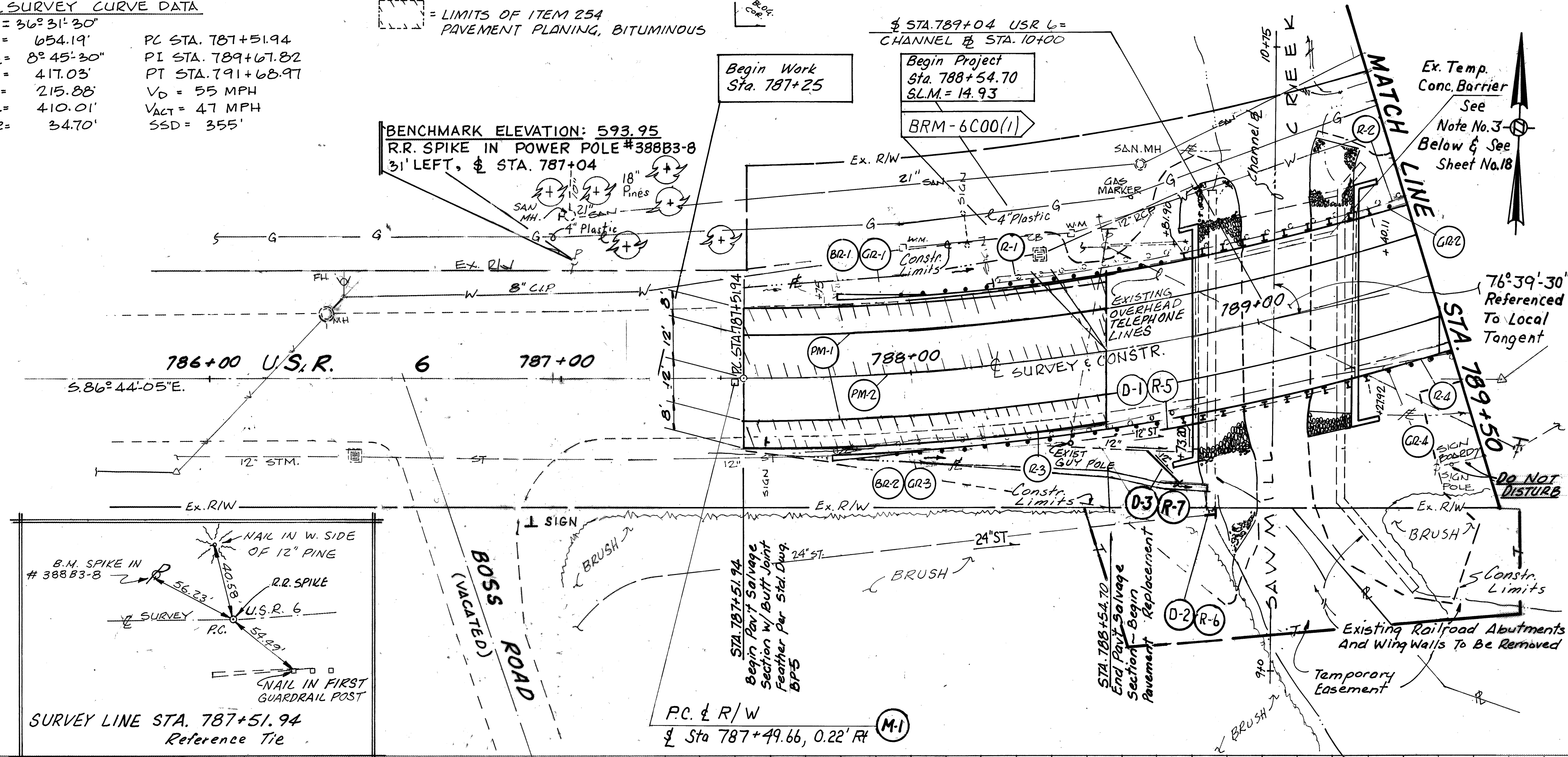
STA. 789+04 USR L= CHANNEL @ STA. 10+00

| | | | | | |
|------------|------|------|--------|-------|---------------|
| Calculated | WS | 5/89 | REGION | STATE | PROJECT |
| Checked | J.T. | 5/89 | 5 | OHIO | M.B.M-6C00(1) |

ERIE COUNTY
 ERI-6-14.93

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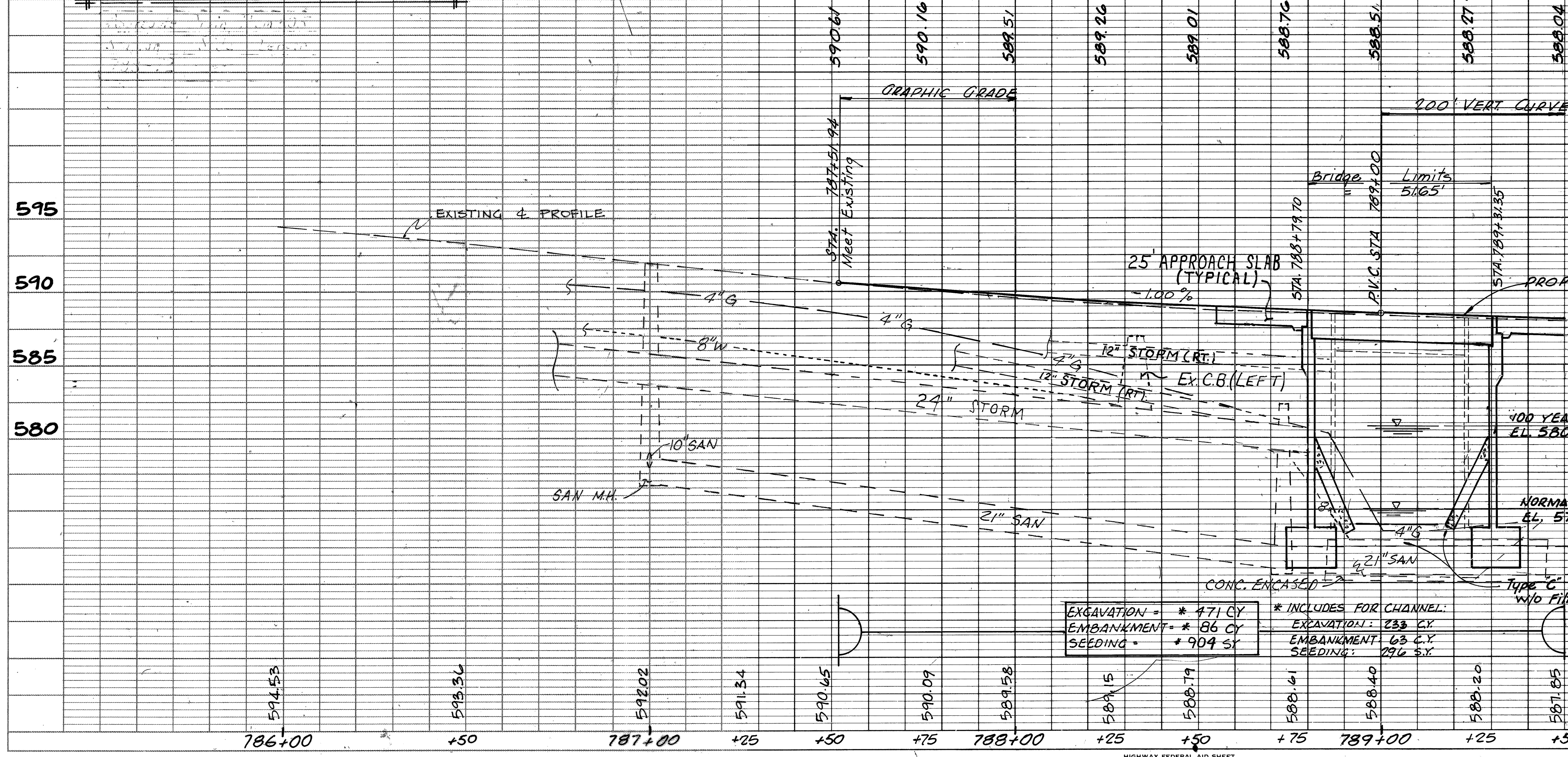
DATE: _____
 BY: _____
 SURVEYED: _____
 NOTE BOOK: _____
 NO. _____
 SURVEYED: _____
 NOTE BOOK: _____
 NO. _____



| Ref. No. | Station to Station | Side | 202 | | 604 | | 202 | | 802 | | 606 | | 606 | | 621 | | 621 | |
|--------------|------------------------|------|-------------------|---------------------------|----------------------------|---------------------|----------------------|------------------|------------------------|------------------------------|------------------|---------------------------|-----|--|------|----|------|----|
| | | | GUARDRAIL REMOVED | MONUMENT ASSEMBLY, R.F.P. | PIPE REMOVED 64" AND UNDER | BARRIER REEL TYPE A | BARRIER REEL TYPE A2 | GUARDRAIL TYPE 5 | ANCHOR ASSEMBLY TYPE A | BRIDGE TERM. ASSEMBLY TYPE B | EDGE LINES WHITE | CENTER LINES SOLID DOUBLE | | | | | | |
| R-1 | 788+16 TO 788+91 | L | 75 | | | | | | | | | | | | | | | |
| R-2 | 789+30 TO 789+50 | L | 20 | | | | | | | | | | | | | | | |
| R-3 | 787+83 TO 788+83 | R | 100 | | | | | | | | | | | | | | | |
| R-4 | 789+18 TO 789+50 | R | 32 | | | | | | | | | | | | | | | |
| M-1 | 787+49.66 | R | | 1 | | | | | | | | | | | | | | |
| R-5 | 788+75 | R | | | 12 | | | | | | | | | | | | | |
| R-6 | 788+75 | R | | | 2 | | | | | | | | | | | | | |
| R-7 | 788+75 | R | | | 14 | | | | | | | | | | | | | |
| GR-1 | 787+78.42 TO 788+81.90 | L | | | | | | | | 75 | 1 | 1 | | | | | | |
| GR-2 | 789+40.11 TO 789+50 | L | | | | | | | | 95.6 | | | | | | | | |
| GR-3 | 787+76.45 TO 788+73.20 | R | | | | | | | | 75 | 1 | 1 | | | | | | |
| GR-4 | 789+27.92 TO 789+50 | R | | | | | | | | 22.82 | | | | | | | | |
| BR-1 | 787+78.42 TO 789+50 | L | | | | | | | 4 | | | | | | | | | |
| BR-2 | 787+76.45 TO 789+50 | R | | | | | | | | 4 | | | | | | | | |
| PM-1 | 787+51 TO 789+50 | L/R | | | | | | | | | | | | | 3.98 | LF | | |
| PM-2 | 787+51 TO 789+50 | ± | | | | | | | | | | | | | | | 1.99 | LF |
| TOTALS (BRM) | | | 227 | 1 | 28 | 4 | 4 | 182.38 | 2 | 4 | 0.08 | 0.04 | | | | | | |

Contractor Note
 1. For D-1, D-2, & D-3, refer to cross section sheets 13 & 14.
 2. Any existing high signs within the work limits shall be removed under Item 203, Excavation not Including Embankment.
 3. Removal of existing temporary concrete barrier shall be included in the cost of structure removal.

DATE: _____
 BY: _____
 SURVEYED: _____
 NOTE BOOK: _____
 NO. _____
 SURVEYED: _____
 NOTE BOOK: _____
 NO. _____



| Ref. No. | Station to Station | Side | PROPOSED & PROFILE GRADE | | |
|--------------|--------------------|------|--------------------------|---------------------|---------------------|
| | | | CONCRETE MASONRY | 12" CONDUIT, TYPE B | 12" CONDUIT, TYPE C |
| O-1 | 788+72± TO 788+81± | Rt. | 9 | | |
| O-2 | 788+78± TO 788+82± | Rt. | 0.5 | | 4 |
| O-3 | 788+65± TO 788+72± | Rt. | 0.2 | 15 | |
| TOTALS (BRM) | | | 0.7 | 9 | 15 |

| ITEM 605, AGGREGATE DRAINS | | |
|----------------------------|------|--------|
| STATION | SIZE | LENGTH |
| 788+80± | 12" | 8 |
| 789+45± | 12" | 8 |
| TOTALS (BRM) | | |
| | | 16 |

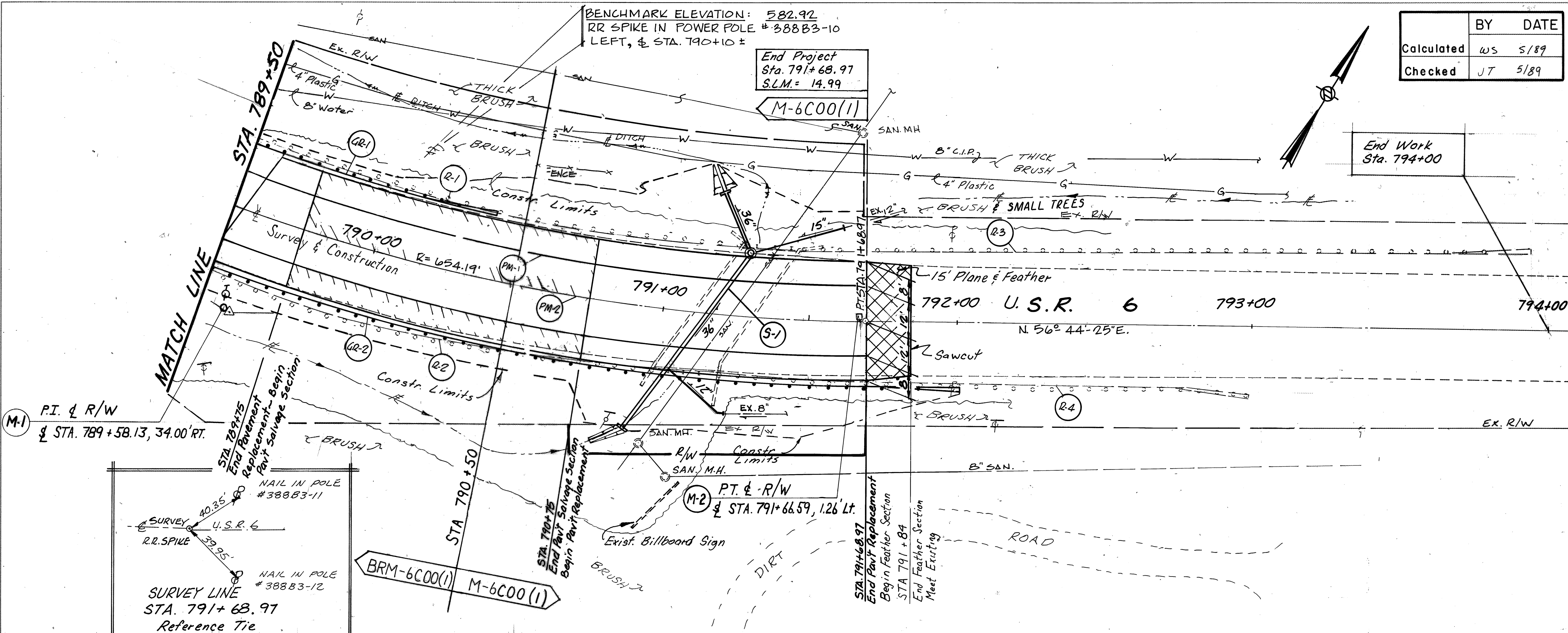
EXCAVATION = * 471 CY * INCLUDES FOR CHANNEL
 EMBANKMENT = * 86 CY EXCAVATION: 233 CY
 SEEDING = * 904 SY EMBANKMENT: 63 CY
 SEEDING: 296 SY

EXISTING STRUCTURE
 SINGLE SPAN CONCRETE BEAM
 TYPE: WITH CONCRETE DECK ON HIGH WALL ABUTMENTS
 SPANS: 34'-0" CLEAR
 ROADWAY: 51' f/f GUARDRAIL
 SKEW: 13°-26' L.F.
 ALIGNMENT: $D_c = 8^{\circ}45'30"$ CURVE LEFT

PROPOSED STRUCTURE
 SINGLE SPAN COMPOSITE A588
 TYPE: STEEL BEAMS WITH REINFORCED CONC. DECK & HIGHWALL ABUT.
 SPANS: 47'-0" c/c BEARINGS
 ROADWAY: 44'-0" f/f GUARDRAIL
 SKEW: 13°-30' L.F. (Meas. Along Ref. Chord)
 DESIGN LOADING: HS 20-44 AND ALTERNATE MILITARY LOADING
 APPROACH SLAB: 45'-1-81 (25'-0")
 ALIGNMENT: $D_c = 8^{\circ}45'30"$ CURVE LEFT
 SUPERELEVATION: 0.0770 f/f
 WEARING SURFACE: MONOLITHIC CONC.
 AVG. DAILY TRAFFIC: 1989 ADT 9680
 2009 ADT 11626
 8009 ADTT. 232

| | |
|--------------------|--|
| DATE | |
| BY | |
| SURVED | |
| PLANNED | |
| NOTE BOOK | |
| ALIGNMENT CHECKED | |
| RT. OF WAY CHECKED | |
| No. | |

| | |
|-----------------------------|--|
| DATE | |
| BY | |
| SURVED | |
| PLANNED | |
| NOTE BOOK | |
| GRADE CHECKED | |
| STRUCTURE NOTATIONS CHECKED | |
| No. | |



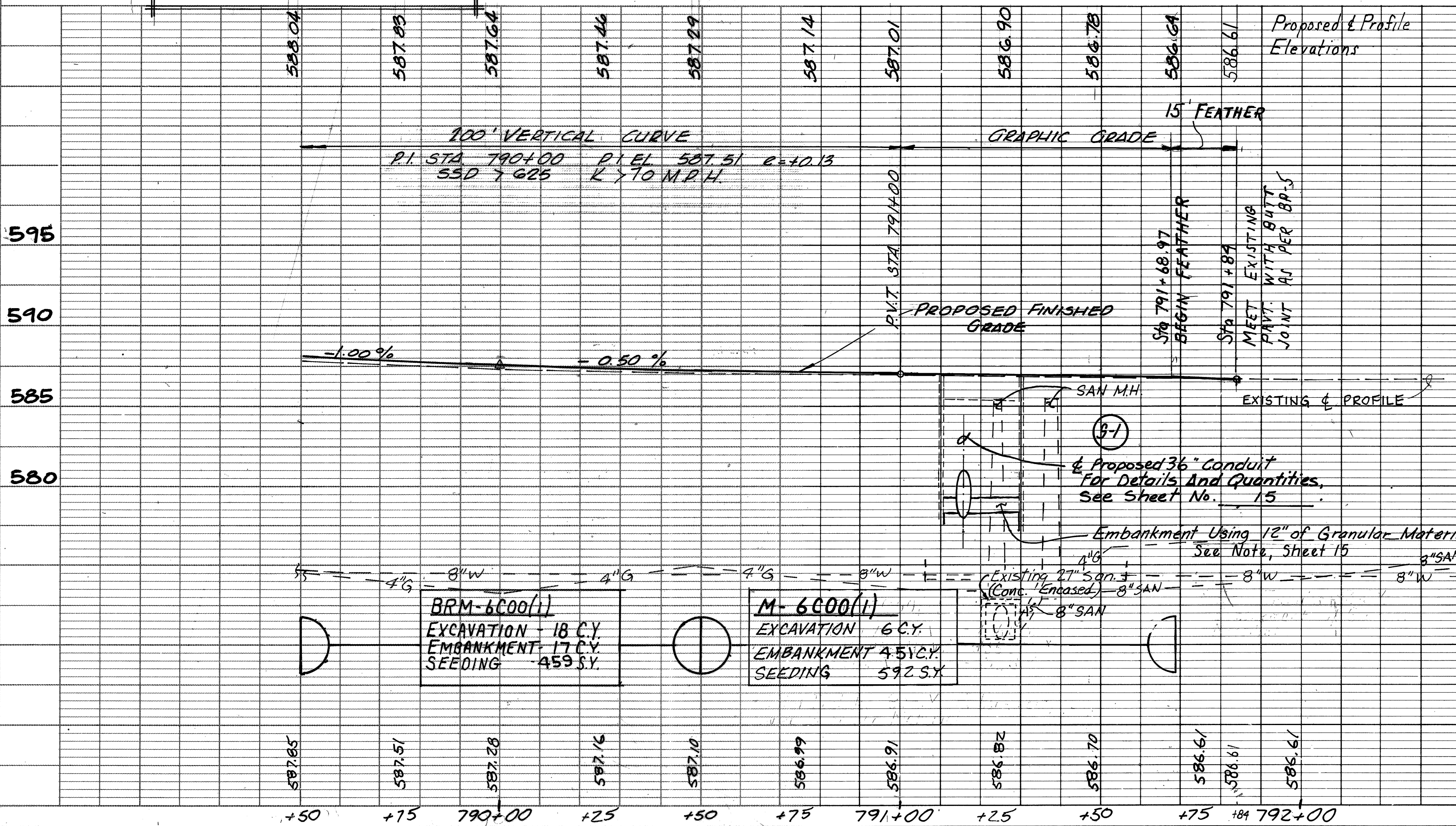
| | | |
|------------|----|------|
| | BY | DATE |
| Calculated | WS | 5/89 |
| Checked | JT | 5/89 |

| REGION | STATE | PROJECT |
|--------|-------|---------------|
| 5 | OHIO | M-DRM-6C00(1) |

8
29

ERIE COUNTY
ERI-6-14.93

| Station | Ref. No. | Side | Item | Quantity | Unit | 200LF 100LF | 200LF 100LF |
|---------|----------|------|---------------------------------|----------|------|-------------|-------------|
| 789+50 | R-1 | L | GUARDRAIL REMOVED TYPE 5 | 74 | | | |
| 789+50 | R-2 | R | GUARDRAIL TYPE 5 | 48 | | | |
| 789+50 | R-3 | L | EDGE LINES WHITE SOLID DOUBLE | 250 | | | |
| 789+50 | R-4 | R | CENTER LINES WHITE SOLID DOUBLE | 175 | | | |
| 789+50 | GR-2 | R | ANCHOR ASSEMBLY TYPE A | 13007 | 3 | 1 | |
| 789+50 | PM-1 | L/R | MONUMENT ASSEMBLY PER PLAN | | | | |
| 789+50 | PM-2 | L | | | | | |
| 789+50 | M-2 | L | | | | | |
| TOTALS | | | | | | | |



| Ref. No. | Station | Side | GUARDRAIL REMOVED TYPE 5 | | EDGE LINES WHITE | CENTER LINES WHITE SOLID DOUBLE | ANCHOR ASSEMBLY TYPE A | ANCHOR ASSEMBLY TYPE A | MONUMENT ASSEMBLY PER PLAN |
|----------|---------------------|------|--------------------------|-------|------------------|---------------------------------|------------------------|------------------------|----------------------------|
| | | | L.F. | L.F. | MI | MI | EA | EA | EA |
| R-1 | 790+50 to 791+24 | L | 74 | | | | | | |
| R-2 | 790+50 to 790+98 | R | 48 | | | | | | |
| R-3 | 791+45 to 793+95 | L | 250 | | | | | | |
| R-4 | 791+19 to 792+94 | R | 175 | | | | | | |
| GR-2 | 790+50 to 792+01.06 | R | | 13007 | | | 3 | 1 | |
| PM-1 | 790+50 to 791+84 | L/R | | | 268 | | | | |
| PM-2 | 790+50 to 791+84 | L | | | 134 | | | | |
| M-2 | 791+66.59 | L | | | | | | | 1 |
| TOTALS | | | 547 | 13007 | 0.05 | 0.02 | 3 | 1 | 1 |

Contractor Note
Any existing signs within the work limits shall be removed under Item 203 Excavation not including Embankment Construction.

| Aggregate Drains, Item 605 | | |
|----------------------------|------|------------------------------|
| Station | Side | Length |
| BRM 789+70 | Left | 15 L.F. |
| M 791+00 | Left | 15 L.F. |
| M 791+25 | Left | 15 L.F. |
| M 791+50 | Left | 15 L.F. |
| TOTALS | | BRM = 15 L.F. M = 45 L.F. |

EXISTING STRUCTURE

TYPE : SINGLE SPAN CONCRETE SLAB ON CONC. ABUTMENT

SPANS : 19'±

ROADWAY : 49'±

SKEW : 31° 34'±

ALIGNMENT : 8° 45' 30" CURVE LT.

PROPOSED STRUCTURE

TYPE : 36" CULVERT, TYPE A

SPANS : N/A

ROADWAY : N/A

SKEW : N/A

DESIGN LOADING : N/A

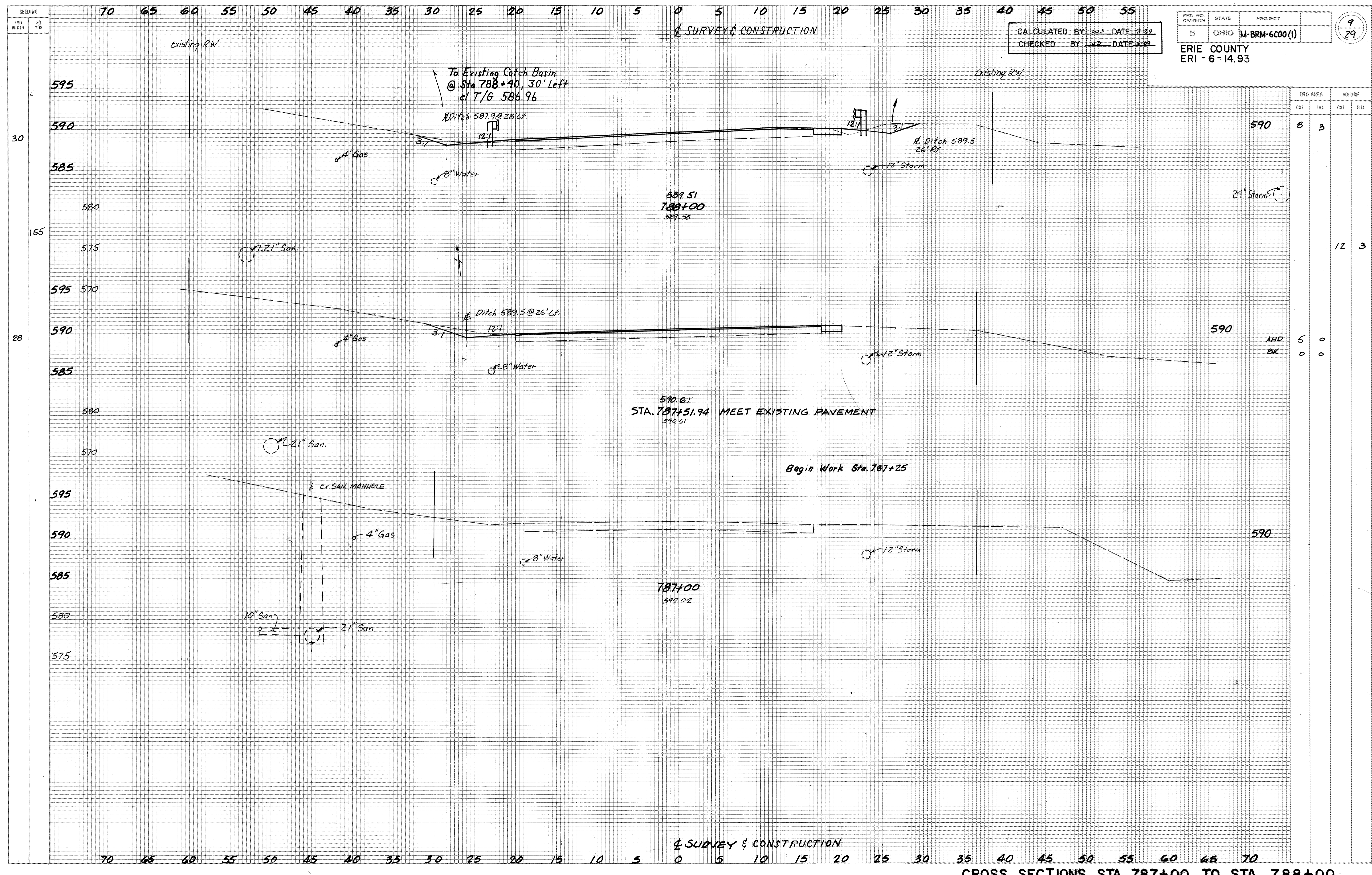
APPROACH SLAB : N/A

ALIGNMENT : N/A

SUPERELEVATION : N/A

WEARING SURFACE : N/A

AVG. DAILY TRAFFIC : N/A



⊕ SURVEY & CONSTRUCTION

CALCULATED BY WJ DATE 5-82
 CHECKED BY JL DATE 5-82

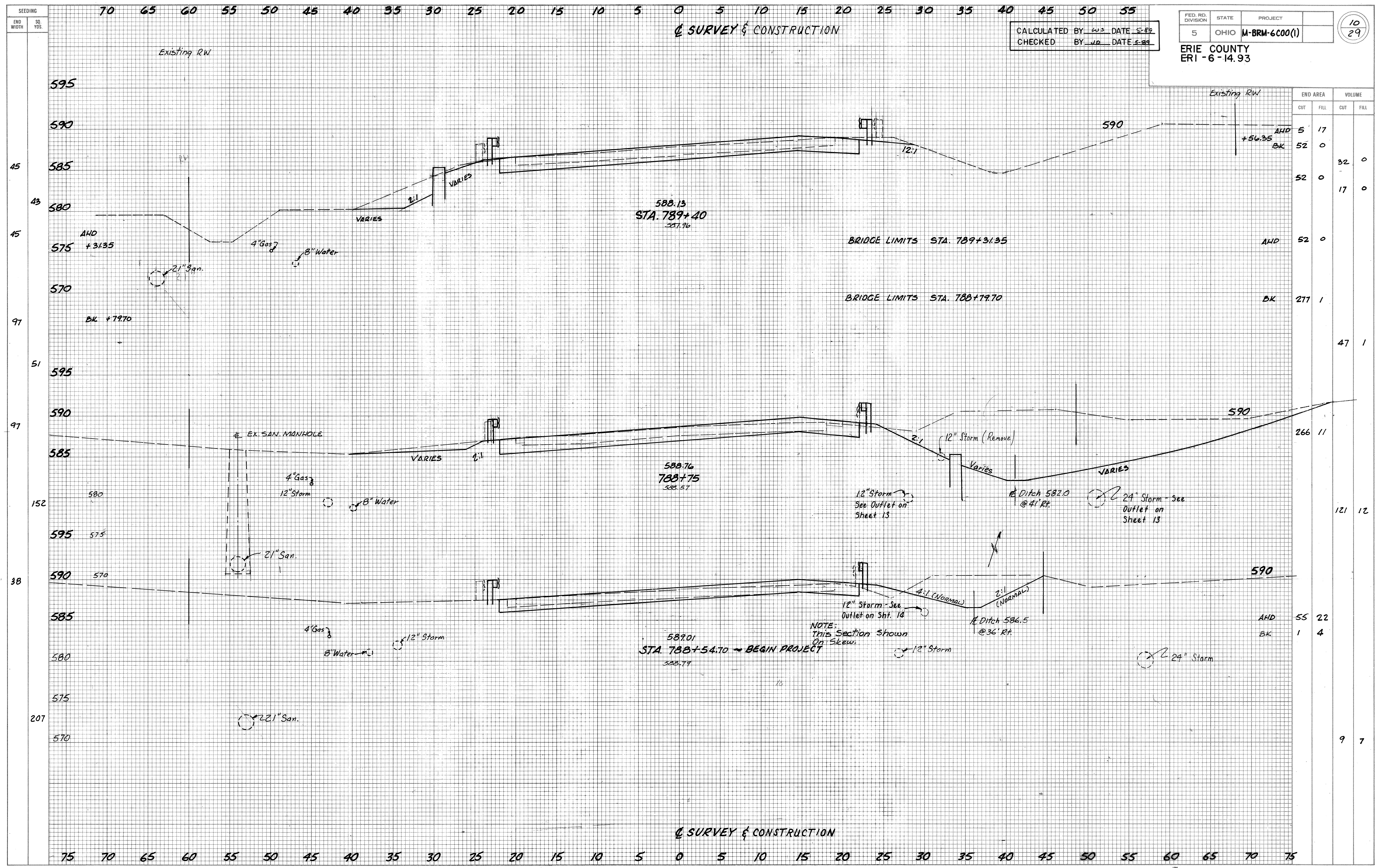
| | | | |
|-------------------|-------|--------------|---------|
| FED. RD. DIVISION | STATE | PROJECT | 9 29 |
| 5 | OHIO | M-BRM-600(1) | |

ERIE COUNTY
 ERI - 6 - 14.93

| END AREA | VOLUME | |
|-----------|--------|--------|
| | CUT | FILL |
| 8 | 3 | |
| | 12 | 3 |
| AHD BK | 5 0 | 0 0 |

⊕ SURVEY & CONSTRUCTION

CROSS SECTIONS STA. 787+00 TO STA. 788+00



☪ SURVEY & CONSTRUCTION

CALCULATED BY ws DATE 5-89
 CHECKED BY vd DATE 5-89

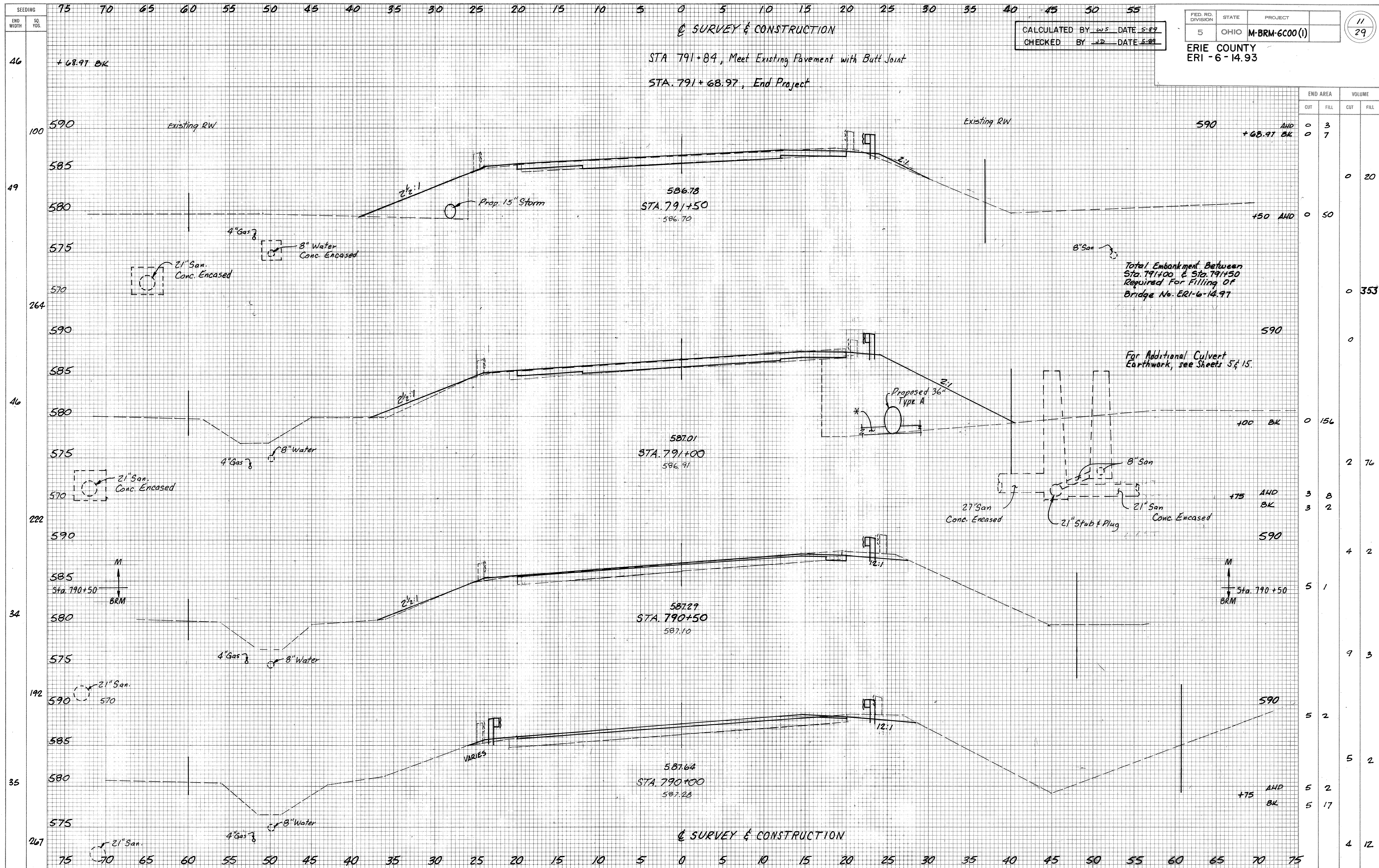
| | | | |
|-------------------|-------|--------------|----------|
| FED. RD. DIVISION | STATE | PROJECT | 10 29 |
| 5 | OHIO | M-BRM-600(1) | |

ERIE COUNTY
 ERI - 6-14-93

| STATION | ELEVATION | END AREA | | VOLUME | |
|---------|-----------|----------|------|--------|------|
| | | CUT | FILL | CUT | FILL |
| 789+00 | 590 | 5 | 17 | | |
| 789+00 | 585 | 52 | 0 | 32 | 0 |
| 789+00 | 580 | 52 | 0 | 17 | 0 |
| 789+00 | 575 | 52 | 0 | | |
| 788+70 | 570 | 277 | 1 | | |
| 788+70 | 595 | | | 47 | 1 |
| 788+70 | 590 | | | | |
| 788+70 | 585 | 266 | 11 | | |
| 788+70 | 580 | | | 121 | 12 |
| 788+70 | 595 | | | | |
| 788+70 | 590 | | | | |
| 788+50 | 585 | 55 | 22 | | |
| 788+50 | 580 | 1 | 4 | | |
| 788+50 | 575 | | | | |
| 788+50 | 570 | | | 9 | 7 |

☪ SURVEY & CONSTRUCTION

CROSS SECTIONS STA. 788+50 TO STA. 789+40



☉ SURVEY & CONSTRUCTION

CALCULATED BY W.S. DATE 5-87
 CHECKED BY J.D. DATE 5-88

| | | | |
|-------------------|-------|---------------|----------|
| FED. RD. DIVISION | STATE | PROJECT | 11 29 |
| 5 | OHIO | M-BRM-6C00(i) | |

ERIE COUNTY
 ERI - 6 - 14.93

STA 791+84, Meet Existing Pavement with Butt Joint
 STA. 791+68.97, End Project

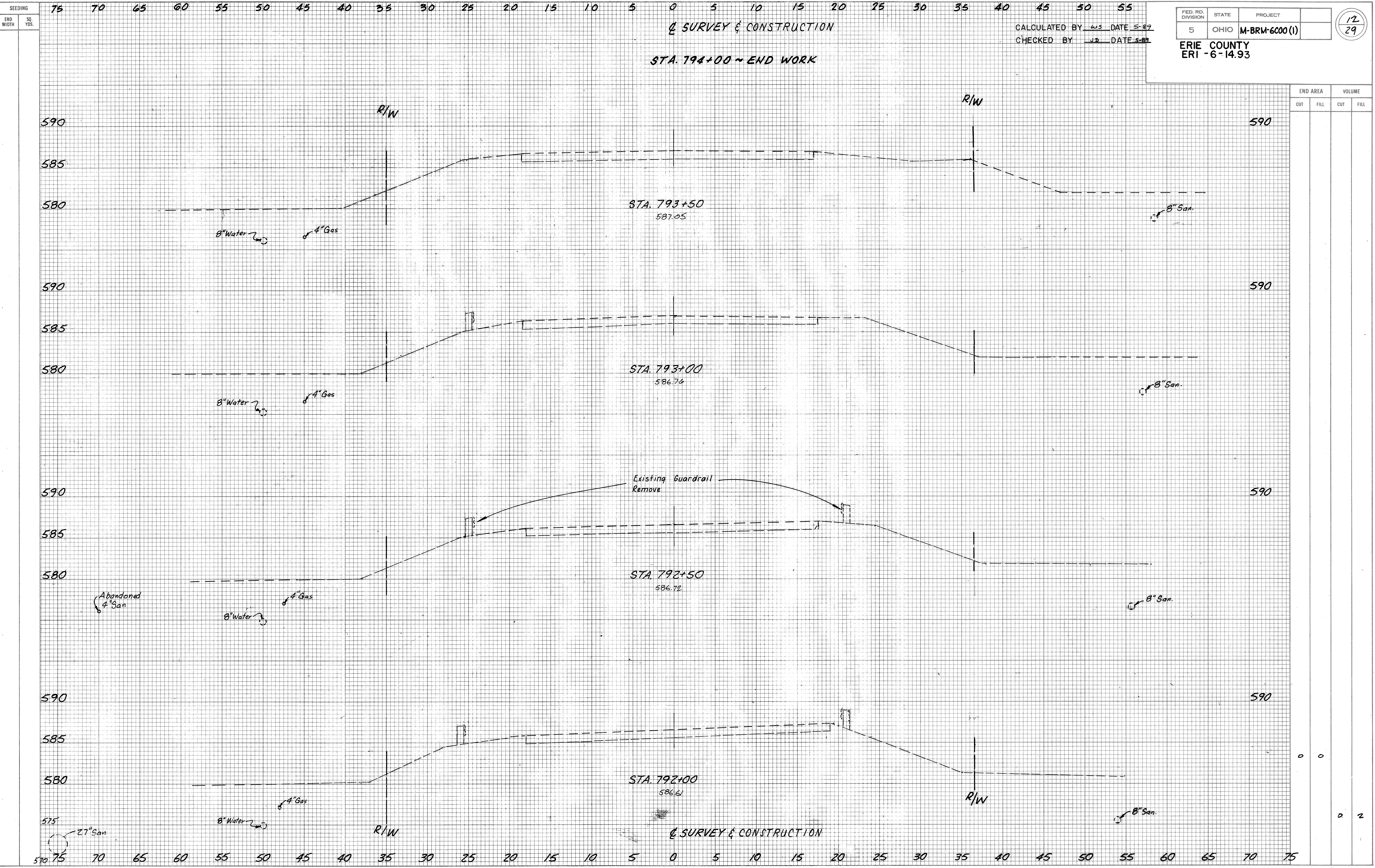
| STATION | END AREA | | VOLUME | |
|-----------|----------|------|--------|------|
| | CUT | FILL | CUT | FILL |
| 791+84 | 0 | 3 | | |
| 791+68.97 | 0 | 7 | | |
| 791+50 | 0 | 50 | 0 | 20 |
| 791+00 | 0 | 156 | 0 | 353 |
| 790+50 | 3 | 8 | 2 | 76 |
| 790+50 | 3 | 2 | | |
| 790+50 | 4 | 2 | | |
| 790+50 | 5 | 1 | | |
| 790+00 | 9 | 3 | | |
| 790+00 | 5 | 2 | | |
| 790+00 | 5 | 2 | | |
| 790+00 | 5 | 17 | | |
| 790+00 | 4 | 12 | | |

Total Embankment Between Sta. 791+00 & Sta. 791+50 Required For Filling Of Bridge No. ERI-6-14.97

For Additional Culvert Earthwork, see Sheets 5 & 15.

☉ SURVEY & CONSTRUCTION

CROSS SECTIONS STA. 790+00 TO STA. 791+50



Q SURVEY & CONSTRUCTION

STA. 794+00 ~ END WORK

CALCULATED BY ws DATE 5-89
 CHECKED BY jd DATE 5-89

| FED. RD. DIVISION | STATE | PROJECT |
|-------------------|-------|---------------|
| 5 | OHIO | M-BRM-6000(1) |

12
29

ERIE COUNTY
 ERI-6-14.93

| END AREA | | VOLUME | |
|----------|------|--------|------|
| CUT | FILL | CUT | FILL |
| | | | |

Q SURVEY & CONSTRUCTION

CROSS SECTIONS STA. 792+00 TO STA. 793+50

DATE _____
 BY _____
 SURVEYED _____
 PLOTTED _____
 CHECKED _____
 FINAL SURVEY _____
 NOTE BOOK _____
 NO. _____
 AREAS CHECKED _____

DATE _____
 BY _____
 SURVEYED _____
 PLOTTED _____
 CHECKED _____
 ORIGINAL SURVEY _____
 NOTE BOOK _____
 NO. _____
 AREAS CHECKED _____

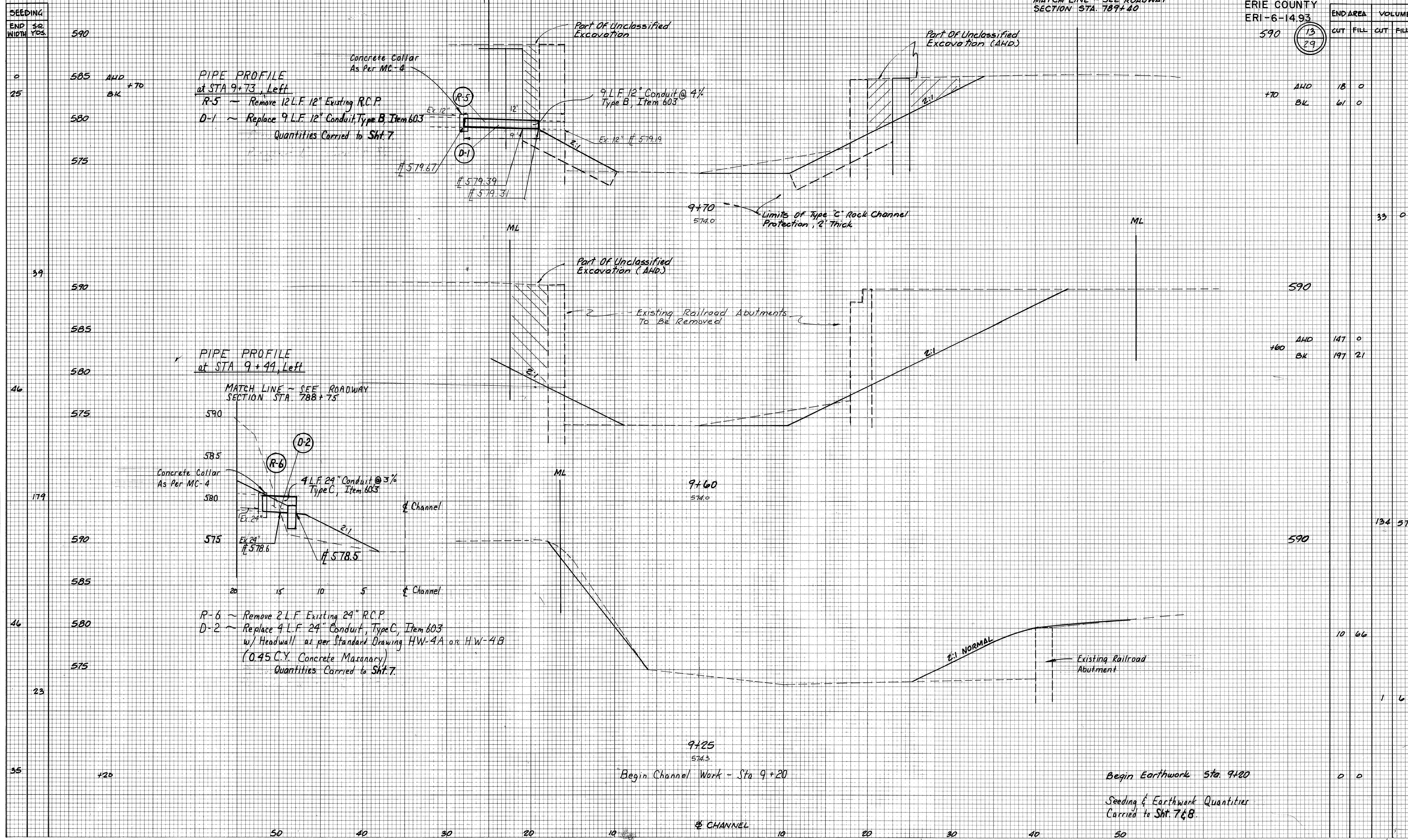
MATCH LINE - SEE ROADWAY SECTION STA. 788+75

MATCH LINE - SEE ROADWAY SECTION STA. 789+40

Calc. By W.S. 5-89
 CK. By J.D. 5-89

| REGION | STATE | PROJECT |
|--------|-------|----------------|
| 5 | OHIO | M-BRM-6C00 (1) |

| ERIE COUNTY | | END AREA | VOLUME | |
|-------------|---------|----------|--------|--|
| ERI-6-14.93 | | CUT | FILL | |
| 590 | (13/29) | | | |



PIPE PROFILE at STA 9+73, Left
 R-5 ~ Remove 12 L.F. 12" Existing R.C.P.
 D-1 ~ Replace 9 L.F. 12" Conduit, Type B, Item 603
 Quantities Carried to Sht. 7.

PIPE PROFILE at STA 9+44, Left
 MATCH LINE - SEE ROADWAY SECTION STA. 788+75

R-6 ~ Remove 2 L.F. Existing 24" R.C.P.
 D-2 ~ Replace 4 L.F. 24" Conduit, Type C, Item 603 w/ Headwall at per Standard Drawing HW-4A or HW-4B (0.45 C.Y. Concrete Masonry)
 Quantities Carried to Sht. 7.

Begin Channel Work - Sta 9+20

Begin Earthwork Sta. 9+20

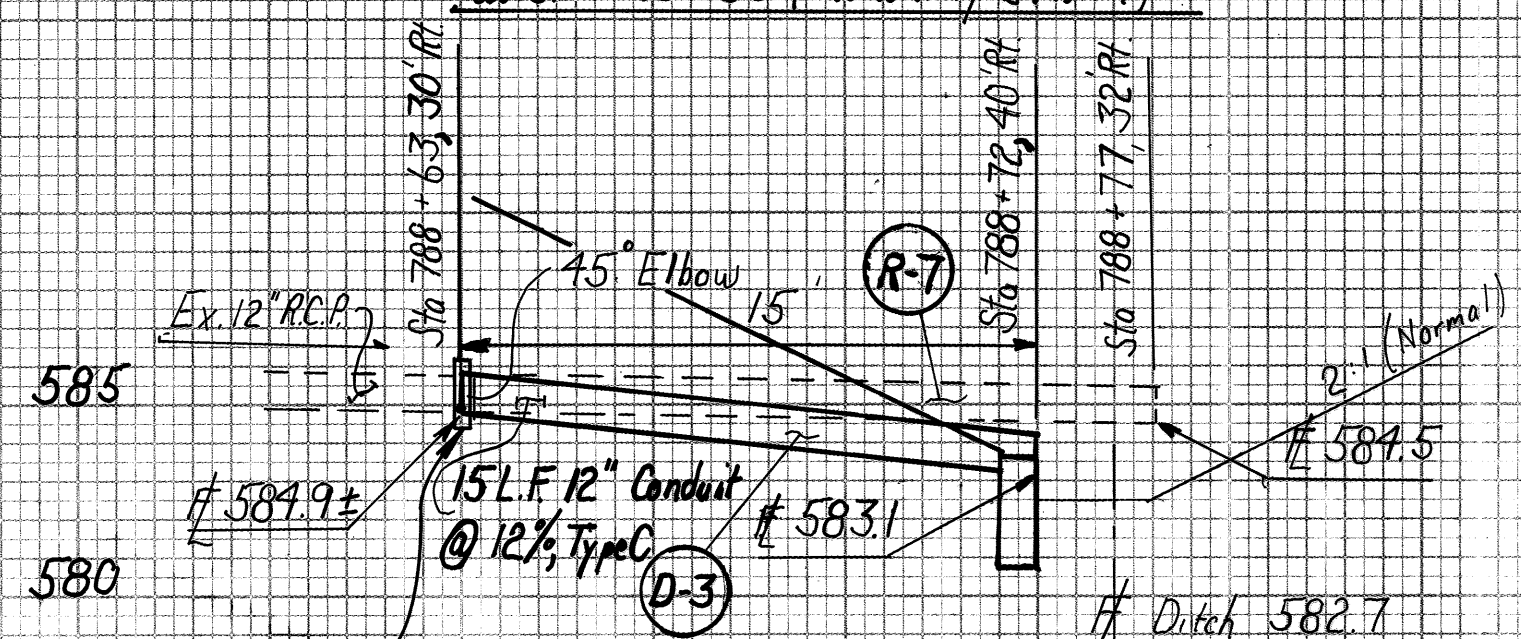
Seeding & Earthwork Quantities Carried to Sht. 7&8.

Calc. By W.S. 5-89
 Ck. By J.D. 5-89

| | | |
|-------------|-------|----------------|
| REGION | STATE | PROJECT |
| 5 | OHIO | M-BRM-6C00 (1) |
| ERIE COUNTY | | |
| ERI-6-14.93 | | |

14
29

Pipe Profile
 at Sta 9+62 (Channel Station), Left
 at Sta 788+63 (Roadway Station)



- R-7 - Remove 14 L.F. 12" R.C.P. between U.S.P.C. Sta 788+77, 33' Rt. & U.S.P.C. Sta 788+63, 30' Rt.
- D-3 - Replace w/ 45° Elbow @ Sta 788+63, 30' R. & 15 L.F. 12" Conduit, Type C, Item 603; Outlet at Sta 788+72, 42' Rt. w/ Headwall as per Standard Drawing HW-4A or HW-4B (O.C.Y. Concrete Masonry).

Quantities Carried to Sht. 7.

Seeding & Earthwork Quantities Carried to Sht. 7 & 8.

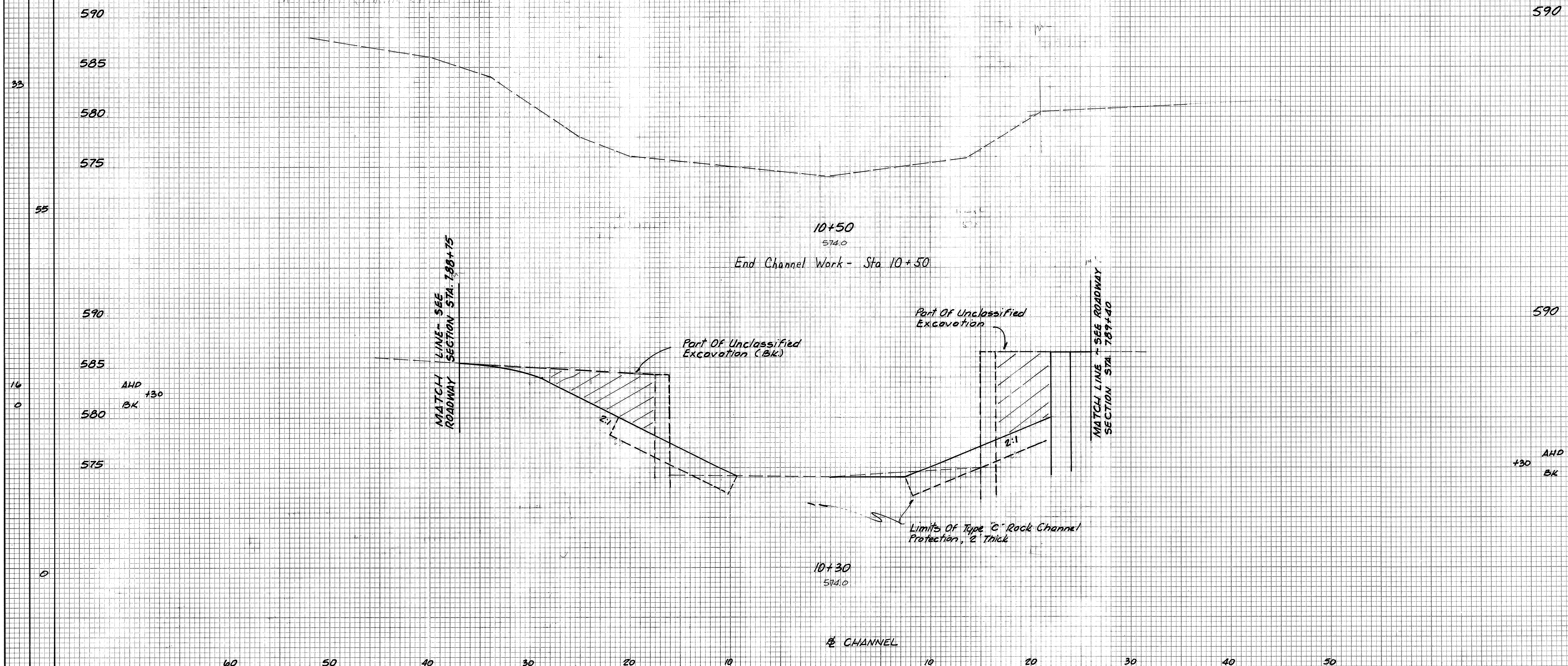
SEEDING
 END 40
 WIDTH YCS

END AREA
 CUT FILL CUT FILL

| END AREA | VOLUME |
|----------|--------|
| CUT | FILL |
| 590 | 0 |
| 585 | 0 |
| 580 | 0 |
| 575 | 0 |
| 570 | 17 |
| 565 | 0 |
| 560 | 0 |
| 555 | 0 |
| 550 | 0 |
| 545 | 0 |
| 540 | 0 |
| 535 | 0 |
| 530 | 0 |
| 525 | 0 |
| 520 | 0 |
| 515 | 0 |
| 510 | 0 |
| 505 | 0 |
| 500 | 0 |
| 495 | 0 |
| 490 | 0 |
| 485 | 0 |
| 480 | 0 |
| 475 | 0 |
| 470 | 0 |
| 465 | 0 |
| 460 | 0 |
| 455 | 0 |
| 450 | 0 |
| 445 | 0 |
| 440 | 0 |
| 435 | 0 |
| 430 | 0 |
| 425 | 0 |
| 420 | 0 |
| 415 | 0 |
| 410 | 0 |
| 405 | 0 |
| 400 | 0 |
| 395 | 0 |
| 390 | 0 |
| 385 | 0 |
| 380 | 0 |
| 375 | 0 |
| 370 | 0 |
| 365 | 0 |
| 360 | 0 |
| 355 | 0 |
| 350 | 0 |
| 345 | 0 |
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| 330 | 0 |
| 325 | 0 |
| 320 | 0 |
| 315 | 0 |
| 310 | 0 |
| 305 | 0 |
| 300 | 0 |
| 295 | 0 |
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| 240 | 0 |
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| 230 | 0 |
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| 140 | 0 |
| 135 | 0 |
| 130 | 0 |
| 125 | 0 |
| 120 | 0 |
| 115 | 0 |
| 110 | 0 |
| 105 | 0 |
| 100 | 0 |
| 95 | 0 |
| 90 | 0 |
| 85 | 0 |
| 80 | 0 |
| 75 | 0 |
| 70 | 0 |
| 65 | 0 |
| 60 | 0 |
| 55 | 0 |
| 50 | 0 |
| 45 | 0 |
| 40 | 0 |
| 35 | 0 |
| 30 | 0 |
| 25 | 0 |
| 20 | 0 |
| 15 | 0 |
| 10 | 0 |
| 5 | 0 |
| 0 | 0 |

DATE
 BY
 SURVEYED
 PLOTTED
 TEMPLATE
 NOTE BOOK
 AREAS CHECKED

DATE
 BY
 SURVEYED
 PLOTTED
 TEMPLATE
 NOTE BOOK
 AREAS CHECKED



10+50
 574.0
 End Channel Work - Sta 10+50

10+30
 574.0

* Estimated Quantities Carried to General Summary Sheet No. 6.

CALCULATED BY W.L. DATE 5/89
 CHECKED BY R.J.Z. DATE 5/89

| | | |
|-------------|-------|----------------|
| FHWA REGION | STATE | PROJECT |
| 5 | OHIO | M-BRM-6C00 (1) |

15
29

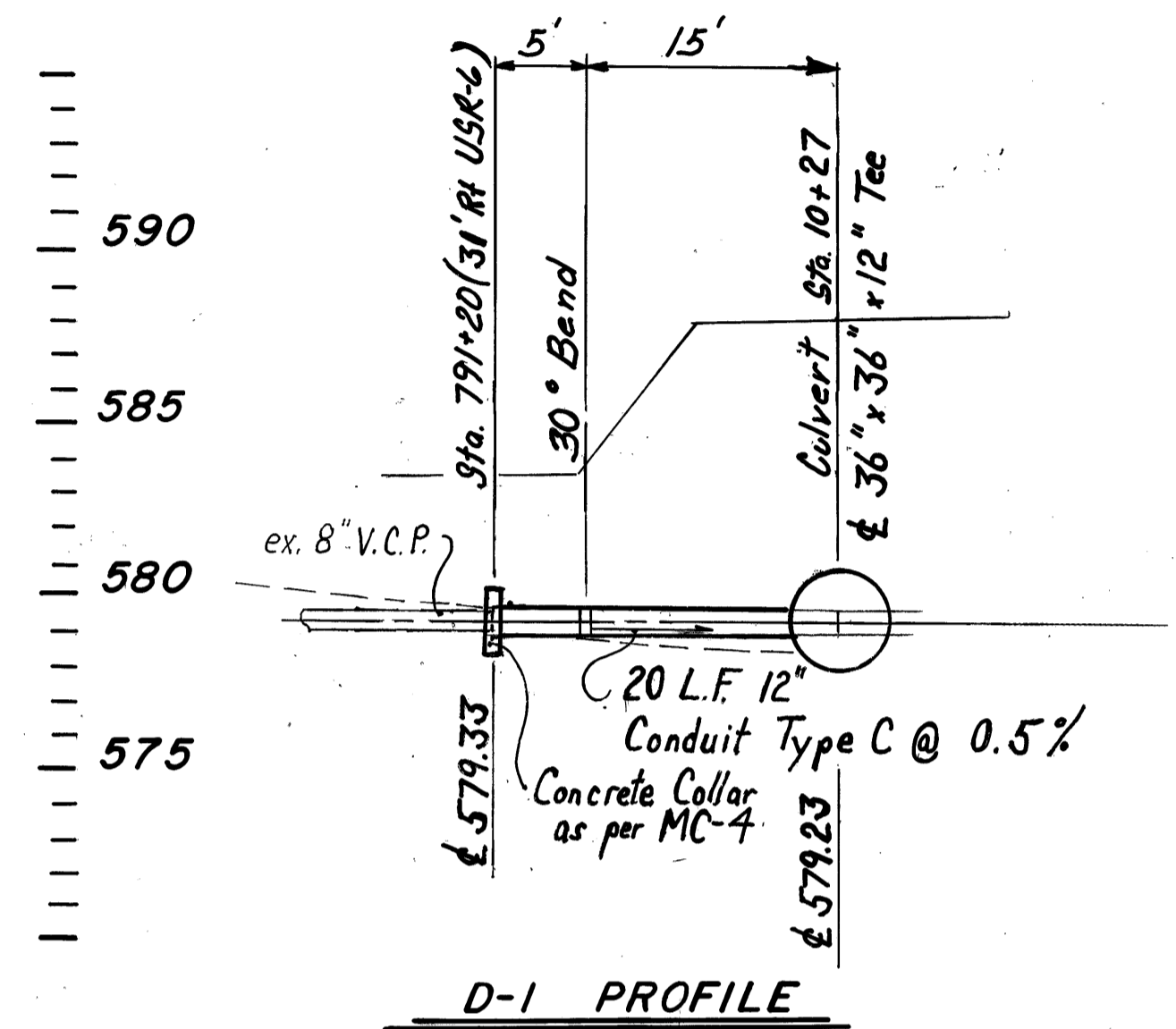
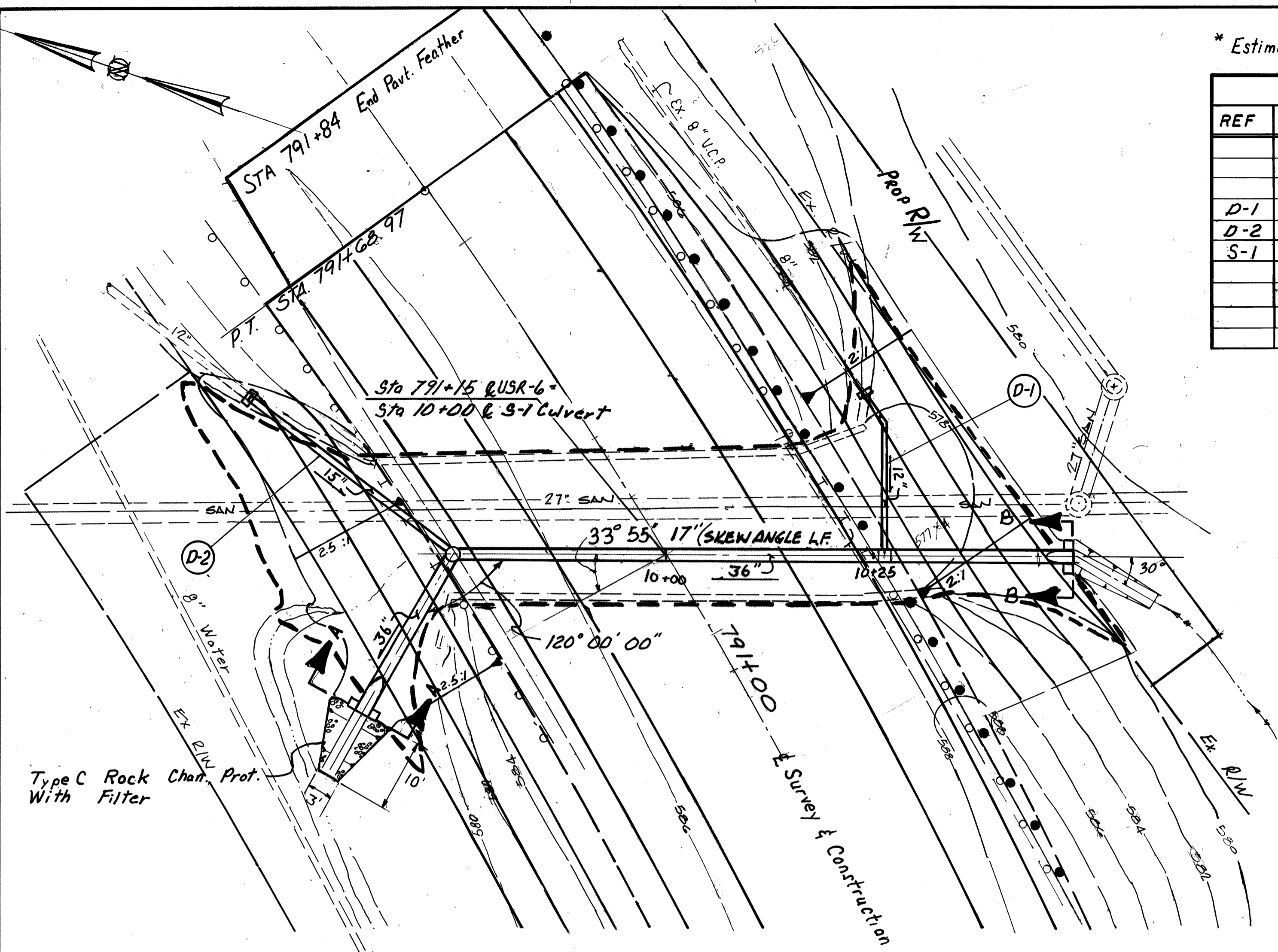
ERIE COUNTY
 ERI-6-14.93

| REF | ITEM | DESCRIPTION | QUANT | UNIT |
|-----|------|--|-------|------|
| | 202 | Portion of Structure Removed | Lump | |
| | 601 | Type C R.C.P. w/ Filter | 4 | C.Y. |
| | 602 | Concrete Masonry | 1.4 | C.Y. |
| D-1 | 603 | 12" Conduit, Type C | 20 | L.F. |
| D-2 | 603 | 15" Conduit, Type C | 31 | L.F. |
| S-1 | 603 | 36" Conduit, Type A | 95 | L.F. |
| | 604 | No. 1 Manhole | 1 | Each |
| | 203 | Excavation Not Including Embankment Construction | 2 | C.Y. |

Removal & Fill of Existing Waterway Opening

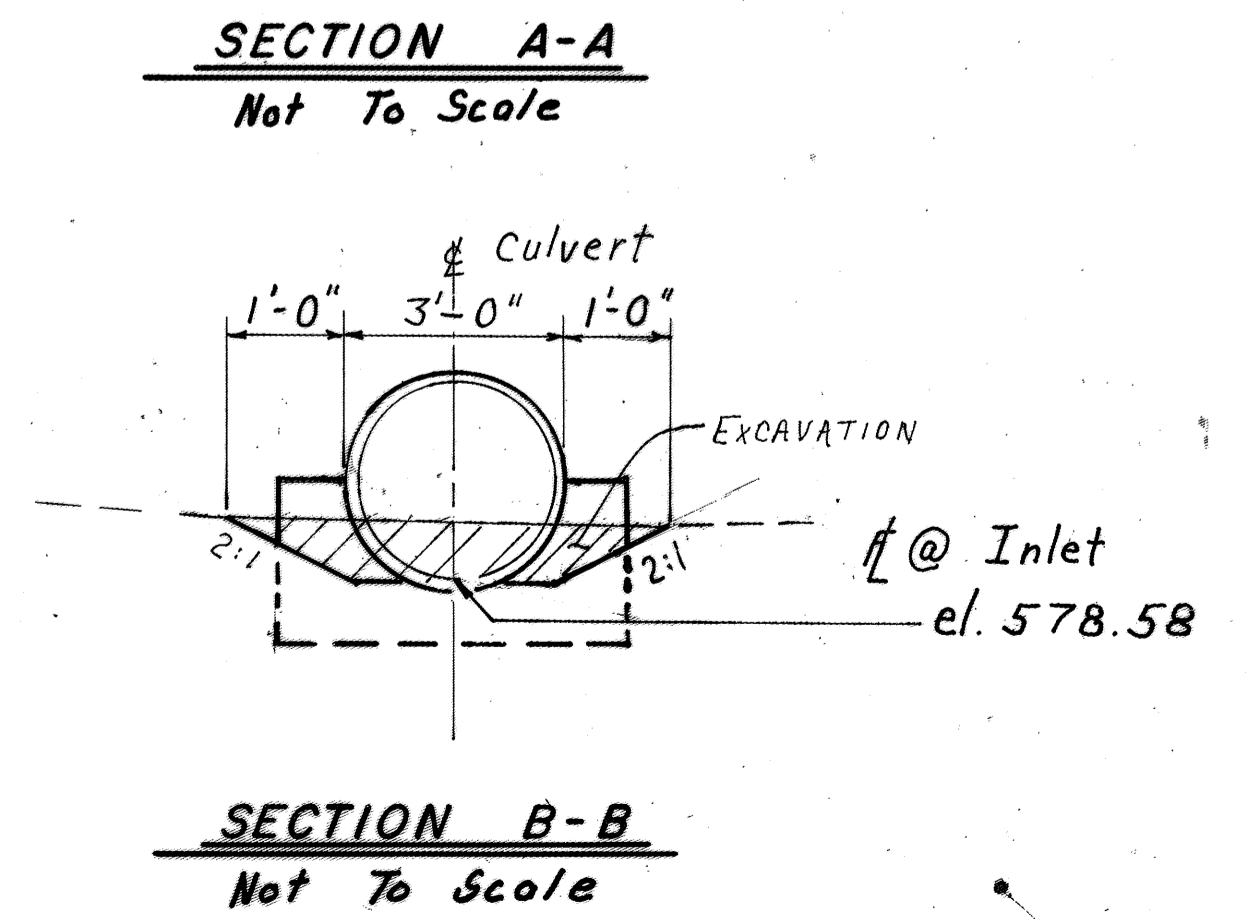
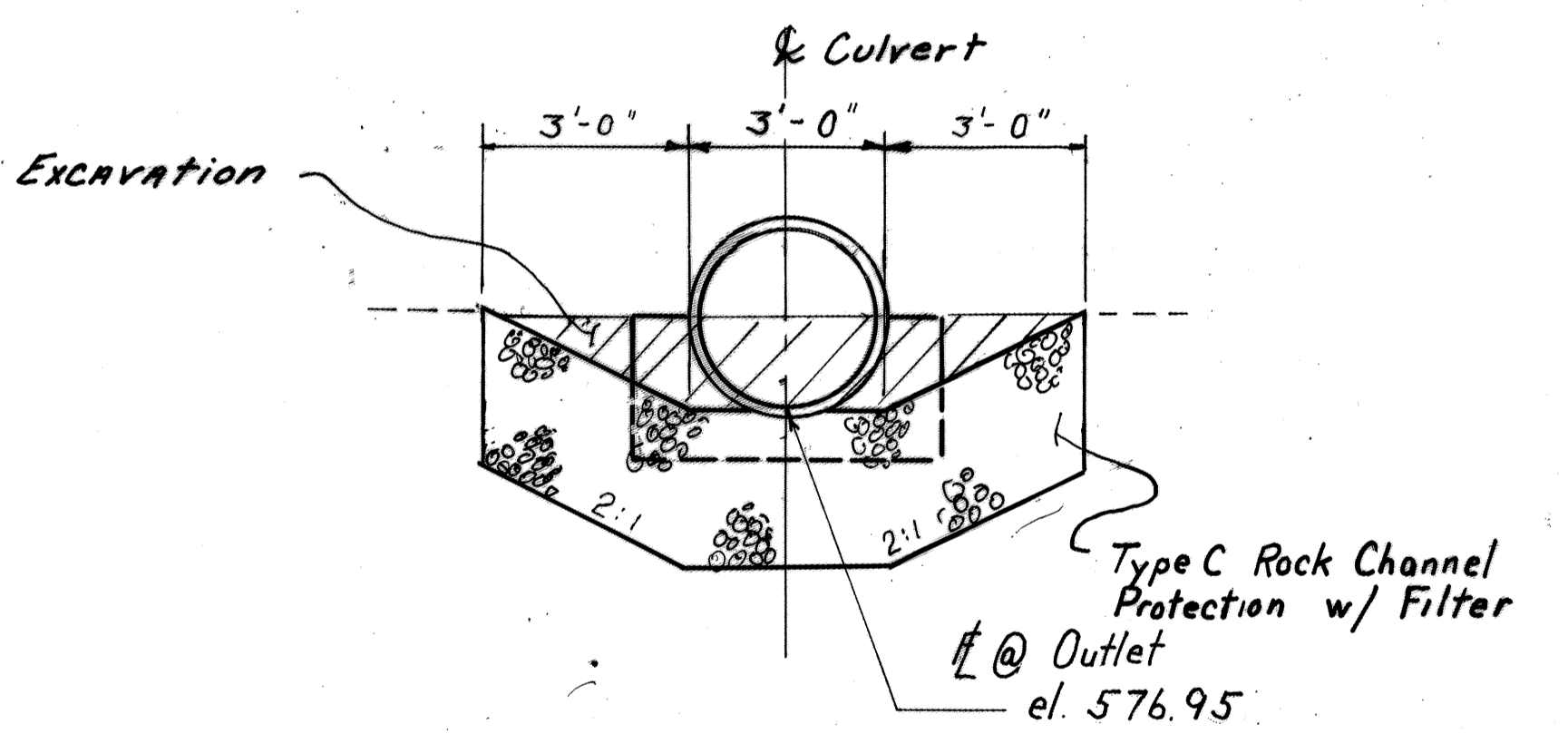
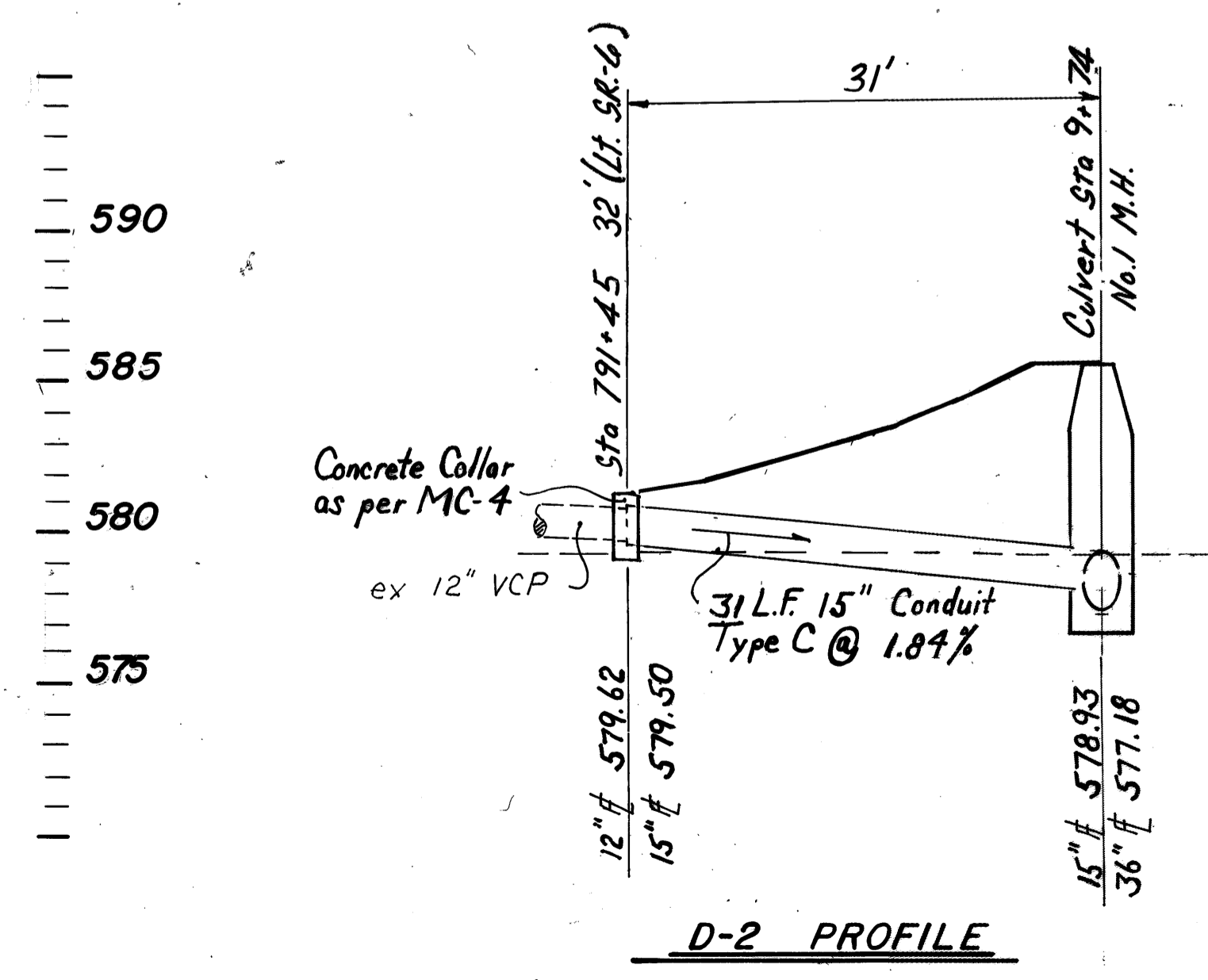
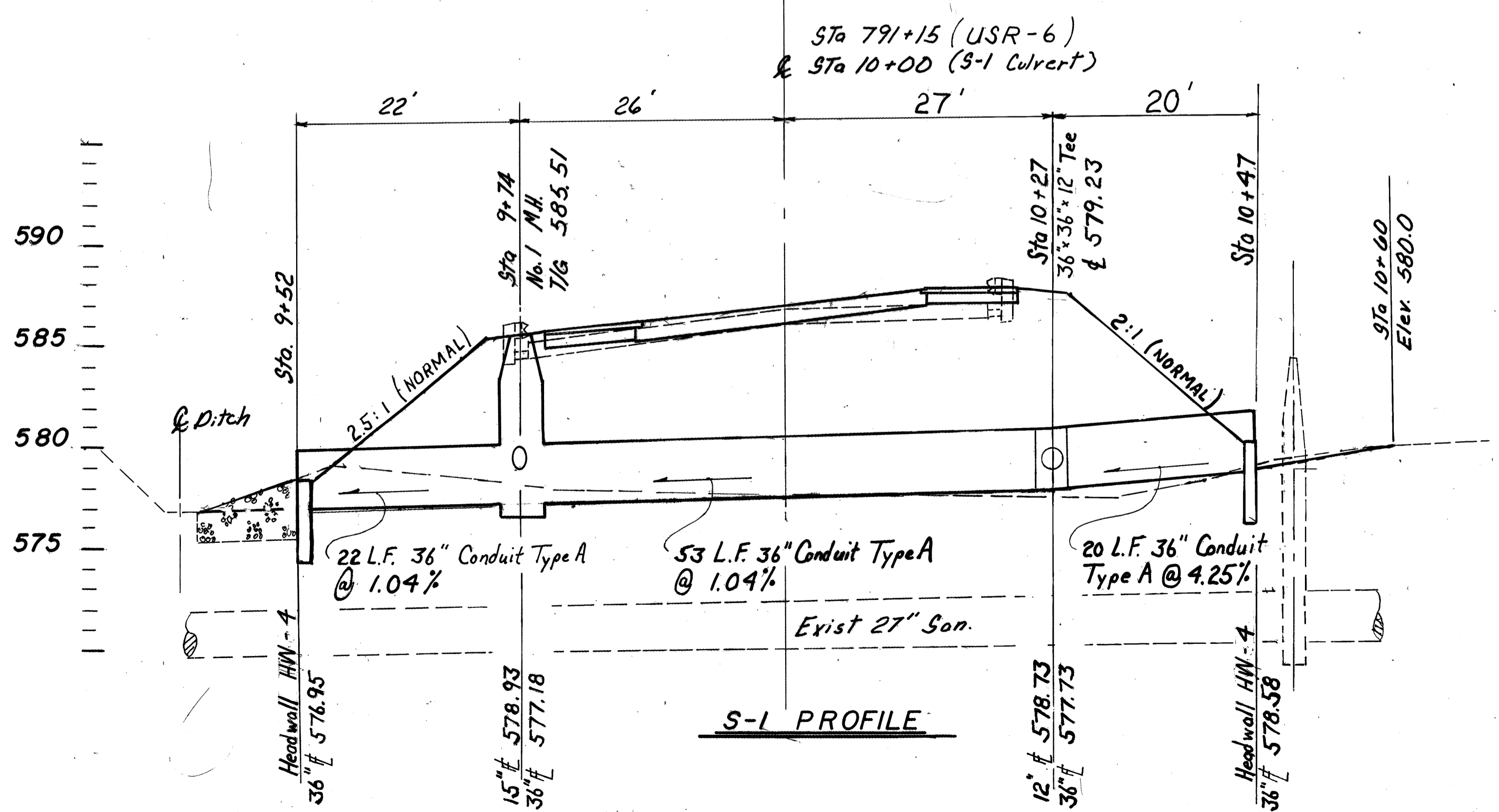
The Contractor shall remove the existing concrete deck & that portion of the concrete abutments above elevation 583.5 on structure No. ERI-6-14.97 in accordance with Item 202 Removal of Structures specifications. The existing waterway opening, centered at Sta. 791+15 (U.S.R.6), shall be filled & compacted employing a 12" layer of granular material over the entire outlined area pictured on the S-1 plan view at left. Material furnished for this item shall be as defined in 203.02. Above this granular base layer, embankment construction shall be in accordance with Item 203.07 to 203.12, inclusive.

Payment for deck and abutment removal shall be included in the lump sum bid for Item 202 Portion of Structure Removed. Payment for placement & compaction of fill shall be included in Item 203 Embankment & Item 203 Embankment, Using Granular Material. For Quantities, see Sheet No. 5.



| | |
|-------------------------------|---|
| Bends & Branches | |
| 1 - | 36" x 36" x 12" Tee |
| 1 - | 12" - 30° Bend |
| Hydraulics Information | |
| Drainage Area | = 4 Acres |
| Q ₂₅ | = 16.4 CFS. HW ₂₅ Elev. = 578.2 |
| Q ₁₀₀ | = 20.2 CFS. HW ₁₀₀ Elev. = 578.4 |

S-1 PLAN
 Limits of Item 203 Embankment, Using Granular Material

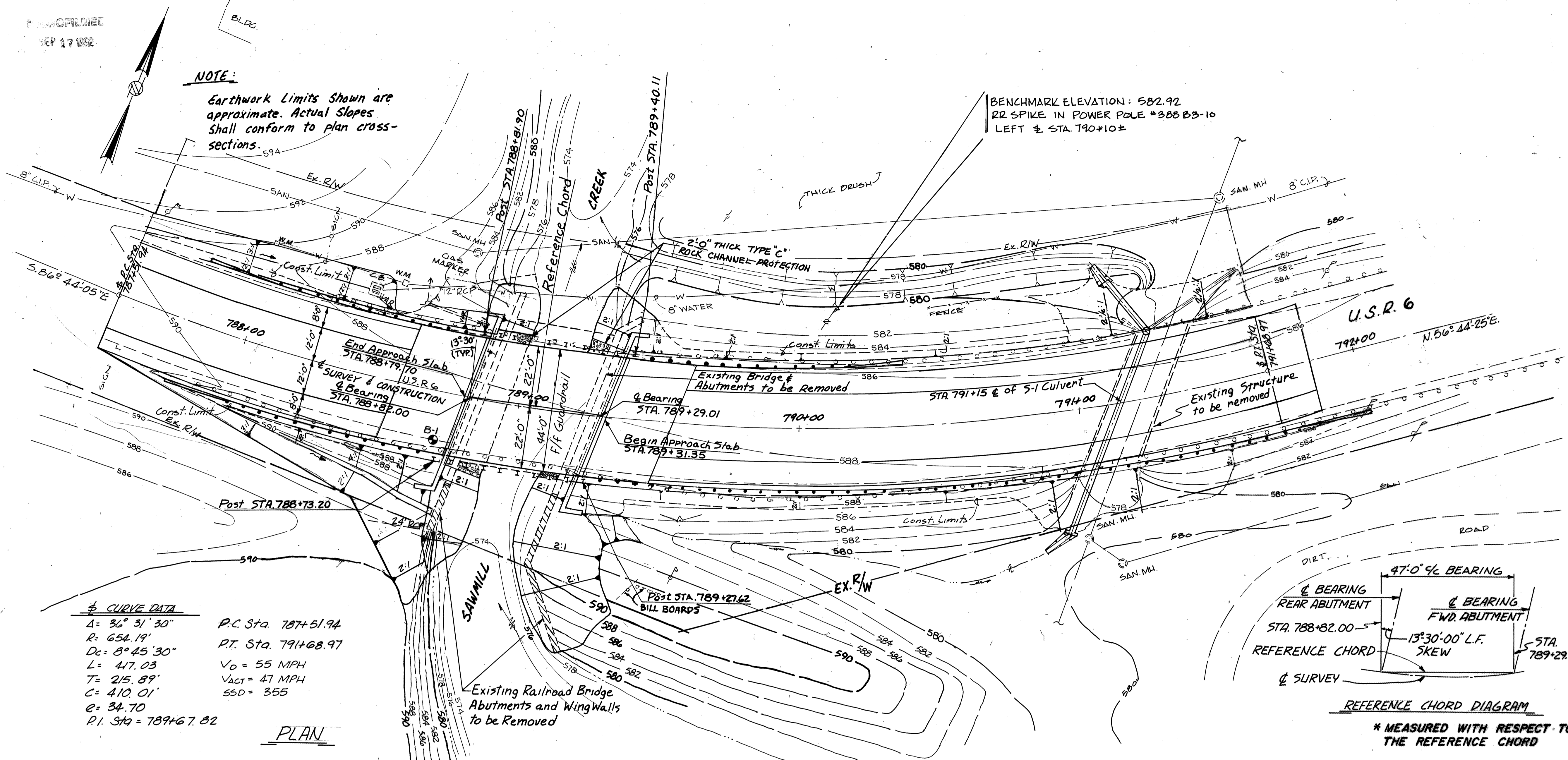


S-1 CULVERT

ERIE COUNTY
ERI - 6 - 14.93

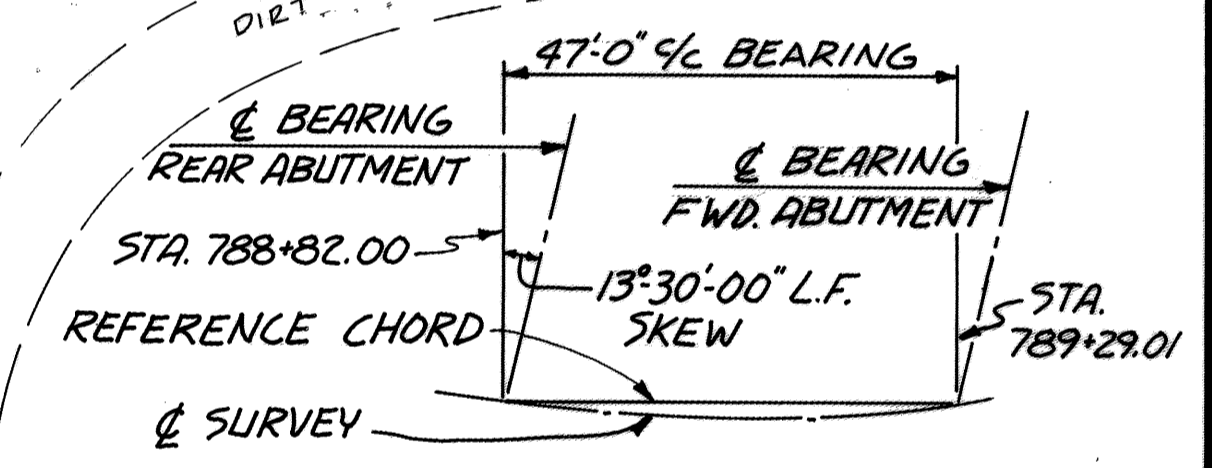
NOTE:
Earthwork Limits Shown are approximate. Actual Slopes shall conform to plan cross-sections.

BENCHMARK ELEVATION: 582.92
RR SPIKE IN POWER POLE #388 B3-10
LEFT ± STA. 790+10±



CURVE DATA
 $\Delta = 36^\circ 31' 30''$ P.C. Sta. 787+51.94
 $R = 654.19'$ P.T. Sta. 791+68.97
 $D_c = 8^\circ 45' 30''$
 $L = 47.03$ $V_d = 55$ MPH
 $T = 215.89'$ $V_{act} = 47$ MPH
 $C = 410.01'$ $SSD = 355$
 $e = 34.70$
 $P.I. Sta. = 789+67.82$

PLAN



REFERENCE CHORD DIAGRAM
* MEASURED WITH RESPECT TO THE REFERENCE CHORD

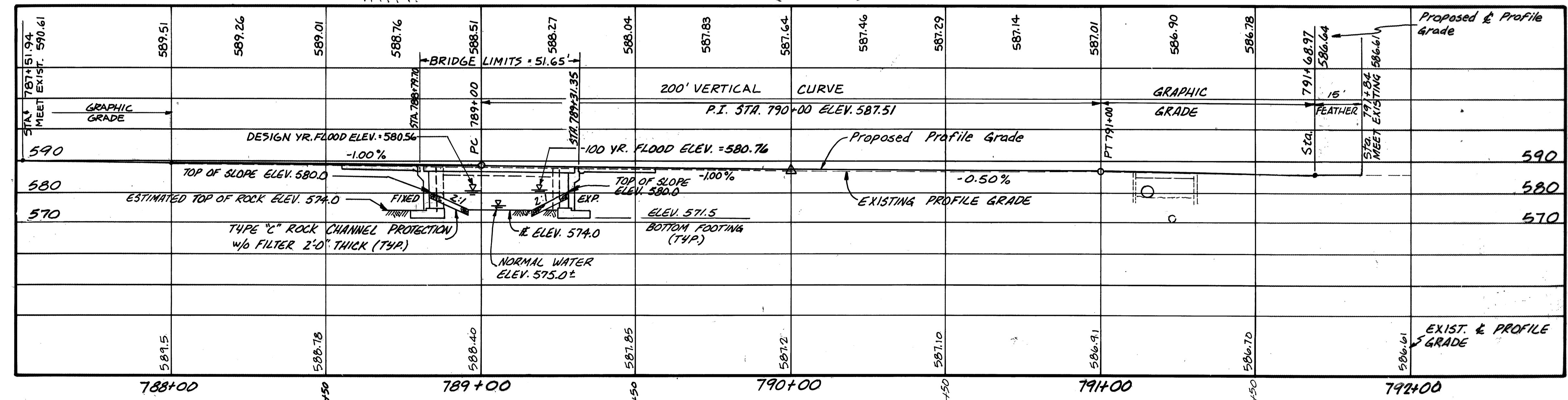
HYDRAULIC DATA

| INTERVAL (YEAR) | ELEV. (FT.) | Q (C.F.S.) | V (FT./SEC.) |
|-----------------|-------------|------------|--------------|
| 25 | 580.56 | 1724 | 7.50 |
| 100 | 580.76 | 2327 | 9.76 |

DRAINAGE AREA = 13.89 SQ. MI.

EXISTING STRUCTURE
 TYPE: SINGLE SPAN CONCRETE BEAM WITH CONCRETE DECK ON HIGH WALL ABUTMENTS
 SPANS: 34'-0" ± CLEAR
 ROADWAY: 51' f/f PARAPET
 SKEW: 13°-26' L.F.
 ALIGNMENT: 8°-45'-30" CURVE LEFT
 STRUCTURE FILE NO. 2201771

PROPOSED STRUCTURE
 TYPE: SINGLE SPAN COMPOSITE A588 STEEL BEAMS WITH REINFORCED CONC. DECK & WALL TYPE ABUT.
 SPAN: 47'-0" c/c BEARINGS
 ROADWAY: 44'-0" f/f GUARDRAIL
 SKEW: 13°-30' L.F. *
 DESIGN LOADING: HS 20-44 AND ALTERNATE MILITARY LOADING
 APPROACH SLAB: AS-1-81 (25'-0")
 ALIGNMENT: 8°-45'-30" CURVE LEFT
 SUPERELEVATION: 0.0770 ft./ft.
 WEARING SURFACE: MONOLITHIC CONC.
 AVG. DAILY TRAFFIC: 1989 ADT 9680
 2009 ADT 11620
 2009 ADTT = 232



PROFILE ON & SURVEY

REVIEWED BY BURGESS & NIPLE LTD.
T.J.K. 8-11-89

THOMAS FOK & ASSOCIATES, LIMITED
CONSULTING ENGINEER, SURVEYOR & PLANNER
3896 MAHONING AVE. YOUNGSTOWN, OHIO

SITE PLAN
BRIDGE NO. ERI-6-1494
OVER SAWMILL CREEK
ERIE COUNTY STA. 788+79.70
STA. 789+31.35

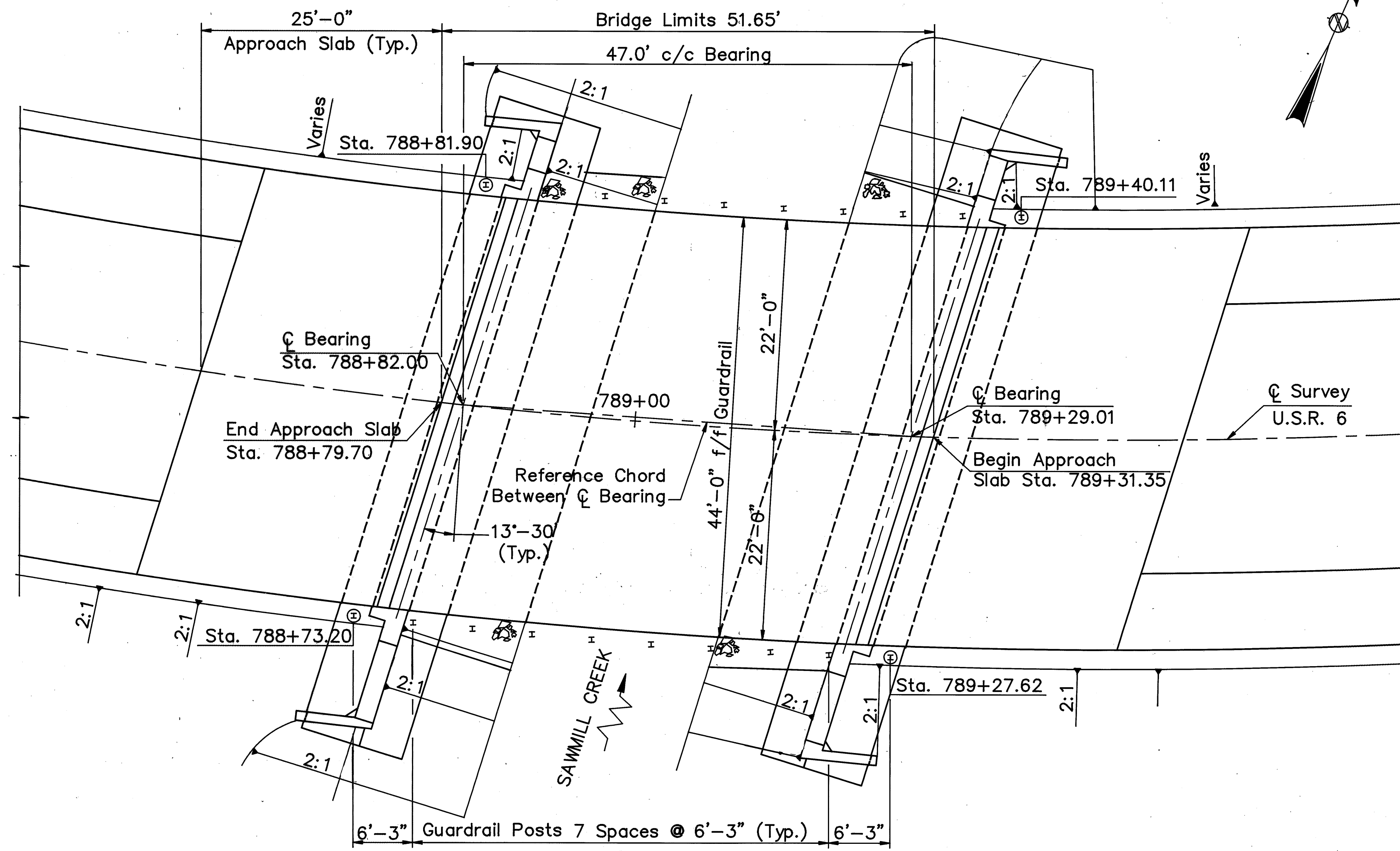
| PRESENT TOPOGRAPHY | | PROPOSED WORK | | | |
|--------------------|--------|---------------|-------|---------|----------|
| SURVEYED | DRAWN | DESIGNED | DRAWN | CHECKED | REVIEWED |
| J.F. | A.E.L. | J.V. | J.V. | K.R.M. | T.F. |
| 10/88 | 12/88 | 2-89 | 2-89 | 2-89 | 4-89 |

MICROFILMED
SEP 17 1982

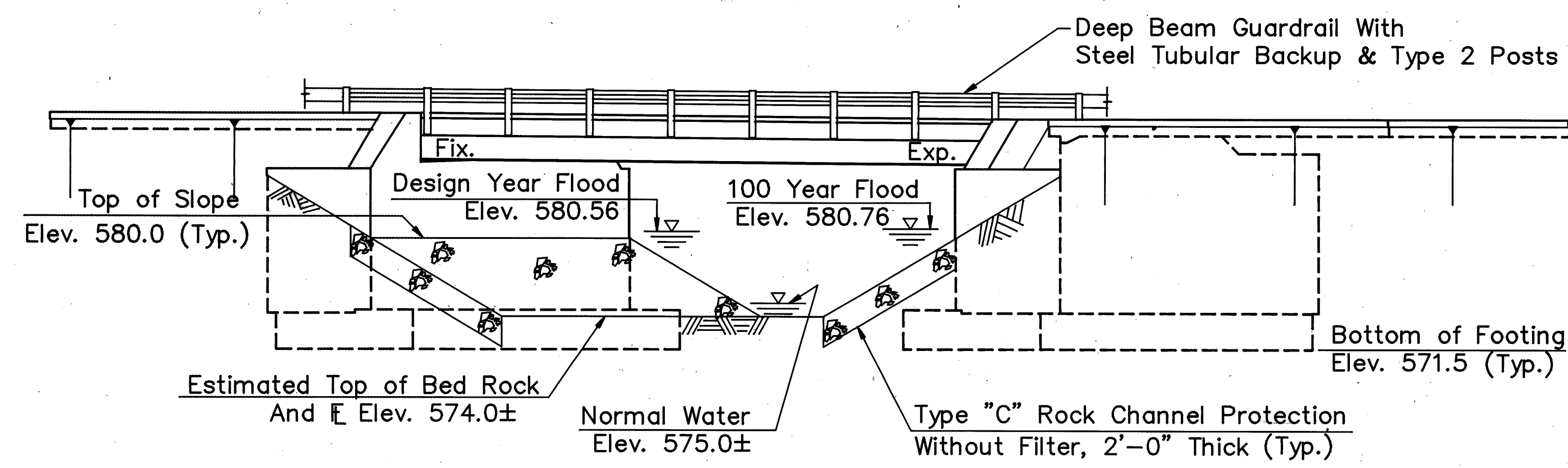
| | | | |
|--------|-------|---------|--|
| REGION | STATE | PROJECT | |
| 5 | OHIO | | |

17
29

ERIE COUNTY
ERI-6-14.93



PLAN



ELEVATION

2 / 11

THOMAS FOK & ASSOCIATES, LIMITED
CONSULTING ENGINEERS, SURVEYORS & PLANNERS
3896 MAHONING AVE. YOUNGSTOWN, OHIO

GENERAL PLAN
BRIDGE NO. ERI-6-1494
OVER SAWMILL CREEK

ERIE COUNTY OHIO

| | | | | | |
|----------|----------|-------|---------|----------|---------|
| SURVEYED | DESIGNED | DRAWN | CHECKED | REVIEWED | REVISED |
| | A.L. | A.L. | J.V. | T.F. | |
| | 5/89 | 5/89 | 5/89 | 5/89 | |

GENERAL NOTES

REFERENCE shall be made to Standard Drawings
AS-1-81 Dated 11-27-81
DBR-2-73 Dated 4-10-73
EXJ-2-81 Dated 4-2-84
(Modified as shown on SHT. 8/11)
SD-1-69 Dated 6-12-69

and to Supplemental Specifications:
849 Dated 12-24-85
949 Dated 9-29-86

DESIGN SPECIFICATIONS:

This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials, 1983, including the 1984, 1985, 1986, 1987, and 1988 Interim Specifications and the Ohio "Supplement" to these specifications.

DESIGN DATA:

DESIGN LOADING:

Design Loading - HS20-44, Case II and the Alternate Military Loading

DESIGN STRESSES:

Concrete Class S - compressive strength 4500 p.s.i. (Superstructure)
Concrete Class C - compressive strength 4000 p.s.i. (Substructure)

Reinforcing Steel - ASTM A615, A616, A617 - Grade 60 minimum yield strength 60,000 p.s.i.

Structural Steel ASTM A588 - Yield strength 50,000 p.s.i.

DECK PROTECTION METHOD:

- Epoxy coated reinforcing steel, top and bottom mats.
- Sealing of concrete surfaces.
- Concrete drip strip

Monolithic wearing surface is assumed for design purposes, to be 1" thick.

FOUNDATION BEARING PRESSURE:

Abutment and wingwall footings, as designed, produce a maximum bearing pressure of 2.2 tons per sq. ft.

FOOTINGS shall extend a minimum of 3 inches into bedrock or to the elevation shown, whichever is lower.

A CONCRETE SEALER shall be applied to the following concrete surfaces: to deck fascias as shown in deck section and abutment bridge seat as shown on abutment detail plan. See the proposal for surface preparation requirements, application rates, materials requirements, and application procedures.

ITEM 202, STRUCTURES REMOVED:

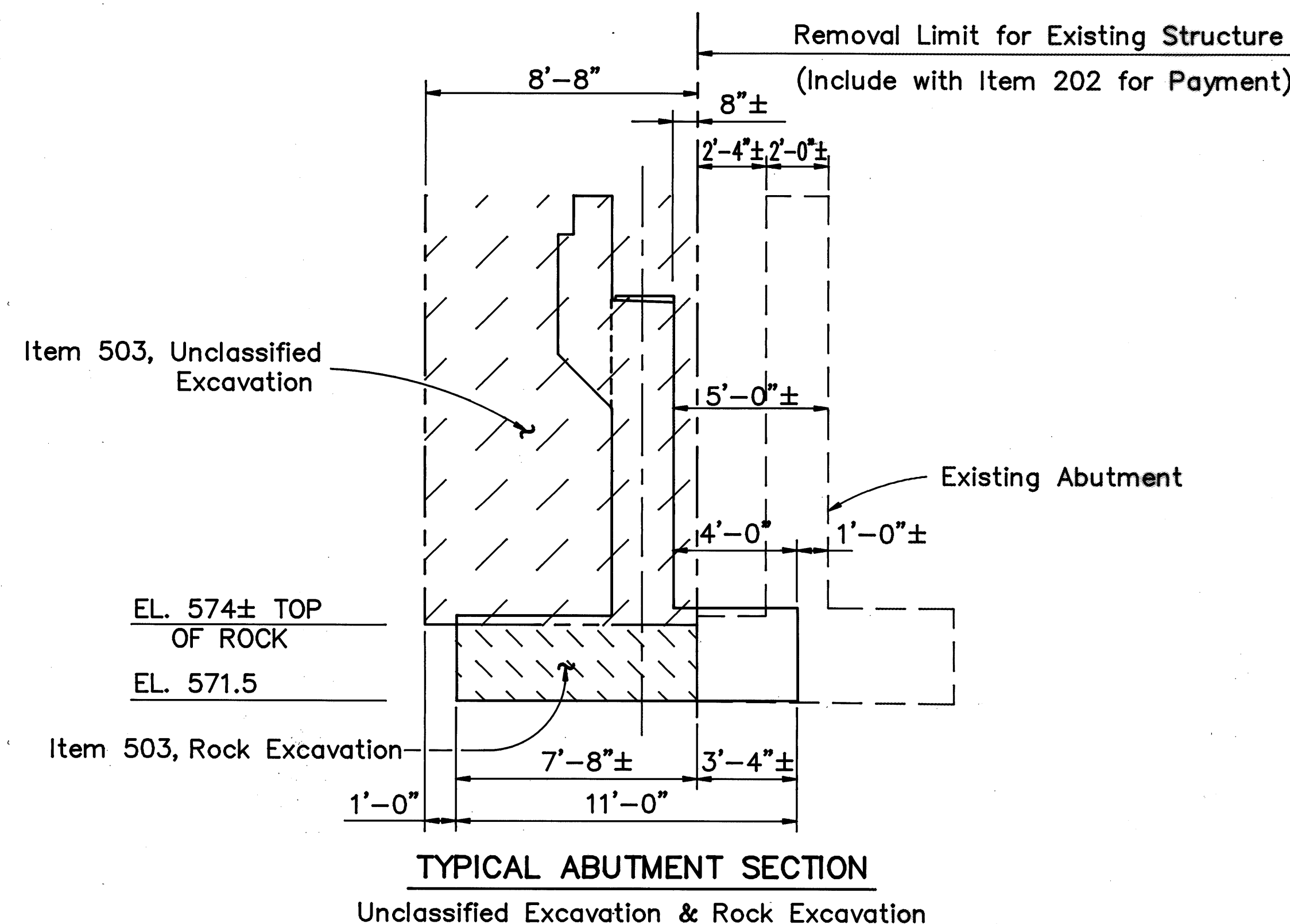
Removal of the existing superstructure and abutments, of the temporary concrete barrier, of temporary supports for the damaged stringer, and of the railroad abutments and wingwalls shall be included for payment in the lump sum bid for Item 202, Structures Removed.

UTILITY LINES: All expense involved in relocating (installing) the affected utility lines shall be borne by the owner(s). The contractor and the owner(s) are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

COARSE AGGREGATE for class C concrete shall be limestone or slag.

BRM FUNDS

| CALC. BY <i>J.D.V.</i> | | ESTIMATED QUANTITIES | | | | CHK'D BY <i>A.L.</i> | |
|------------------------|-----------|----------------------|---------|--|--------|----------------------|-------|
| ITEM | ITEM EXT. | TOTAL | UNIT | DESCRIPTION | SUPER. | ABUT. | GEN'L |
| 202 | | Lump | | Structures Removed | | | Lump |
| 503 | | Lump | | Cofferdams, Cribbs & Sheeting | | | Lump |
| 503 | | 635 | Cu.Yd. | Unclassified Excavation | | 635 | |
| 503 | | 99 | Cu.Yd. | Rock Excavation | | 99 | |
| 509 | | 15,377 | Lb. | Reinforcing Steel, Grade 60 | | 15,377 | |
| 509 | | 22,701 | Lb. | Epoxy Coated Reinforcing Steel, Grade 60 | 17,084 | 5617 | |
| 511 | | 160 | Cu.Yd. | Class C Concrete, Abutment Above Footing, as per plan. | | 160 | |
| 511 | | 162 | Cu.Yd. | Class C Concrete, Abutment Footing, as per plan. | | 162 | |
| 511 | | 62 | Cu.Yd. | Class "S" Concrete, Superstructure, as per plan. | 62 | | |
| 512 | | 9 | Sq.Yd. | Type B Waterproofing | | 9 | |
| 513 | | 37,400 | Lb. | Structural Steel, ASTM-A588 (A.I.S.C. Category I) See proposal note. | 37,400 | | |
| 513 | | 684 | Each | Welded Stud Shear Connectors | 684 | | |
| 514 | | 16,076 | Lb. | Field Painting of New Structural Steel, System A | 16,076 | | |
| 516 | | 32 | Sq.Ft. | 1" Preformed Expansion Joint Filler | | 32 | |
| 516 | | 90.9 | Lin.Ft. | Structural Expansion Joints, Including Elastomeric Compression Seal | 90.9 | | |
| 516 | | 6 | Each | Laminated Elastomeric Bearings (1 1/8" x 7" x 11" Elastomeric Pad with 1 1/2" x 8" x 1'-6 1/2" Steel Load Plate) | | 6 | |
| 516 | | 6 | Each | Laminated Elastomeric Bearings (1 1/8" x 7" x 10" Elastomeric Pad with 1 1/2" x 8" x 1'-0" Steel Load Plate) | | 6 | |
| 517 | | 112.5 | Lin.Ft. | Railing (Deep Beam Rail With Steel Tubular Backup, Type 2 Steel Posts & Bolts) (See Proposal Note) | 112.5 | | |
| 518 | | 90 | Cu.Yd. | Porous Backfill, as per Plan | | 90 | |
| Special | | 51 | Sq.Yd. | Sealing of Concrete Surfaces (See Proposal Note) | 51 | | |
| Special | | 30 | Sq.Yd. | Sealing of Concrete Surfaces (Epoxy) (See Proposal Note) | | 30 | |



3/11

THOMAS FOK & ASSOCIATES, LIMITED
CONSULTING ENGINEERS, SURVEYORS & PLANNERS
3896 MAHONING AVE. YOUNGSTOWN, OHIO

GENERAL NOTES & ESTIMATED QUANTITIES
BRIDGE NO. ERI-6-1494
OVER SAWMILL CREEK

ERIE COUNTY OHIO

| | | | | | |
|----------|-------------|-------------|---------------|-------------|---------|
| SURVEYED | DESIGNED | DRAWN | CHECKED | REVIEWED | REVISED |
| | <i>A.L.</i> | <i>A.L.</i> | <i>J.D.V.</i> | <i>T.F.</i> | |
| | 5/89 | 5/89 | 5/89 | 5/89 | |

GENERAL NOTES

| REGION | STATE | PROJECT |
|--------|-------|---------|
| 5 | OHIO | |

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29

ERIE COUNTY
ERI - 6 - 14.93

ITEM 511 - CLASS S CONCRETE, AS PER PLAN

IN LIEU OF THE PROPORTIONING SPECIFIED IN 499.03 AND 511.02, THE FOLLOWING TABLE SHALL BE USED TO ESTABLISH THE QUANTITIES PER CUBIC YARD FOR CONCRETE. THE COARSE AGGREGATE SHALL BE LIMESTONE.

QUANTITIES PER CUBIC YARD (USING NO. 8 LIMESTONE)

| FINE (LB) | AGGREGATE COARSE (LB) | TOTAL (LB) | CEMENT CONTENT (LB) | WATER/ CEMENT RATIO |
|--------------|-----------------------------|---------------|---------------------------|---------------------------|
| 1591 | 1127 | 2718 | 715 | 0.40 |

AIR CONTENT - 8% PLUS OR MINUS 2%

HIGH RANGE WATER REDUCER (SUPERPLASTICIZER) MAY BE USED AT THE OPTION OF THE CONTRACTOR IF REQUIRED FOR PLACEMENT. THE DOSAGE RATE WILL BE DETERMINED BY THE CONTRACTOR BASED ON THE MANUFACTURER'S RECOMMENDATION TO ACHIEVE THE DESIRED WORKABILITY LEVEL.

HIGH RANGE WATER REDUCER SHALL CONFORM TO 705.12, ASTM-C494 TYPE F AND SHALL NOT CONTAIN CALCIUM CHLORIDE.

TYPE A OR D CHEMICAL ADMIXTURE CONFORMING TO 705.12 ASTM TYPE F AND NOT CONTAINING CALCIUM CHLORIDE SHALL BE ADDED TO THE CONCRETE AT THE PLANT.

ALL ADDITIVES, INCLUDING AIR ENTRAINMENT, SHALL BE MANUFACTURED BY THE SAME COMPANY AND CERTIFIED AS COMPATIBLE BY THE MANUFACTURING COMPANY.

THE CEMENT CONTENT SHALL BE MAINTAINED AND A MAXIMUM WATER-CEMENT RATIO OF 0.40 SHALL NOT BE EXCEEDED. THE SLUMP OF THE UNPLASTICIZED CONCRETE DELIVERED TO THE JOB SITE SHALL BE 1-1/2" PLUS OR MINUS 1/2".

THE SUPERPLASTICIZING ADMIXTURE SHALL BE ADDED AT THE JOB SITE AND MIXED A MINIMUM OF FIVE (5) MINUTES. AFTER THE SUPERPLASTICIZER HAS BEEN ADDED, THE SLUMP SHALL BE 6" PLUS OR MINUS 1". THE CONTRACTOR SHALL FURNISH A VOLUMERIC DISPENSER FOR THE SUPERPLASTICIZER.

CONCRETE MIXTURES CONTAINING A HIGH RANGE WATER REDUCER SHALL MEET THE SAME REQUIREMENTS FOR ENTRAINED AIR CONTENT, MINIMUM STRENGTH, AND MAXIMUM WATER-CEMENT RATIO AS REQUIRED FOR THE RESPECTIVE GRADE OF CONCRETE WITHOUT A HIGH RANGE WATER REDUCER.

SAMPLING AND TESTING FOR ENTRAINED AIR CONTENT AND MINIMUM STRENGTH SHOULD BE TAKEN FROM THE CONCRETE THAT HAS BEEN TREATED WITH A HIGH RANGE WATER REDUCER.

ALL INITIAL TESTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THESE TESTS SHALL BE PERFORMED BY A COMPETENT CONCRETE TECHNICIAN. THIS INFORMATION SHALL BE PROVIDED TO THE PROJECT ENGINEER. THE PROJECT ENGINEER SHALL MAKE ONLY THE FINAL TESTS AS THE CONCRETE IS PLACED ON THE DECK.

THE CONTRACTOR SHALL MAKE ONE OR MORE TRIAL BATCHES OF THE SUPERPLASTICIZED DENSE CONCRETE OF THE SIZE TO BE HAULED AT LEAST FOUR DAYS BEFORE THE DECK IS TO BE PLACED. HE SHALL CAST ONE OR MORE TEST SLABS, E.G. 8 FT. LONG X A WIDTH WHICH IS WIDE ENOUGH TO ACCOMMODATE HIS TILING EQUIPMENT X 4 INCHES THICK, FOR TEXTURING ACCORDING TO 511.16 AND SHALL PREPARE OTHER SAMPLES AND SPECIMENS AS DIRECTED BY THE PROJECT ENGINEER. THE CONTRACTOR SHALL FURNISH THE REQUIRED MATERIALS AND SAMPLES WITHOUT CHARGE TO THE STATE AS PER 106.03. THE PROJECT ENGINEER SHALL BE NOTIFIED SEVEN (7) DAYS IN ADVANCE OF THE TEST BATCH PREPARATION AND HE WILL CONDUCT ALL OF THE REQUIRED TESTS.

CURING:

AN EVAPORATION RETARDANT AND FINISHING AID SHALL BE USED AT THE CONTRACTORS OPTION PRIOR TO THE TILING OPERATION. ANY PRODUCT USED FOR SUCH PURPOSE SHALL BE SPECIFICALLY MARKETED FOR SAID USE. (PLAIN WATER IS NOT ACCEPTABLE) THE APPLICATION RATE SHALL NOT EXCEED THE HOURLY SURFACE EVAPORATION RATE AS DETERMINED BY FIGURE 1.

IMMEDIATELY AFTER THE TILING OPERATION THE CONTRACTOR SHALL SPRAY AN EVAPORATION RETARDANT OVER THE TEXTURED AREA. THE APPLICATION RATE SHALL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS. THE WET BURLAP CURE SHALL FOLLOW THIS OPERATION AS CLOSELY AS POSSIBLE.

CURING SHALL BE IN ACCORDANCE WITH 511.14 TYPE A WATER CURING. BY THE CONTINUOUS SPRINKLING METHOD ONLY. SUPPLEMENTAL SPECIFICATION 836 CONCRETE CURING MEMBRANE SHALL NOT BE USED FOR THIS ITEM.

PLACEMENT:

PLACEMENT OF CONCRETE SHALL BE COMPLETED UNDER FAVORABLE ATMOSPHERIC CONDITIONS. FAVORABLE ATMOSPHERIC CONDITIONS EXIST WHEN THE SURFACE EVAPORATION RATE AS AFFECTED BY THE AMBIENT AIR TEMPERATURE, CONCRETE TEMPERATURE, RELATIVE HUMIDITY, AND WIND VELOCITY IS 0.1 POUNDS PER SQUARE FOOT PER HOUR OR LESS. FIGURE (1) SHALL BE USED TO DETERMINE GRAPHICALLY THE SURFACE EVAPORATION RATE. FAVORABLE ATMOSPHERIC CONDITIONS MAY REQUIRE PLACEMENT AT NIGHT.

IF PLACEMENT OF THE CLASS S CONCRETE IS TO BE MADE AT NIGHT, THE CONTRACTOR SHALL SUBMIT A PLAN WHICH PROVIDES ADEQUATE LIGHTING FOR THE WORK AREA AT LEAST FIFTEEN (15) CALENDAR DAYS IN ADVANCE AND RECEIVE WRITTEN APPROVAL FROM THE ENGINEER BEFORE PLACING THE CONCRETE. THE LIGHTS SHALL BE SO DIRECTED THAT THEY DO NOT AFFECT OR DISTRACT APPROACHING TRAFFIC.

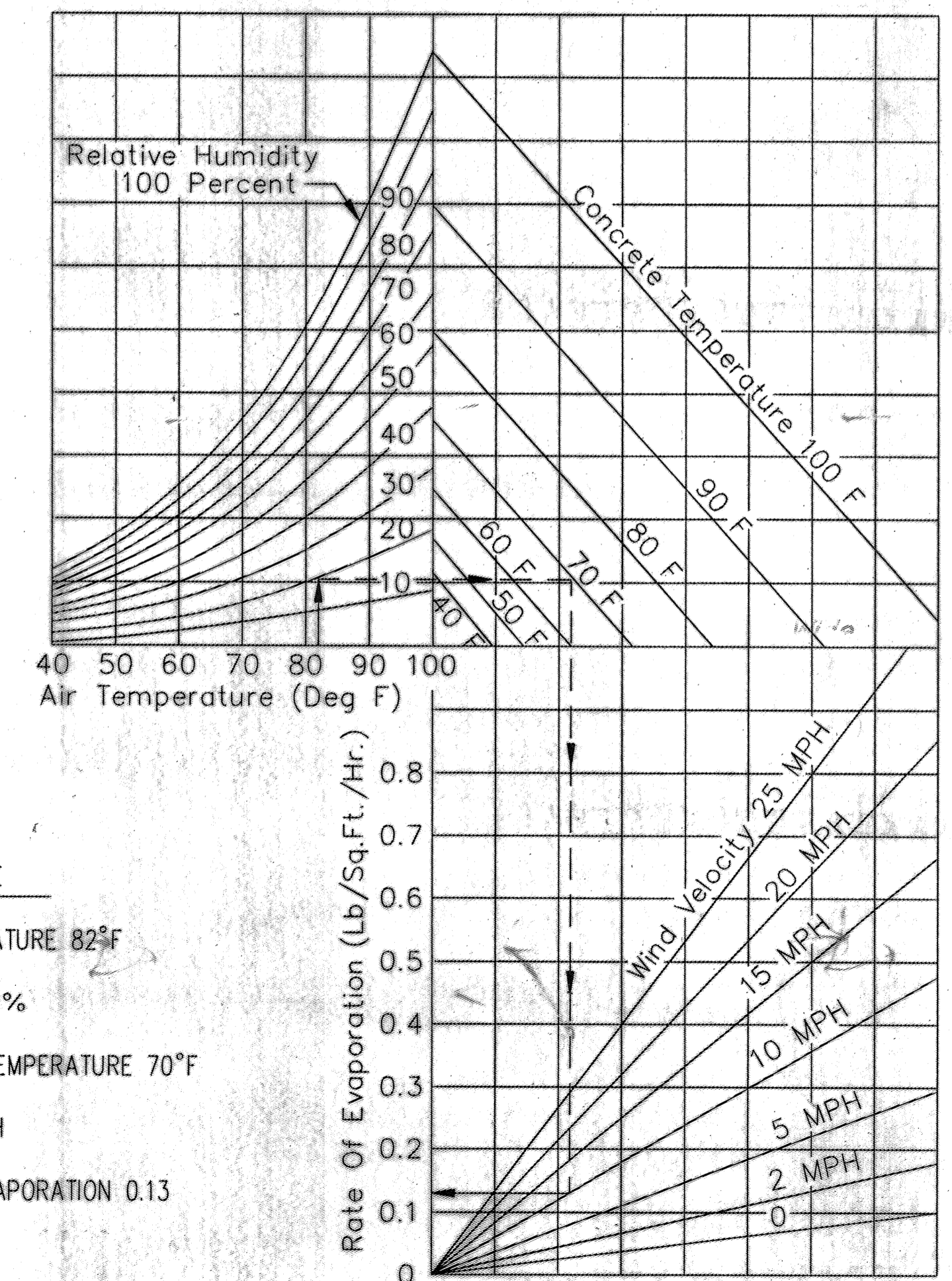
ALL OTHER PROVISIONS OF 511 SHALL REMAIN IN EFFECT.

PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

| ITEM | UNIT | DESCRIPTION |
|------|--------|---|
| 511 | CU.YD. | CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN |

FIGURE NO. 1

- TO USE THIS CHART:
1. ENTER WITH AIR TEMPERATURE, MOVE UP TO RELATIVE HUMIDITY.
 2. MOVE RIGHT TO CONCRETE TEMPERATURE.
 3. MOVE DOWN TO WIND VELOCITY.
 4. MOVE LEFT, READ APPROX. RATE OF EVAPORATION.

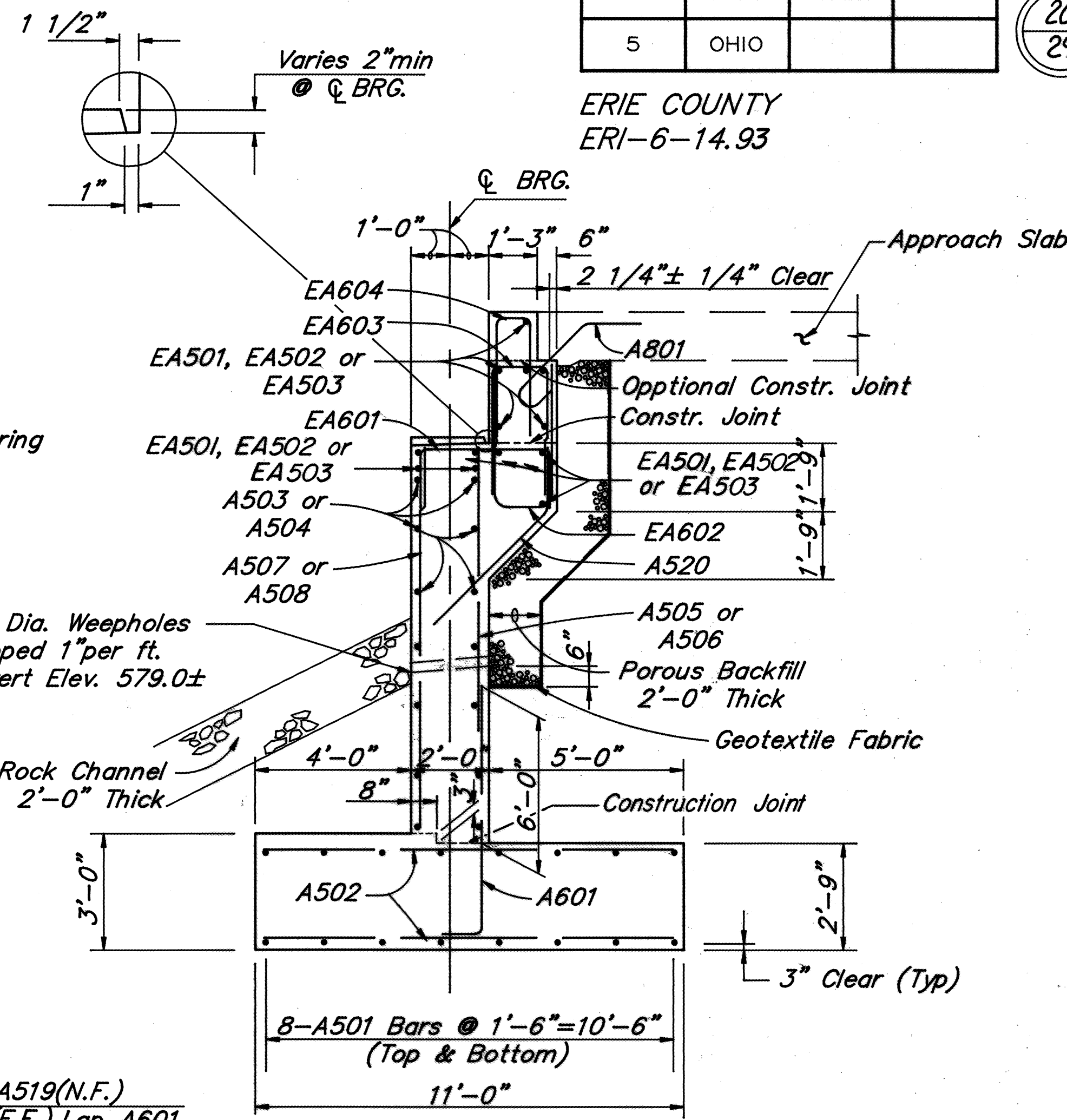
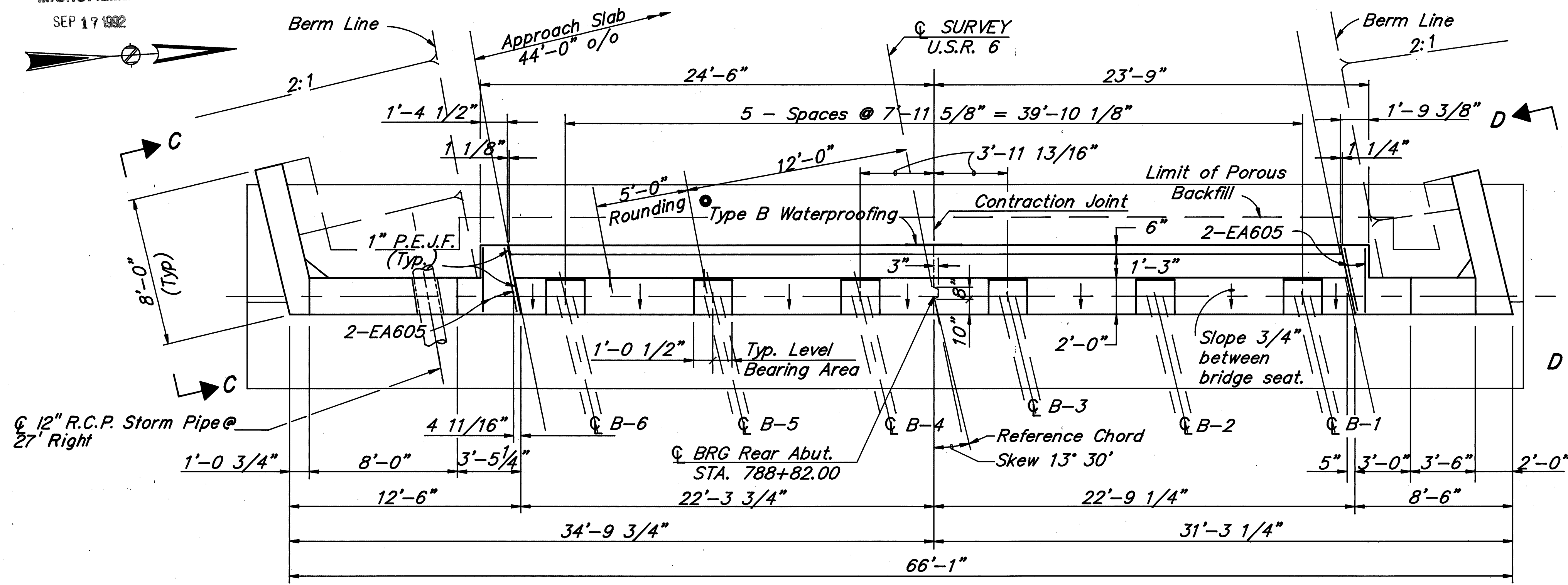


EXAMPLE

1. AIR TEMPERATURE 82°F
2. HUMIDITY 20%
3. CONCRETE TEMPERATURE 70°F
4. WIND 10 MPH
5. RATE OF EVAPORATION 0.13

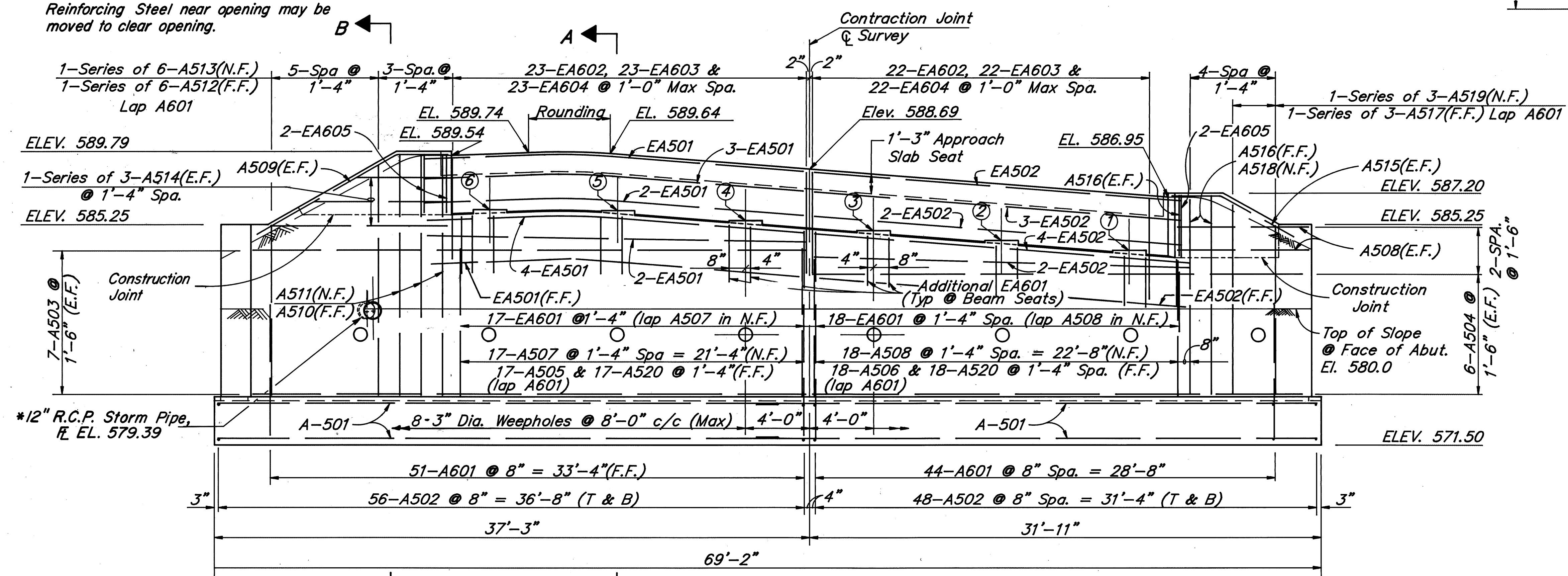
LATEST REVISION - 4/88

4/11



*Provide opening in wingwall for 12" R.C.P. Storm Pipe. Actual location and elevation to be field verified prior to pouring wingwall. Reinforcing Steel near opening may be moved to clear opening.

PLAN



SECTION A-A

ELEVATION

• Type B Waterproofing, 3'-0" Wide, Centered About the Contraction Joint. Extend from Top of Footing to Approach Slab Seat.
See Sheet 7/11 for Abutment Notes
See Sheet 6/11 for Sections B-B.
See Sheet 7/11 for Views C-C, D-D & Anchor Rod Detail.

NOTE: Reinforcing Steel Minimum Laps: 1'-8" for NO. 5 Bars.
Field bend "EA"-Bars in Beam Seat and backwall to fit rounding. Bending to be included with item 509 for payment. Epoxy coated bars damaged by field bending shall be repaired as directed by the Engineer or shall be replaced.

LEGEND
F.F. = Far Face
N.F. = Near Face
E.F. = Each Face
T & B = Top and Bottom
P.E.J.F. = Preformed Expansion Joint Filler

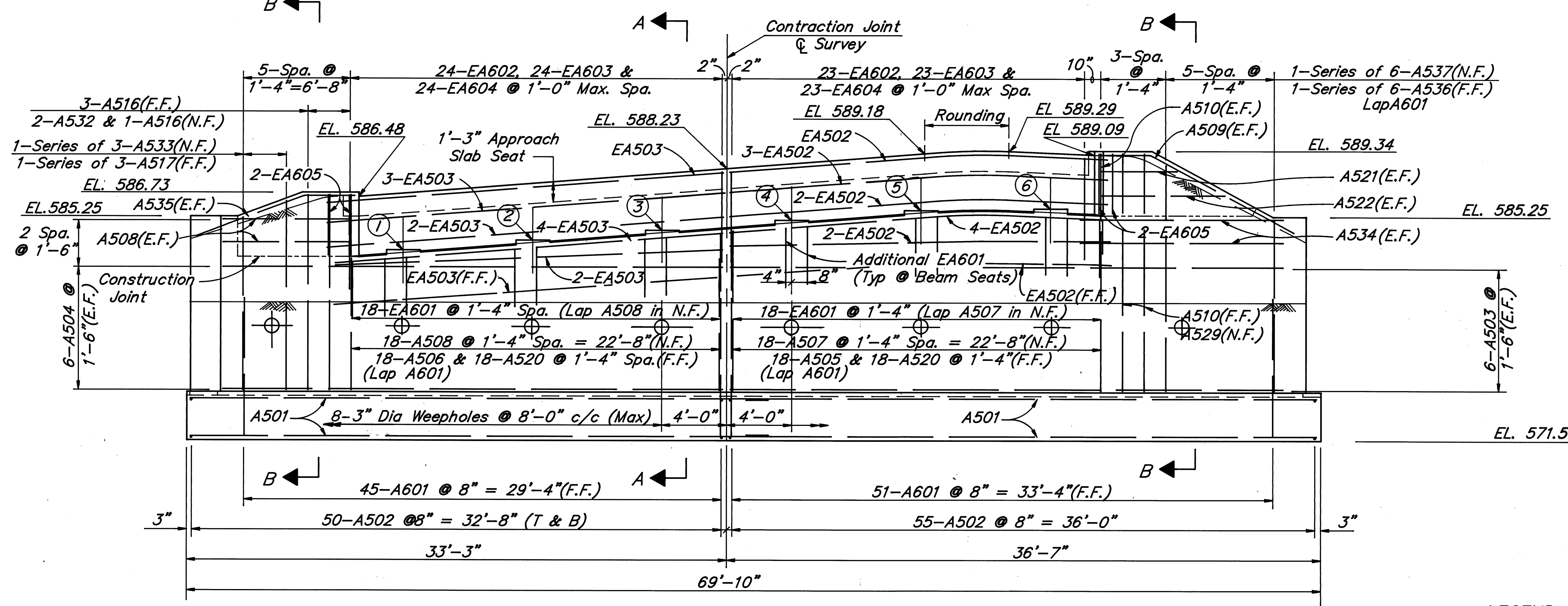
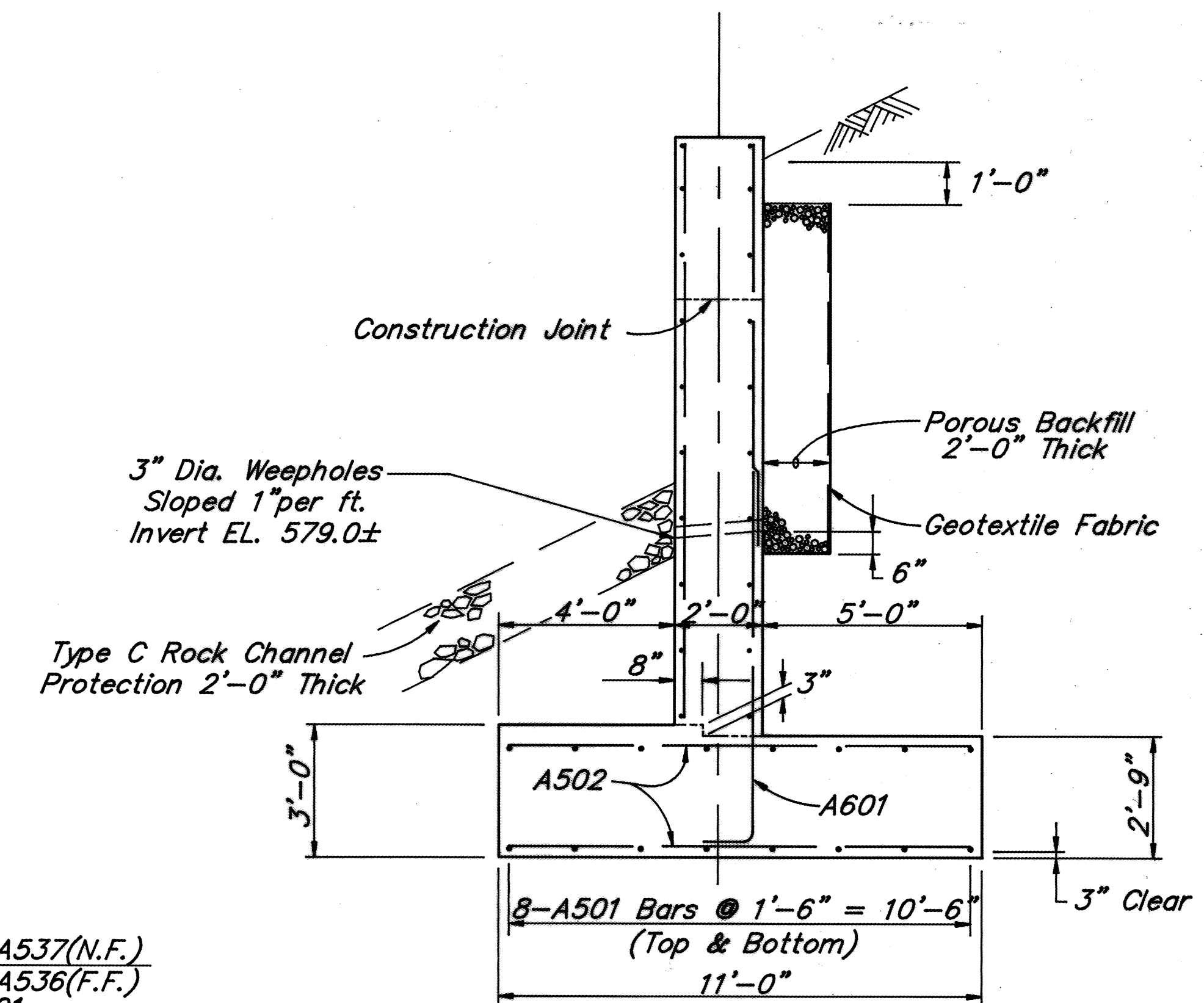
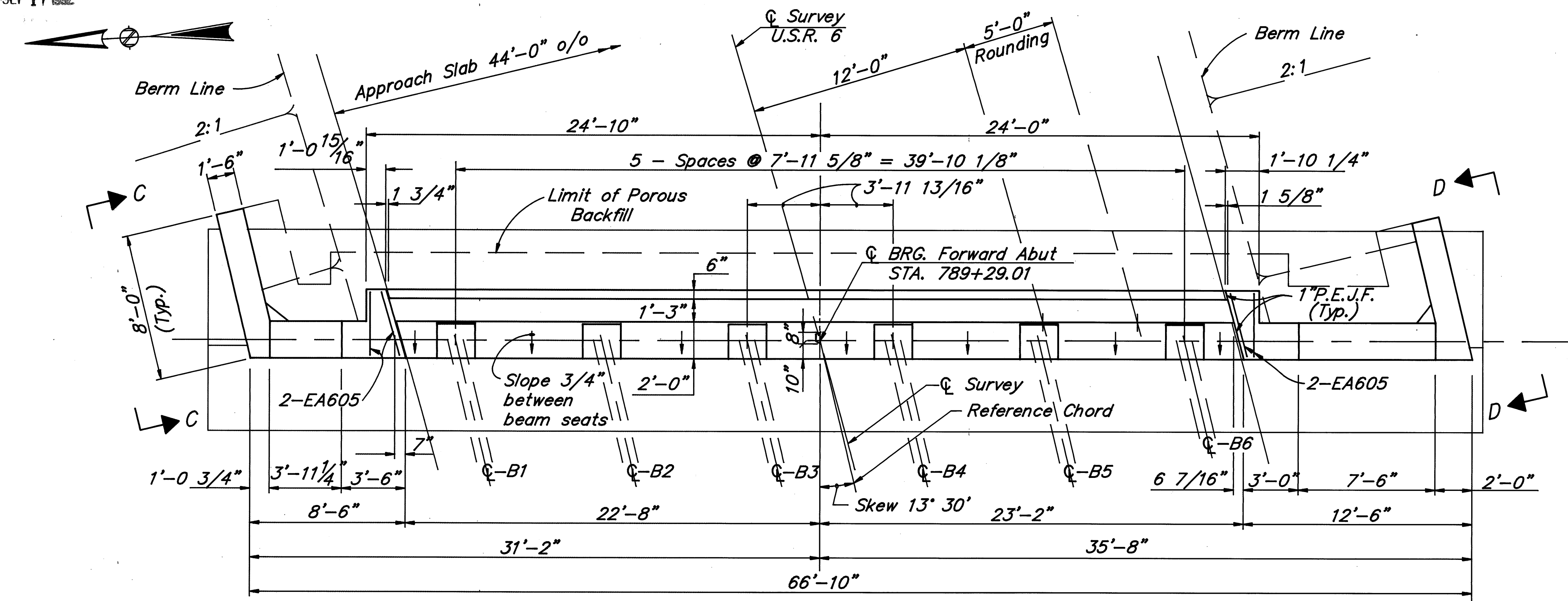
| BEAM SEAT ELEVATIONS | | | | | | |
|----------------------|--------|--------|--------|--------|--------|--------|
| BEAM NUMBER | 1 | 2 | 3 | 4 | 5 | 6 |
| B - BEAM SEAT | 583.68 | 584.29 | 584.91 | 585.53 | 586.15 | 586.16 |

THOMAS FOK & ASSOCIATES, LIMITED
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3896 MAHONING AVE. YOUNGSTOWN, OHIO

REAR ABUTMENT DETAILS
BRIDGE NO. ERI - 6 - 1494
OVER SAWMILL CREEK

ERIE COUNTY OHIO

| | | | | | |
|----------|----------|-------|---------|----------|---------|
| SURVEYED | DESIGNED | DRAWN | CHECKED | REVIEWED | REVISED |
| | J.V. | ZC | A.L. | T.F. | |
| | 5/82 | 5/82 | 5/82 | 5/82 | |



See Sheet 7/11 for Abutment Notes.
See Sheet 5/11 for Section A-A.
See Sheet 7/11 for Views C-C, D-D & Anchor Rod Detail.

| BEAM SEAT ELEVATIONS | | | | | | |
|----------------------|--------|--------|--------|--------|--------|--------|
| BEAM NUMBER | 1 | 2 | 3 | 4 | 5 | 6 |
| B - BEAM SEAT | 583.23 | 583.84 | 584.45 | 585.07 | 585.68 | 585.73 |

NOTE: Reinforcing Steel Minimum Laps: 1'-8" for NO. 5 Bars

Field bend EA Bars in Beam Seat and backwall to fit rounding. Bending to be included with item 509 for payment. Epoxy coated bars damaged by field bending shall be repaired as directed by the Engineer or shall be replaced.

LEGEND

F.F. = Far Face
N.F. = Near Face
E.F. = Each Face
T & B = Top and Bottom
P.E.J.F. = Preformed Expansion Joint Filler

6/11

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FORWARD ABUTMENT DETAILS
BRIDGE NO. ERI - 6 - 1494
OVER SAWMILL CREEK

ERIE COUNTY OHIO

| | | | | | |
|----------|----------|-------|---------|----------|---------|
| SURVEYED | DESIGNED | DRAWN | CHECKED | REVIEWED | REVISED |
| | J.V. | D/C | A.L. | T.F. | |
| | 5/89 | 5/89 | 5/89 | 5/89 | |

ERIE COUNTY
ERI-6-14.93

ABUTMENT NOTES

POROUS BACKFILL: 2'-0" Thick Shall Extend Upward to the Plane of the Subgrade, to 1'-0" Below the Embankment Surface, and Laterally to the End of the Wingwalls. The Porous Backfill Shall be Encased With Geotextile Fabric, Type A per 712.09. Geotextile Fabric to be Included With Item 518, Porous Backfill for Payment.

Porous Backfill Shall be Solely Composed of Gravel.

BRIDGE SEAT REINFORCING: Reinforcing Steel in the Vicinity of the Bridge Seat Shall be Accurately Placed to Avoid Interference With the Drilling of Bearing Anchor Holes or the Pre-setting of Bearing Anchors.

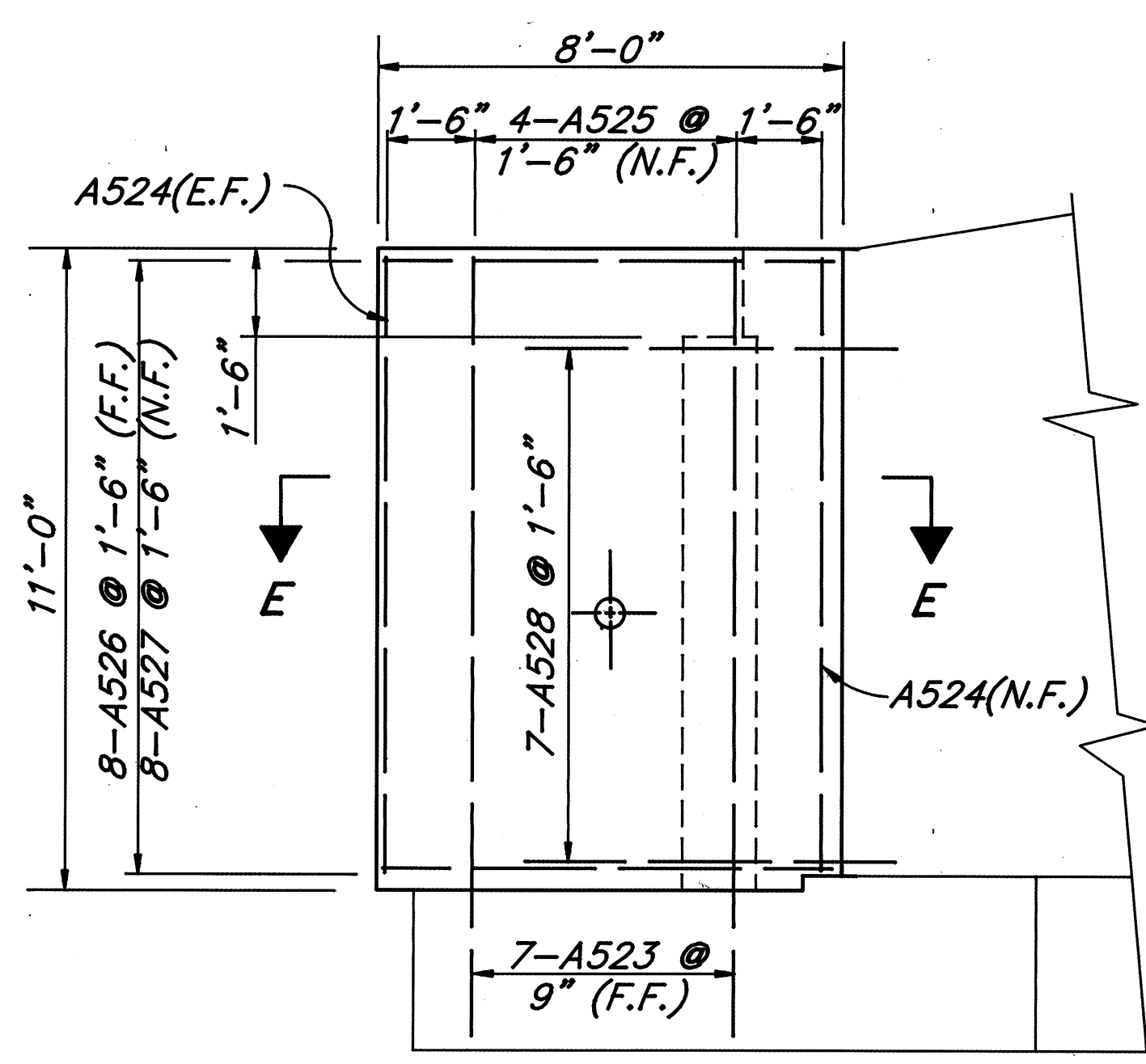
FOOTINGS: Shall Extend a Minimum of 3" into Bedrock or to the Elevation Shown, Whichever is Lower.

BEARING ANCHORS: At the Option of the Contractor, Bearing Anchors, Located and Supported by Templates, May be Cast in Place.

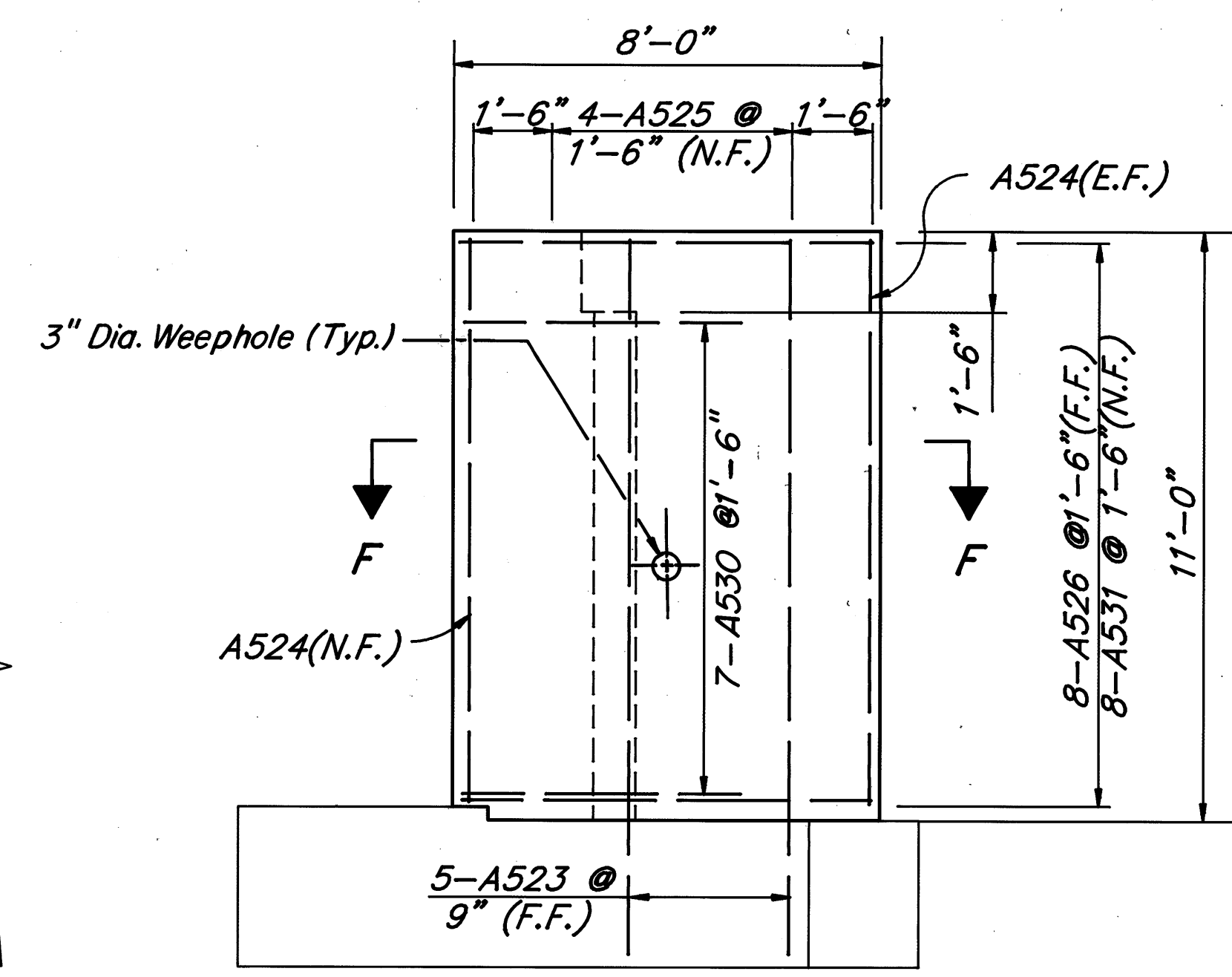
For Reinforcing Bending Schedules See Sheet **101 10**

Concrete Shall be Class "C".

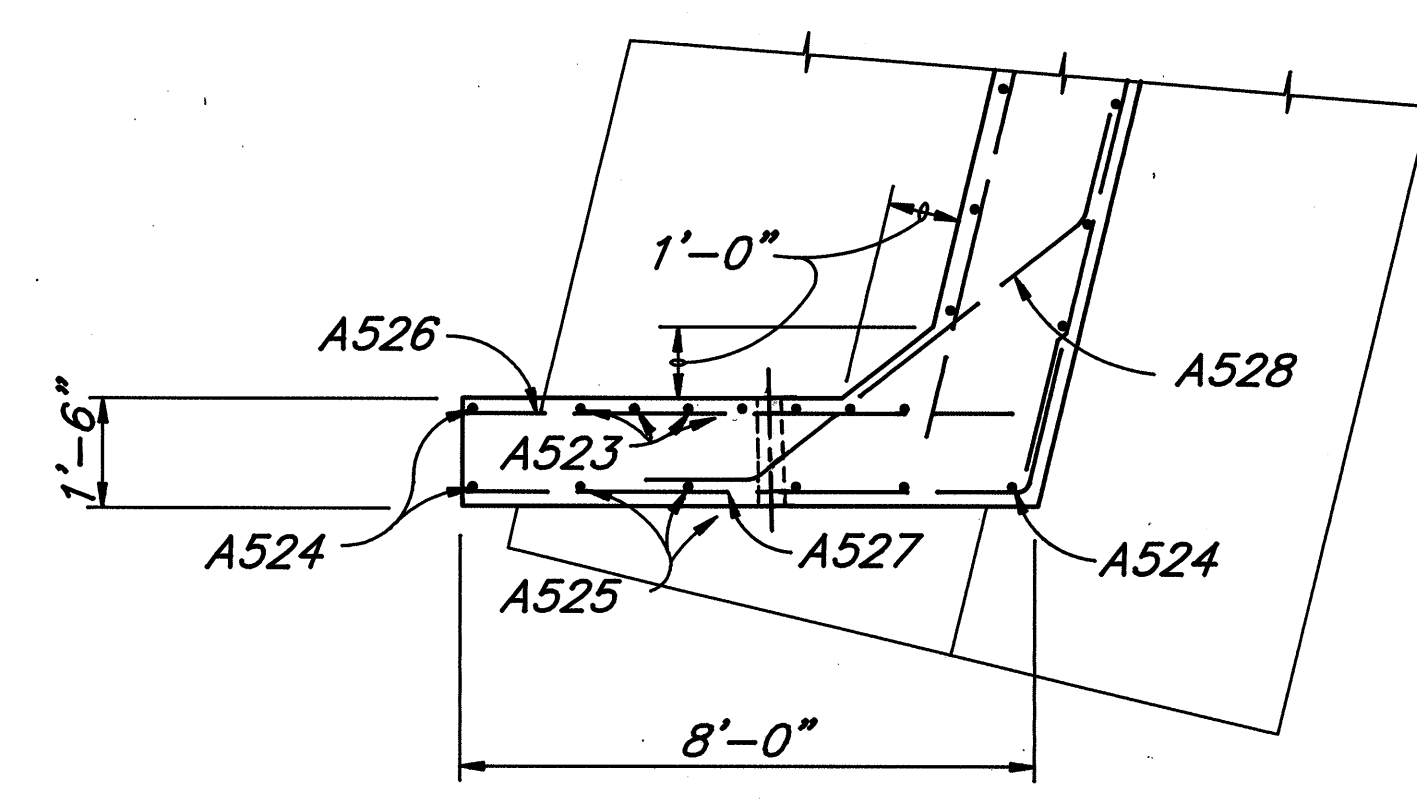
A801 Bars Shall be Installed Parallel With ϕ Roadway.



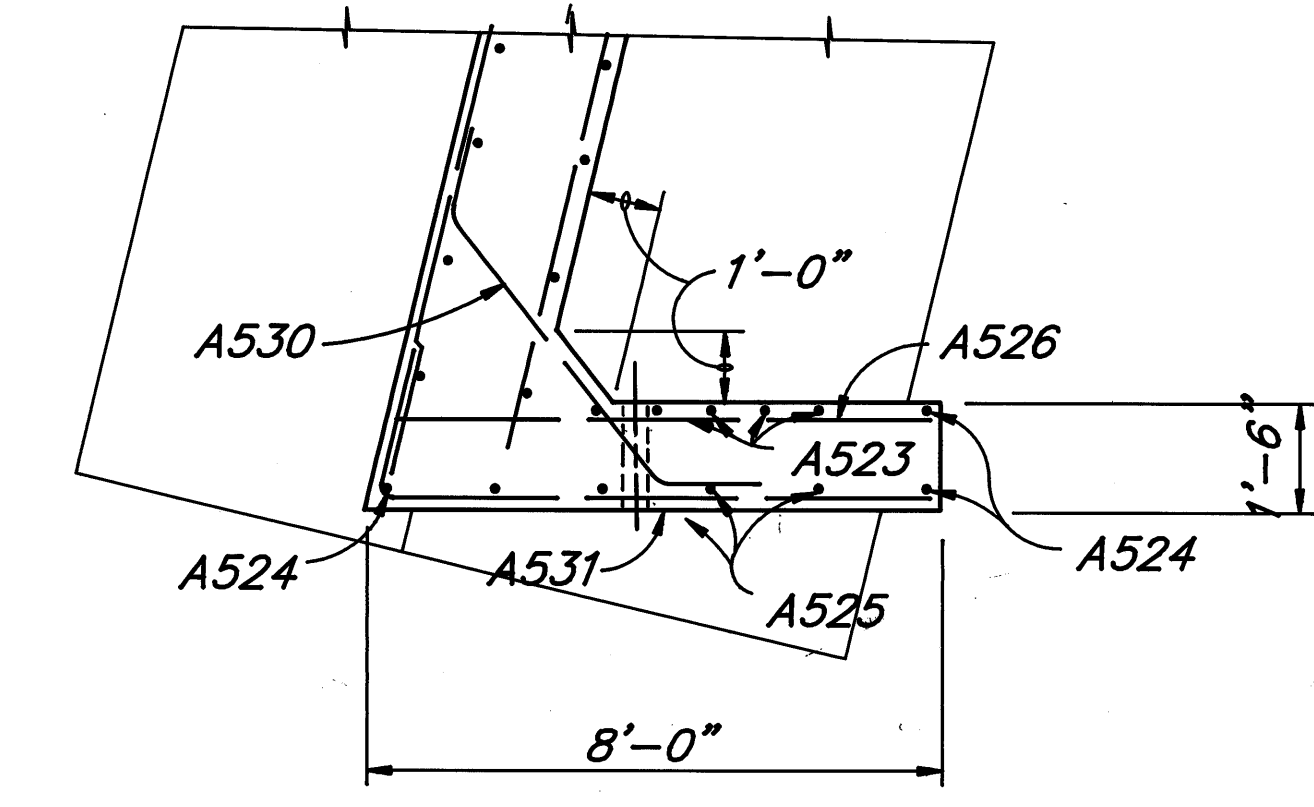
VIEW C-C



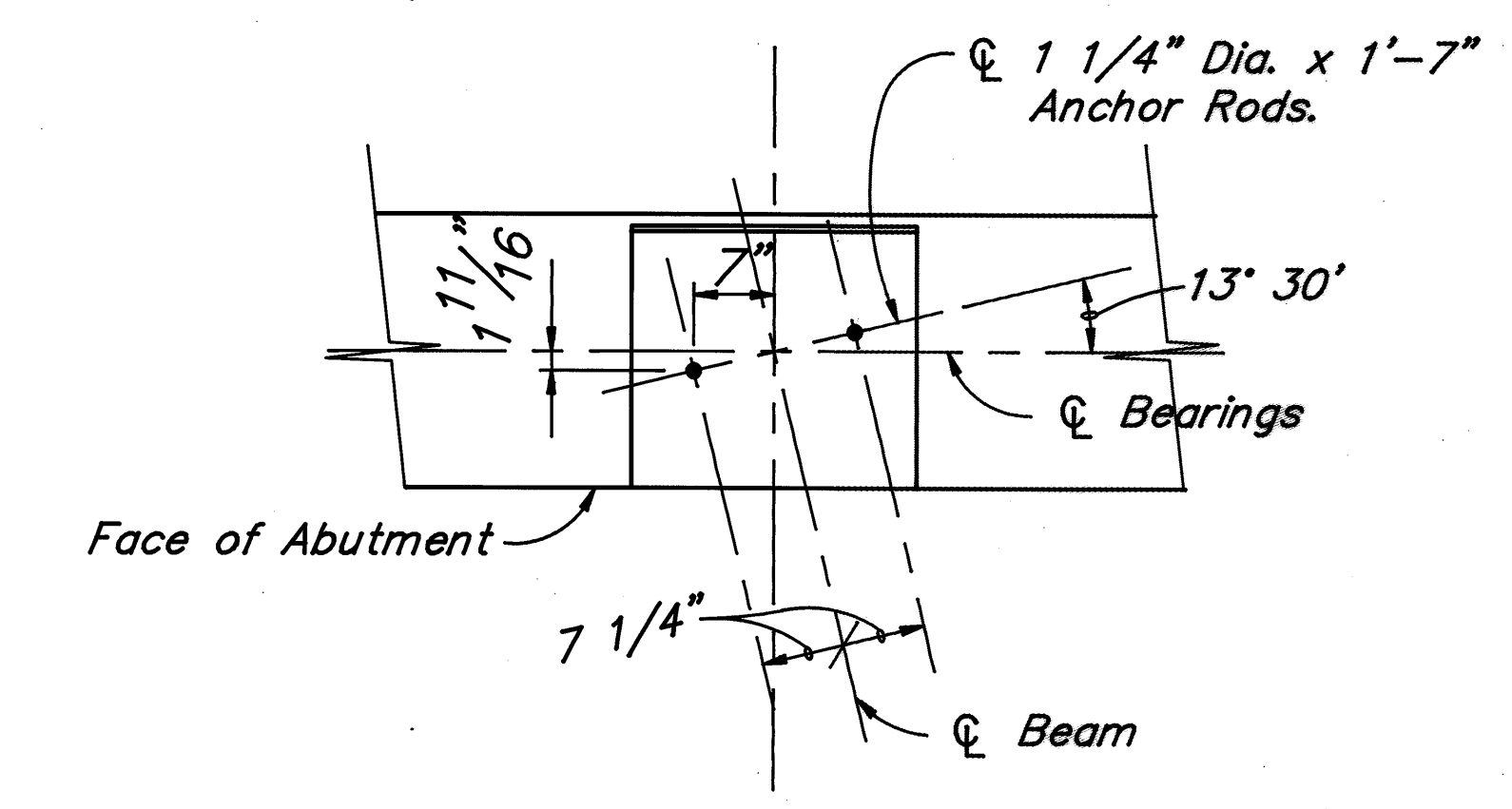
VIEW D-D



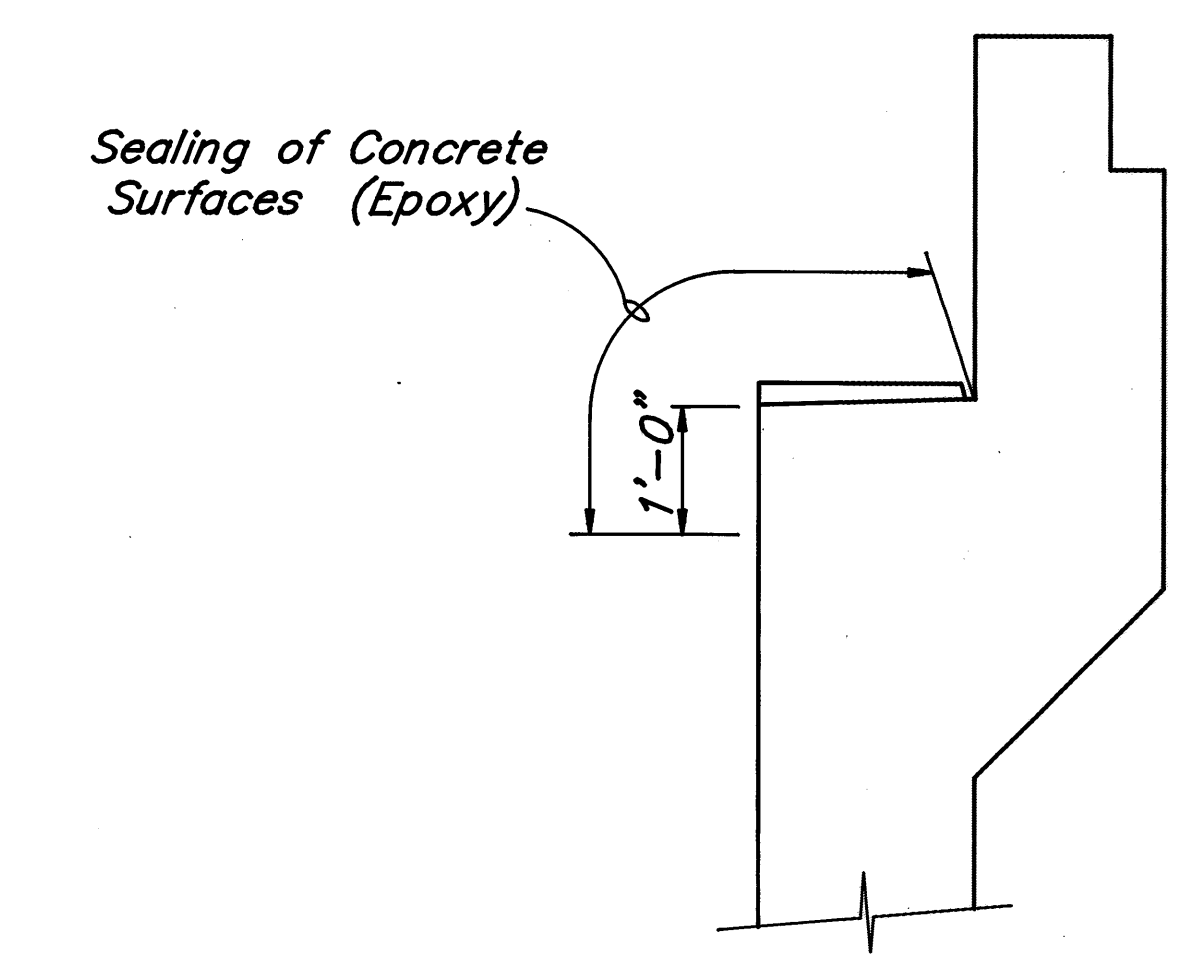
SECTION E-E



SECTION F-F



ANCHOR ROD DETAIL



SEALING OF CONCRETE SURFACES

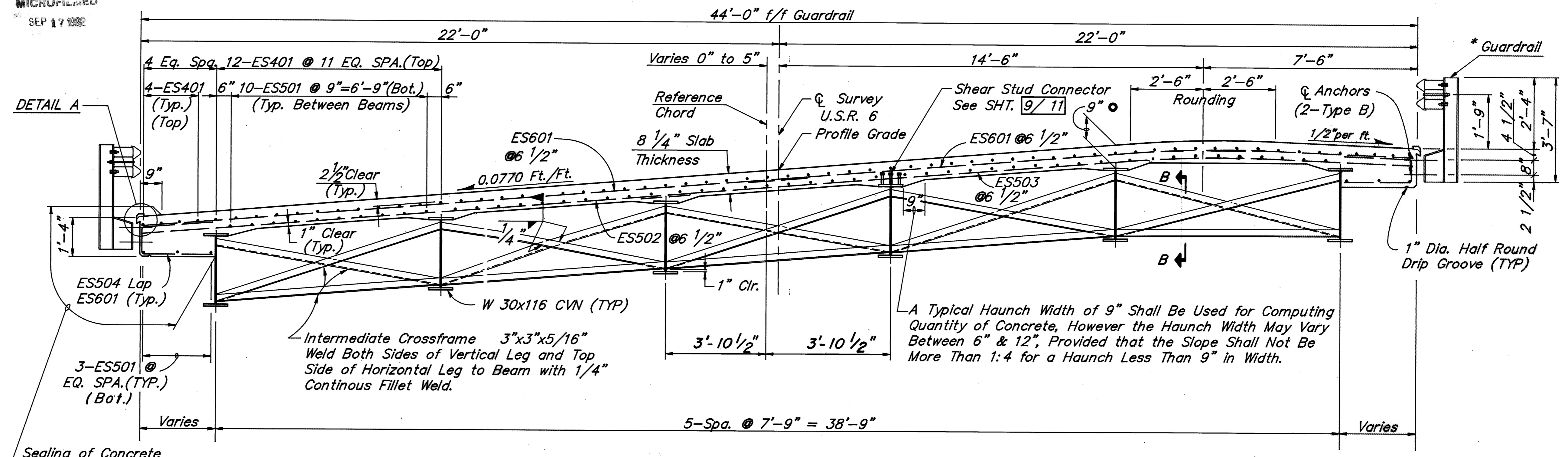
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| THOMAS FOK & ASSOCIATES, LIMITED CONSULTING ENGINEERS, SURVEYORS & PLANNERS 3896 MAHONING AVE. YOUNGSTOWN, OHIO | | | | | |
| ABUTMENT DETAILS & NOTES BRIDGE NO. ERI-6-1494 OVER SAWMILL CREEK | | | | | |
| ERIE COUNTY | | | OHIO | | |
| SURVEYED | DESIGNED | DRAWN | CHECKED | REVIEWED | REVISED |
| | J.V. | D.K. | A.L. | T.F. | |
| | 5/89 | 5/89 | 5/89 | 5/89 | |

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| REGION | STATE | PROJECT |
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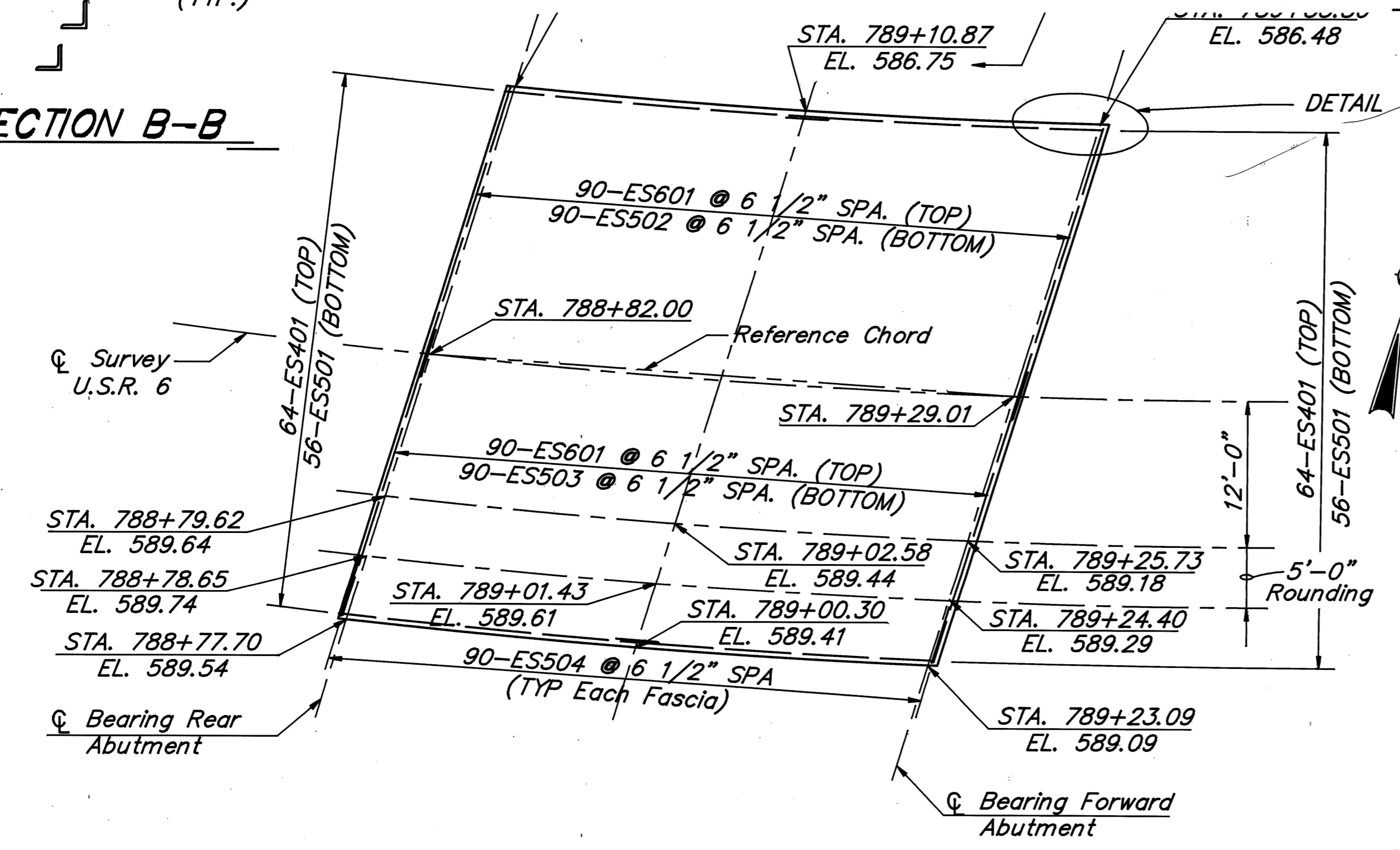
ERIE COUNTY
ERI-6-14.93

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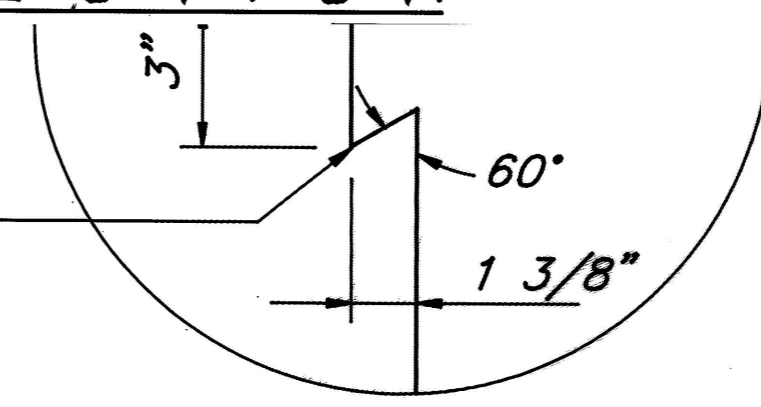
TRANSVERSE SECTION

SECTION B-B

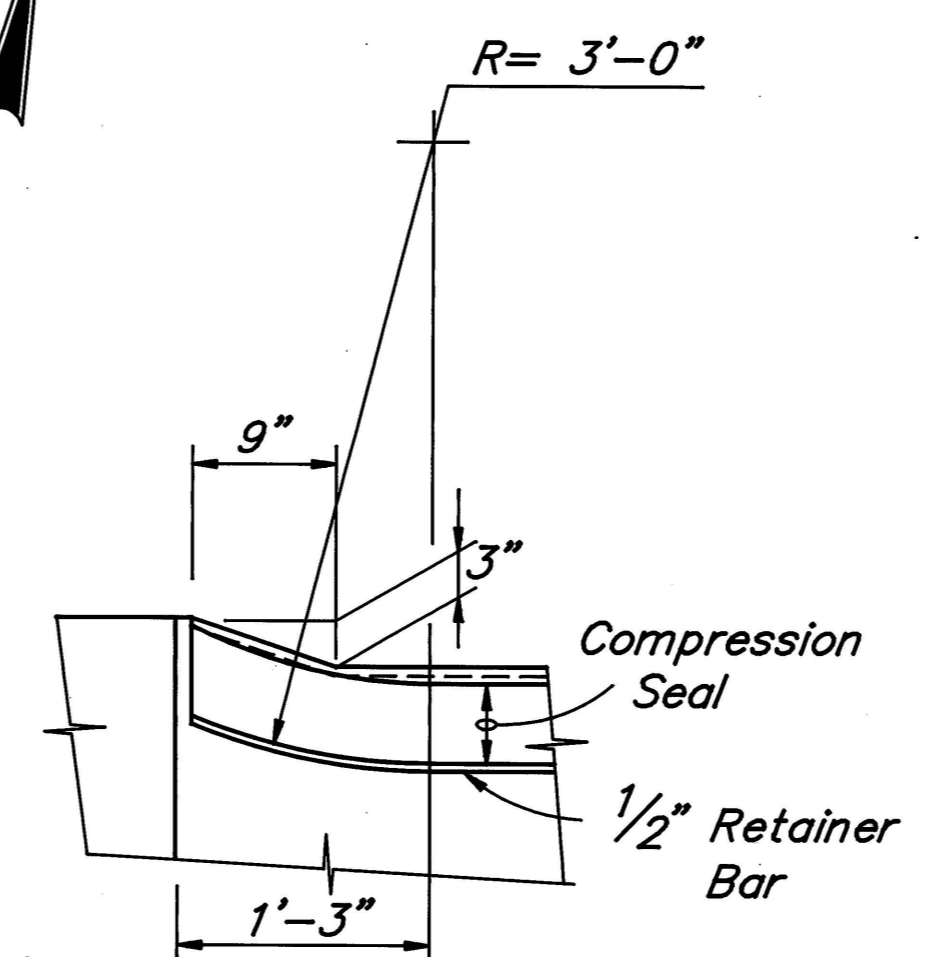


SLAB PLAN

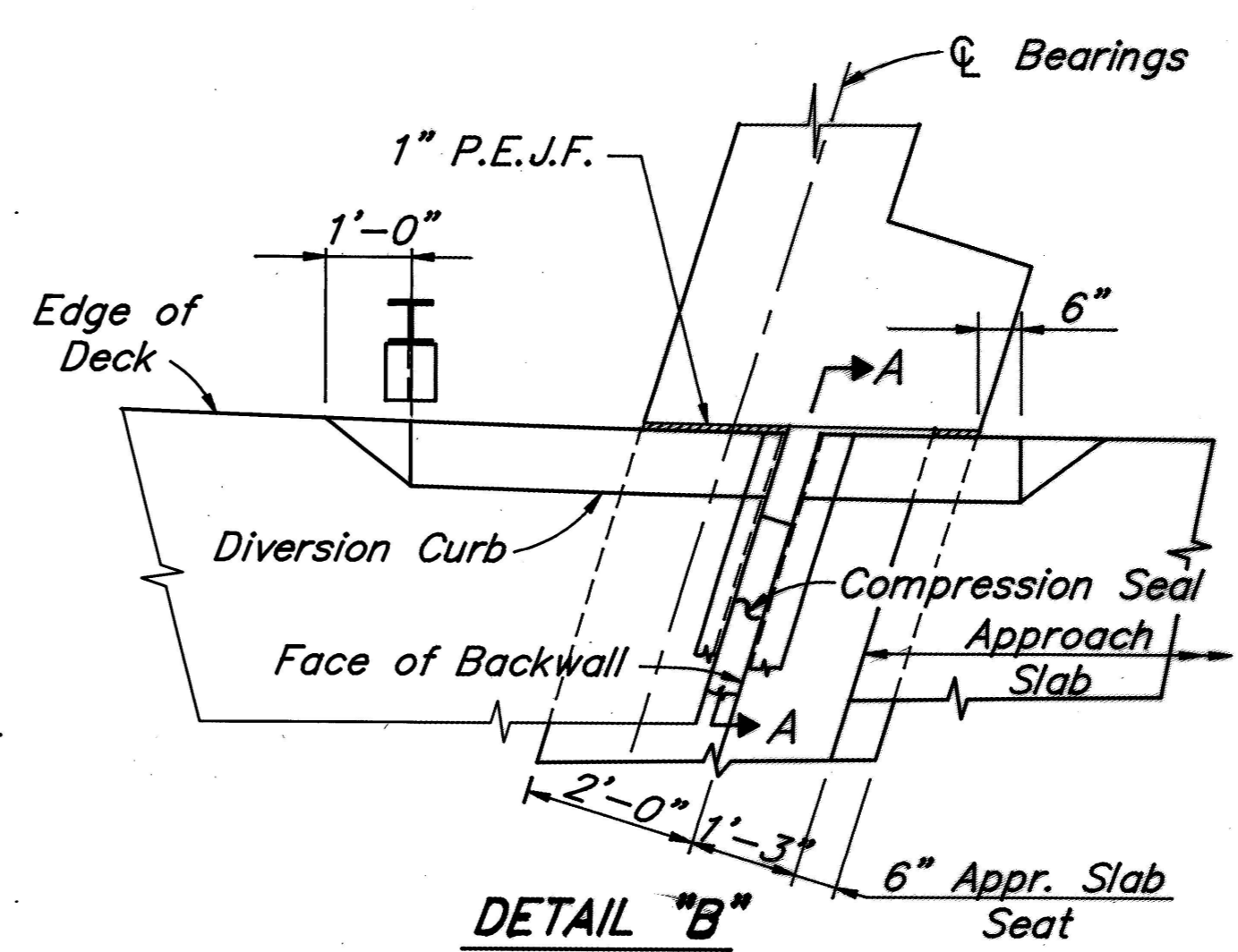
Concrete Drip Strip Extends the Length of the Bridge on Both Sides.



DETAIL "A"



SECTION A-A



DETAIL "B"

(Typ. @ Each Side of Each Abutment)

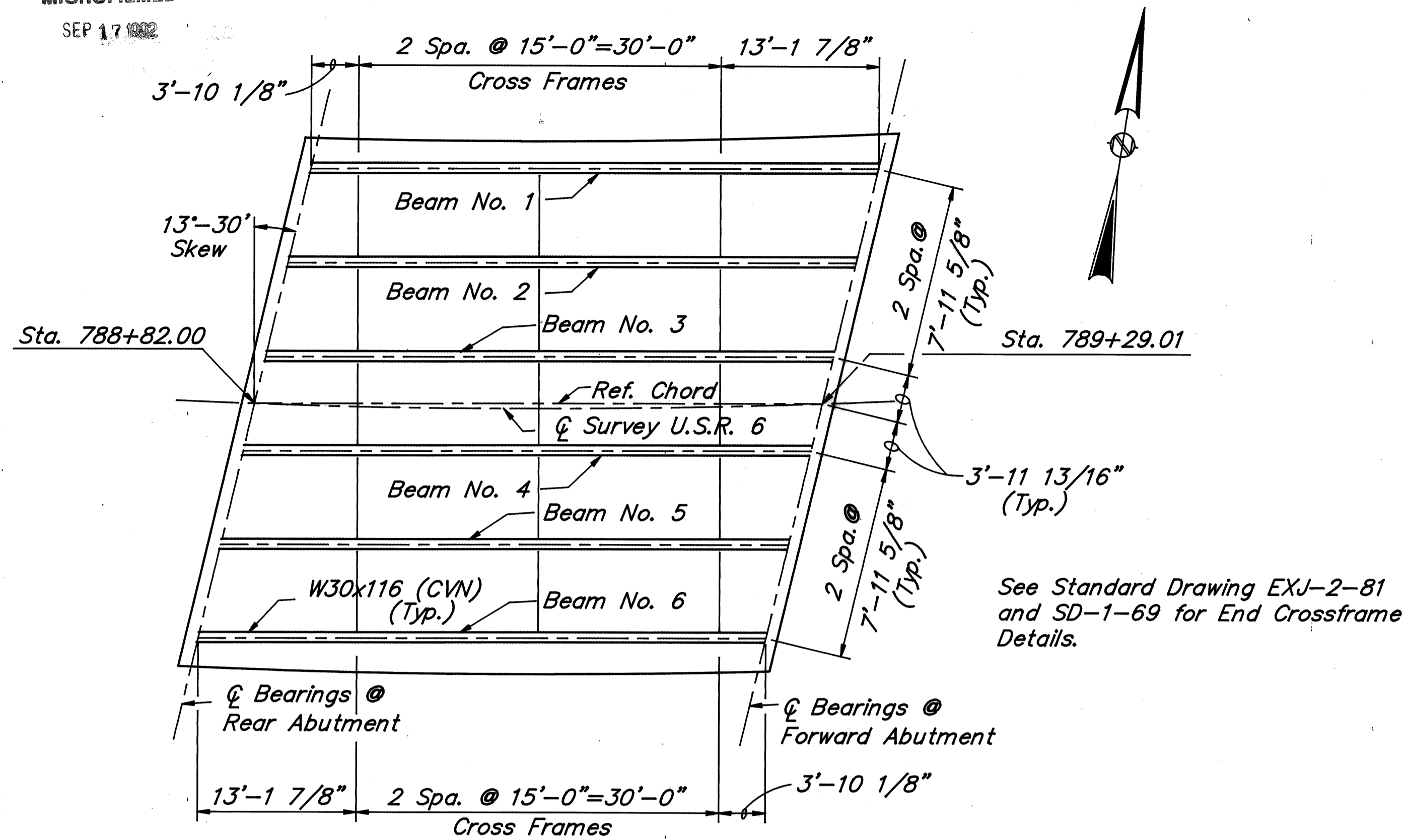
All Slab Reinforcing to be Epoxy Coated.

MINIMUM LAP LENGTHS:
1'-4" for NO. 4 Bars
1'-8" for NO. 5 Bars
2'-0" for NO. 6 Bars

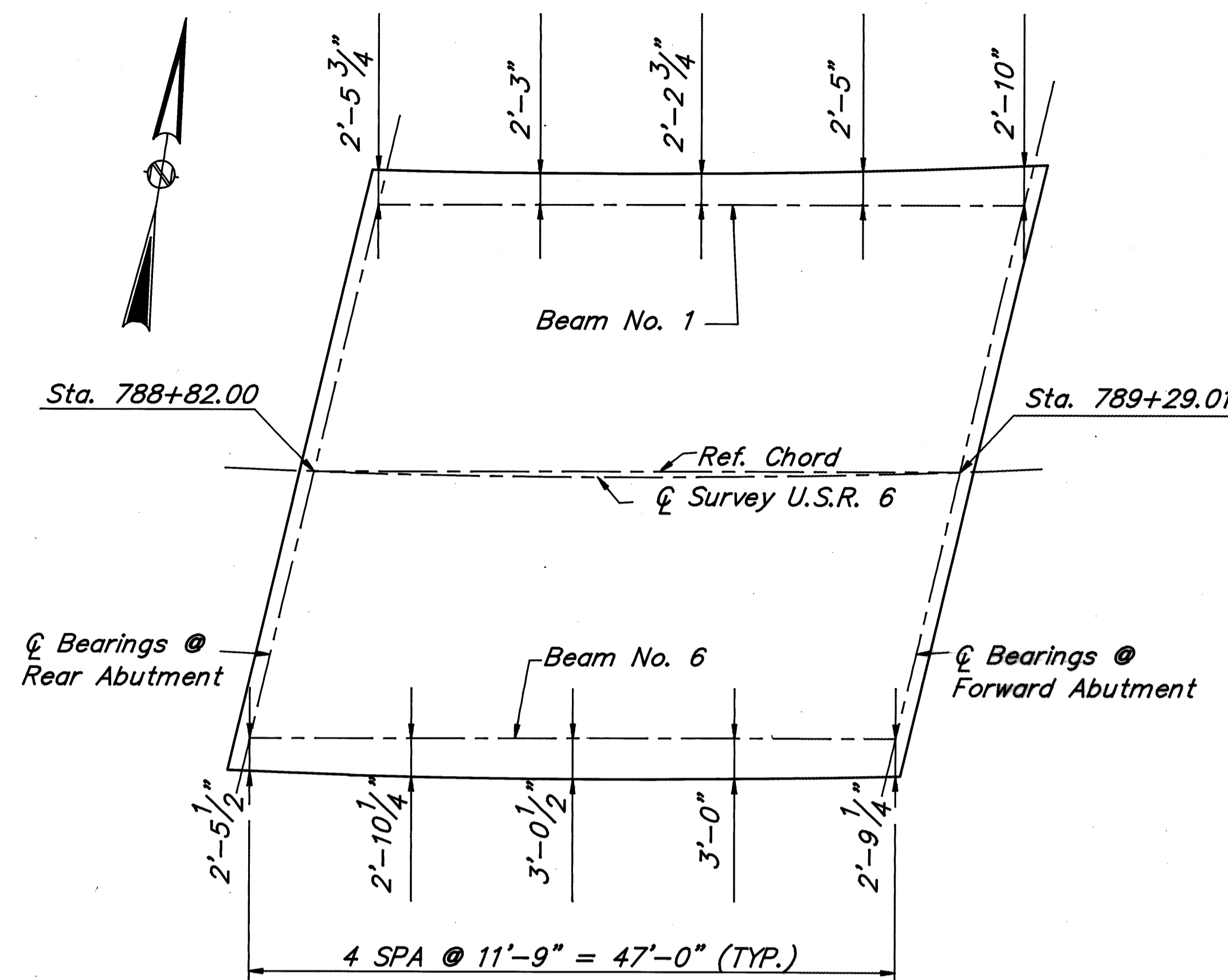
Field Bend Transverse Bars to Fit Rounding. Bending to be Included With Item 509 for Payment. Epoxy Coated Bars Damaged by Field Bending Shall be Repaired as Directed by the Engineer or Shall be Replaced.

Finishing Machine Supports: Connections May be Made at Any Point Along The Top Flange of The Fascia Beams. Fillet Welds Shall Not be Longer Than 2", Not be Closer Than 1" From The Edge of Flange, and Shall Not be Smaller Than The Minimum Size Required by A.A.S.H.T.O. / AWS.

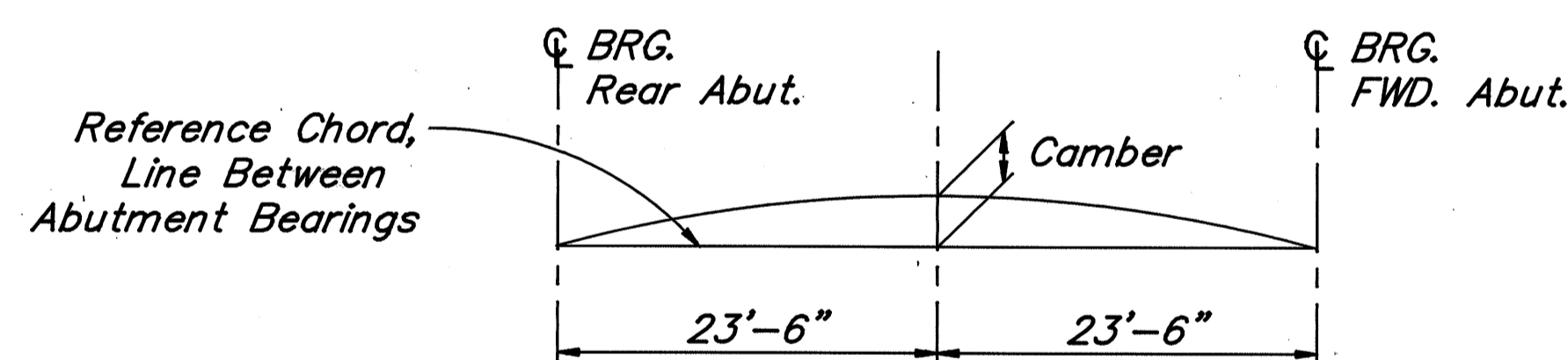
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| SUPERSTRUCTURE DETAILS | | | | | |
| BRIDGE NO. ERI-6-1494 OVER SAWMILL CREEK | | | | | |
| ERIE COUNTY | | | OHIO | | |
| SURVEYED | DESIGNED | DRAWN | CHECKED | REVIEWED | REVISED |
| | J.V. | A.L. | A.L. | T.F. | |
| | 5/89 | 5/89 | 5/89 | 5/89 | |



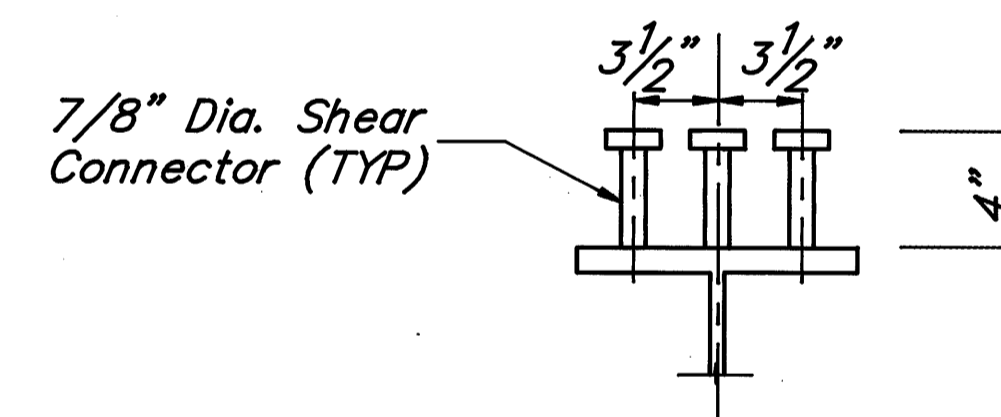
FRAMING PLAN



FASCIA OFFSET PLAN

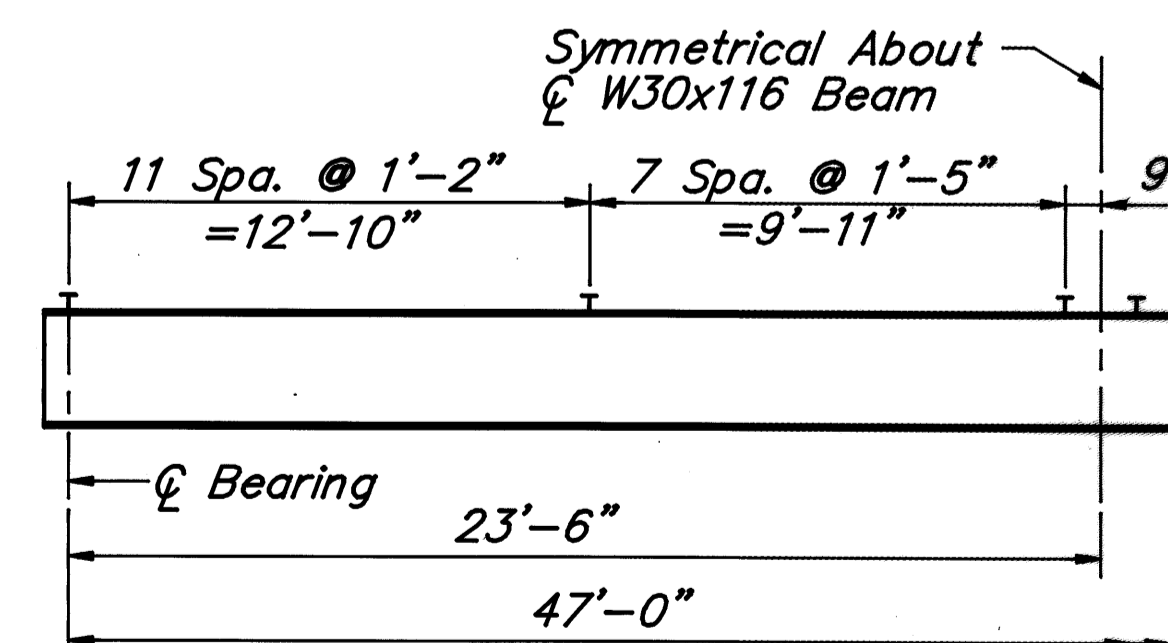


BEAM CAMBER DIAGRAM



SHEAR STUD CONNECTOR

| BEAM DEFLECTION AND CAMBER | | | | | | |
|---|-------|---------|---------|---------|---------|---------|
| BEAM NO. | 1 | 2 | 3 | 4 | 5 | 6 |
| Deflection due to Weight of Steel | +1/8" | +1/8" | +1/8" | +1/8" | +1/8" | +1/8" |
| Deflection due to Remaining Dead Load | +3/4" | +11/16" | +11/16" | +11/16" | +11/16" | 7/8" |
| Adjustment for Vertical & Horizontal Curves | -3/8" | -3/8" | -3/8" | -3/8" | -3/8" | +3/16" |
| Required Shop Camber | 1/2" | 7/16" | 7/16" | 7/16" | 7/16" | 1 3/16" |



BEAM ELEVATION

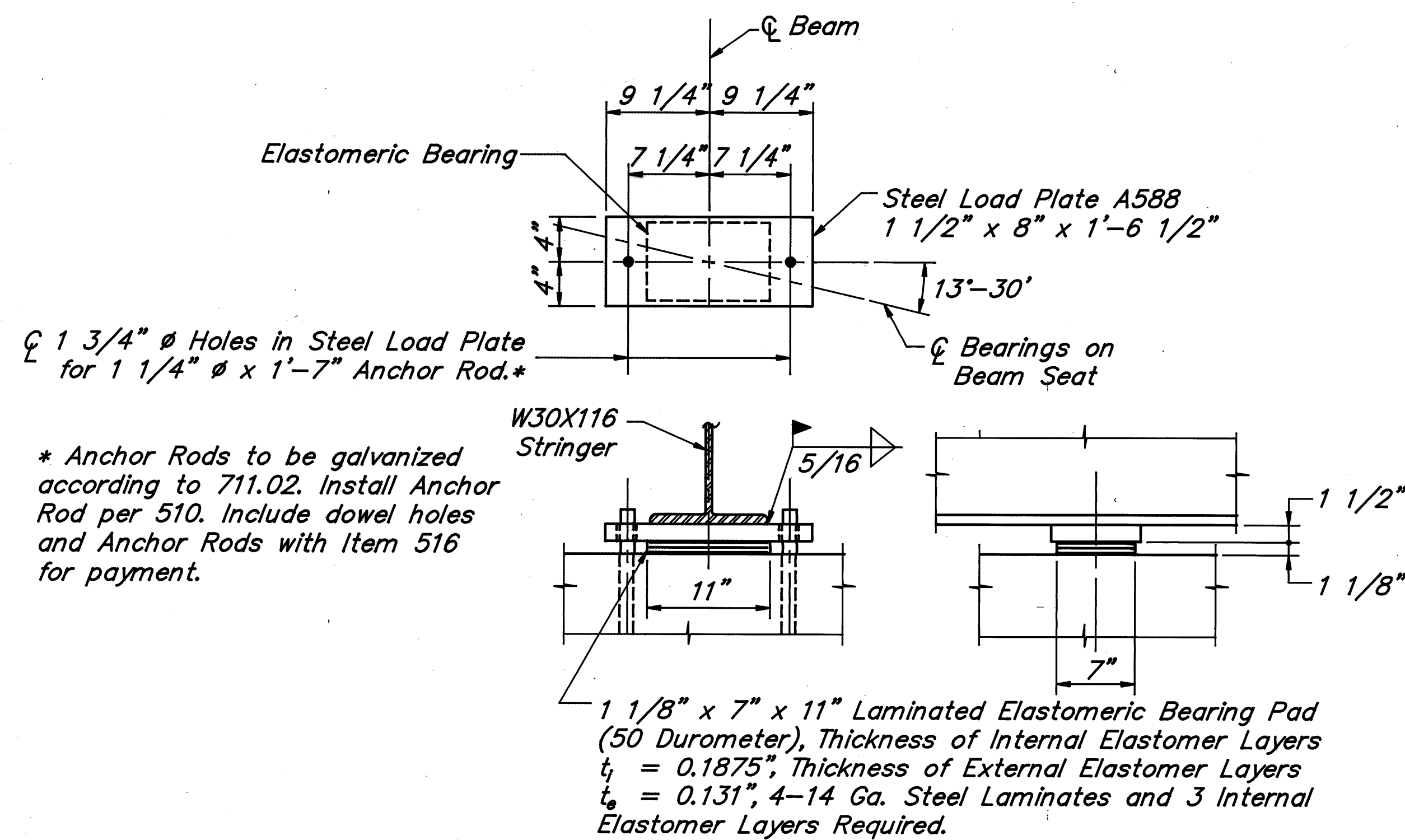
PARTIAL PAINTING OF A588 STEEL:

A 10 foot length of the ends of beams adjacent to abutments and all crossframes and other A588 steel within these limits shall be painted. Paint shall be 514, System A. The prime coat shall be 708.17. The top coat shall be 708.18 except that the color shall closely approach Federal Standard No. 595a-20045 or 20059.

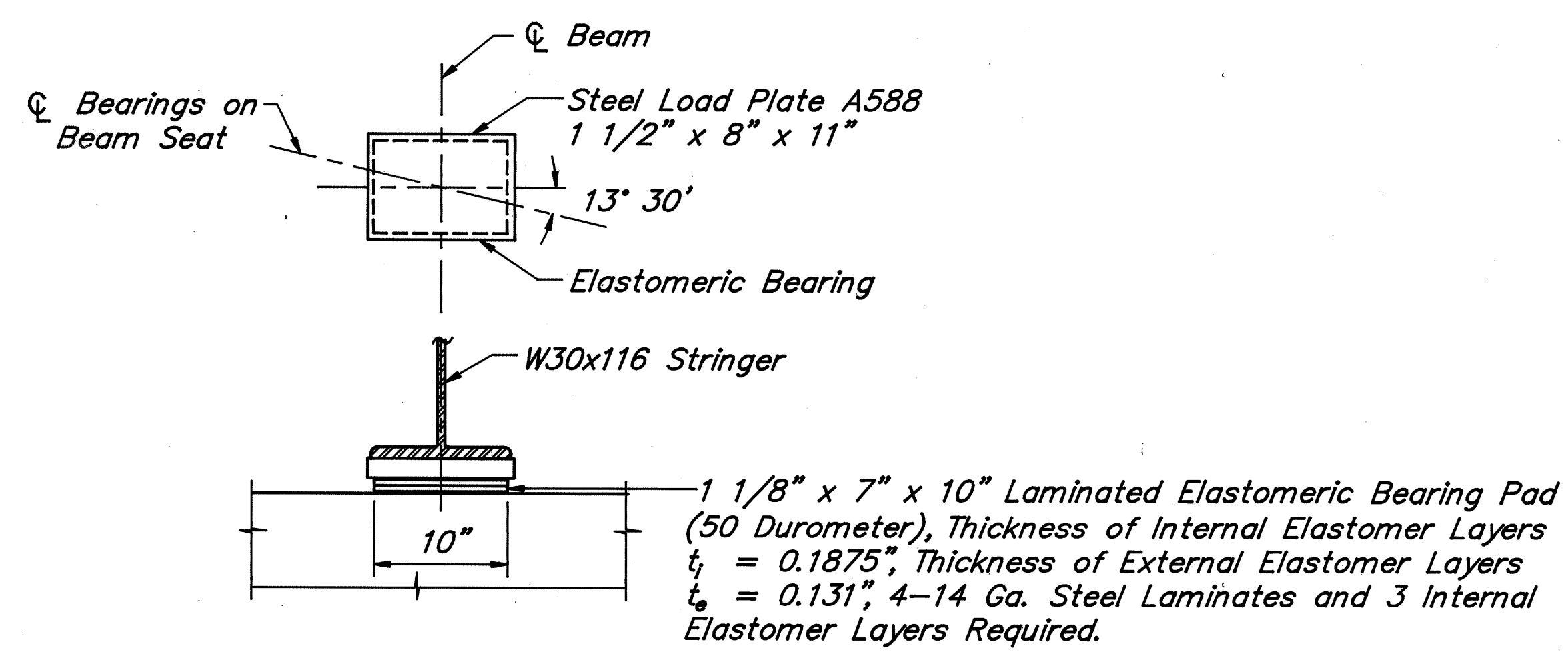
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SUPERSTRUCTURE DETAILS
BRIDGE NO. ERI-6-1494
OVER SAWMILL CREEK

| | | | |
|-------------|----------|-------|---------|
| ERIE COUNTY | | OHIO | |
| SURVEYED | DESIGNED | DRAWN | CHECKED |
| | T.D.V. | A.L. | A.L. |
| | 5/89 | 5/89 | 5/89 |
| REVIEWED | T.F. | | REVISED |
| | 5/89 | | |



LAMINATED ELASTOMERIC BEARING
AT REAR ABUTMENT



LAMINATED ELASTOMERIC BEARING
AT FORWARD ABUTMENT

LAMINATED ELASTOMERIC BEARINGS

Design Loading:

| | |
|--------------------------|-------|
| Dead Load | = 25K |
| Live Load without impact | = 41K |
| Maximum Reaction | = 66K |

Load Plate: The steel load plate shall be bonded by vulcanization to the elastomer during the molding process. Welding of the load plate to the superstructure shall be controlled so that the plate temperature at the elastomer bonded surface shall not exceed 400 degrees F as determined by the use of pyrometric sticks or other temperature monitoring devices.

Tolerances:

| | |
|---------------------------------------|--|
| Individual elastomer layer thickness: | + 20% of design value (not to exceed + 1/8") |
| Plan Dimensions | -0. + 1/4" |
| Design Thickness < 1 1/4" | -0. + 1/8" |
| Design Thickness > 1 1/4" | -0. + 1/4" |
| Edge Cover of Embedded Laminates | -0. + 1/8" |

ELASTOMERIC TEST PAD: The elastomeric bearing manufacturer shall supply a plain elastomeric pad for testing purposes. The pad shall be furnished from the same batch of neoprene that is used in the fabrication of the laminated elastomeric bearings and the fabricator shall certify the identity of the elastomer. The pad shall have a 1/2 inch thickness, and shall have minimum length and width dimensions of 6 inches. Payment for the test pad will be included in the price bid for the bearings.

Basis of payment, the unit bid price shall include all materials, labor and incidentals necessary to furnish and install laminated elastomeric bearings either fixed or expansion. Payment will be made at the contract price for Item 516, Each, Laminated Elastomeric Bearings (1 1/8" x 7" x 11" Laminated Elastomeric Pad with 1 1/2" x 8" x 1'-6 1/2" Steel Load Plate); or Item 516, Each, Laminated Elastomeric Bearings (1 1/8" x 7" x 10" Laminated Elastomeric Pad with 1 1/2" x 8" x 1'-0" Steel Load Plate).

NOTE: For more superstructure details and notes, see sheet 8/11.

BEARING REPOSITIONING: If placement of the deck concrete is done at an ambient temperature higher than 80F or lower than 40F, the beams or girders shall be raised when the ambient temperature is 60F ±10F to allow the bearings to return to their undeformed shape.

70/11

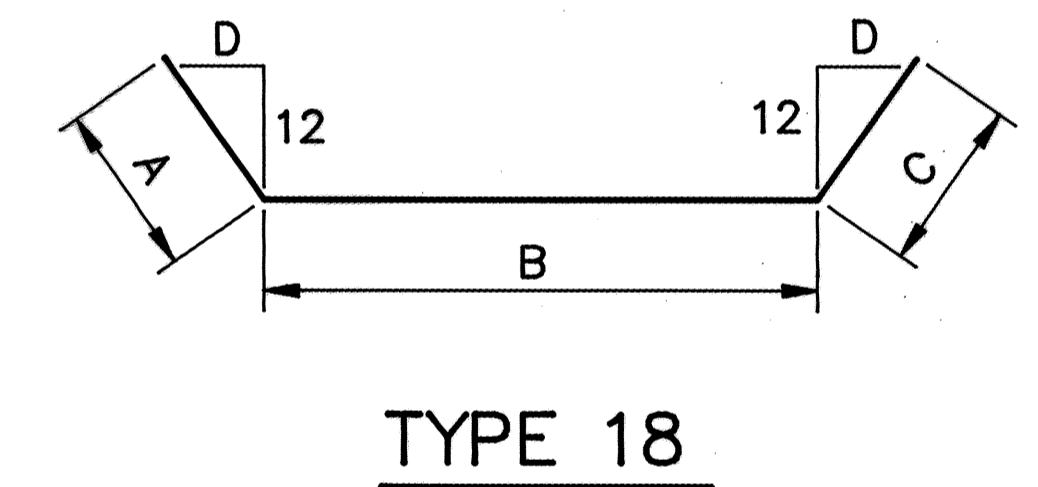
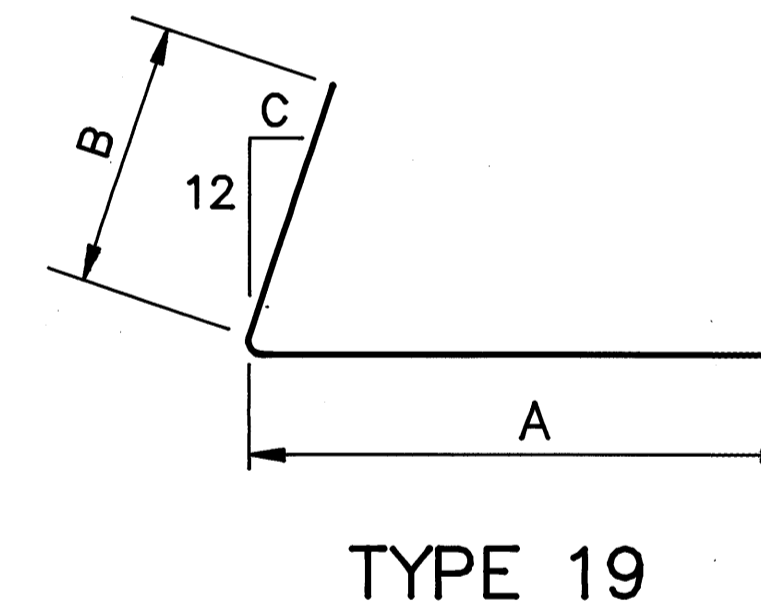
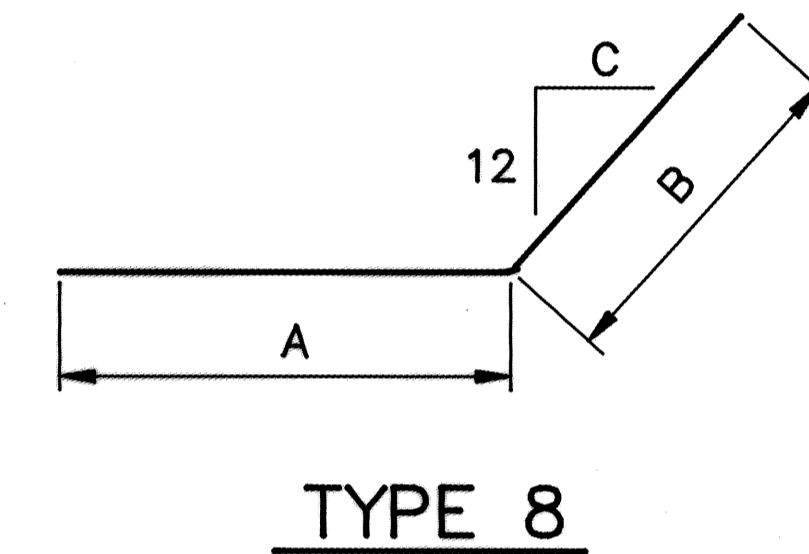
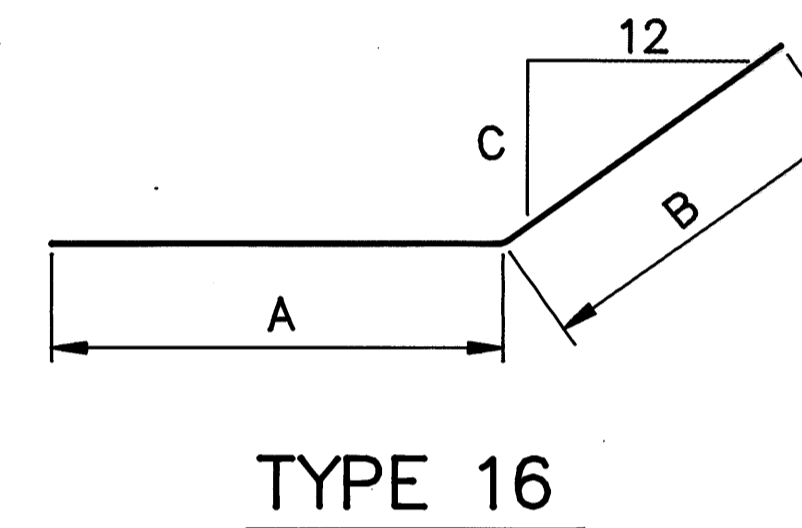
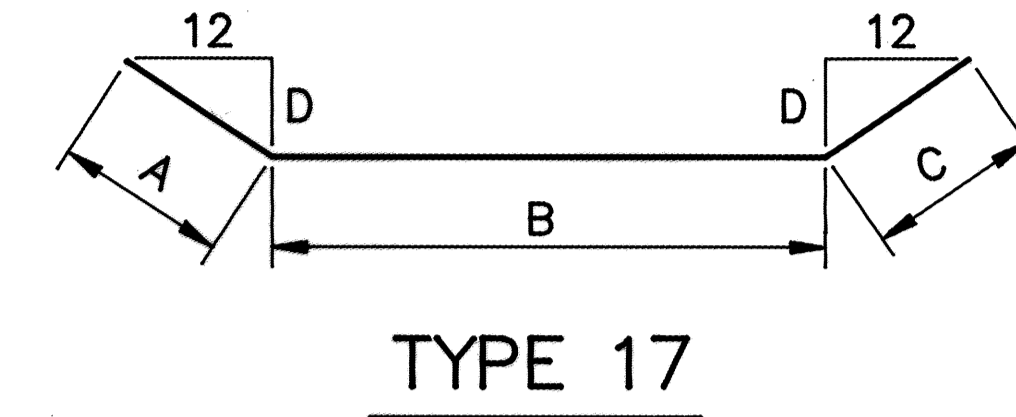
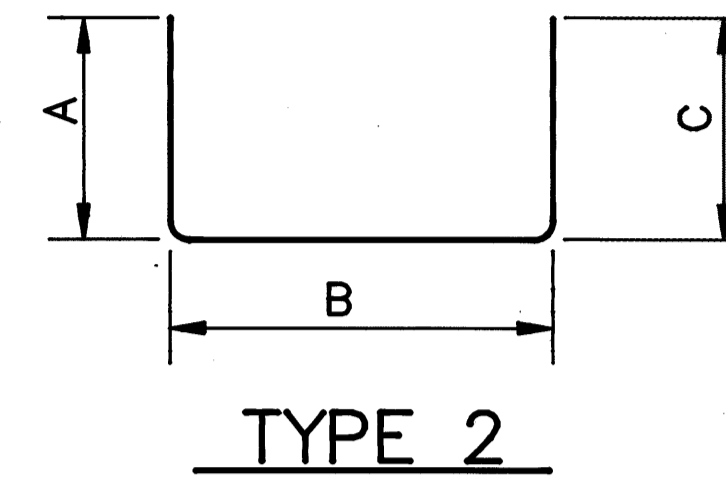
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3896 MAHONING AVE. YOUNGSTOWN, OHIO

BEARING DETAILS
BRIDGE NO. ERI-6-1494
OVER SAWMILL CREEK

ERIE COUNTY OHIO

| | | | | | |
|----------|----------|-------|---------|----------|----------|
| SURVEYED | DESIGNED | DRAWN | CHECKED | REVIEWED | REVISION |
| | F. D. V. | A. J. | A. J. | T. F. | |
| | 5/89 | 5/89 | 5/89 | 5/89 | |

| REINFORCING STEEL | | | | | | | | | | | |
|---------------------------------------|-------------------|------|--------|-----------|--------|--------|-------|---------------|----------------|--------------------|-------------|
| MARK | LENGTH | TYPE | A | B | C | D | INCR. | REAR ABT. NO. | FRWD. ABT. NO. | SUPERSTRUCTURE NO. | WEIGHT LBS. |
| ABUTMENTS | | | | | | | | | | | |
| A501 | 35'-7" | ST. | | | | | | 32 | 32 | | 2375 |
| A502 | 10'-8" | ST. | | | | | | 208 | 210 | | 4650 |
| A503 | 34'-6" | ST. | | | | | | 14 | 12 | | 936 |
| A504 | 30'-6" | ST. | | | | | | 12 | 12 | | 764 |
| A505 | 7'-3" | ST. | | | | | | 17 | 18 | | 265 |
| A506 | 6'-2" | ST. | | | | | | 18 | 18 | | 232 |
| A507 | 9'-9" | ST. | | | | | | 17 | 18 | | 356 |
| A508 | 8'-0" | ST. | | | | | | 22 | 22 | | 367 |
| A509 | 12'-8" | 16 | 10'-2" | 2'-6" | 6 | | | 2 | 2 | | 53 |
| A510 | 11'-0" | ST. | | | | | | 3 | 4 | | 80 |
| A511 | 15'-0" | ST. | | | | | | 3 | | | 47 |
| A512 | 10'-6" to 6'-9" | ST. | | | | | 9" | 1 Series of 6 | | | 54 |
| A513 | 14'-3" to 10'-6" | ST. | | | | | 9" | 1 Series of 6 | | | 77 |
| A514 | 11'-0" to 5'-0" | ST. | | | | | 3'-0" | 2 Series of 3 | | | 50 |
| A515 | 8'-0" | 16 | 5'-6" | 2'-6" | 6 | | | 2 | | | 17 |
| A516 | 8'-3" | ST. | | | | | | 4 | 2 | | 51 |
| A517 | 8'-0" to 6'-6" | ST. | | | | | 9" | 1 Series of 3 | 1 Series of 3 | | 46 |
| A518 | 12'-6" | ST. | | | | | | 2 | | | 26 |
| A519 | 11'-10" to 10'-6" | ST. | | | | | 8" | 1 Series of 3 | | | 35 |
| A520 | 5'-7" | 16 | 4'-0" | 1'-7" | 12 | | | 35 | 36 | | 414 |
| A521 | 3'-0" | ST. | | | | | | | 2 | | 6 |
| A522 | 5'-0" | ST. | | | | | | | 2 | | 11 |
| A523 | 14'-2" | 2 | 13'-4" | 11 1/2" | | | | 12 | 12 | | 355 |
| A524 | 10'-7" | ST. | | | | | | 6 | 6 | | 132 |
| A525 | 10'-10" | ST. | | | | | | 8 | 8 | | 181 |
| A526 | 7'-4" | ST. | | | | | | 16 | 16 | | 245 |
| A527 | 9'-2" | 8 | 7'-8" | 1'-6" | 3" | | | 8 | 8 | | 153 |
| A528 | 8'-10" | 17 | 1'-6" | 5'-10" | 1'-6" | 9 1/2" | | 7 | 7 | | 129 |
| A529 | 14'-7" | ST. | | | | | | | 2 | | 30 |
| A530 | 7'-8" | 18 | 1'-6" | 4'-8" | 1'-6" | 9 1/2" | | 8 | 8 | | 128 |
| A531 | 9'-0" | 19 | 7'-6" | 1'-7 1/2" | 3" | | | 8 | 8 | | 150 |
| A532 | 12'-0" | ST. | | | | | | | 2 | | 25 |
| A533 | 11'-6" to 10'-8" | ST. | | | | | 5" | | 1 Series of 3 | | 35 |
| A534 | 13'-6" | ST. | | | | | | | 4 | | 56 |
| A535 | 9'-4" | 16 | 7'-0" | 2'-4" | 3 3/4" | | | | 2 | | 20 |
| A536 | 9'-10" to 6'-4" | ST. | | | | | 7" | | 1 Series of 7 | | 59 |
| A537 | 13'-11" to 10'-5" | ST. | | | | | 7" | | 1 Series of 7 | | 89 |
| A601 | 9'-4" | 2 | 8'-6" | 1'-0" | | | | 95 | 96 | | 2678 |
| <i>Total</i> | | | | | | | | | | | 15,377 |
| EPOXY COATED REINFORCING STEEL | | | | | | | | | | | |
| EA501 | 24'-2" | ST. | | | | | | 13 | | | 328 |
| EA502 | 23'-5" | ST. | | | | | | 13 | 13 | | 635 |
| EA503 | 24'-6" | ST. | | | | | | | 13 | | 332 |
| EA601 | 8'-4" | 2 | 1'-6" | 3'-4" | 3'-10" | | | 47 | 48 | | 1189 |
| EA602 | 8'-5" | 2 | 3'-8" | 1'-5" | 3'-8" | | | 45 | 47 | | 1163 |
| EA603 | 5'-5" | 2 | 2'-2" | 1'-5" | 2'-2" | | | 45 | 47 | | 749 |
| EA604 | 7'-1" | 2 | 3'-3" | 11" | 3'-3" | | | 45 | 47 | | 979 |
| EA605 | 10'-1" | 2 | 3'-6" | 3'-5" | 3'-6" | | | 8 | 8 | | 242 |
| <i>Sub - Total</i> | | | | | | | | | | | 5617 |
| SUPERSTRUCTURE | | | | | | | | | | | |
| ES401 | 25'-3" | ST. | | | | | | | 128 | | 2159 |
| ES501 | 25'-4" | ST. | | | | | | | 122 | | 3224 |
| ES502 | 19'-4" | ST. | | | | | | | 90 | | 1815 |
| ES503 | 28'-1" | ST. | | | | | | | 90 | | 2636 |
| ES504 | 4'-5" | 2 | 1'-10" | 1'-0" | 1'-10" | | | | 180 | | 829 |
| ES601 | 23'-9" | ST. | | | | | | | 180 | | 6421 |
| <i>Sub - Total</i> | | | | | | | | | | | 17,084 |
| <i>Total</i> | | | | | | | | | | | 22,701 |



NOTES :

BAR SIZE : The bar size is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example: A506 is No. 5 size bar and P1101 is a No. 11 size bar.

Bars with the prefix E denote epoxy coated bars. ST. = Straight

11/11

THOMAS FOK & ASSOCIATES, LTD.
CONSULTING ENGINEERS, SURVEYORS & PLANNERS
3896 MAHONING AVE. YOUNGSTOWN, OHIO

REINFORCING STEEL LIST
BRIDGE NO. ERI-6-1494
OVER SAWMILL CREEK

ERIE COUNTY OHIO

| | | | | | |
|------------------|-----------------|--------|-----------------|------------------|---------|
| DESIGNED J.V. | DRAWN K.R.M. | TRACED | CHECKED D.C. | REVIEWED T.F. | REVISED |
| 5/89 | 5/89 | | 5/89 | 5/89 | |

| | | |
|-------------|-------|---------------|
| FHWA REGION | STATE | PROJECT |
| 5 | OHIO | M.BRM-GC00(1) |

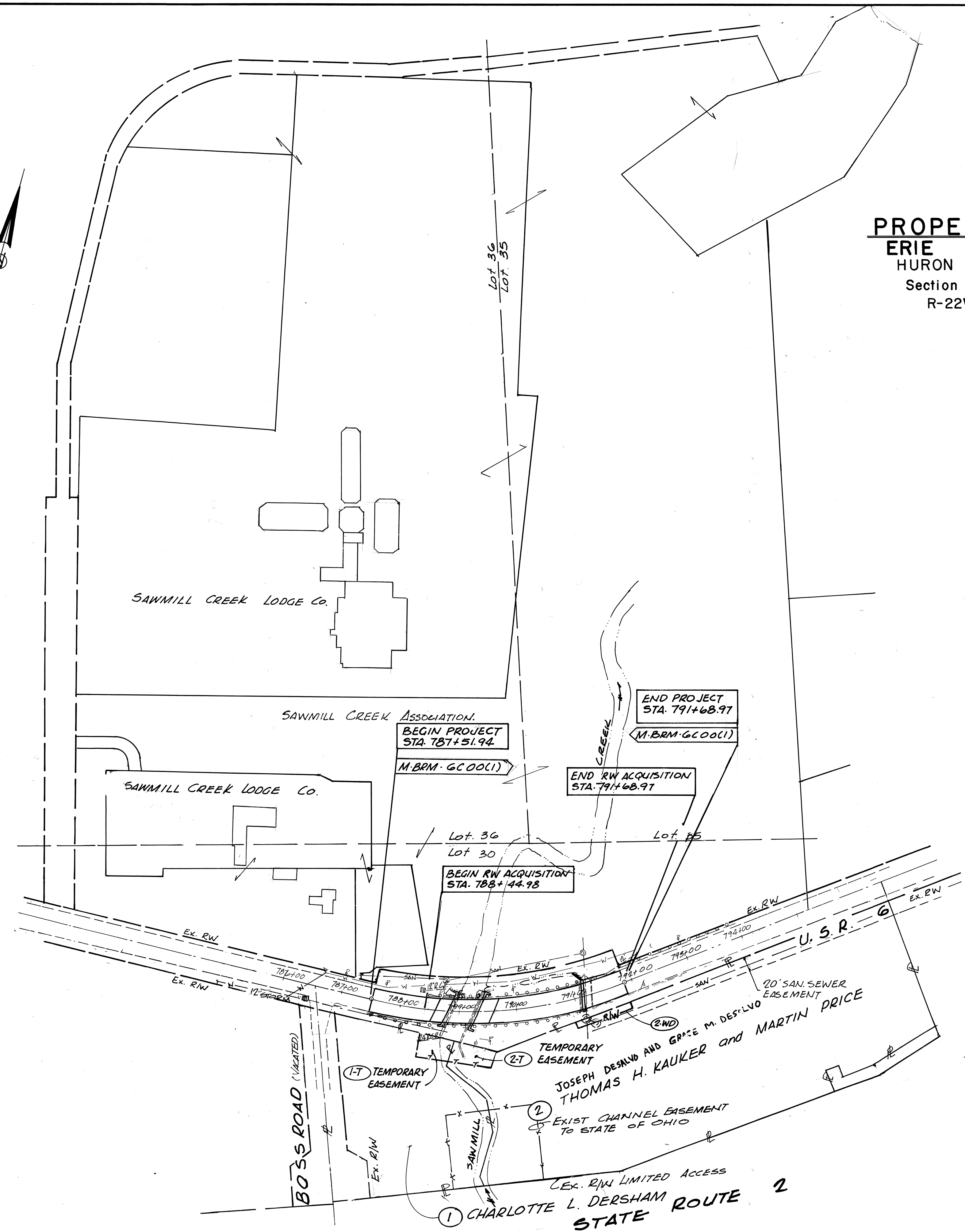
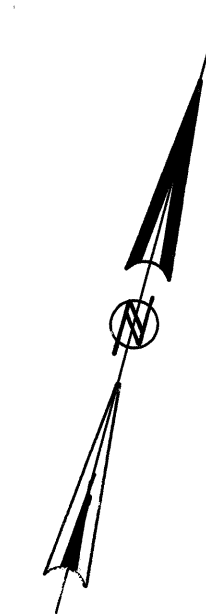
27
29

ERIE COUNTY
ERI 6-14.93
RIGHT-OF-WAY PLAN

1
3

PROPERTY MAP

ERIE COUNTY
HURON TOWNSHIP
Section 2 Lot 30
R-22W T-6N



| UTILITY OWNERS | | |
|----------------|--|----------------|
| UTILITY | ADDRESS | TELEPHONE NO. |
| ELECTRIC | OHIO EDISON 76 SOUTH MAIN AKRON, OHIO 44308 | (216) 384-4631 |
| TELEPHONE | GENEVA TELEPHONE 117 NORTH SANDUSKY ST BELLEVUE, OHIO 44811 | (419) 433-3155 |
| SANITARY | ERIE SANITARY SEWER AND WATER DISTRICT 554 RIVER ROAD P.O. BOX 370 44839 | (419) 433-7303 |
| GAS | COLUMBIA GAS OF OHIO 2110 CALDWELL STREET SANDUSKY, OHIO 44870 | (419) 625-4557 |

UTILITY NOTE:
THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 O.R.C.

TYPE FUNDS: STATE

100 50 0 50 100
SCALE IN FEET

| REV | DATE | DESCRIPTION |
|-----|---------|---------------------------|
| OMA | 2-12-90 | NAME ADDED PARCEL 2-WD, 6 |

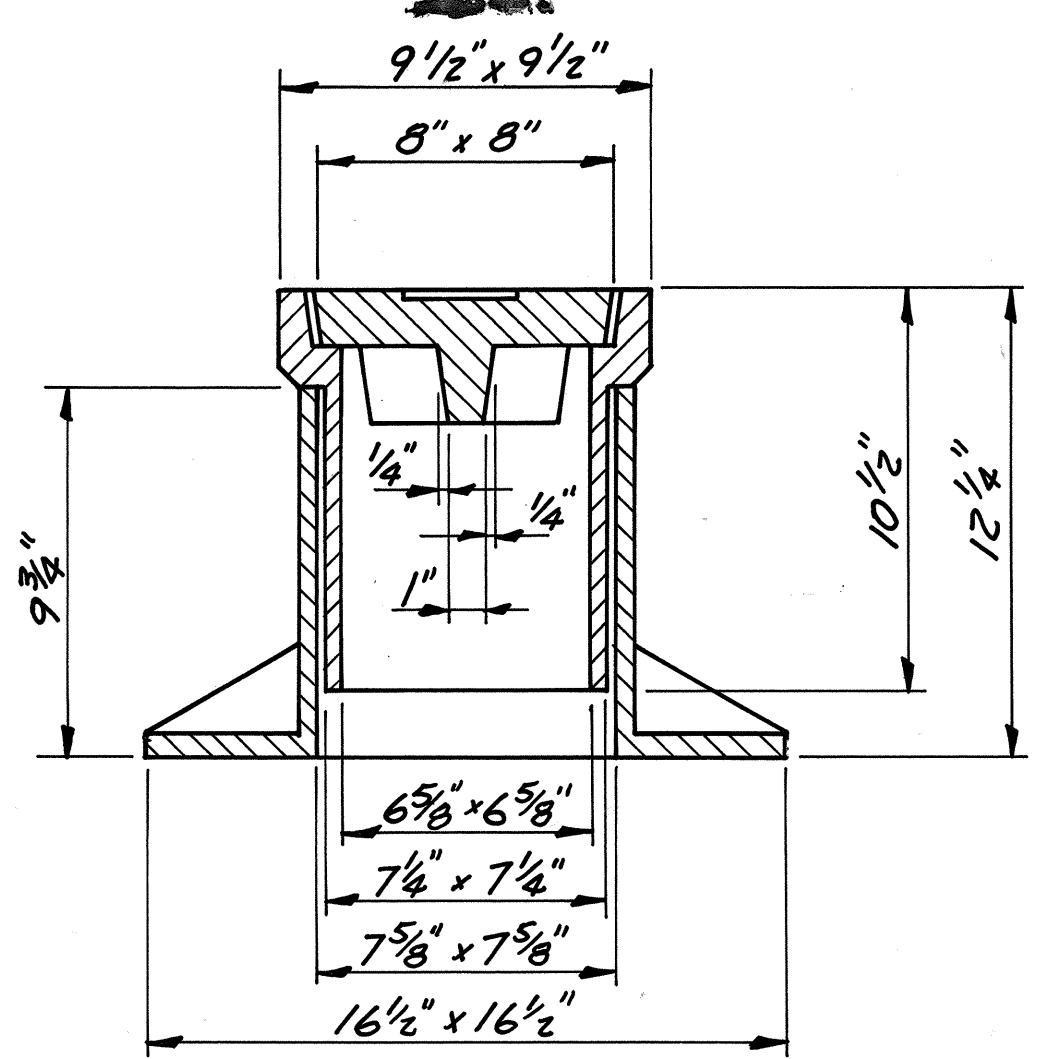
ERIE COUNTY
HURON TOWNSHIP
Section 2 Lot 30
R-22 W T-6N

Note: Monument assemblies are to be placed after construction is completed in the locations shown. All monuments are to be placed under the direction of a registered Surveyor. Any alterations shall be noted, and the Erie County Engineer, and the Ohio Department of Transportation, shall be notified of the new location. All alterations shall have prior approval by the Erie County Engineer and the Ohio Department of Transportation.

| | | | |
|-------------|-------|-------------|--|
| FHWA REGION | STATE | PROJECT | |
| 5 | OHIO | M-BRM-GC000 | |

ERIE COUNTY
ERI. 6-14.93

RIGHT OF WAY PLAN



Monument Assembly Modified As Per Plan

Note: All Details not Shown Here Shall be as per Std. Dwg. MC-1 (Revised 6-13-69)

Monument Legend

- = Proposed Reference Monument
- = Proposed Monument Assembly, as per Plan
- = Existing Iron Pin Found
- ⊕ = SURVEY LINE

JOSEPH DESALVO & GRACE M. DESALVO
THOMAS H. KAUKER & MARTIN PRICE

FOR TABULATION - SEE SHEET 3/3

FOR REFERENCE TO EXIST R/W SEE PLAN 1CH3, SEC F AND ERIE COUNTY DEEDS VOL. 548 Pg. 482, VOL. 407 Pg. 49

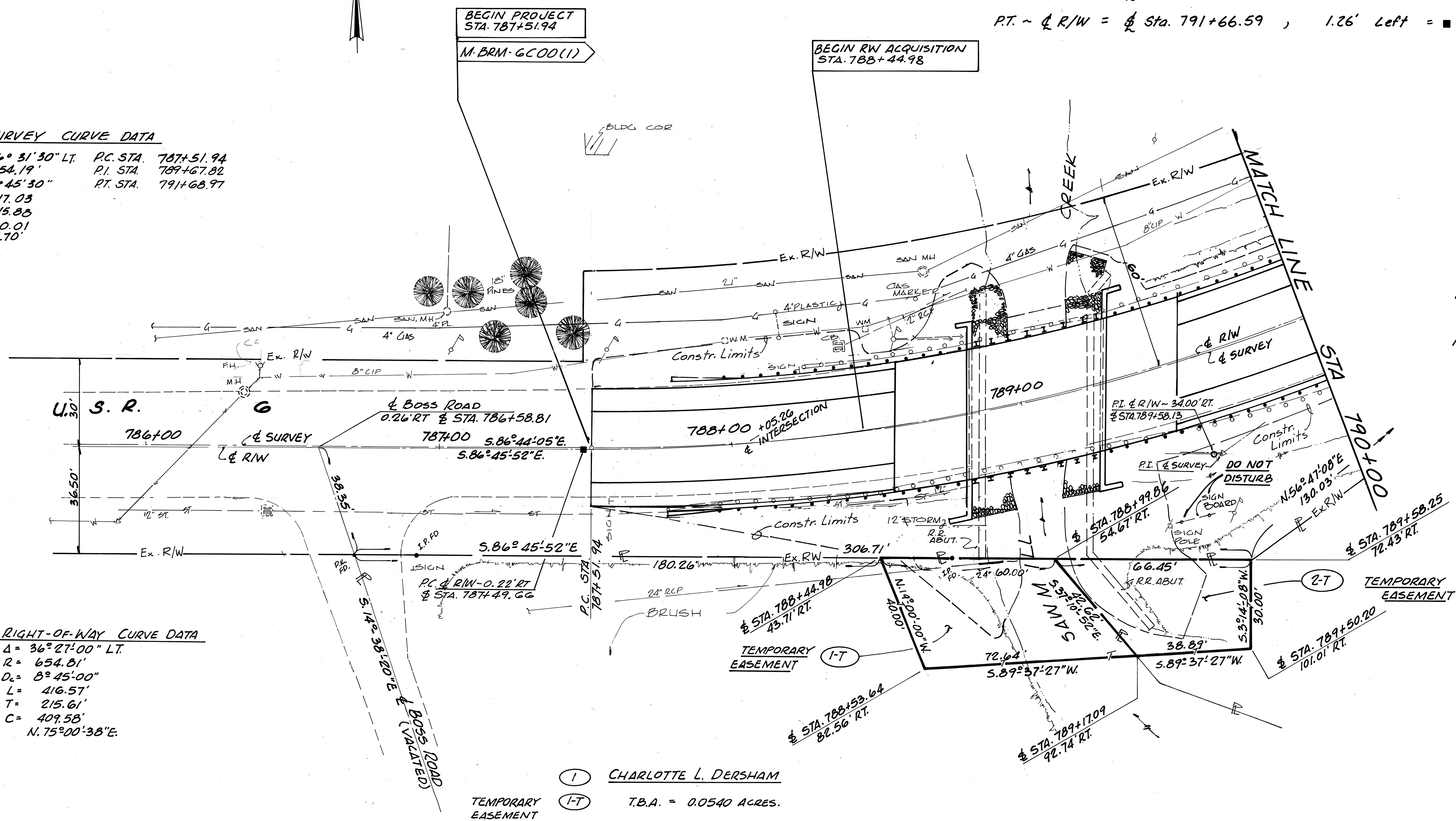
TYPE FUNDS: STATE

⊕ SURVEY CURVE DATA

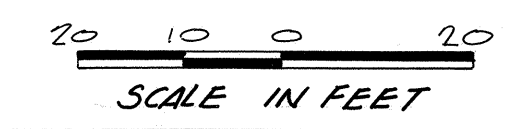
Δ = 36° 31' 30" LT. P.C. STA. 787+51.94
R = 654.19' P.I. STA. 789+67.82
D_c = 8° 45' 30" P.T. STA. 791+68.97
L = 417.03
T = 215.88
C = 410.01
e = 34.70'

⊕ RIGHT-OF-WAY CURVE DATA

Δ = 36° 27' 00" LT.
R = 654.81'
D_c = 8° 45' 00"
L = 416.57'
T = 215.61'
C = 409.58'
N. 75° 00' 38" E.



① CHARLOTTE L. DERSHAM
①-T T.B.A. = 0.0540 ACRES.



| | | | |
|-----|-------|-------------|----------------|
| OMA | 12290 | NAME ADDED | PARCEL 2-WD, P |
| REV | DATE | DESCRIPTION | |

SUMMARY OF ADDITIONAL RIGHT-OF-WAY

STATE PROJECT NO. 03564(0) P.I.O. 7623

| PARCEL | OWNER | SHT. No | OWNERS RECORD | | PERM. PARCEL NO. | RECORD AREA | TOTAL P.R.O. | GROSS TAKE | P.R.O. IN TAKE | NET TAKE | STRUC-TURE | NET RESIDUE | | TYPE FUND | REMARKS AND PERSONALTY | AS ACQUIRED | |
|--------|-----------------------------------|---------|---------------|------|------------------|-------------|--------------|------------|----------------|------------|------------|-------------|------------|-----------|--|-------------|---------|
| | | | BOOK | PAGE | | | | | | | | LEFT | RIGHT | | | BOOK | PAGE |
| 1-T | CHARLOTTE L. DERSHAM | 2 | 548 | 482 | 39-00353 | 1.5796 Ac. | -0- | 0.0540 Ac. | -0- | 0.0540 Ac. | | | 1.5796 Ac. | | TEMPORARY EASEMENT FOR REMOVAL OF R.R. ABUTMENT AND REGRADING SLOPES | | |
| 2-WD | THOMAS H. KAUKER & MARTIN PRICE & | 3 | 407 | 49 | 39-01089 | 5.2375 Ac. | -0- | 0.0230 Ac. | -0- | 0.0230 Ac. | | | 5.2145 Ac. | | | 561 | 558 |
| 2-T | JOSEPH DESALVO & GRACE M. DESALVO | 2 | 492 | 1082 | | | | 0.0381 Ac. | -0- | 0.0381 Ac. | | | | | TEMPORARY EASEMENT FOR REMOVAL OF R.R. ABUTMENT AND REGRADING SLOPES | 561 | 560-563 |

| | | | |
|-------------|-------|---------------|--|
| FHWA REGION | STATE | PROJECT | |
| 5 | OHIO | M.BRM-6C00(1) | |

ERIE COUNTY
ERI-6-14.93

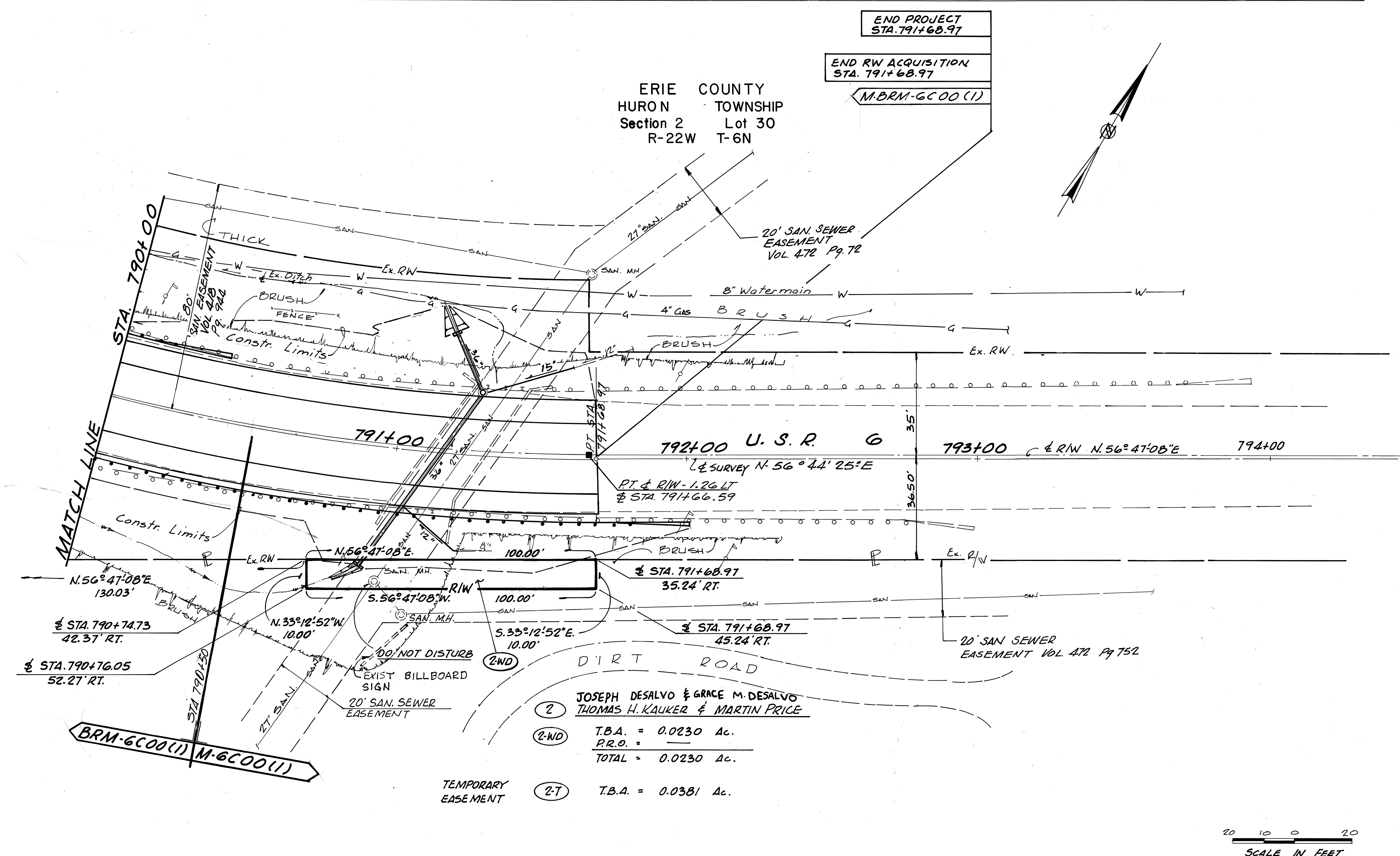
RIGHT OF WAY PLAN

and for ~~REVISION~~
561 558

3
3

TOTAL NUMBERS OF

- 2 OWNERSHIP
- 0 TOTAL TAKES
- 0 OWNERSHIP WITH STRUCTURES INVOLVED
- 0 OWNERSHIPS WITH "P" ITEMS



END PROJECT
STA. 791+68.97

END RW ACQUISITION
STA. 791+68.97

M.BRM-6C00(1)

ERIE COUNTY
HURON TOWNSHIP
Section 2 Lot 30
R-22W T-6N

TYPE FUNDS: STATE

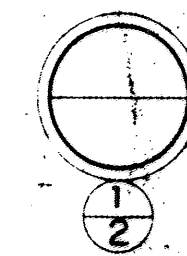
JOSEPH DESALVO & GRACE M. DESALVO
THOMAS H. KAUKER & MARTIN PRICE

(2) T.B.A. = 0.0230 Ac.
P.R.O. =
TOTAL = 0.0230 Ac.

(2-T) T.B.A. = 0.0381 Ac.

20 10 0 20
SCALE IN FEET

| | | |
|------|---------|---------------------------|
| OMA | 12-2-90 | OWNERS RECORD PARCEL 2-WD |
| OMA | 12-2-90 | NAME ADDED PARCEL 2-WD T |
| REV. | DATE | DESCRIPTION |



LEGEND

- Auger Boring Location - Plan View.
- Press and / or Drive Sample and / or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- Capped Pile
- Footing
- Footing on Pile
- Top of Rock

- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.
X = Number of Blows for First 6 inches.
Y = Number of Blows for Second 6 inches.
Z = Number of Blows for Third 6 inches.
- Drive Rod Penetration Resistance Sounding Log - Profile
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Z Indicates Final Measurement of Penetration, in Inches.
- W Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

- Coal
- Weathered Mudstone or Claystone
- Mudstone or Claystone
- Weathered Shale
- Shale
- Weathered Siltstone
- Siltstone
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- Limestone
- Boulders or Cobbles

GEOLOGY AND OBSERVATIONS OF THE SITE

THE STRUCTURE SITE IS LOCATED IN THE RELATIVELY FLAT GLACIATED PORTION OF THE LAKE PLAIN REGION, ON THE NARROW PLAIN AND SAWMILL CREEK, IN AN AREA WHERE MODERATELY DEEP GLACIAL-DERIVED MATERIAL AND LAKE DEPOSITS OVERLIE SHALE BEDROCK, OF DEVONIAN AGE. BEDROCK WAS OBSERVED IN THE CREEK AND BANKS.

EXPLORATION

THE EXPLORATION CONSISTED OF ONE DRIVE SAMPLE-CORE BORING MADE BY MEANS OF A MECHANICALLY-POWERED HOLLOW STEM ROTARY AUGER MOUNTED ON A MOBILE PLATFORM, PERFORMED ON JUNE 9, 1987.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

THE TEST BORING DISCLOSED THAT INTERVALS OF LOOSE TO DENSE UNSTRATIFIED BASIC SILTS AND GRAVEL MODIFIED WITH SAND AND VARYING PERCENTAGES OF EACH OTHER OVERLIE BEDROCK SURFACE. THE TEST BORING (MADE IN THE GENERAL VICINITY OF THE REAR ABUTMENT) ENCOUNTERED BEDROCK SURFACE AT 15.0 FOOT DEPTH, ELEVATION 574.0 FEET AND WAS TERMINATED AFTER HAVING PENETRATED 10.0 FEET BELOW BEDROCK AT 25.0 FOOT DEPTH, ELEVATION 564.0 FEET.

IF IT IS THE INTENTION TO FOUND THE ABUTMENTS ON BEDROCK, IT IS CONSIDERED ADVISABLE THAT THE OPEN EXCAVATIONS BE INSPECTED IN THE FIELD IN ORDER TO INSURE THAT THE EXCAVATIONS HAVE BEEN EXTENDED TO ROCK THROUGHOUT THE ENTIRE FOUNDING AREA. IT IS FURTHER SUGGESTED THAT THE AREA OF THE FOOTING CONTACT NOT BE SUBJECTED TO PROLONGED ATMOSPHERIC EXPOSURE, AND THAT THE EXCAVATION BE WELL DRAINED AT ALL TIMES.

NO FREE WATER WAS OBSERVED AND MEASURED IN THE TEST BORING.

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface condition may be evaluated.

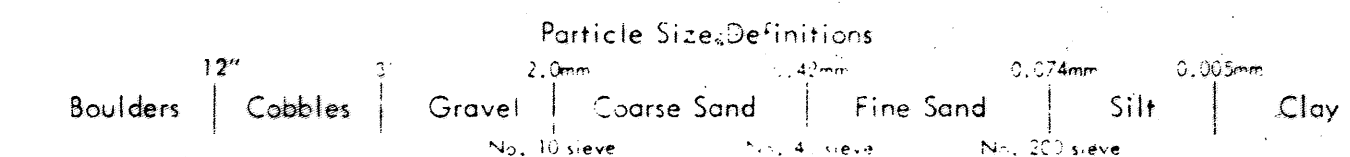
Drive Sample Borings - Drive-Press Sample Borings

Drive sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and/or 5-foot depth intervals, driven by means of a 140-pound drop-hammer with a free fall of 30 inches. The number of blows required to drive the sampler 18 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. drive sampler, and 3" O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The boring log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in three 6-inch increments, depth of press samples, field sample number, sample description - based on laboratory tests and the Casagrande AC classification system - and gradation, plasticity, and moisture content determinations. Results of strength and consolidation testing, if performed, appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.



LOG OF BORING
 Date Started 6/9/87 Sampler Type SS Dia 1 3/8"
 Date Completed 6/9/87 Casing Length 788+73 Dia. 17"
 Boring No. B-1 Station & Offset: 788+73, 17' RT. (REAR ABUTMENT) Surface Elev 589.0'
 Water Elev. -----

| Elev. | Depth | Std. Pen. (N) | Rec. ft. | Loss ft. | Description | Sample No. | Physical Characteristics | | | | | | | SHTL Class. | |
|-------|-------|---------------|----------|----------|--|------------|--------------------------|--------|--------|--------|--------|------|------|-------------|--------|
| | | | | | | | % App. | % C.S. | % F.S. | % Silt | % Clay | L.L. | P.I. | | W.C. |
| 589.0 | 0 | | | | ASPHALT | | | | | | | | | | VISUAL |
| 588.0 | 2 | AUGERED | | | | | | | | | | | | | |
| 586.5 | 4 | 2/6/12 | | | BROWN SILTY SANDY GRAVEL | 1 | 52 | 12 | 9 | 15 | 12 | 25 | 7 | 16 | A-2-4 |
| 584.0 | 6 | 2/3/5 | | | BROWN AND GRAY GRAVELLY SANDY SILT | 2 | 17 | 17 | 17 | 24 | 25 | 26 | 6 | 19 | A-4A |
| 581.5 | 8 | 4/2/6 | | | BROWN AND GRAY SANDY SILT | 3 | 7 | 11 | 16 | 38 | 28 | 25 | 5 | 16 | A-4A |
| 579.0 | 10 | 3/6/4 | | | BROWN AND GRAY SANDY SILT | 4 | 11 | 6 | 8 | 34 | 44 | 27 | 8 | 24 | A-4A |
| 576.5 | 14 | 2/8/48 | | | BROWN AND GRAY SILTY SANDY GRAVEL | 5 | 45 | 20 | 7 | 9 | 19 | 36 | 10 | 24 | A-2-4 |
| 574.0 | 16 | 50(0.2) | | | GRAY WEATHERED CLAY SHALE | 6 | | | | | | | | | VISUAL |
| 573.8 | 18 | | 4.7 | 0.1 | CLAY SHALE, DARK GRAY, HARD, CARBONACEOUS, MASSIVE, FISSILE, BROKEN. | | | | | | | | | | |
| | 20 | | | | CORE LOSS 15% (HIGH CORE LOSS DUE TO RETENTION FAILURE) | | | | | | | | | | |
| | 22 | | | | | | | | | | | | | | |
| | 24 | | 3.6 | 1.4 | | | | | | | | | | | |
| 564.0 | 26 | | | | BOTTOM OF BORING | | | | | | | | | | |

NOTE - ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE STRUCTURE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE BUREAU OF TESTS AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF LOCATION AND DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTH FRONT STREET.

Revised 7/7/89

NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

OHIO DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS - TESTING LABORATORY
 1600 WEST BROAD STREET, COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION
 BRIDGE NO. ERI-6-1494

OVER SAWMILL CREEK
 SEC. ERI-6-14.93

CHECKED BY A. F. REVIEWED BY R. D. R. DATE 6/30/87

MICROFILMED
SEP 17 1982

NOTE: BEDROCKS WAS OBSERVED IN CREEK
BOTTOM AND EMBANKMENTS.

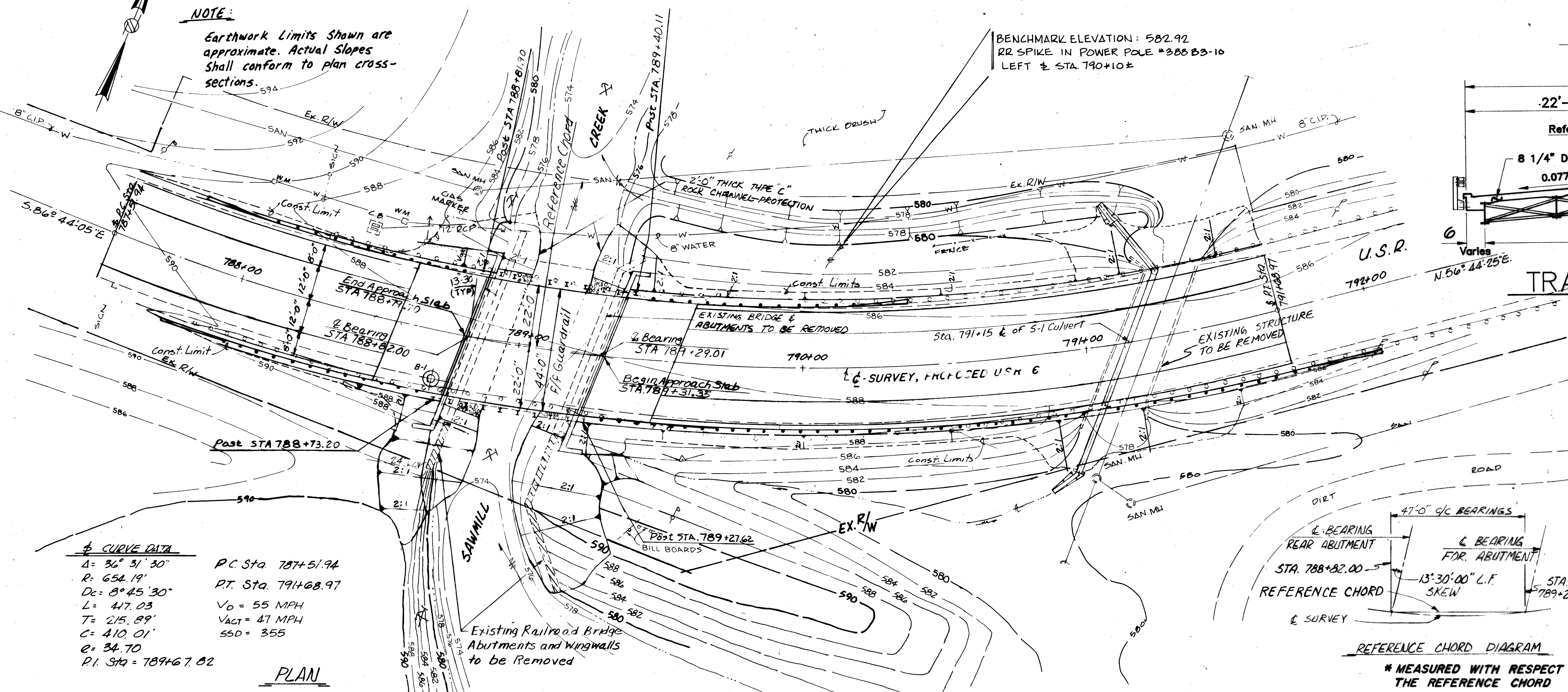
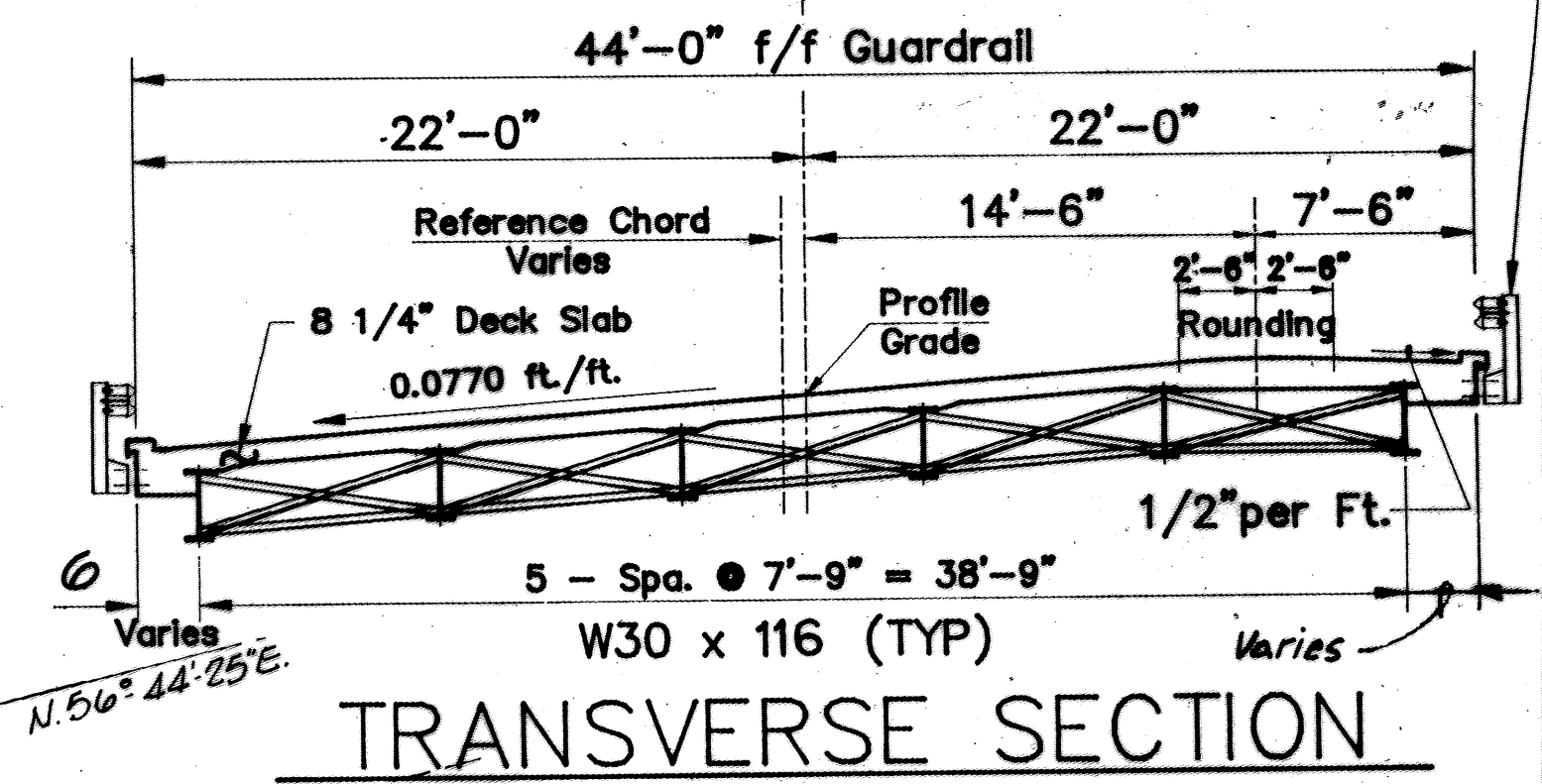
| REGION | STATE | PROJECT |
|--------|-------|---------|
| 5 | OHIO | |

ERIE COUNTY
ERI-6-14.93

Survey U.S.R. 6
Deep Beam Guardrail W/ Type 2 Posts
44'-0" f/f Guardrail

NOTE:
Earthwork Limits Shown are approximate. Actual Slopes Shall conform to plan cross-sections.

BENCHMARK ELEVATION: 582.92
RR SPIKE IN POWER POLE #388 B3-10
LEFT ± STA. 790+10±



Curve Data
 $\Delta = 36^\circ 31' 30''$ PC Sta. 787+51.94
 $R = 654.19'$ PT Sta. 791+68.97
 $D_c = 8^\circ 45' 30''$
 $L = 417.03'$ $V_0 = 55$ MPH
 $T = 215.89'$ $V_{ACT} = 47$ MPH
 $C = 410.01'$ $SSD = 355'$
 $e = 34.70'$
 $P.I. Sta. = 789+67.82$

PLAN

HYDRAULIC DATA

| INTERVAL (YEAR) | ELEV. (FT.) | Q (C.F.S.) | V (FT./SEC.) |
|-----------------|-------------|------------|--------------|
| 25 | 580.56 | 1724 | 7.50 |
| 100 | 580.76 | 2327 | 9.76 |

DRAINAGE AREA = 13.89 SQ. MI.

EXISTING STRUCTURE
 SINGLE SPAN CONCRETE BEAM
 TYPE: WITH CONCRETE DECK ON HIGH WALL ABUTMENTS
 SPANS: 34'-0" ± CLEAR
 ROADWAY: 51' f/f PARAPET
 SKEW: 13°-26' L.F.
 ALIGNMENT: 8°-45'-30" CURVE LEFT
 STRUCTURE FILE NO. 2201771

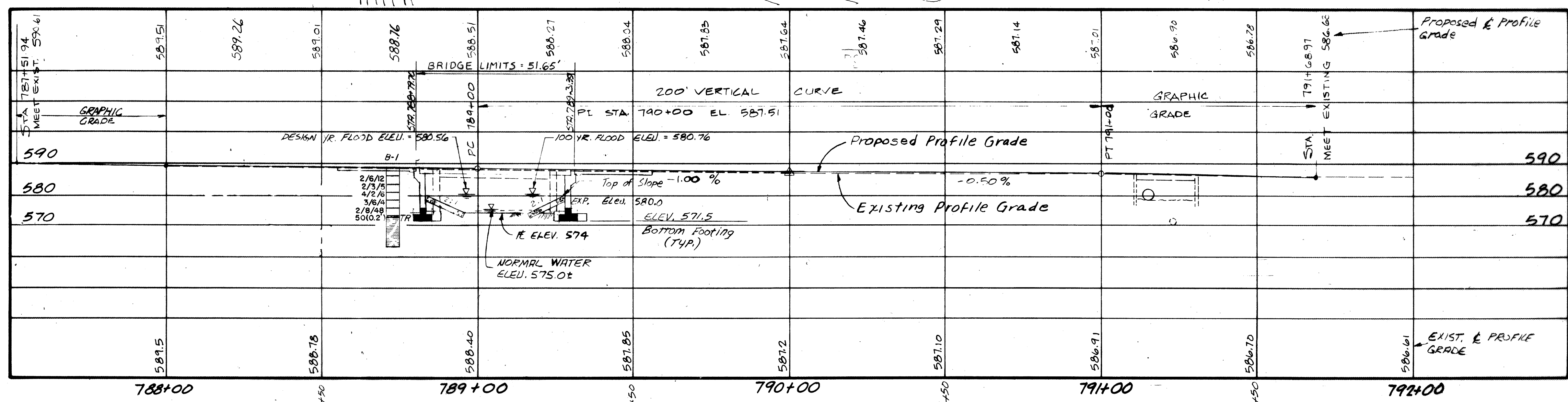
PROPOSED STRUCTURE
 SINGLE SPAN COMPOSITE A588
 TYPE: STEEL BEAMS WITH REINFORCED CONC. DECK & WALL TYPE ABUT.
 SPAN: 47'-0" c/c BEARINGS
 ROADWAY: 44'-0" f/f GUARDRAIL
 SKEW: 13°-30' L.F. *
 DESIGN LOADING: HS 20-44 AND ALTERNATE MILITARY LOADING
 APPROACH SLAB: AS-1-81 (25'-0")
 ALIGNMENT: 8°-45'-30" CURVE LEFT
 SUPERELEVATION: 0.0770 ft./ft.
 WEARING SURFACE: MONOLITHIC CONC.
 AVG. DAILY TRAFFIC: 1989 ADT 9680
 2009 ADT 11620
 2009 ADTT = 232

OHIO DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS - TESTING LABORATORY
 1600 WEST BROAD STREET COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION
 BRIDGE NO. ERI-6-1494
 OVER SAWMILL CREEK
 SEC. ERI-6-14.93

PLAN AND PROFILE

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|---------------------|--------------------|-----------------------|-----------------|
| DRAFTING BY A.F. | CHECKED BY A.F. | REVIEWED BY R.D.R. | DATE 6/30/87 |
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PROFILE ON & SURVEY

Revised 7/7/89

EP.H-0-1A3-29 PC