

# COLORADO STATE HIGHWAY DEPARTMENT

## PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT NO. 135 STATE HIGHWAY NO. 27 JEFFERSON CO.

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- 2A. FLUME DETAILS

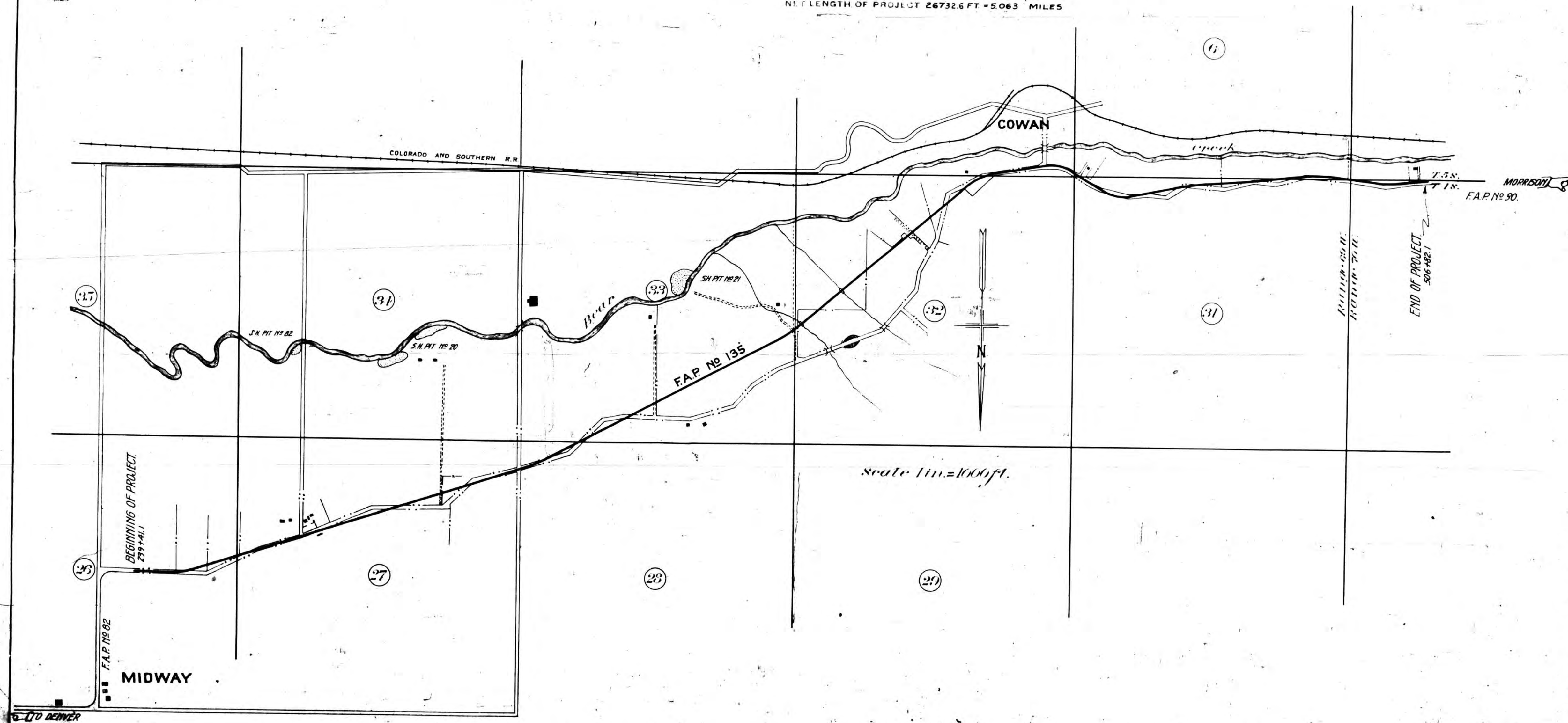
### LEGEND

SURVEY LINE  
TELEPHONE LINE  
FENCE LINE  
RAILROAD  
RIGHT OF WAY

| FED. ROAD DIST. NO. | STATE | PROJECT NO. |
|---------------------|-------|-------------|
| 3                   | COLO. | 135         |

Rev. 5-24 F.B.L.  
Rev. 25 Const. 5-29-26. H.O.M.

SCALES  
ON PLAN: 1 IN. = 100 FT.  
ON PROFILE: 1 IN. = 100 FT. HORIZONTAL  
1 IN. = 10 FT. VERTICAL  
GRADE LINE ON PROFILE IS SHOWN AS GRADE OF UNIMPROVED ROAD  
GROSS LENGTH OF PROJECT 26732.6 FT. = 5.063 MILES  
NET LENGTH OF PROJECT 26732.6 FT. = 5.063 MILES



RECOMMENDED FOR APPROVAL  
ASSISTANT ENGINEER  
APPROVED  
STATE HIGHWAY ENGINEER  
RECOMMENDED FOR APPROVAL  
DIST. ENG. BUREAU PUBLIC ROADS  
RECOMMENDED FOR APPROVAL  
CHIEF ENG. BUREAU PUBLIC ROADS  
APPROVED  
DIRECTOR BUREAU PUBLIC ROADS

|                       |       |                      |             |                 |
|-----------------------|-------|----------------------|-------------|-----------------|
| EL. HOME<br>DIST. NO. | STATE | FED. AID<br>PRO. NO. | PORT<br>NO. | TOTAL<br>BARRIS |
|                       | COLOR | 135                  | 8           |                 |

REV. 43 CONST. 3-26-29 7.5.17

| STATION | STRUCTURE              | CONCRETE<br>ME IN<br>TILE DRAIN | 20 GAG.<br>CONCRETE<br>SYPHON PIPE | CONCRETE<br>CU YDS |    | STEEL<br>LBS |    | TIMBER<br>HEAD<br>UNFT | BARRON<br>CU YDS | ENCL<br>CONC<br>CU YDS | CLEAR<br>+ GRUB<br>FOOT | PIP-<br>FACE<br>CU YD |
|---------|------------------------|---------------------------------|------------------------------------|--------------------|----|--------------|----|------------------------|------------------|------------------------|-------------------------|-----------------------|
|         |                        |                                 |                                    | 12                 | 18 | 24           | 30 |                        |                  |                        |                         |                       |
| 244+50  | 2x2x36" Con box Cul    |                                 |                                    | 108                |    | 820          |    |                        |                  |                        |                         |                       |
| 244+79  | 15'x67" Siphon H-9     |                                 | 67                                 | 165                |    | 1266         |    |                        |                  |                        |                         |                       |
| 253+00  | 2x2x47" Con box Cul    |                                 |                                    | 129                |    | 1012         |    |                        |                  |                        |                         |                       |
| 254+05  | Side Drain + Header    | 20'                             |                                    |                    | 09 |              |    | 24                     |                  |                        |                         |                       |
| 255+50  | 2x2x36" Siphon H-3.5   |                                 |                                    | 202                |    | 1522         |    |                        |                  |                        |                         |                       |
| 261+00  | 2x2x41" Con box Cul    |                                 |                                    | 115                |    | 884          |    |                        |                  |                        |                         |                       |
| 270+15  | 2x2x36"                |                                 |                                    | 103                |    | 777          |    |                        |                  |                        |                         |                       |
| 270+46  | Timber Header          | 11                              |                                    |                    |    |              |    | 24                     |                  |                        |                         |                       |
| 270+55  | "                      | 15                              |                                    |                    |    |              |    | 60                     |                  |                        |                         |                       |
| 275+00  | 15'x42" Siphon H-1     |                                 | 42                                 | 86                 |    | 706          |    |                        |                  |                        |                         |                       |
| 275+08  | Side Drain + Header    | 11                              | 20                                 |                    | 09 |              |    | 24                     |                  |                        |                         |                       |
| 277+50  | "                      | 11                              | 20                                 |                    |    |              |    | 24                     |                  |                        |                         |                       |
| 277+75  | 2x2x36" Con box Cul    |                                 |                                    | 101                |    | 777          |    |                        |                  |                        |                         |                       |
| 287+60  | 15'x10' Encased pipe   |                                 | 30                                 | 60                 |    | 363          |    |                        |                  |                        |                         |                       |
| 291+02  | Side Drain + Header    | 11                              | 20                                 |                    |    |              |    | 24                     |                  |                        |                         |                       |
| 291+20  | 2x2x36" Con box Cul    |                                 |                                    | 103                |    | 777          |    |                        |                  |                        |                         |                       |
| 300+50  | Side Drain + Header    | 11                              | 20                                 |                    | 09 |              |    | 24                     |                  |                        |                         |                       |
| 300+06  | "                      | 11                              | 20                                 |                    | 09 |              |    | 24                     |                  |                        |                         |                       |
| 300+06  | Header                 | 11                              |                                    |                    |    |              |    | 24                     |                  |                        |                         |                       |
| 30+00   | 2x2x36" Con box Cul    |                                 |                                    | 103                |    | 777          |    |                        |                  |                        |                         |                       |
| 30+31   | Header                 | 11                              |                                    |                    |    |              |    | 24                     |                  |                        |                         |                       |
| 301+08  | 6x10x39" Con box Cul   |                                 |                                    | 2020               |    | 18,750       |    |                        |                  |                        |                         |                       |
| 303+06  | Remove concrete bridge |                                 |                                    |                    |    |              |    |                        |                  |                        |                         |                       |
| 309+50  | 2x2x36" Con box Cul    |                                 |                                    | 103                |    | 777          |    |                        |                  |                        |                         |                       |
| 316+25  | Side Drain + Header    | 11                              | 47                                 |                    | 09 |              |    | 50                     |                  |                        |                         |                       |
| 316+25  | Header                 | 11                              |                                    |                    |    |              |    | 60                     |                  |                        |                         |                       |
| 316+46  | 2x2x36" Con box Cul    |                                 |                                    | 103                |    | 777          |    |                        |                  |                        |                         |                       |
| 320+00  | 2x2x36"                |                                 |                                    | 103                |    | 777          |    |                        |                  |                        |                         |                       |
| 325+20  | 6x10x30"               |                                 |                                    | 640                |    | 6583         |    |                        |                  |                        |                         |                       |
| 334+00  | Borrow pit             |                                 |                                    |                    |    |              |    |                        |                  |                        |                         |                       |
| 345+00  | Side Drain             | 11                              | 20                                 |                    | 09 |              |    | 541                    |                  |                        |                         |                       |
| 345+01  | "                      | 11                              | 20                                 |                    | 09 |              |    |                        |                  |                        |                         |                       |
| 345+92  | " + Header             | 11                              | 20                                 |                    | 09 |              |    | 24                     |                  |                        |                         |                       |
| 347+19  | Clearing + Grubbing    |                                 |                                    |                    |    |              |    |                        |                  |                        |                         |                       |
| 347+28  | 8'x8'x40" Con box Cul  |                                 |                                    | 624                |    | 7351         |    |                        |                  |                        |                         |                       |
| 347+43  | Side Drain + Header    | 11                              | 20                                 |                    | 09 |              |    | 24                     |                  |                        |                         |                       |
| 351+08  | "                      | 11                              | 20                                 |                    | 09 |              |    | 24                     |                  |                        |                         |                       |
| 353+59  | "                      | 11                              | 30                                 |                    | 09 |              |    |                        |                  |                        |                         |                       |
| 353+59  | " in field             | 11                              | 20                                 |                    | 09 |              |    |                        |                  |                        |                         |                       |
| 354+51  | 15'x47" Siphon H-5     |                                 | 47                                 | 110                |    | 887          |    |                        |                  |                        |                         |                       |
| 359+35  | Side Drain + Header    | 11                              | 20                                 |                    |    |              |    |                        |                  |                        |                         |                       |

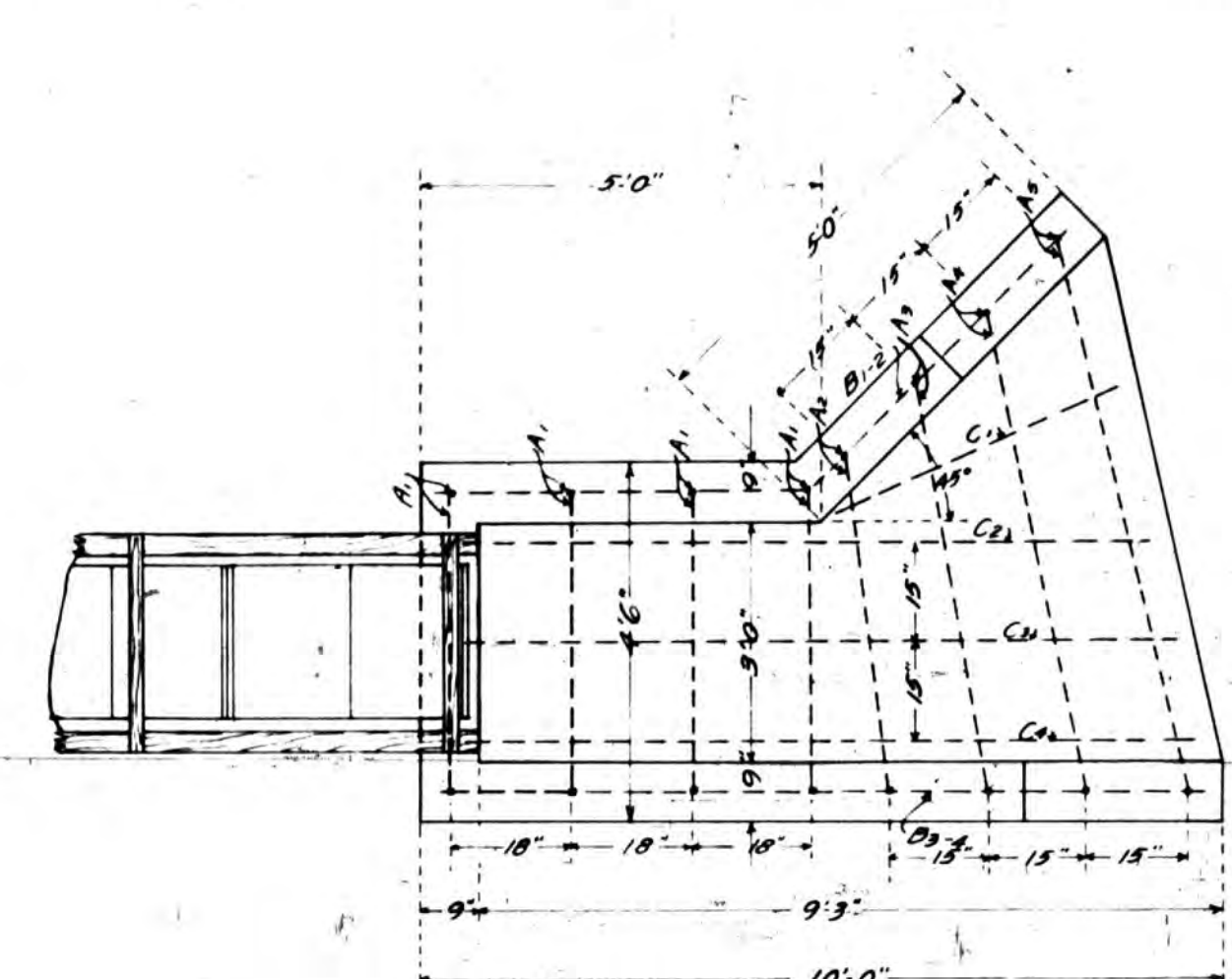
| STATION     | STRUCTURE                | CORRUGATED METAL PIPE |            | 24 GAGE CORRUGATED DIPHON PIPE |            | CONCRETE CU YDS | STEEL LBS | TIMBER HEADERS L.B.F. | BORING CU YDS | EXC. CONN. CU YDS | CLEAR GRUB. ACRES | RIP-RIN. CU Y. |     |
|-------------|--------------------------|-----------------------|------------|--------------------------------|------------|-----------------|-----------|-----------------------|---------------|-------------------|-------------------|----------------|-----|
|             |                          | 24" DIA.              | 12' LENGTH | 24" DIA.                       | 12' LENGTH |                 |           |                       |               |                   |                   |                |     |
| 487+34      | Side drain + Header      | 20                    |            |                                |            | 09              |           | 24                    |               |                   |                   |                |     |
| 488+40      | Cross Road 6" Tile drain |                       |            | 50                             |            |                 |           |                       |               |                   |                   |                |     |
| 488+40.6    | 488+40 6" Tile Rockfill  |                       |            | 160                            |            |                 |           |                       |               |                   |                   |                |     |
| 493+78      | 2x2x36 Con. box Culv.    |                       |            |                                |            | 103             | 177       |                       |               |                   |                   |                |     |
| 484+00.6    | 485+00 6" 1/2 Rock Fill  |                       |            | 100                            |            | 221.0           | 2,500     |                       |               |                   |                   |                |     |
| 488+00      | 2x6x9.5 Con box Culv.    |                       |            |                                |            |                 |           |                       |               |                   | 0.1               |                |     |
| 499+50      | Clearing + Grubbing      |                       |            |                                |            |                 |           |                       |               |                   |                   |                |     |
| 501+60      | Side drain + Header      | 20                    |            |                                |            | 09              |           | 24                    |               |                   |                   |                |     |
| 506+32      | LT                       | 20                    |            |                                |            | 09              |           | 24                    |               |                   |                   |                |     |
| 497+03      | Timber Header            |                       |            |                                |            |                 |           | 24                    |               |                   |                   |                |     |
| 498+20.5    | 2x48x20.5 Plume          |                       |            |                                |            |                 |           | 24                    |               |                   |                   |                |     |
| 359+35      | Side Drain + Header      | 20                    |            |                                |            |                 |           |                       |               |                   |                   |                |     |
| 469+03      | Rip/Rap                  |                       |            |                                |            |                 |           |                       |               |                   |                   | 9              |     |
| TOTAL       |                          | 80                    |            | 310                            |            | 231.3           | 27        | 28,277                | 120           | 1716              | 1134              | 0.1            | 9   |
| SUB TOTAL   |                          | 605                   | 230        | 1654                           | 541        | 1,323.3         | 216       | 126,209               | 1086          | 1716              | 1134              | 0.5            | 145 |
| GRAND TOTAL |                          | 685                   | 230        | 1934                           | 541        | 1534.6          | 243       | 154,326               | 1206          | 1716              | 1134              | 0.6            | 154 |

| LIST OF RIGHT OF WAY |          |           |            |           |                    |          |           |            |          |
|----------------------|----------|-----------|------------|-----------|--------------------|----------|-----------|------------|----------|
| SOUTH SIDE OF ROAD.  |          |           |            |           | NORTH SIDE OF ROAD |          |           |            |          |
| STATION              | DISTANCE | TYPE      | IRON GATES | BARRES    | STATION            | DISTANCE | TYPE      | IRON GATES | BARRES   |
| 247+61               | ↓        | End       |            | ONE       | 248+65             | ↓        | End       |            | ONE      |
| 253+00               | 12.46    |           |            | ONE.      | 254+65             | ↓        |           | ONE        |          |
| 260+07               | ↓        |           |            | ONE.      | 270+46             | 252.1    |           | ONE        |          |
| 268+97               | ↓        | End       |            |           | 273+86             | ↓        | End       |            | ONE      |
| 269+72               | 336      |           |            | ONE.      | 273+90             | ↓        |           | ONE        | ONE      |
| 272+33               | ↓        |           |            | ONE.      | 278+85             | ↓        |           | ONE        | ONE      |
| 273+00               | ↓        | End       |            | ONE.      | 277+50             | ↓        |           | ONE        | ONE      |
| 278+95               | ↓        |           | ONE.       |           | 291+02             | 419.3    |           | ONE        |          |
| 300+06               | 429.9    |           | ONE        |           | 300+58             | ↓        |           | ONE        |          |
| 302+31               | ↓        |           | ONE (wry)  | ONE       | 300+76             | ↓        |           | ONE        |          |
| 304+73               | ↓        |           |            |           | 315+83             | ↓        | End       |            | ONE      |
| 315+95               | ↓        | End       |            | ONE HALF. | 316+05             | ↓        | End       |            | ONE      |
| 316+57               | ↓        |           |            | ONE HALF  | 328+96             | 90.1     | End       |            | ONE      |
| 320+00               | 89.9     | End       |            | ONE       | 325+60             | ↓        | End       |            | ONE      |
| 323+46               | ↓        | Beg.      |            | ONE       | 345+65             | 215.6    |           | ONE        |          |
| 325+00               | ↓        | End       |            | ONE       | 347+16             | ↓        | End       |            | ONE      |
| 345+92               | 215.6    |           | ONE.       |           | 367+31             | ↓        | End       |            | ONE      |
| 347+16               | ↓        | End       |            | ONE       | 367+68             | ↓        |           | ONE        | ONE      |
| 347+51               | ↓        | End       |            | ONE       | 368+85             | 268.3    |           | ONE        |          |
| 367+68               | ↓        |           | ONE        |           | 259+34             | ↓        | End       | ONE (wry)  |          |
| 353+54               | ↓        |           | ONE        |           | 374+14             | ↓        | End       |            | ONE      |
| 359+54               | 268.8    | ONE (wry) |            | ONE.      | 375+15             | ↓        | End       |            | ONE      |
| 373+30               | ↓        |           | ONE.       |           | 377+50             | ↓        |           | ONE        |          |
| 374+59               | ↓        | End       | ONE (wry)  | ONE.      | 381+08             | ↓        |           | ONE        | ONE      |
| 376+03               | ↓        | Beg.      |            | ONE.      | 381+90             | ↓        |           | ONE        | ONE HALF |
| 381+90               | ↓        |           | ONE.       | ONE HALF. | 385+90             | ↓        |           | ONE        | ONE HALF |
| 385+90               | ↓        |           |            | ONE HALF  | 386+15             | ↓        |           | ONE        | ONE HALF |
| 386+15               | ↓        |           | ONE        | ONE HALF  | 386+71             | ↓        |           | ONE        | ONE HALF |
| 386+71               | ↓        |           | ONE        | ONE HALF  | 393+35             | ↓        |           | ONE        | ONE HALF |
| 393+35               | ↓        |           | ONE        | ONE       | 392+86             | ↓        | End       |            | ONE HALF |
| 403+93               | ↓        |           | ONE        | ONE       | 393+33             | ↓        | End       |            | ONE HALF |
| 408+77               | 572.8    |           | ONE (wry)  | ONE       | 408+67             | ↓        |           | ONE HALF   | ONE      |
| 411+10               | ↓        |           |            | ONE HALF  | 410+90             | ↓        |           | ONE HALF   | ONE HALF |
| 411+75               | ↓        |           |            | ONE HALF  | 411+75             | ↓        | ONE (wry) |            | ONE HALF |
| 412+37               | ↓        |           |            | ONE HALF  | 412+91             | ↓        |           | ONE        | ONE HALF |
| 418+53               | ↓        |           | ONE        | ONE       | 426+38             | ↓        |           | ONE        | ONE HALF |
| 419+70               | ↓        |           | ONE        | ONE       | 433+93             | ↓        |           | ONE HALF   | ONE      |
| 426+38               | ↓        |           | ONE        | ONE HALF. | 437+40             | 10       |           | ONE        | ONE      |
| 433+31               | ↓        | End       |            | ONE.      | 441+15             | ↓        |           | ONE        | ONE      |
| 433+85               | ↓        | Beg.      |            | ONE.      | 441+40             | ↓        |           | ONE        | ONE      |
| 440+33               | ↓        |           | ONE.       | ONE HALF. | 447+17             | 754.7    |           | ONE        | ONE      |
| 446+10               | 352.8    |           |            | ONE HALF. | 460+44             | ↓        |           | ONE        | ONE      |
| 449+11               | ↓        | End       |            | ONE       | 455+12             | ↓        |           | ONE        | ONE HALF |
| 469+27               | ↓        | Beg.      |            | ONE       | 459+17             | ↓        |           | ONE        | ONE      |
| 483+70               | ↓        |           | ONE.       | ONE HALF. | 460+00             | ↓        |           | ONE        | ONE      |
| 487+34               | 375.5    |           | ONE.       | ONE       | 460+93             | ↓        |           | ONE        | ONE      |
| 506+82               | ↓        | End       |            | ONE.      | 468+80             | ↓        | End       |            | ONE      |
|                      |          |           |            |           | 468+98             | ↓        | End       |            | ONE      |
|                      |          |           |            |           | 473+00             | ↓        |           | ONE        | ONE HALF |
|                      |          |           |            |           | 483+70             | ↓        |           | ONE        | ONE      |
|                      |          |           |            |           | 497+83             | 378.0    |           | ONE        | ONE      |
|                      |          |           |            |           | 501+60             | ↓        |           | ONE        | ONE      |
|                      |          |           |            |           | 506+82             | ↓        | End       |            |          |

Hand-drawn cross-section diagram of a road. The diagram is divided into two main sections: a 12' CUT SECTION on the left and a 12' FILL SECTION on the right. The cut section shows a 4' gravel shoulder, a 6' sand cushion, and a 4' timber header for intersecting roads. The fill section shows a 4' gravel shoulder, a 6' sand cushion, and a 4' timber header for intersecting roads. The diagram also shows a 4' gravel shoulder, a 6' sand cushion, and a 4' timber header for intersecting roads.

| SUMMARY OF QUANTITIES. |                                   |            |                       |  |
|------------------------|-----------------------------------|------------|-----------------------|--|
| No                     | ITEM.                             | UNIT       | QUANTITY              |  |
|                        |                                   |            | CONCRETE<br>SURFACING |  |
| 1                      | Clearing & Grubbing               | ACRES.     | 0.6                   |  |
| 2                      | Excavation Common                 | Cu. Yds.   | 53,704                |  |
| 3                      | " Solid Rock                      | "          | 5990                  |  |
| 4                      | BORROW FILL                       | "          | 4,321                 |  |
| 5                      | OVERHAUL                          | STA. YD.   |                       |  |
| 6                      | SAND CUSHION                      | CU. YD.    | 3,376                 |  |
| 7                      | GRAVEL SHOULDERS                  | "          | 3,628                 |  |
| 8                      | CONCRETE CLASS 'A' (1:2:4)        | "          | 1,635                 |  |
| 9                      | " " 'B' (1:2 1/2:5)               | "          | 25                    |  |
| 10                     | REINFORCING STEEL                 | LBS.       | 159,484               |  |
| 11                     | 15" CORRUGATED METAL PIPE         | LIN. FT.   | 603                   |  |
| 12                     | 15" 20 GAL CORR. MET. SIPHON PIPE | "          | 321                   |  |
| 13                     | ROCK UNDERDRAIN                   | CU. YD.    |                       |  |
| 14                     | RIPRAP                            | "          | 154                   |  |
| 15                     | 4x8" TIMBER HEADERS               | M.B.D. FT. | 3/26                  |  |
| 16                     | ONE COURSE PLAIN CONCRETE PAVING  | SQ. YDS.   | 52,036                |  |
| 17                     | 24" VITRIFIED CLAY TILE PIPE      | LIN. FT.   | 230                   |  |
| 18                     | " " " " " "                       | "          | 18,318                |  |
| 19                     | REMOVING BRIDGES.                 | Lump Sum   | 599.00                |  |
| 20                     |                                   |            |                       |  |
| 21                     |                                   |            |                       |  |
| 22                     |                                   |            |                       |  |
| 23                     |                                   |            |                       |  |

|          |                |         |            |
|----------|----------------|---------|------------|
| 5019A/F1 | Straight fence | @ 5.75  | \$ 2885.98 |
| 1"       | Braced gables  | @ 8.16  | 57.12      |
| 33       | Iron gates     | @ 23.23 | 766.59     |
| 395      | Braced cor     | @ 8.16  | 322.32     |

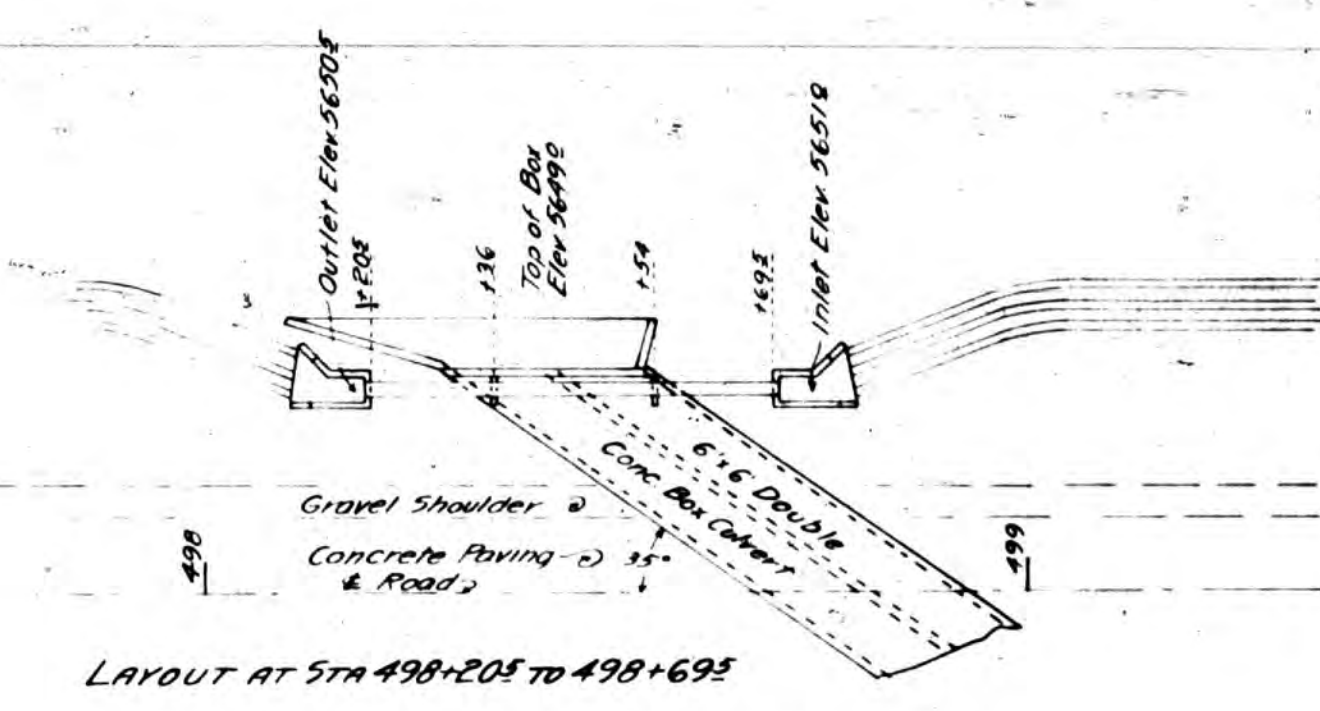
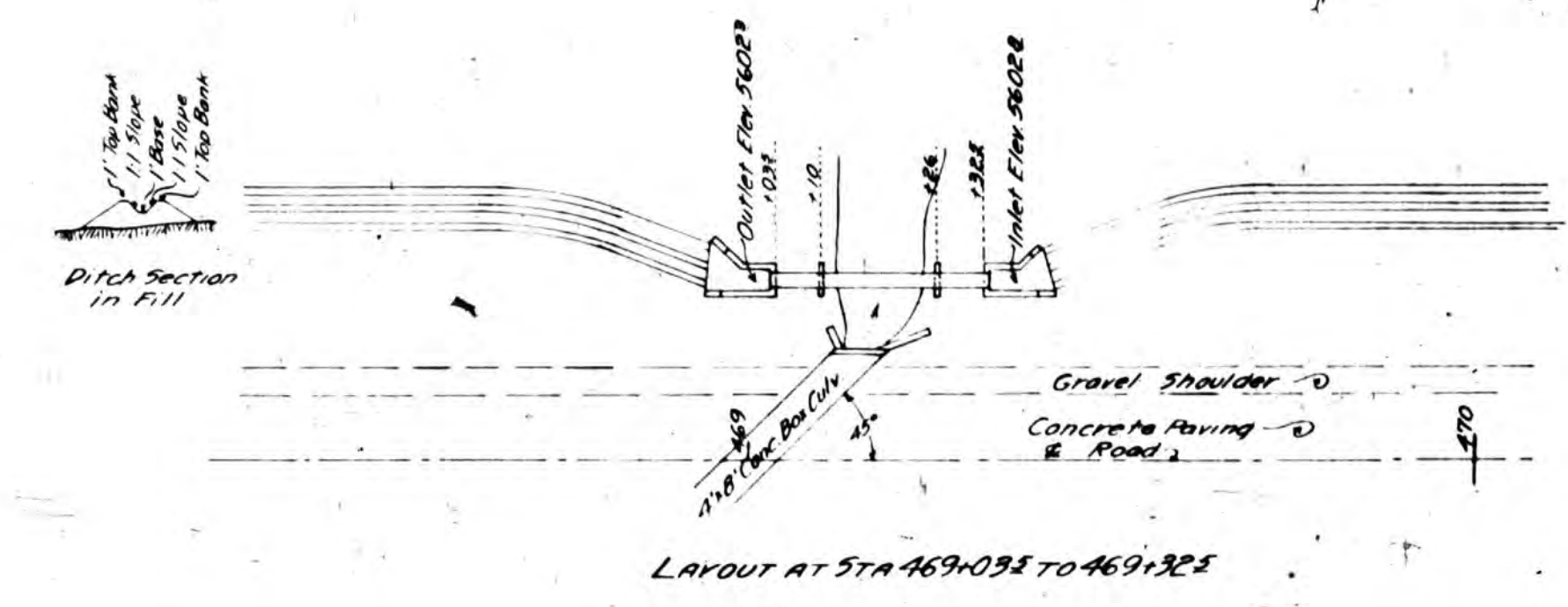
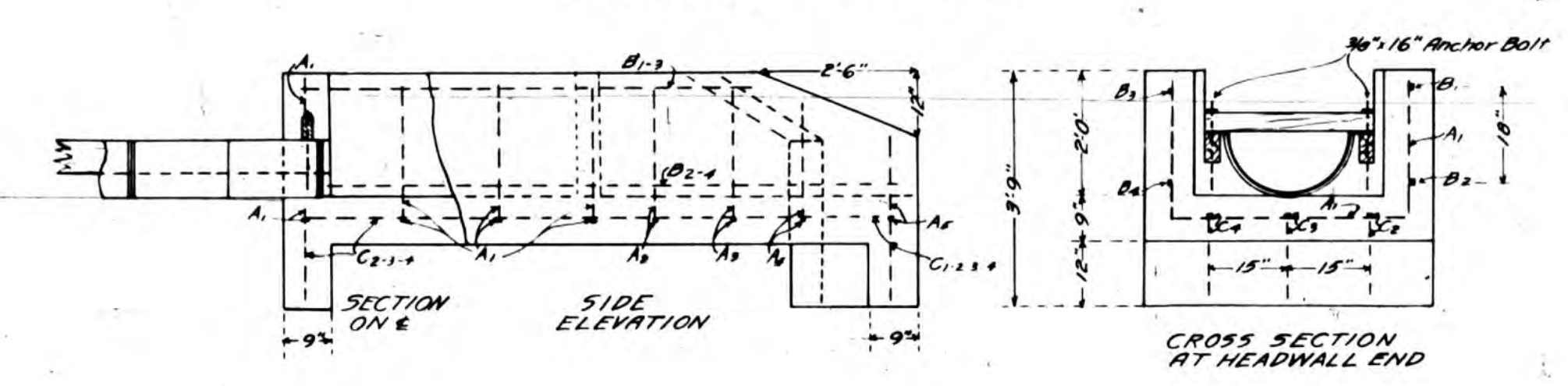


**BAR LIST PER STRUCTURE**  
Each Inlet and Outlet is a Separate Structure

| No. Pieces                                                    | Mark           | Length | Total Length | Bending |
|---------------------------------------------------------------|----------------|--------|--------------|---------|
| 4                                                             | A <sub>1</sub> | 8'0"   | 32'0"        |         |
| 1                                                             | A <sub>2</sub> | 8'9"   | 8'9"         |         |
| 1                                                             | A <sub>3</sub> | 9'9"   | 9'9"         |         |
| 1                                                             | A <sub>4</sub> | 9'7"   | 9'7"         |         |
| 1                                                             | A <sub>5</sub> | 9'7"   | 9'7"         |         |
| 1                                                             | B <sub>1</sub> | 6'10"  | 6'10"        |         |
| 1                                                             | B <sub>2</sub> | 9'4"   | 9'4"         |         |
| 1                                                             | B <sub>3</sub> | 7'3"   | 7'3"         |         |
| 1                                                             | B <sub>4</sub> | 9'9"   | 9'9"         |         |
| 1                                                             | C <sub>1</sub> | 5'1"   | 5'1"         |         |
| 1                                                             | C <sub>2</sub> | 11'3"  | 11'3"        |         |
| 1                                                             | C <sub>3</sub> | 11'6"  | 11'6"        |         |
| 1                                                             | C <sub>4</sub> | 11'9"  | 11'9"        |         |
| Total Rein. Steel per Structure 142'5" = 121'0" + 3% = 125'0" |                |        |              |         |

All Bars to be 1/2" Square

CONCRETE INLET & OUTLET STRUCTURE  
USE AS SHOWN FOR EACH INLET  
USE OPPOSITE HAND FOR OUTLET

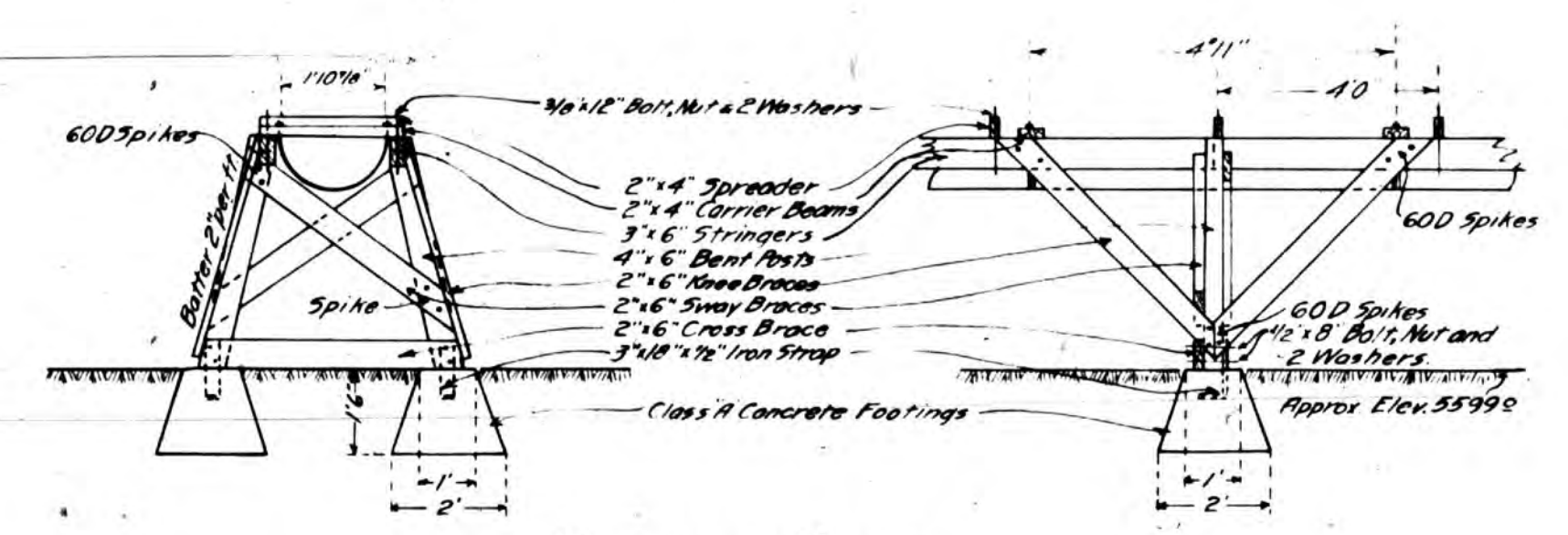


**LUMBER LIST**

| Member       | Size  | Flume Sta 469+035-469+325 |        |       | Flume Sta 498+205-498+695 |        |       |
|--------------|-------|---------------------------|--------|-------|---------------------------|--------|-------|
|              |       | No.                       | Length | Bd Ft | No.                       | Length | Bd Ft |
| Spreader     | 2"x4" | 8                         | 2'8"   | 15    | 13                        | 2'8"   | 24    |
| Carrier Beam | 2"x4" | 6                         | 2'8"   | 11    | 11                        | 2'8"   | 20    |
| Stringer     | 3"x6" | 2                         | 16'0"  | 96    | 6                         | 18'0"  | 162   |
| Bent Post    | 4"x6" | 4                         | 4'3"   | 35    | 4                         | 1'6"   | 12    |
| Knee Brace   | 2"x6" | 8                         | 5'6"   | 41    | -                         | -      | -     |
| Sway Brace   | 2"x6" | 4                         | 5'0"   | 20    | -                         | -      | -     |
| Cross Brace  | 2"x6" | 2                         | 4'9"   | 10    | 2                         | 3'0"   | 6     |
|              |       | Total                     |        | 231   | Total                     |        | 224   |

**BILL OF MATERIALS**

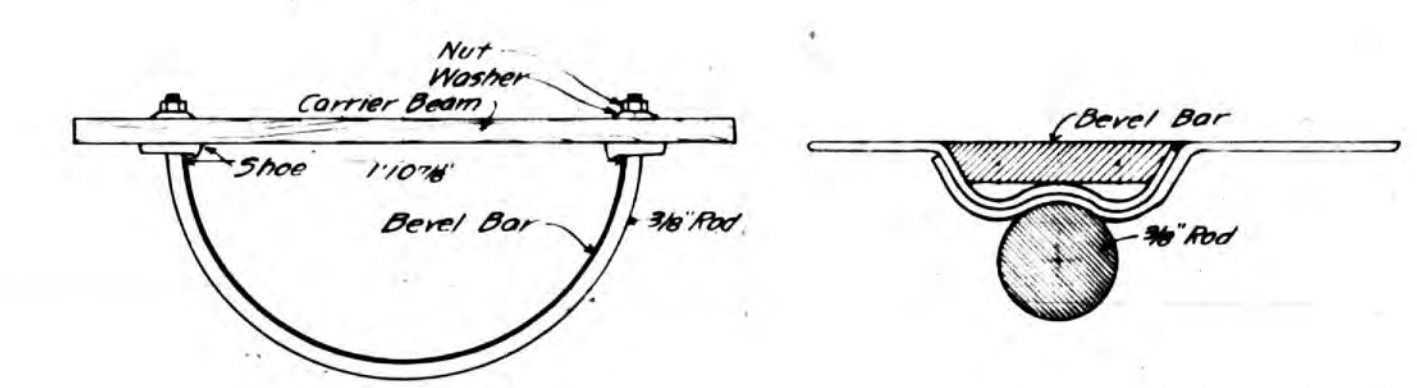
| Material                 | Flume Sta 469+035 to 469+325 | Flume Sta 498+205 to 498+695 |
|--------------------------|------------------------------|------------------------------|
| Concrete Class A         | 60 Cu Yd                     | 54 Cu Yd                     |
| Reinforcing Steel        | 250#                         | 250#                         |
| #20 Gal. Metal Flume     | 30 Lin. Ft.                  | 30 Lin. Ft.                  |
| Strap Iron               | 32"                          | -                            |
| Untreated Timber         | 231 Bd. Ft.                  | 224 Bd. Ft.                  |
| 1/2" Anchor Bolts        | 4 Pieces                     | 4 Pieces                     |
| 1/2" Bolt, Nut & Washers | 12 Sets                      | 22 Sets                      |
| 1/2" Bolt, Nut & Washers | 4 Sets                       | -                            |



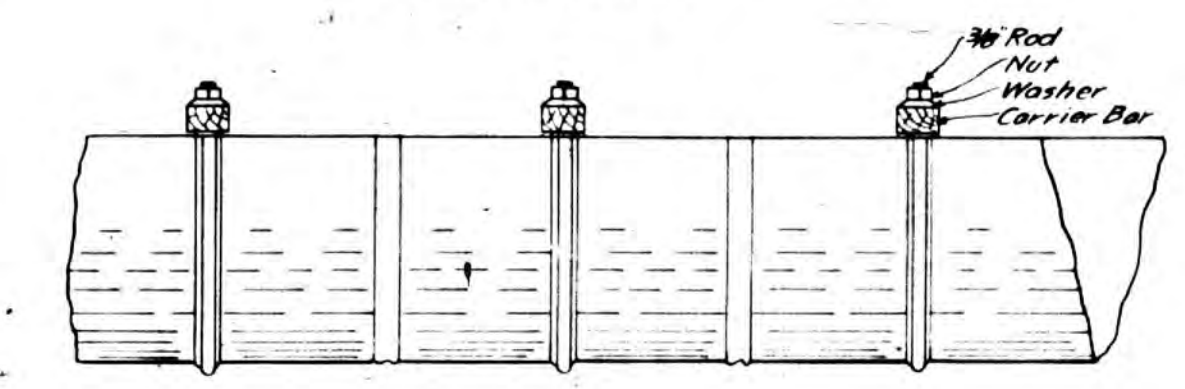
DETAILS OF BENTS  
STAS 469+10 & 469+26



DETAILS OF SUPPORTS  
STAS 498+36 & 498+54



FLUME DETAILS

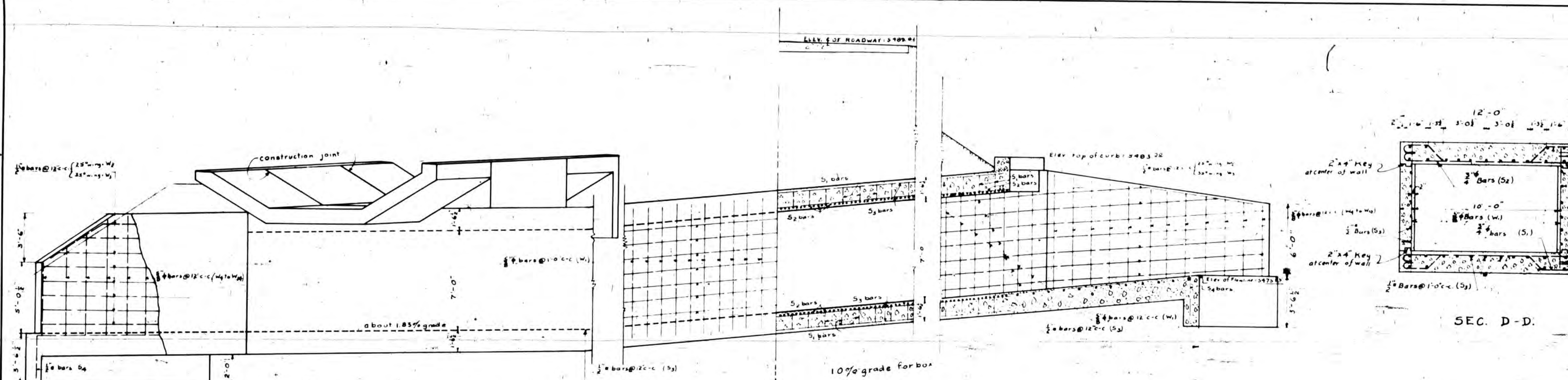


**NOTES**  
All Walls to have forms on both sides.  
All Concrete to be Class A-1, 2, 3.  
All Work to be done in accordance with Standard Specifications of the Colorado State Highway Department.

COLORADO  
 STATE HIGHWAY DEPARTMENT  
 FLUME DETAILS  
 STA 469+035-469+325  
 STA 498+205-498+695  
 FAP 135

| DIST. NO. | STATE | PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-----------|-------|-----------|-----------|--------------|
| 3         | COLO. | 133       | 3         |              |

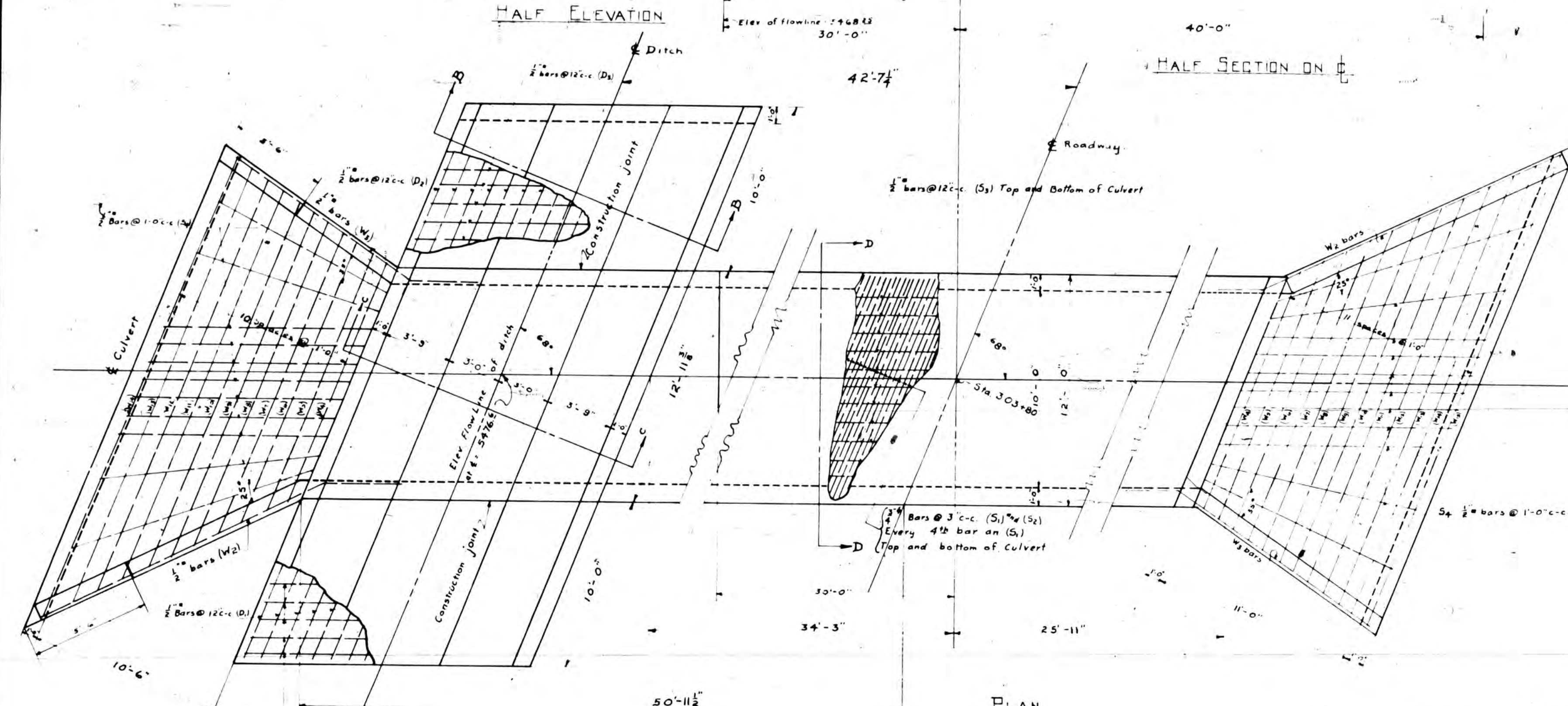
NEW SHEET  
Rev. of 7/13/23 by R.W.J.  
Rev. 7/13/23 by R.W.J.



SEC. D-D.

BAR LIST

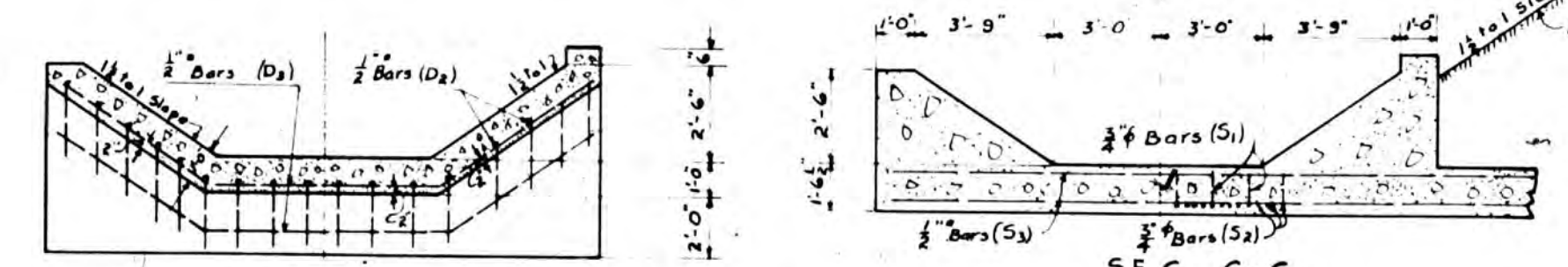
| MARK            | SIZE | NUMBER | LENGTH | BENDING DIAGRAM |
|-----------------|------|--------|--------|-----------------|
| S <sub>1</sub>  | 3/4" | 145    | 14'-3" |                 |
| S <sub>2</sub>  | 3/4" | 436    | 13'-5" |                 |
| S <sub>3</sub>  | 1/2" | 132    | 28'-0" |                 |
| S <sub>4</sub>  | 1/2" | 22     | 18'-0" |                 |
| W <sub>1</sub>  | 1/2" | 155    | 9'-0"  |                 |
| W <sub>2</sub>  | 1/2" | 14     | 21'-0" |                 |
| W <sub>3</sub>  | 1/2" | 15     | 16'-0" |                 |
| D <sub>1</sub>  | 1/2" | 17     | 12'-0" |                 |
| D <sub>2</sub>  | 1/2" | 17     | 14'-0" |                 |
| D <sub>3</sub>  | 1/2" | 19     | 17'-0" |                 |
| W <sub>4</sub>  | 1/2" | 29'-8" |        |                 |
| W <sub>5</sub>  | 1/2" | 30'-0" |        |                 |
| W <sub>6</sub>  | 1/2" | 30'-8" |        |                 |
| W <sub>7</sub>  | 1/2" | 31'-6" |        |                 |
| W <sub>8</sub>  | 1/2" | 32'-8" |        |                 |
| W <sub>9</sub>  | 1/2" | 33'-0" |        |                 |
| W <sub>10</sub> | 1/2" | 33'-8" |        |                 |
| W <sub>11</sub> | 1/2" | 34'-6" |        |                 |
| W <sub>12</sub> | 1/2" | 35'-3" |        |                 |
| W <sub>13</sub> | 1/2" | 36'-0" |        |                 |
| W <sub>14</sub> | 1/2" | 36'-8" |        |                 |
| W <sub>15</sub> | 1/2" | 37'-6" |        |                 |
| Total           |      |        |        | 13200 lbs.      |



PLAN

GENERAL NOTES

All work to be done in accordance with the Standard Specifications of the Colorado State Highway Department.  
All bars to be plain round or plain square as noted.  
All concrete to be Class A (1:2:4) mixture.  
All exposed surfaces to be rubbed free of form marks.  
All walls to have forms on both sides.  
Floor of box to be given rough finish.  
Maximum soil pressure = 2500 lbs. per sq. ft.



SEC. B-B. SHOWING CUT OFF WALL.

SEC. C-C

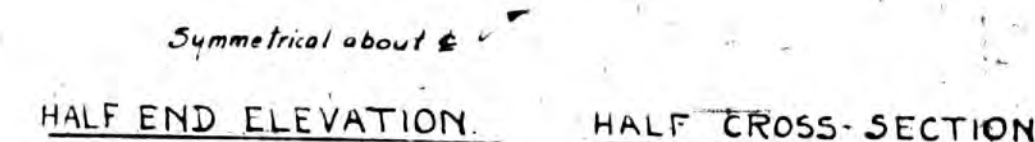
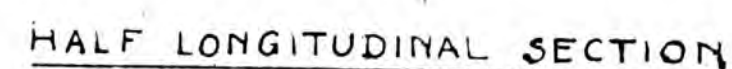
| SUMMARY OF QUANTITIES |              |
|-----------------------|--------------|
| Reinforcing Steel     | (13200) lbs. |
| Concrete Class A      | 220 cu. yds. |

**COLORADO**  
STATE HIGHWAY DEPARTMENT  
7' x 10' SKEW CULVERT  
WITH DITCH X'ING.

ACROSS WASH Sta. 303+80  
SKEW 27° 14' 5" R. 69W.

Designed by R.S.D. Approved by R.W.J.  
Made by R.W.J. Bridge Engineer  
Checked by P.B.B. Date 7.26.23

DESIGN DATA  
No Live Load used.  
Assumed Dead Load of Earth = 1560# per sq. ft. of Culvert slab.



### HANDRAIL NOTES.

Top rail to be pre-cast and put in place before pouring posts.

One end to be cast solidly into post. Other end shall have a 4" x 4" long, 1" insert in each of three sides, but bottom flush with surface rail.

This end to be covered entirely with expansion joint material before post is cast around it. Rail to be cast first of final.

Bevels in top rail also vertical corners and panels of posts to be made by inserting 2" triangular wood strip.

BAR LIST

MARK

| SIZE | NO. | LENGTH |
|------|-----|--------|
| 3/8" | 167 | 20'-0" |
| 3/8" | 256 | 12'-0" |
| 1/2" | 33  | 2'-0"  |
| 1/2" | 32  | 2'-0"  |
| 3/4" | 34  | 3'-0"  |
| 1/2" | 96  | 9'-0"  |

BENDING DIAGRAM

18'-3"

16'-0"

27'-6"

19'-0"

15'-0"

10'-0"

11'-0"

12'-0"

13'-0"

14'-0"

15'-0"

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358'-0"

359

~ GENERAL NOTES ~

GENERAL NOTES -

ALL WORK TO BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE COLORADO STATE HIGHWAY DEPARTMENT

ALL BARS TO BE PLAIN ROUND OR PLAIN SQUARE AS NOTED

ALL CONCRETE TO BE CLASS A (1/2-3) MIXTURE, EXCEPT ON SLABES BELOW

ALL EXPOSED SURFACES TO BE RUBBED FREE OF FORM MARKS

ALL WALLS TO HAVE FORMS ON BOTH SIDES

STRUCTURE IS DETAINED WITH .35 OF A FOOT WEARING SURFACE AT THE CROWN. IF BITUMINOUS WEARING SURFACE IS ADOPTED ON IT SUFFICIENT CONCRETE FROM TOP OF SLAB KEEPING ELEVATION OF 1/2 OF ROADWAY AS SHOWN.

MAXIMUM PRESSURE FOR BASE = 1500 P.S.I.

TOP SLAB MAY BE EITHER (1/2-4) OR PAVEMENT (1/2-3) MIXTURE

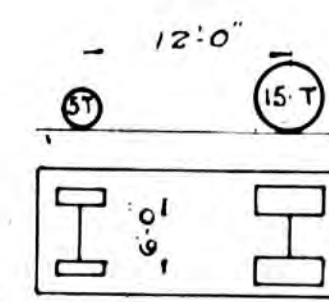
GRADE OF BOX TO CONFORM TO THAT OF STREAM

### SUMMARY OF QUANTITIES

Total Reinforcing Steel = 11500 LBS.  
Total Class A Concrete = 113.0 Cu. Yds

COLORADO  
STATE HIGHWAY DEPARTMENT  
8' x 8' DOUBLE  
Box CULVERT.

|                                                                      |                                                                            |                       |
|----------------------------------------------------------------------|----------------------------------------------------------------------------|-----------------------|
| Across Wash<br>Sta. 374 + 74<br>Near Morrisson.                      |                                                                            | Sec 33 T. 46. R. 69W. |
| Designed by R.S.D.<br>Made by P.S.B.<br>Checked by P.S.B. <i>VRJ</i> | Approved by <i>P.D. Austin</i><br>Bridge Engineer<br>Date <i>5-11-1983</i> |                       |

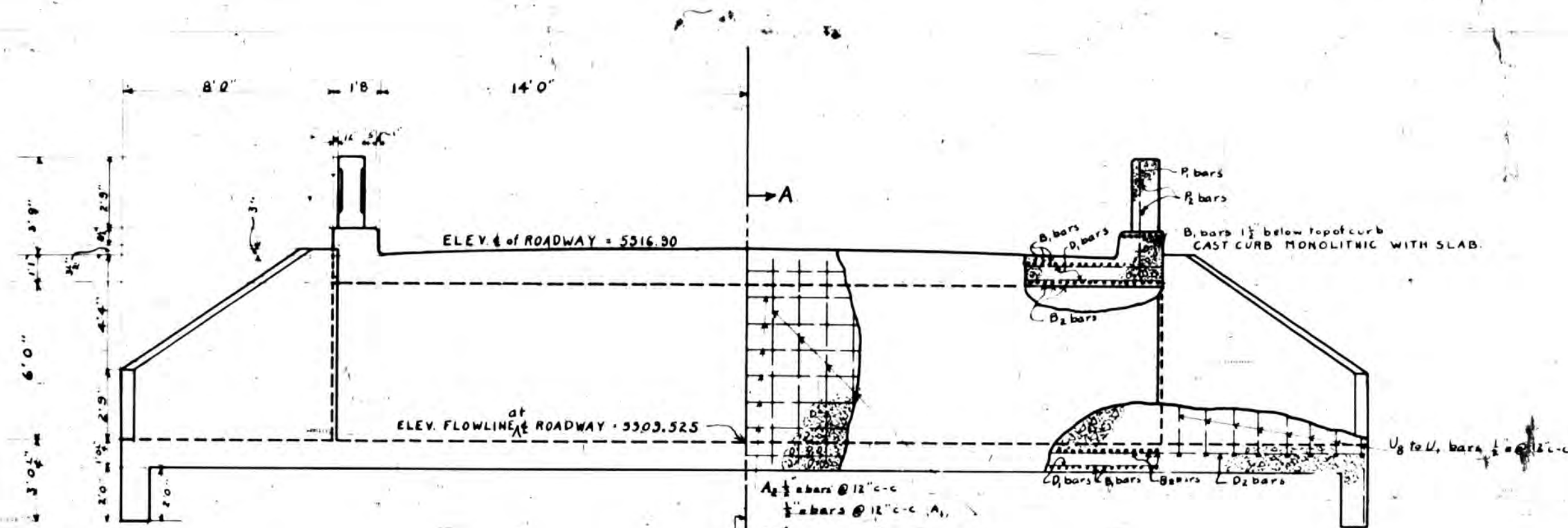


~ DESIGN DATA.

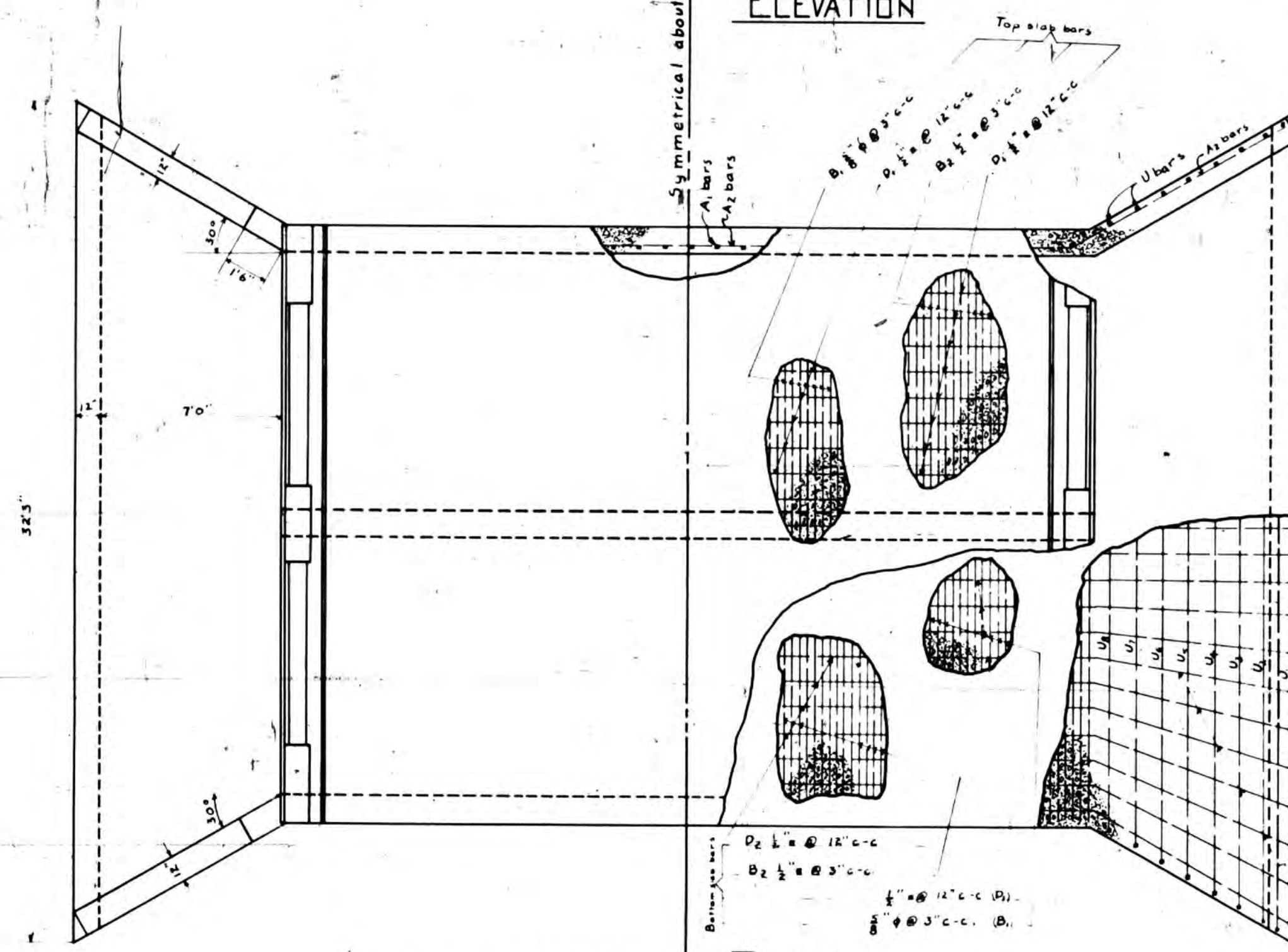
ONE 20 TON TRUCK  
AS SHOWN OR DISTRIBUTED  
LOAD OF 100# PER SQUARE  
FOOT OF ROADWAY.  
30% IMPACT FACTOR USED.

| FED. RD. DIST. NO. | STATE | PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------------|-------|-----------|-----------|--------------|
| 3                  | COLO. | 135       | 5         |              |

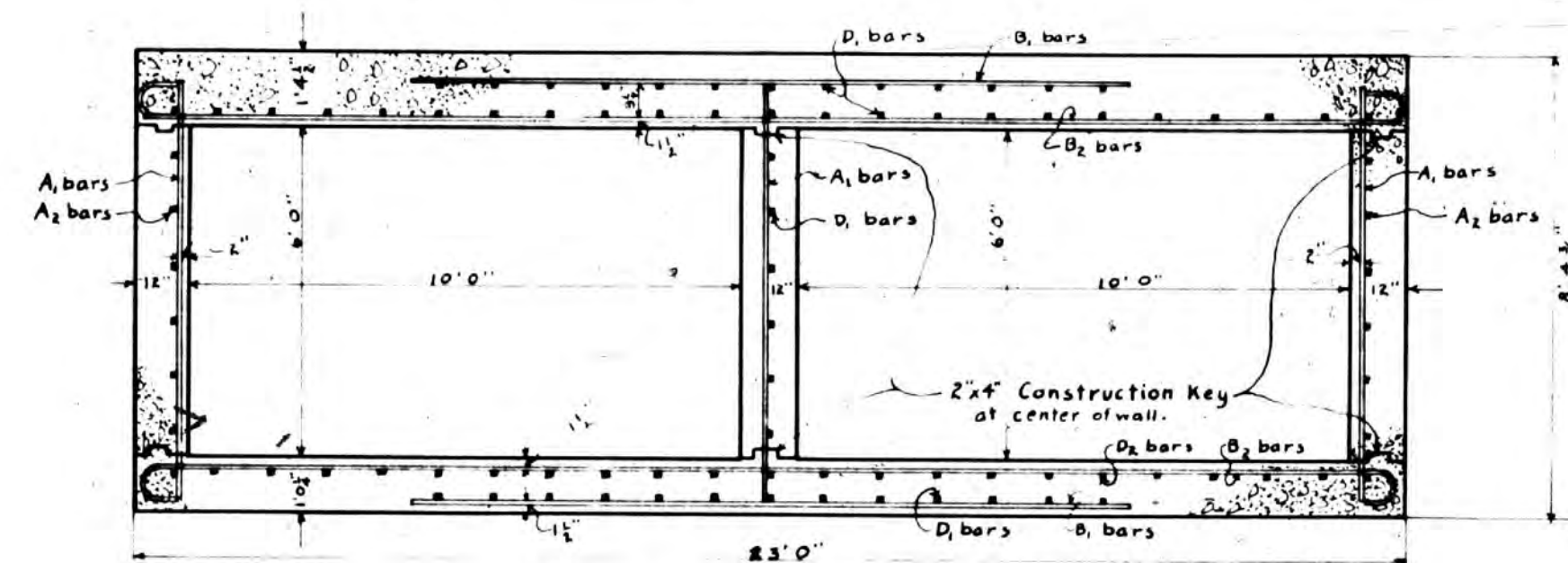
Revision of 6-5-23 A.W.J.  
Rev. 6-11-23 P.E.B.



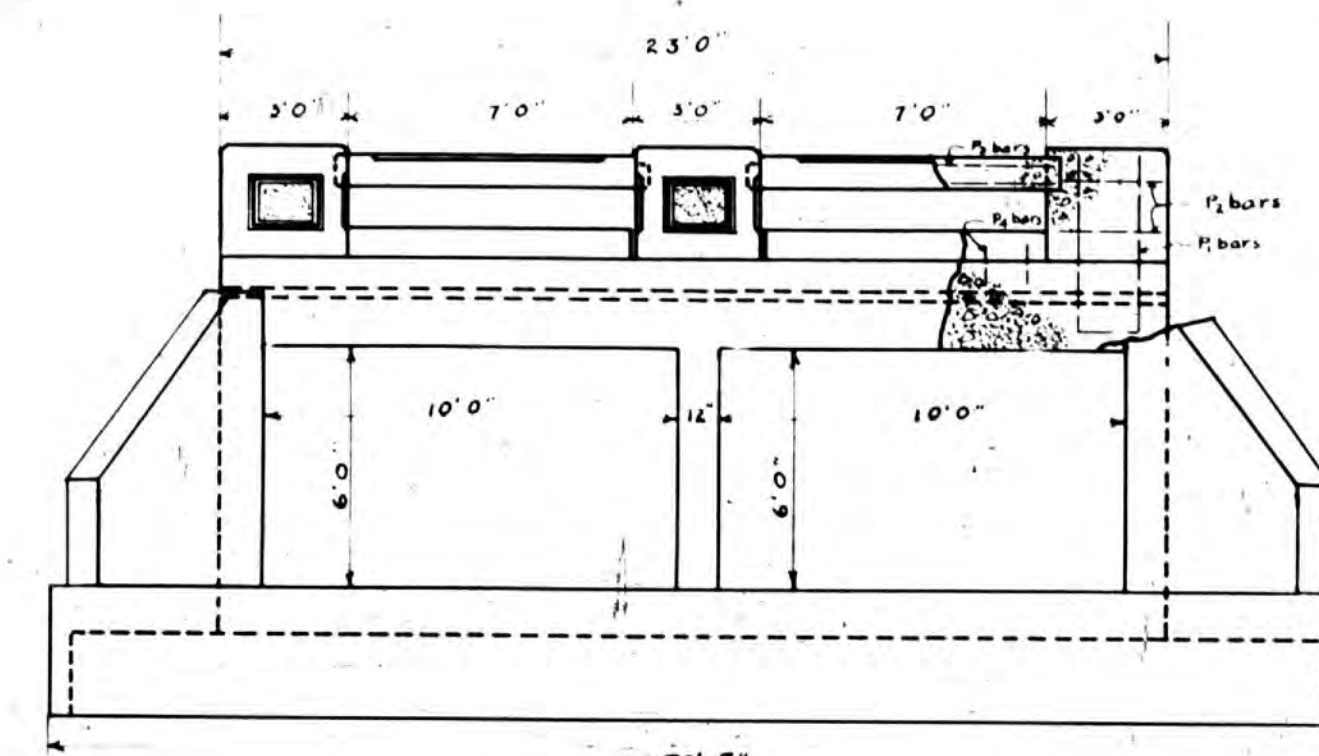
ELEVATION



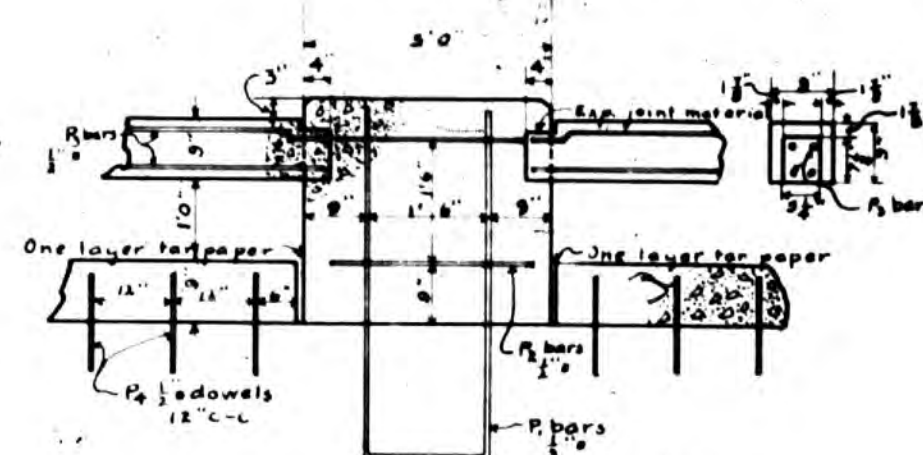
PLAN



SECTION A-A



END VIEW



DETAIL OF CENTER POST

Top rail to be precast and put in place before pouring posts. One end to be cast solidly into post. Other end shall have a tenon 4" long, inset 1/4" on each of three sides, but bottom flush with surface of rail. This end to be covered entirely with expansion joint material before post is cast around it. Rail to be cast free of twist. Bevels in top rail also vertical corners and panels of posts to be made by inserting 3/4" triangular wood strip.

BAR LIST

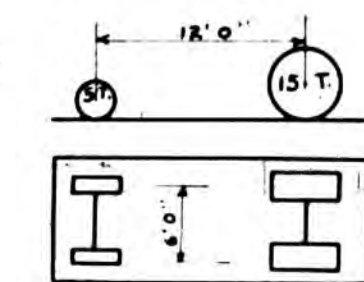
| Notation       | Size | Length | Number | Bending Diagram                               |
|----------------|------|--------|--------|-----------------------------------------------|
| A              | 1/2" | 7'9"   | 93     |                                               |
| A <sub>1</sub> | 1/2" | 26'0"  | 24     |                                               |
| B              | 1/2" | 13'0"  | 251    |                                               |
| B <sub>1</sub> | 1/2" | 23'6"  | 250    |                                               |
| D              | 1/2" | 31'0"  | 55     |                                               |
| D <sub>1</sub> | 1/2" | 28'0"  | 23     |                                               |
| U              | 1/2" | 37'0"  | 2      |                                               |
| U <sub>1</sub> | 1/2" | 37'2"  | 2      | a=3'7" b=30'0" Bend similar to U <sub>1</sub> |
| U <sub>2</sub> | 1/2" | 37'3"  | 2      | a=4'2" b=28'11" do.                           |
| U <sub>3</sub> | 1/2" | 37'4"  | 2      | a=4'9" b=27'10" do.                           |
| U <sub>4</sub> | 1/2" | 37'5"  | 2      | a=5'4" b=26'9" do.                            |
| U <sub>5</sub> | 1/2" | 37'6"  | 2      | a=5'11" b=25'8" do.                           |
| U <sub>6</sub> | 1/2" | 37'8"  | 2      | a=6'6" b=24'7" do.                            |
| U <sub>7</sub> | 1/2" | 37'8"  | 2      | a=7'1" b=23'6" do.                            |
| P              | 1/2" | 10'0"  | 7      |                                               |
| P <sub>1</sub> | 1/2" | 2'6"   | 12     |                                               |
| P <sub>2</sub> | 1/2" | 7'4"   | 16     |                                               |
| P <sub>3</sub> | 1/2" | 1'0"   | 28     |                                               |
|                |      |        |        | 10418 lin.ft. @ 0.85 = 8850                   |
|                |      |        |        | 3263 lin.ft. @ 4.00 = 13052                   |
|                |      |        |        | + 15% for waste = 247                         |

GENERAL NOTES

All work to be done in accordance with the standard specifications of the Colorado State Highway Department.  
All bars to be plain round or plain square as noted.  
All concrete to be Class A (1:1:4) mixture, except top slab may be pavement (1:2:3) mixture.  
All exposed surfaces to be rubbed free of form marks.  
All walls to have forms on both sides.  
Structure is detailed with 0.35 of a foot wearing surface at the crown. If bituminous wearing surface is adopted omit sufficient concrete from top of slab keeping elevation of  $\frac{1}{2}$  of roadway as shown.  
Maximum soil pressure at base = 1000 lbs. per sq. ft.  
Grade of box to conform to that of stream.

SUMMARY OF QUANTITIES

|                          |               |
|--------------------------|---------------|
| Reinforcing Steel        | 12600 lbs.    |
| Concrete Class A (1:1:4) | 113.5 cu. yd. |



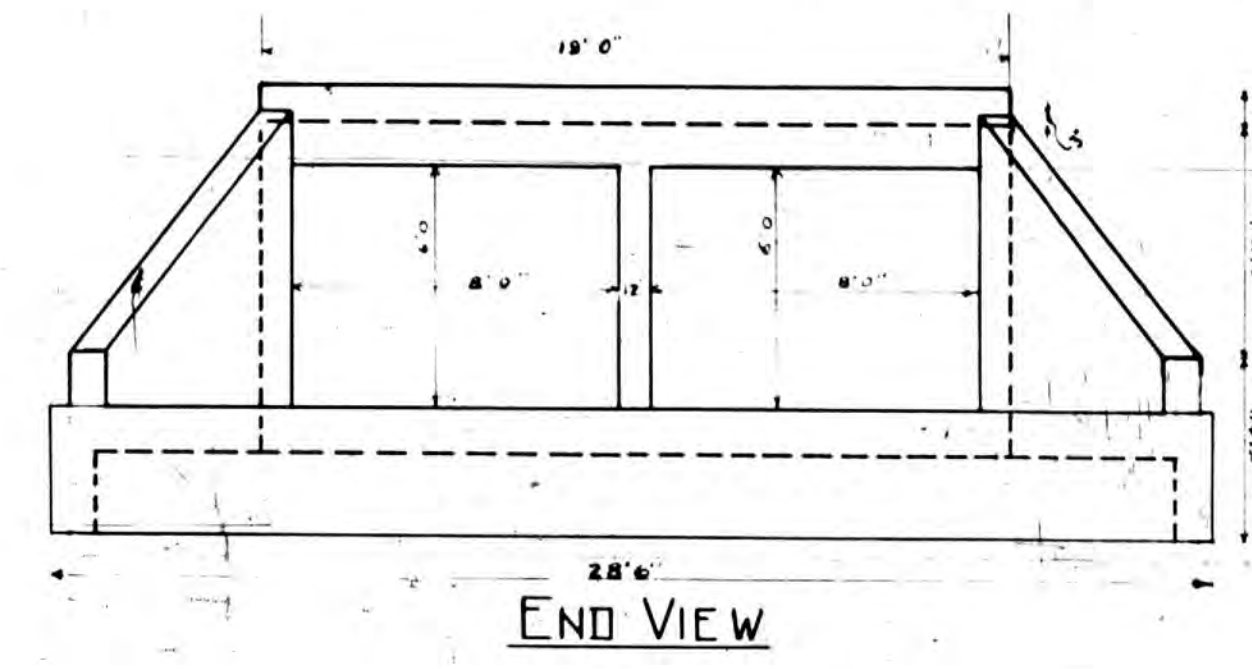
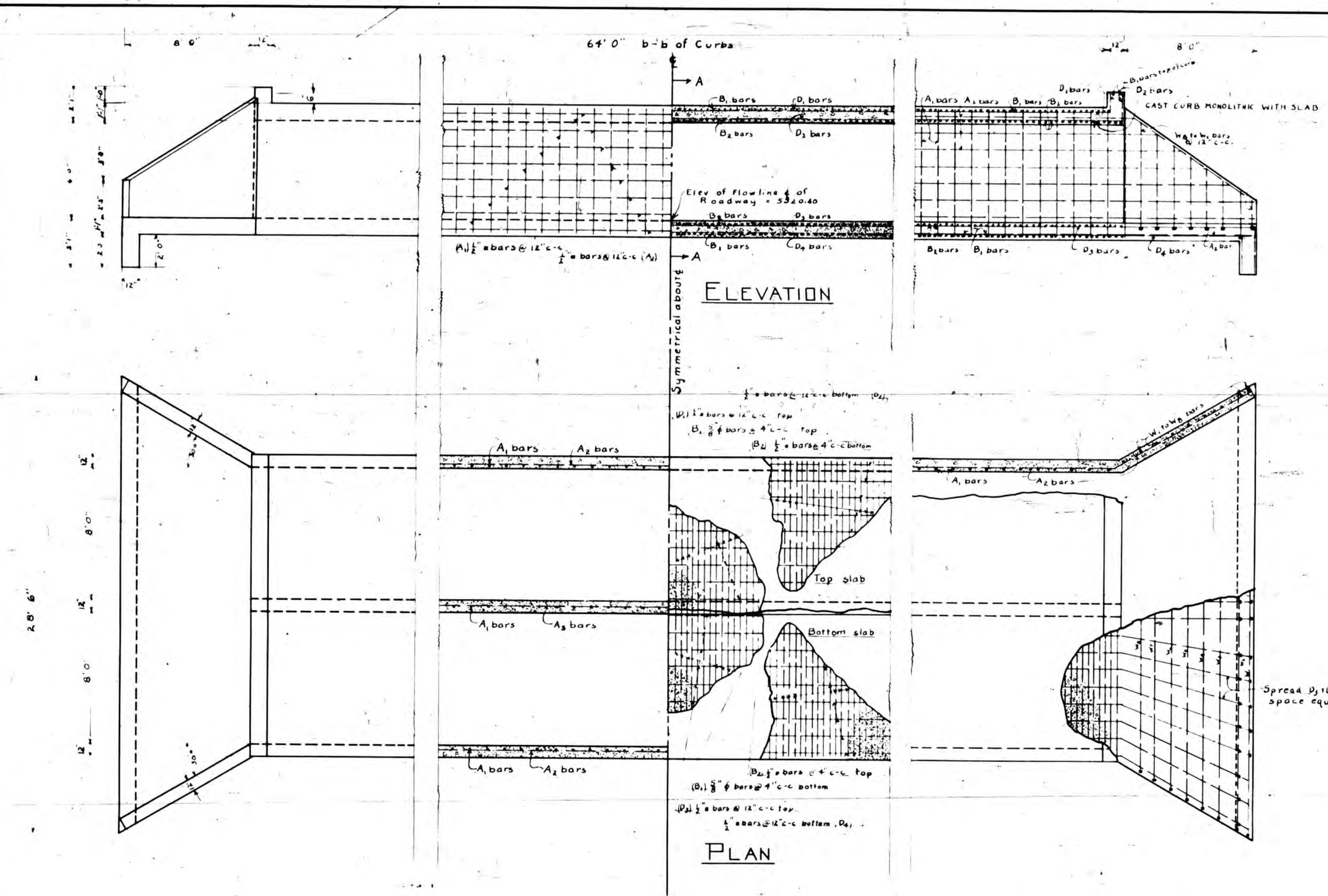
DESIGN DATA

ONE 20 TON TRUCK  
AS SHOWN OR DISTRIBUTED  
LOAD OF 100' PER SQUARE  
FOOT OF ROADWAY.  
30% IMPACT FACTOR USED.

**COLORADO**  
STATE HIGHWAY DEPARTMENT  
6'x10' DOUBLE  
BOX CULVERT

Across Wash Sta. 386+15.0  
Near Morrison, Sec. 32 T4S, R6W  
Designed by R.S.D. Approved by P.E.B.  
Made by A.W.J. Bridge Engineer  
Checked by P.E.B. Date 6-11-23 1923

Revision of 6-5-23 R.W.J.



### BAR LIST

| Notation       | Size | Length | Number | Bending Diagram                               |
|----------------|------|--------|--------|-----------------------------------------------|
| A <sub>1</sub> | 1/2" | 7' 9"  | 200    |                                               |
| A <sub>2</sub> | 1/2" | 45' 0" | 32     |                                               |
| A <sub>3</sub> | 1/2" | 34' 0" | 12     |                                               |
| B <sub>1</sub> | 3/8" | 12' 0" | 399    |                                               |
| B <sub>2</sub> | 1/2" | 15' 8" | 398    |                                               |
| D <sub>1</sub> | 1/2" | 34' 6" | 13     |                                               |
| D <sub>2</sub> | 1/2" | 35' 6" | 19     |                                               |
| D <sub>3</sub> | 1/2" | 45' 0" | 19     |                                               |
| D <sub>4</sub> | 1/2" | 44' 0" | 13     |                                               |
| W <sub>1</sub> | 1/2" | 32' 0" | 3      | a=2'6" b=27'0"                                |
| W <sub>2</sub> | 1/2" | 33' 5" | 2      | a=3'9" b=26'3" Bend similar to W <sub>1</sub> |
| W <sub>3</sub> | 1/2" | 32' 9" | 2      | a=4'0" b=24'9" do.                            |
| W <sub>4</sub> | 1/2" | 33' 0" | 2      | a=4'7" b=23'10" do.                           |
| W <sub>5</sub> | 1/2" | 33' 6" | 2      | a=5'2" b=23'2" do.                            |
| W <sub>6</sub> | 1/2" | 33' 9" | 2      | a=5'5" b=22'3" do.                            |
| W <sub>7</sub> | 1/2" | 34' 0" | 2      | a=6'4" b=21'4" do.                            |
| W <sub>8</sub> | 1/2" | 34' 6" | 2      | a=7'6" b=19'6" do.                            |

| SUMMARY OF QUANTITIES |                          |              |                |
|-----------------------|--------------------------|--------------|----------------|
| Reinforcing Steel:    | 1/2"                     | 4788 linft.  | 1934 lbs.      |
|                       | 3/8"                     | 14278 linft. | 12136 lbs.     |
|                       | Total +3% for overrun    |              | 17600 lbs.     |
|                       | Concrete Class A (1:2:4) |              | 172.8 cu. yds. |

**GENERAL NOTES**

All work to be done in accordance with the Standard Specifications of the Colorado State Highway Department.

All bars to be plain round or plain square as noted.

All Concrete to be Class A (1:2:4).

All exposed surfaces to be rubbed free of form marks.

All walls to have forms on both sides.

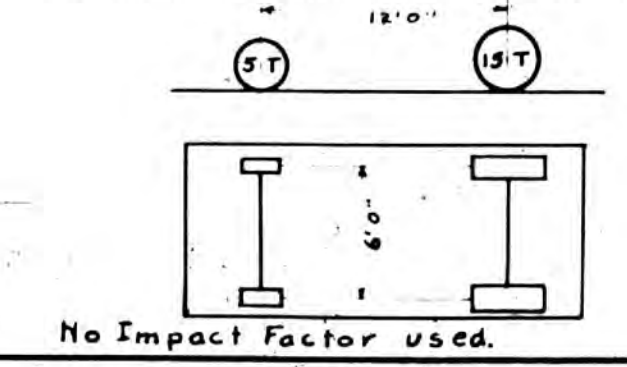
Maximum soil pressure 2000" per sq. ft.

Grade of box to conform to that of stream.

**DESIGN DATA**

One 20-ton truck as shown or distributed load of 100" per sq. ft. of roadway.

Assumed weight of earth 1080"/sq. ft.



No Impact Factor used.

**COLORADO**  
STATE HIGHWAY DEPARTMENT  
**6'x8' DOUBLE**  
**BOX CULVERT**

Across Wash.  
Sta. 112+00  
Near Morrison, Sec. 32 T.4S. R.63W

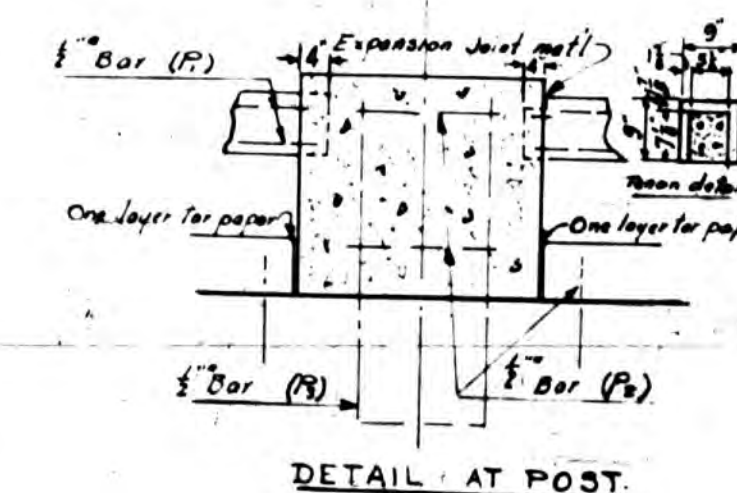
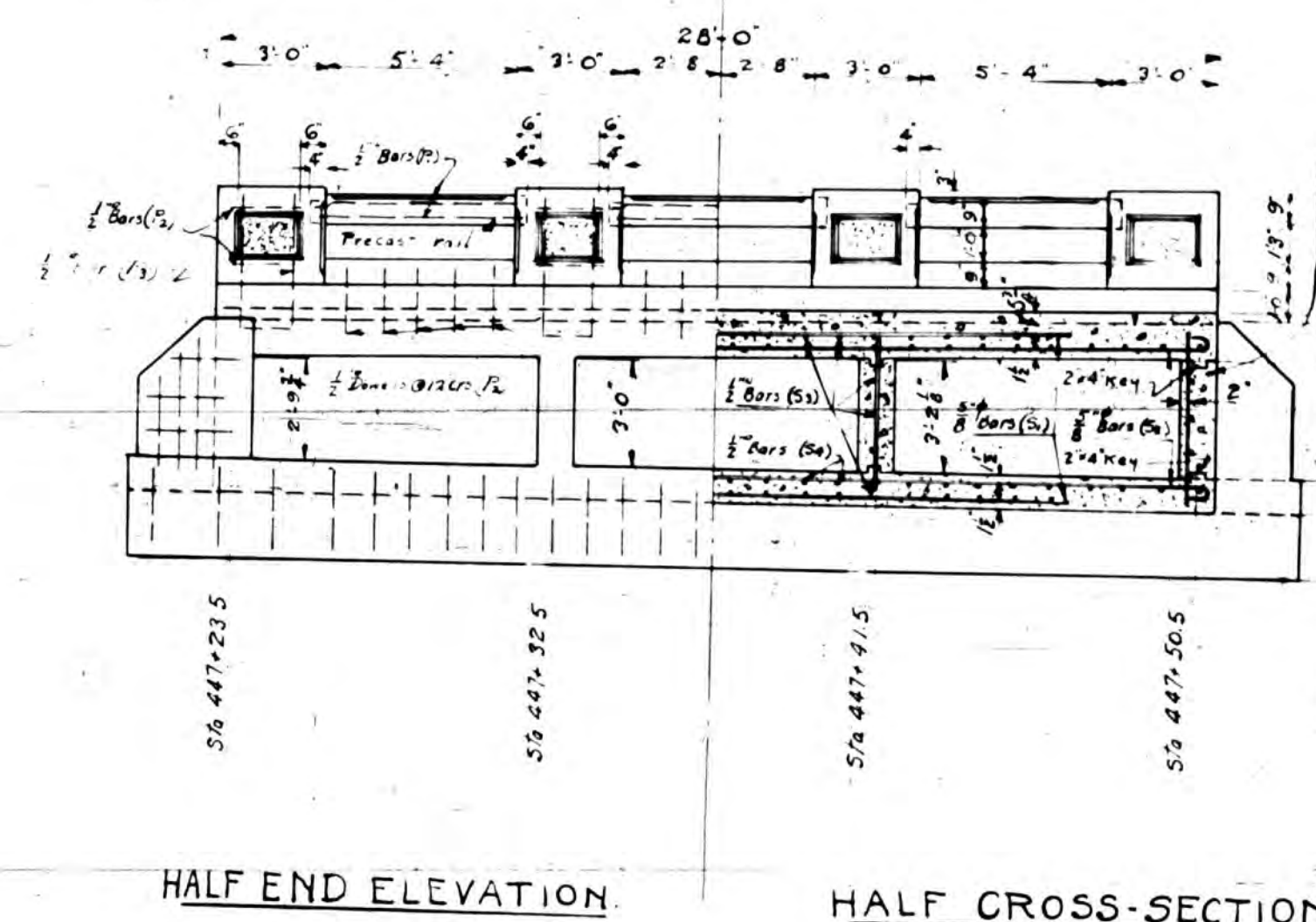
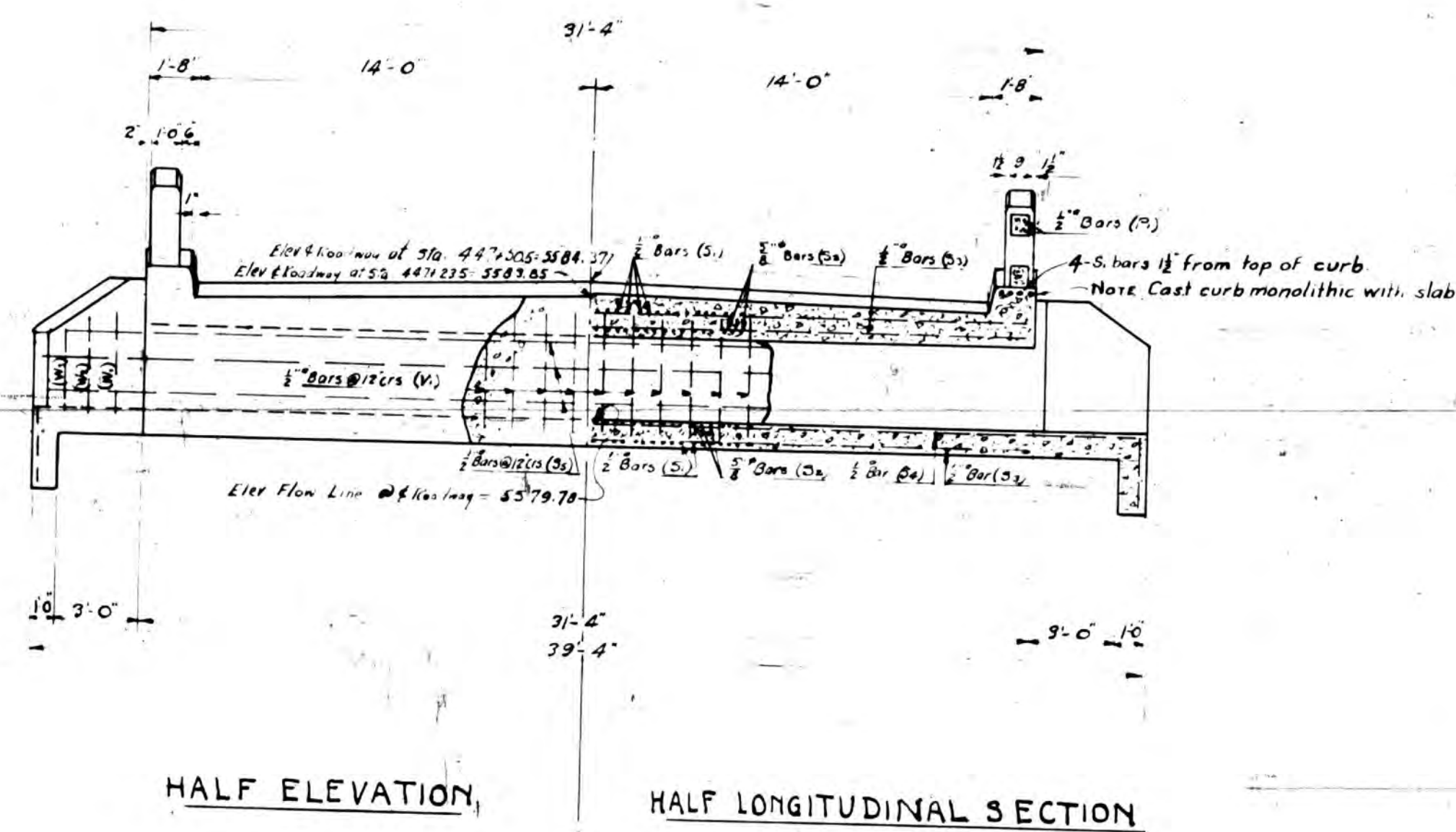
Designed by RJD  
Made by R.W.J.  
Checked by J.V.H.S.B.

Approved by [Signature]  
Bridge Engineer  
Date: 8-11-1923

|                        |       |                       |              |                |
|------------------------|-------|-----------------------|--------------|----------------|
| FED. ROAD<br>DIST. NO. | STATE | FED. AID<br>PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEET |
| 3                      | COLO. | 135                   | 7            |                |

Revised 6-5-23 T.W.

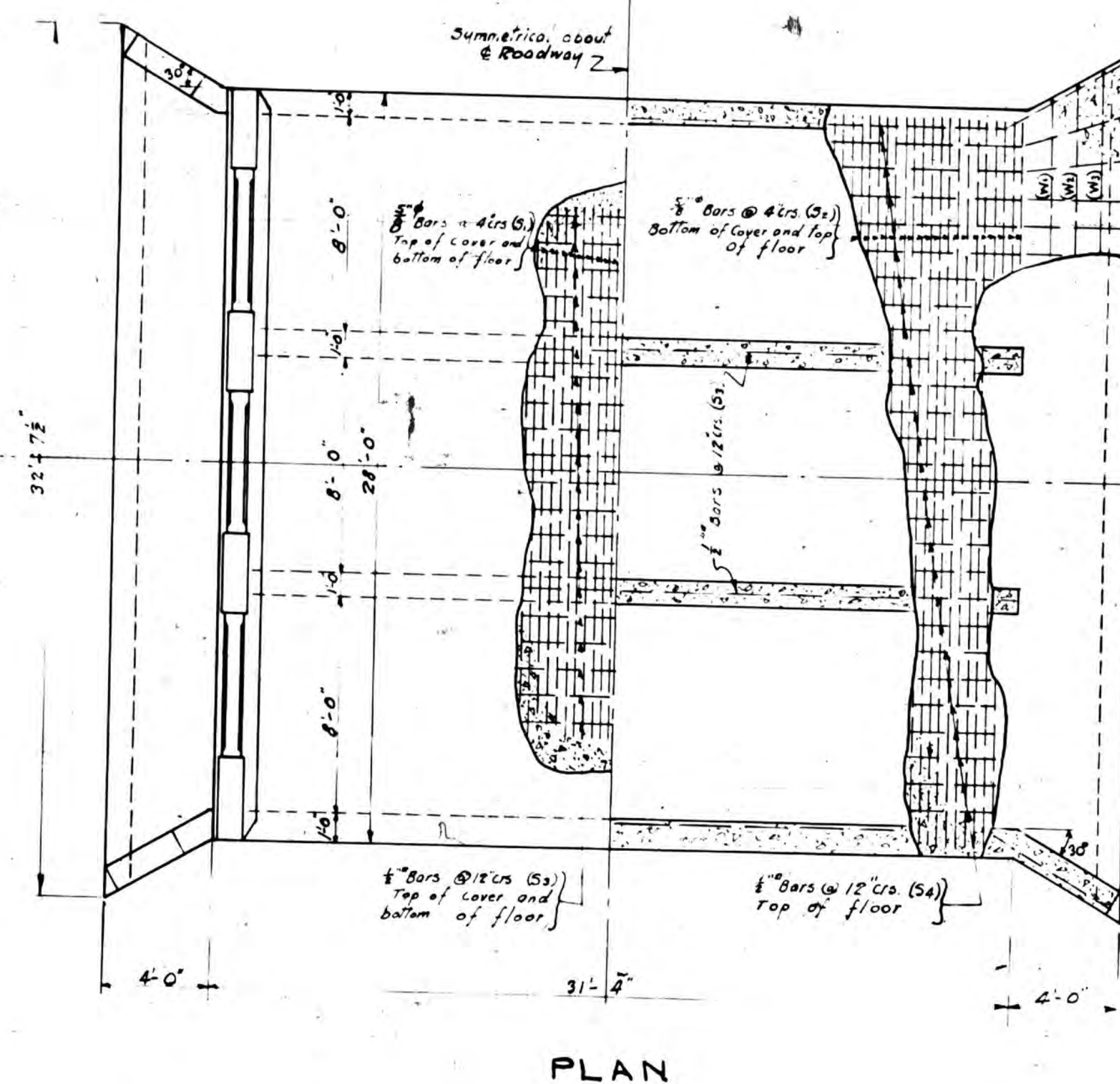
Revised 6-5-83 mw.



## HAND RAIL NOTES

Top rail to be pre-cast and put in place before pouring posts. One end to be cast solidly into post; other end shall have a tenon 4" long, insert it on each of three sides, put bottom flush with surface of rail. This end to be covered entirely with expansion joint material before post is cast around it. Rail to be cast free of restraint.

Bevels in top rail also vertical corners and panels of posts to be made by inserting  $\frac{3}{4}$ " triangular wood strips.

BAR LIST.

| MARK           | SIZE   | NO     | LENGTH | BENDING DIAGRAM |
|----------------|--------|--------|--------|-----------------|
| S <sub>1</sub> | 1/2"   | 186    | 20'-0" |                 |
| S <sub>2</sub> | 3/4"   | 187    | 29'-0" |                 |
| S <sub>3</sub> | 1"     | 74     | 31'-0" |                 |
| S <sub>4</sub> | 1 1/4" | 56     | 24'-0" |                 |
| V <sub>1</sub> | 1 1/2" | 128    | 4'-3"  |                 |
| D <sub>1</sub> | 1 1/2" | 12     | 22'-0" |                 |
| W <sub>1</sub> | 1 1/2" | 2 each | 34'-0" |                 |
| W <sub>2</sub> | 1 1/2" |        | 35'-0" |                 |
| W <sub>3</sub> | 1 1/2" |        | 36'-0" |                 |
| W <sub>4</sub> | 1 1/2" |        | One    |                 |
| P <sub>1</sub> | 1 1/2" | 24     | 5'-8"  |                 |
| P <sub>2</sub> | 1 1/2" | 32     | 2'-0"  |                 |
| P <sub>3</sub> | 1 1/2" | 8      | 9'-6"  |                 |

4977 Lin Ft = 85 - 4230 Lbs  
 9143 Lin Ft = 1043 - 9530 Lbs  
 5% for overrun - 412 Lbs.

|                |       |   |         |
|----------------|-------|---|---------|
| 4977 Lin Ft    | 1.85  | = | 4230.15 |
| 9143 Lin Ft    | 1.043 | = | 9530.46 |
| 9% for overrun |       | = | 412.46  |

### SUMMARY OF QUANTITIES.

TOTAL REINFORCING STEEL: 14170 LB  
TOTAL CLASS A CONCRETE: 104.0 Cu Yd

COLORADO  
STATE HIGHWAY DEPARTMENT  
3' x 8' TRIPLE  
BOX CULVERT

|                                                                 |                                                                         |                  |
|-----------------------------------------------------------------|-------------------------------------------------------------------------|------------------|
| Across Wash.<br>Sta. 447+22<br>Near Morrison                    |                                                                         | Sec 31-T.43-R69N |
| Designed by R.S.D<br>Made by P.S.B<br>Checked by P.S.B & W.W.J. | Approved: <i>P. B. [Signature]</i><br>BRIDGE ENGINEER<br>Date: 5-1-1911 |                  |

~ GENERAL NOTES ~

~ GENERAL NOTES ~

c- All work to be done in accordance with the Standard Specifications for the Colorado State Highway Department.

All bars to be plain round or plain square as noted.

All concrete to be class A (1:2:4) mixture, except for slab (see below).

All exposed surfaces to be rubbed free of form marks.

All walls to have forms on both sides.

Structure is detailed with .35 g-a-foot wearing surface at the crown. If bituminous wearing surface is adopted, omit sufficient concrete from top of slab, keeping elevation of  $\frac{1}{2}$  of roadway as shown.

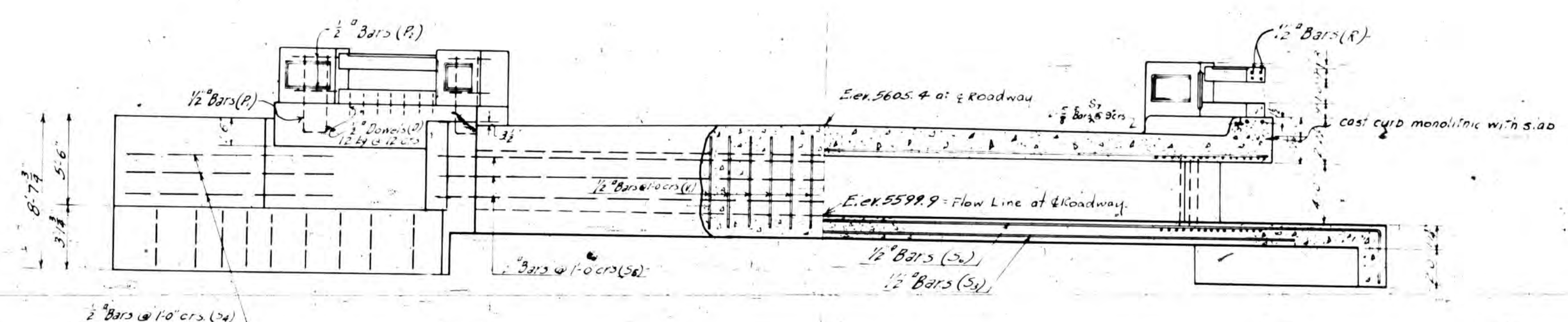
Maximum pressure on base = 750  $\frac{\text{lb}}{\text{sq ft}}$

Top slab may be either (1:2:4) or pavement (1:2:3) mixture

Grade of box to conform to that of stream.

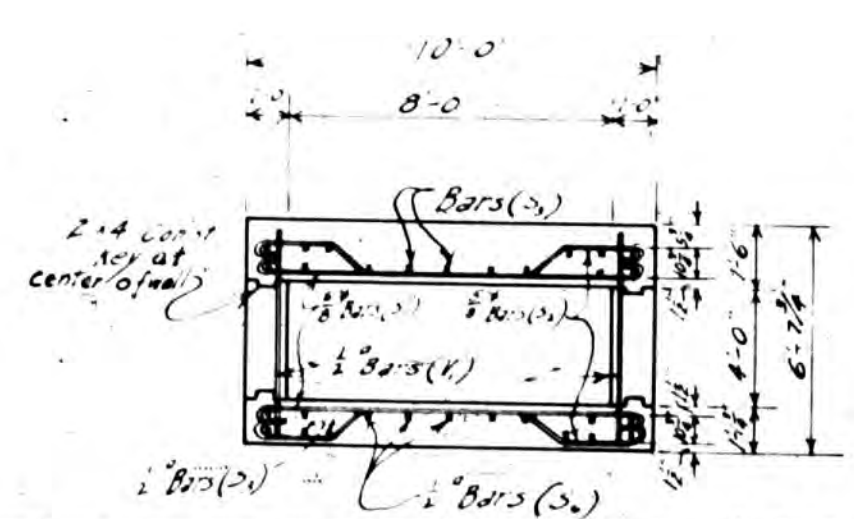
~ DESIGN DATA ~

ONE 20 TON TRUCK  
AS SHOWN OR DISTRIBUTED  
LOAD OF 100<sup>0</sup> PER SQUARE  
FOOT OF ROADWAY.  
30% IMPACT FACTOR USED



ELEVATION

LONGITUDINAL SECTION

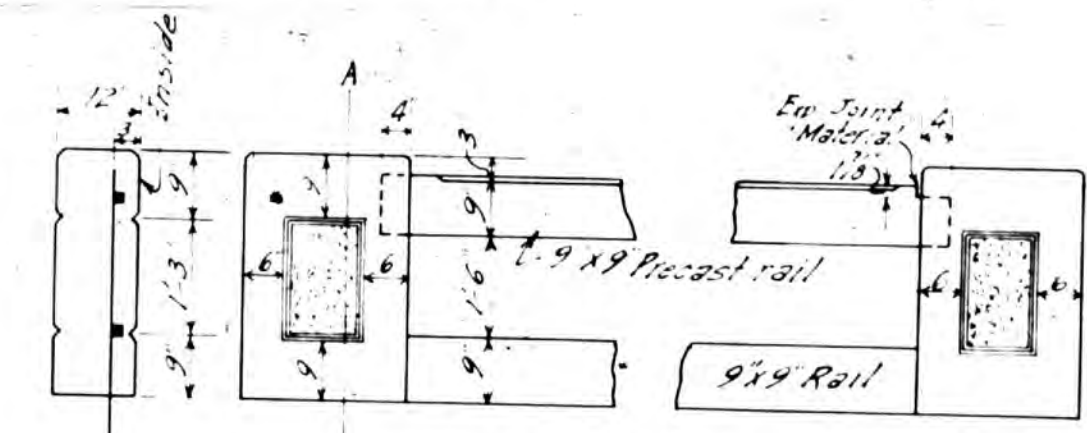


SECTION A-A

BAR LIST

| MARK           | SIZE | NO. | LENGTH | BENDING DIAGRAM |
|----------------|------|-----|--------|-----------------|
| S <sub>1</sub> | 5/8" | 168 | 15'-0" | 13'-3"          |
| S <sub>2</sub> | 5/8" | 83  | 15'-9" | 10'-10"         |
| V <sub>1</sub> | 1"   | 90  | 5'-9"  | 7'-3"           |
| S <sub>3</sub> | 3/4" | 42  | 23'-0" | 22'-0"          |
| S <sub>4</sub> | 3/4" | 6   | 32'-0" | 23'-3"          |
| S <sub>5</sub> | 1"   | 6   | 28'-0" | 29'-2"          |
| S <sub>6</sub> | 1"   | 18  | 32'-0" | 22'-0"          |
| U <sub>1</sub> | 1"   | 2   | 32'-0" | 21'-0"          |
| U <sub>2</sub> | 1"   | 2   | 29'-0" | 18'-2"          |
| D <sub>1</sub> | 1"   | 14  | 15'-0" | 18'-6"          |
| P <sub>1</sub> | 1"   | 5   | 10'-0" |                 |
| P <sub>2</sub> | 1"   | 8   | 3'-0"  |                 |
| R              | 1"   | 8   | 7'-3"  |                 |
| S <sub>7</sub> | 3/4" | 4   | 12'-9" |                 |

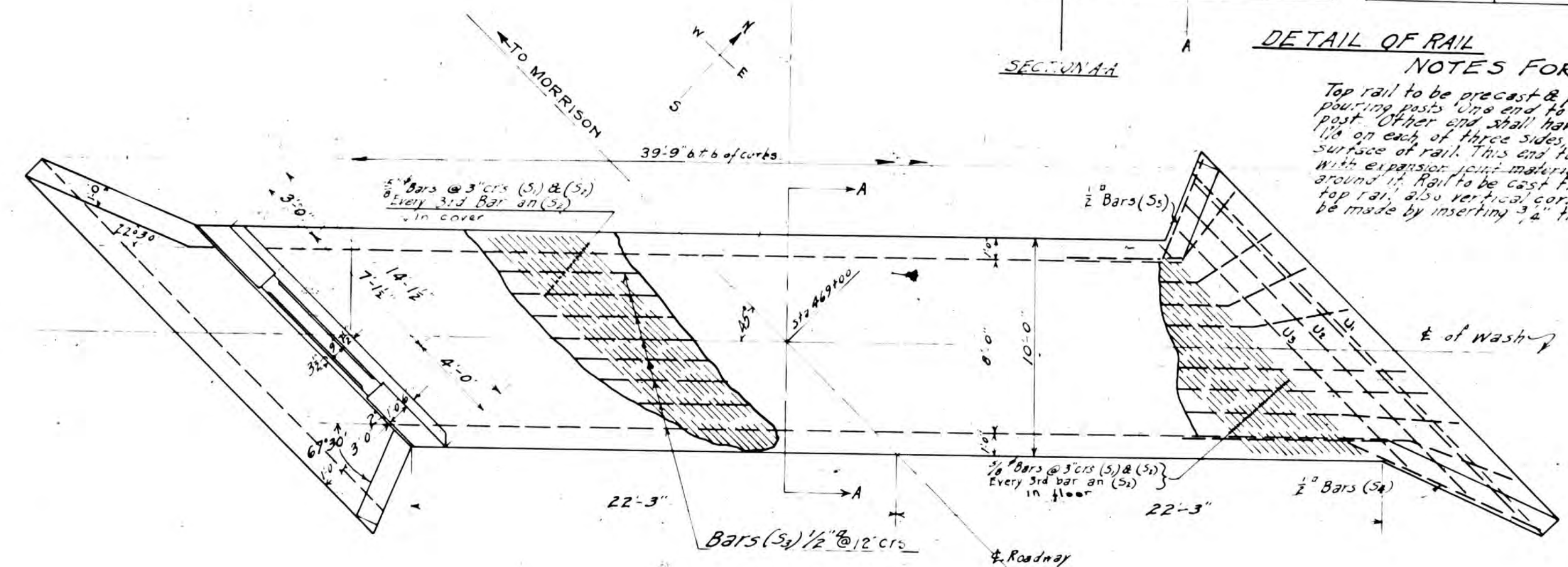
2741 Lin. Ft. 1/2" @ .05 = 2390 Lbs.  
 3882 " 3/4" @ 1.043 = 4050 "  
 2 1/2" for overrun = 120 "



DETAIL OF RAIL

NOTES FOR HANDRAIL

Top rail to be precast & put in place before pouring posts. One end to be cast solidly into post. Other end shall have a tenon & long inset fit on each of three sides, but bottom flush with surface of rail. This end to be covered with expansion joint material before post is cast around it. Rail to be cast free of twist. Bends in top rail, also vertical corners & panels of posts to be made by inserting 1/2" triangular wood strip.

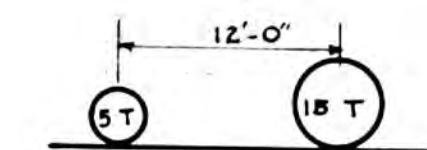


GENERAL NOTES

All work to be done in accordance with the Standard specifications of the Colorado State Highway Department.  
 All bars to be plain round, or plain square as noted.  
 All concrete to be class A (1:2:4) mixture, except top slab which may be parment (1:2:3) mixture.  
 All exposed surfaces to be rubbed free of form marks.  
 All walls to have forms on both sides.  
 Maximum soil pressure = 2500#/sq. ft.  
 Structure is detailed with .35 of a ft. wearing surface at the crown. If bituminous wearing surface is adopted omit sufficient concrete from top of slab, keeping elevation of E. of roadway as shown.  
 Grade of box to conform to that of stream.

SUMMARY OF QUANTITIES

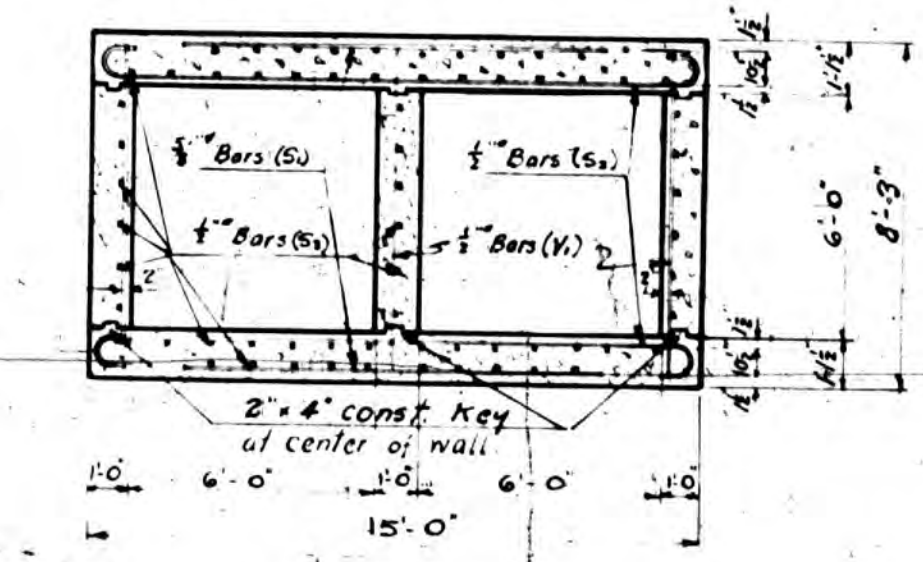
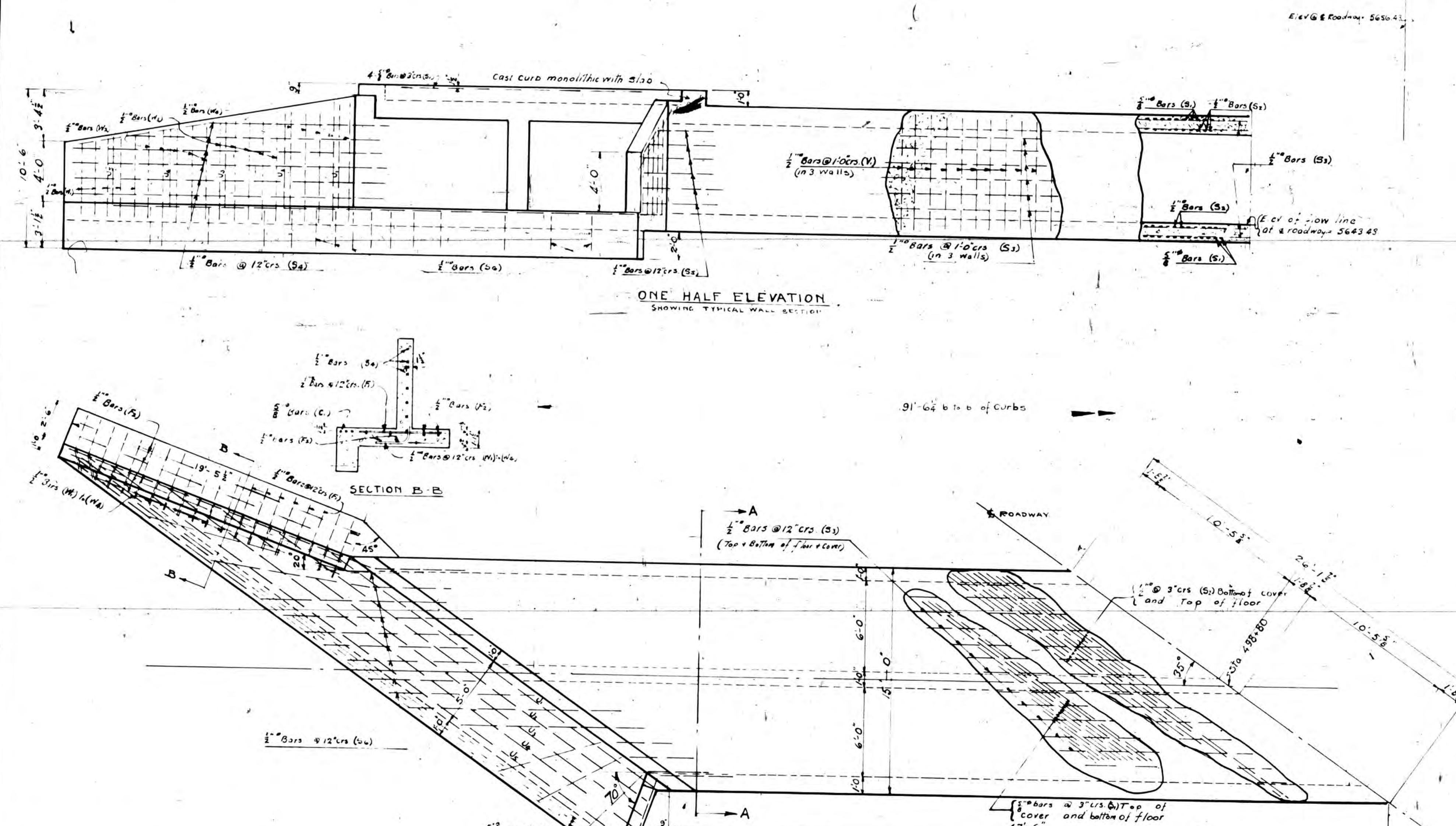
|                              |              |
|------------------------------|--------------|
| Total Reinforcing Steel =    | 6500 Lbs.    |
| Total Class A (1:2:4) Conc = | 730 Cu. Yds. |



DESIGN DATA

ONE 20 TON TRUCK  
 AS SHOWN OR DISTRIBUTED  
 LOAD OF 100# PER SQ. FT. OF  
 ROADWAY. 30% IMPACT FACTOR USED

**COLORADO**  
**STATE HIGHWAY DEPARTMENT**  
**4'x8' SKEWED**  
**BOX CULVERT**  
 Across Wash  
 312 469+00  
 Near Morrison Sec. 31 T. 4 S. R. 69 W.  
 Designed by R.S.D. Approved by [Signature]  
 Made by W.J.W. Bridge Engineer  
 Checked by P.S.B. Date 5-11-31



# BAR LIST.

| MARK | SIZE | NO      | LENGTH | BENDING DIAGRAM |
|------|------|---------|--------|-----------------|
| S1   | 5/8" | 435     | 18'-3" |                 |
| S2   | 1"   | 135     | 27'-0" |                 |
| S3   | 1"   | 198     | 24'-0" |                 |
| V1   | 1"   | 288     | 7'-0"  |                 |
| S4   | 1"   | 12      | 23'-0" |                 |
| S5   | 1"   | 13      | 9'-0"  |                 |
| S6   | 1"   | 28      | 17'-0" |                 |
| U1   | 5/8" | 4 each  | 21'-6" |                 |
| U2   | 5/8" | 4 each  | 22'-9" |                 |
| U3   | 5/8" | 4 each  | 24'-0" |                 |
| U4   | 5/8" | 4 each  | 25'-3" |                 |
| U5   | 5/8" | 4 each  | 26'-6" |                 |
| U6   | 5/8" | one     | 5'-0"  |                 |
| W1   | 1"   | 10 each | 7'-0"  |                 |
| W2   | 1"   | 10 each | 8'-0"  |                 |
| W3   | 1"   | 10 each | 9'-0"  |                 |
| W4   | 1"   | 10 each | 10'-0" |                 |
| F1   | 1"   | 40      | 5'-0"  |                 |
| C1   | 5/8" | 12      | 24'-0" |                 |
| F2   | 1"   | 8       | 19'-0" |                 |

8 7/12 Lin Ft. 5/8" Bars @ 10" = 9086  
22309 Lin Ft. Bars @ 15" = 18382  
3 1/2" for overlaps 842

~ GENERAL NOTES ~

ALL WORK TO BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE COLORADO STATE HIGHWAY DEPARTMENT

ALL BARS TO BE PLAIN ROUND OR PLAIN SQUARE AS NOTED

ALL CONCRETE TO BE CLASS A (1:2:4) MIXTURE

ALL EXPOSED SURFACES TO BE RUBBED FREE OF FORM MARKS

ALL WALLS TO HAVE FORMS ON BOTH SIDES

MAXIMUM SOIL PRESSURE = 1700 LBS./SQ. FT.

GRADE OF BOX TO CONFORM TO THAT OF STREAM

SEE LOCATION PLAN FOR ARRANGEMENT OF SKEW AND WINGS.  
(MAKE OPPOSITE HAND TO PLAN ABOVE)

~ DESIGN DATA ~

ONE 20 TON TRUCK

AS SHOWN OR DISTRIBUTED

LOAD OF 100 LBS. PER SQ. FT.

OF ROADWAY

NO IMPACT FACTOR USED.

SUMMARY OF QUANTITIES

Total Reinforcing Steel = 28900 LBS.

Total Class A Concrete = 225 Cu. Yds.

COLORADO  
STATE HIGHWAY DEPARTMENT  
6' x 6' SKEWED DOUBLE  
BOX CULVERT.

Across Wash.

Sta. 496+80

Near Morrison Sec. 36 T. 45. R. 70W.

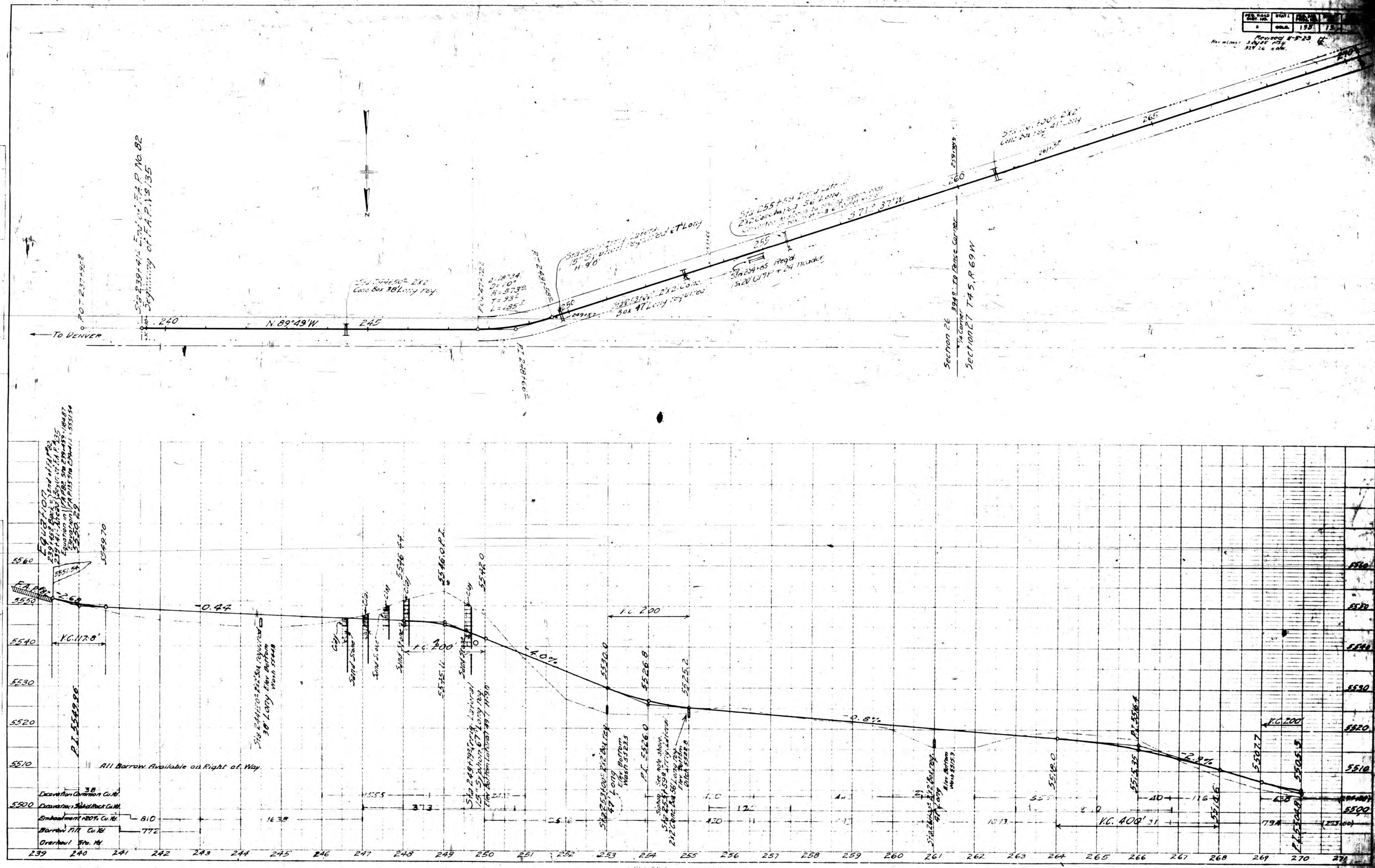
Designed by R.S.D. Approved by P.B.B.

Made by P.S.B. Bridge Engineer.

Checked by P.S.B. Date

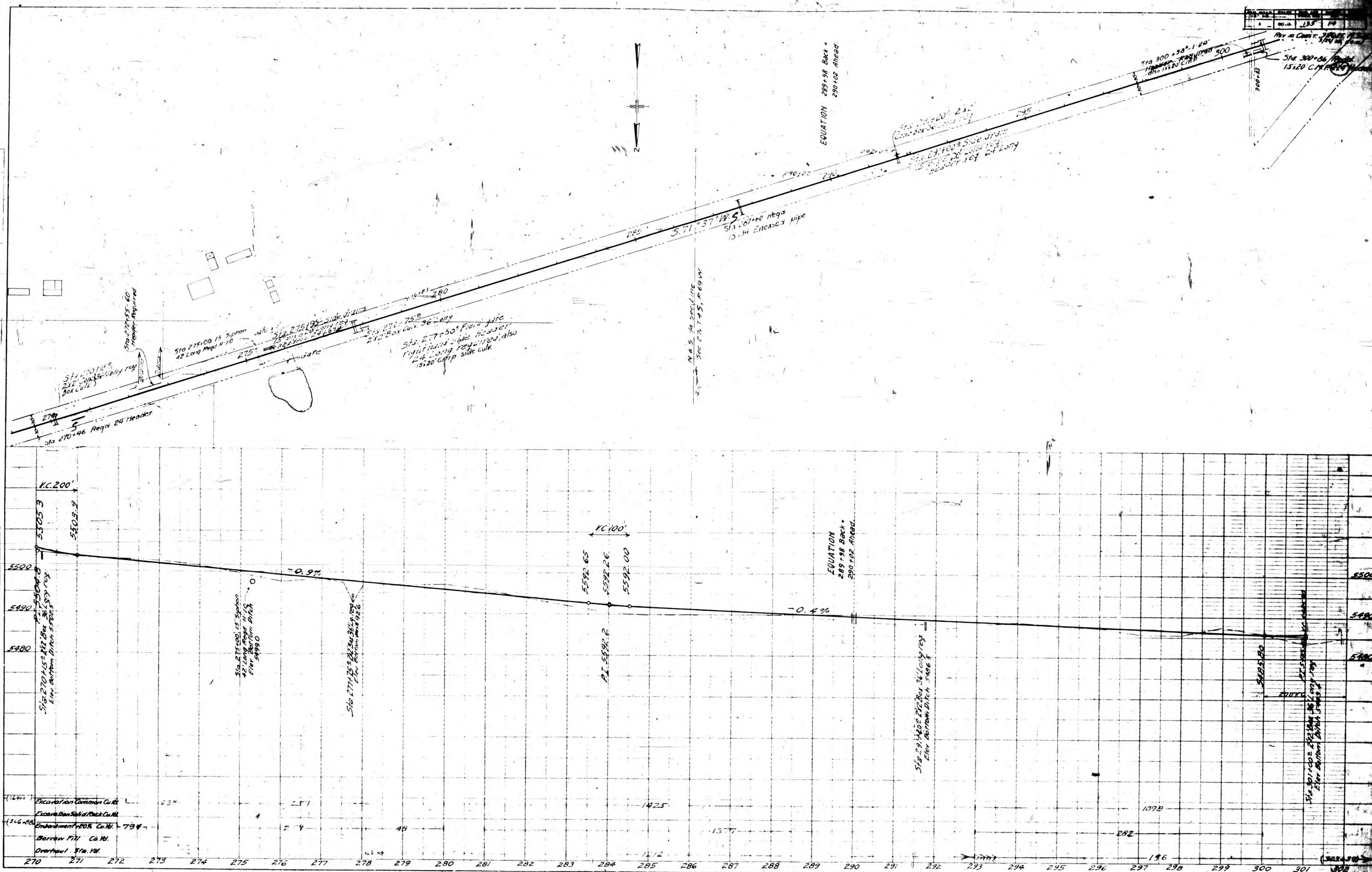
PLAN  
 SHEET NO. 1  
 DATE 12/15/35  
 BY [Signature]  
 CHECKED BY [Signature]

PROFILE  
 SHEET NO. 1  
 DATE 12/15/35  
 BY [Signature]  
 CHECKED BY [Signature]



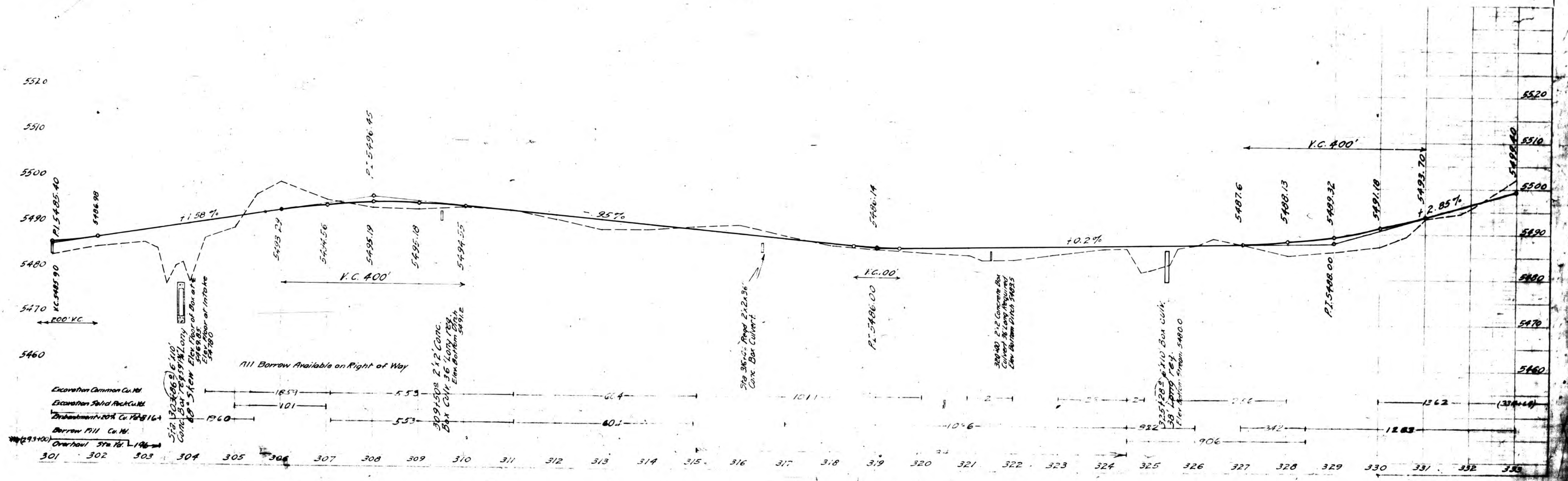
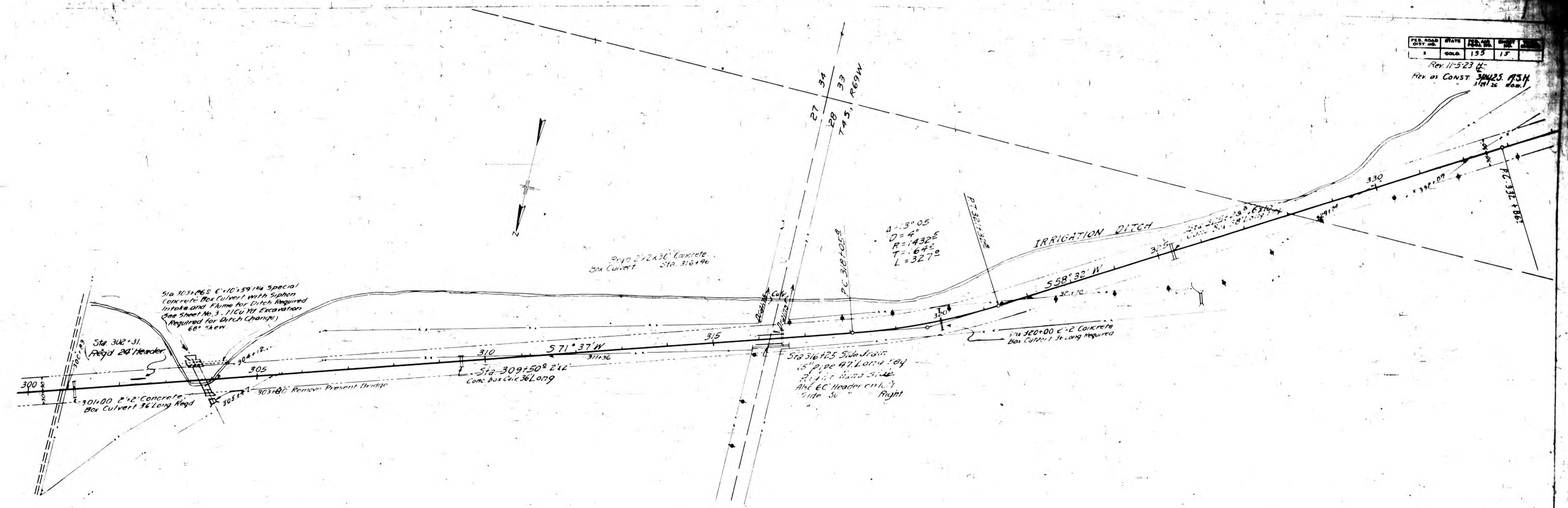
| PLAN                       | DATE |
|----------------------------|------|
| BY                         |      |
| NOTE: SEE PLAN FOR DETAILS |      |

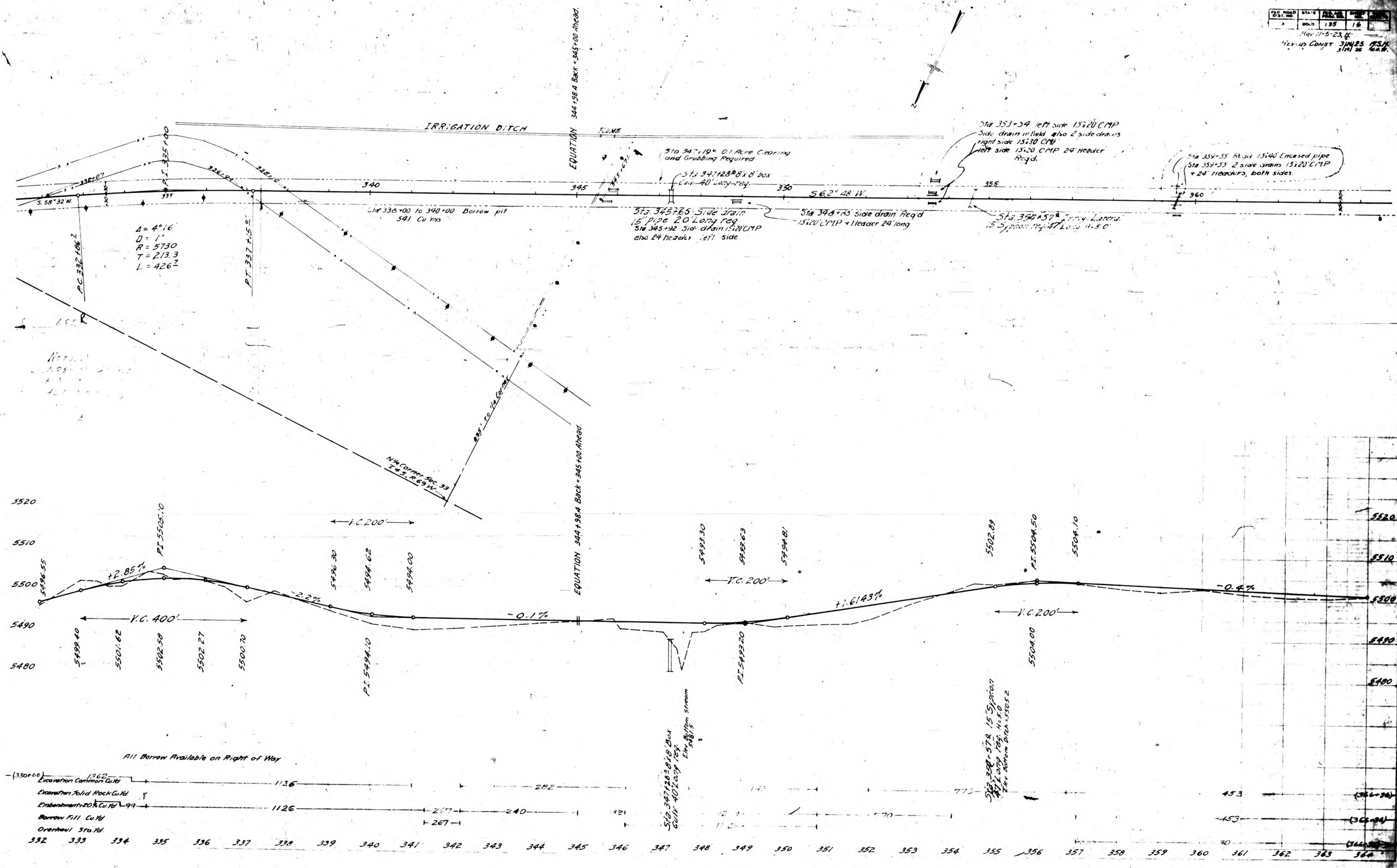
| PROFILE                    | DATE |
|----------------------------|------|
| BY                         |      |
| NOTE: SEE PLAN FOR DETAILS |      |



| FED. ROAD DIST. NO. | STATE  | FED. AID | PROJECT NO. | SHEET NO. |
|---------------------|--------|----------|-------------|-----------|
| 1                   | KANSAS | 155      | 15          | 15        |

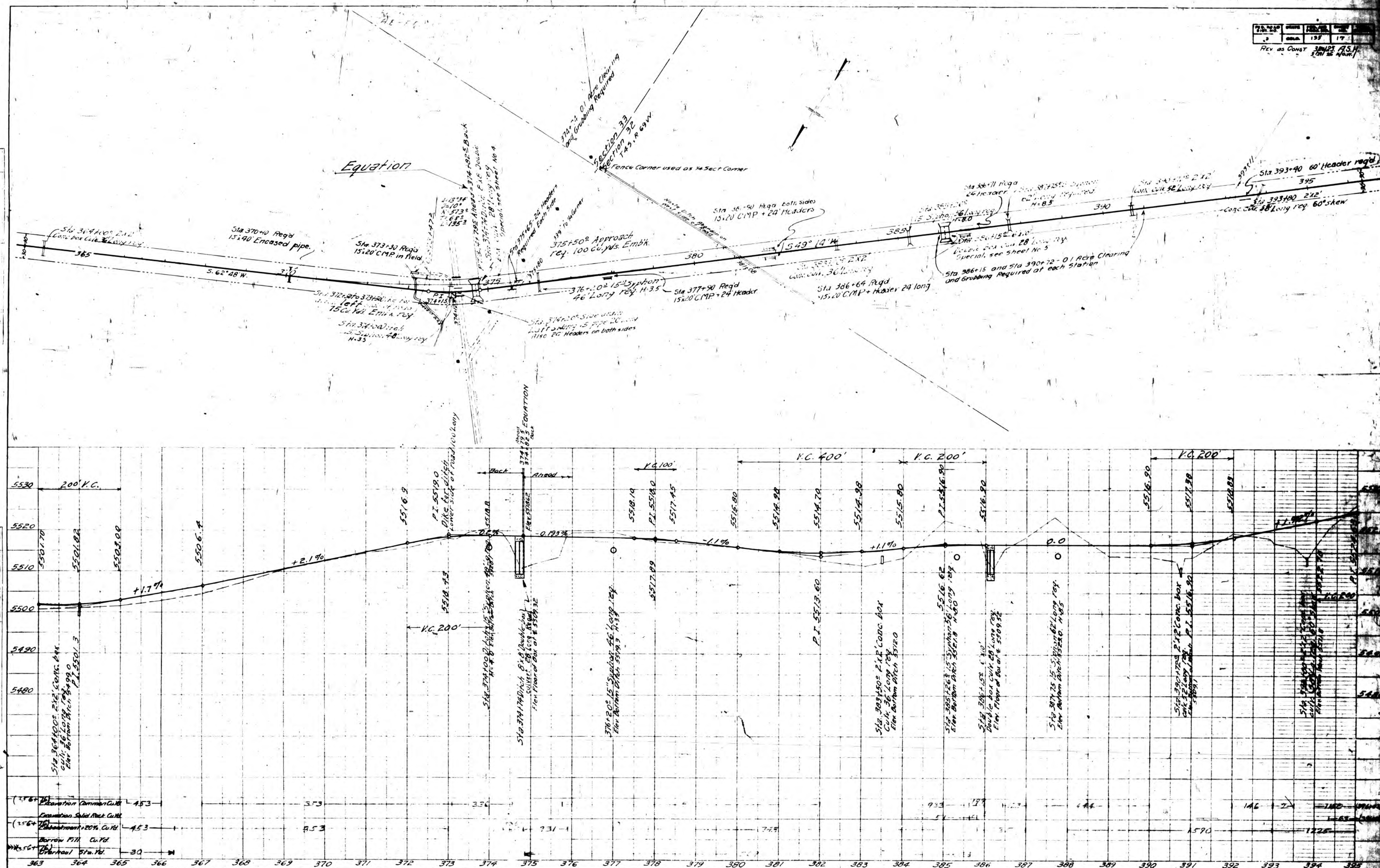
Rev. 11-5-23  
 Plan as CONST. 3/25/25 P.S.H.  
 3/21/26 Rev. 1



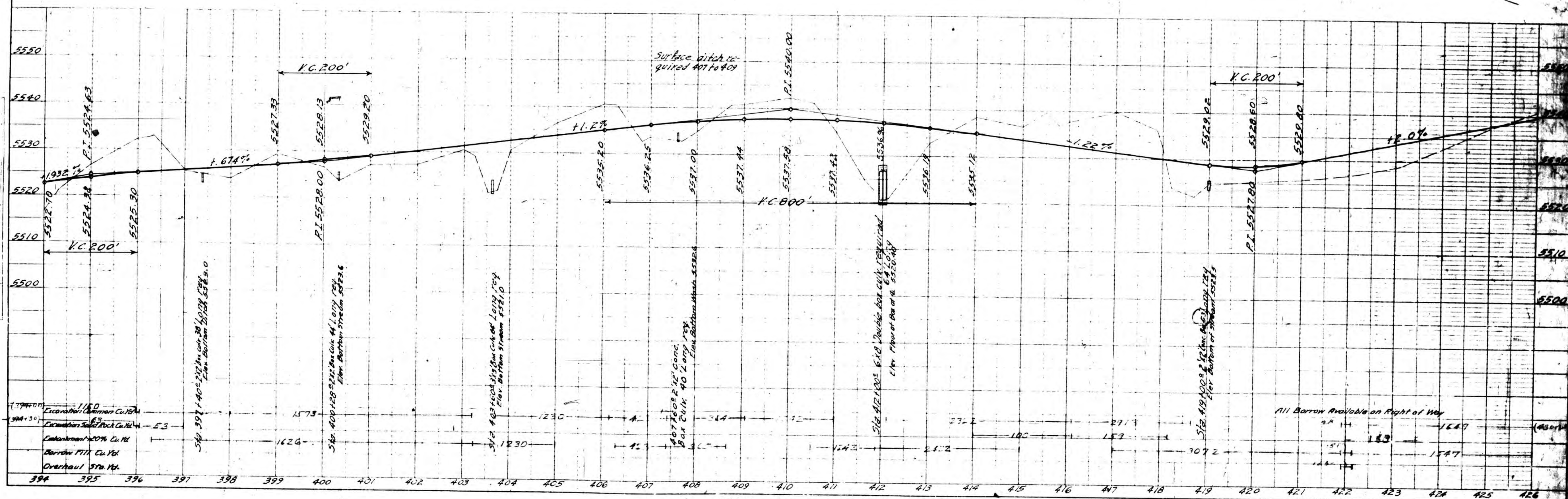


| PLAN              | BY | DATE |
|-------------------|----|------|
| SUPPLIES          |    |      |
| PLUMBS            |    |      |
| ALIGNMENT CHANGES |    |      |
| BY L. A. CHASE    |    |      |
| NO                |    |      |

|                 |         |
|-----------------|---------|
| <b>PROFILE</b>  | DATE    |
| SEARCHED        | BY      |
| SERIALIZED      | FILED   |
| INDEXED         | CHECKED |
| NOTED           | MAILED  |
| 150-106780-1000 |         |

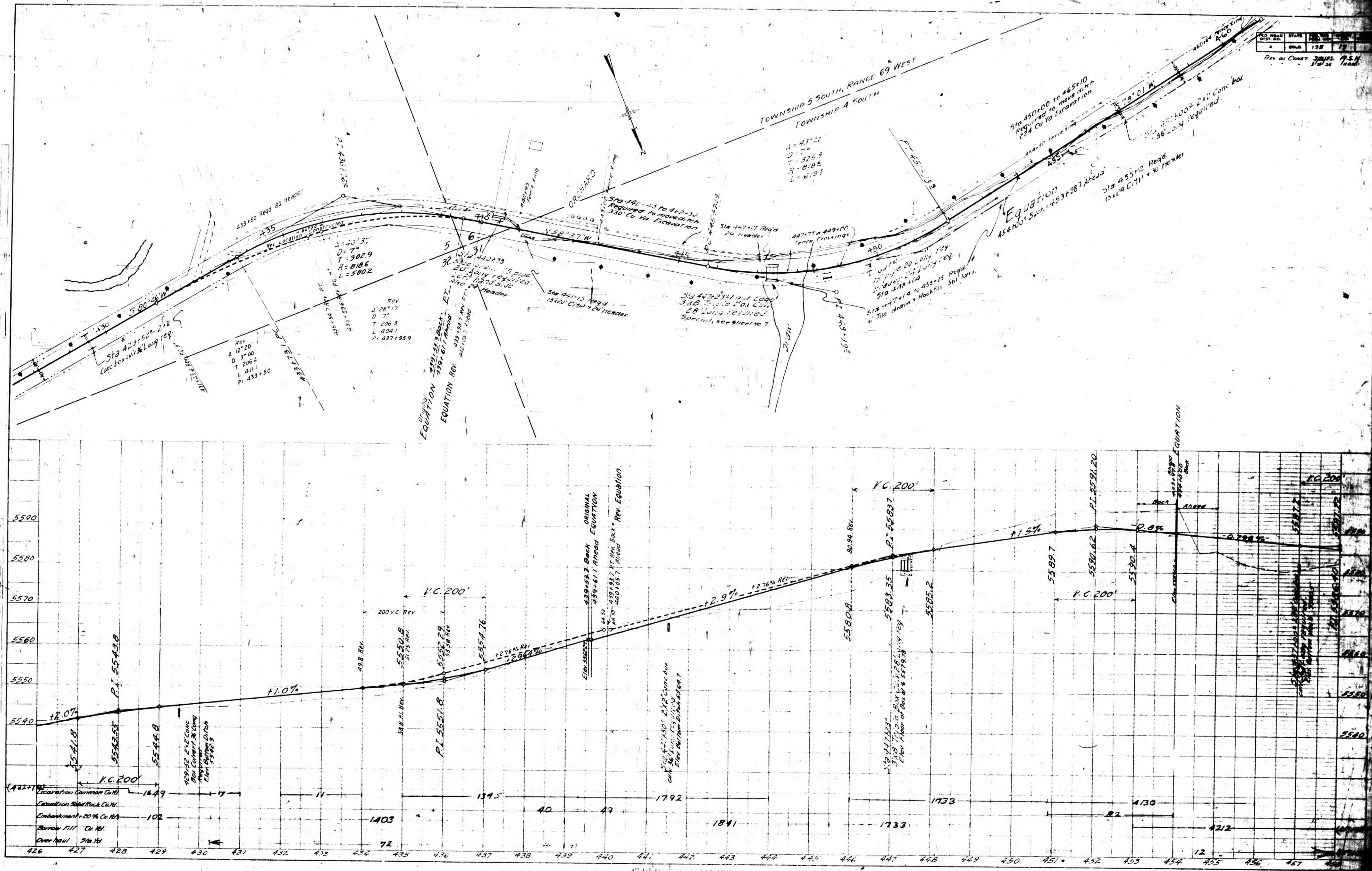


| PLAN                                              | BY | DATE |
|---------------------------------------------------|----|------|
| NOTE BOOK AL JAMIN CHECKED<br>ST. JOSEPH'S CHURCH | 87 |      |



| PLAN                   | DATE |
|------------------------|------|
| NOTE: B.C. & J.A. 1912 |      |
| NO. 1                  |      |

| PROFILE                | DATE |
|------------------------|------|
| NOTE: B.C. & J.A. 1912 |      |
| NO. 1                  |      |



| PLAN              |  | BY | DATE |
|-------------------|--|----|------|
| SURVEYED          |  |    |      |
| PLOTTED           |  |    |      |
| ALIGNED CHECKED   |  |    |      |
| RT OF WAY CHECKED |  |    |      |
| NOTE BOOK         |  |    |      |
| NO                |  |    |      |

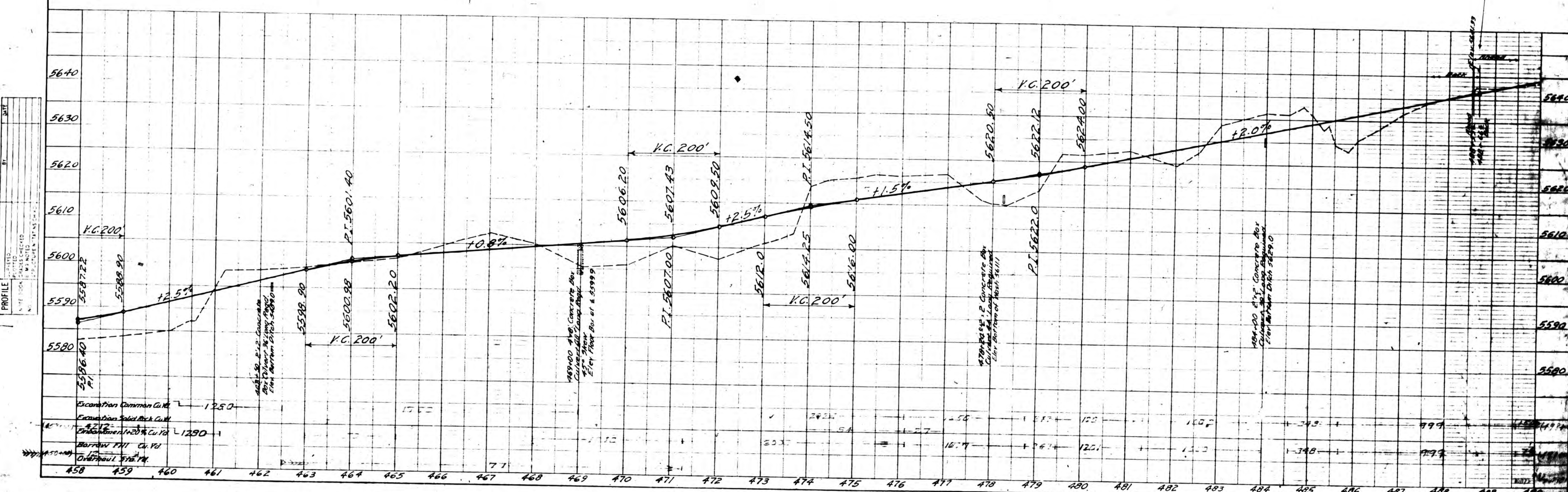
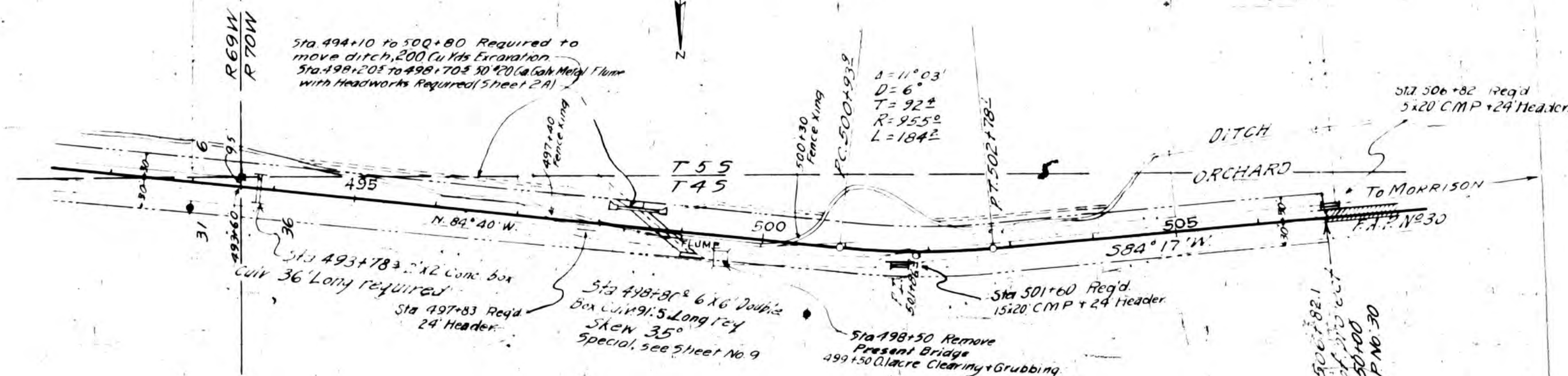
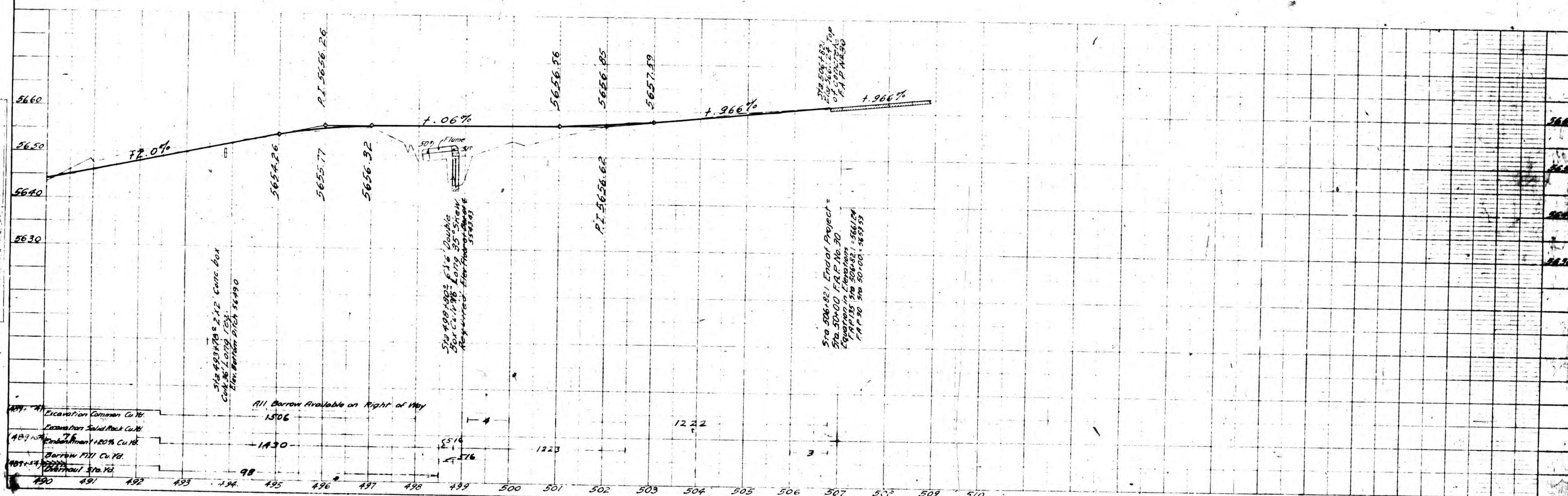


PLATE 1-PL-N-PROFILE (1/2" R & R E, STANDARD  
KEUFFEL & ESSER CO. NEW YORK.

| PLAN           | DATE |
|----------------|------|
| DESIGNED       |      |
| CHECKED        |      |
| APPROVED       |      |
| NOTE BOOK      |      |
| ALUMINUM CHECK |      |
| NO.            |      |



| PROFILE        | DATE |
|----------------|------|
| DESIGNED       |      |
| CHECKED        |      |
| APPROVED       |      |
| NOTE BOOK      |      |
| ALUMINUM CHECK |      |
| NO.            |      |



| FILE NO. | STATE | FEED NO. | SECTION |
|----------|-------|----------|---------|
| 1        | COLO. | 175      | 13      |

Revised 4-5-23

This set of prints  
shows structures as built and  
equations due to recharging.

See Field Book #1190  
Cont. Aug. 13-19

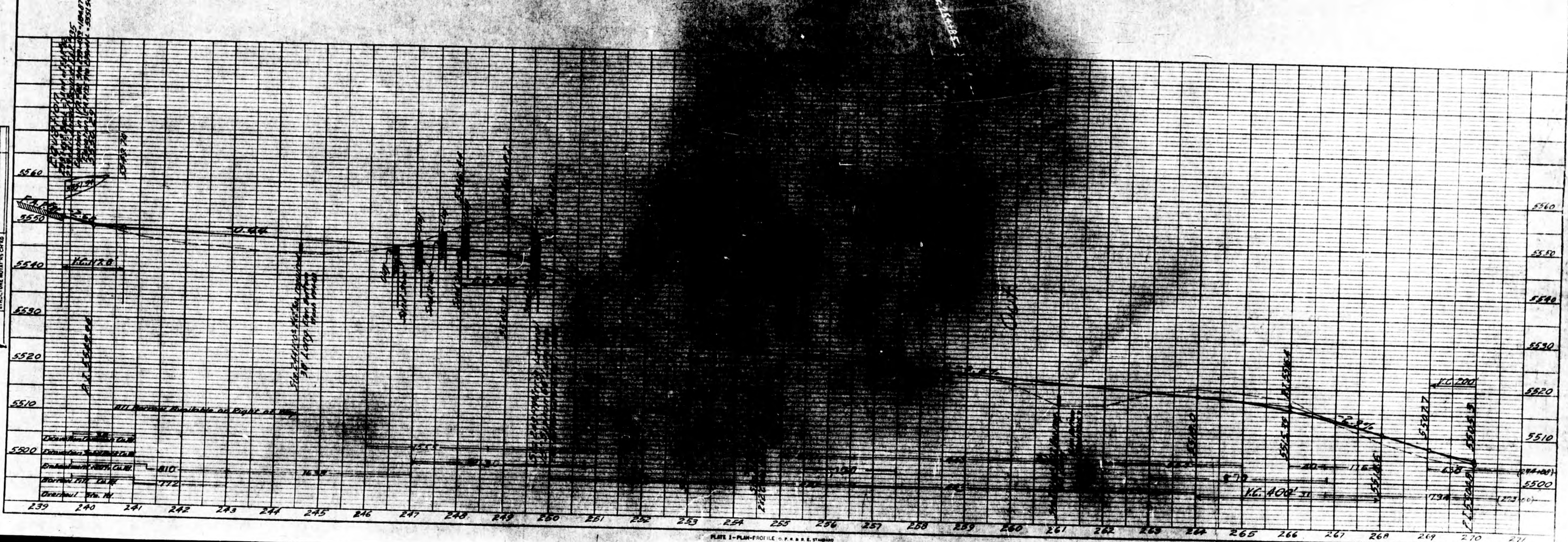
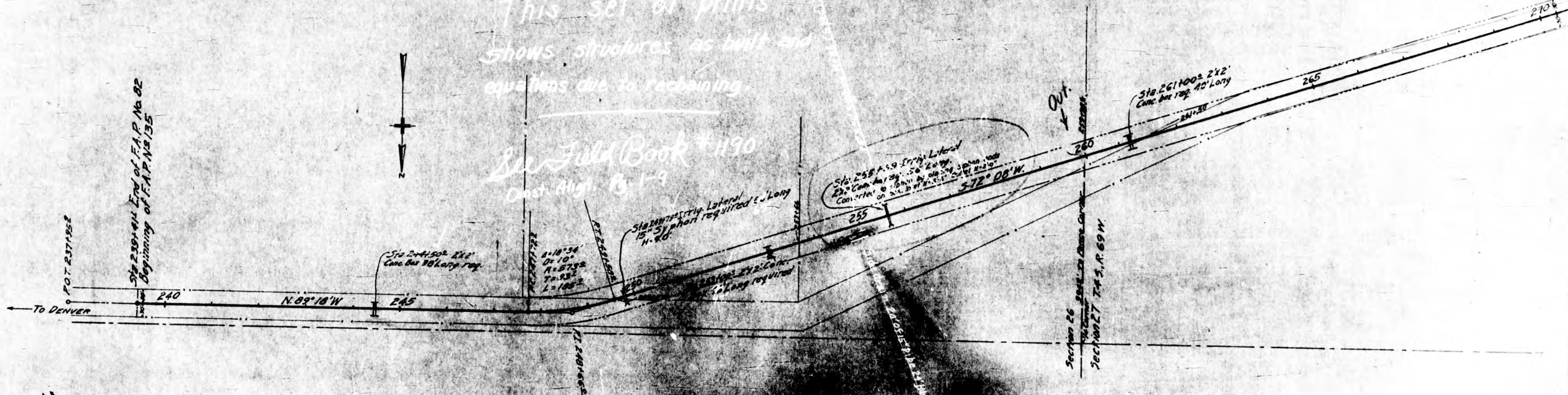


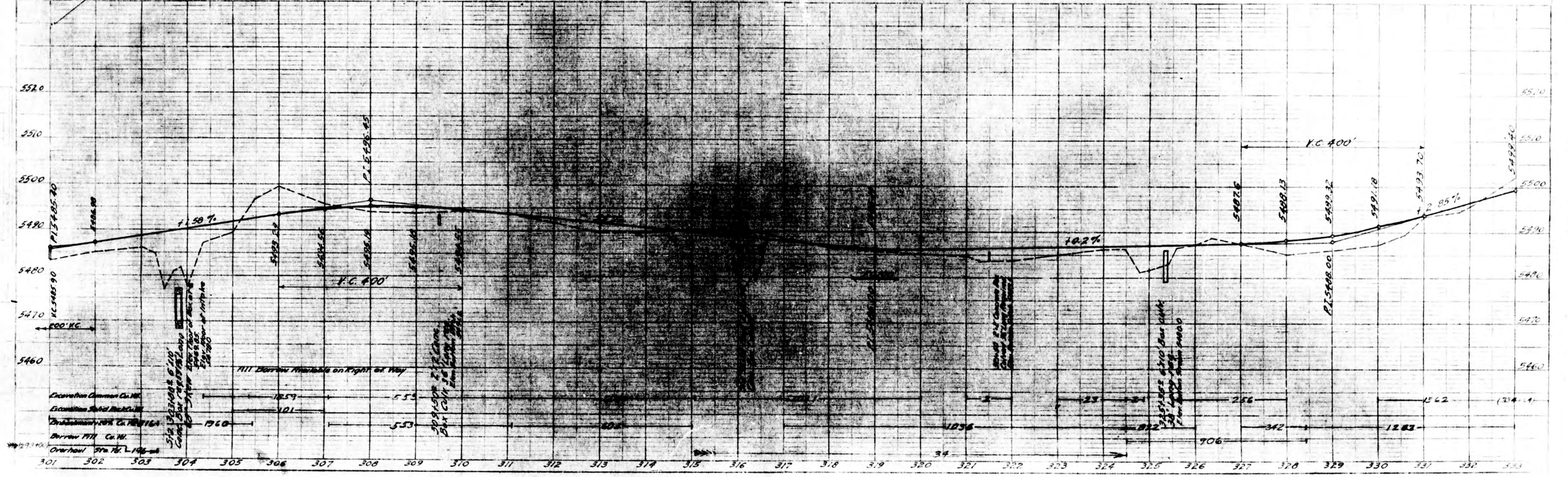
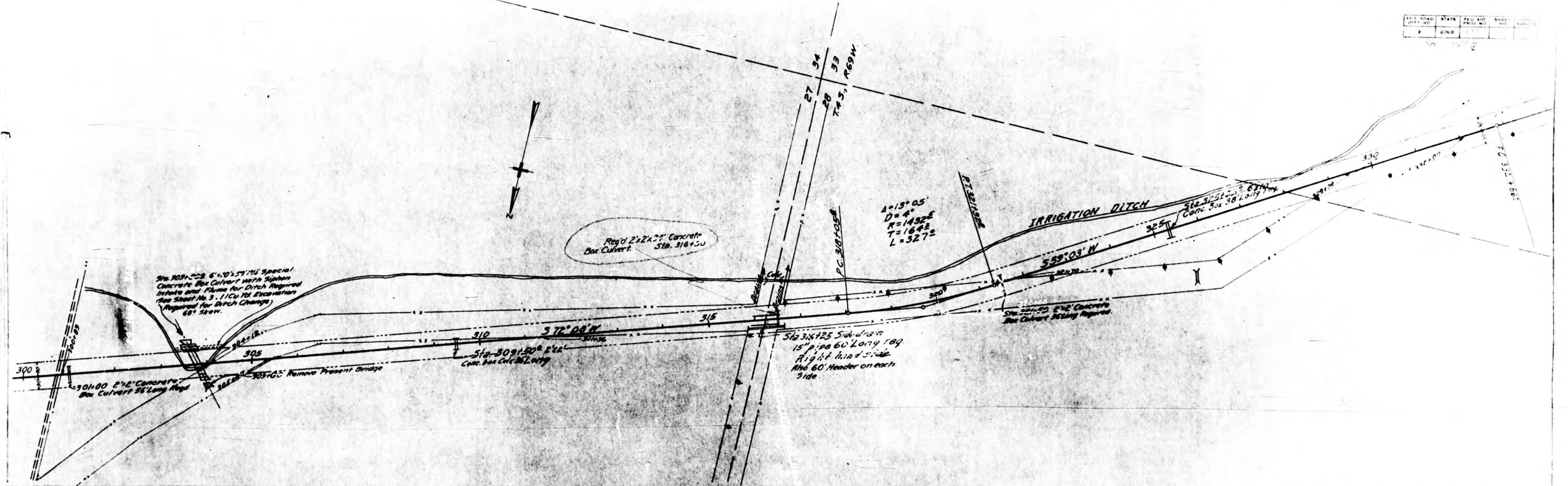
PLATE 1-PLAN-PROFILE OF ROAD & STATIONS  
REUTEL & FIER CO., NEW YORK

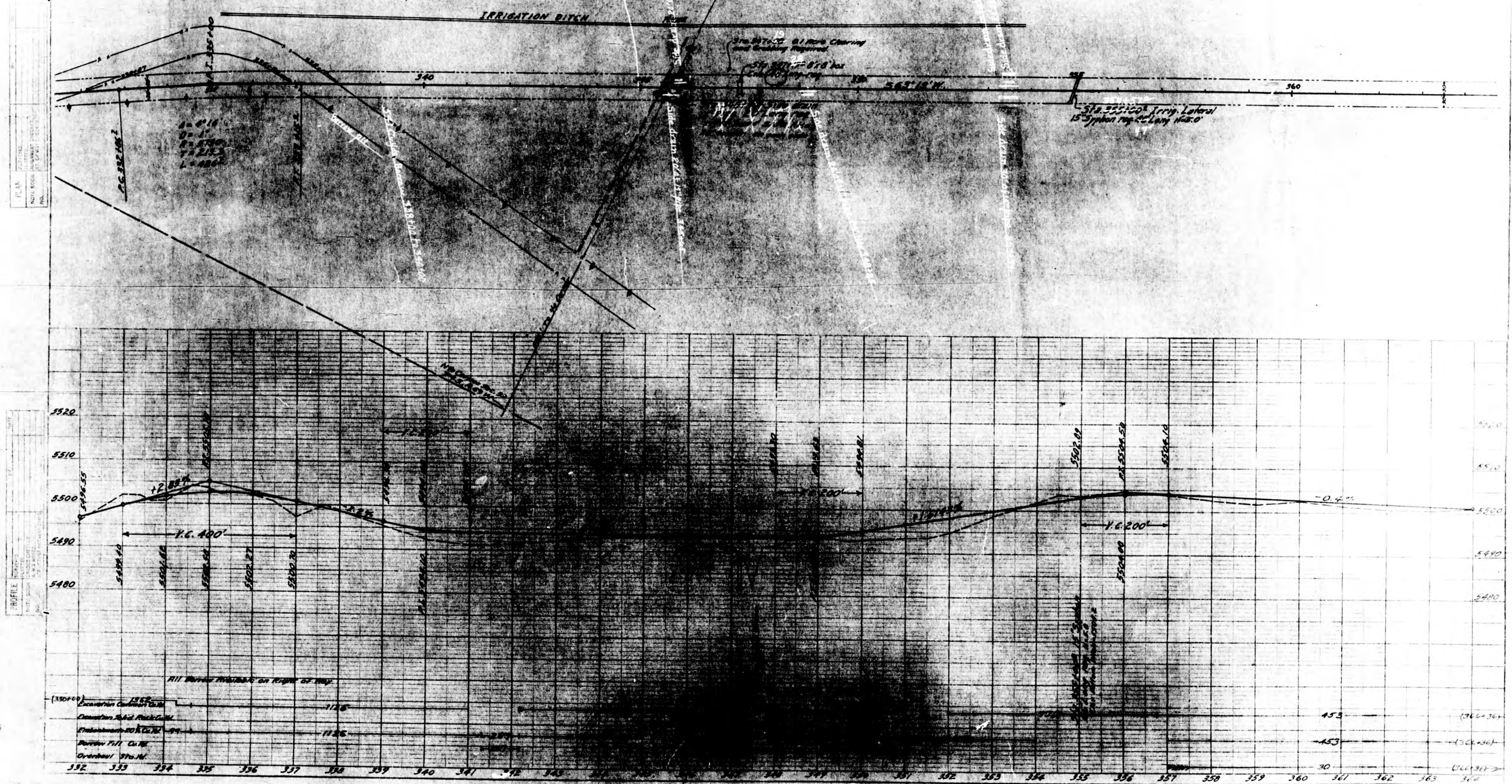
| PLAN      | DATE |
|-----------|------|
| SURVEYED  | BY   |
| PLOTTED   | BY   |
| NOTE BOOK | BY   |
| REVIEWED  | BY   |
| REVISIONS | BY   |

| PROFILE   | DATE |
|-----------|------|
| SURVEYED  | BY   |
| PLOTTED   | BY   |
| NOTE BOOK | BY   |
| REVIEWED  | BY   |
| REVISIONS | BY   |

|                |                        |    |  |      |  |
|----------------|------------------------|----|--|------|--|
| NO             | STRUCTURE NGAT NS CHYD |    |  |      |  |
| NOTE BOOK      | 8 M 2 NOTD             |    |  |      |  |
| GRADES CHECKED |                        |    |  |      |  |
| PLOTTED        |                        |    |  |      |  |
| SURVEYED       |                        |    |  |      |  |
| PROFILE        |                        | BY |  | DATE |  |

| FILE NO. | DATE | FILE NO. | DATE |
|----------|------|----------|------|
| 1        | 5/10 | 2        | 5/10 |

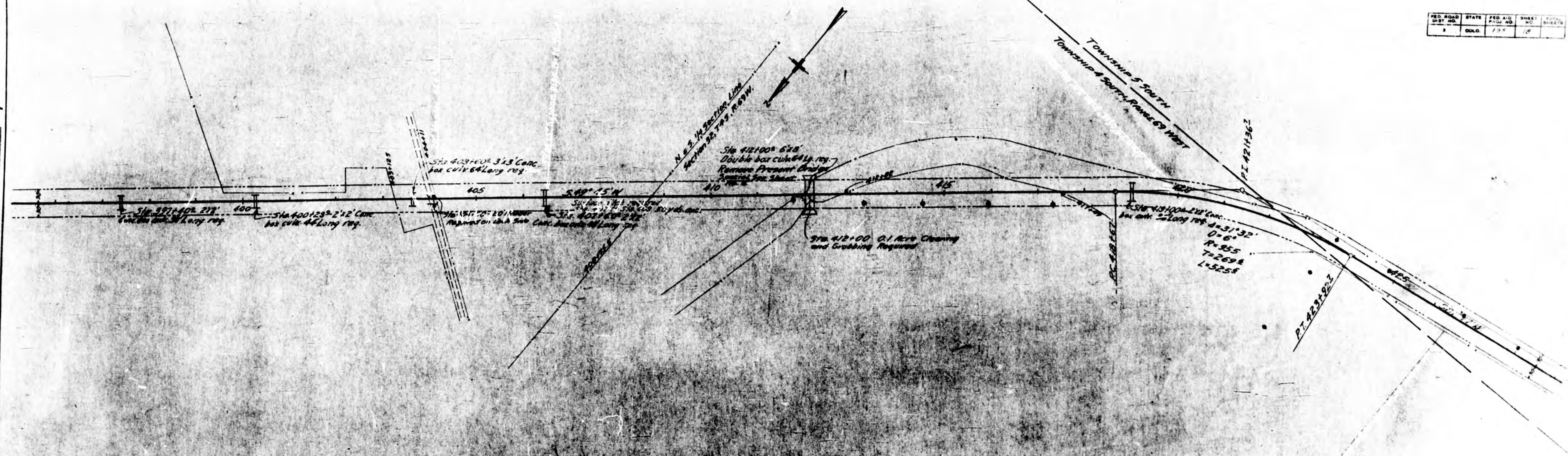






| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-----------|--------------|
| 2                   | IND.  | 100                | 10        | 10           |

| PLAN      | DATE |
|-----------|------|
| REVISIONS |      |
| NO. 1     |      |
| NO. 2     |      |
| NO. 3     |      |
| NO. 4     |      |
| NO. 5     |      |
| NO. 6     |      |
| NO. 7     |      |
| NO. 8     |      |
| NO. 9     |      |
| NO. 10    |      |



| PROFILE   | DATE |
|-----------|------|
| REVISIONS |      |
| NO. 1     |      |
| NO. 2     |      |
| NO. 3     |      |
| NO. 4     |      |
| NO. 5     |      |
| NO. 6     |      |
| NO. 7     |      |
| NO. 8     |      |
| NO. 9     |      |
| NO. 10    |      |

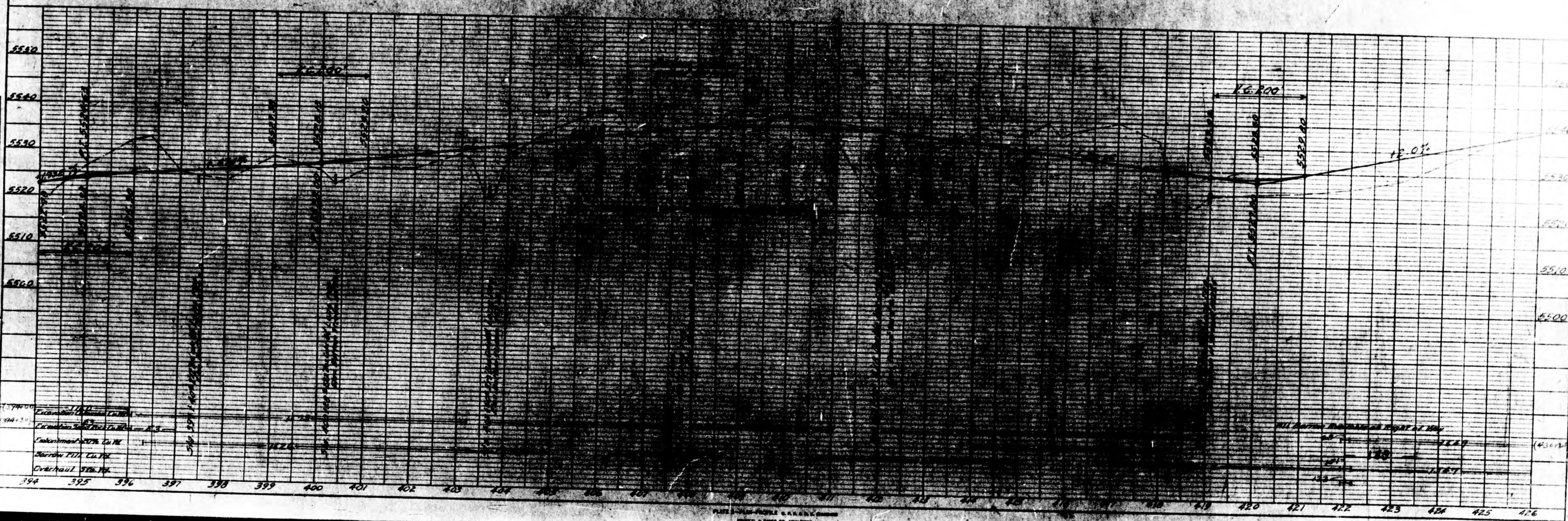


PLATE 3 - PROFILE & ELEVATION  
 H. B. ROSS CO., NEW YORK

| PLAN     | DATE | BY | CHKD |
|----------|------|----|------|
| DESIGNED |      |    |      |
| CHECKED  |      |    |      |
| NOTED    |      |    |      |
| NO.      |      |    |      |

| PROFILE  | DATE | BY | CHKD |
|----------|------|----|------|
| DESIGNED |      |    |      |
| CHECKED  |      |    |      |
| NOTED    |      |    |      |
| NO.      |      |    |      |

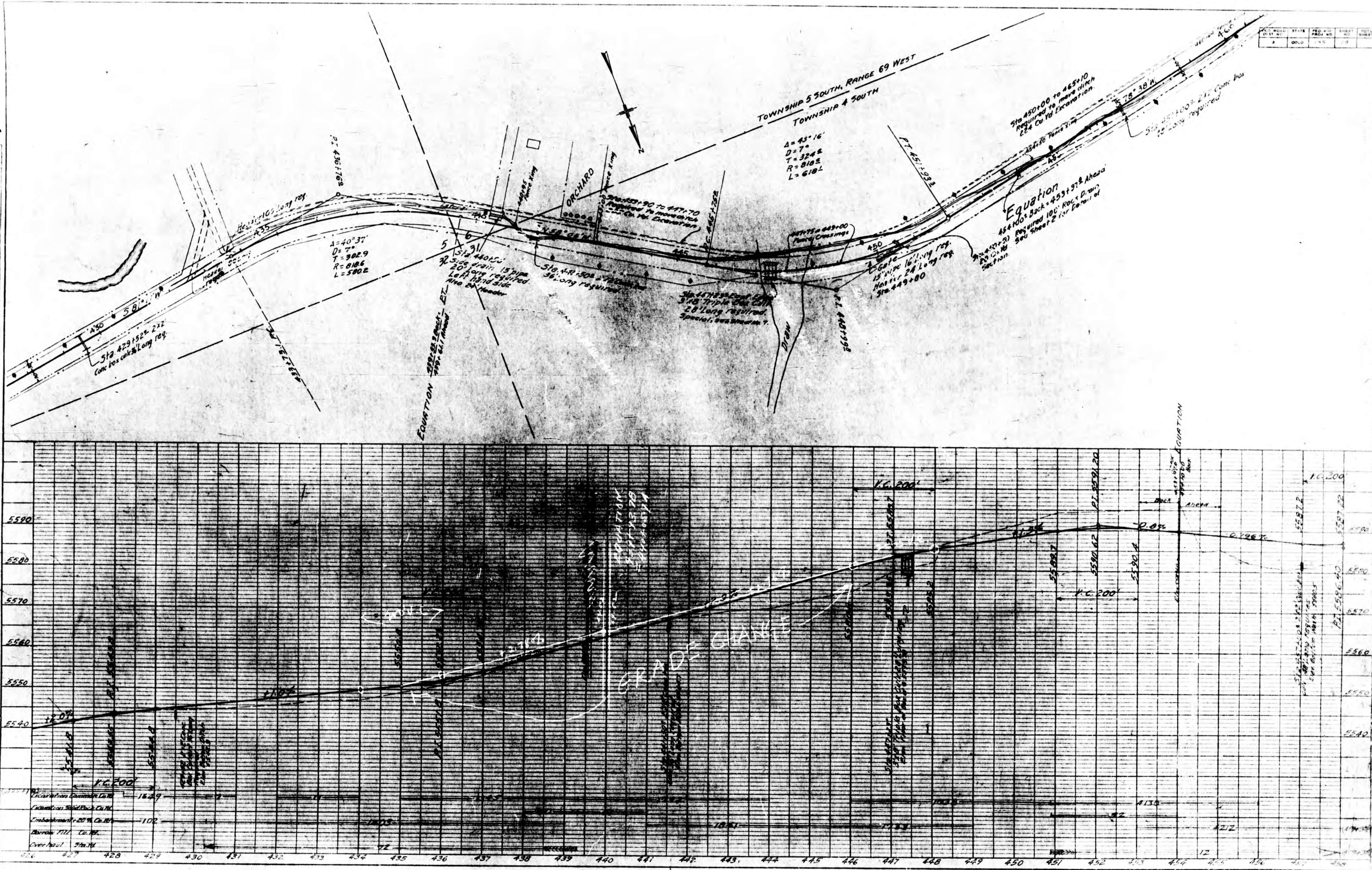


PLATE 1-PLAN-PROFILE (S. P. & E. STANLEY)  
 100' x 100' x 100' x 100' x 100' x 100' x 100' x 100' x 100' x 100'

| FILE NO. | STATE | PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|----------|-------|-----------|-----------|--------------|
| 1        | COLO. | 195       | 20        | 20           |

| PLAN     | DATE |
|----------|------|
| DESIGNED |      |
| PLOTTED  |      |
| CHECKED  |      |
| BY       |      |

| PROFILE  | DATE |
|----------|------|
| DESIGNED |      |
| PLOTTED  |      |
| CHECKED  |      |
| BY       |      |

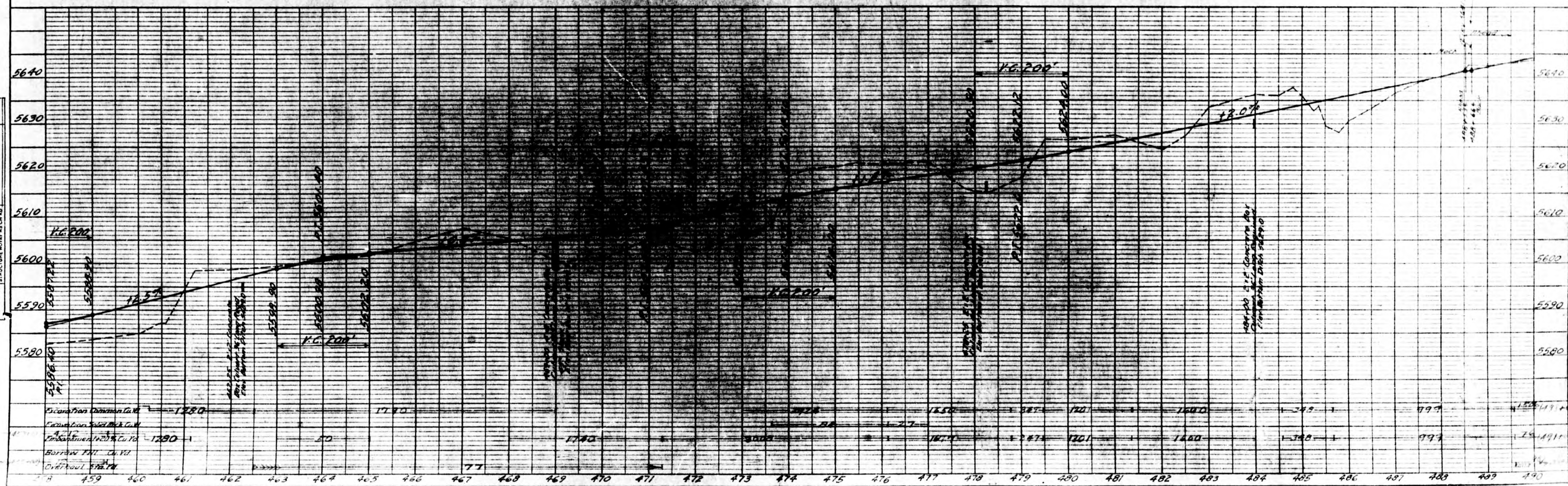
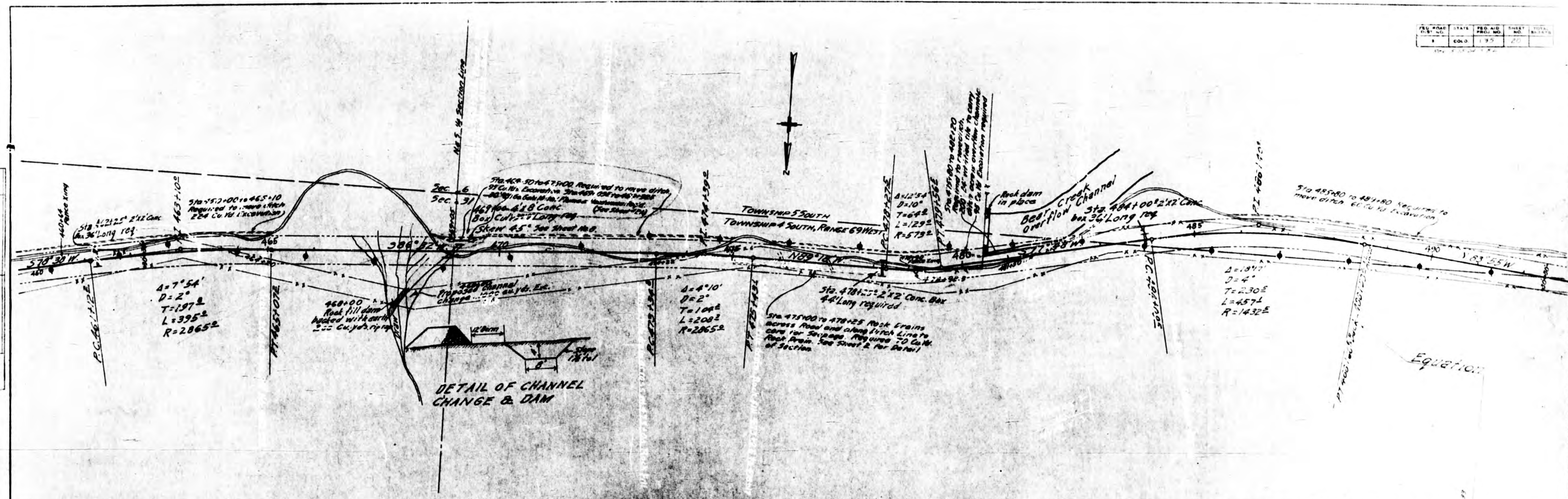


PLATE 1-PLAN PROFILE OF CREEK CHANNEL  
REDFIELD & SONS, CIVIL ENGINEERS

| PLAN    | DATE     | BY       | CHKD     | APP'D    |
|---------|----------|----------|----------|----------|
| 10/1/50 | J. H. H. | J. H. H. | J. H. H. | J. H. H. |

| PROFILE | DATE     | BY       | CHKD     | APP'D    |
|---------|----------|----------|----------|----------|
| 10/1/50 | J. H. H. | J. H. H. | J. H. H. | J. H. H. |

