

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
**HAM-CR-453B**

GRADE SEPARATION AT ELDORA DRIVE  
SYCAMORE TOWNSHIP  
**HAMILTON COUNTY**

SU-242(3)

HAMILTON COUNTY C.R. 453-B

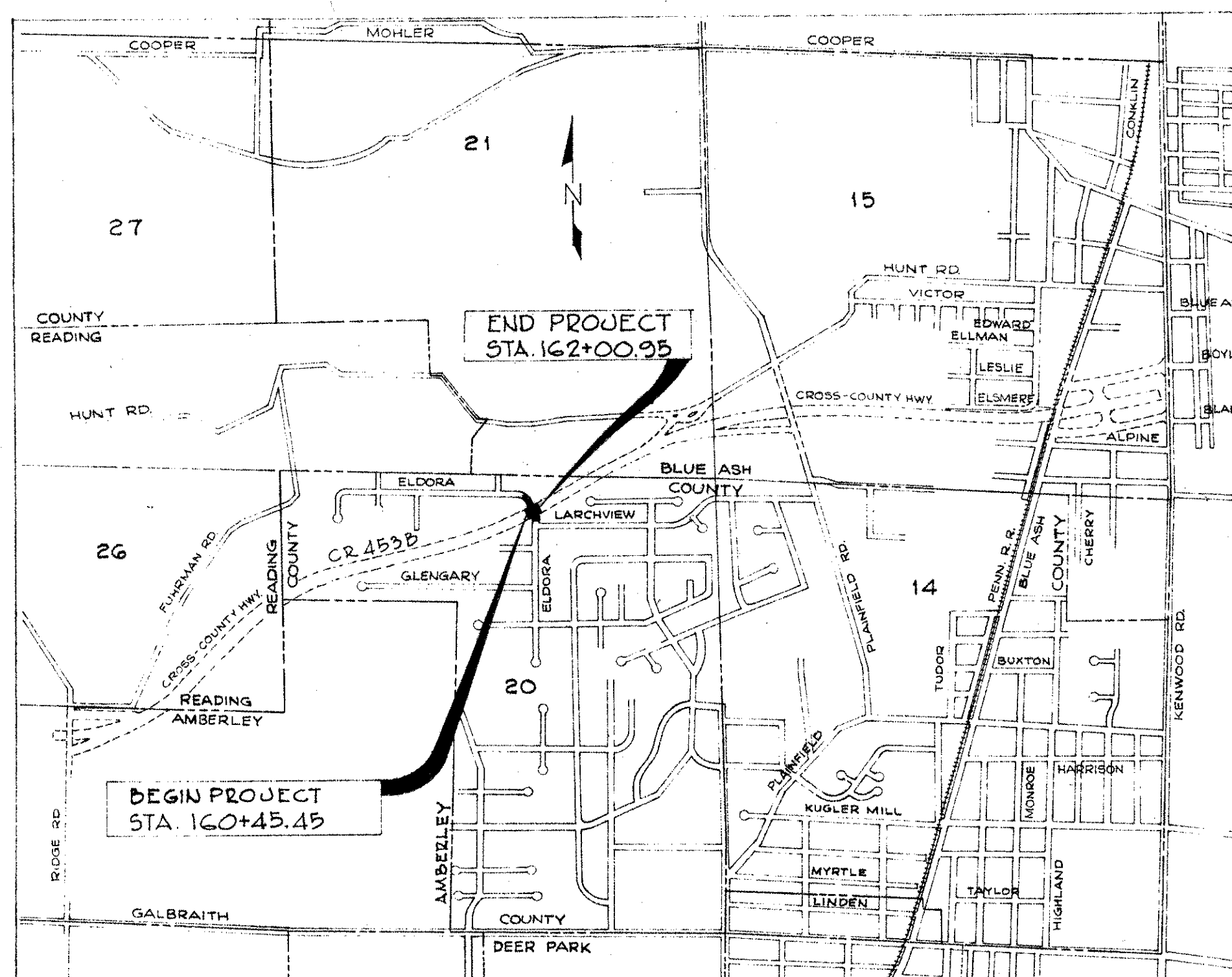
SU-242(3)

We the Commissioners of Hamilton County, in formal session hereby approve these plans and certify that the necessary right-of-way is available. We agree to maintain the project in a manner satisfactory to the Director of Highways, State of Ohio, or his duly authorized representatives and will make ample provision each year for such maintenance done under authority of Section 5555.02 et seq. and 5535.01 of the revised Code of Ohio.

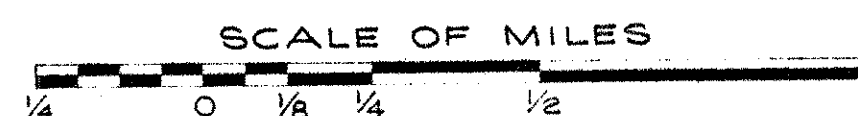
BOARD OF COMMISSIONERS

HAMILTON COUNTY

|     |                                  |
|-----|----------------------------------|
| 1   | SUMMARY                          |
| 2   | PROFILE, (ELDORA DRIVE)          |
| 3   | PLAN & PROFILE (CR453-B)         |
| 4   | CROSS SECTIONS                   |
| 5   | WATER MAIN WORK, NOTES & SUMMARY |
| 648 | STRUCTURE OVER 20' SPAN          |



**LOCATION MAP**



Portion to be improved \_\_\_\_\_  
Under Construction \_\_\_\_\_  
Other Roads \_\_\_\_\_

**SCALES**

Plan \_\_\_\_\_ 0 20 40 60 80 100  
Profile - Horizontal \_\_\_\_\_  
Profile - Vertical \_\_\_\_\_  
Cross Sections \_\_\_\_\_

**LINE DATA**

BEGIN PROJECT & WORK STA. 160+45.45  
END PROJECT & WORK STA. 162+00.95  
LENGTH OF PROJECT 155.50 LIN. FT. - 0.029 MI.

ADD FOR APPROACHES  
BEGIN WORK STA. 8+00.00  
END WORK STA. 12+18.27

TOTAL LENGTH OF APPROACH WORK 418.27 Lin. Ft.  
TOTAL LENGTH OF WORK 573.77 Lin. Ft. - 0.108 MI.

**DELIVERY POINT**

Pennsylvania Railroad, Blue Ash  
Average Length of Haul: 1/4 Miles

**SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS**

|              |          |                      |          |         |         |
|--------------|----------|----------------------|----------|---------|---------|
| BT 70-71     | 1-15-60  | I-12                 | 2-1-63   | AS-1-54 | 7-5-62  |
| BT 71-R      | 3-2-53   | I-15 No.1            | 11-15-60 | AR-1-57 | 4-2-62  |
| DR-1         | 1-3-55   | I-15 No.2A           | 8-17-60  | RI-1    | 7-15-58 |
| G-707        | 6-1-56   | L-3                  | 4-1-50   |         |         |
| FACT-1       | 3-8-63   | L-3A                 | 4-1-50   |         |         |
| FACT-2       | 3-8-63   | I-J No.1             | 7-1-55   |         |         |
| I-1          | 11-15-60 | T-J                  | 9-12-60  |         |         |
| I-8 M.H.No.1 | 2-1-63   | CS-2-54 (SHEET No.1) | 2-2-59   |         |         |

SUPPLEMENTAL SPECIFICATIONS

PLANS PREPARED BY  
**SHAW, LENZ & ASSOCIATES**  
ENGINEERS  
CINCINNATI OHIO

DEPARTMENT OF COMMERCE  
BUREAU OF PUBLIC ROADS

APPROVED:

DIVISION ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

|                 |                             |
|-----------------|-----------------------------|
| FILE No.        | HAMILTON COUNTY HAM-CR-453B |
| Date of Letting | _____                       |
| Contract No.    | _____                       |

# GENERAL NOTES

### FIELD OFFICE

The Contractor shall provide a suitable field office for the exclusive use of the State Employees, in accordance with Section 5-0-2, having a minimum of 150 square feet of floor space. The Contractor shall have a telephone installed and maintained in the field office during the construction of this project.

The Contractor shall also install wiring and outlets suitable for connecting the electric office equipment. He shall provide 110 volt alternating current during the construction of the project.

### DESIGN SPEED

The geometrics for this project have been planned for a design speed of 20 miles per hour.

### FEDERAL AID CONSTRUCTION SIGNS

The Contractor shall furnish, erect, maintain and subsequently remove Federal Aid Construction Identification Signs at each of the following approximate locations:

1. Sta. 7+22.27 Between Curb & Sidewalk
2. Sta. 12+35.15

Sign details shall be as specified on the Standard Drawing FAI-1 Code N-45-(2)-75, modified by deleting reference to "State Funds - 3" and "Ohio Department of Highways" appearing in the lower left portion of the sign and inserting therein "County Funds - 3" and "County of Hamilton."

The signs shall be erected in accordance with Standard Drawing FAI-2. Additional requirements shall be in accordance with notes in the proposal.

### MAINTENANCE OF TRAFFIC

Two way traffic shall be maintained at all times by use of either the existing pavement, the proposed pavement, or temporary roadways surfaced with T-10 aggregate and stabilized with Item I-4 calcium chloride, except that one way traffic may be permitted between Sta. 9+00 and 11+30, the requirements of Sec. 1-3.03(d) requiring flagmen are waived in this area.

The limits and duration of use of temporary roadways shall be held to an absolute minimum, and in all cases shall be subject to the approval of the Engineer.

Traffic compacted surface course, Item T-10 and calcium chloride, Item I-4, shall be applied on temporary roadways as directed and in the amounts requested by the Engineer.

The hardness and soundness requirements of the Specifications shall be waived on all of the T-10 material used for the maintenance of traffic.

In addition to the above, Section G-4.05, Maintenance of Local Traffic and Section 4-7.07, Barricades and Warning Signs, shall be in force during the entire life of the contract.

### PROTECTION OF TRAFFIC AT BRIDGE

The Contractor shall safeguard the traveling public on Eldora Drive by providing platforms, nets or other suitable protection above the traveled lanes. Payment for this protection shall be included in the lump sum price bid for Item I-3, "Maintaining Traffic."

### UNDERGROUND UTILITIES

The locations of the underground utilities shown on the plans have been obtained by diligent field checks and searches of available records. It is believed that they are essentially correct, but the State of Ohio makes no guarantees as to their accuracy or completeness.

### UTILITIES

The Contractor shall notify at least 48 hours before breaking ground all Public Service Corporations having wire, poles, conduits, manholes, pipe or other structures that may be affected by this operation, including all structures which are affected and not shown on these plans. Any and all work required for public or private utilities will be done by and at the expense of their respective owners, unless otherwise noted on these plans.

### CONSTRUCTION LAYOUT STAKES

See note in Proposal describing the work included in this lump sum pay item.

### NON-RIGID PAVEMENT REMOVAL

Removal and disposal of existing non-rigid pavement, unless otherwise indicated on these plans, shall be measured and paid for as Item E-1, Roadway Excavation.

### ELEVATION DATUM

All elevations are based on U.S.G.S. datum.

### ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS

The rounded corners shown on Standard Drawing RI-1, as modified by the typical sections, apply to all cross sections, even though otherwise shown on these plans.

### SEEDING

Quantities for seeding are calculated for the soil areas between lines five (5) feet outside the work limits, as shown on the cross sections.

### SEEDING FORMULA

The following seed mixture shall be used in lieu of the mixture listed in Section L-3.11:

- 25% Kentucky Bluegrass (*Poa pratensis*)
- 65% Kentucky 31 Fescue (*Festuca elatior* var *Kentucky 31*)
- 10% Alsike Clover (*Trifolium hybridum*)

### L-9 COMMERCIAL FERTILIZER

All areas to be seeded under Item L-9, or sodded under Item L-10 shall have commercial fertilizer 12-12-12 applied at the rate of twenty (20) pounds per 1000 square feet, as per Specs.

### AGRICULTURAL LIMING MATERIALS

Agricultural Liming Materials L-9.02, shall be applied to all seeded or sodded areas at the rate of 100 lbs/1000 sq ft, as per Specs.

### GUARD RAIL ADJACENT TO BRIDGE

One (1) additional guard rail post shall be provided in the center of each panel of guard rail adjoining the parapet, payment for which shall be included in the unit price bid for Item I-15 Guard Rail.

### RIGHT-OF-WAY

Right-of-Way has been acquired to a point 5 feet beyond the limits of construction shown on the plans. The Contractor shall confine his operations within these limits.

### ITEM T-10, AS PER PLAN

The weights to be used in calculating the yardage to be paid for under this Item, if a standard size coarse aggregate is specified, shall be the same as those indicated in the Construction and Material Specifications for crusher run or bank run materials.

### CONNECTIONS TO EXISTING PIPE

At places where the plans provide for proposed drainage pipe to be connected to existing pipes, it shall be the responsibility of the Contractor to locate the existing pipe as to line and grade before he starts to lay the proposed pipe. The cost of the operation shall be included in the unit price bid for the pertinent pipe item.

### REMOVAL OF HOUSE DRAINS (EXISTING)

The removal of all existing house connections which includes sanitary, yard, roof, basement or other similar pipe drains within the Roadway Construction Limits shall be included in the unit price bid for Item E-1, Roadway Excavation, unless otherwise itemized for payment in the plans.

### TYPES OF PIPE

Pipe designation shown on the General Summary shall govern it and where there are differences between the General Summary and the plan details.

### MAINTENANCE OF SEWER FLOWS

The Contractor shall at all times conduct his operations so as to maintain sewer flows through existing facilities to remain in place and through existing facilities to be replaced until new facilities are completed and placed in use.

Payment for any additional costs involved in maintaining these flows by pumping or by any other means approved by the Engineer shall be included in the unit price bid for the respective pipe items.

### ESTIMATED QUANTITIES

Specific locations and usage of estimated quantities set up on this plan to be used as directed by the Engineer shall be made a matter of record by incorporation into the final drawings under governing completion of this project.

### WATER MAIN NOTES

See Sheets 748 for Water Main Notes

### T-71, REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT AS PER PLAN

Expansion joints shall be used only at intersections as shown on the plans and at structures against which the pavement abuts.

Contraction joints shall be steel pins and dowel type in accordance with Standard Drawing T-1, spaced at 20 foot intervals with impressed dummy joints at 15 foot intervals between some contraction joints.

There will be no sawing of joints permitted. Mesh is to be carried through the dummy joints.

Although specific locations of certain expansion and contraction joints have been detailed on this plan, no waiver of the specifications is intended. Provision of expansion joints at all major structures and the maximum spacing between contraction joints shall in all cases be in accordance with Standard Construction Drawing T-1.

### CONTRACTOR CO-OPERATION

The Contractor's attention is called to the existence of a project passing through the limits of this project between Stations 9+00 and 11+00. The Contractor shall contact the adjoining contractor in advance of any excavation or other work between these stations which might hinder the movements of the adjoining contractor.

### EXISTING SANITARY SEWER TAPS AND HOUSE DRAINS

All existing authorized sanitary sewer taps which are disturbed because of this improvement shall be replaced by the Contractor as directed by the Engineer by reconnecting to the existing or relocated sanitary sewer.

Existing house drains that outlet into the street gutter shall be lowered to meet new gutter.

The above work shall be paid for at the unit prices bid for each pipe item furnished and placed.

The following estimated quantities have been provided in the General Summary for use as directed by the Engineer in making connections described above:

- Item I-1 4" Pipe Class B-1 10.0 Lin Ft
- Item I-1 5" Pipe Class A-1 13.0 Lin Ft
- Special 4" C.I. Soil Pipe 40.0 Lin Ft

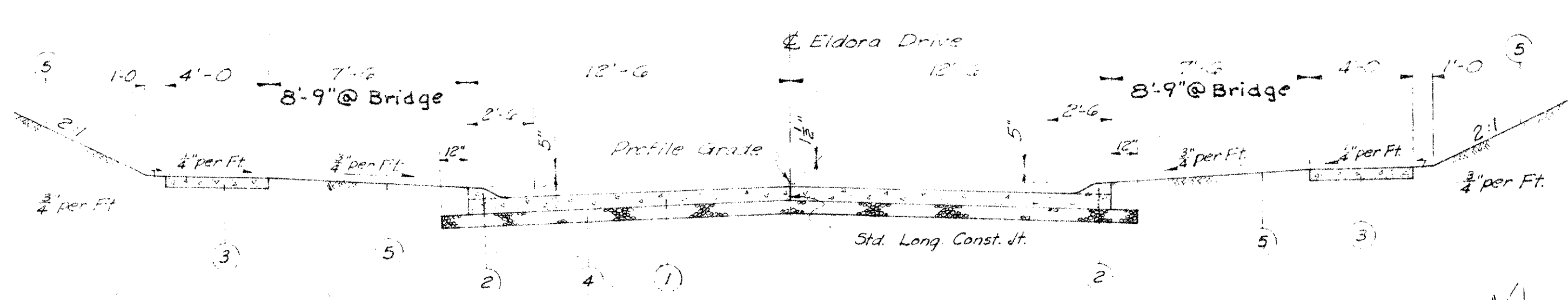
### INLETS

The proposed elevations and locations of inlets, manholes, and pipes and the estimated lengths of pipe may be adjusted by the Engineer during construction.

### EMBANKMENT

The embankment for County Road 453-B separation structure abutment and approach slab will be rough graded as a part of the adjoining contract. Payment for any work required to finish the slopes to the tolerance outlined in Item E-1 shall be included in the unit price bid for seeding and protecting roadway areas, Item L-9, and slope and channel protection, Item I-10, where applicable.

### TYPE T-71



### TYPICAL SECTION OF ELDORA DRIVE

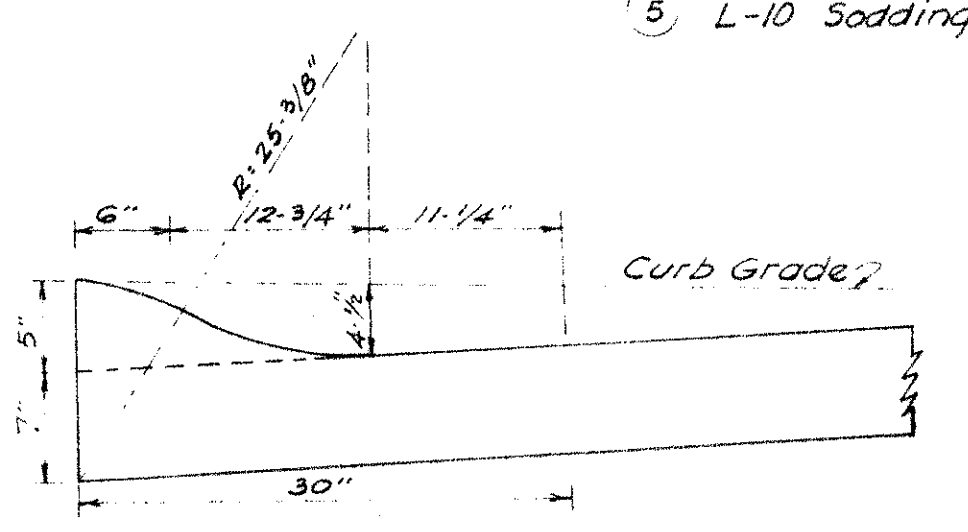
STA. 8+00 TO STA. 12+18.27

Scale: 1/4" = 1'-0"

Note: 6" I-18 Req'd. between Curb & Sidewalk Sta. 9+60 to 10+40

### LEGEND

- 1) T-71 T' Reinf. Portland Cement Concrete Pavement, as per plan
- 2) I-12 Std. Type 3A Modified Concrete Curb
- 3) I-13 5" Concrete Sidewalk
- 4) I-22 6" Subbase Grading Cor D
- 5) L-10 Sodding



### TYPICAL SECTION OF TYPE 3A MODIFIED CURB

40.0  
14.0  
26.0



Type Code 7221

# SUB - SUMMARY

| Ref             | Station to Station     | Side      | I-18    |         | E-8     |         | I-13   | I-15    | T-71    | T-70    |         | I-7     | I-12    | I-12    | I-21    | I-22    |         | E-12    | I-1  | I-8  | I-8  | I-8  | I-16 |      |  |
|-----------------|------------------------|-----------|---------|---------|---------|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|------|------|------|------|------|--|
|                 |                        |           | Cu.Yds. | Sq.Yds. | Sq.Yds. | Lin.Ft. | Sq.Ft. | Lin.Ft. | Sq.Yds. | Sq.Yds. | Sq.Yds. | Sq.Yds. | Lin.Ft. | Lin.Ft. | Sq.Yds. | Cu.Yds. | Lin.Ft. | Lin.Ft. | Each | Each | Each | Each | Each | Each |  |
| <b>ROADWAY</b>  |                        |           |         |         |         |         |        |         |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 1-R             | 160+43.2 to 160+68.2   | Lt.       |         |         |         |         |        | 25      |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 2-R             | 160+43.2 to 160+68.2   | Rt.       |         |         |         |         |        | 25      |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 3-R             | 161+78.2 to 162+03.2   | Lt.       |         |         |         |         |        | 25      |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 4-R             | 161+78.2 to 162+03.2   | Rt.       |         |         |         |         |        | 25      |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 5-R             | 8+00 to 9+37           | Lt. & Rt. |         |         | 109     |         | 976    |         |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 6-R             | 9+37 to 10+70          | Lt. & Rt. |         |         |         |         | 1064   |         |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 7-R             | 10+70 to 12+18.27      | Lt. & Rt. |         |         | 119     |         | 1066   |         |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 8-R             | 10+70 to 12+18.27      | —         |         | 412     |         |         |        |         |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 9-R             | 8+00 to 9+37           | Lt. & Rt. |         |         |         | 274     |        |         |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 10-R            | 9+60 to 10+40          | Lt. & Rt. | 25      |         |         |         |        |         |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
|                 | Sub-Total              |           | 25      | 412     | 228     | 274     | 3106   | 100     |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
| <b>PAVEMENT</b> |                        |           |         |         |         |         |        |         |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 1-P             | 8+00 to 12+18.27       | —         |         |         |         |         |        |         | 1162    |         |         |         |         |         |         | 210     |         |         |      |      |      |      |      |      |  |
| 2-P             | 8+00 to 12+18.27       | Rt.       |         |         |         |         |        |         |         |         |         | 418.5   |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 3-P             | 8+00 to 12+18.27       | Lt.       |         |         |         |         |        |         |         |         |         | 418.5   |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 4-P             | 8+05 Drive             | Lt.       |         | 15      |         |         |        |         |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 5-P             | 8+60 Drive             | Lt.       |         | 40      |         |         |        |         |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 6-P             | 9+10 Drive             | Lt.       |         | 55      |         |         |        |         |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 7-P             | 11+14 Drive            | Lt.       |         | 58      |         |         |        |         |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 8-P             | 11+35 Drive            | Rt.       |         | 36      |         |         |        |         |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 9-P             | 11+64 Drive            | Lt.       |         | 42      |         |         |        |         |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 10-P            | 160+45.45 to 160+70.45 | —         |         |         |         |         |        |         |         |         |         | 161     |         |         |         | 41.5    |         |         |      |      |      |      |      |      |  |
| 11-P            | 161+75.95 to 162+00.95 | —         |         |         |         |         |        |         |         |         |         | 161     |         |         |         | 41.5    |         |         |      |      |      |      |      |      |  |
| 12-P            | 160+45.45 to 160+70.45 | Ctr.      |         |         |         |         |        |         |         |         |         |         |         | 30.5    |         |         |         |         |      |      |      |      |      |      |  |
| 13-P            | 161+75.95 to 162+00.95 | Ctr.      |         |         |         |         |        |         |         |         |         |         |         | 30.5    |         |         |         |         |      |      |      |      |      |      |  |
|                 | Sub-Total              |           |         | 246     |         |         |        |         | 1162    | 246     |         | 322     | 837     |         | 61      | 293     |         |         |      |      |      |      |      |      |  |
| <b>DRAINAGE</b> |                        |           |         |         |         |         |        |         |         |         |         |         |         |         |         |         |         |         |      |      |      |      |      |      |  |
| 1-D             |                        |           |         |         |         |         |        |         |         |         |         |         |         |         |         |         |         |         | 204  | 1    | 1    | 1    |      |      |  |
| 2-D             |                        |           |         |         |         |         |        |         |         |         |         |         |         |         |         |         |         |         | 204  | 1    | 1    | 1    |      | 2    |  |
|                 | Sub-Total              |           |         |         |         |         |        |         |         |         |         |         |         |         |         |         |         |         | 204  | 204  | 1    | 1    | 1    | 2    |  |

# GENERAL SUMMARY

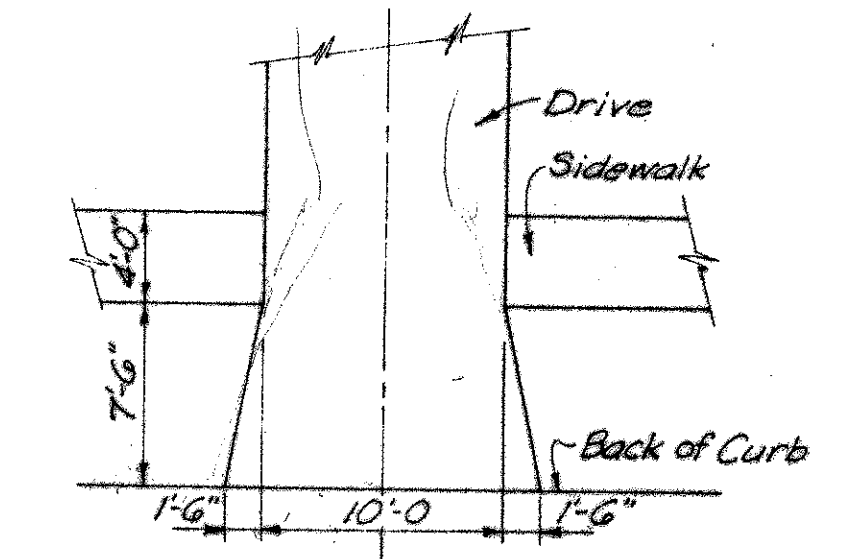
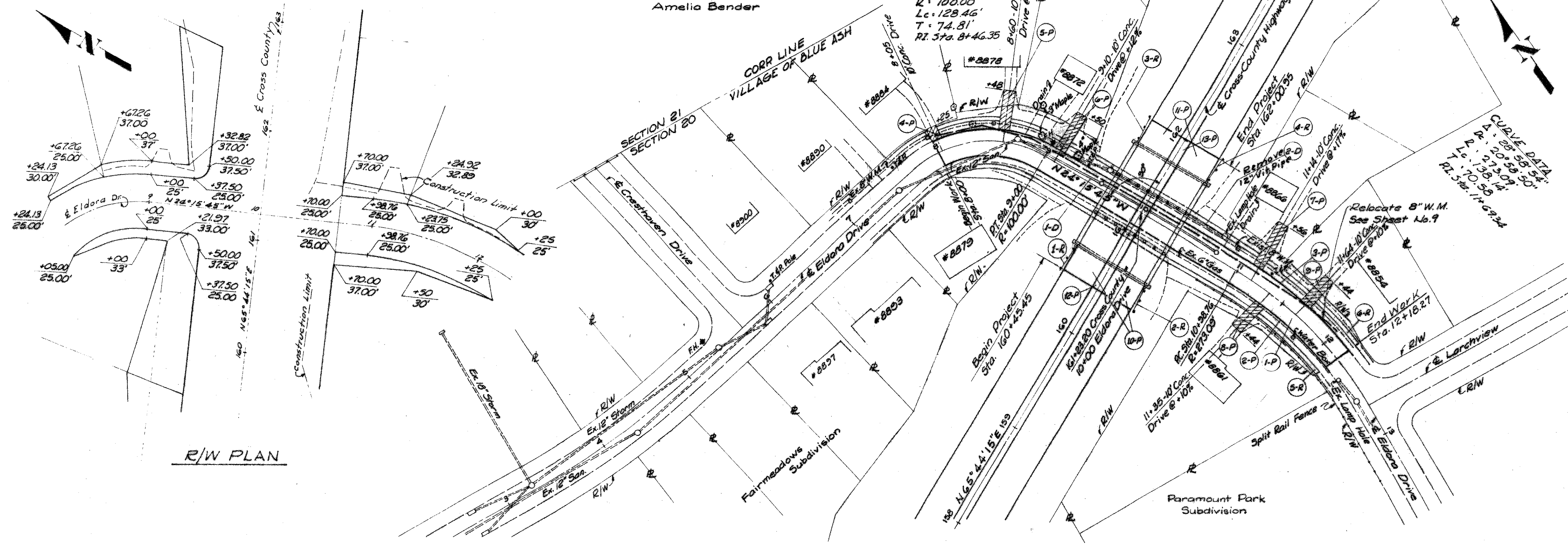
| Item                           | Amount | Unit    | Description  | 100% County Participation |
|--------------------------------|--------|---------|--|---------------------------|
| <b>ROADWAY</b>                 |        |         |  |                           |
| E-1                            | 2475   | Cu.Yds. | Roadway Excavation, Method "B" as per plan                     |                           |
| E-8                            | 658    | Sq.Yds. | Removal & Disposal of Existing Pavement                        |                           |
| E-8                            | 228    | Sq.Yds. | Removal & Disposal of Existing Sidewalk                        |                           |
| E-8                            | 274    | Lin.Ft. | Removal & Disposal of Existing Curb & Gutter                   |                           |
| L-9                            | 0.13   | Ton     | Commercial Fertilizer (12-12-12) as per plan                   |                           |
| I-13                           | 3106   | Sq.Ft.  | 5" Concrete Sidewalk   | 1064                      |
| I-15                           | 100    | Lin.Ft. | Guard Rail Steel Beam Std. Type Deep                           |                           |
| L-9                            | 568    | Sq.Yds. | Seeding and Protecting as per plan                             |                           |
| L-10                           | 833    | Sq.Yds. | Sodding  | 833                       |
| L-9                            | 0.63   | Ton     | Agricultural Liming Material, as per plan                      |                           |
| I-13                           | 25     | Cu.Yds. | Stabilized Crushed Aggregate Shoulders & Approaches            |                           |
| <b>PAVEMENT</b>                |        |         |  |                           |
| T-71                           | 1162   | Sq.Yds. | 7" Reinforced Portland Cement Conc. Pavement as per plan       |                           |
| T-70                           | 246    | Sq.Yds. | 7" Plain Portland Cement Concrete Pavement                     |                           |
| I-7                            | 322    | Sq.Yds. | Reinforced Portland Cement Conc. Approach Slabs T-13'          |                           |
| I-12                           | 837    | Lin.Ft. | Standard Type 3A Concrete Curb as per plan                     |                           |
| I-21                           | 61     | Sq.Yds. | Portland Cement Conc. Median Pavement, Std. Type I             |                           |
| I-22                           | 293    | Cu.Yds. | Subbase Grading Cor D  |                           |
| E-11                           | 2      | M.Gal.  | Water  |                           |
| <b>DRAINAGE</b>                |        |         |  |                           |
| E-12                           | 204    | Lin.Ft. | Removal of Pipe, 15" and under                                 | 204                       |
| I-1                            | 204    | Lin.Ft. | 12" Pipe, C.I. A-1, M-G-G (a) or M-G-G (b)                     | 204                       |
| I-8                            | 1      | Each    | Std. No. 1 Manhole   | 1                         |
| I-8                            | 1      | Each    | Manhole Reconstructed to grade as per plan                     | 1                         |
| I-8                            | 1      | Each    | Std. No. 1 Manhole, Using Existing Casting                     | 1                         |
| I-16                           | 2      | Each    | Manholes Abandoned   | 2                         |
| I-1                            | 75     | Lin.Ft. | 6" Pipe C.I. A-1, M-G-G (a) or M-G-G (b)                       | 75                        |
| I-1                            | 90     | Lin.Ft. | 4" Pipe C.I. B-1, M-G-G (b) or M-G-G (b)                       |                           |
| Special                        | 40     | Lin.Ft. | 4" C.I. Soil Pipe  |                           |
| I-14                           | 64     | Lin.Ft. | Standard Type I Paved Gutter, as per plan                      |                           |
| Special                        | 4      | Each    | 1" Galvanized Steel Grating, as per plan                       |                           |
| I-3                            | 15     |         | Maintaining Traffic  |                           |
|                                | 15     |         | Construction Layout Stakes                                     |                           |
|                                | *      |         | See Sheet No. 10 for Estimated Quantities of Water Works Items | *                         |
| <b>STRUCTURE OVER 20' SPAN</b> |        |         |  |                           |
|                                |        |         | Bridge over Eldora Drive                                       |                           |
|                                |        |         | See Sheet No. 10 for Estimated Quantities                      |                           |

\* No Federal Participation on Water Works Items

E-1 Roadway Excavation Sta. 8+00 to 12+18.27 = 2475 C.Y.  
 E-11 Water 293 C.Y. I-22 @ 5 Gal./C.Y. = 2 M. Gal.  
 L-9 Seeding & Protecting (CR-453B) = 568 S.Y.  
 L-10 Sodding Sta. 8+00 to 12+18.27 = 833 S.Y.  
 L-9 Commercial Fertilizer - Seeding + Sodding = 1401 S.Y. @ 20 Lbs./1000 S.Ft = 0.13 Tons  
 L-9 Agricultural Liming Material - Seeding + Sodding = 1401 S.Y. @ 100 Lbs./1000 Sq.Ft = 0.63 Tons

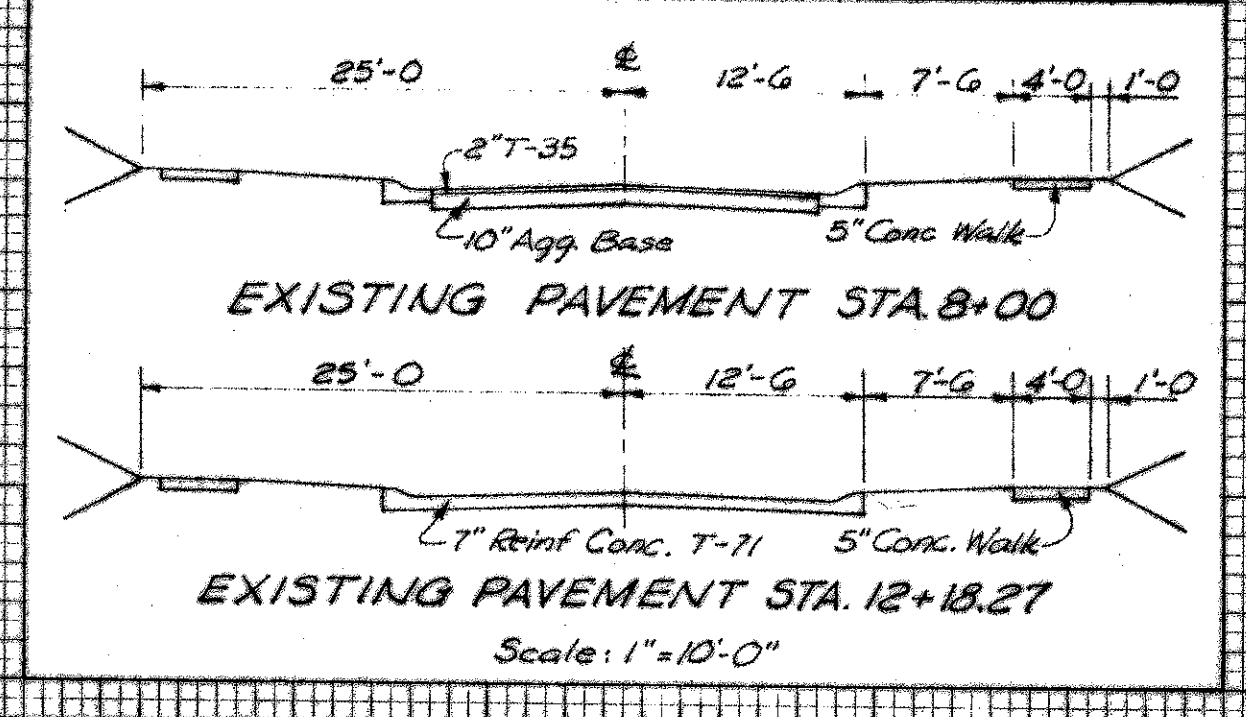
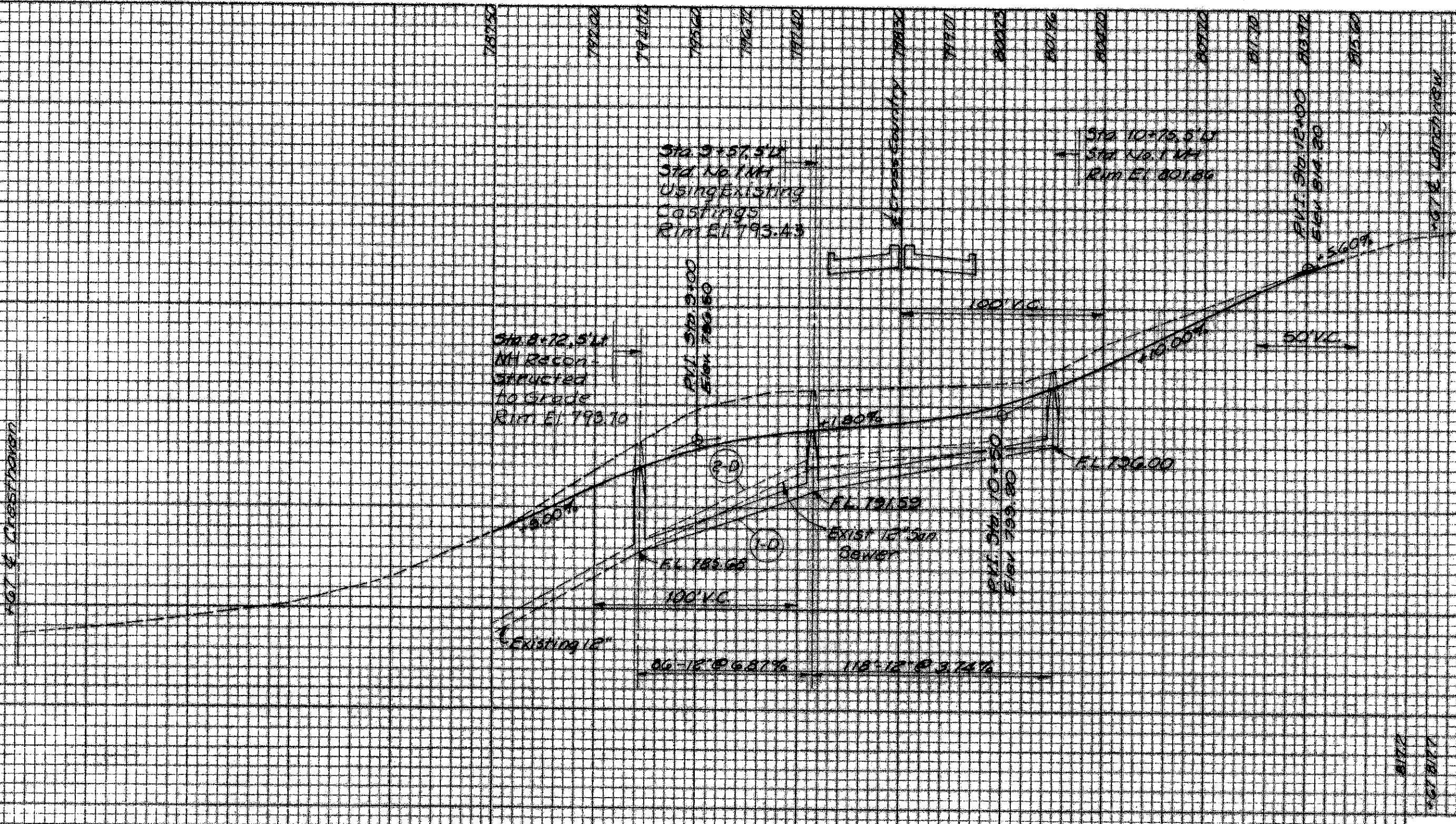
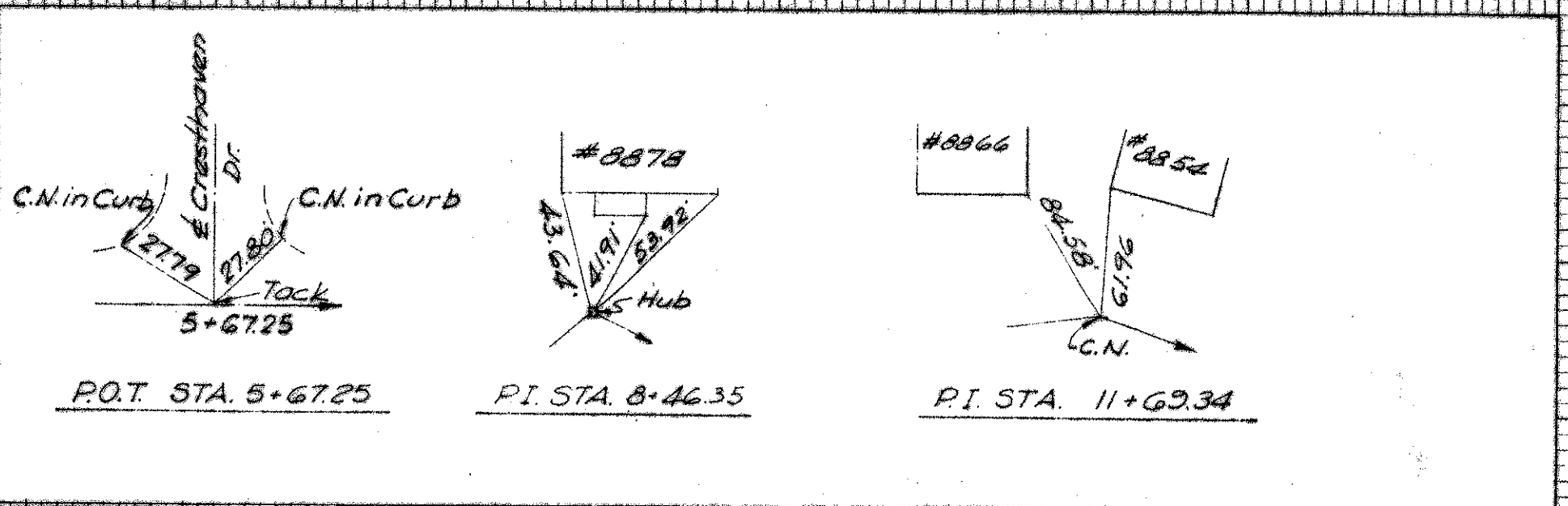


DATE: \_\_\_\_\_  
 SURVEYED: \_\_\_\_\_  
 SURVEY PLOTTED: \_\_\_\_\_  
 NOTE BOOK AREAS CHECKED: \_\_\_\_\_  
 NO. \_\_\_\_\_



- Notes:
- 1- See Bridge Drawings for approach details.
  - 2- Existing Conc. Curb & Gutter Ends, Sta. 9+37
  - 3- Existing Concrete Pavement Begins, Sta. 10+70.
  - 4- No Existing Sidewalk Sta. 9+37 to Sta. 10+70
- BM EL 807.06  
 Concrete monument Sta. 162+00  
 C.R. 453-B

T-70 (1" Portland Cement Concrete Pavement)

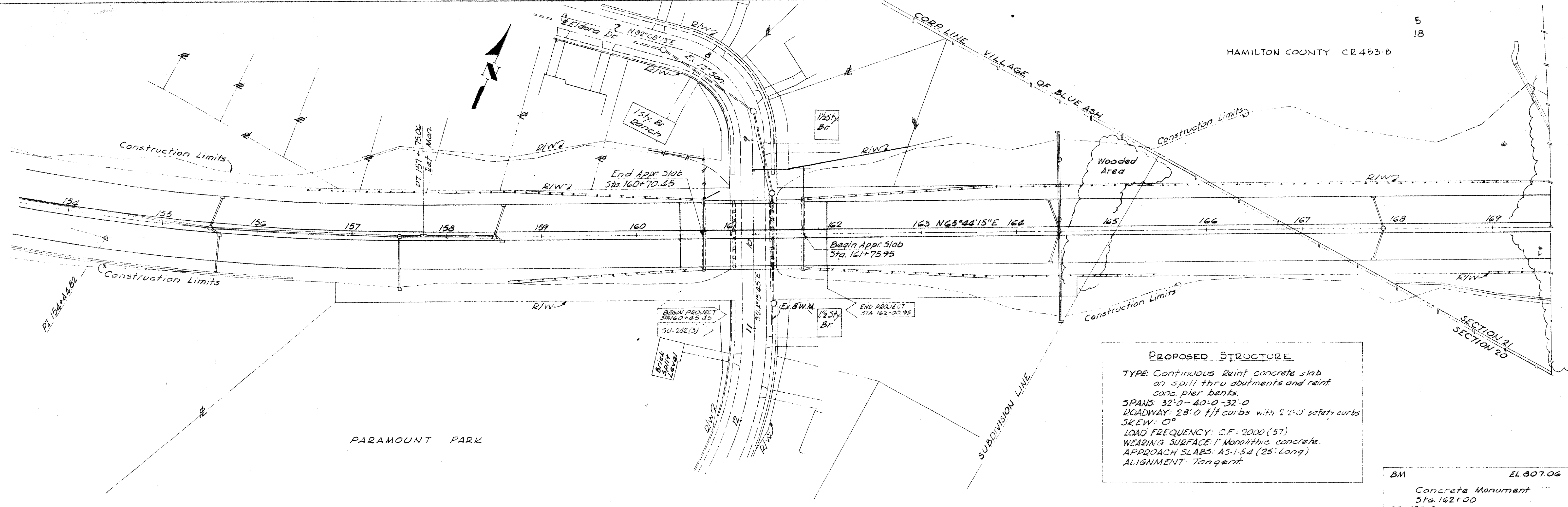


**PROPOSED IMPROVEMENT**  
**CROSS COUNTY HIGHWAY**  
 FROM STA. 94+70.00 (RIDGE ROAD SOUTH OF FUHRMAN RD.)  
 TO STA. 238+00.00 (KENWOOD ROAD SOUTH OF BOYLE AVE.)  
 SCALE: HOR. 1"=50' VERT. 1"=10'

KENT W. ROLLINS  
 HAMILTON CO. ENGR

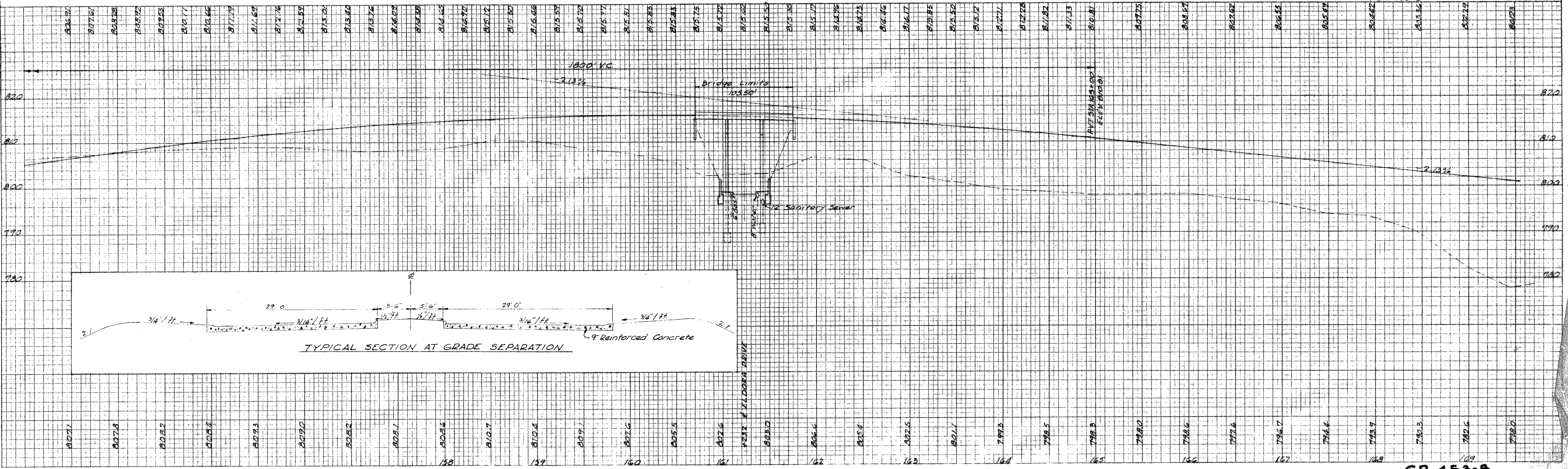
**ELDORA DRIVE**





**PROPOSED STRUCTURE**  
 TYPE: Continuous Reinforced concrete slab on spill thru abutments and reinf. conc. pier bents.  
 SPANS: 32'-0"-40'-0"-32'-0"  
 ROADWAY: 28'-0" H/F curbs with 2'-0" safety curbs  
 SKEW: 0°  
 LOAD FREQUENCY: C.F. 2000 (57)  
 WEARING SURFACE: 1" Monolithic concrete.  
 APPROACH SLABS: AS-1-5A (25' Long)  
 ALIGNMENT: Tangent

BM EL. 807.06  
 Concrete Monument  
 Sta. 162+00  
 CR 453-B



TYPICAL SECTION AT GRADE SEPARATION

FINAL SURVEY  
 1/20/18  
 1/20/18

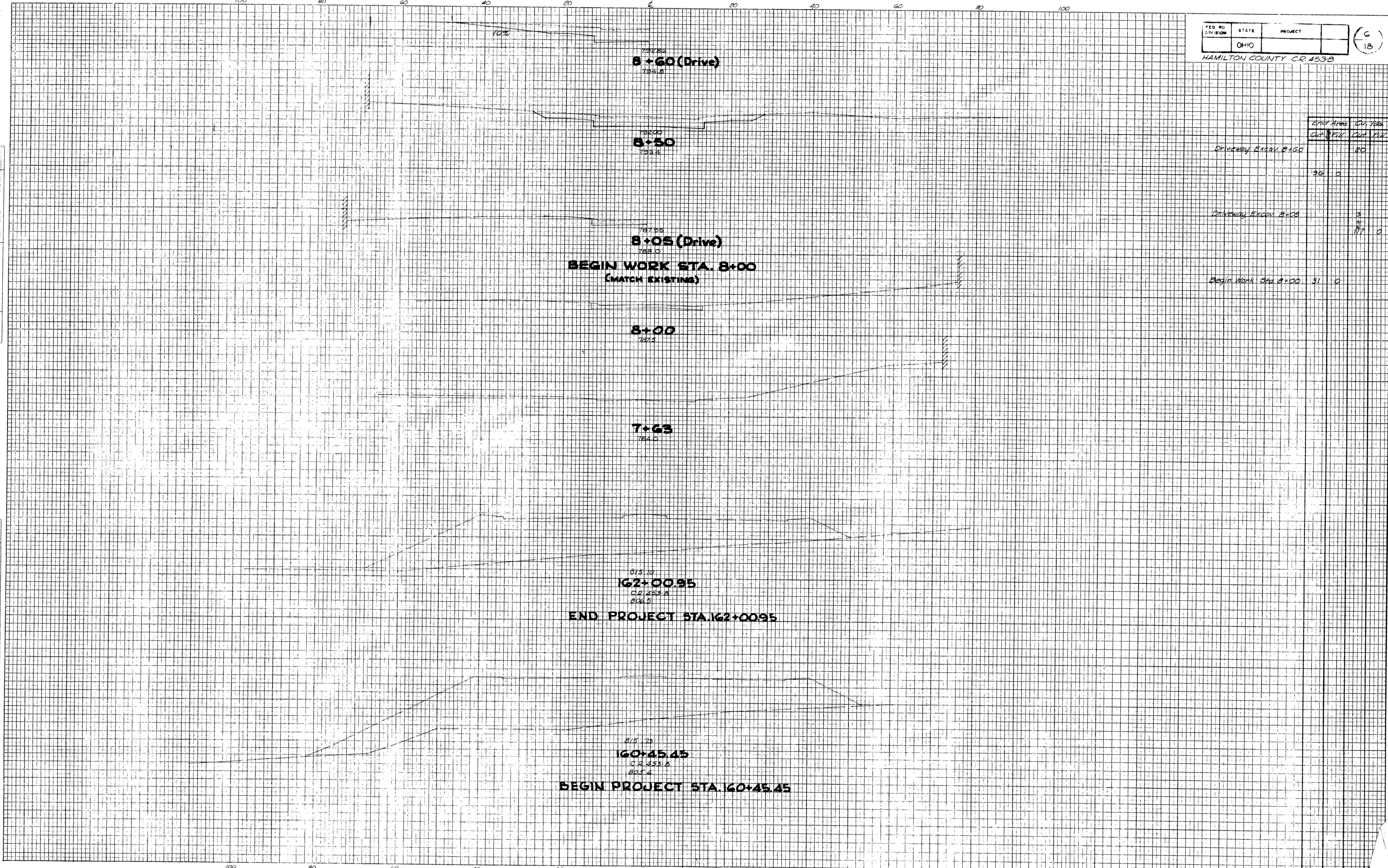
ORIGINAL SURVEY  
 1/20/18  
 1/20/18

ALL RIGHTS RESERVED BY THE SURVEYOR  
 NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF THE SURVEYOR.



DATE \_\_\_\_\_  
 SURVEYED BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_  
 DATE \_\_\_\_\_

DATE \_\_\_\_\_  
 SURVEYED BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_  
 DATE \_\_\_\_\_



| Excavation           | CUT YDS. |      |
|----------------------|----------|------|
|                      | CUT      | FILL |
| Driveway Excav. 8+60 |          | 20   |
|                      | 96       | 0    |
| Driveway Excav. 8+05 |          | 3    |
|                      | 117      | 0    |
| Begin Work Sta. 8+00 | 31       | 0    |

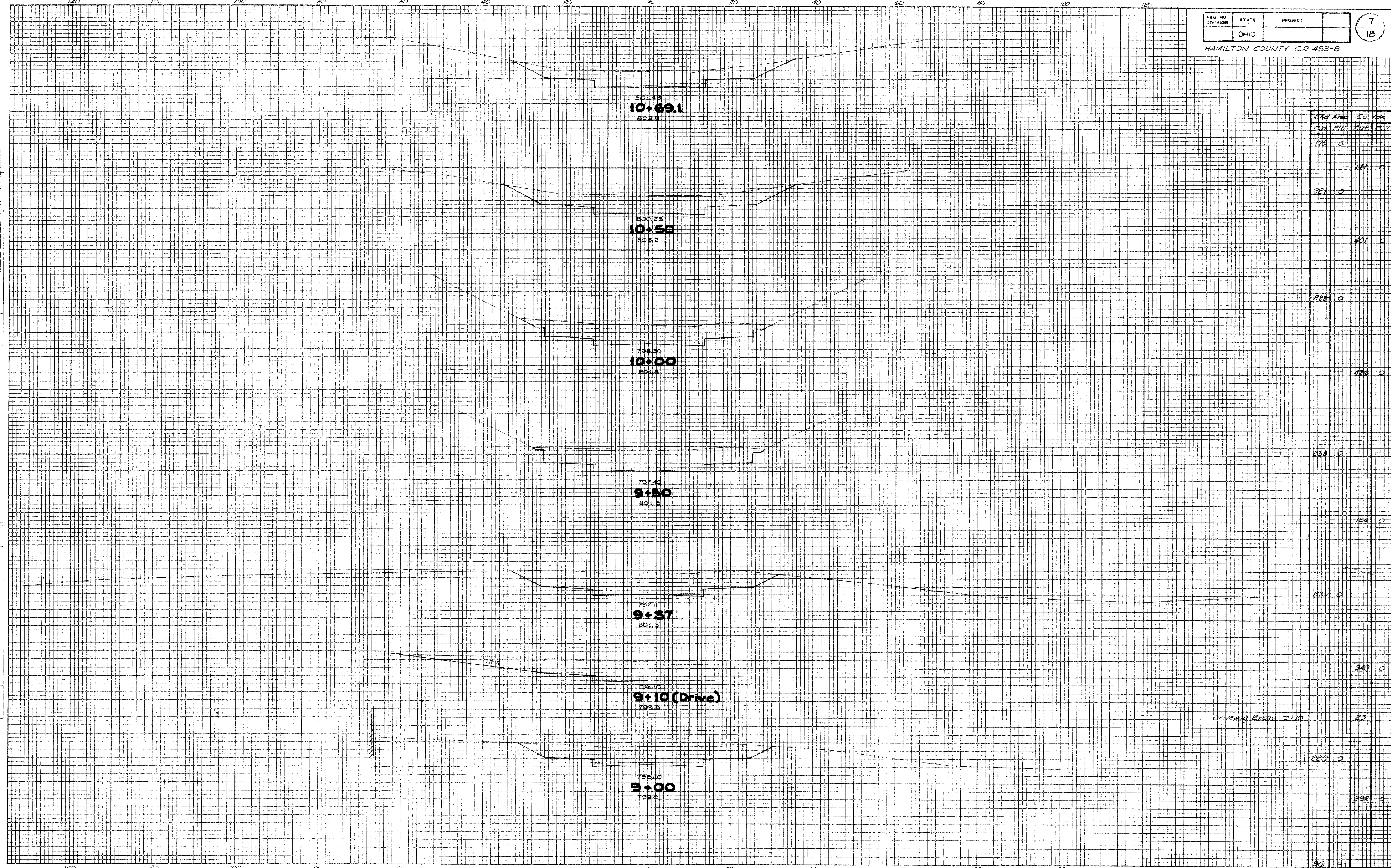


FINAL SURVEY NOTE BOOK NO. ...

SURVEYED  
 PLOTTED  
 TEMPLATE  
 AREAS CHECKED

ORIGINAL SURVEY NOTE BOOK NO. ...

SURVEYED  
 PLOTTED  
 TEMPLATE  
 AREAS CHECKED



| End Area | Sta. 1069 |
|----------|-----------|
| Cut      | Fill      |
| 179      | 0         |
|          | 141       |
| 221      | 0         |
|          | 401       |
| 222      | 0         |
|          | 426       |
| 234      | 0         |
|          | 124       |
| 276      | 0         |
|          | 340       |
| 280      | 0         |
|          | 23        |
| 290      | 0         |
|          | 236       |
| 326      | 0         |

ELDORA DR. STA. 9+00 TO STA. 10+69.1

PLATE 3 - 11-13-51 DESIGN BY R. L. VANDERKAM  
 THE ENGINEERS - 1135 50' CHICAGO



FINAL SURVEY SURVEYED, PLOTTED, RECALCULATED, AREA CHECKED, NO. \_\_\_\_\_

ORIGINAL SURVEY SURVEYED, PLOTTED, RECALCULATED, AREA CHECKED, NO. \_\_\_\_\_

BY: \_\_\_\_\_ DATE: \_\_\_\_\_

12+66.74 (Profile of E Larchview Drive)  
817.7

END OF WORK STA. 12+18.27  
(MATCH EXISTING)

12+18.27  
813.0

12+00  
814.0

11+64 (Drive)  
811.2

11+50  
810.1

11+35 (Drive)  
808.0

11+14 (Drive)  
807.5

11+00  
806.1

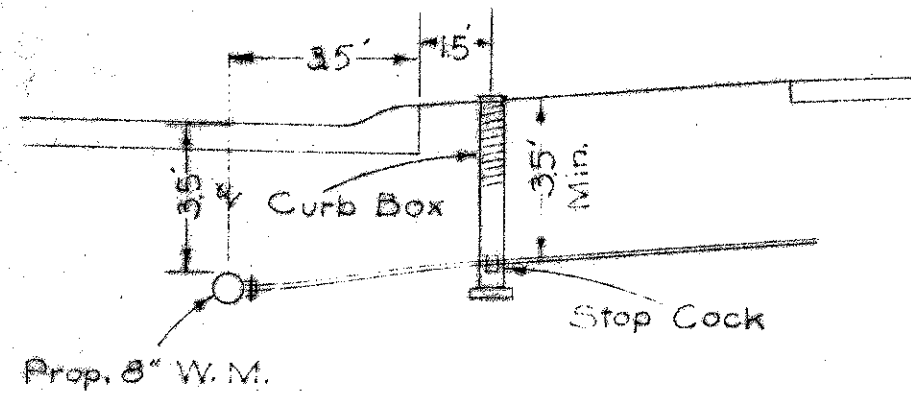
| Prop Area | Cut | Fill |
|-----------|-----|------|
|           |     |      |

|                       |     |   |
|-----------------------|-----|---|
|                       | 16  | 0 |
|                       | 23  | 0 |
|                       | 45  | 0 |
|                       | 119 | 0 |
| Driveway Excav. 11+64 | 10  |   |
|                       | 84  | 0 |
| Driveway Excav. 11+35 | 12  |   |
|                       | 214 | 0 |
| Driveway Excav. 11+14 | 22  |   |
|                       | 149 | 0 |
|                       | 193 | 0 |
|                       | 173 | 0 |

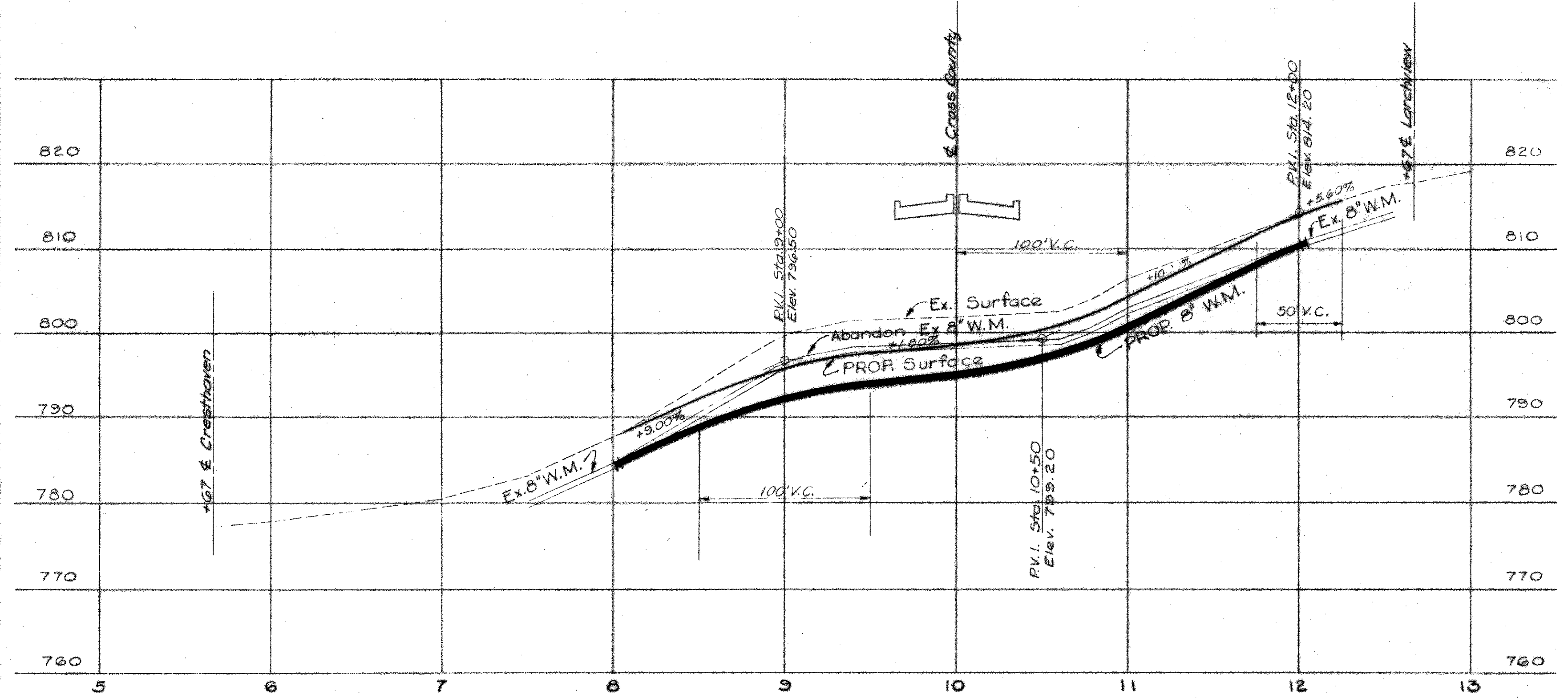
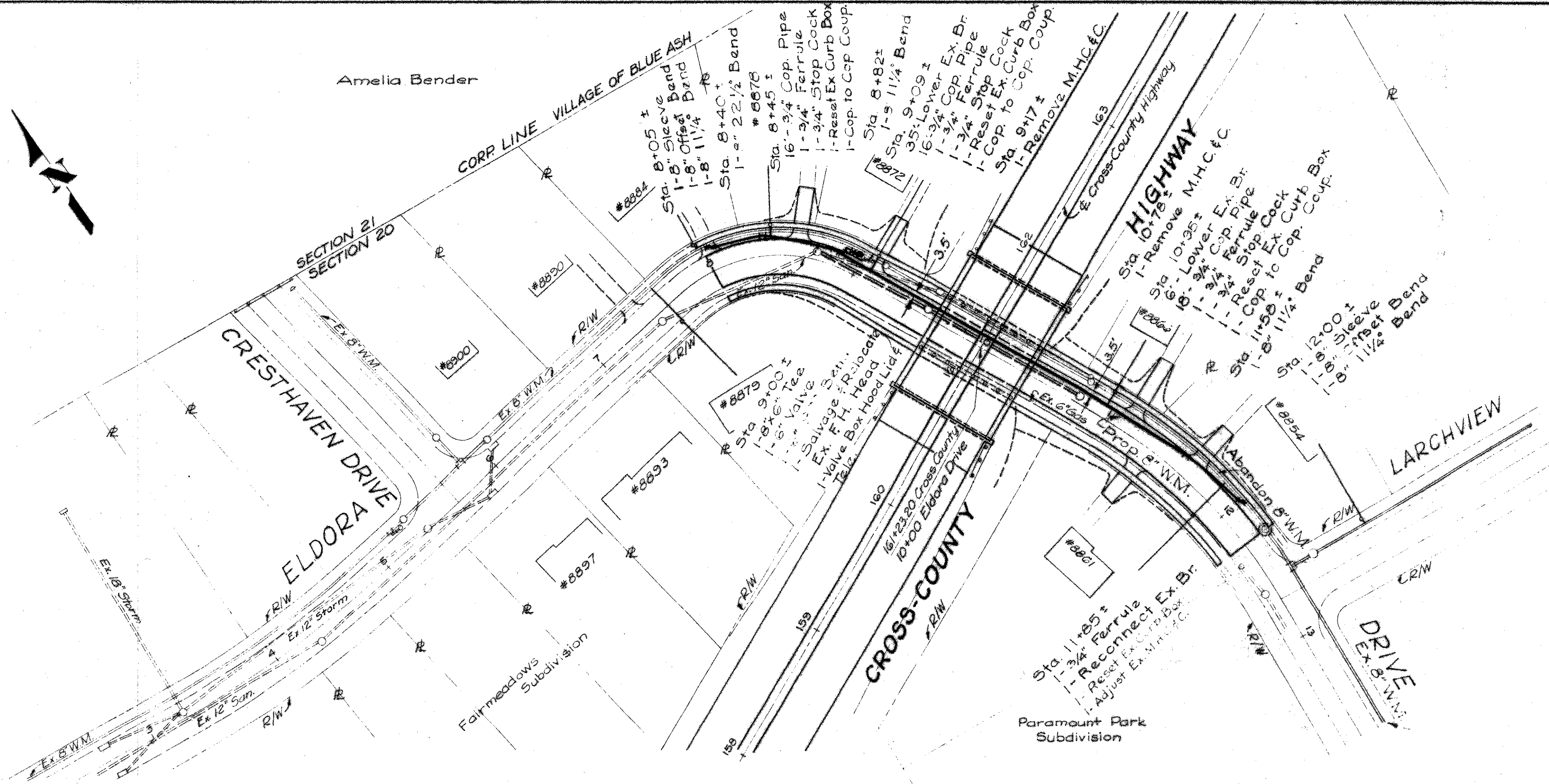
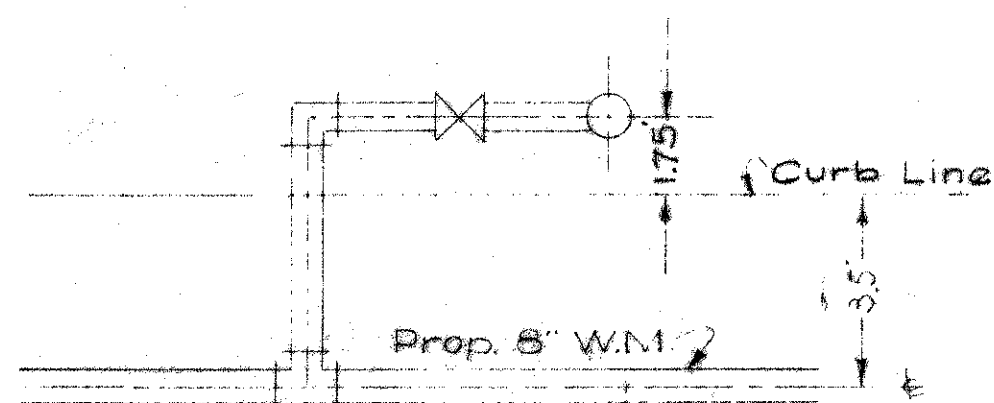
ELDORA DR. STA. 11+00 TO STA. 12+66.74



TYPICAL SERVICE BRANCH INSTALLATION



FIRE HYDRANT INSTALLATION





# WATER WORKS SUMMARY

# WATER WORKS MATERIAL

| ITEM    | QUAN | UNIT     | DESCRIPTION  | CITY OF CINTI SPECIFICATION NO. |
|---------|------|----------|--|---------------------------------|
| SPECIAL | 420  | LIN. FT. | LAYING 8" C.I.P. SPECIALS & VALVES INCLUDING FURNISHING MATERIAL | W-1                             |
| "       | 20   | LIN. FT. | LAYING 6" C.I.P. SPECIALS & VALVES INCLUDING FURNISHING MATERIAL | W-1                             |
| "       | 10   | LIN. FT. | REMOVING EXISTING WATER MAINS 8" THRU 12"                        | W-15                            |
| "       | 41   | LIN. FT. | LOWERING EX. SERVICE BRANCHES 3/4" THRU 2"                       | W-25                            |
| "       | 1    | EACH     | RECONNECTING EXISTING SERVICE BRANCHES                           | W-27                            |
| "       | 60   | LIN. FT. | INSTALLING 3/4" COPPER & FITTINGS INCLUDING FURNISHING MATERIAL  | W-28                            |
| "       | 1    | EACH     | INSTALLING CURB BOXES INCLUDING FURNISHING MATERIAL              | W-39                            |
| "       | 4    | EACH     | RESETTING EXISTING CURB AND ROADWAY BOXES                        | W-42                            |
| "       | 1    | EACH     | INSTALLING AND FURNISHING VALVE BOXES                            | W-41                            |
| "       | 2    | EACH     | REMOVING EXISTING M.H.C. & C.                                    | W-54                            |
| "       | 1    | EACH     | SALVAGING & RELOCATING EXISTING FIRE HYDRANT HEADS               | W-80                            |
| "       | 7    | CU. YDS. | CONCRETE MASONRY 1:5 MIX CLASS C                                 | W-48                            |
| "       | 200  | LBS.     | REINFORCING STEEL  | C-3                             |
| "       | 5    | CU. YDS. | ROCK EXCAVATION  | W-45                            |
| "       | 5    | CU. YDS. | ADDITIONAL EXCAVATION  | W-46                            |
| "       | 1    | EACH     | ADJUSTING EXISTING VALVE CHAMBER                                 | S-11                            |
| "       | 2    | CU. YDS. | CONCRETE MASONRY 1:5 MIX CLASS C - HIGH EARLY STRENGTH           | W-48                            |
| "       | 25   | LIN. FT. | CHANGING 8" & 6" SEWERS  | S-20                            |
| "       | 25   | LIN. FT. | CHANGING 12" SEWERS  | S-3                             |

NO FEDERAL PARTICIPATION ON ANY WATER WORKS ITEMS.

| QUAN   | UNIT      | DESCRIPTION                     |
|--|-----------|---------------------------------|
| 23   | 18' LGTHS | 8" C.I. PIPE                    |
| 1  | 18' LGTHS | 6" C.I. PIPE                    |
| 60   | LIN. FT.  | 3/4" COPPER SERVICE PIPE        |
| 1  | EACH      | VALVE BOX HOOD LID & TELESCOPE  |
| <p>THE FOLLOWING MATERIAL IS NECESSARY TO COMPLETE THE WATER MAIN AND BRANCH RELOCATION WORK AS PROPOSED ON THE DRAWING. SEPARATE PAYMENT WILL NOT BE MADE FOR THESE ITEMS, THE COST OF WHICH SHALL BE INCLUDED IN THE UNIT PRICE OF THE PIPE WITH WHICH THEY ARE INSTALLED.</p> |           |                                 |
| 4  | EACH      | 8" 1 1/4° BENDS (2M.J.)         |
| 1  | EACH      | 8" 22 1/2° BENDS (2M.J.)        |
| 2  | EACH      | 8" OFFSET BENDS (M.J.X P.E.)    |
| 1  | EACH      | 6" 90° BEND                     |
| 2  | EACH      | 8" SOLID SLEEVES                |
| 1  | EACH      | 8" X 6" TEE (3M.J.)             |
| 1  | EACH      | 6" VALVE                        |
| 4  | EACH      | 3/4" FERRULE                    |
| 3  | EACH      | 3/4" COPPER TO COPPER COUPLINGS |
| 3  | EACH      | 3/4" STOP COCKS                 |

### GENERAL WATER WORKS SPECIFICATIONS

#### SALVAGING AND RELOCATING EXISTING FIRE HYDRANT HEADS

DESCRIPTION: THIS ITEM SHALL COVER THE SALVAGING AND RELOCATION OF EXISTING FIRE HYDRANT HEADS WHERE SHOWN ON PLANS OR AS DIRECTED BY THE WATER WORKS SUPERINTENDENT. THE CONTRACTOR SHALL MAKE THE NECESSARY EXCAVATION, CUT OUT THE JOINTS AND CAREFULLY REMOVE THE FIRE HYDRANT HEAD FROM THE TRENCH. THE FIRE HYDRANT SHALL BE CLEANED OF ALL FOREIGN MATTER, BOTH INSIDE AND OUTSIDE, TO THE SATISFACTION OF THE WATER WORKS SUPERVISOR. THE FIRE HYDRANT WILL BE HALLIED BY THE CONTRACTOR, TO THE NEW LOCATION, INSTALLED AS SHOWN ON THE PLANS.

PAYMENT: PAYMENT FOR ITEM W-80, SALVAGING AND RELOCATING EXISTING FIRE HYDRANT HEADS WILL BE MADE IN ACCORDANCE WITH THE PROVISIONS OF SECTION W-11.03.

### NOTES:

#### WATER MAIN WORK

WATER MAIN ITEMS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CINCINNATI WATER WORKS DEPARTMENT MATERIAL SPECIFICATIONS FOR HIGHWAYS AND RIVERS, DATED JANUARY 1968, AND THE CINCINNATI WATER WORKS DEPARTMENT MATERIAL SPECIFICATIONS FOR THE INSTALLATION OF WATER MAINS AND SERVICE LINES, DATED JANUARY 1968, AND THE CINCINNATI WATER WORKS DEPARTMENT MATERIAL SPECIFICATIONS FOR THE INSTALLATION OF WATER MAINS AND SERVICE LINES, DATED JANUARY 1968, AND THE CINCINNATI WATER WORKS DEPARTMENT MATERIAL SPECIFICATIONS FOR THE INSTALLATION OF WATER MAINS AND SERVICE LINES, DATED JANUARY 1968.

ALL PIPE SPECIALS AND APPURTENANCES USED IN THIS PROJECT SHALL BE OF THE MANUFACTURE OF MANUFACTURER BY THE CINCINNATI WATER WORKS DEPARTMENT.

PIPE SHALL BE MECHANICAL JOINT, FLANGE END, AND SHALL BE INSTALLED IN ACCORDANCE WITH THE CINCINNATI WATER WORKS DEPARTMENT MATERIAL SPECIFICATIONS.

CONTRACTOR IS TO NOTIFY WATER WORKS DEPARTMENT OF ANY EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATION. PROVIDE 10' MINIMUM CLEARANCE FROM EXISTING UTILITY LOCATIONS UNLESS OTHERWISE NOTED ON PLANS.

ADDITIONAL CONCRETE AND STEEL FOR PROTECTING EXISTING UTILITIES SHALL BE PROVIDED BY THE CONTRACTOR AT THE DISCRETION OF THE WATER WORKS ENGINEER. PAYMENT FOR THIS WORK SHALL BE MADE AS PART OF THE PRICE OF THE CONCRETE MASONRY, ITEM W-48, AND REINFORCING STEEL, ITEM C-3.

PIPE REMOVED FOR CONSTRUCTION PURPOSES IS TO BE PLACED IN THE PROPERTY OF THE CINCINNATI WATER WORKS DEPARTMENT AND SHALL BE DELIVERED TO BY THE CONTRACTOR. PAYMENT FOR THIS WORK SHALL BE MADE AS PART OF THE PRICE OF THE PIPE, ITEM W-15.

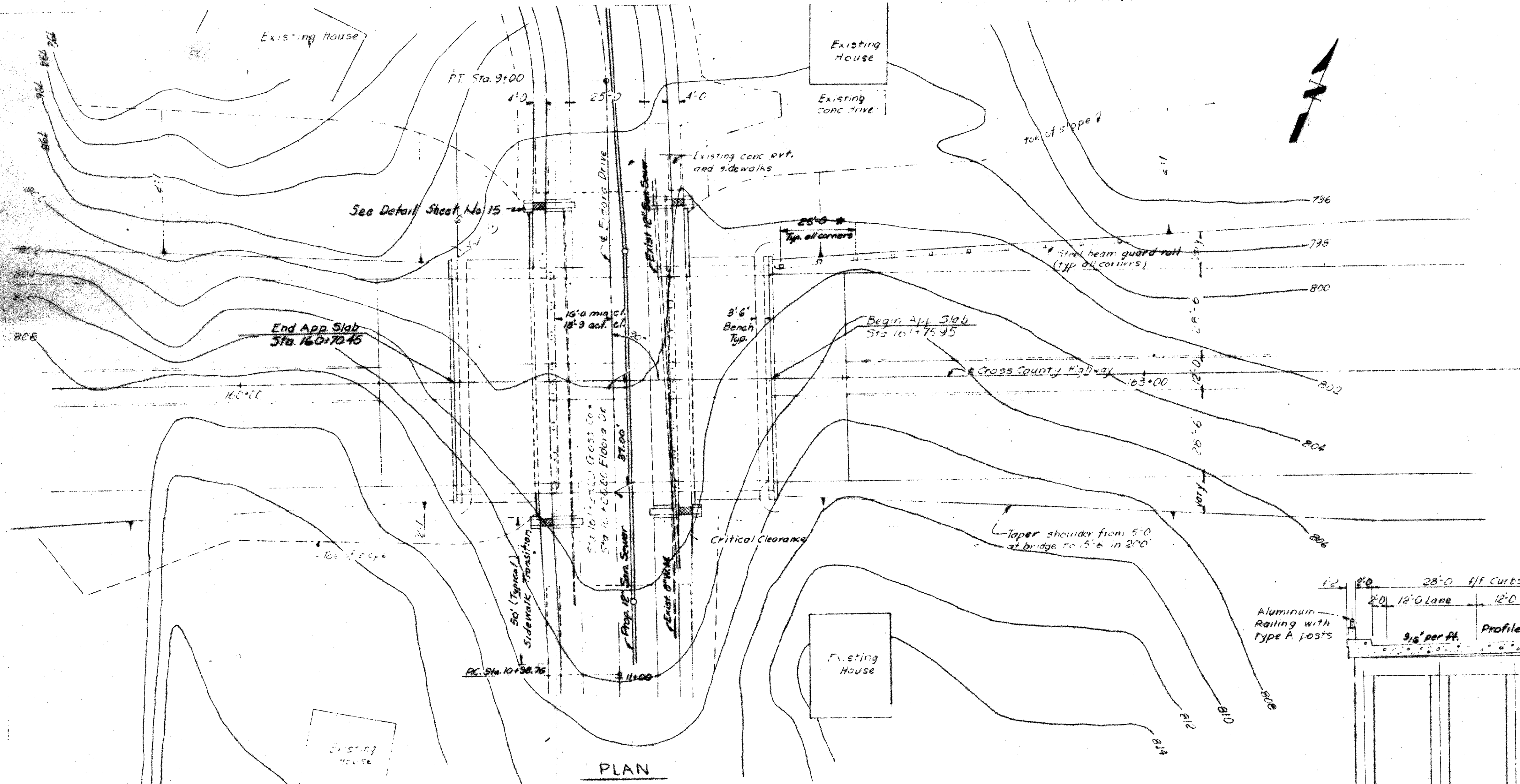
THE SIZE AND LENGTH OF ANY TEMPORARY WATER LINES IS TO BE DETERMINED BY THE CINCINNATI WATER WORKS DEPARTMENT. THE COST OF THE TEMPORARY LINES SHALL BE INCLUDED IN THE COST OF LAYING THE WATER MAINS, IF THIS IS REQUESTED.

THE EXISTING WATER MAIN IS THE ONLY WATER MAIN TO BE USED FOR THE CONSTRUCTION OF THE WATER MAIN. THE MAIN HAS BEEN INSTALLED, TESTED AND PLACED IN SERVICE. THE CONNECTIONS AT THE MAIN SHALL BE MADE AT THE SAME TIME. DURING GRADING OPERATIONS SUFFICIENT COVER MUST BE MAINTAINED OVER THE MAIN TO PREVENT FREEZING OR OTHER DAMAGE.



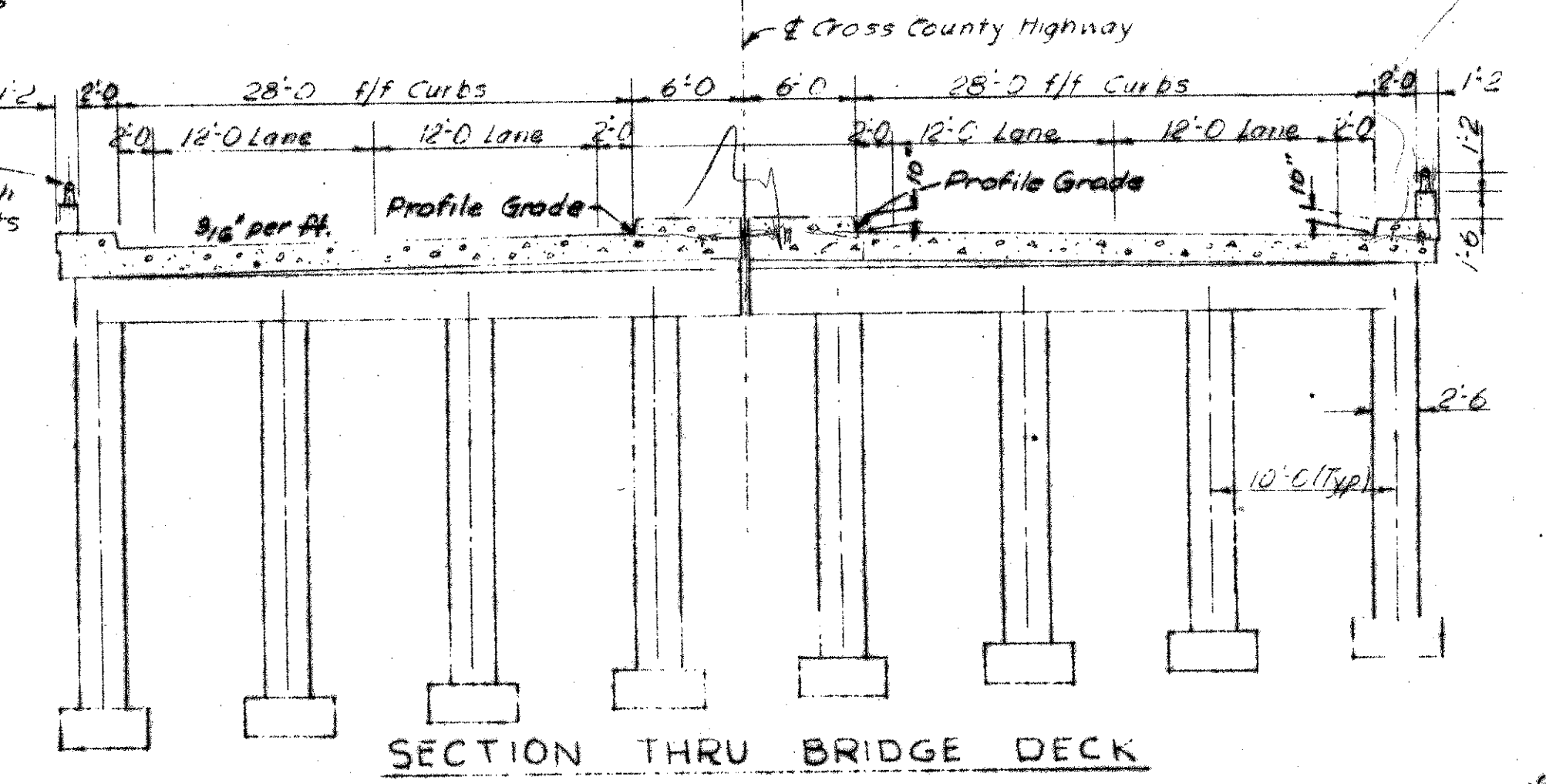
**PROPOSED STRUCTURE**  
 TYPE: Continuous reinf concrete slab on spill thru abutments and reinf conc pier bents.  
 SPANS: 32'-0" - 40'-0" - 32'-0"  
 ROADWAY: 28'-0" f/f curbs with 2'-2'-0" safety curbs.  
 LOAD FREQUENCY: C.F. = 2000 (57)  
 SKEW: 0°  
 WEARING SURFACE: 1" Minimum Concrete  
 APPROACH SLABS: AS-1-54 (25' Long)  
 ALIGNMENT: Tangent

**AVERAGE DAILY TRAFFIC - 1975**  
 Total all vehicles east bound - 14,140  
 west bound - 14,560  
 Total EB and WB - 28,700

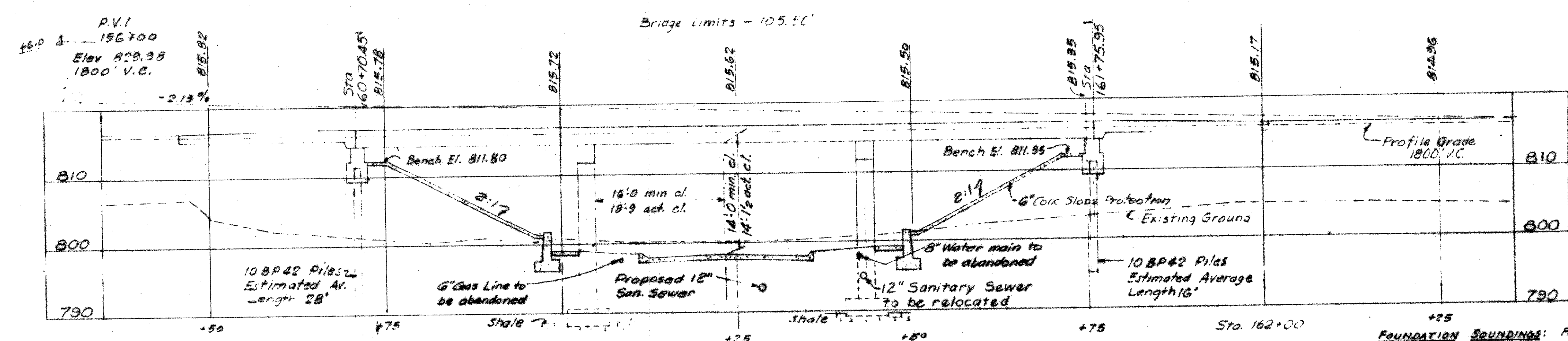


PLAN

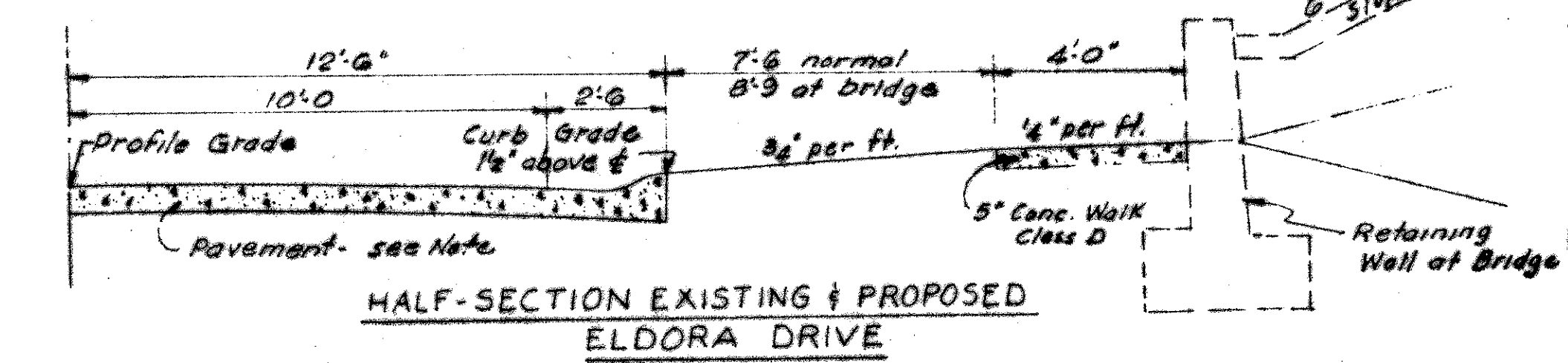
\* Guard rail included in Eldora Drive Roadway Quantities. Approach Slabs and Subbase under approach slabs, paved gutters and gratings in sidewalks also included in Eldora Dr. Roadway Quantities.



SECTION THRU BRIDGE DECK



SECTION ALONG E CROSS COUNTY HIGHWAY



HALF-SECTION EXISTING & PROPOSED ELDORA DRIVE

Notes:  
 Pavement, 7" T-71

Note: Elevations shown are Profile Grade

Maximum Allowable Bearing Pressure, Pier Footings 5 Tons per sq. ft.

**FOUNDATION SOUNDINGS:** Foundation design and foundation quantities are based on a study of soil sampling soundings made at the site. This sounding information, the accuracy of which the State does not guarantee, may be examined in the office of the Bureau of Bridges in Columbus or in the Division Office.

Date: 9-25-63

SHAW, LENZ & ASSOCIATES  
 ENGINEERS  
 CINCINNATI OHIO

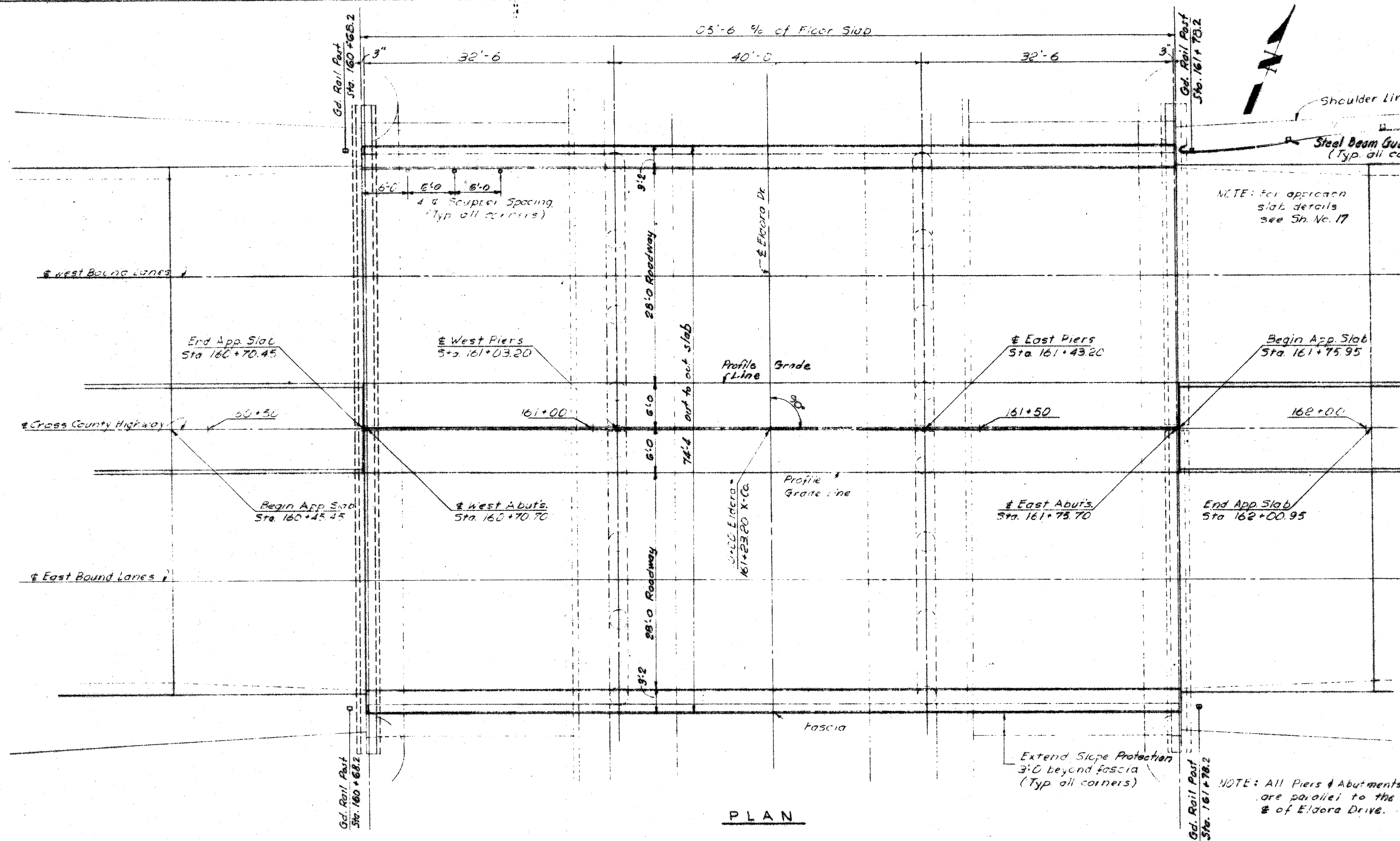
**SITE PLAN**  
**CROSS COUNTY HIGHWAY**  
**BRIDGE OVER ELDORA DRIVE**

|                         |                   |
|-------------------------|-------------------|
| PRESENT TOPOG           | PROPOSED WORK     |
| SHAW, LENZ & ASSOCIATES | DESIGNED BY WBS   |
| HAMILTON COUNTY ENGRS   | DRAWN BY WBS      |
|                         | CHECKED BY R.J.L. |

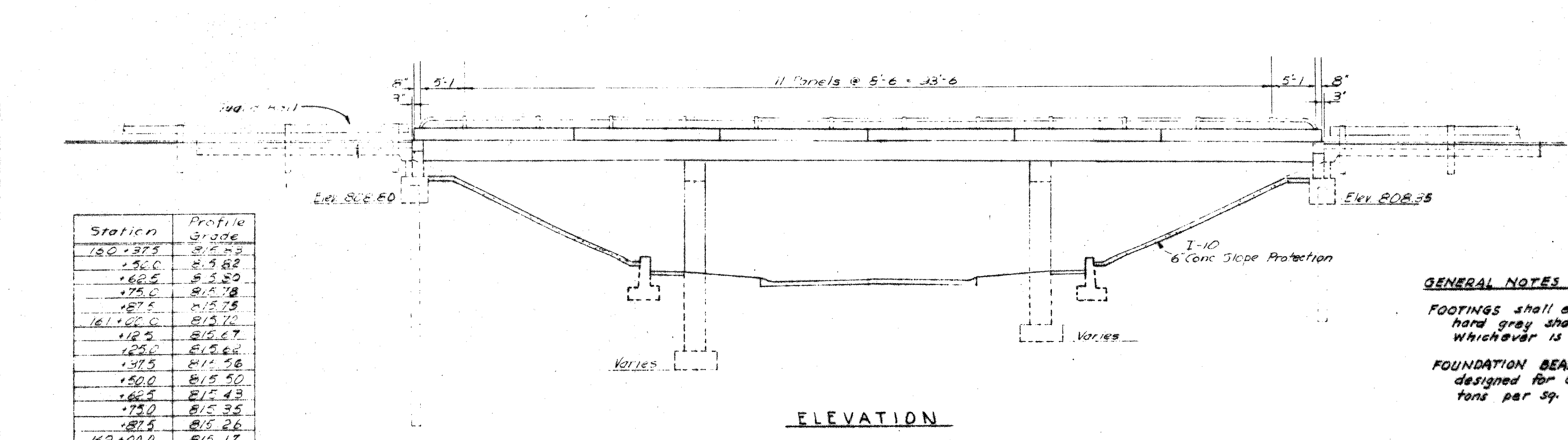


**GENERAL NOTES**

Design Loading - **OF 8000 (S7)**  
 Concrete Class C - basic unit stress 1,333 p.s.i.  
 Concrete Class E - basic unit stress 1,133 p.s.i.  
 Structural Steel - ASTM A36 basic unit stress 20,000 p.s.i. (ASTM A7 and A773 steel not permitted).  
 Reinforcing Steel - ASTM A15, A16, A160, Deformed, Intermediate or Hard Grade. Basic unit stress 20,000 p.s.i. Except, spiral reinforcement may be plain, Structural Grade with basic unit stress of 18,000 p.s.i.  
 REFERENCE shall be made to Standard Drawings CS-2-54 (Sheet No.1) revised 2-2-59, AS-1-54 revised 7-5-58 and AR-1-57 revised 4-2-58, and to Supplemental Specification S-101 dated 7-12-58.  
 DESIGN SPECIFICATION: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated Sept. 1, 1957 together with current revisions thereof.  
 EXCAVATION QUANTITY includes the removal of fill material between the top of the earth bench and the bottom of the abutment crossbeam.  
 PILES shall be driven to firm contact with rock. If the length of penetration is approximately equal to the depth of rock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. 5-18.05 is not less than the following value for a pile hammer of the indicated energy rating:  
 For the abutment piles 48 tons per pile using a 7000 ft. lb. hammer  
 40 tons per pile using an 11000 ft. lb. hammer  
 35 tons per pile using a 15000 ft. lb. or greater hammer.  
 If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 27 tons per pile.  
 SURFACE FINISH OF CONCRETE: The requirements of Sec. 5-1.22, Rubbed Finish, shall apply to the following exposed concrete surfaces:  
 a. The entire superstructure except the top and bottom surfaces of sidewalls and roadways.  
 b. The entire surface of piers and abutments except bridge seats, backwalls, and the face of spill-through abutments.  
 MACHINE FINISH: The concrete bridge deck shall be finished by the use of a finishing machine.  
 MAINTENANCE AND PROTECTION OF TRAFFIC:  
 The Contractor shall safeguard the traveling public by providing platforms, nets or other suitable protection above the traveled lanes. A minimum vertical clearance of 16'-0" shall be provided at all times.  
 UTILITY LINES: All expense involved in relocating or installing the affected utility lines shall be borne by the Owners. The Contractor and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.



**PLAN**



**ELEVATION**

| Station  | Profile Grade |
|----------|---------------|
| 160+37.5 | 815.59        |
| +50.0    | 815.82        |
| +62.5    | 815.80        |
| +75.0    | 815.78        |
| +87.5    | 815.75        |
| 161+00.0 | 815.70        |
| +12.5    | 815.67        |
| 125.0    | 815.62        |
| +37.5    | 815.56        |
| +50.0    | 815.50        |
| +62.5    | 815.43        |
| +75.0    | 815.35        |
| +87.5    | 815.26        |
| 162+00.0 | 815.17        |
| +12.5    | 815.07        |

| ITEM  |         | TOTAL | UNIT     | DESCRIPTION                                  | SUPER   | WEST ABUT. | EAST ABUT. | WEST PIER | EAST PIER | RET. WALL | GEN. |
|-------|---------|-------|----------|--|---------|------------|------------|-----------|-----------|-----------|------|
| E-2   | Lump    | Sum   |          | Corrodans, nails & sheathing                 |         |            |            |           |           |           | Lump |
| E-2   | 616     |       | Cu. Yds. | Unclassified Excav., including rock or shale |         | 41         | 41         | 202       | 152       | 182       |      |
| S-3   | 36      |       | Lin. Ft. | Waterproofing, Preformed Sealing Strip       | 6       | 3          | 3          |           |           |           | 26   |
| S-1   | 430.6   |       | Cu. Yds. | Class "C" Conc., Superstructure              | 430.6   |            |            |           |           |           |      |
| S-1   | 22.0    |       | Cu. Yds. | Class "E" Conc., Piers above footings        |         |            |            | 48.3      | 43.7      |           |      |
| S-1   | 22.1    |       | Cu. Yds. | Class "E" Conc., Pier and Ret wall footings  |         |            |            | 202       | 208       |           | 41.7 |
| S-1   | 23.0    |       | Cu. Yds. | Class "E" Conc., Abutments                   |         | 41.5       | 41.5       |           |           |           |      |
| S-1   | 40.1    |       | Cu. Yds. | Class "E" Conc., Retaining walls, stem       |         |            |            |           |           |           | 40.1 |
| S-4   | 152,563 |       | Lbs.     | Reinforcing Steel                            | 152,563 | 4,428      | 4,428      | 14,746    | 13,822    | 2,402     |      |
| S-3   | 16      |       | Sq. Ft.  | 1" Preformed Expansion Joint Filler          | 0       | 4          | 4          |           |           |           |      |
| S-9   | 102     |       | Sq. Ft.  | 1/2" Preformed Expansion Joint Filler        |         | 6          | 6          |           |           |           | 90   |
| S-14  | 210     |       | Lin. Ft. | Railing (Type "A" Alum. Rail and Conc. Post) | 210     |            |            |           |           |           |      |
| S-16  | Lump    | Sum   |          | First Test Pile                              |         |            |            |           |           |           | Lump |
| S-18  | 616     |       | Lin. Ft. | Steel Piles, 10 BP42                         |         | 392        | 224        |           |           |           |      |
| S-29  | 45      |       | Cu. Yds. | Porous Backfill                              |         | 15         | 15         |           |           |           | 15   |
| S-29  | 12      |       | Each     | Scuppers                                     | 12      |            |            |           |           |           |      |
| S-101 | 499     |       | Each     | Water reducing, set retarding admixture      | 499     |            |            |           |           |           |      |
| S-10  | 486     |       | Sq. Yds. | Concrete Slope Protection                    |         |            |            |           |           |           | 486  |

Approach Slabs included in Eldora Drive Quantities.

**GENERAL NOTES Cont.**

FOOTINGS shall extend a minimum of 3' into undisturbed hard gray shale or rock, or to the elevation shown whichever is lower.  
 FOUNDATION BEARING PRESSURE: Pier footings are designed for a maximum bearing pressure of 5 tons per sq. ft.

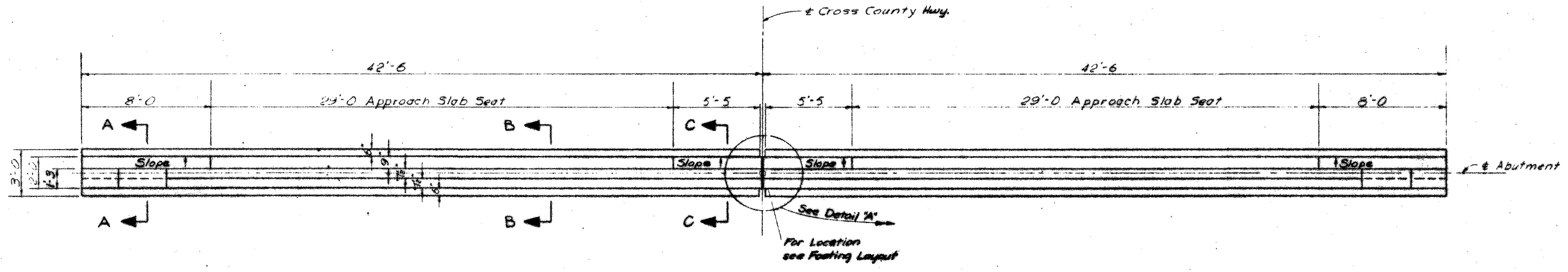
SHAW, LENZ & ASSOCIATES  
 ENGINEERS  
 CINCINNATI OHIO

**GENERAL PLAN & ESTIMATED QUANTITIES**  
**CROSS COUNTY HIGHWAY BRIDGE OVER ELDORA DRIVE**

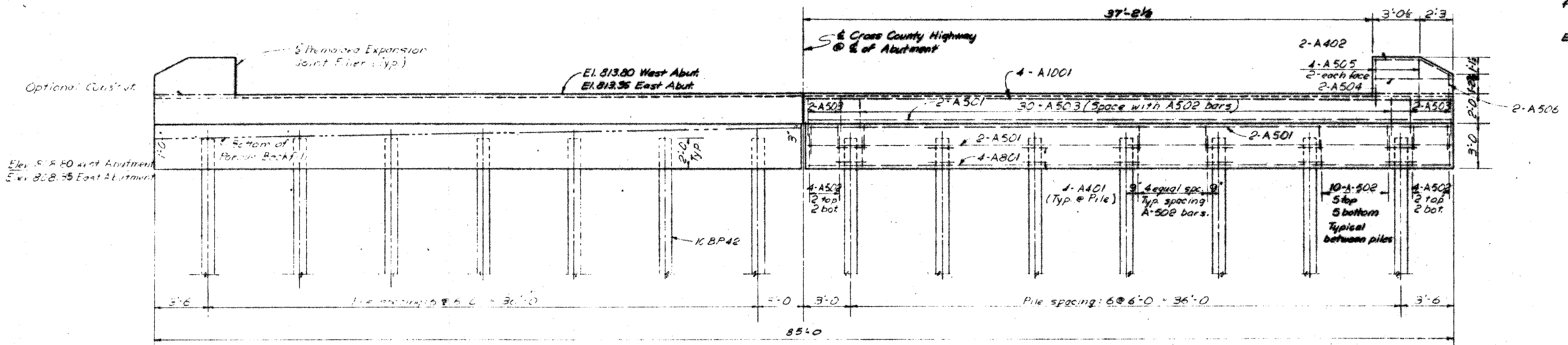
DESIGNED DRAWN TRACED CHECKED REVIEWED REVISED  
 W.B.S. W.B.S. - E.R.B. R.J.L.

Date: 9-25-63

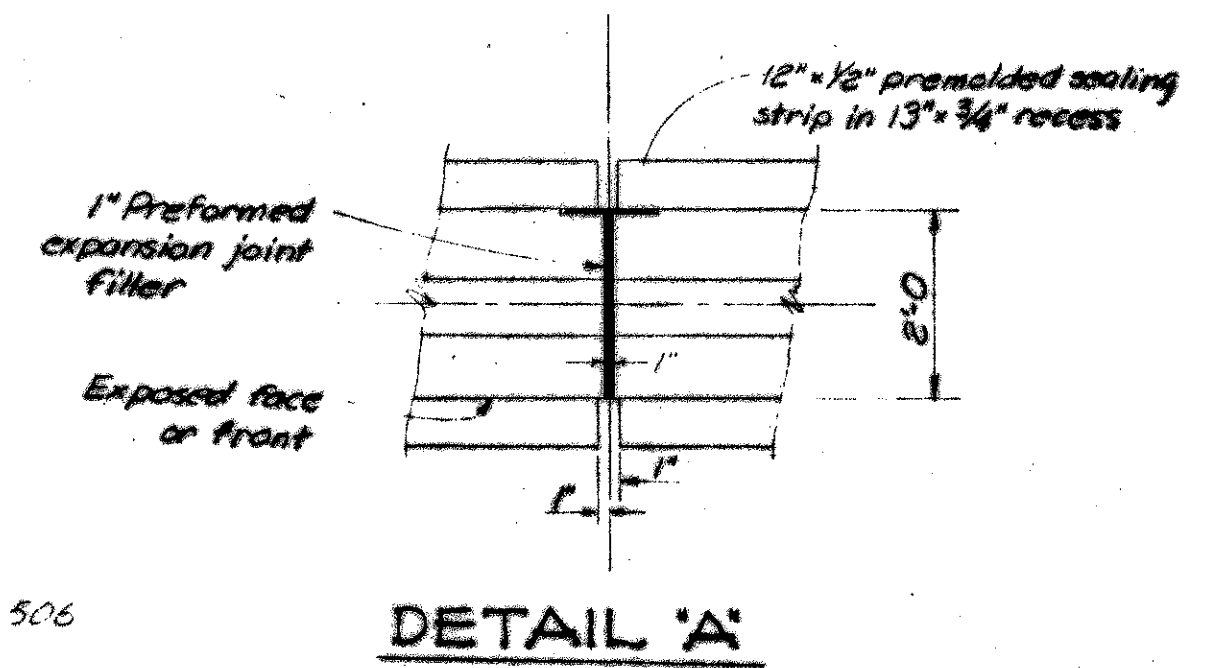




PLAN



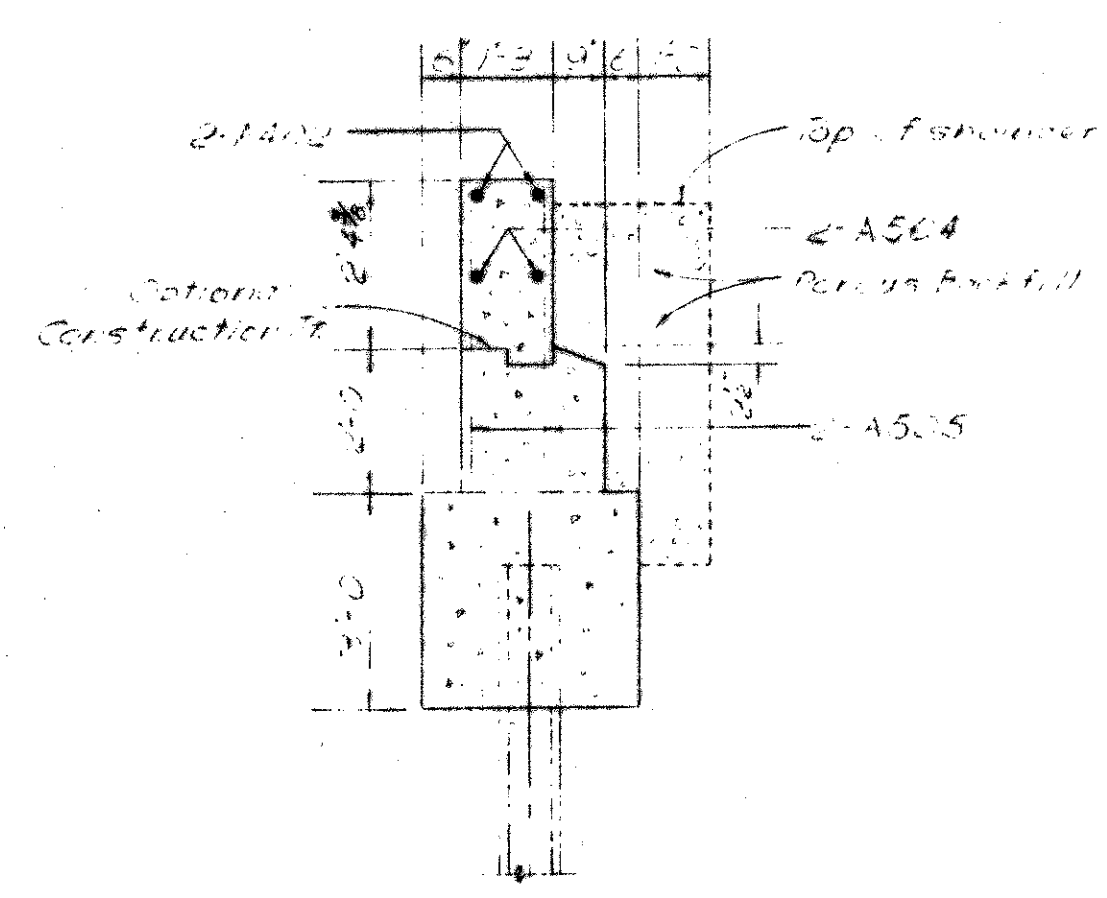
ELEVATION



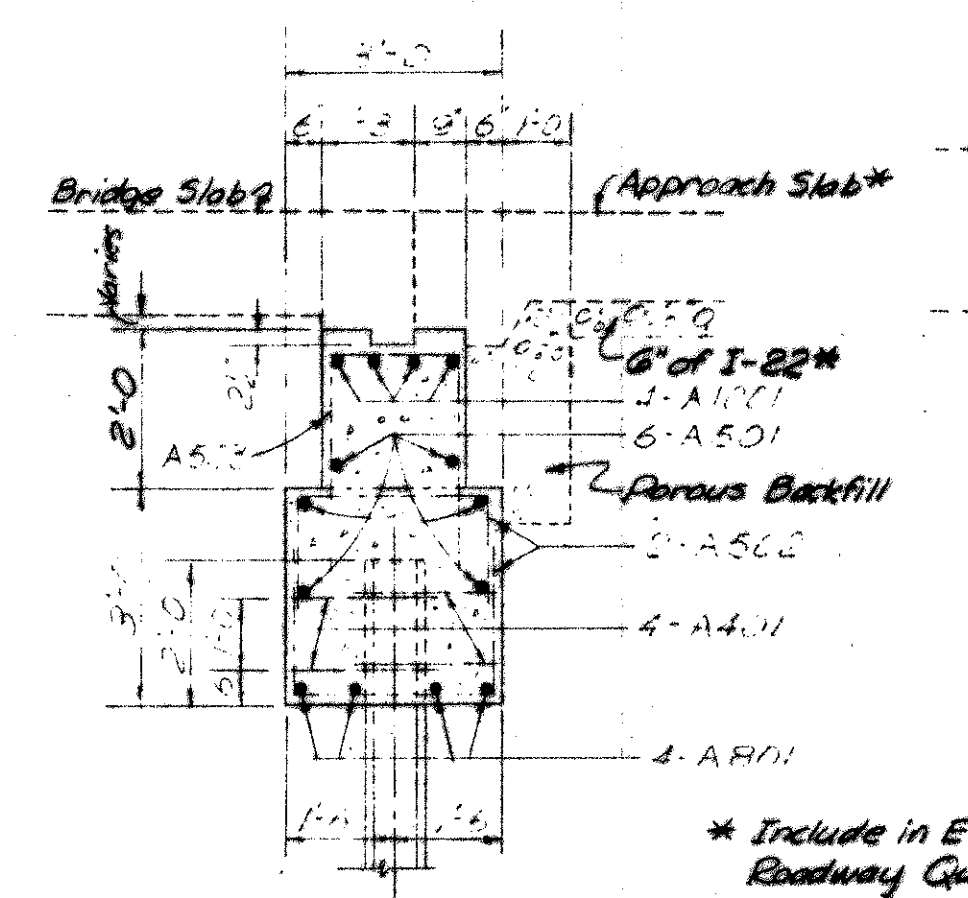
DETAIL 'A'

Note:  
The embankment shall be placed and compacted up to the finished spill-thru slope and to the level of the bench after which excavation shall be made for the abutment, and piles driven.

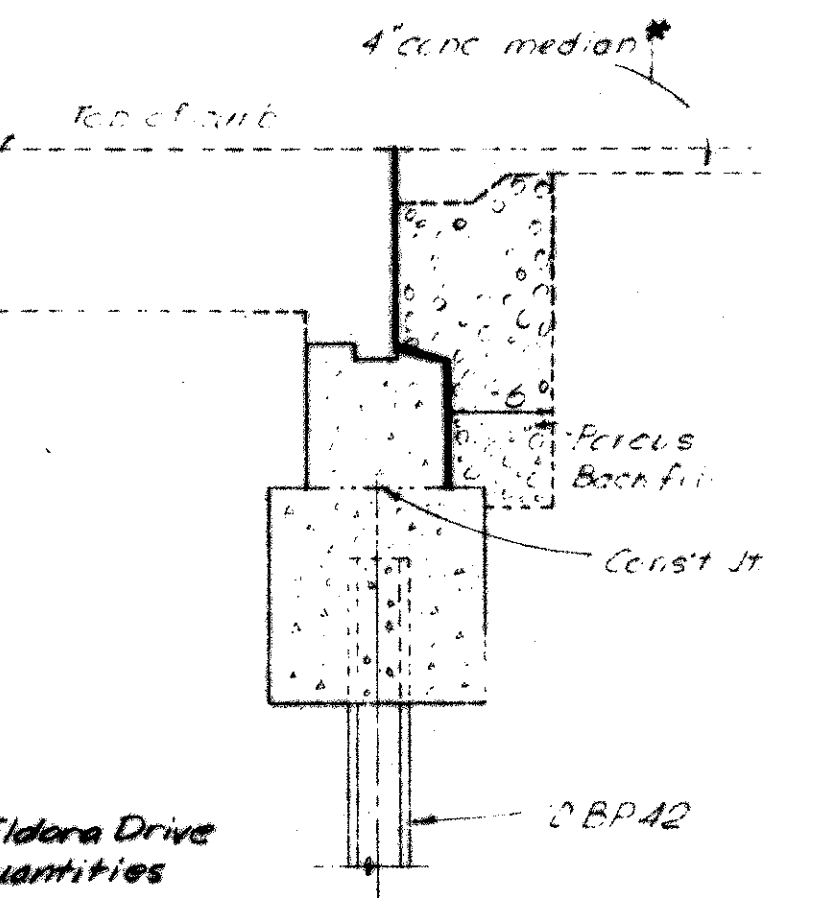
Porous Backfill shall extend upward to the approach slab and to the surface of the earth shoulders, and outward to the surface of the embankment slopes. Excavation therefor, in excess of that required for construction of the abutment, shall be considered as paid for in the bid price per cu yd. paid for porous backfill.



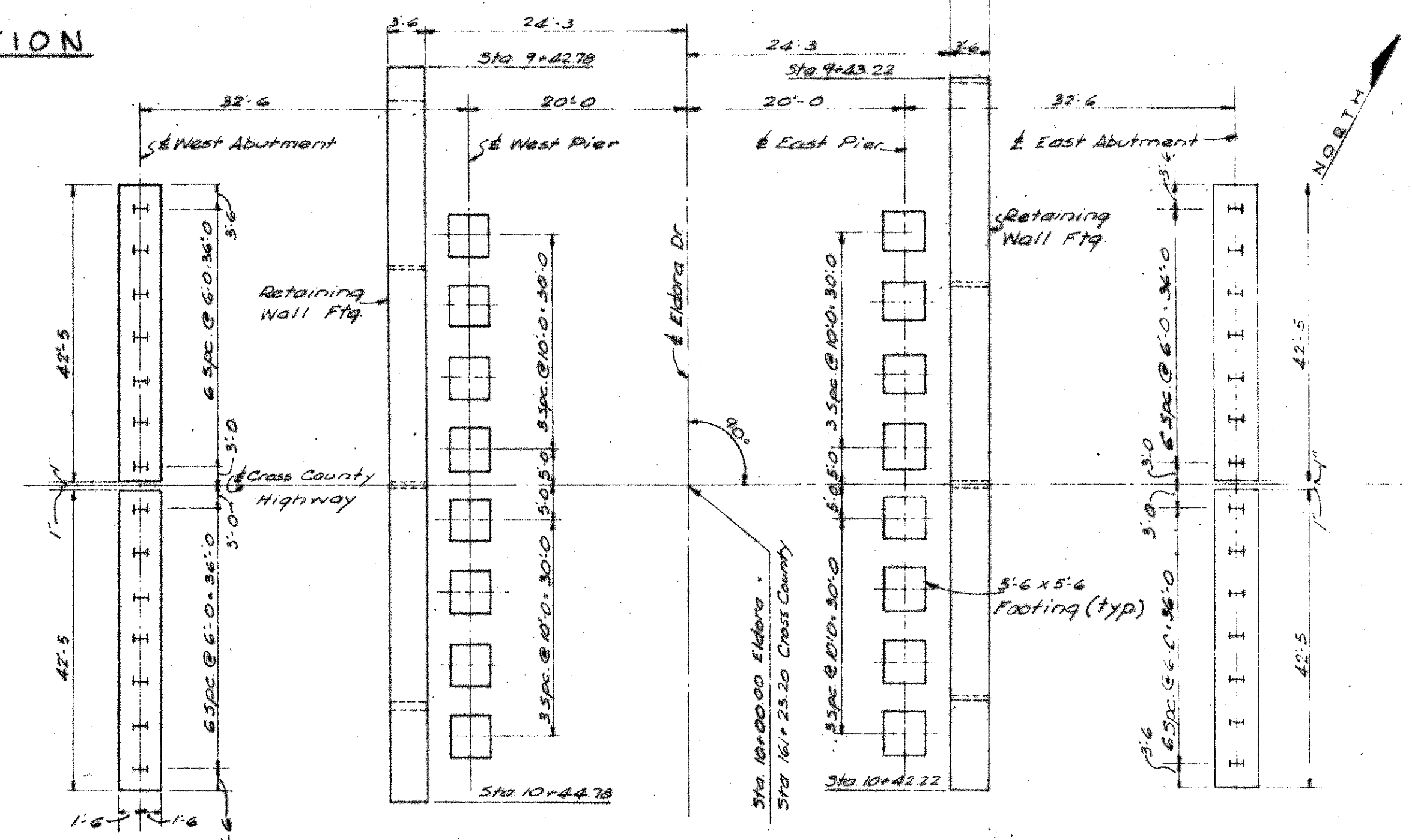
SECTION A-A



SECTION B-B



SECTION C-C



FOOTING LAYOUT  
No Scale

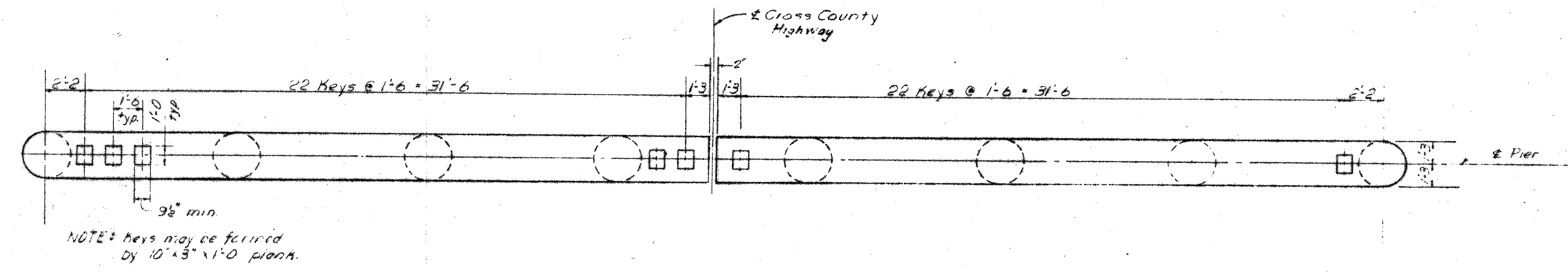
SHAW, LENZ & ASSOCIATES  
CINCINNATI ENGINEERS OHIO

**FOOTING LAYOUT & ABUTMENTS**  
**CROSS COUNTY HIGHWAY**  
**BRIDGE OVER ELDORA DRIVE**

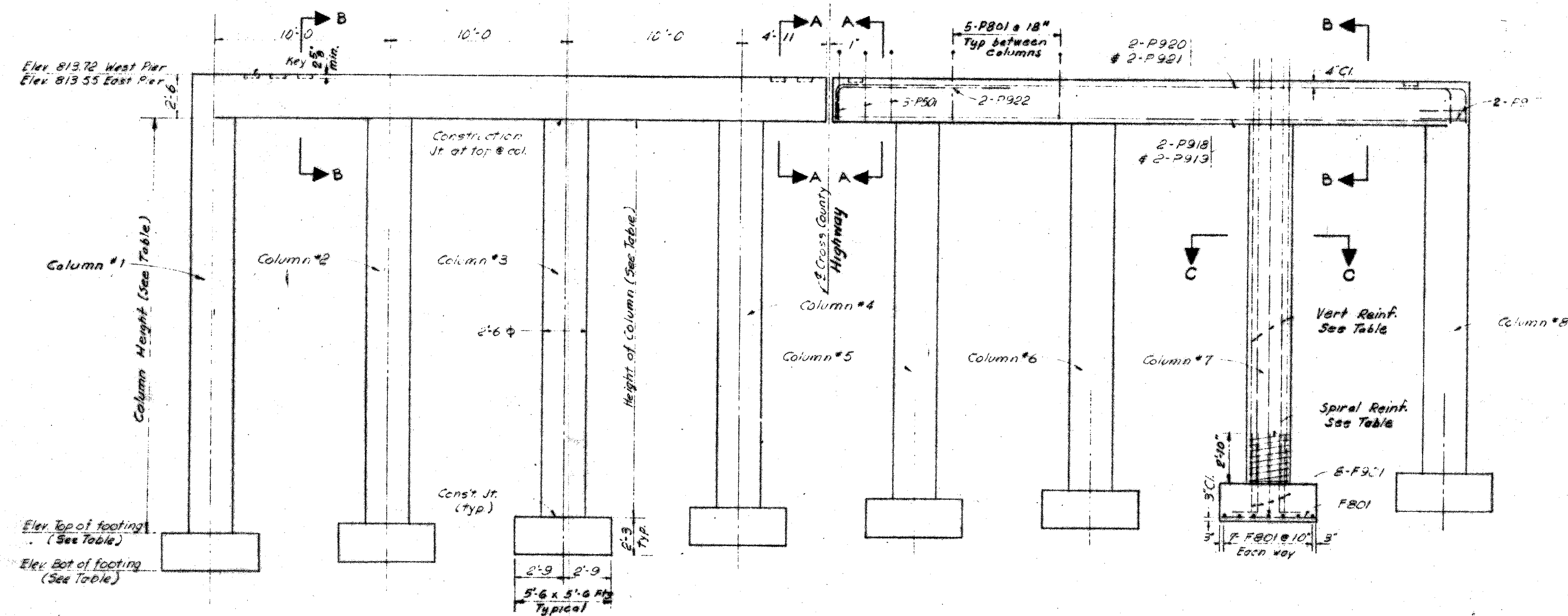
|          |        |        |         |          |
|----------|--------|--------|---------|----------|
| DESIGNED | DRAWN  | TRACED | CHECKED | REVIEWED |
| E.R.B.   | M.S.S. | -      | E.R.B.  | R.J.L.   |

Date: 9-25-63





PLAN

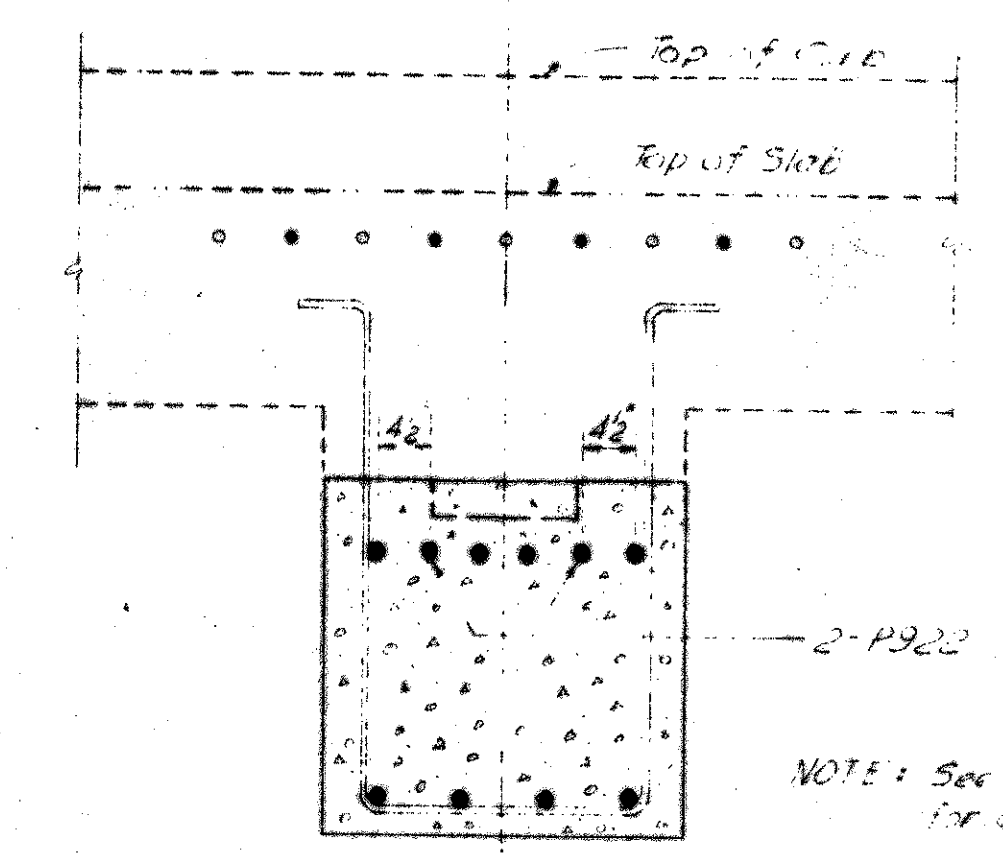


ELEVATION - Looking East

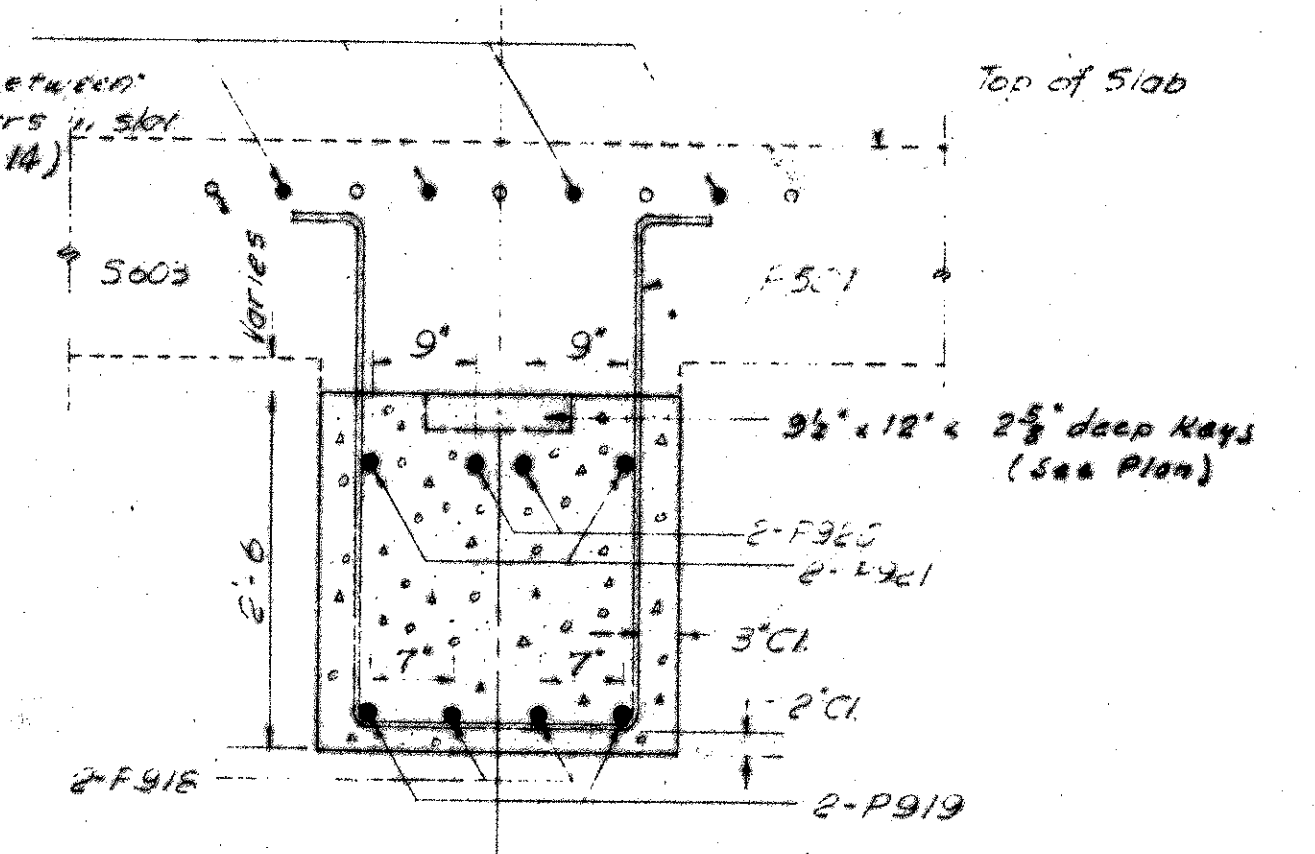
COLUMN DATA TABLE

| ITEM                 | WEST PIER              |                       |                        |                       |                       |                       |                       |                        | EAST PIER             |                       |                       |                       |         |                        |                       |                       |
|----------------------|------------------------|-----------------------|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------|------------------------|-----------------------|-----------------------|
|                      | 1                      | 2                     | 3                      | 4                     | 5                     | 6                     | 7                     | 8                      | 1                     | 2                     | 3                     | 4                     | 5       | 6                      | 7                     | 8                     |
| Column Number        | 1                      | 2                     | 3                      | 4                     | 5                     | 6                     | 7                     | 8                      | 1                     | 2                     | 3                     | 4                     | 5       | 6                      | 7                     | 8                     |
| Bottom Footing Elev. | 785.00                 | 785.60                | 786.10                 | 786.70                | 787.30                | 787.90                | 788.40                | 789.00                 | 788.00                | 788.60                | 789.10                | 789.70                | 790.30  | 790.90                 | 791.40                | 792.00                |
| Top Footing Elev.    | 787.25                 | 787.85                | 788.35                 | 788.95                | 789.55                | 790.15                | 790.65                | 791.25                 | 780.25                | 790.55                | 791.35                | 791.95                | 792.55  | 793.15                 | 793.65                | 794.25                |
| Height of Column     | 23'-11 $\frac{1}{2}$ " | 23'-4 $\frac{1}{4}$ " | 22'-10 $\frac{1}{4}$ " | 22'-3 $\frac{1}{4}$ " | 21'-8 $\frac{1}{4}$ " | 21'-0 $\frac{1}{4}$ " | 20'-6 $\frac{1}{4}$ " | 19'-11 $\frac{1}{2}$ " | 20'-9 $\frac{1}{2}$ " | 20'-2 $\frac{3}{4}$ " | 19'-8 $\frac{3}{4}$ " | 19'-1 $\frac{3}{4}$ " | 18'-6"  | 17'-10 $\frac{1}{4}$ " | 17'-4 $\frac{1}{4}$ " | 16'-9 $\frac{1}{2}$ " |
| Vertical Reinforcing | 8-P901                 | 8-P902                | 8-P903                 | 8-P904                | 8-P905                | 8-P906                | 8-P907                | 8-P908                 | 8-P909                | 8-P910                | 8-P911                | 8-P912                | 8-P913  | 8-P914                 | 8-P915                | 8-P916                |
| Spiral Reinforcing   | 1-SP401                | 1-SP402               | 1-SP403                | 1-SP404               | 1-SP405               | 1-SP406               | 1-SP407               | 1-SP408                | 1-SP409               | 1-SP410               | 1-SP411               | 1-SP412               | 1-SP413 | 1-SP414                | 1-SP415               | 1-SP416               |

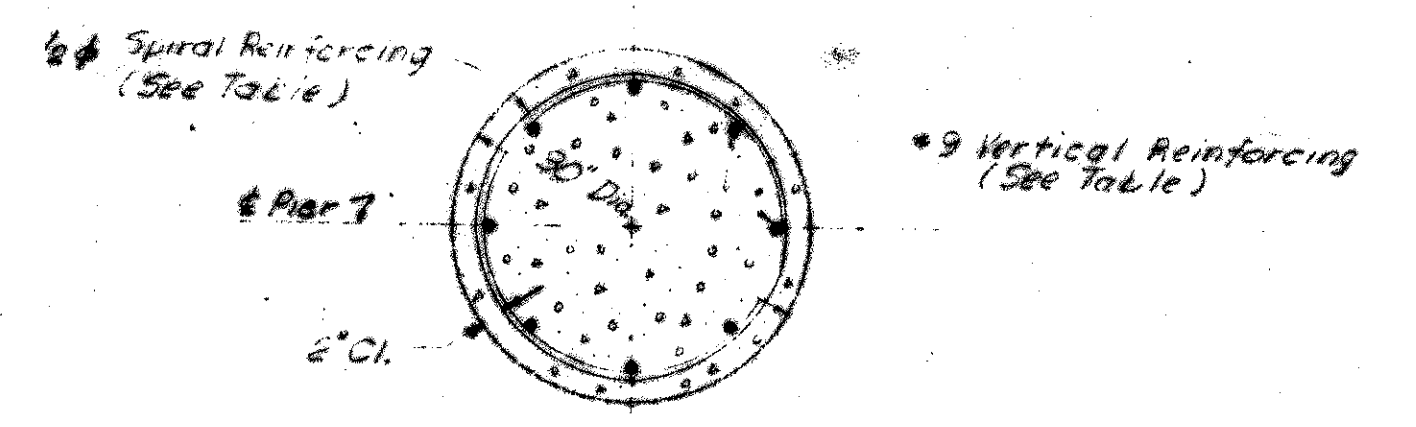
\* Bottom of footing shall extend a minimum of 3" into shale, See General Notes Dwg. 12



SECTION A-A



SECTION B-B



SECTION C-C  
(Typ. all columns)

NOTES:  
See General Notes Sheet No. 12  
For location of Piers see Footing Layout Sheet No. 13

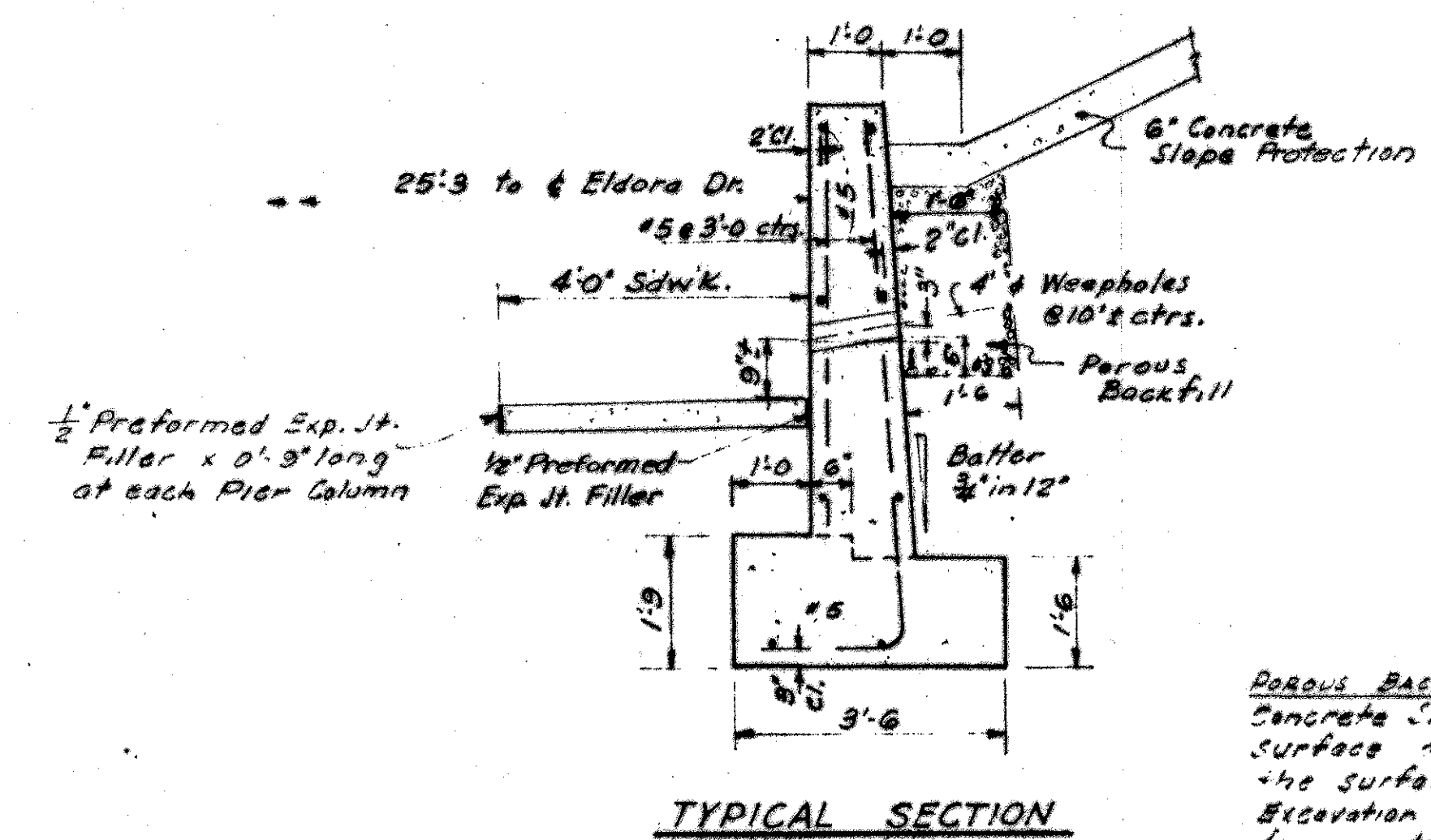
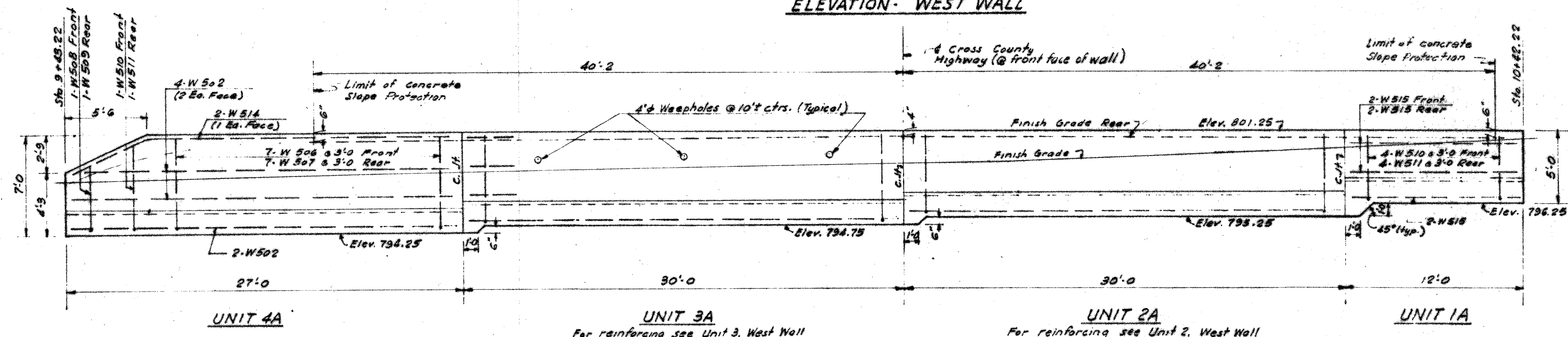
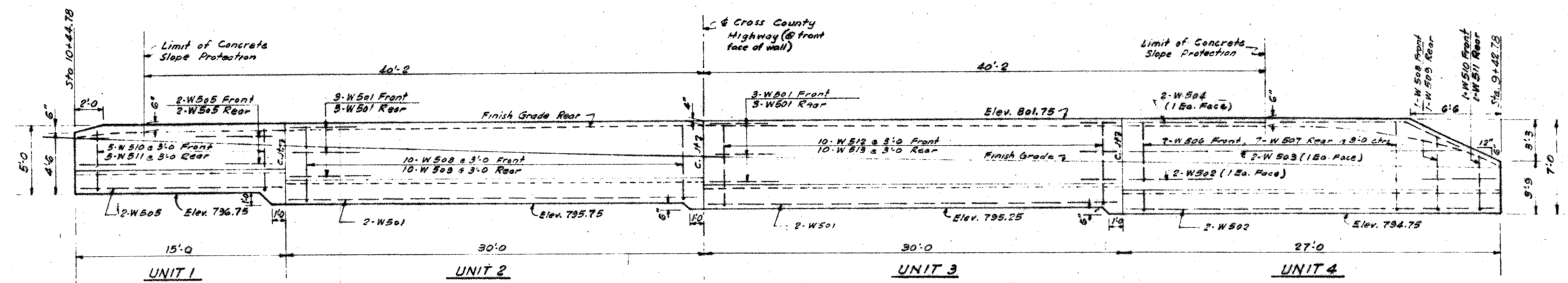
SHAW, LENZ & ASSOCIATES  
ENGINEERS  
CINCINNATI OHIO

PIERS  
CROSS COUNTY HIGHWAY  
BRIDGE OVER ELDORA DRIVE

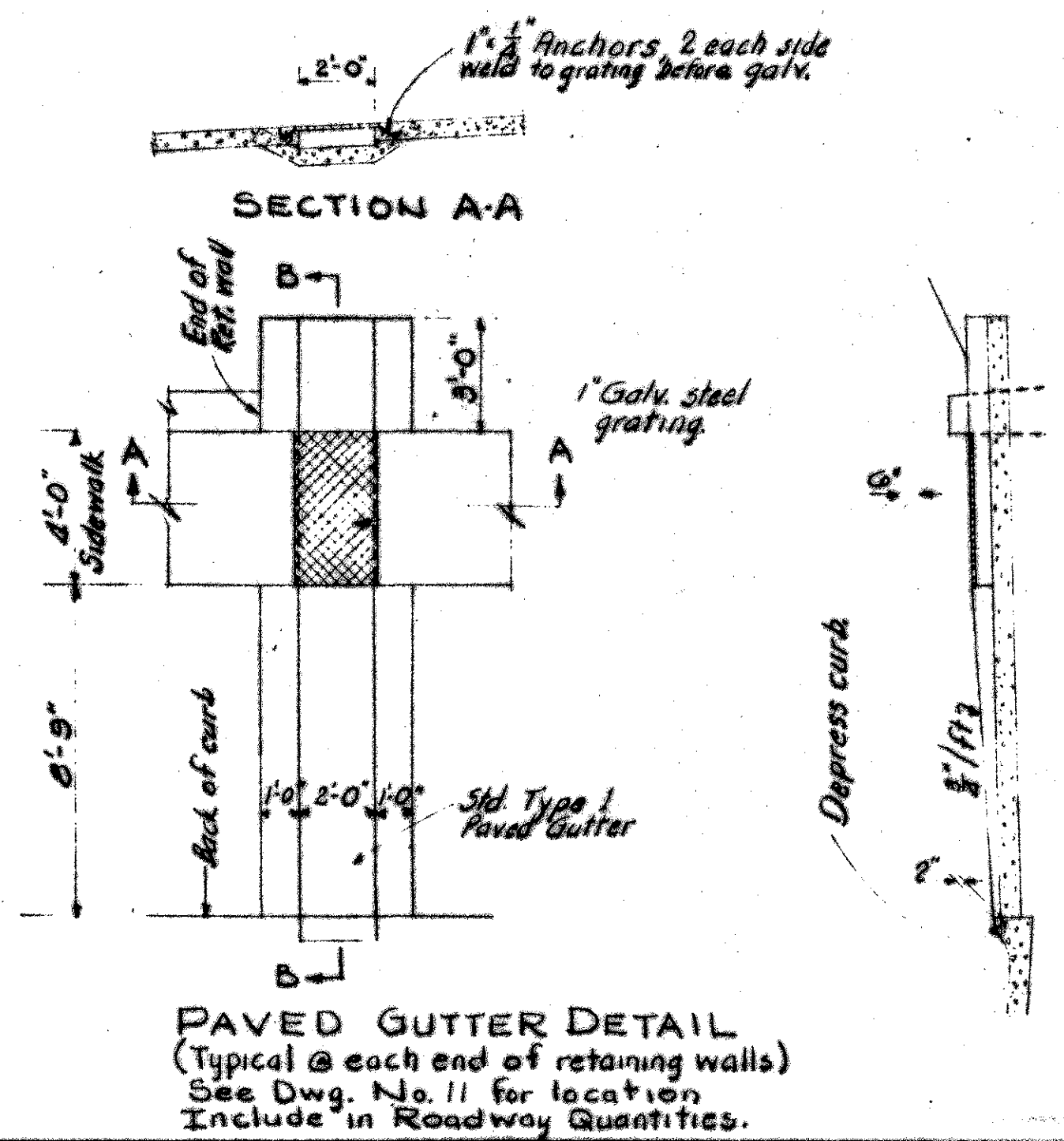
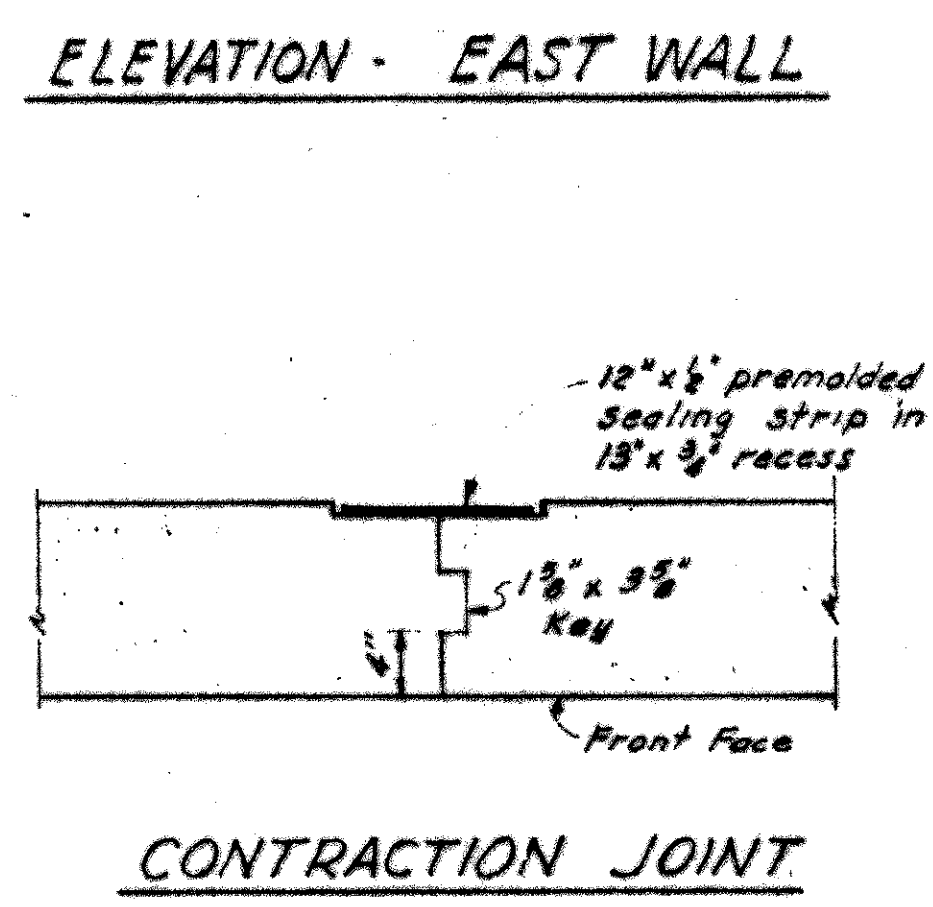
|          |        |        |         |          |         |
|----------|--------|--------|---------|----------|---------|
| DESIGNED | DRAWN  | TRACED | CHECKED | REVIEWED | REVISED |
| E.R.S.   | W.B.S. | -      | E.R.S.  | R.J.L.   |         |

Date: 9-25-63





Porous Backfill shall extend upward to the concrete slope protection slab and to the surface of the earth fill and upward to the surface of the embankment slopes. Excavation therefor, in excess of that required for construction of the abutment shall be considered as paid for in the bid price per cu. yd. paid for porous backfill.

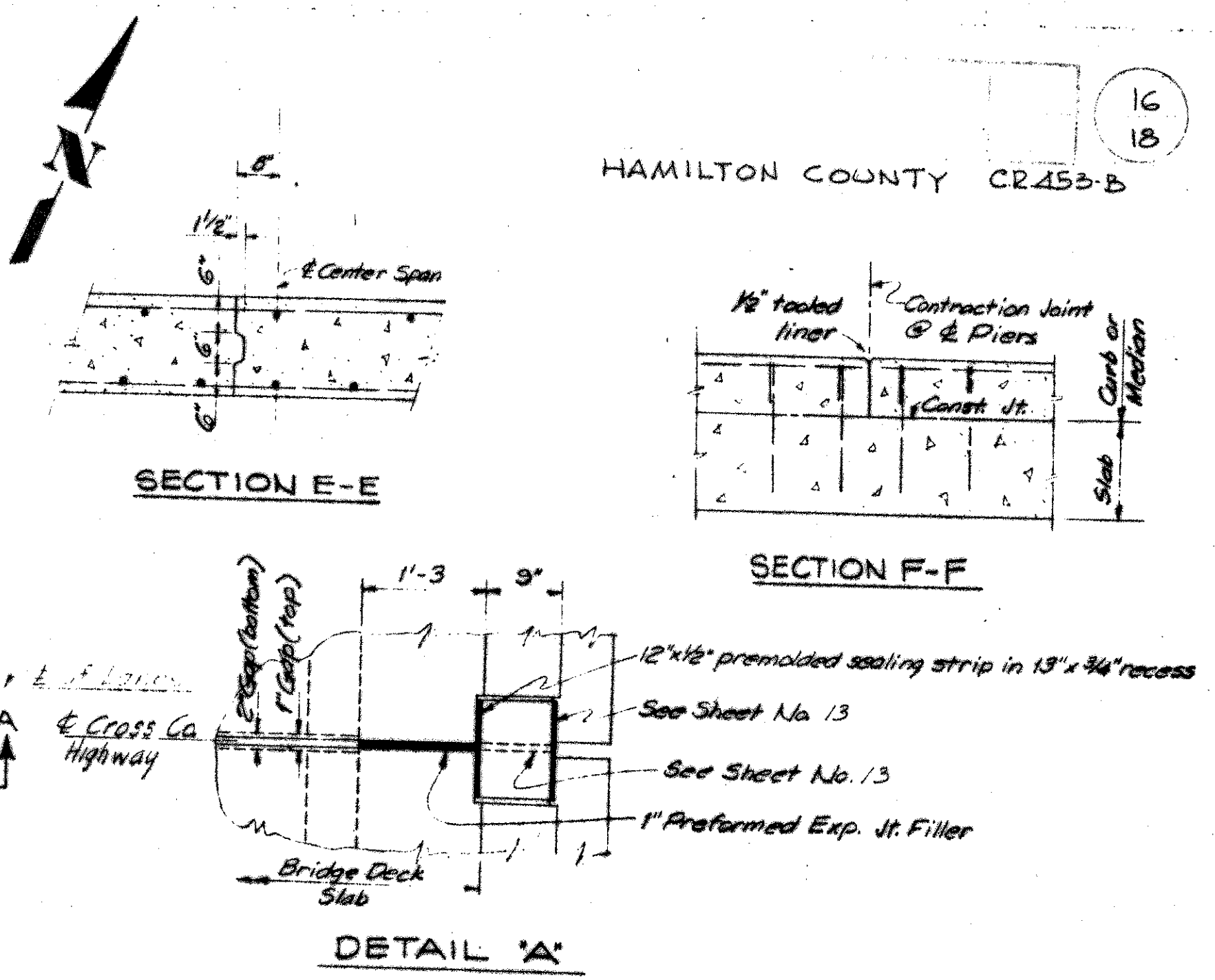
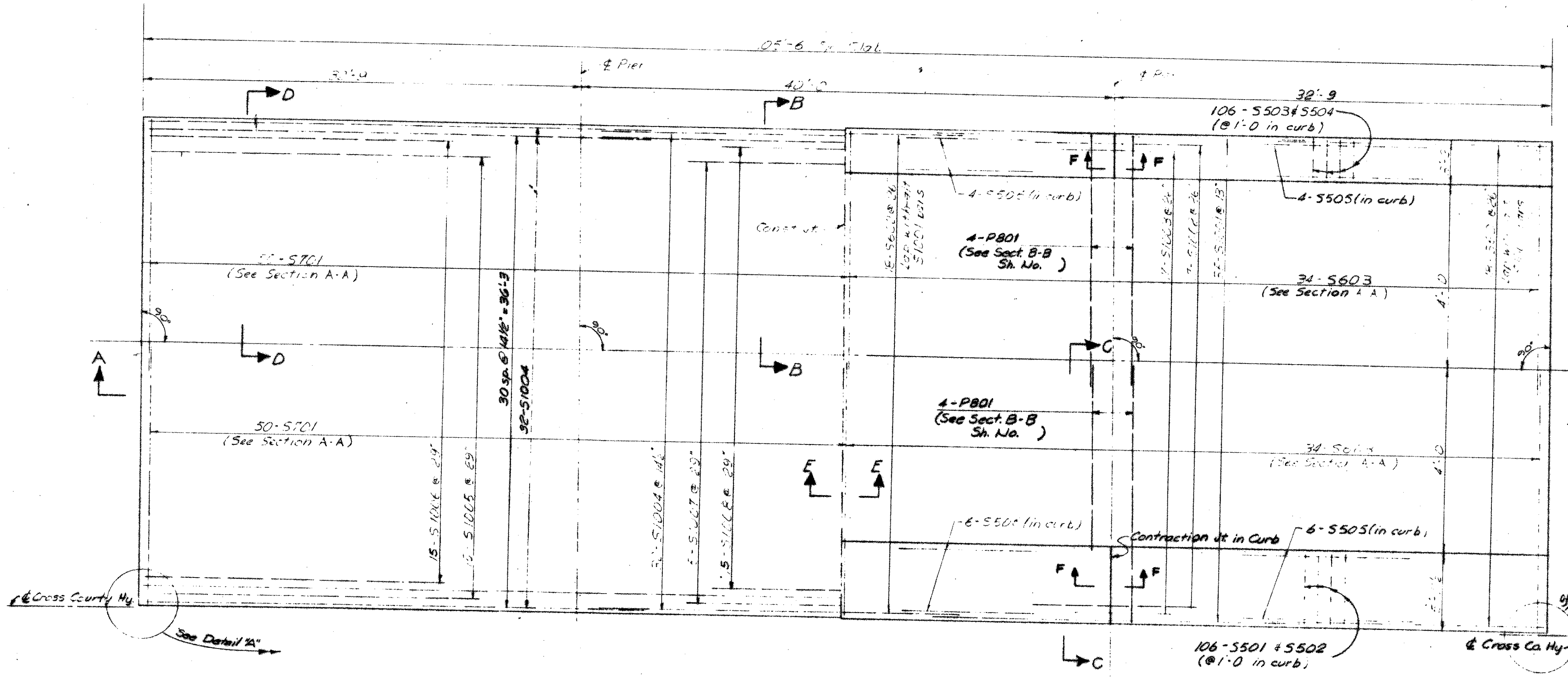


For Layout see Sheet No. 13

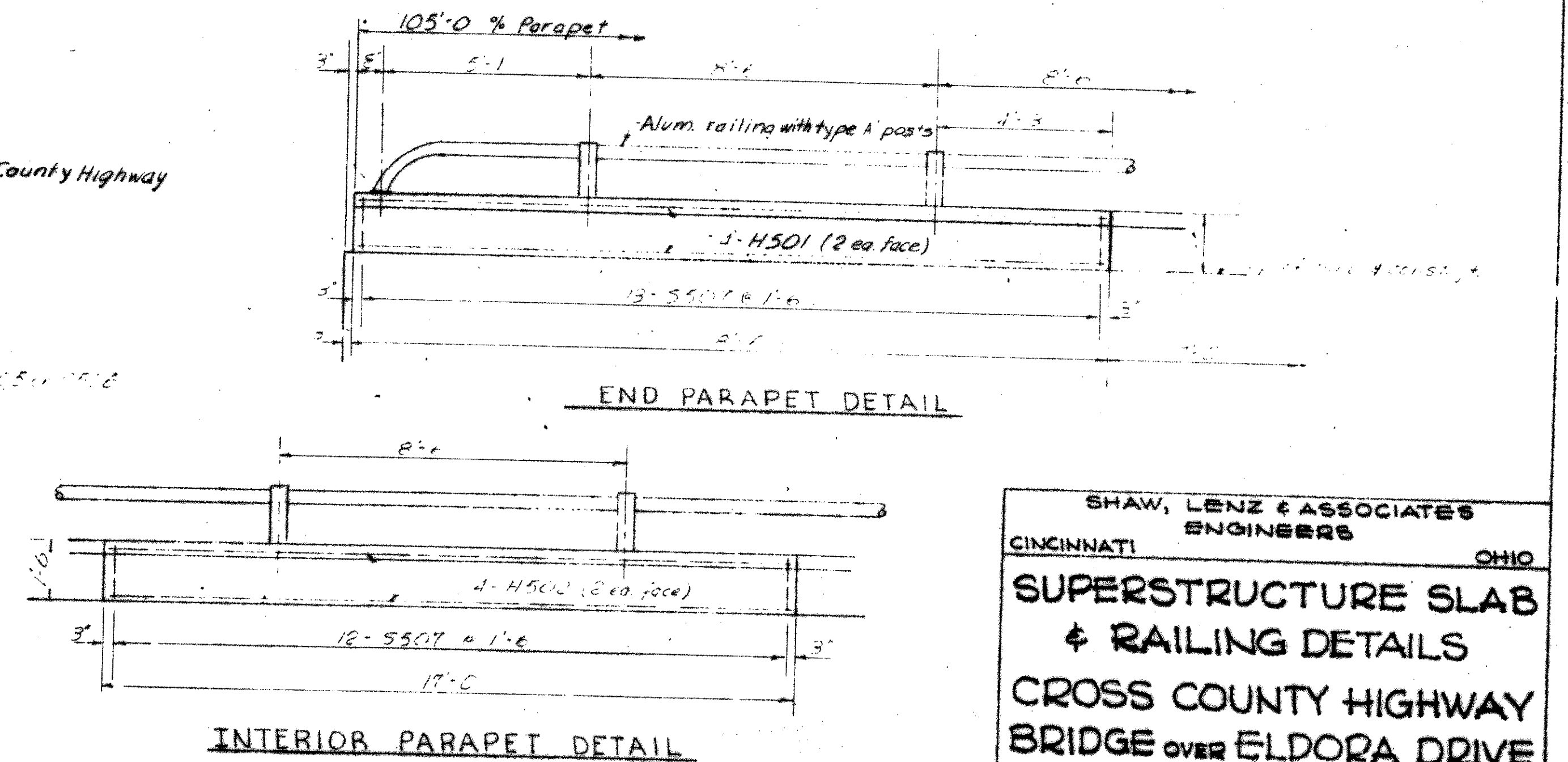
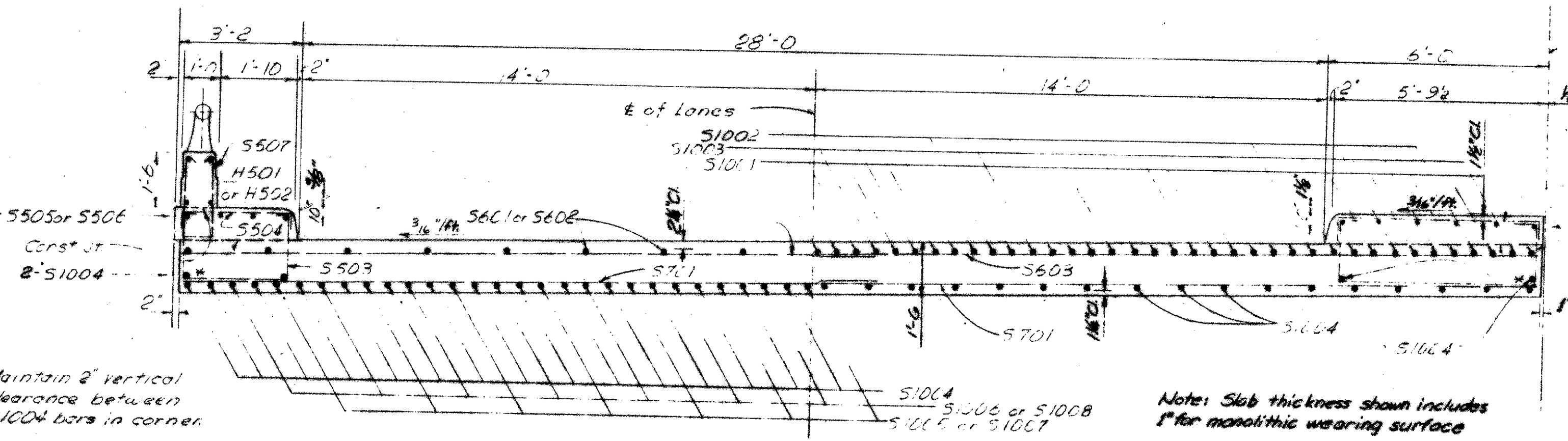
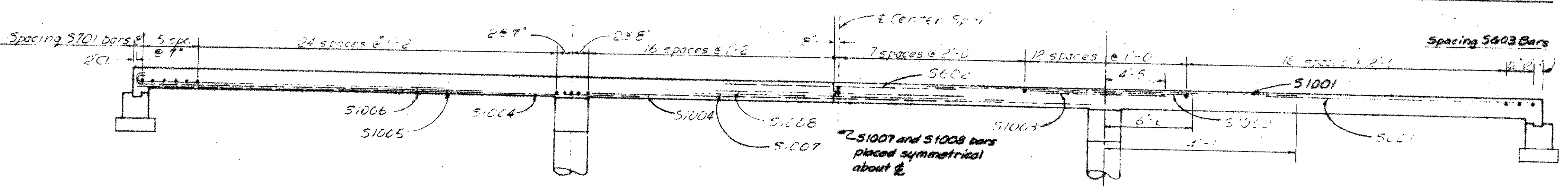
|                                      |        |        |         |          |          |
|--------------------------------------|--------|--------|---------|----------|----------|
| SHAW, LENZ & ASSOCIATES<br>ENGINEERS |        |        |         |          |          |
| CINCINNATI                           |        | OHIO   |         |          |          |
| <b>RETAINING WALLS</b>               |        |        |         |          |          |
| <b>CROSS COUNTY HIGHWAY</b>          |        |        |         |          |          |
| <b>BRIDGE OVER ELDORA DRIVE</b>      |        |        |         |          |          |
| DESIGNED                             | DRAWN  | TRACED | CHECKED | REVIEWED | REVISION |
| E.R.B.                               | E.R.B. | -      | R.L.L.  | R.L.L.   |          |

Date: 9-25-63





- NOTES**
- CURBS AND MEDIAN:** shall be placed after the shoring under the slabs has been released sufficiently to permit the slab spans to attain full dead load deflection.
  - CONSTRUCTION JOINTS:** All construction joints called for on these plans shall be made as indicated. At the Contractors option, one longitudinal joint on the centerline of lanes will be permitted.
  - CAMBER:** To allow for dead load deflection, a camber of 1/8" in the end spans and 5/8" in the center spans shall be provided. This is in addition to the camber required to meet profile grade. To obtain this, proper allowance shall be made for the deflection of false-work members.
  - SCUPPERS:** For location of scuppers see General Plan. For additional details see Bridge Standard CS-2-54 (Sheet No. 1) revised 2-2-59.
  - ALUMINUM RAILING:** For additional details see Bridge Standard AR-1-57 revised 4-2-62.



\* Maintain 2" vertical clearance between S1004 bars in corner

Note: Slab thickness shown includes 1" for monolithic wearing surface

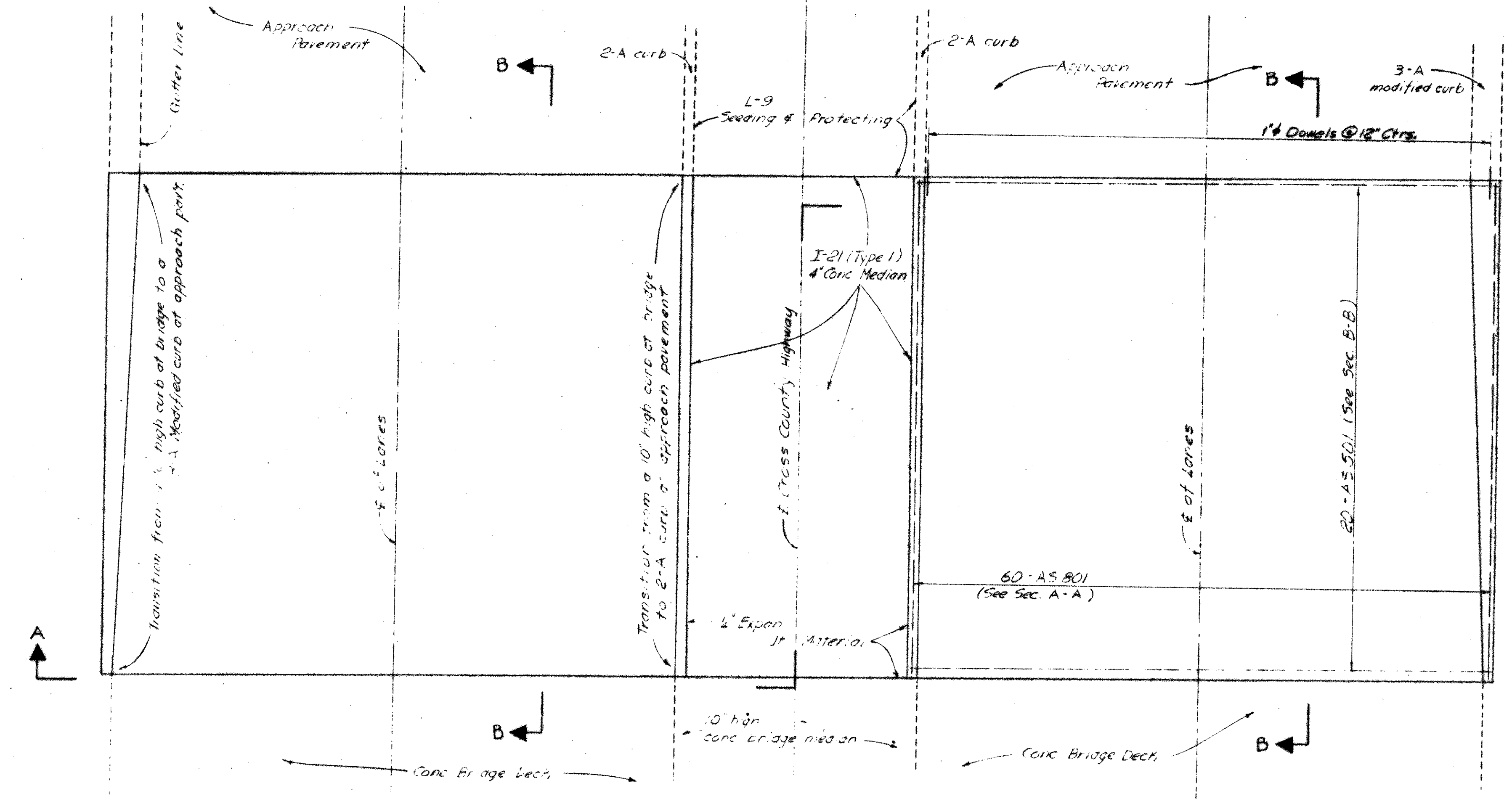
SHAW, LENZ & ASSOCIATES  
ENGINEERS  
CINCINNATI OHIO

**SUPERSTRUCTURE SLAB & RAILING DETAILS**

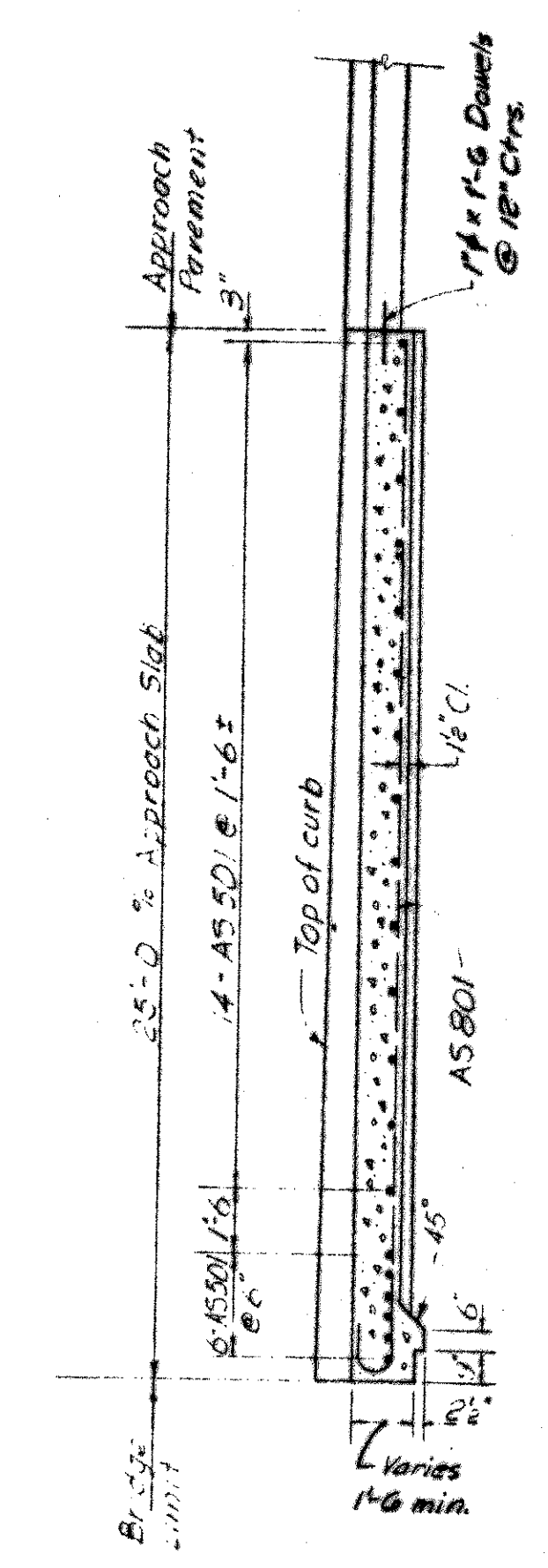
**CROSS COUNTY HIGHWAY BRIDGE OVER ELDORA DRIVE**

DESIGNED | DRAWN | CHECKED





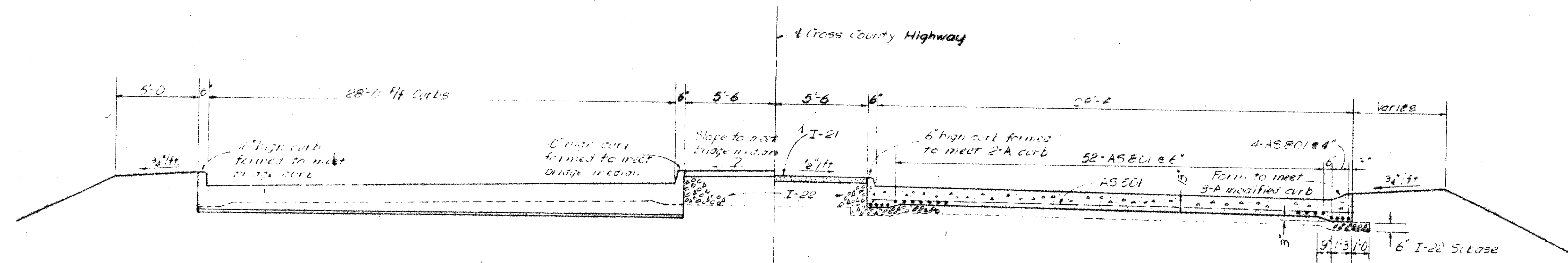
PLAN



SECTION B-B

| REINFORCING STEEL<br>(For 4 Approach Slabs) |     |        |       |
|---|-----|--------|-------|
| MARK  | NO. | LENGTH | SHAPE |
| AS 801                                      | 240 | 25'-7" | Bent  |
| AS 501                                      | 80  | 28'-6" | Str.  |

BENDING DIAGRAM  
AS 801 BARS



SECTION A-A

DETAILS AT BRIDGE

DETAILS AT APPROACH PAVEMENT

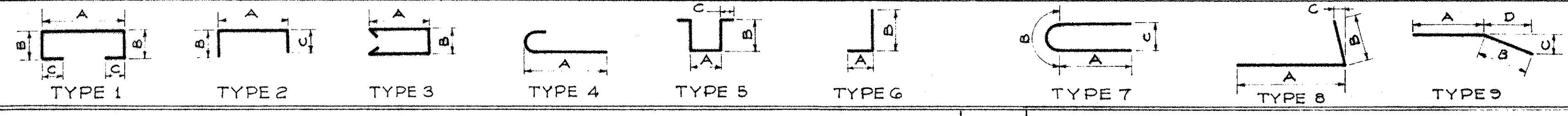
SHAW, LENZ & ASSOCIATES  
 ENGINEERS  
 CINCINNATI OHIO

**APPROACH SLABS**  
**CROSS COUNTY HIGHWAY**  
**BRIDGE OVER ELDORA DRIVE**

DESIGNED | DRAWN | TRACED | CHECKED



REINFORCING STEEL BAR SCHEDULE



| 2 - SUPERSTRUCTURES |     |      |        |      |        |      |      |   |         |                |
|---------------------|-----|------|--------|------|--------|------|------|---|---------|----------------|
| MARK                | NO. | SIZE | LENGTH | TYPE | A      | B    | C    | D | WEIGHT  | LOCATION       |
| S501                | 212 |      | 10'-1  | 1    | 5'-7   | 2'-0 | 0'-6 |   | 2230    | Slab & Curb    |
| S502                | 212 |      | 6'-9   | 2    | 5'-7   | 0'-9 | 0'-8 |   | 1493    | Top of Curb    |
| S503                | 212 |      | 7'-1   | 1    | 2'-7   | 2'-0 | 0'-6 |   | 1566    | Slab & Curb    |
| S504                | 212 |      | 3'-10  | 2    | 2'-7   | 0'-9 | 0'-9 |   | 848     | Top of Curb    |
| S505                | 40  |      | 32'-9  | Str. |        |      |      |   | 1356    | Top of Curb    |
| S506                | 20  |      | 39'-9  | Str. |        |      |      |   | 829     | Top of Curb    |
| S507                | 148 |      | 5'-8   | 3    | 2'-2   | 0'-8 |      |   | 875     | Curb & Parapet |
| *H501               | 16  |      | 18'-3  | Str. |        |      |      |   |         | Parapet        |
| *H502               | 32  |      | 16'-9  | Str. |        |      |      |   |         | Parapet        |
| S601                | 72  |      | 20'-5  | Str. |        |      |      |   | 2208    | Top of Slab    |
| S602                | 36  |      | 17'-2  | Str. |        |      |      |   | 928     | Top of Slab    |
| S603                | 268 |      | 19'-4  | Str. |        |      |      |   | 7782    | Top of Slab    |
| S701                | 396 |      | 19'-6  | Str. |        |      |      |   | 15,784  | Bot. of Slab   |
| S1001               | 140 |      | 27'-5  | Str. |        |      |      |   | 16,516  | Top of Slab    |
| S1002               | 68  |      | 12'-5  | Str. |        |      |      |   | 3633    | Top of Slab    |
| S1003               | 68  |      | 8'-10  | Str. |        |      |      |   | 2585    | Top of Slab    |
| S1004               | 216 |      | 37'-2  | Str. |        |      |      |   | 34,545  | Bot. of Slab   |
| S1005               | 60  |      | 27'-3  | 4    | 25'-10 |      |      |   | 7035    |                |
| S1006               | 60  |      | 24'-2  | 4    | 22'-9  |      |      |   | 6239    |                |
| S1007               | 30  |      | 24'-4  | Str. |        |      |      |   | 3141    |                |
| S1008               | 30  |      | 18'-8  | Str. |        |      |      |   | 2410    | Bot. of Slab   |
| Total Weight        |     |      |        |      |        |      |      |   | 112,003 |                |

| 2 - PIERS    |     |      |        |      |       |       |           |   |        |                |
|--------------|-----|------|--------|------|-------|-------|-----------|---|--------|----------------|
| MARK         | NO. | SIZE | LENGTH | TYPE | A     | B     | C         | D | WEIGHT | LOCATION       |
| P501         | 72  |      | 9'-7   | 5    | 2'-0  | 3'-5  | 0'-6      |   | 720    | Pier Cap       |
| P801         | 32  |      | 19'-7  | Str. |       |       |           |   | 1673   | Top of Slab    |
| F801         | 224 |      | 5'-0   | Str. |       |       |           |   | 2990   | Pier Footing   |
| F901         | 128 |      | 5'-7   | 6    | 1'-0  | 4'-9  |           |   | 2430   | Pier Footing   |
| P901         | 8   |      | 27'-5  | Str. |       |       |           |   | 746    | Column W. Pier |
| P902         | 8   |      | 27'-0  |      |       |       |           |   | 734    |                |
| P903         | 8   |      | 26'-8  |      |       |       |           |   | 725    |                |
| P904         | 8   |      | 26'-3  |      |       |       |           |   | 714    |                |
| P905         | 8   |      | 25'-8  |      |       |       |           |   | 698    |                |
| P906         | 8   |      | 24'-11 |      |       |       |           |   | 678    |                |
| P907         | 8   |      | 24'-3  |      |       |       |           |   | 660    |                |
| P908         | 8   |      | 23'-5  |      |       |       |           |   | 637    | W. Pier        |
| P909         | 8   |      | 24'-4  |      |       |       |           |   | 662    | E. Pier        |
| P910         | 8   |      | 23'-10 |      |       |       |           |   | 648    |                |
| P911         | 8   |      | 23'-6  |      |       |       |           |   | 639    |                |
| P912         | 8   |      | 23'-1  |      |       |       |           |   | 628    |                |
| P913         | 8   |      | 22'-6  |      |       |       |           |   | 612    |                |
| P914         | 8   |      | 21'-9  |      |       |       |           |   | 592    |                |
| P915         | 8   |      | 21'-1  |      |       |       |           |   | 573    |                |
| P916         | 8   |      | 20'-4  | Str. |       |       |           |   | 553    | Column E. Pier |
| P917         | 8   |      | 8'-7   | 7    | 2'-10 | 2'-11 | 1'-10 1/2 |   | 233    | Pier Cap       |
| P918         | 8   |      | 35'-9  | Str. |       |       |           |   | 972    |                |
| P919         | 8   |      | 35'-2  | Str. |       |       |           |   | 957    |                |
| P920         | 8   |      | 39'-6  | 2    | 35'-9 | 2'-1  | 2'-1      |   | 1074   |                |
| P921         | 8   |      | 38'-6  | 2    | 34'-9 | 2'-1  | 2'-1      |   | 1047   |                |
| P922         | 8   |      | 11'-8  | 6    | 2'-1  | 3'-9  |           |   | 317    | Pier Cap       |
| Total Weight |     |      |        |      |       |       |           |   | 22,912 |                |

| 2 - ABUTMENTS |     |      |        |      |       |       |       |      |        |          |
|---------------|-----|------|--------|------|-------|-------|-------|------|--------|----------|
| MARK          | NO. | SIZE | LENGTH | TYPE | A     | B     | C     | D    | WEIGHT | LOCATION |
| A401          | 112 |      | 5'-7   | 2    | 1'-9  | 1'-11 | 1'-11 |      | 418    |          |
| A402          | 8   |      | 5'-3   | 9    | 2'-10 | 2'-5  | 1'-1  | 2'-2 | 28     |          |
| A501          | 24  |      | 42'-1  | Str. |       |       |       |      | 1053   |          |
| A502          | 272 |      | 6'-10  | 2    | 2'-8  | 2'-1  | 2'-1  |      | 1939   |          |
| A503          | 136 |      | 7'-11  | 2    | 1'-8  | 3'-3  | 3'-3  |      | 1123   |          |
| A504          | 8   |      | 4'-11  | Str. |       |       |       |      | 41     |          |
| A505          | 16  |      | 4'-1   | Str. |       |       |       |      | 68     |          |
| A506          | 8   |      | 3'-2   | Str. |       |       |       |      | 26     |          |
| A801          | 16  |      | 42'-1  | Str. |       |       |       |      | 1798   |          |
| A1001         | 16  |      | 42'-1  | Str. |       |       |       |      | 2897   |          |
| Total Weight  |     |      |        |      |       |       |       |      | 9,391  |          |

| RETAINING WALLS |     |      |        |      |       |       |          |      |        |          |
|-----------------|-----|------|--------|------|-------|-------|----------|------|--------|----------|
| MARK            | NO. | SIZE | LENGTH | TYPE | A     | B     | C        | D    | WEIGHT | LOCATION |
| W501            | 32  |      | 29'-6  | Str. |       |       |          |      | 985    |          |
| W502            | 10  |      | 26'-6  | Str. |       |       |          |      | 276    |          |
| W503            | 2   |      | 24'-6  | Str. |       |       |          |      | 51     |          |
| W504            | 2   |      | 27'-3  | 9    | 20'-0 | 7'-3  | 3'-3     | 6'-6 | 57     |          |
| W505            | 6   |      | 14'-6  | Str. |       |       |          |      | 91     |          |
| W506            | 14  |      | 5'-1   | Str. |       |       |          |      | 74     |          |
| W507            | 14  |      | 8'-5   | 8    | 6'-7  | 1'-11 | 0'-1 1/2 |      | 123    |          |
| W508            | 22  |      | 4'-1   | Str. |       |       |          |      | 94     |          |
| W509            | 22  |      | 7'-4   | 8    | 5'-7  | 1'-10 | 0'-1 1/2 |      | 168    |          |
| W510            | 11  |      | 2'-7   | Str. |       |       |          |      | 30     |          |
| W511            | 11  |      | 5'-9   | 8    | 4'-1  | 1'-9  | 0'-1 1/2 |      | 66     |          |
| W512            | 20  |      | 4'-7   | Str. |       |       |          |      | 96     |          |
| W513            | 20  |      | 7'-10  | 8    | 6'-1  | 1'-10 | 0'-1 1/2 |      | 163    |          |
| W514            | 2   |      | 27'-2  | 9    | 21'-0 | 6'-2  | 2'-9     | 5'-6 | 57     |          |
| W515            | 6   |      | 11'-6  | Str. |       |       |          |      | 72     |          |
| Total Weight    |     |      |        |      |       |       |          |      | 2,403  |          |

| SPIRAL REINFORCING BARS |            |       |          |                    |              |           |           |        |     |
|-------------------------|------------|-------|----------|--------------------|--------------|-----------|-----------|--------|-----|
| PIER                    | COLUMN NO. | MARK  | NO. REQ. | CORE DIA. % SPIRAL | LENGTH       | PITCH     | NO. TURNS | WEIGHT |     |
| West Pier               | 1          | SP401 | One      | 26"                | 23'-11 5/8   | 3 1/2"    | 85        | 428    |     |
|                         | 2          | SP402 |          |                    | 23'-4 7/16   |           | 83        | 418    |     |
|                         | 3          | SP403 |          |                    | 22'-10 7/16  |           | 81        | 408    |     |
|                         | 4          | SP404 |          |                    | 22'-3 1/4    |           | 79        | 398    |     |
|                         | 5          | SP405 |          |                    | 21'-8 1/16   |           | 77        | 388    |     |
|                         | 6          | SP406 |          |                    | 21'-0 13/16  |           | 75        | 377    |     |
|                         | 7          | SP407 |          |                    | 20'-6 13/16  |           | 74        | 372    |     |
|                         | 8          | SP408 |          |                    | 19'-11 5/8   |           | 71        | 358    |     |
| East Pier               | 1          | SP409 |          |                    | 20'-9 5/8    |           | 74        | 372    |     |
|                         | 2          | SP410 |          |                    | 20'-2 3/8    |           | 72        | 362    |     |
|                         | 3          | SP411 |          |                    | 19'-8 3/8    |           | 71        | 357    |     |
|                         | 4          | SP412 |          |                    | 19'-1 3/16   |           | 68        | 342    |     |
|                         | 5          | SP413 |          |                    | 18'-6        |           | 66        | 332    |     |
|                         | 6          | SP414 |          |                    | 17'-10 13/16 |           | 64        | 322    |     |
|                         | 7          | SP415 |          |                    | 17'-4 13/16  |           | 63        | 316    |     |
|                         | 8          | SP416 | One      |                    | 26"          | 16'-9 5/8 | 3 1/2"    | 61     | 306 |

SPIRAL REINFORCING BARS: The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap.

The "No. of Turns" shown is the "Length" divided by the pitch, plus 3 turns (total number of closed coils), expressed as the nearest whole number. Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 5-4. 1 1/2 closed coils shall be provided at the ends of each spiral unit.

Three steel channel, tee or angle spacers, weighing approximately 0.68 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lb. per lin. ft., will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

Bar size is indicated in the bar mark. The first digit indicates the bar size number except when the first digit is one (1). In this case the first two digits indicate the bar size number.

Bar bending dimensions are out to out.

\* Included in unit price bid for Item 5-14

TOTAL WEIGHT OF REINFORCING STEEL = 152,565 Lbs.

| REPLACEMENT BARS |     |        |       |
|------------------|-----|--------|-------|
| MARK             | NO. | LENGTH | SHAPE |
| RE401            | 1   | 5'-3   | Str.  |
| RE501            | 1   | 5'-7   |       |
| RE601            | 1   | 5'-11  |       |
| RE701            | 1   | 6'-3   |       |
| RE801            | 1   | 6'-6   |       |
| RE901            | 1   | 6'-10  |       |
| RE1001           | 4   | 7'-3   | Str.  |

SHAW, LENZ & ASSOCIATES  
ENGINEERS  
CINCINNATI OHIO

**REINFORCING STEEL DETAILS**

**CROSS COUNTY HIGHWAY BRIDGE OVER ELDORA DRIVE**

DESIGNED: W.B.S. DRAWN: W.B.S. TRACED: R.R.L. CHECKED: R.J.L. REVIEWED: DATE: REVISED: R.J.L.

Date 9-25-63