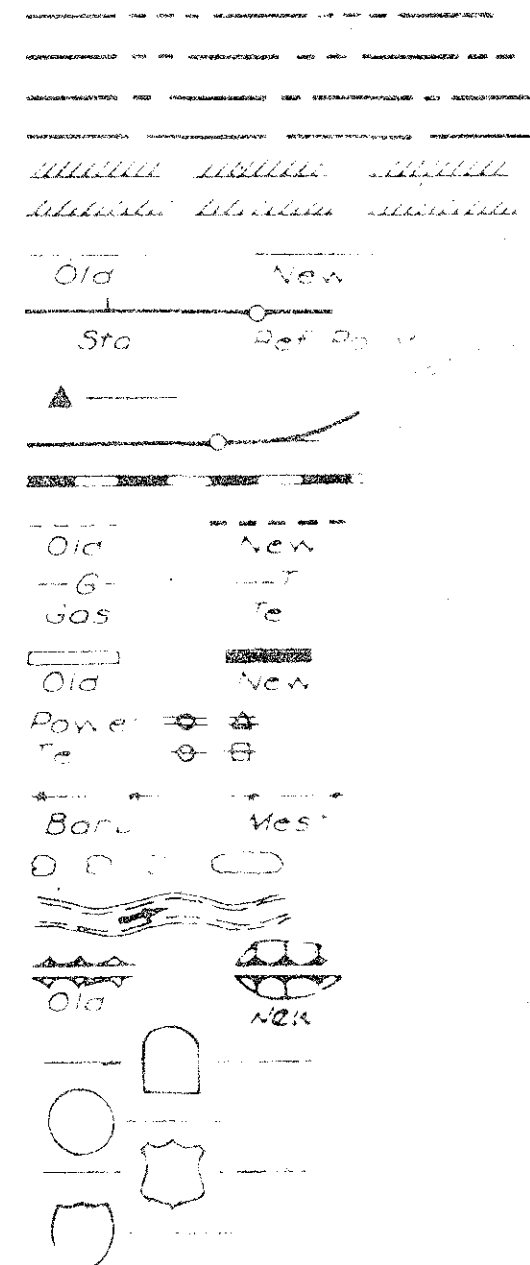


CONVENTIONAL SIGNS

State Line  
Co. line  
Twp. line  
Sec. line  
Corp. line  
Urban Boundary  
R.O.W. lines  
Survey line  
Sec. Corner  
Profile Grade  
Railroad  
Head Tide  
Interground Lines  
Culverts  
Fence  
Trees or Fr. in  
Stream  
Dike  
County Road No.  
Primary Road No.  
U. S. Road No.  
Interstate Road No.



IOWA  
DEPARTMENT OF TRANSPORTATION  
Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE  
PRIMARY ROAD SYSTEM  
JACKSON COUNTY  
A.C.C. PAVED SHOULDERS IN SLIDE AREAS

ON IOWA 62 APPROX. 1 MILE WEST OF BELLEVUE

SCALE: AS NOTED

THE STANDARD SPECIFICATIONS, SERIES OF 1977,  
OF THE IOWA DEPARTMENT OF TRANSPORTATION,  
SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT

NO MILEAGE SUMMARY

STATE CONTROL SECTION NUMBER

47-0700

CONSTRUCTION PLANS SHOWING PROJECT AS BUILT

Plan Preparation Supervised By: *William J. Campbell*

Resident Construction Engineer

Date: *FEB. 2, 1982*

Iowa Reg. No. *4135*

REVIEWED AND FORWARDED TO AMES

District Construction Engineer

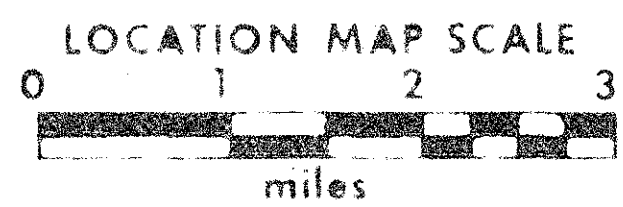
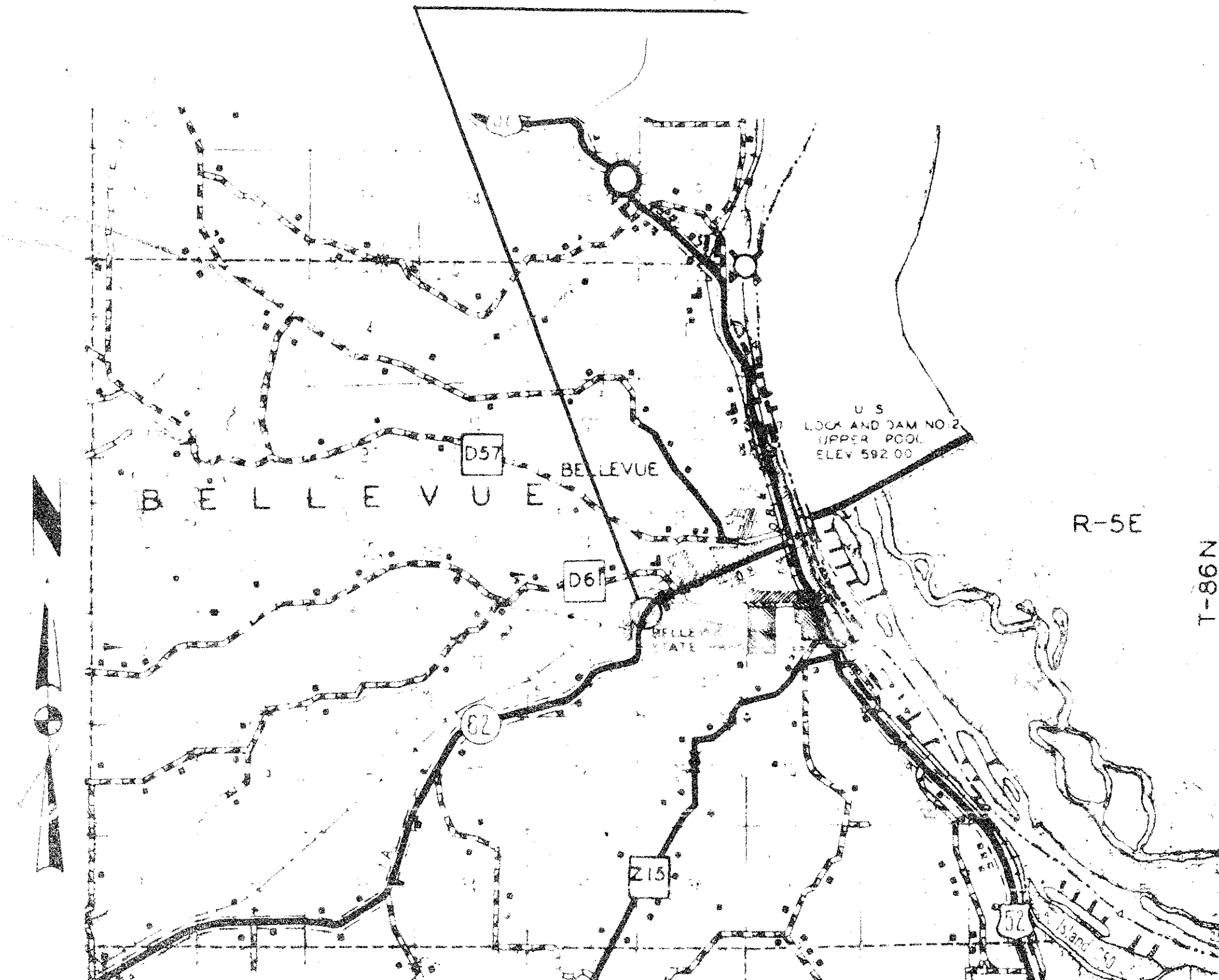
Date

One 50% Reduced and Two Full-Size Prints To Be Made and Returned To

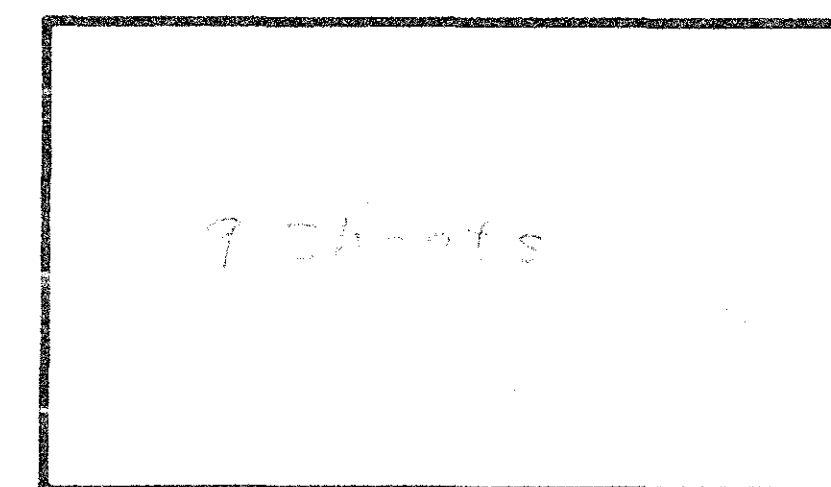
District Engineer

AFTER MICROFILMING RETURN ORIGINAL  
TO DISTRICT NO. *6*

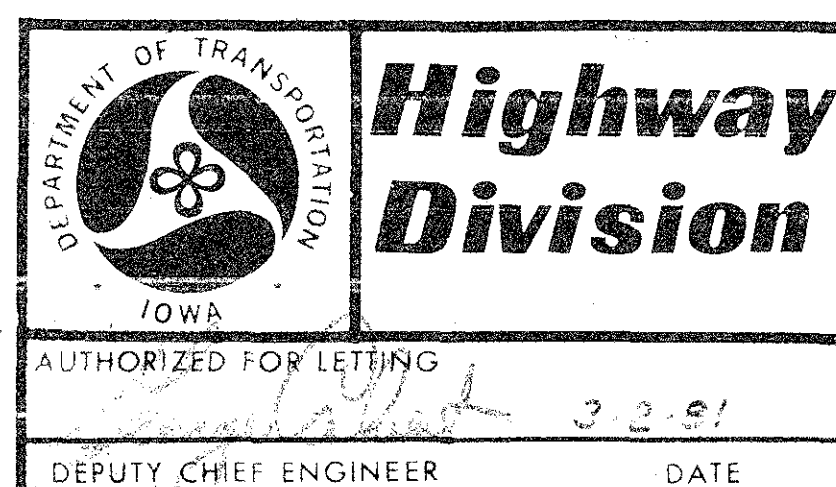
PROJECT LOCATION



| DESIGN DATA RURAL |        |      |                |  |  |
|-------------------|--------|------|----------------|--|--|
| 1981              | AADT   | 1110 | V.P.D.         |  |  |
| 200               | AADT   |      | V.P.D.         |  |  |
| 200               | DHV    |      | V.P.H.         |  |  |
|                   | TRUCKS | 11   | %              |  |  |
|                   | CLASS  | 4    | ACCESS CONTROL |  |  |



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED  
UNDER MY SUPERVISION AND THAT ENGINEERING  
DECISIONS WITH REGARD TO THE DESIGN WERE  
MADE BY ME OR BY OTHER DULY REGISTERED  
PROFESSIONAL ENGINEERS UNDER THE LAWS OF  
THE STATE OF IOWA  
*William J. Campbell*  
5797 2/26/81  
IOWA REGISTRATION NUMBER DATE



U.S. DEPT. TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
APPROVED  
DIVISION ENGINEER DATE

| STATE                       | FED. ROAD DIST. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|-----------------------------|---------------------|-------------|-----------|--------------|
| IOWA                        | 1                   |             | 1         | 7            |
| PROJECT NUMBER              |                     |             |           |              |
| FN-62-1(8)--21-49           |                     |             |           |              |
| R.O.W. PROJECT NUMBER       |                     |             |           |              |
| PRELIMINARY ENGINEER NUMBER |                     |             |           |              |

INDEX OF SHEETS

| NO.  | DESCRIPTION                              |
|------|------------------------------------------|
| 1    | TITLE SHEET                              |
| 2A-B | TYPICAL CROSS SECTIONS                   |
| 3A-B | FINAL QUANTITIES AND GENERAL INFORMATION |
| 4    | PLAN AND PROFILE SHEET                   |
| 5    | DETAILS OF GUARDRAIL AT SIDE HAZARDS     |
| 6    | DETAILS OF PAVEMENT EDGE SUBDRAINS       |
| 7    | SOILS SURVEY INFORMATION                 |

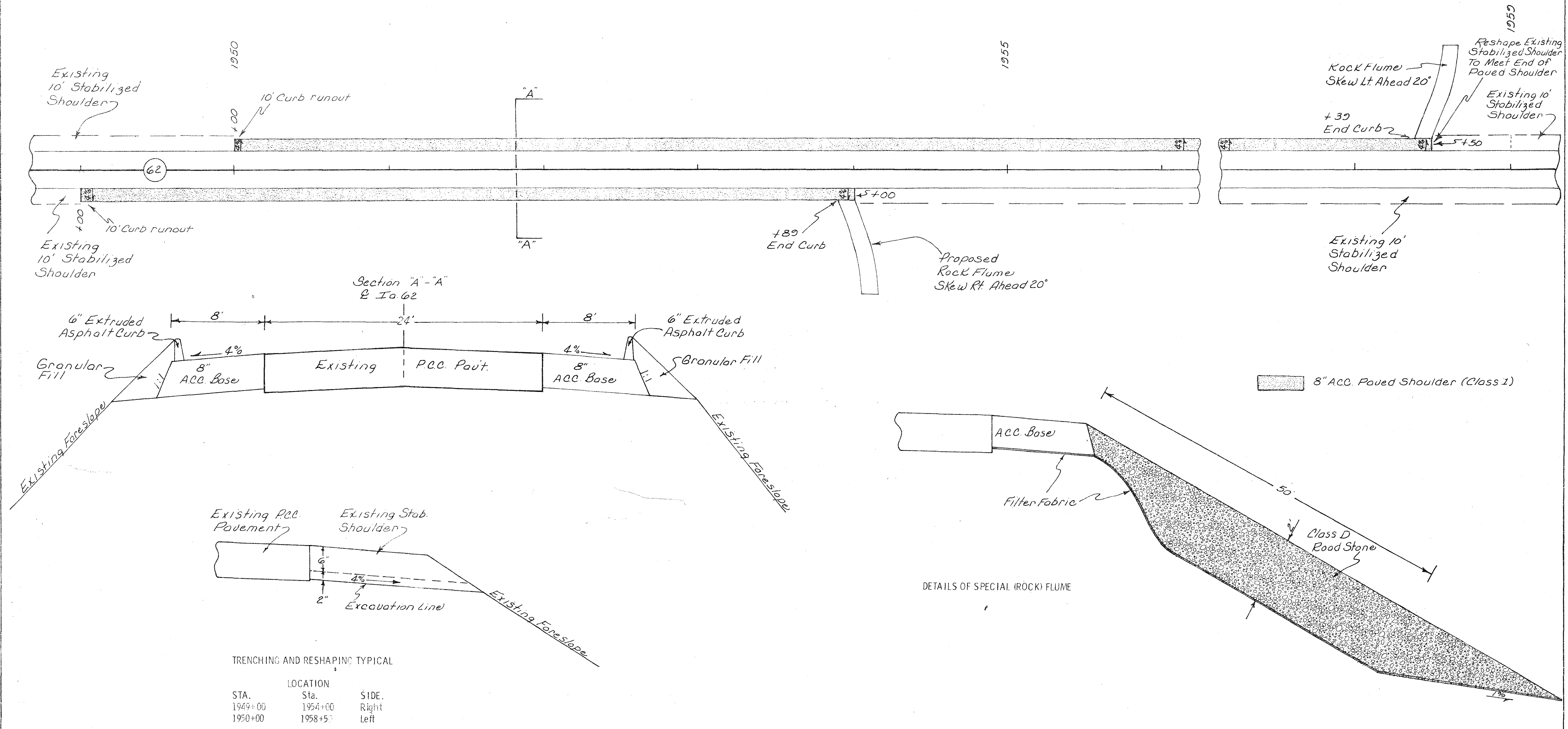
| THIS AS BUILT PLAN INCLUDES |                                       |                  |                   |
|-----------------------------|---------------------------------------|------------------|-------------------|
| YEAR                        | WORK                                  | CONTRACTOR       | PROJ. INSPECTOR   |
| 1981                        | A.C.C. PAVED SHOULDERS IN SLIDE AREAS | TSCHIGGRIE, INC. | DONALD D. SPENNER |

STANDARD ROAD PLANS

105-4  
6-17-77

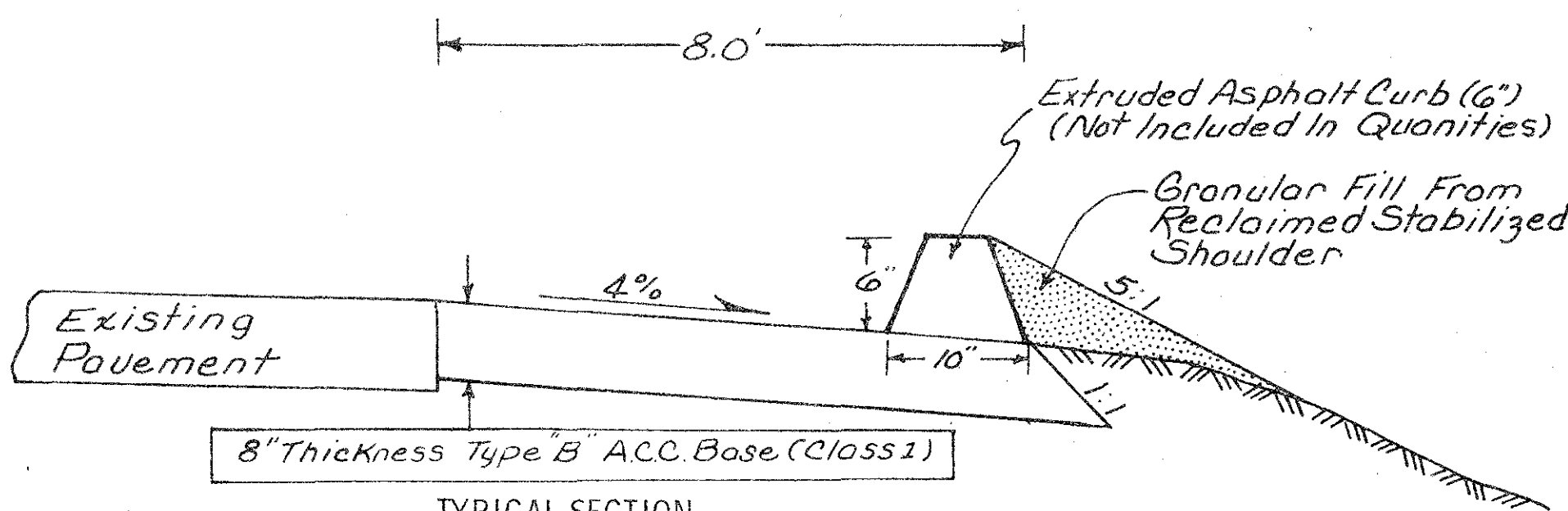
The following Standard Road Plans shall be considered applicable to  
construction work on this project.

| IDENT | DATE    | IDENT  | DATE    | IDENT | DATE    |
|-------|---------|--------|---------|-------|---------|
| RE-2  | 8-16-74 | RE-12  | 4-20-79 | RE-52 | 12-5-80 |
| RE-7  | 5-6-75  | RE-48B | 9-22-78 | RL-11 | 4-20-79 |



TRENCHING AND RESHAPING TYPICAL

| STA.    | LOCATION     | SIDE. |
|---------|--------------|-------|
| 1949+00 | Sta. 1954+00 | Right |
| 1950+00 | Sta. 1958+50 | Left  |



TYPICAL SECTION  
CLASS 1 PAVED SHOULDER  
(A.C.C. BASE)

| DESIGN QUANTITIES          |                            |                                  |                          | ① |
|----------------------------|----------------------------|----------------------------------|--------------------------|---|
| CLASS 1 SHOULDER           | ASPHALTIC CEMENT CONCRETE  |                                  |                          | ② |
| SURFACE AREA<br>(SQ. YDS.) | 8" A. C. C. Base<br>(Tons) | PRIME & TACK<br>(GAL. PER. STA.) | ASPHALT CEMENT<br>(TONS) |   |
| 88.88                      | 38.89                      | 5.19 ③                           | 2.33                     |   |

- ① Rates indicated are for design purposes and may be adjusted at time of construction if so directed by the engineer. Quantities listed are for one shoulder per. station.
- ② Quantities shown are based on a design weight of 140 lbs/cu. ft. for A.C.C. base with an asphalt content of 6.0% utilizing a 3/4\"/>

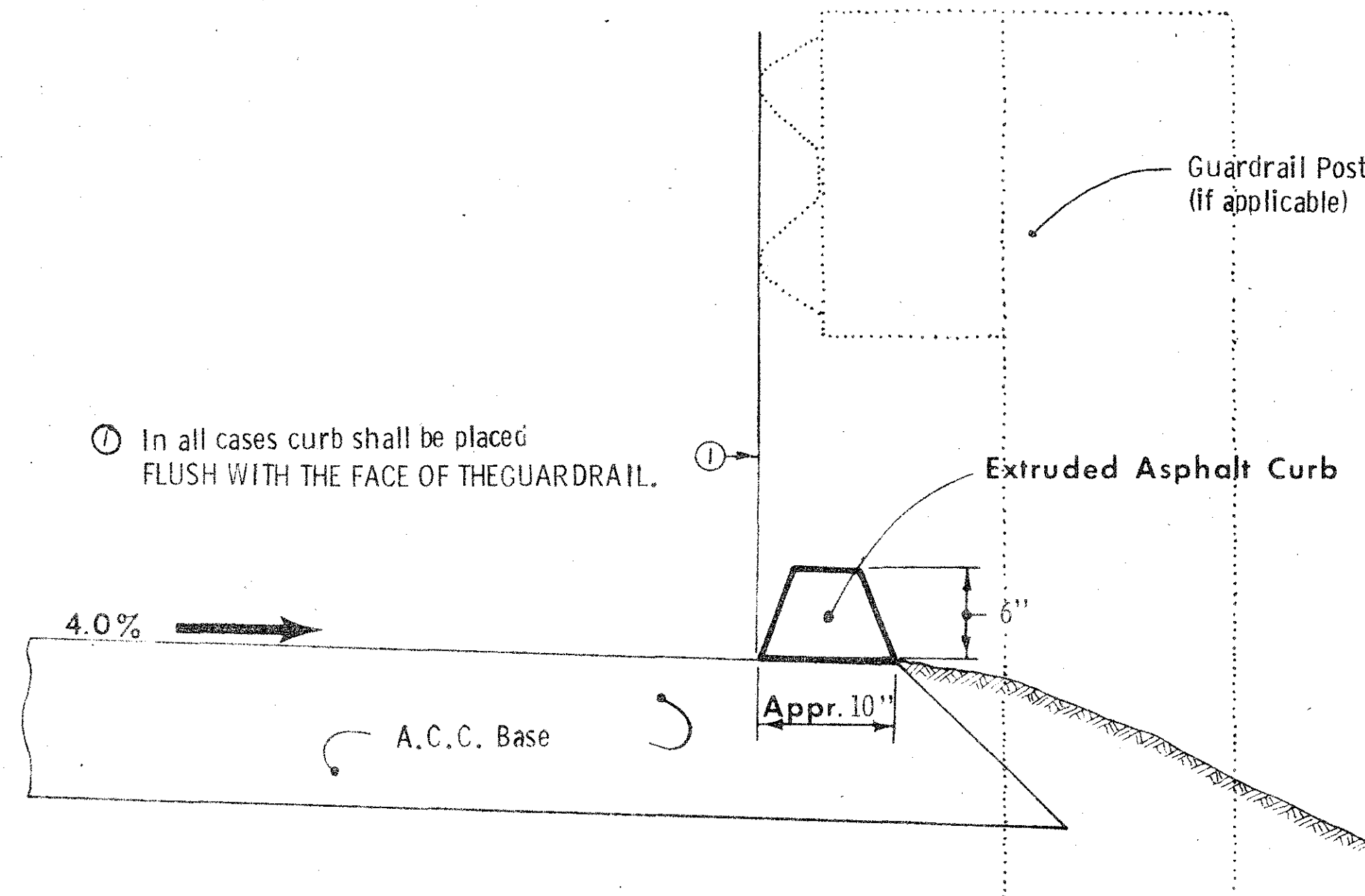
GENERAL NOTES:  
Construction of paved shoulders shall conform to the requirements of current specifications for the items involved.

Slopes, Dimensions and quantities indicated herein are for a normal section as shown and are for design purposes. Shoulder construction details may be modified through superelevated curves or other areas specifically designated by the engineer. Refer to typical cross sections and standard road plans for super-elevation.

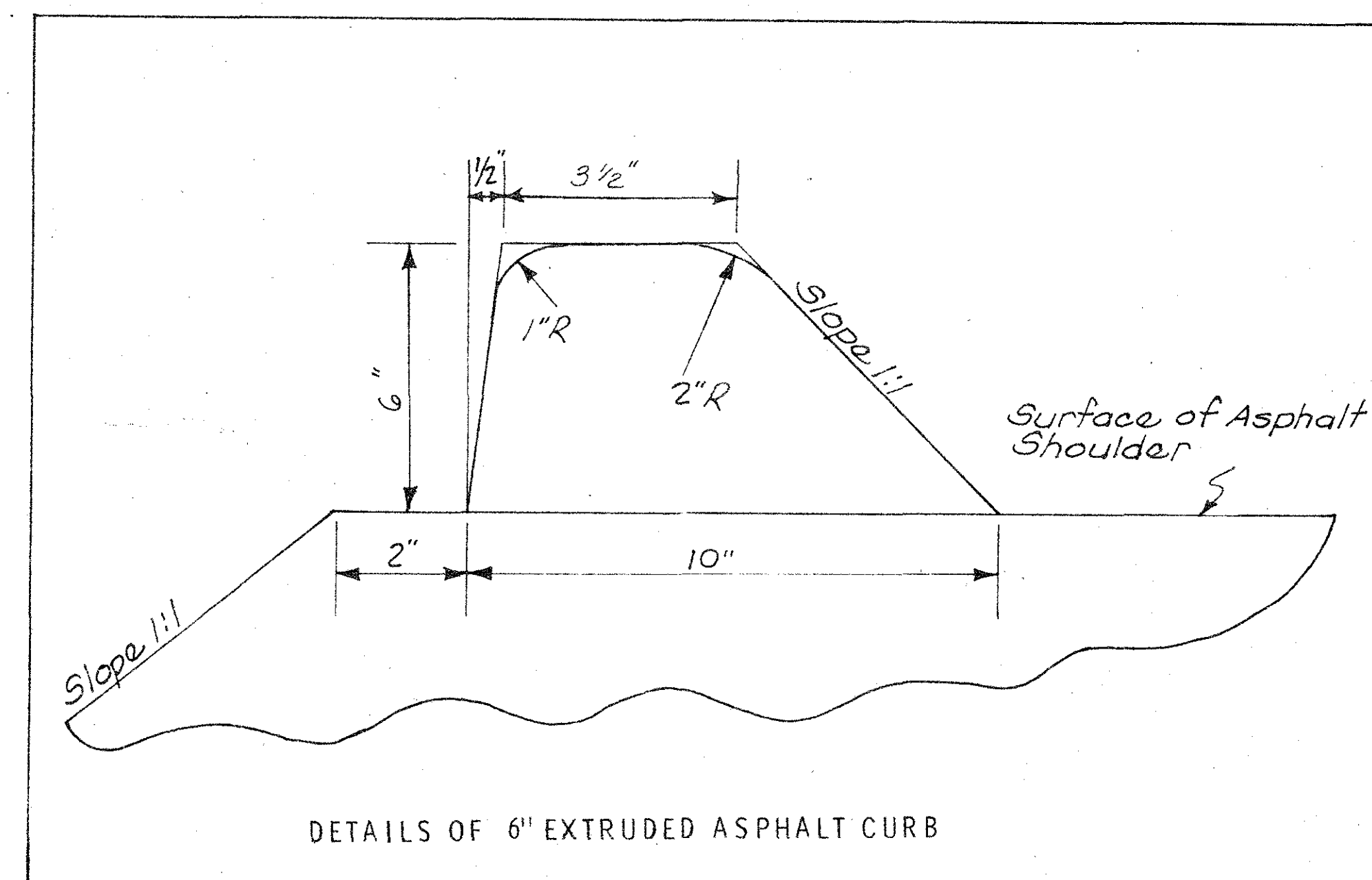
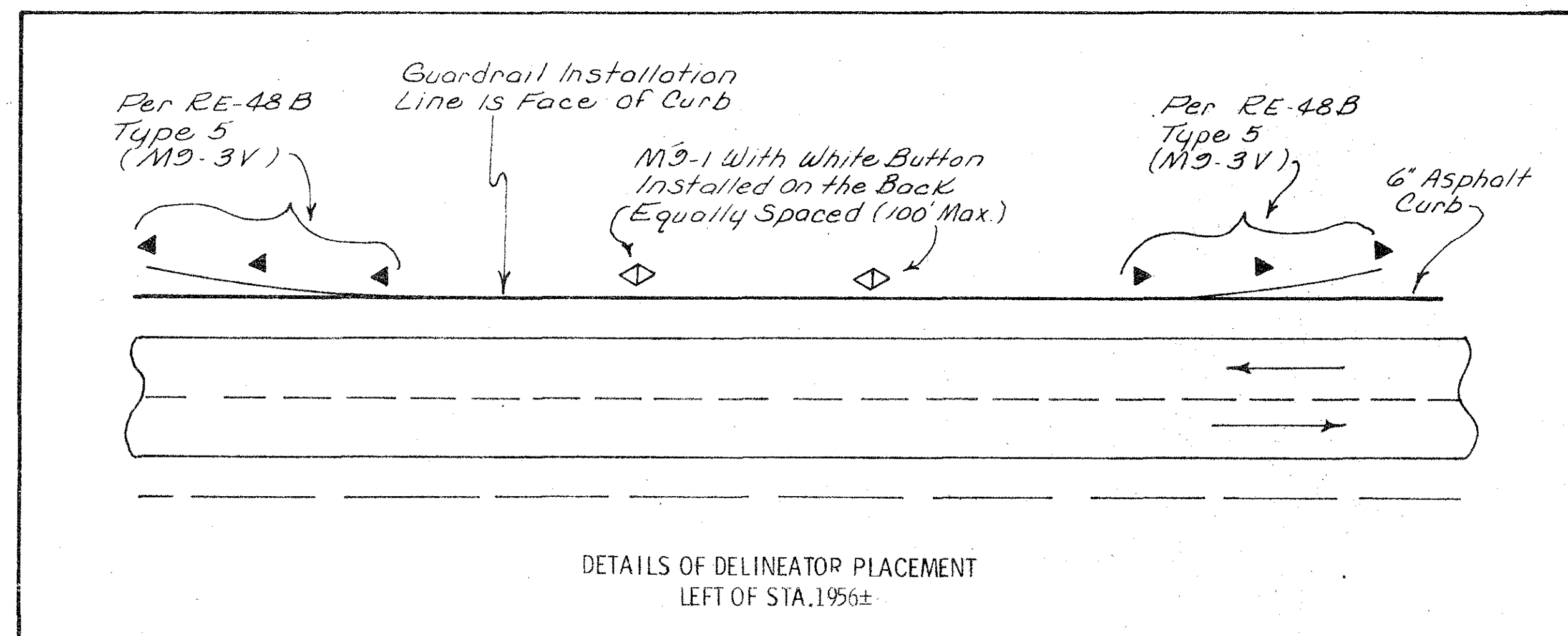
Any special shaping of subgrade necessary, prior to construction of paved shoulder, shall be accomplished as directed by the engineer.

The subgrade beneath Class 1 paved shoulders shall be constructed in conformance with specifications for natural subgrade. Any material required for earth fill shall be subject to the approval of the engineer and shall be obtained from adjacent areas as directed by the engineer or provided by the contractor from locations approved by the engineer.

Earth fill or special shaping as required will not be paid for separately but considered incidental to the price bid for "Class 1 Paved Shoulders."



TYPICAL ASPHALT CURB



| TRAFFIC CONTROL PLAN |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.                   | Traffic control on this project shall be in accordance with Supplemental Specification 854 and Addendum 876.                                                                                                                                                                                                                                                                                                                                                                           |
| 2.                   | Traffic control for work and unfinished work (e.g. shoulder dropoff) adjacent to the traveled way and where there is no encroachment on the traveled way shall be in accordance with Detail Sheet 520-2.                                                                                                                                                                                                                                                                               |
| 3.                   | Traffic control for work encroaching on the traveled way shall be in accordance with Detail Sheet 520-3                                                                                                                                                                                                                                                                                                                                                                                |
| 4.                   | Traffic will be maintained through the project at all times.                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 5.                   | All traffic control devices shall be erected, maintained and removed by the contractor.                                                                                                                                                                                                                                                                                                                                                                                                |
| 6.                   | All signs, skids and Type III barricades are to be furnished by the Highway Division Office of Maintenance and will be made available at a nearby maintenance yard designated by the engineer and the contractor shall return them upon completion of the work. All other traffic control devices such as Type I or Type II barricades flashing warning lights and cones as needed shall be provided by the contractor and will be considered incidental to other work on the project. |
| 7.                   | The location for storage of equipment by the contractor during non-working hours will be approved by the engineer in charge of construction.                                                                                                                                                                                                                                                                                                                                           |
| 8.                   | Iowa 62 shall be opened to normal traffic at night.                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 9.                   | Proposed changes in the Traffic Control Plan shall be reviewed with the office of Construction before changes are made.                                                                                                                                                                                                                                                                                                                                                                |
| 10.                  | All existing speed limit signs and existing signs that conflict with construction area shall be removed or covered up by others during the construction period.                                                                                                                                                                                                                                                                                                                        |
| 11.                  | Proposed sign spacing may be modified as approved by the engineer, to meet existing field condition, or to prevent obstruction of the motorist's view of permanent signing.                                                                                                                                                                                                                                                                                                            |
| 12.                  | Cost of traffic control measures required of the contractor shall be considered incidental to other work on the project.                                                                                                                                                                                                                                                                                                                                                               |

203-1

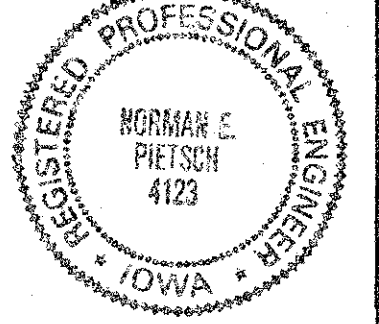
PLAN AND PROFILE SHEETS INCLUDED IN THE PROJECT ARE FOR THE PURPOSE OF ALIGNMENT LOCATION AND SPECIFIC DIRECTIONS FOR THE WORK TO BE PERFORMED UNDER THIS CONTRACT. IRRELEVANT DATA ON THESE SHEETS IS NOT TO BE CONSIDERED A PART OF THIS CONTRACT.

212-1

SOUNDING AND TEST BORING DATA SHOWN ON PLANS WERE ACCUMULATED FOR DESIGNING AND ESTIMATING PURPOSES. THEIR APPEARANCE ON THE PLAN DOES NOT CONSTITUTE A GUARANTEE THAT CONDITIONS OTHER THAN THOSE INDICATED WILL NOT BE ENCOUNTERED.

| FINAL REFERENCE INFORMATION                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data listed below is for informational purposes only and shall not constitute a basis for any extra work orders. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ITEM NO.                                                                                                         | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1.                                                                                                               | Requires removing 3728 ft. of cable guardrail, 245 cable guardrail posts and 10 cable guardrail end anchorages. See tabulation of cable guardrail removal for location. Cable and posts are to be stockpiled at the Iowa D.O.T. Maintenance garage in Sabula. Hauling and stockpiling of material to be considered incidental to this bid item.                                                                                                                                                                                                                                                                                                                                                                                        |
| 2.                                                                                                               | Requires 398 cu. yds. of excavation to build the asphalt shoulders, 250 cu. yds of this material to be used behind the proposed curb (as shown on the typical) and 148 cu. yds. to be hauled to a maintenance stockpile area located on U.S. 52 at the south edge of Bellevue. Hauling material to the stockpile area to be considered incidental.                                                                                                                                                                                                                                                                                                                                                                                     |
| 3,4.                                                                                                             | See typical sections on sheets no. 2A & 2B for construction details. The material placed behind the curb (as shown on the typical) is to be considered incidental to Class 1 Paved Shoulders.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 4.                                                                                                               | See special provisions 215 dated April 25, 1978.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 5.                                                                                                               | Filter fabric to be Typar 3401 or equivalent. Fabric to be laid from the edge of the existing pavement to the end of the trench including the vertical face of the trench. Fabric joints to be lapped 1.0' and fabric to be firmly attached to the fill to preclude movement during placement of crushed stone. See sheet no. 2A for locations of special flumes.                                                                                                                                                                                                                                                                                                                                                                      |
| 6.                                                                                                               | Flumes to be constructed 10' wide and 50' in length using Class "D" road stone (as shown in typical on sheet 2A). Bid price of flumes to include the excavation (82 cu. yds.) for the trench and furnishing and placing the Class "D" road stone (160 tons) as shown on plans. Class "D" road stone to be placed in a 2.0' layer measured normal to plane of foreslope. Stone to be placed so as to minimize segregation and not puncture the filter fabric. See Article 412.06 of current Standard Specifications. Excavation to be disposed of as directed by the engineer.<br>Standard Specifications:<br>Maximum Size 6 inch<br>Maximum passing No. 8 Sieve 15%<br>AASHTO T 9 6 55%<br>Lab. Test 211, Method C 15%<br>Mud Balls 5% |
| 7.                                                                                                               | See detail sheet No. 6 for installation details. Any grading required to install the guardrail is to be considered incidental.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7,8.                                                                                                             | See sheet 2B for details of placing guardrail adjacent to asphalt curb.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 9.                                                                                                               | Includes 2-3" white delineator buttons for backers as shown on sheet No. 2B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 11.                                                                                                              | Includes 938 lin. ft. of slotted 4" plastic pipe, 6 lin. ft. of 6" corrugated metal pipe, .2 cu. yd of Class "A" crushed stone and 146 cu. yds. of backfill for longitudinal and lateral drains as per Spec. 859.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| FINAL PROJECT QUANTITIES |                                       |          |         |
|--------------------------|---------------------------------------|----------|---------|
| NO.                      | ITEM                                  | UNIT     | TOTAL   |
| 1                        | Removal of Guardrail                  | Stas.    | 37.28   |
| 2                        | Trenching and Reshaping               | Stas.    | 13.50   |
| 3                        | Class 1 Paved Shoulder as per plan    | Sq. Yds. | 1210.67 |
| 4                        | Extruded Asphalt Curb                 | Lin. Ft. | 1337.50 |
| 5                        | Filter Fabric                         | Sq. Yds. | 211     |
| 6                        | Special Flume As per plan             | No.      | 2       |
| 7                        | Formed Steel Beam Guardrail           | Lin. Ft. | 400     |
| 8                        | Beam Guardrail Posts                  | No.      | 65      |
| 9                        | Single White Delineators              | No.      | 5       |
| 10                       | Triple Amber Vertical Delineators     | No.      | 6       |
| 11                       | Subdrain as per plan                  | Lin. Ft. | 971     |
| 12                       | Beam Guardrail End Anchorages (RE-52) | No.      | 2       |
| 8001                     | BACKFILL POROUS                       | TONS     | 44      |
|                          |                                       |          |         |
|                          |                                       |          |         |
|                          |                                       |          |         |

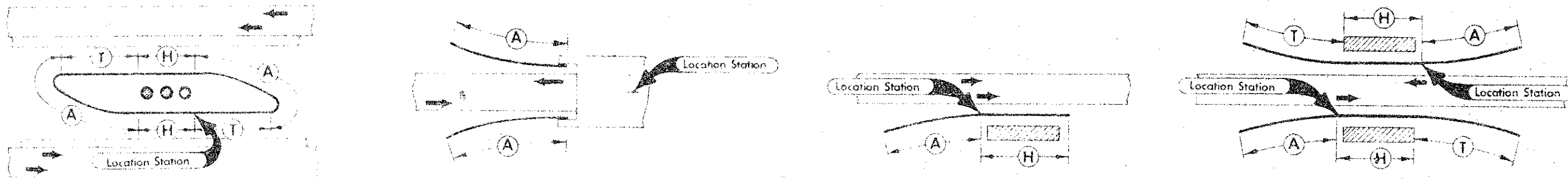
| ROADWAY DESIGN                                                                        |                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY SUPERVISION AND THAT ENGINEERING DECISIONS WITH REGARD TO THE DESIGN WERE MADE BY ME OR BY OTHER DULY REGISTERED PROFESSIONAL ENGINEERS UNDER THE LAWS OF THE STATE OF IOWA.<br><br><i>Norman E. Pietsch</i><br>IOWA REGISTRATION NUMBER 4123 DATE 2-26-81 |

TABULATION OF "W" BEAM GUARDRAIL INSTALLATIONS

(Refer to appropriate Standard Road Plans)

108-8

12-28-79



| LOCATION |                 | STANDARD<br><br>ROAD<br>PLAN | FORMED STEEL "W" BEAM GUARDRAIL |          |          |          | BEAM GUARDRAIL POSTS |                             |                           |                       | BEAM<br>GUARDRAIL<br>BRIDGE END<br>ANCHORAGE |      | BEAM<br>GUARDRAIL<br>END<br>ANCHORAGE |       | SPECIAL<br>CONNECTION<br>(Non-Bid Item) |      | Ⓛ2<br><br>(Feet) | REMARKS |                                                     |
|----------|-----------------|------------------------------|---------------------------------|----------|----------|----------|----------------------|-----------------------------|---------------------------|-----------------------|----------------------------------------------|------|---------------------------------------|-------|-----------------------------------------|------|------------------|---------|-----------------------------------------------------|
| NO.      | STATION         |                              | Case                            | Ⓐ        | Ⓗ        | Ⓣ        | TOTAL                | 10"x10"<br>SINGLE<br>SPACER | 8"x8"<br>SINGLE<br>SPACER | 8"x8"<br>NO<br>SPACER | 6"x8"<br>NO<br>SPACER                        | Type | No.                                   | Type  | No.                                     | Type |                  |         | No.                                                 |
|          |                 |                              |                                 | Lin. Ft. | Lin. Ft. | Lin. Ft. | Lin. Ft.             |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
| 1        | 1954+12.5 - Lt. | See Detail<br>Sheet No.5     |                                 | 62.5     | 275      | 62.5     | 400                  | --                          | 61                        |                       | 4                                            |      |                                       | RE-52 | 2                                       |      |                  | 7.0'    | Installation line to be<br>flush with face of curb. |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
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|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
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|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |
|          |                 |                              |                                 |          |          |          |                      |                             |                           |                       |                                              |      |                                       |       |                                         |      |                  |         |                                                     |

TABULATION OF DELINEATORS AND OBJECT MARKERS

Refer to Standard Road Plan RE-48A-B and RE-29 C

108-17

9-22-78

| LOCATION STATION | TYPE | SINGLE WHITE DELINEATOR | TRIPLE AMBER VERTICAL DELINEATOR | TYPE 3 OBJECT MARKERS | REMARKS                                                                         |
|------------------|------|-------------------------|----------------------------------|-----------------------|---------------------------------------------------------------------------------|
| 1959+12.5        | 5    | 5                       | 6                                | --                    | Requires 2-3" white delineator buttons for hackers - see sheet no2B for details |

TABULATION OF REMOVAL OF CABLE GUARDRAIL

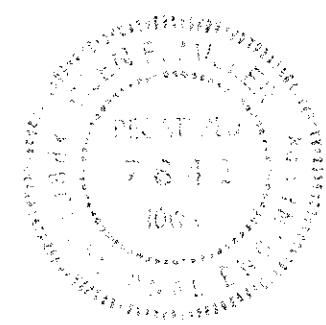
| LOCATION          |       | LENGTH OF INSTALLATION STA. | POSTS NO. | END ANCHORAGE NO. |
|-------------------|-------|-----------------------------|-----------|-------------------|
| STA. - STA.       | SIDE  |                             |           |                   |
| 1942+08 - 1949+32 | Right | 7.24                        | 49        | 2                 |
| 1948+48 - 1955+78 | Right | 7.30                        | 46        | 2                 |
| 1956+22 - 1959+64 | Right | 2.82                        | 19        | 2                 |
| 1946+00 - 1955+96 | Left  | 9.96                        | 66        | 2                 |
| 1955+12 - 1965+08 | Left  | 9.96                        | 65        | 2                 |

TABULATION OF PAVEMENT EDGE SUBDRAINS

(Refer to Detail Sheet NO.6)

| EDGE DRAIN |                     |                             |      |                | Outlet Location | Plastic Pipe (Lin. Ft.) | C.M.P. (Lin. Ft.) | Backfill (Spec. 859) (Cu. Yds) | Class "A" Crushed Stone (Cu. Yds) | Subdrain (Bid Item) (Lin. Ft.) | REMARKS |
|------------|---------------------|-----------------------------|------|----------------|-----------------|-------------------------|-------------------|--------------------------------|-----------------------------------|--------------------------------|---------|
| Line No.   | Road or Lane Ident. | LOCATION Station To Station | Side | Depth (Inches) |                 |                         |                   |                                |                                   |                                |         |
| 1          | 62                  | 1950+00 - 1959+00           | Lt.  | 60"            | 1959+00         | 938                     | 0                 | 146                            | .2                                | 943                            |         |

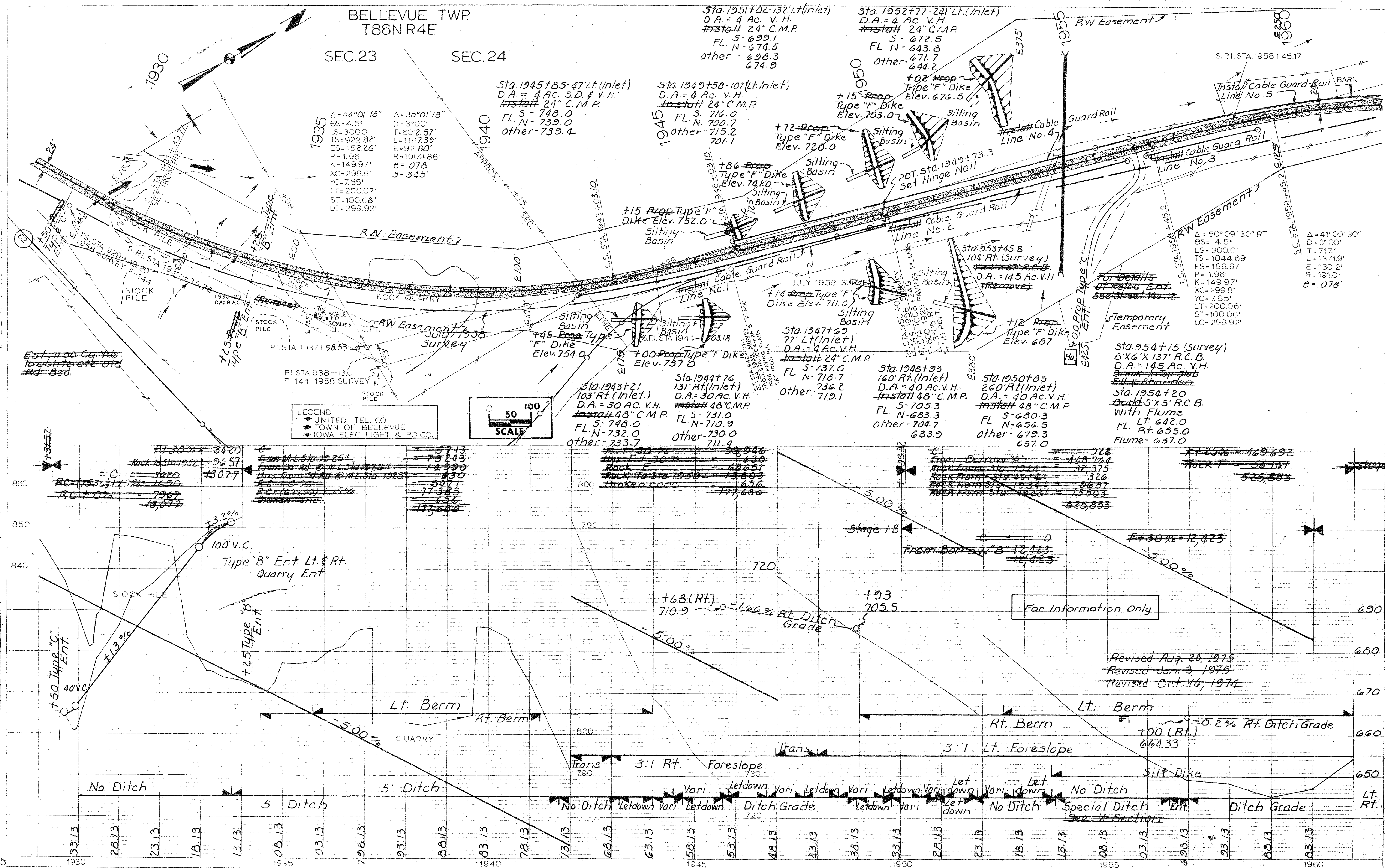
SOILS DESIGN

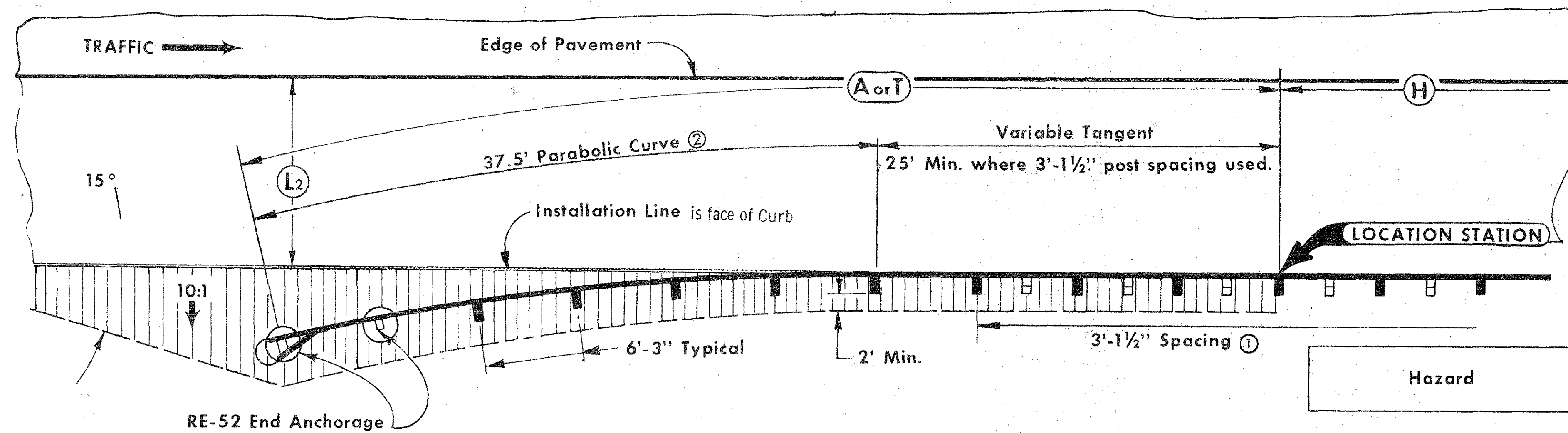


I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY SUPERVISION AND THAT ENGINEERING DECISIONS WITH REGARD TO THE DESIGN WERE MADE BY ME OR BY OTHERS DULY REGISTERED PROFESSIONAL ENGINEERS UNDER THE LAWS OF THE STATE OF IOWA.  
*John E. Miller*  
IOWA REGISTRATION NUMBER 7612 DATE 2/24/81

| DATE | BY | REVISION    |
|------|----|-------------|
|      |    | 1. SURVEYED |
|      |    | 2. PLANNED  |
|      |    | 3. CHECKED  |
|      |    | 4. APPROVED |

| DATE | BY | REVISION    |
|------|----|-------------|
|      |    | 1. SURVEYED |
|      |    | 2. PLANNED  |
|      |    | 3. CHECKED  |
|      |    | 4. APPROVED |





# GENERAL NOTES:

Details indicated hereon are for installation of formed steel beam guardrail for hazardous obstructions located adjacent to the traveled way. For information regarding individual installations, refer to Tabulation of Beam Guardrail Installations, other Standard Road Plans and detailed project plans for additional data. Any modifications to these layouts shall be at the direction of the engineer.

In areas where the guardrail diverges from the installation line, a smooth profile shall be established. It is the intent of this plan to provide a 10:1 slope from the edge of the shoulder to two feet back of the guardrail post as shown hereon. For specific requirements and details refer to other Standard Road Plans and tabulations.

Guardrail shall be lapped towards the hazard.

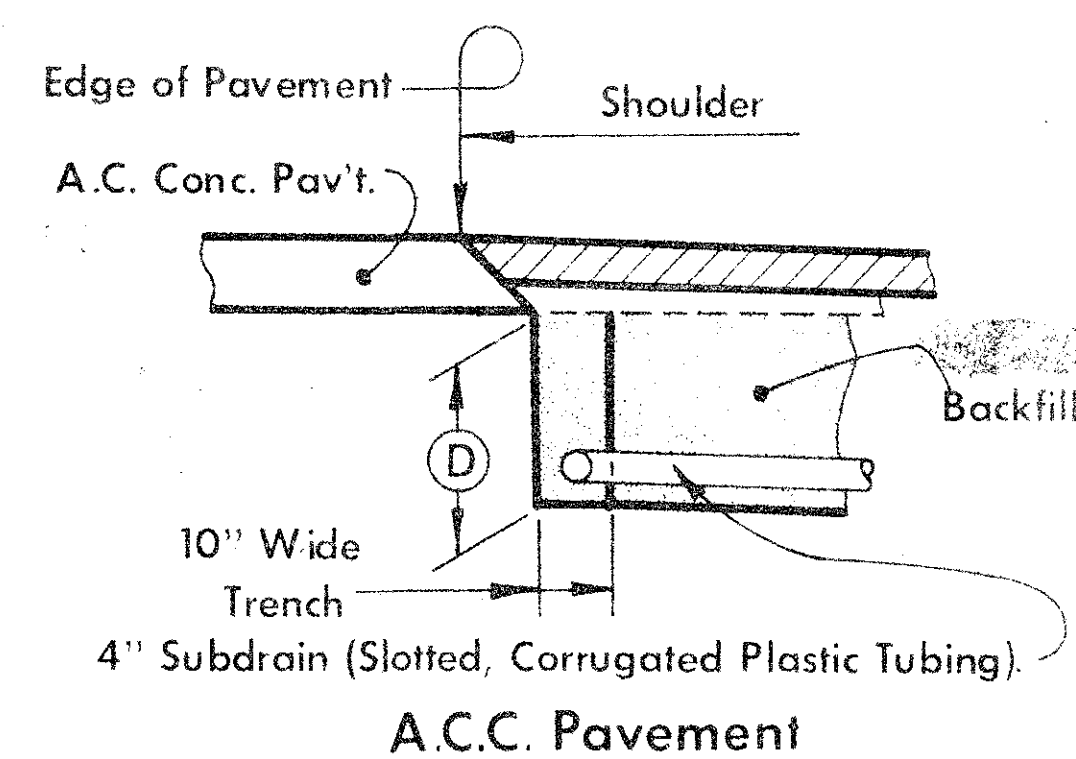
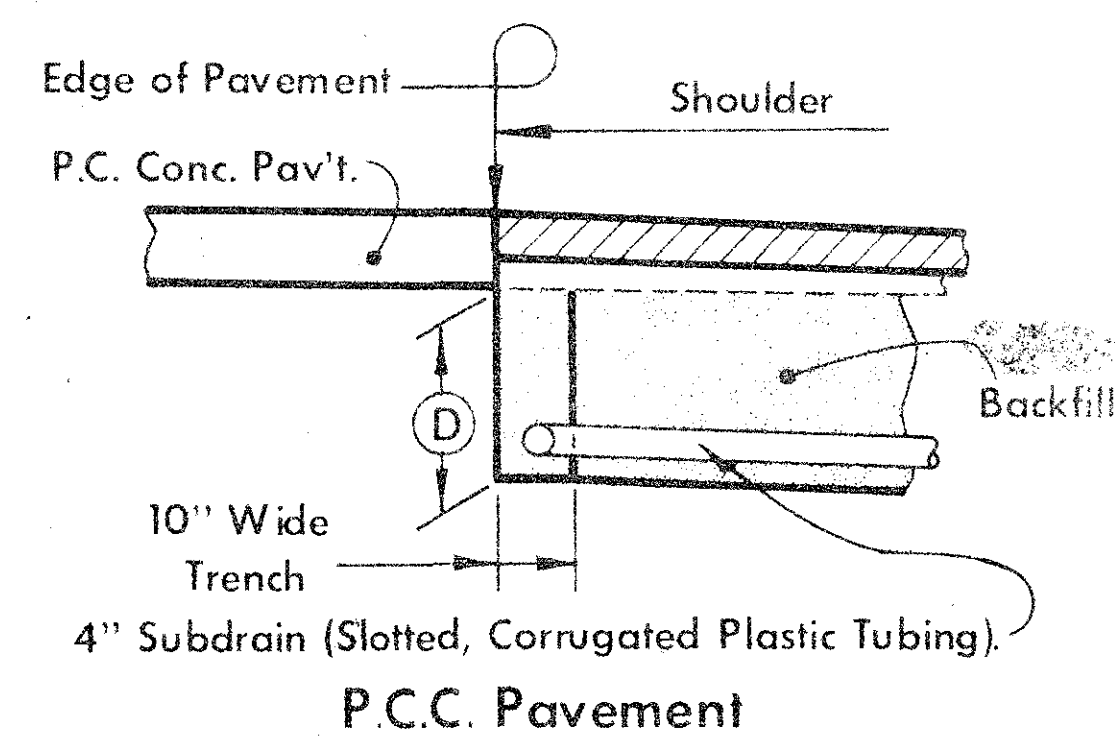
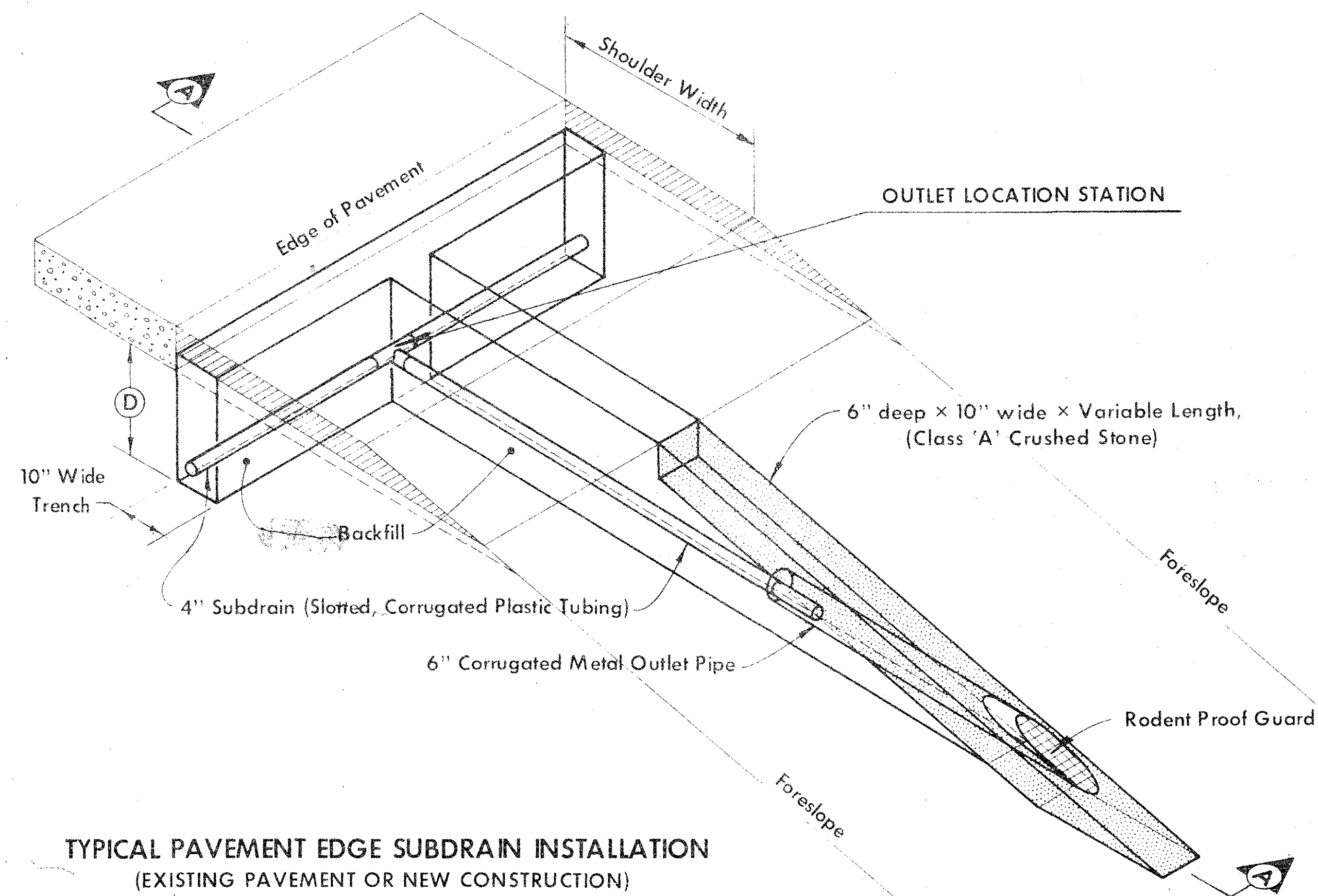
Price bid for contract items shall be considered full compensation for furnishing all materials and constructing guardrail essentially as indicated hereon.

Contract items for guardrail construction are:

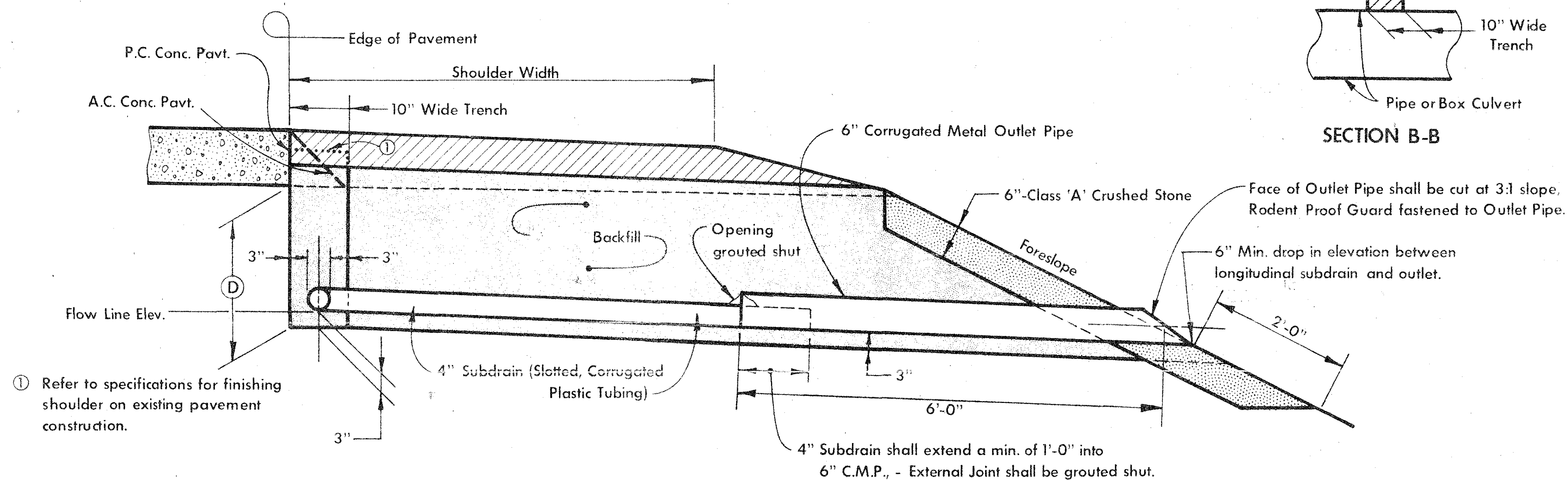
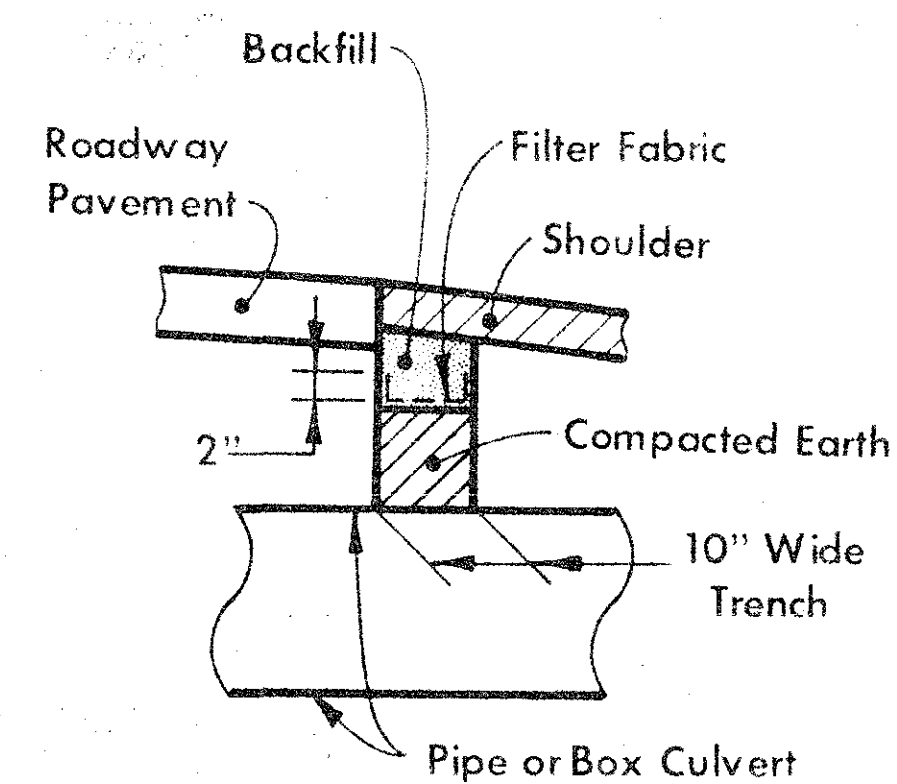
- Formed Steel Beam Guardrail
- Beam Guardrail Posts
- Beam Guardrail End Anchorages (By Type)

- ① Where hazard is 4'-6" or more from installation line, all post spacing shall be 6'-3". When hazard is less than 4'-6" (3 ft. for box culvert) from installation line, the post spacing adjacent to the hazard and to a point approximately 19 ft. in front of the hazard shall be 3'-1 1/2". When the guardrail is intended to be attached to the hazard, refer to typical attachment details on Standard Road Plan RE-55.
- ② Refer to Standard Road Plan RE-52 for details of Parabolic Curve Section.

DETAILS OF GUARDRAIL  
AT SIDE HAZZARDS



SECTION A-A  
TYPICAL SUBDRAIN OUTLET  
(NEW CONSTRUCTION)



GENERAL NOTES:

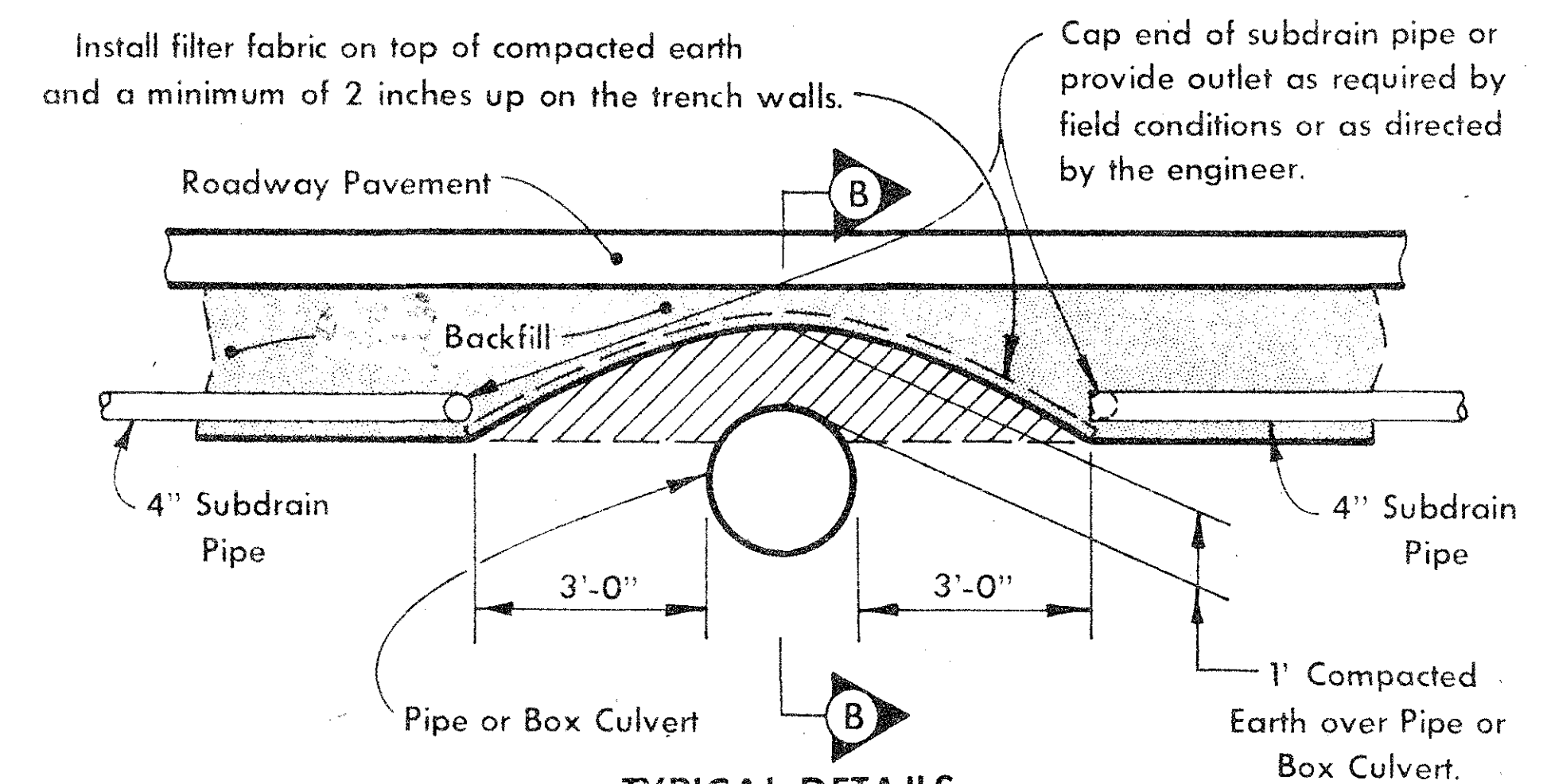
Details indicated hereon are for the construction of pavement edge subdrains and outlets. All work and materials used in the installation shall be in conformance with applicable Standard Road Plans, current Standard and Supplemental Specifications. Refer to "Tabulation Of Pavement Edge Subdrain" for details of individual subdrain and installations.

Each outlet shall be covered with 1/2" mesh galvanized screen or an approved commercial rodent guard. The guard shall be securely fastened to the outlet pipe end by means approved by the engineer.

Subdrain trench shall be located adjacent to edge of roadway pavement. On new construction projects, the subdrain shall be placed after the mainline paving and prior to shoulder placement. On new projects with tied P.C.C. Shoulders, trench location shall be as determined by the engineer. On existing roadways, the trench shall be capped with material per current Standard and Supplemental Specifications.

**Price bid for "Subdrain, As Per Plan" (in lin. ft.) shall be considered full compensation for all installation work and materials necessary as detailed hereon, included in current Standard and Supplemental Specifications and as required by project plans.**

Project quantities includes length for both the subdrain at the edge of pavement and the subdrain in the outlet.

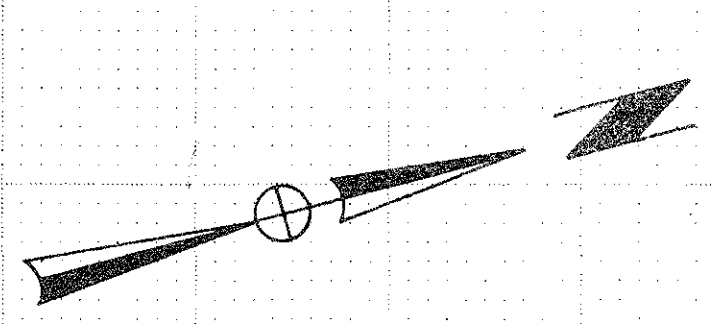


**SUBDRAIN INSTALLATION AT  
R.C.B. CULVERTS OR RF-1 CONCRETE PIPE CULVERTS**  
(If culvert is 1 ft. or more below trench bottom, no subdrain  
outlets should be provided. Carry subdrain over culvert.)

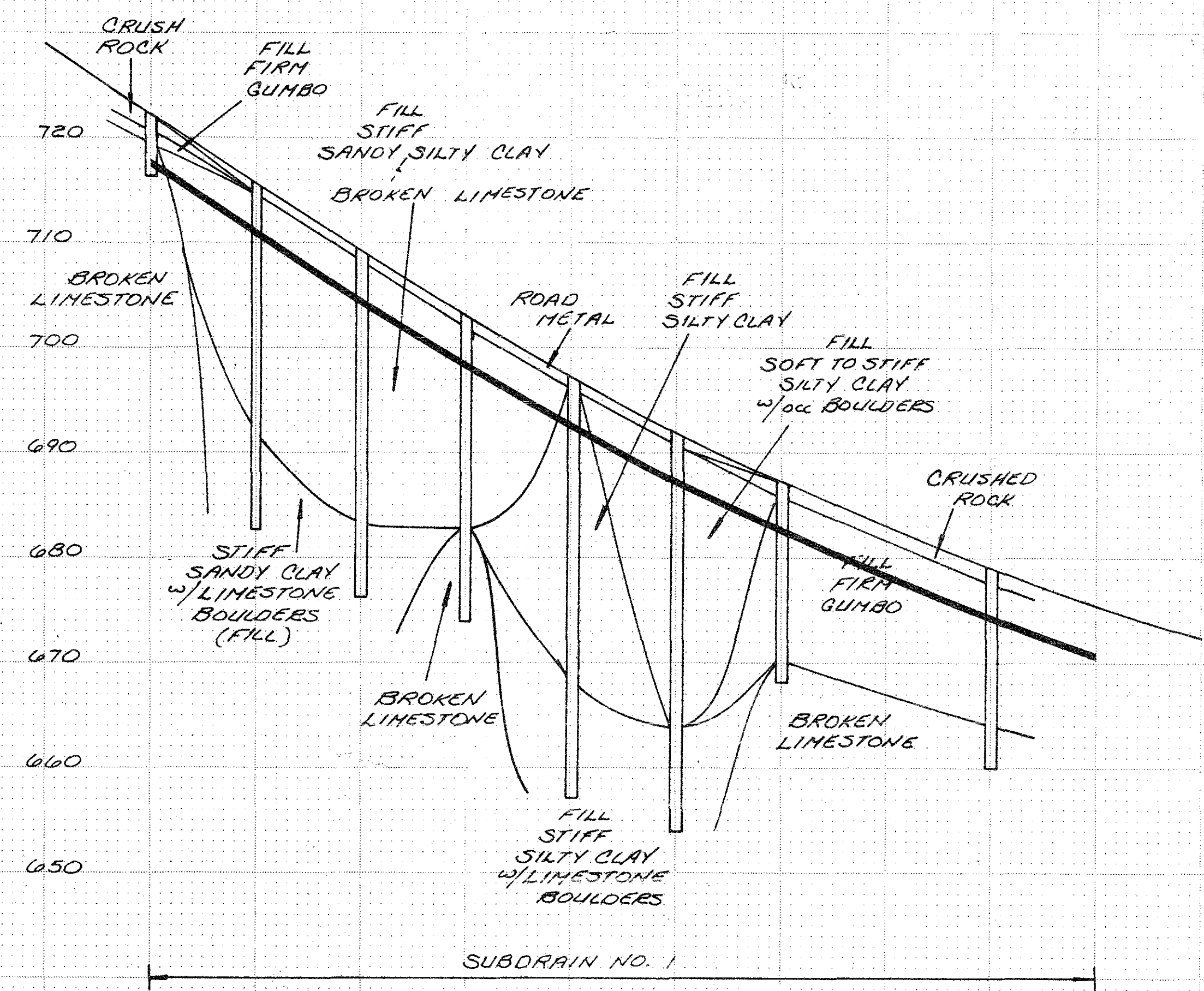
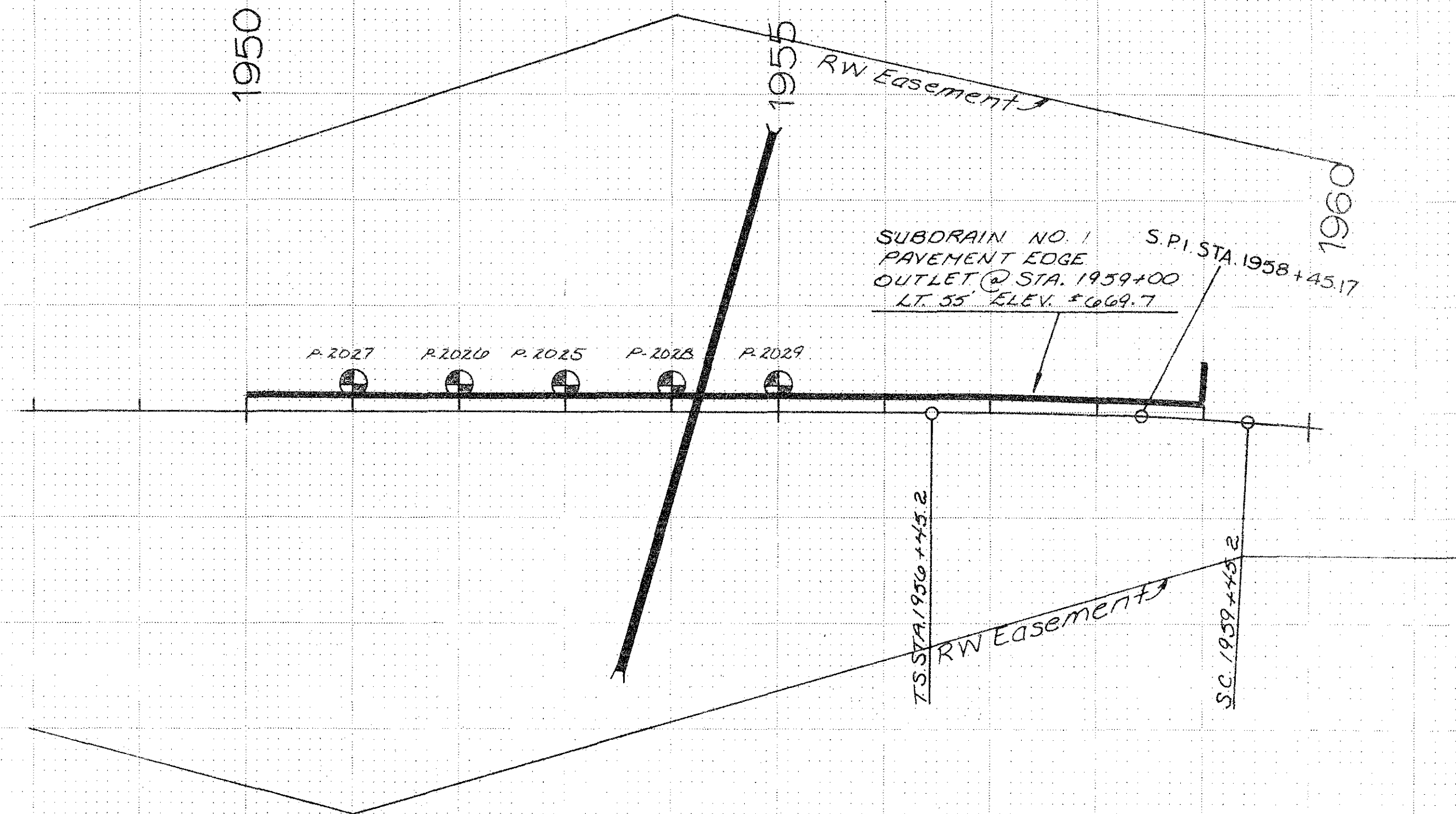
### DETAILS OF PAVEMENT EDGE SUBDRAIN

|           |          |      |
|-----------|----------|------|
| FINAL     | SURVEY   | DATE |
| SURVEY    | PLOTTED  | BY   |
| NOTE BOOK | TEMPLATE | NO.  |
| AREAS     | CHECKED  | DATE |

|           |          |      |
|-----------|----------|------|
| ORIGINAL  | SURVEY   | DATE |
| SURVEY    | PLOTTED  | BY   |
| NOTE BOOK | TEMPLATE | NO.  |
| AREAS     | CHECKED  | DATE |



BELLEVUE TWP  
T86N R4E  
SEC. 24



F-3727 P-2027 P-2020 P-2025 P-2028 P-2029 F-3728 F-3729  
RT 17 ALL LT 25 LT 17  
1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960

|                |                 |               |                  |
|----------------|-----------------|---------------|------------------|
| ROAD: IA 62    |                 | DATE: JAN '81 |                  |
| SOIL SURVEY    |                 |               |                  |
| BELLEVUE SLIDE |                 |               |                  |
|                | SILTY CLAY LOAM |               | GRAV. SANDY LOAM |
|                | SILTY CLAY      |               | GRAVELLY SAND    |
|                | SILTY LOAM      |               | GRAVELLY LOAM    |
|                | CLAY LOAM       |               | SANDY LOAM       |
|                | CLAY            |               | LOAMY SAND       |
|                | SILT            |               | LOAM             |
|                | WATER           |               | SAND             |

SOILS DESIGN

JACKSON

COUNTY

PROJECT NUMBER  
FN-62-1(8)--21-49

|       |                     |             |           |              |
|-------|---------------------|-------------|-----------|--------------|
| STATE | FED. ROAD DIST. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
| IOWA  | 5                   |             | 7         | 7            |

200A 96/12