

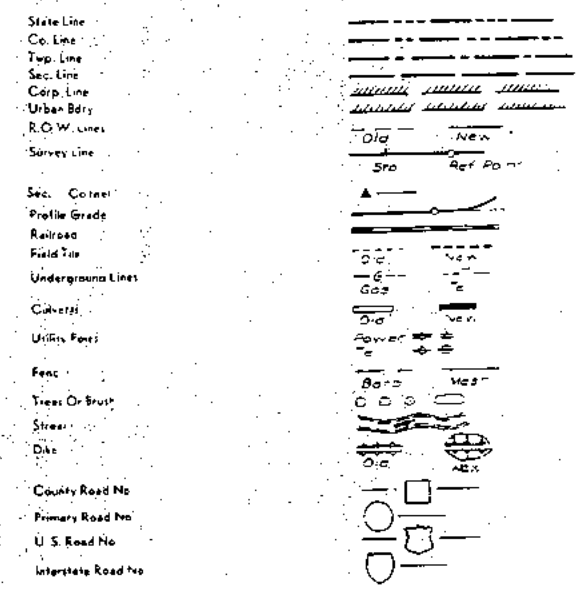
CRAWFORD COUNTY

PROJECT NO. BROS-9024(16)--5F-24
163'-10"X24'-0" PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE
(15° SKEW) Design Number 585

LETTING DATE JAN 15, 1986

STATE	MILEAGE	FISCAL YEAR	PLAN NO.	SHEET NO.
IOWA	1		1	5
PROJECT NUMBER				
BROS-9024(16)--5F-24				
FHWA NO. 129760				

CONVENTIONAL SIGNS



IOWA DEPARTMENT OF TRANSPORTATION Highway Division

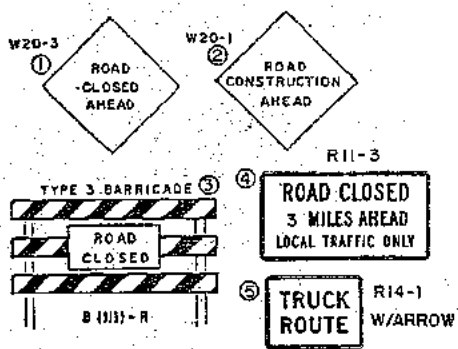
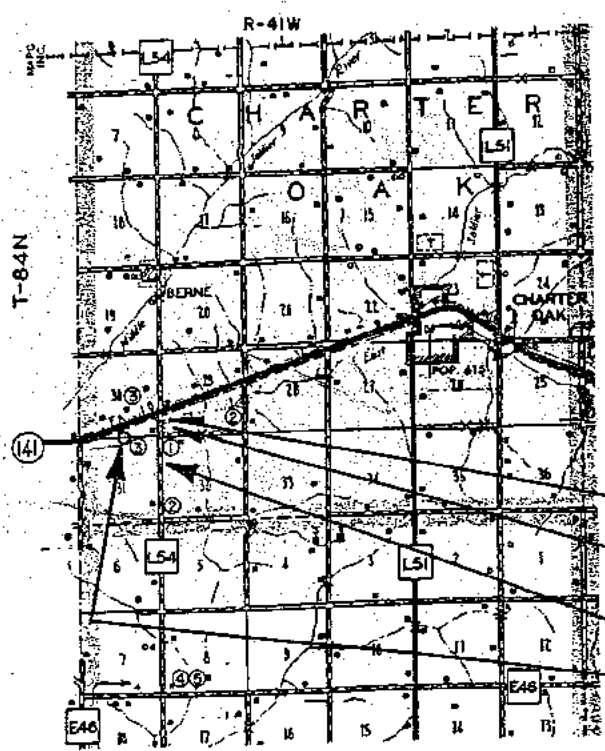
PLANS OF PROPOSED IMPROVEMENT ON THE
FARM TO MARKET SYSTEM
CRAWFORD COUNTY
PROJECT NO. BROS-9024(16)--5F-24
163'-10"X24'-0" Pretensioned Prestressed Concrete
Beam Bridge (15° skew)
with Approach Grading

THE STANDARD SPECIFICATIONS, SERIES OF 1984,
OF THE IOWA DEPARTMENT OF TRANSPORTATION,
SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT
PLUS CURRENT SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS

INDEX OF SHEETS	
NO.	DESCRIPTION
1	TITLE SHEET, INCLUDING CONVENTIONAL SIGNS, LOCATION MAP, MILEAGE SUMMARY, TRAFFIC CONTROL PLAN.
2	ESTIMATE OF QUANTITIES
3	PLAN AND PROFILE, TYPICAL CROSS SECTION
4	DESIGN FOR 163'-10"X24'-0" PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE (15° SKEW).
5	520-26 SIGNING FOR TEMPORARY ROAD CLOSURES IN RURAL AREAS.

MILEAGE SUMMARY			
DIV.	LOCATION	LN. FT.	MILES
	STA. 0+00 TO STA. 24+40.0	2,440.0	0.462
	DEDUCT FOR BRIDGE AT STA. 19+95.0	167.30	0.032
	TOTAL NET MILEAGE	2,272.7	0.430

SIGN TABULATION	
Type	Quantity
① W20-3	ONE
② W20-1	TWO
③ B(III)-R	FOUR
④ R11-3	ONE
⑤ R14-1	ONE



ALL ADVANCED MARKING SIGNS, TYPE III BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES FOR THIS PROJECT SHALL BE LOCATED AT THE BEGINNING AND END OF THE PROJECT, AND WHERE THE ROAD FOR CONSTRUCTION INTERSECTS OTHER PUBLIC ROADS AND SHALL INCLUDE ALL OTHER BARRICADES AND WARNING SIGNS NECESSARY TO PROTECT THE CONTRACTOR'S WORK AND EQUIPMENT, FOR THE PROVIDING FOR THE SAFETY OF THE TRAVELING PUBLIC. ALL SIGNS, BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", 1978.

THE LUMP SUM BID PRICE FOR TRAFFIC CONTROL SHALL INCLUDE THE FURNISHING, PLACING, MAINTENANCE AND REMOVAL BY THE CONTRACTOR.

THIS ROAD WILL BE CLOSED TO THROUGH TRAFFIC DURING CONSTRUCTION. LOCAL TRAFFIC TO ADJACENT PROPERTIES WILL BE MAINTAINED AS PROVIDED FOR IN ARTICLE 1107.08, 1984 STANDARD SPECIFICATIONS. TRAFFIC CONTROL DEVICES, PROCEDURES AND LAYOUTS SHALL BE AS PER PLAN SPECIFICATIONS FOR TRAFFIC CONTROLS FOR STREET AND HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS, SPECIFICATION 979.

NOTE: ANY INCONVENIENCE INCURRED BY THE ROAD CONTRACTOR DUE TO ARCHAEOLOGICAL WORK SHALL BE CONSIDERED INCIDENTAL TO CLASS "10" ROADWAY AND BORROW.

STA. 24+40.0 END OF PROJECT
STA. 19+95.0 @ 163'-10"X24'-0" Pretensioned Prestressed
Concrete Beam Bridge (15° skew) Design no. 585
STA. 0+00 BEGINNING OF PROJECT
Class "10" Roadway and Borrow (Borrow Area)

APPROVED

[Signature]

[Signature]

[Signature]

[Signature]

[Signature]

BOARD OF SUPERVISORS

STANDARD PLANS					
The following Standard Plans shall be considered applicable to construction work on this project.					
IDENT	DATE	IDENT	DATE	IDENT	DATE
RE-2A	11-5-85	RE-49	11-5-85	RE-52	11-5-85
RE-7	8-20-85	RE-47	8-20-85	RE-59	11-5-85
RE-12A	8-20-85	RE-48A	8-20-85		

THE FOLLOWING STANDARDS MAY BE OBTAINED AT BRIDGE DESIGN SERVICES AMES

H24-84	AUG. 84	H24-5-84	AUG. 84	H24-14-84	AUG. 84
H24-11-84	AUG. 84	H24-11-84	AUG. 84	H24-17-84	AUG. 84
H24-4-84	AUG. 84	H24-13-84	AUG. 84	P 10A (REV)	NOV. 84

IOWA DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

DISTRICT LOCAL SYSTEMS ENGINEER

DATE

DEPARTMENT OF TRANSPORTATION
IOWA
Highway Division

AUTHORIZED FOR LETTING

[Signature] 1-11-85

DEPUTY CHIEF ENGINEER

DATE

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.

[Signature] HAWK 8, 1985

IOWA REGISTRATION NUMBER 5798 DATE

U.S. DEPT. TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ENGINEER

DATE



TRAFFIC COUNT 1980 I.D.O.T. MAP-94 V.P.D.

129761

PROJECT NO. BROS-9024 (16)--5F-24 CHARTER OAK 29-30 STA. 19+95.0
OVER THE EAST SOLDIER RIVER DESIGN NO. 585

163'-10"X24'-0" PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE						
ITEM NO.	ITEM	ESTIMATE OF QUANTITIES				
		UNITS	ABUTMENTS	PIERS	SUPERSTRUCTURE	TOTAL
1	CONCRETE, STRUCTURAL	C.Y.	22.3	18.2	151.7	192.2
2	STEEL, REINFORCING	LBS.		2,400	45,696	48,096
3	BEAMS, PRETENSIONED	B-50 NO.			8	8
4	PRESTRESSED CONCRETE	B-59 NO.			4	4
5	RAIL, CONCRETE BARRIER	L.F.			361.9	361.9
6	PILING, STEEL BEARING HP 10 X 42	FURNISH 8 AT 65'	L.F.	520'		520
7		DRIVE 8 AT 65'	L.F.	520'		520
8	PILING, STEEL BEARING HP 12 X 53	FURNISH 12 AT 75'	L.F.		900	900
9		DRIVE 12 AT 75'	L.F.		900	900
10		ENCASE 12 AT 24'	L.F.		288	288
11	PREBORED HOLES - AS PER PLAN	L.F.	8418			8418
12	STEEL, STRUCTURAL	LBS.			2,531	2,531
13	GUARDRAIL, FORMED STEEL BEAM (CASE "M")	L.F.				125
14	GUARDRAIL, POSTS BEAM	NO.				26
15	GUARDRAIL, END ANCHORAGES BEAM (RE-52)	NO.				2
16	GUARDRAIL, BRIDGE CONNECTION (RE-49)	NO.				2
17	REVETMENT, CLASS "D" RIP RAP	TONS				1,088
18	EXCAV, CLASS "10" CHANNEL	C.Y.				828
19	EXCAV, CLASS "10" ROADWAY BORROW	C.Y.				6,563
20	EXCAV, CLASS "20"	C.Y.	134			134
21	CULVERT CORR. METAL ENTRANCE (18" DIA.)	L.F.				30
22	CULVERT CORR. METAL ENTRANCE (24" DIA.)	L.F.				136
23	REMOVAL OF EXISTING STRUCTURE	Lump Sum				LUMP SUM
24	TOPSOIL, STRIP, SALVAGE and SPREADING	C.Y.				389
25	CLEARING AND GRUBBING	% of Est.				\$ 555.00
26	MOBILIZATION	L.S.				LUMP SUM
27	TRAFFIC CONTROL	Lump Sum				LUMP SUM
28	TRIPLE YELLOW OBJECT MARKERS (OM2-3YV)	NO.				4
29	TYPE 3 OBJECT MARKERS (OM-3R&M-3L)	NO.				4
30	SURFACING, GRANULAR, CLASS C, ON ROAD	TONS				510

Not a Bid Item

Item Reference Notes:

(1) SUPERSTRUCTURE (151.7 CU. YDS.) TO BE CLASS "D" CONCRETE, PAVING BLOCKS (0.9 CU. YD.) MAY BE CLASS "C", ABUTMENTS (22.3 CU. YDS.) AND PIERS (18.2 CU. YDS.) TO BE CLASS "C" CONCRETE.

(14) 6-10" X 10" POSTS WITH SPACERS, 16-8" X 8" POSTS WITH SPACERS, 4-8" X 8" POSTS. LENGTH - 6'-0" MINIMUM

(17) FURNISHING & PLACING 1,800 sq. yds. OF ENGINEERING FABRIC, SHALL BE CONSIDERED INCIDENTAL TO REVETMENT CLASS "D" RIP RAP.

(19) TYPE "A" COMPACTION REQUIRED, NO OVERHAUL ALLOWED.

(21)(22) 16 GAGE, RIVETED PIPE ONLY, 2" BANDS REQUIRED.

(24) ON ALL BORROW BEYOND 45' RIGHT OF WAY, SALVAGE 8" OF TOPSOIL, AND RESPREAD AFTER GRADING IS COMPLETED.

(30) GRAVEL SHALL MEET THE REQUIREMENTS OF CLASS C GRAVEL IN ACCORDANCE WITH ARTICLE 4120.03. SHALL INCLUDE THE COST OF THE SPREADING OF GRAVEL ON ROAD SURFACE.

NOTE: IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE WASTE AREAS OR DISPOSAL SITES FOR EXCESS MATERIAL WHICH IS NOT DESIRABLE TO BE INCORPORATED IN THE WORK INVOLVED ON THIS PROJECT. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES.

CROSS SECTIONS FOR THESE PROJECTS ARE AVAILABLE AT THE COUNTY ENGINEER'S OFFICE.

CHARTER OAK TOWNSHIP
T-84N (SEC. 30) R-41W

Hydraulic Data
 D.A. = 62.1 Sq. Mi.
 Design Discharge $Q_{50} = 8,472$ c.f.s.
 Design Highwater = 1182.0
 10-85% Slope = 10.65 ft/mi.
 Slope = 6.60 ft/mi.
 Bridge Waterway Area = 1,445 sq. ft.
 Design Velocity = 6.55 ft.p.s.
 $Q_{50} = 8,472$ c.f.s. Stage = 1182.0
 $Q_{100} = 10,233$ c.f.s. Stage = 1183.9
 $Q_{500} = 15,419$ c.f.s. Stage = 1188.2
 Extreme H. Water = 10,300 c.f.s. Stage = 1184.0

Beginning of Project
Sta. 0+00

End of Project
Sta. 24+40

STA. 9+40 FIELD ENT. LT. (18" X 20" C.M.P.)
 Contn. to remove, furnish & place 24" X 34" C.M.P., 20' Top, Slope to ends of pipe.

STA. 11+66 FARM ENT. LT. (24" X 30" C.M.P.)
 Contn. to remove, furnish & place 24" X 42" C.M.P., 26' Top, Slope to ends of pipe.

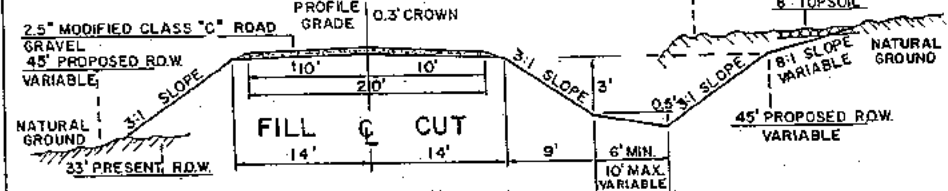
STA. 23+00 FIELD ENT. LT. (DRY)
 Contn. to remove, furnish & place 18" X 30" C.M.P., 20' Top, Slope to ends of pipe.

STA. 21+86 FIELD RT. (DRY)
 Contn. to remove, furnish & place 24" X 30" C.M.P., 20' Top, Slope to ends of pipe.

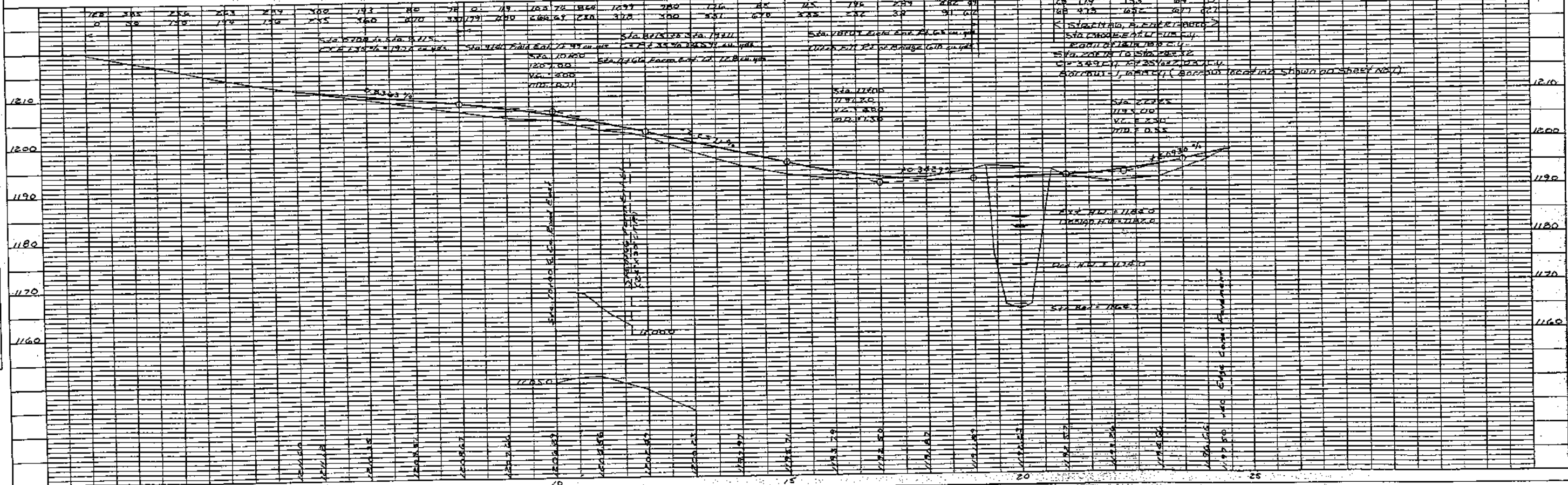
STA. 18+09 FIELD ENT. RT. (24" X 12" C.M.P.)
 Contn. to remove, furnish & place 24" X 30" C.M.P., 20' Top, Slope to ends of pipe.

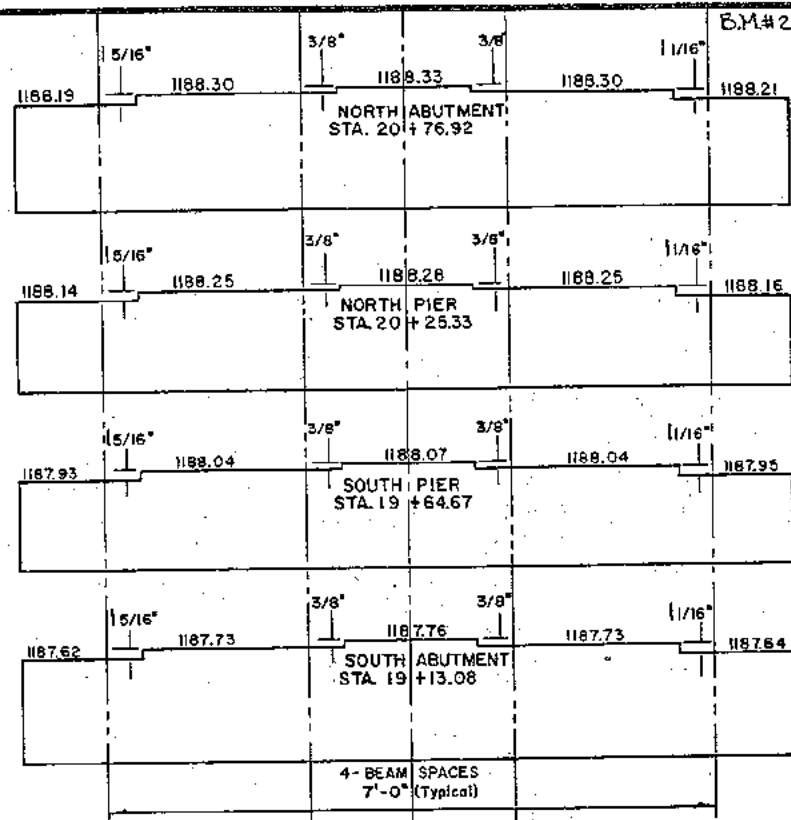
Sta. 19+90 275' X 20' Pony Truss Bridge, with a 28' X 20' X 25' X 20' I-Beam Approaches, also one cast in place pile, at of Bridge. Wood floor, wood piling, steel caps. Contn. to remove. The Pony Truss Bridge is to be removed for re-erection & remain property of Crawford Co. match mark, as directed by Co. Engineer. The I-Beams & planks are to be salvaged & remain the property of Crawford Co. The remainder of Bridge to be junked & disposed of by Contn. with the approval of Co. Engineer. The Pony Truss Bridge, salvaged I-Beams, & planks, shall be stock piled neatly within 300' of site, & loaded by Contn. on Co. Trucks of County's convenience, as directed by Co. Engineer. At Sta. 19+95.0 Construct a 162' X 24'-0" (15' Stew) Prestressed Concrete Beam Bridge.

TYPICAL CROSS SECTION

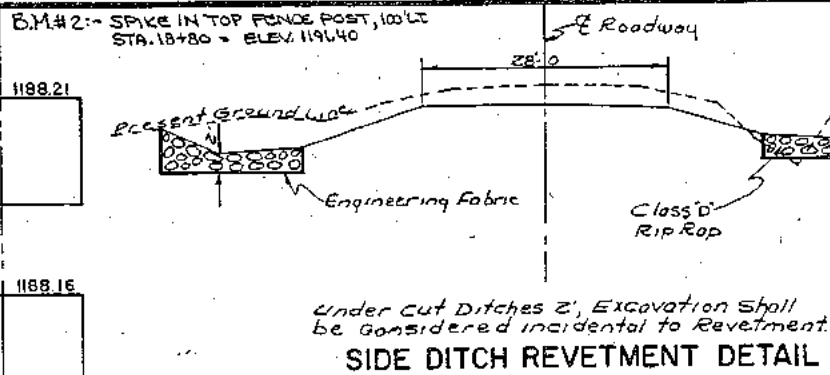


SEC. 29
 BM #1 SPIKE IN CORNER POST 33' RT. STA. 9+73 ELEV. = 1205.76
 BM #2 SPIKE IN TOP FENCE POST 100' LT. STA. 18+80 ELEV. = 1191.40
 BM #3 SPIKE IN POWER POLE 41' RT. STA. 24+19 ELEV. = 1196.63





ABUTMENT & PIER STEP DETAIL

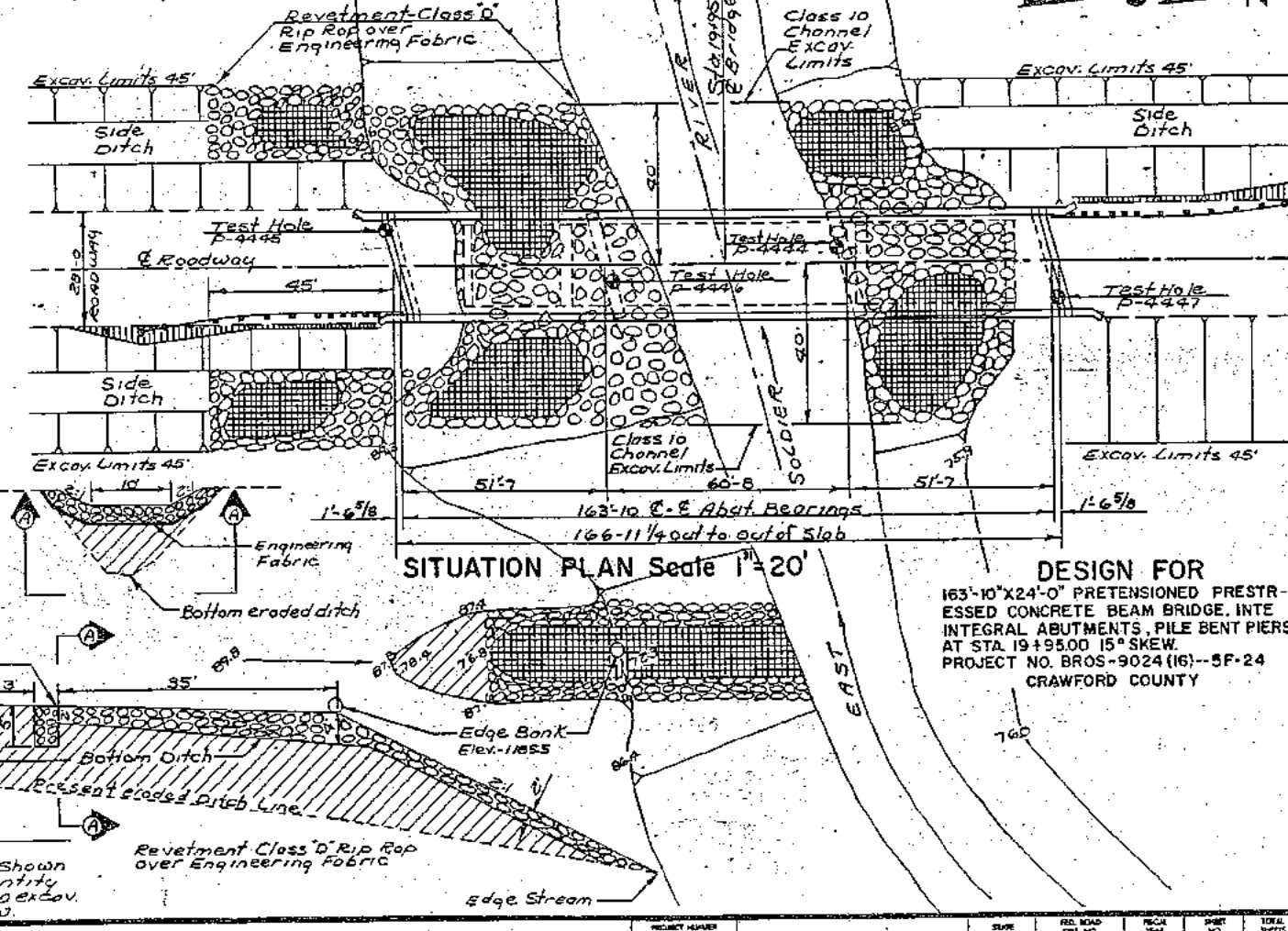
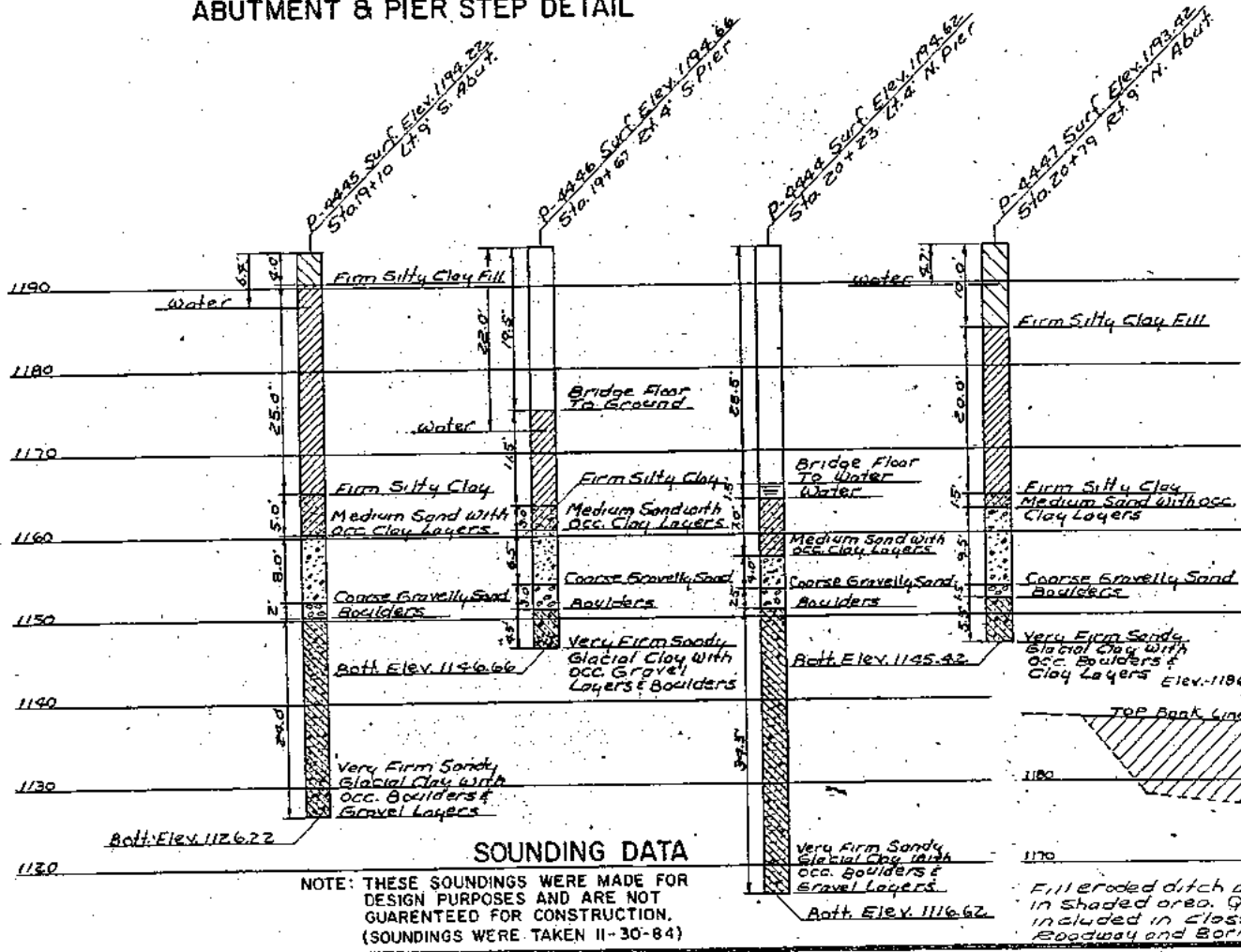
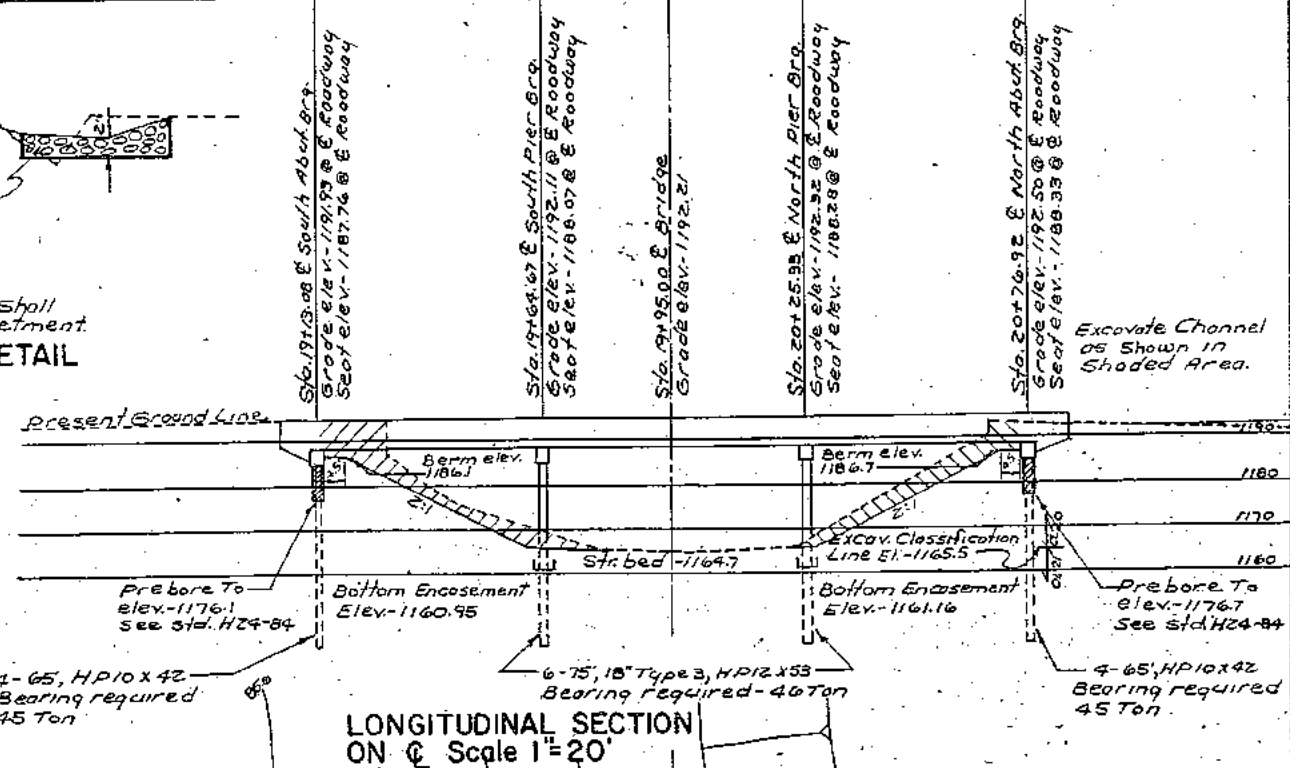


Shaping of slopes to a smooth grade to place Engineering fabric & Rip Rap, shall be considered incidental to Class 10 channel excavation.

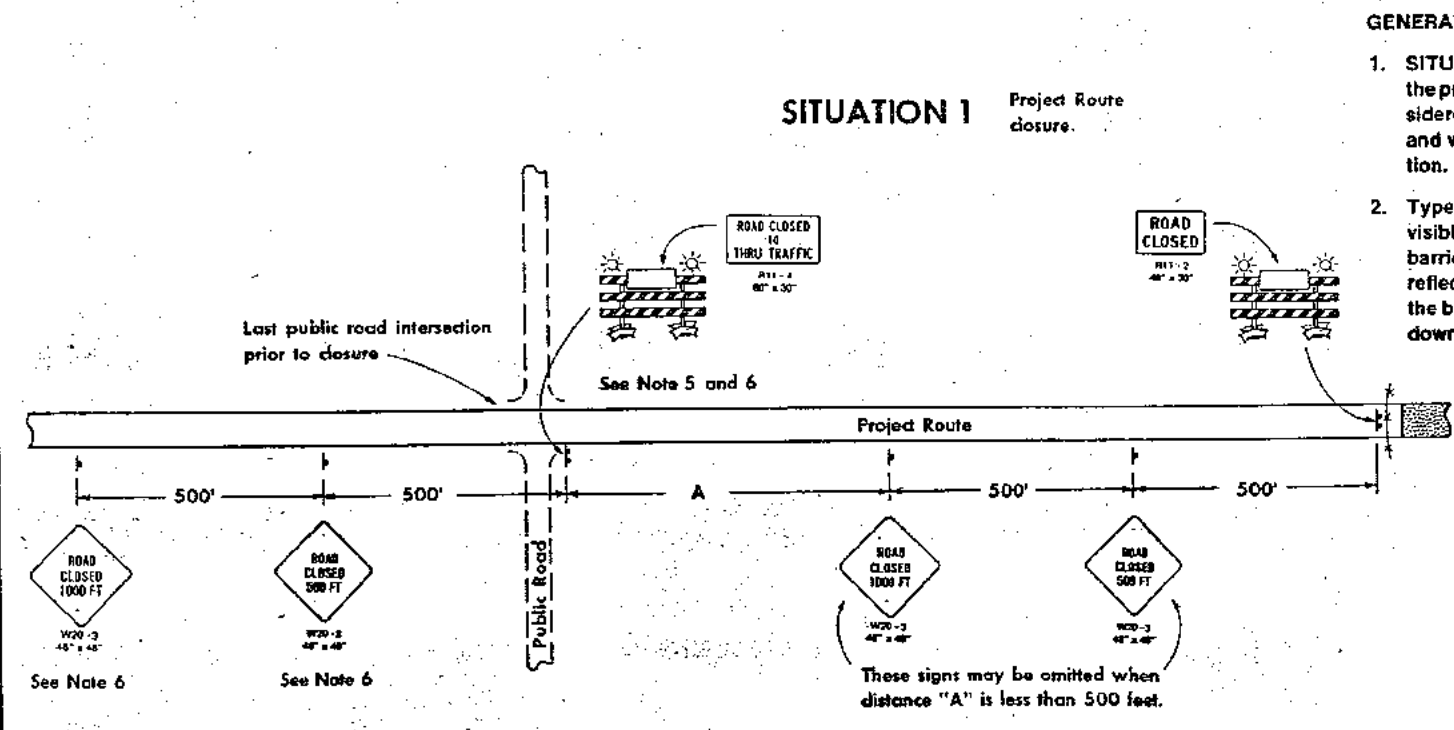
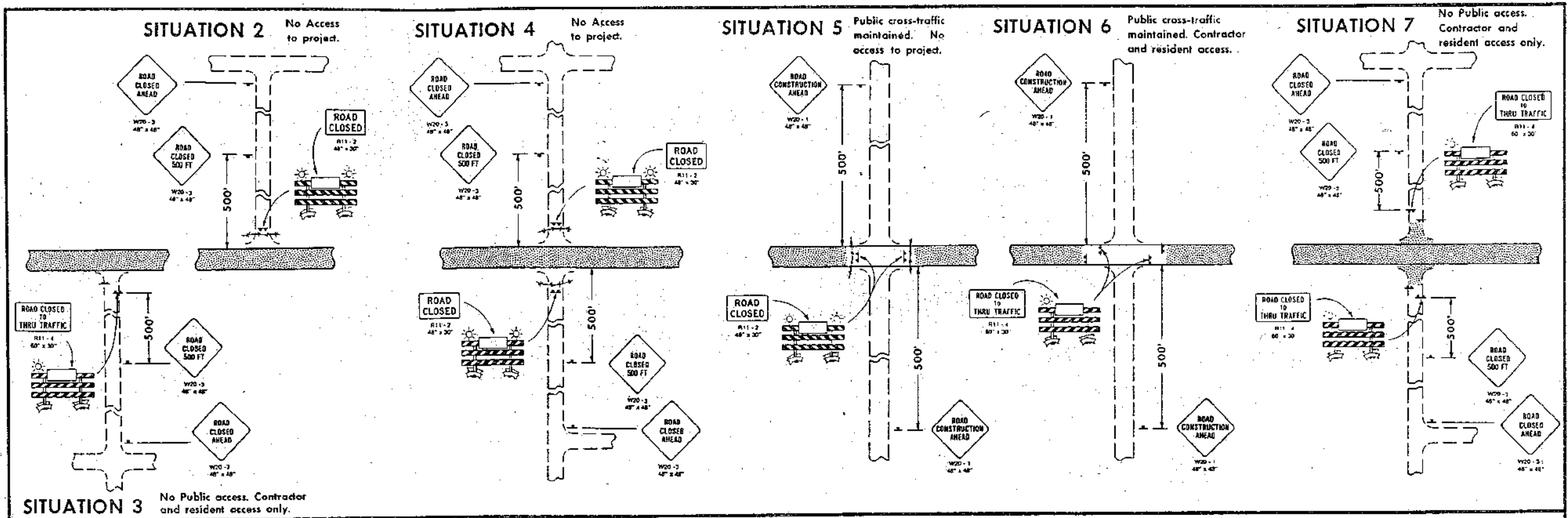
Furnishing & Placing of 1,800 Sq. Yds. of Engineering Fabric shall be considered incidental to revetment.

Engineering Fabric shall meet the requirements of 9196.01, paragraph C.

CONTRACTOR MAY PLACE UP TO 200 CUBIC YARDS OF FILL MATERIAL BELOW ELEVATION 1165.4 IN ORDER TO CONSTRUCT A TEMPORARY STREAM CROSSING AND/OR ACCOMPLISH OTHER WORK NECESSARY TO COMPLETE CONSTRUCTION. ADDITIONAL FILL MATERIAL MAY BE PLACED ABOVE ELEVATION 1165.4 AS NECESSARY TO COMPLETE THE WORK.



NO.	DATE	BY	CHKD.	APP'D.	TOTAL SHEETS
1					5
2					4



GENERAL NOTES

- SITUATION 1 illustrates traffic control necessary to close the project route. SITUATIONS 2 through 7 are for signing of sideroads based on existing agreements and field conditions and will be selected by the engineer in charge of construction.
- Type "A" Low intensity Flashing Warning Lights shall be visible to both directions of traffic. The back side of the barricade shall be reflectorized by a minimum of six yellow reflectors, one at each end of each rail, or at least one rail on the barricade will show reflectorized stripes properly sloped down toward the traffic side.
- All "Stop" and other regulatory signs on the sideroads are not to be disturbed. If a "Stop" or other regulatory sign must be removed, it will be relocated by the Contracting Authority.
- This layout does not include all barricades as may be required by Section 2518 of the Standard Specifications.
- In Situation 1, when distance "A" is less than 500 feet the barricade should be placed in the middle of the traffic lane approaching the work area. In this case, Note 2 shall apply. The barricade may be omitted if the distance to the work area is less than 400 feet.
- In Situation 1, if the intersection is the point of detour these two signs and barricade will become the responsibility of the contracting authority and may be modified by the contracting authority to fit detour signing.

LEGEND

- Traffic Sign
- Type III Barricade (Type "A" Low Intensity Flashing Warning Light Required for Nighttime Use)
- Type "A" Low Intensity Flashing Warning Light
- Work Area
- Slat Fence Barricade or Orange Plastic Safety Fence

DETAIL SHEET	520-26
Revision Date 1-23-85	
SIGNING FOR TEMPORARY ROAD CLOSURES IN RURAL AREAS (PROJECT ROUTE CLOSED TO TRAFFIC)	