

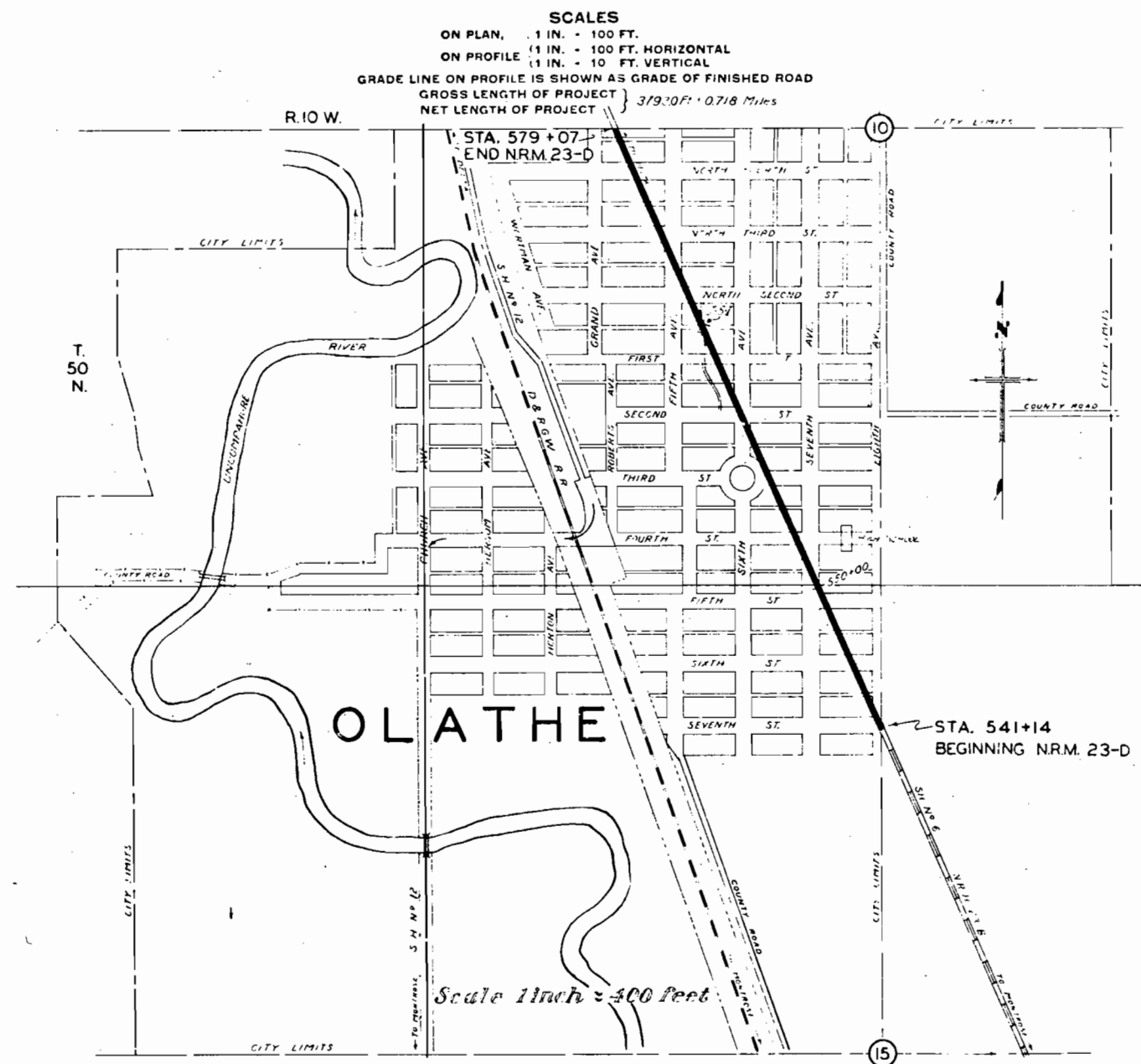
INDEX OF SHEETS

- Sheet No. 1 Sketch Map and Title Sheet
 " 2 Typical Cross Section of Improvement and Summary of Quantities
 " 3 Details of Bridge at Sta. 546+0
 " 4 Chain Link Wire Mesh Fence M-20-F
 " 5 Wire Post and Rail Fence M-20-F
 " 6 Details of Division and Measuring Boxes
 7&8 Plan and Profile
 9&10 Cross Sections

COLORADO STATE HIGHWAY DEPARTMENT PLAN AND PROFILE OF PROPOSED U. S. P. W. PROJECT NR.M. 23-D STATE HIGHWAY NO. 6 MONTROSE COUNTY

CONVENTIONAL SIGNS

CENTER LINE OF HIGHWAY _____
 RIGHT OF WAY LINE _____
 TOWNSHIP LINE _____
 COUNTY LINE _____
 SECTION LINE _____
 ONE QUARTER SECTION LINE _____
 BARBED WIRE FENCE _____
 WIRE CABLE GUARD FENCE _____
 RAILROADS _____
 POLE LINES _____



RECOMMENDED FOR APPROVAL 3/10/34

Edith L. Loney
 ASSISTANT ENGINEER

APPROVED
Chas. D. Vail
 STATE HIGHWAY ENGINEER

RECOMMENDED FOR APPROVAL

DIST. ENG. BUREAU PUBLIC ROADS

RECOMMENDED FOR APPROVAL

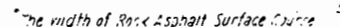
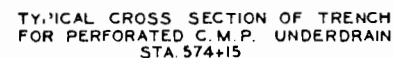
CHIEF ENG. BUREAU PUBLIC ROADS

APPROVED

DIRECTOR BUREAU PUBLIC ROADS

FED ROAD DIST NO	STATE	US PW REF NO	SHEET NO	TOTAL SHEET
	COLO	NRM 210	2	1

Rev 5/28/64
 Rev 6/2/64
 Rev 6/14/64
 Rev 6/24/64
 Rev 7/15/64
 For different roadway widths



or: Large Aggregate Type Road Mix 11.75% to 12.5% wts:

5.75" to 1.18" 10	5.75" to 1.18" 20	10" to 4.75" 20
" 564.00 10	" 565.00	" 2.0" to 1.18" tapered
" 565.00	" 568.00	" 30" to 1.18"
" 568.00	" 569.00	" 30" to 2.0" tapered
" 569.00	" 579.07	" 20" to 1.18"

* Wherever the Surface Course is wider than 20 feet, the typical section is to be modified correspondingly. The shoulder surfacing and ditches are to be of uniform width throughout the project.

Thickness of Shoulder Surfacing is to be considered approximate only.
Shoulder Surfacing is to be placed at the rate of 8.00 cu. yds per 100' of roadway.

*Note: An Alternate for the thickness of Rock
 Facial Surface. Birds will be received for a thickness
 of 1/4" (1/2" for the top of the face). The thickness
 of the stone will be 1/4" (1/2" for the top of the face).
 Approximately 2 gallons of P.C.3 Application Material
 will be required for the alternate.

The encasement of approximately 2900 cu yds between Sta 501 and Sta 503 is to be constructed of selected material which may be obtained from a pit 100 ft deep from Sta. 503 on USPW Project NRM 22-3. The selected material is to be paid for by the Contractor and the cost purchase price is to be added to the contract unit price bid for "encasement structure".

In addition to the above it is estimated that 1200 Cu.Yd. of Selected Material will be required for subgrade improvement between Stas 541+4 and 572+35. This material is estimated to be available in the above described pit. This material is to be paid for by the Contractor and the purchase price is to be included in the price bid per cubic yard for Unclass. Excavation. Estimated quantities involved are as follows:

Grass Excav.	1200	Cu Yd
Sta Yd. Overhaul	15600	Sta Yd
Yd. M.	1100	Yd. M.

SUMMARY OF APPROXIMATE QUANTITIES

This material is constructed in conformity with the Standard Specifications of the Bureau of the Army Department adopted January 1, 1930.

All quantities are preliminary and are to be considered approximate only.

At a way excavation required to construct the project is to be obtained as indicated on the plans. Quantities involved beyond the limits of the ditch as shown on the typical Section, either noted on the Profile as below or on Tabulation of Structures, as "improvement" are to be classified and paid for as Unclassified Excavation.

These quantities are to be staked as part of the original excavation at locations indicated on the plans. Slope stakes, beyond the limits of the typical Section as shown are subject to change by the Engineer to fit Eminentment requirements actually met in construction.

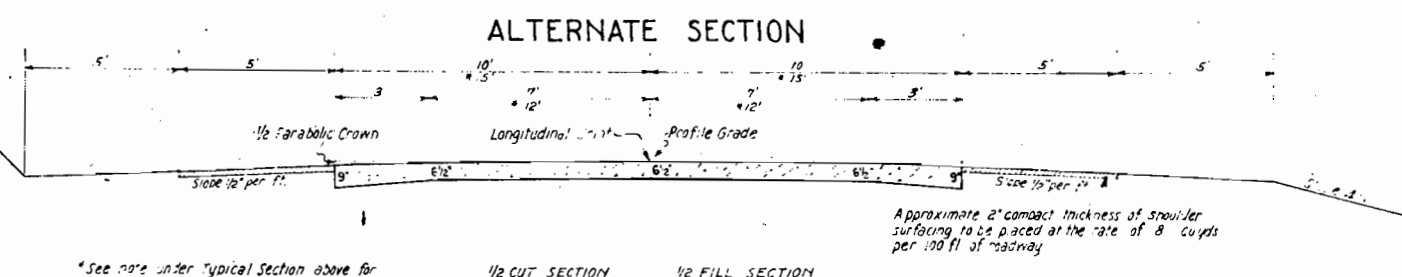
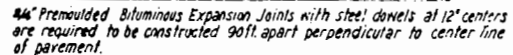
Except as noted by the Special Provisions, power equipment may be used on this project.

It appears on the project where the new work has been the "new" has not, the contractor says, "the over expense" of the construction in such a manner "the traffic is really" paid over the road. Also, "the Contractor" will maintain in safe condition and at his own expense. All items clearly mentioned.

All prices increasing on the construction are to be moved by the owners.

[illegible]

*Structural Excavation is estimated to be 90% Common and 10% Rocky, of which is estimated to be 25% Wet and 75% Dry.

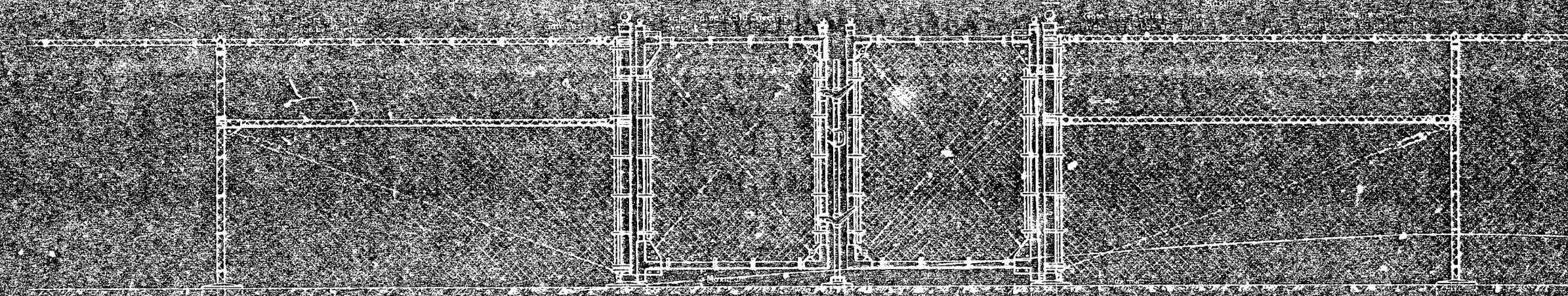


Approximate 2" compact thickness of shoulder surfacing to be placed at the rate of 8 cu yds per 100 ft of roadway

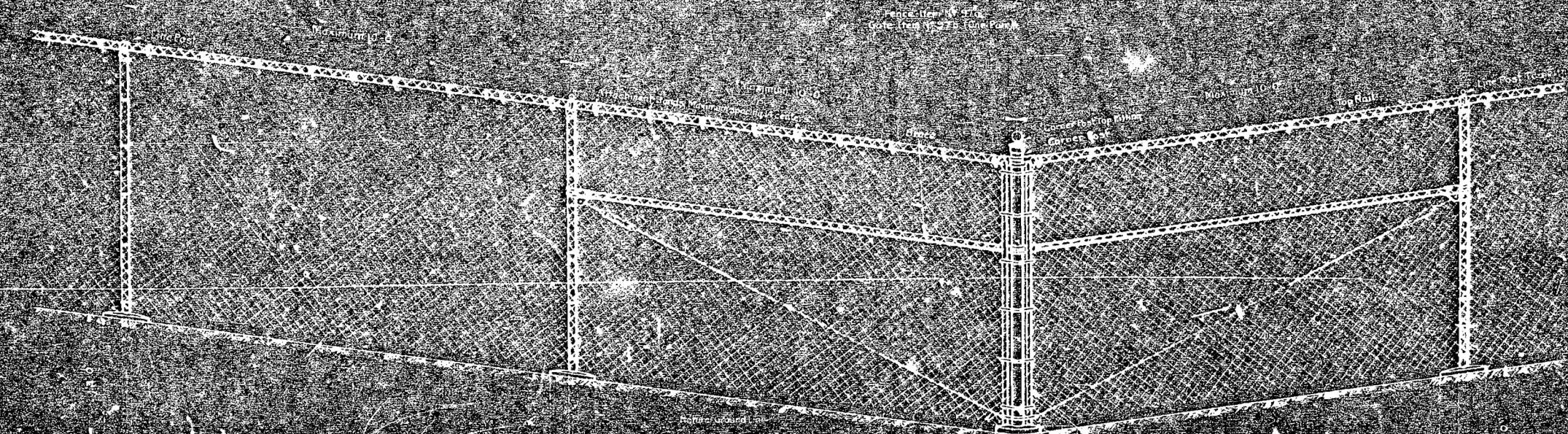
* See note under Typical Section above for pavement widths

1/2 CUT SECTION 1/2 FILL SECTION

A-1	Description	Unit	Quantities			Totals
			ROADWAY		SIDEWALK	
			20' WIDE	30' WIDE		
110	Gravelly Sand Subgrade	Sq Yd	0	131		0
120	Uncompacted Gravel	Sq Yds	8000	2000		10000
140	Dry Pack Filling (1/2" x 1/4")	"	15	5		20
140	Common	"	105	5	60	170
140	Wet Rock	"	5	5		10
140	Common	"	35	5		40
150	Station Kards Overhaul	Sq Yds	81000	4000		85000
150	Hard Miles	Sq Yd	5700	200		5,900
300	Crusher Run Base Course	Tons	3120	430	60	3,610
310	Shoulder Surfacing	Sq Yd	260	40		310
340	Rock Asphalt Surface Course	Sq Yd	7200	1550	150	8,900
420	Treated Bridge Timber	MBM			36.8	36.8
460	Class A Concrete	Cu Yds				
47	Reinforcing Steel	Lbs				
48	Corrugated Metal Culk Pipe	Lt Ft	16			16
48	"	"	500	162		662
510	24"	"	60			60
560	18" Perforated CMP Underdrain	"	60			60
610	Treated Timber Piling	"			1232	1232
610	Metal Die Shoes	Each			88	88
700	Project Marker	"	1			1
910	3" x 3" x 1/4" Wire Mesh Fence	Lt Ft	350			350
910	Double Driveway Gate	Lt Ft	1			1
1010	Soiling Poles for Filing	Lt Ft			704	704
120	Surviving Fence	Lt Ft	300	600		900
120	Wire Cable Guard Fence	"	40			40
140	Wet & Concrete Untreated Timber in Plank	"		0.20		0.20
Alternate Plan to Provide Coarse Aggregate Type Road Mix On Surface, 2" Compacted Thickness, in Lieu of 110' Compacted Thickness Rock Asphalt Surface Course - The following items are to be bid upon in lieu of Item Nos 300 and 340 in the foregoing list:						
310	Coarse Aggregate Type Road Mix					
	On Surface	Sq Yd	7200	1550	150	8,900
300	Crusher Run Base Course	Ton	2660	400	60	3,320



ELEVATION OF SWING GATE AND CHAIN LINK FENCE



ELEVATION OF CORNER POST AND CHAIN LINK FENCE

GENERAL NOTES

1. All work shall be done in accordance with the Standard Specifications for the Construction of Highway Structures, published by the Colorado State Highway Department, 1947 Edition.
2. Gate structure shall be constructed of steel pipe and chain link fence.
3. Chain link fence shall be constructed of galvanized steel pipe and chain link fence.
4. All fence posts shall be set in concrete and shall be spaced at 10 foot intervals.
5. All fence rails shall be set in concrete and shall be spaced at 4 foot intervals.
6. All fence structure shall be painted with a heavy coat of red lead paint.
7. All fence structure shall be maintained in good condition at all times.

ORIGINAL BY: []
CHECKED BY: []
WANDY BY: []
CHECKED BY: []

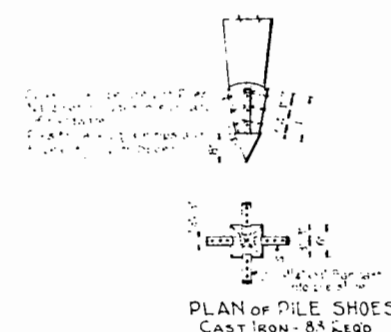
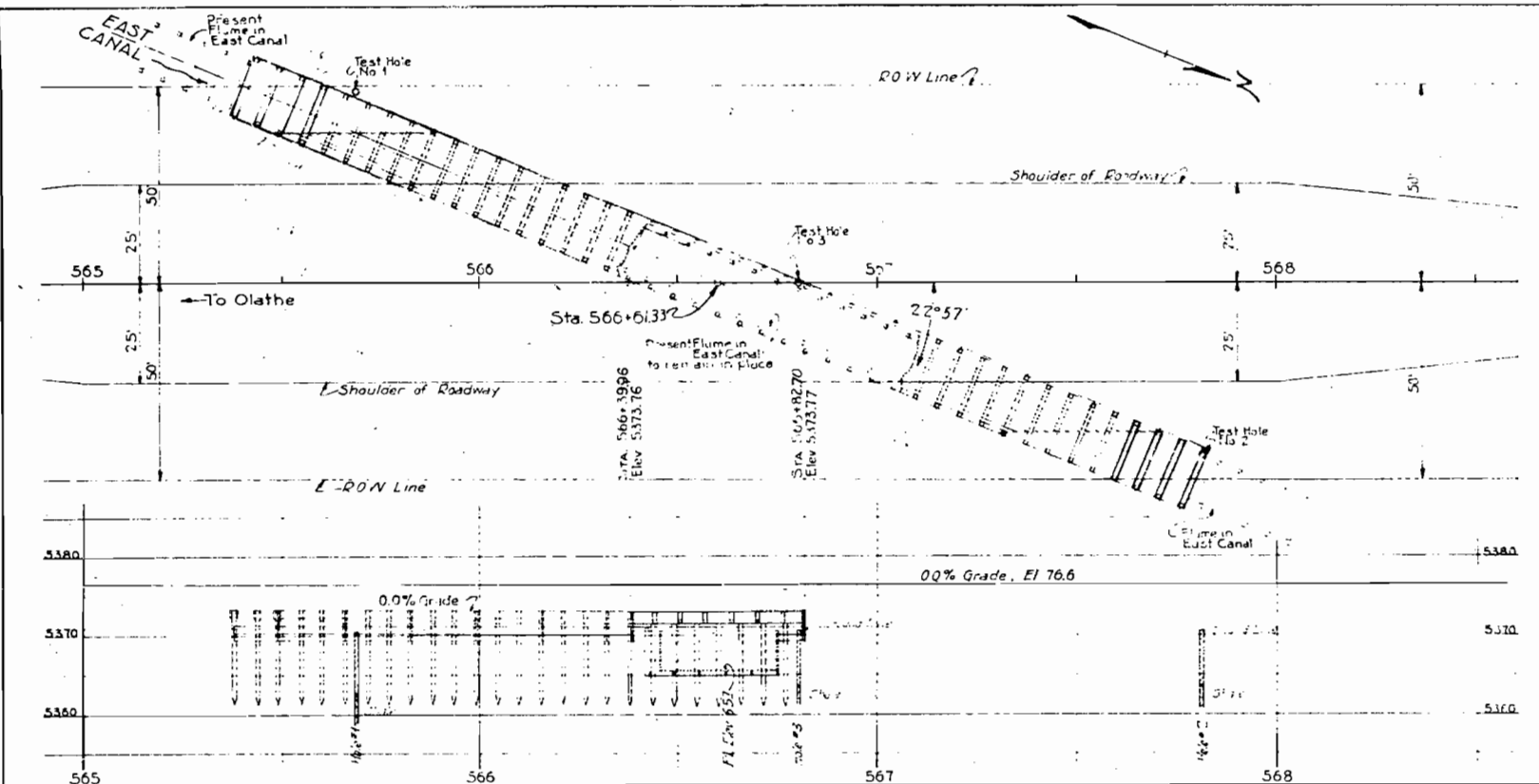
COLORADO
STATE HIGHWAY DEPARTMENT

CHAIN LINK
SCHOOL FENCE

Designed by A.G.W. Approved by J.D.B.
Made by A.G.W. Bridge Engineer
Checked by J.D.B. 11/1/50

Revised Layout and Quantities as Constructed 5-23-85.

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
COLORADO	NRM 23-D	5	
REVISED 5-23-85 TGC			
REV 8-23-84 TGC			



MATERIAL REQUIRED FOR CULVERT				
ITEM NO.	DESCRIPTION	DIMENSIONS	NO. REQ.	AMOUNT
1	Treated 2x12 Floor Plank	12' x 20' x 16' 0"	32	10240 Bkft
2	Caps	12' x 20' x 16' 0"	2	576
3	Caps	12' x 20' x 16' 0"	2	576
4	Top Ties	1/2" x 20' x 16' 0"	12	384
5	Top Ties	1/2" x 20' x 16' 0"	12	384
6	Side Planks	4' x 12' x 18' 0"	96	7368
7	Side Planks	4' x 12' x 18' 0"	12	976
8	Curbs	4' x 4' x 12' 0"	6	112
9	Floor Planks	4' x 12' x 18' 0"	90	13680
10	Floor Battens	4' x 12' x 18' 0"	280	1156
				34,356 Bkft
11	Treated 2x12 Floor Plank	12' 0" Long	88	1232 Lin Ft
12	2x12 Pile Shoes		88	88 Pcs
13	Bottom 2x12 Floor Plank	6' Deep	88	5582 Lin Ft
14 Dry Common Structural Excavation				51.7 Cu Yds

SUMMARY OF HARDWARE					
LOCATION	ITEM	SIZE	NO.	LENGTH	TOTAL WEIGHT
Ground Line to Top	• Bolt	3/4"	40	30'	176 Lbs
Top of Pile to Pile	• Bolt	3/4"	40	30'	176 Lbs
Bottom of Pile to Pile	• Bolt	3/4"	40	30'	176 Lbs
	• Nut		40		78 Lbs
	• Washer		40		78 Lbs
TOTAL					305 Lbs

* All bolts and drift bolts shall be hot galvanized.
* Item 42-b include all hardware and nails estimated in these tables.

NAILS		
LOCATION	SIZE	NO.
Side Plank	16d	100
Floor Plank	16d	150
Top Tie	16d	80
Bottom Tie	16d	7
TOTAL		237

NAILING DIRECTIONS
Floor Plank: 16d nails in Top Tie, two 16d nails per plank per stringer or tie.
Side Plank to Pile: two 16d nails per plank per pile or stringer.
Top Tie to Pile: two 16d nails per tie per pile and bolts as called for on plan.
Floor Battens to Floor Plank: nine 16d nails per 12' 0" long batten, two nails per end and nails between staggered at about 24".

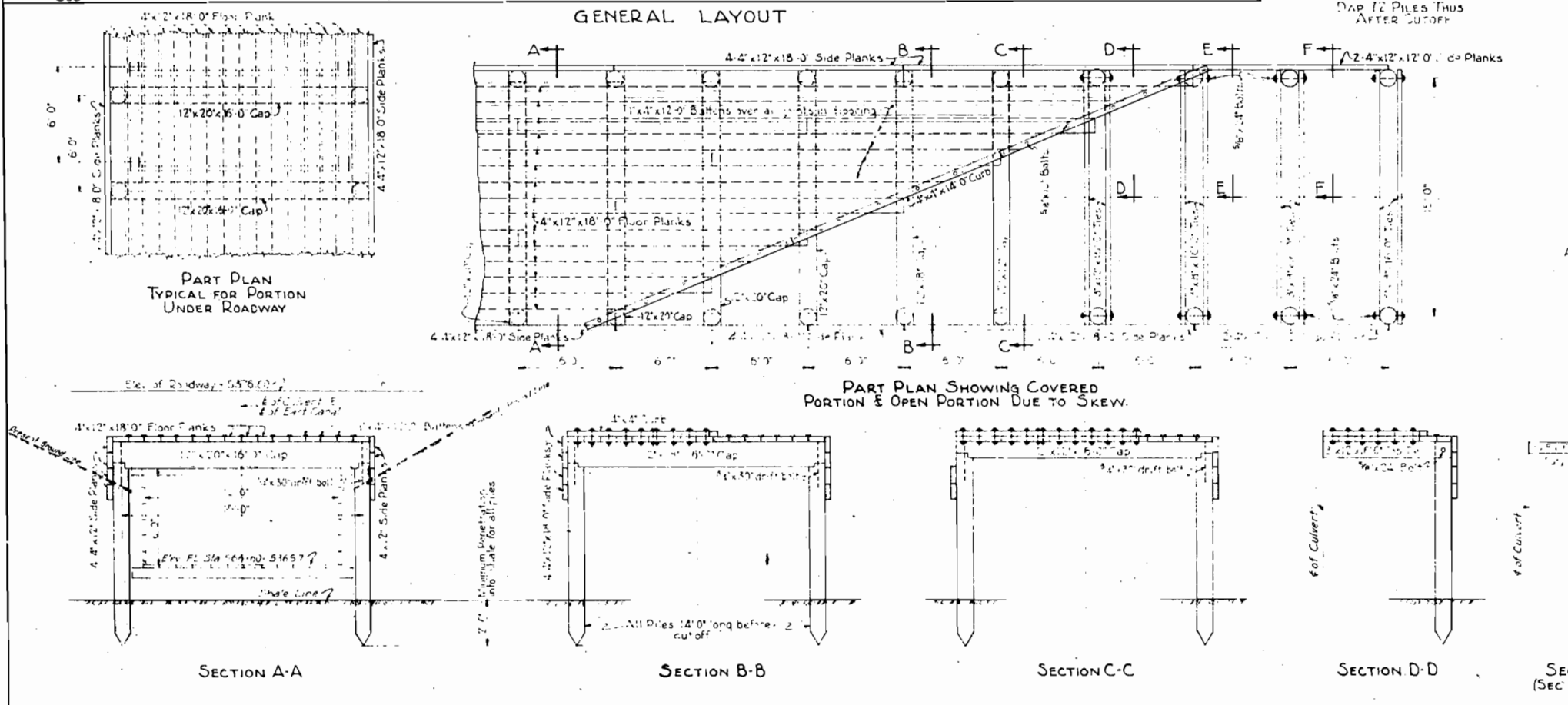
GENERAL NOTES
All work shall be done according to the Standard Specifications of the Colorado State Highway Department adopted Jan. 1, 1930.
All Piles & Timber shall be dense softwood, Yellow Pine or West Coast Douglas Fir, except flooring which shall be dense softwood, West Coast Douglas Fir or equivalent.
All timber shall be full sawn and treated.
All holes in dimension timber for drift bolts to be bored 1/4" before treatment.
All cut surfaces or bored holes in dimensioned timber or piles shall be thoroughly saturated with hot creosote oil.
All bolts and drift bolts shall be hot galvanized.
All bolts to have standard 110° washers under each head and nut.
Field for location of pile bents, so they will not be opposite vertical shifts of present East Canal Flume which is to remain in place.
Bent notes for piles shall be done with augers or other means in such a way that the hole, when first bored, allows the piling to stand accurately in the position indicated on the plans. The diameter of the bored hole shall not be larger than the tip diameter of the pile to be driven.
In constructing this bridge it is the object to build around the present flume, keeping the old structure intact. The contractor shall use extreme care not to injure, in any way, the present East Canal Flume, and to maintain a continuous flow of water thru the flume at all times. All scrap and cut-offs from timber or piling shall be kept out of the canal.

COLORADO
STATE HIGHWAY DEPARTMENT
DETAILS FOR SPECIAL
TIMBER BRIDGE
22° 45' Skew

Across East Canal
Sta. 566+60
Near Olathe Sec. 15 T. 50N. R. 10W.

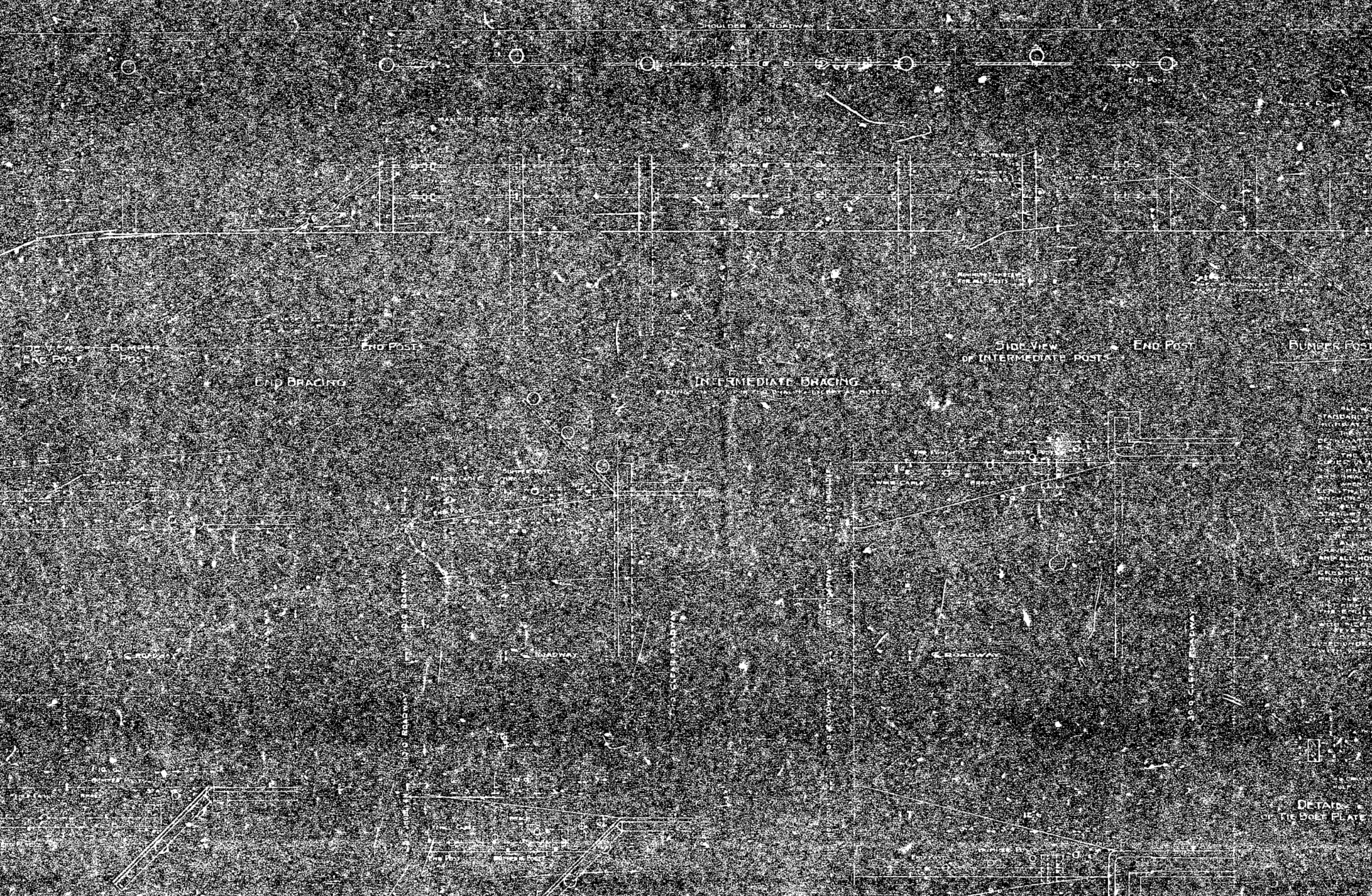
Designed by RMA
Made by TGC
Checked by TGC

Approved by R. D. Bailey
Bridge Engineer
Date: March 10, 1934



STANDARD WIRE CABLE GUARD FENCE WITH TIMBER POSTS

Item M-20 F



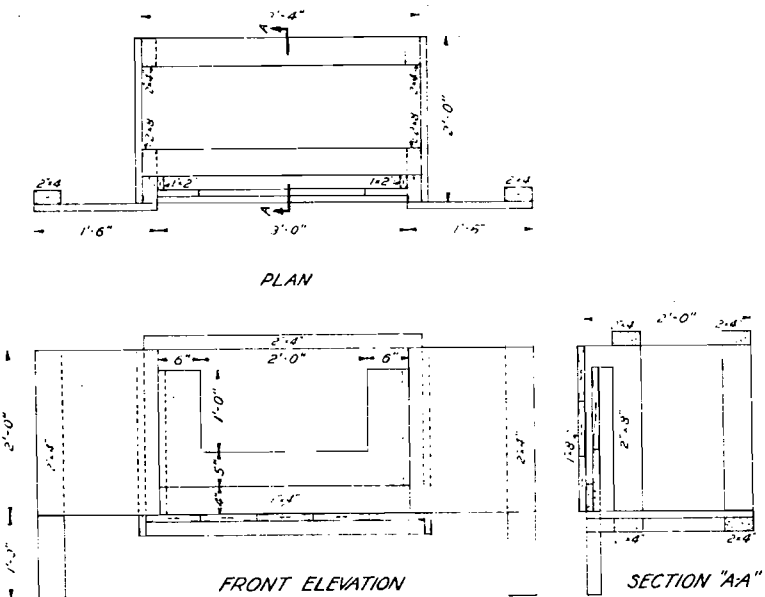
GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION, AS ADOPTED BY THE BOARD OF SUPERVISORS OF THE STATE OF COLORADO.
2. THE FENCE SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS STANDARD.
3. THE FENCE SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS STANDARD.
4. THE FENCE SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS STANDARD.
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9. THE FENCE SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS STANDARD.
10. THE FENCE SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS STANDARD.

COLORADO
STATE HIGHWAY DEPARTMENT
STANDARD
WIRE CABLE GUARD FENCE

DESIGNED BY
DRAWN BY
CHECKED BY

DETAILS OF MEASURING BOX LEFT OF STA. 568+70

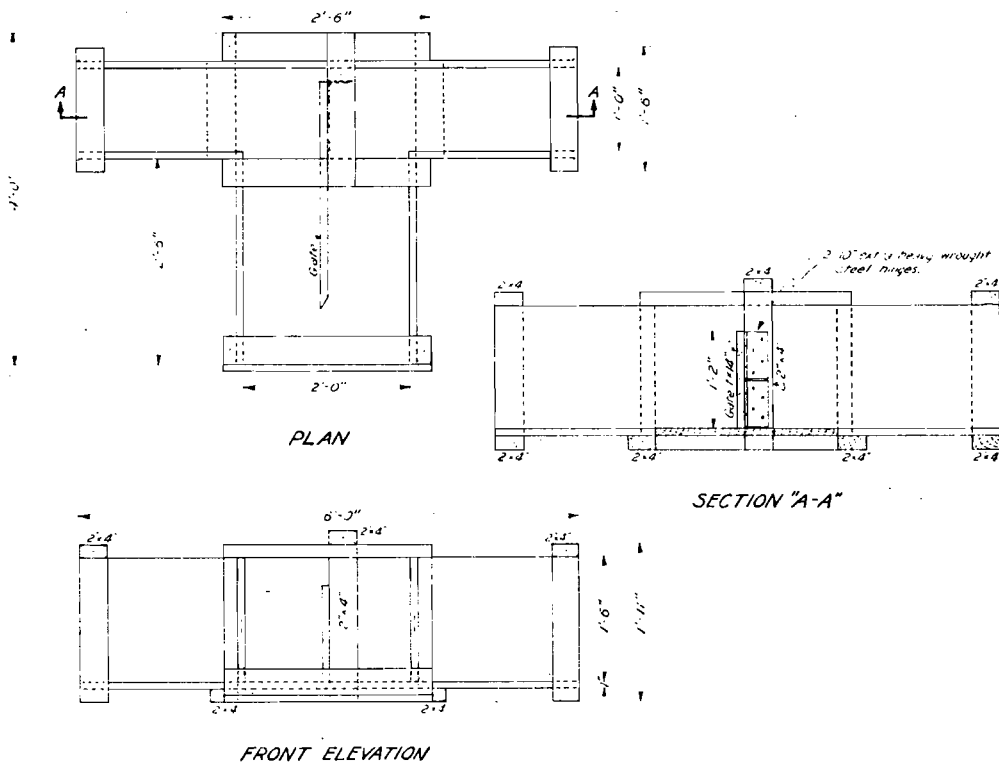


BILL OF MATERIAL

NO.	SIZE	LENGTH
2	1" x 2"	2'-0"
2	1" x 3"	2'-0"
1	1" x 4"	3'-0"
6	1" x 8"	1'-6"
11	1" x 8"	2'-0"
1	1" x 2"	3'-0"
2	2" x 4"	2'-0"
2	2" x 4"	3'-0"
2	2" x 4"	3'-4"
2	2" x 8"	2'-0"

Untreated Timber required for one box = .050 M ft.B.M.

DETAILS OF DIVISION BOX LEFT OF STA. 568+82



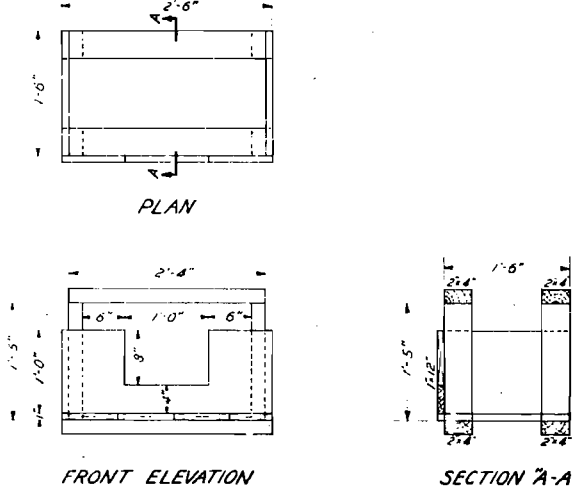
BILL OF MATERIAL

NO.	SIZE	LENGTH
6	2" x 4"	2'-6"
6	2" x 4"	1'-7"
4	2" x 4"	1'-9"
4	2" x 4"	1'-2"
2	2" x 4"	1'-6"
1	2" x 4"	1'-10"
1	2" x 4"	1'-11"
1	1" x 12"	2'-0"
1	1" x 12"	6'-0"
2	1" x 8"	4'-0"
1	1" x 8"	1'-11"
3	1" x 6"	4'-0"
1	1" x 6"	6'-0"
2	1" x 6"	1'-11"
6	1" x 6"	2'-6"
1	1" x 4"	2'-6"

2'-0" Extra heavy wrought steel hinges.

Untreated Timber required for one box = .067 M ft.B.M.

DETAILS OF MEASURING BOX LEFT OF STA. 568+95



BILL OF MATERIAL

NO.	SIZE	LENGTH
4	2" x 4"	1'-5"
4	2" x 4"	2'-4"
2	1" x 12"	1'-6"
1	1" x 8"	2'-6"
3	1" x 8"	1'-7"
1	1" x 6"	1'-7"

Untreated Timber required for one box = .023 M ft.B.M.

GENERAL NOTES

All work shall be done in accordance with the Standard Specifications of the Colorado State Highway Department adopted January 1, 1930.

The quantities of timber determined as provided in the Specifications shall be paid for at the contract unit price per thousand feet Board Measure, bid for Miscellaneous Untreated Timber, (item no. 44 a), which prices and payment shall be full compensation for furnishing, preparing and installing the timber, including the nails, hardware and all labor, equipment, tools and the incidentals necessary to complete the item, provided that any Excavation involved shall be paid for as provided under Specifications for the respective items.

COLORADO

STATE HIGHWAY DEPARTMENT

DETAILS OF

DIVISION AND MEASURING

BOXES

Designed by

Made by A.Z.

Checked by

Approved by

Bridge Engineer

Date:

193

NW 1/4 Sec. 15, T. 50 N., R. 10 W., N.M.P.M.

CLATHE

U.S.P.W. PROJECT NO. N.R.M. 23-D SHEET NO. 7 TOTAL SHEETS 17

Sta 541+14
Reg'd Project 11-31-19

Sta 541+50
Reg'd 18" x 40" CMP Side Drain Lt.
18" x 30" CMP
100 Cu. Yds. Embankment &
10 tons oil processed surfacing for
road approach Lt.

Sta 540+50
Cross Culvert & Ditch change
to be built under N.R.H. 23-B

Sta 545+20
Reg'd 24" x 60" CMP Side
Drains & 25 Cu Yds. excavation &
20 tons oil processed surfacing
for road approaches Rt. & Lt.

Sta 549+59
Reg'd 24" x 60" CMP Cross Culvert
& 20 Cu Yds. Excavation for Ditch Change.

Sta 550+00 to 553+00 (On Left)
Reg'd 350 Lin Ft. chain link wire
mesh fence & 1 drive gate.

Sta 552+10 (On Left)
Reg'd 18" x 30" CMP side drain.

Sta 549+20
Reg'd 50 Cu Yds. Embankment &
20 tons oil processed surfacing
for road approaches Rt. & Lt.

Sta 551+2
Reg'd 50 Cu Yds. Embankment &
60 tons oil processed surfacing
for road approaches Rt. & Lt.

Sta 554+50
Reg'd 18" x 60" CMP Cross Culvert
& 15 Cu Yds. Excavation for inlet & outlet.

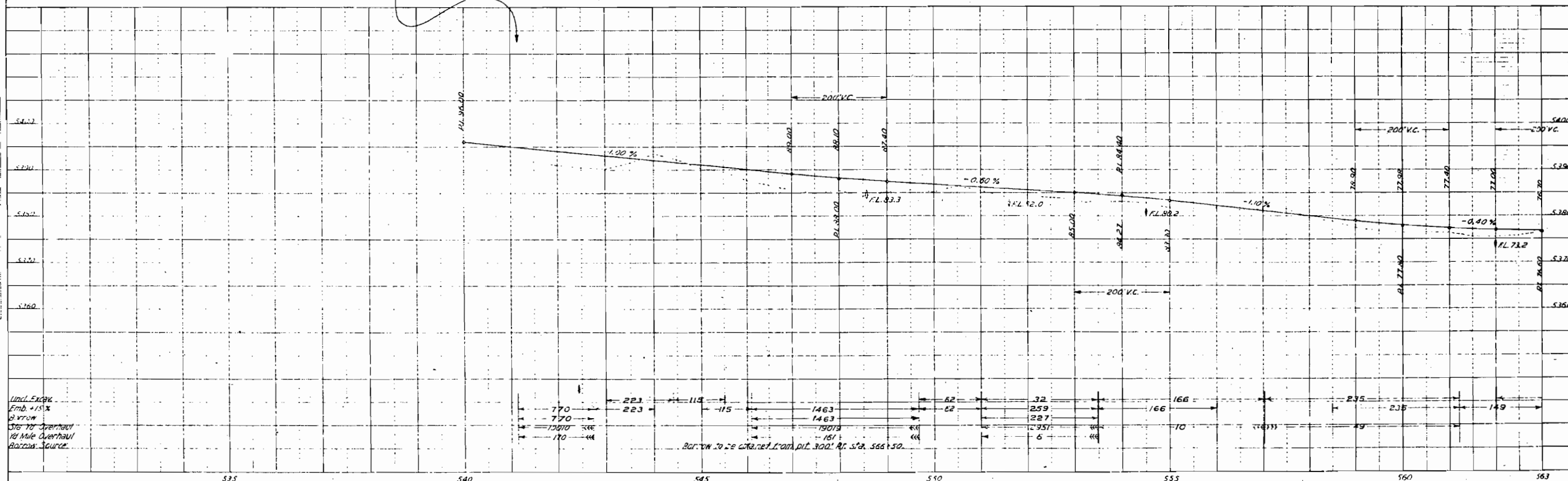
Sta 553+50
Reg'd 15" x 16" CMP Side Drain

Sta 553+55
Concrete Sidewalk

Sta 562+20
Reg'd 18" x 60" CMP Cross Culvert
& 10 Cu Yds. Excavation for
inlet & outlet.

Sta. 541+14.9
End of F.A.P. No. N.R.H. 23-B
Beginning of U.S.P.W. No. N.R.M. 23-D

NE 1/4 Sec. 15, T. 50 N., R. 10 W., N.M.P.M.



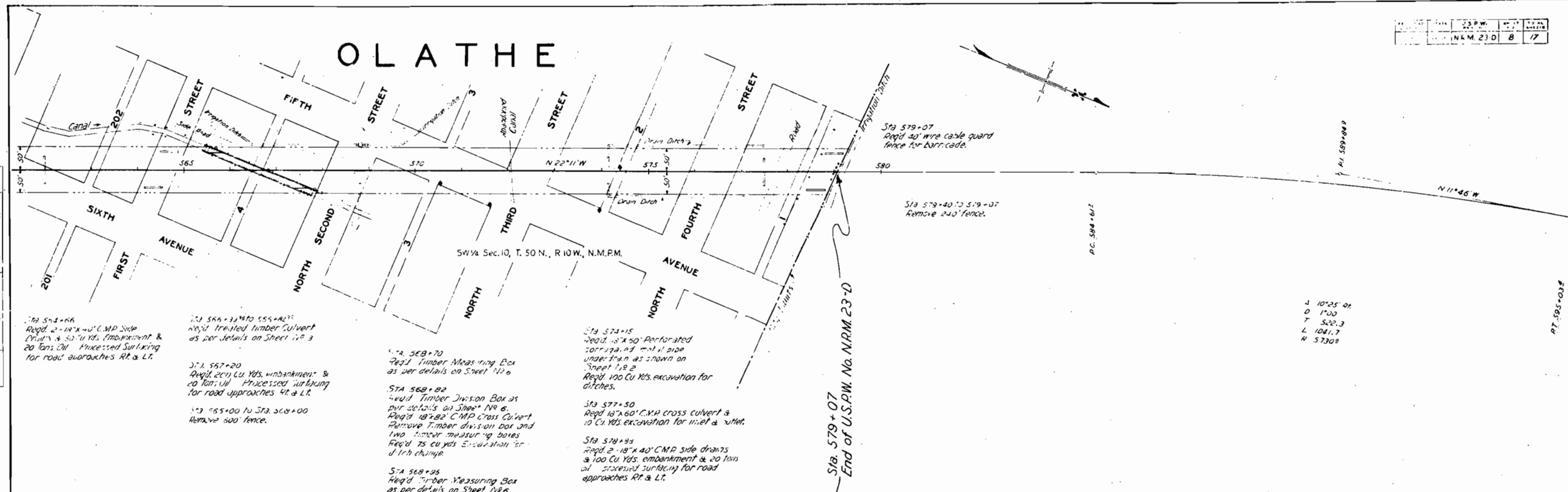
PLAN	DATE	BY	CHECKED
NOTE: SEE ATTACHED SHEET NO. 4463			

PROFILE	DATE	BY	CHECKED
NOTE: SEE ATTACHED SHEET NO. 4463			

Line 1.00%
Emb. 15.5%
Barrow
Sta 541+14.9
10 Mile Overhaul
Barrow Source

OLATHE

PLAN	BY	DATE
SKETCH		
POSTED		
NOTE BOOK		
NO. 4465		

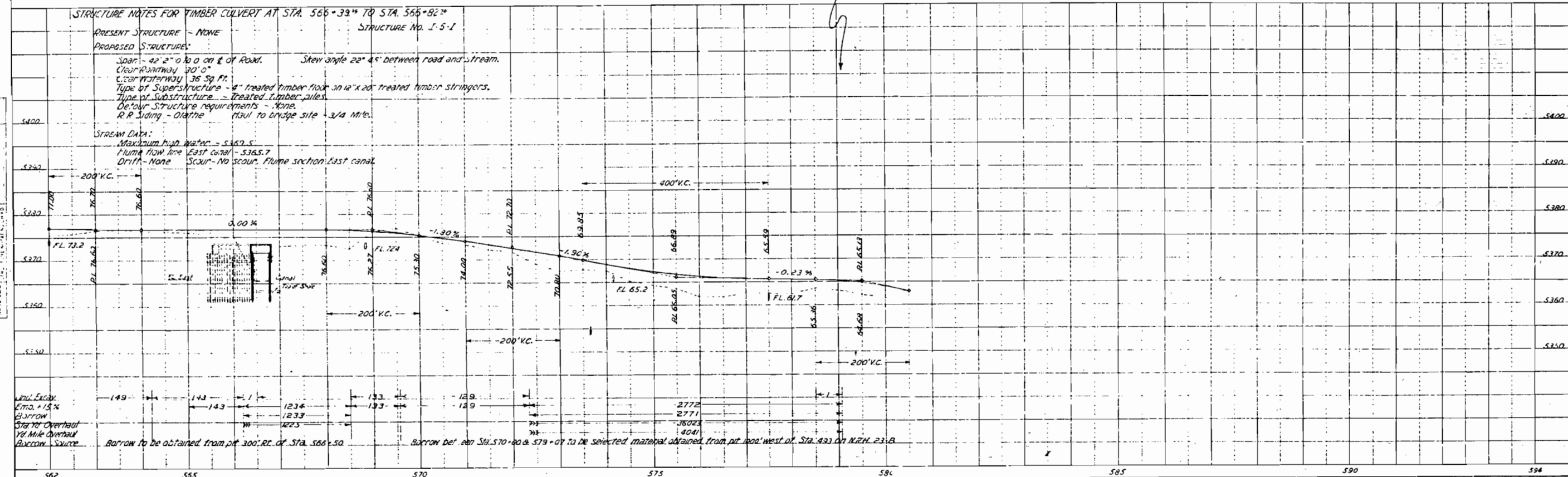


Sta. 579+07
End of USPW No NRM 23-D

J 10°25' 41"
D 1°00'
T 522.3
L 1041.7
H 5730°

07-505

PROFILE	DATE
NAME	
NO. 4463	



DATA REQUIRED TO ACCOMPANY SITUATION PLAN.

I. GENERAL REMARKS.

Fill out all blanks with care, giving information on all points listed, and supplementary remarks on features not listed. High water and foundation conditions are especially important and should be thoroughly investigated.

II. PROFILE.

Plot profile of centerline of roadway. Use natural scale, preferably 1" = 10'. At proper locations show section of test pits, noting material encountered, if available at time of survey. Show present, and if possible, proposed finished grade noting elevations and gradients.

III. MAP.

Show present and proposed alignment of bridge and all approaches, as far as affected. Extend cross sections at least 100-ft. each side of C. L., giving location and elevation of points so that at least 2-foot contours may be accurately plotted. Show edge of water, islands, shoals, other obstructions, and direction of current at high water and at low water. Plot location of test pits, position and pointing of camera for each photo, all buildings, fences, and other features affected. Establish bench marks and give location of same. Reference C. L. and show North point. Give a C. L. profile of stream-bed for 500 feet up-stream and 500 feet down-stream from center line of survey. Plot proposed structure in soft pencil only. Do not ink.

IV. REPORT OF EXAMINATION OF BRIDGE-SITE.

Div. 2 County Montrose Route 50 Sec. 26 Sta. 566+60
Date of survey Sept. 1-33 To be built by Federal Funds

1. Bridge Site.

Location City of Olmito
Sec. 26 Twp. 1 Range 1 Local name East Canal
Over East Canal River Creek
Distance from nearest shipping point 3/4 mile

2. Source of materials.

Sand 75 ft. S. of bridge Length of haul to site 3 miles
Gravel at North side " " " " " "
Stone " " " " " "
Falsework Timber " " " " " "
Piling " " " " " "

3. Cost Data.

Cost of following materials at site
Portland Cement \$4.00 Per Bbl.
Sand, coarse and clean \$2.50 " Cu. Yd.
Gravel " " " " " "
Stone " " " " " "
Falsework Timber " " " " " "
Piling " " " " " "
Cost per ton-mile for hauling 50¢

4. Waterway.

Drainage area in Sq. Miles approximate 1000 Canal for location
Character of watershed
Elevation of Highest water 5369.5 Date Sept. 1-33
Source of information on water elevation at bridge
Elevation of ordinary high water
Elevation of low water
Elevation of permanent ground-water
Is stream ever dry? Yes During what months?
Will all flood water pass through recommended structure?
Can channel be cleaned to afford more waterway?
Is stream-bed cutting or silting up?
Is stream stable in its banks? Depth of scour?
Does stream carry light, medium, or heavy drift?
What clearance above high water should be allowed?
Is channel change necessary? No
If channel change is necessary, illustrate location on sketch map.

5. Foundation Data.

Character of material Gravel & sand
Distance from stream-bed to solid foundation
Recommended depth of footings 2 ft.
Should piles be used? No What length?

6. Old Bridge.

If there is no bridge at the present location include here data on nearest bridge over same stream. If possible show location of such bridge. bridges on the map.
Type Roadway Width 12 ft. Number and length of spans
Area of waterway provided under old structure — Sq. Ft., Elev. of Underclearance
Has this area proved sufficient at flood times?
Is it too large? Disposition of Existing Structure

7. Give foundation data on bridges in vicinity. When possible, get pile driving data, logs of borings, etc., for adjoining structures, and where considered advantageous procure plans.

Sketch profile of Rail Road Crossing if within 1000 ft. of Highway
Elevation of base of Rail — Elevation of Rail Road Underclearance
Remarks

8. Recommendations for New Structure.

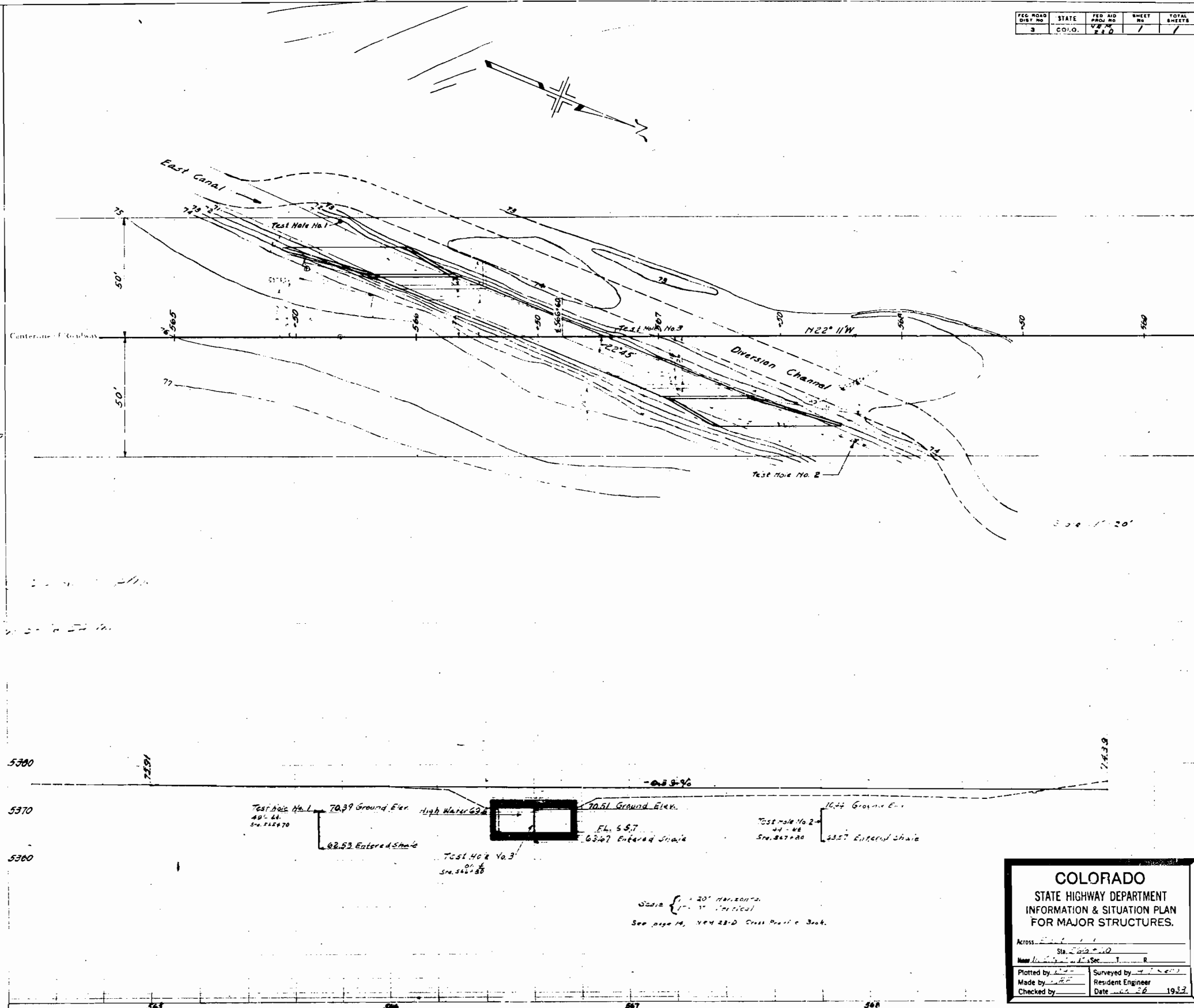
Type 2 x 12 Roadway Width 12 ft. Number and length of spans
What is the least clear span permissible? 12 ft.
Width of roadway 12 ft. Are sidewalks desired
Angle of Skew recommended
Will approaches be desired, or will same be filled?
Approximate cost per Cu. Yd. of approach-filling at bridge site?
Is it necessary to maintain traffic alongside old structure?

If so, how shall it be done?

R. R. Siding 1/2 mi. S. of Olmito Haul to Bridge Site
Remarks See plan

Submitted by Engineer

NOTE. When bridge is recommended to be left in place, complete structural details shall be procured from the bridge itself or from existing plans of the structure. When possible these plans shall be forwarded with the plans of the project.



FED. ROAD DIST. NO.		STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3		COLO.	210	1	1

ACROSS		Sta. 566+60	
Name		R.	
Plotted by	Surveyed by		
Made by	Resident Engineer		
Checked by	Date	1933	