US 40, 28 09 29

FED. HIGHWAY DIV. NO.	STATE	FEDERAL AID PROJECT NO.
6	TEXAS	I 305(5)
STATE DIST. NO.	COUNTY	STATE CONTROL NO.
20	ORANGE	28-9-2

I HD-8(13)8

CLASS AA HIGHWAY
DESIGN SPEED
60 M.P.H.

STATE OF TEXAS
STATE HIGHWAY DEPARTMENT

PLANS OF COMPLETED STATE HIGHWAY IMPROVEMENT

FEDERAL AID PROJECT.
I 305 (5) I-18-8(13)868

SCALES: PLAN: 1 IN. = 50 FT.
PROFILE: 1 IN. HOR. = 50 FT., 1 IN. VERT. = 5 FT.
CROSS-SECTIONS: 1 IN. HOR. AND VERT. = 5 FT.
OTHERS AS NOTED.

NET LENGTH OF PROJECT= 6,414.0 FT.=1.214 MI.

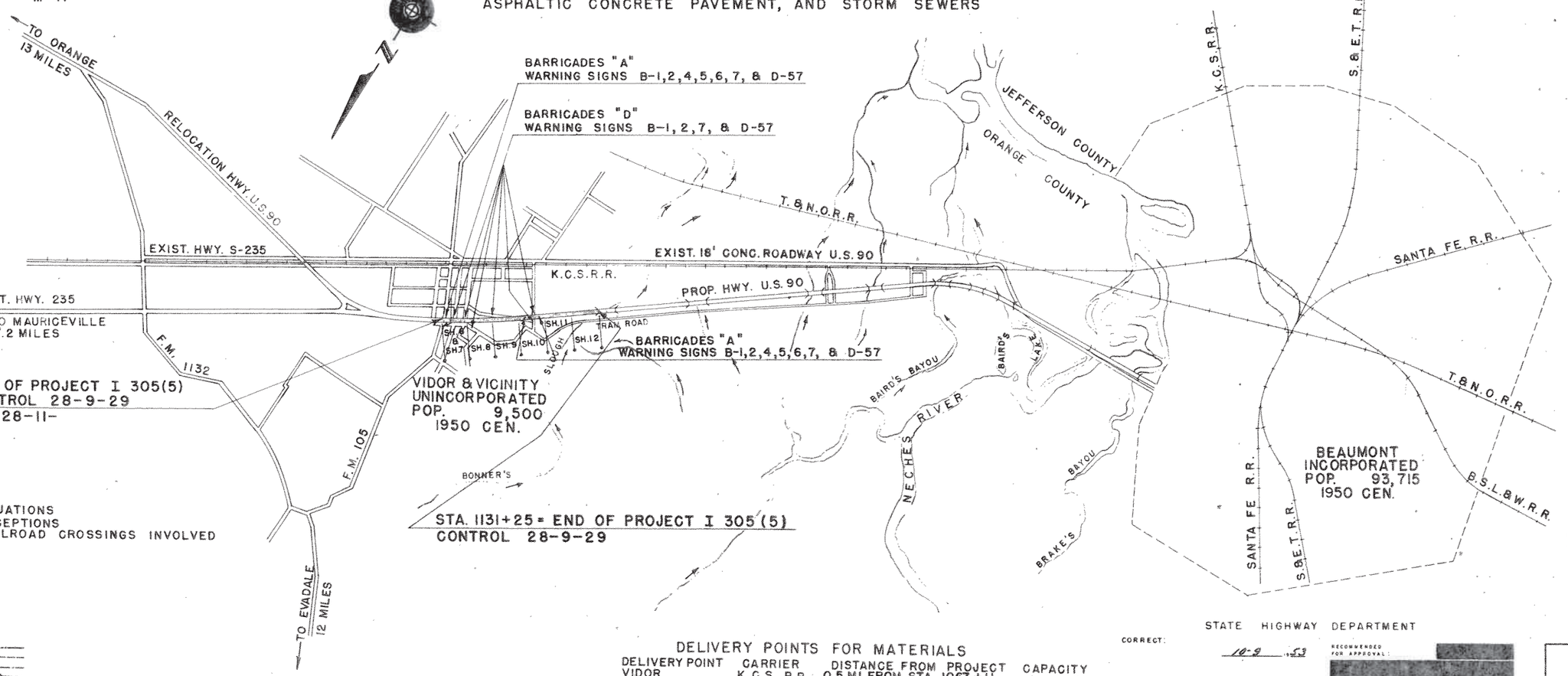
ORANGE COUNTY
US HIGHWAY 90

FROM INTERSECTION OF U.S. HIGHWAY 90 AND F.M. HIGHWAY 105 IN VIDOR TO A POINT 1.214 MILES SOUTHWEST

GRADING, STRUCTURES, CONCRETE PAVEMENT, FLEXIBLE BASE, HOT MIX ASPHALTIC CONCRETE PAVEMENT, AND STORM SEWERS

INDEX OF SHEETS

SHEET No.	DESCRIPTION
1	TITLE SHEET
2	TYPICAL SECTIONS
3	ESTIMATE & QUANTITY
4	DETAILS OF CURBS & MEDIAN
5	SUMMARY OF INLETS, MANHOLES & STORM SEWERS
6 (Rev.), 7 (Rev.), 8 (Rev.), 10 (Rev.) – 12	PLAN PROFILE
13 – 14	HAUL DIAGRAM
15 – 16	DRAINAGE AREA MAP
17	INLET CALCULATIONS
18	STORM SEWER CALCULATIONS
19	RUN-OFF COMPUTATIONS
20 – 21	PROFILE OF STORM SEWERS & LATERALS
	STRUCTURAL DETAILS AND STANDARDS
22 – 25	INLETS & MANHOLE DETAILS
26	CONCRETE PAVEMENT JOINT LAYOUT
27	SPECIAL CONC. HDWL. DETAIL FOR STD. R.C. PIPES
28	CH-11, TYPE "A" HDWL. DETAILS (MODIFIED)
29	RIPRAP DETAILS
30	CH-11, CONCRETE HEADWALLS FOR PIPE CULVERTS
31	CONCRETE PAVEMENT DETAILS (C.P.D.-52-1)
32	CONC. PAVEMENT JOINT DETAILS (C.P.J.-52-2)(MOD.)
33 – 34	BW-52 (1) & (2) REVISED
35	SWC – 39
36	M-47



STA. 1067+11 = BEG. OF PROJECT I 305(5)
AND END OF CONTROL 28-9-29
BEGIN CONTROL 28-11-

STA. 1131+25 = END OF PROJECT I 305(5)
CONTROL 28-9-29

NO EQUATIONS
NO EXCEPTIONS
NO RAILROAD CROSSINGS INVOLVED

CONVENTIONAL SIGNS
STATE OR NATIONAL LINE
CITY OR VILLAGE LINE
COUNTY LINE
BASE OR SURVEY LINE
RIGHT OF WAY LINE
RIGHT OF WAY MARKERS
FENCE LINE
RAILROAD
TRAVELLED WAY
CULVERT OR BRIDGE
POWER LINE
TELEGRAPH OR TELEPHONE

SPECIFICATIONS ADOPTED BY THE STATE HIGHWAY DEPARTMENT OF TEXAS, JANUARY 2, 1951 AND APPROVED BY THE U. S. BUREAU OF PUBLIC ROADS JULY 25, 1951 AND SPECIFICATION ITEMS LISTED AND DATED AS FOLLOWS, SHALL GOVERN ON THIS PROJECT:
REQUIRED CONTRACT PROVISIONS FOR FEDERAL AID PROJECTS APPROVED AUGUST 5, 1948

DELIVERY POINTS FOR MATERIALS

DELIVERY POINT	CARRIER	DISTANCE FROM PROJECT	CAPACITY
VIDOR	K.C.S. R.R.	0.5 MI. FROM STA. 1067+11	8 CARS
BEAUMONT	T. & N.O. SPUR	4.7 MI. FROM STA. 1131+25	4 CARS
BEAUMONT	BARGE	4.0 MI. FROM STA. 1131+25	AMPLE

NOTE: FEDERAL PROJECT MARKERS OF APPROVED DESIGN WILL BE ERECTED AT EACH END OF PROJECT PRIOR TO COMPLETION.

LAYOUT SCALE: 1 IN. = 2,640 FT.

SUMMARY OF APPROVED FIELD CHANGES

No.	Description	Date Ap
1	Changing gradient from 5% to 3% on Approaches and Overpass	4-19
2 & 3	Four additional Type "F" Inlets and 18" R.C. Pipe Connection	11-19
5	Installing 6" pipe Underdrains between Sta. 1067+11 and 1131+25 Lt. and Rt. Frontage Roads	5-5
6	Placing additional 9" Uniform Concrete Pavement on Left and Right Frontage Roads between Sta. 1071+00 and 1075+25	5-10
7	To Improve drainage Conditions and Reduce traffic hazards	3-27

Final P

Project Constructed and Final Plans Prepared by

Expressway Engineer

STATE HIGHWAY DEPARTMENT

CORRECT: 10-2 1953

SUPERVISING URBAN ENGINEER

RECOMMENDED FOR APPROVAL: 11-27 1953

DISTRICT ENGINEER

RECOMMENDED FOR APPROVAL:

RECOMMENDED FOR APPROVAL:

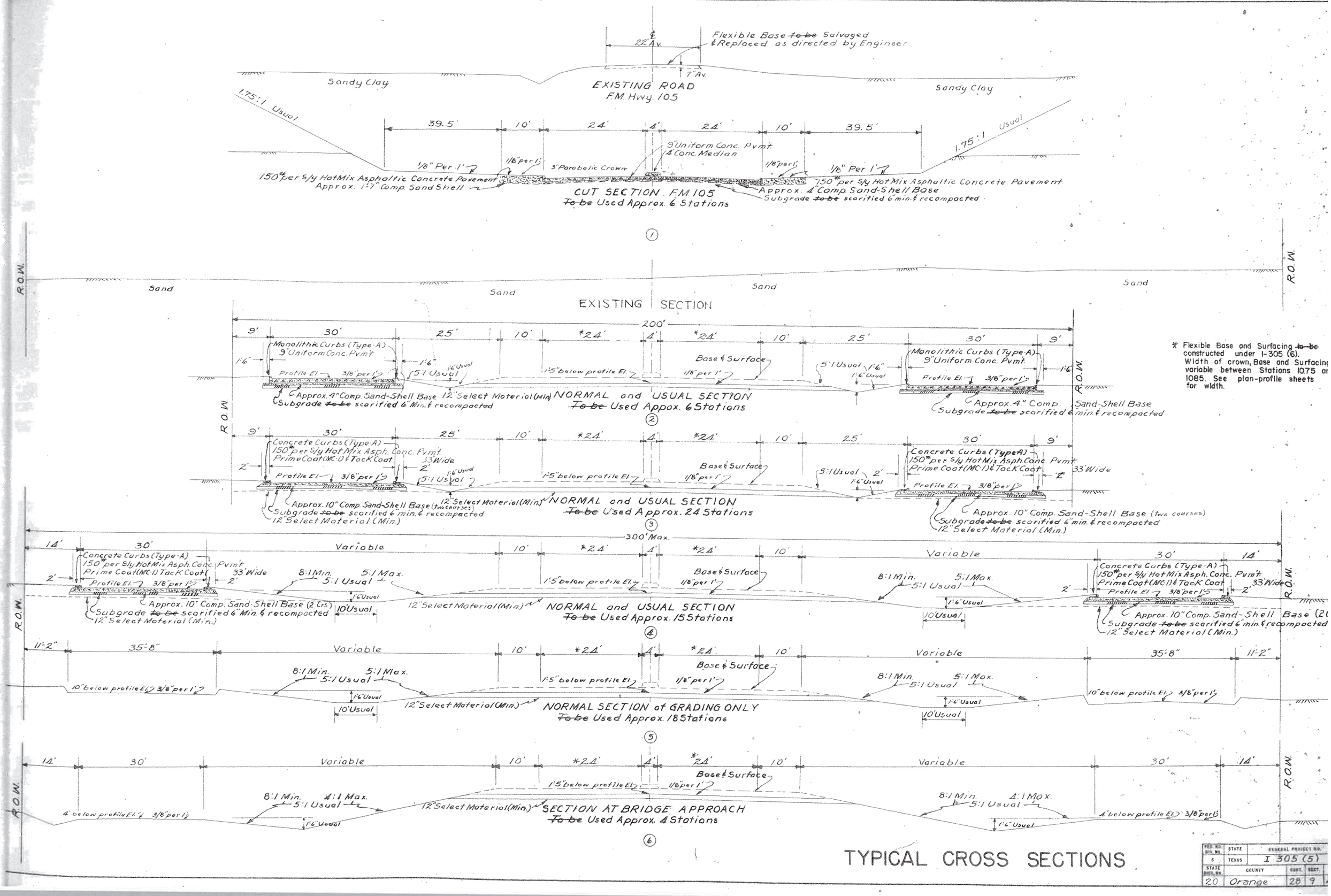
APPROVED:

ENGINEER ROAD DESIGN

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED:

DISTRICT ENGINEER

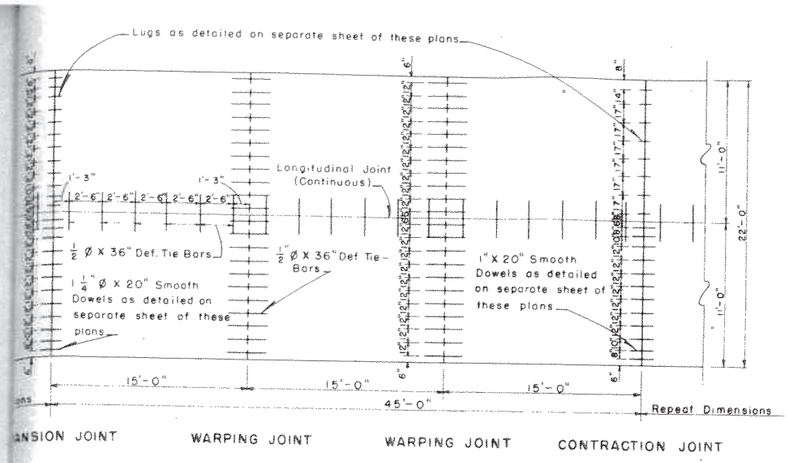


* Flexible Base and Surfacing ~~to be~~ constructed under I-305 (6). Width of crown, Base and Surfacing variable between Stations 1075 and 1085. See plan-profile sheets for width.

TYPICAL CROSS SECTIONS

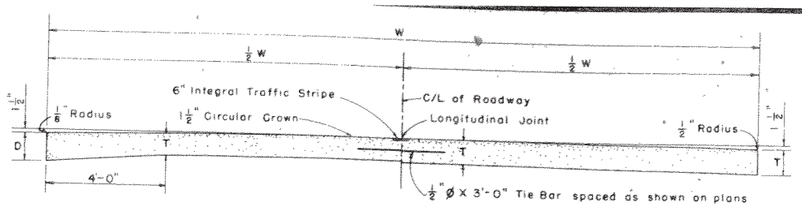
FED. RD. DIV. NO.	STATE	FEDERAL PROJECT NO.
6	TEXAS	I 305 (5)

STATE DIST. NO.	COUNTY	CONT.	SECT.
20	Orange	28	9



ALTERNATE PLANS A & B

W = 22 FEET
T = 8, 9 or 10 INCHES
(See Transverse Section)

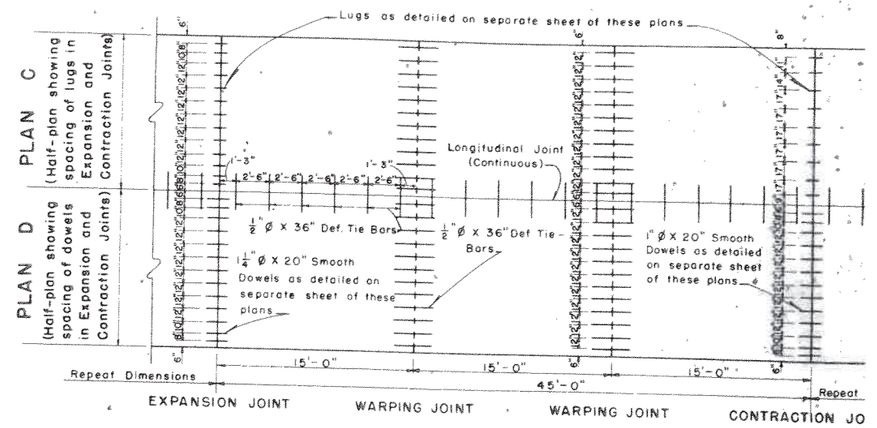


TRANSVERSE SECTION

HALF SECTION
THICKENED EDGE PAVEMENT

HALF SECTION
UNIFORM THICKNESS PAVEMENT

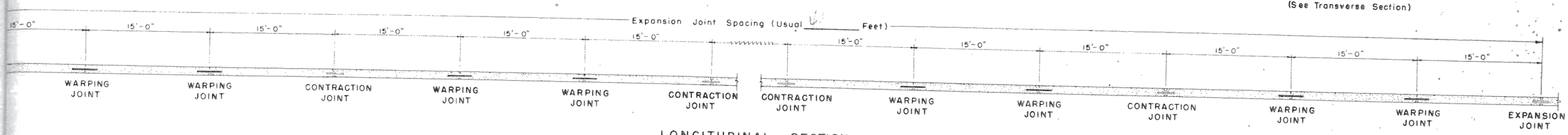
The section of pavement used will be as shown on Typical Cross-Section Sheet of these plans.



ALTERNATE PLANS C & D

W = 24 FEET
T = 8, 9 or 10 INCHES
(See Transverse Section)

Note:
See sheet 110-26 for Joint Layout & Spacing



LONGITUDINAL SECTION

Expansion Joints shall be placed as shown above at a normal contraction joint location and adjacent to bridge approach slabs

TABLES OF REINFORCING STEEL FOR 45' TYPICAL SLABS.

TYPE OF JOINT	SIZE & LENGTH	NO. OF BARS	WEIGHT (LBS.)	WEIGHT (LBS.) PER SQ.Y.
PLAN "A" or "B" (22' WIDTH)				
Warping	½" X 36" ϕ Def.	44	88.18	
Longitudinal	½" X 36" ϕ Def.	18	36.07	
Total (Exclusive of load transfer devices at Contraction and Expansion Joints.)			124.25	1.130
One 22' Contraction Joint requires 16 Lugs or 24-1" X 20" ϕ Smooth Dowels One 22' Expansion Joint requires 24 Lugs or 24-1¼" X 20" ϕ Smooth Dowels				
PLAN "C" or "D" (24' WIDTH)				
Warping	½" X 36" ϕ Def.	48	96.19	
Longitudinal	½" X 36" ϕ Def.	18	36.07	
Total (Exclusive of load transfer devices at Contraction and Expansion Joints.)			132.26	1.102
One 24' Contraction Joint requires 18 Lugs or 26-1" X 20" ϕ Smooth Dowels One 24' Expansion Joint requires 26 Lugs or 26-1¼" X 20" ϕ Smooth Dowels				

GENERAL NOTES:

Contraction Joints shall be constructed in accordance with the governing details in these plans.

At each bridge end construct a thickened and reinforced approach slab as detailed on other sheet in these plans. Additional work, concrete and steel shall be included in unit price bid for "Concrete Pavement"

Pavement on all curves shall be superelevated and widened as indicated on the governing Departmental Curve Standards. On widened curves, the longitudinal joint shall be placed at the center of the pavement.

The furnishing of all material and the installation of all reinforcing steel, tie bars, joints, including load transmission units or dowels and sleeves, and all dowel or bar chairs, shall be subsidiary work and shall be included in the unit price bid for "Concrete Pavement."

Integral Traffic Stripes shall be applied as required by plans and governing specifications. Provisions for use of this patented installation have been made by the State free of royalty charges to the Contractor.

The Contractor shall hold and save the State, its officers, its agents, and its employees harmless to liability of any nature or kind, including costs and expenses, for or on account of any patent or unpatented invention, article or appliance manufactured or used in accordance with the details of these plans.

TEXAS HIGHWAY DEPARTMENT

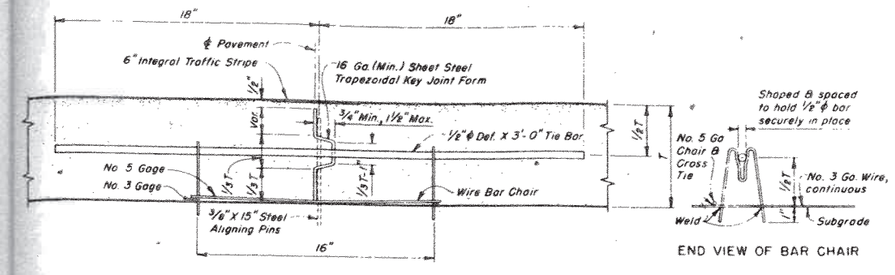
CONCRETE PAVEMENT DETAILS

8"-9"-10" SLABS

C.P.D.-52-1

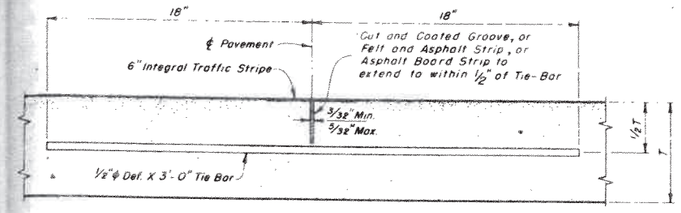
REVISED

FED. ROAD DIV. NO.	STATE	FEDERAL A'D PROJECT NO.			
6	TEXAS	I 305(5)			3
STATE DIST. NO.	COUNTY	CONTROL SECTION NO.		JOB NO.	HIG
20	Orange	28	9	29	U.S



TYPE 1 - STEEL TONGUE-AND-GROOVE FORM

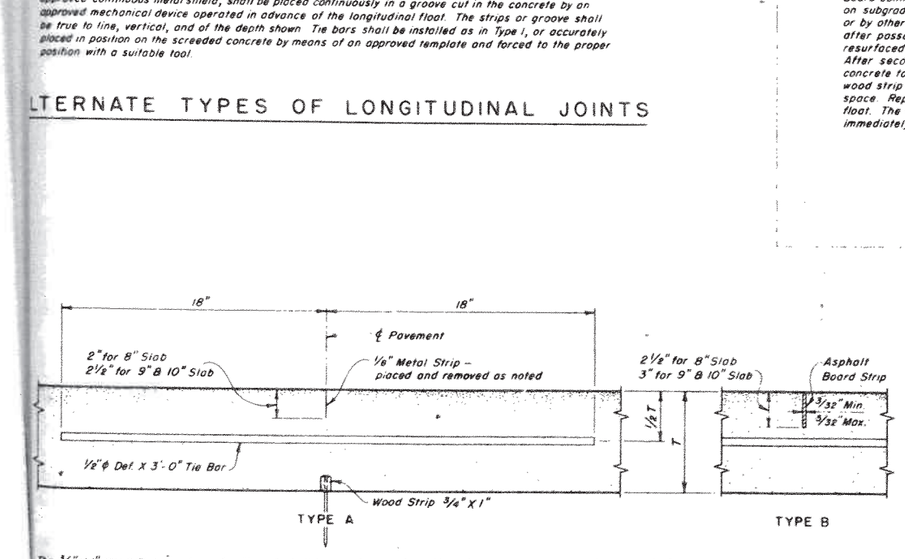
END VIEW OF BAR CHAIR



TYPE 2 - MACHINE CUT GROOVE

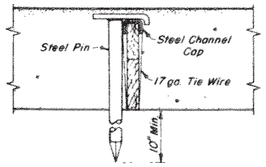
Top groove shall be cut by an approved machine and the vertical faces of the concrete coated with an approved concrete curing compound before closing and final finishing, or a 1/16" asphalt impregnated felt strip shall be inserted, continuous between expansion joints, or an asphalt board strip held in an approved continuous metal shield, shall be placed continuously in a groove cut in the concrete by an approved mechanical device operated in advance of the longitudinal float. The strips or groove shall be true to line, vertical, and of the depth shown. Tie bars shall be installed as in Type 1, or accurately placed in position on the screeded concrete by means of an approved template and forced to the proper position with a suitable tool.

ALTERNATE TYPES OF LONGITUDINAL JOINTS



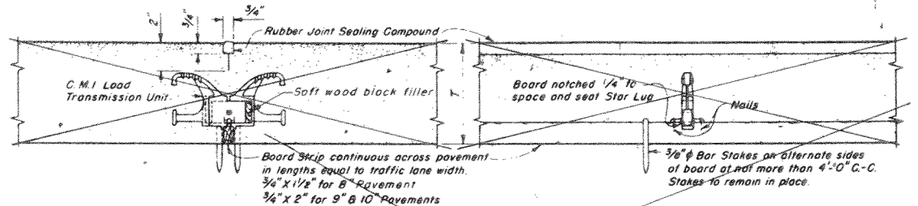
The 3/4" X 1" Wood Strip as shown for Type A shall be continuous for width of pavement, and shall be securely fastened to the subgrade by 40-penny wire nails driven through drilled holes on not more than 30" centers. Tie Bars shall be placed accurately in position, after screeding, by means of an approved template. The transverse finishing machine shall pass over the joint area after installing the bars.
Type A, 1/8" X 2" or 2 1/2" Metal Strip --- Cut top surface of concrete directly over wood strip and insert metal strip after screeding and in advance of longitudinal float. After longitudinal float has passed over, remove steel plate prior to finishing.
Type B, Asphalt Board Strip --- Asphalt board strip, held in an approved continuous metal shield, shall be placed continuously in a groove cut by an approved mechanical device operating in advance of the longitudinal float.

ALTERNATE TYPES OF TRANSVERSE WARPING JOINTS

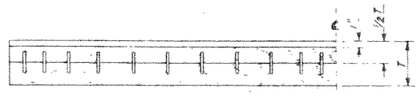


INSTALLING PIN
FOR EXPANSION JOINT

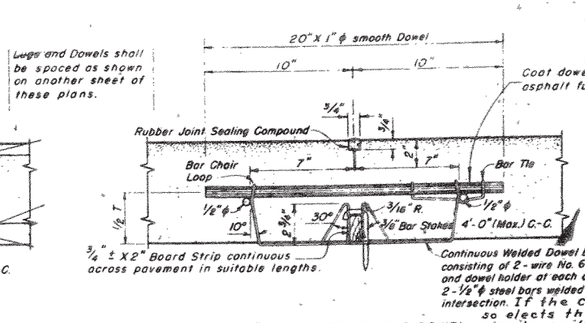
Board Joint Filler of specified type shall be secured on subgrade in exact position and line as illustrated or by other approved device. Pins shall be removed after passage of finishing machine, then pavement resurfaced by second pass of finishing machine. After second passage of finishing machine remove concrete to 1" below top of board and nail 3/4" x 1/8" wood strip to top of board filler to form joint seal space. Replace concrete and finish with longitudinal float. The wood top strip shall not be removed until immediately prior to pouring joint seal.



CAST MALLEABLE IRON CANTILEVER TYPE LOAD TRANSMISSION UNIT
D-14 1/2 "STAR LUG" as manufactured by Texas Foundries, Lufkin, Texas, or equal Load Transmission Unit

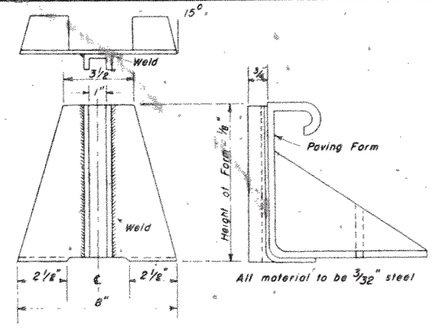


ELEVATION OF
BOARD STRIP FOR EXPANSION JOINT
WITH C.M.I. LOAD TRANSMISSION UNITS

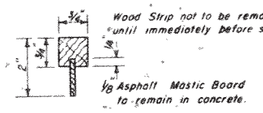


1" ROUND STEEL BAR DOWEL

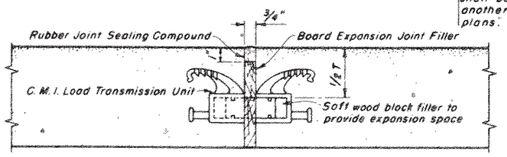
ALTERNATE TYPES OF TRANSVERSE CONTRACTION JOINTS



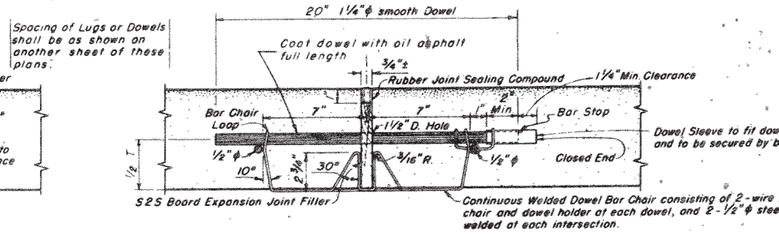
ACCEPTABLE CONTRACTION AND EXPANSION JOINT HOLDER
(Other types may be used if approved by engineer.)



CONTRACTION JOINT SEAL FORM



CAST MALLEABLE IRON
CANTILEVER TYPE LOAD TRANSMISSION UNIT
D-13 "STAR LUG" as manufactured by Texas Foundries, Lufkin, Texas
or equal Load Transmission Unit



1 1/4" ROUND STEEL BAR DOWEL

ALTERNATE TYPES OF TRANSVERSE EXPANSION JOINTS

GENERAL NOTES

Either of the alternate types of Joints shown by these details may be constructed, at the option of the Contractor. If the Contractor desires to use any other alternate device, he shall, prior to its use, secure its approval by the Engineer.

Load Transmission Units or Dowels shall be secured parallel to the pavement surface and center line.

All Joints, including all materials, devices, and work required shall be considered subsidiary work and shall be included in the unit price bid for "Concrete Pavement." No direct payment will be made for any material, bar chair, steel, or any other device shown, nor for its installation.

"T" indicates center depth of thickened-edge pavements or depth of uniform pavements.

For thickened edge pavements the bottom edges of board expansion joint fillers shall be made to conform with the subgrade by the addition of wedges of the same material and thickness.

The Contractor shall hold and save the State, its officers, its agents, and its employees harmless to liability of any nature or kind, including costs and expenses, for or on account of any patent or unpatented invention, article or appliance manufactured or used in accordance with the details of these plans.

TEXAS HIGHWAY DEPARTMENT

CONCRETE PAVEMENT JOINT DETAILS

8"-9"-10" SLABS

C.P.J. - 52 - 2 (MOD

REVISED: FEB. 7, 1952

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJECT NO.
6	TEXAS	I 305 (5)

STATE DIST. NO.	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.
20	Orange	28	9	2