

สำนักสำรวจและออกแบบ

สำนักทางหลวง

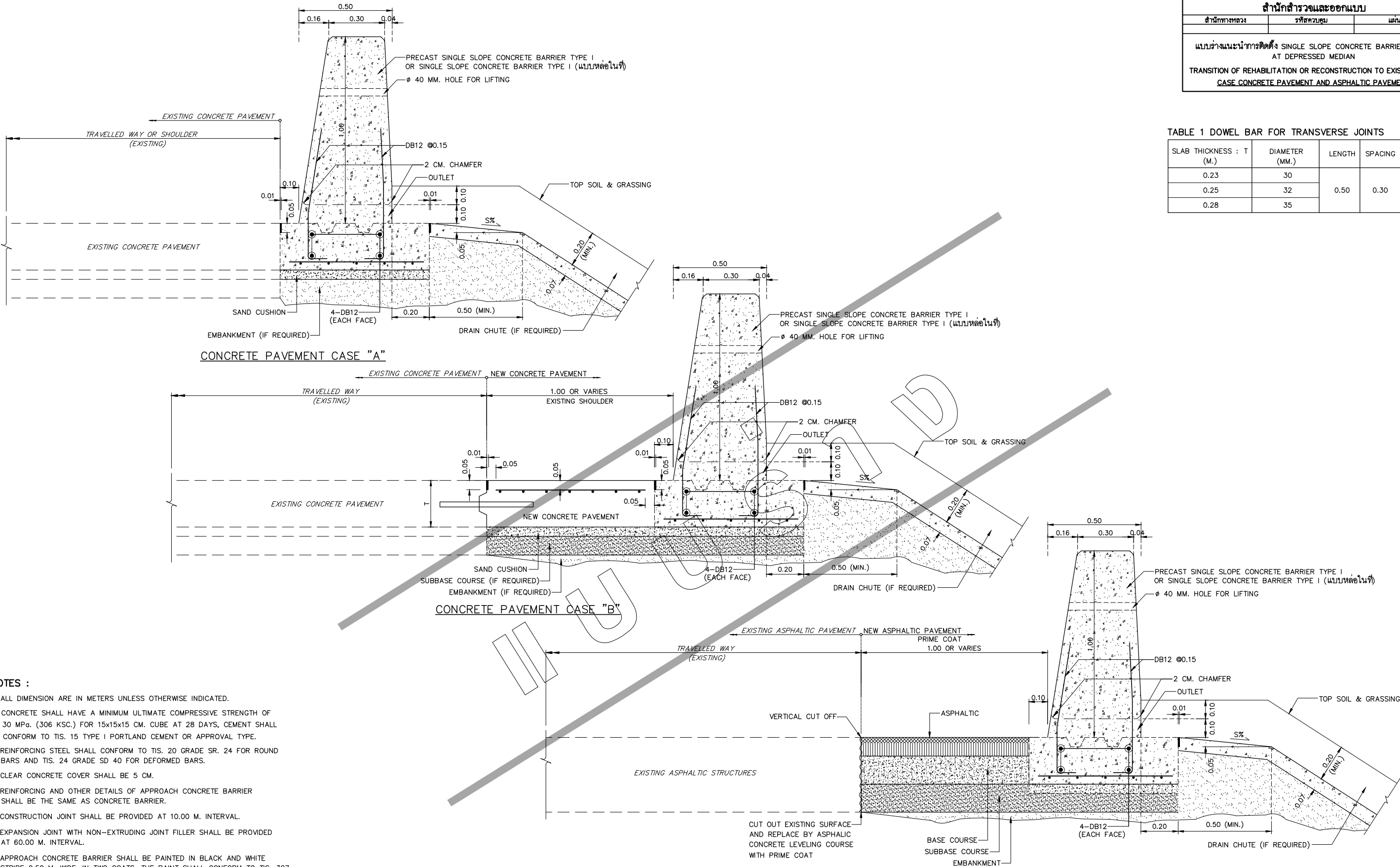
รหัสควบคุม

แผนที่

แบบร่างแนะนำการติดตั้ง SINGLE SLOPE CONCRETE BARRIER TYPE I AT DEPRESSED MEDIAN
TRANSITION OF REHABILITATION OR RECONSTRUCTION TO EXISTING ROAD
CASE CONCRETE PAVEMENT AND ASPHALTIC PAVEMENT

TABLE 1 DOWEL BAR FOR TRANSVERSE JOINTS

SLAB THICKNESS : T (M.)	DIAMETER (MM.)	LENGTH	SPACING
0.23	30	0.50	0.30
0.25	32		
0.28	35		



- NOTES :
- ALL DIMENSION ARE IN METERS UNLESS OTHERWISE INDICATED.
 - CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 30 MPa. (306 KSC.) FOR 15x15x15 CM. CUBE AT 28 DAYS, CEMENT SHALL CONFORM TO TIS. 15 TYPE I PORTLAND CEMENT OR APPROVAL TYPE.
 - REINFORCING STEEL SHALL CONFORM TO TIS. 20 GRADE SR. 24 FOR ROUND BARS AND TIS. 24 GRADE SD 40 FOR DEFORMED BARS.
 - CLEAR CONCRETE COVER SHALL BE 5 CM.
 - REINFORCING AND OTHER DETAILS OF APPROACH CONCRETE BARRIER SHALL BE THE SAME AS CONCRETE BARRIER.
 - CONSTRUCTION JOINT SHALL BE PROVIDED AT 10.00 M. INTERVAL.
 - EXPANSION JOINT WITH NON-EXTRUDING JOINT FILLER SHALL BE PROVIDED AT 60.00 M. INTERVAL.
 - APPROACH CONCRETE BARRIER SHALL BE PAINTED IN BLACK AND WHITE STRIPE 0.50 M. WIDE, IN TWO COATS. THE PAINT SHALL CONFORM TO TIS. 327.
 - PRECAST CONCRETE BARRIER TYPE IIA AND TYPE IIB ACCORDING TO DRAWING NO. RS-613 AND NO. RS-614 RESPECTIVELY, SHALL BE USED INSTEAD OF CAST-IN-SITU CONCRETE BARRIER.
 - IF NECESSARY TO DRAINAGE, THE DRAIN HOLES SHALL BE APPLIED WITH 10.00 M. SPACING OR OTHER SPACING AS DIRECTED BY THE ENGINEER.

ASPHALTIC PAVEMENT CASE
TRANSITION OF REHABILITATION OR RECONSTRUCTION TO EXISTING ROAD
NOT TO SCALE

กรมทางหลวง		
ตรวจ		
เห็นชอบ	ผู้อำนวยการสำนักสำรวจและออกแบบ	/ /
อนุมัติ	ทนายอชิวิติ	/ /

REV. NO.	DESCRIPTION	ENGINEER		DOH	
		CHECKED	DATE	CHECKED	DATE

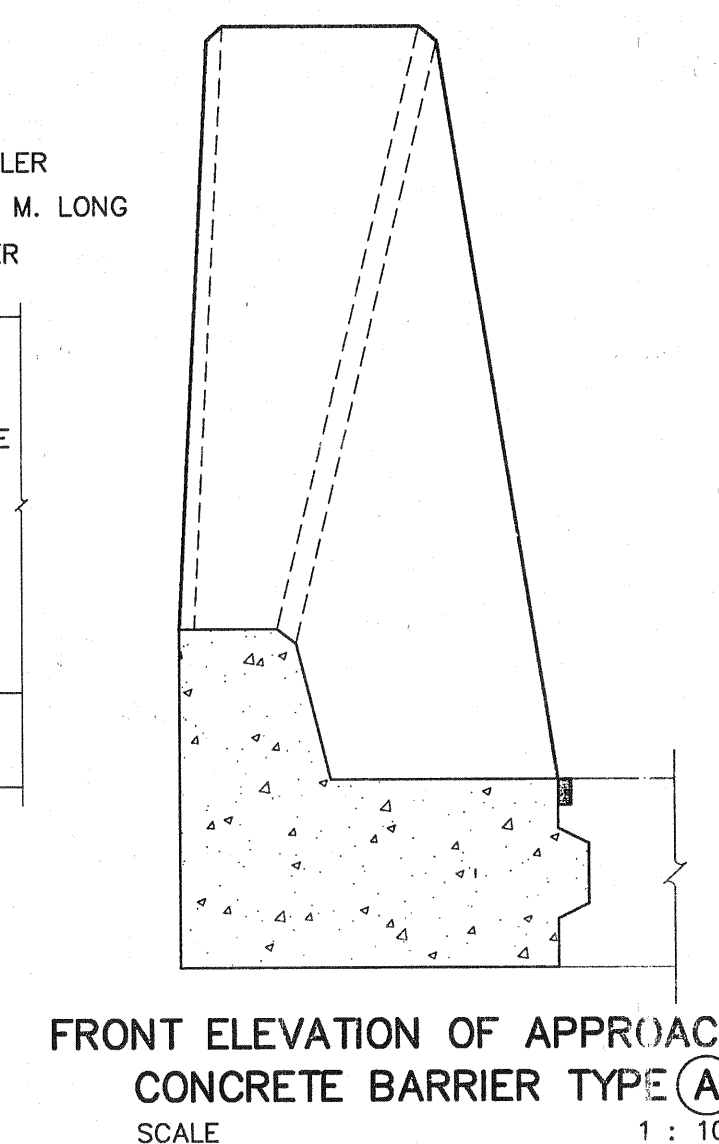
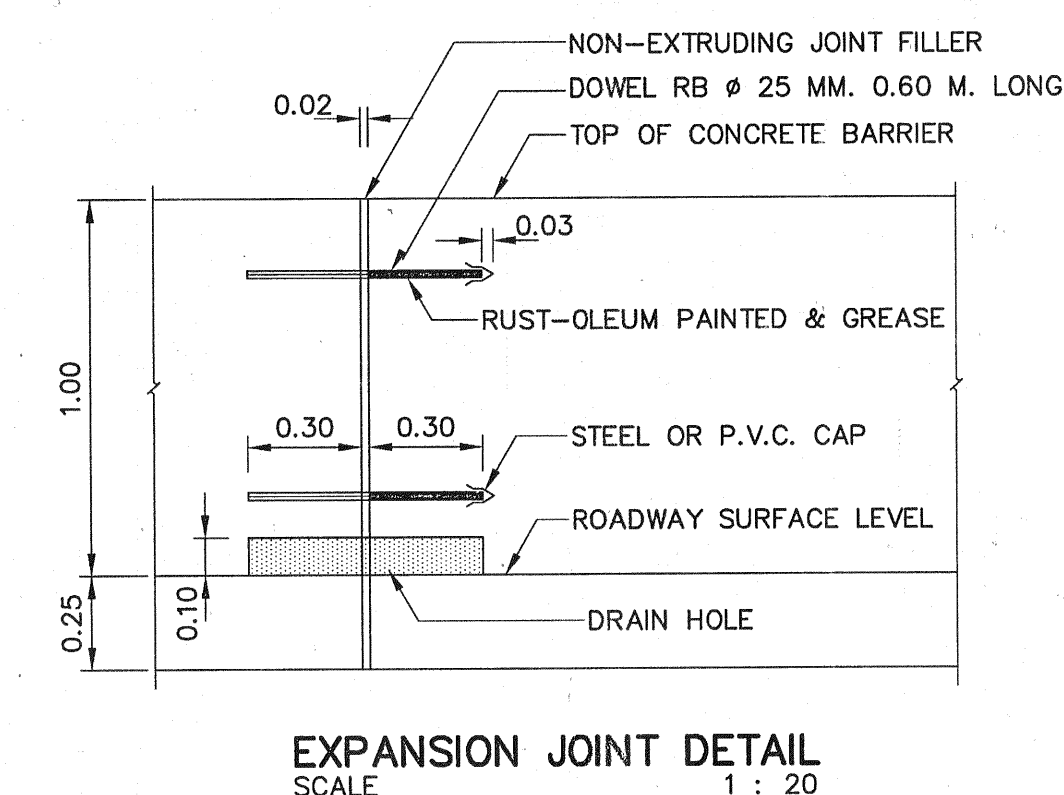
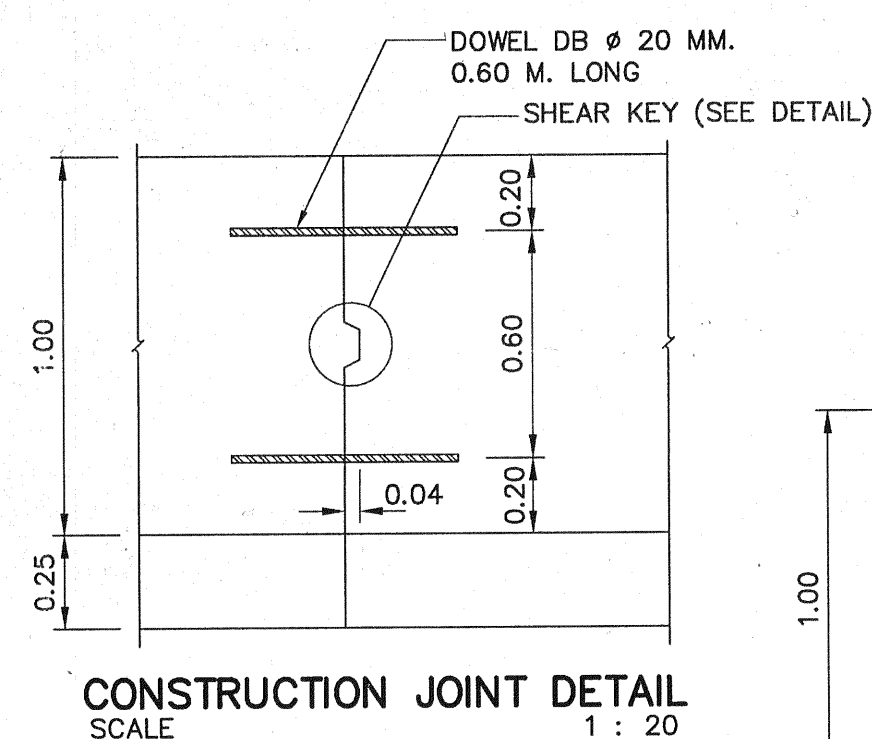
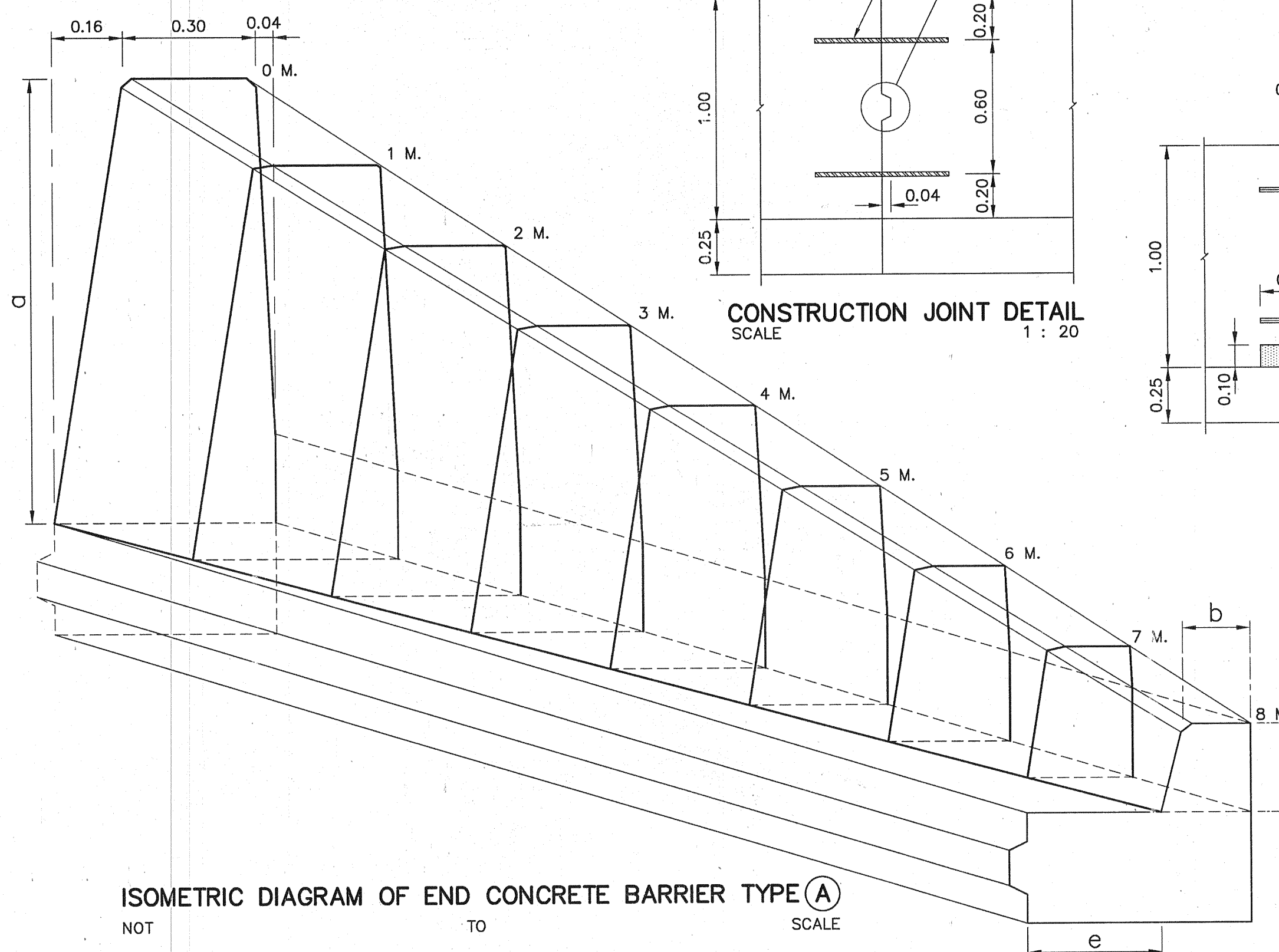
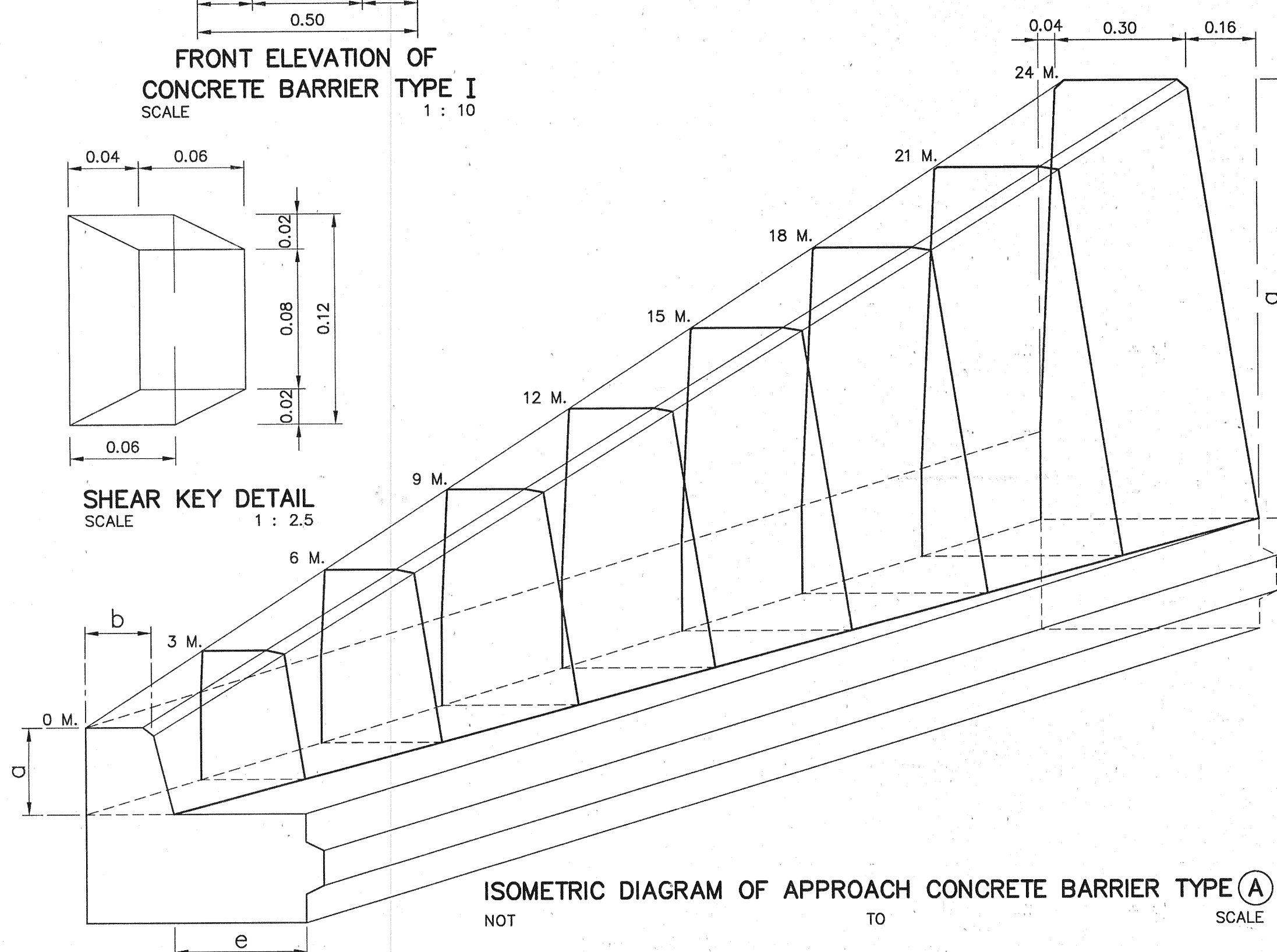
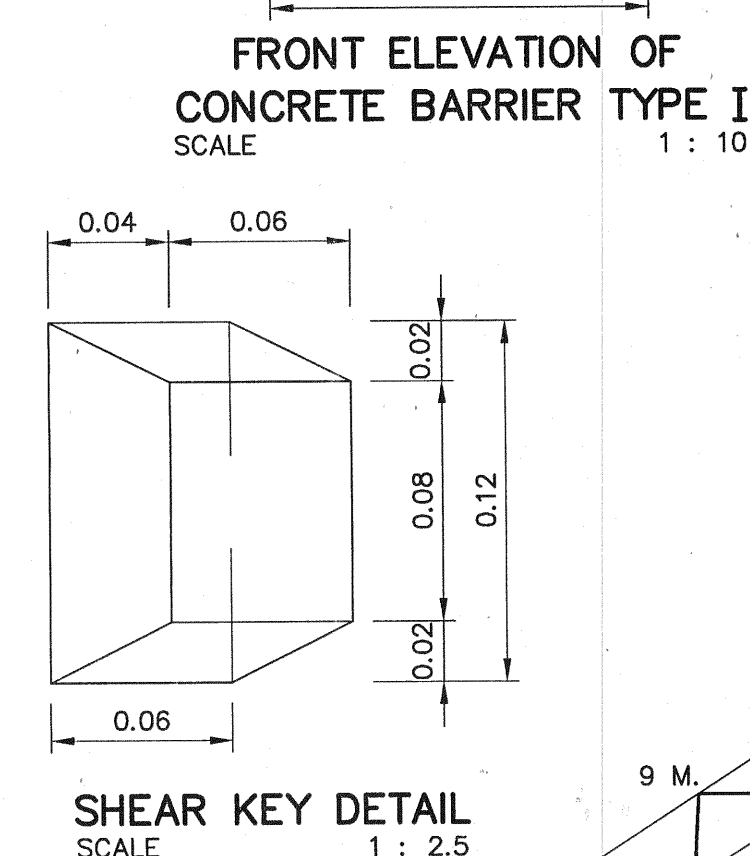
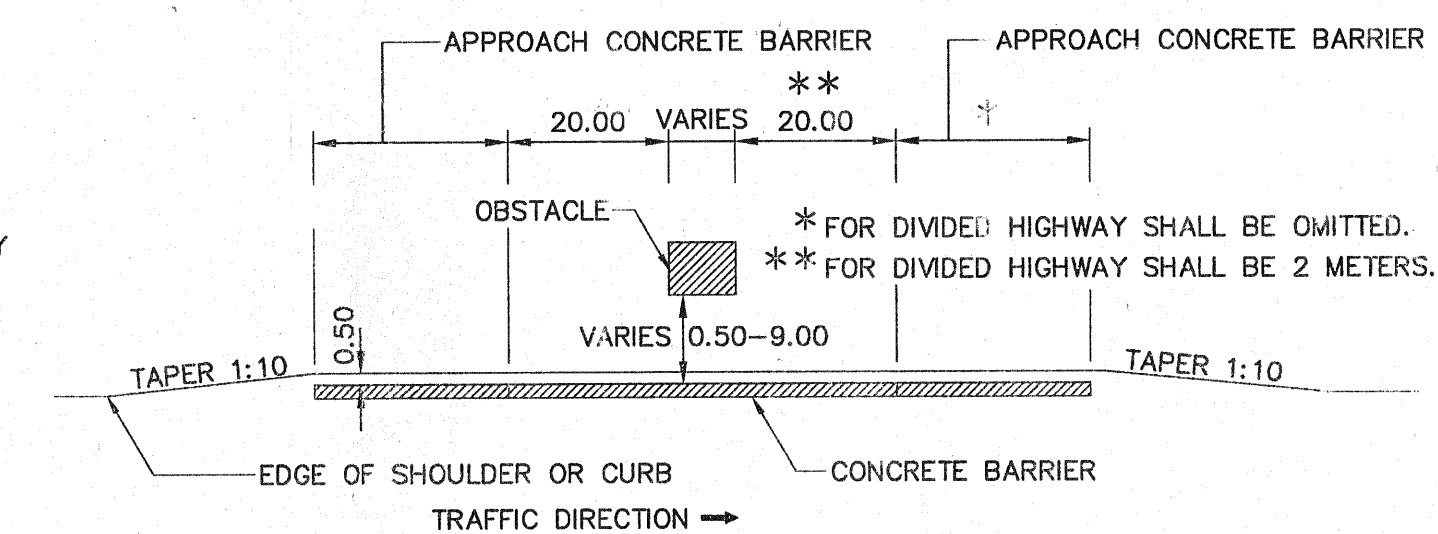
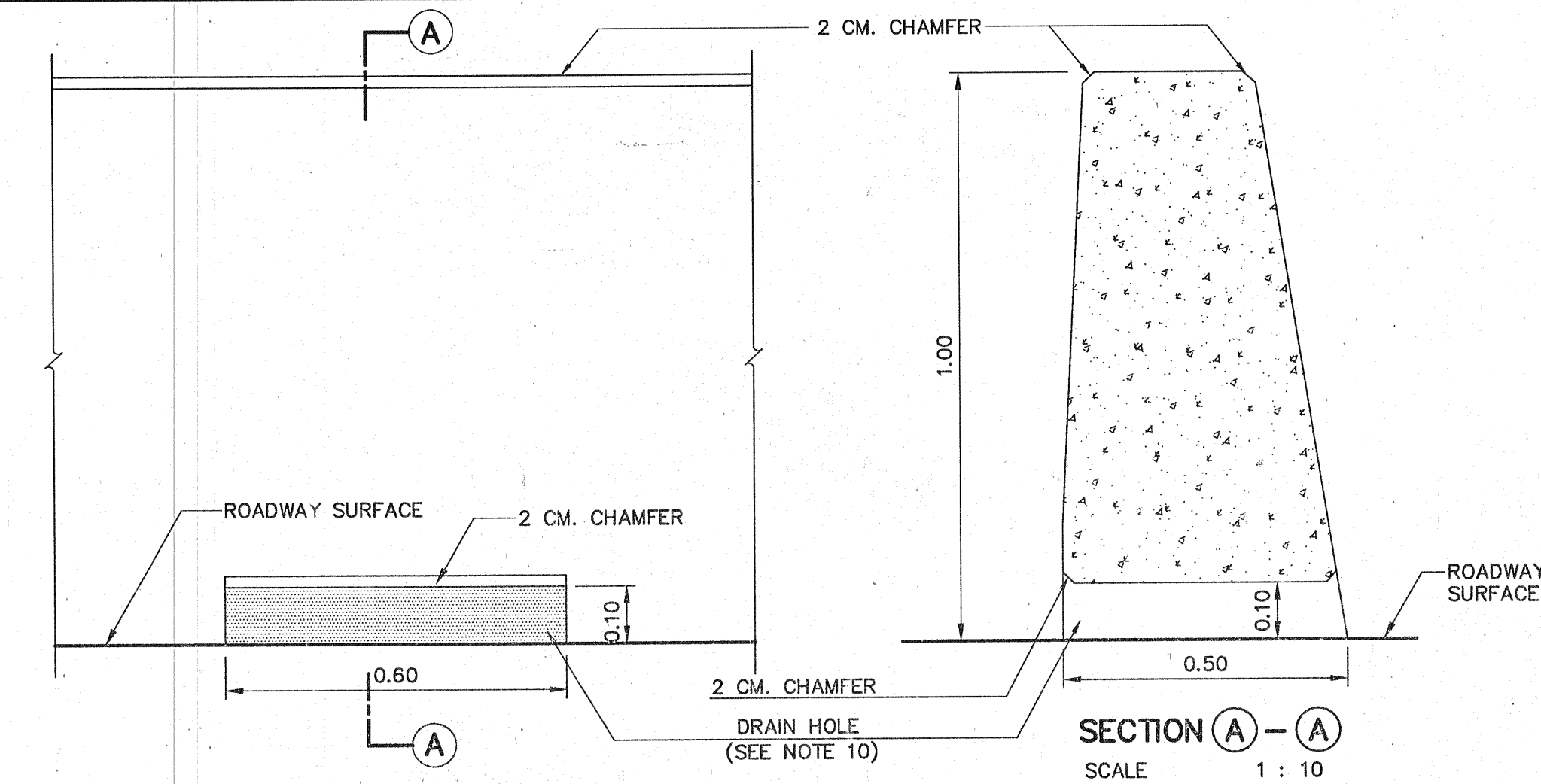
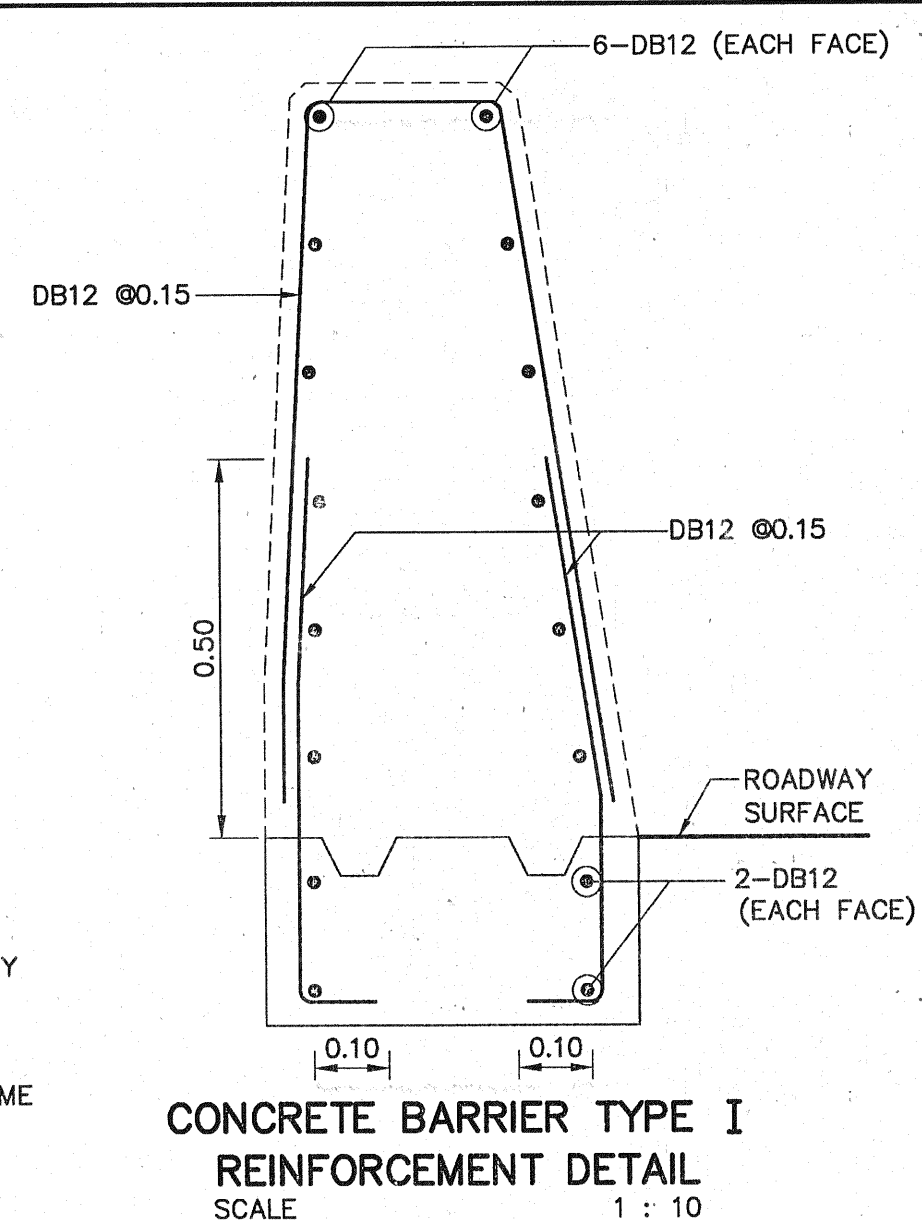
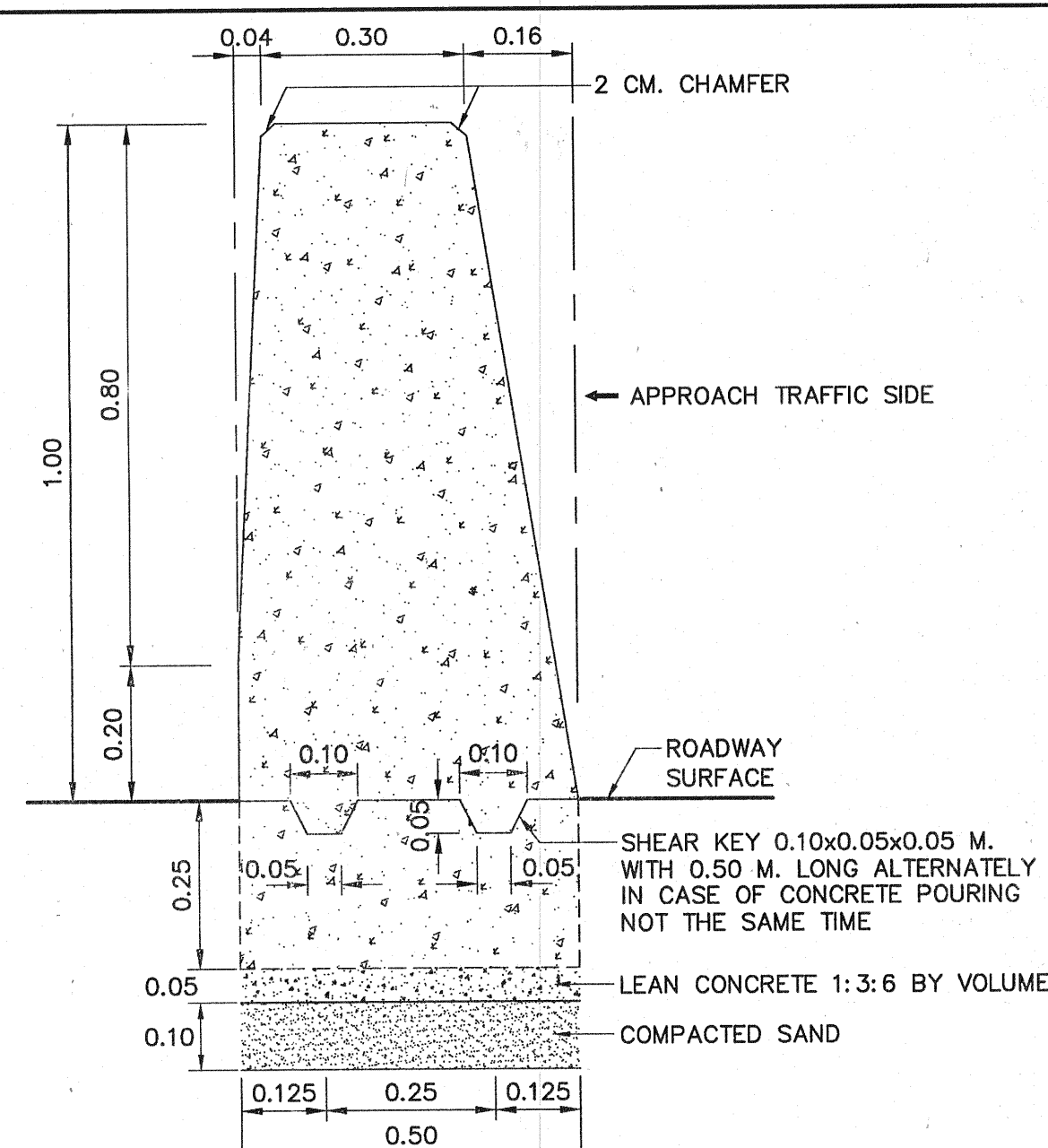


KINGDOM OF THAILAND
MINISTRY OF TRANSPORT
DEPARTMENT OF HIGHWAYS

TEAM CONSULTING ENGINEERING AND MANAGEMENT PCL.
TLT CONSULTANTS CO.,LTD.
DAOREUK COMMUNICATIONS CO.,LTD.

SUBMITTED
BY นายไพโรจน์ อายโสง
(PROJECT MANAGER) DATE

DESIGNED : นายสิทธิเมธี น. สย.11282
DRAWN : นส.กาญจนา ท.
CHECKED : นายไพโรจน์ อ. สย.8798



NOTES :

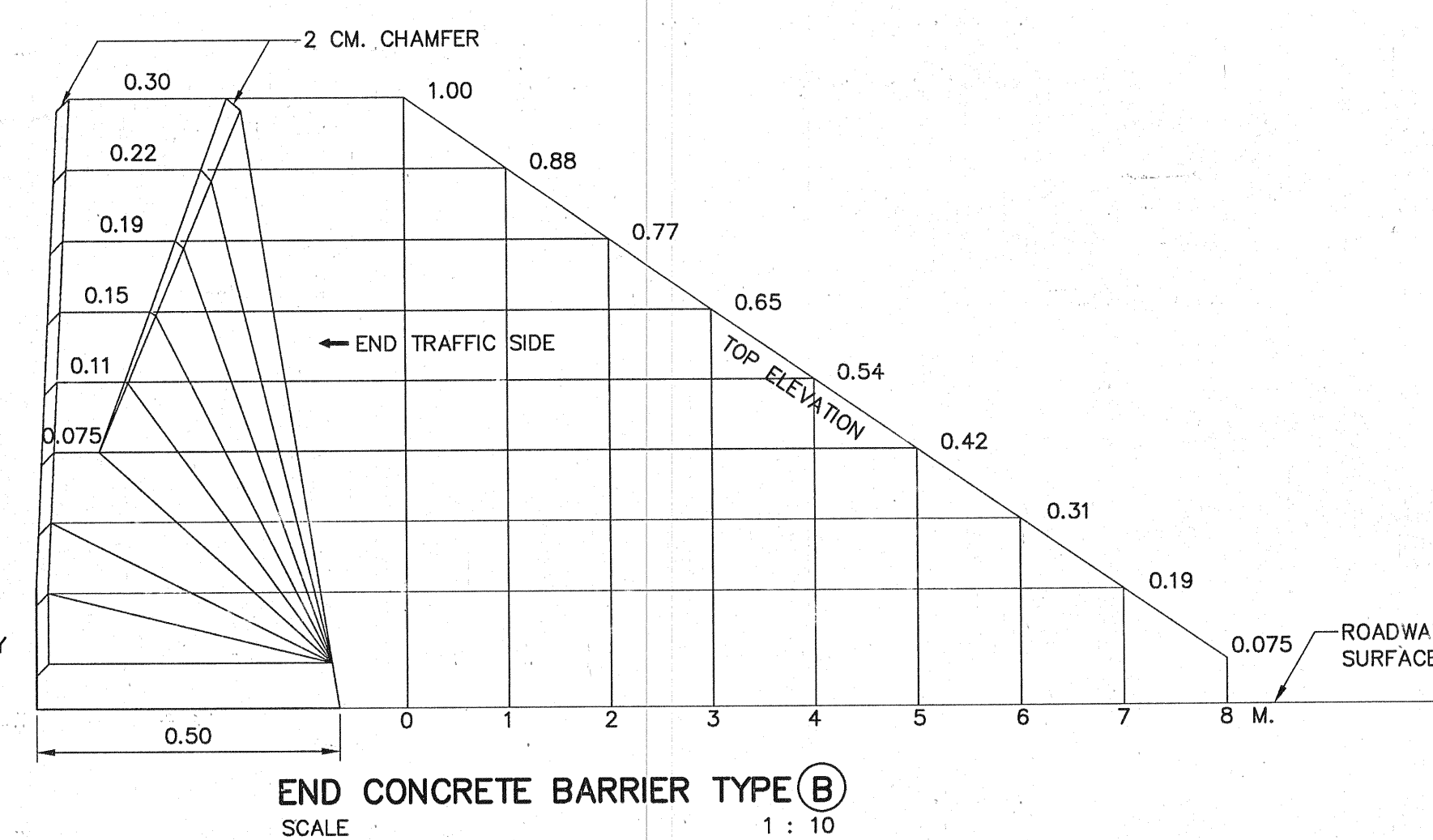
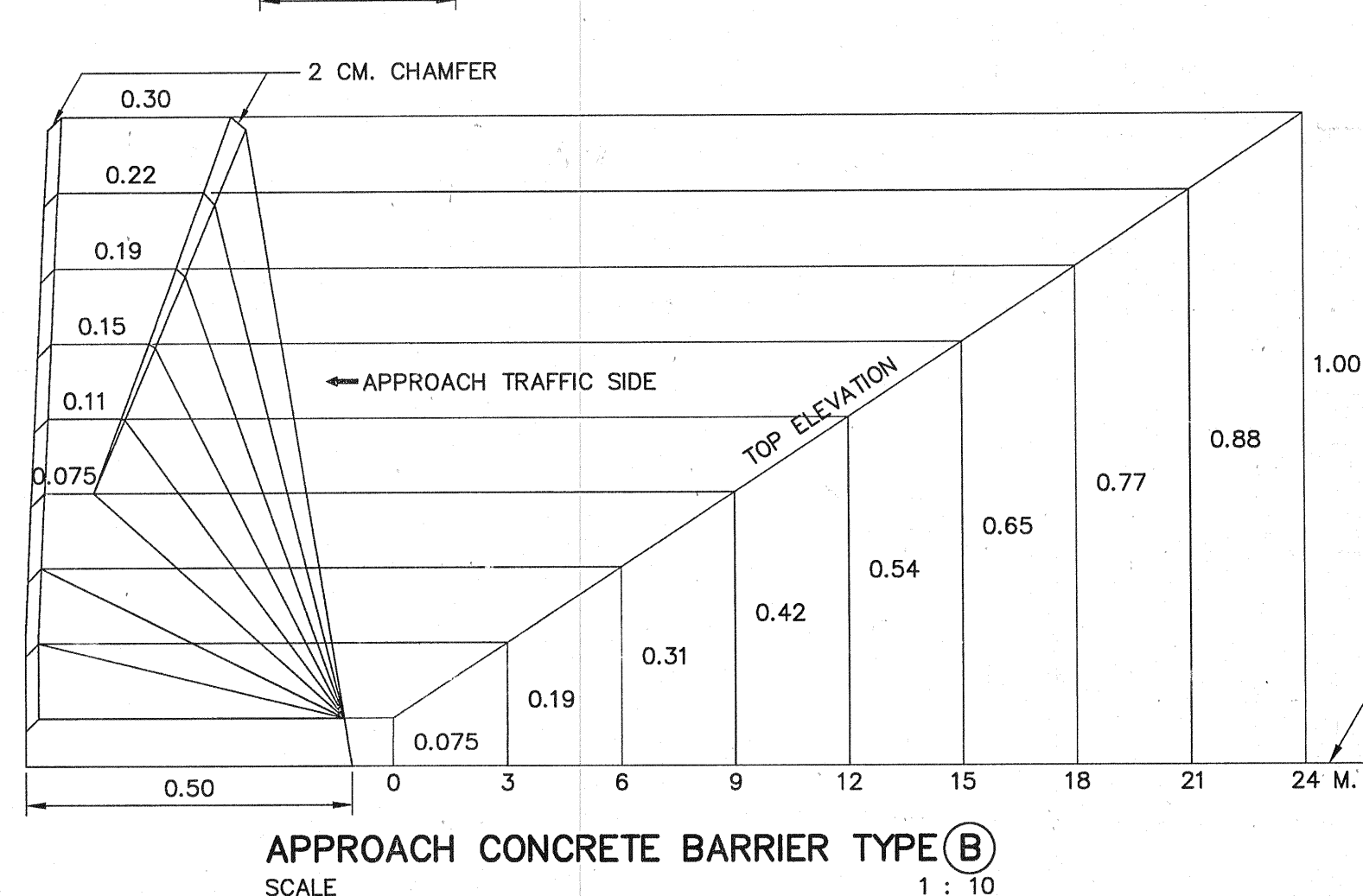
1. ALL DIMENSION ARE IN METERS UNLESS OTHERWISE INDICATED.
2. CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 30 MPa. (306 KSC.) FOR 15x15x15 CM. CUBE AT 28 DAYS, CEMENT SHALL CONFORM TO TIS. 15 TYPE I PORTLAND CEMENT OR APPROVAL TYPE.
3. REINFORCING STEEL SHALL CONFORM TO TIS. 20 GRADE SR. 24 FOR ROJND BARS AND TIS. 24 GRADE SD 40 FOR DEFORMED BARS.
4. CLEAR CONCRETE COVER SHALL BE 5 CM.
5. REINFORCING AND OTHER DETAILS OF APPROACH CONCRETE BARRIER SHALL BE THE SAME AS CONCRETE BARRIER.
6. CONSTRUCTION JOINT SHALL BE PROVIDED AT 10.00 M. INTERVAL.
7. EXPANSION JOINT WITH NON-EXTRUDING JOINT FILLER SHALL BE PROVIDED AT 60.00 M. INTERVAL.
8. APPROACH CONCRETE BARRIER SHALL BE PAINTED IN BLACK AND WHITE STRIPE 0.50 M. WIDE, IN TWO COATS. THE PAINT SHALL CONFORM TO TIS. 327.
9. PRECAST CONCRETE BARRIER TYPE IA AND TYPE IB ACCORDING TO DRAWING NO. RS-611 AND NO. RS-612 RESPECTIVELY, SHALL BE USED INSTEAD OF CAST-IN-SITU CONCRETE BARRIER.
10. IF NECESSARY TO DRAINAGE, THE DRAIN HOLES SHALL BE APPLIED WITH 10.00 M. SPACING OR OTHER SPACING AS DIRECTED BY THE ENGINEER.

REMARK :

THIS BARRIER IS SUITABLE ONLY IN SPECIFIC LOCATIONS AND CERTAIN CONDITIONS, IT SHOULD BE APPLIED WITH THE FIRM INFORMATIONS CONCERNED AND RECOMMENDED BY THE ENGINEER.

TRANSITION DISTANCE (M.)	DIMENSION (M.)		
	a	b	e
0	0.20	0.15	0.30
3	0.30	0.17	0.26
6	0.40	0.19	0.22
9	0.50	0.21	0.18
12	0.60	0.23	0.15
15	0.70	0.24	0.11
18	0.80	0.26	0.08
21	0.90	0.28	0.04
24	1.00	0.30	0.00

END CONCRETE BARRIER TYPE A ₁ B			
TRANSITION DISTANCE (M.)	DIMENSION (M.)		
	a	b	e
0	1.00	0.30	0.00
1	0.90	0.28	0.04
2	0.80	0.26	0.06
3	0.70	0.24	0.11
4	0.60	0.23	0.15
5	0.50	0.21	0.18
6	0.40	0.19	0.22
7	0.30	0.17	0.26
8	0.20	0.15	0.30



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		CHECKED	DATE	CHECKED	DATE



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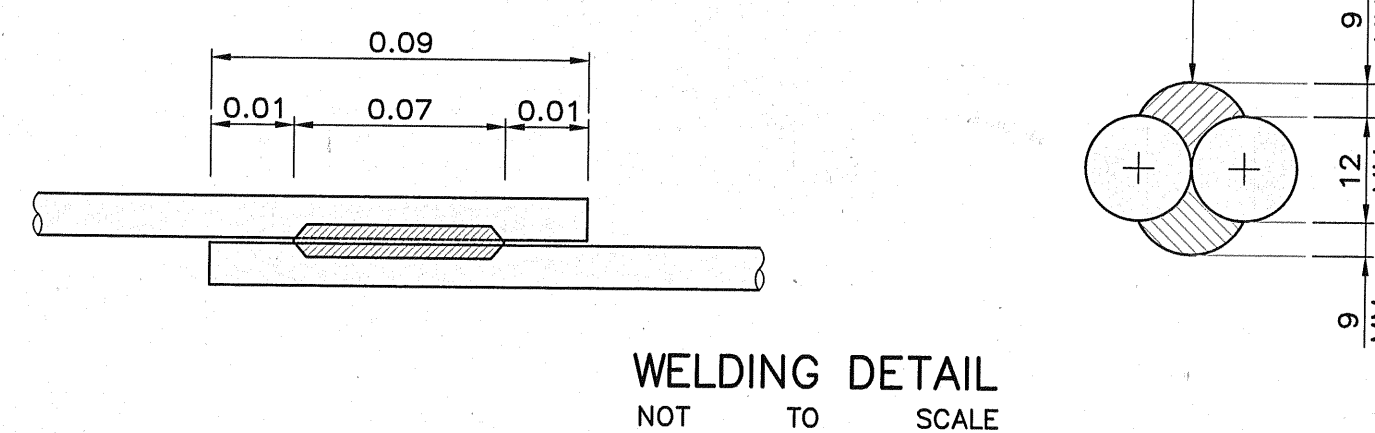
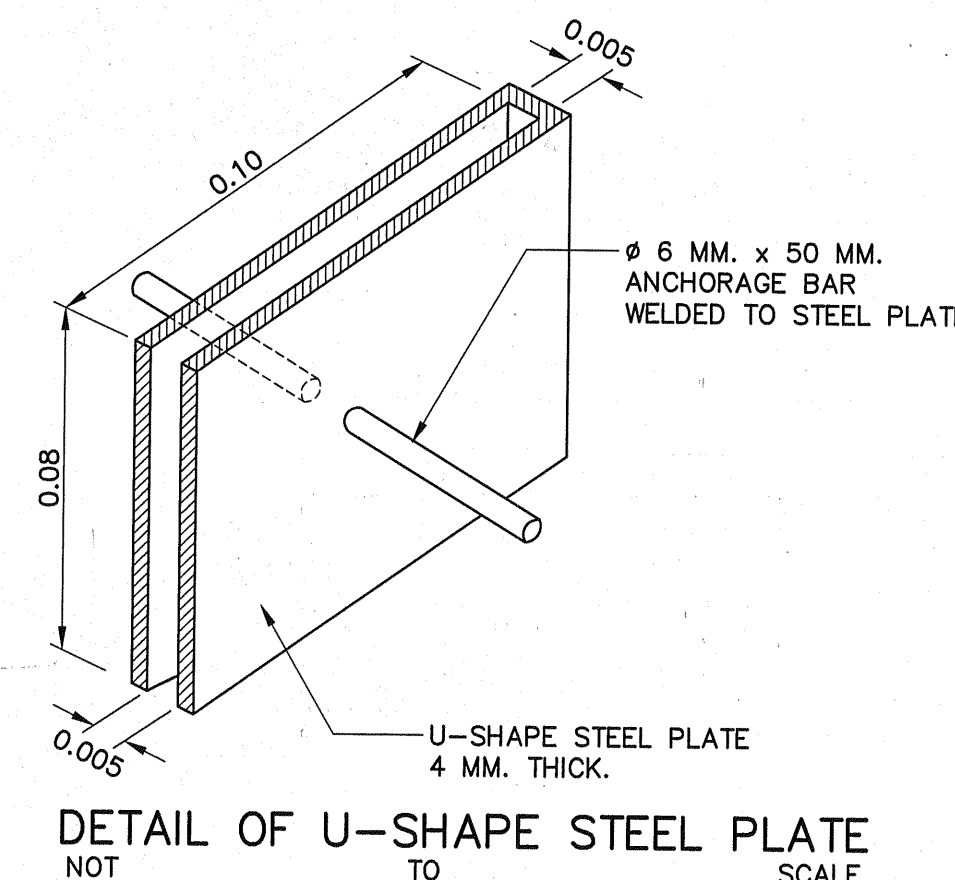
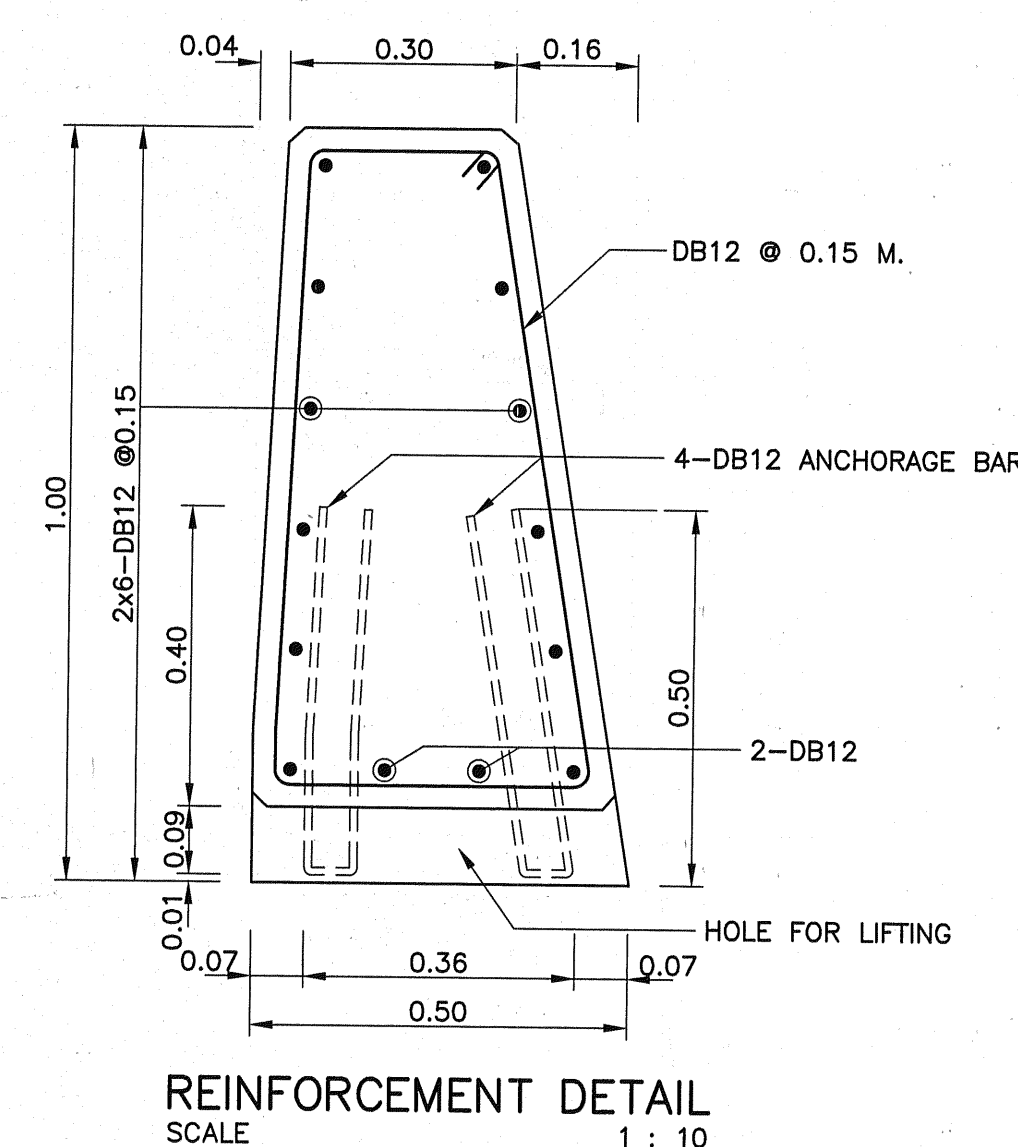
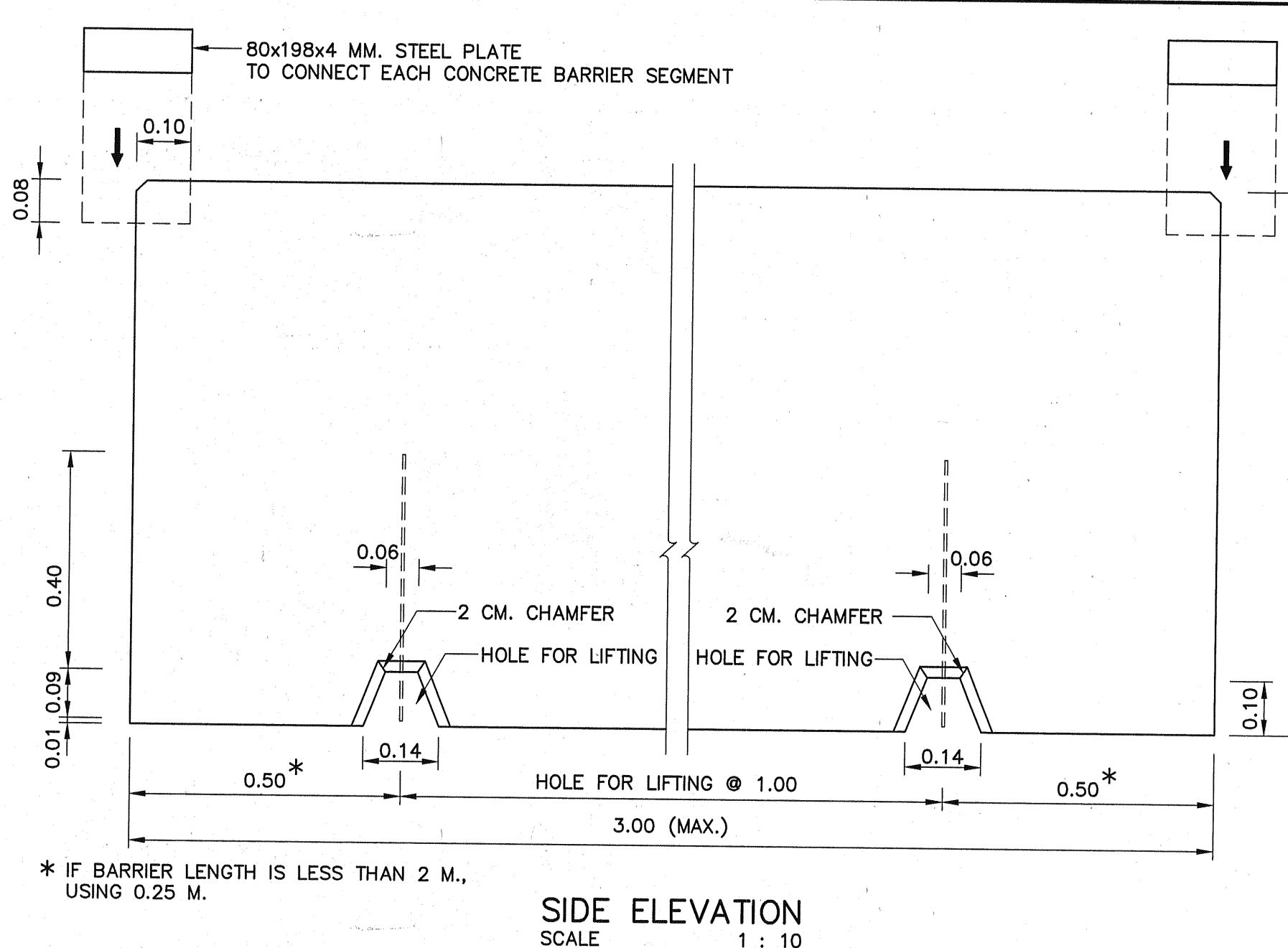
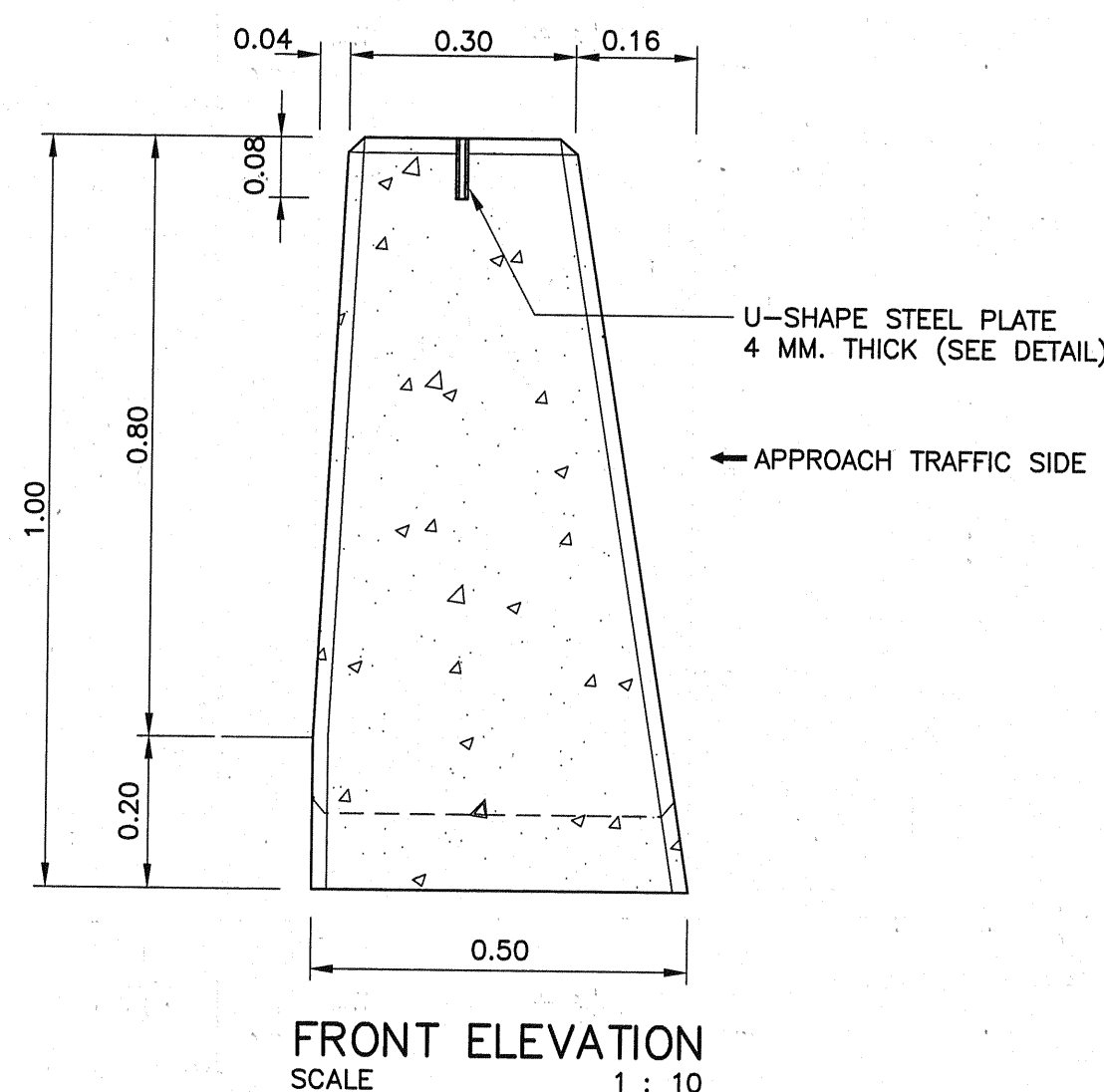


TEAM CONSULTING ENGINEERING
AND MANAGEMENT PCL.

SUBMITTED
14-1-
BY นายไกรฤทธิ ฉายโอสถ
(PROJECT MANAGER) DATE

DESIGNED :	<i>Navy</i>	นายสิทธิเมธี	ก	สข.11282
DRAWN :	<i>ปิยะรัตน์</i>	นางสาวปิยะรัตน์	ด	
CHECKED :	<i>44-1</i>	นายปิยะรัตน์	จ	สข.8798

กรมทางหลวง		
ตรวจ	✓ ๒๕ ธน ๖๗	
เห็นชอบ	๕/๑	๒๙/๙/๖๗
	ผู้อำนวยการสำนักงานและออกแบบ	
อนุมัติ	↓	๒๙/๙/๖๗
	แทนอธิบดี	



สำนักสำรวจและออกแบบ	
แบบเลขที่	แผ่นที่
RS-611/1	84/1
SINGLE SLOPE CONCRETE BARRIER PRE-CAST CONCRETE BARRIER TYPE IA	

- ## GENERAL NOTES :
1. ALL DIMENSION ARE IN METERS UNLESS OTHERWISE INDICATED.
 2. CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 35 MPa. (357 KSC.) FOR 15x15x15 CM. CUBE AT 28 DAYS, CEMENT SHALL CONFORM TO TIS. 15 TYPE I PORTLAND CEMENT OR APPROVAL TYPE.
 3. REINFORCING STEEL SHALL CONFORM TO TIS. 20 GRADE SR. 24 FOR ROUND BARS AND TIS. 24 GRADE SD 40 FOR DEFORMED BARS.
 4. CLEAR CONCRETE COVER SHALL BE 5 CM.
 5. STRUCTURAL STEEL SECTION SHALL CONFORM TO TIS. 1499, PAINTED WITH RUSTPROOF RUST-OLEUM PAINT OR EQUIVALENT TYPE.
 6. PRECAST CONCRETE BARRIER SHALL CONFORM TO ASTM C825-79 STANDARD SPECIFICATION FOR PRE-CAST CONCRETE BARRIER.
 7. METHOD AND TYPE OF WELDING TO CONNECT EACH CONCRETE BARRIER SEGMENT WHICH STRONGER THAN THAT SHOW IN THIS DRAWING MAY BE USED AS APPROVED BY THE ENGINEER.
 8. APPROACH CONCRETE BARRIER SHALL BE PAINTED IN BLACK AND WHITE STRIPE 0.50 M. WIDE, IN TWO COATS. THE PAINT SHALL CONFORM TO TIS. 327.
 9. IF NECESSARY, DRAIN HOLE SIZE 0.40 M. WIDE, 0.10 M. HIGH SHALL BE APPLIED FOR DRAINAGE.
 10. CHAMFER ALL 0.02 M.

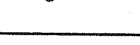
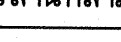
PERMANENT INSTALLATION :
METHOD OF INSTALLATION :

1. 0.25 M. BASE SHALL BE CAST-IN-SITU WITH INSERTING ANCHORAGE BAR AS SHOWN IN THE FIGURE.
2. GENERALLY THICKNESS OF THE BASE SHALL BE 0.25 M., FOR CONCRETE PAVEMENT THE THICKNESS SHALL EQUAL TO THICKNESS OF CONCRETE PAVEMENT
3. GENERALLY WIDTH OF THE BASE SHALL BE 0.45 M., IF EDGE OF PAVEMENT CONSTRUCTED ADJACENT TO CONCRETE BARRIER, THE WIDTH SHALL BE ADJUSTED TO 1.45 M. MINIMUM.
4. PRECAST CONCRETE BARRIER SHALL BE LIFTED AT HOLE FOR LIFTING TO INSTALLED. THE ANCHORAGE BARS SHALL BE IN THE SAME POSITION IF NOT, THE CONCRETE BASE SHALL BE ADJUSTED.
5. BOTH ANCHORAGE BARS SHALL WELDED TOGETHER WITH WELDING LENGTH NOT LESS THAN 7.0 CM.
6. 80x198x4 MM. STEEL PLATE SHALL BE INSERTED INTO U-SHAPE STEEL PLATE BOTH STEEL PLATES SHALL BE WELDED TOGETHER. THE WELDING FILLED FULLY U-SHAPE STEEL PLATE TO WATERPROOF, PAINTED WITH RUSTPROOF RUST-OLEUM PAINT OR EQUIVALENT TWICE AND WITH GRAY OIL PAINT TWICE (TIS. 327).
7. THE HOLE FOR LIFTING SHALL BE FILLED FULLY WITH CONCRETE RATIO 1:2:4 BY VOLUME, THE OUTER FACE SHALL BE SMOOTH.
8. JOINTS SHALL BE DECORATED SMOOTHLY BY MORTAR RATIO 1:3 BY VOLUME.
9. IF NECESSARY TO DRAINAGE, THE DRAIN HOLES SHALL BE APPLIED WITH 10.00 M. SPACING OR OTHER SPACING AS DIRECTED BY THE ENGINEER.
10. APPROACH AND END CONCRETE BARRIER SEE DRAWING NO. RS-608.
11. CHAMFER ALL 0.02M.

TEMPORARY INSTALLATION :
METHOD OF INSTALLATION :

1. PRECAST CONCRETE BARRIER SHALL BE LIFTED AT HOLE FOR LIFTING TO INSTALLED. THE ANCHORAGE BARS SHALL BE IN THE SAME POSITION IF NOT, THE CONCRETE BASE SHALL BE ADJUSTED.
2. 80x198x4 MM. STEEL PLATE SHALL BE INSERTED INTO U-SHAPE STEEL PLATE, NOT BE WELDED TOGETHER THE STEEL PLATES SHALL BE PAINTED WITH RUSTPROOF RUST-OLEUM PAINT OR EQUIVALENT TWICE AND WITH GRAY OIL PAINT TWICE (TIS. 327).
3. TEMPORARY INSTALLATION SHALL BE USED AS NECESSARY ONLY BECAUSE LACK OF STRENGTH. THE CONCRETE BARRIER SHALL BE REMOVED IMMEDIATELY IF NOT USED OR CONVERTED TO PERMANENT INSTALLATION AS SOON AS

REMARK :
THIS BARRIER IS SUITABLE ONLY IN SPECIFIC LOCATIONS AND CERTAIN CONDITIONS,
IT SHOULD BE APPLIED WITH THE FIRM INFORMATIONS CONCERNED AND RECOMMENDED
BY THE ENGINEER.

กรมทางหลวง		
ตรวจ	 ๓๐๓๓	
เห็นชอบ	 ผู้อำนวยการสำนักงานและออกแบบ	26/10/63
	 แทนอธิบดี	
อนุญาต	 แทนอธิบดี	27/10/63

REV. NO.	DESCRIPTION	SCALE			
		ENGINEER		DOH	
		CHECKED	DATE	CHECKED	DATE



KINGDOM OF THAILAND
MINISTRY OF TRANSPORT
DEPARTMENT OF HIGHWAYS



TEAM CONSULTING ENGINEERING
AND MANAGEMENT PCL.

SUBMITTED
141-

BY นายไกรฤทธิ อายโรตง
(PROJECT MANAGER) DATE _____

DESIGNED :		นายสิทธิเมธี ภัท	ก	สย11282
DRAWN :		นางสาวธิดารัตน์	ด	
CHECKED :		นายเกรกฤทธิ์	อ	สย8798