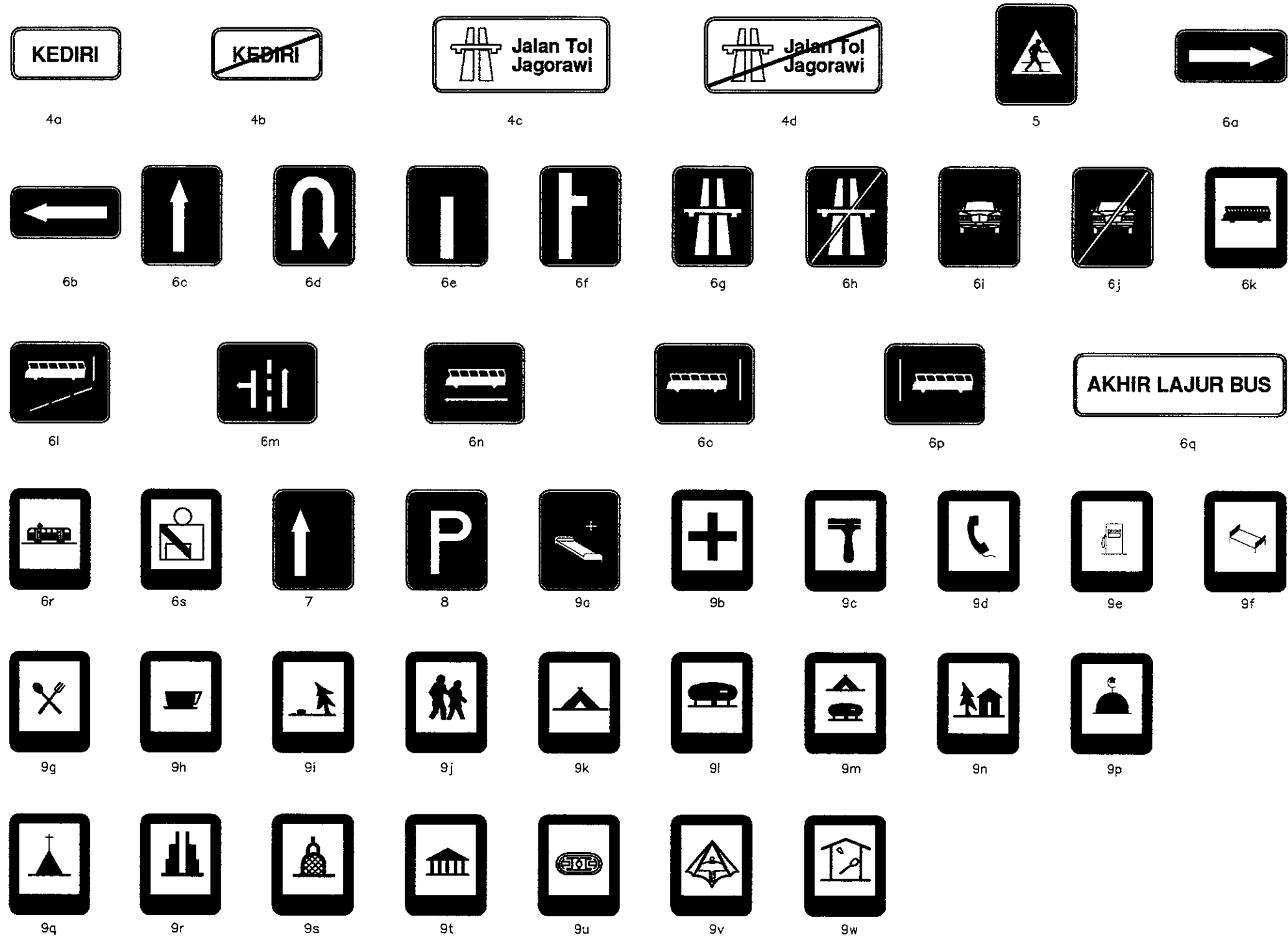


TABLE III. GUIDE SIGNS



- 4a. INCOMING BORDER OF KEDIRI CITY
- 4b. OUT GOING BORDER OF KEDIRI CITY
- 4c. BEGINNING OF TOLL ROAD
- 4d. END OF TOLL ROAD
- 5. PEDESTRIAN CROSSING PLACE
- 6a. ONE WAY RIGHT
- 6b. ONE WAY LEFT
- 6c. STRAIGHT ONE WAY
- 6d. U TURN
- 6e. DEAD END
- 6f. DEAD END DIRECTION RIGHT WAY
- 6g. TOLL ROAD
- 6h. END OF TOLL ROAD
- 6i. VEHICLE ONLY
- 6j. END OF VEHICLE
- 6k. BUS STOP
- 6l. START OF BUS LINE
- 6m. OTHER TRAFFIC
- 6n. SPECIAL BUS LINE
- 6o. ONE DIRECTION BUS LINE
- 6p. TWO DIRECTION BUS LINE
- 6q. END OF BUS LINE
- 6r. FIXED LANE HALT
- 6s. USED SAFETY BELT
- 7. PRIORITY GIVEN TO THE COMING TRAFFIC
- 8. PARKING AREA
- 9a. HOSPITAL
- 9b. FIRST AID OFFICE
- 9c. VEHICLE WORK SHOP
- 9d. PUBLIC TELEPHONE
- 9e. GAS / FUEL STATION
- 9f. HOTEL AND MOTEL
- 9g. RESTAURANT
- 9h. CAFE
- 9i. RECREATIONAL AREA
- 9j. PASSING ZONE
- 9k. CAMPING AREA
- 9l. REST AREA
- 9m. CARAVAN AREA
- 9n. BUNGALOW / VILLE
- 9o. MOSQUE
- 9p. CHURCH
- 9r. HINDUS TEMPLE
- 9s. BUDHIST TEMPLE
- 9t. MUSEUM
- 9u. OPEN SPORT STADIUM
- 9v. GLIDING AREA
- 9w. SPORT HALL

COLOR LEGEND :

- RED
- BLACK
- BLUE

NOTE :
 STANDARD TRAFFIC ROAD SIGNS SHOULD CONFORM WITH THE "DINAS PERHUBUNGAN LALU LINTAS DAN ANGKUTAN JALAN SETEMPAT"

ADDITIONAL TRAFFIC SIGNS
 (FOR TRAFFIC IMPLEMENTATION)



S1-1



W16-7PL



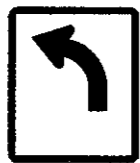
S4-4



S4-5



S4-5a



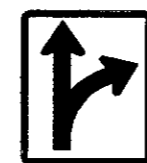
R3-5L



R3-5R



R3-6L



R3-6R



W20-7a



W2-16



W4-3L



W4-3R

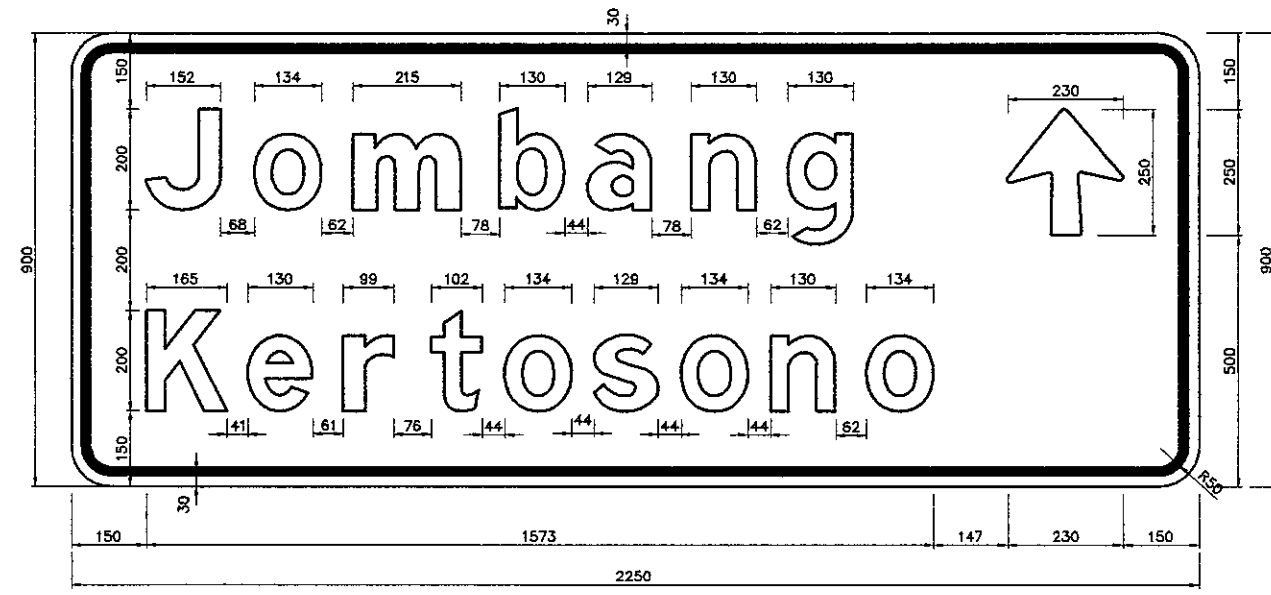
- S1-1 SCHOOL
- S4-5 REDUCED SPEED (SCHOOL) ZONE AHEAD
- S4-5a REDUCED SPEED (SCHOOL) ZONE AHEAD
- R3-5L MANDATORY MOVEMENT LANE CONTROL (LEFT)
- R3-5R MANDATORY MOVEMENT LANE CONTROL (RIGHT)
- R3-6L OPTIONAL MOVEMENT LANE CONTROL (LEFT)
- R3-6R OPTIONAL MOVEMENT LANE CONTROL (RIGHT)
- W20-7a FLAGGER
- W2-16 DISTANCE
- W4-3L ADDED LINE (LEFT)
- W4-3R ADDED LINE (RIGHT)
- W16-7PL LEFT DIAGONAL ARROW PLAQUE

COLOR LEGEND :

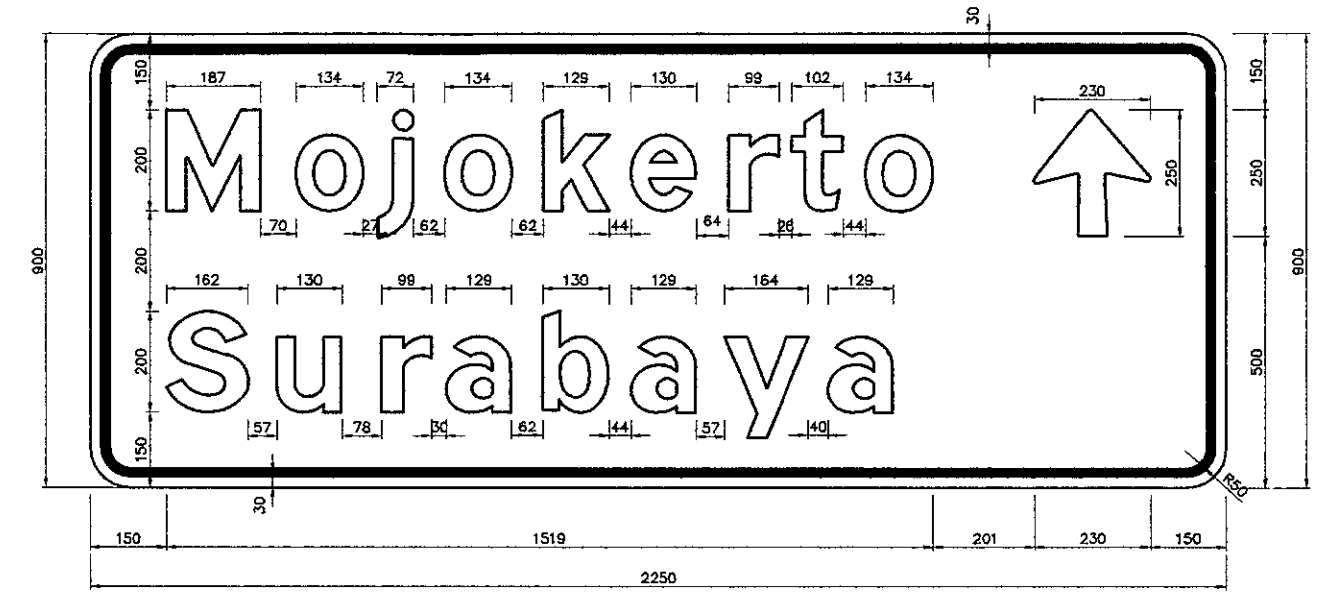
	YELLOW
	RED
	BLACK
	BLUE

NOTE :
 STANDARD TRAFFIC WITH ROAD SIGNS
 SHOULD CONFORM WITH THE *
 DINAS PERHUBUNGAN LALU LINTAS
 DAN ANGKUTAN JALAN SETEMPAT

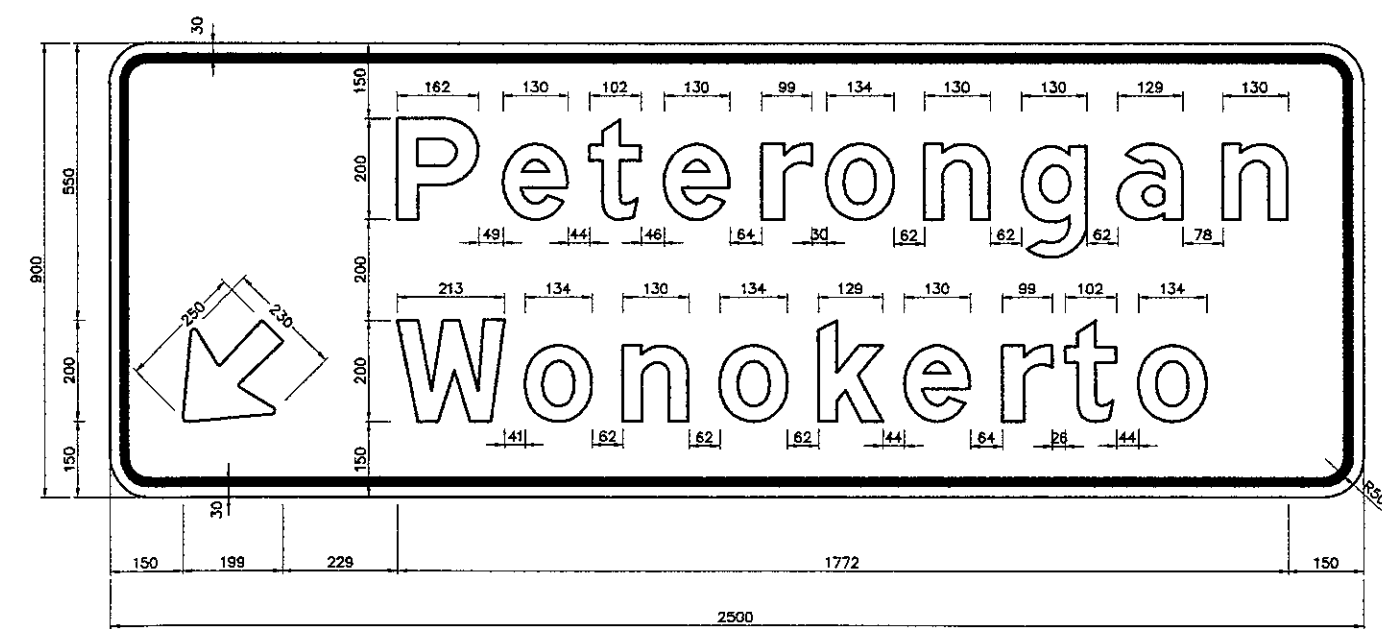
DESIGNED BY		CHECKED BY		SUBMITTED BY	
Name	R. UENO	Name	T. OKUMURA	Name	M. KIUCHI
Sign		Sign		Sign	
Date		Date		Date	



GS-2



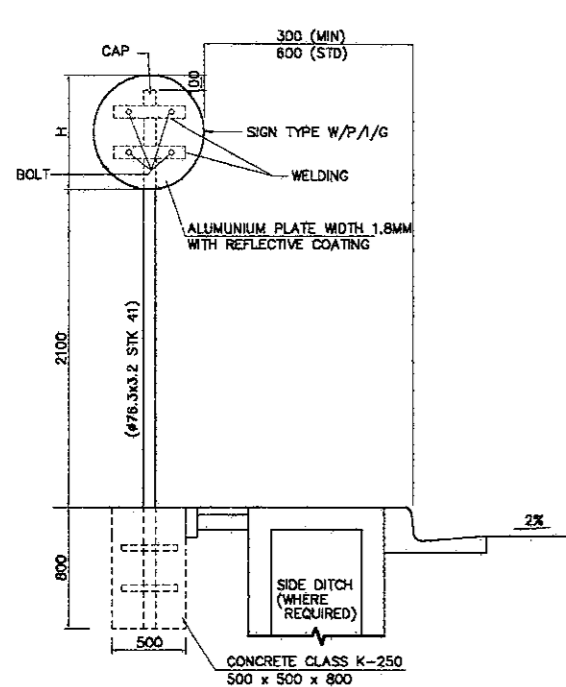
GS-3



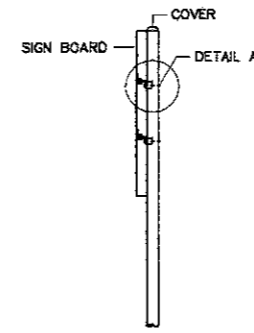
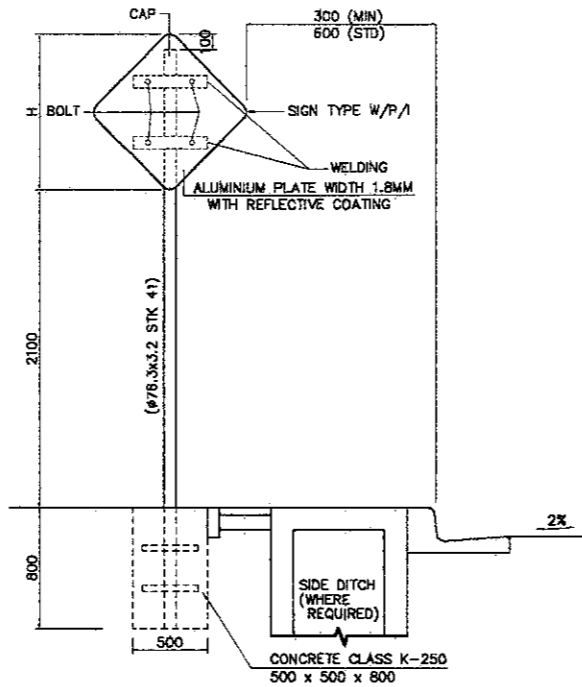
GS-1

NOTES :

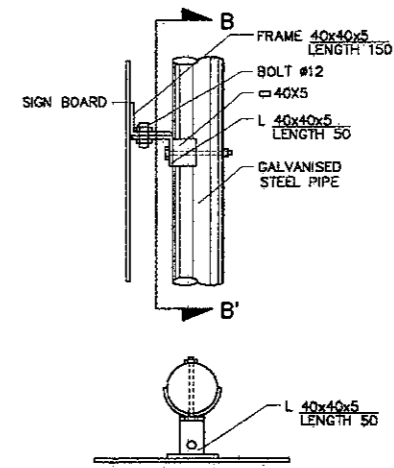
- USED LETTER : REFER TO THE STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS, FHWA 1977
 : USED TYPE UPPERCASE E(M) 200, LOWERCASE LC 150
- USED COLOUR : BACKGROUND : GREEN (REFLECTORIZED) ENGINEERING GRADE (EG)
 LETTER : WHITE (REFLECTORIZED) HIGH INTENSITY
 ARROW : WHITE (REFLECTORIZED) HIGH INTENSITY
 BORDER LINE : WHITE BOLD 30 MM (REFLECTORIZED) HIGH INTENSITY
 CORNER RADIUS : 50 MM



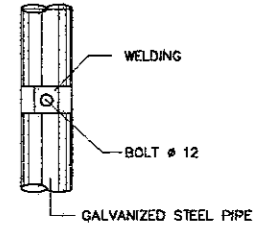
1 TYPE - A
 SCALE 1:50



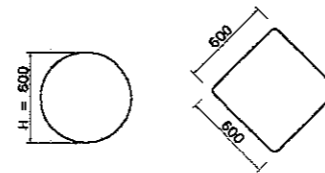
7 TYPICAL INSTALLATION OF SIGN AT STEEL POLE
 NOT TO SCALE



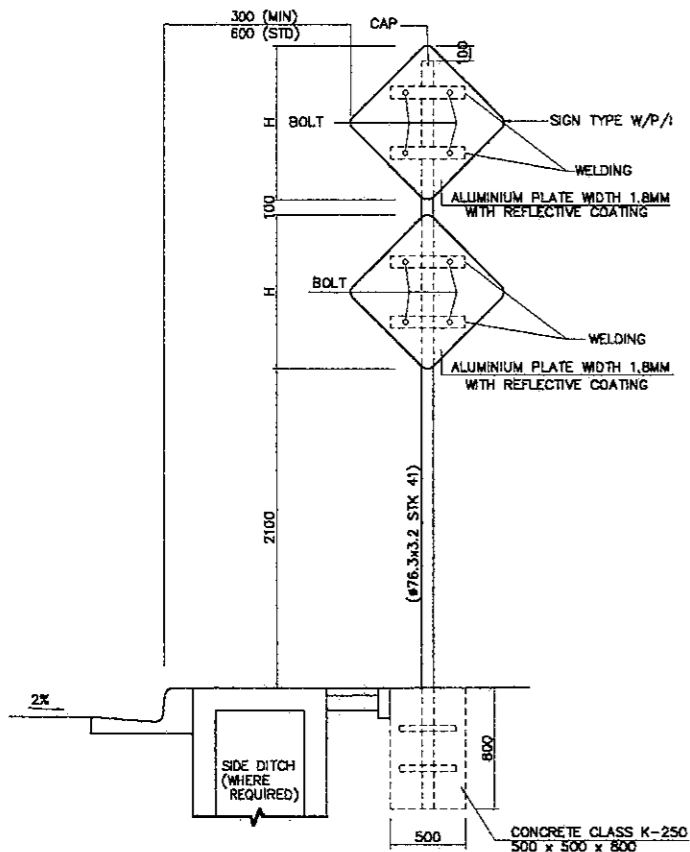
8 DETAIL A
 NTS



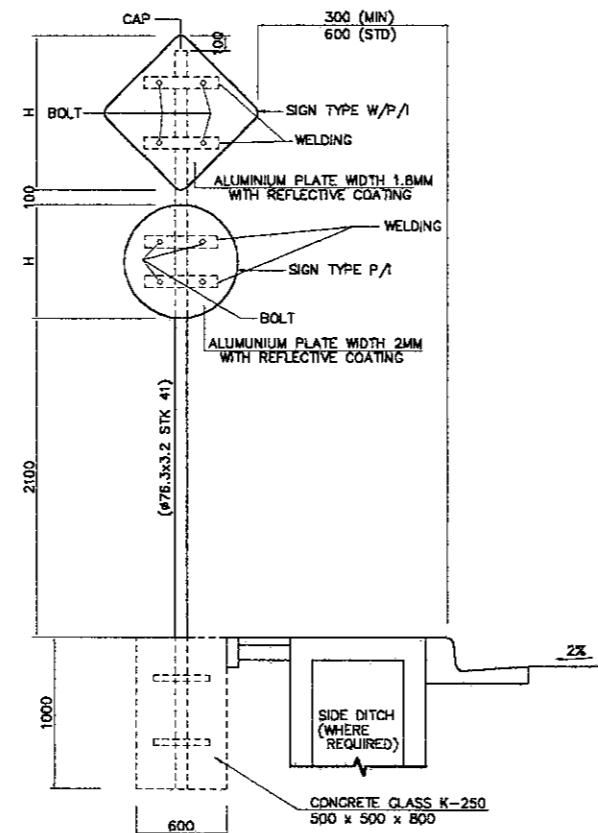
9 SEC. B-B'
 NTS



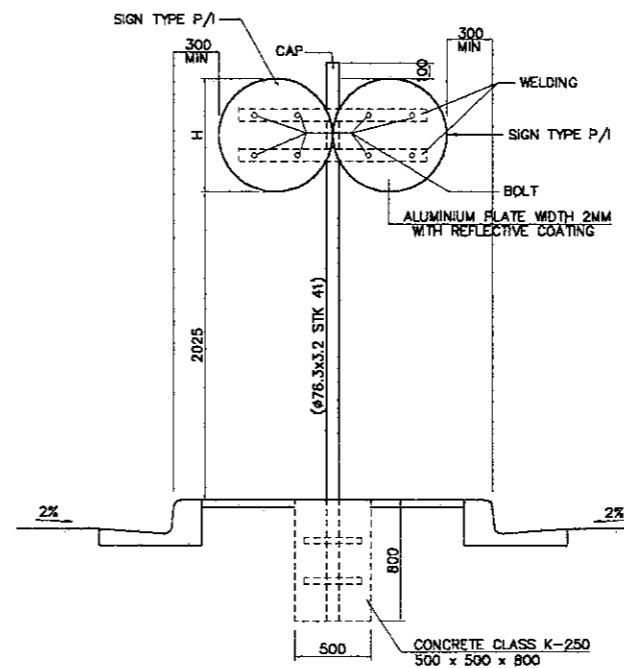
6 DIMENSIONS OF SIGN
 SCALE 1:50



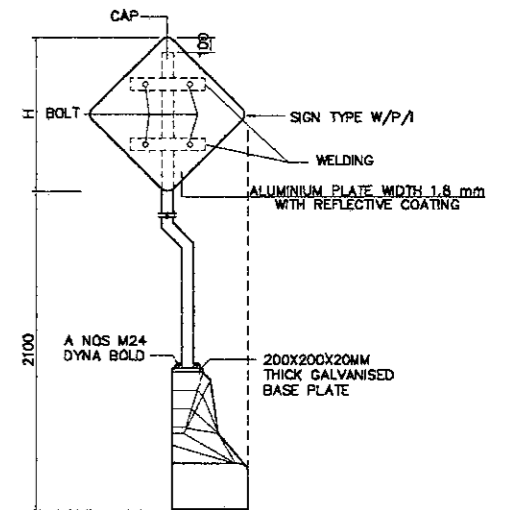
2 TYPE - B
 SCALE 1:50



3 TYPE - C
 SCALE 1:50



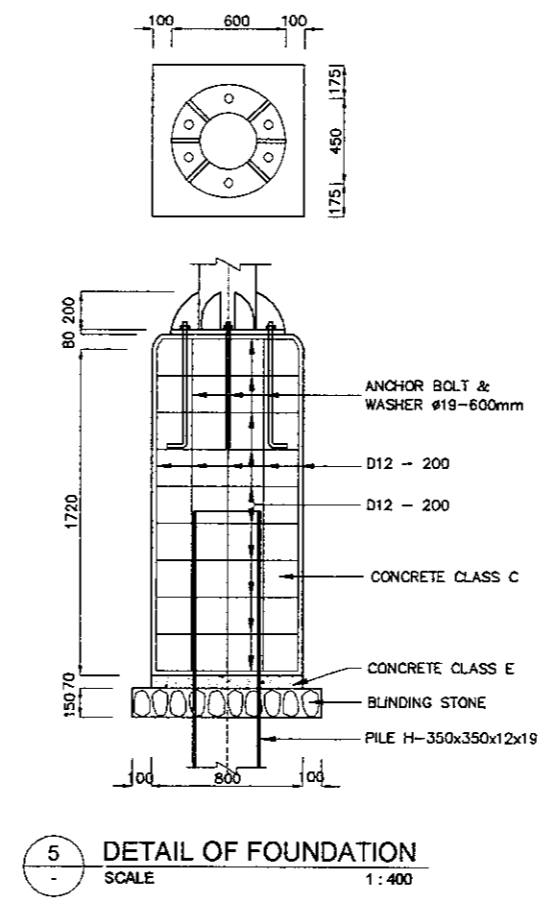
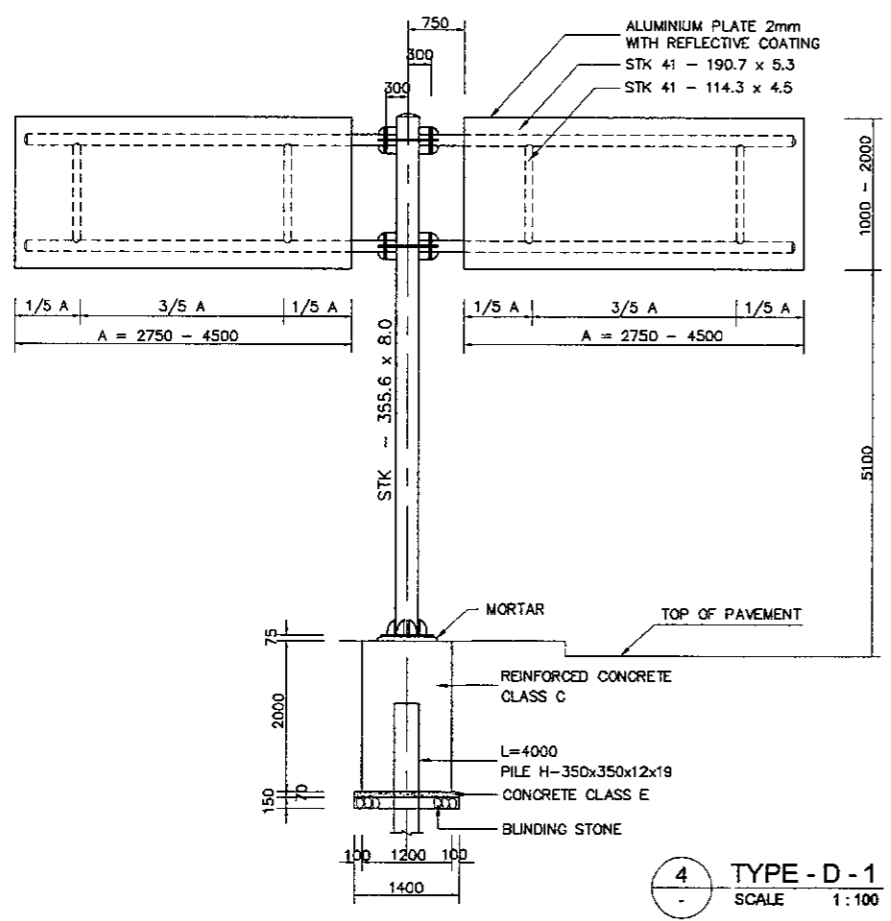
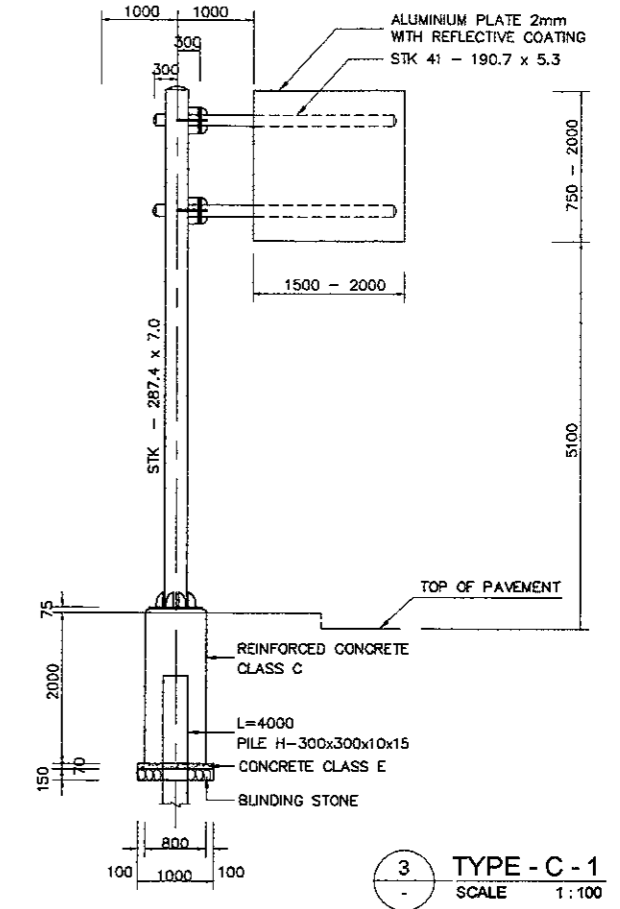
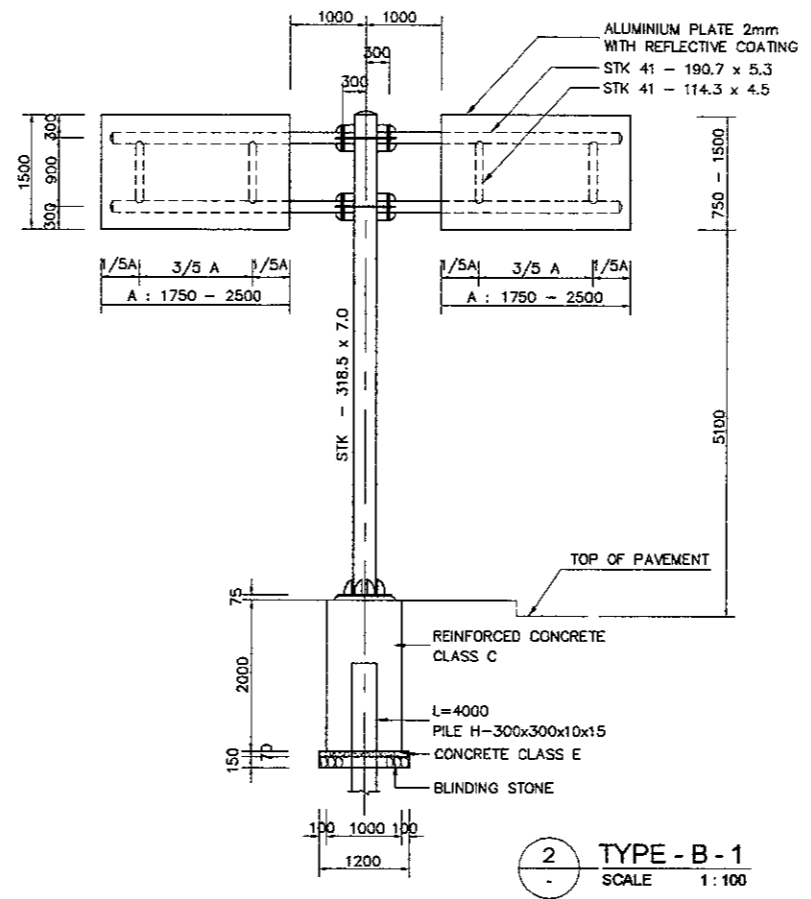
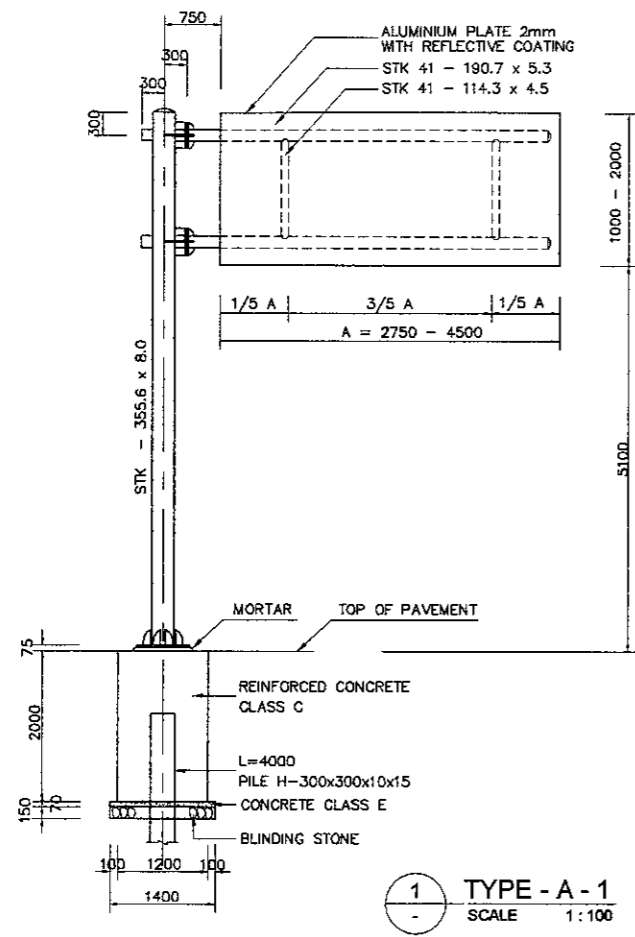
4 TYPE - D
 SCALE 1:50



5 TYPE - E
 SCALE 1:50

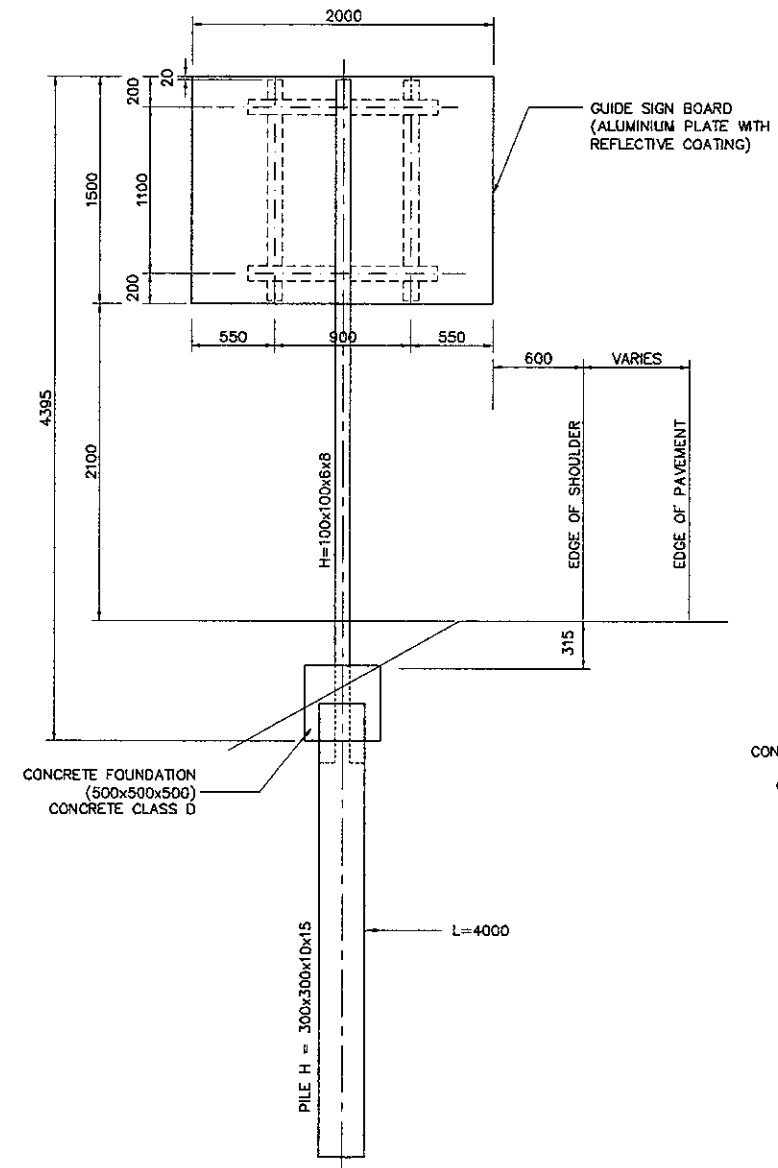
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN
2. DETAILS SHALL BE IN ACCORDANCE WITH SK MEN-HUB NO. 61 TAHUN 1993
3. ALUMINIUM PLATE WITH REFLECTIVE SHEETING (AASHTO M 258) SHALL BE USED.
4. UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER, THE THICKNESS OF ALUMINIUM PLATE SHALL BE 2MM.
5. DETAILS OF CLAMPS SHALL BE APPROVED BY THE ENGINEER.
6. LOCATION OF SIGNS AND EACH TYPE OF SIGNS SHALL BE AS DIRECTED AND APPROVED BY THE ENGINEER

DESIGNED BY	CHECKED BY	SUBMITTED BY
Name: R. UENO	Name: T. OKUMURA	Name: M. KIUCHI
Sign:	Sign:	Sign:
Date:	Date:	Date:



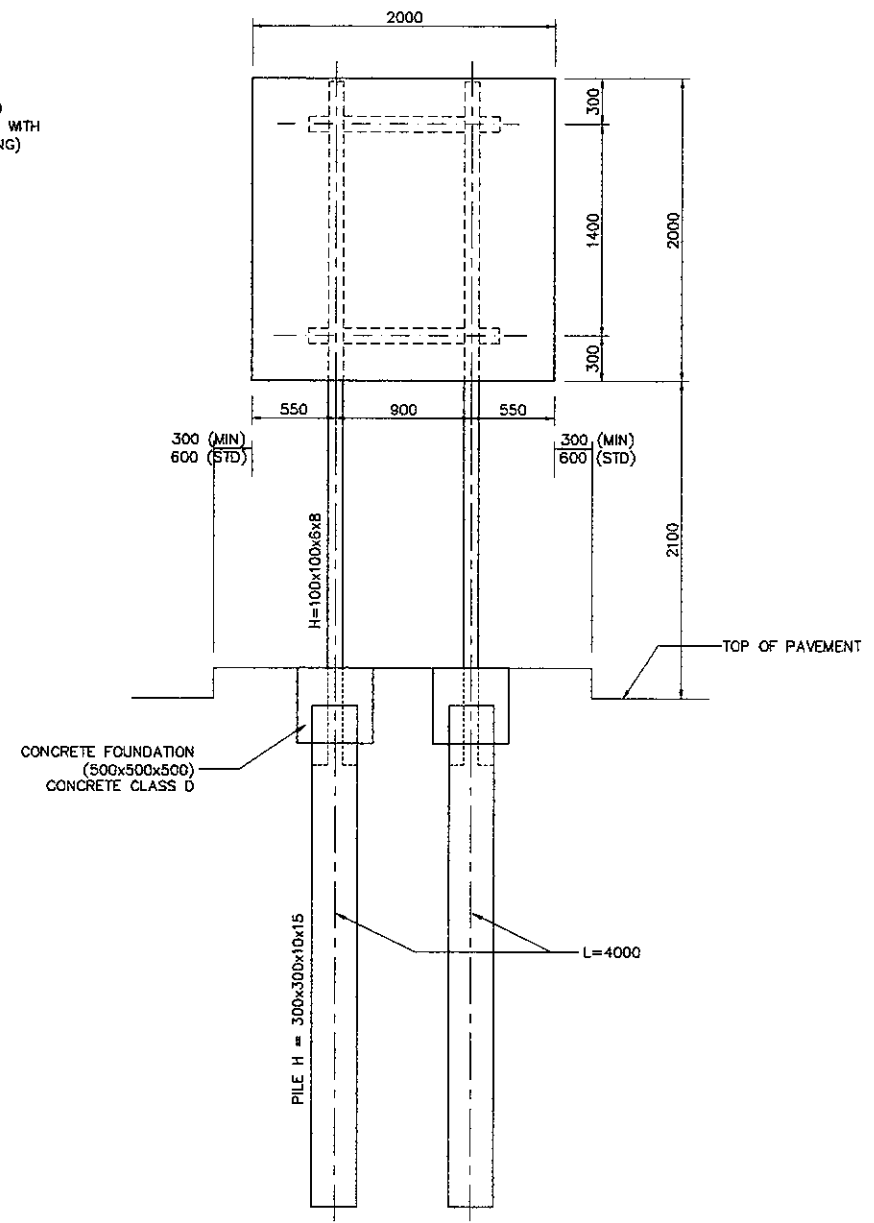
- NOTES :
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
 2. ALL STEEL MATERIALS EXCEPT STAINLESS STEEL SHALL BE GALVANIZED
 3. "STK" INDICATES STEEL PIPE OR PILE.
 4. EACH TYPE OF GUIDE SIGN SHALL BE PROVIDED AS SHOWN IN THE PLAN OR AS INSTRUCTED BY THE ENGINEER.
 5. PILE FOUNDATION SHALL BE ADOPTED WHEN THE GUIDE SIGN IS INSTALLED ON THE EARTH WORK SECTION. PILE LENGTH ARE STANDARD AND MAY BE VARIED TO SITE CONDITIONS AS INSTRUCTED BY THE ENGINEER.
 6. GUIDE SIGN WITH FRAMES LOCATED ON BRIDGES SHALL BE INSTALLED ON PEDESTALS.

DESIGNED BY		CHECKED BY		SUBMITTED BY	
Name	R. UENO	Name	T. OKUMURA	Name	M. KIUCHI
Sign		Sign		Sign	
Date		Date		Date	



1 TYPE - E - 1

 SCALE 1:500

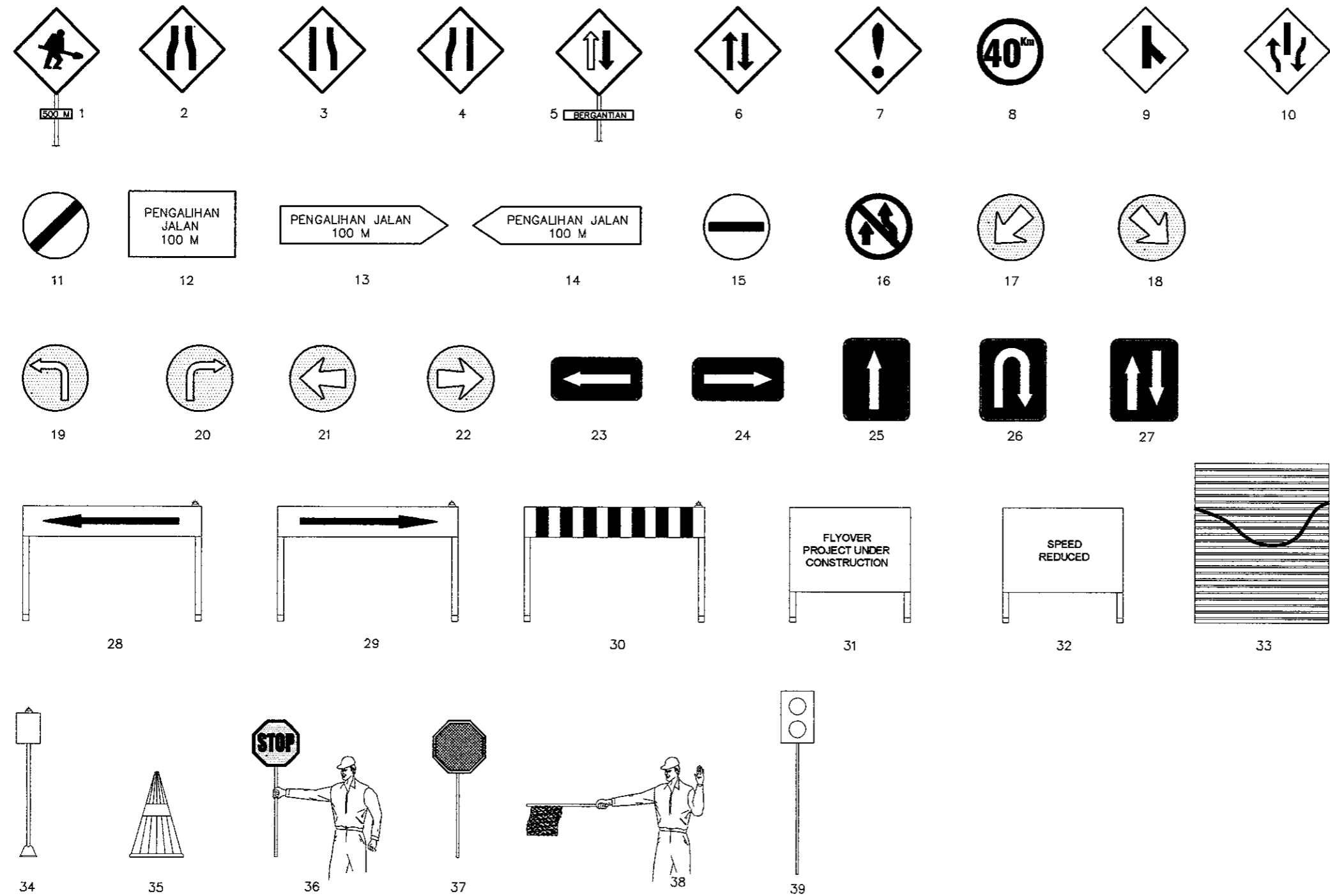


2 TYPE - F - 1

 SCALE 1:500

- NOTES :
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
 - ALL STEEL MATERIALS EXCEPT STAINLESS STEEL SHALL BE GALVANIZED.
 - 'H' INDICATES STEEL H-BEAM.
 - 'STK' INDICATES STEEL PIPE OR PILE.
 - EACH TYPE OF GUIDE SIGN SHALL BE INSTALLED AS SHOWN ON THE PLANS OR AS INSTRUCTED BY THE ENGINEER.
 - PILE FOUNDATION SHALL BE ADOPTED WHEN THE GUIDE SIGN IS INSTALLED ON THE EARTH WORK SECTION. PILE LENGTH ARE STANDARD AND MAY BE VARIED TO SITE CONDITIONS AS INSTRUCTED BY THE ENGINEER.
 - GUIDE SIGN WITH FRAMES LOCATED ON BRIDGES SHALL BE INSTALLED ON PEDESTALS.

ROAD WORK
 (TEMPORARY SIGNS)

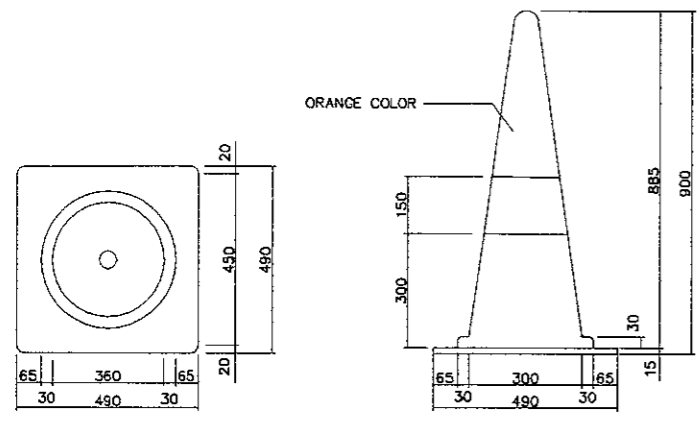


1. 500M ROADWORK
2. CHANGING OF ROAD WIDTH
3. LANE ENDS RIGHT
4. LANE ENDS LEFT
5. PRIORITY FOR VEHICLES
6. TWO WAY TRAFFIC
7. LOOK OUT
8. SPEED LIMIT MAX 40KM
9. INTERSECTION FROM BACK RIGHT DIRECTION TRAFFIC
10. BEGINNING OF SEPERATOR ONE TWO WAY TRAFFIC
11. END OF PROHIBITION AREA
12. 100M CHANGE TRAFFIC
13. 100M CHANGE TRAFFIC TO RIGHT
14. 100M CHANGE TRAFFIC TO LEFT
15. NO ENTRY FOR ALL VEHICLES
16. TWO TRAFFIC
17. MUST PASS THIS LANE
18. MUST PASS THIS LANE
19. TURNING INDICATION TO LEFT
20. TURNING INDICATION TO RIGHT
21. INDICATION OF DIRECTION TO LEFT
22. INDICATION OF DIRECTION TO RIGHT
23. ONE WAY LEFT
24. ONE WAY RIGHT
25. STRAIGHT ONE WAY
26. U TURN
27. PRIORITY GIVEN TO THE COMING TRAFFIC
28. CLOSED ROAD FOR CHANGE TRAFFIC TO LEFT
29. CLOSED ROAD FOR CHANGE TRAFFIC TO RIGHT
30. CLOSED TRAFFIC UNDER CONSTRUCTION
31. INFORMATION BOARD DURING CONSTRUCTION AHEAD
32. REDUCED SPEED WARNING BOARD
33. PROTECTION DURING CONSTRUCTION
34. PLAN LIGHT
35. CONE
36. CONTRL TRAFFIC GO / AHEAD
37. GO AHEAD
38. FLAGGER CONTROL
39. FLASHING WARNING LIGHT

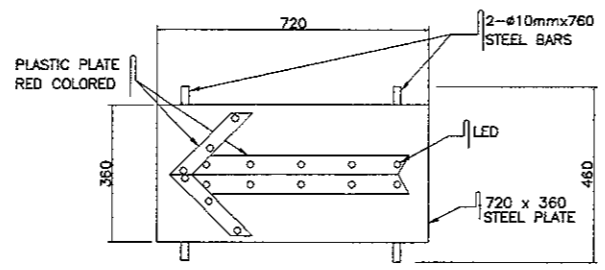
COLOR LEGEND :

	YELLOW
	RED
	BLACK
	BLUE

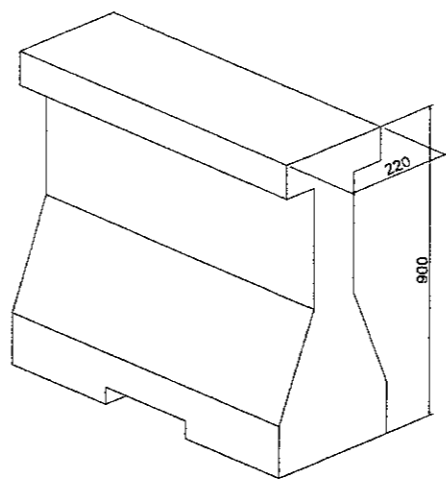
NOTE :
 STANDARD TRAFFIC WITH ROAD SIGNS
 SHOULD CONFORM WITH THE *
 DINAS PERHUBUNGAN LALU LINTAS
 DAN ANGKUTAN JALAN SETEMPAT



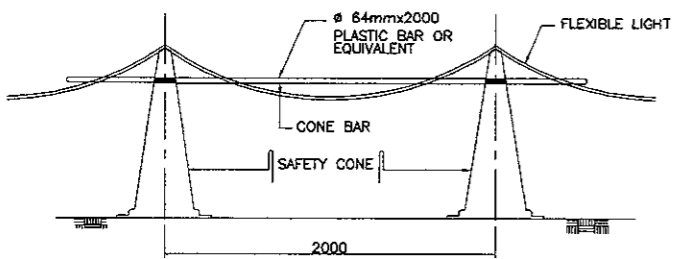
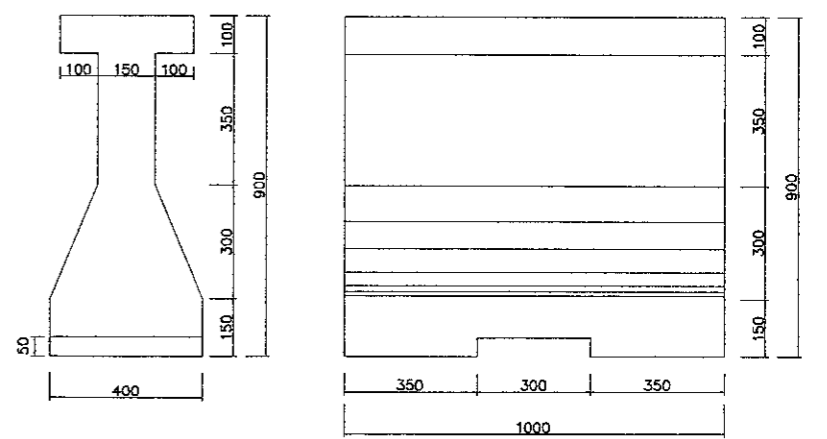
3 SAFETY CONE
 SCALE 1:20



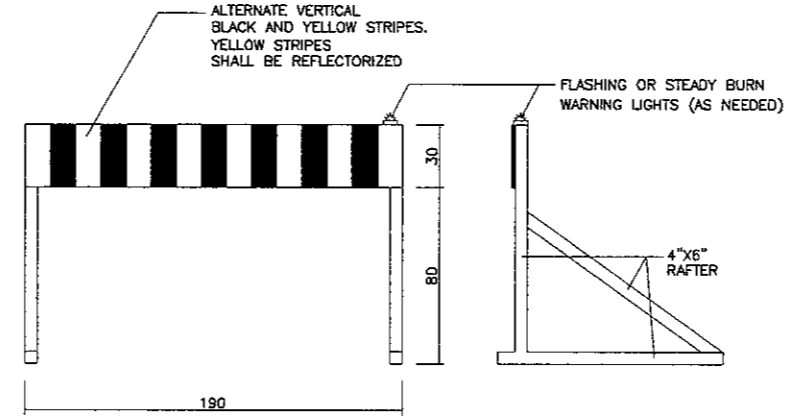
6 ARROW PLATE OF LED
 SCALE 1:20



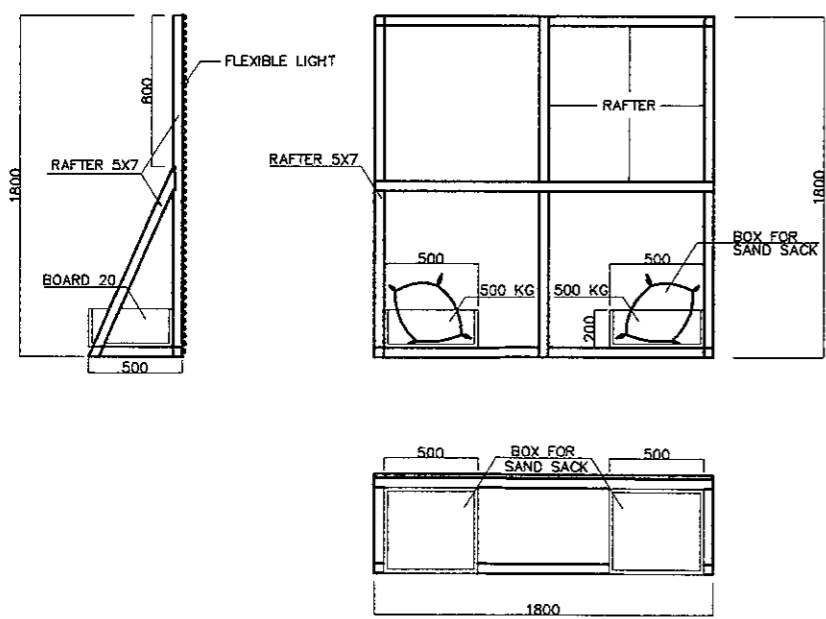
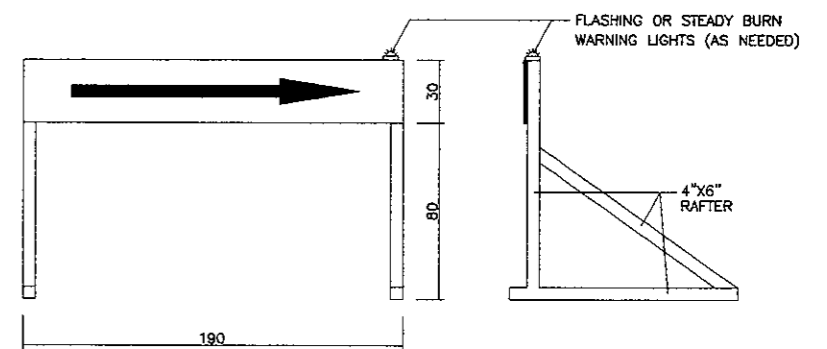
7 MOVABLE BARRIER
 SCALE 1:20



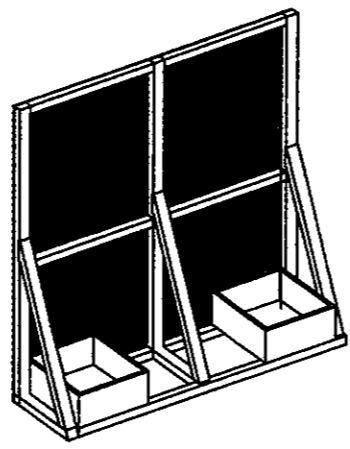
2 CONE BAR
 NOT TO SCALE



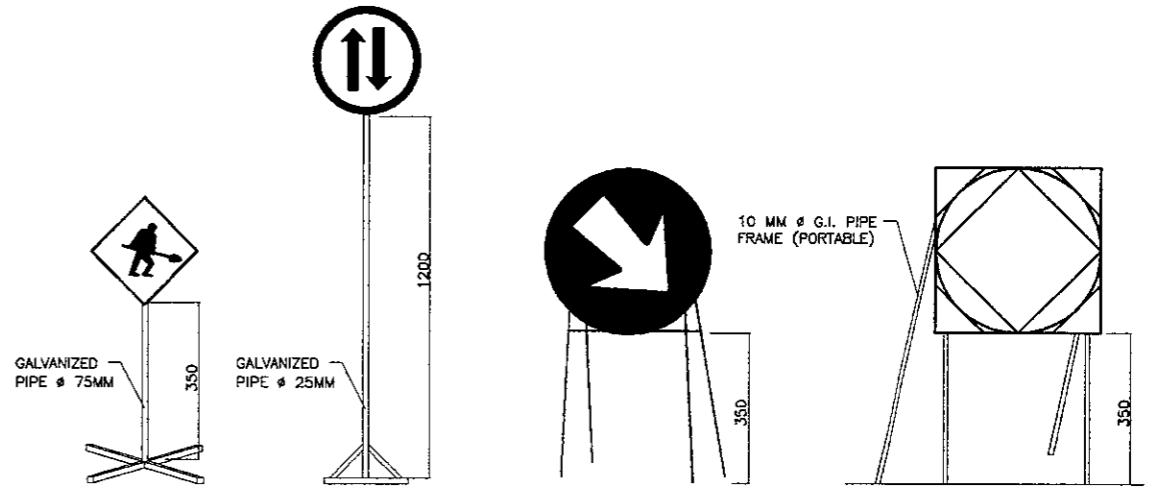
5 TEMPORARY SIGN BOARD SUPPORT
 SCALE 1:30



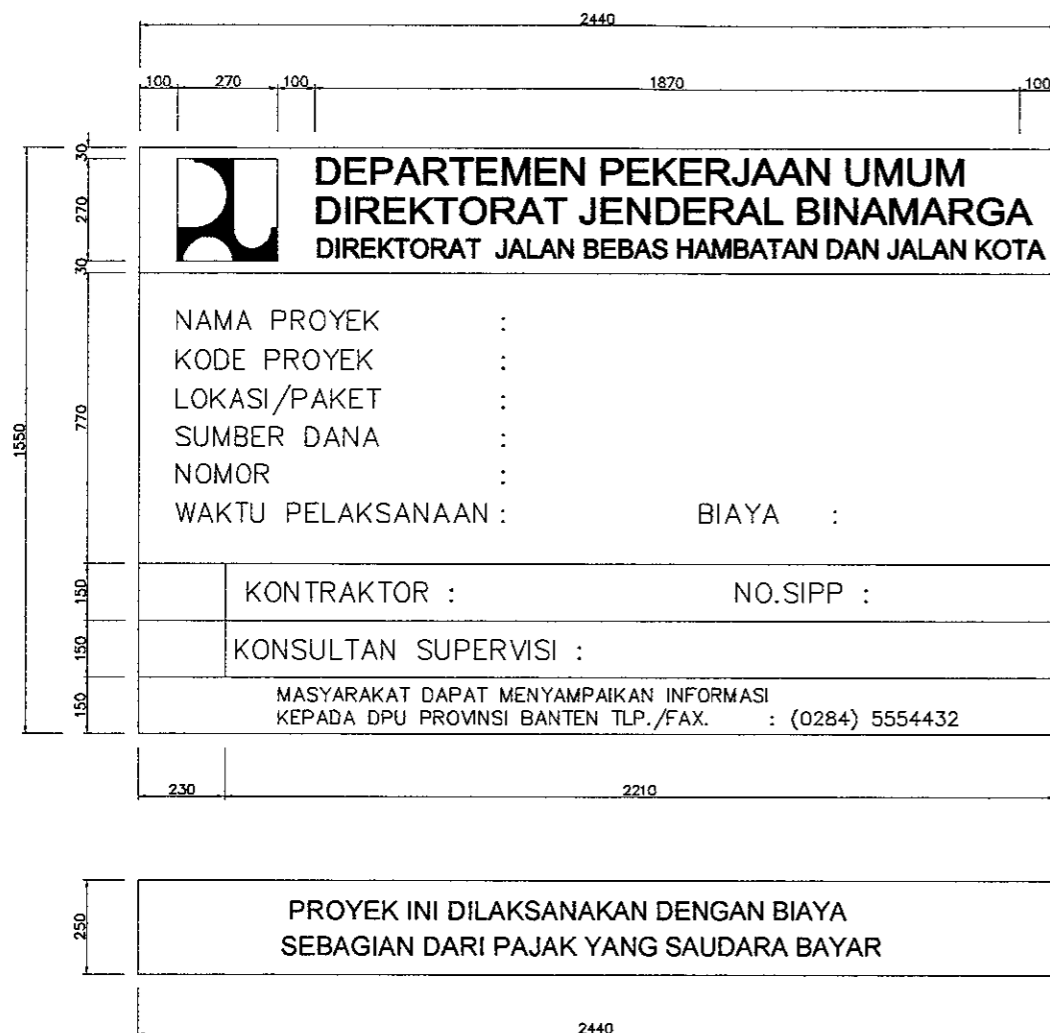
1 TEMPORARY FENCE DURING CONSTRUCTION
 SCALE 1:40



ISOMETRIC

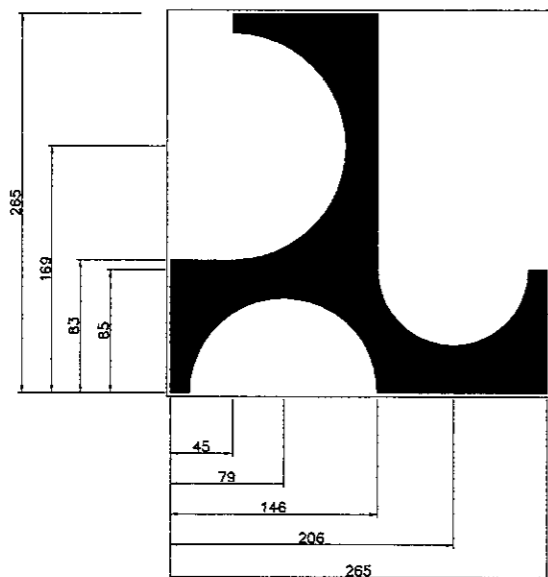


4 TEMPORARY SIGN SUPPORT DETAILS
 NOT TO SCALE



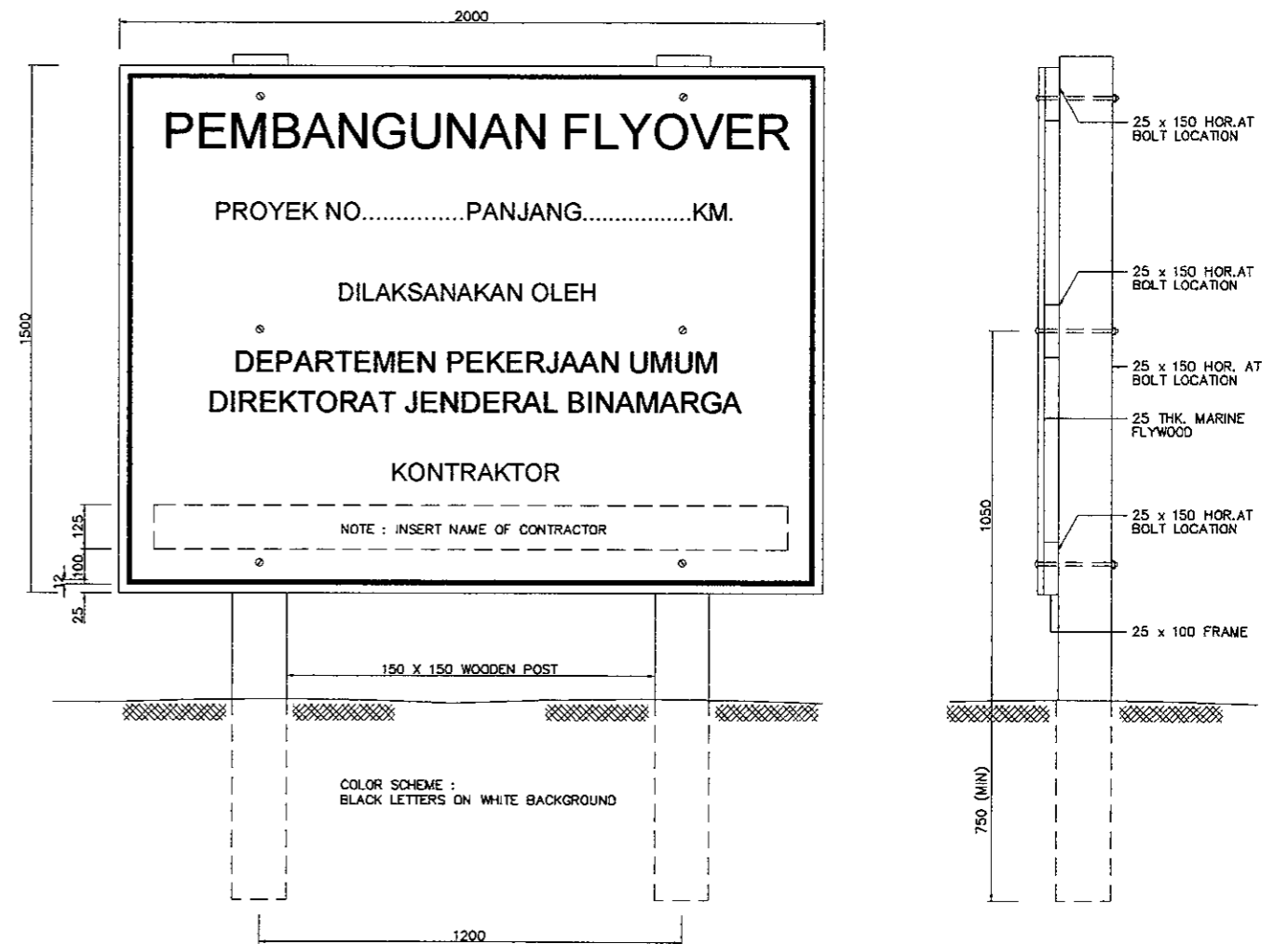
BASE COLOUR : OCEAN BLUE
 TEXT COLOUR : BLACK AND
 TEXT HEIGHT : 7.00 CM
 SYMBOL SEE DETAIL

BASE COLOUR : DARK YELLOW
 TEXT COLOUR : BLACK AND
 TEXT HEIGHT : 5.00 CM
 LINE COLOUR : BLACK AND
 LINE WIDTH : 0.50 CM



SYMBOL OF MINISTRY OF PUBLIC WORKS

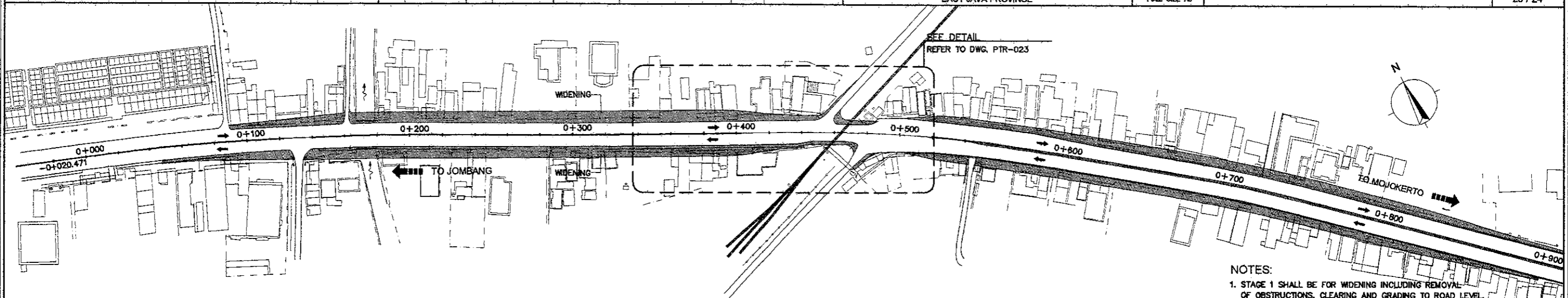
SYMBOL OF THE MINISTRY OF SETTLEMENT AND
 REGIONAL INFRASTRUCTURE IS A PROPELLER WITH
 DIMENSION SHOWN ON THE DRAWING
 BASE COLOUR : DARK YELLOW
 OBJECT COLOUR : DARK BLUE



A FRONT ELEVATION
 SCALE 1:20

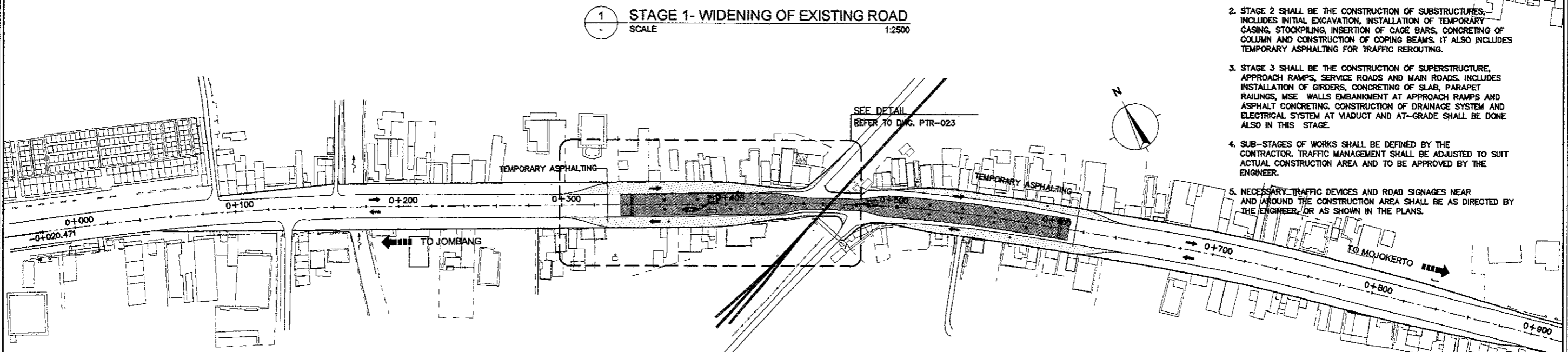
B SIDE ELEVATION
 SCALE 1:20

DESIGNED BY	CHECKED BY	SUBMITTED BY
Name R. UENO	Name T. OKUMURA	Name M. KIUCHI
Sign	Sign	Sign
Date	Date	Date

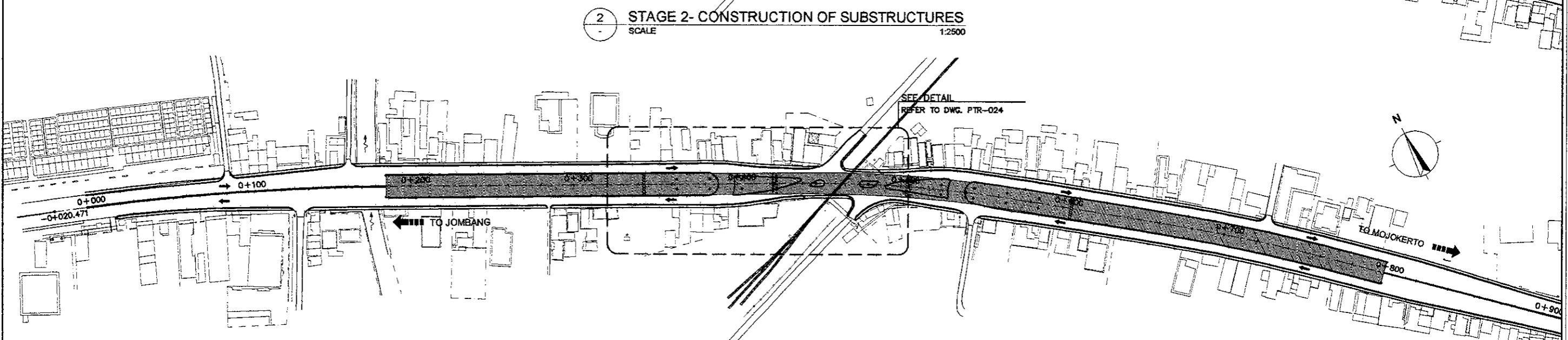


1 STAGE 1- WIDENING OF EXISTING ROAD
 SCALE 1:2500

- NOTES:**
- STAGE 1 SHALL BE FOR WIDENING INCLUDING REMOVAL OF OBSTRUCTIONS, CLEARING AND GRADING TO ROAD LEVEL.
 - STAGE 2 SHALL BE THE CONSTRUCTION OF SUBSTRUCTURES, INCLUDES INITIAL EXCAVATION, INSTALLATION OF TEMPORARY CASING, STOCKPILING, INSERTION OF CAGE BARS, CONCRETING OF COLUMN AND CONSTRUCTION OF COPING BEAMS. IT ALSO INCLUDES TEMPORARY ASPHALTING FOR TRAFFIC REROUTING.
 - STAGE 3 SHALL BE THE CONSTRUCTION OF SUPERSTRUCTURE, APPROACH RAMPS, SERVICE ROADS AND MAIN ROADS. INCLUDES INSTALLATION OF GIRDERS, CONCRETING OF SLAB, PARAPET RAILINGS, MSE WALLS EMBANKMENT AT APPROACH RAMPS AND ASPHALT CONCRETING. CONSTRUCTION OF DRAINAGE SYSTEM AND ELECTRICAL SYSTEM AT VIADUCT AND AT-GRADE SHALL BE DONE ALSO IN THIS STAGE.
 - SUB-STAGES OF WORKS SHALL BE DEFINED BY THE CONTRACTOR. TRAFFIC MANAGEMENT SHALL BE ADJUSTED TO SUIT ACTUAL CONSTRUCTION AREA AND TO BE APPROVED BY THE ENGINEER.
 - NECESSARY TRAFFIC DEVICES AND ROAD SIGNAGES NEAR AND AROUND THE CONSTRUCTION AREA SHALL BE AS DIRECTED BY THE ENGINEER, OR AS SHOWN IN THE PLANS.

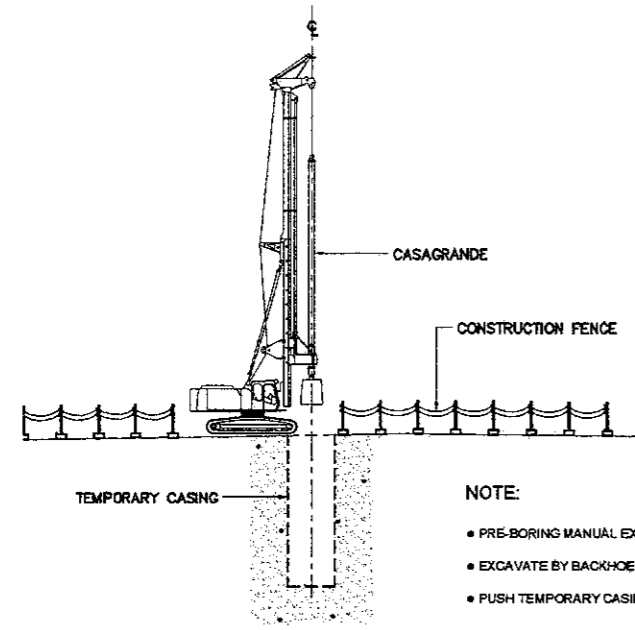


2 STAGE 2- CONSTRUCTION OF SUBSTRUCTURES
 SCALE 1:2500



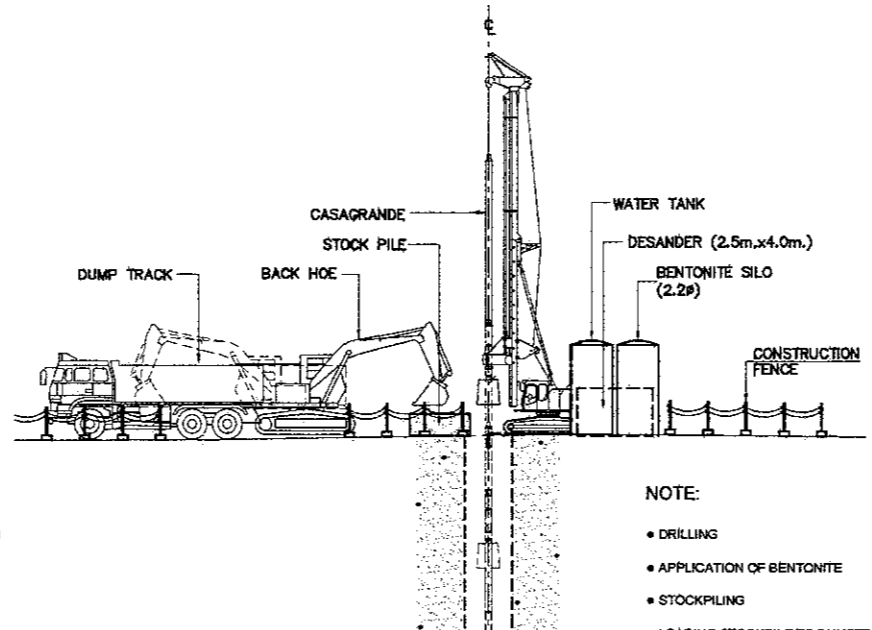
3 STAGE 3- CONSTRUCTION OF SUPERSTRUCTURE,
 APPROACH RAMPS & FINISHING WORKS
 SCALE 1:2500

DESIGNED BY		CHECKED BY		SUBMITTED BY	
Name	R. UENO	Name	T. OKUMURA	Name	M. KIUCHI
Sign		Sign		Sign	
Date		Date		Date	



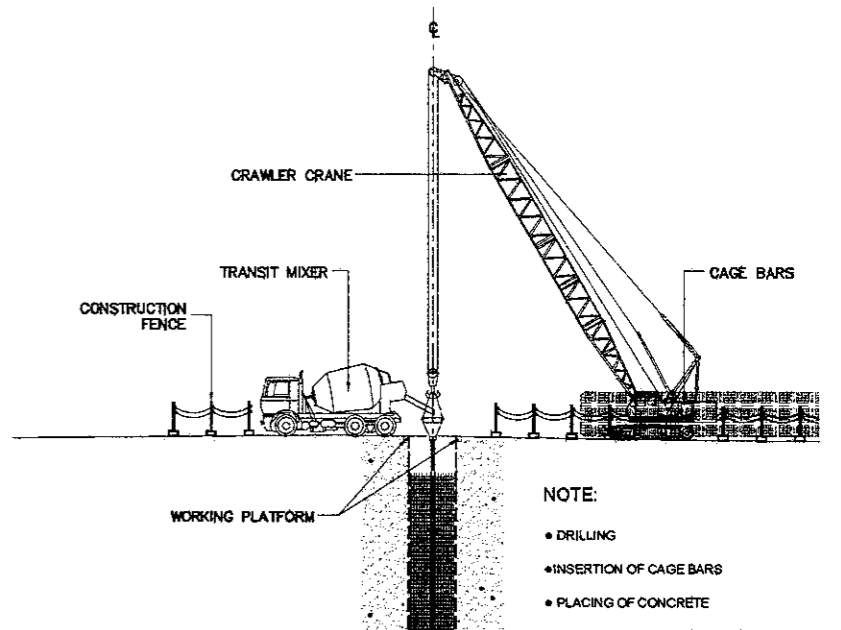
- NOTE:
- PRE-BORING MANUAL EXCAVATION (MIN. 2.0m)
 - EXCAVATE BY BACKHOE GREATER THAN 4.0m
 - PUSH TEMPORARY CASING

A1 SEQUENCE - 1
 SCALE 1:400



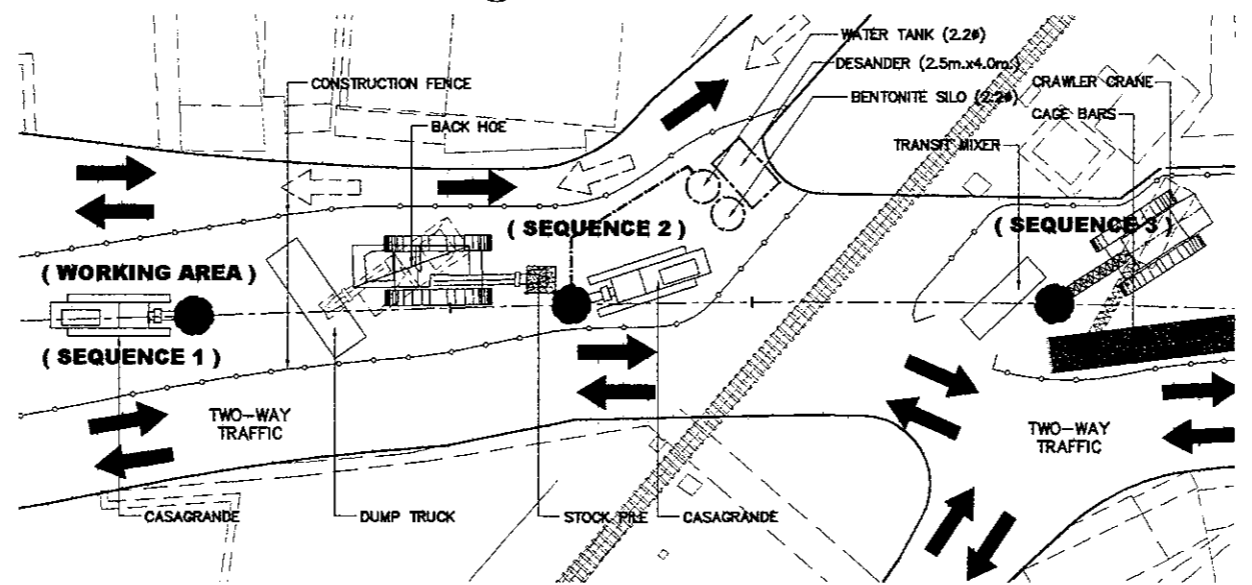
- NOTE:
- DRILLING
 - APPLICATION OF BENTONITE
 - STOCKPILING
 - LOADING STOCKPILE TO DUMPTRUCK

A2 SEQUENCE - 2
 SCALE 1:400



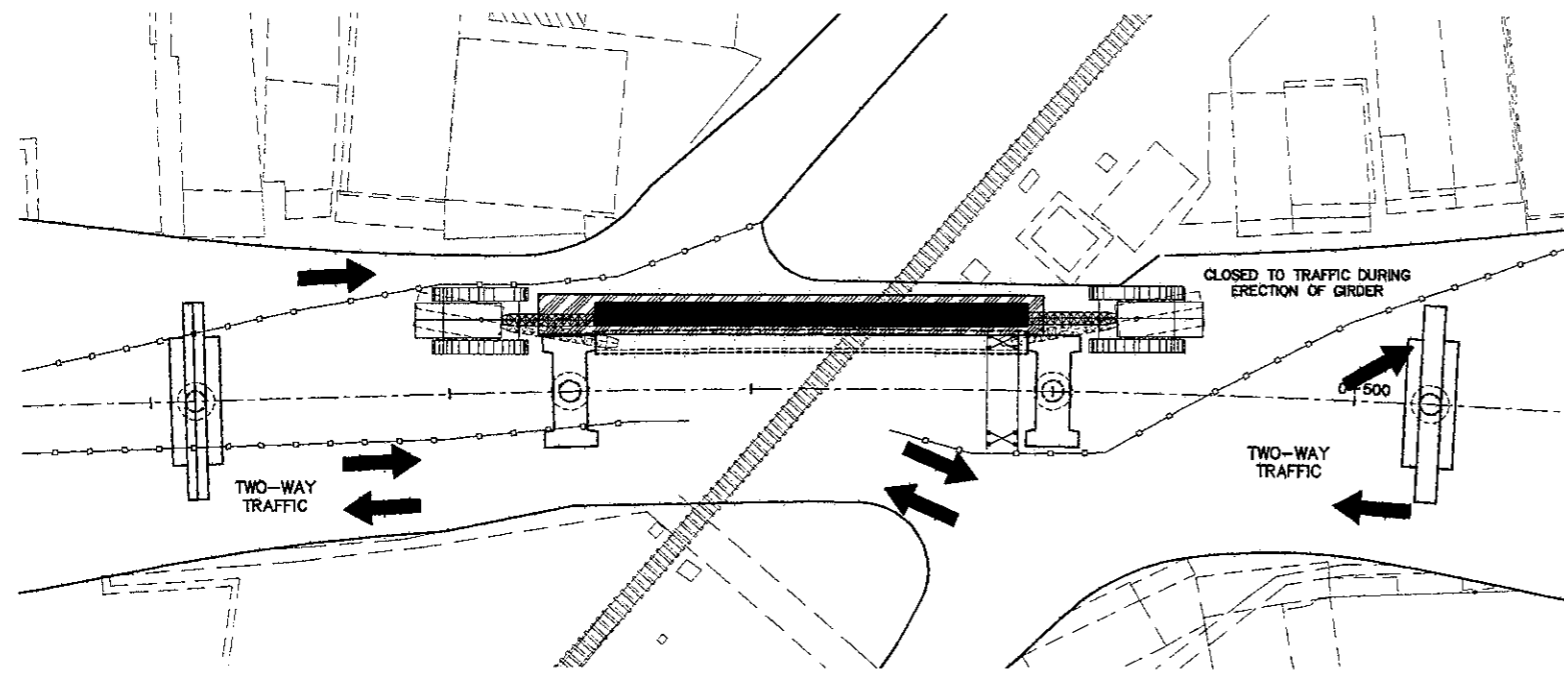
- NOTE:
- DRILLING
 - INSERTION OF CAGE BARS
 - PLACING OF CONCRETE
 - EXTRACTING TEMPORARY CASING

A3 SEQUENCE - 3
 SCALE 1:400

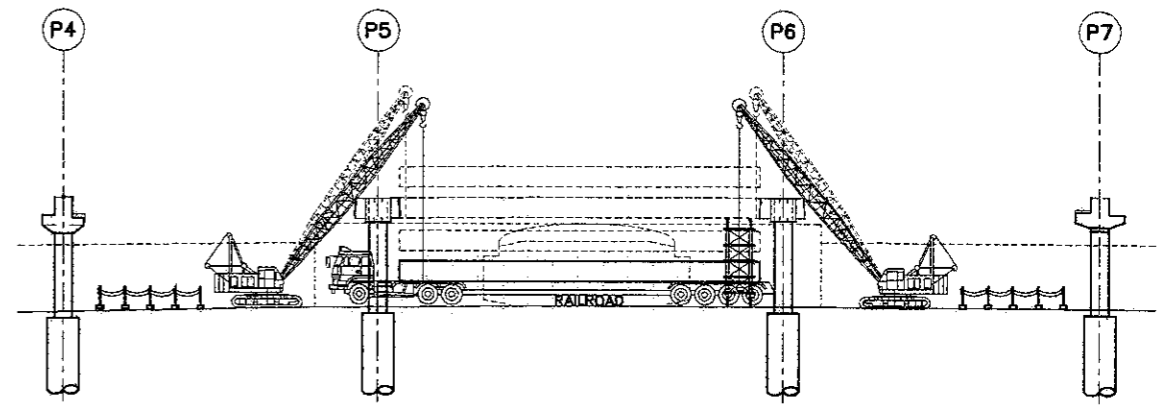


A SEQUENCE LAYOUT PLAN
 SCALE 1:500

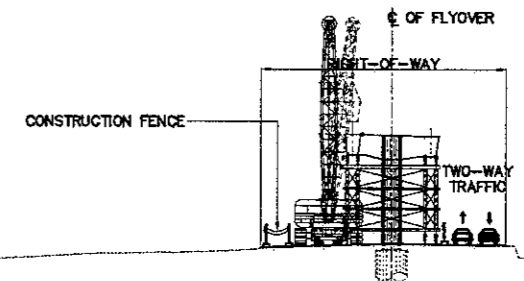
1 TYPICAL BORED PILING METHODOLOGY
 SCALE AS SHOWN



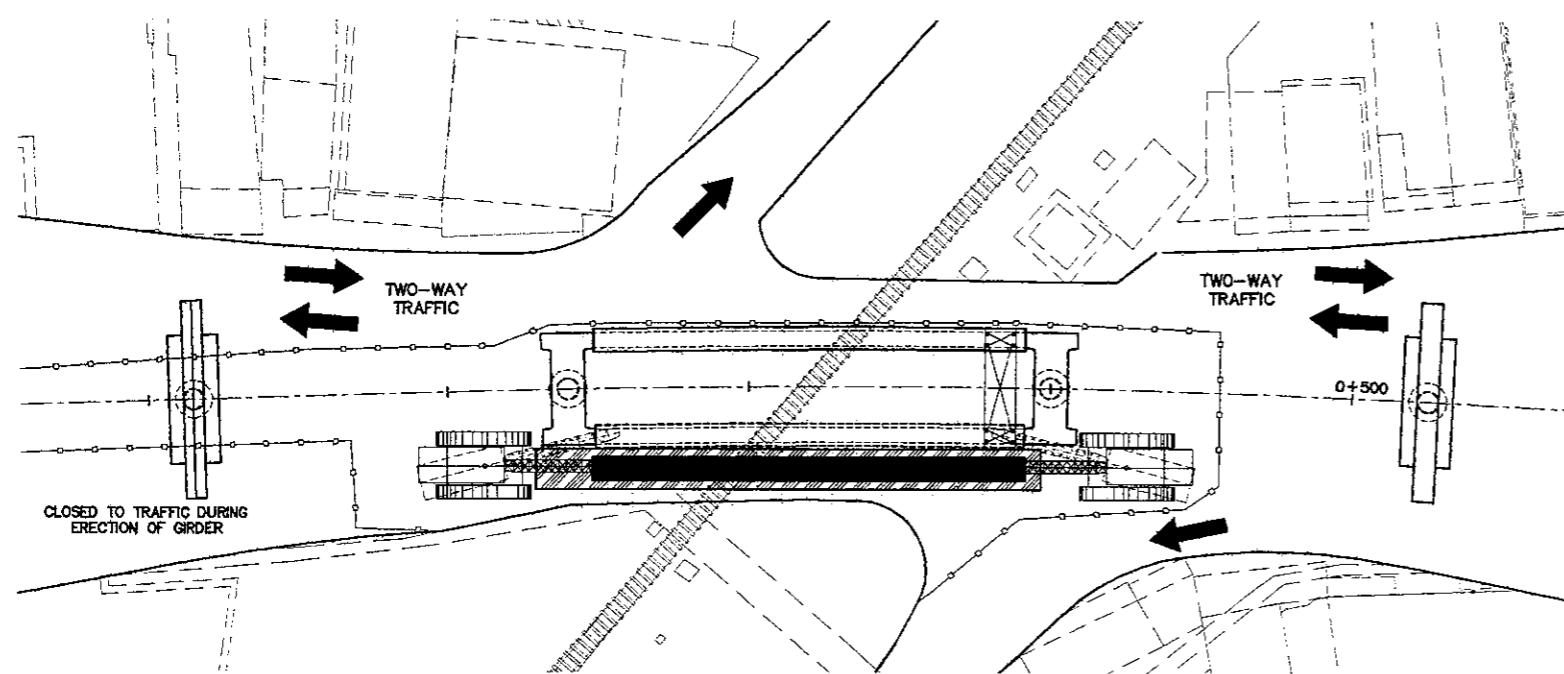
A INSTALLATION OF GIRDER (PHASE - 1)
 SCALE 1:500



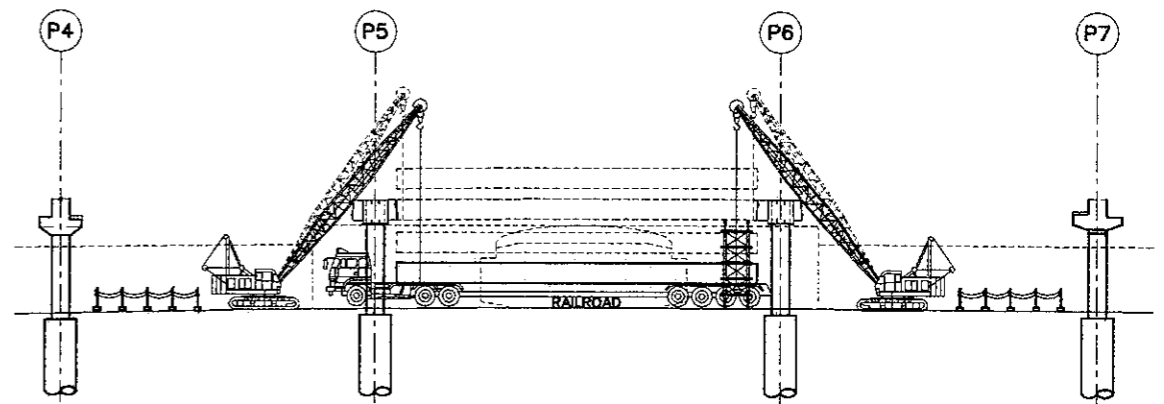
A1 TYPICAL ELEVATION (SINGLE COLUMN PIER)
 SCALE 1:600



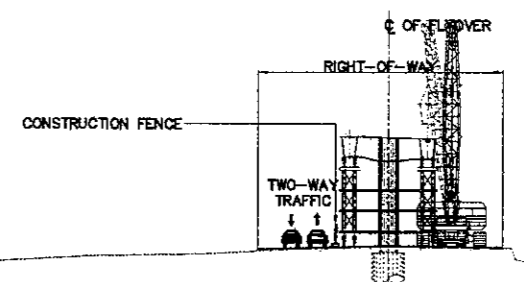
A2 TYPICAL SECTION (SINGLE COLUMN PIER)
 SCALE 1:600



B INSTALLATION OF GIRDER (PHASE - 2)
 SCALE 1:500



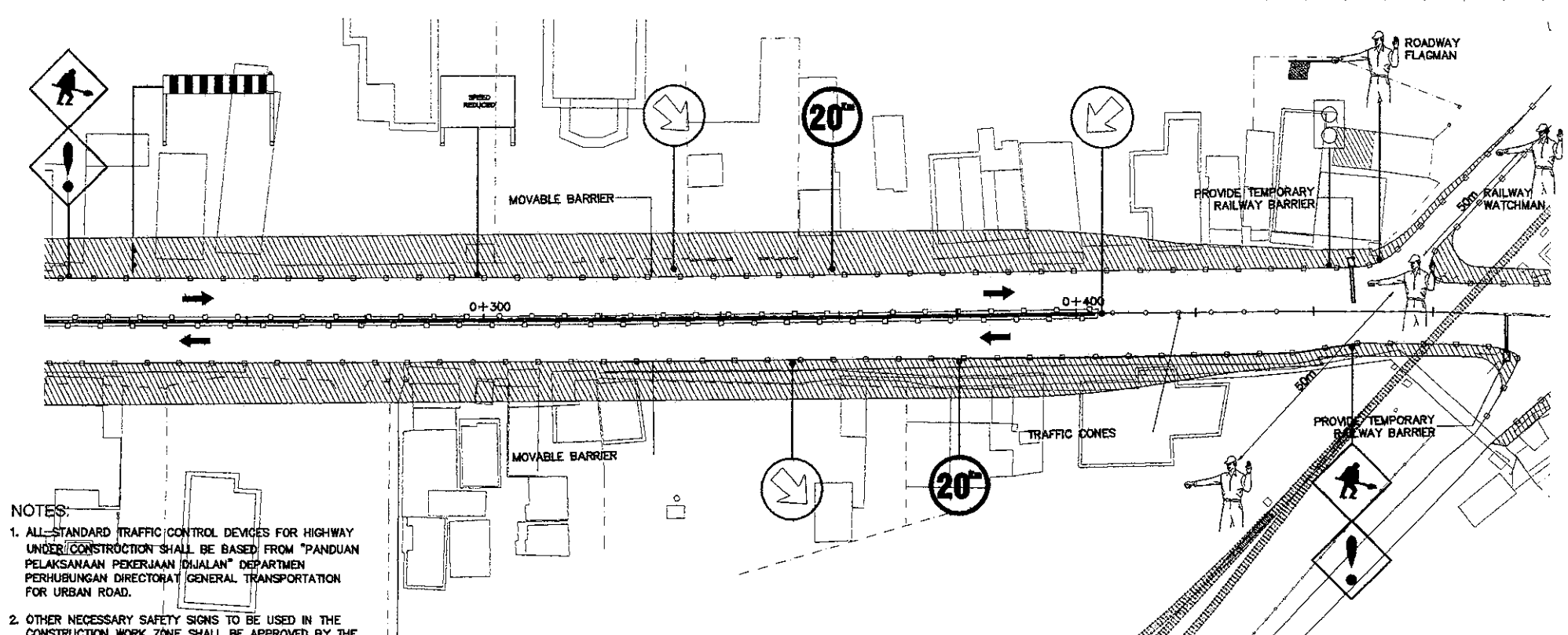
B1 TYPICAL ELEVATION (SINGLE COLUMN PIER)
 SCALE 1:600



B2 TYPICAL SECTION (SINGLE COLUMN PIER)
 SCALE 1:600

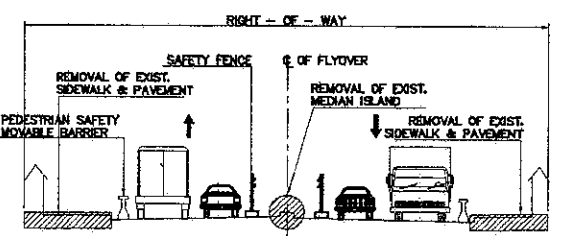
1 TYPICAL INSTALLATION OF GIRDER
 SCALE AS SHOWN

DESIGNED BY	CHECKED BY	SUBMITTED BY
Name R. UENO	Name T. OKUMURA	Name M. KIUCHI
Sign	Sign	Sign
Date	Date	Date

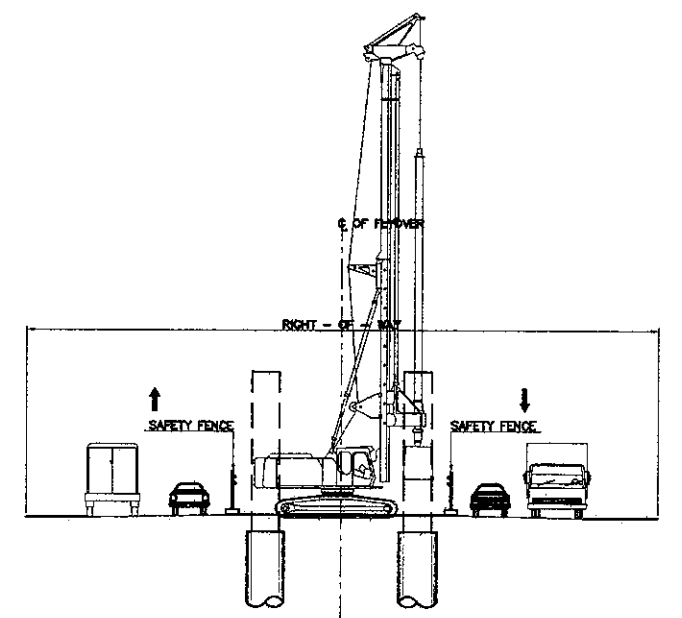


A AT WIDENING AREA
 SCALE 1:1000

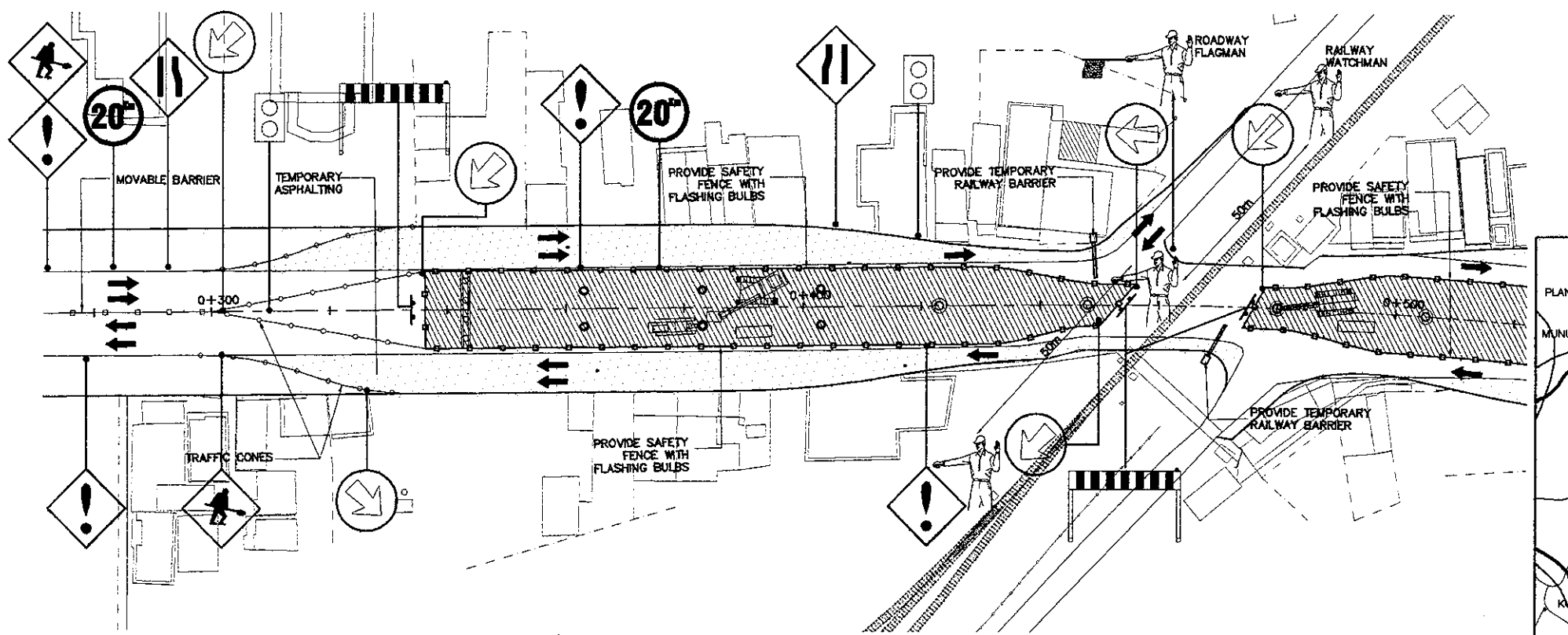
- NOTES:
1. ALL STANDARD TRAFFIC CONTROL DEVICES FOR HIGHWAY UNDER CONSTRUCTION SHALL BE BASED FROM "PANDUAN PELAKSANAAN PEKERJAAN DIJALAN" DEPARTEMEN PERHUBUNGAN DIREKTORAT GENERAL TRANSPORTATION FOR URBAN ROAD.
 2. OTHER NECESSARY SAFETY SIGNS TO BE USED IN THE CONSTRUCTION WORK ZONE SHALL BE APPROVED BY THE ENGINEER.
 3. FOR STANDARD WORK SIGNS, REFER TO DWG. PTR-017
 4. INSTALL TWO (2) PROJECT SIGN BOARDS AS SHOWN IN THE STANDARD DRAWING AT EACH END OF PROJECT CONSTRUCTION AREA.



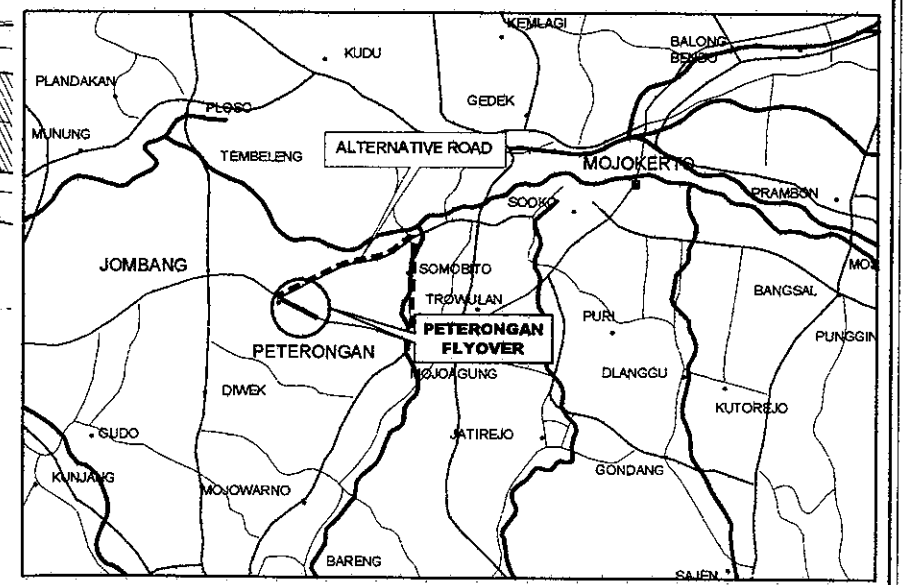
B TYPICAL SECTION
 SCALE 1:300



D TYPICAL SECTION
 SCALE 1:300

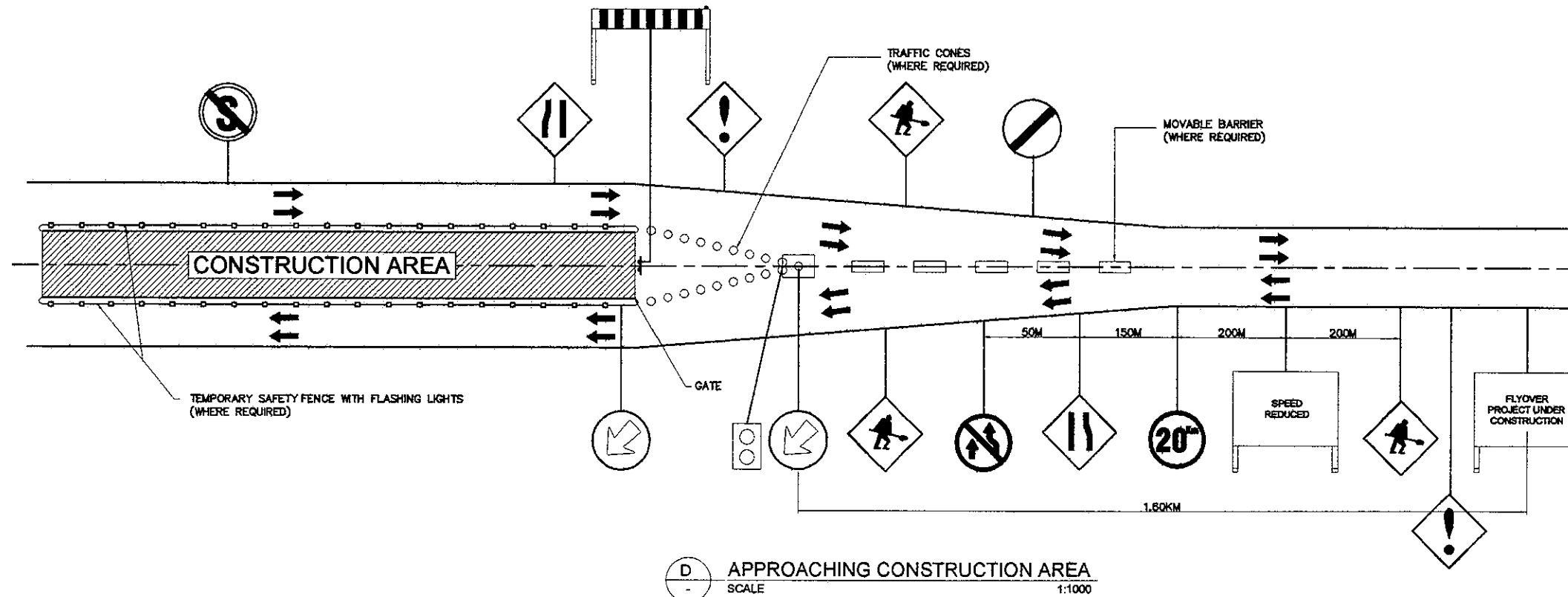
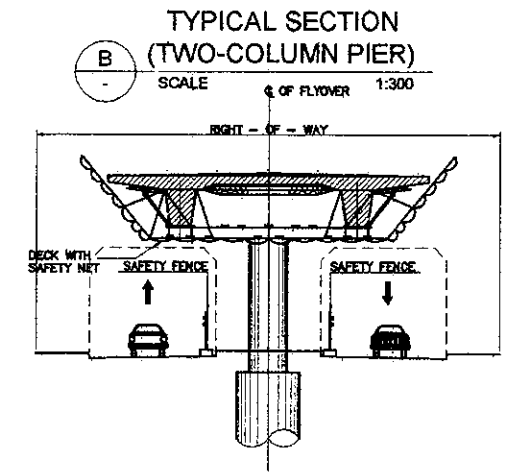
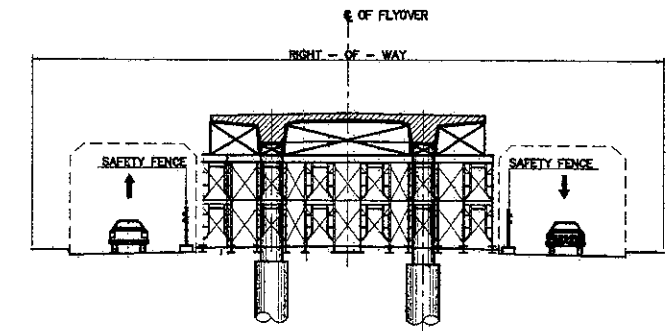
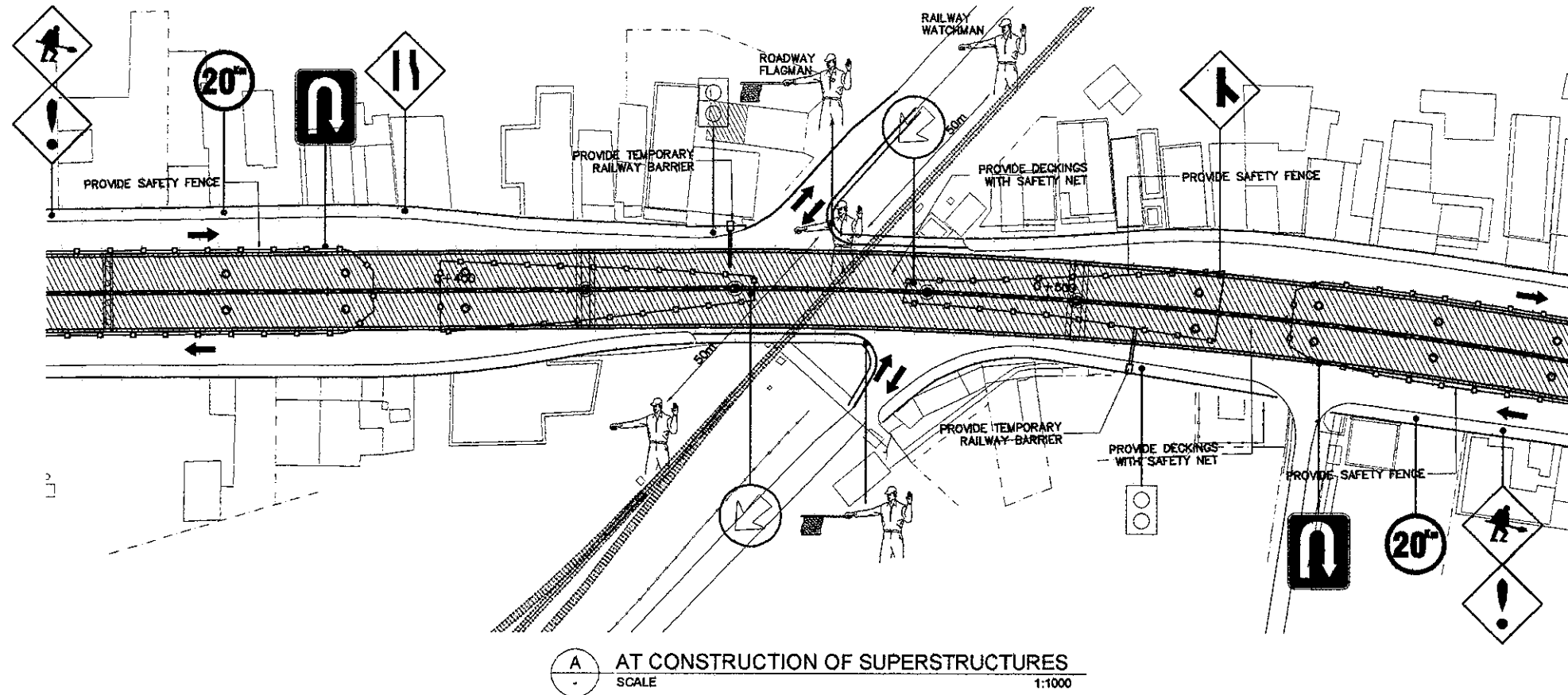


C AT CONSTRUCTION OF SUBSTRUCTURES
 SCALE 1:1000



ALTERNATIVE ROAD DURING CONSTRUCTION
 NOT TO SCALE

1 TRAFFIC MANAGEMENT LAYOUT
 SCALE AS SHOWN



1 TRAFFIC MANAGEMENT LAYOUT
 SCALE AS SHOWN

- NOTES:
1. ALL STANDARD TRAFFIC CONTROL DEVICES FOR HIGHWAY UNDER CONSTRUCTION SHALL BE BASED FROM "PANDUAN PELAKSANAAN PEKERJAAN DIJALAN" DEPARTEMEN PERHUBUNGAN DIRECTORAT GENERAL TRANSPORTATION FOR URBAN ROAD.
 2. OTHER NECESSARY SAFETY SIGNS TO BE USED IN THE CONSTRUCTION WORK ZONE SHALL BE APPROVED BY THE ENGINEER.
 3. FOR STANDARD WORK SIGNS, REFER TO DWG. PTR-017
 4. INSTALL TWO (2) PROJECT SIGN BOARDS AS SHOWN IN THE STANDARD DRAWING AT EACH END OF PROJECT CONSTRUCTION AREA.



JAPAN INTERNATIONAL
COOPERATION AGENCY



DIRECTORATE GENERAL OF HIGHWAY
MINISTRY OF PUBLIC WORKS
REPUBLIC OF INDONESIA

UTILITIES

 **Kei** KATAHIRA & ENGINEERS INTERNATIONAL

DESIGNED BY		CHECKED BY		SUBMITTED BY	
Name	R. UENO	Name	T. OKUMURA	Name	M. KIUCHI
Sign		Sign		Sign	
Date		Date		Date	

APPROVED BY: Ir. HERRY VAZA M,Eng.Sc
 NIP. : 110038400

SCALE :
 1 : 500
 FULL SIZE A3

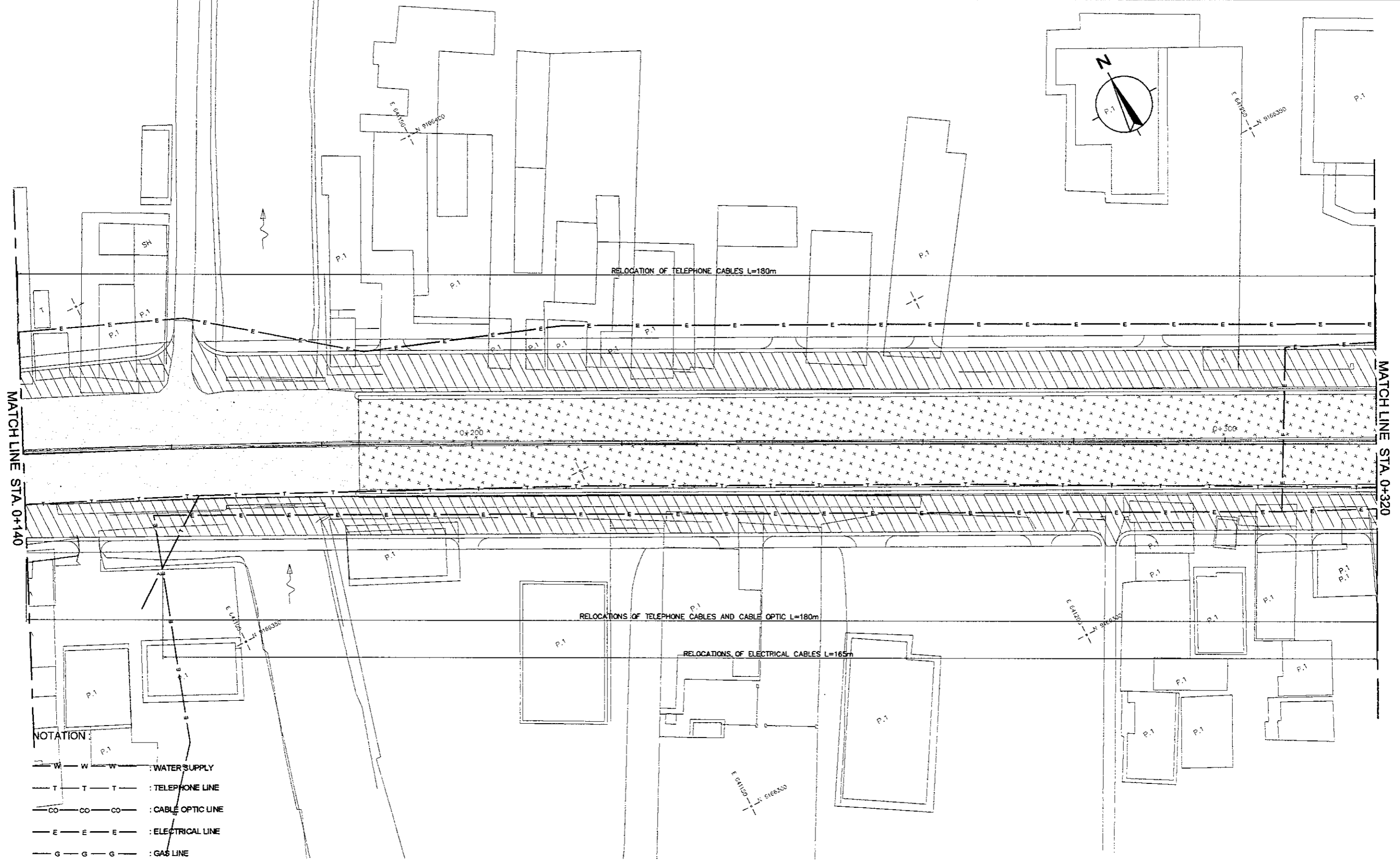


- NOTATION :**
- W — W — W — : WATER SUPPLY
 - T — T — T — : TELEPHONE LINE
 - CO — CO — CO — : CABLE OPTIC LINE
 - E — E — E — : ELECTRICAL LINE
 - G — G — G — : GAS LINE
 - O — O — O — : OIL LINE

1 PUBLIC UTILITIES ABOVE GROUND
 SCALE 1:500

- NOTES :**
- EXTENT, POSITION, SIZE AND TYPE OF PUBLIC UTILITIES SHOWN ON THIS DRAWING WERE BASED ON INFORMATION EXTRACTED FROM THE RECORDS OF THE VARIOUS PUBLIC UTILITY AUTHORITIES AND MUST BE REGARDED AS APPROXIMATE ONLY, NEITHER THE EMPLOYER NOR THE CONSULTANT GUARANTEE THE ACCURACY OF THE INFORMATION AND THE LOCATION OF UTILITIES AS SHOWN IN THE DRAWING.
 - THE CONTRACTOR SHALL VERIFY THE POSITION, DEPTH, SIZE AND GRADIENT OF ALL AFFECTED EXISTING UTILITIES

DESIGNED BY		CHECKED BY		SUBMITTED BY	
Name	R. UENO	Name	T. OKUMURA	Name	M. KIUCHI
Sign		Sign		Sign	
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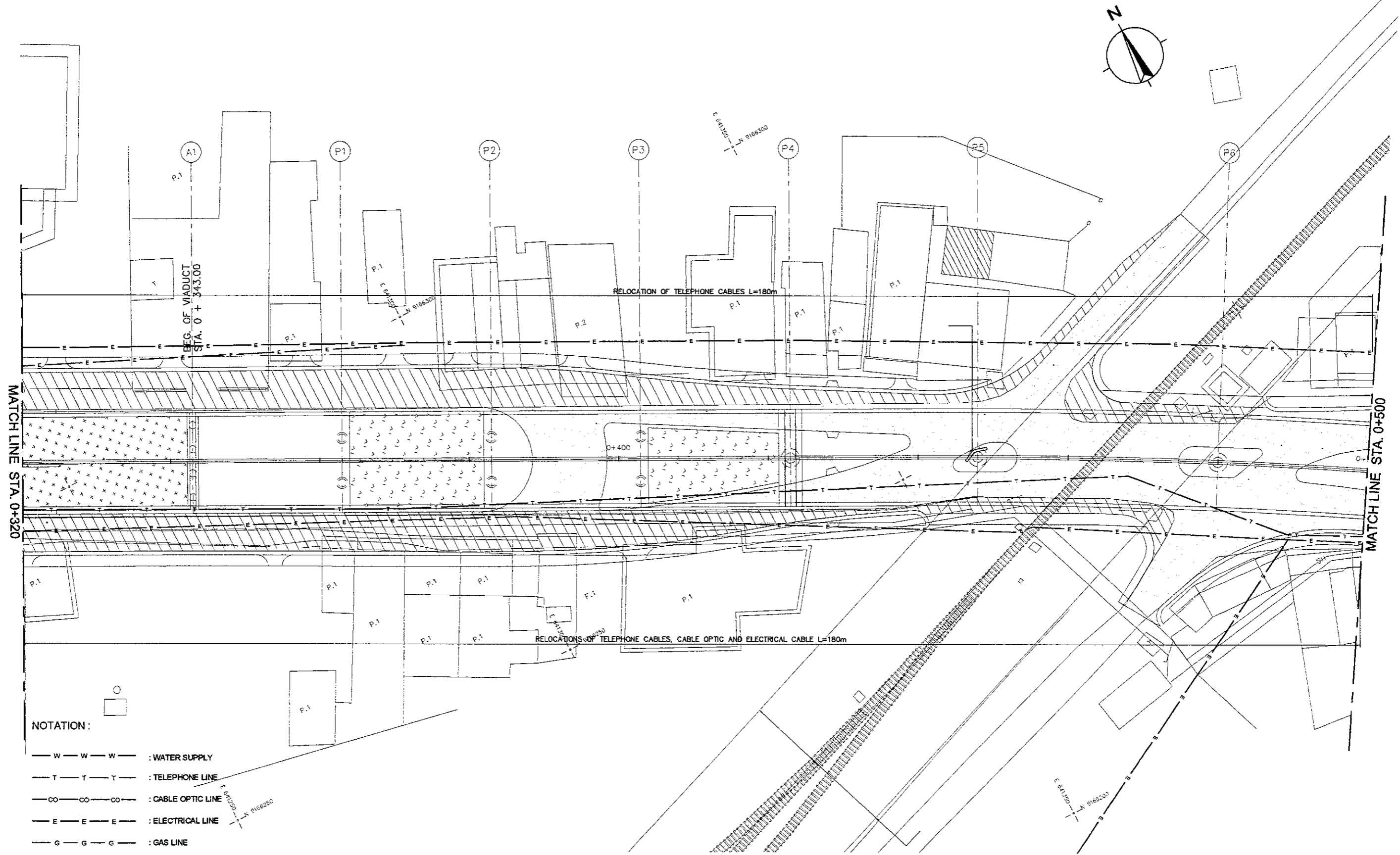


NOTATION:

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1 PUBLIC UTILITIES ABOVE GROUND
 SCALE 1:500

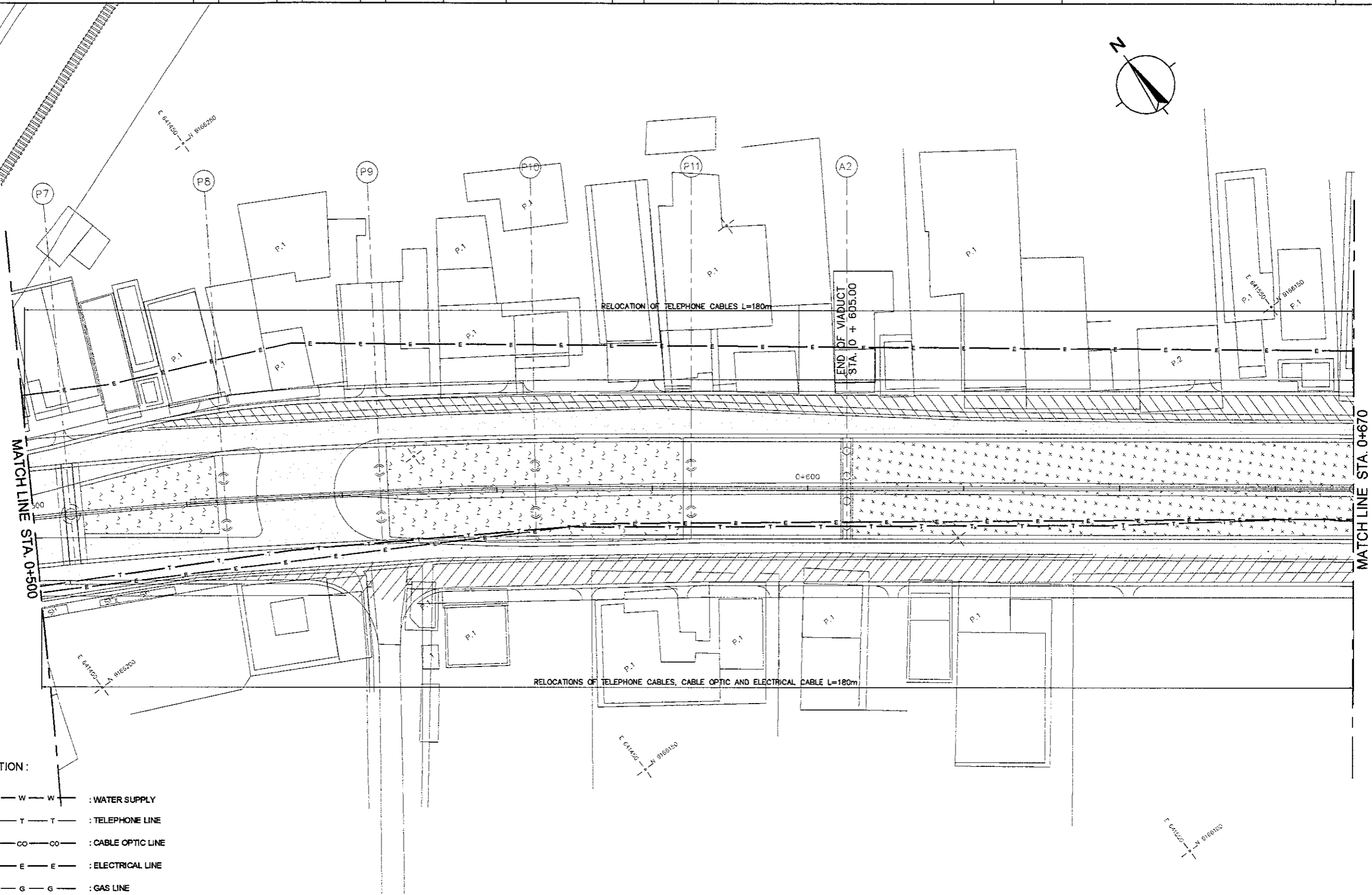
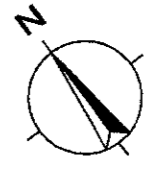
DESIGNED BY		CHECKED BY		SUBMITTED BY	
Name	R. UENO	Name	T. OKUMURA	Name	M. KIUCHI
Sign		Sign		Sign	
Date		Date		Date	



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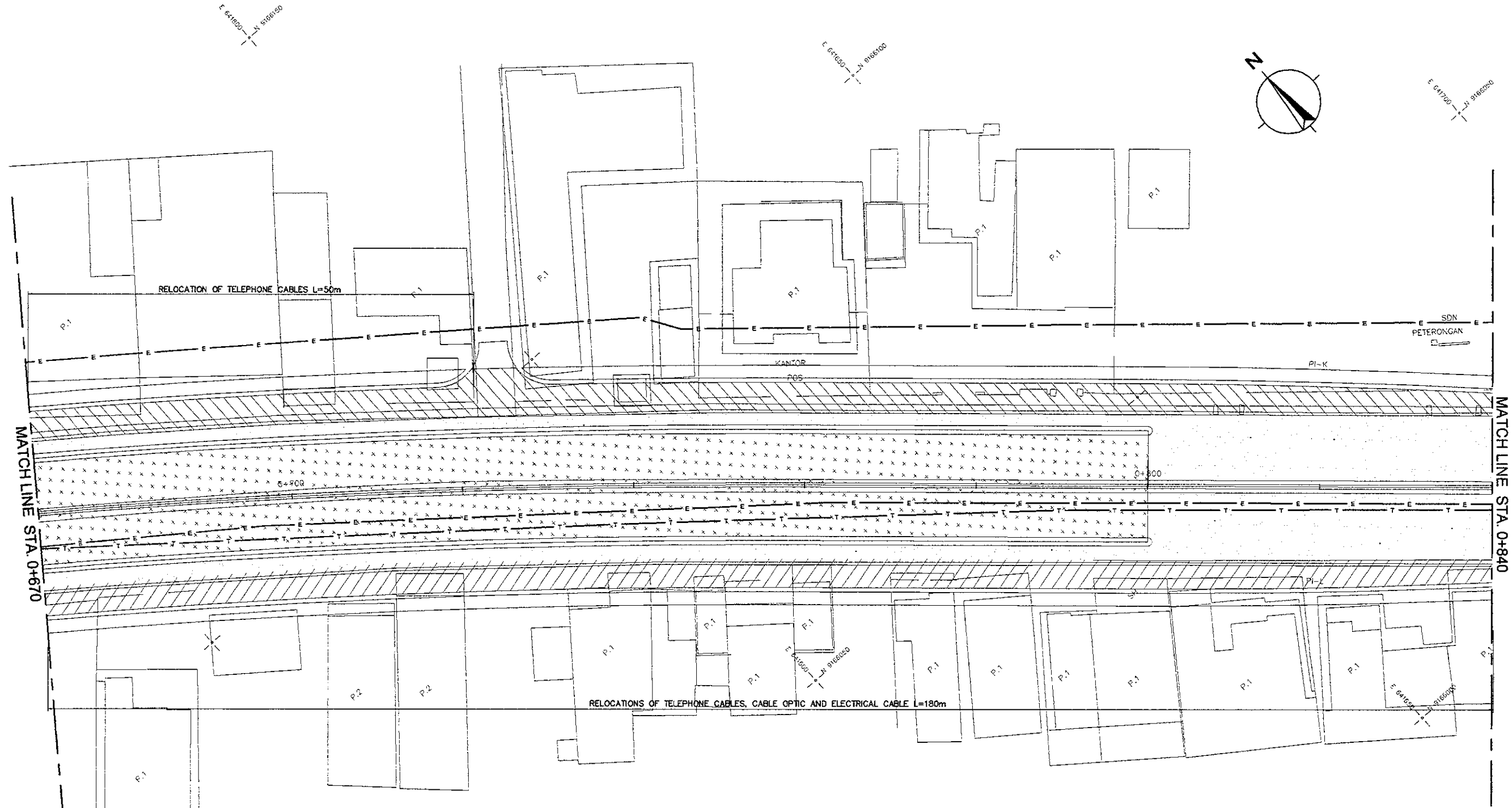


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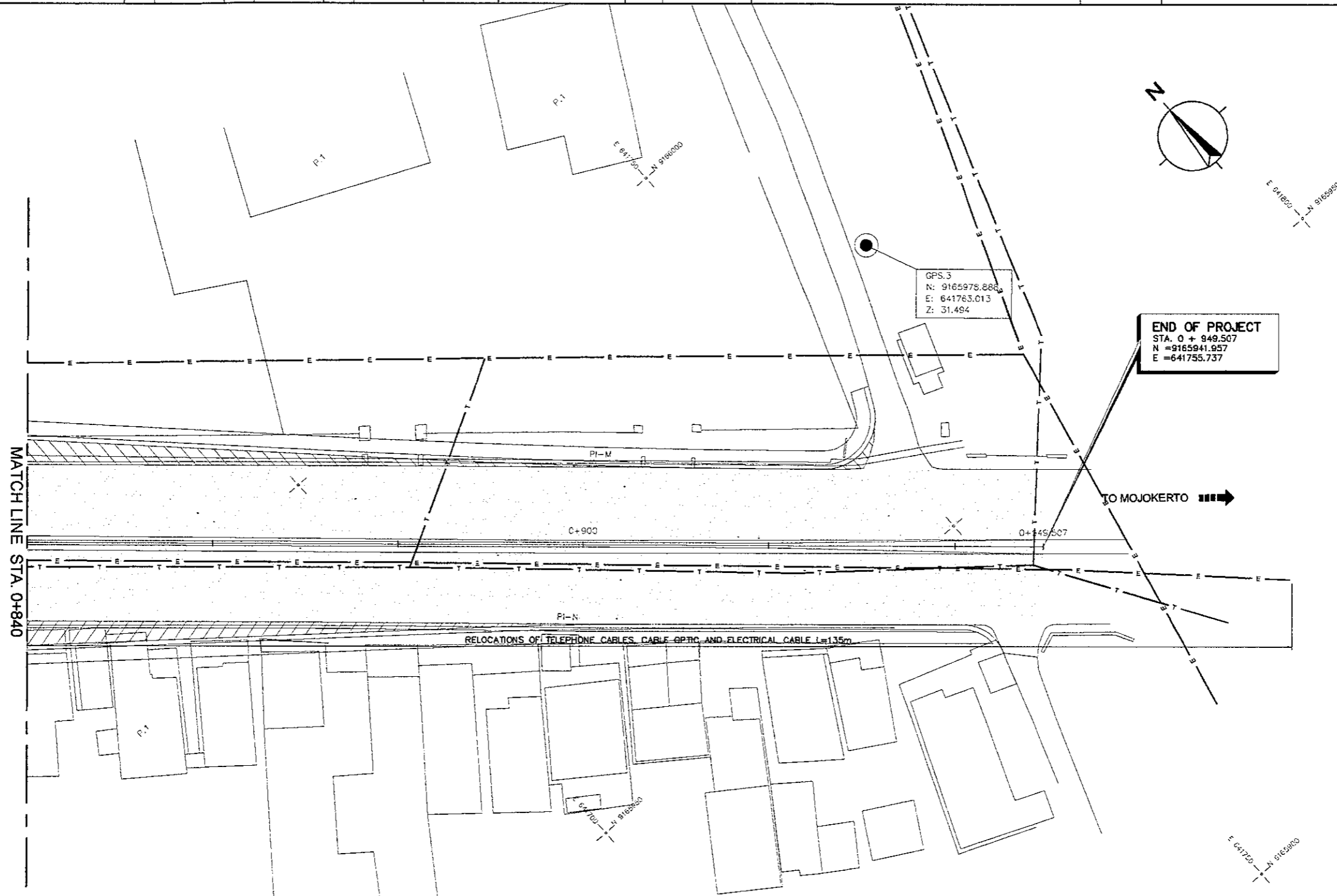


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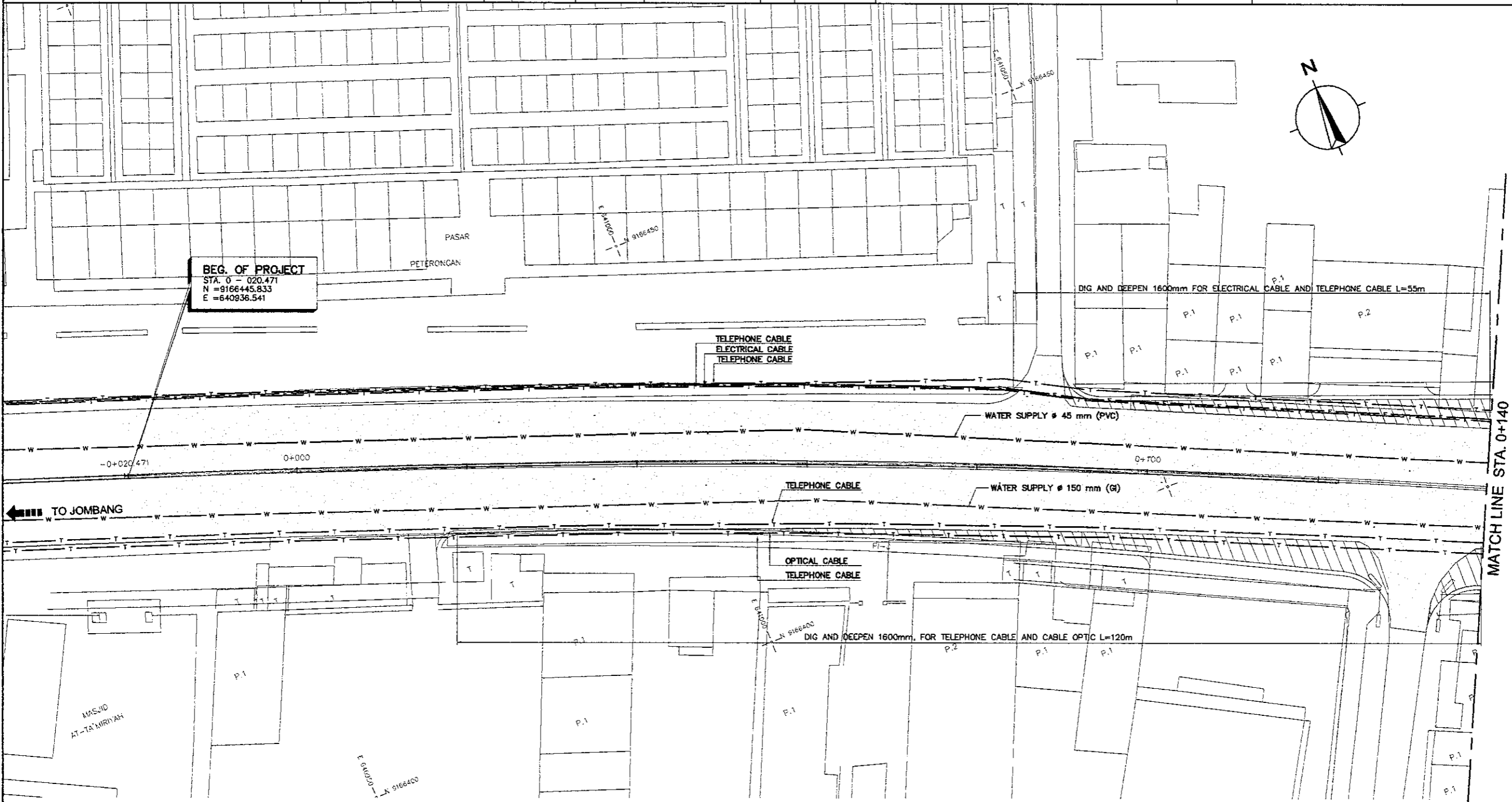


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 SCALE 1:500

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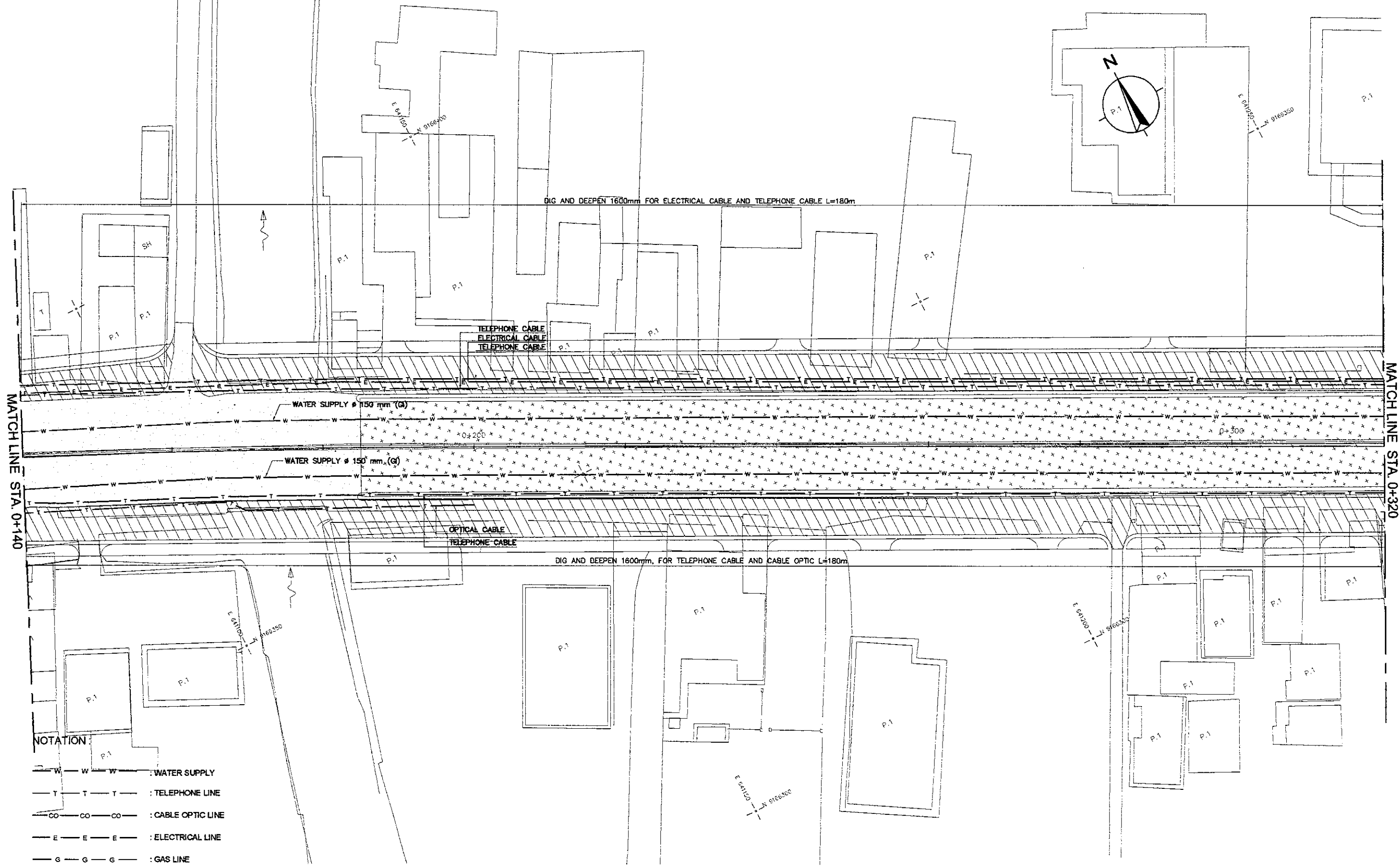


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 SCALE 1:500

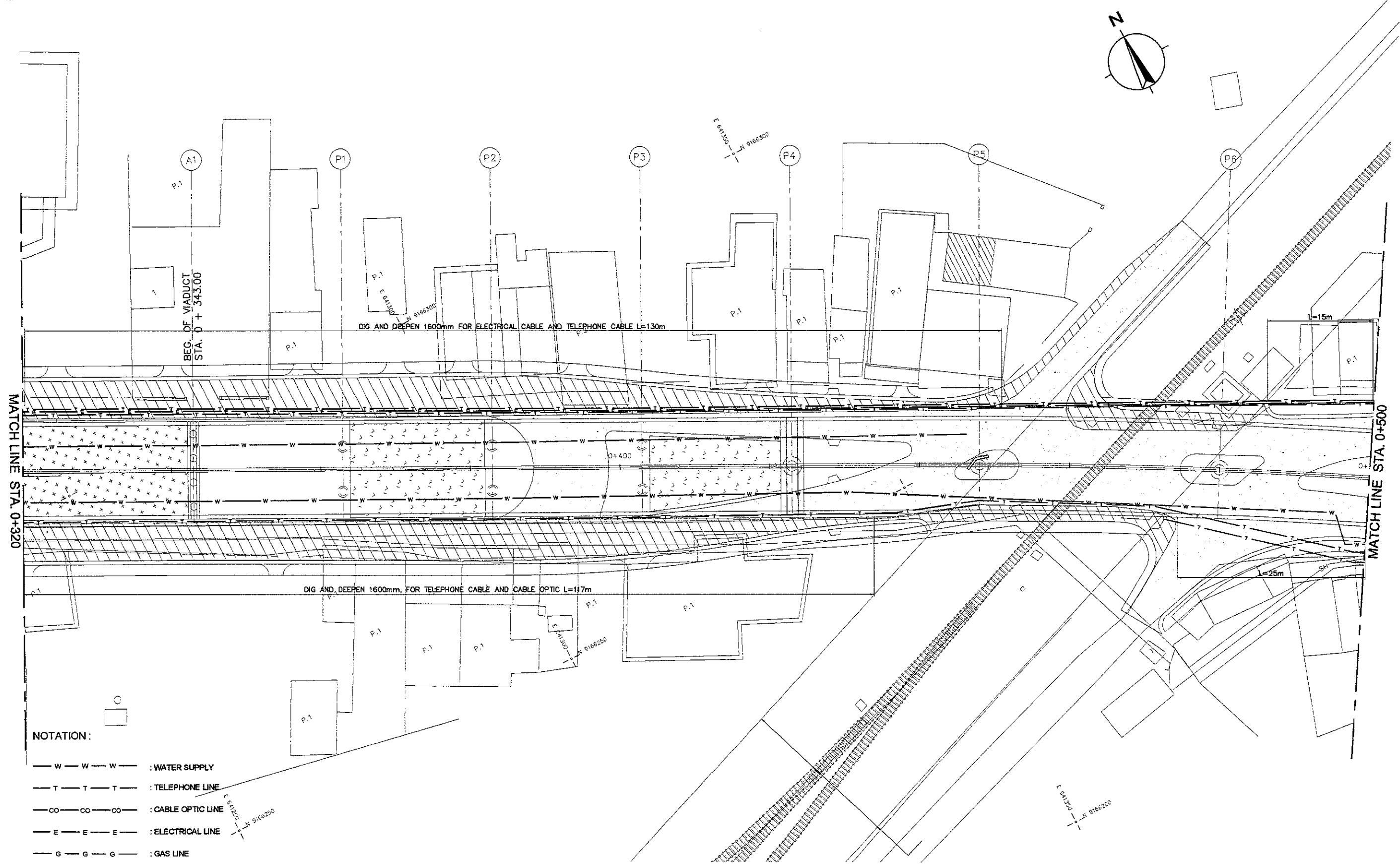
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1 PUBLIC UTILITIES UNDER GROUND
 SCALE 1:500

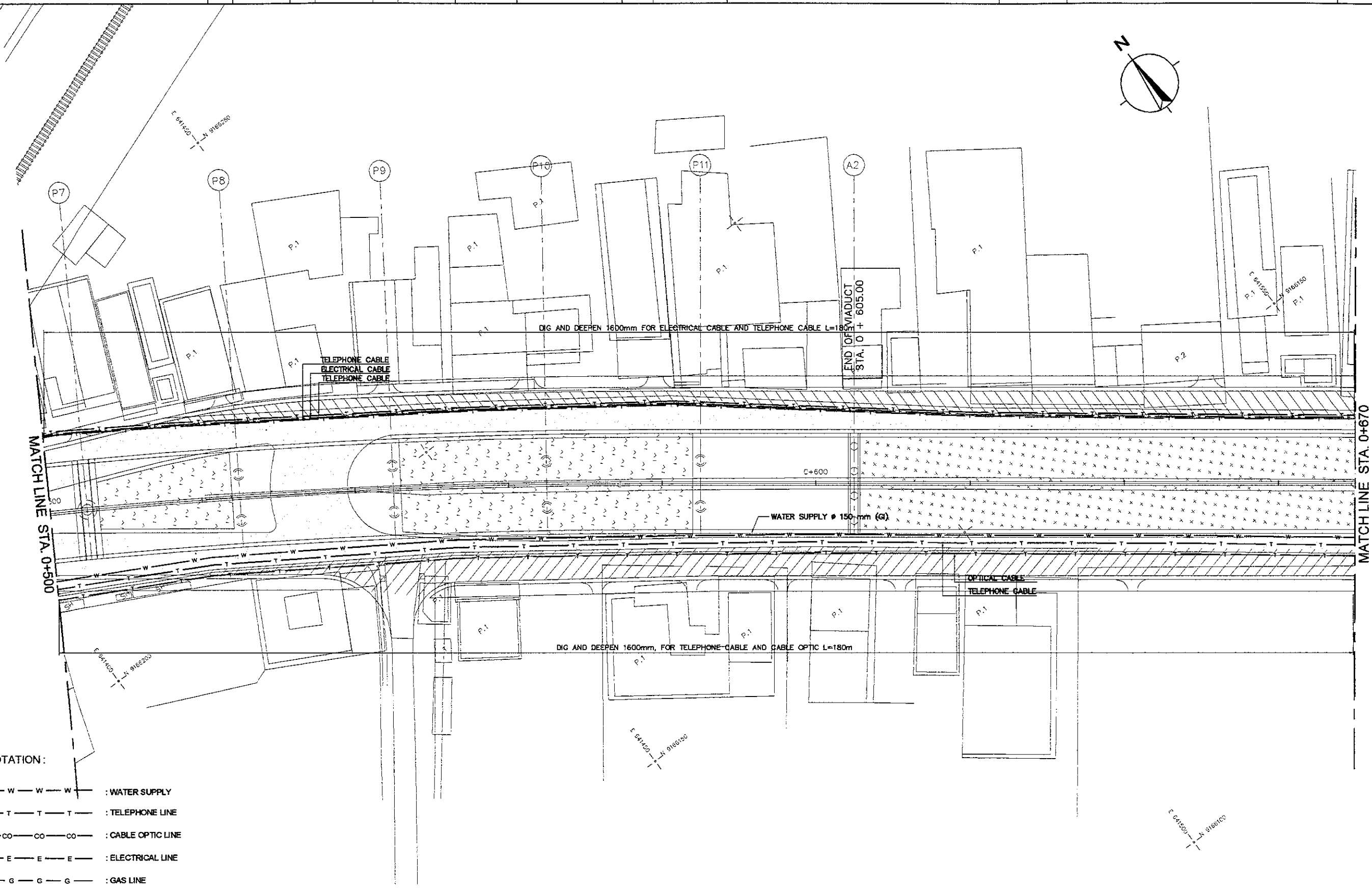
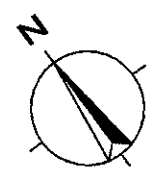
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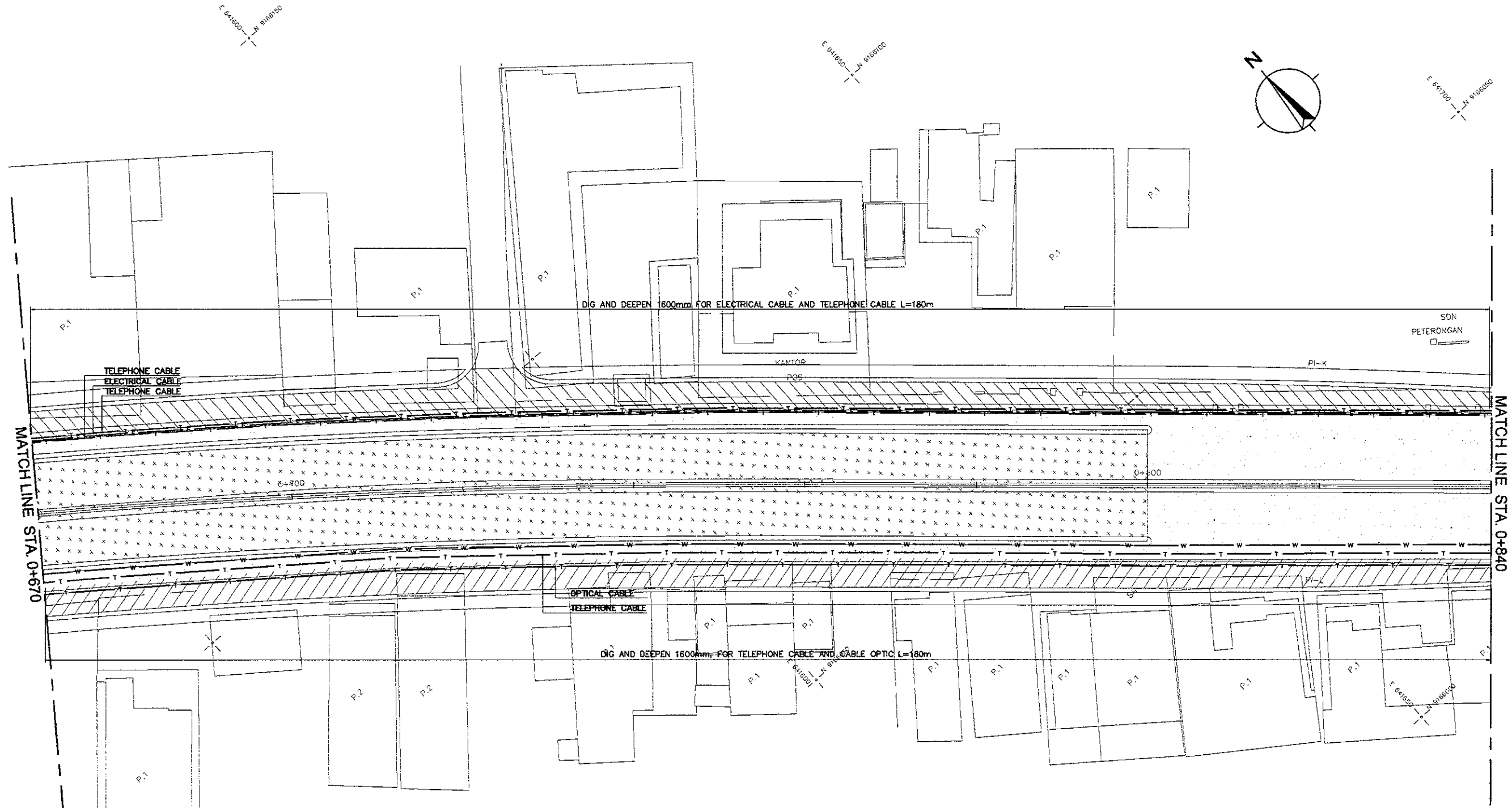
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 SCALE 1:500

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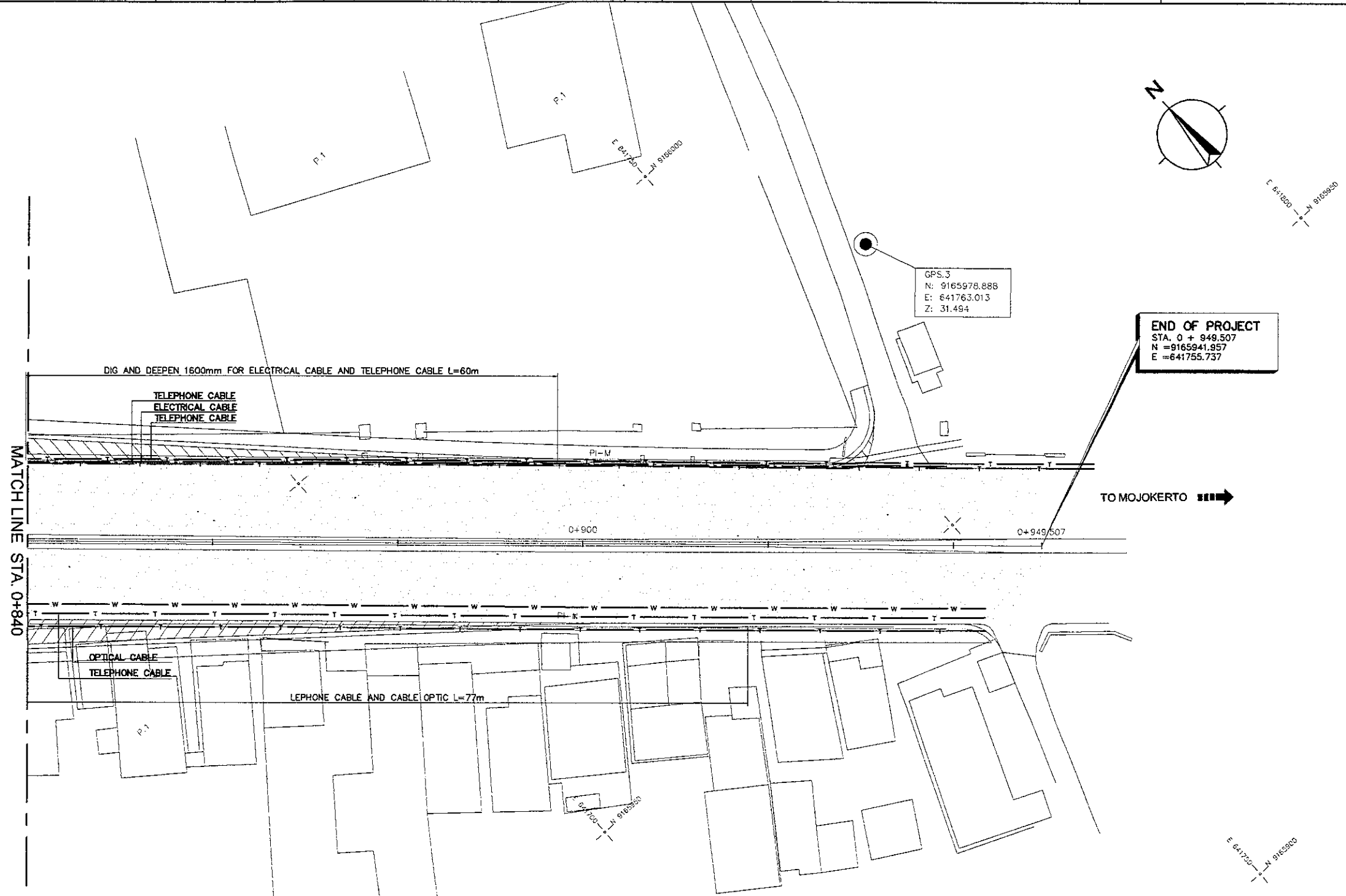
MATCH LINE STA. 0+670

MATCH LINE STA. 0+840

- NOTATION :
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1 PUBLIC UTILITIES UNDER GROUND
 SCALE 1:500

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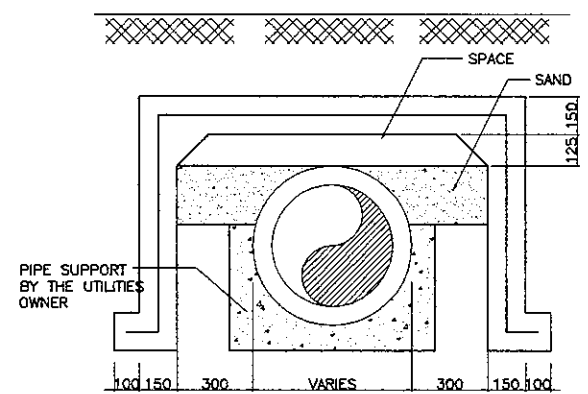
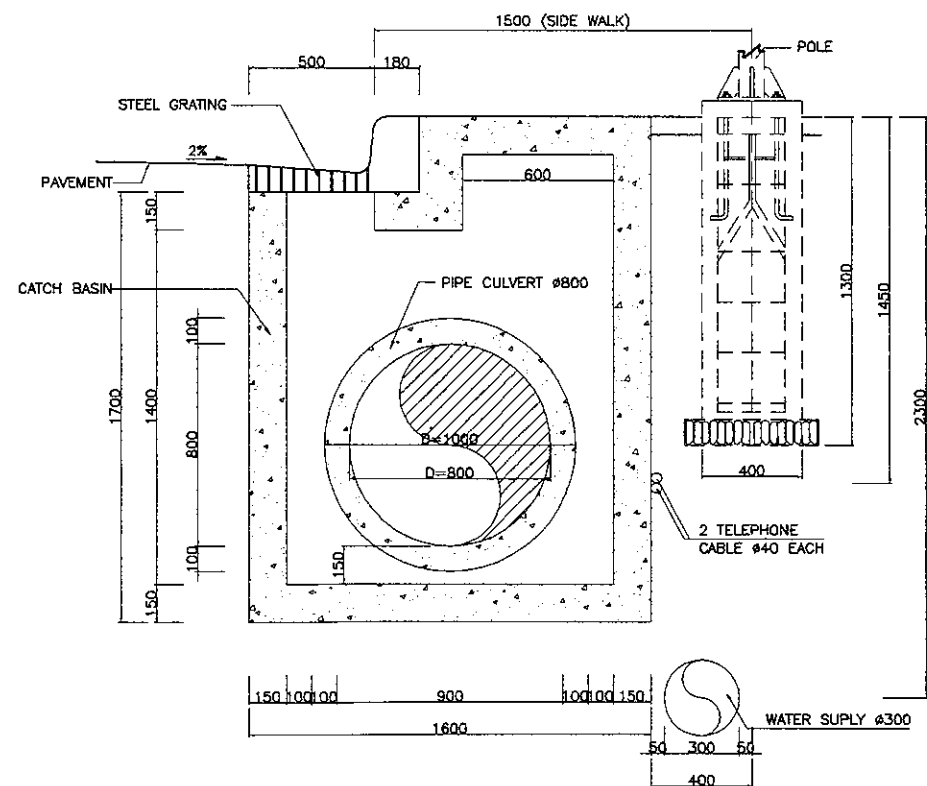
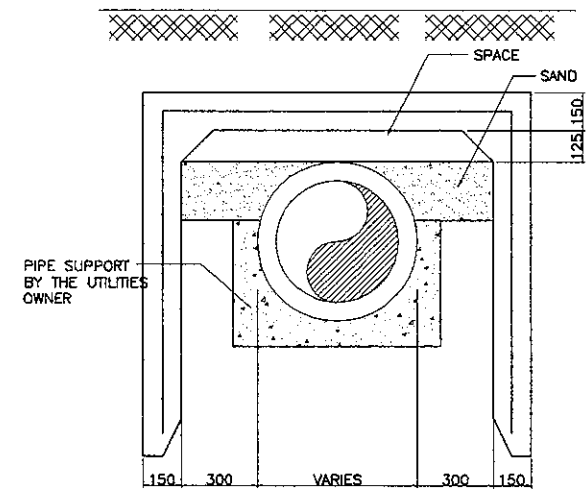
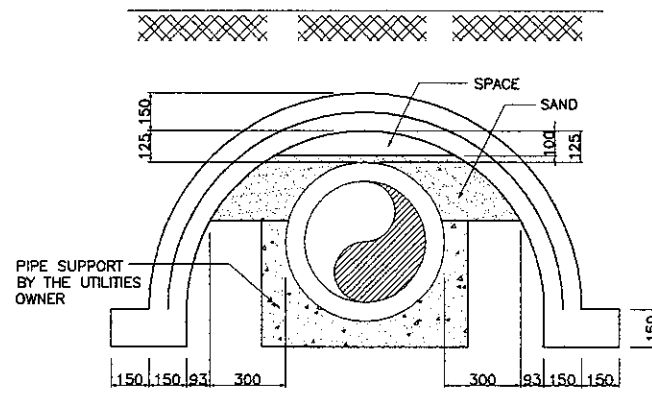
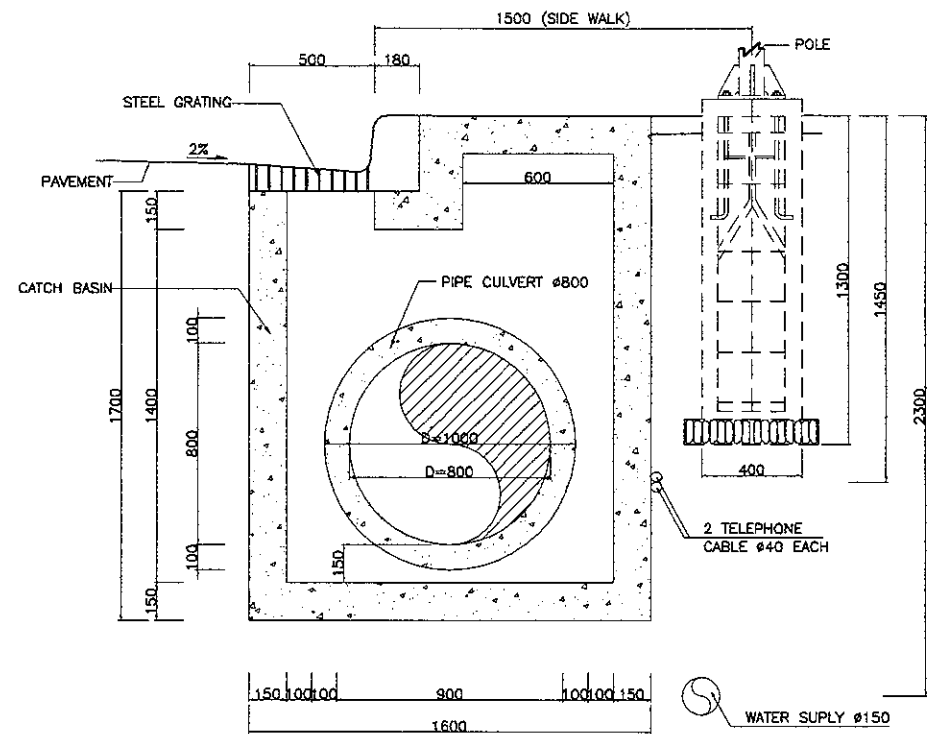
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 PUBLIC UTILITIES UNDER GROUND

 SCALE 1:500

DESIGNED BY		CHECKED BY		SUBMITTED BY	
Name	R. UENO	Name	T. OKUMURA	Name	M. KIUCHI
Sign		Sign		Sign	
Date		Date		Date	

LEFT SIDE
STA 0+200





JAPAN INTERNATIONAL
COOPERATION AGENCY







DIRECTORATE GENERAL OF HIGHWAY
MINISTRY OF PUBLIC WORKS
REPUBLIC OF INDONESIA

ROAD LIGHTING

 **KEI** KATAHIRA & ENGINEERS INTERNATIONAL

DESIGNED BY		CHECKED BY		SUBMITTED BY	
Name	R. UENO	Name	T. OKUMURA	Name	M. KIUCHI
Sign		Sign		Sign	
Date		Date		Date	

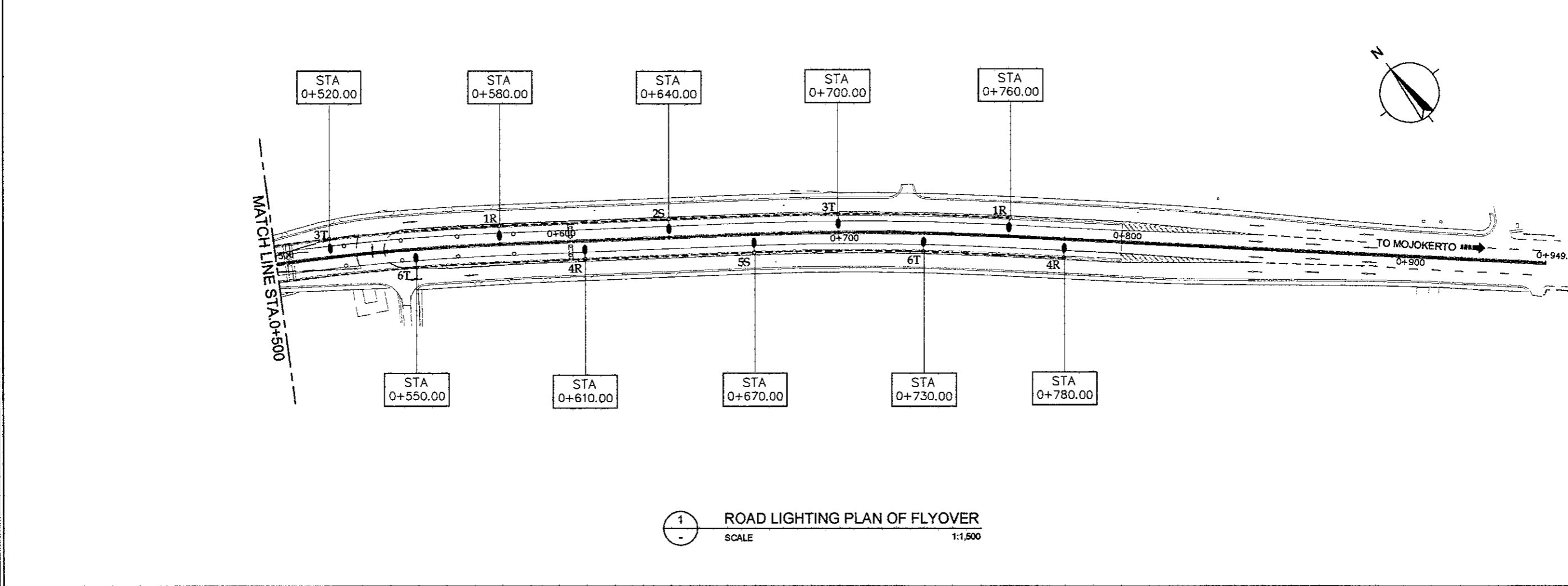
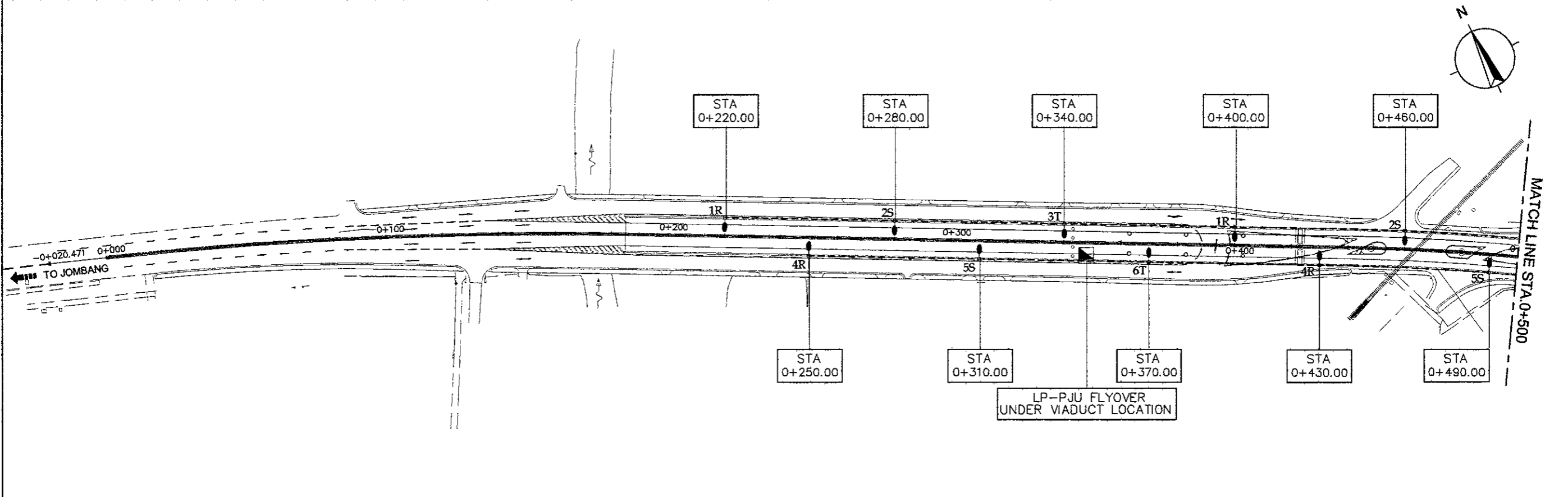
LEGEND

SYMBOL	DESCRIPTION	REMARKS
	ROAD LIGHTING POLE TYPE - A	SEE NOTES : 1
	LIGHTING UNDER VIADUCT TYPE - B	SEE NOTES : 2
	CABLE INSTALLATION	SEE NOTES : 3
	ROAD LIGHTING PANEL	

NOTES

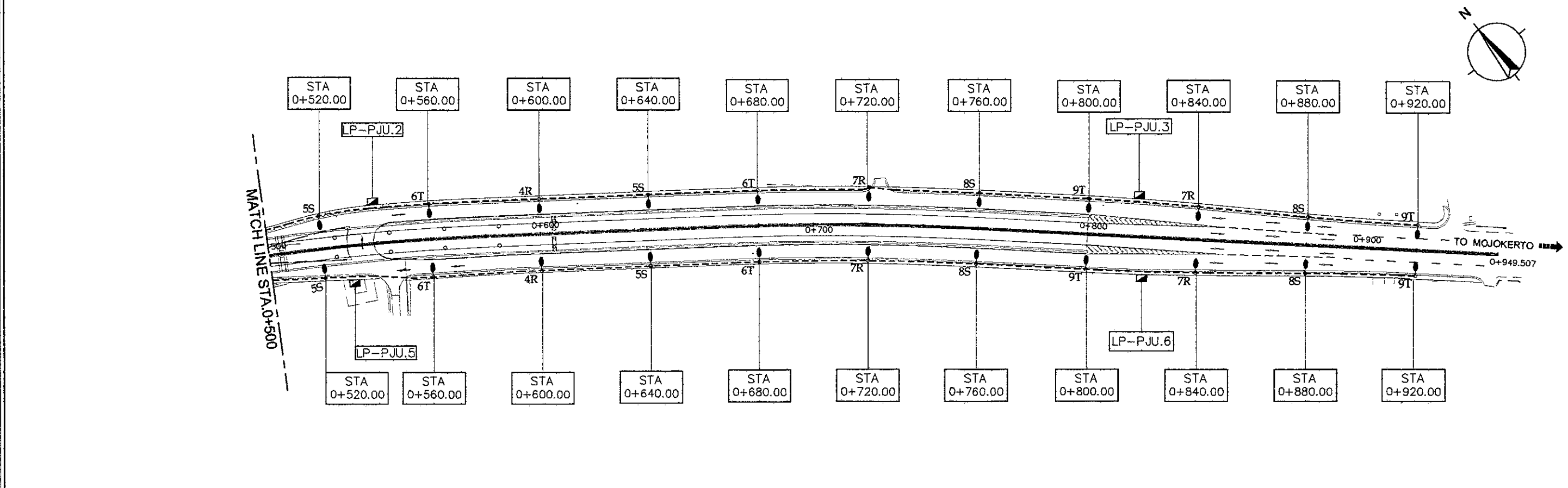
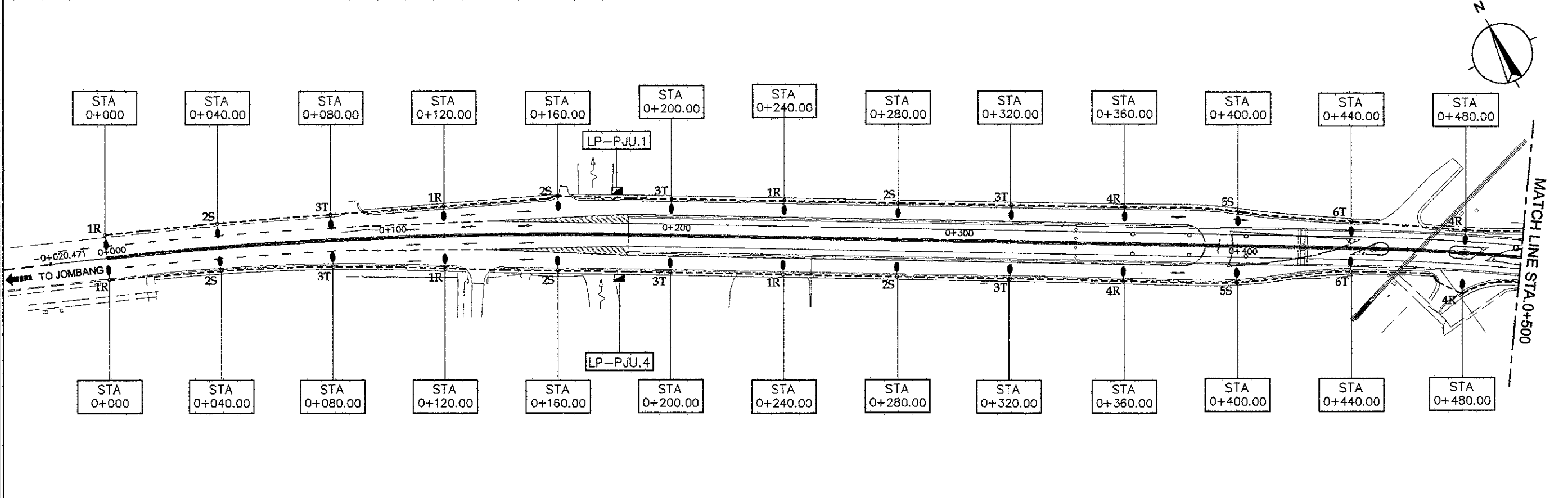
1. TYPE A : POLE IS 11 m HIGH OCTAGONAL GALVANIZED HOT.DIP TYPE STEEL POLE WITH SINGLE ARM, 250 HIGH PRESSURE SODIUM LAMP (SON - TP 250 W)
2. TYPE B : LIGHTING UNDER VIADUCT SURFACE MOUNTED,(SON - T 150 W)
3. CABLE :
 - NYFGbY PVC INSULATION FLAT STEEL WIRE ARMOURING AND PVC OUTER SHEATHING, SIZE ARE 10, 25 AND 50 mm²
 - NYY PVC INSULATION AND SHEATHING SIZE ARE 2.5 mm²
4. GROUNDING :
 - ELECTRODE : UNLESS INDICATED OTHERWISE, GROUNDING ELECTRODES SHALL BE PROVIDED TO EACH ROAD LIGHTING POLE, TRAFFIC SIGNAL POLE AND PANELS

DESIGNED BY	CHECKED BY	SUBMITTED BY
Name: R. UENO	Name: T. OKUMURA	Name: M. KIUCHI
Sign	Sign	Sign
Date	Date	Date



1 ROAD LIGHTING PLAN OF FLYOVER
 SCALE 1:1,500

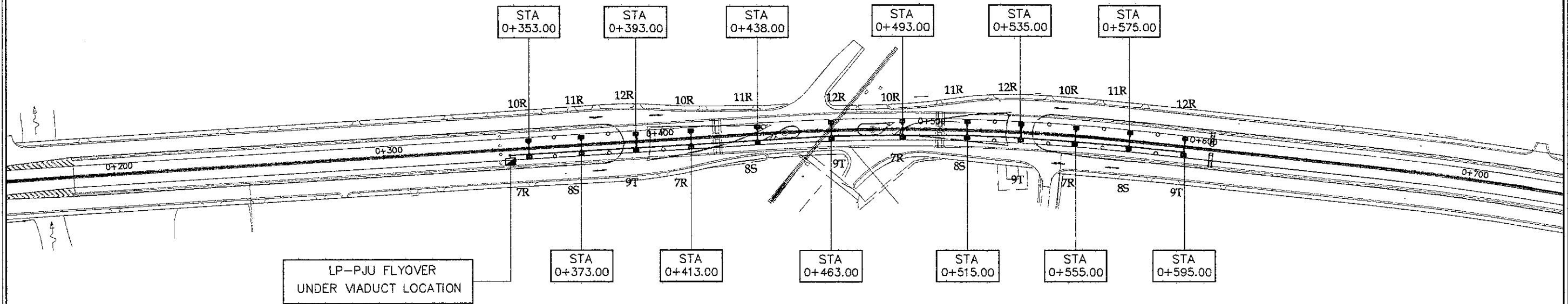
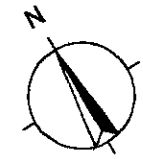
DESIGNED BY	CHECKED BY	SUBMITTED BY
Name R. UENO	Name T. OKUMURA	Name M. KIUCHI
Sign	Sign	Sign
Date	Date	Date



1 ROAD LIGHTING PLAN OF SERVICE ROAD

 SCALE 1:1,500

DESIGNED BY		CHECKED BY		SUBMITTED BY	
Name	R. UENO	Name	T. OKUMURA	Name	M. KIUCHI
Sign		Sign		Sign	
Date		Date		Date	



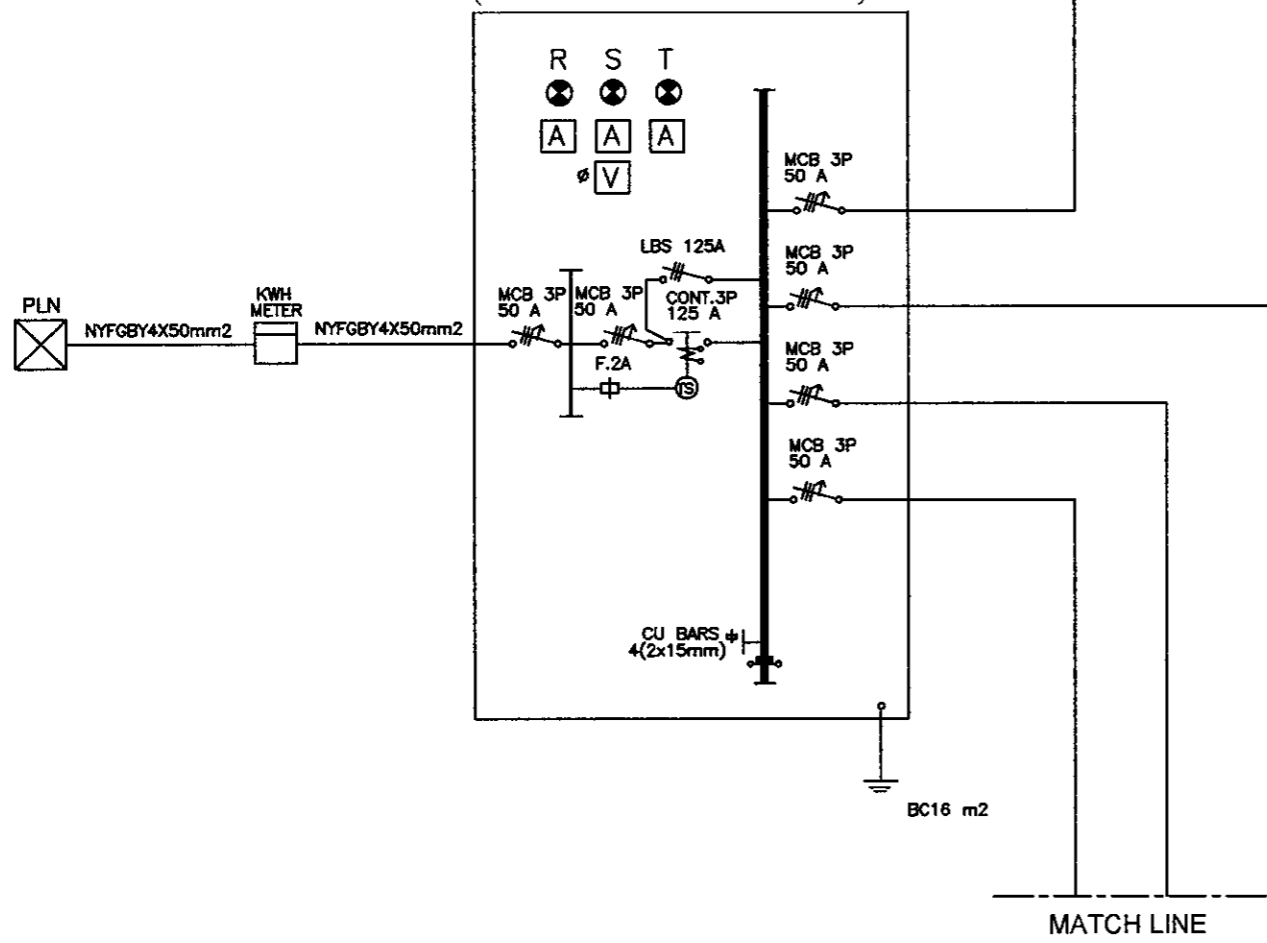
1 ROAD LIGHTING PLAN OF UNDER VIADUCT

 SCALE 1:1,500

LIGHTING FLYOVER

CABLE FEEDER	NUMBER OF POLE	MCB OF POLE	G R O U P	CABLE TO LIGHTING	LIGHTING HEAD TYPE			LOAD IN WATT			
					SON 250 W	R	S	T	R	S	T
NYFGbY 4X10mm2	1	MCB.1P / 2A	1R	NY2X2.5 mm2	1			250			
	2	MCB.1P / 2A	2S	NY2X2.5 mm2	1				250		
	3	MCB.1P / 2A	3T	NY2X2.5 mm2	1					250	
	4	MCB.1P / 2A	1R	NY2X2.5 mm2	1			250			
	5	MCB.1P / 2A	2S	NY2X2.5 mm2	1				250		
	6	MCB.1P / 2A	3T	NY2X2.5 mm2	1					250	
	7	MCB.1P / 2A	1R	NY2X2.5 mm2	1			250			
	8	MCB.1P / 2A	2S	NY2X2.5 mm2	1				250		
	9	MCB.1P / 2A	3T	NY2X2.5 mm2	1					250	
	10	MCB.1P / 2A	1R	NY2X2.5 mm2	1			250			
								1000	750	750	
TOTAL								2,500 WATT			3,125 VA

LP-PJU.FLYOVER
 (UNDER VIADUCT LOCATION)



LIGHTING FLYOVER

CABLE FEEDER	NUMBER OF POLE	MCB OF POLE	G R O U P	CABLE TO LIGHTING	LIGHTING HEAD TYPE			LOAD IN WATT			
					SON 250 W	R	S	T	R	S	T
NYFGbY 4X10mm2	1	MCB.1P / 2A	4R	NY2X2.5 mm2	1			250			
	2	MCB.1P / 2A	5S	NY2X2.5 mm2	1				250		
	3	MCB.1P / 2A	6T	NY2X2.5 mm2	1					250	
	4	MCB.1P / 2A	4R	NY2X2.5 mm2	1			250			
	5	MCB.1P / 2A	5S	NY2X2.5 mm2	1				250		
	6	MCB.1P / 2A	6T	NY2X2.5 mm2	1					250	
	7	MCB.1P / 2A	4R	NY2X2.5 mm2	1			250			
	8	MCB.1P / 2A	5S	NY2X2.5 mm2	1				250		
	9	MCB.1P / 2A	6T	NY2X2.5 mm2	1					250	
	10	MCB.1P / 2A	4R	NY2X2.5 mm2	1			250			
								1000	750	750	
TOTAL								2,500 WATT			3,125 VA

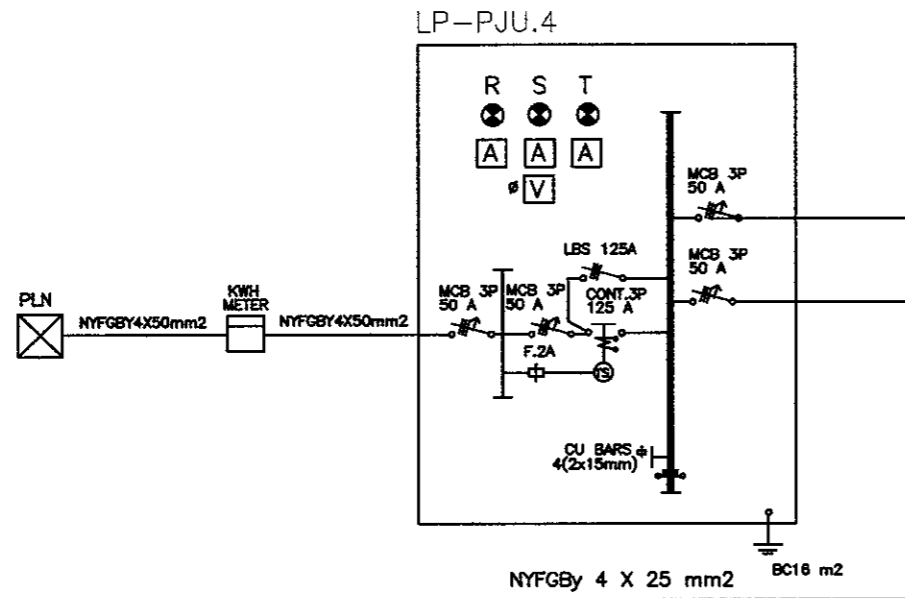
MATCH LINE

LIGHTING UNDER VIADUCT

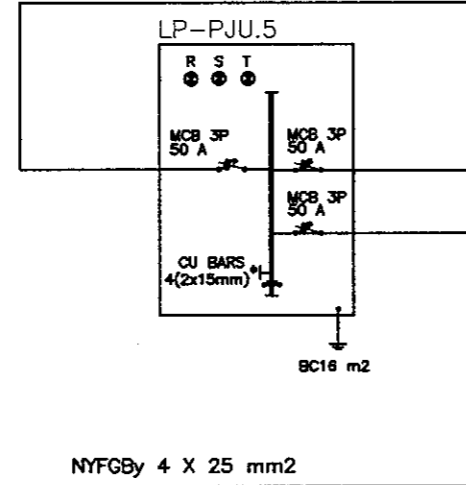
CABLE FEEDER	NUMBER OF POLE	MCB OF POLE	G R O U P	CABLE TO LIGHTING	LIGHTING HEAD TYPE		LOAD IN WATT				
					SON 150 W		R	S	T		
NYFGbY 4X10mm2	1	MCB.1P 2A	7R	NY2X2.5 mm2	1		150				
	2	MCB.1P 2A	8S	NY2X2.5 mm2	1			150			
	3	MCB.1P 2A	9T	NY2X2.5 mm2	1				150		
	4	MCB.1P 2A	7R	NY2X2.5 mm2	1		150				
	5	MCB.1P 2A	8S	NY2X2.5 mm2	1			150			
	6	MCB.1P 2A	9T	NY2X2.5 mm2	1				150		
	7	MCB.1P 2A	7R	NY2X2.5 mm2	1		150				
	8	MCB.1P 2A	8S	NY2X2.5 mm2	1			150			
	9	MCB.1P 2A	9T	NY2X2.5 mm2	1				150		
	10	MCB.1P 2A	7R	NY2X2.5 mm2	1		150				
	11	MCB.1P 2A	8S	NY2X2.5 mm2	1			150			
	12	MCB.1P 2A	9T	NY2X2.5 mm2	1				150		
TOTAL							600	600	600		
TOTAL							1,800 WATT		2,250 VA		

LIGHTING UNDER VIADUCT

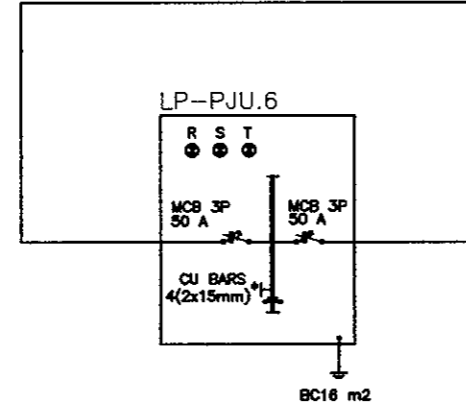
CABLE FEEDER	NUMBER OF POLE	MCB OF POLE	G R O U P	CABLE TO LIGHTING	LIGHTING HEAD TYPE		LOAD IN WATT				
					SON 150 W		R	S	T		
NYFGbY 4X10mm2	1	MCB.1P 2A	10R	NY2X2.5 mm2	1		150				
	2	MCB.1P 2A	11S	NY2X2.5 mm2	1			150			
	3	MCB.1P 2A	12T	NY2X2.5 mm2	1				150		
	4	MCB.1P 2A	10R	NY2X2.5 mm2	1		150				
	5	MCB.1P 2A	11S	NY2X2.5 mm2	1			150			
	6	MCB.1P 2A	12T	NY2X2.5 mm2	1				150		
	7	MCB.1P 2A	10R	NY2X2.5 mm2	1		150				
	8	MCB.1P 2A	11S	NY2X2.5 mm2	1			150			
	9	MCB.1P 2A	12T	NY2X2.5 mm2	1				150		
	10	MCB.1P 2A	10R	NY2X2.5 mm2	1		150				
	11	MCB.1P 2A	11S	NY2X2.5 mm2	1			150			
	12	MCB.1P 2A	12T	NY2X2.5 mm2	1				150		
TOTAL							600	600	600		
TOTAL							1,800 WATT		2,250 VA		



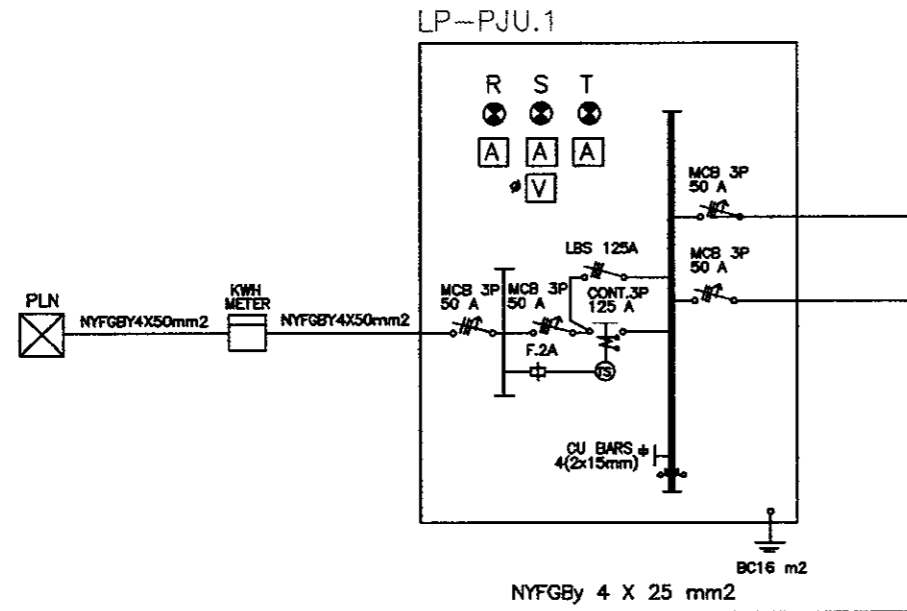
CABLE FEEDER	NUMBER OF POLE	MCB OF POLE	G R O U P	CABLE TO LIGHTING	LIGHTING HEAD TYPE			LOAD IN WATT			
					SON 250 W	R	S	T	R	S	T
NYFGbY 4X10mm2	1	MCB 1P 2A	1R	NY2X2.5 mm2	1			250			
	2	MCB 1P 2A	2S	NY2X2.5 mm2	1				250		
	3	MCB 1P 2A	3T	NY2X2.5 mm2	1					250	
	4	MCB 1P 2A	1R	NY2X2.5 mm2	1			250			
	5	MCB 1P 2A	2S	NY2X2.5 mm2	1				250		
	6	MCB 1P 2A	3T	NY2X2.5 mm2	1					250	
	7	MCB 1P 2A	1R	NY2X2.5 mm2	1			250			
	8	MCB 1P 2A	2S	NY2X2.5 mm2	1				250		
	9	MCB 1P 2A	3T	NY2X2.5 mm2	1					250	
TOTAL								750	750	750	
TOTAL								2, 2 5 0 WATT			2, 8 1 2 . 5 0 VA



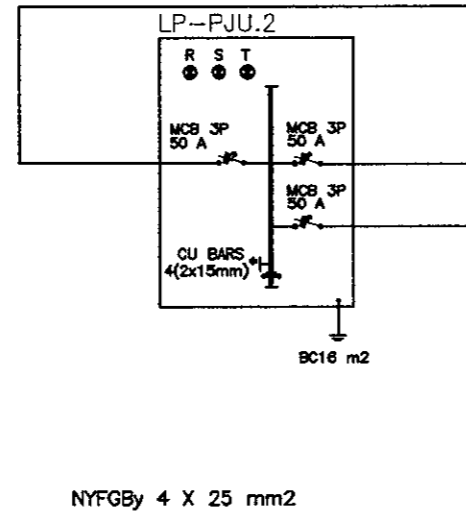
CABLE FEEDER	NUMBER OF POLE	MCB OF POLE	G R O U P	CABLE TO LIGHTING	LIGHTING HEAD TYPE			LOAD IN WATT			
					SON 250 W	R	S	T	R	S	T
NYFGbY 4X10mm2	1	MCB 1P 2A	4R	NY2X2.5 mm2	1			250			
	2	MCB 1P 2A	5S	NY2X2.5 mm2	1				250		
	3	MCB 1P 2A	6T	NY2X2.5 mm2	1					250	
	4	MCB 1P 2A	4R	NY2X2.5 mm2	1			250			
	5	MCB 1P 2A	5S	NY2X2.5 mm2	1				250		
	6	MCB 1P 2A	6T	NY2X2.5 mm2	1					250	
	7	MCB 1P 2A	4R	NY2X2.5 mm2	1			250			
	8	MCB 1P 2A	5S	NY2X2.5 mm2	1				250		
	9	MCB 1P 2A	6T	NY2X2.5 mm2	1					250	
TOTAL								750	750	750	
TOTAL								2, 2 5 0 WATT			2, 8 1 2 . 5 0 VA



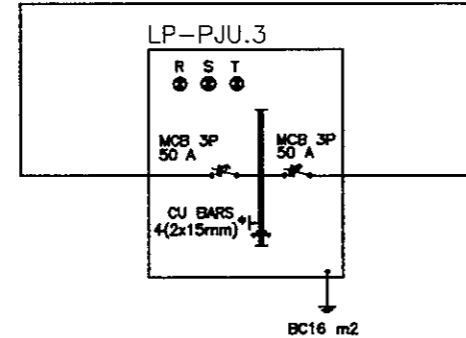
CABLE FEEDER	NUMBER OF POLE	MCB OF POLE	G R O U P	CABLE TO LIGHTING	LIGHTING HEAD TYPE			LOAD IN WATT			
					SON 250 W	R	S	T	R	S	T
NYFGbY 4X10mm2	1	MCB 1P 2A	7R	NY2X2.5 mm2	1			250			
	2	MCB 1P 2A	8S	NY2X2.5 mm2	1				250		
	3	MCB 1P 2A	9T	NY2X2.5 mm2	1					250	
	4	MCB 1P 2A	7R	NY2X2.5 mm2	1			250			
	5	MCB 1P 2A	8S	NY2X2.5 mm2	1				250		
	6	MCB 1P 2A	9T	NY2X2.5 mm2	1					250	
TOTAL								500	500	500	
TOTAL								1, 5 0 0 WATT			1, 8 7 5 VA



CABLE FEEDER	NUMBER OF POLE	MCB OF POLE	GROUP	CABLE TO LIGHTING	LIGHTING HEAD TYPE			LOAD IN WATT			
					SON 250 W	R	S	T	R	S	T
NYFGbY 4X10mm2	1	MCB 1P 2A	1R	NY2X2.5 mm2	1			250			
	2	MCB 1P 2A	2S	NY2X2.5 mm2	1				250		
	3	MCB 1P 2A	3T	NY2X2.5 mm2	1					250	
	4	MCB 1P 2A	1R	NY2X2.5 mm2	1			250			
	5	MCB 1P 2A	2S	NY2X2.5 mm2	1				250		
	6	MCB 1P 2A	3T	NY2X2.5 mm2	1					250	
	7	MCB 1P 2A	1R	NY2X2.5 mm2	1			250			
	8	MCB 1P 2A	2S	NY2X2.5 mm2	1				250		
	9	MCB 1P 2A	3T	NY2X2.5 mm2	1					250	
TOTAL								750	750	750	
TOTAL								2,250 WATT			2,812.50 VA

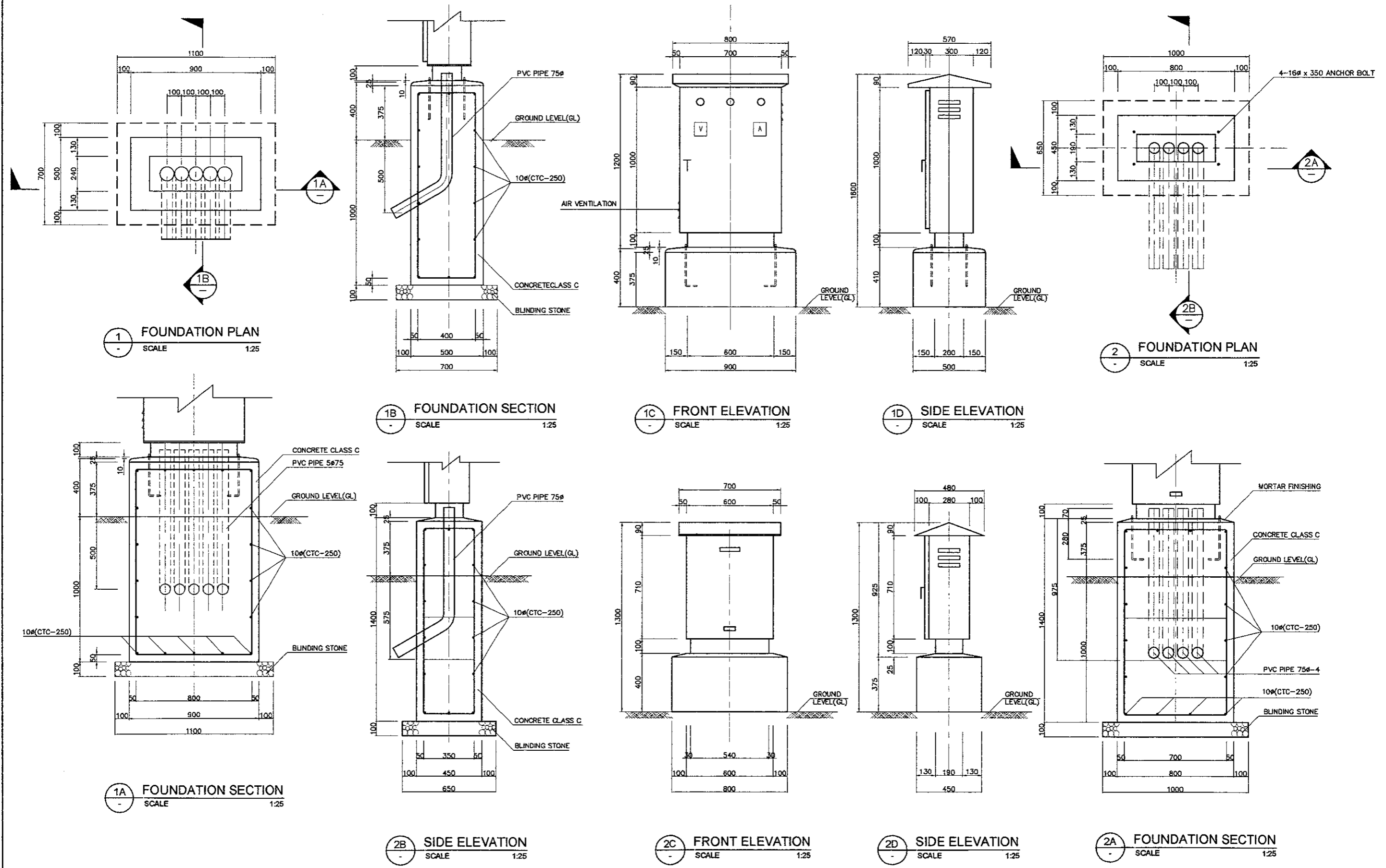


CABLE FEEDER	NUMBER OF POLE	MCB OF POLE	GROUP	CABLE TO LIGHTING	LIGHTING HEAD TYPE			LOAD IN WATT			
					SON 250 W	R	S	T	R	S	T
NYFGbY 4X10mm2	1	MCB 1P 2A	4R	NY2X2.5 mm2	1			250			
	2	MCB 1P 2A	5S	NY2X2.5 mm2	1				250		
	3	MCB 1P 2A	6T	NY2X2.5 mm2	1					250	
	4	MCB 1P 2A	4R	NY2X2.5 mm2	1			250			
	5	MCB 1P 2A	5S	NY2X2.5 mm2	1				250		
	6	MCB 1P 2A	6T	NY2X2.5 mm2	1					250	
	7	MCB 1P 2A	4R	NY2X2.5 mm2	1			250			
	8	MCB 1P 2A	5S	NY2X2.5 mm2	1				250		
	9	MCB 1P 2A	6T	NY2X2.5 mm2	1					250	
TOTAL								750	750	750	
TOTAL								2,250 WATT			2,812.50 VA



CABLE FEEDER	NUMBER OF POLE	MCB OF POLE	GROUP	CABLE TO LIGHTING	LIGHTING HEAD TYPE			LOAD IN WATT			
					SON 250 W	R	S	T	R	S	T
NYFGbY 4X10mm2	1	MCB 1P 2A	7R	NY2X2.5 mm2	1			250			
	2	MCB 1P 2A	8S	NY2X2.5 mm2	1				250		
	3	MCB 1P 2A	9T	NY2X2.5 mm2	1					250	
	4	MCB 1P 2A	7R	NY2X2.5 mm2	1			250			
	5	MCB 1P 2A	8S	NY2X2.5 mm2	1				250		
	6	MCB 1P 2A	9T	NY2X2.5 mm2	1					250	
TOTAL								500	500	500	
TOTAL								1,500 WATT			1,875.00 VA

DESIGNED BY	CHECKED BY	SUBMITTED BY
Name R. UENO	Name T. OKUMURA	Name M. KIUCHI
Sign	Sign	Sign
Date	Date	Date



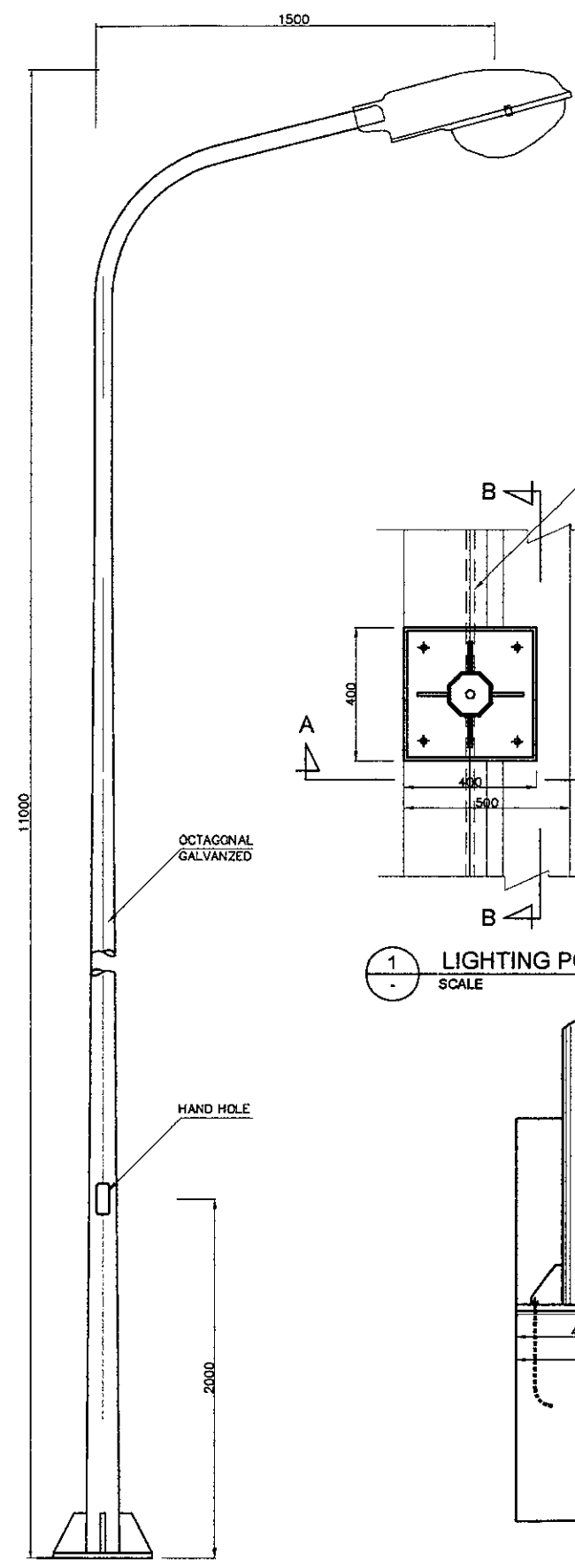
DESIGNED BY		CHECKED BY		SUBMITTED BY	
Name	R. UENO	Name	T. OKUMURA	Name	M. KIUCHI
Sign		Sign		Sign	
Date		Date		Date	

APPROVED BY: Ir. HERRY VAZA M,Eng.Sc
 NIP. : 110038400

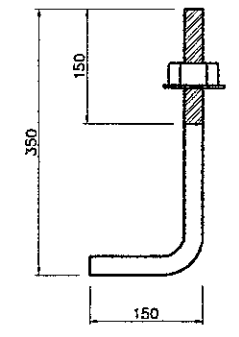
Sign	
Date	

SCALE :
 1 : 5
 1 : 10
 1 : 20
 1 : 25
 FULL SIZE A3

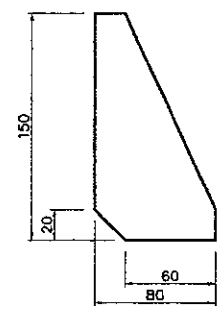
DRAWING NO :
PRL-010
 SHEET NO :
 10 / 13



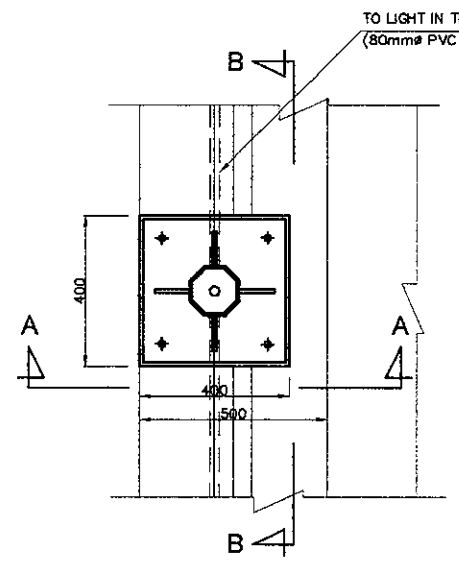
1 LIGHTING POLE
 SCALE 1:25



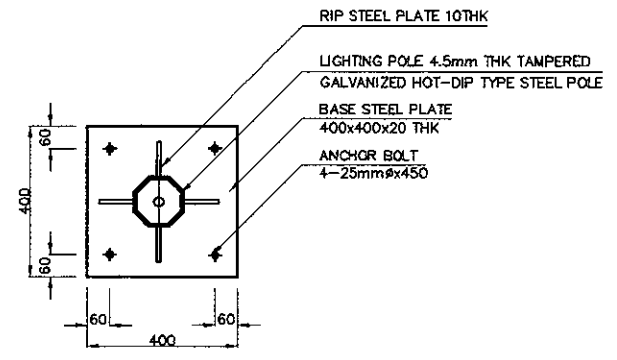
1 ANCHOR BOLT
 SCALE 1:10



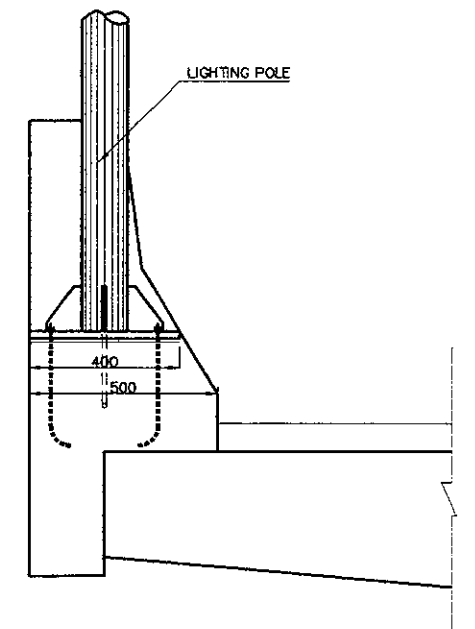
1 RIP STEEL PLATE
 SCALE 1:5



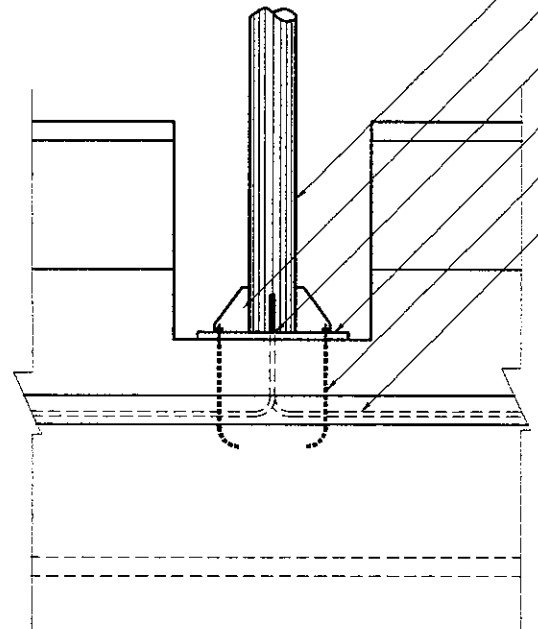
1 LIGHTING POLE PLAN
 SCALE 1:20



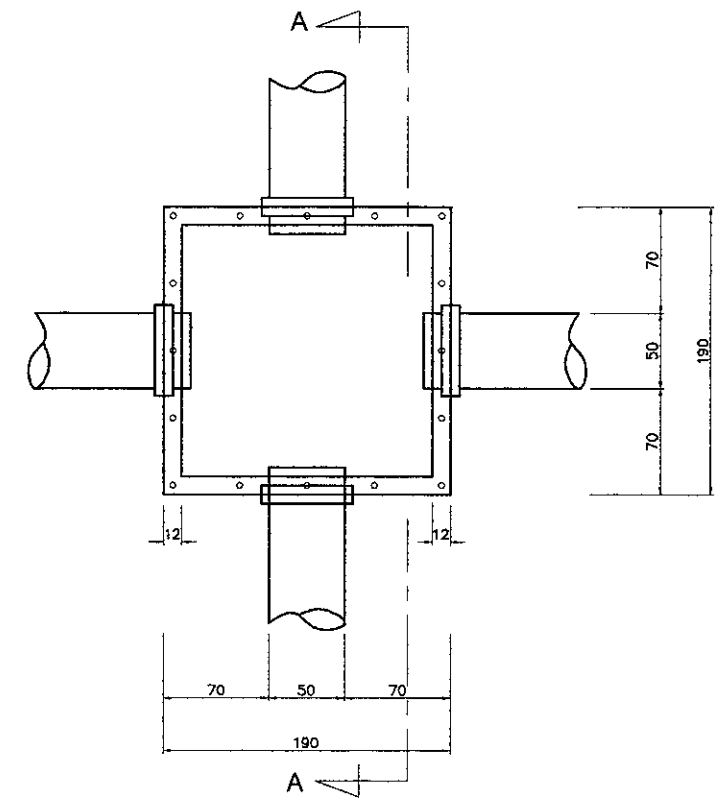
1 BASE PLATE DETAIL
 SCALE 1:20



1 SECTION A-A
 SCALE 1:20

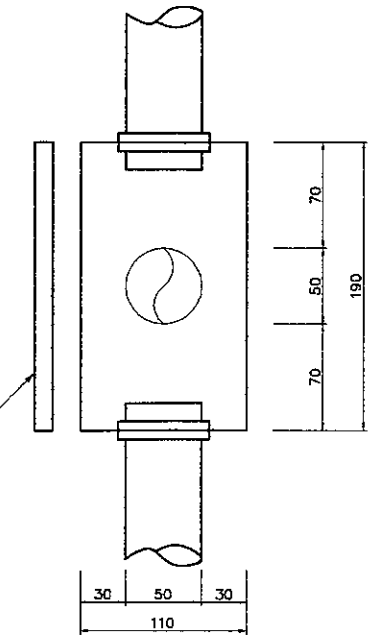


1 SECTION B-B
 SCALE 1:20

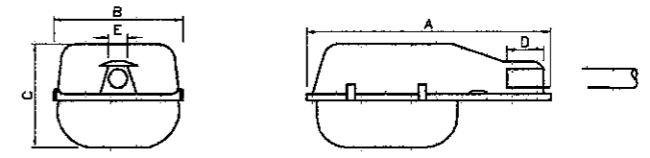
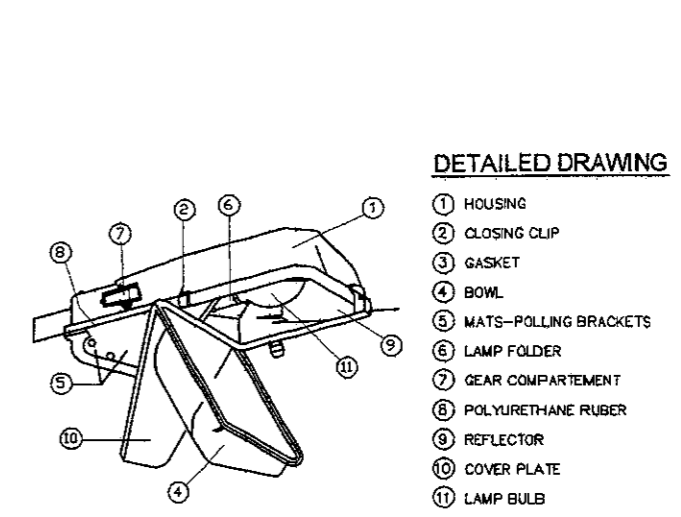
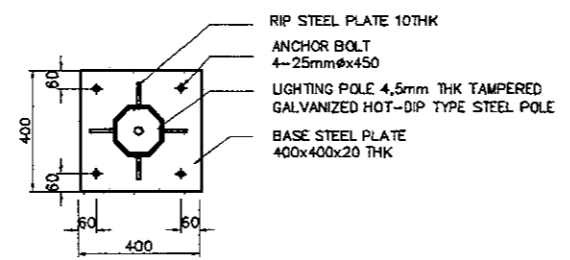
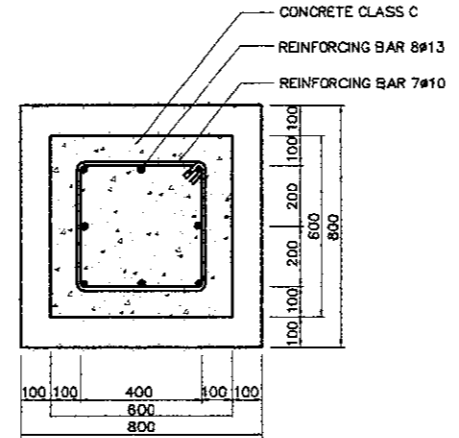
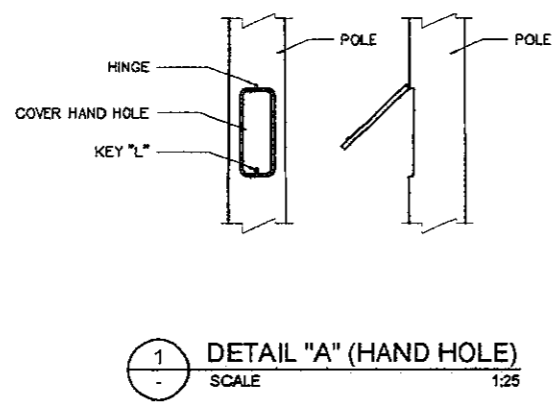
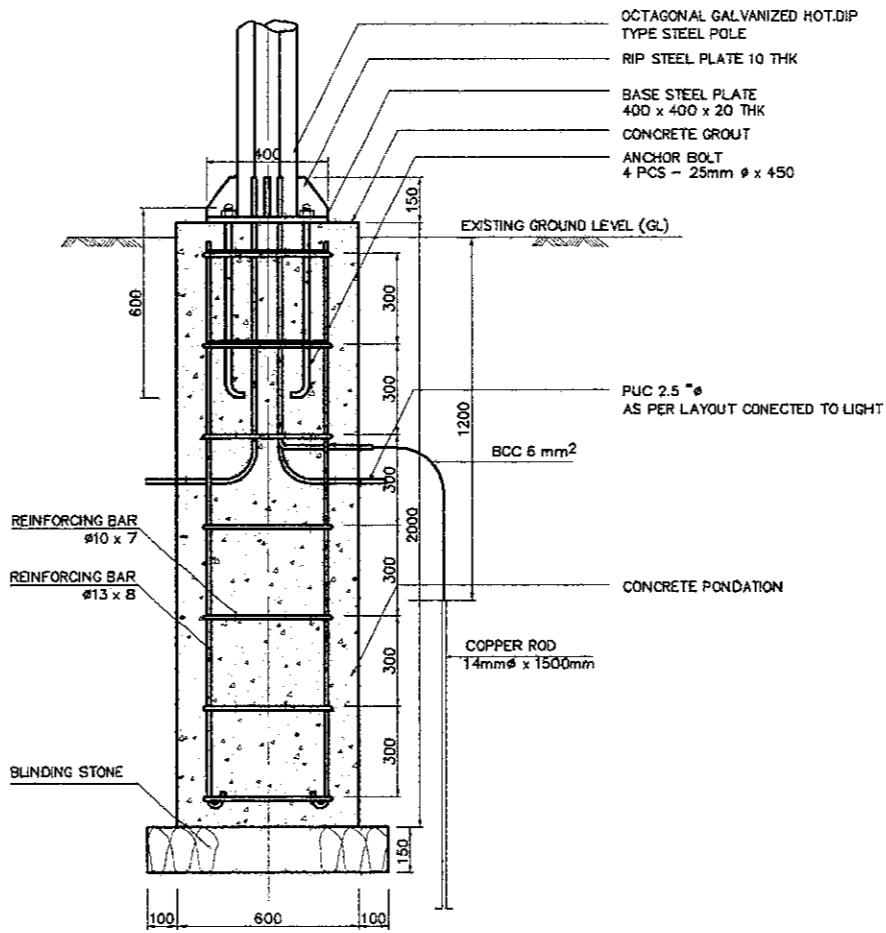
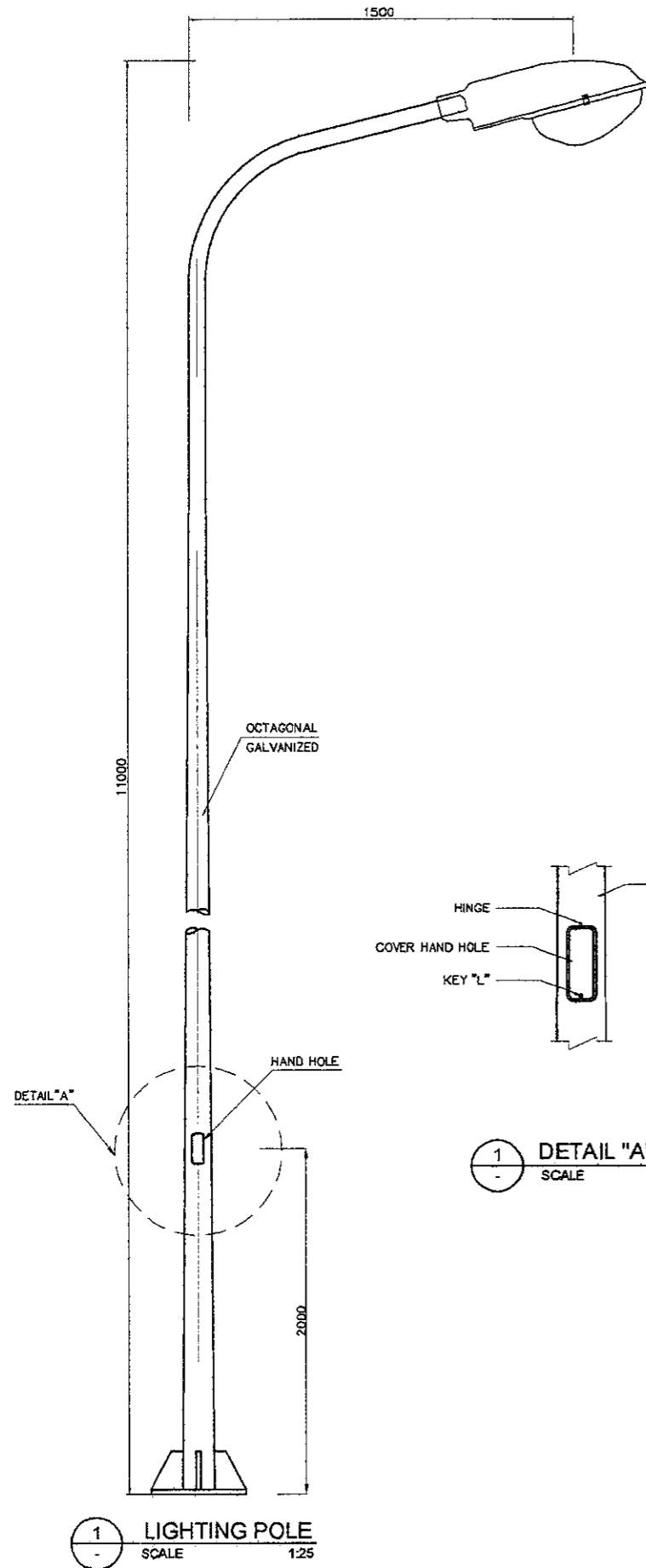


1 PULL BOX DETAIL
 SCALE 1:5

- OCTAGONAL GALVANIZED HOT-DIP TYPE STEEL POLE
- RIP STEEL PLATE 10THK
- BOTTOM POLE Ø250mm
- BASE STEEL PLATE 400x400x20 THK
- ANCHOR BOLT 4-25mmx450
- TO LIGHT IN THE STRUCTURE (80mmØ PVC AS PER LAYOUT)



1 SECTION A-A
 SCALE 1:5



1 DETAIL ARMATURE SON 250 W
 SCALE 1:25

ELECTRICAL SPECIFICATION AND WEIGHT

LUM.TYP.	LAMP	BALLAST	IGNITOR	CAPA (μ F/V \pm 10%)	VOLTAGE (V)	CURRENT (A)	WATTAGE (W)	WEIGHT (KG)
SRC 510/100W	SON 100W	BSN 100 L.08	SN 50	12/250	220	0.65	110	6
SRC 510/150W	SON 150W	BSN 150 L.08	SN 50	18/250	220	0.85	170	13.4
SRC 510/250W	SON 250W	BSN 250 L.08	SN 50	32/250	220	1.40	276	13.4
SRC 510/400W	SON 400W	BSN 400 L.08	SN 50	50/250	220	2.20	431	13.4

DIMENSIONS (mm)

LUM.TYP.	A	B	C	D	E	F	FIG.N ^o
SRC 510/100W	578	425	295	109	45	42	
SRC 510/150W	798	425	425	120	65	50	
SRC 510/250W	798	425	425	120	65	60	
SRC 510/400W	798	425	425	120	65	60	

DESIGNED BY		CHECKED BY		SUBMITTED BY	
Name	R. UENO	Name	T. OKUMURA	Name	M. KIUCHI
Sign		Sign		Sign	
Date		Date		Date	

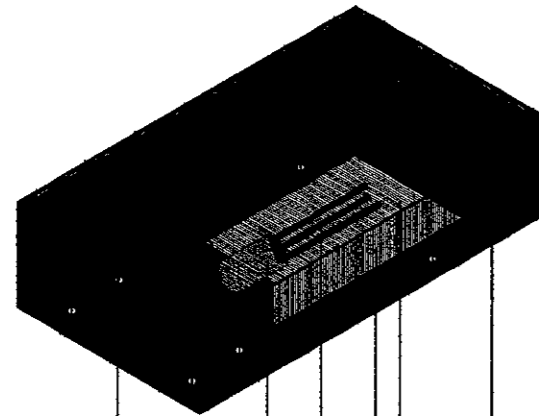
APPROVED BY: Ir. HERRY VAZA M,Eng.Sc
 NIP. : 110038400

PROJECT AND LOCATION :
 DETAILED DESIGN STUDY OF
 NORTH JAVA CORRIDOR FLYOVER PROJECT
 PETERONGAN FLYOVER - CONTRACT PACKAGE 3
 (PETERONGAN - TANGGULANGIN)
 EAST JAVA PROVINCE

SCALE :
 0 : 10
 0 : 100
 0 : 150
 FULL SIZE A3

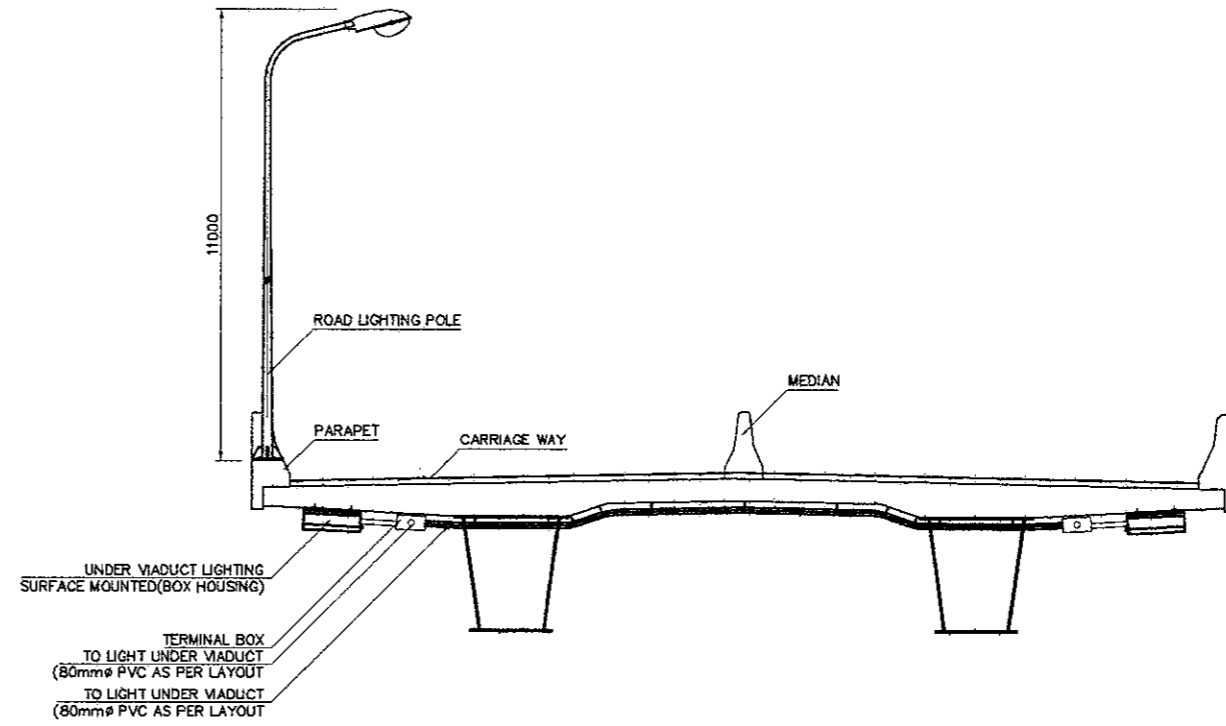
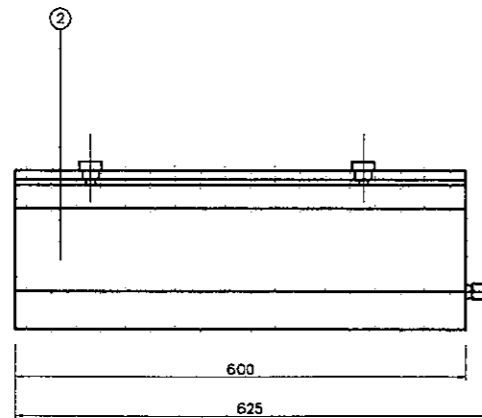
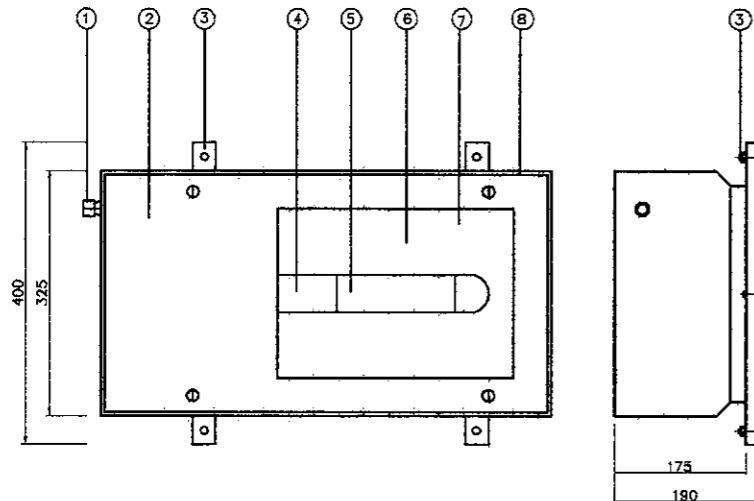
DRAWING TITLE :
LIGHTING UNDER VIADUCT

DRAWING NO :
PRL-012
 SHEET NO :
 12 / 13

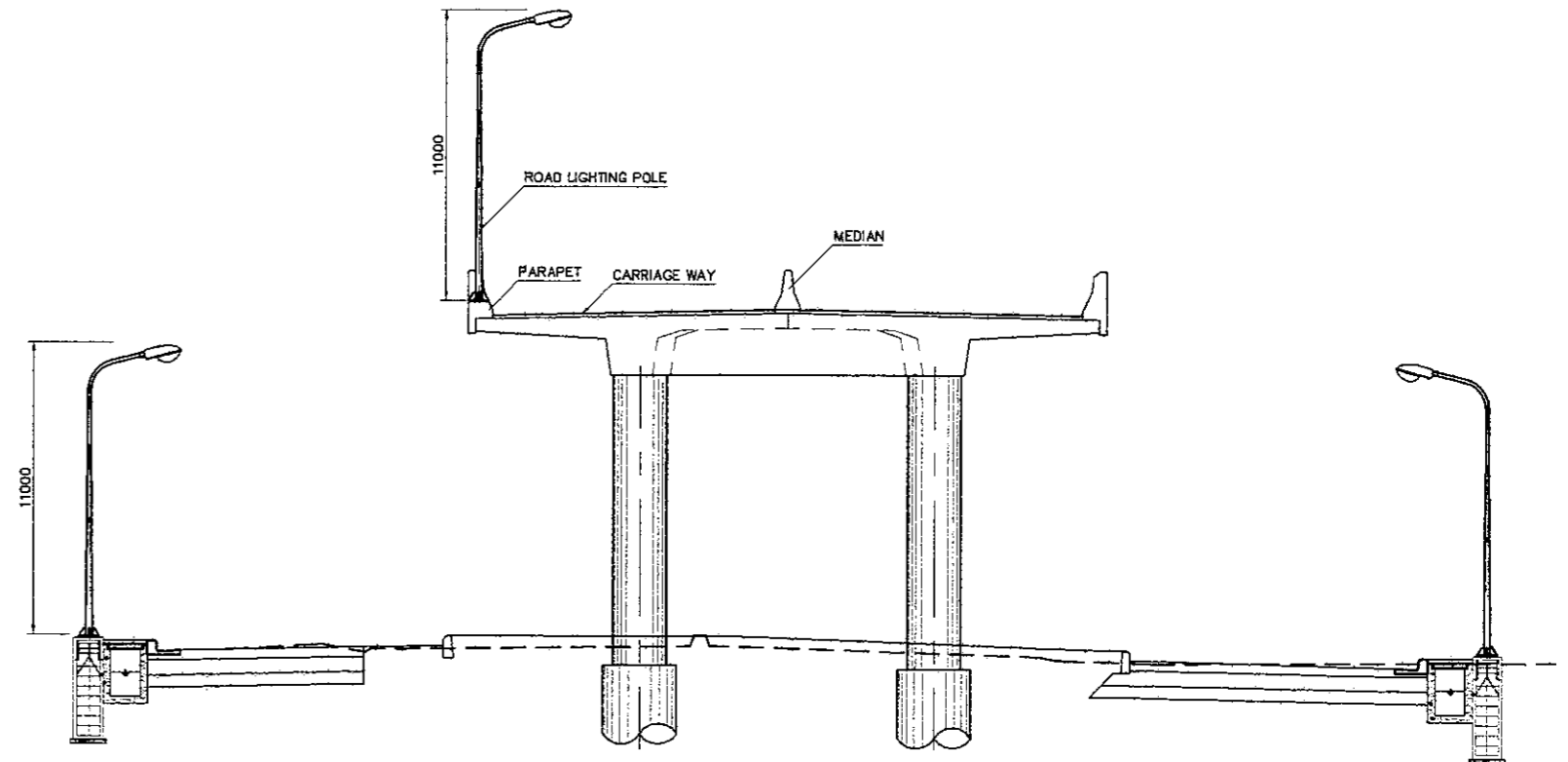


DETAILS DRAWING

- ① SOCKET PLUG TERMINAL
- ② HOUSING
- ③ SCREW FIX POWER CONNECTION
- ④ LAMP HOLDER
- ⑤ LAMP BULB
- ⑥ REFLECTOR
- ⑦ GLASS COVER
- ⑧ INSIDE GEAR COMPARTMENT

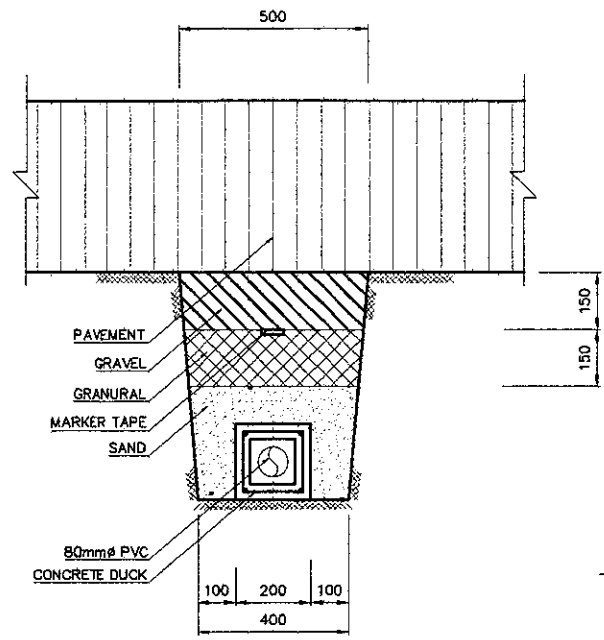


① LIGHTING SETTING UNDER VIADUCT
 SCALE 1:100

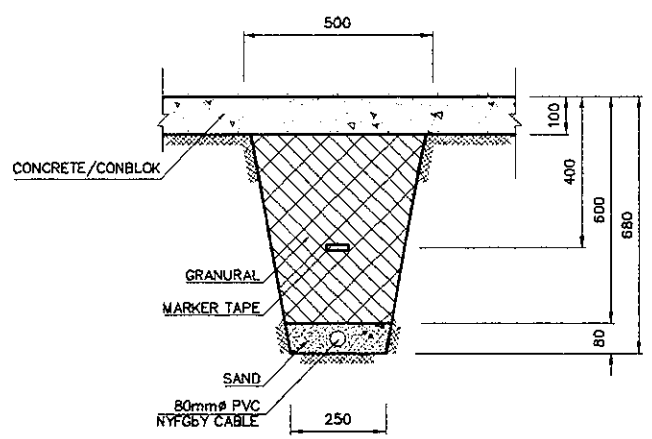


① TYPICAL ROAD CROSS SECTION
 SCALE 1:150

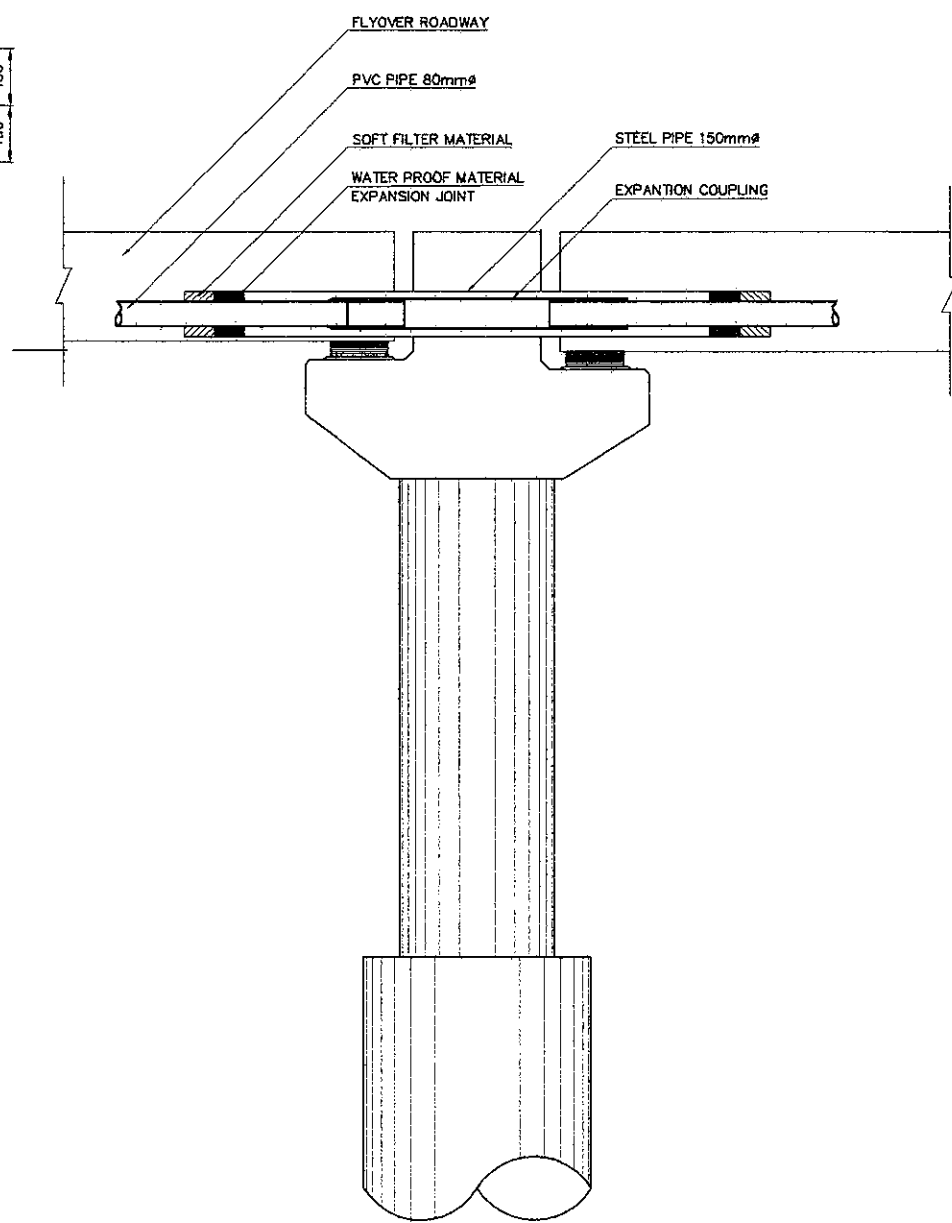
① ROAD LIGHTING UNDER VIADUCT SURFACE MOUNTED
 SCALE 1:10



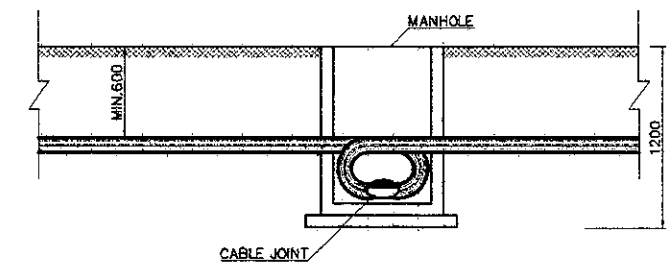
1 CONDUIT IN THE DUCT UNDER ROAD
 SCALE 1:20



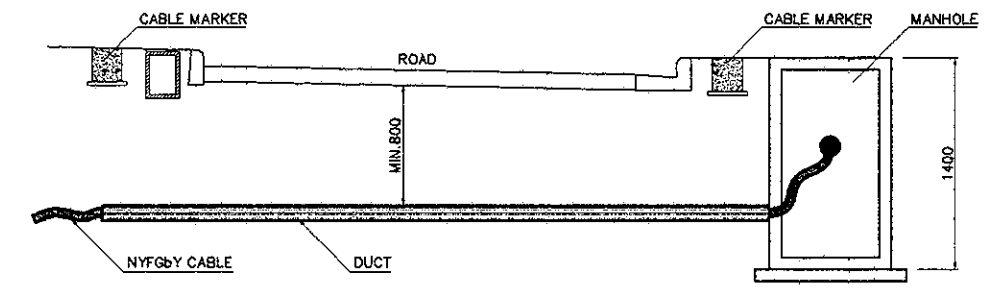
1 CONDUIT RUN UNDER SIDEWALK
 SCALE 1:20



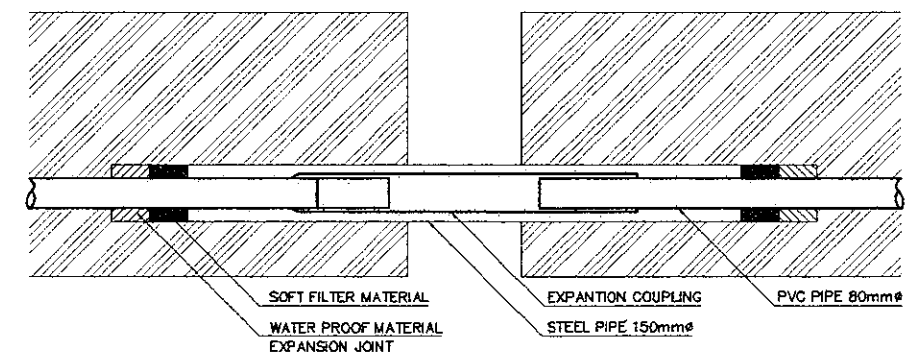
1 CONDUIT EXPANTION JOINT FOR THE BRIDGE
 SCALE 1:25



1 GENERAL INSTALLATION FOR CABLE
 SCALE 1:50



1 CABLE INSTALLATION AT ROAD CROSSING POINT
 SCALE 1:50



1 CONDUIT EXPANTION JOINT FOR THE BRIDGE
 SCALE 1:20