



JAPAN INTERNATIONAL
COOPERATION AGENCY

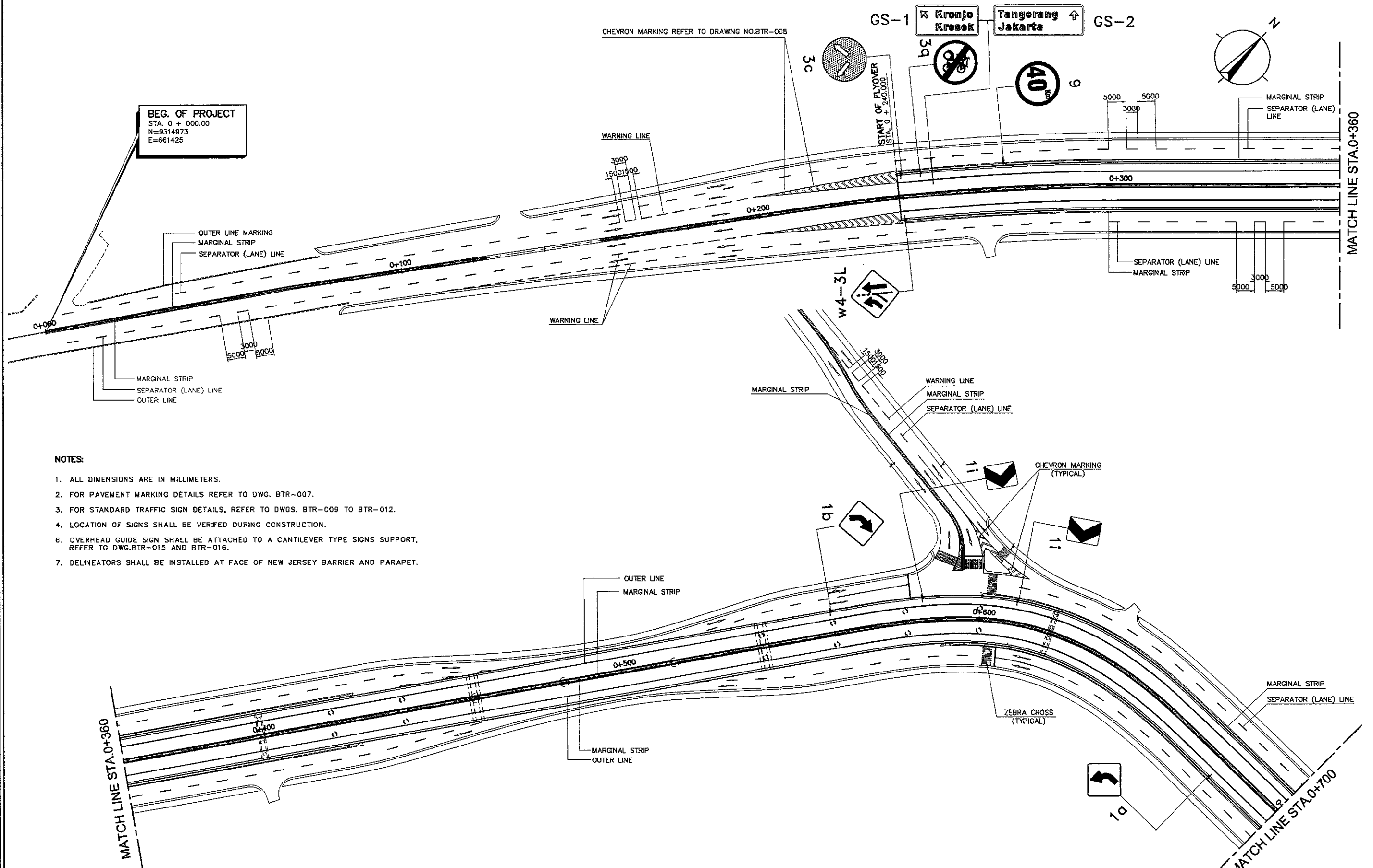


DIRECTORATE GENERAL OF HIGHWAY
MINISTRY OF PUBLIC WORKS
REPUBLIC OF INDONESIA

TRAFFIC CONTROL

 **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:



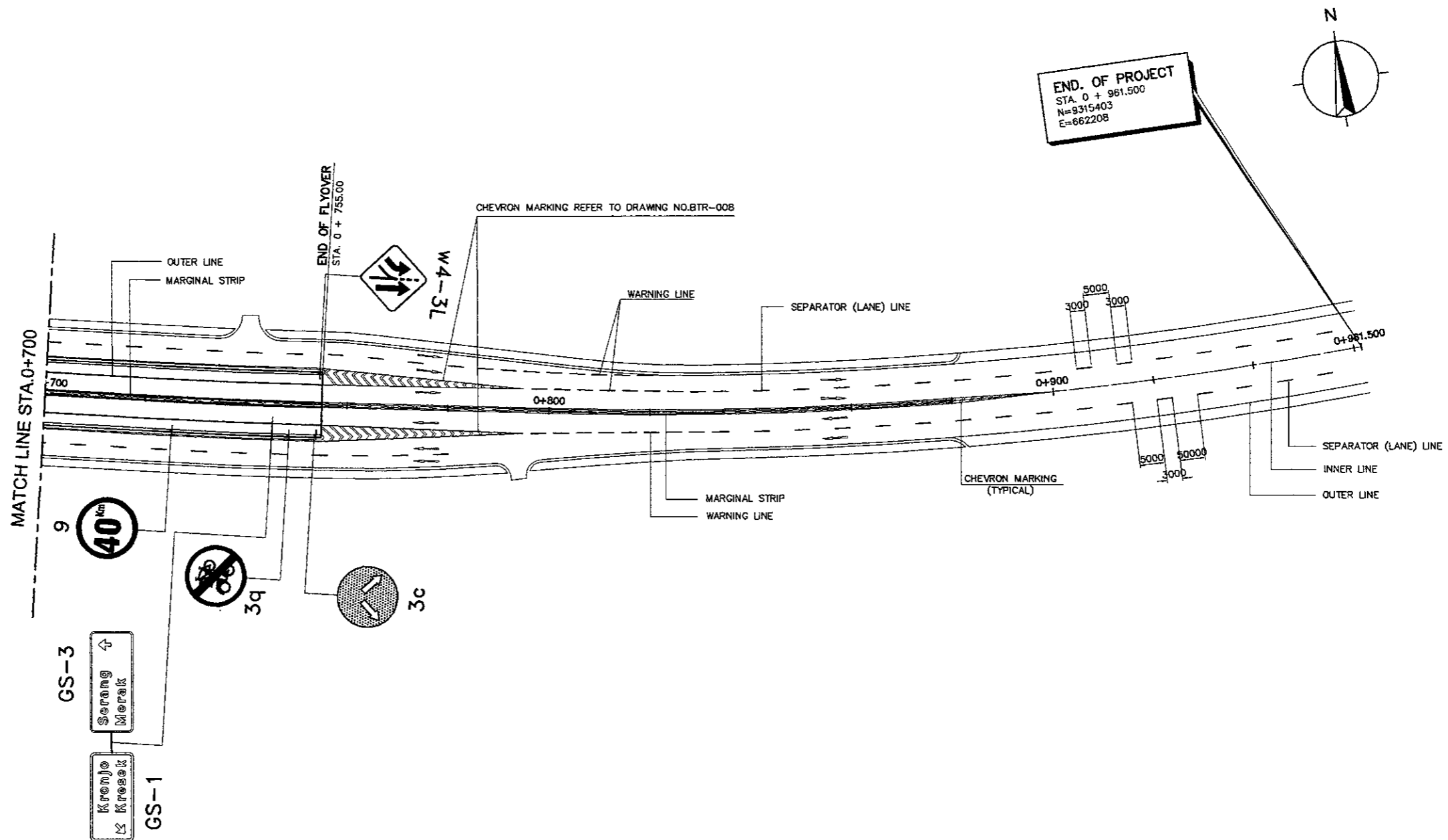
BEG. OF PROJECT
 STA. 0 + 000.00
 N=9314973
 E=661425

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. FOR PAVEMENT MARKING DETAILS REFER TO DWG. BTR-007.
3. FOR STANDARD TRAFFIC SIGN DETAILS, REFER TO DWGS. BTR-009 TO BTR-012.
4. LOCATION OF SIGNS SHALL BE VERIFIED DURING CONSTRUCTION.
6. OVERHEAD GUIDE SIGN SHALL BE ATTACHED TO A CANTILEVER TYPE SIGNS SUPPORT, REFER TO DWG. BTR-015 AND BTR-016.
7. DELINEATORS SHALL BE INSTALLED AT FACE OF NEW JERSEY BARRIER AND PARAPET.

1 TRAFFIC SIGNS AND ROAD MARKINGS LAYOUT (FLYOVER)
 SCALE 1:1000

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Name	R. UENO	Name	T. OKUMURA	Name	M. KIUCHI
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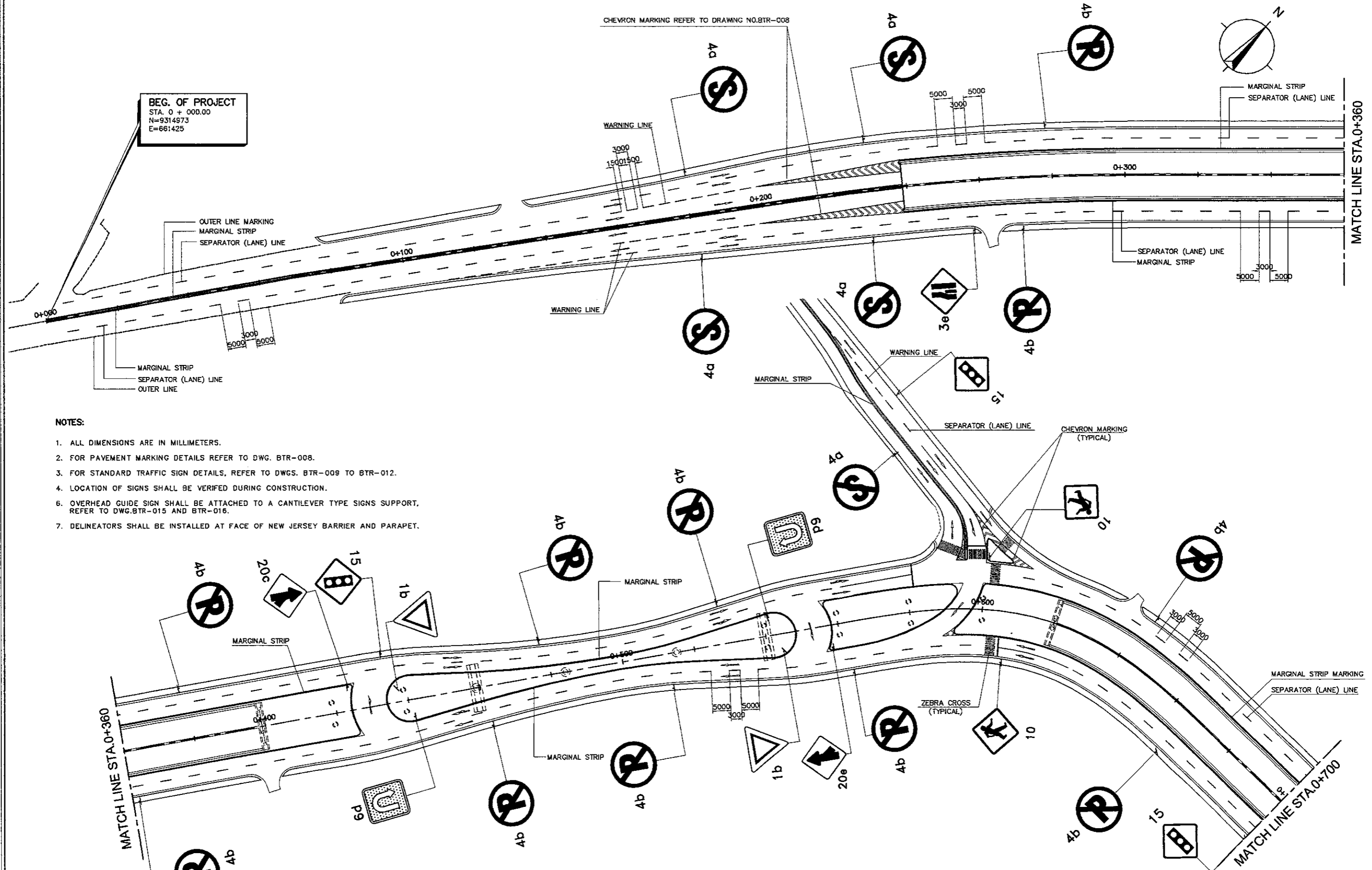


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 SCALE 1:1000

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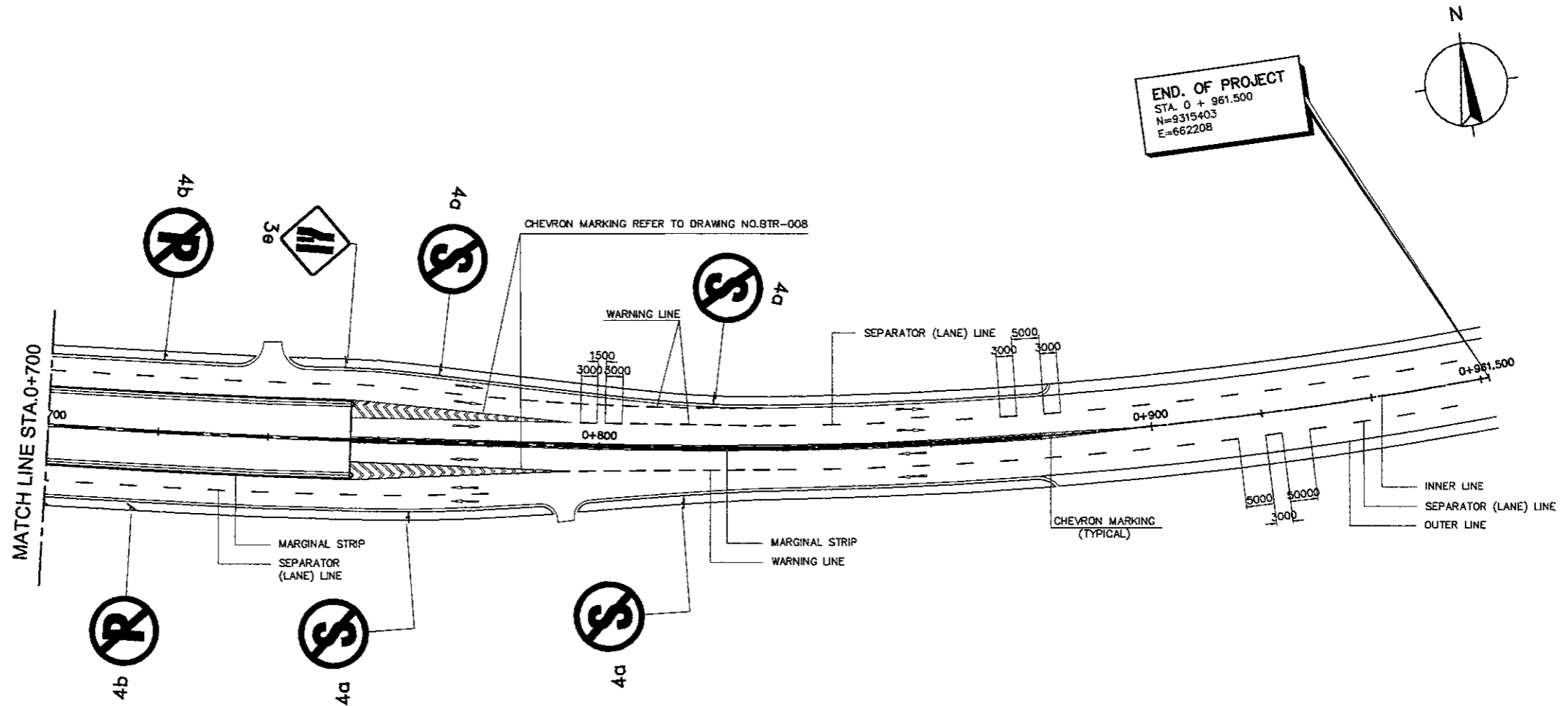
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1 TRAFFIC SIGNS AND ROAD MARKINGS LAYOUT (AT GRADE)
 SCALE 1:1000

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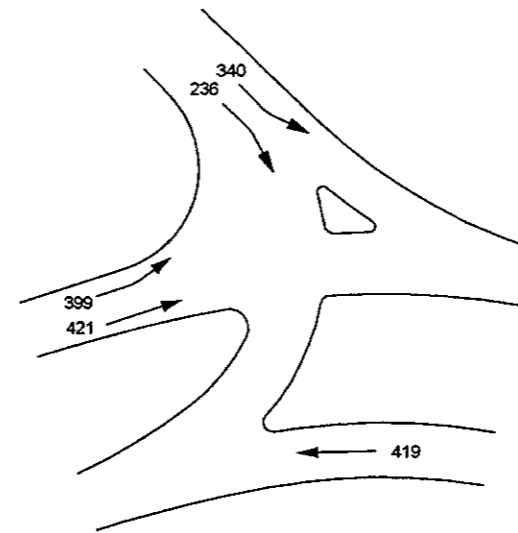


2 TRAFFIC SIGNS AND ROAD MARKINGS LAYOUT (AT GRADE)
 SCALE 1:1000

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DESIGN PLAN LANTERN SYMBOL	LANTERN ASSEMBLY	DESIGN PLAN LANTERN SYMBOL	LANTERN ASSEMBLY
	 3 ASPECT		 5 ASPECT
	 3 ASPECT		 6 ASPECT
	 4 ASPECT		 PEDESTRIAN

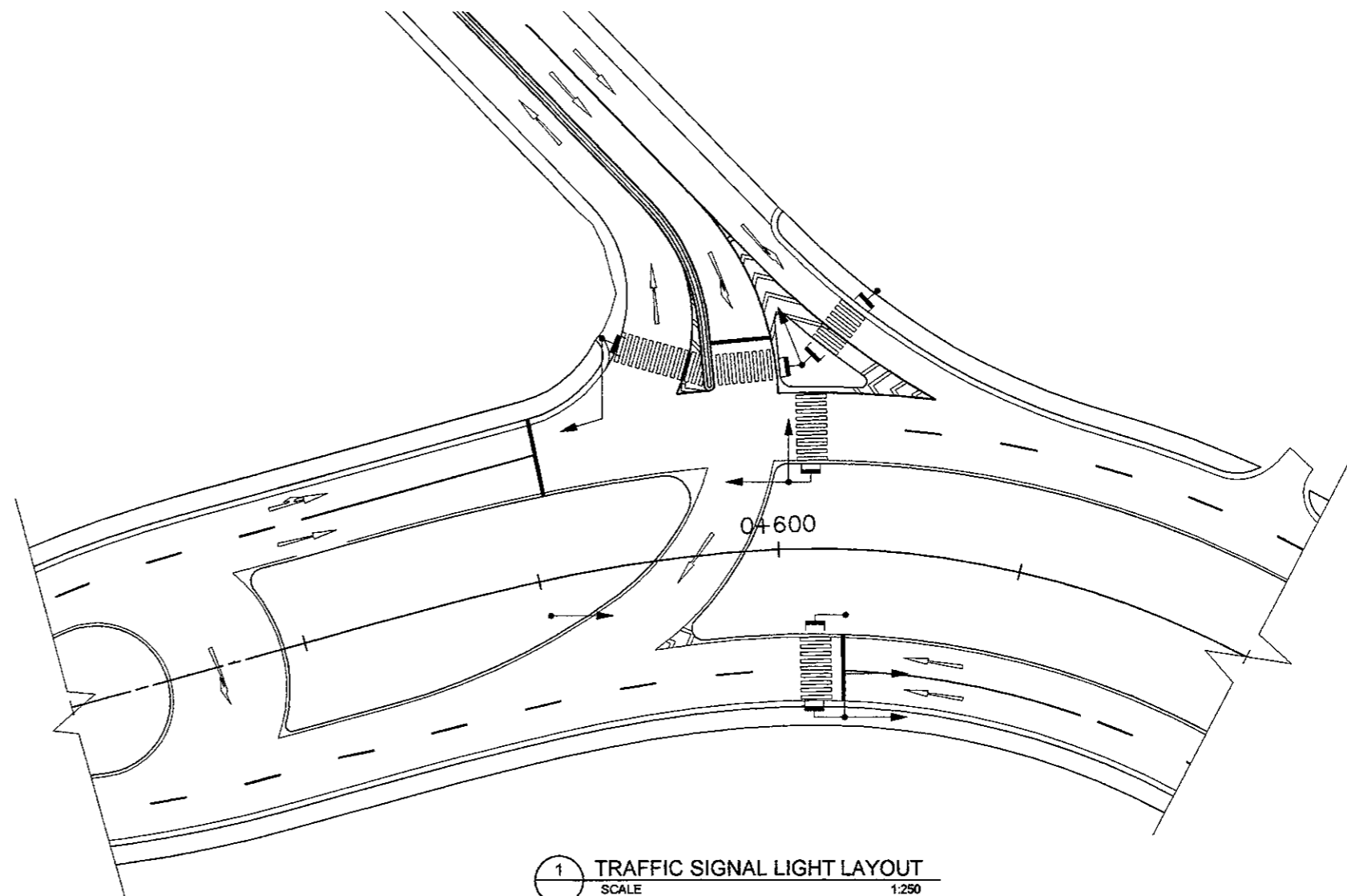
LANTERN ASSEMBLY REFERENCE



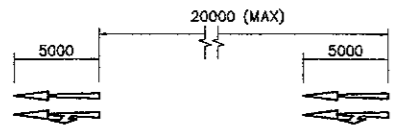
PROJECTED PEAK HOUR VOLUME (YEAR 2010)

	(A)	(B)
G	17 SEC	11 SEC
Y	3 SEC	3 SEC
R	3 SEC	3 SEC
C = 40 SEC		

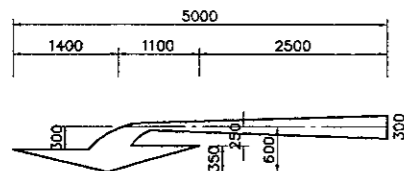
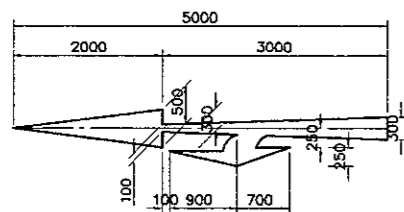
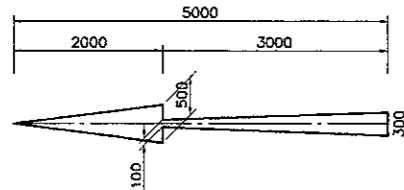
SIGNAL PHASING



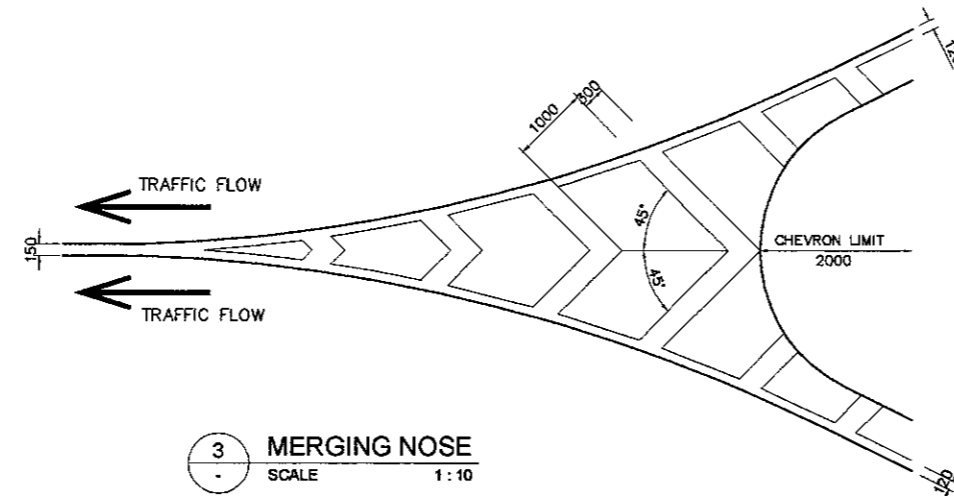
1 TRAFFIC SIGNAL LIGHT LAYOUT
 SCALE 1:250



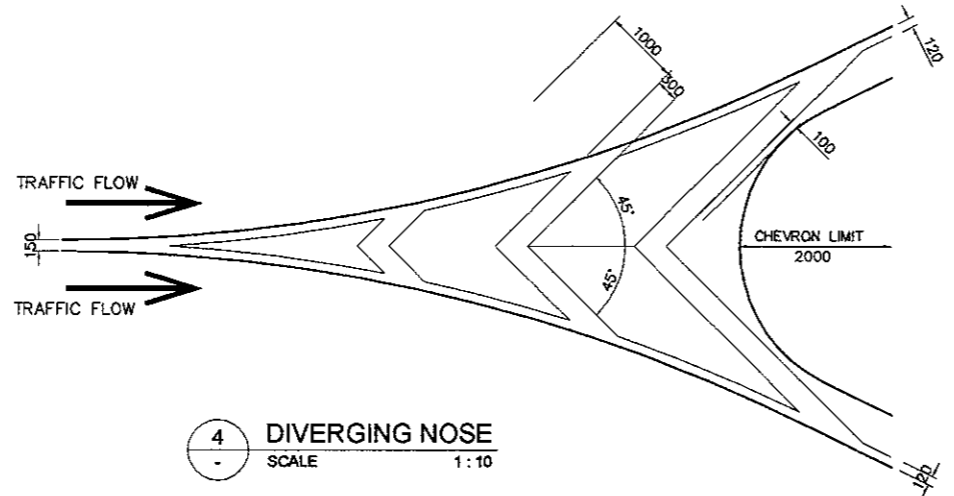
DIRECTING ARROW



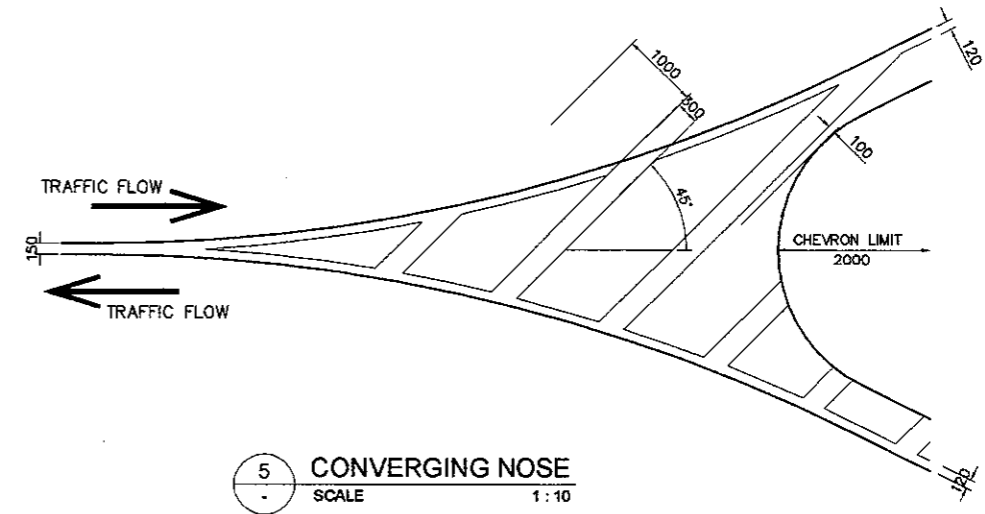
2 ARROW MARKING DETAIL
 SCALE 1 : 10



3 MERGING NOSE
 SCALE 1 : 10



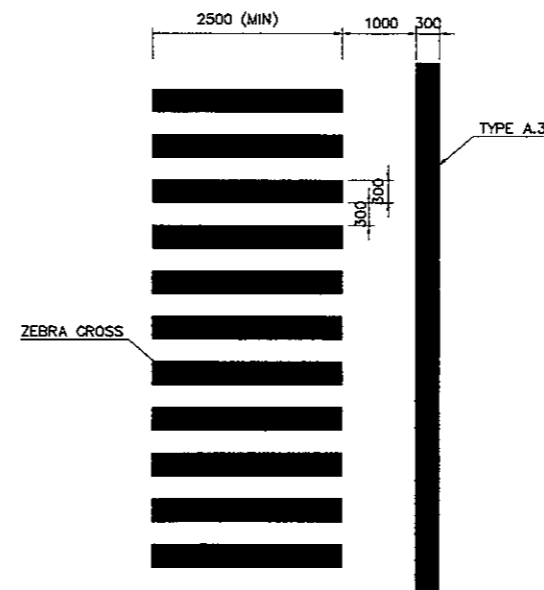
4 DIVERGING NOSE
 SCALE 1 : 10



5 CONVERGING NOSE
 SCALE 1 : 10

TYPE		LANE MARKINGS
A	CONTINUOUS/SOLID LINE	
	1. MARGINAL STRIP/ DIRECTION LINE	
	2. APPROACH LINE	
	3. STOP LINE	
B	BROKEN GUIDING LINE (SEPARATOR/DIVIDING LINES) (V < 60 KM/H)	
C	WARNING LINE (MIN 50M)	

1 TYPES OF LINE MARKING
 SCALE 1 : 400

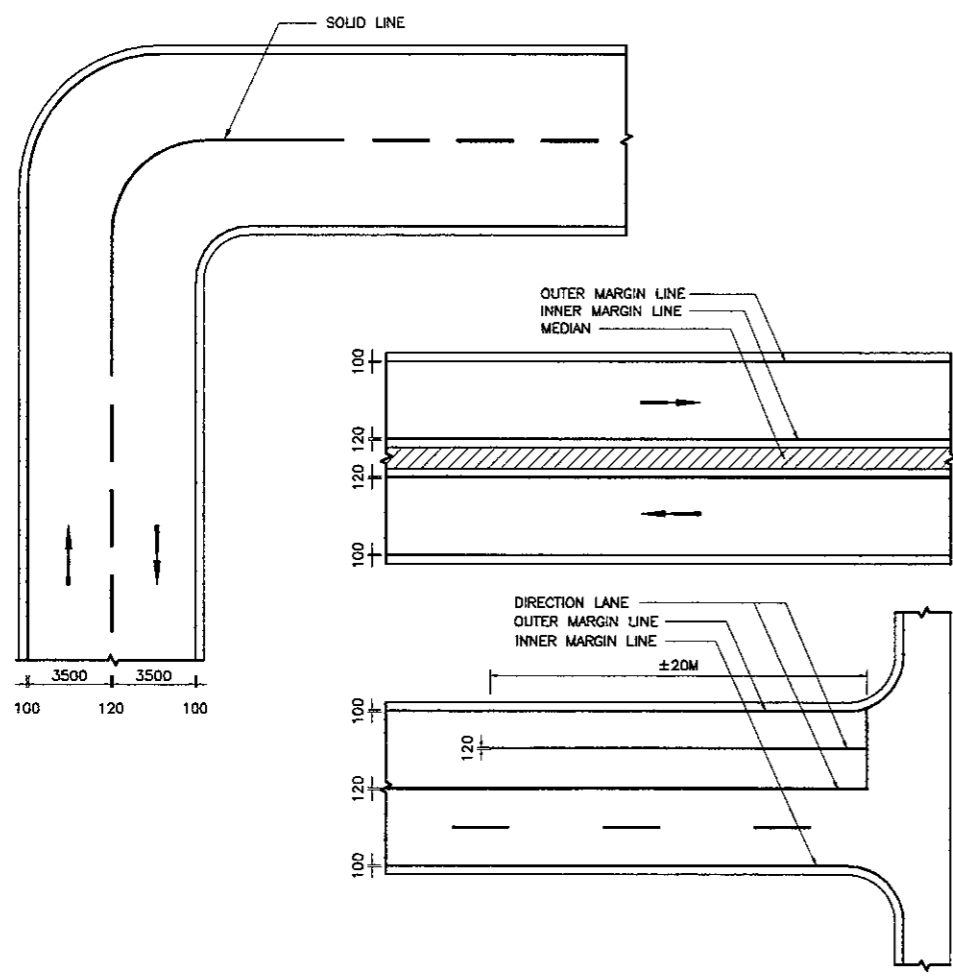
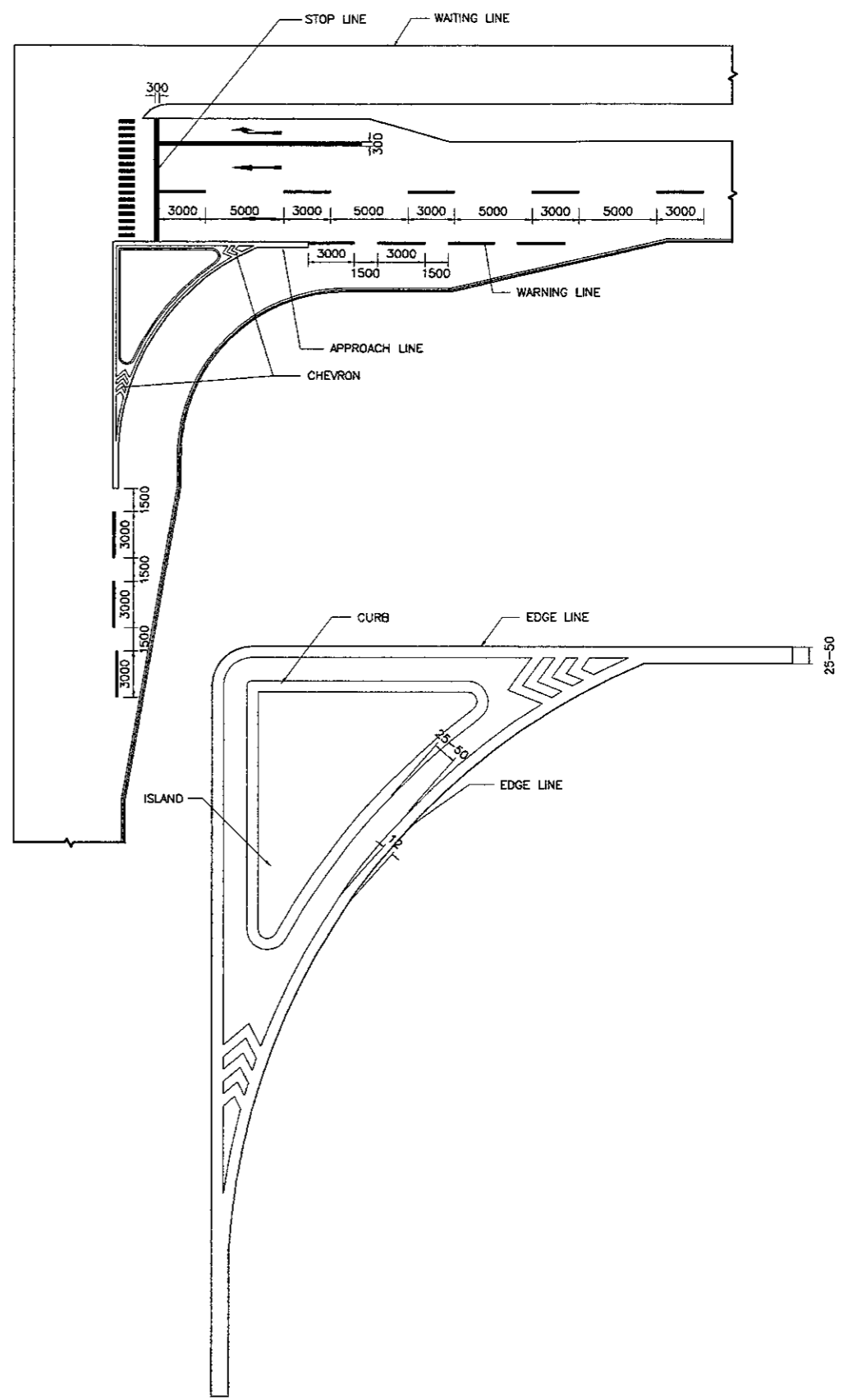
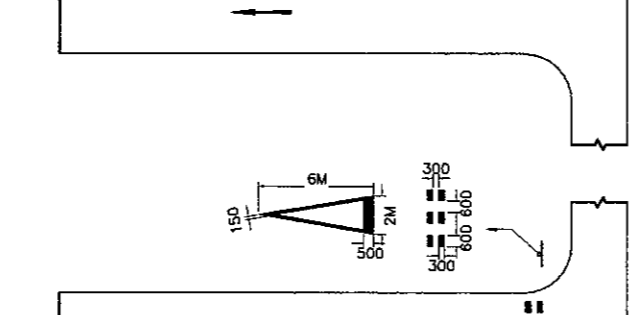
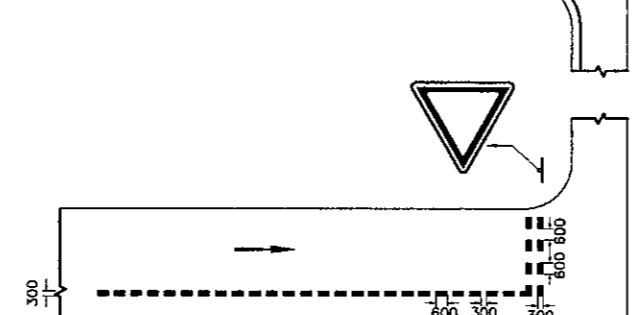
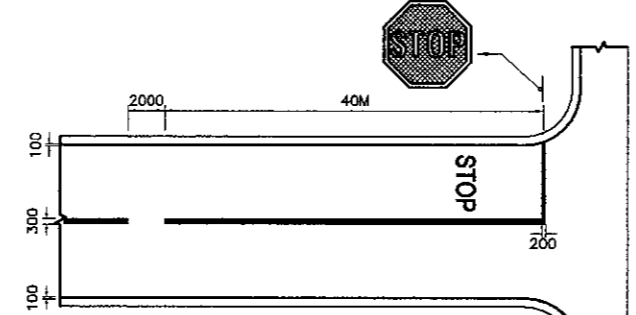
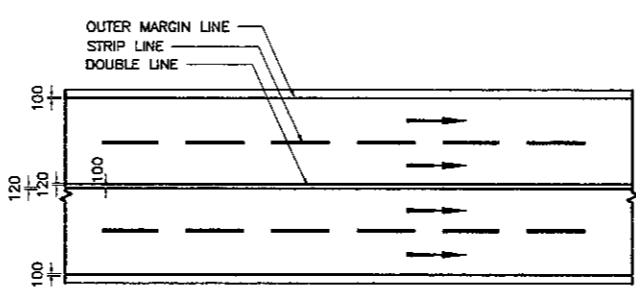
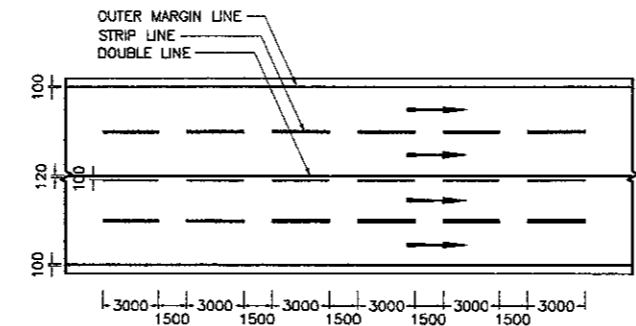
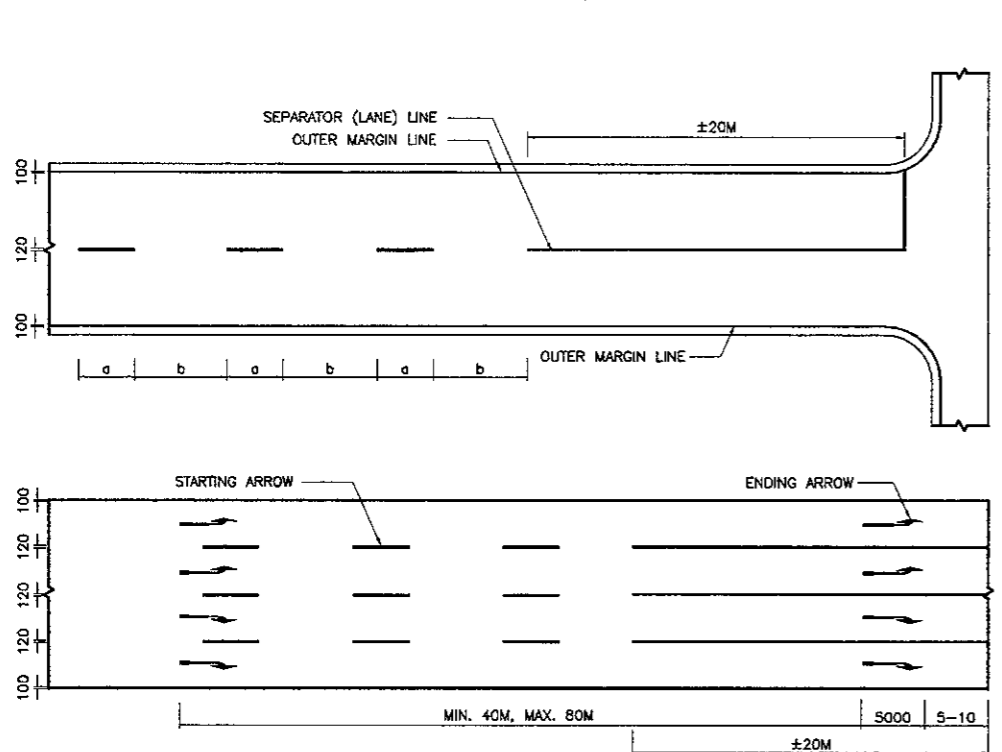


6 STOP LINE LOCATION AT PEDESTRIAN CROSSING
 SCALE 1 : 10

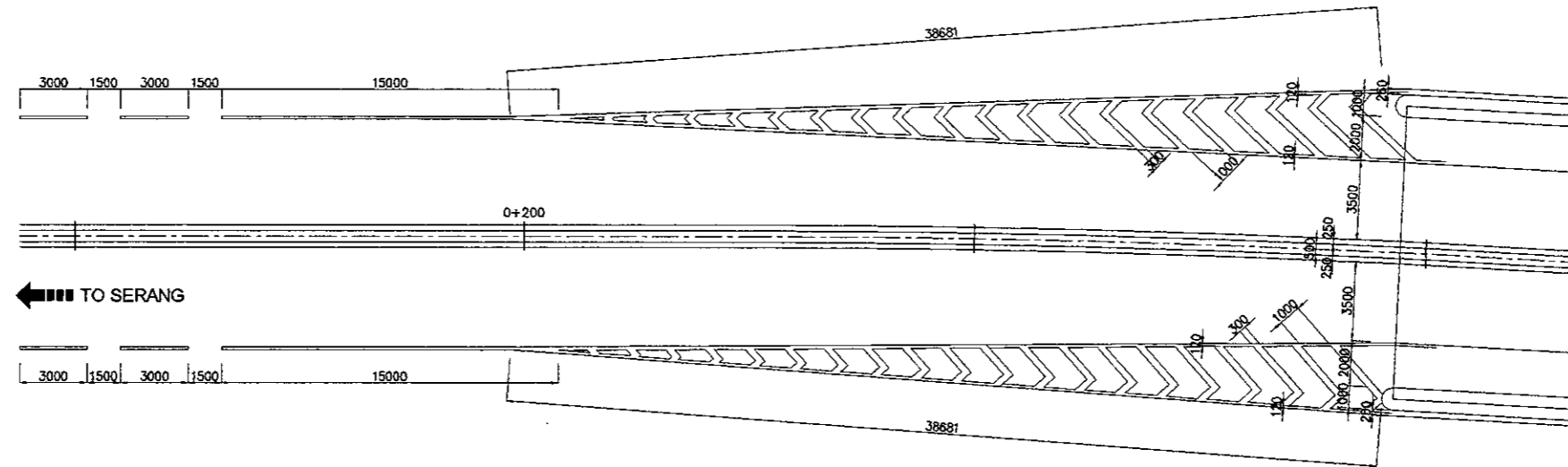
NOTES

- ROAD MARKINGS TO BE WHITE PAINT AND THE MATERIAL SHALL BE APPROVED BY THE ENGINEER
- ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SHOWN
- MARKING AT ALL LOCATIONS OF THE ROAD SHALL BE PROVIDED AS SHOWN IN THE DRAWINGS AND AS INSTRUCTED/ APPROVED BY THE ENGINEER
- PAVEMENT/ROAD MARKINGS SHOULD CONFORM WITH THE " DINAS PERHUBUNGAN LALU LINTAS DAN ANGKUTAN JALAN SETEPAT "

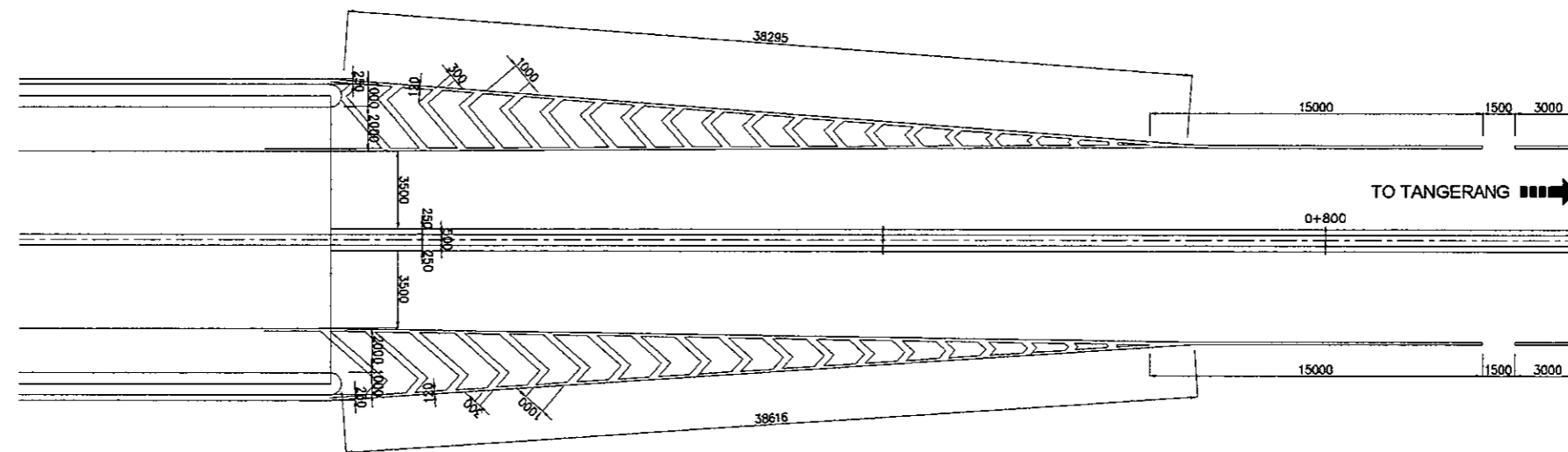
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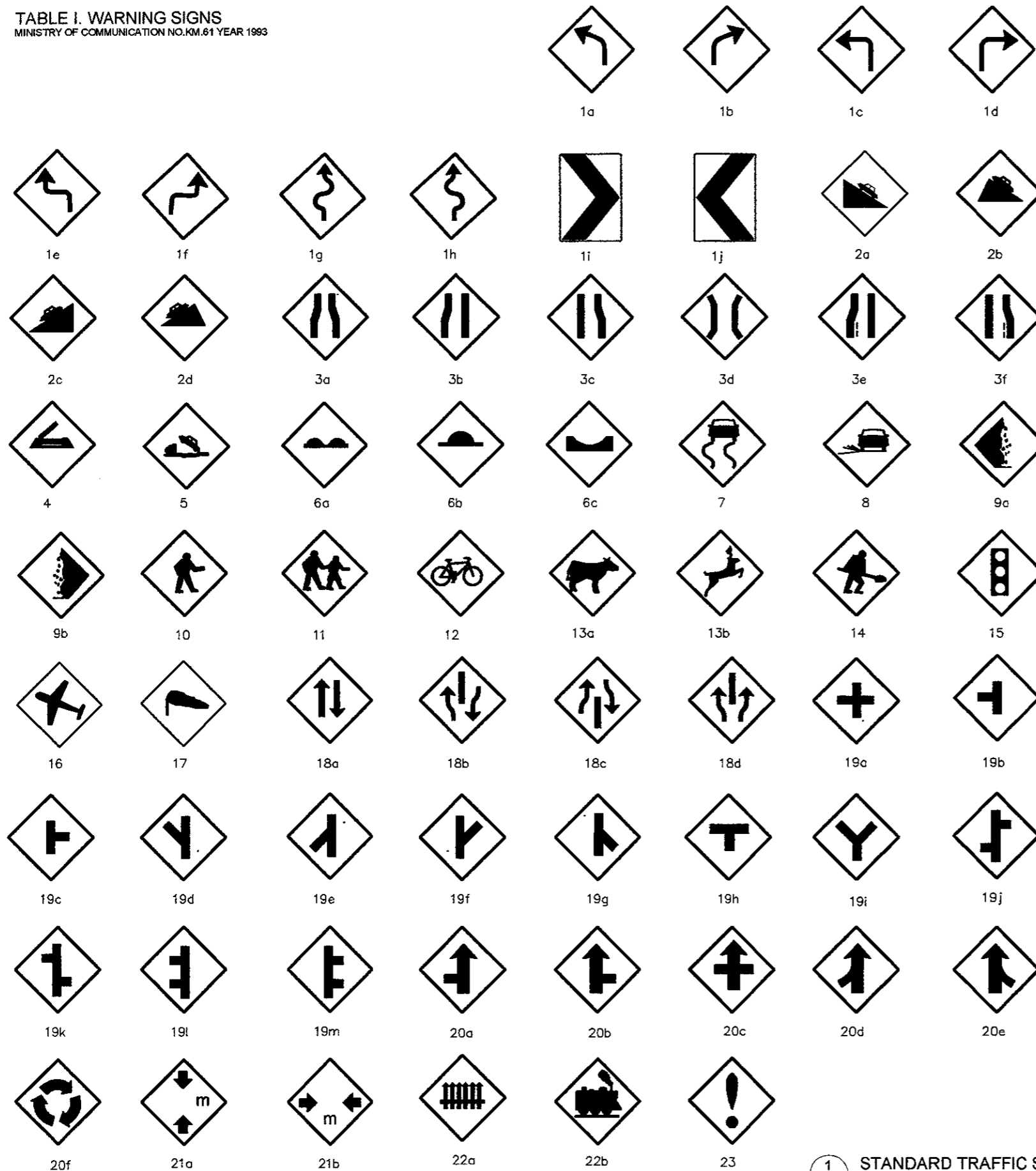


APPROACH 1



APPROACH 2

TABLE I. WARNING SIGNS
 MINISTRY OF COMMUNICATION NO.KM.61 YEAR 1993



- 1a. LEFT CURVE
- 1b. RIGHT CURVE
- 1c. SHARP LEFT CURVE
- 1d. SHARP RIGHT CURVE
- 1e. DOUBLE CURVE, BEGIN WITH LEFT CURVE
- 1f. DOUBLE CURVE, BEGIN WITH RIGHT CURVE
- 1g. MANY CURVES, BEGIN WITH LEFT CURVE
- 1h. MANY CURVES, BEGIN WITH RIGHT CURVE
- 1i. RIGHT CURVE
- 1j. LEFT CURVE
- 2a. DOWN GRADE
- 2b. DOWN GRADE SHARP
- 2c. UP GRADE
- 2d. UP GRADE SHARP
- 3a. CHANGING OF ROAD WIDTH
- 3b. CHANGING OF ROAD WIDTH LEFT
- 3c. CHANGING OF ROAD WIDTH RIGHT
- 3d. CHANGING OF ROAD WIDTH AT BRIDGE
- 3e. MERGER OF LEFT LANE TO RIGHT LANE
- 3f. MERGER OF RIGHT LANE TO LEFT LANE
- 4. LIFT BRIDGE
- 5. WHARF
- 6a. CONDITIONAL OF ROAD PROFILE IS NOT EVEN
- 6b. CONDITIONAL OF ROAD PROFILE IS CONVEX
- 6c. CONDITIONAL OF ROAD PROFILE IS CONCAVE
- 7. SLIPPERY
- 8. MANY GRAVEL'S
- 9a. FALLING ROCKS FROM LEFT
- 9b. FALLING ROCKS FROM RIGHT
- 10. WATCH FOR PEDESTRIAN
- 11. WATCH FOR CHILDREN
- 12. WATCH FOR BICYCLE
- 13a. WATCH FOR CATTLE
- 13b. WATCH FOR WILD LIFE
- 14. ROAD WORK
- 15. TRAFFIC CONTROL LIGHTS
- 16. PLANE TRAJECTORY
- 17. WIND FROM SIDE COURSE
- 18a. TWO WAY TRAFFIC
- 18b. BEGINNING OF SEPARATOR ON TWO WAY TRAFFIC
- 18c. END OF SEPARATOR ON TWO WAY TRAFFIC
- 18d. BEGINNING OF SEPARATOR ON ONE WAY TRAFFIC
- 19a. CROSS ROAD
- 19b. INTERSECTION FROM LEFT DIRECTION TRAFFIC
- 19c. INTERSECTION FROM RIGHT DIRECTION TRAFFIC
- 19d. INTERSECTION FROM FRONT LEFT DIRECTION TRAFFIC
- 19e. INTERSECTION FROM BACK LEFT DIRECTION TRAFFIC
- 19f. INTERSECTION FROM FRONT RIGHT DIRECTION TRAFFIC
- 19g. INTERSECTION FROM BACK RIGHT DIRECTION TRAFFIC
- 19h. T-TYPE INTERSECTION
- 19i. Y-TYPE INTERSECTION
- 19j. TWO INTERSECTION, BEGIN FROM LEFT DIRECTION TRAFFIC AND THEN RIGHT DIRECTION TRAFFIC
- 19k. TWO INTERSECTION, BEGIN FROM RIGHT DIRECTION TRAFFIC AND THEN LEFT DIRECTION TRAFFIC
- 19l. TWO INTERSECTION, BOTH OF THEM FROM LEFT DIRECTION TRAFFIC
- 19m. TWO INTERSECTION, BOTH OF THEM FROM RIGHT DIRECTION TRAFFIC
- 20a. CROSSROAD WITH PRIORITY
- 20b. INTERSECTION FROM LEFT DIRECTION TRAFFIC WITH PRIORITY
- 20c. INTERSECTION FROM RIGHT DIRECTION TRAFFIC WITH PRIORITY
- 20d. INTERSECTION FROM BACK LEFT DIRECTION TRAFFIC WITH PRIORITY
- 20e. INTERSECTION FROM BACK RIGHT DIRECTION TRAFFIC WITH PRIORITY
- 21a. HEIGHT OF FREE SPACE
- 21b. WIDTH OF FREE SPACE
- 22a. RAIL ROAD CROSSING WITH GATES
- 22b. RAIL ROAD CROSSING WITHOUT GATES
- 23. LOOK OUT

COLOR LEGEND :

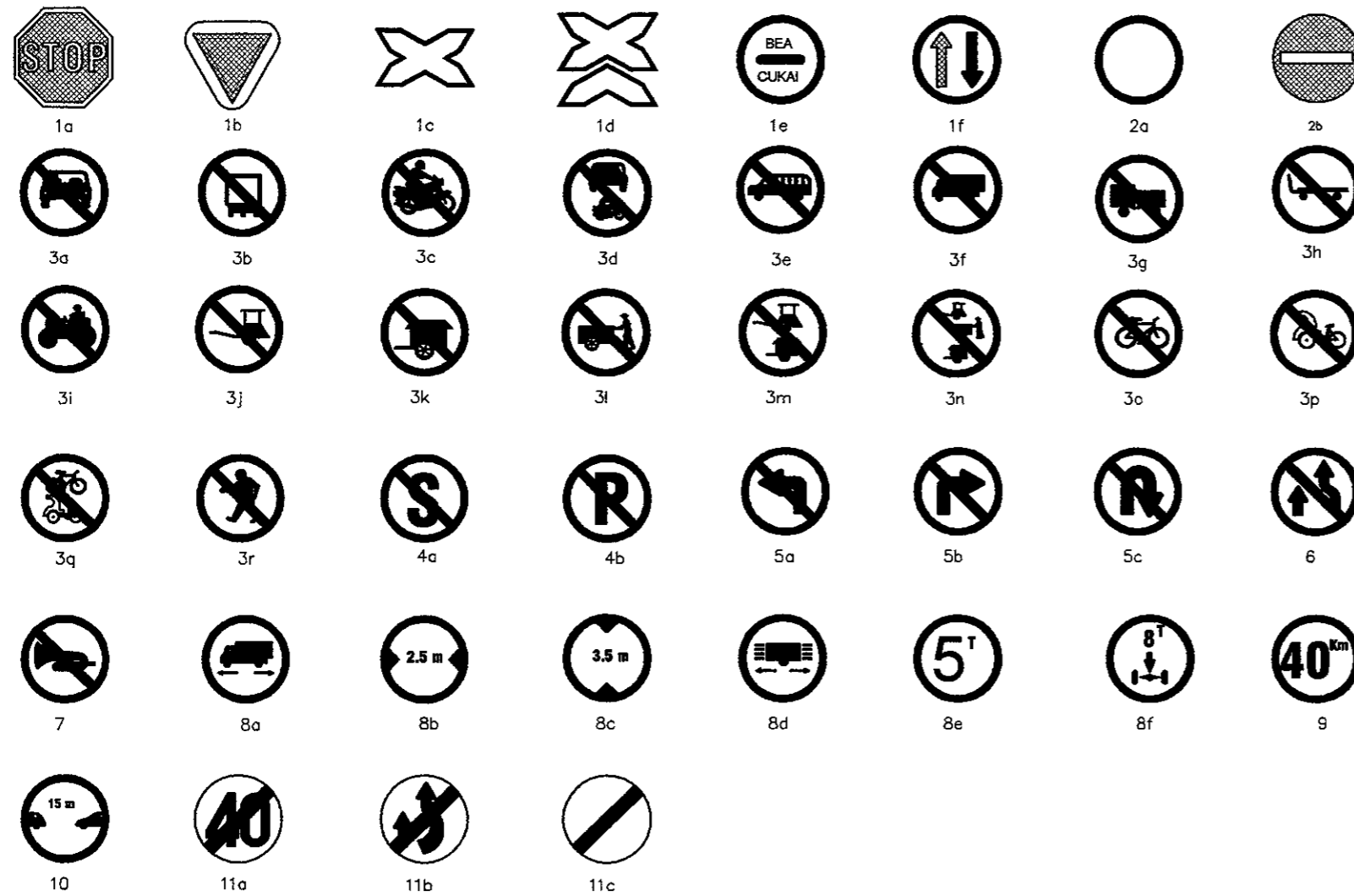
YELLOW

BLACK

NOTE :

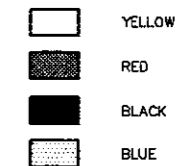
STANDARD TRAFFIC ROAD SIGNS SHOULD CONFORM WITH THE "DINAS PERHUBUNGAN LALU LINTAS DAN ANGKUTAN JALAN SETEMPAT"

TABLE II A. PROHIBITION SIGN
 MINISTRY OF COMMUNICATION NO.KM.61 YEAR 1993



- 1a. STOP
- 1b. GIVE WAY, YIELD
- 1c. ONE LANERAIL ROAD CROSSING
- 1d. TWO LANERAIL ROAD CROSSING
- 1e. STOP FOR INVESTIGATION CONCERN WITH 'BEA CUKAI'
- 1f. PRIORITY FOR VEHICLES FROM BOTH DIRECTION
- 2a. NO ENTRY FOR ALL VEHICLES FROM BOTH DIRECTIONS
- 2b. NO ENTRY FOR ALL VEHICLES
- 3a. NO ENTRY FOR FOUR WHEEL MOTORIZED VEHICLES
- 3b. NO ENTRY FOR THREE WHEEL MOTORIZED VEHICLES
- 3c. NO ENTRY FOR TWO WHEEL MOTORIZED VEHICLES
- 3d. NO ENTRY FOR ALL MOTORIZED VEHICLES
- 3e. NO ENTRY FOR BUS
- 3f. NO ENTRY FOR TRUCK
- 3g. NO ENTRY FOR MOTORIZED VEHICLE WITH PULL A CART
- 3h. NO ENTRY FOR TRAILER
- 3i. NO ENTRY FOR ROLLER
- 3j. NO ENTRY FOR CARRIAGE
- 3k. NO ENTRY FOR OXCART
- 3l. NO ENTRY FOR PUSHCART
- 3m. NO ENTRY FOR CARRIAGE AND OXCART
- 3n. NO ENTRY FOR CARRIAGE, PUSHCART AND OXCART
- 3o. NO ENTRY FOR BICYCLE
- 3p. NO ENTRY FOR TRICYCLE
- 3q. NO ENTRY FOR BICYCLE AND TRICYCLE
- 3r. NO ENTRY FOR PEDESTRIAN
- 4a. NO STOPPING
- 4b. NO PARKING
- 5a. TURN TO LEFT PROHIBITION (NO LEFT TURN)
- 5b. TURN TO RIGHT PROHIBITION (NO RIGHT TURN)
- 5c. CHANGE OF COURSE PROHIBITION (NO U-TURN)
- 6. NO OVERTAKE
- 7. NO HORN
- 8a. LENGTH LIMIT FOR MOTORIZED VEHICLE
- 8b. WIDTH LIMIT
- 8c. HEIGHT LIMIT
- 8d. LENGHT LIMIT FOR CART
- 8e. WEIGHT LIMIT FOR CART
- 8f. WEIGHT LIMIT
- 9. SPEED LIMIT
- 10. DISTANCE LIMIT
- 11a. END OF SPEED LIMIT AREA
- 11b. END OF NO OVERTAKE AREA
- 11c. END OF PROHIBITION AREA

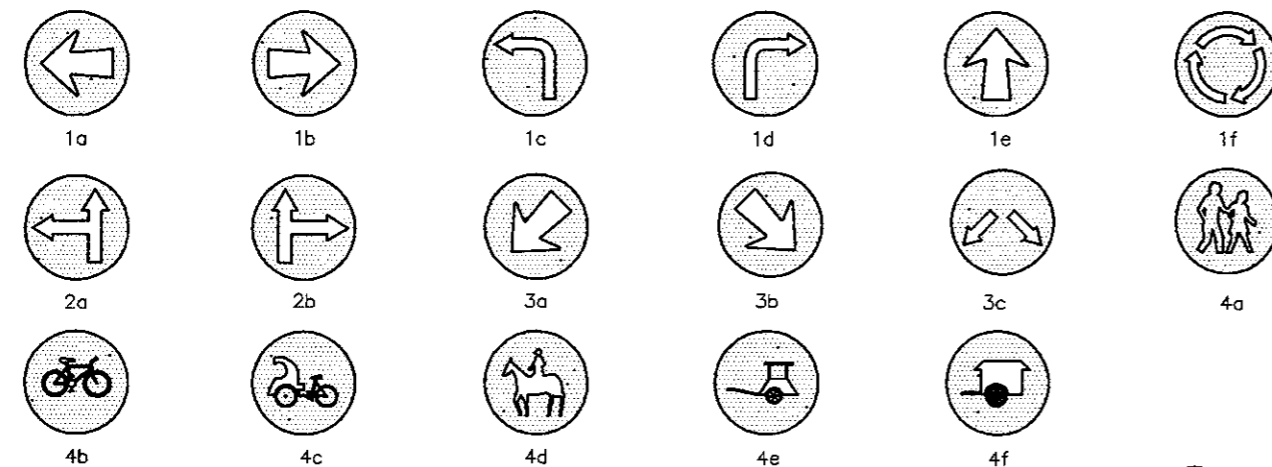
COLOR LEGEND :



NOTE :

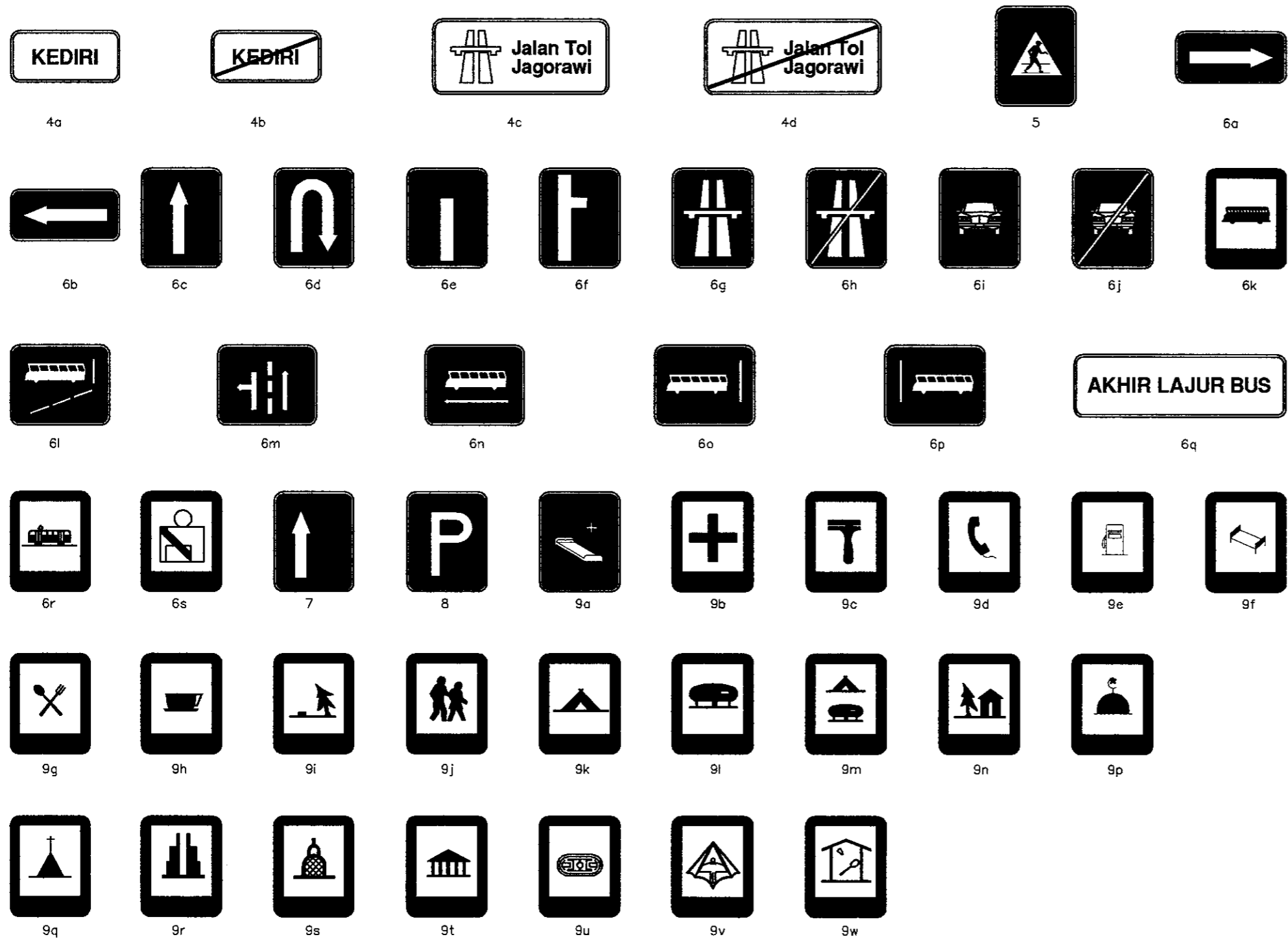
STANDARD TRAFFIC ROAD SIGNS SHOULD CONFORM WITH THE "DINAS PERHUBUNGAN LALU LINTAS DAN ANGKUTAN JALAN SETEMPAT"

TABLE II B. INSTRUCTION SIGN



- 1a. INDICATION OF DIRECTION TO LEFT
- 1b. INDICATION OF DIRECTION TO RIGHT
- 1c. TURNING INDICATION TO LEFT
- 1d. TURNING INDICATION TO RIGHT
- 1e. MUST BE RUN IN A STRAIGHT LINE
- 1f. MUST BE FOLLOW THE ARROW POINTS WHILE ON TRAFFIC ROTARY
- 2a. MUST BE FOLLOW ONE OF THE ARROW POINTS
- 2b. MUST BE FOLLOW ONE OF THE ARROW POINTS
- 3a. MUST PASS THIS LANE
- 3b. MUST PASS THIS LANE
- 3c. MUST PASS IN ONE OF THESE LANES
- 4a. FOR PEDESTRIANS
- 4b. FOR BICYCLES
- 4c. FOR TRICYCLES
- 4d. FOR HORSE
- 4e. FOR CARRIAGE
- 4f. FOR OXCART

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
- 9q. HINDUS TEMPLE
- 9r. BUDDHIST TEMPLE
- 9s. MUSEUM
- 9t. OPEN SPORT STADIUM
- 9u. GLIDING AREA
- 9v. SPORT HALL
- 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"

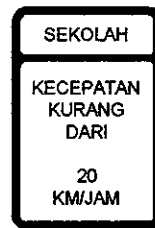
ADDITIONAL TRAFFIC SIGNS
 (FOR TRAFFIC IMPLEMENTATION)



S1-1



W16-7PL



S4-4



S4-5



S4-5a



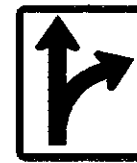
R3-5L



R3-5R



R3-6L



R3-6R



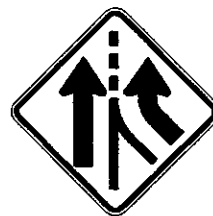
W20-7a



W2-16



W4-3L



W4-3R

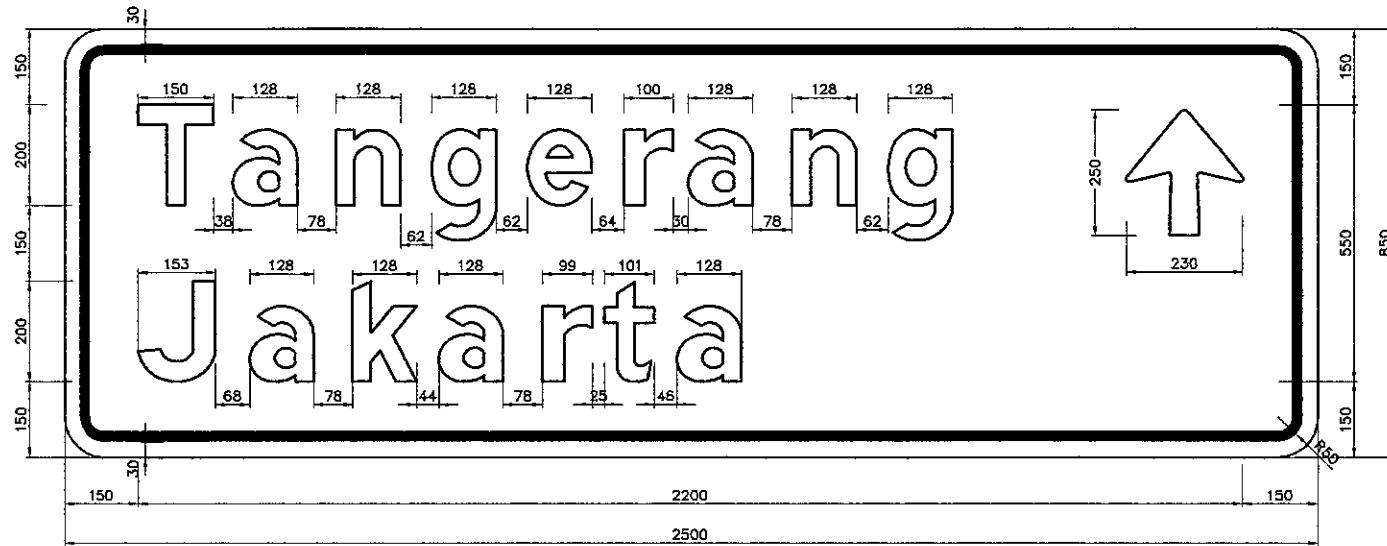
- S1-1 SCHOOL
- S4-5 REDUCED SPEED (SCHOOL) ZONE AHEAD
- S4-5a REDUCED SPEED (SCHOOL) ZONE AHEAD
- R3-5L MANDATORY MOVEMENT LANE CONTROL (LEFT)
- R3-5R MANDATORY MOVEMENT LANE CONTROL (RIGHT)
- R3-6L OPTIONAL MOVEMENT LANE CONTROL (LEFT)
- R3-6R OPTIONAL MOVEMENT LANE CONTROL (RIGHT)
- W20-7a FLAGGER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

COLOR LEGEND :

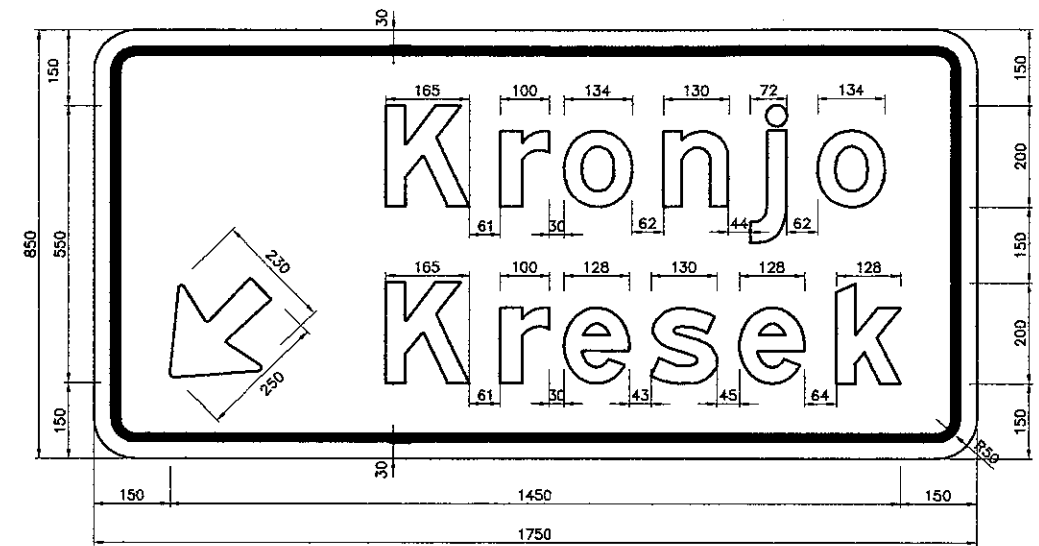
- YELLOW
- RED
- BLACK
- BLUE

NOTE :

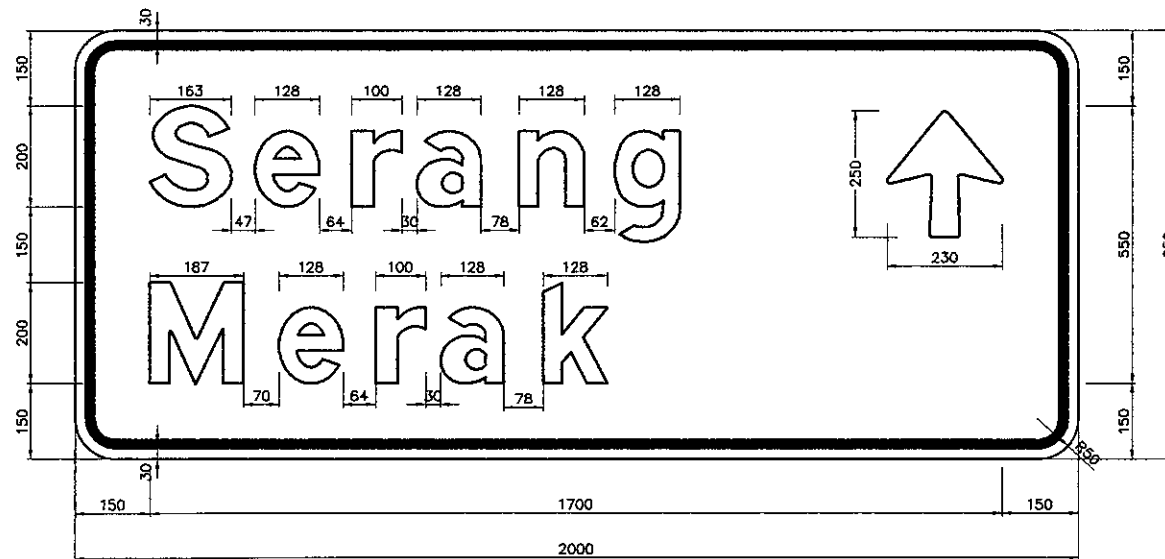
STANDARD TRAFFIC WITH ROAD SIGNS SHOULD CONFORM WITH THE "DINAS PERHUBUNGAN LALU LINTAS DAN ANGKUTAN JALAN SETEMPAT"



GS-2



GS-1

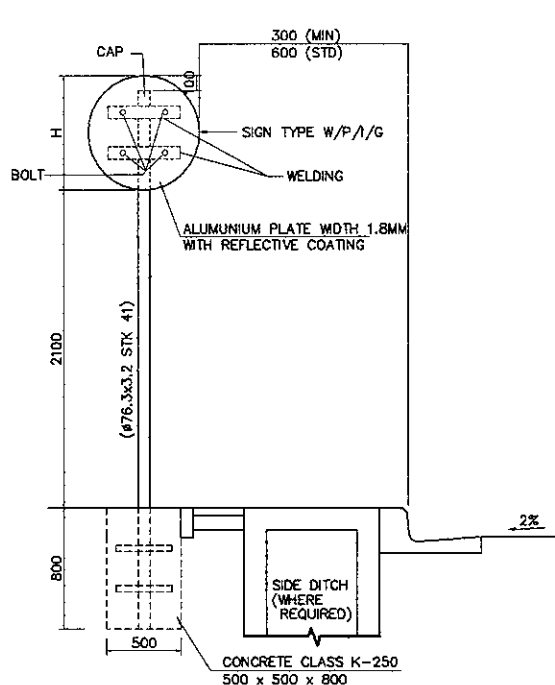


GS-3

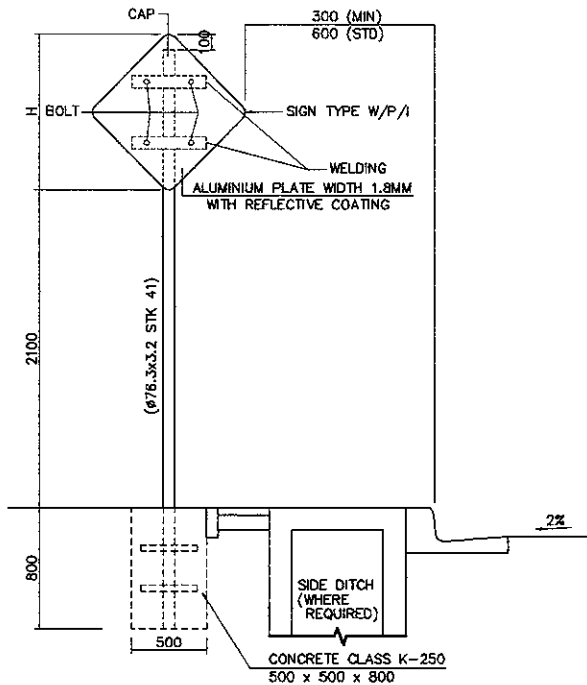
NOTES :

USED LETTER : REFER TO THE STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS, FHWA 1977
 : USED TYPE UPPERCASE E(M) 200, LOWERCASE LC 150

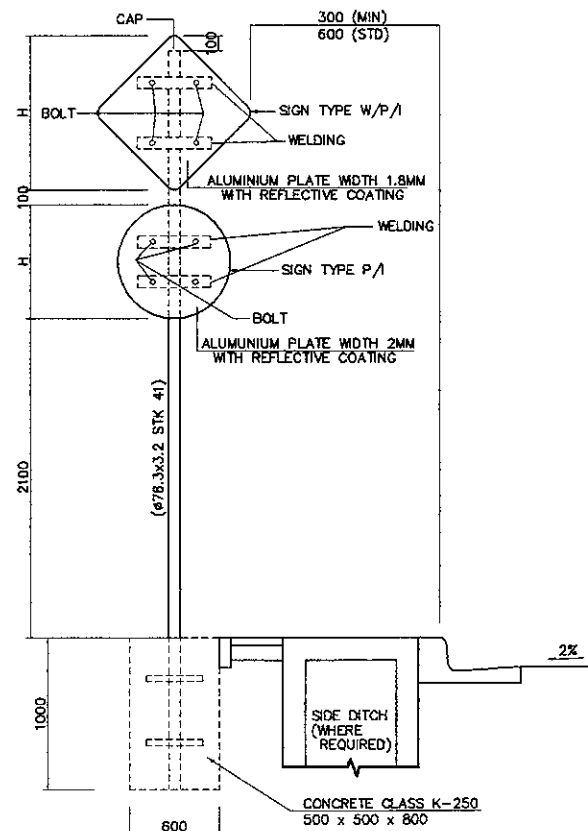
USED COLOUR : BACKGROUND : GREEN (REFLECTORIZED) ENGINEERING GRADE (EG)
 LETTER : WHITE (REFLECTORIZED) HIGH INTENSITY
 ARROW : WHITE (REFLECTORIZED) HIGH INTENSITY
 BORDER LINE : WHITE BOLD 30 MM (REFLECTORIZED) HIGH INTENSITY
 CORNER RADIUS : 50 MM



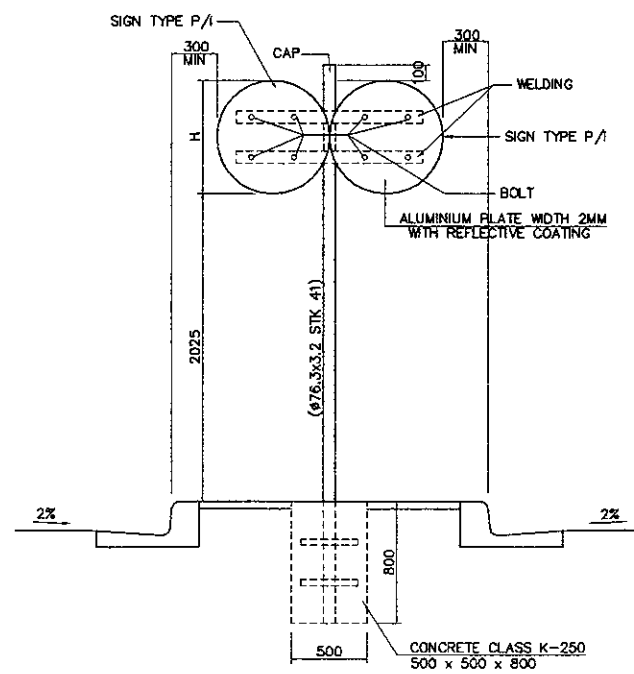
1 TYPE - A
 SCALE 1:50



2 TYPE - B
 SCALE 1:50

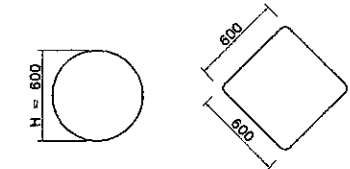


3 TYPE - C
 SCALE 1:50

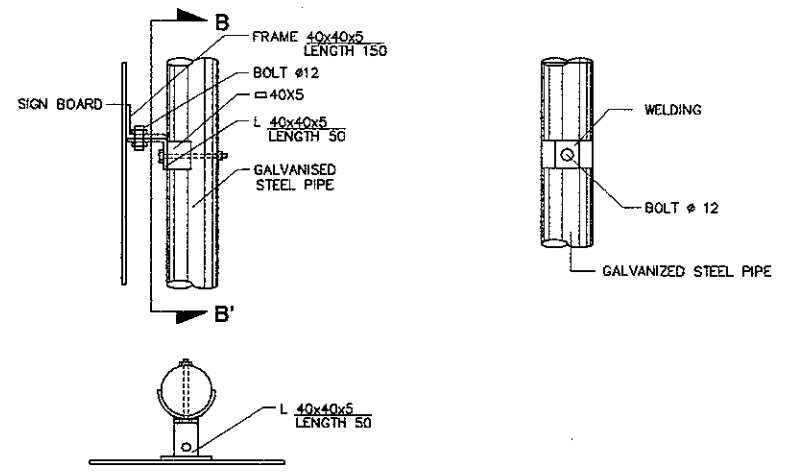


4 TYPE - D
 SCALE 1:50

7 TYPICAL INSTALLATION OF SIGN AT STEEL POLE
 NOT TO SCALE

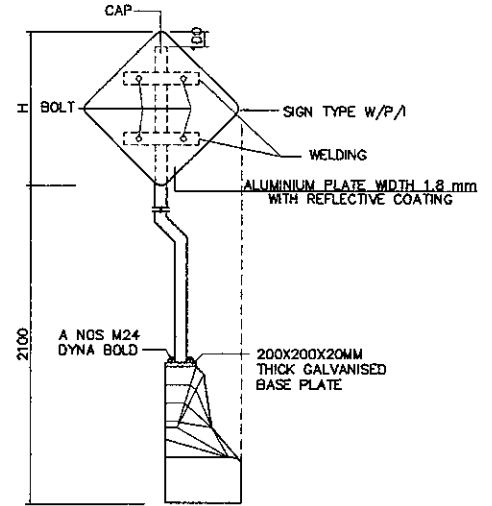


6 DIMENSIONS OF SIGN
 SCALE 1:50



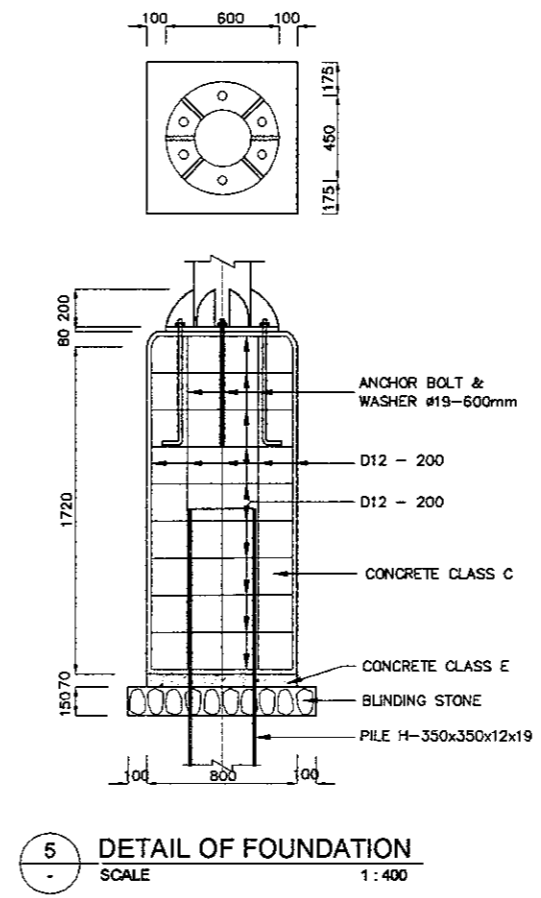
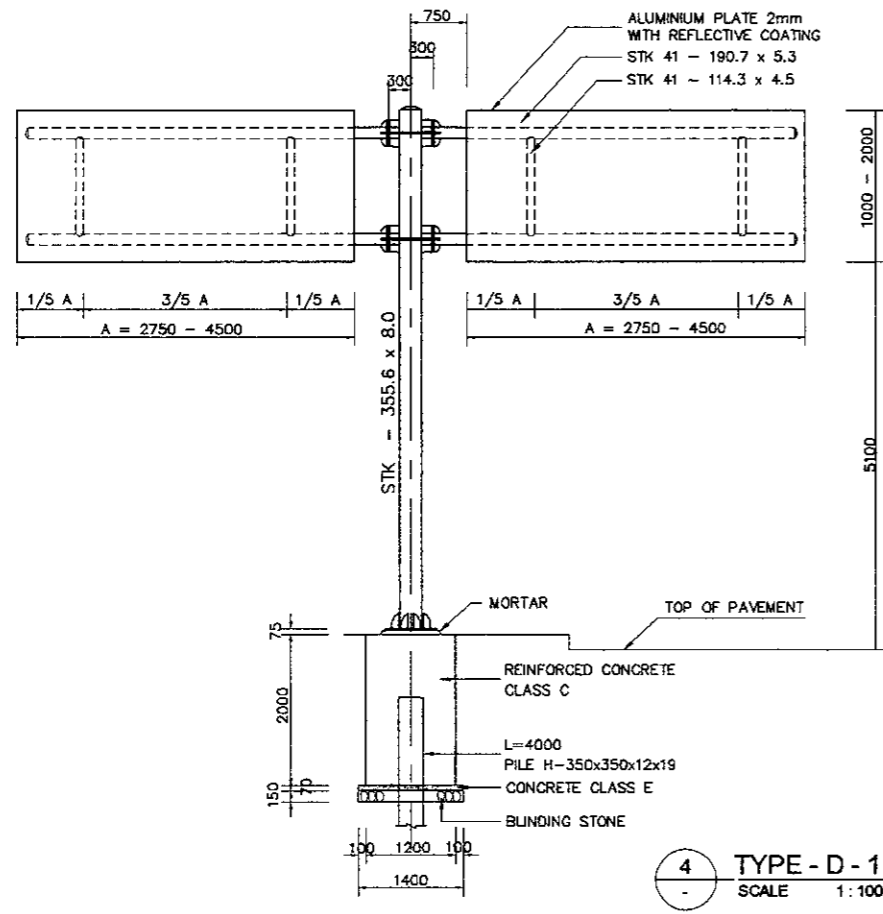
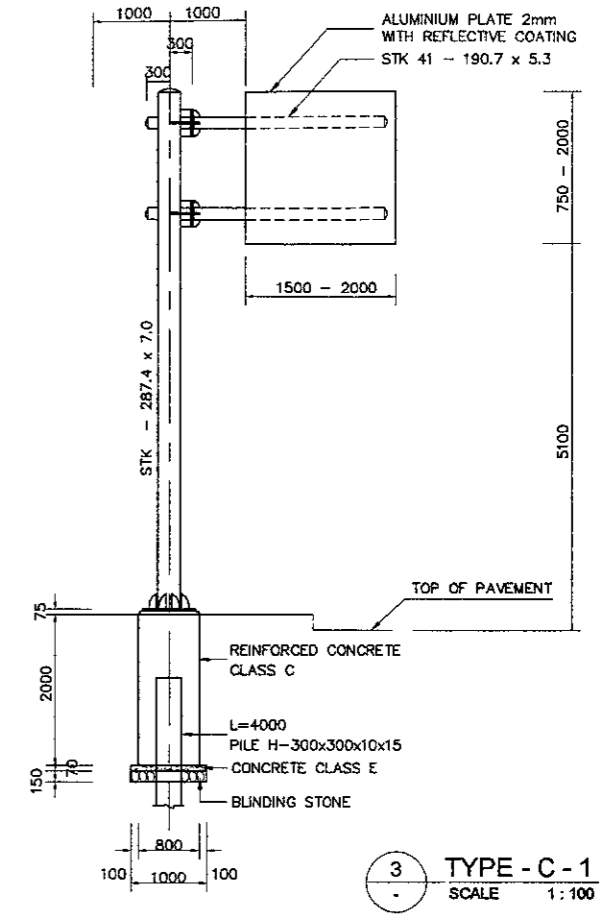
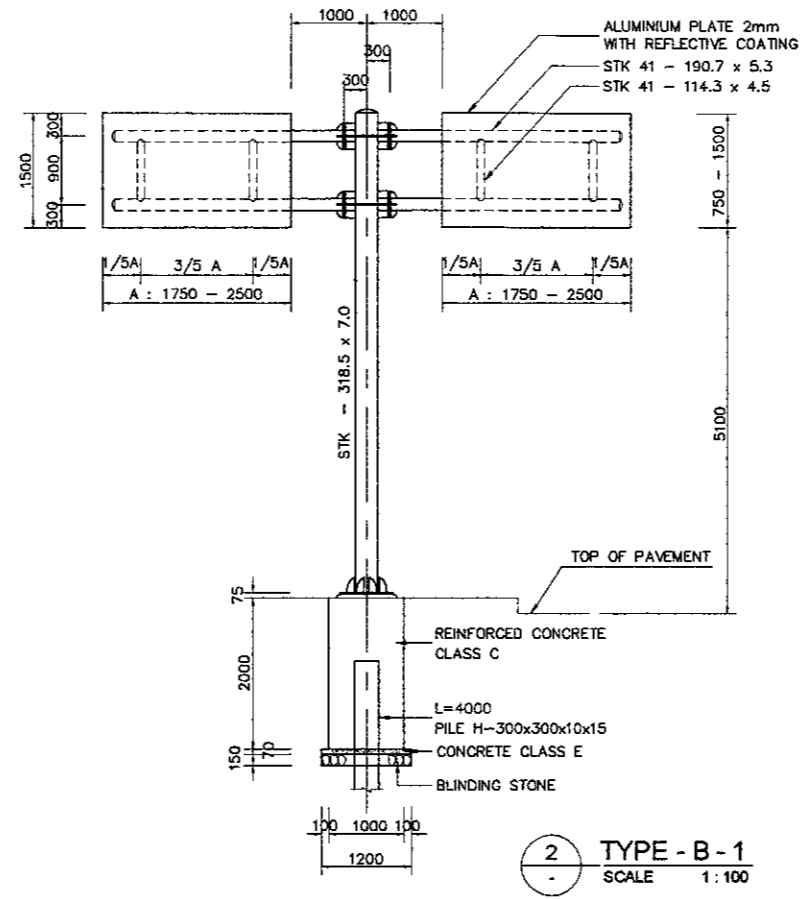
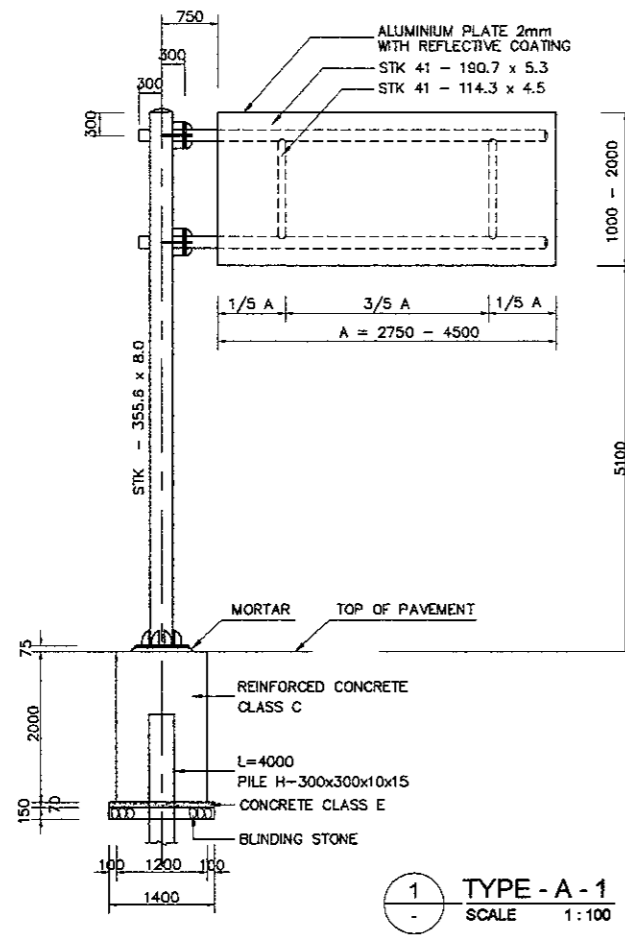
8 DETAIL A
 NTS

9 SEC. B-B'
 NTS



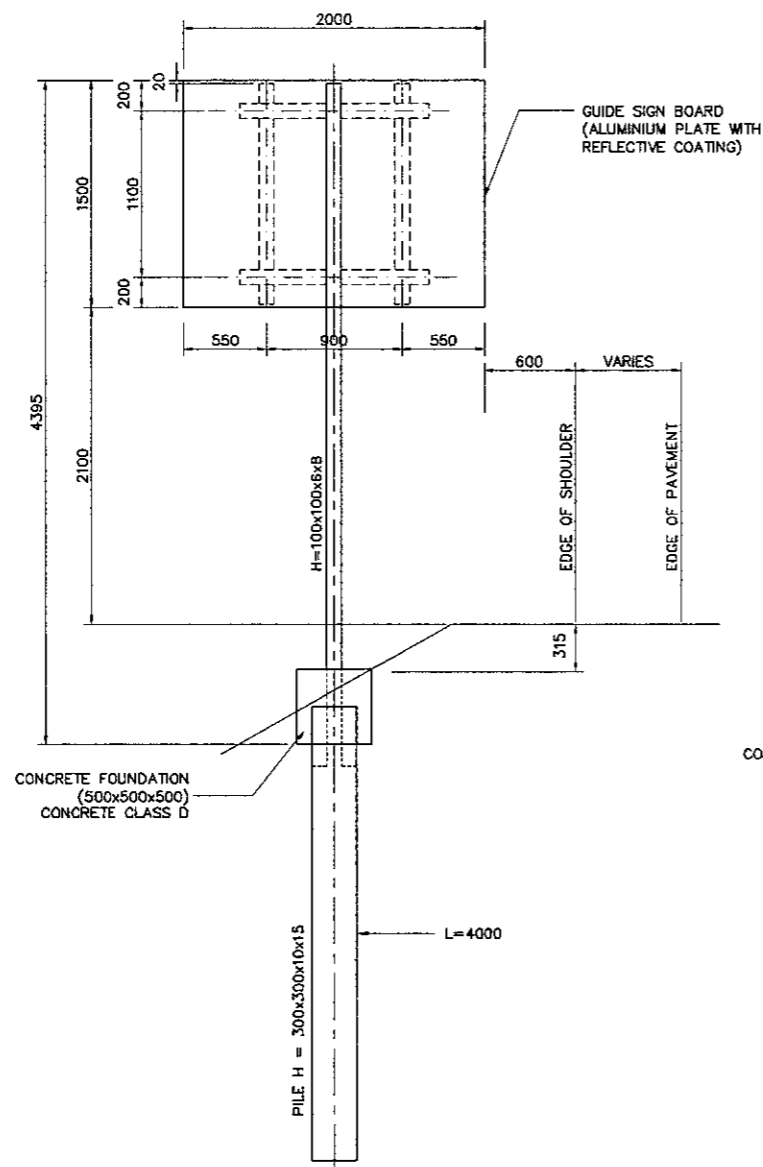
5 TYPE - E
 SCALE 1:50

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 268) 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

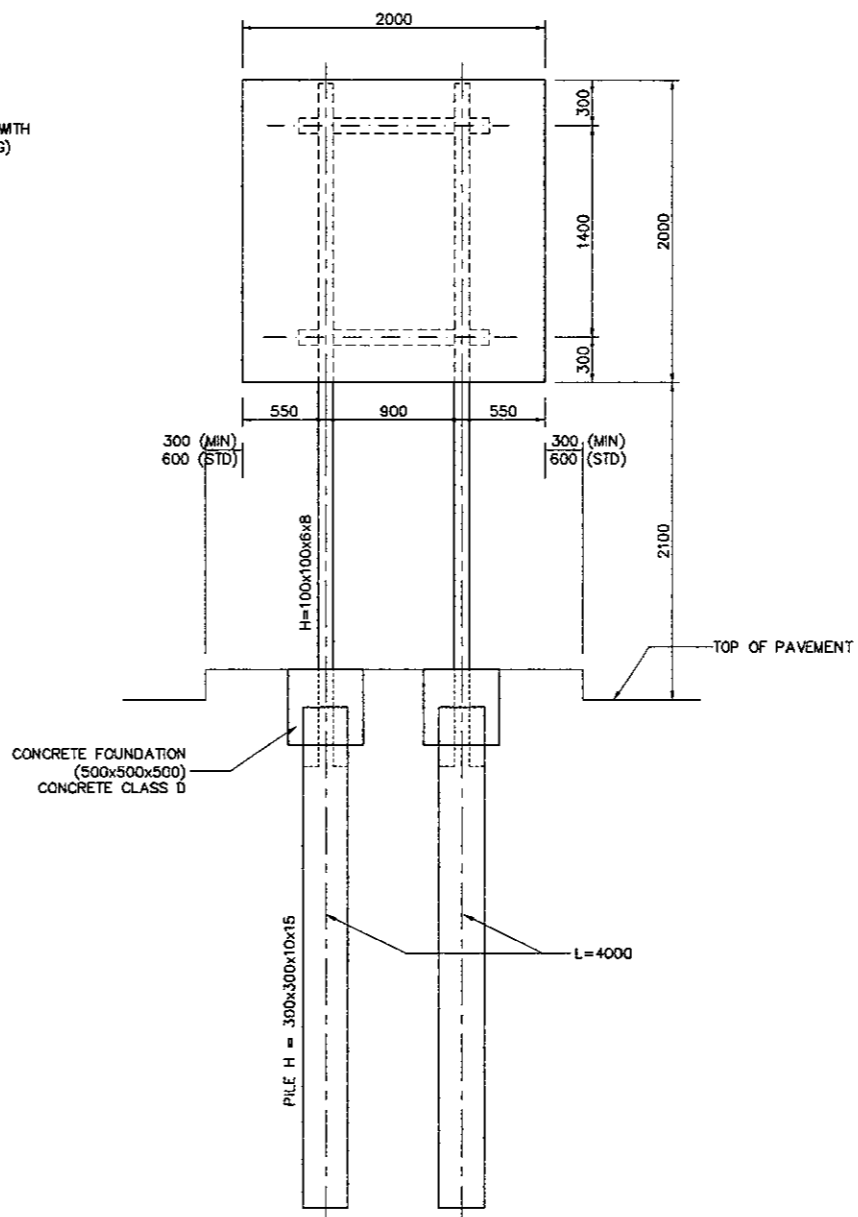


- NOTES :
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
 2. ALL STEEL MATERIALS EXCEPT STAINLESS STEEL SHALL BE GALVANIZED
 3. "STK" INDICATES STEEL PIPE OR PILE.
 4. EACH TYPE OF GUIDE SIGN SHALL BE PROVIDED AS SHOWN IN THE PLAN OR AS INSTRUCTED BY THE ENGINEER.
 5. PILE FOUNDATION SHALL 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	



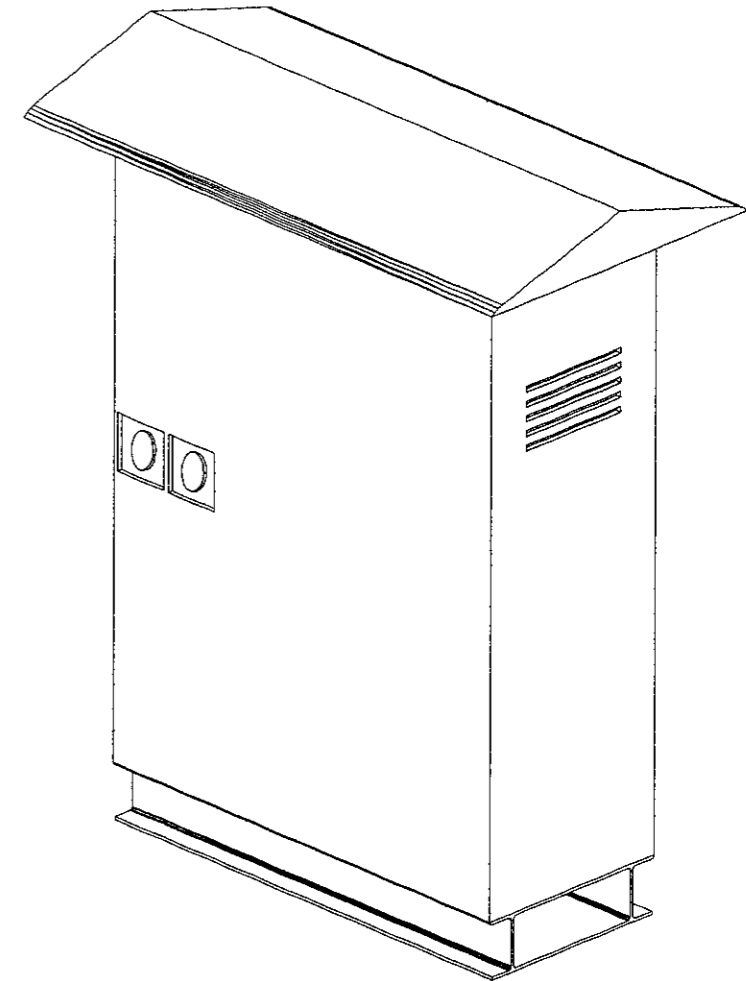
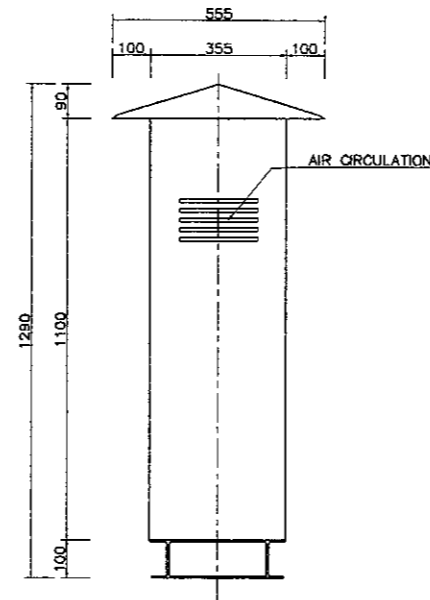
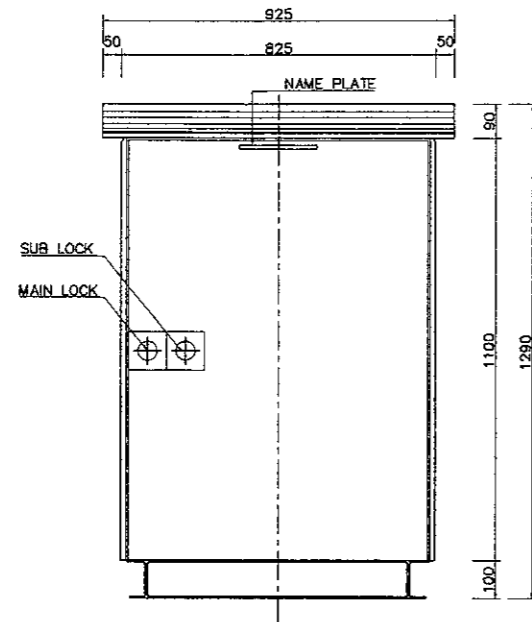
1 TYPE - E - 1
 SCALE 1:500



2 TYPE - F - 1
 SCALE 1:500

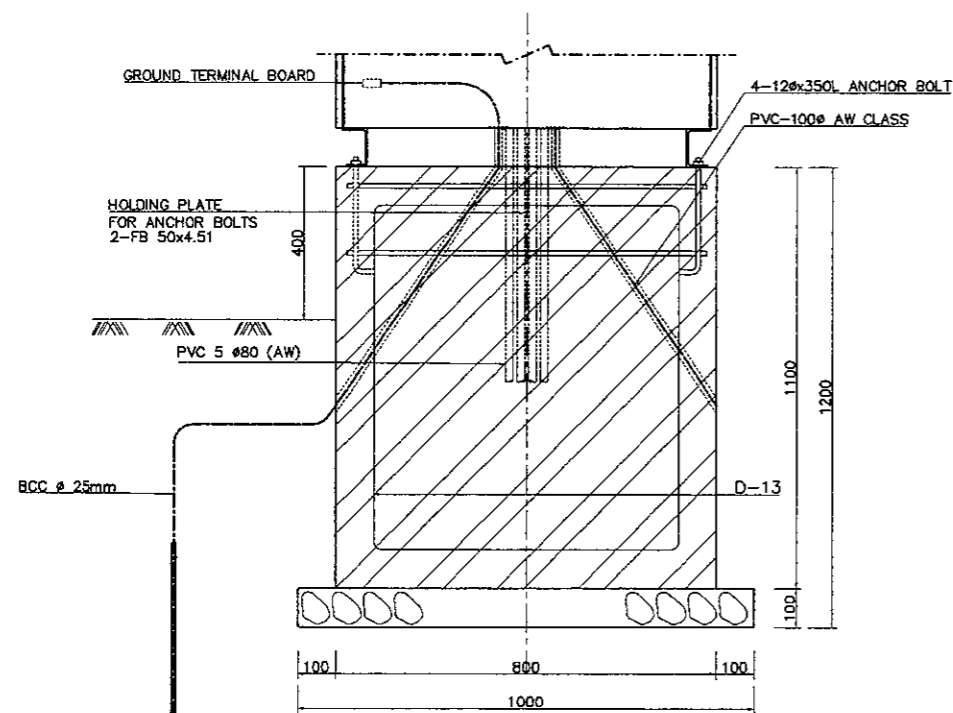
- NOTES :
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
 2. ALL STEEL MATERIALS EXCEPT STAINLESS STEEL SHALL BE GALVANIZED.
 3. "H" INDICATES STEEL H-BEAM.
 4. "STK" INDICATES STEEL PIPE OR PILE.
 5. EACH TYPE OF GUIDE SIGN SHALL BE INSTALLED AS SHOWN ON THE PLANS OR AS INSTRUCTED BY THE ENGINEER.
 6. 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.
 7. GUIDE SIGN WITH FRAMES LOCATED ON BRIDGES SHALL BE INSTALLED ON PEDESTALS.

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Date		Date		Date	



1 FOUNDATION FOR PANEL "CP" FOR TRAFFIC SIGNAL

 SCALE 1:20



GROUNDING

 ELECTRODE 1500mm X 10mm

 POSITION OF UPPER END

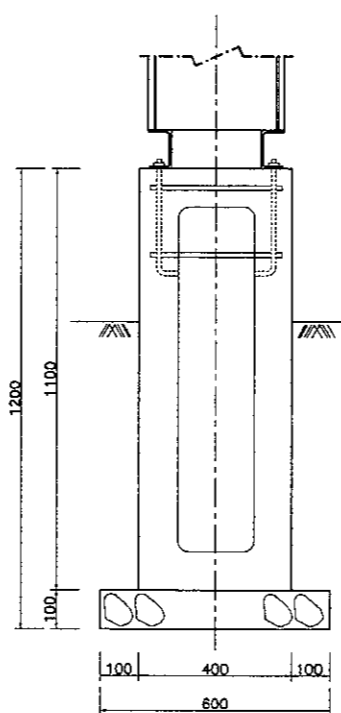
 MINIMUM 1200mm

 FROM GROUND LEVEL

 MAX. RESISTANCE 3 OHM

2 FOUNDATION FOR PANEL "CP"

 SCALE 1:10

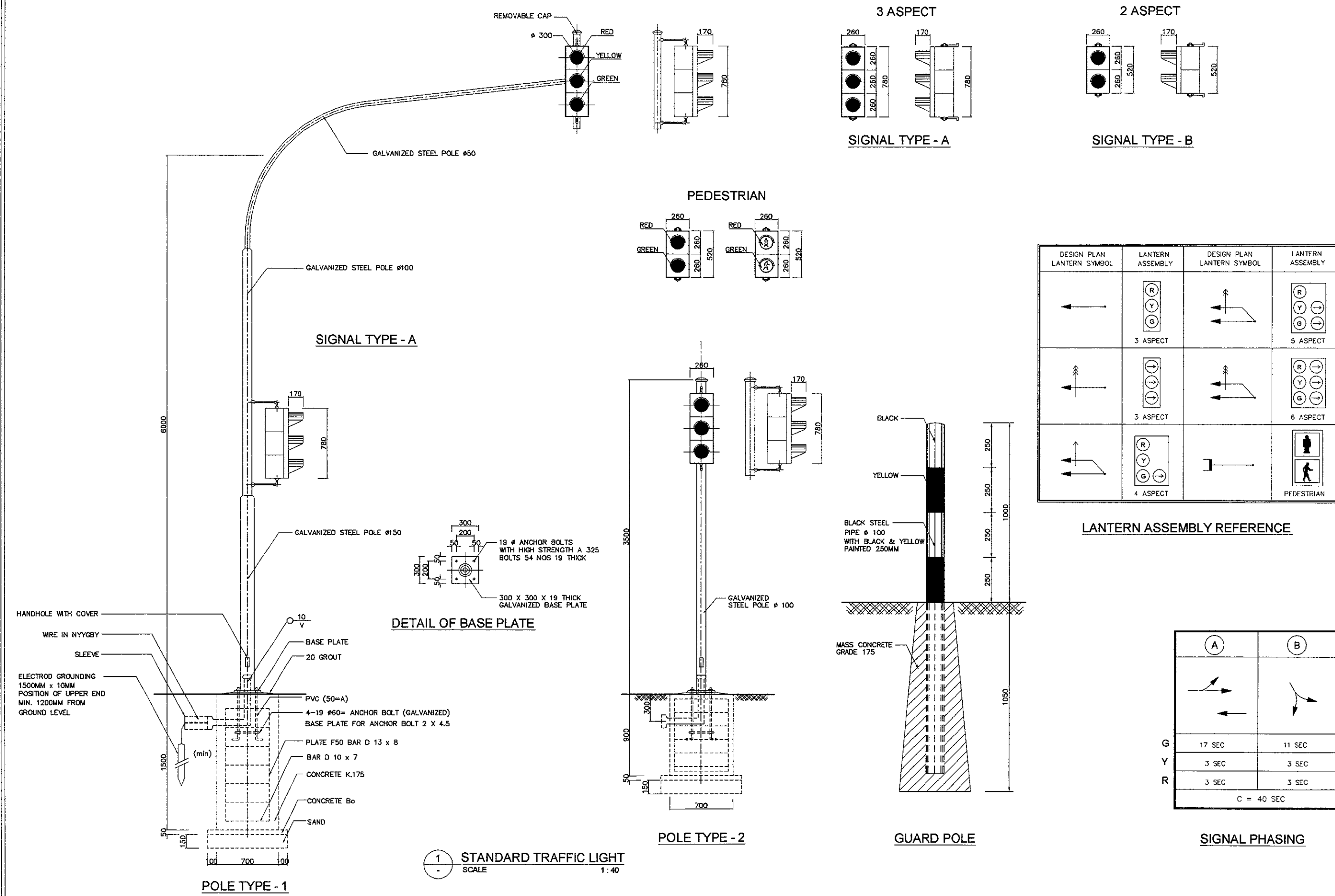


3 ISOMETRIC

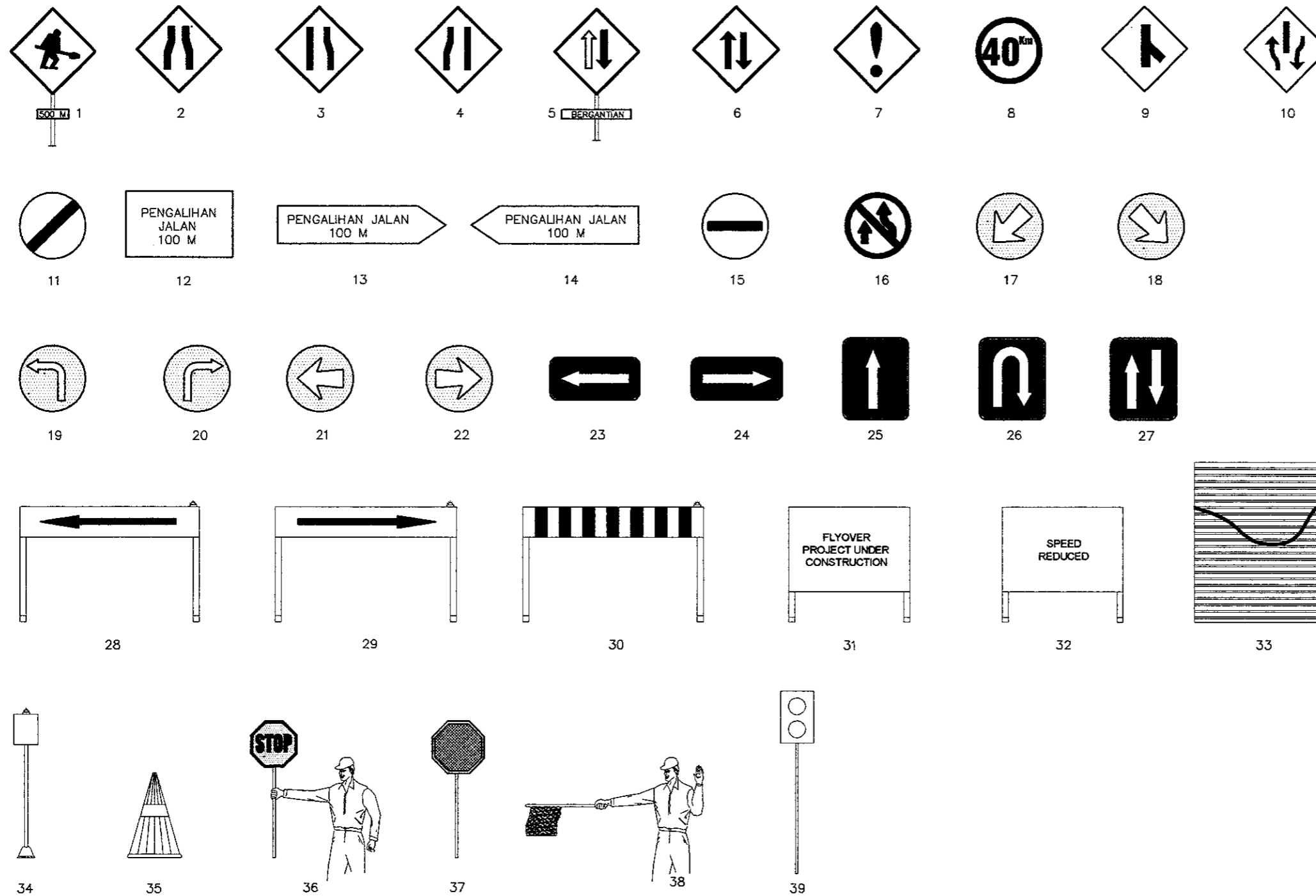
 NOT TO SCALE

NOTES :

1. DIMENSIONS ARE SHOWN IN MILLIMETER
2. ALL BOLTS AND NUTS SHALL COMPLY WITH JIS B1180 AND B1181 OR EQUIVALENT AS APPROVED BY THE ENGINEER.
3. ALL MATERIALS FOR PLATE ASSEMBLIES SHALL COMPLY WITH JIS G 3193 OR EQUIVALENT AS APPROVED BY THE ENGINEER.
4. LOCAL SWITCH AND PUSH BUTTON CONTROLLED BY LOCAL OPERATOR SHALL BE AS FOLLOWS
 - a. MODE SELECTION SWITCH
 - FOR AN AUTOMATIC MODE POSITION CONTROLLED BY TIMERS.
 - FOR A MANUAL MODE POSITION CONTROLLED BY THE OPERATORS
 - FOR A FLASHING MODE POSITION CONTROLLED BY THE TIMERS.
 - b. PUSH BUTTON
 - FOR CHANGING COLOUR OF THE SIGNALS.

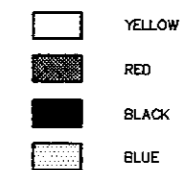


ROAD WORK
 (TEMPORARY SIGNS)



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. CONTROL TRAFFIC GO / AHEAD
37. GO AHEAD
38. FLAGGER CONTROL
39. FLASHING WARNING LIGHT

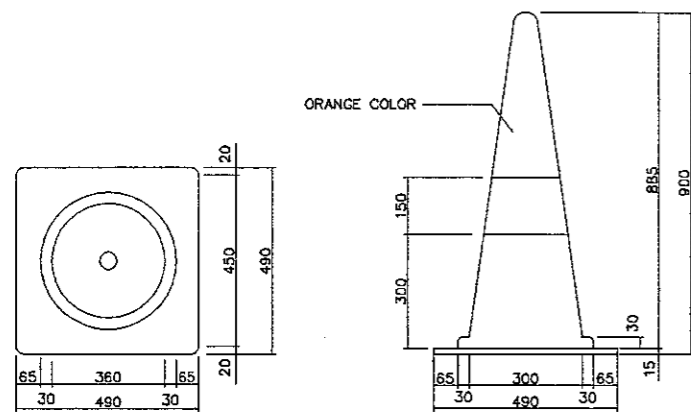
COLOR LEGEND :



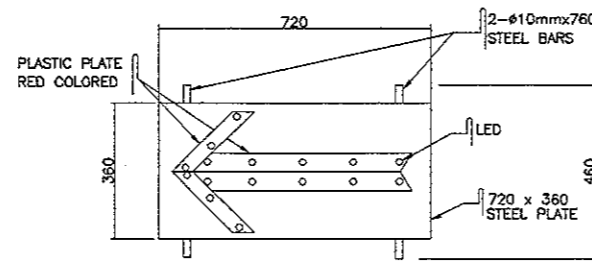
NOTE :

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

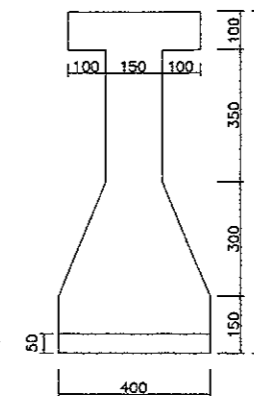
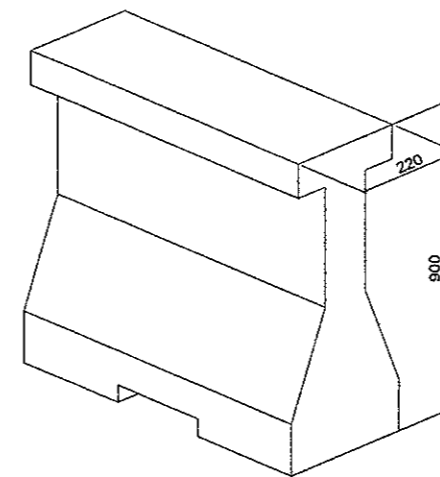
DESIGNED BY		CHECKED BY		SUBMITTED BY	
Name	R. UENO	Name	T. OKUMURA	Name	M. KIUCHI
Sign		Sign		Sign	
Date		Date		Date	



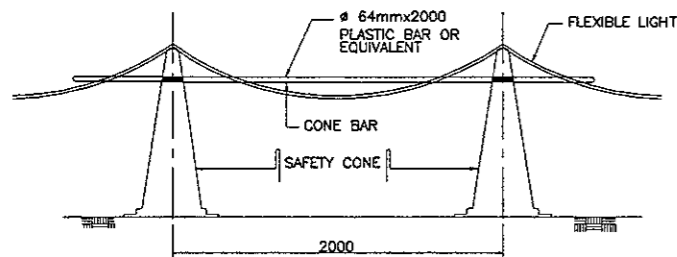
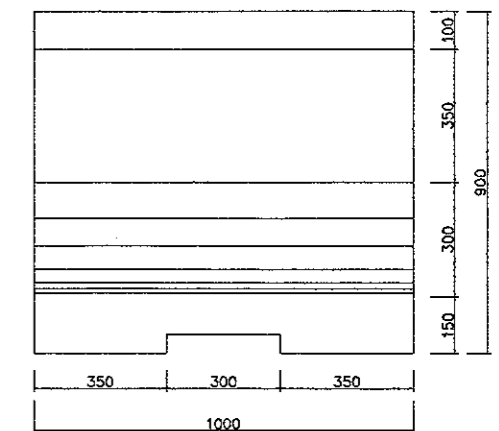
3 SAFETY CONE
 SCALE 1:20



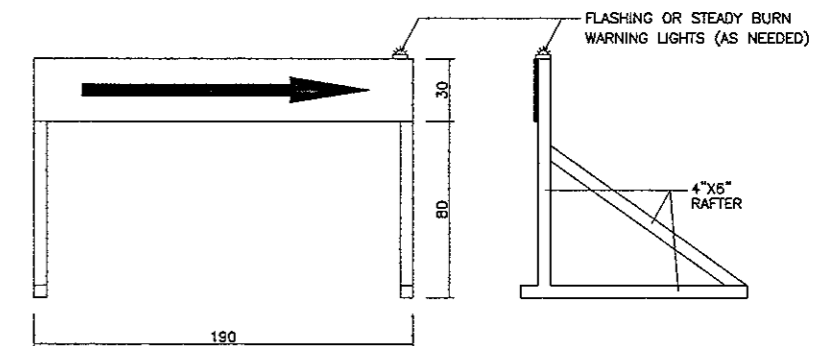
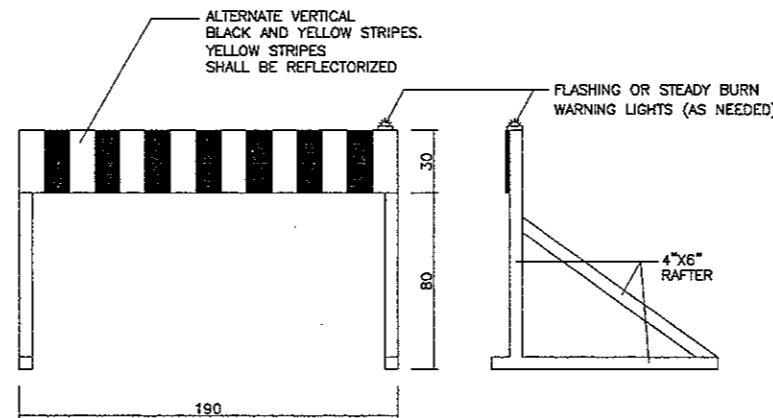
6 ARROW PLATE OF LED
 SCALE 1:20



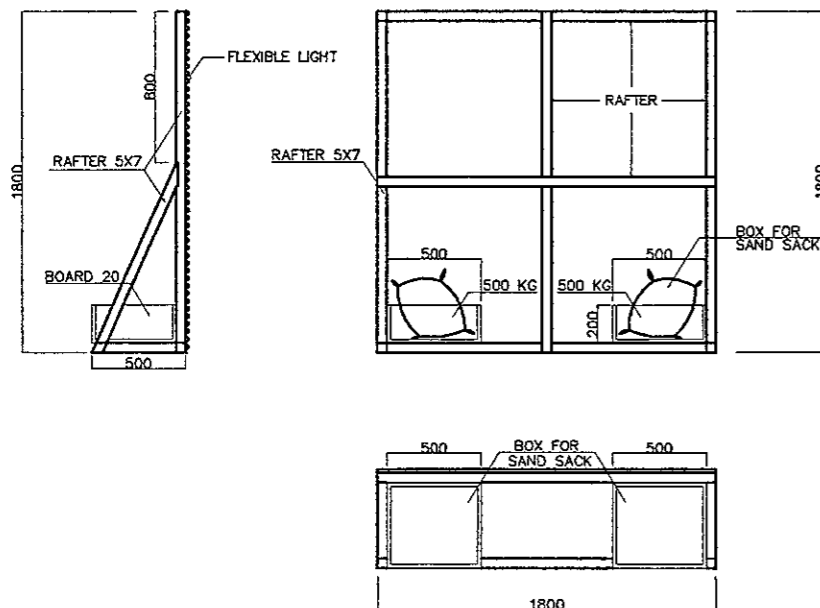
7 MOVABLE BARRIER
 SCALE 1:20



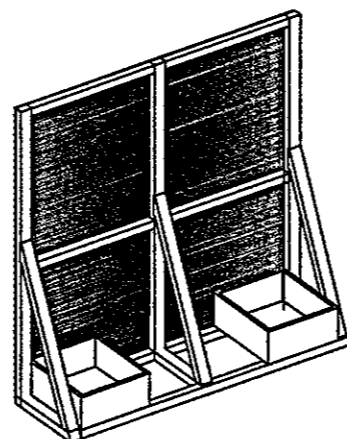
2 CONE BAR
 NOT TO SCALE



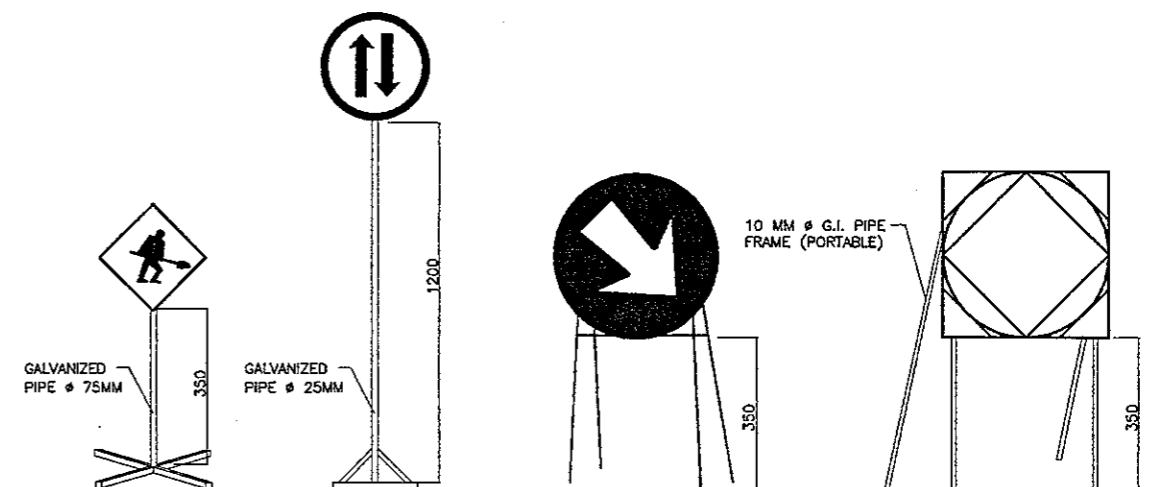
5 TEMPORARY SIGN BOARD SUPPORT
 SCALE 1:30



1 TEMPORARY FENCE DURING CONSTRUCTION
 SCALE 1:40

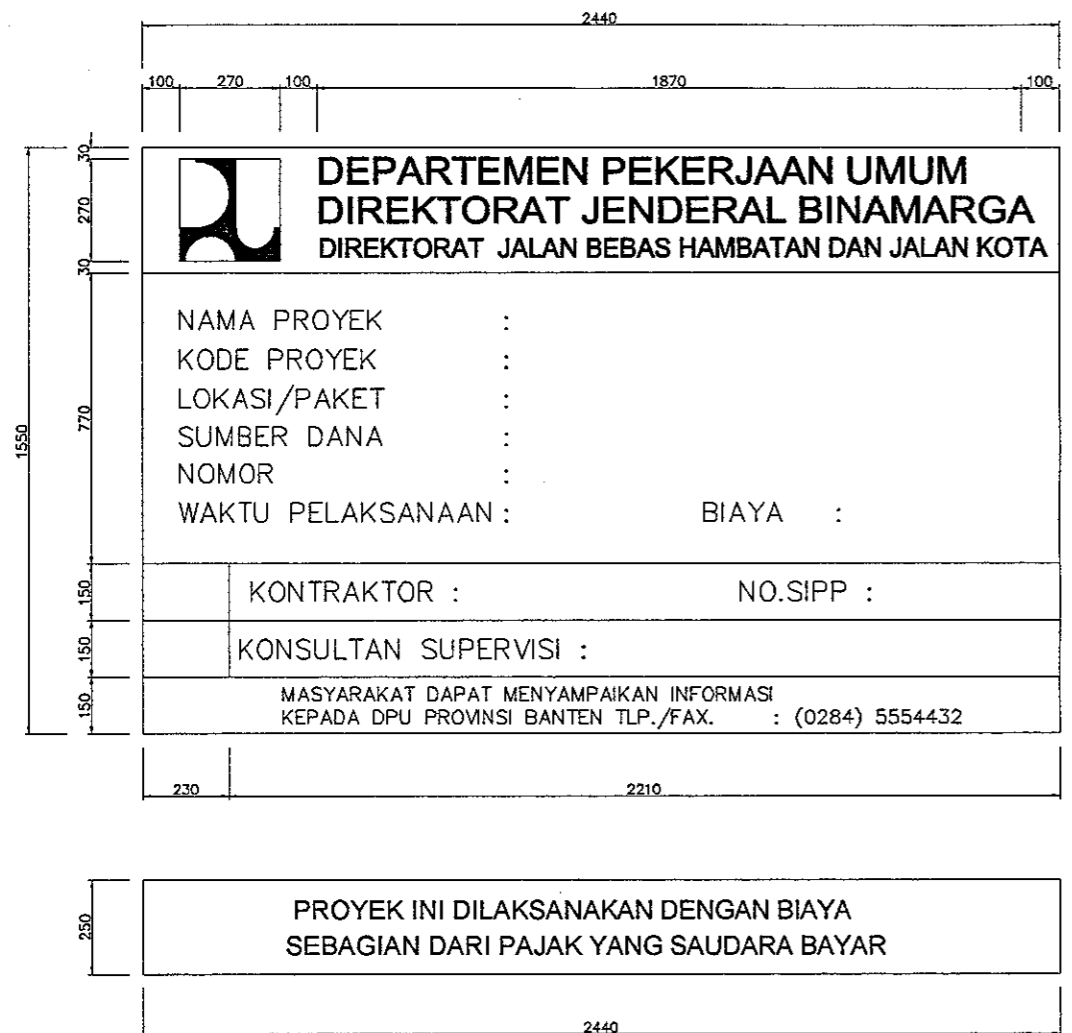


ISOMETRIC



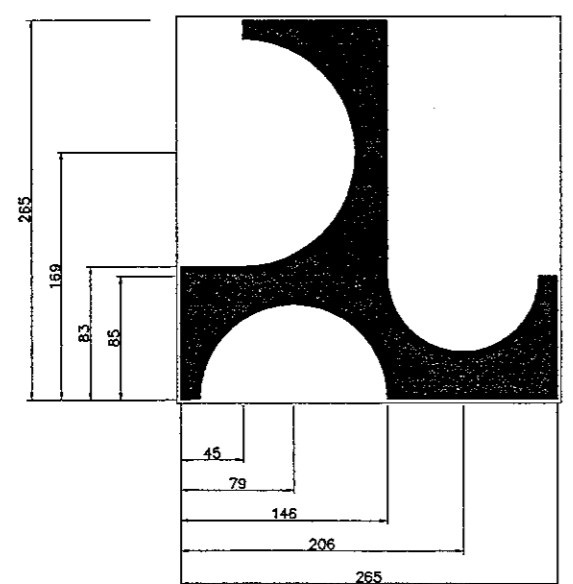
4 TEMPORARY SIGN SUPPORT DETAILS
 NOT TO SCALE

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



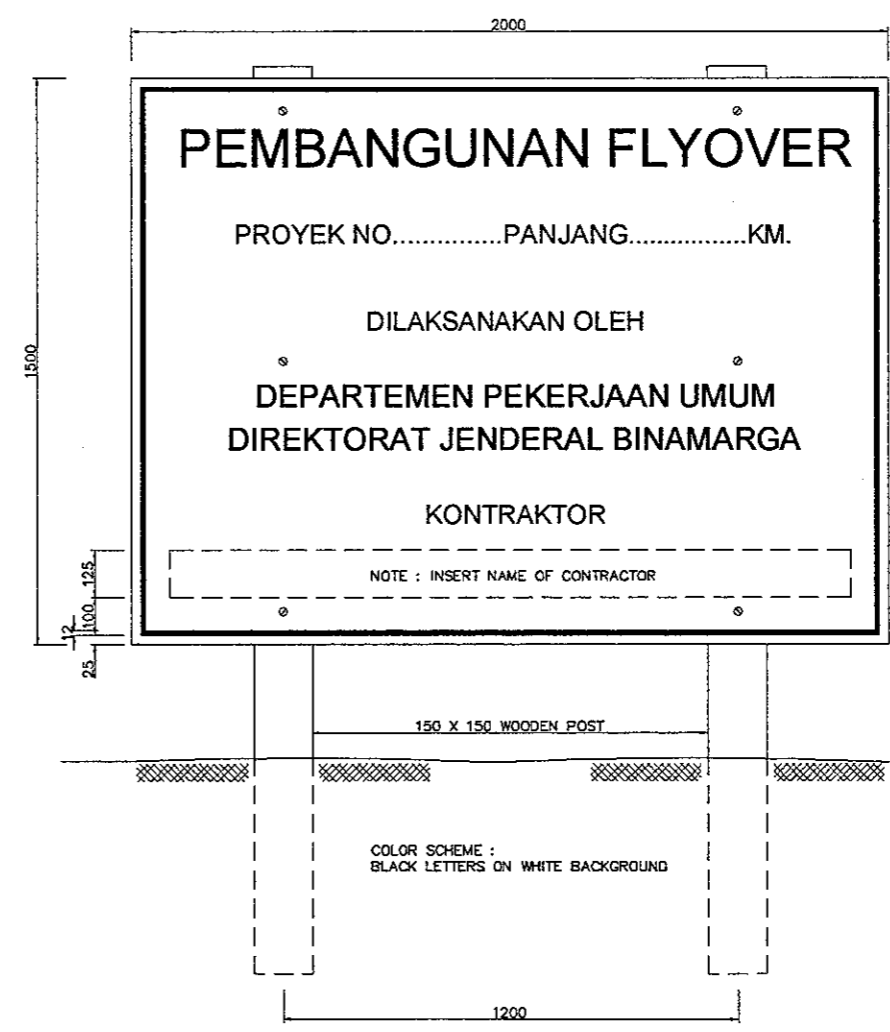
BASE COLOUR : OCEAN BLUE
 TEXT COLOUR : BLACK AND
 TEXT HEIGHT : 7.00 CM
 SYMBOL SEE DETAIL

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

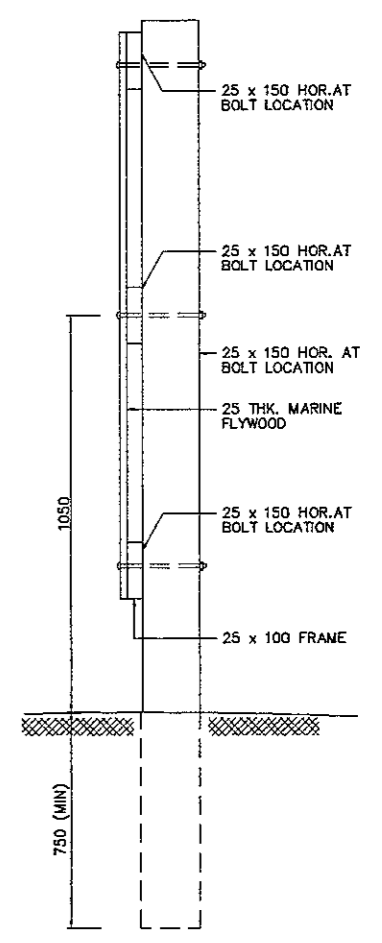


SYMBOL OF MINISTRY OF PUBLIC WORKS

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

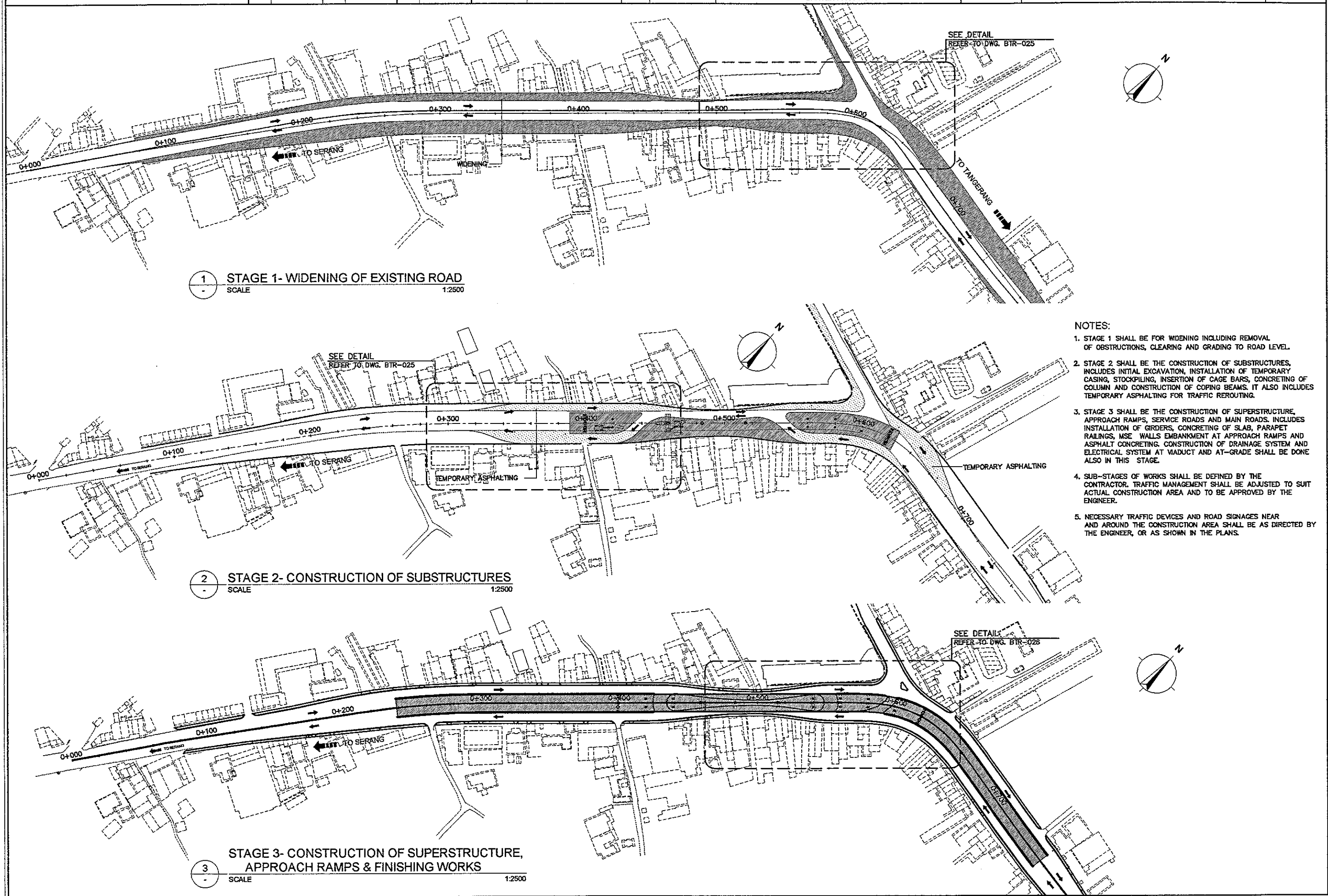


A FRONT ELEVATION
 SCALE 1:20



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

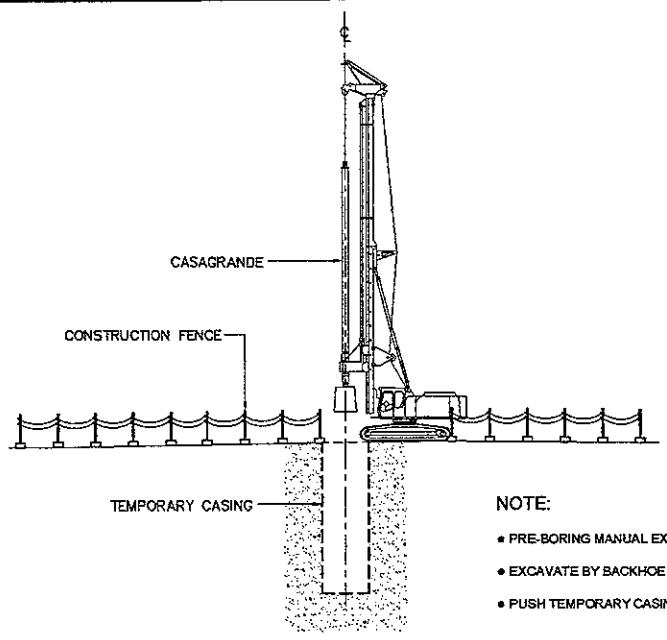
2 STAGE 2- CONSTRUCTION OF SUBSTRUCTURES
 SCALE 1:2500

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

- NOTES:**
1. STAGE 1 SHALL BE FOR WIDENING INCLUDING REMOVAL OF OBSTRUCTIONS, CLEARING AND GRADING TO ROAD LEVEL.
 2. 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.
 3. 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.
 4. 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.
 5. 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.

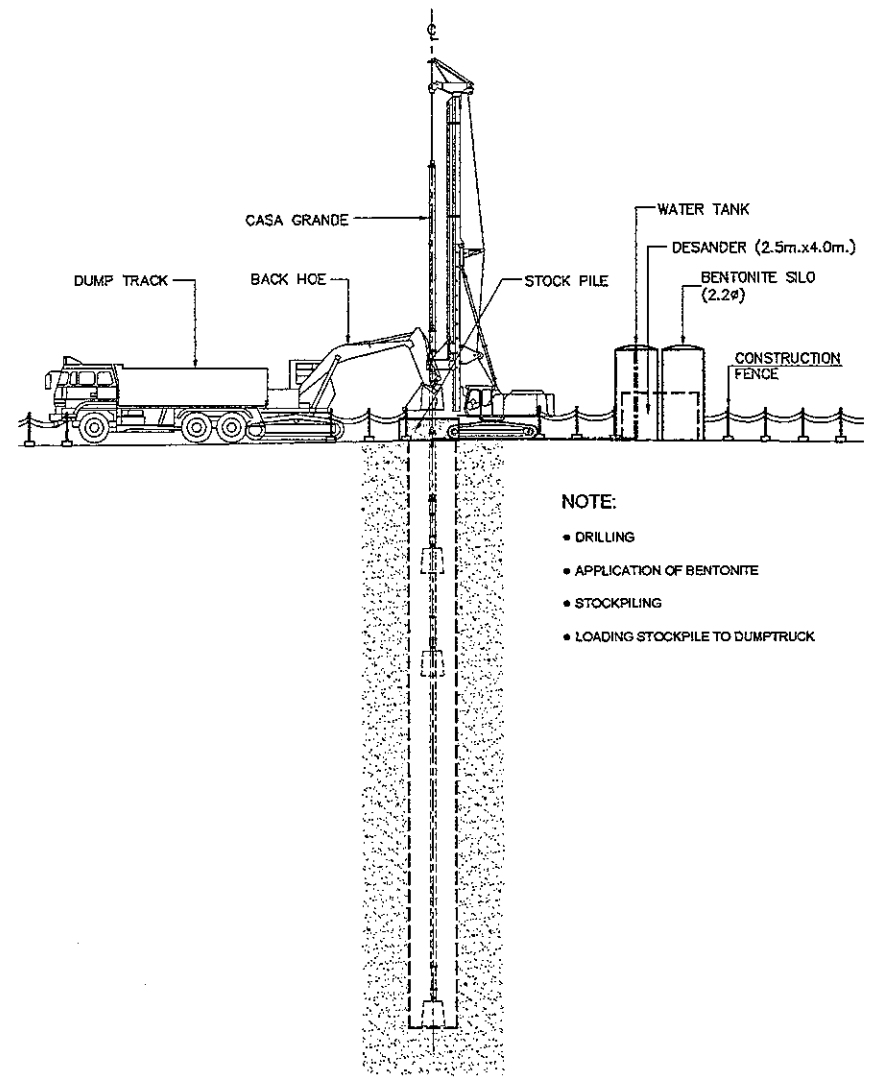
DESIGNED BY	CHECKED BY	SUBMITTED BY
Name: R. UENO	Name: T. OKUMURA	Name: M. KIUCHI
Sign: _____	Sign: _____	Sign: _____
Date: _____	Date: _____	Date: _____

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



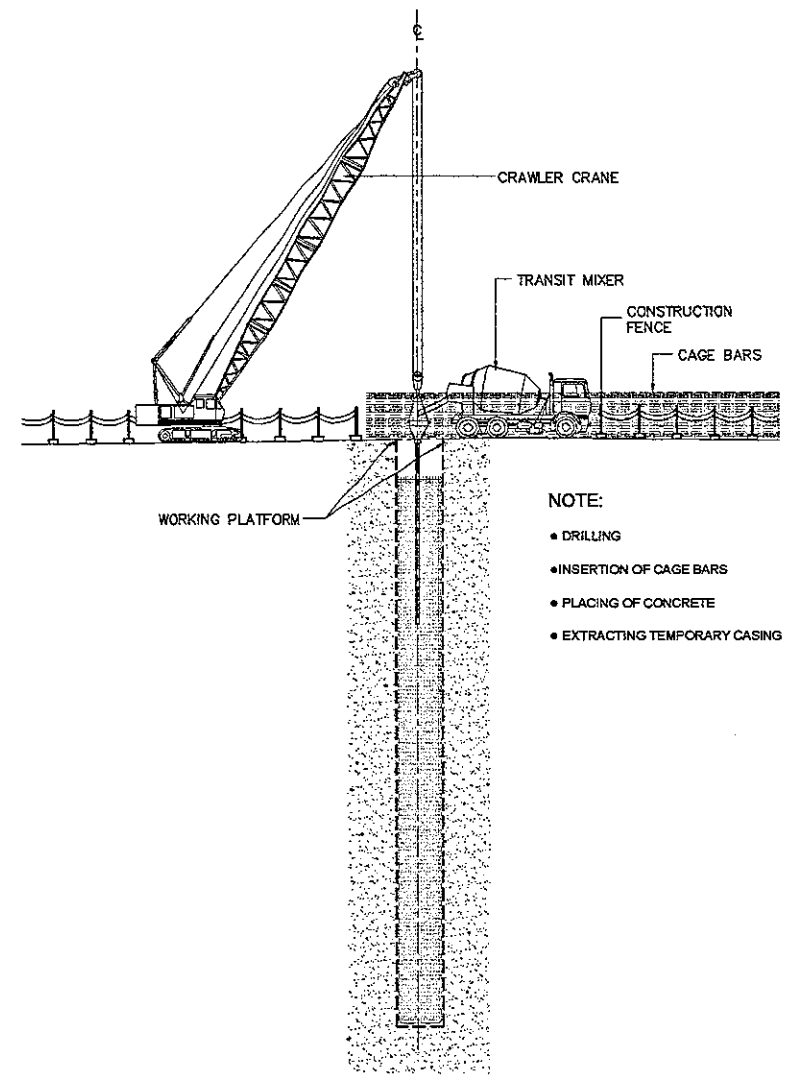
- NOTE:
- PRE-BORING MANUAL EXCAVATION (MIN. 2.0m.)
 - EXCAVATE BY BACKHOE GREATER THAN 4.0m.
 - PUSH TEMPORARY CASING

A1 SEQUENCE - 1
 SCALE 1:400



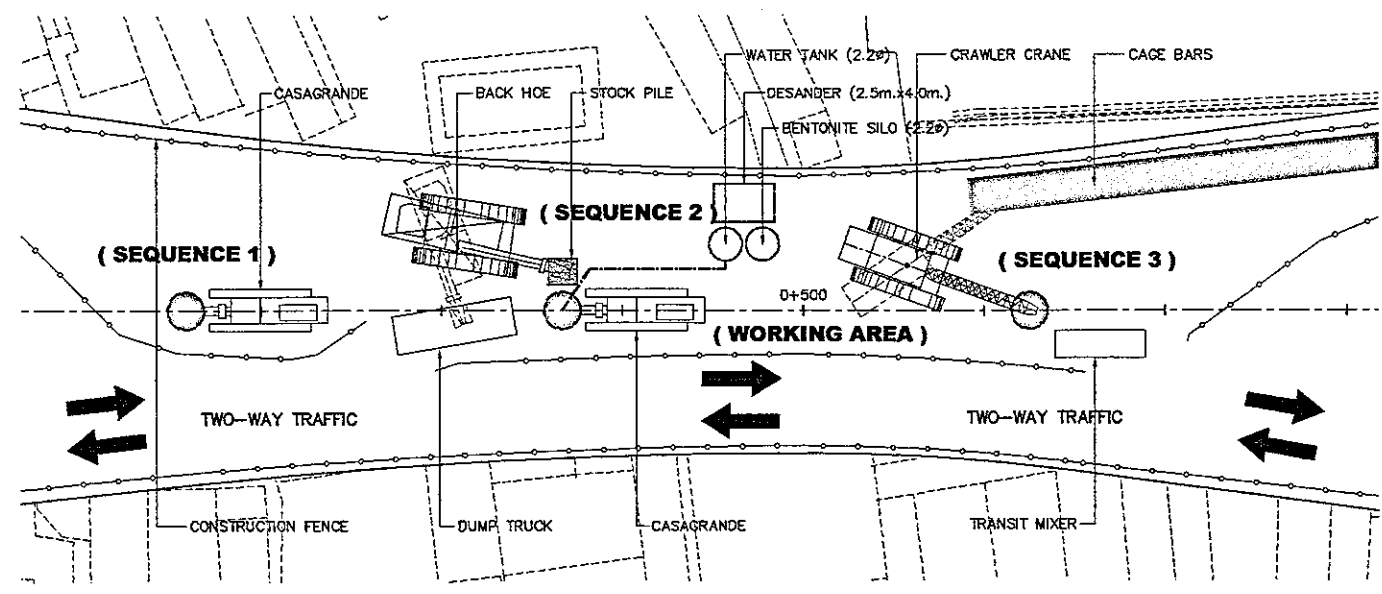
- NOTE:
- DRILLING
 - APPLICATION OF BENTONITE
 - STOCKPILING
 - LOADING STOCKPILE TO DUMPTRUCK

A2 SEQUENCE - 2
 SCALE 1:400



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

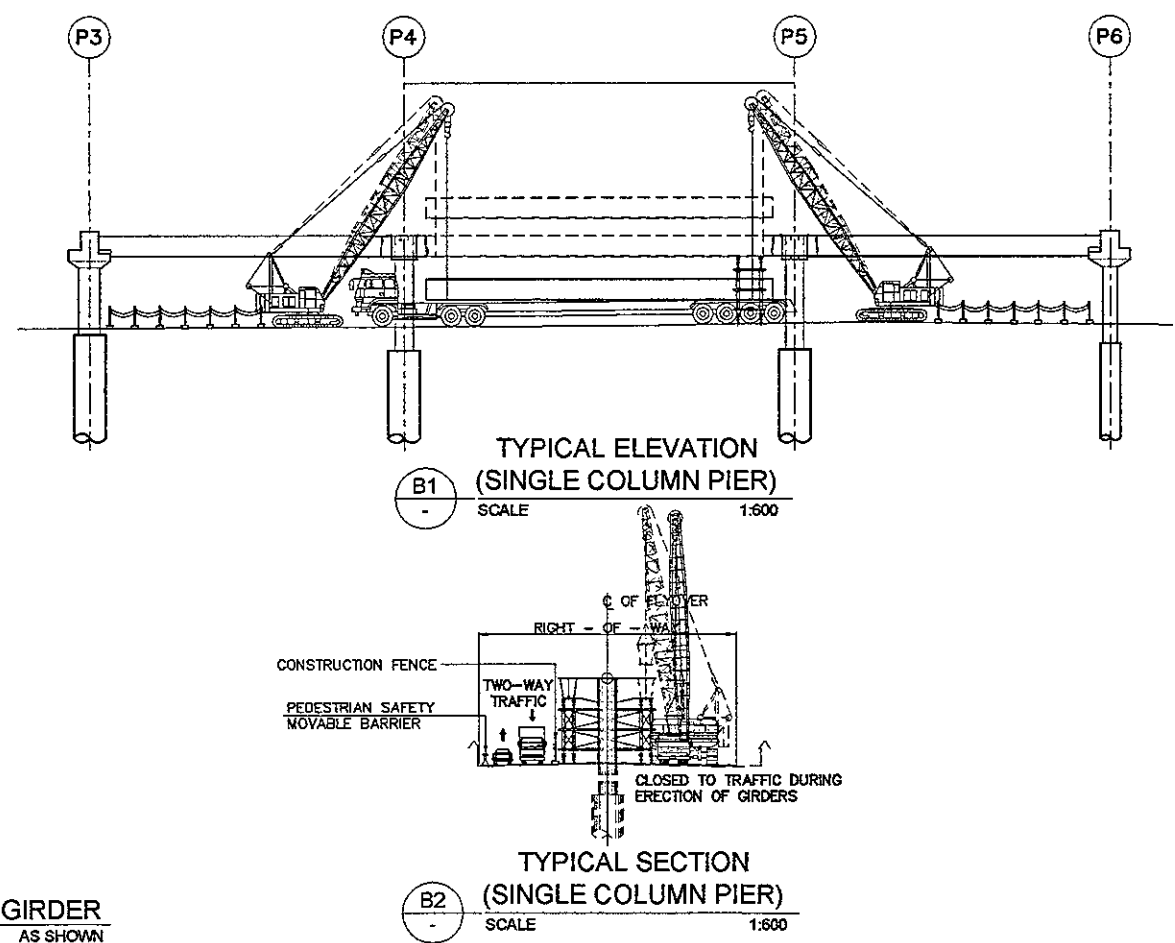
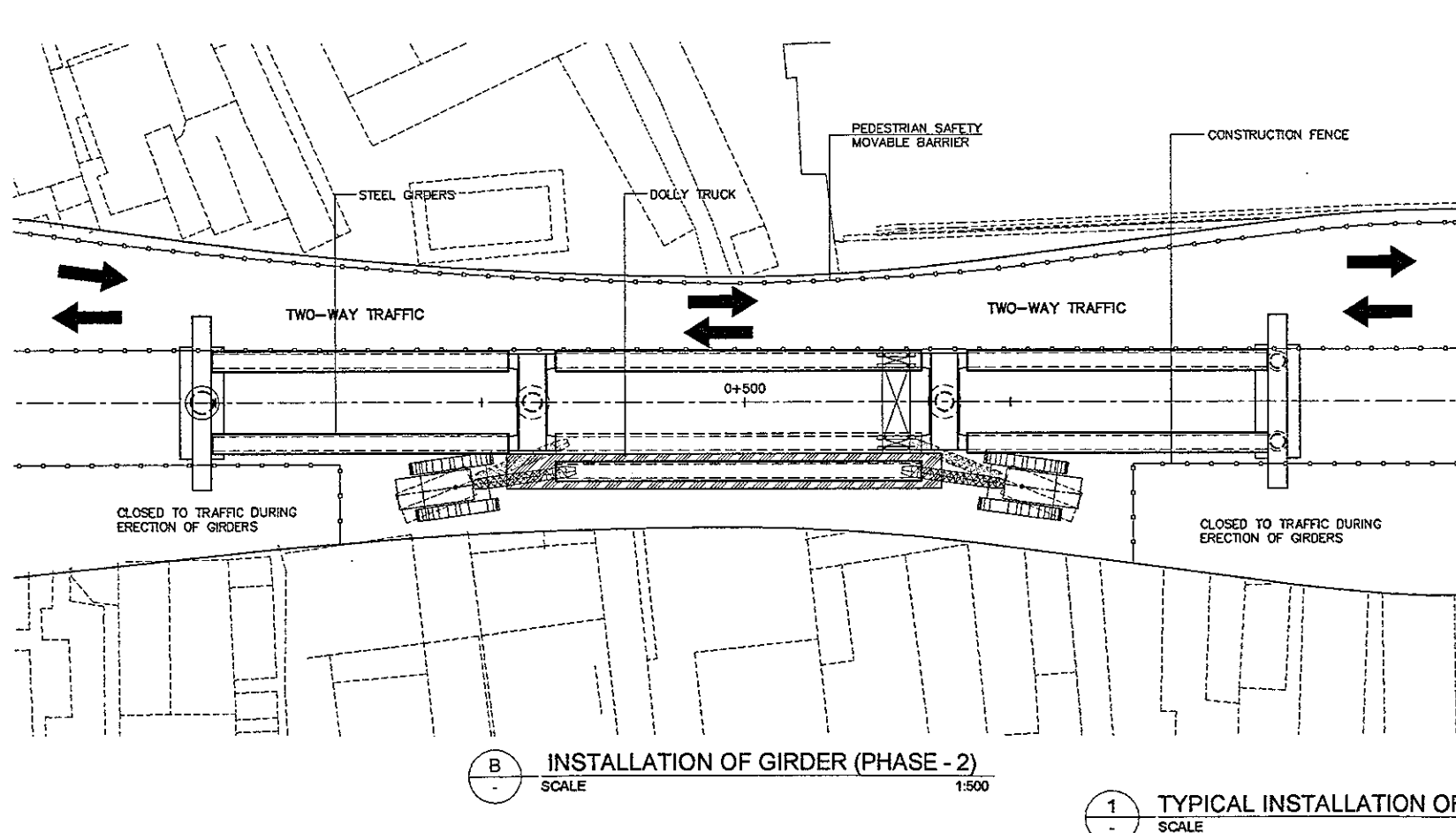
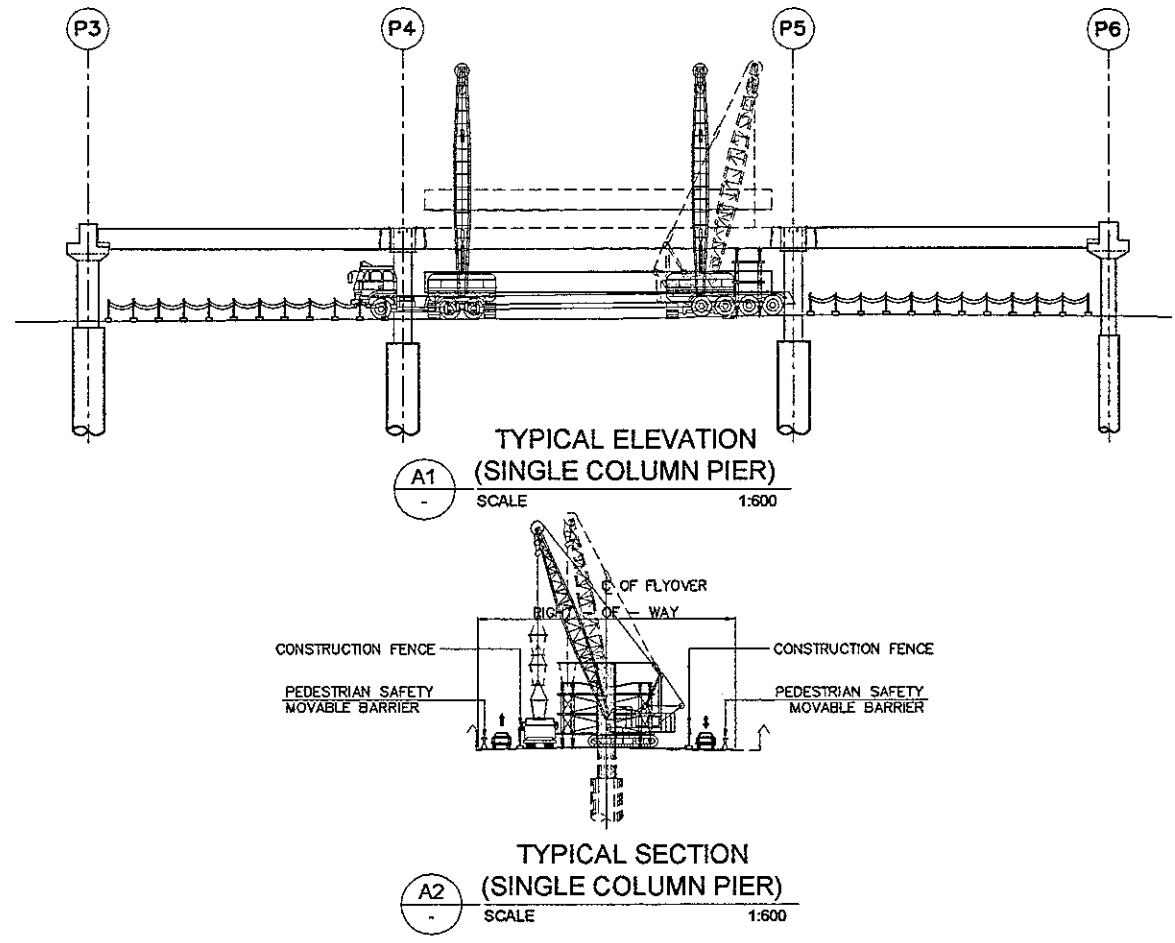
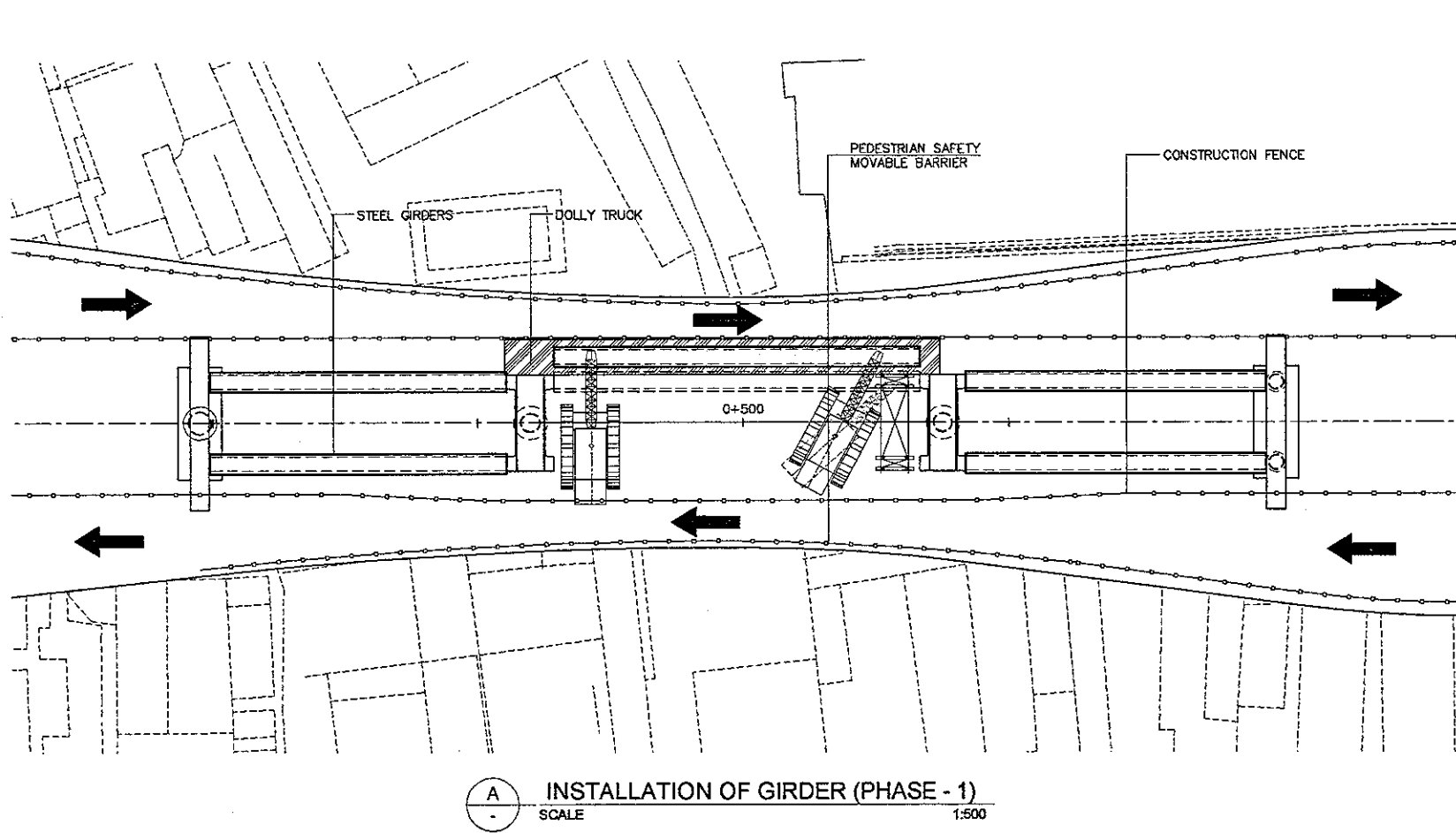
A3 SEQUENCE - 3
 SCALE 1:400



A SEQUENCE LAYOUT PLAN
 SCALE 1:500

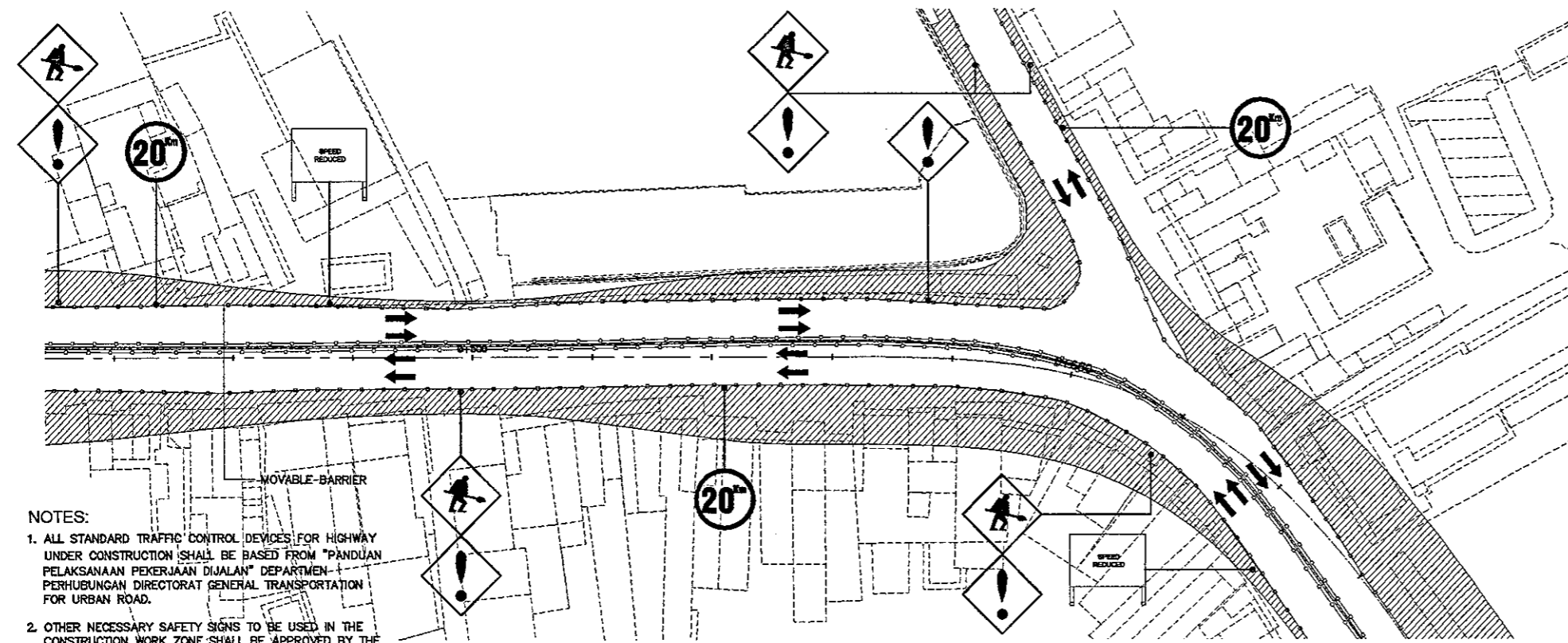
1 TYPICAL BORED PILING METHODOLOGY
 SCALE AS SHOWN

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



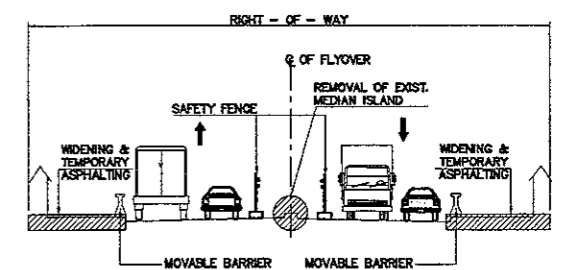
1 TYPICAL INSTALLATION OF GIRDER
 SCALE AS SHOWN

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

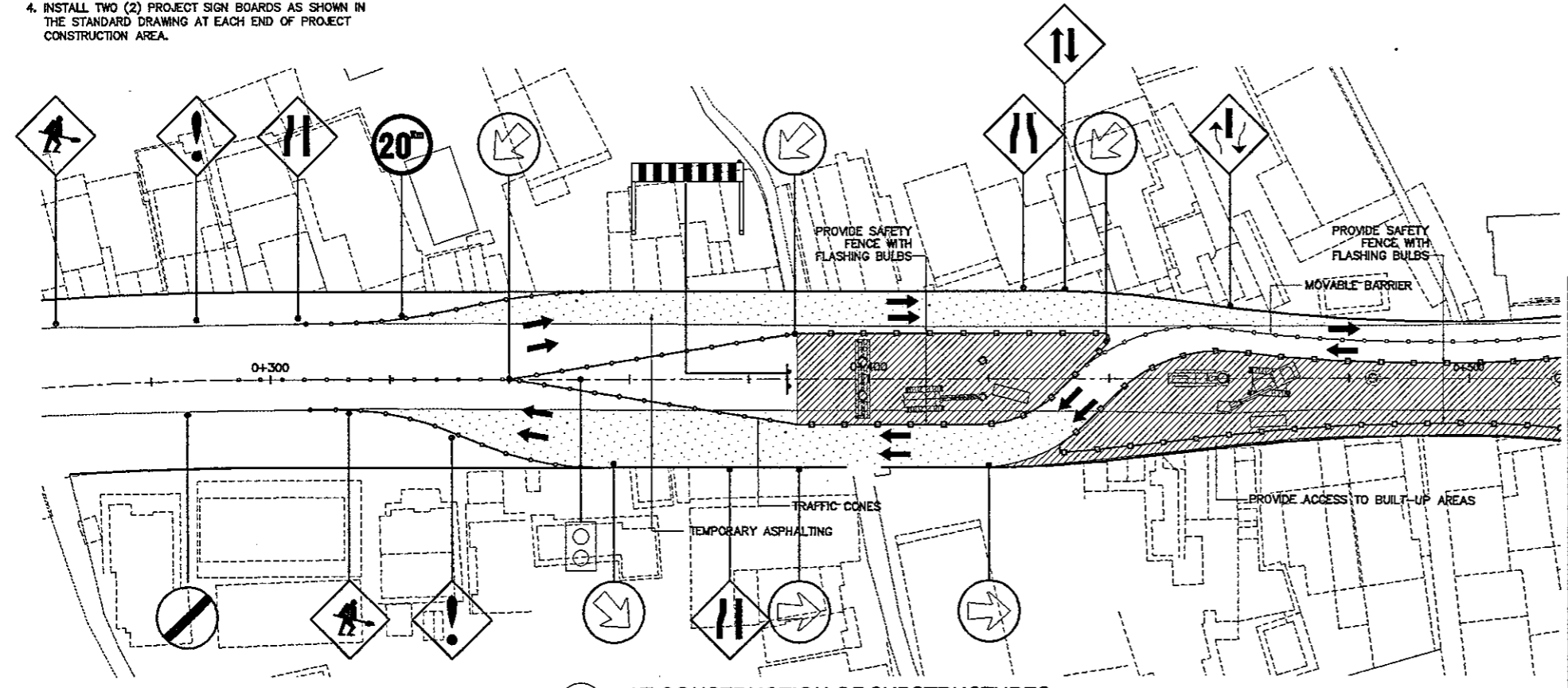


(A) AT WIDENING AREA
 SCALE 1:1000

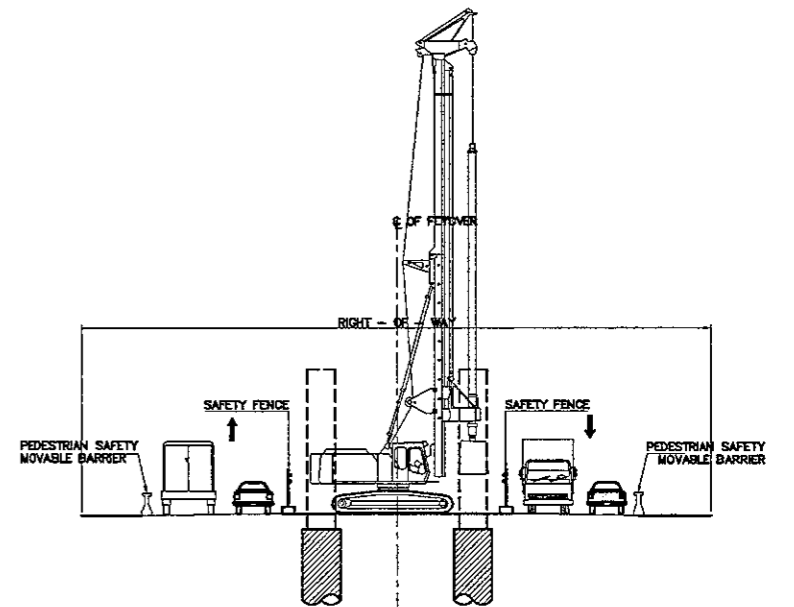
- NOTES:**
1. ALL STANDARD TRAFFIC CONTROL DEVICES FOR HIGHWAY UNDER CONSTRUCTION SHALL BE BASED FROM "PANDUAN PELAKSANAAN PEKERJAAN DIJALAN" DEPARTEMEN PERHUBUNGAN DIRECTORAT GENERAL TRANSPORTATION FOR URBAN ROAD.
 2. OTHER NECESSARY SAFETY SIGNS TO BE USED IN THE CONSTRUCTION WORK ZONE SHALL BE APPROVED BY THE ENGINEER.
 3. FOR STANDARD WORK SIGNS, REFER TO DWG. BTR-019
 4. INSTALL TWO (2) PROJECT SIGN BOARDS AS SHOWN IN THE STANDARD DRAWING AT EACH END OF PROJECT CONSTRUCTION AREA.



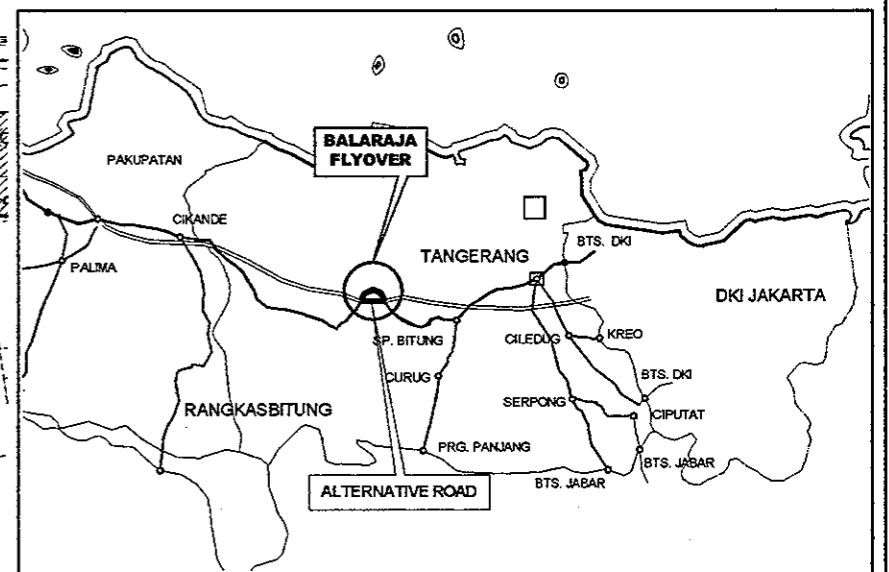
(B) TYPICAL SECTION
 SCALE 1:300



(C) AT CONSTRUCTION OF SUBSTRUCTURES
 SCALE 1:1000

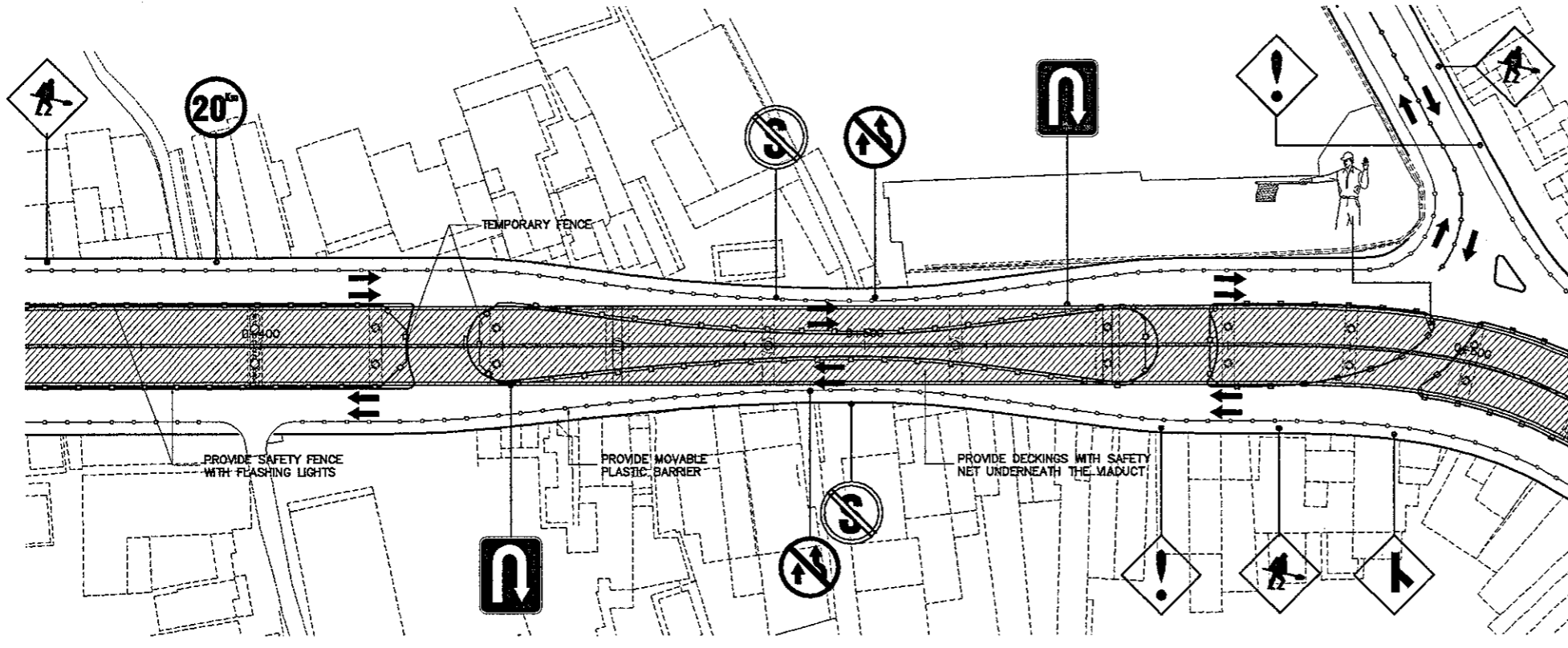


(D) TYPICAL SECTION
 SCALE 1:300

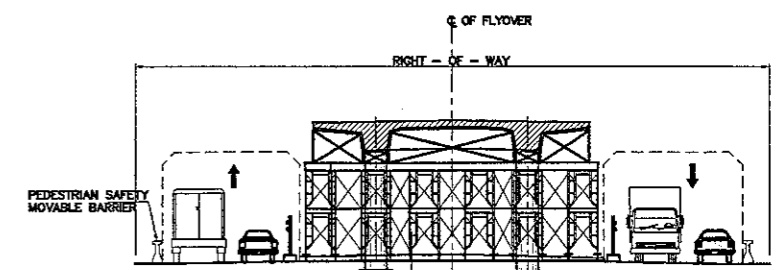


ALTERNATIVE ROAD DURING CONSTRUCTION
 NOT TO SCALE

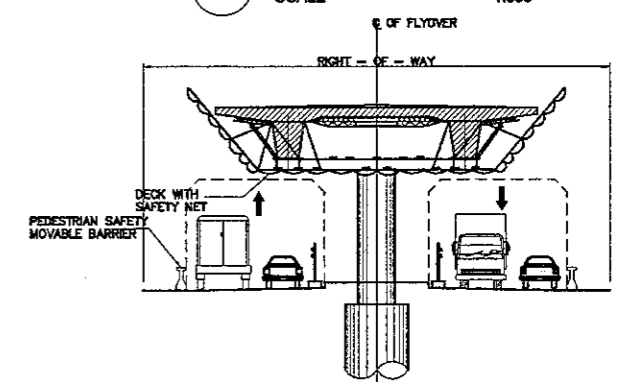
1 TRAFFIC MANAGEMENT LAYOUT
 SCALE AS SHOWN



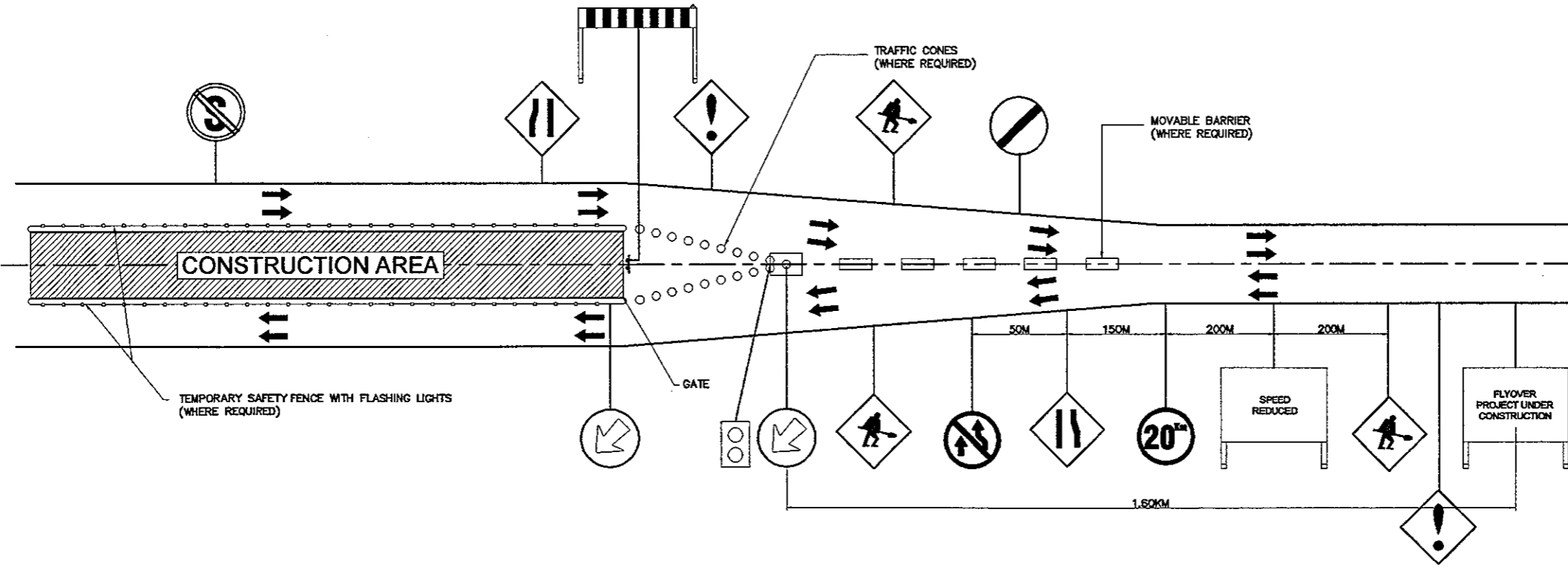
A AT CONSTRUCTION OF SUPERSTRUCTURES
 SCALE 1:1000



B TYPICAL SECTION (TWO-COLUMN PIER)
 SCALE 1:300



C TYPICAL SECTION (SINGLE COLUMN PIER)
 SCALE 1:300



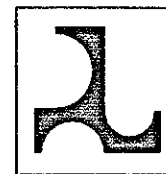
D APPROACHING CONSTRUCTION AREA
 SCALE 1:1000

1 TRAFFIC MANAGEMENT LAYOUT
 SCALE AS SHOWN

- NOTES:
- ALL STANDARD TRAFFIC CONTROL DEVICES FOR HIGHWAY UNDER CONSTRUCTION SHALL BE BASED FROM "PANDUAN PELAKSANAAN PEKERJAAN DIJALAN" DEPARTMEN PERHUBUNGAN DIRECTORAT GENERAL TRANSPORTATION FOR URBAN ROAD.
 - OTHER NECESSARY SAFETY SIGNS TO BE USED IN THE CONSTRUCTION WORK ZONE SHALL BE APPROVED BY THE ENGINEER.
 - FOR STANDARD WORK SIGNS, REFER TO DWG. BTR-019
 - 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

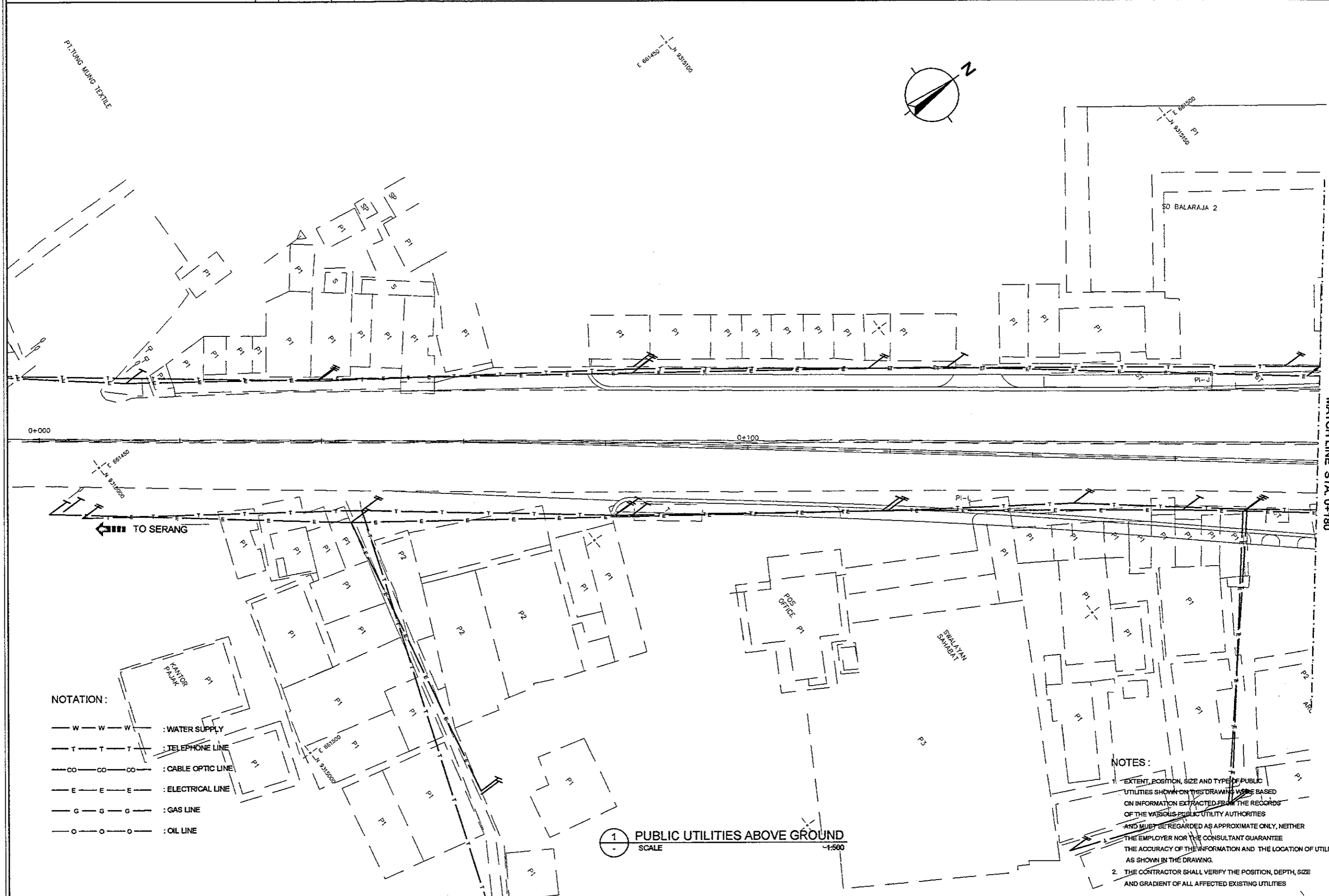
UTILITIES



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

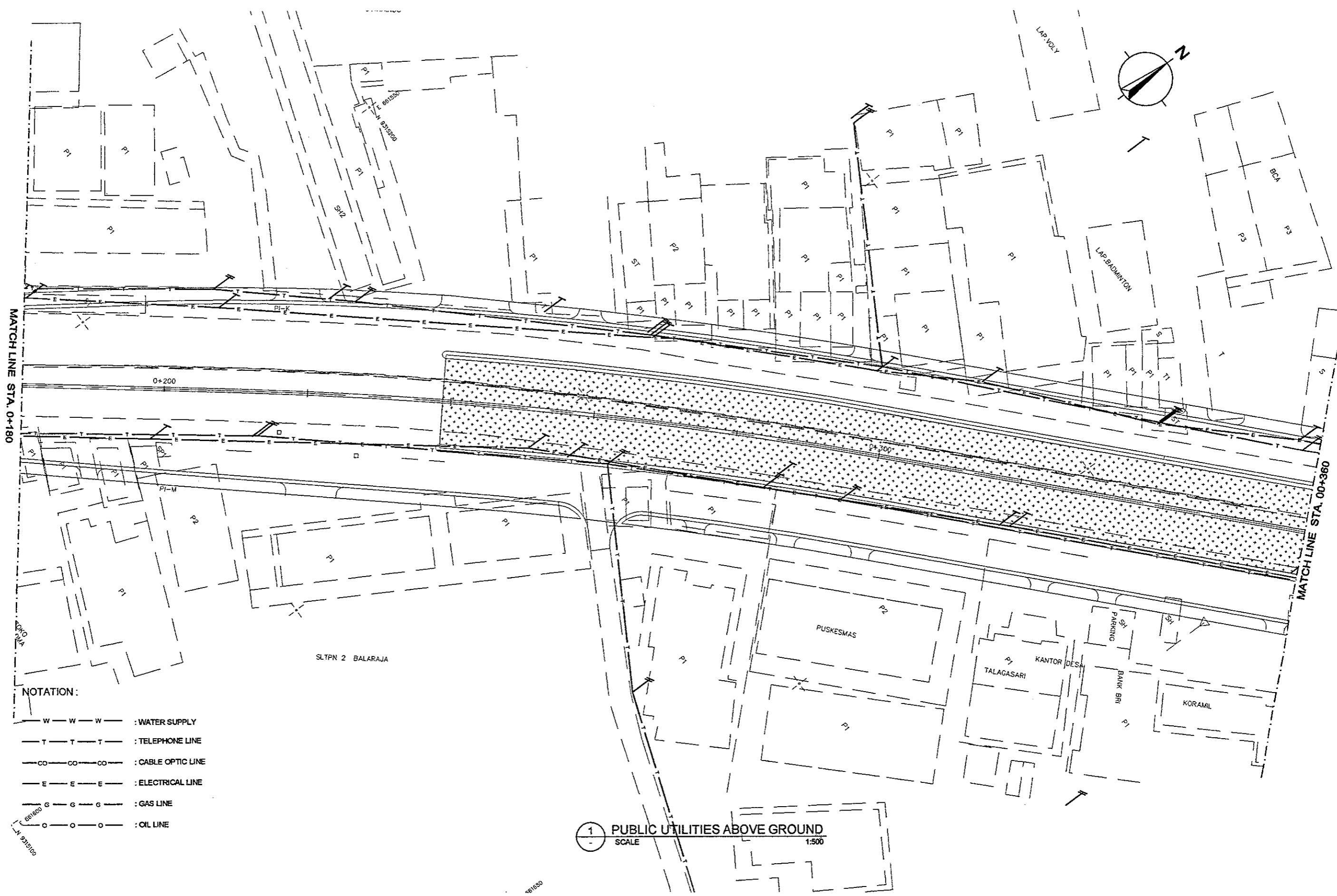


- NOTATION:
- W — W — W — : WATER SUPPLY
 - T — T — T — : TELEPHONE LINE
 - CO — CO — CO — : CABLE OPTIC LINE
 - E — E — E — : ELECTRICAL LINE
 - G — G — G — : GAS LINE
 - O — O — O — : OIL LINE

1 PUBLIC UTILITIES ABOVE GROUND
 SCALE 1:500

- NOTES:
1. 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.
 2. THE CONTRACTOR SHALL VERIFY THE POSITION, DEPTH, SIZE AND GRADIENT OF ALL AFFECTED EXISTING UTILITIES

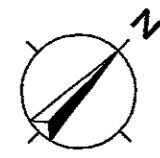
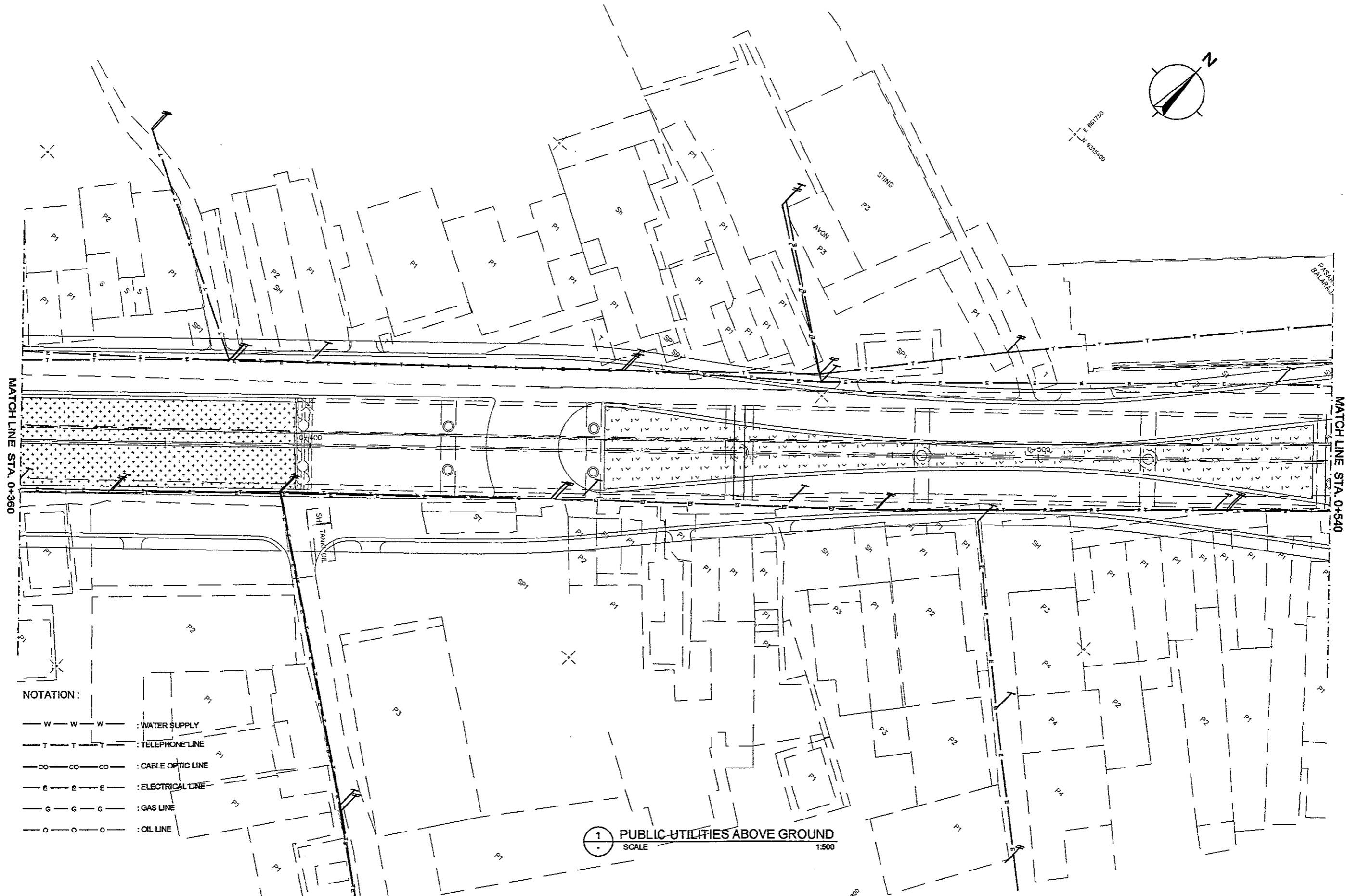
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Date		Date		Date	



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1 PUBLIC UTILITIES ABOVE GROUND
 SCALE 1:500

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Sign		Sign		Sign	
Date		Date		Date	



861750
 8325400

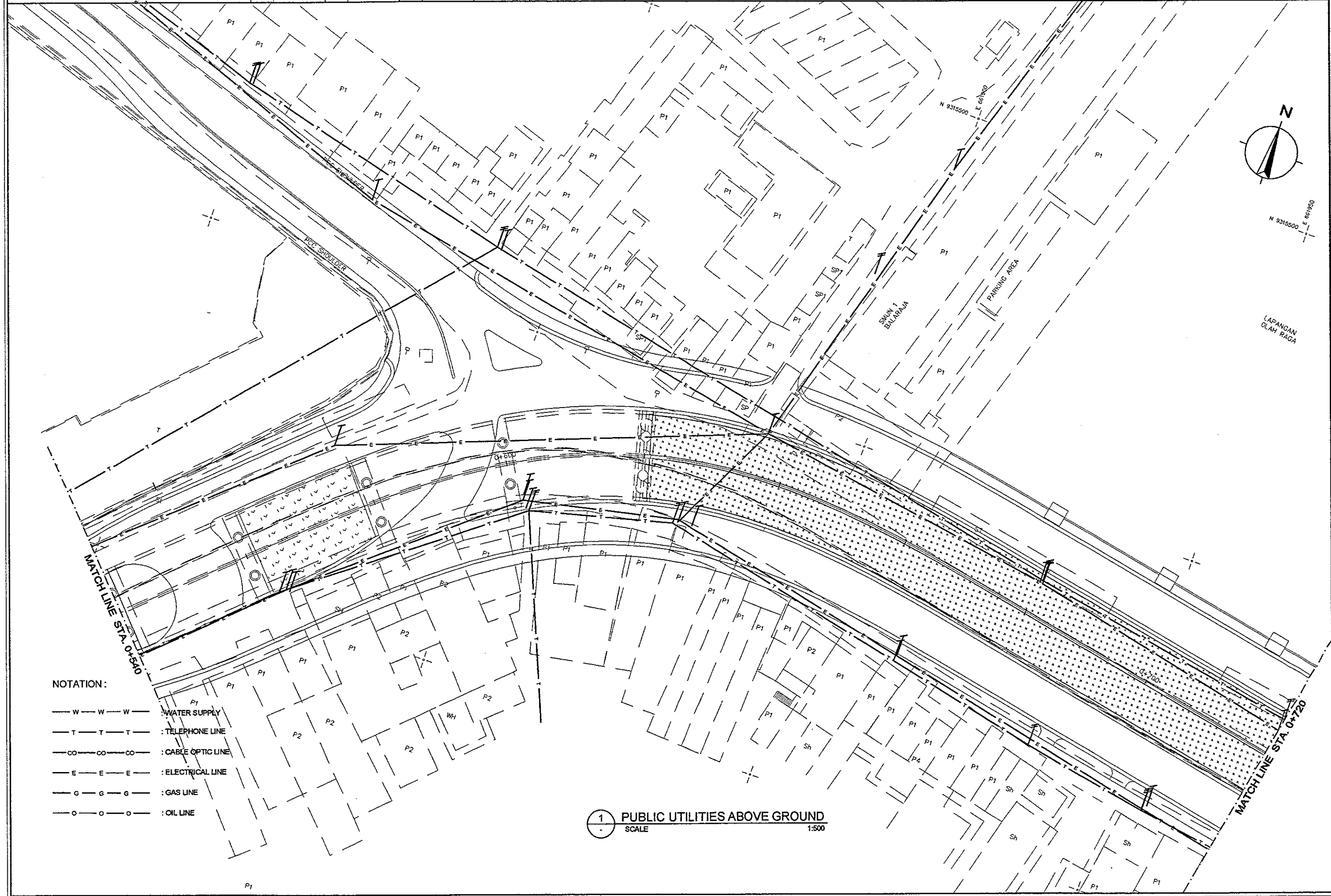
MATCH LINE STA. 0+360

MATCH LINE STA. 0+540

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 SCALE 1:500

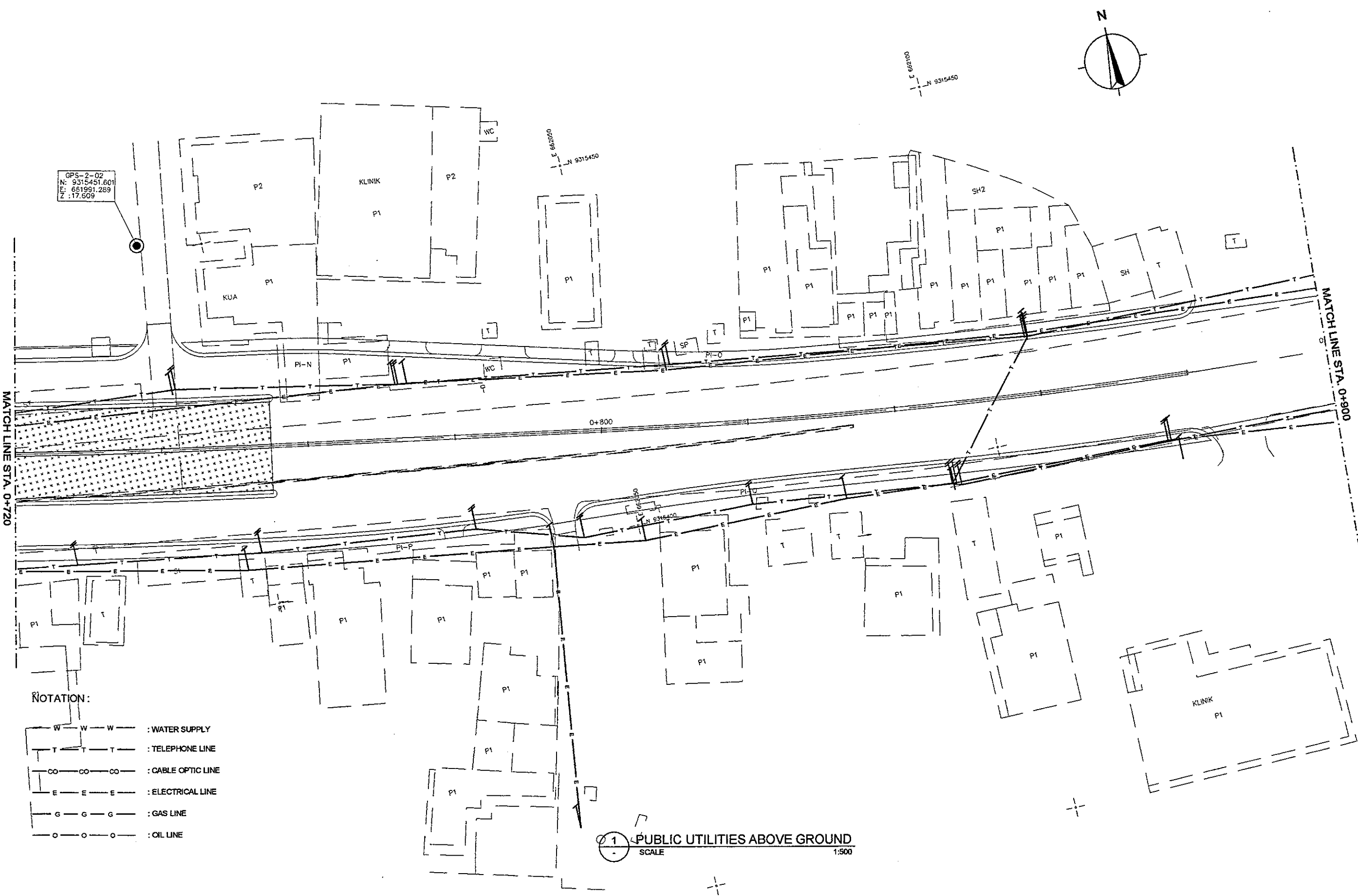
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 SCALE 1:500

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Sign		Sign		Sign	
Date		Date		Date	



GPS-2-02
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MATCH LINE STA. 0+720

MATCH LINE STA. 0+900

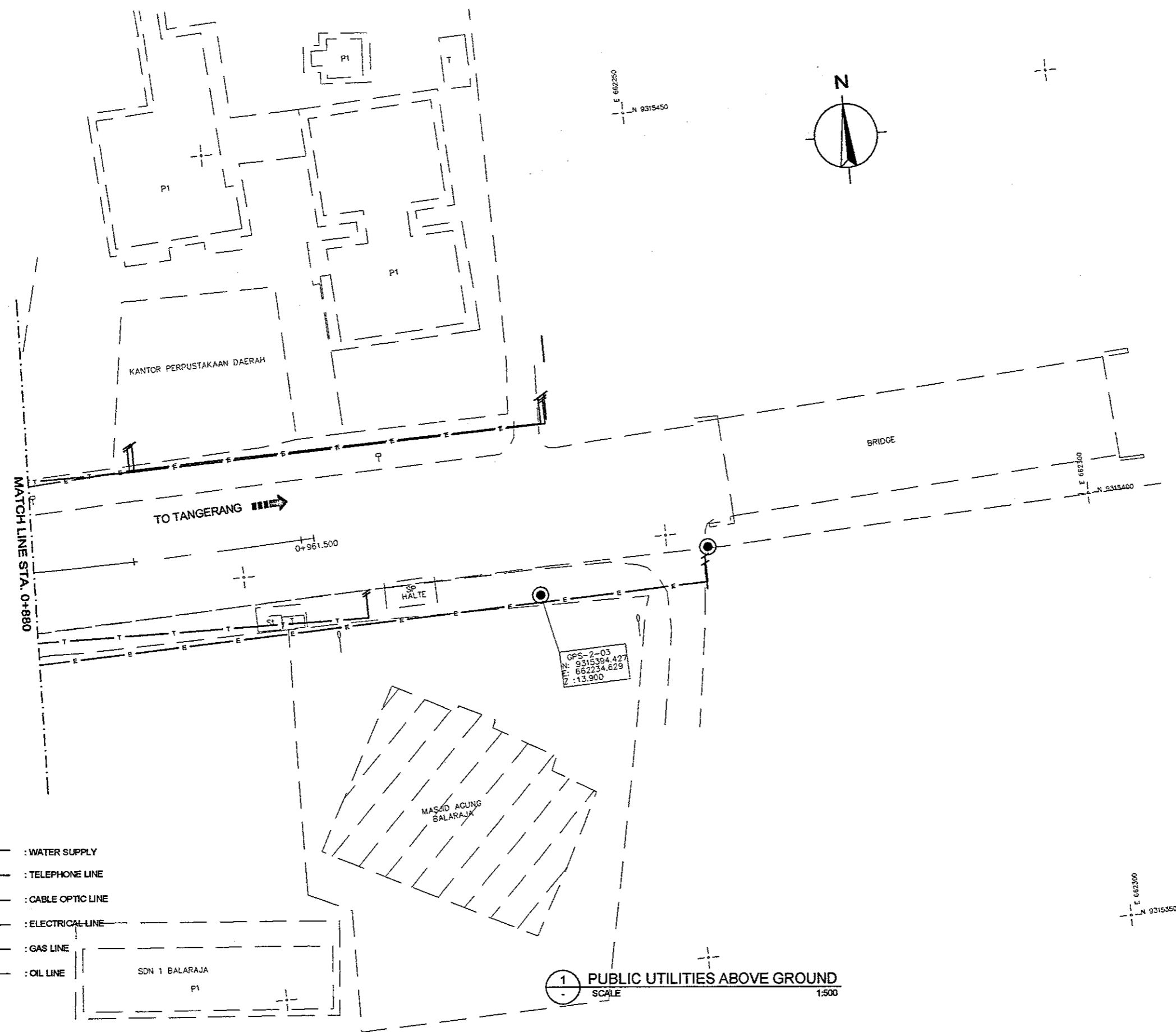
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APPROVED BY: Ir. HERRY VAZA M,Eng.Sc
 NIP. : 110038400

Sign	
Date	

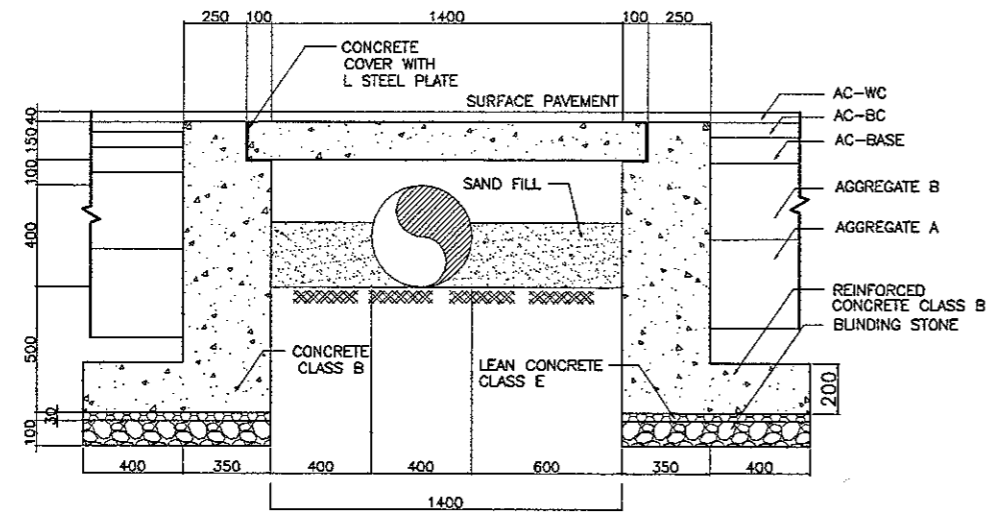


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1 PUBLIC UTILITIES ABOVE GROUND
 SCALE 1:500

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Name: R. UENO	Name: T. OKUMURA	Name: M. KIUCHI
Sign: _____	Sign: _____	Sign: _____
Date: _____	Date: _____	Date: _____



PROTECTION UNDER TYPE A
 SCALE 1:30



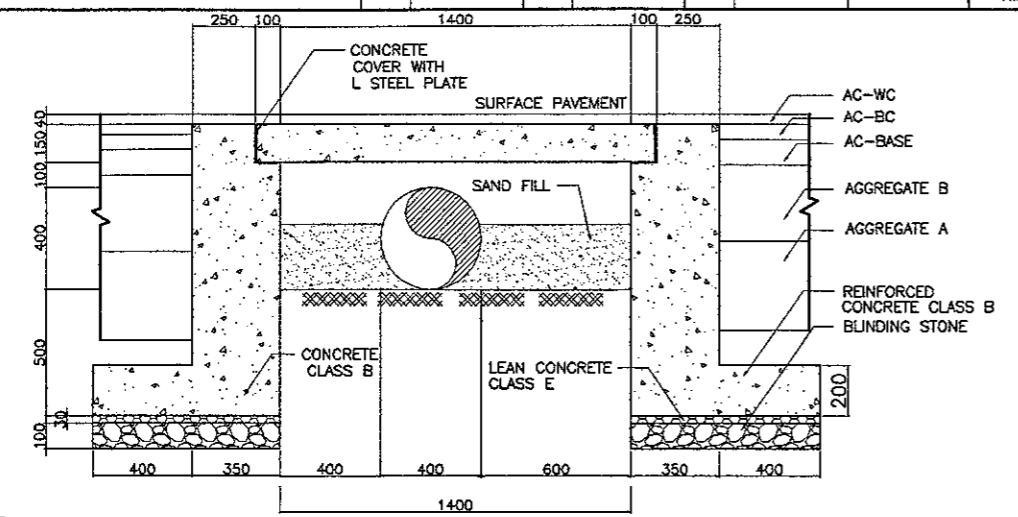
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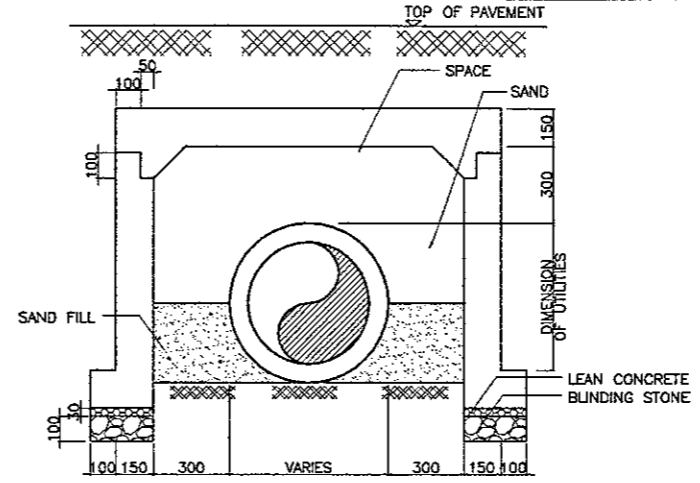
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PROTECTION UNDER TYPE A
 SCALE 1:30



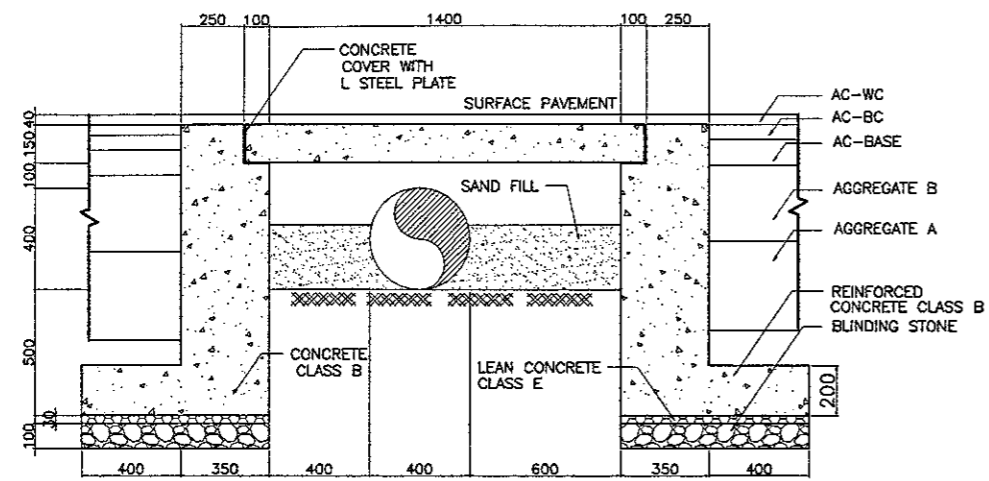
PROTECTION UNDER TYPE D
 SCALE 1:30



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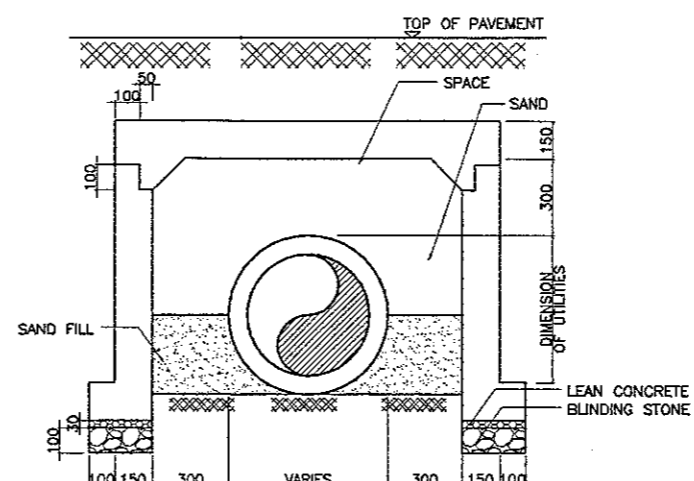
1 PUBLIC UTILITIES UNDER GROUND
 SCALE 1:500

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Name	R. UENO	Name	T. OKUMURA	Name	M. KIUCHI
Sign		Sign		Sign	
Date		Date		Date	



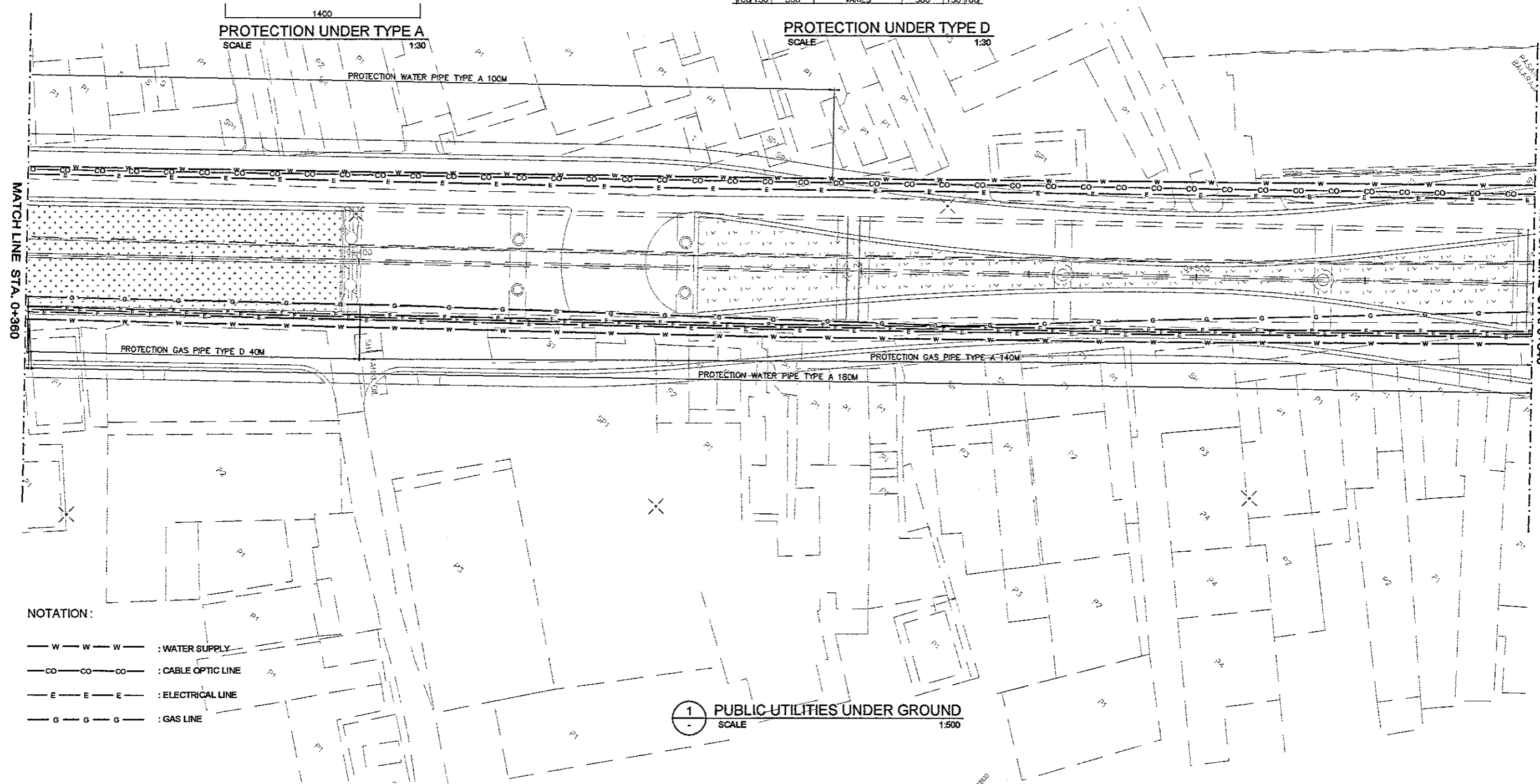
PROTECTION UNDER TYPE A

SCALE 1:30



PROTECTION UNDER TYPE D

SCALE 1:30

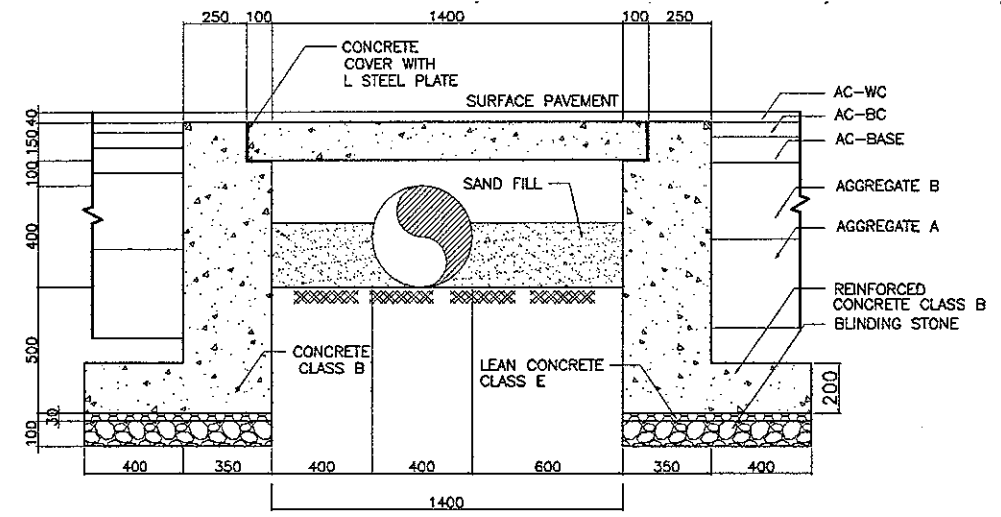


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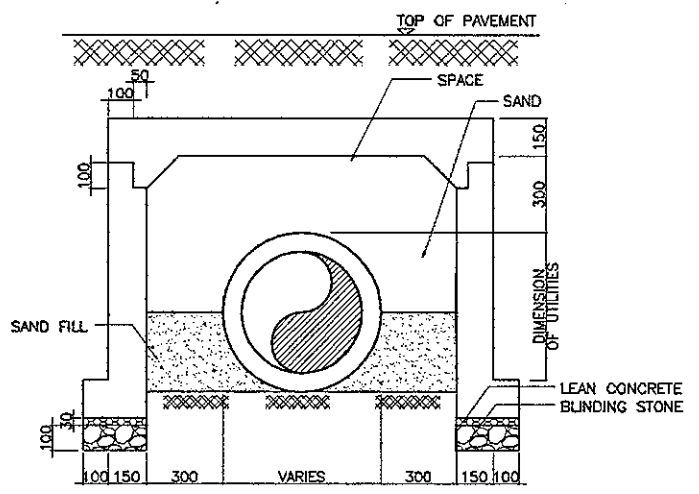
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1 PUBLIC UTILITIES UNDER GROUND
 SCALE 1:500

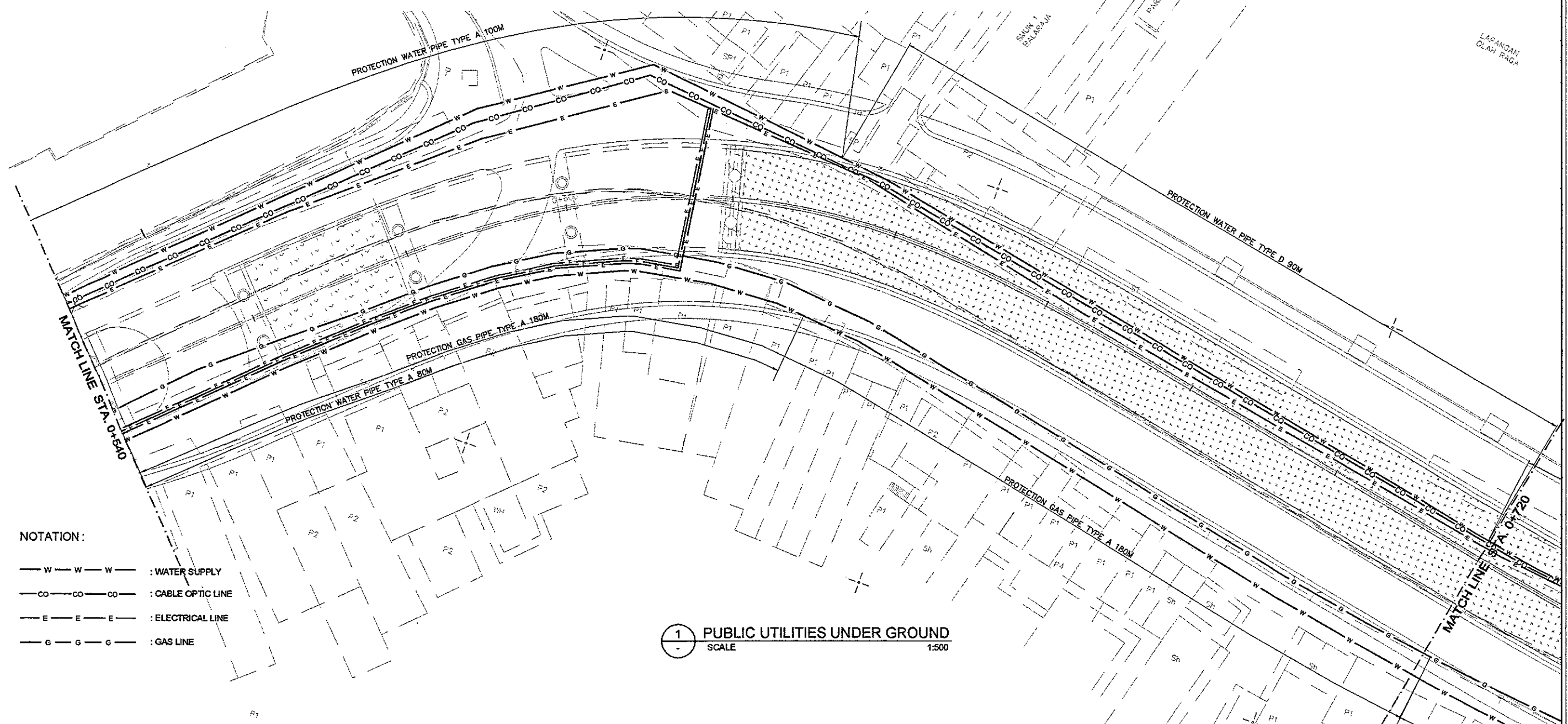
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Date	Date	Date



PROTECTION UNDER TYPE A
 SCALE 1:30

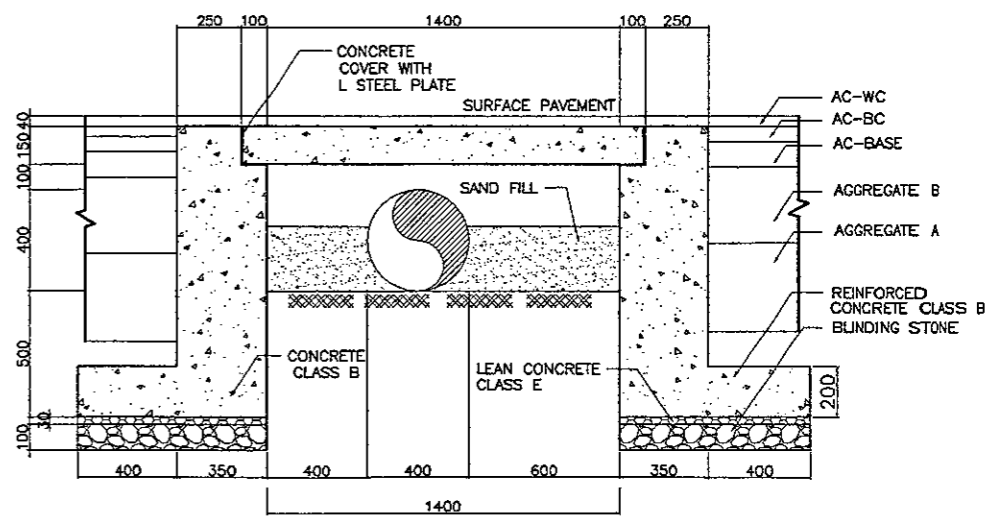
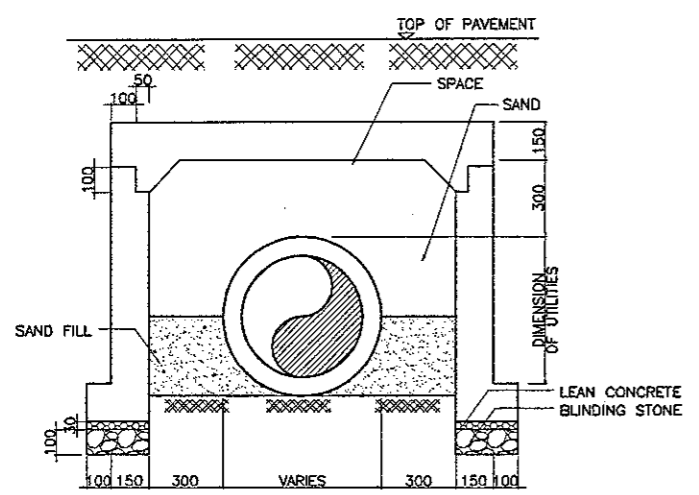


PROTECTION UNDER TYPE D
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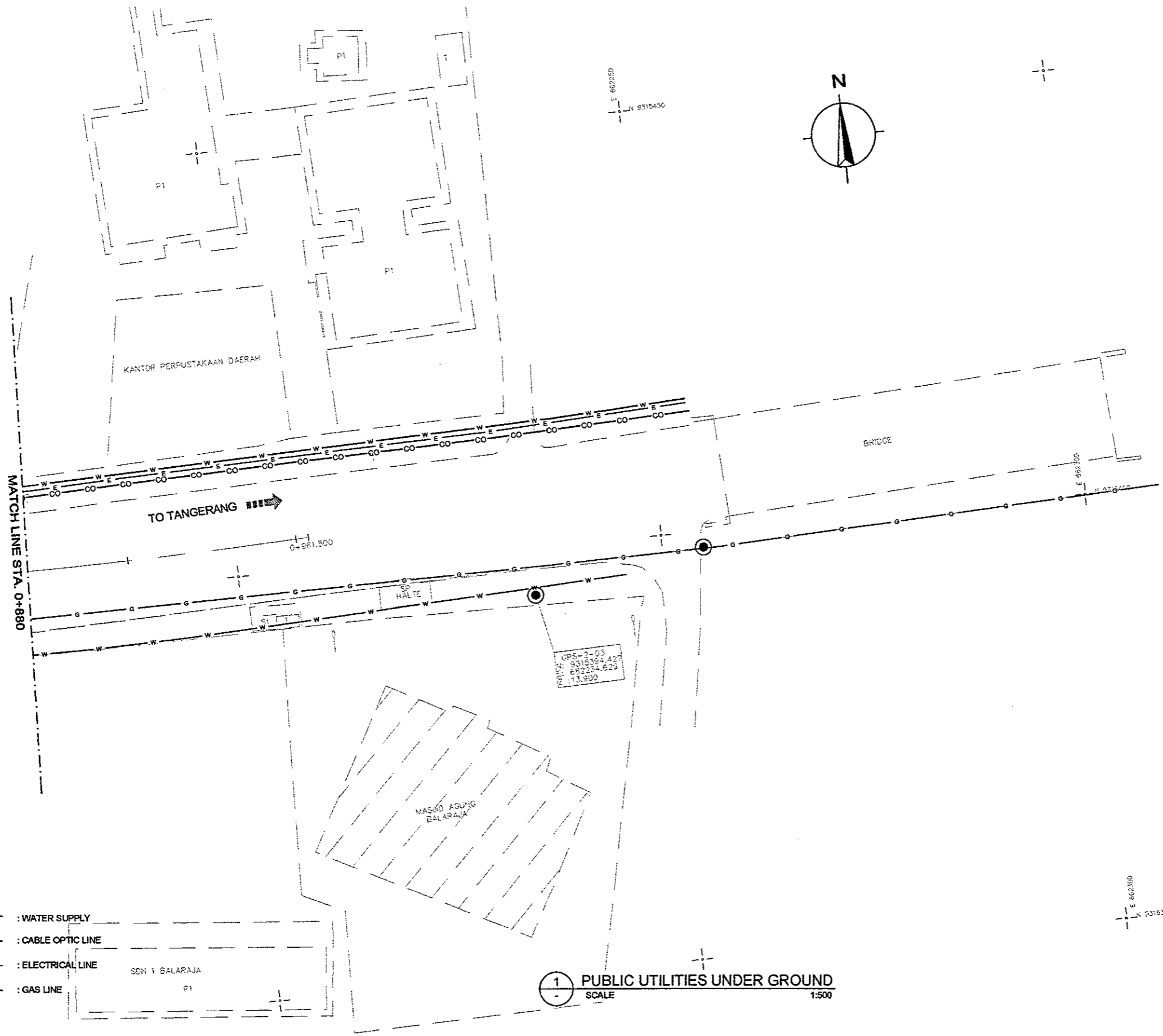
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 SCALE 1:500



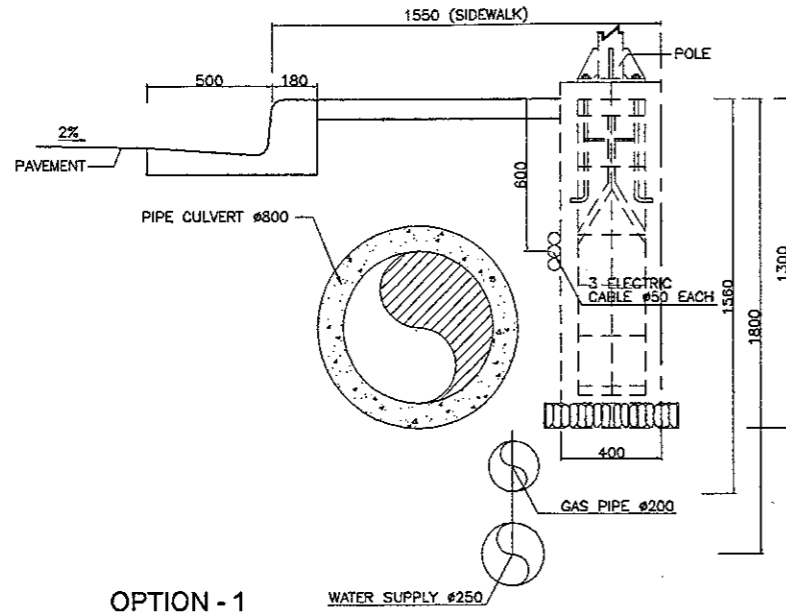
1 PUBLIC UTILITIES UNDER GROUND
 SCALE 1:500

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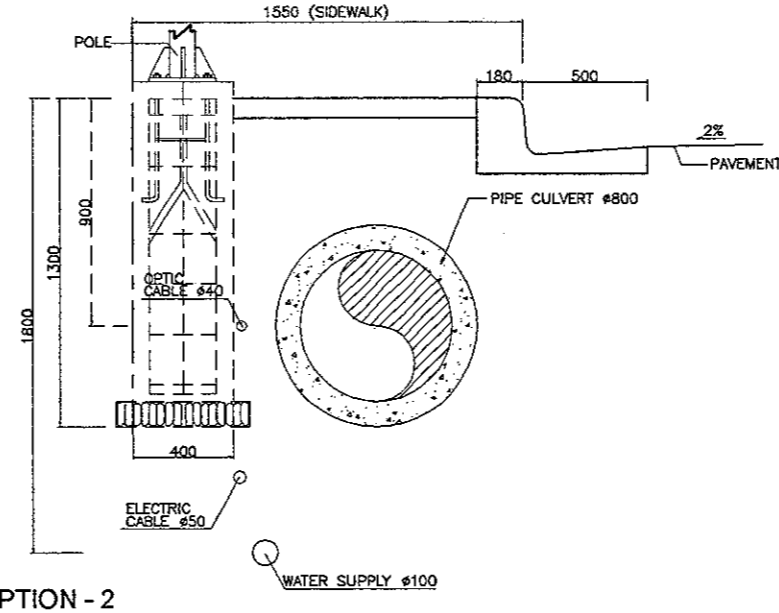


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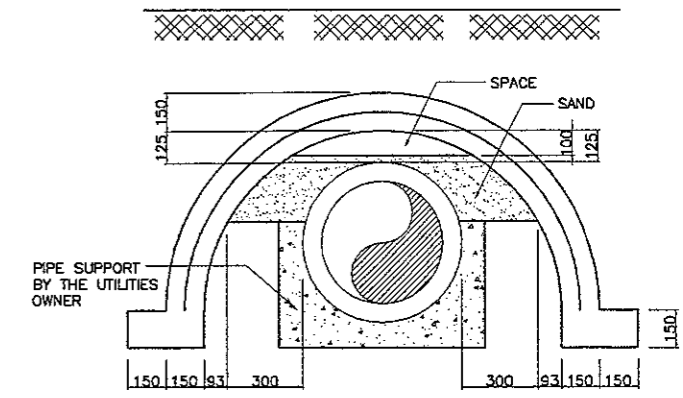
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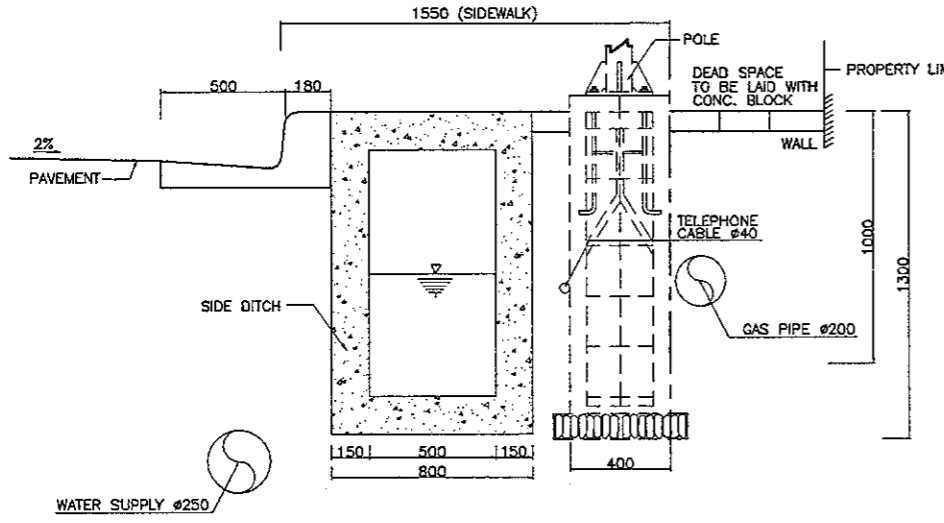
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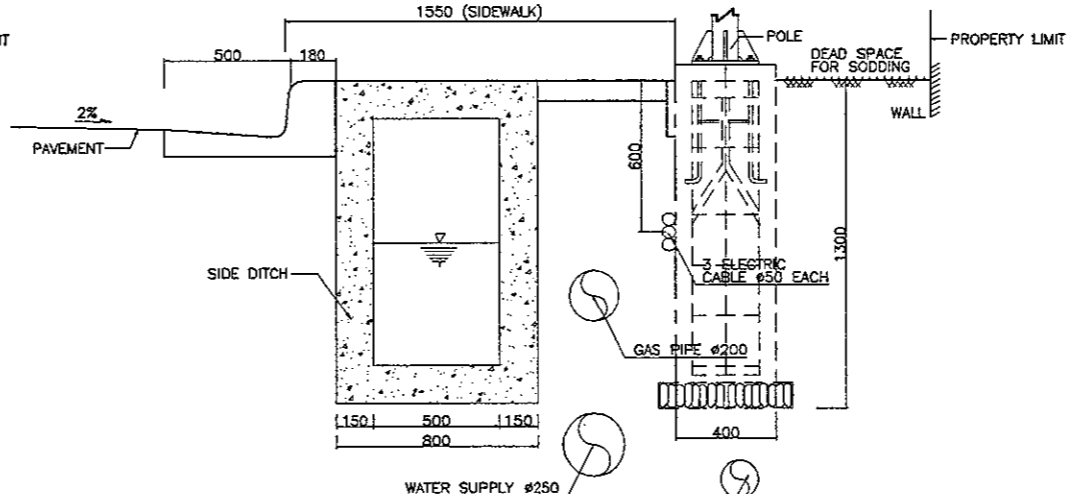
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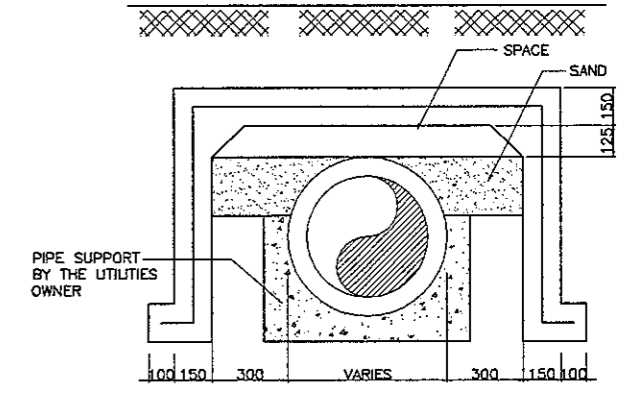
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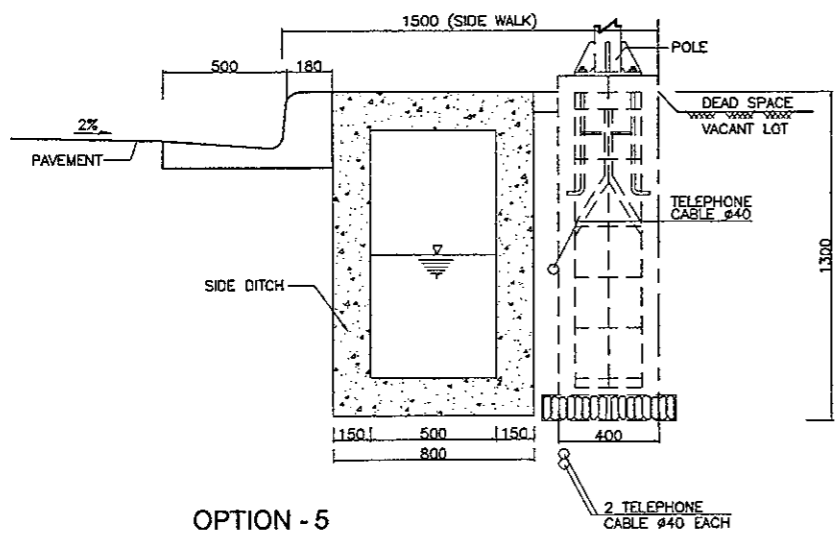
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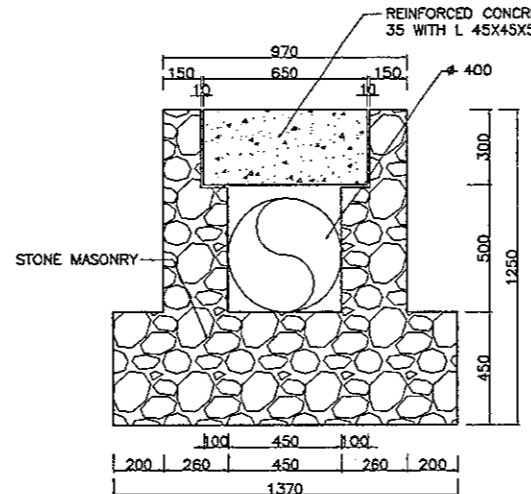
OPTION - 4



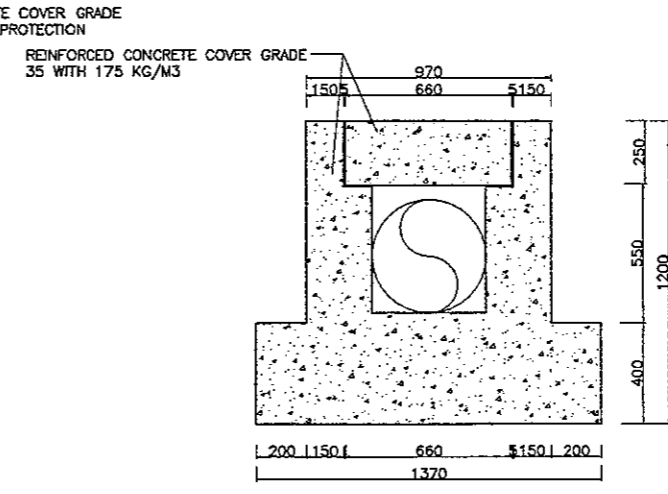
TYPE 2



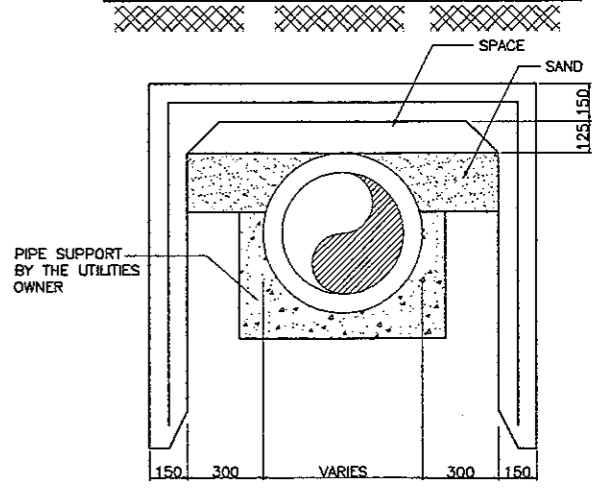
OPTION - 5



TYPE 5



TYPE 4



TYPE 3