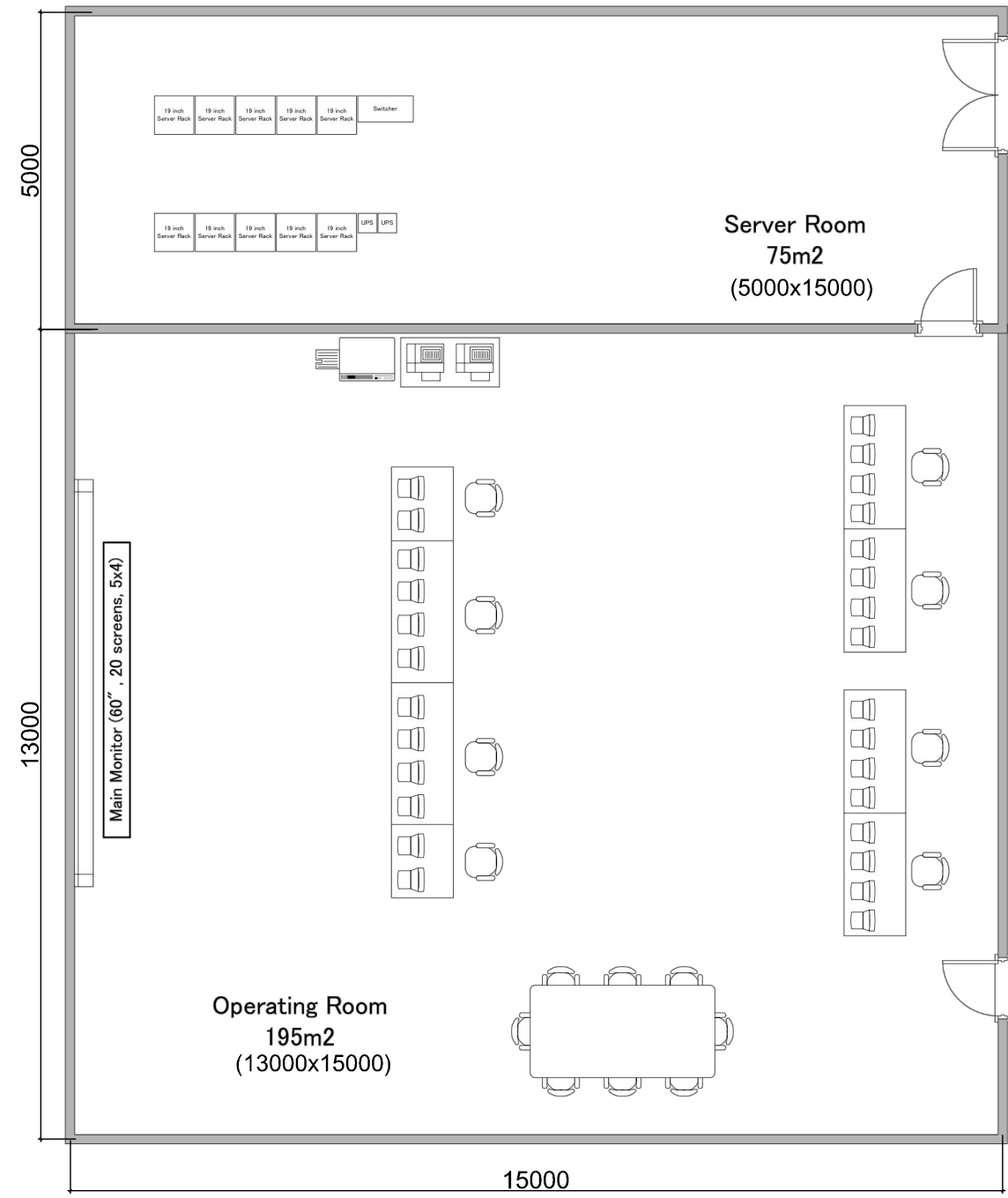
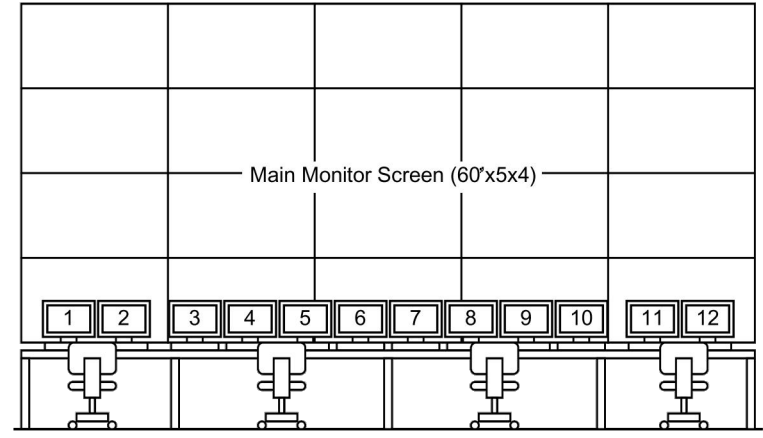


EXTERNAL OUTLINE
OF CENTER & ROADSIDE EQPT.

REGIONAL MAIN CENTER



PLAN OF NORTHERN REGIONAL MAIN CENTER
OPERATING ROOM

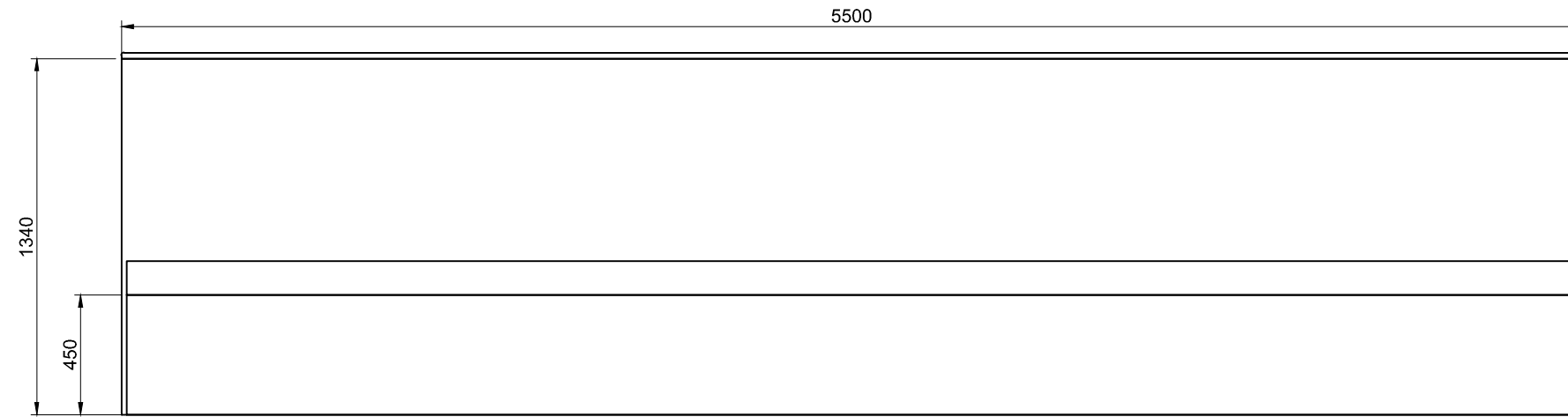


1	Traffic Data Monitor/Input Device
2	Weather Data Monitor/input Device
3	Directive Telephone Console
4	CCTV Control/Monitoring Console
5	Traffic Event Data Console
6	Traffic Supervising/Control Console
7	Directive Telephone Console
8	CCTV Control/Monitoring Console
9	Traffic Event Data Console
10	Traffic Supervising/Control Console
11	VMS Center Controller Monitor/Input Device
12	Traffic Information Monitor/Input Device

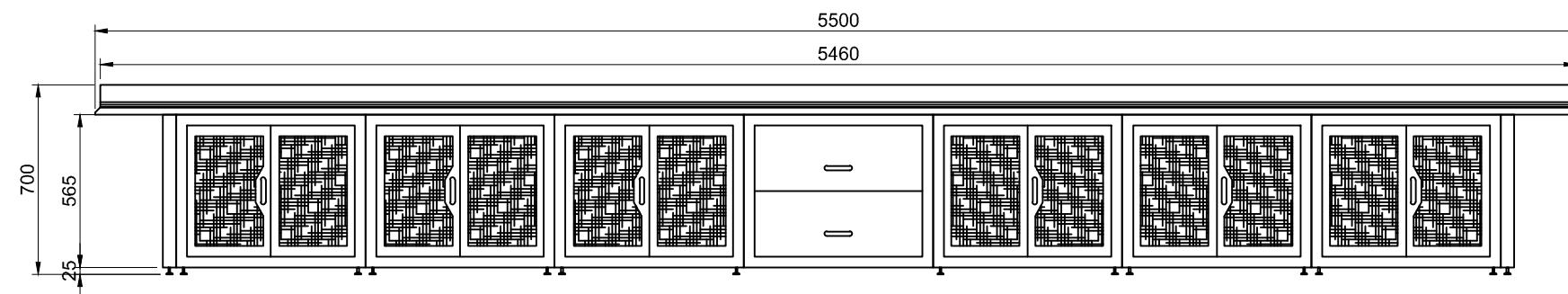
CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM			ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.	TITLE	NAME	SIGNATURE	DATE	MINISTRY OF TRANSPORT			DRAWING TITLE:	DRAWING No.:	
	PREPARED BY							PLAN OF NORTHERN REGIONAL MAIN CENTER FOR REFERENCE		XII.1-01
	CHECKED BY							SHEET No.:	Rev.:	
	APPROVED BY							SCALE: various	Sheet of	

TRAFFIC CONTROL CONSOLE DESK FOR REGIONAL MAIN CENTER

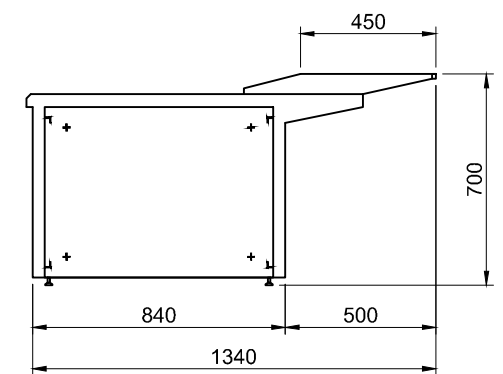
TOP VIEW



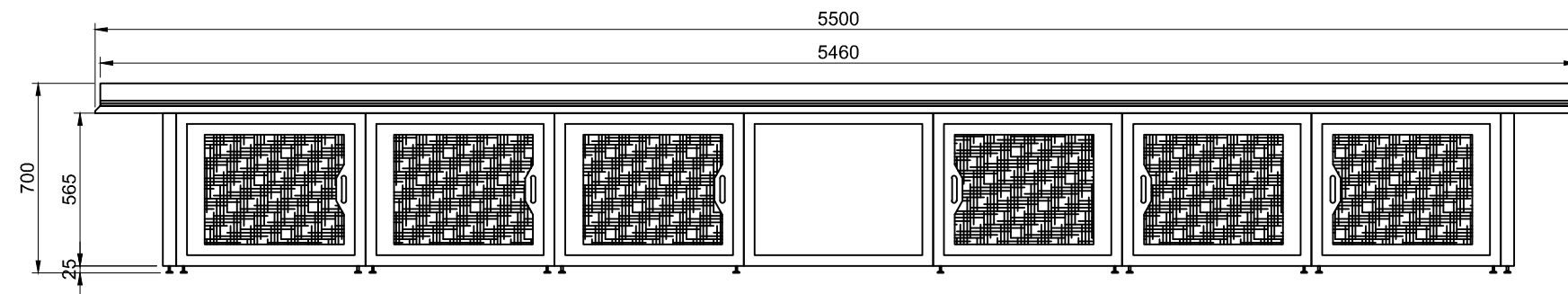
FRONT VIEW



SIDE VIEW



BACK VIEW

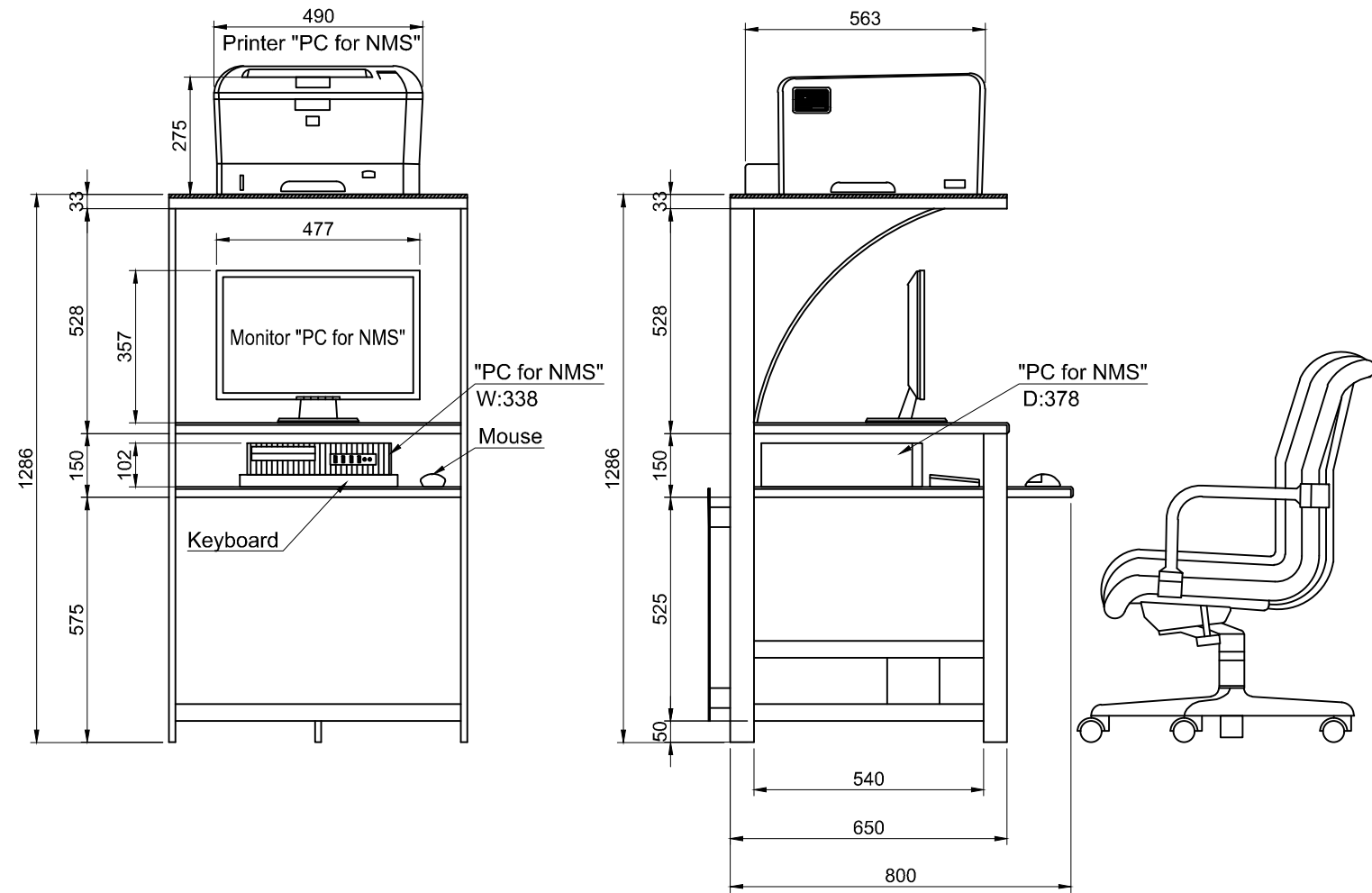


CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM				ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:									
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					MINISTRY OF TRANSPORT				DRAWING TITLE:		TRAFFIC CONTROL CONSOLE DESK FOR REGIONAL MAIN CENTER (FOR REFERENCE)		DRAWING No.: XII.1-02							
									SCALE:		SHEET No.:		Rev:							
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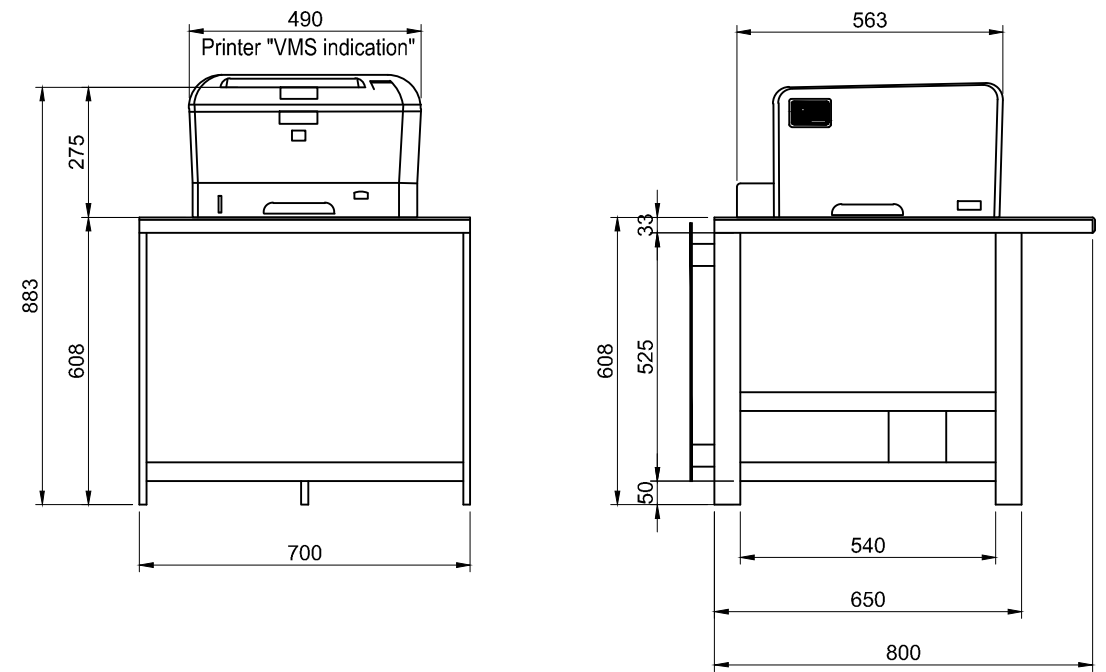
SUB CONSOLE TABLE AND PRINTER TABLE

(FOR REFERENCE)

SUB CONSOLE TABLE

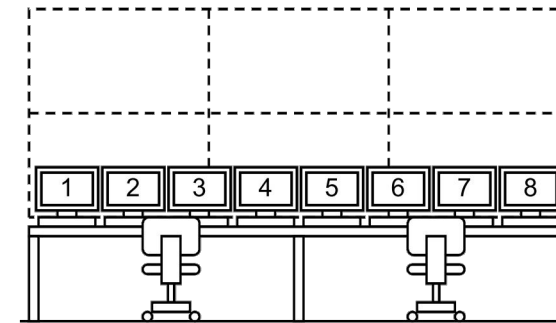
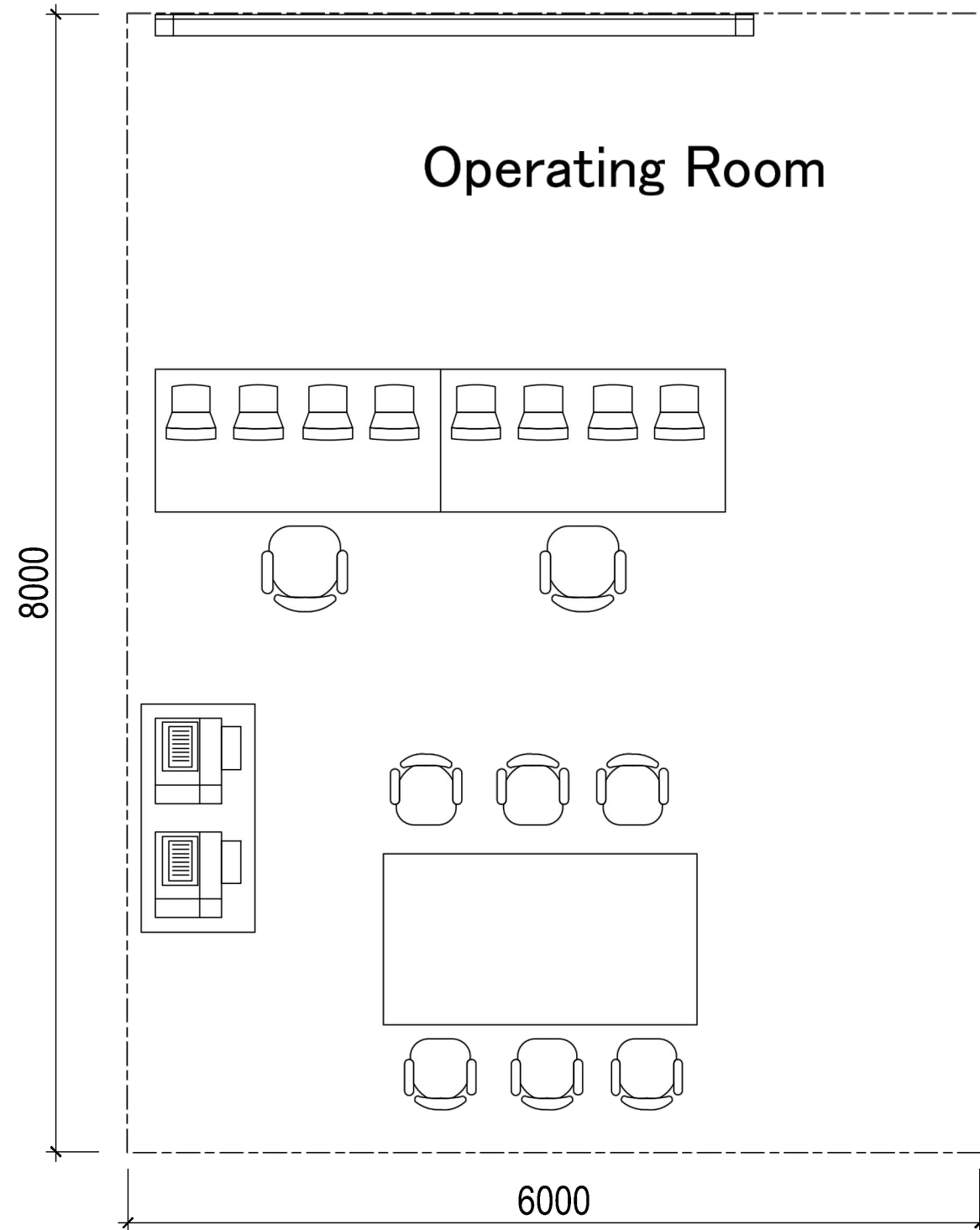


PRINTER TABLE



CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM					ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM			PACKAGE:			
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					MINISTRY OF TRANSPORT					DRAWING TITLE:			DRAWING No.:			
										SUB CONSOLE TABLE AND PRINTER TABLE (FOR REFERENCE)			XII.1-03			
										SCALE:			SHEET No.:		Rev.:	
													Sheet		of	

ROAD MANAGEMENT OFFICE

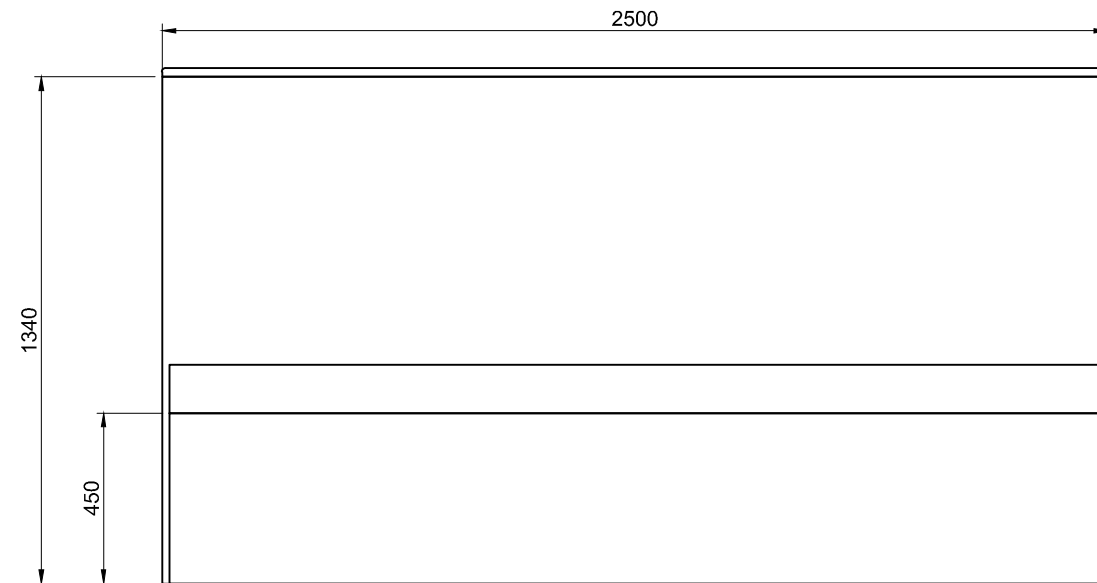


1	Mobile Communication Control Console
2	CCTV Control/Monitoring Console
3	Traffic Event Data Console
4	VMS Controller Monitor/Input Device
5	Mobile Communication Control Console
6	CCTV Control/Monitoring Console
7	Traffic Event Data Console
8	VMS Controller Monitor/Input Device

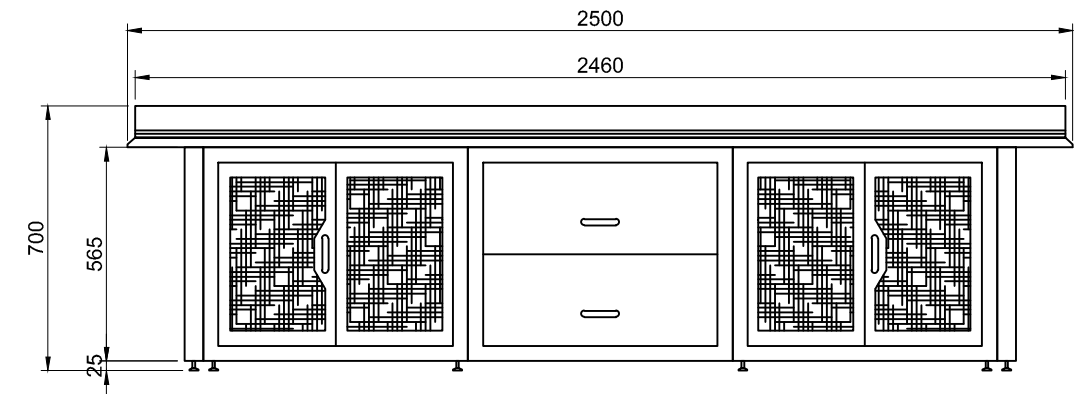
CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM			ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.	TITLE	NAME	SIGNATURE	DATE	MINISTRY OF TRANSPORT	DRAWING TITLE: PLAN OF ROAD MANAGEMENT OFFICE FOR REFERENCE	SCALE: various	DRAWING No.: XII.1-04		
	PREPARED BY							SHEET No.:		
	CHECKED BY							Sheet	of	Rev.
	APPROVED BY									

TRAFFIC CONTROL CONSOLE DESK FOR ROAD MANAGEMENT OFFICE

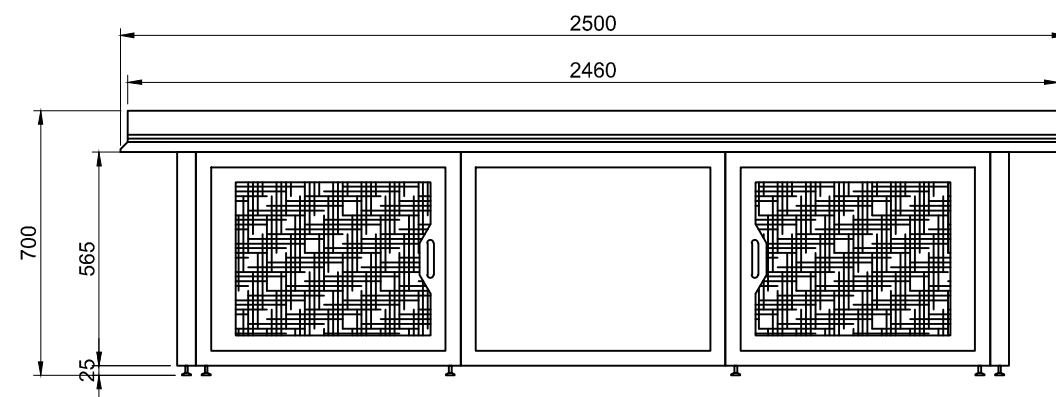
TOP VIEW



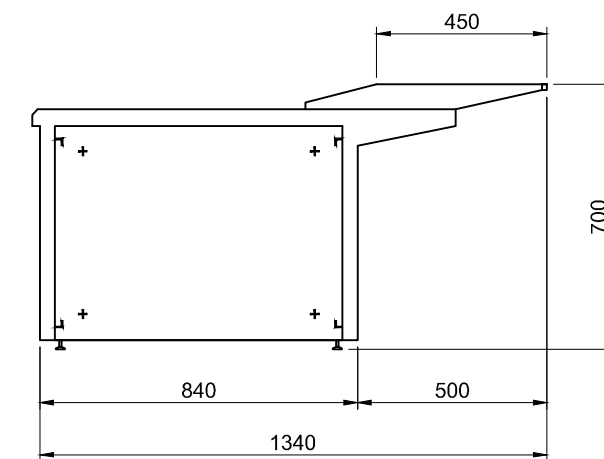
FRONT VIEW



BACK VIEW



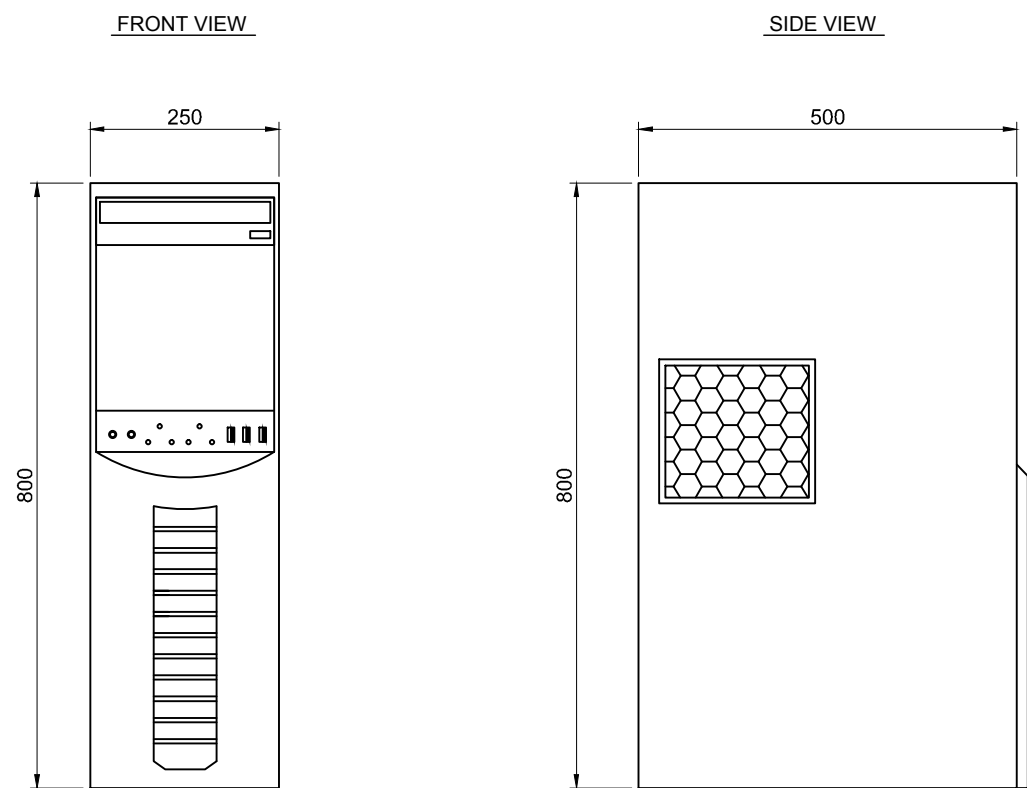
SIDE VIEW



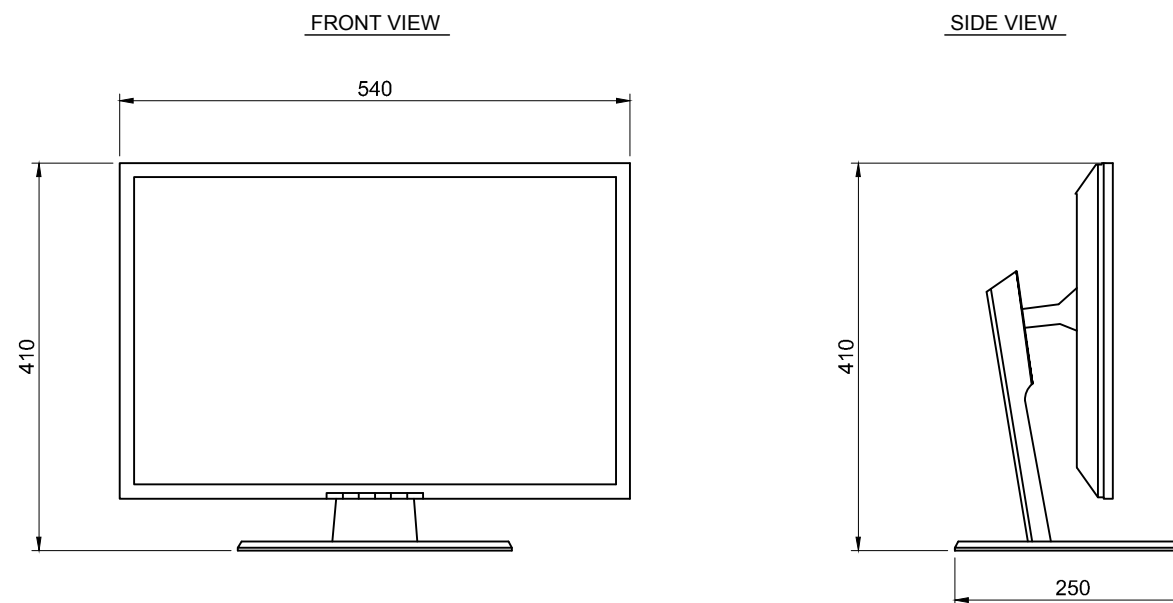
CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM			ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		<small>PACKAGE:</small>	
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					MINISTRY OF TRANSPORT			<small>DRAWING TITLE:</small>		TRAFFIC CONTROL CONSOLE DESK FOR ROAD MANAGEMENT OFFICE (FOR REFERENCE)	
								<small>SCALE:</small>		<small>DRAWING No.:</small> XII.1-05	
								<small>SHEET No.:</small>		<small>Rev.:</small>	
								<small>Sheet</small>		<small>of</small>	

DATA SERVER, MONITOR SCREEN AND MONITOR CONTROLLER

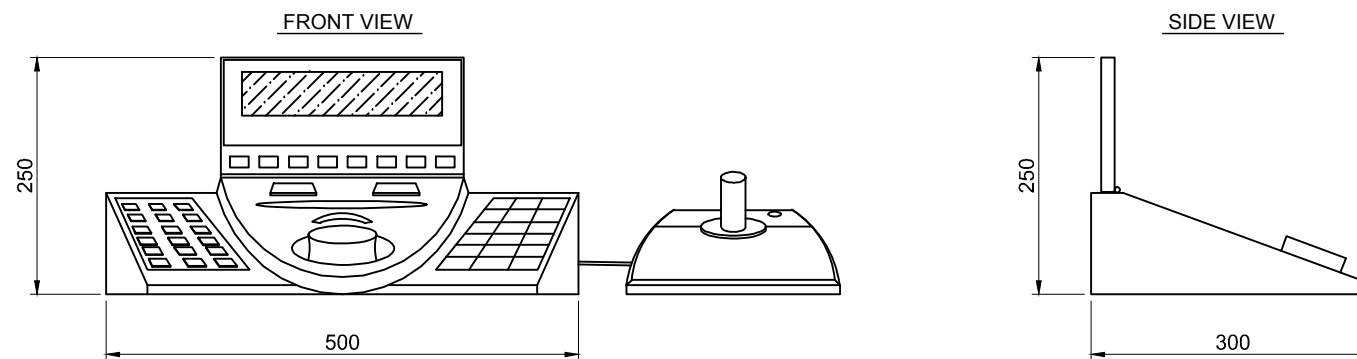
DATA SERVER



MONITOR SCREEN

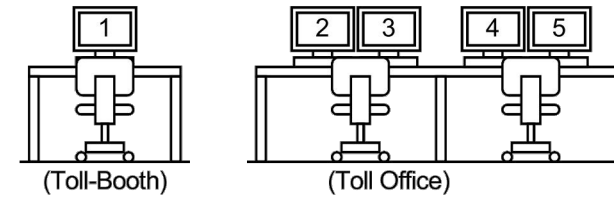
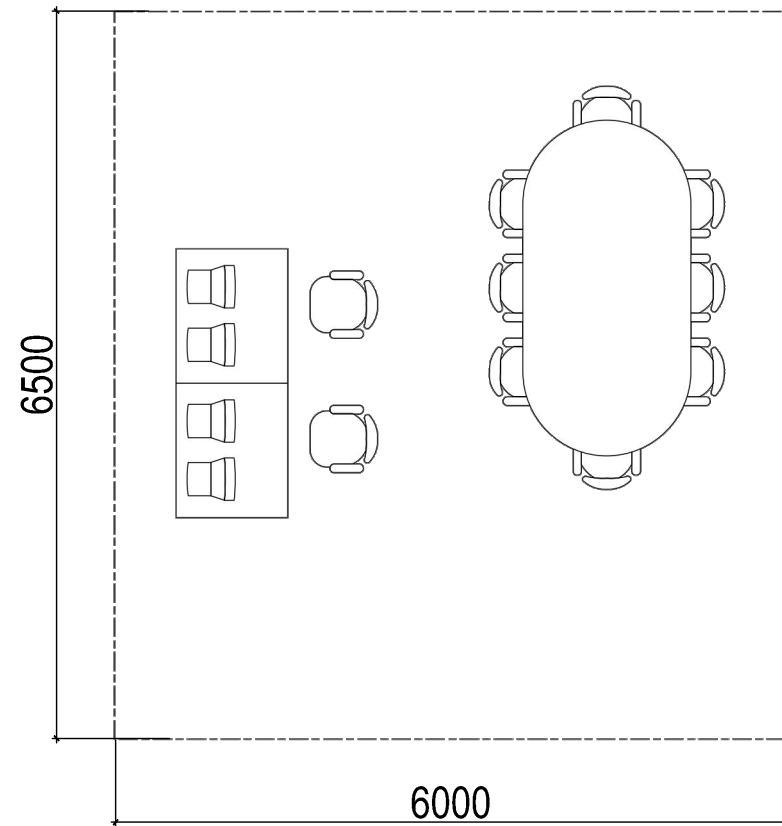


MONITOR CONTROLLER



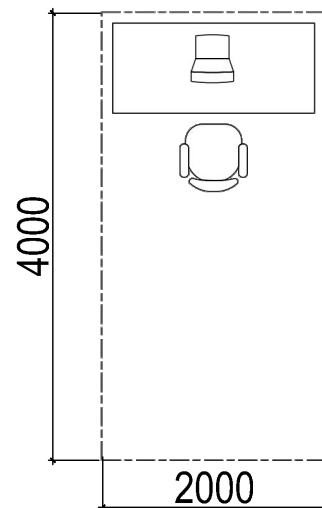
CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM			ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		<small>PACKAGE:</small>	
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.	<small>TITLE</small>	<small>NAME</small>	<small>SIGNATURE</small>	<small>DATE</small>	MINISTRY OF TRANSPORT			<small>DRAWING TITLE:</small>		<small>DRAWING No.:</small>	
	<small>PREPARED BY</small>							DATA SERVER, MONITOR SCREEN AND MONITOR CONTROL		XII.1-06	
	<small>CHECKED BY</small>							<small>SCALE:</small>		<small>SHEET No.:</small>	<small>Rev.:</small>
	<small>APPROVED BY</small>							Sheet	of		

Toll Office



1	Toll Data Input Console
2	Toll Management Monitor/Input Device
3	CCTV Monitoring Console
4	Heavy Truck Control Data Server Monitor/Input Device
5	CCTV Monitoring Console

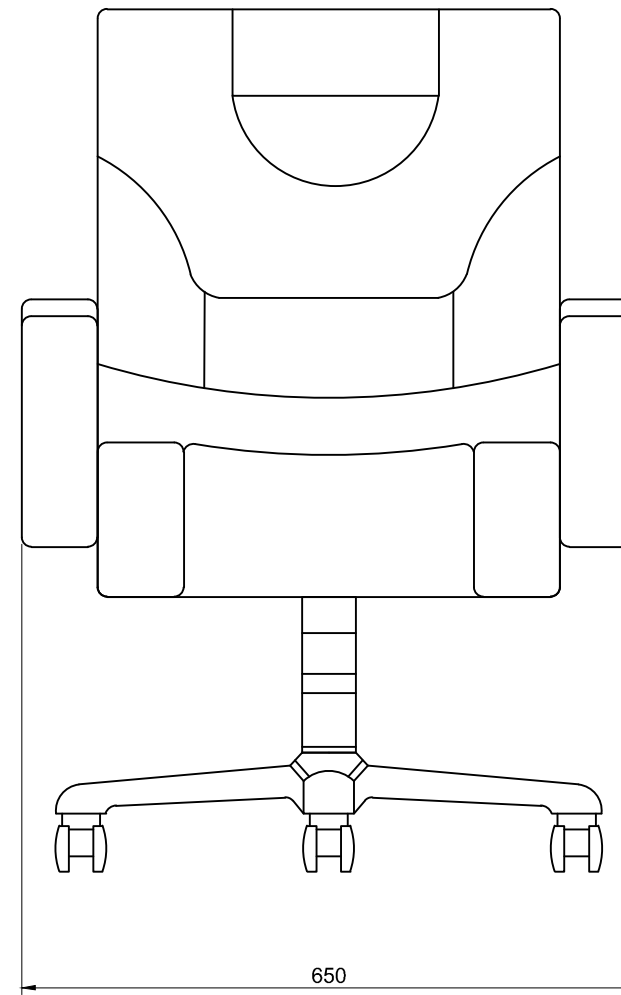
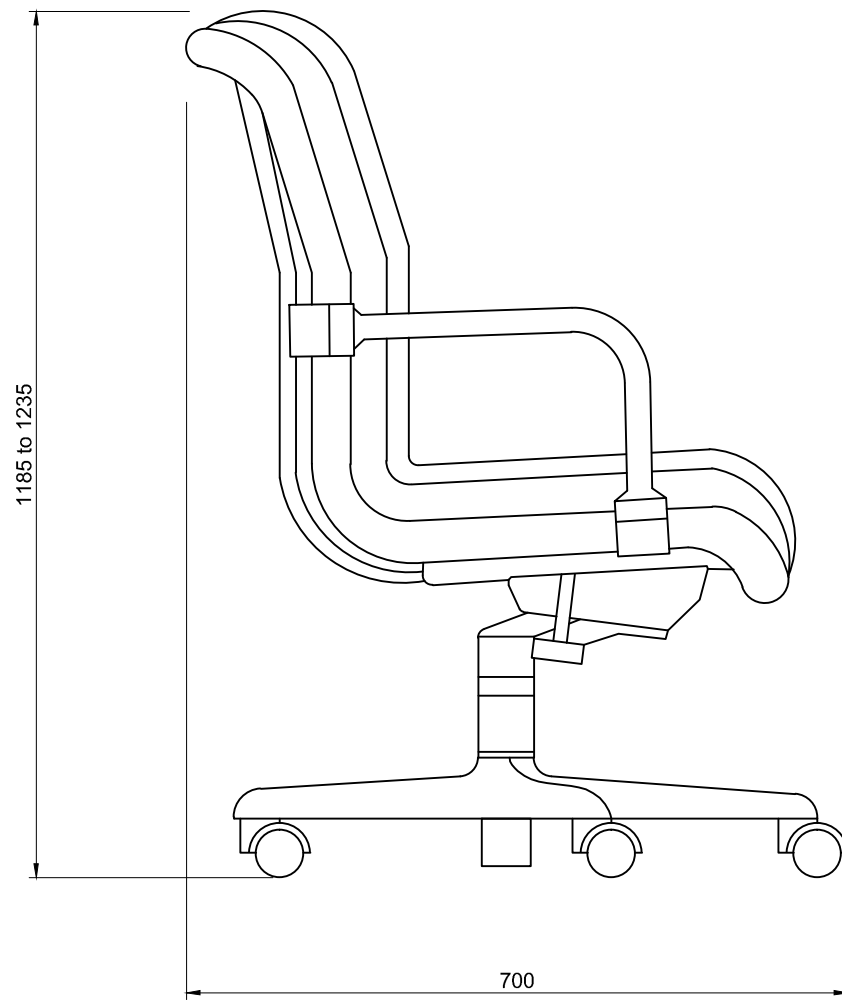
Toll Booth



CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM			ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:	
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.	TITLE	NAME	SIGNATURE	DATE	MINISTRY OF TRANSPORT			DRAWING TITLE:		DRAWING No.:	
	PREPARED BY							PLAN OF TOLL OFFICE AND TOLL BOOTH FOR REFERENCE		XII.1-07	
	CHECKED BY									SHEET No.:	Rev.:
	APPROVED BY									SCALE: various	Sheet of

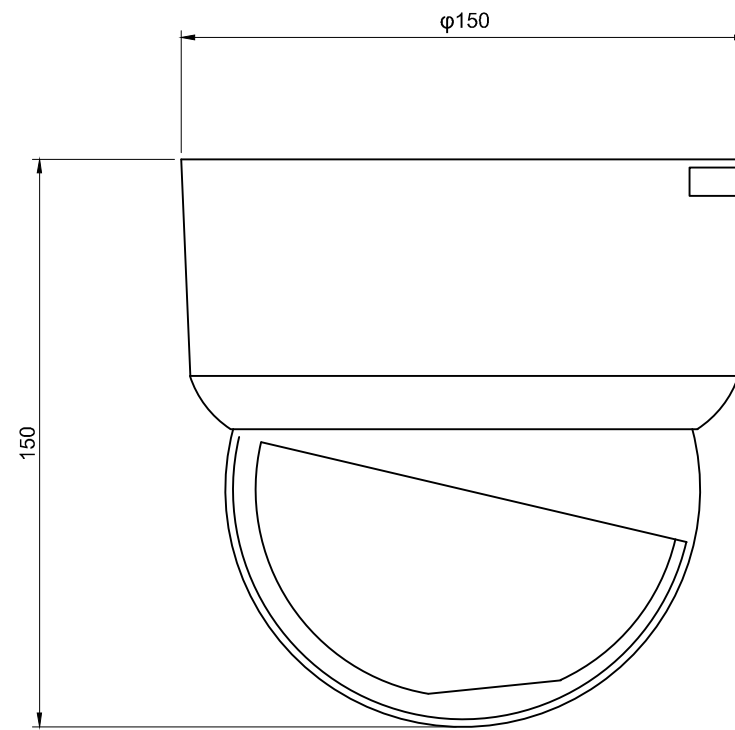
TRAFFIC CONTROL CONSOLE CHAIR

(FOR REFERENCE)



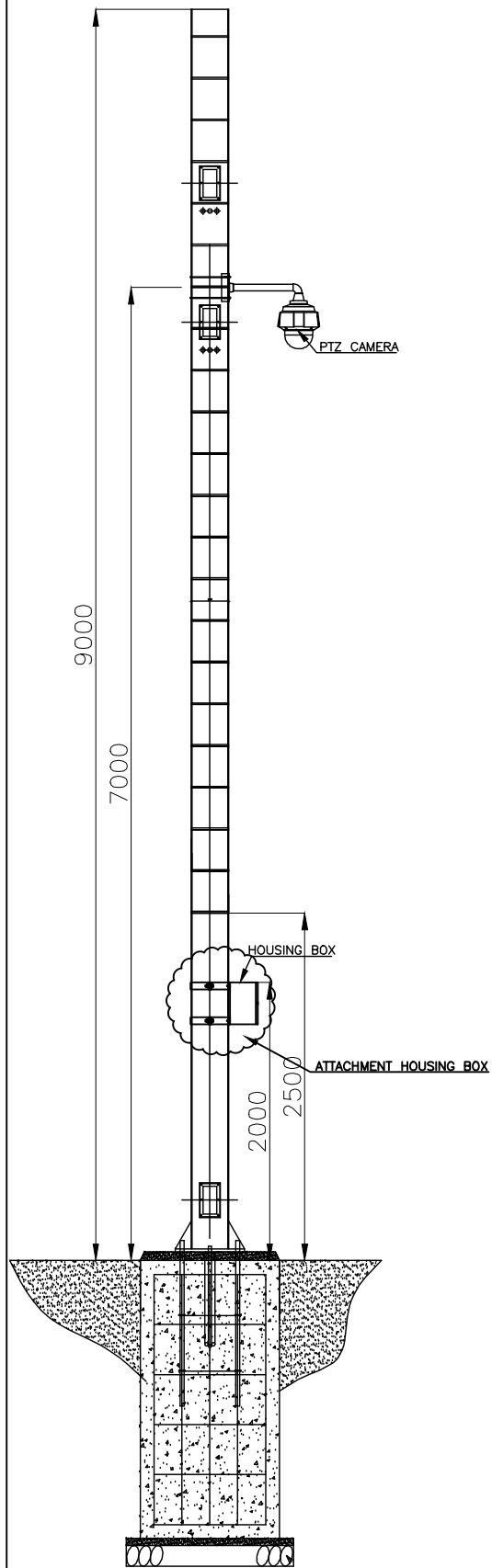
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								<small>SCALE:</small>		<small>SHEET No.:</small>	<small>Rev.:</small>	
								Sheet		of		

CAMERA

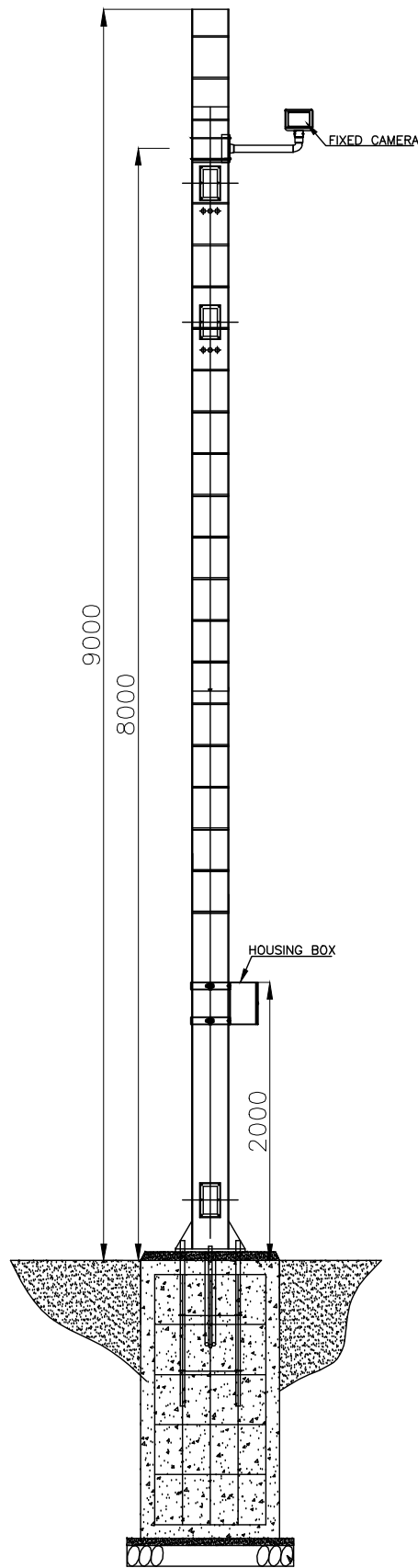


CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM			ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		<small>PACKAGE:</small>	
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					<small>TITLE</small>	<small>NAME</small>	<small>SIGNATURE</small>	<small>DATE</small>	MINISTRY OF TRANSPORT		<small>DRAWING No.:</small>
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					<small>CHECKED BY</small>				<small>SCALE:</small>	<small>SHEET No.:</small>	<small>Rev.:</small>
					<small>APPROVED BY</small>				Sheet	of	

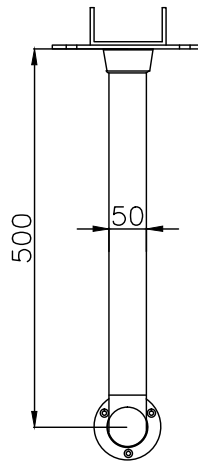
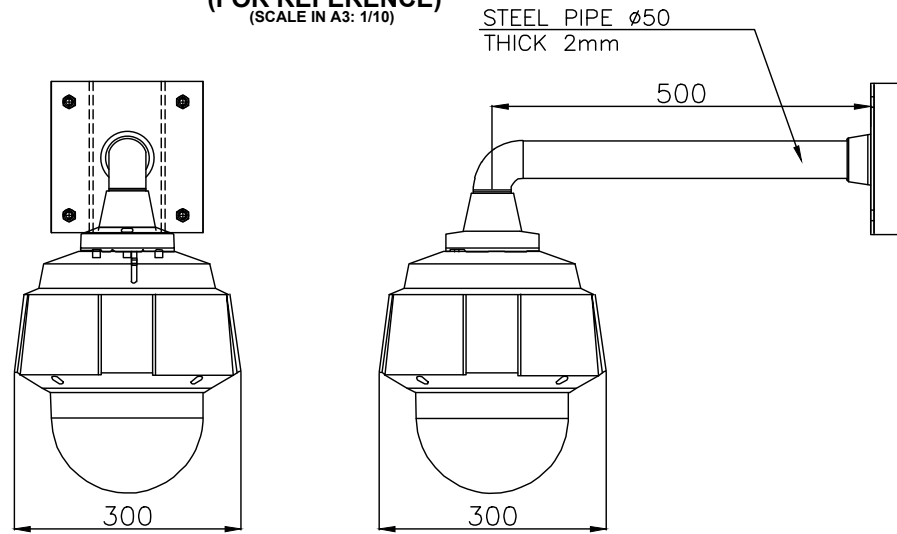
INSTALLATION OF PTZ CAMERA (FOR REFERENCE)
(SCALE IN A3: 1/50)



INSTALLATION OF FIXED CAMERA (FOR REFERENCE)
(SCALE IN A3: 1/50)

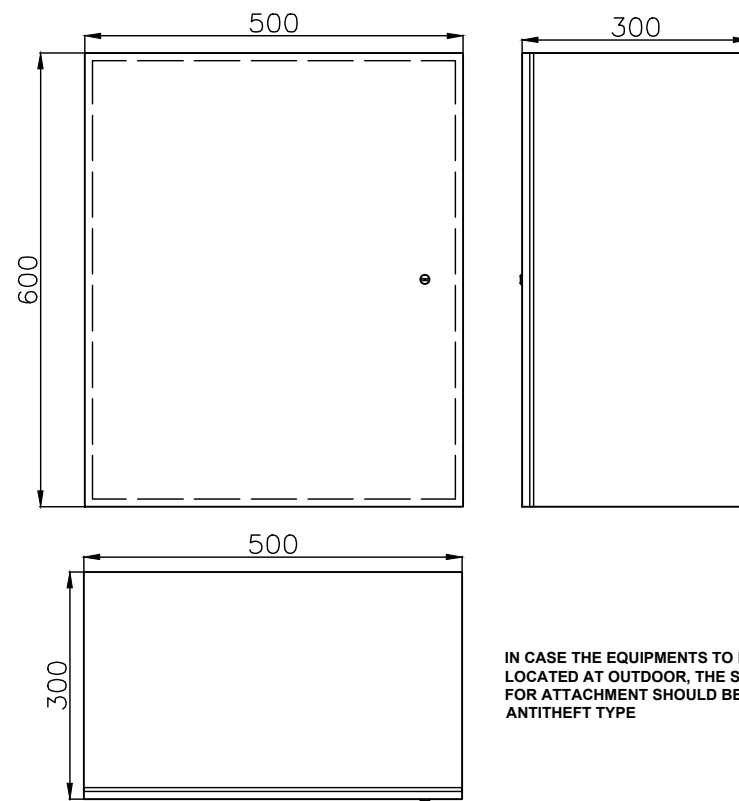


PTZ CAMERA (FOR REFERENCE)
(SCALE IN A3: 1/10)



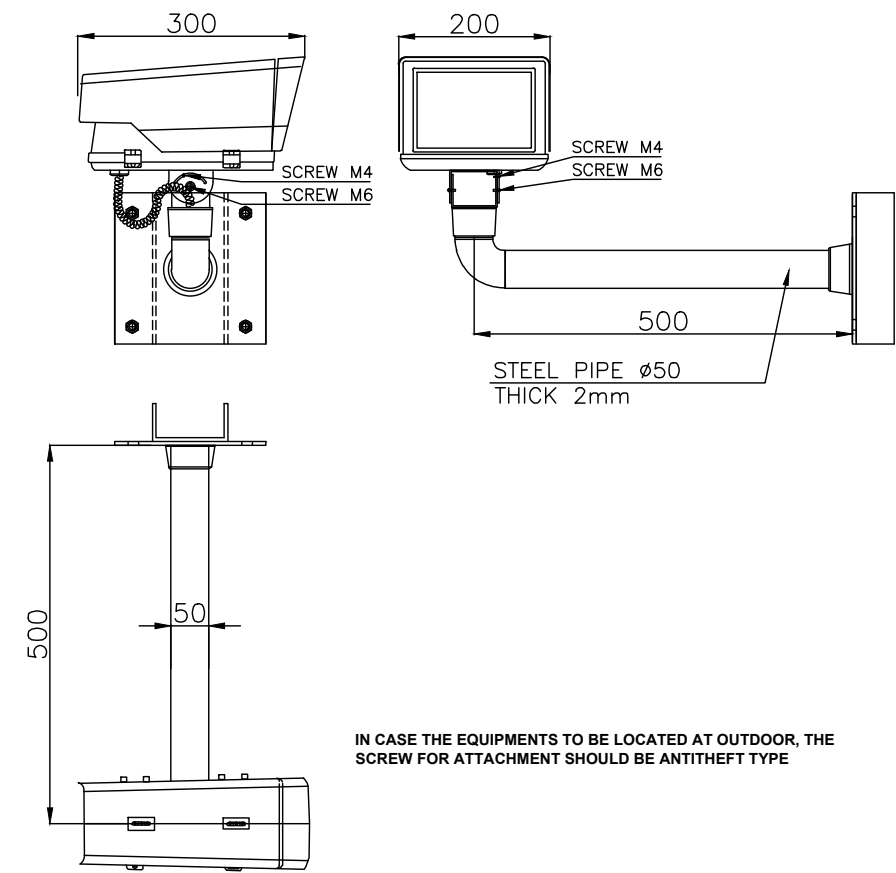
IN CASE THE EQUIPMENTS TO BE LOCATED AT OUTDOOR, THE SCREW FOR ATTACHMENT SHOULD BE ANTITHEFT TYPE

HOUSING BOX (FOR REFERENCE)
(SCALE IN A3: 1/10)



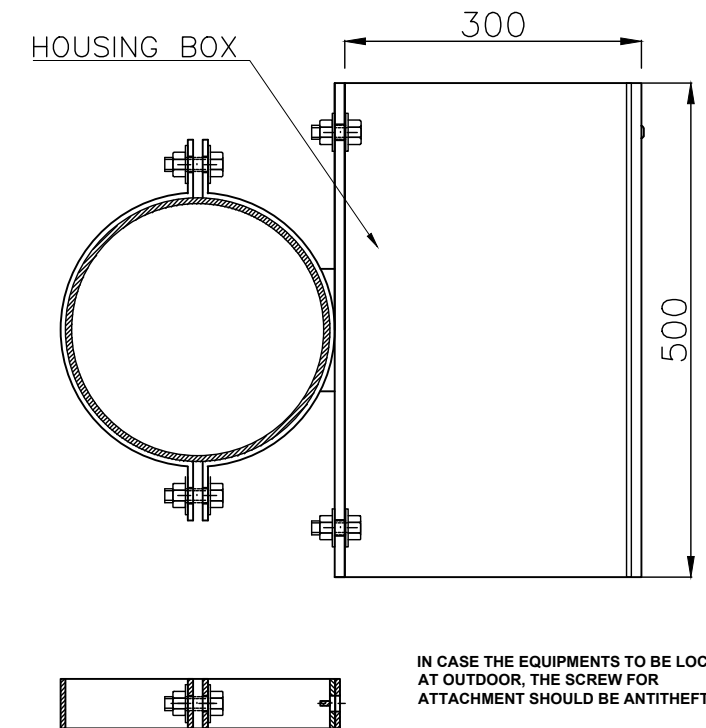
IN CASE THE EQUIPMENTS TO BE LOCATED AT OUTDOOR, THE SCREW FOR ATTACHMENT SHOULD BE ANTITHEFT TYPE

FIXED CAMERA (FOR REFERENCE)
(SCALE IN A3: 1/10)



IN CASE THE EQUIPMENTS TO BE LOCATED AT OUTDOOR, THE SCREW FOR ATTACHMENT SHOULD BE ANTITHEFT TYPE

ATTACHMENT HOUSING BOX (FOR REFERENCE)
(SCALE IN A3: 1/10)



IN CASE THE EQUIPMENTS TO BE LOCATED AT OUTDOOR, THE SCREW FOR ATTACHMENT SHOULD BE ANTITHEFT TYPE

CONSULTANT

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ABEAM CONSULTING LTD.

TITLE	NAME	SIGNATURE	DATE
PREPARED BY			
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APPROVED BY			

SOCIALIST REPUBLIC OF VIETNAM

MINISTRY OF TRANSPORT

ITS INTEGRATION PROJECT
IN NORTHERN AREA OF VIETNAM

DRAWING TITLE:
EXTERNAL OUTLINES OF PTZ CAMERA/ FIXED CAMERA/ HOUSING BOX

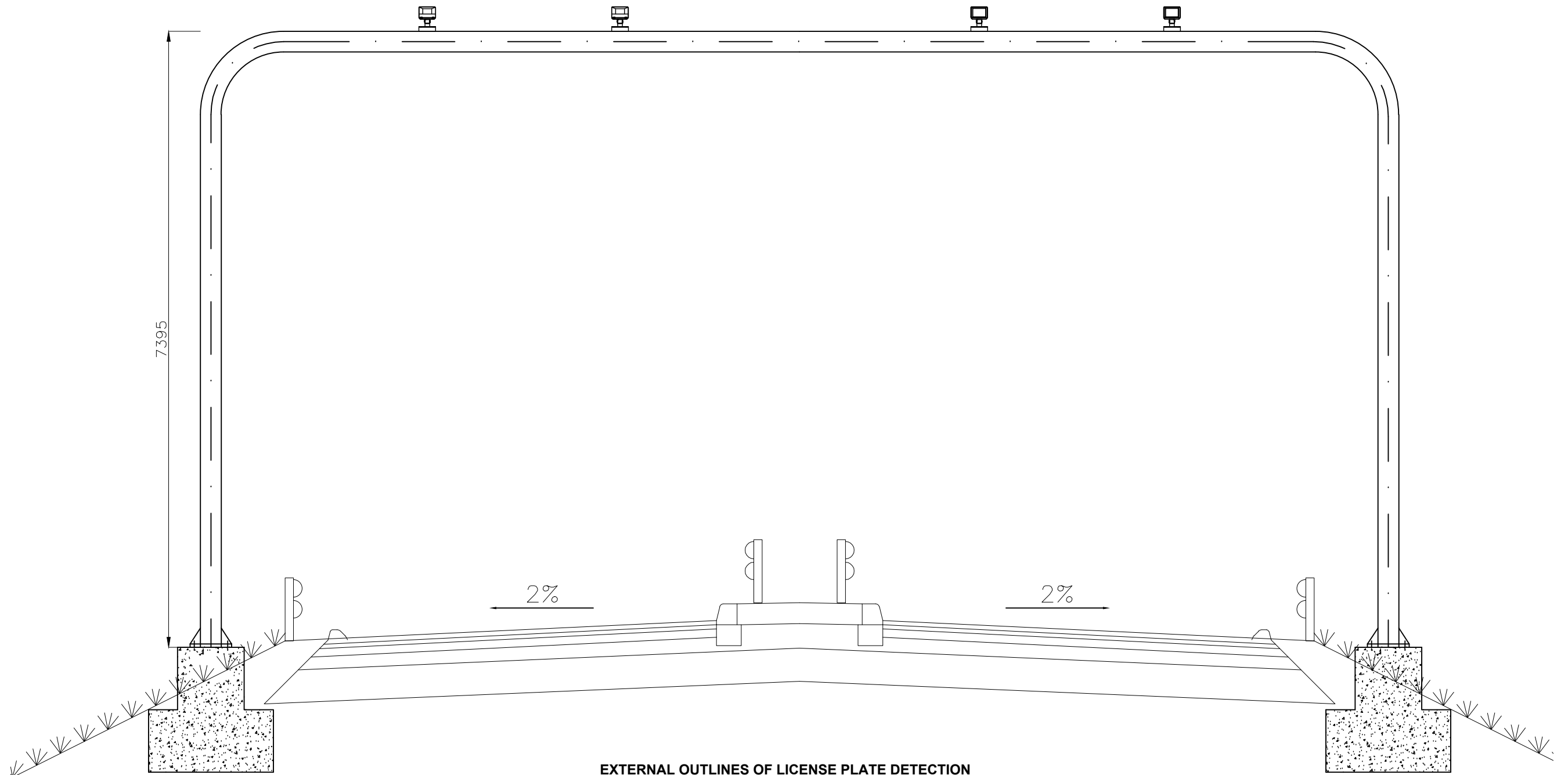
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PACKAGE:

DRAWING No.:
XII.1-10

SHEET No.:
Sheet of

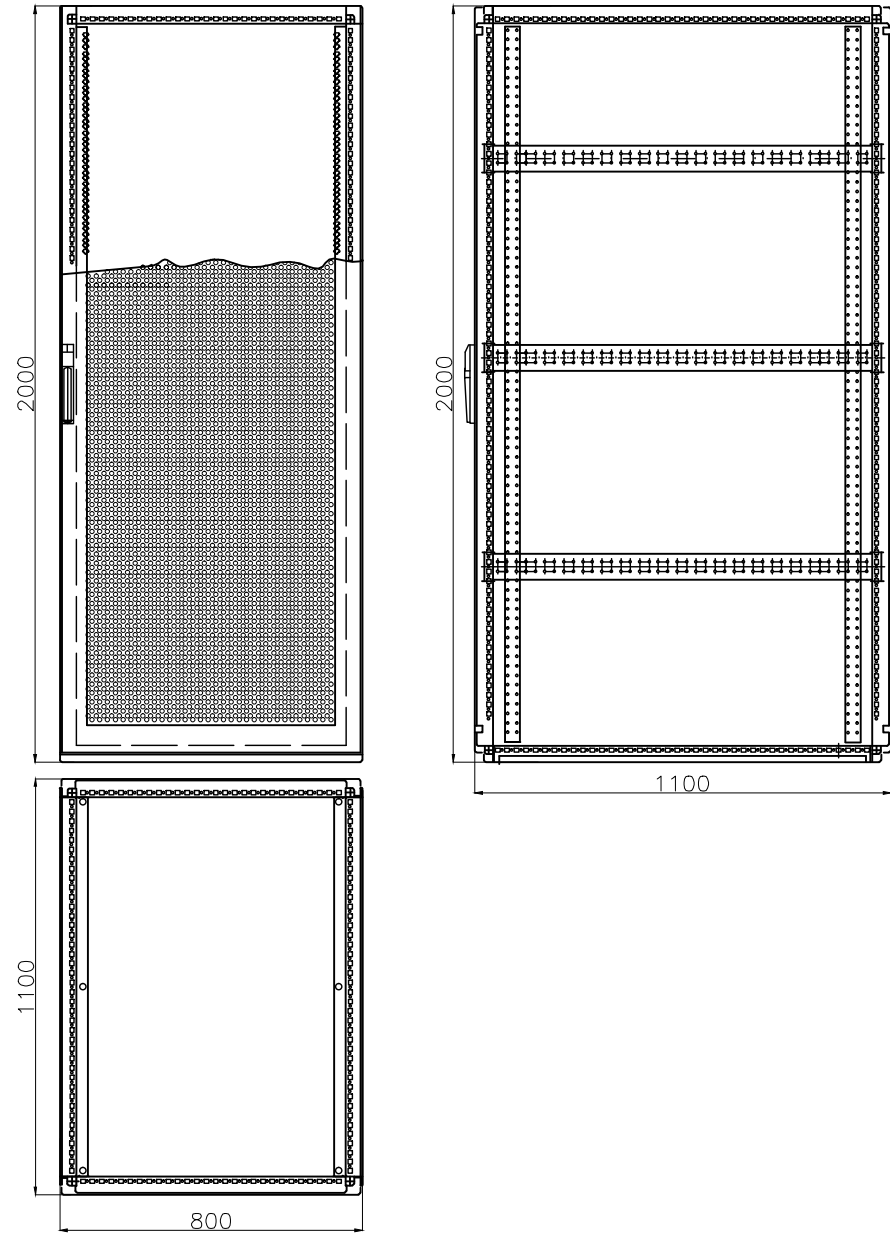
Rev.



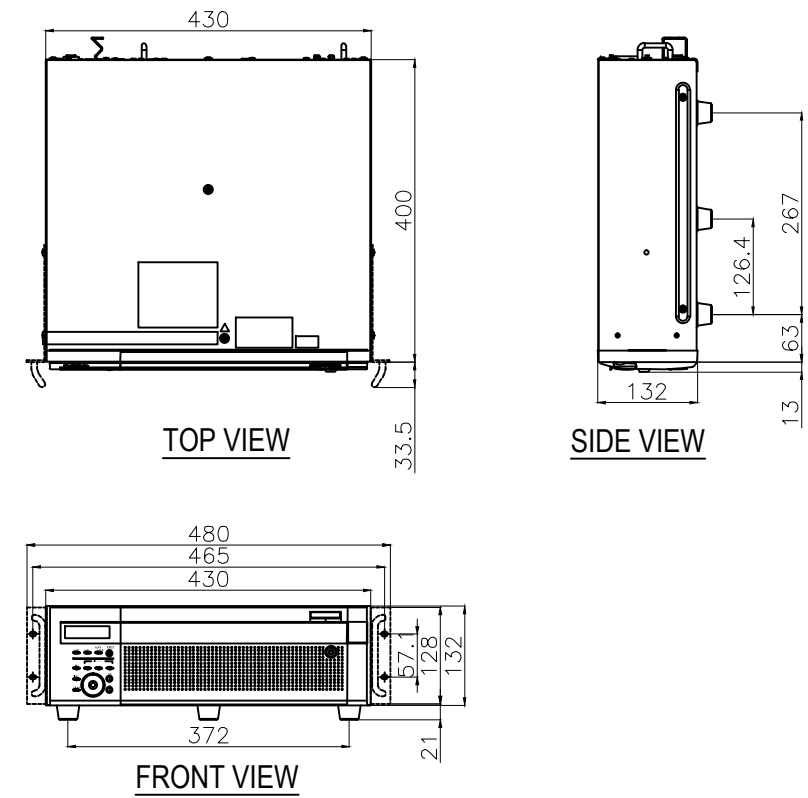
EXTERNAL OUTLINES OF LICENSE PLATE DETECTION
(SCALE IN A3: 1/50)

CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM			ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:		
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					MINISTRY OF TRANSPORT			DRAWING TITLE:		DRAWING No.:		
								EXTERNAL OUTLINES OF LICENSE PLATE DETECTION		XII.1-11		
								SCALE: 1/50		SHEET No.:		Rev:
										Sheet		of

**SERVER LACK
(FOR REFERENCE)**
(SCALE IN A3: 1/20)



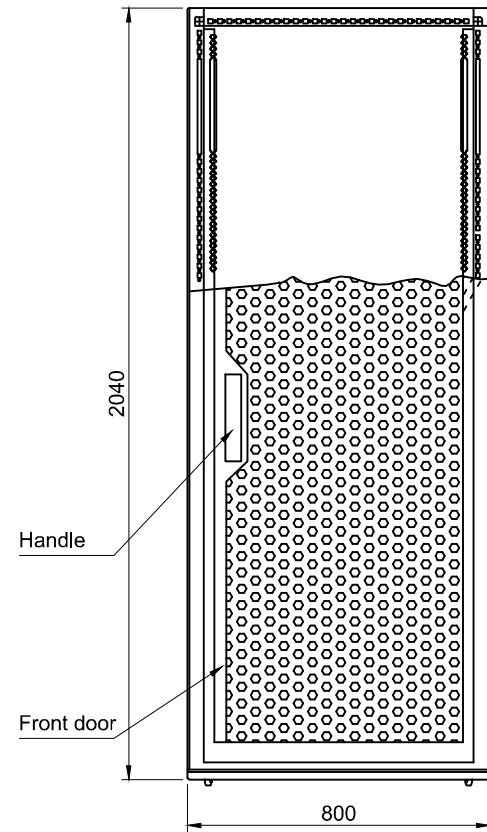
**NETWORK VIDEO RECORDER
(FOR REFERENCE)**
(SCALE IN A3: 1/10)



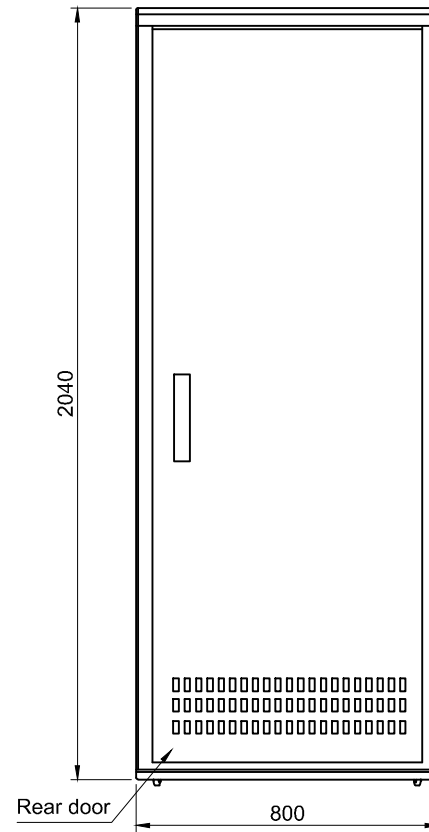
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ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.	TITLE	NAME	SIGNATURE	DATE	MINISTRY OF TRANSPORT			DRAWING TITLE: EXTERNAL OUTLINES OF NETWORK VIDEO RECORDER/ SERVER LACK (1)		DRAWING No.: XII.1-12	
	PREPARED BY							SCALE:		SHEET No.:	Rev.:
	CHECKED BY							Sheet	of		
	APPROVED BY										

Equipment 19-inch Rack

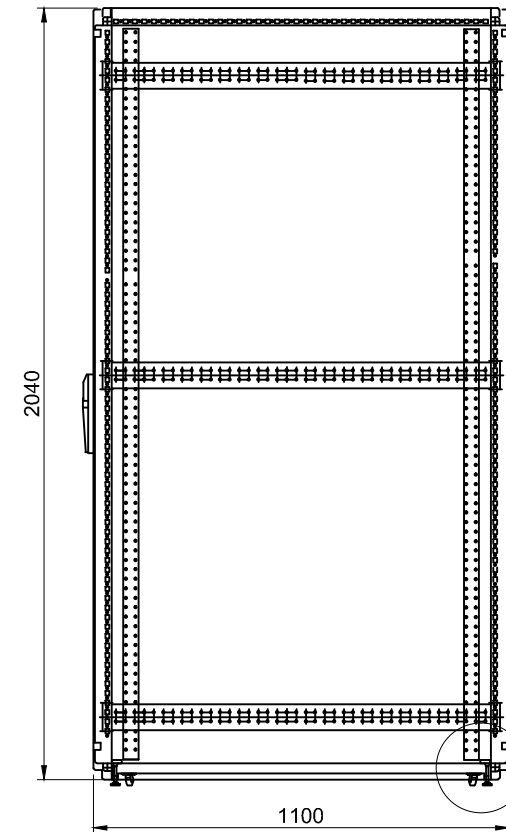
FRONT VIEW



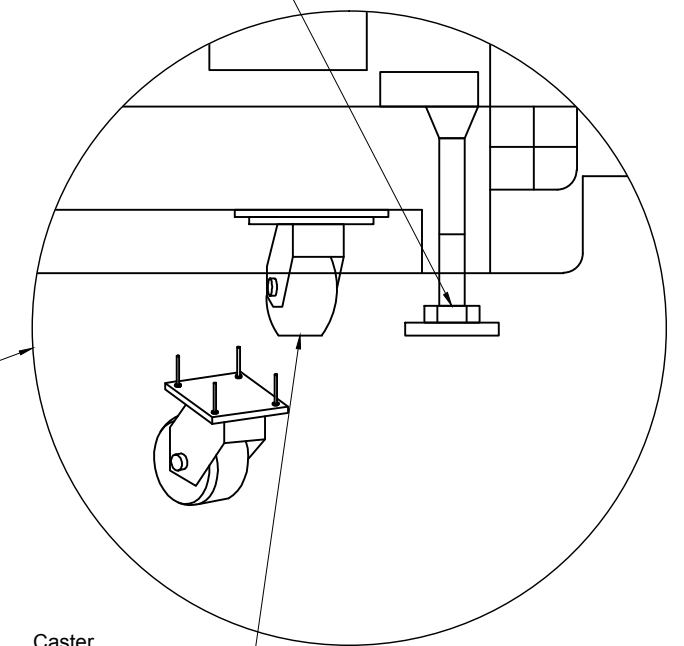
BACK VIEW



SIDE VIEW (PLATE OPENING)

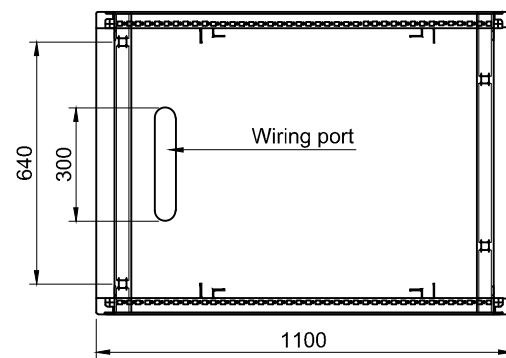


Adjustable feet
(for fixation of the rack)

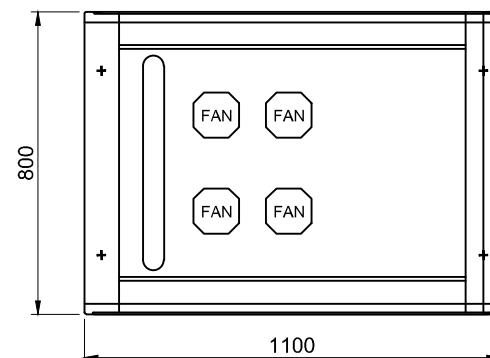


Caster
(for moving the rack)

BOTTOM VIEW



TOP VIEW



CONSULTANT

SOCIALIST REPUBLIC OF VIETNAM

ITS INTEGRATION PROJECT
IN NORTHERN AREA OF VIETNAM

PACKAGE:

ORIENTAL CONSULTANTS GLOBAL CO., LTD
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TRANSPORTATION RESEARCH INSTITUTE CO., LTD
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MINISTRY OF TRANSPORT

DRAWING TITLE:

**EXTERNAL OUTLINES OF NETWORK
VIDEO RECORDER/ SERVER LACK (2)**

DRAWING No.:

XII.1-13

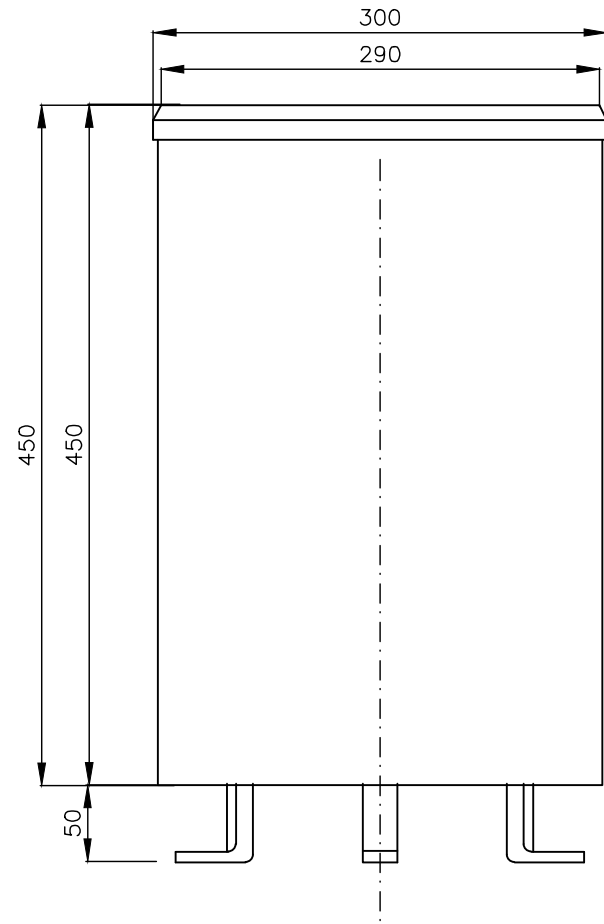
SHEET No.:

Rev.:

SCALE:

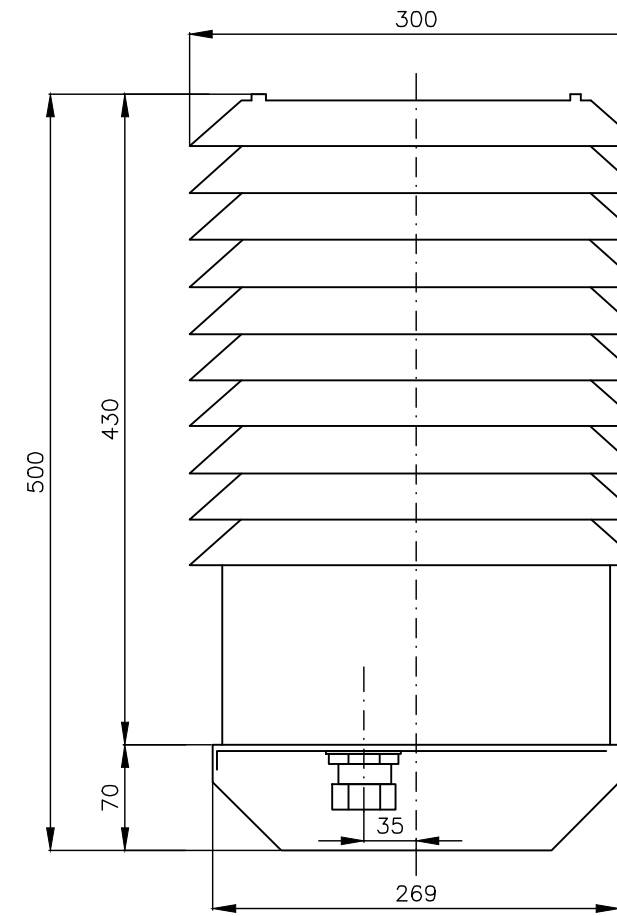
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**RAIN - GAUGE
(FOR REFERENCE)**
(SCALE IN A3: 1/5)



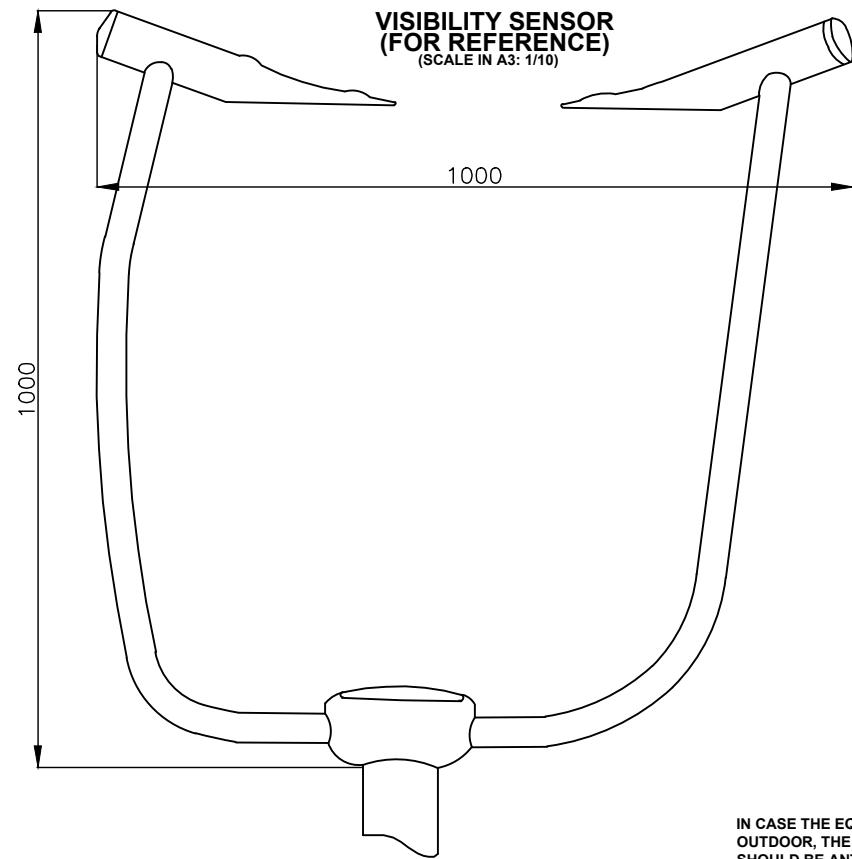
IN CASE THE EQUIPMENTS TO BE LOCATED AT OUTDOOR, THE SCREW FOR ATTACHMENT SHOULD BE ANTITHEFT TYPE

**THERMOMETER
(FOR REFERENCE)**
(SCALE IN A3: 1/5)



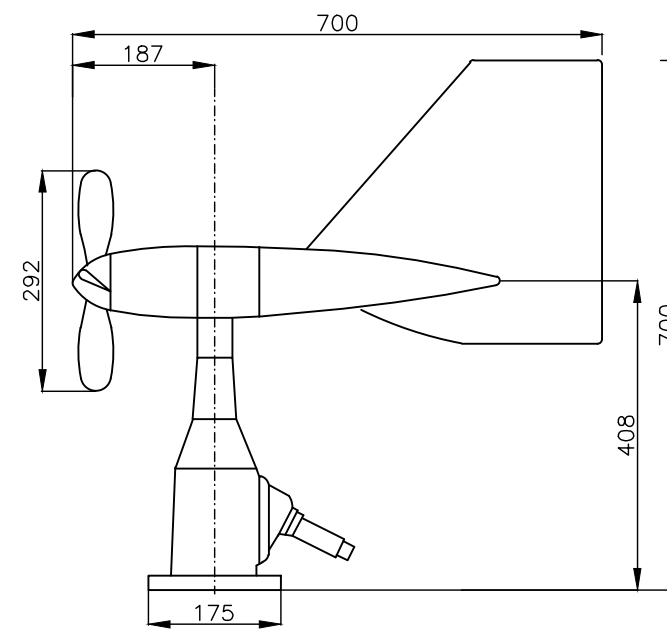
IN CASE THE EQUIPMENTS TO BE LOCATED AT OUTDOOR, THE SCREW FOR ATTACHMENT SHOULD BE ANTITHEFT TYPE

**VISIBILITY SENSOR
(FOR REFERENCE)**
(SCALE IN A3: 1/10)



IN CASE THE EQUIPMENTS TO BE LOCATED AT OUTDOOR, THE SCREW FOR ATTACHMENT SHOULD BE ANTITHEFT TYPE

**WIND SENSOR
(FOR REFERENCE)**
(SCALE IN A3: 1/10)



IN CASE THE EQUIPMENTS TO BE LOCATED AT OUTDOOR, THE SCREW FOR ATTACHMENT SHOULD BE ANTITHEFT TYPE

CONSULTANT

SOCIALIST REPUBLIC OF VIETNAM

**ITS INTEGRATION PROJECT
IN NORTHERN AREA OF VIETNAM**

ORIENTAL CONSULTANTS GLOBAL CO., LTD
METROPOLITAN EXPRESSWAY CO., LTD
NEXCO EAST ENGINEERING CO., LTD
TRANSPORTATION RESEARCH INSTITUTE CO., LTD
ABEAM CONSULTING LTD.

TITLE	NAME	SIGNATURE	DATE
PREPARED BY			
CHECKED BY			
APPROVED BY			

MINISTRY OF TRANSPORT

DRAWING TITLE:

EXTERNAL OUTLINES OF WEATHER SENSORS

SCALE:

PACKAGE:

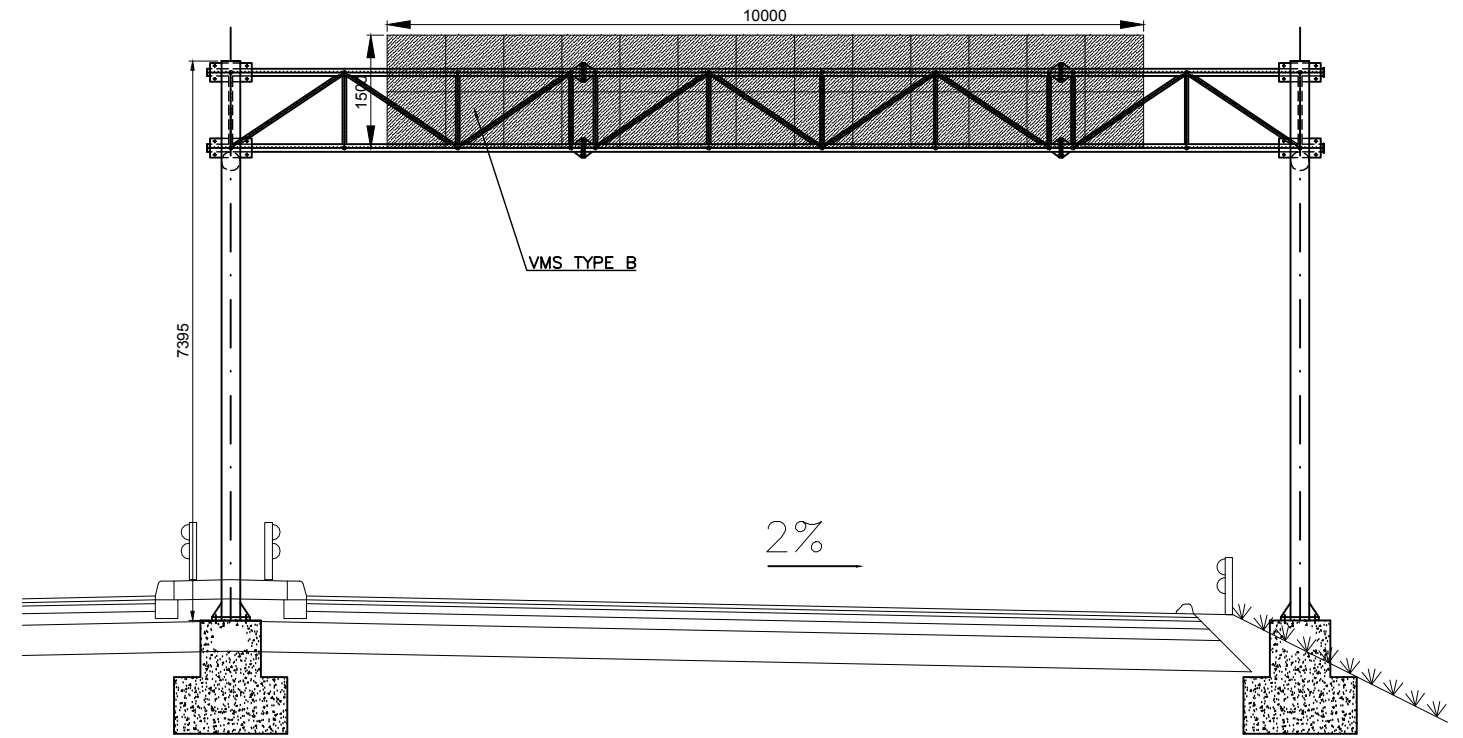
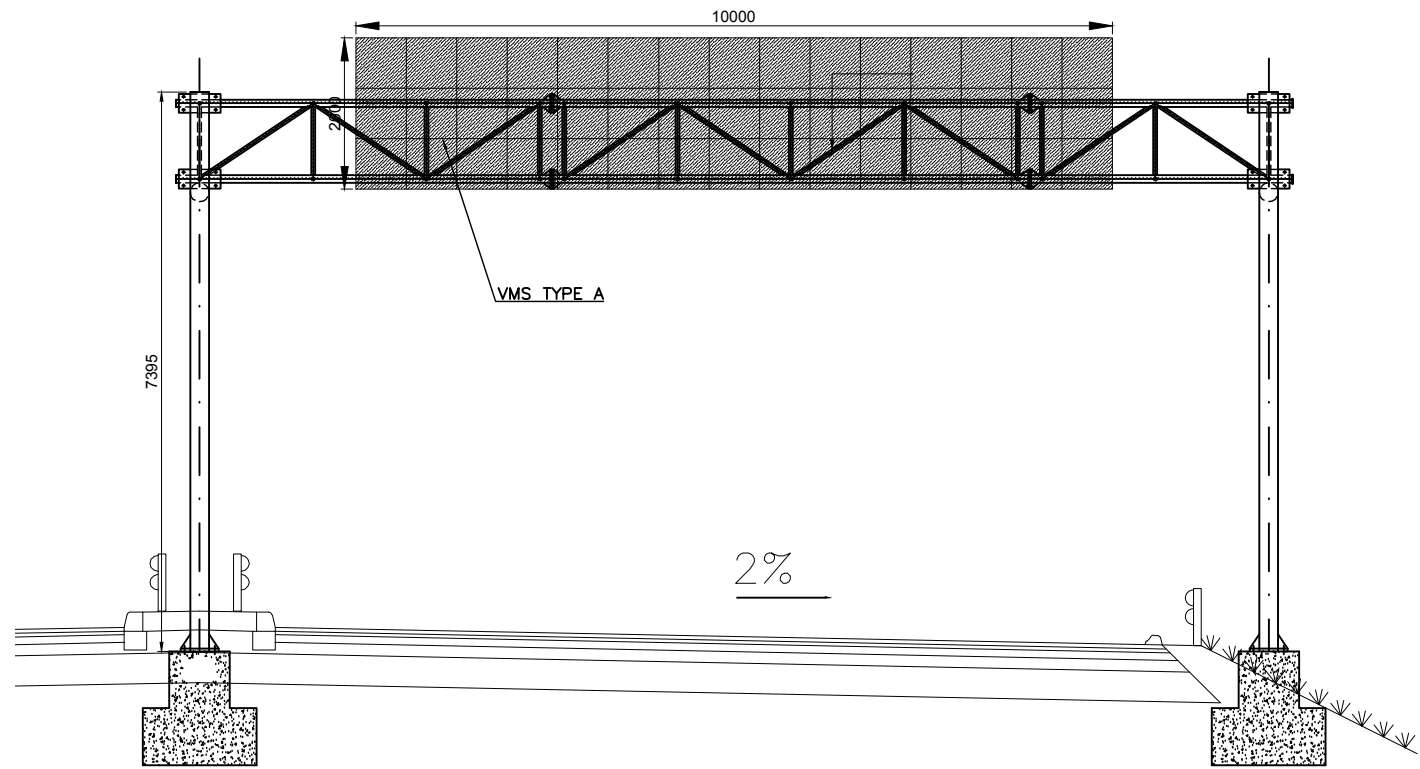
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XII.1-14

SHEET No.:

Sheet of

Rev.:

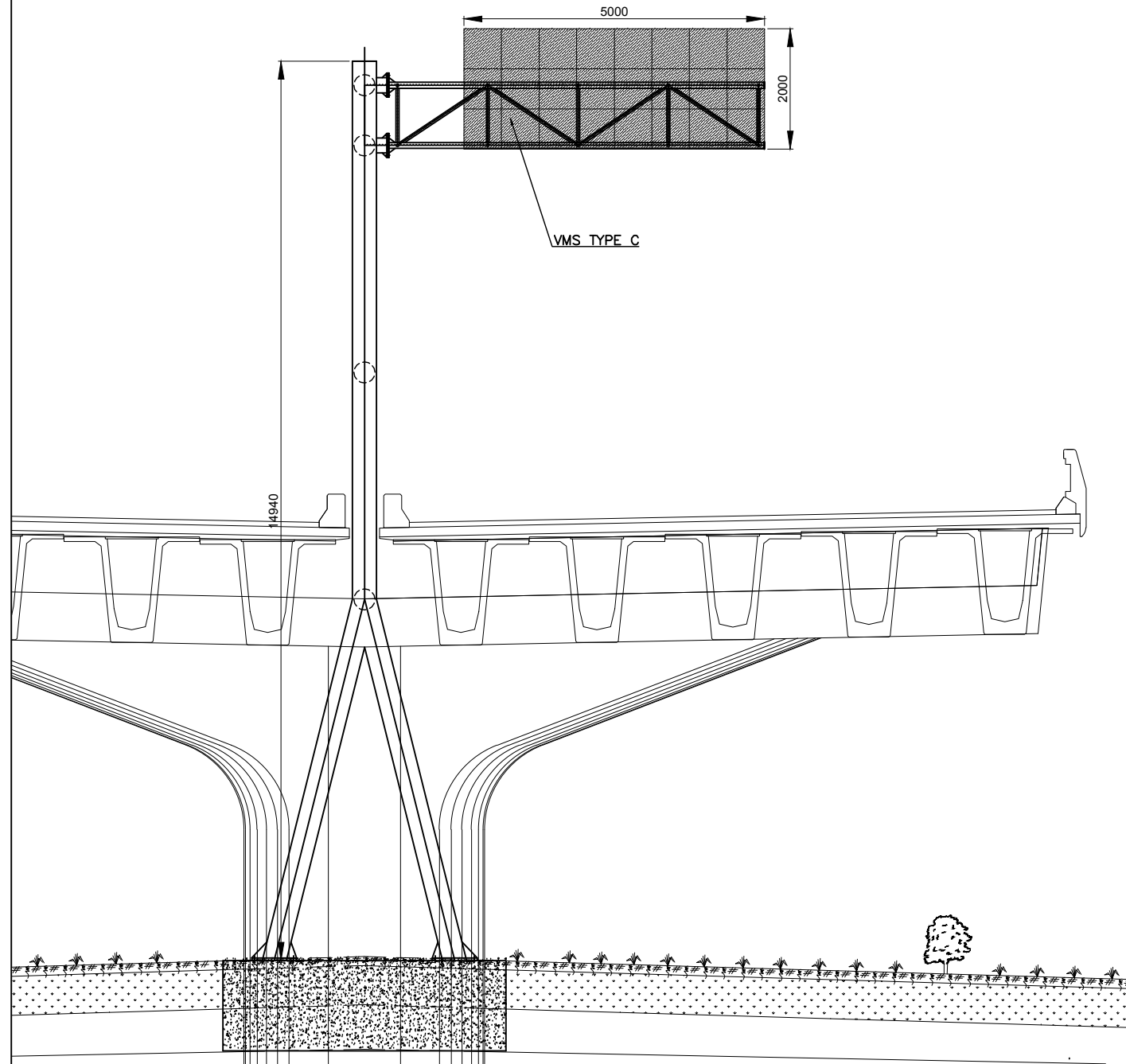


Specification	
VMS Type-A	<ul style="list-style-type: none"> - Display type: multi-colour LED - Number of rows : 3 rows - Number of columns : > 24 columns/row - Letter Height : 450mm - LED Colour: Red, Blue, Light green - LED dot pitch: < 16mm - Resolution: > 89(h) x 623(w) dots / > 55,447 dots

Specification	
VMS Type-B	<ul style="list-style-type: none"> - Display type: multi-colour LED - Number of rows : 2 rows - Number of columns : > 24 columns/row - Letter Height : 450mm - LED Colour: Red, Blue, Light green - LED dot pitch: < 16mm - Resolution: > 59(h) x 623(w) dots / > 36,757 dots

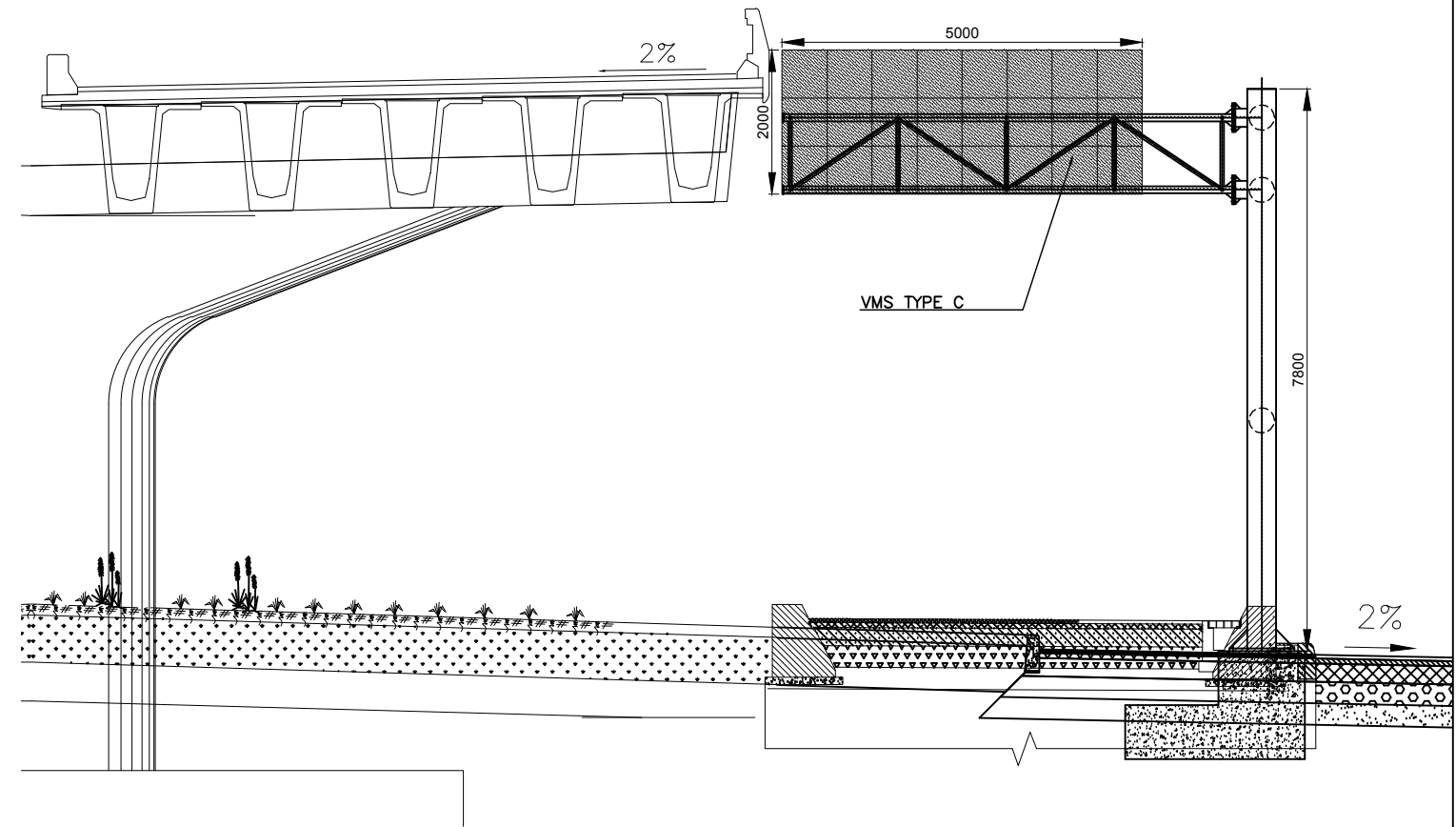
CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM					ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:	
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					MINISTRY OF TRANSPORT					DRAWING TITLE: EXTERNAL OUTLINES OF VMS (TYPE A/ TYPE B)		DRAWING No.:	
												XII.1-15	
												SHEET No.:	
										SCALE: 1/100		Sheet of	

**VMS TYPE C
(FOR REFERENCE)**



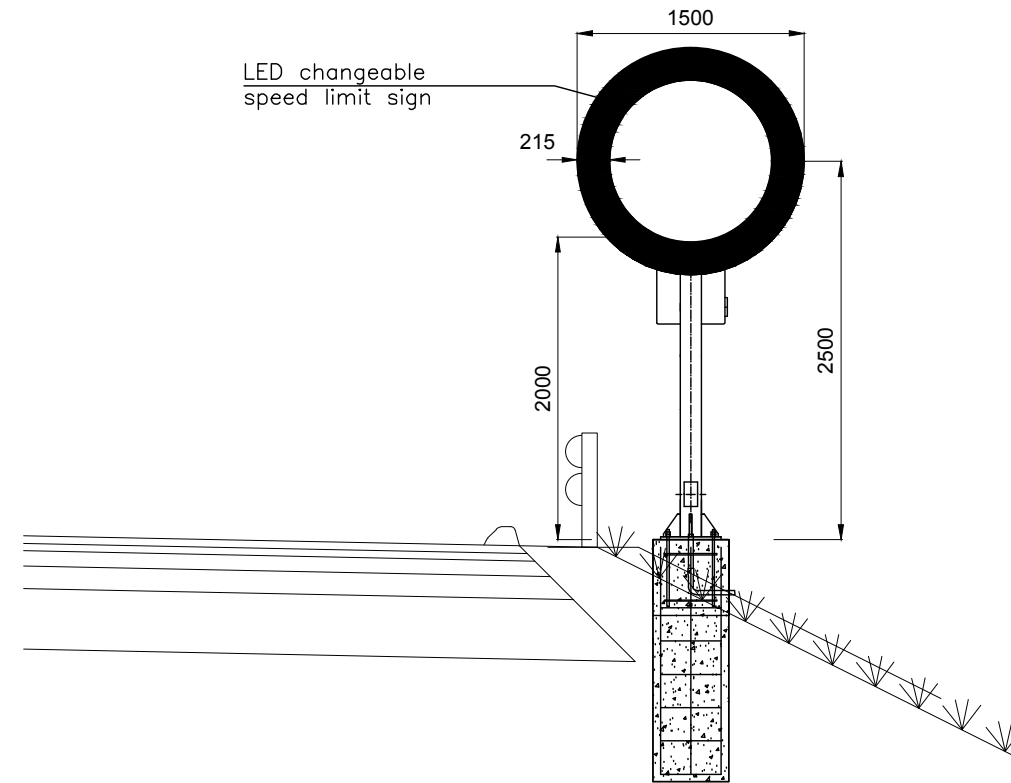
Specification	
VMS Type-C	- Display type: multi-colour LED
	- Number of rows : 3 rows
	- Number of columns : > 14 columns/row
	- Letter Height : 450mm
	- LED Colour: Red, Blue, Light green
	- LED dot pitch: < 16mm
	- Resolution: > 89(h) x 363(w) dots / > 32,307 dots

**VMS TYPE C
(FOR REFERENCE)**



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**CSS
(FOR REFERENCE)**



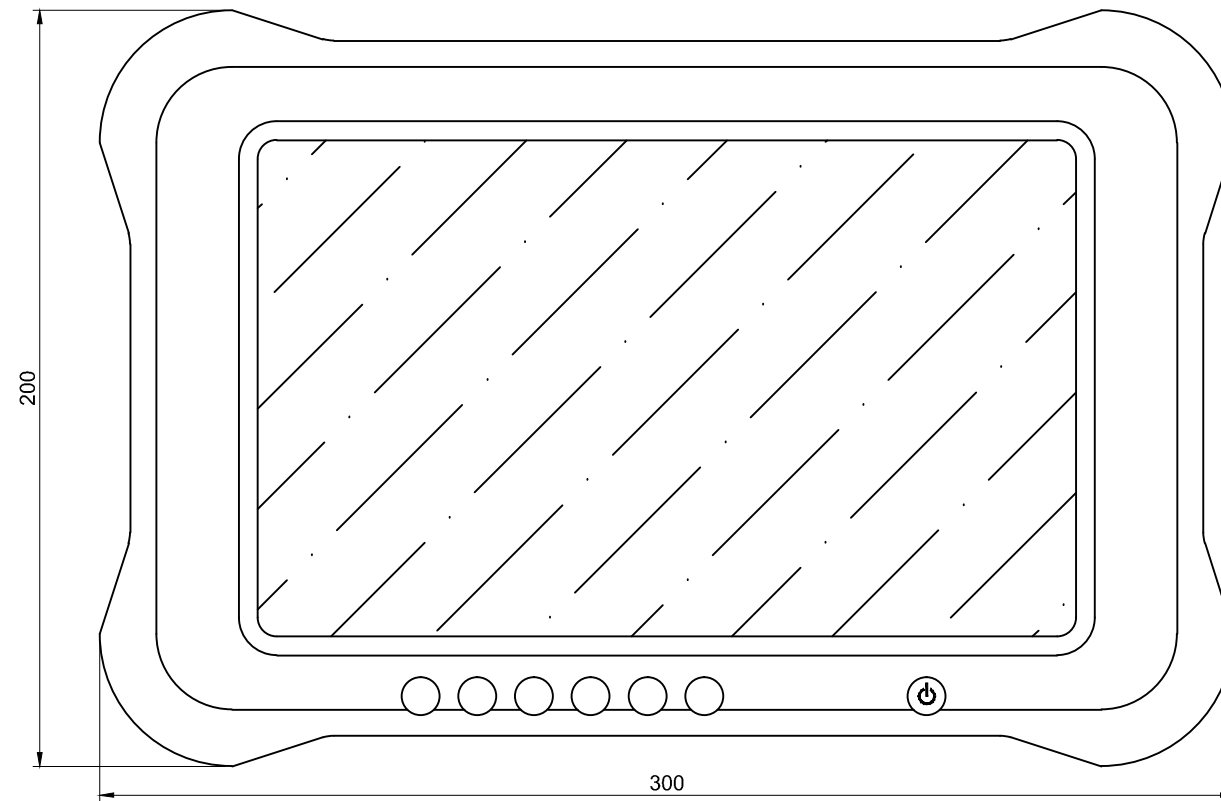
Specification	
CSS	<ul style="list-style-type: none"> - Display type: multi-colour LED - Shape of LED panel: 1225mm phi - Letter Height : 450mm - LED Colour: Red, Blue, Light green - LED dot pitch: < 16mm - Resolution: > 1,500 dots

IN CASE THE EQUIPMENTS TO BE LOCATED AT OUTDOOR, THE SCREW FOR ATTACHMENT SHOULD BE ANTITHEFT TYPE

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	PREPARED BY						XII.1-17	
	CHECKED BY						SHEET No.:	
	APPROVED BY						Rev.:	
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MOBILE DATA INPUT TERMINAL

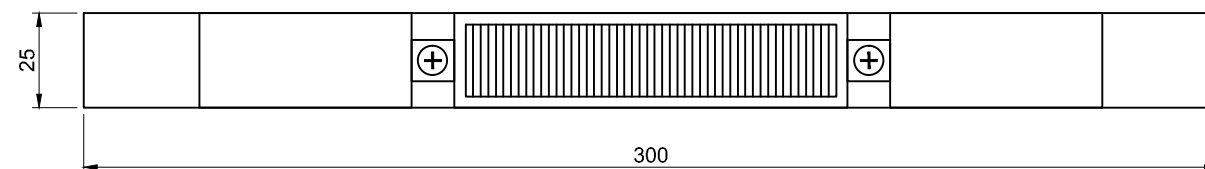
PLAN VIEW



SIDE VIEW

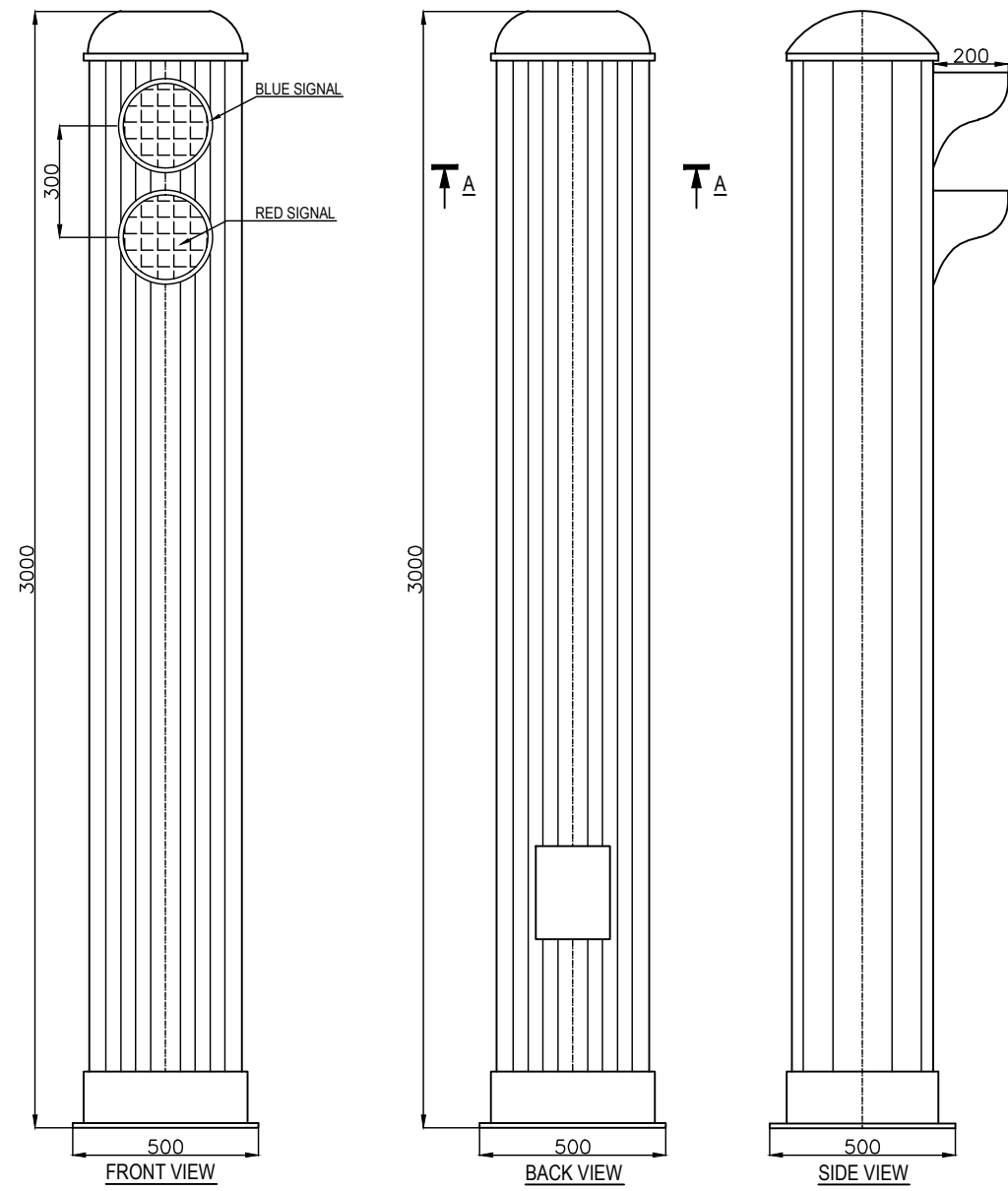


FRONT VIEW

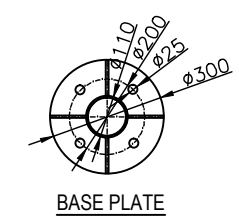
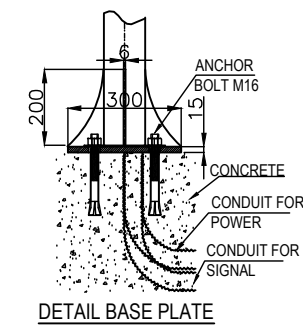
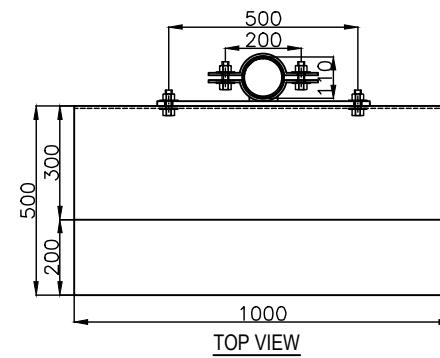
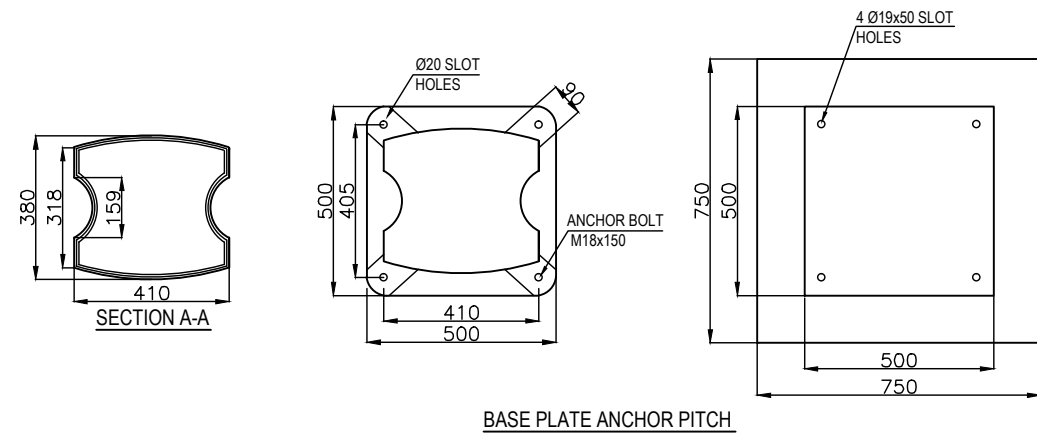
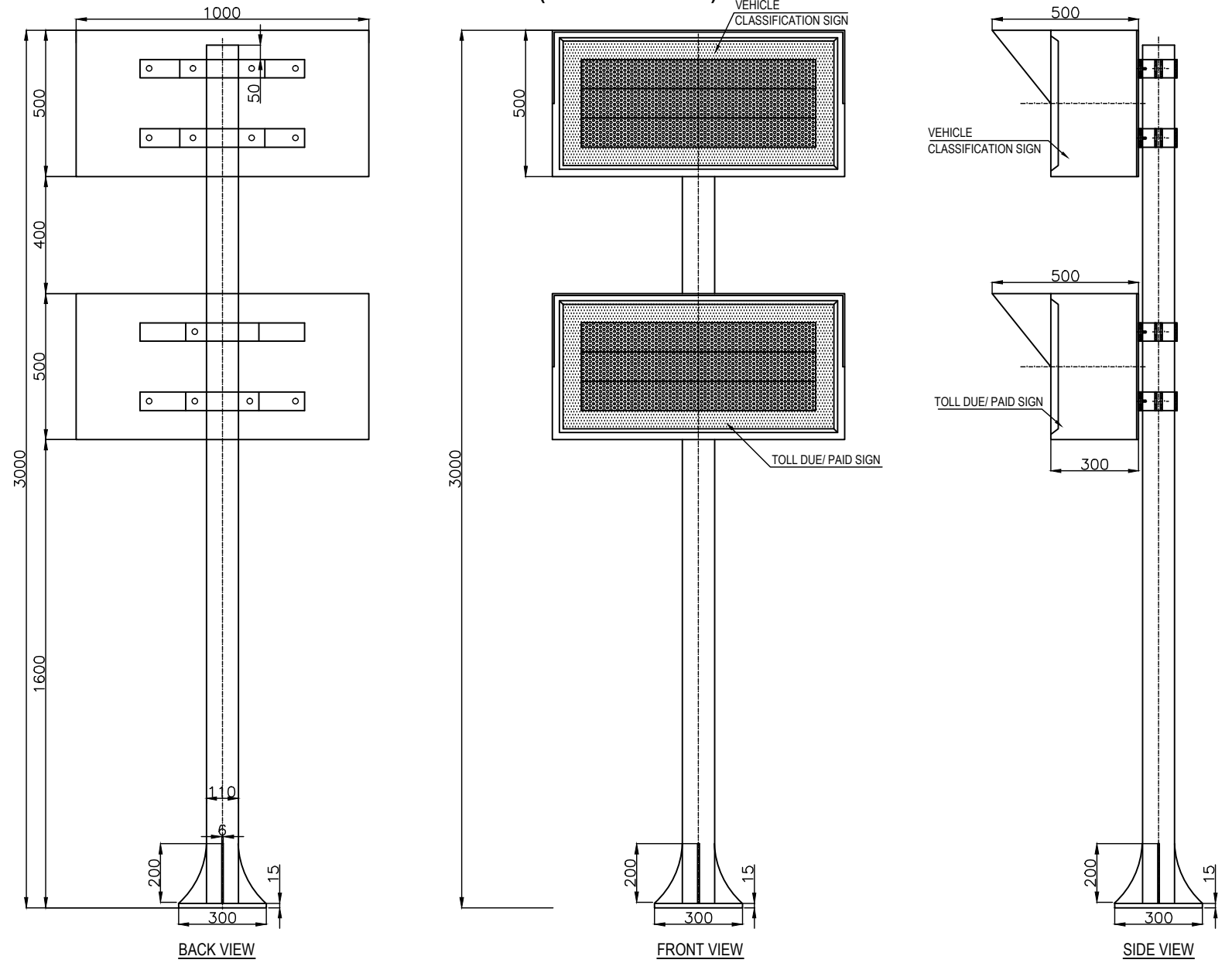


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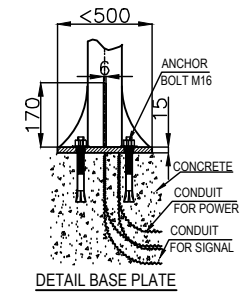
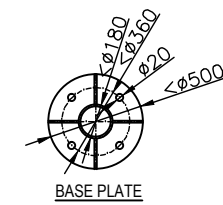
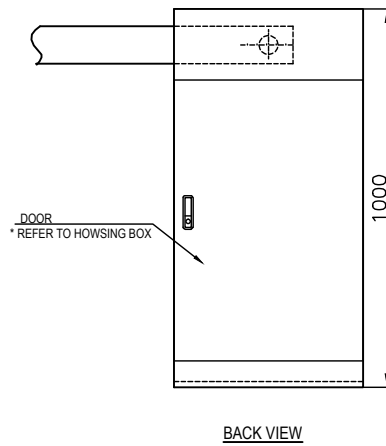
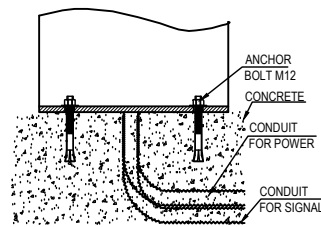
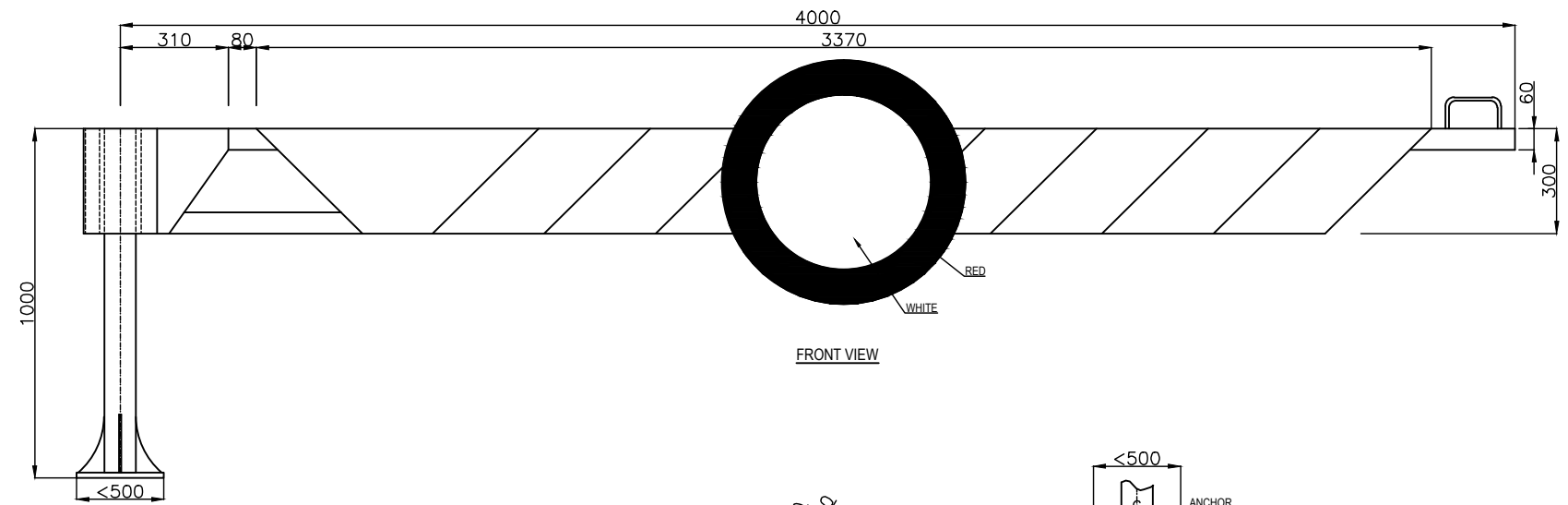
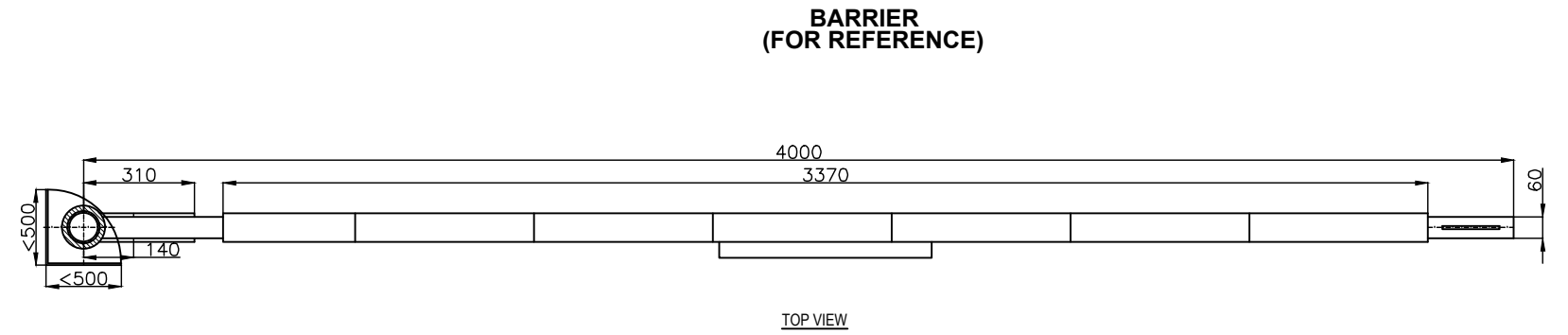
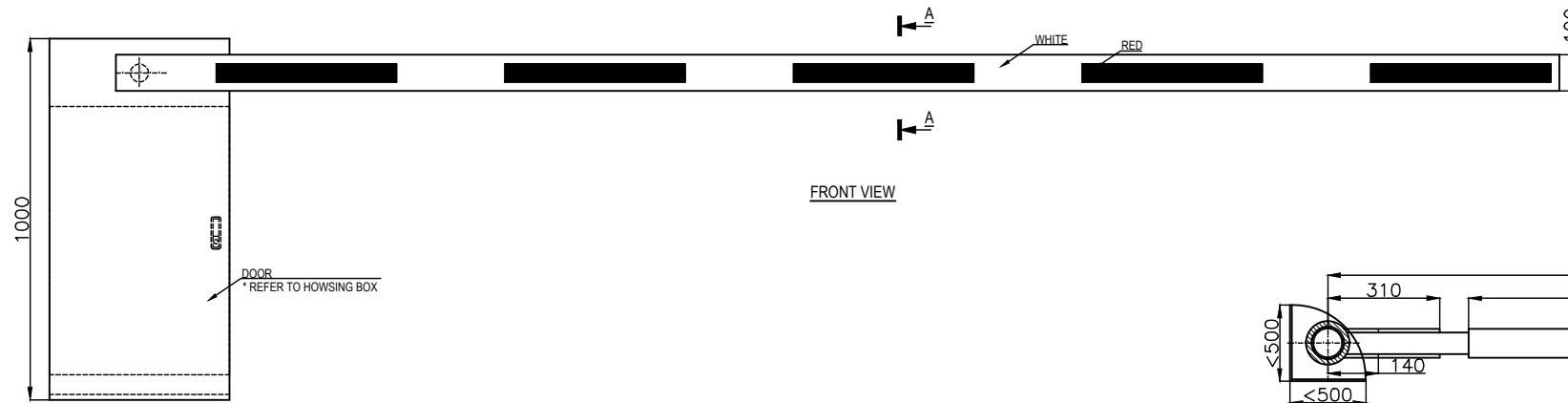
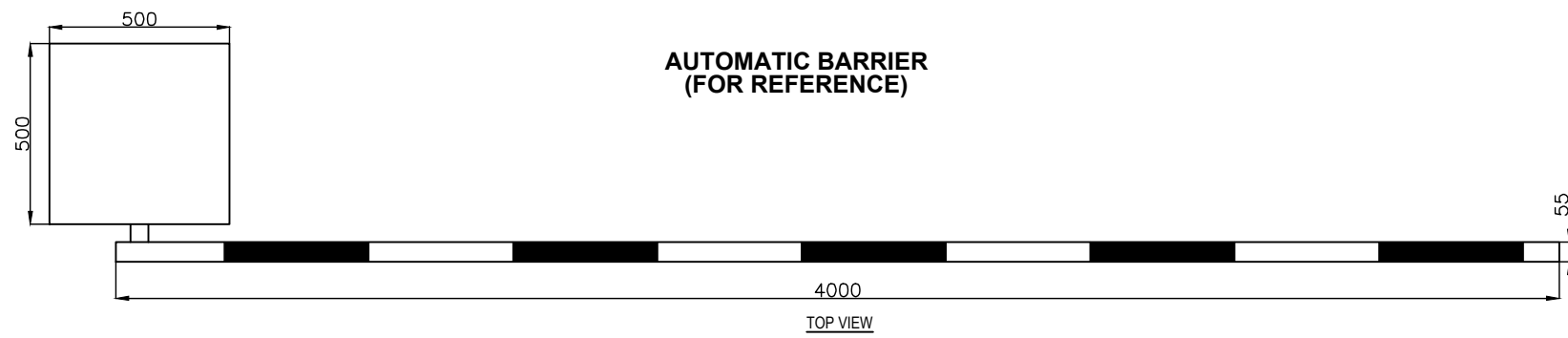
**STOP/ GO SIGN
(FOR REFERENCE)**



**TOLL DUE/ PAID SIGN
(FOR REFERENCE)**

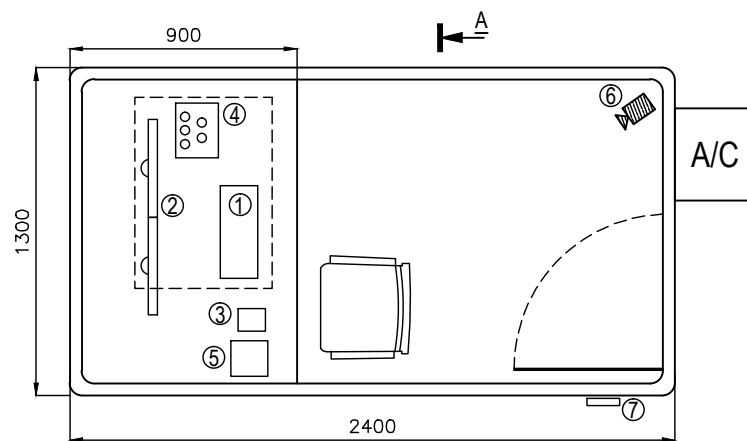


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													TITLE		NAME	SIGNATURE	DATE	XII.1-19	
													PREPARED BY					SHEET No.:	
													CHECKED BY					Rev.	
APPROVED BY					Sheet of		SCALE: 1/20												

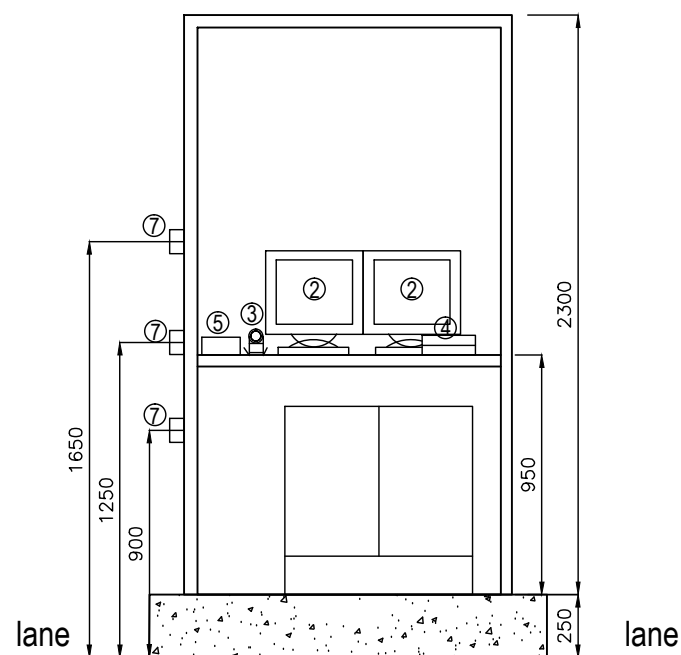
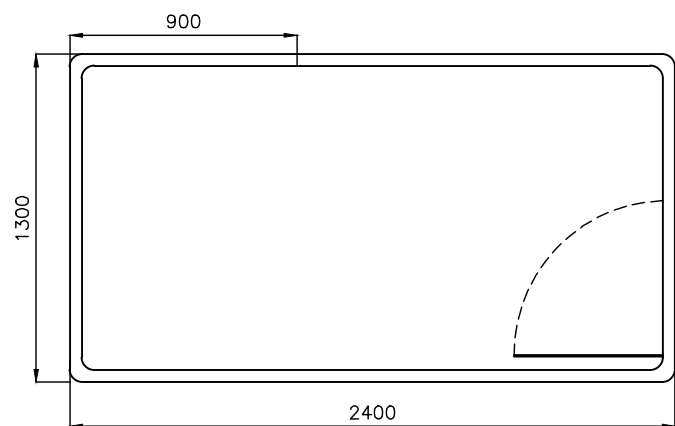


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										XII.1-20	
										SHEET No.:	
TITLE PREPARED BY CHECKED BY APPROVED BY								Rev.:			
								Sheet of			
								SCALE: 1/20			

**TOUCH AND GO LANE
(FOR REFERENCE)**

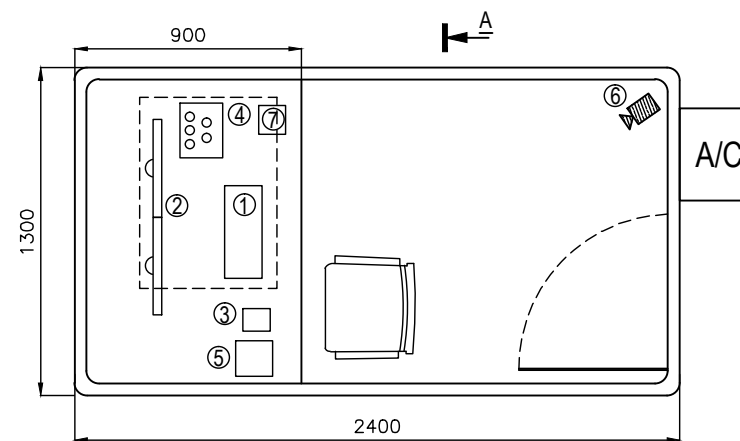


TOP VIEW

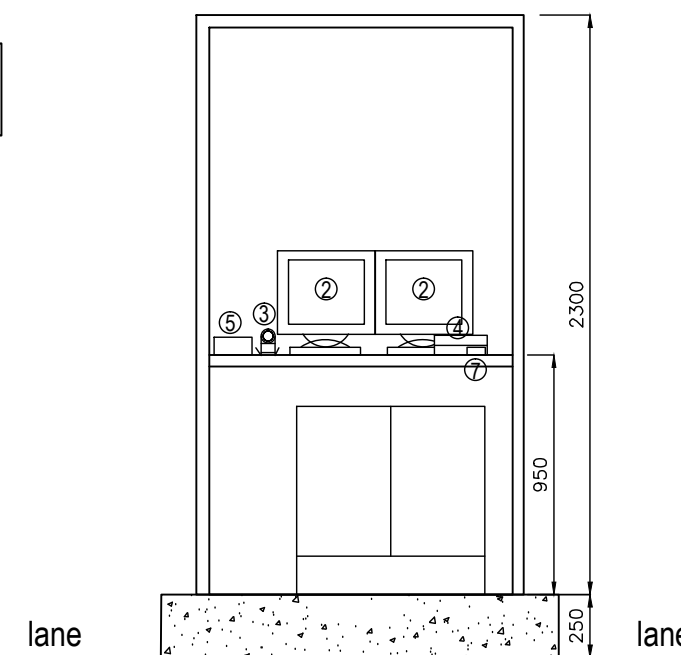
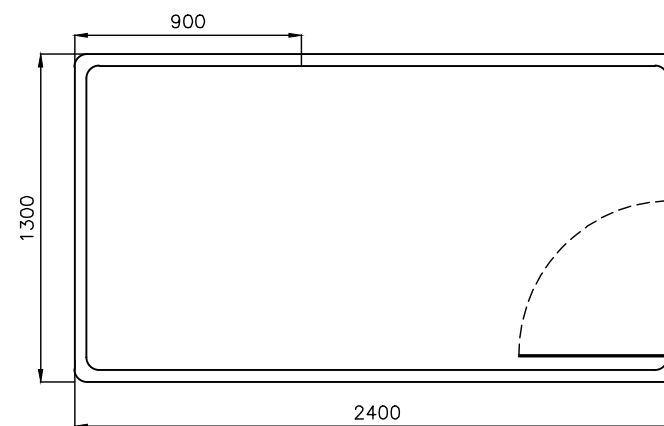


SECTION A-A

**ETC LANE
(FOR REFERENCE)**



TOP VIEW

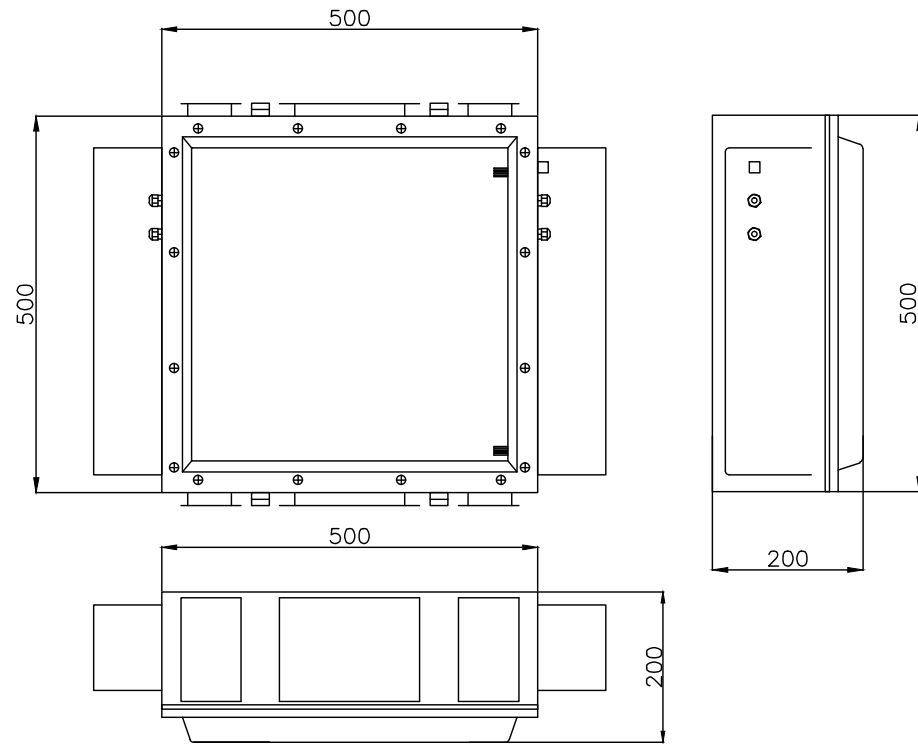


SECTION A-A

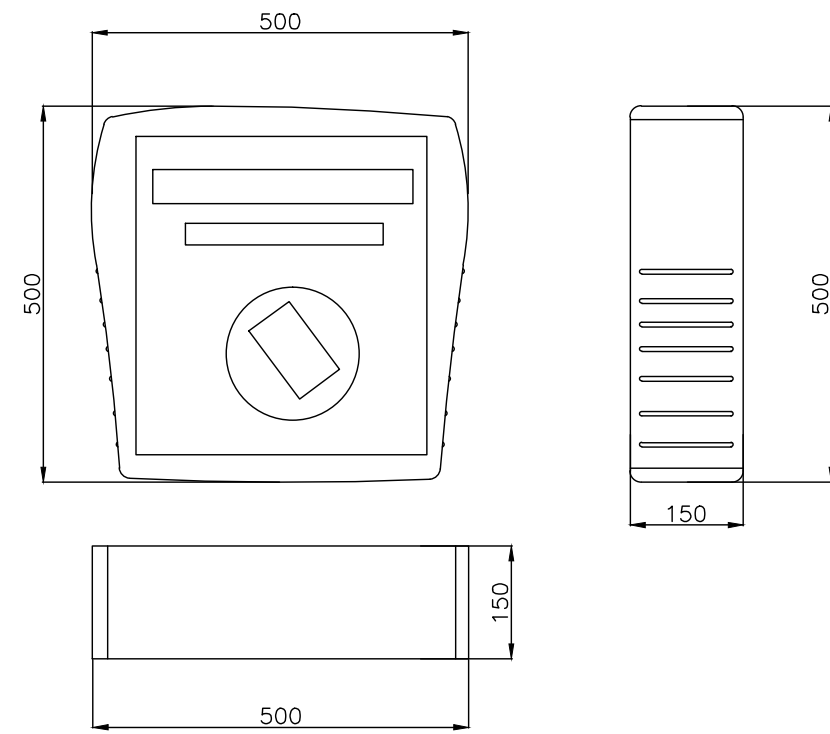
NO	EQUIPMENT	QUANTITY
1	TOLL COLLECTION KEYBOARD	1
2	LCD MONITOR	2
3	BARCODE SCANNER	1
4	MANUAL BOOTH CONTROLLER	1
5	INTERCOM UNIT	1
6	CCTV PTZ CAMERA	1
7	CONTACT LESS IC CARD READER/WRITER	3

NO	EQUIPMENT	QUANTITY
1	TOLL COLLECTION KEYBOARD	1
2	LCD MONITOR	2
3	BARCODE SCANNER	1
4	MANUAL BOOTH CONTROLLER	1
5	INTERCOM UNIT	1
6	CCTV PTZ CAMERA	1
7	CONTACT LESS IC CARD READER/WRITER	3

CONSULTANT				SOCIALIST REPUBLIC OF VIETNAM				ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:		
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.	TITLE	NAME	SIGNATURE	DATE	MINISTRY OF TRANSPORT				DRAWING TITLE:		DRAWING No.:	
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	CHECKED BY										SHEET No.:	Rev.
	APPROVED BY								SCALE: 1/30		Sheet	of



**DSRC ANTENNA
(FOR REFERENCE)**

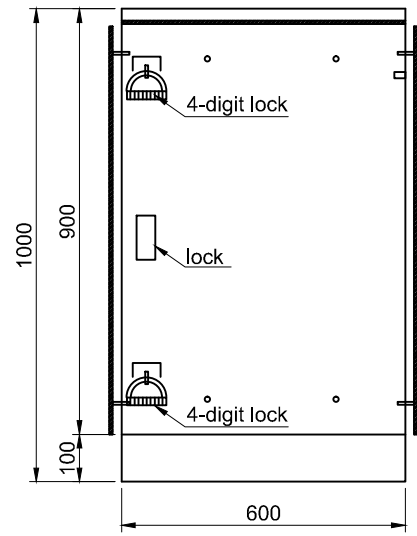


**IC CARD READER/ WRITER
(FOR REFERENCE)**

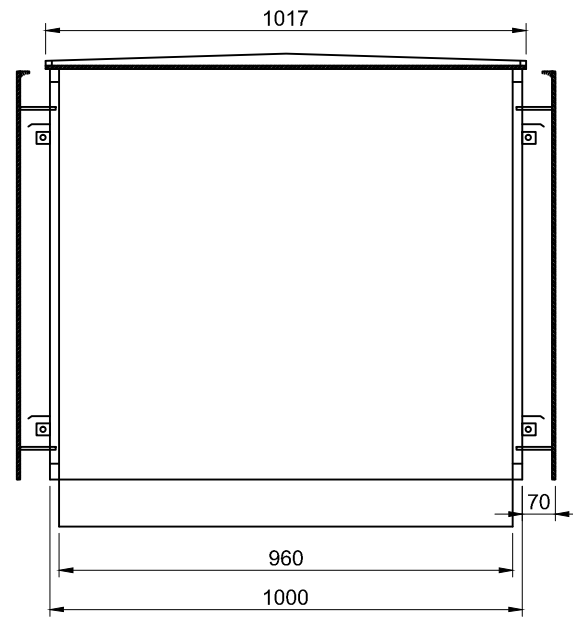
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										XII.1-22					
								TITTLE		NAME	SIGNATURE	DATE	SHEET No.:		Rev:
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CHECKED BY					SCALE: 1/10										
APPROVED BY															

NETWORK CABINET OUTDOOR

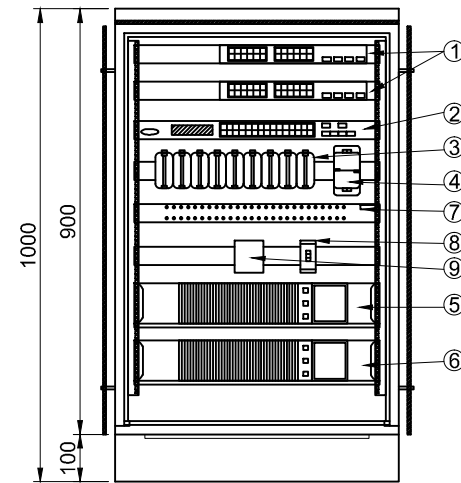
FRONT VIEW



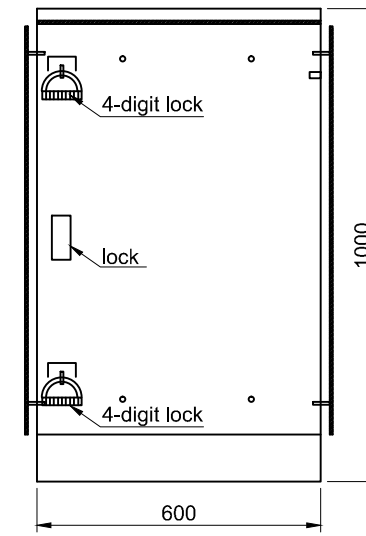
SIDE VIEW



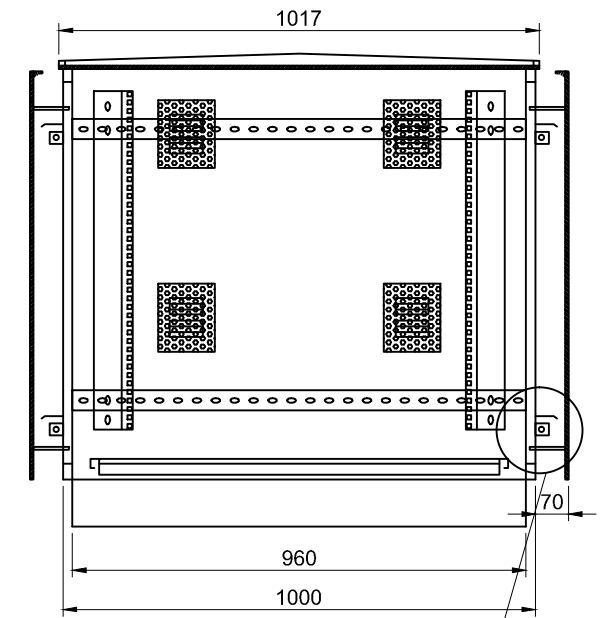
EQUIPMENT ARRANGEMENT



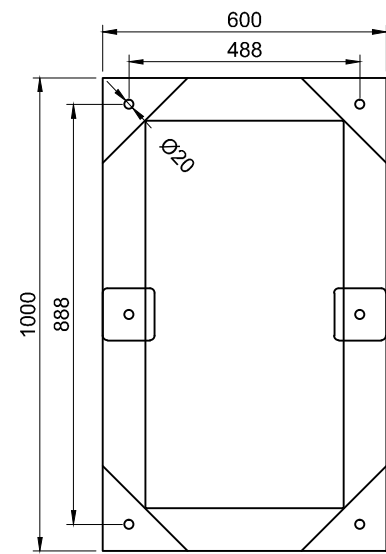
BACK VIEW



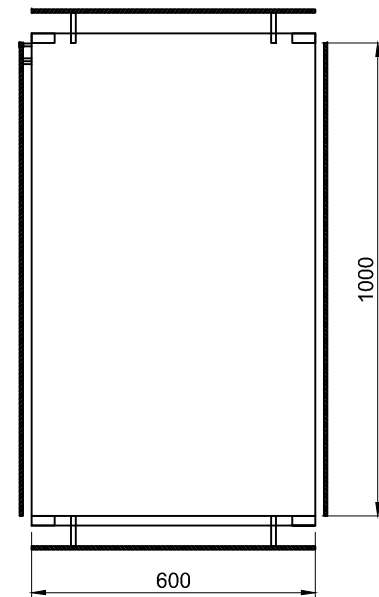
SIDE VIEW - INSIDE



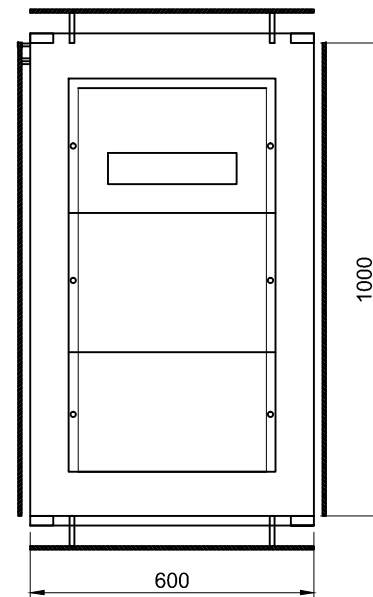
BOTTOM VIEW



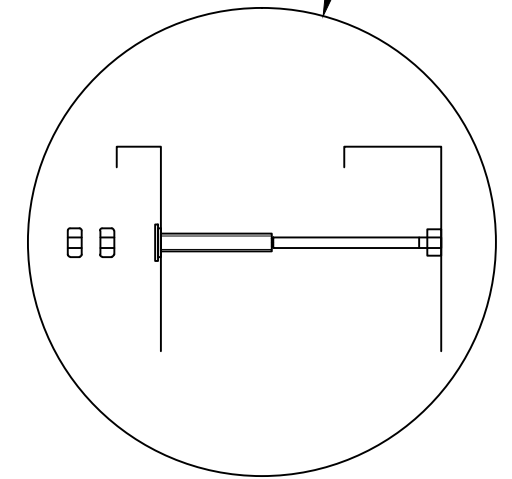
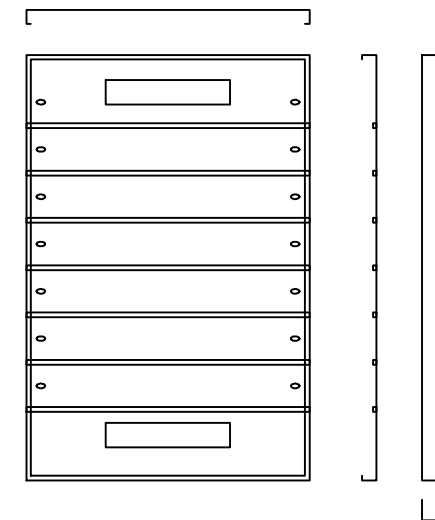
TOP VIEW



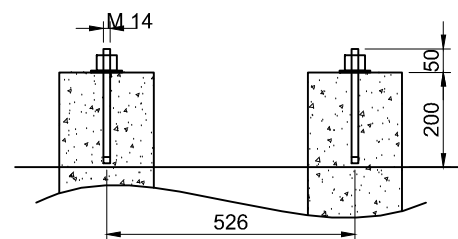
BOTTOM VIEW - INSIDE



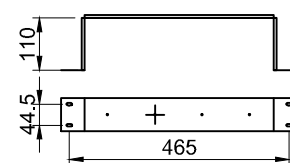
BRACKET FOR UPS



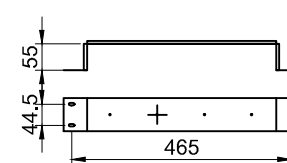
CONNECTION TO FOUNDATION



BRACKET FOR CONVERTER



BRACKET FOR BREAKER



No.	Machine Name	Qty.
1	L3 - SWITCH	2
2	L2 - SWITCH	9
3	Media Converter	1
4	Power 24VDC for Media Converter	1
5	UPS 2200VA Rack	1
6	Battery	1
7	QD 24	1
8	ASTOMAT	
9	ARRESTER	

CONSULTANT

ORIENTAL CONSULTANTS GLOBAL CO., LTD
 METROPOLITAN EXPRESSWAY CO., LTD
 NEXCO EAST ENGINEERING CO., LTD
 TRANSPORTATION RESEARCH INSTITUTE CO., LTD
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TITLE	NAME	SIGNATURE	DATE
PREPARED BY			
CHECKED BY			
APPROVED BY			

SOCIALIST REPUBLIC OF VIETNAM

MINISTRY OF TRANSPORT

ITS INTEGRATION PROJECT
 IN NORTHERN AREA OF VIETNAM

DRAWING TITLE:

NETWORK CABINET OUTDOOR

SCALE:

PACKAGE:

DRAWING No.:

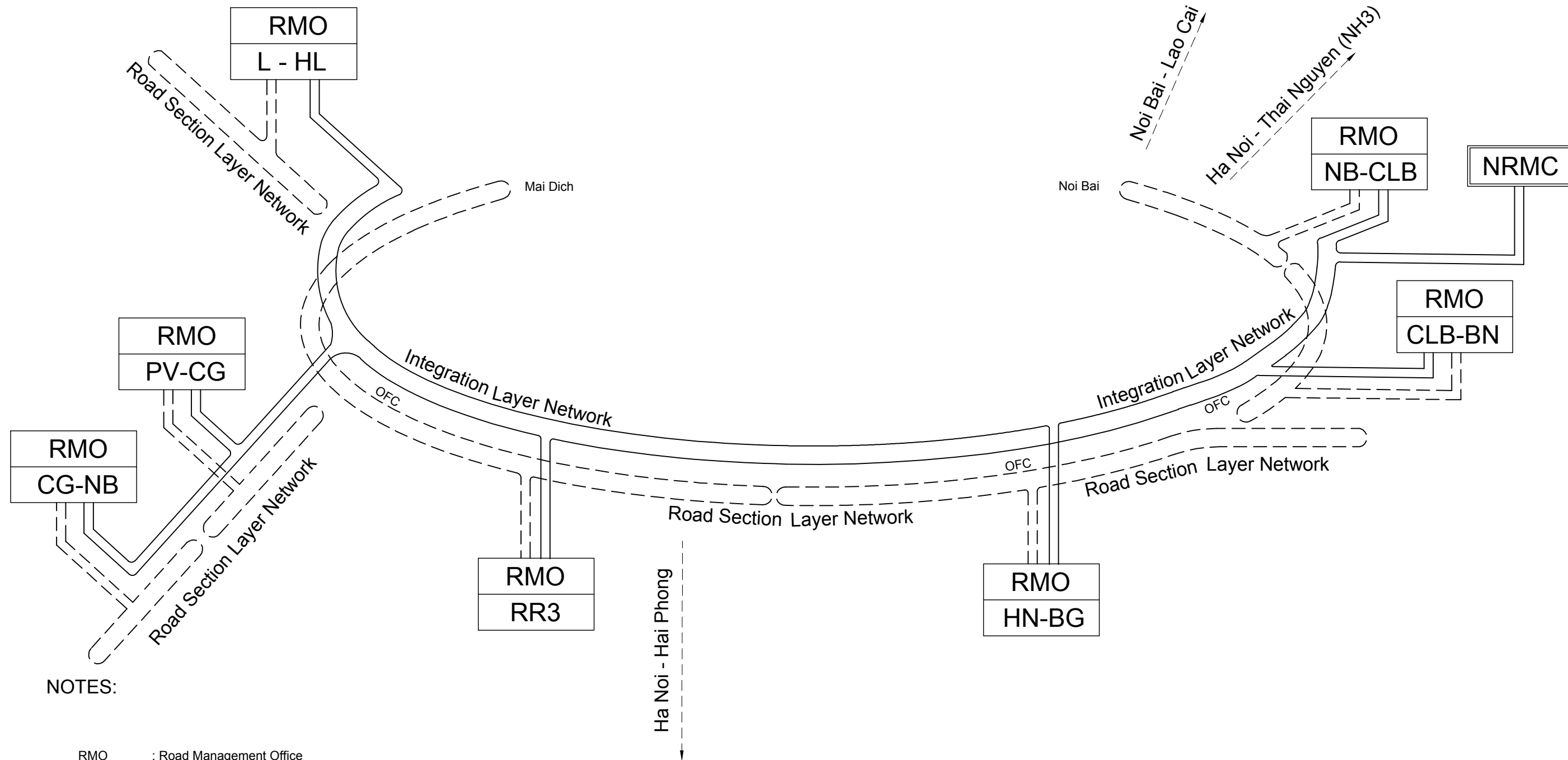
XII.1-23

SHEET No.:

Sheet of

Rev.:

COMMUNICATION SYSTEM

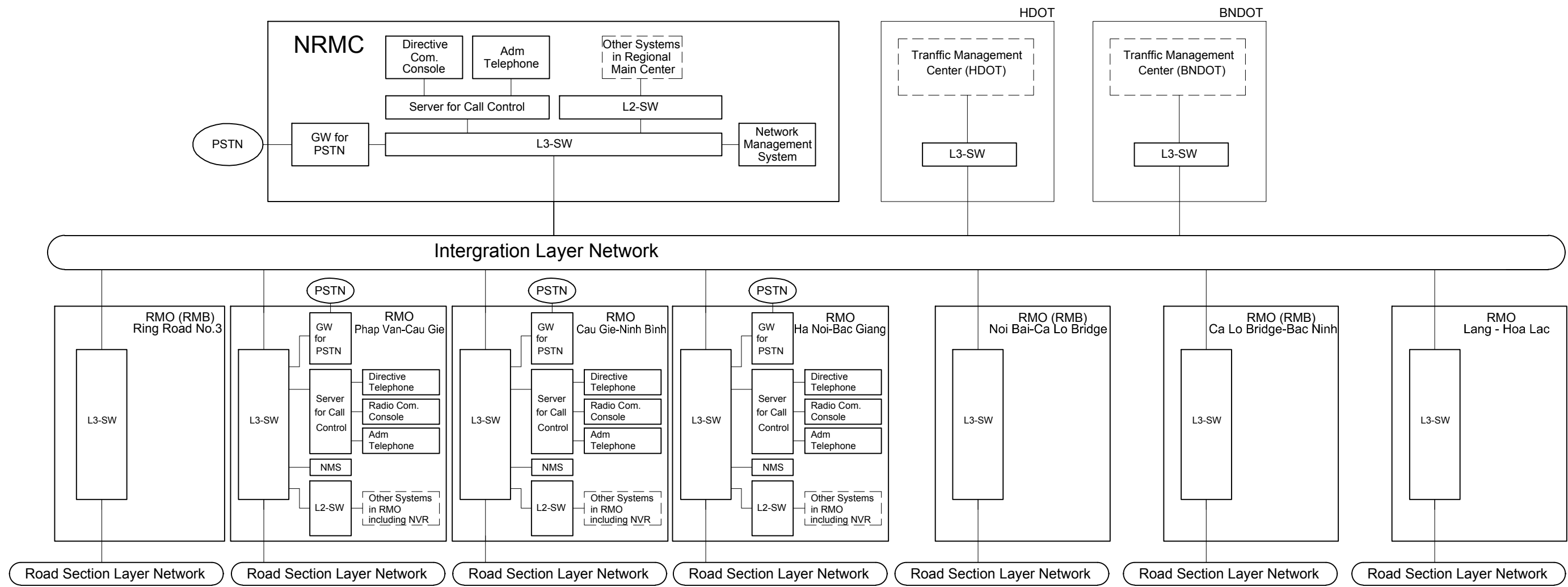


NOTES:

- RMO : Road Management Office
- OFC : Optical Fiber Cable
- : OFC for Integration Layer
- - - - - : OFC for Road Section Layer
- L-HL : Lang - Hoa Lac
- NB-VT : Noi Bai - Viet Tri
- NB-CLB : Noi Bai - Ca Lo Bridge
- CLB-BN : Ca Lo Bridge - Bac Ninh
- HN-BG : Ha Noi - Bac Giang
- RR3 : Ring Road No.3
- PV-CG : Phap Van - Cau Gie
- CG-NB : Cau Gie - Ninh Binh

Remarks: This drawing shows optical fiber cable installation image for Integration Layer and Road Section Layer Network for all target road sections. Each network is required separately but installation of optical fiber cable will be the same communication duct route.

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				PREPARED BY						XIII.1-01
				CHECKED BY						SHEET No.:
				APPROVED BY						Sheet of
				MINISTRY OF TRANSPORT				SCALE: NTS		Rev:



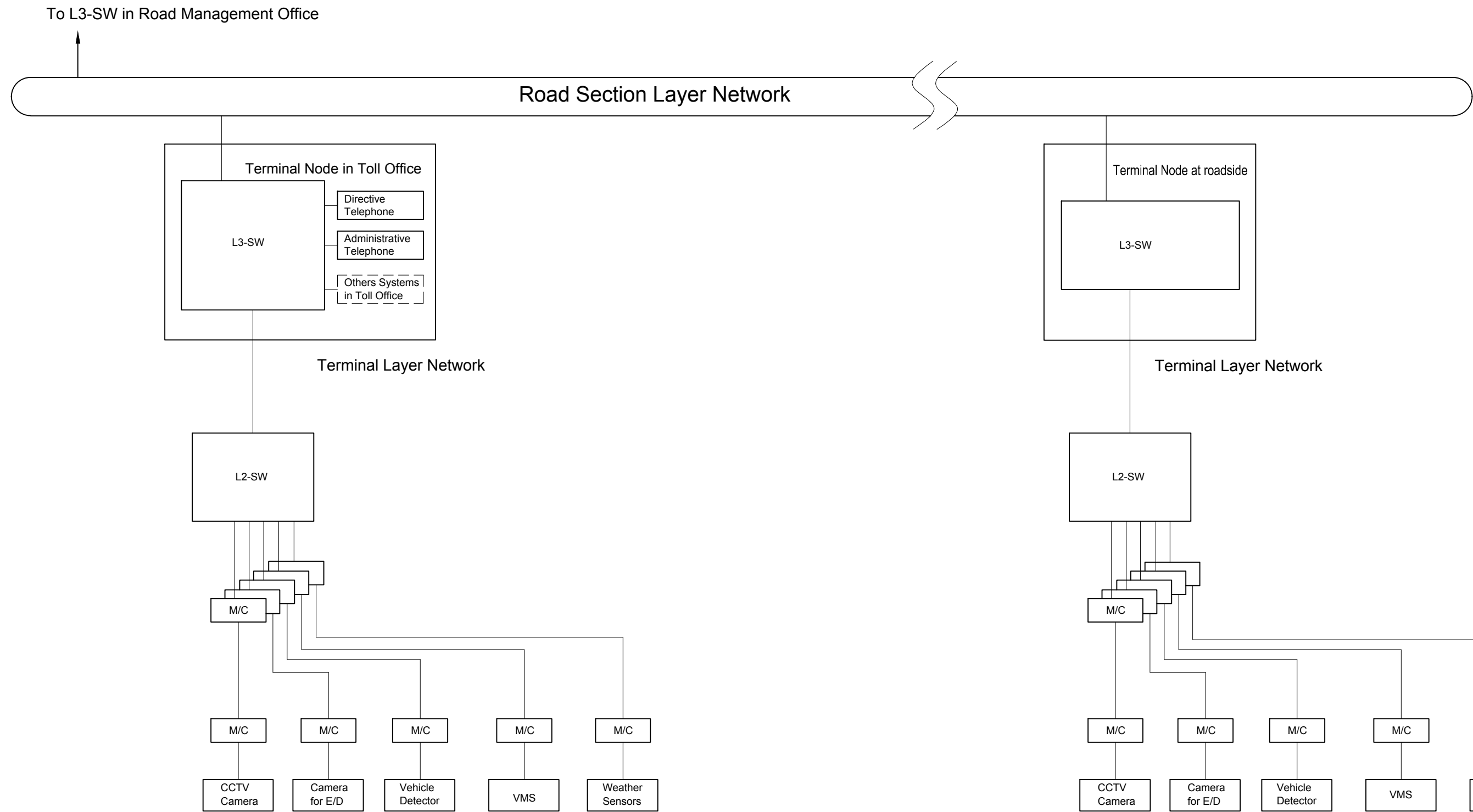
NOTES:

- NRMC : Northern Regional Main Center
- HDOT : Ha noi People's Committee, Department of Transport.
- BNDOT : Bac Ninh Province Department of Transport.
- RMO : Road Management Office
- RMB : Road Management Box
- L3SW : Layer 3 Switch
- L2SW : Layer 2 Switch
- NMS : Network Management System
- PSTN : Public Switched Telephone Network
- GW : Gateway

Remarks:

- 1-This drawing shows equipment components to be installed in Northern Regional Main Center and each Road Management Offices and connection in between described equipment components.
- 2-Equipment to be installed in HDOT's Traffic Management Center (TMC) will be installed in NRMC until completion of HDOT's TMC building construction.
- 3-Equipment to be installed in BNDOT's Traffic Management Center (TMC) will be installed in NRMC until completion of BNDOT's TMC is established.

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				MINISTRY OF TRANSPORT				EQUIPMENT COMPONENT FOR INTEGRATION AND ROAD SECTION LAYER NETWORK		XIII.1-02		Rev.:
				PREPARED BY	CHECKED BY	APPROVED BY	SCALE: NTS		Sheet	of		

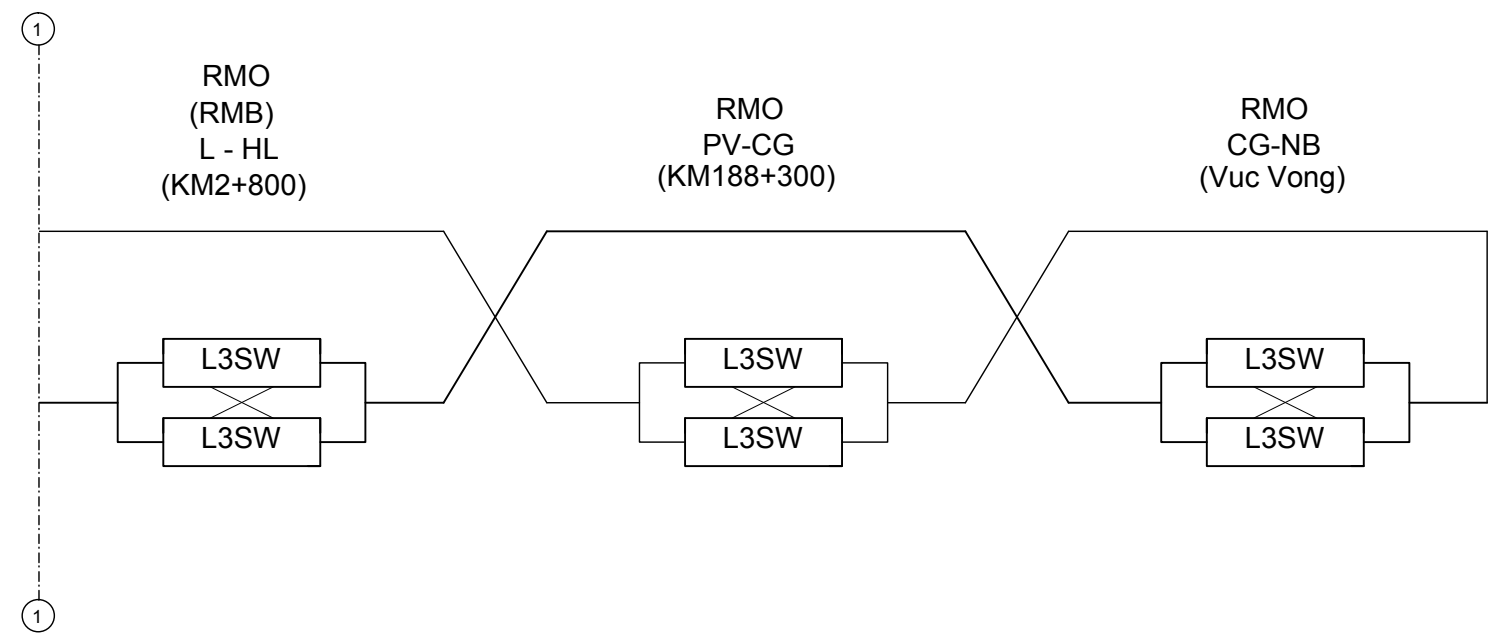
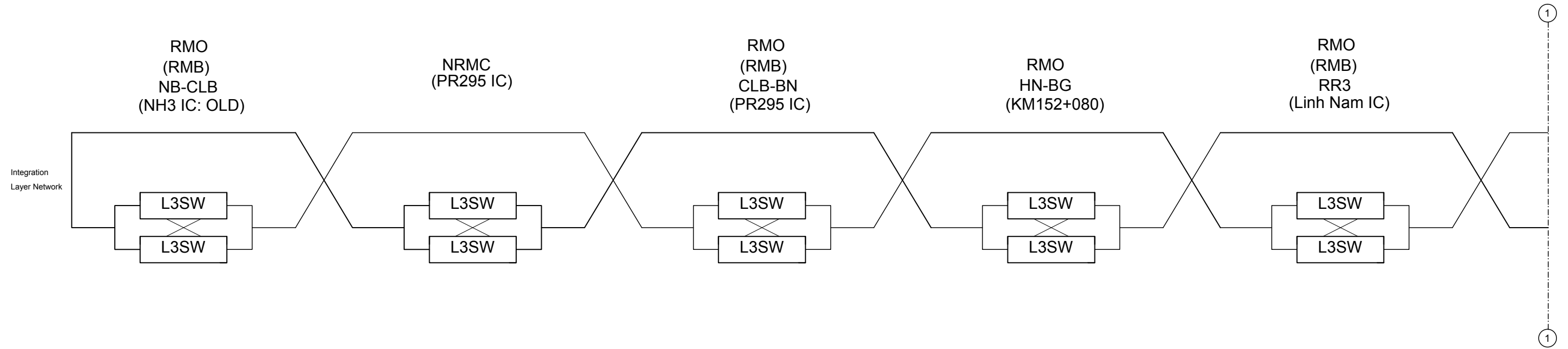


NOTES:

- M/C : Media Converter
- L3SW : Layer 3 Switch
- L2SW : Layer 2 Switch
- E/D : Event Detection
- VMS : Variable Message Sign
- CSS : Changeable Speed Limit Sign

Remarks: This is typical drawing which shows equipment components to be installed road side basically under Road Section Layer Network including Terminal Layer Network and connection in between described equipment components.

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	PREPARED BY							EQUIPMENT COMPONENT FOR ROAD SECTION AND TERMINAL LAYER NETWORK (TYPICAL DRAWING)		XIII.1-03	
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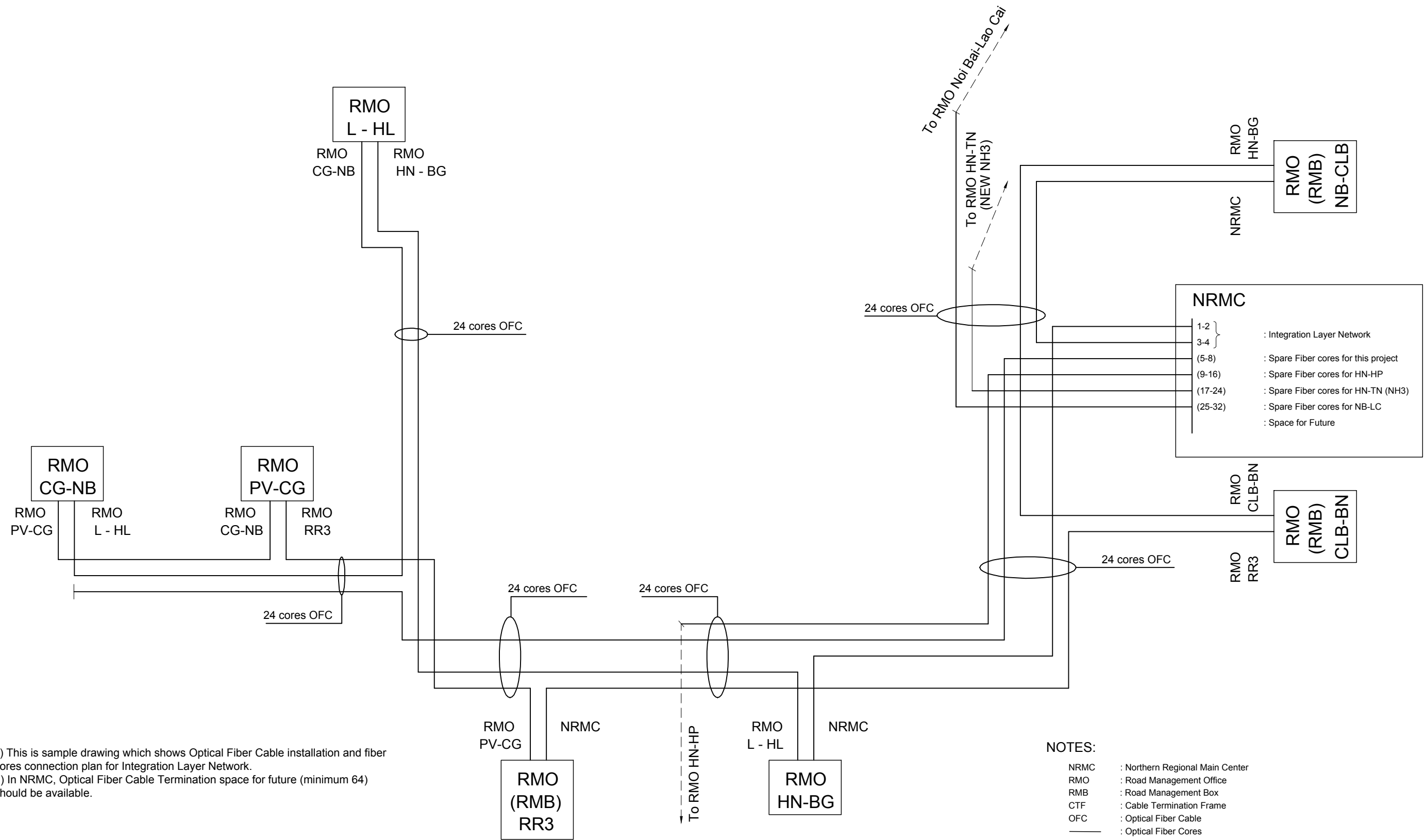


Remarks: This is sample drawing which shows Integration Layer Network.

NOTES:

- NRMC : Northern Regional Main Center
- RMO : Road Management Office
- RMB : Road Management Box
- L3SW : Layer 3 switch
- NB-CLB : Noi Bai - Ca Lo Bridge
- CLB-BN : Ca Lo Bridge - Bac Ninh
- HN-BG : Ha Noi - Bac Giang
- RR3 : Ring Road No.3
- PV-CG : Phap Van - Cau Gie
- CG-NB : Cau Gie - Ninh Binh
- L-HL : Lang - Hoa Lac
- : 2 Core Optical Fiber

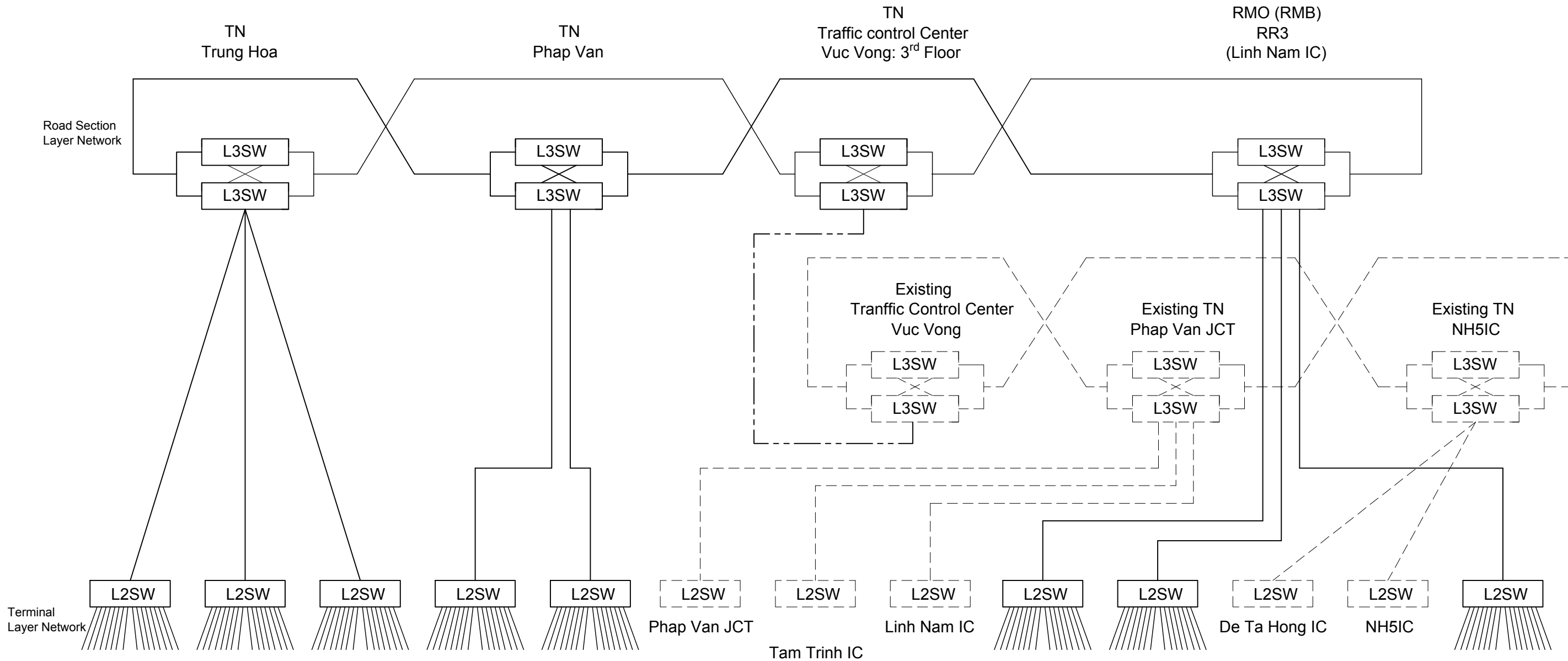
CONSULTANT				SOCIALIST REPUBLIC OF VIETNAM				ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:									
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.				MINISTRY OF TRANSPORT				DRAWING TITLE:		DRAWING No.:		XIII. 1 - 04							
								COMMUNICATION NETWORK DIAGRAM FOR INTEGRATION LAYER NETWORK		SHEET No.:									
								TITLE		NAME		SIGNATURE		DATE		SCALE: NTS		Rev:	
								PREPARED BY		CHECKED BY		APPROVED BY		Sheet		of		Rev:	



Remarks:
 1) This is sample drawing which shows Optical Fiber Cable installation and fiber cores connection plan for Integration Layer Network.
 2) In NRMC, Optical Fiber Cable Termination space for future (minimum 64) should be available.

- NOTES:
- NRMC : Northern Regional Main Center
 - RMO : Road Management Office
 - RMB : Road Management Box
 - CTF : Cable Termination Frame
 - OFC : Optical Fiber Cable
 - : Optical Fiber Cores
 - > : Future Express way Section
 - NB-LC : Noi Bai - Lao Cai
 - NB-CLB : Noi Bai - Ca Lo Bridge
 - CLB-BN : Ca Lo Bridge - Bac Ninh
 - HN-BG : Ha Noi - Bac Giang
 - RR3 : Ring Road No.3
 - L-HL : Lang - Hoa Lac
 - PV-CG : Phap Van - Cau Gie
 - CG-NB : Cau Gie - Ninh Binh

CONSULTANT				SOCIALIST REPUBLIC OF VIETNAM				ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:	
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	PREPARED BY								CABLE DIAGRAM FOR INTEGRATION LAYER NETWORK		XIII. 1 - 05
	CHECKED BY								SCALE: NTS	SHEET No.:	Rev:
	APPROVED BY								Sheet	of	



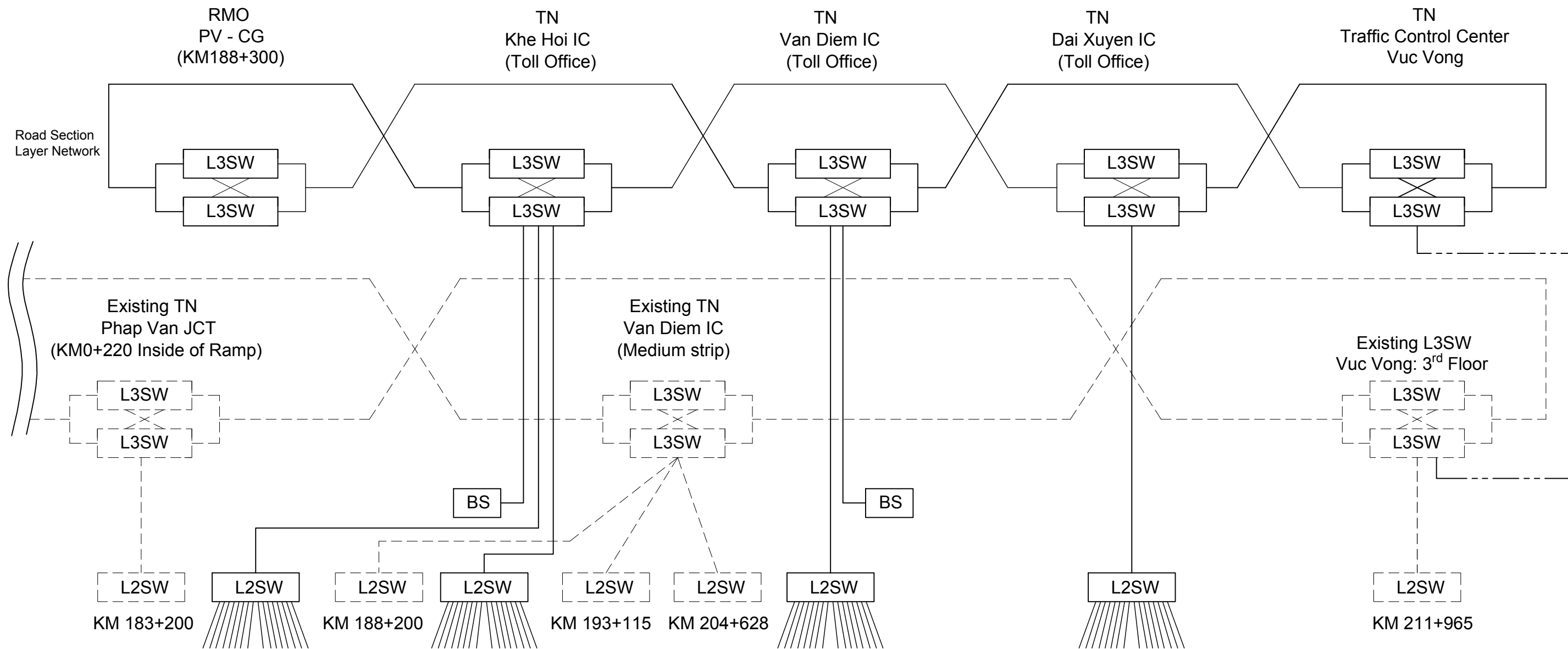
Remarks:

- 1 - This is sample drawing which shows Road Section Layer Network and a part of Terminal Layer Network.
- 2 - One L2SW is assumed to connect max.16 Roadside Equipment components.
- 3 - As for the Detail of Terminal Layer Network, the Contractor shall design. The Reference is made to the Drawing titled "Equipment Component for Road Section Layer and Terminal Layer Network (Typical Drawing)".
- 4 - Number of Optical Fiber should be 48 for Road Section Layer Network (8 : 4 + spare 4), connection between L3SW and L2SW (8 : 4 + spare 4), and Terminal Layer Network (32).
- 5 - As for the Road Section between Phap Van JCT and HN5 IC, there is existing 24 - Core optical fiber cable. This cable should be kept as it is.
- 6 - The Existing roadside equipment components between Phap Van JCT and NHIC5 such as CCTV Camera and VMS, should be connected to the Road Section Layer Network for RMO RR3 through Existing L3SW at Vuc Vong Traffic Control Center as shown in the drawing.
- 7 - The Contractor should rearrange the existing network setting if necessary.
- 8 - The L3SW planned to install at TCC Vuc Vong as TN is the same one described in the Drawing of PV-CG.

NOTES:

- RMO : Road Management Office
- TN : Terminal Node
- OFC : Optical Fiber Cable
- [Solid Box] : Proposed Switch
- [Dashed Box] : Existing Switch
- L3SW : Layer 3 switch
- L2SW : Layer 2 switch
- [Solid Line] : Proposed Fiber
- [Dashed Line] : Existing Fiber
- [Dotted Line] : Cat 7

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					PREPARED BY									ROAD SECTION LAYER NETWORK FOR MAI DICH - THANH TRI (RR3)			XIII. 1 - 06	
					CHECKED BY									SCALE: NTS			SHEET No.:	Rev.:
					APPROVED BY									Sheet	of			



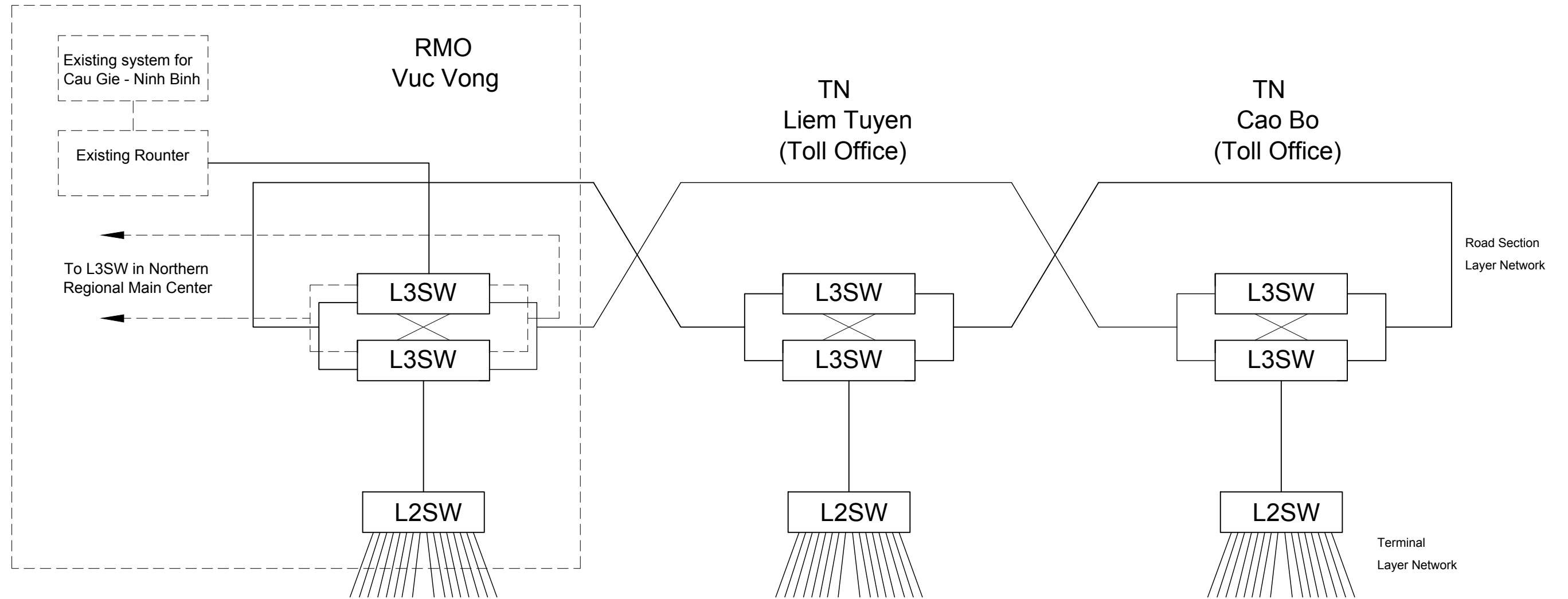
Remarks:

- 1 - This is sample drawing which shows Road Section Layer Network and a part of Terminal Layer Network.
- 2 - One L2SW is assumed to connect max.16 Roadside Equipment components.
- 3 - As for the Detail of Terminal Layer Network, the Contractor shall design. The Reference is made to the Drawing titled "Equipment Component for Road Section Layer and Terminal Layer Network (Typical Drawing)".
- 4 - Number of Optical Fiber should be 48 for Road Section Layer Network (8 : 4 + spare 4), connection between L3SW and L2SW (8 : 4 + spare 4), and Terminal Layer Network (32).
- 5 - As for the Road Section between Phap Van JCT and Dai Xuyen IC, there is 24 - core optical fibers cable. This cable should be kept as it is.
- 6 - The existing roadside equipment compenents between Phap Van JCT and Dai Xuyen IC such as CCTV Camera and VMS, should be connected to the Road Section Layer Network for RMO PV-CG through Existing L3SW at Vuc Vong. Traffic Control Center.
- 7 - The Contracor should rearrange the existing network setting if necessary.
- 8 - The L3SW planned to install at TCC Vuc Vong as TN is the same one described in the Drawing of RR3.

NOTES:

- RMO : Road Management Office
- TN : Terminal Node
- OFC : Optical Fiber Cable
- [Solid Box] : Proposed Switch
- [Dashed Box] : Existing Switch
- L3SW : Layer 3 switch
- L2SW : Layer 2 switch
- [Solid Line] : Proposed Fiber
- [Dashed Line] : Existing Fiber
- [Dotted Line] : Cat 7

CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM					ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM			PACKAGE:			
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										ROAD SECTION LAYER NETWORK FOR PHAP VAN - CAU GIE			XIII. 1 - 07			
										SCALE: NTS			SHEET No.:			
													Sheet of			
TITLE					NAME					SIGNATURE					DATE	
PREPARED BY					CHECKED BY					APPROVED BY						



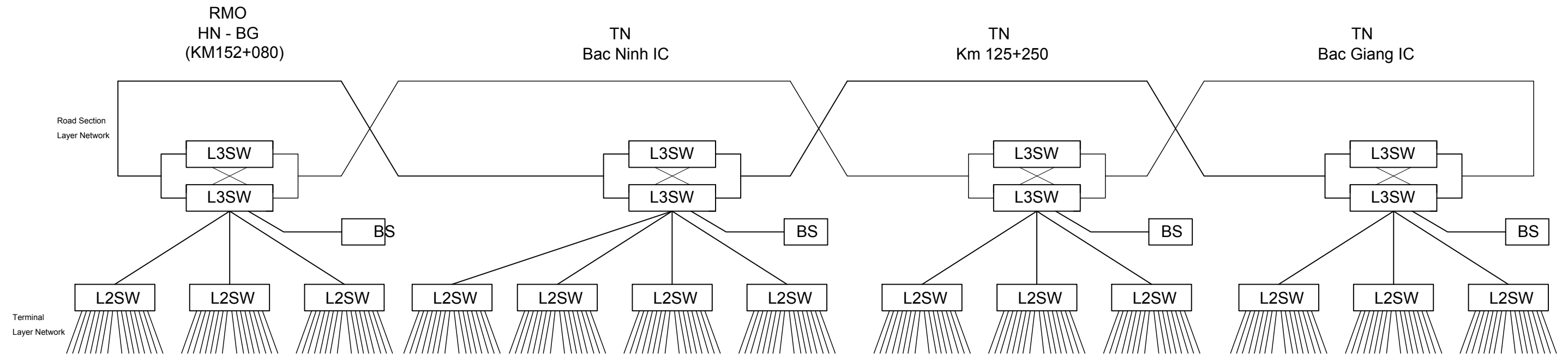
Remarks:

- 1 - This is sample drawing which shows Road Section Layer Network and a part of Terminal Layer Network.
- 2 - One L2SW is assumed to connect max.16 Roadside Equipment components.
- 3 - As for the Detail of Terminal Layer Network, the Contractor shall design. The Reference is made to the Drawing titled "Equipment Component for Road Section Layer and Terminal Layer Network (Typical Drawing)".
- 4 - Number of Optical Fiber should be 48 for Road Section Layer Network (8 : 4 + spare 4), connection between L3SW and L2SW (8 : 4 + spare 4), and Terminal Layer Network (32).
- 5 - In this Project, new optical fiber cable should be installed between Dai Xuyen IC and Cao Bo IC. The Main line will be installed by telecommunication carrier and the Contractor should install switches and connecting cable to main line.
- 6 - The Contractor should connect L3SW to be installed in Vuc Vong center to the existing router in order to connect existing system to the Northern Regional Main Center.
- 7 - The existing network stting in the existing system for Cau Gie - Ninh Binh should be kept as much as possible.

NOTES:

- RMO : Road Management Office
- TN : Terminal Node
- OFC : Optical Fiber Cable
- [Solid Line] : Proposed Switch
- [Dashed Line] : Existing System and Router
- L3SW : Layer 3 switch
- L2SW : Layer 2 switch
- [Solid Line] : Proposed Fiber

CONSULTANT				SOCIALIST REPUBLIC OF VIETNAM				ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:		
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	PREPARED BY								ROAD SECTION LAYER NETWORK FOR CAU GIE - NINH BINH		DRAWING No.:	
	CHECKED BY								SCALE: NTS		XIII. 1 - 08	
	APPROVED BY								Sheet		of	
										Rev:		



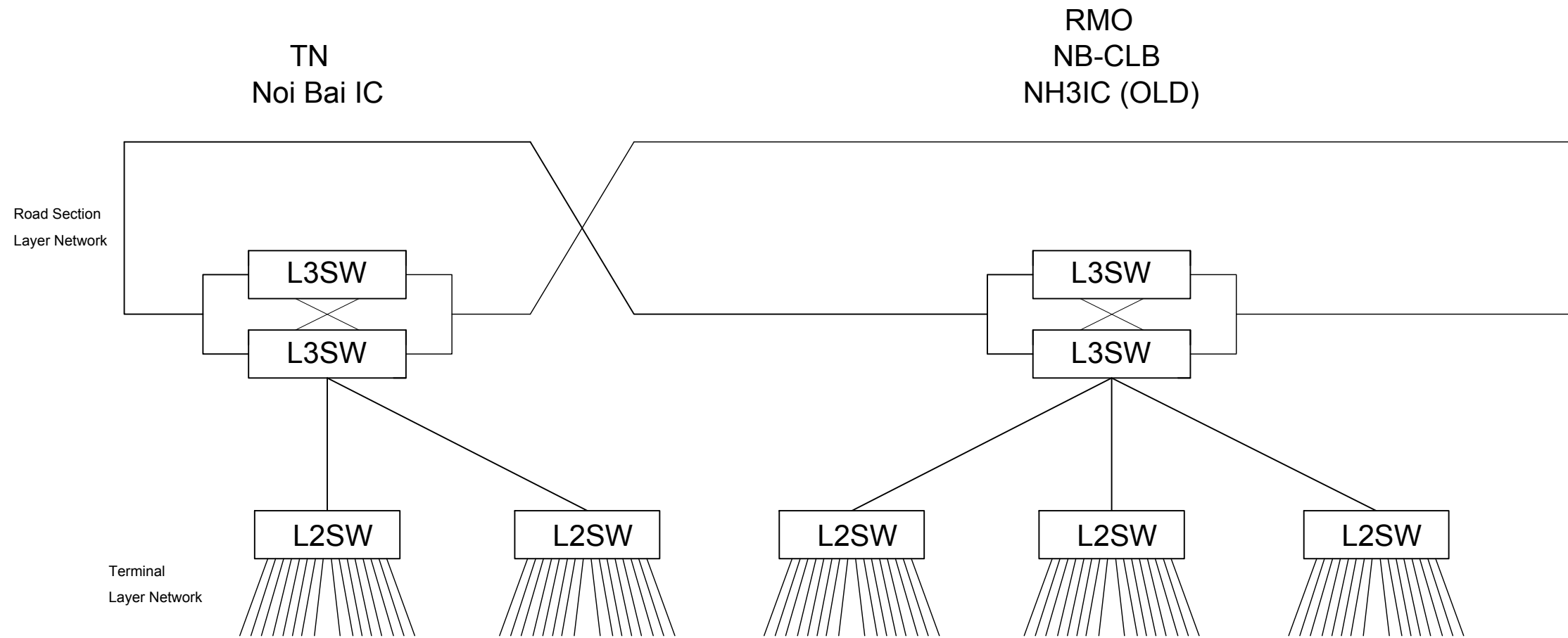
Remarks:

- 1 - This is sample drawing which shows Road Section Layer Network and a part of Terminal Layer Network.
- 2 - One L2SW is assumed to connect max.16 Roadside Equipment components.
- 3 - As for the Detail of Terminal Layer Network, the Contractor shall design. The Reference is made to the Drawing titled "Equipment Component for Road Section Layer and Terminal Layer Network (Typical Drawing)".
- 4 - Number of Optical Fiber should be 48 for Road Section Layer Network (8 : 4 + spare 4), connection between L3SW and L2SW (8 : 4 + spare 4), and Terminal Layer Network (32).
- 5 - Optical Fiber Cable and Duct for Road Section Layer Network is installed by VTN. L3SW installation including cable connection between L3SW and Road Section Layer cable belongs to the scope of work of the Contraction.
- 6 - Terminal Layer Network installation including connection between L3SW and L2SW belongs to the scope of work of the Contraction.

NOTES:

- RMO : Road Management Office
- TN : Terminal Node
- OFC : Optical Fiber Cable
- BS : Base Section for Mobile Radio
- L3SW : Layer 3 switch
- L2SW : Layer 2 switch
- HN-BG : Ha Noi - Bac Giang
- : 2 Core Optical Fiber

CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM					ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM			PACKAGE:			
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										ROAD SECTION LAYER NETWORK FOR HA NOI - BAC GIANG			XIII. 1 - 09			
										SCALE: NTS			SHEET No.:		Rev.:	
													Sheet		of	



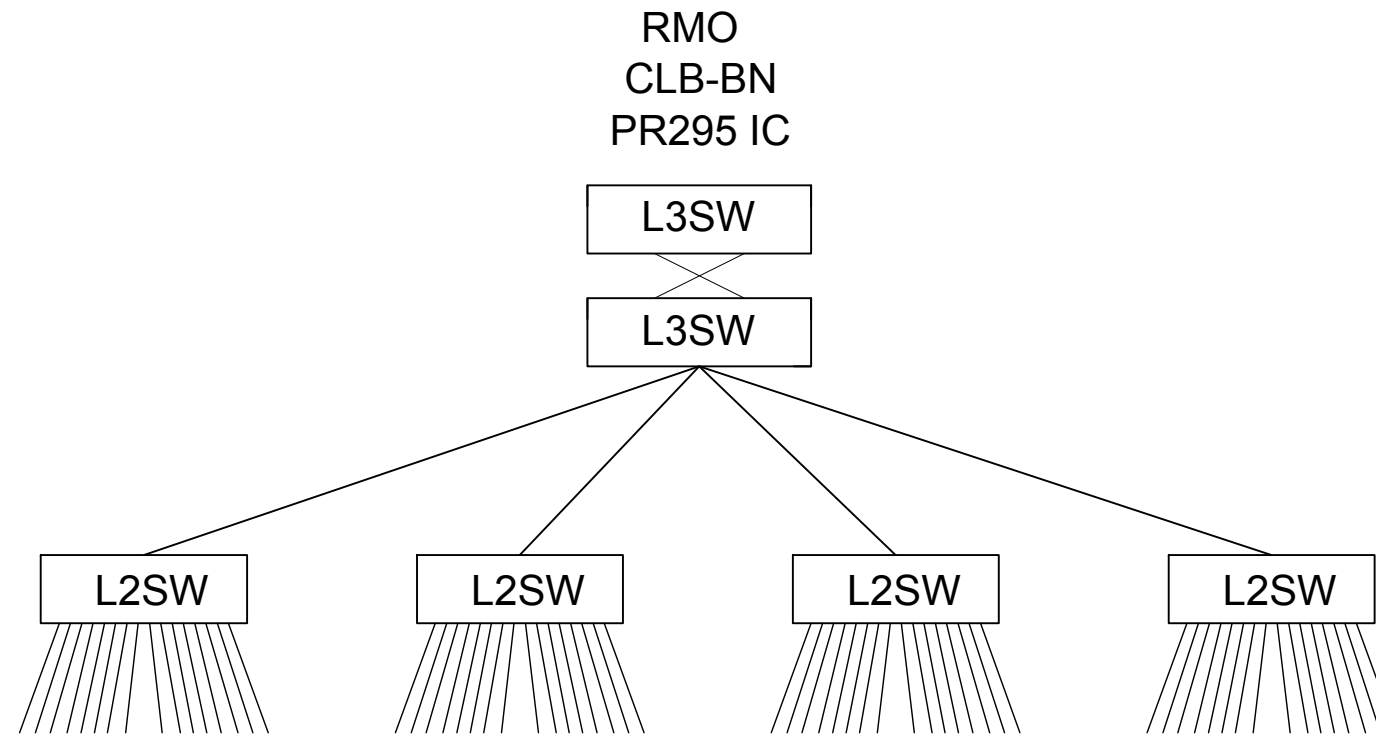
Remarks:

- 1 - This is sample drawing which shows Road Section Layer Network and a part of Terminal Layer Network.
- 2 - One L2SW is assumed to connect max.16 Roadside Equipment components.
- 3 - As for the Detail of Terminal Layer Network, the Contractor shall design. The Reference is made to the Drawing titled "Equipment Component for Road Section Layer and Terminal Layer Network (Typical Drawing)".
- 4 - Number of Optical Fiber should be 48 for Road Section Layer Network (8 : 4 + spare 4), connection between L3SW and L2SW (8 : 4 + spare 4), and Terminal Layer Network (32).

NOTES:

- RMO : Road Management Office
- TN : Terminal Node
- OFC : Optical Fiber Cable
- L3SW : Layer 3 switch
- L2SW : Layer 2 switch
- NB-CLB : Noi Bai - Ca Lo Bridge
- : 2 Core Optical Fiber

CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM					ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM					PACKAGE:					
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					TITLE	NAME	SIGNATURE	DATE	MINISTRY OF TRANSPORT					DRAWING TITLE: ROAD SECTION LAYER NETWORK FOR NOI BAI - CA LO BRIDGE					DRAWING No.: XIII. 1 - 10	
					PREPARED BY														SHEET No.:	
					CHECKED BY									Sheet		of				
					APPROVED BY									SCALE: NTS						



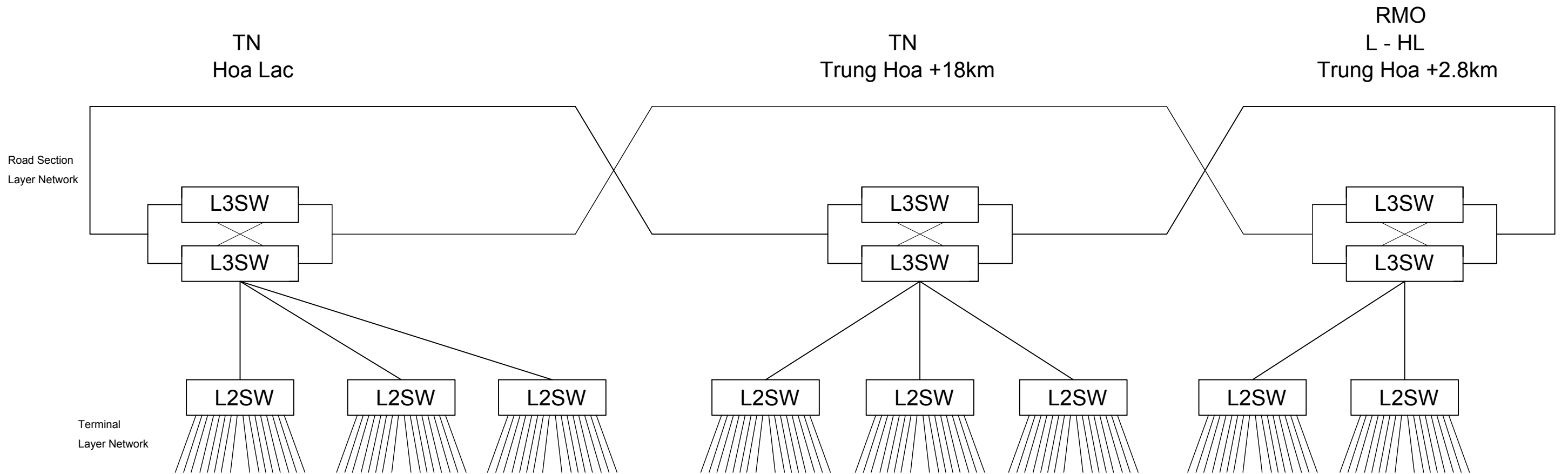
Remarks:

- 1 - This is sample drawing which shows Road Section Layer Network and a part of Terminal Layer Network.
- 2 - One L2SW is assumed to connect max.16 Roadside Equipment components.
- 3 - As for the Detail of Terminal Layer Network, the Contractor shall design. The Reference is made to the Drawing titled "Equipment Component for Road Section Layer and Terminal Layer Network (Typical Drawing)".
- 4 - Number of Optical Fiber should be 48 for Road Section Layer Network (8 : 4 + spare 4), connection between L3SW and L2SW (8 : 4 + spare 4), and Terminal Layer Network (32).

NOTES:

- RMO : Road Management Office
- TN : Terminal Node
- OFC : Optical Fiber Cable
- L3SW : Layer 3 switch
- L2SW : Layer 2 switch
- CLB-BN : Ca Lo Bridge - Bac Ninh
- : 2 Core Optical Fiber

CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM			ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		<small>PACKAGE:</small>	
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.	TITLE	NAME	SIGNATURE	DATE	MINISTRY OF TRANSPORT			DRAWING TITLE:		DRAWING No.: XIII. 1 - 11	
	PREPARED BY							ROAD SECTION LAYER NETWORK FOR CA LO BRIDGE - BAC NINH		SHEET No.:	Rev:
	CHECKED BY							<small>SCALE: NTS</small>		Sheet	of
	APPROVED BY										



Remarks:

- 1 - This is sample drawing which shows Road Section Layer Network and a part of Terminal Layer Network.
- 2 - One L2SW is assumed to connect max.16 Roadside Equipment components.
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- 4 - Number of Optical Fiber should be 48 for Road Section Layer Network (8 : 4 + spare 4), connection between L3SW and L2SW (8 : 4 + spare 4), and Terminal Layer Network (32).

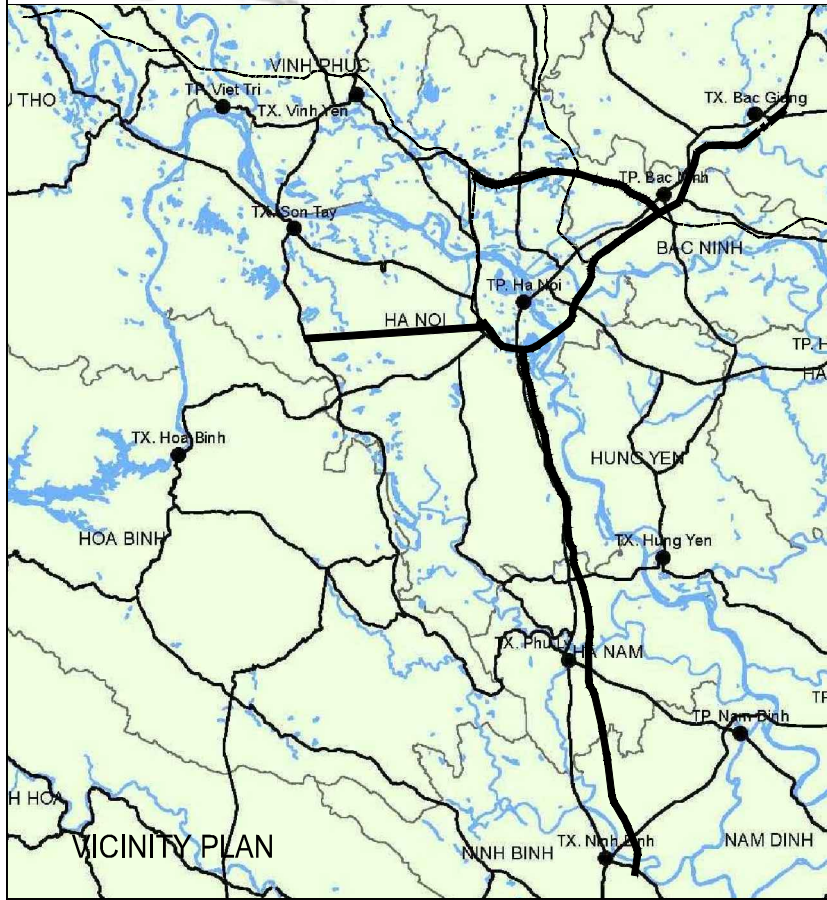
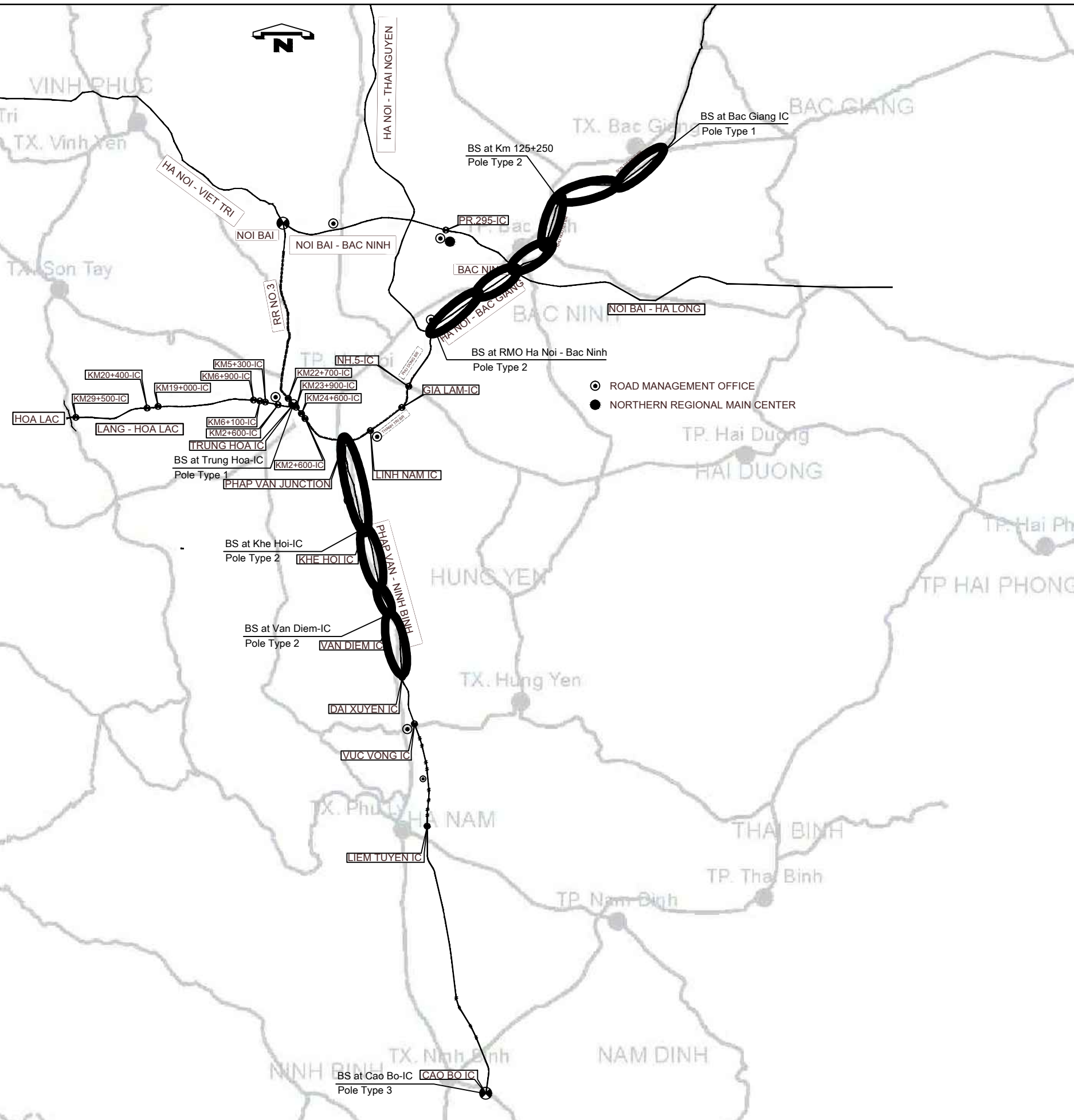
NOTES:

- RMO : Road Management Office
- TN : Terminal Node
- OFC : Optical Fiber Cable
- L3SW : Layer 3 switch
- L2SW : Layer 2 switch
- L - HL : Lang - Hoa Lac
- : 2 Core Optical Fiber

CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM					ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM			PACKAGE:						
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					PREPARED BY									ROAD SECTION LAYER NETWORK FOR LANG - HOA LAC			XIII. 1 - 12		
					CHECKED BY									SCALE: NTS			SHEET No.:		Rev.:
					APPROVED BY									Sheet			of		Rev.:

Remarks: This is sample drawing which shows location plan of Base Station for Radio Communication and its coverage plan for the target expressway sections. The Base Station includes the function of repeater which connects the different mobile terminals within the same coverage area of one Base Station.

As for the road section Bac Ninh - Bac Giang (approx 26km). It is under road design. Therefore the coverage plan is not able to provide. However it is required to cover in this project.



CONSULTANT				
TITLE	NAME	SIGNATURE	DATE	
ORIENTAL CONSULTANTS GLOBAL CO., LTD				
METROPOLITAN EXPRESSWAY CO., LTD				
NEXCO EAST ENGINEERING CO., LTD				
TRANSPORTATION RESEARCH INSTITUTE CO., LTD				
ABEAM CONSULTING LTD.				

SOCIALIST REPUBLIC OF VIETNAM	
MINISTRY OF TRANSPORT	

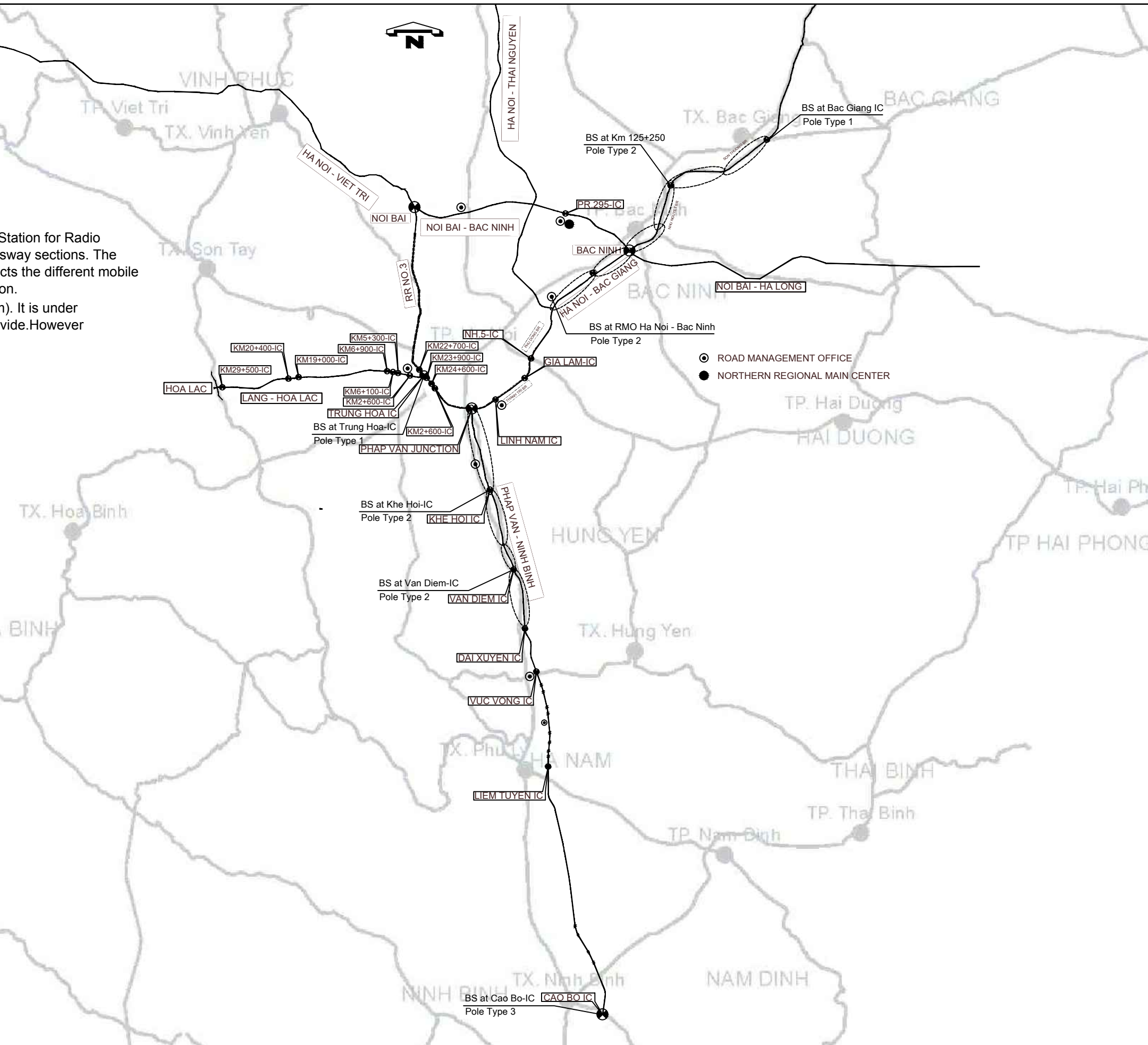
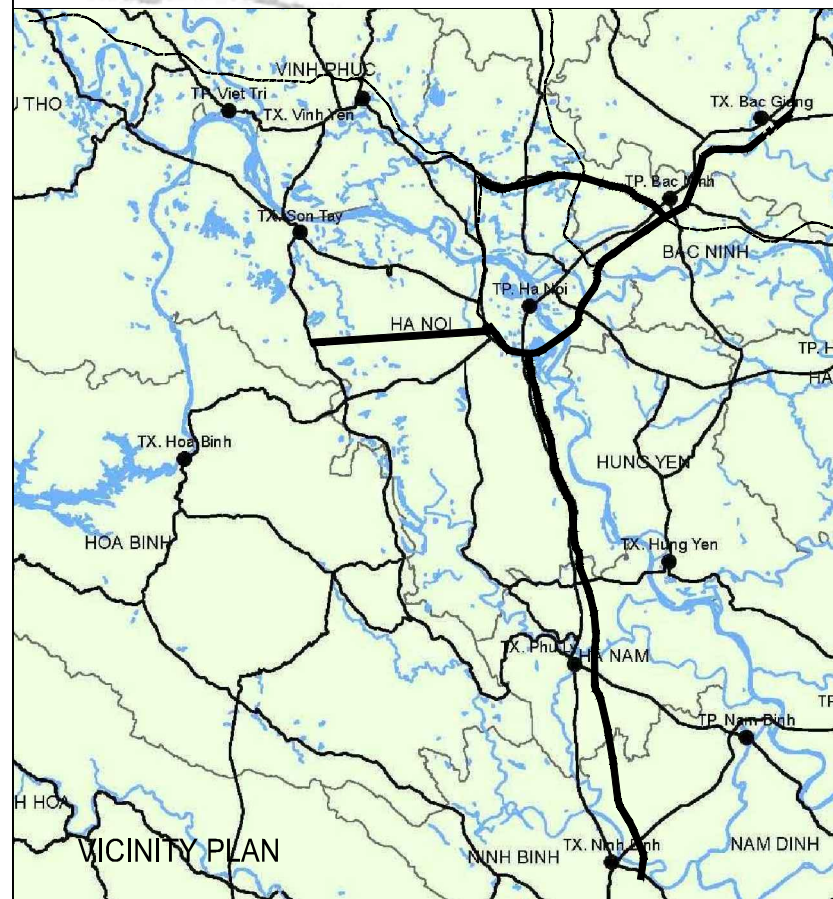
ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM	
DRAWING TITLE:	RADIO COMMUNICATION BASE STATION LOCATION PLAN
SCALE:	N.T.S

PACKAGE:	
DRAWING No.:	XIII. 1 - 13
SHEET No.:	Sheet of

POWER SUPPLY

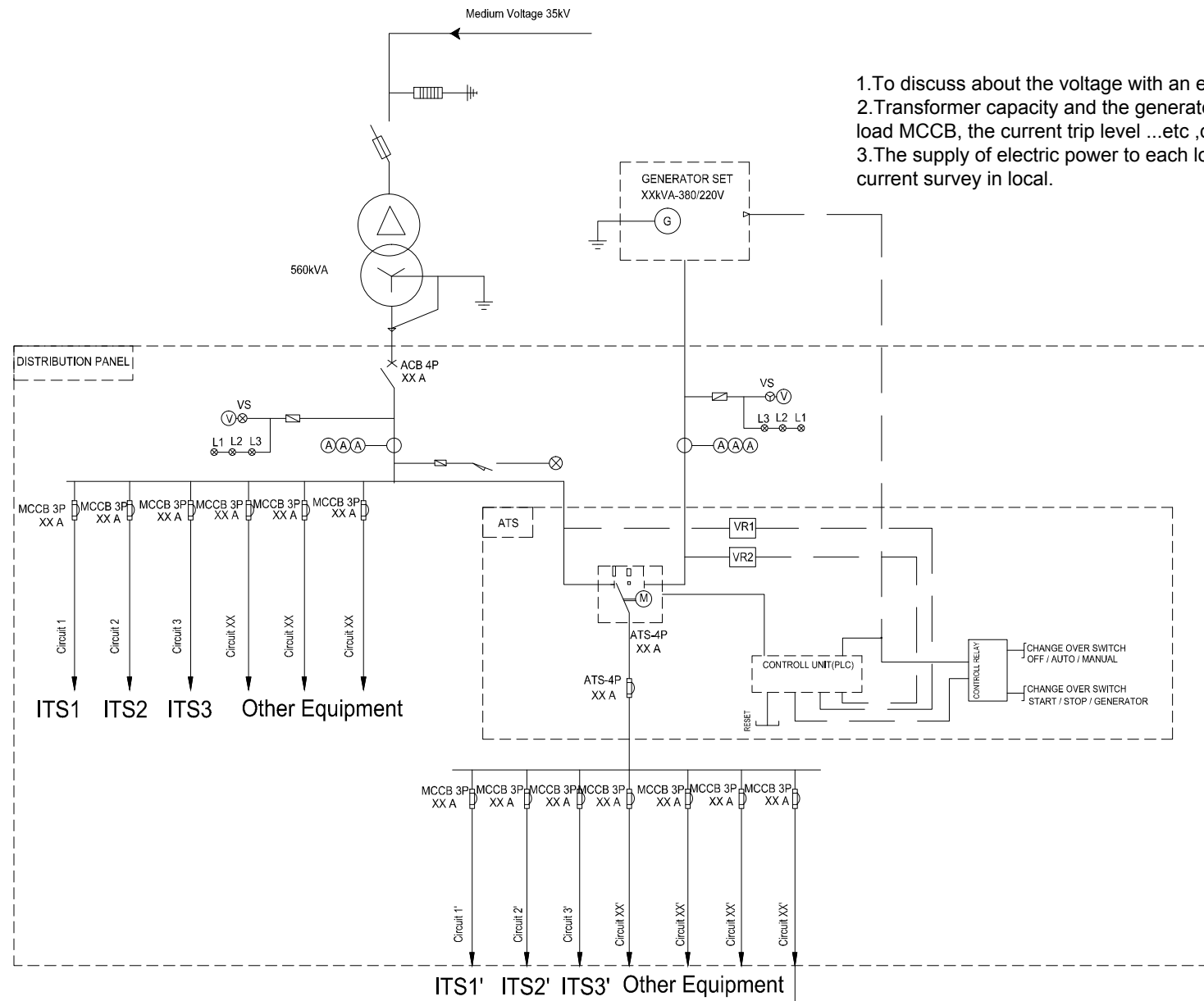
Remarks: This is sample drawing which shows location plan of Base Station for Radio Communication and its coverage plan for the target expressway sections. The Base Station includes the function of repeater which connects the different mobile terminals within the same coverage area of one Base Station.

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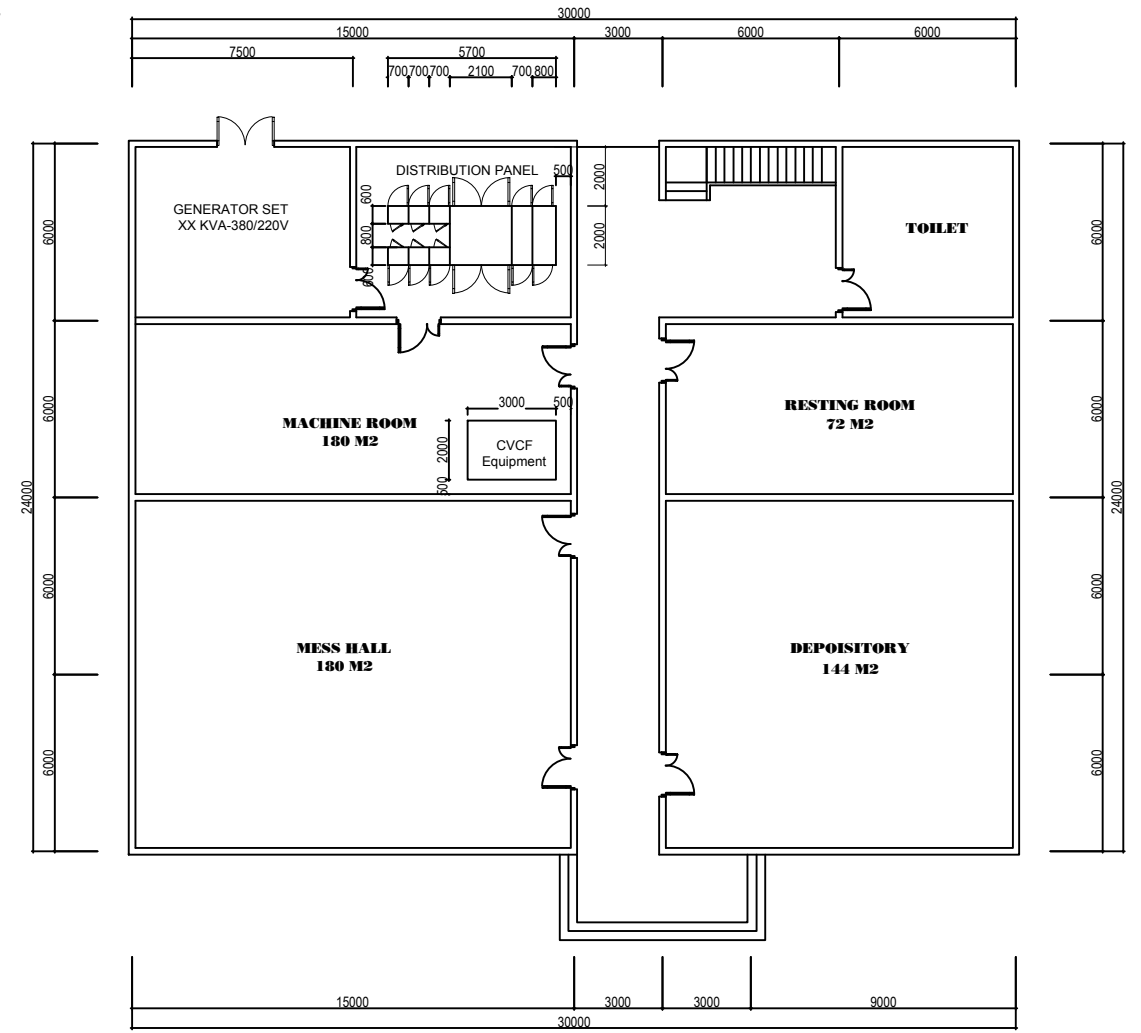


CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM					ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:	
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					MINISTRY OF TRANSPORT					DRAWING TITLE:		DRAWING No.: XIV. 1 - 01	
TITLE	NAME	SIGNATURE	DATE	ARRANGEMENT OF POWER SUPPLY ZONE						SHEET No.:		Rev:	
PREPARED BY				SCALE: N.T.S						Sheet		of	
CHECKED BY													
APPROVED BY													

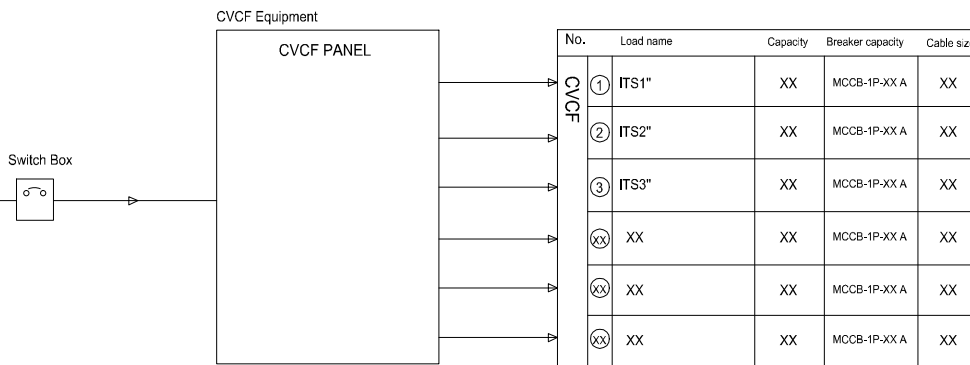
**POWER SUPPLY OUTLINE AT NORTHERN REGIONAL MAIN CENTER
(FOR REFERENCE)**



1. To discuss about the voltage with an electric power company.
2. Transformer capacity and the generator for private use, amount of load MCCB, the current trip level ...etc ,depend on local inspection.
3. The supply of electric power to each load are decided by after current survey in local.



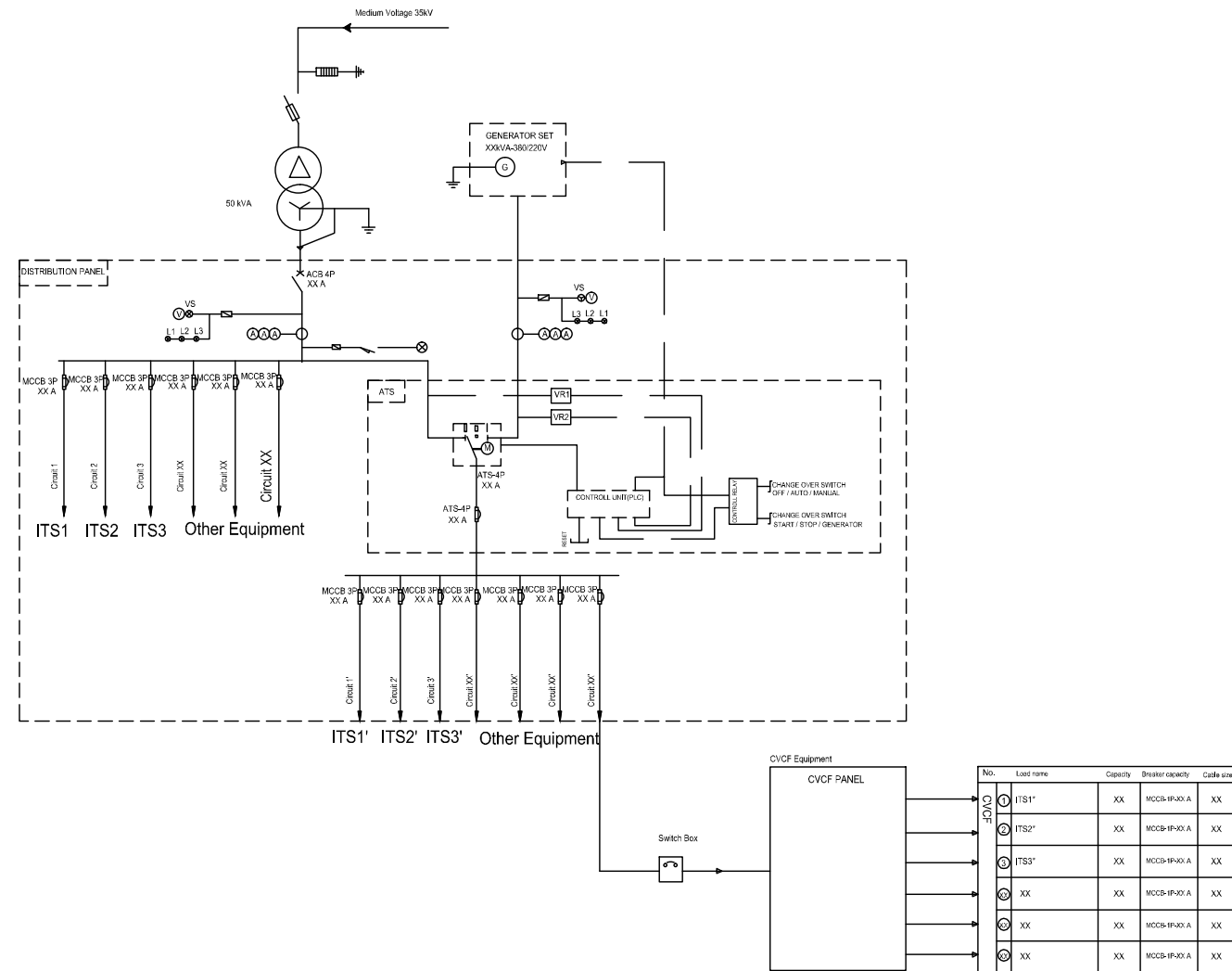
1F



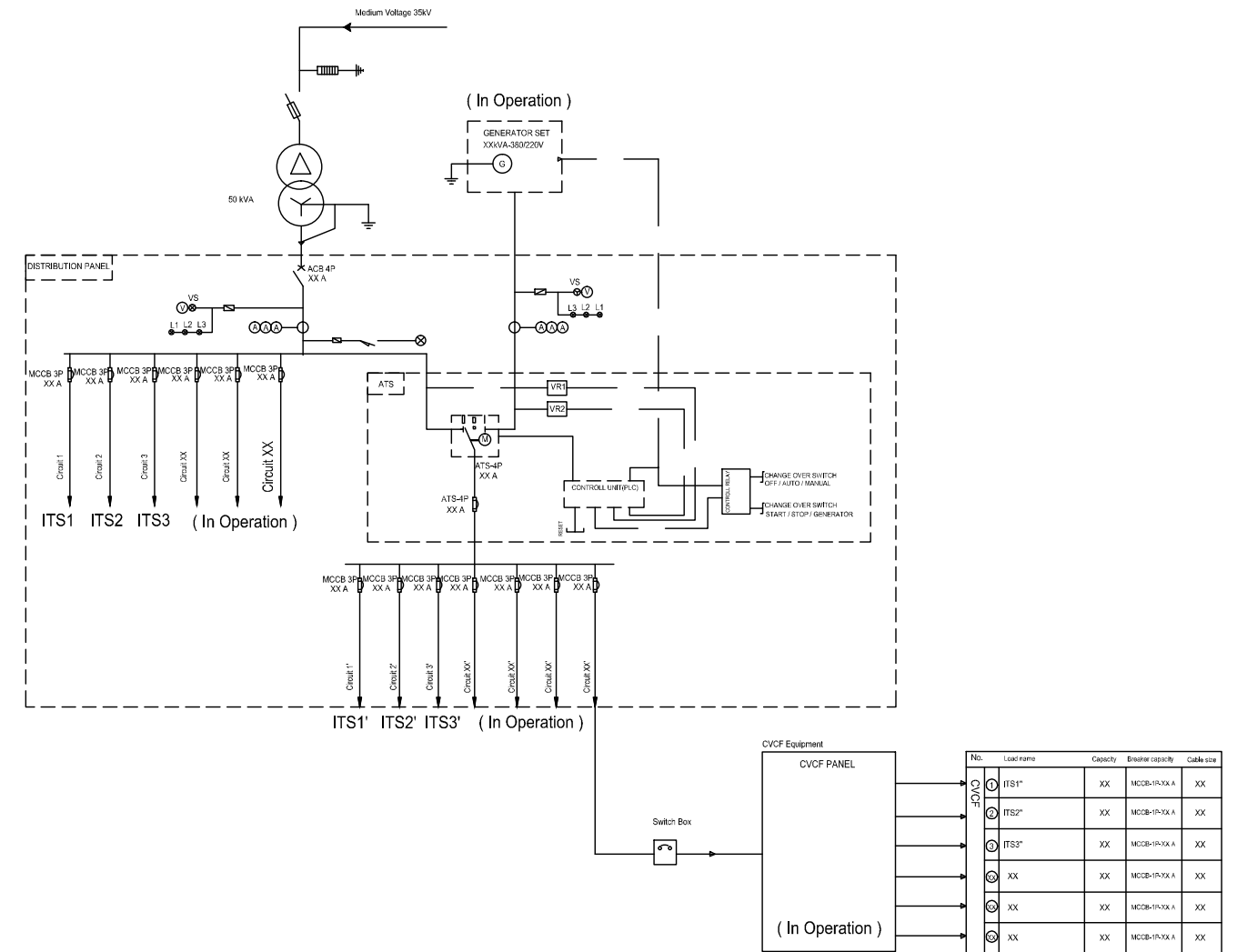
CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM					ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM			PACKAGE:			
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					MINISTRY OF TRANSPORT					DRAWING TITLE: POWER SUPPLY OUTLINE AT NORTHERN REGIONAL MAIN CENTER (FOR REFERENCE)			DRAWING No.:			
													XIV.1-02			
													SHEET No.:		Rev:	
													Sheet		of	
TITLE					NAME					DATE						
PREPARED BY																
CHECKED BY																
APPROVED BY																
SCALE:																

POWER SUPPLY OUTLINE AT ROAD MANAGEMENT OFFICE (FOR REFERENCE)

1. To discuss about the voltage with an electric power company.
2. Transformer capacity and the generator for private use, amount of load MCCB, the current trip level ...etc ,depend on local inspection.
3. The supply of electric power to each load are decided by after current survey in local.



NEW : XXXXX (Lang-Hoalac)

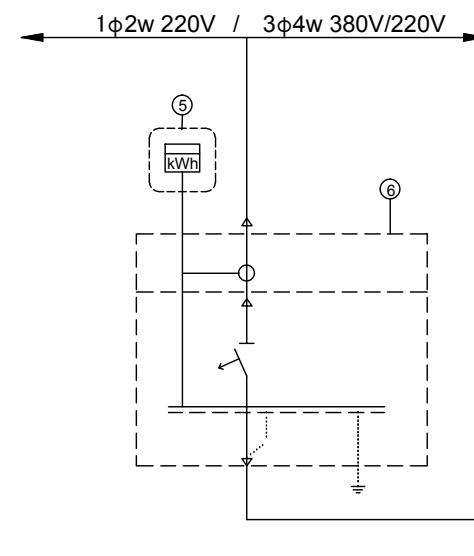
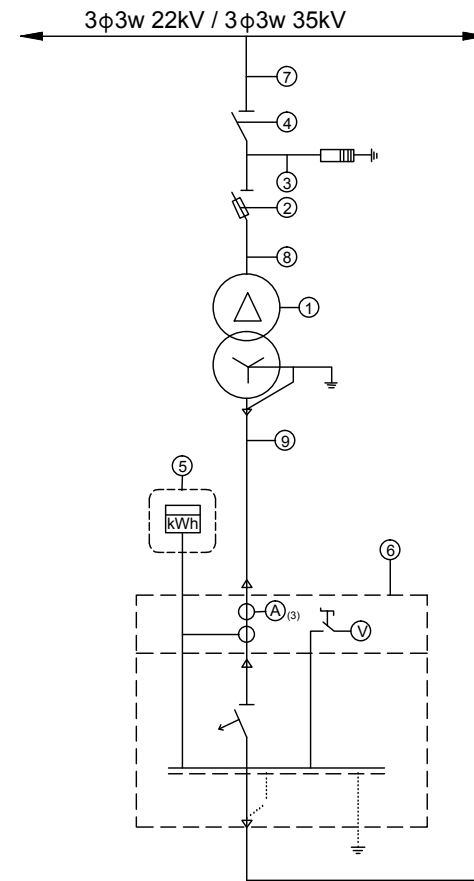


REMODEL : LINH NAM (RR3)
: LIEM TUYEN (PhapVan - NinhBinh)
: NoiBai (NoiBai - VietTri)
: XXXXX (NoiBai - BacNinh)
: BacNinh (Hanoi - BacNinh)

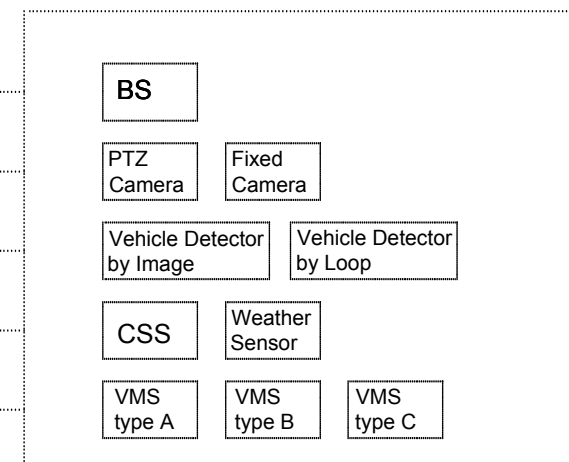
CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM					ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM			PACKAGE:	
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					MINISTRY OF TRANSPORT					DRAWING TITLE:			DRAWING No.:	
										POWER SUPPLY OUTLINE AT ROAD MANAGEMENT OFFICE (FOR REFERENCE)			XIV.1-03	
										SCALE:			SHEET No.:	
										Sheet of				

POWER SUPPLY OUTLINE AT ROAD SIDE (FOR REFERENCE)

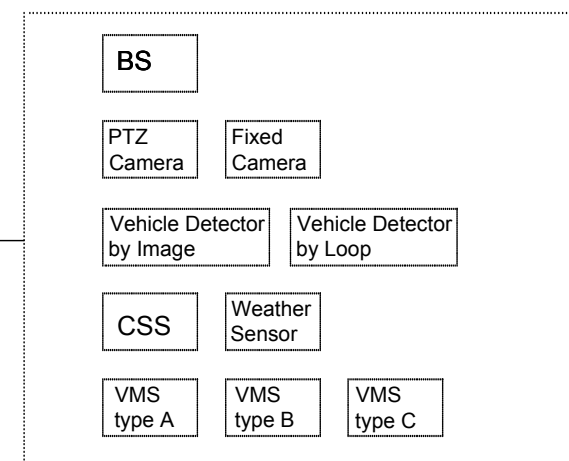
K.H	Facilities name	TÊN THIẾT BỊ	
⑦	A copper core cable for middle-pressure electricity AC-XX	Dây trung áp nhôm tròn lõi thép AC-XX	
④	Distance switch- X kv	Dao cách ly - X kv	
③	Lightning arrester equipment-X kv	Cống sét van la-X kv	
②	Fuse FCO- X kv	Cầu chì FCO- X kv	
⑧	A copper core bus bar M XX(D X)	Thanh cái đồng M XX(D X)	
①	A transformer BT-X.X(XX)/0.4kv Y/Yo -XX UN =X.X% OR Y/Yo -XX UN =X.X%	Máy biến áp BT-X.X(XX)/0.4kv Y/Yo -XX UN =X.X% Hoặc Y/Yo XX UN =X.X%	
⑨	A copper core cable for low-pressure electricity PVC (a single line cable or 4 cores) Cáp lực hạ áp đồng bọc PVC (Cáp đơn hoặc 4 lõi)		
⑤	A meter box 3 phase meters 100/5 - 380V	Hòm công tơ Công tơ 3 pha meters 100/5 - 380V	
⑥	A low voltage cabinet TD - 400V Tủ điện hạ áp TD - 400V	connection box Ti đo 100/5 (cái) VOLTMET 0 - 450V (1cái) AMPEMET 0 - 100A (3cái) Ti điểm 100/5 (3 cái)	Tủ phân phối Ti đo 100/5 (cái) VOLTMET 0 - 450V (1cái) AMPEMET 0 - 100A (3cái) Ti điểm 100/5 (3 cái)
		a breaker 3 pha	APTOMAT tổng 3 pha
		A copper core bus bar	Thanh cái đồng
⑩	A switch box	Hộp công tắc	



- 1.To discuss about the electric voltage with an electric power company.
- 2.Transformers capacity,the number of the circuits in switch box depend on local inspection.
- 3.The supply of electric power to each load assumes it individual treatment and series connection, but the details are decided by after current survey in local.



BS:Mobile Radio Communication Base Station
CSS:Changeable Speed limit Sign
VMS:Variable Message Sign board

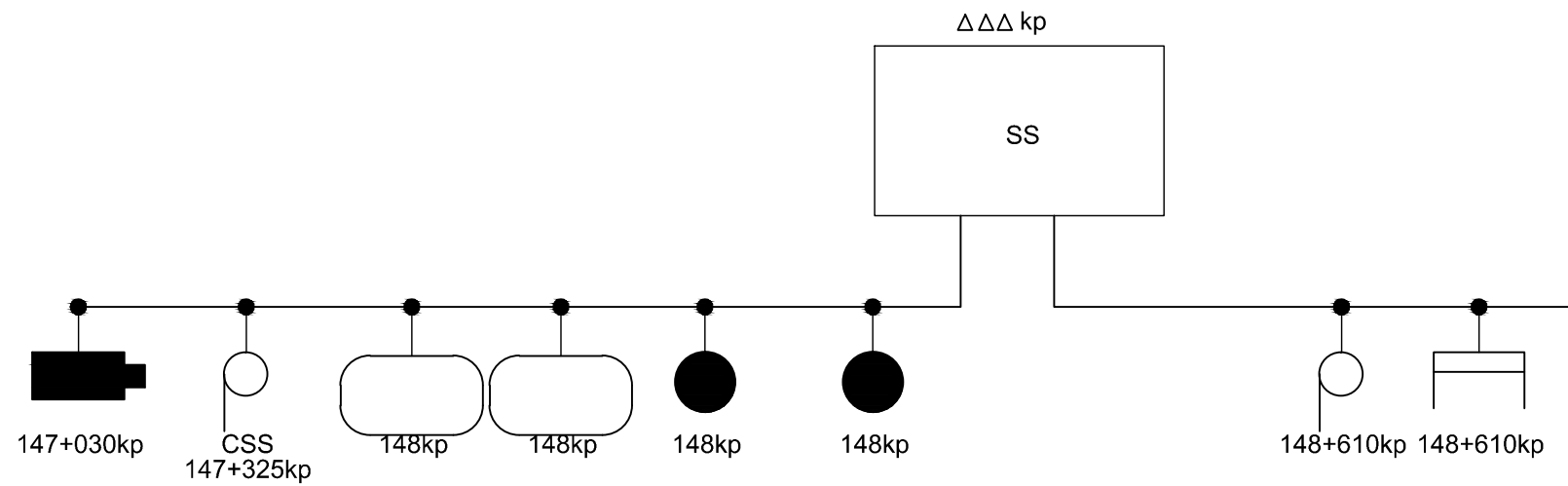


BS:Mobile Radio Communication Base Station
CSS:Changeable Speed limit Sign
VMS:Variable Message Sign board

CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM			ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:
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	PREPARED BY								XIV.1-04	
	CHECKED BY								SHEET No.:	Rev.:
	APPROVED BY								Sheet	of
							SCALE:			

POWER SUPPLY CABLE DISTRIBUTION DIAGRAM

RING ROAD 3 (FOR REFERENCE)



LEGEND

- CCTV PTZ Camera
- CCTV Fixed Camera
- VMS Type-A
- VMS Type-B
- VMS Type-C
- Vehicle Detector by Image
- Vehicle Detector by Loop
- CSS
- Weather Sensor
- Sub station

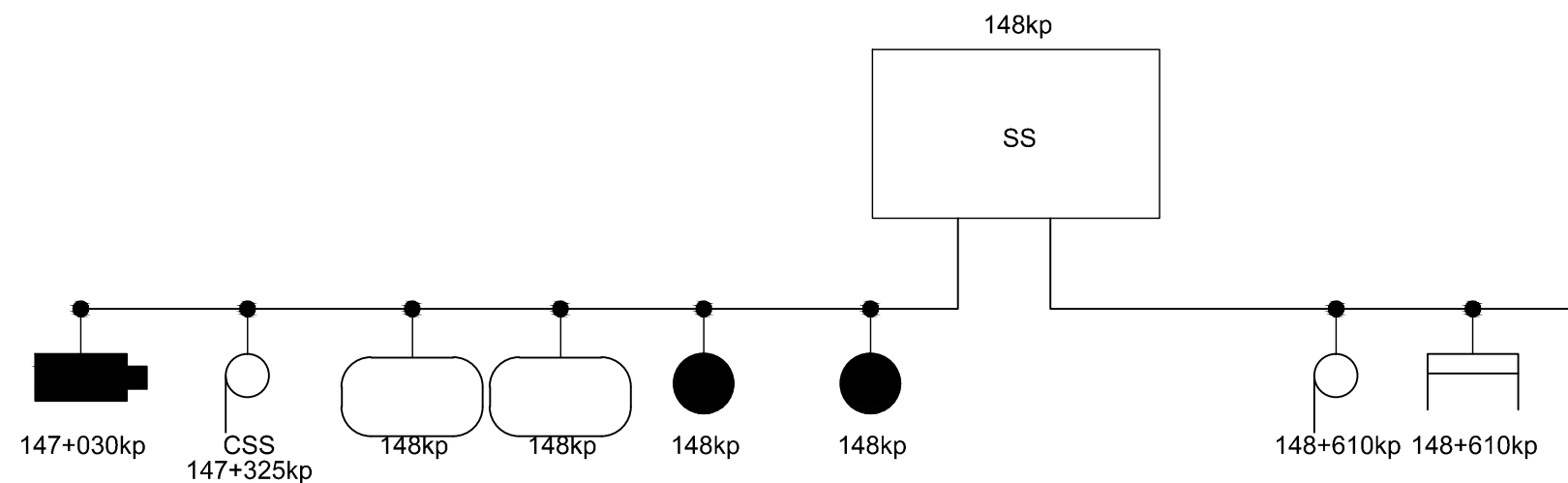
Note:

To construct it after conducting a local survey and collation separately in laying of piping and wiring from Sub Station to roadside equipment

CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM			ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		<small>PACKAGE:</small>	
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	PREPARED BY							POWER SUPPLY CABLE DISTRIBUTION DIAGRAM RING ROAD 3 (FOR REFERENCE)		SHEET No.:	Rev.:
	CHECKED BY							<small>SCALE:</small>		Sheet	of
	APPROVED BY										

POWER SUPPLY CABLE DISTRIBUTION DIAGRAM

HA NOI- BAC GIANG (FOR REFERENCE)



LEGEND

- CCTV PTZ Camera
- CCTV Fixed Camera
- VMS Type-A
- VMS Type-B
- VMS Type-C
- Vehicle Detector by Image
- Vehicle Detector by Loop
- CSS
- Weather Sensor
- Sub station

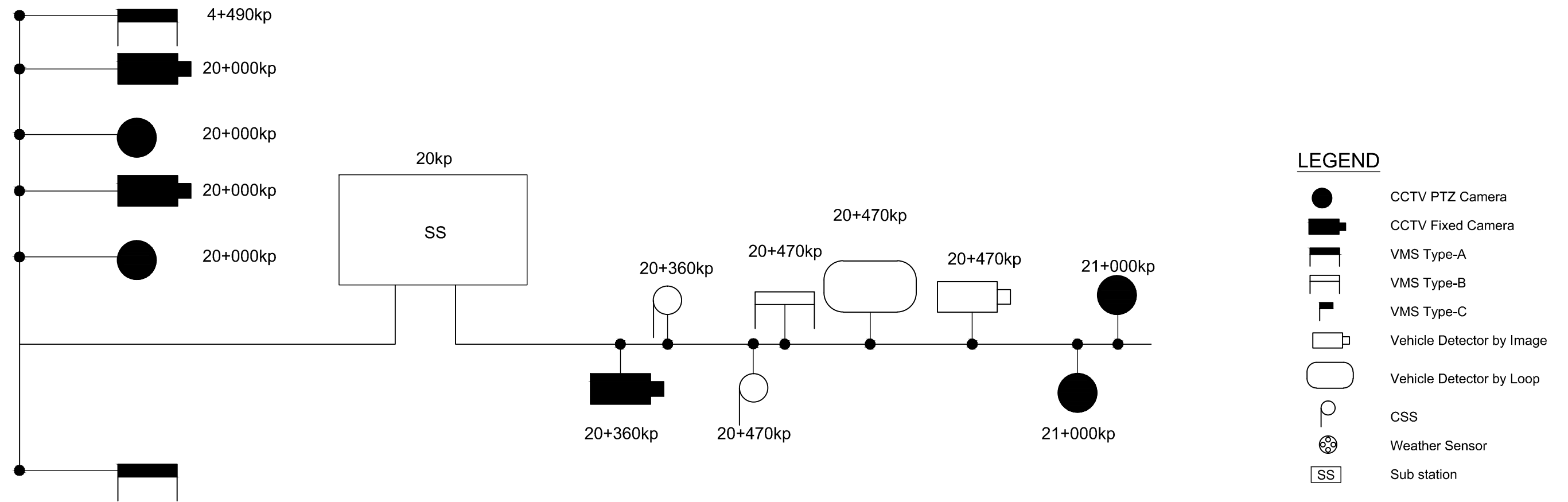
Note:

To construct it after conducting a local survey and collation separately in laying of piping and wiring from Sub Station to roadside equipment

CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM			ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		<small>PACKAGE:</small>	
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	PREPARED BY							POWER SUPPLY CABLE DISTRIBUTION DIAGRAM HA NOI- BAC GIANG (FOR REFERENCE)		SHEET No.:	Rev.:
	CHECKED BY							<small>SCALE:</small>		Sheet	of
	APPROVED BY										

POWER SUPPLY CABLE DISTRIBUTION DIAGRAM

NOI BAI- BAC NINH (FOR REFERENCE)

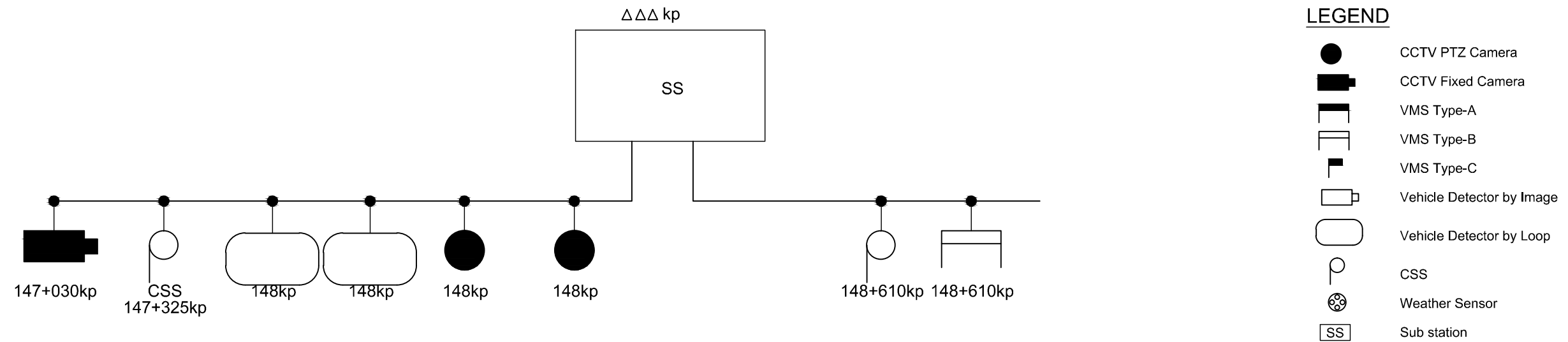


Note:
To construct it after conducting a local survey and collation separately in laying of piping and wiring from Sub Station to roadside equipment

CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM			ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		<small>PACKAGE:</small>	
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	PREPARED BY							POWER SUPPLY CABLE DISTRIBUTION DIAGRAM NOI BAI- BAC NINH (FOR REFERENCE)		SHEET No.:	Rev.:
	CHECKED BY							SCALE:		Sheet	of
	APPROVED BY										

POWER SUPPLY CABLE DISTRIBUTION DIAGRAM

LANG - HOA LAC (FOR REFERENCE)

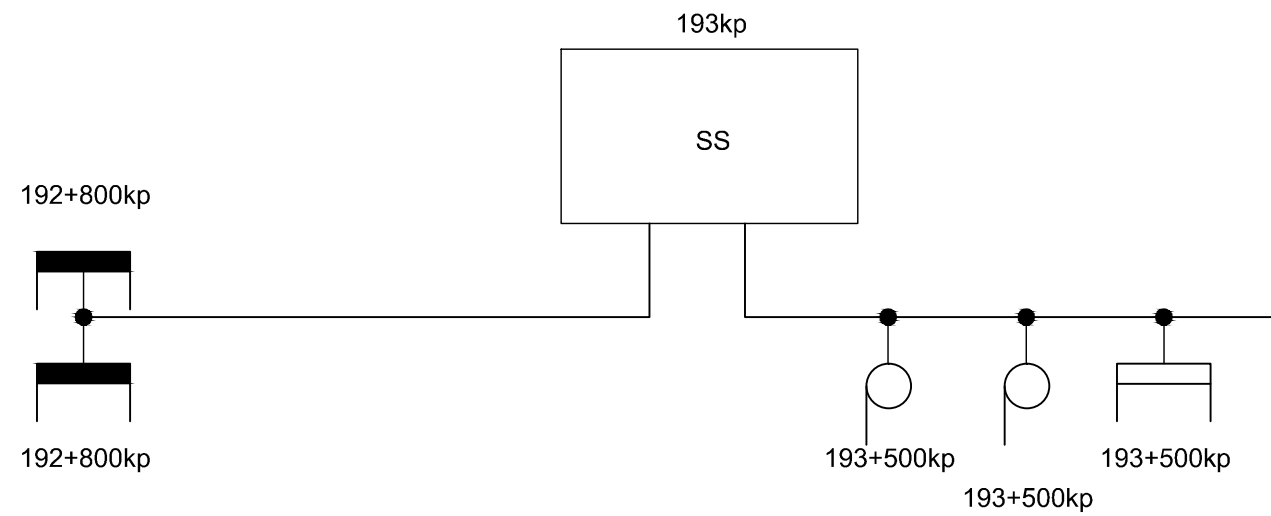


Note:
To construct it after conducting a local survey and collation separately in laying of piping and wiring from Sub Station to roadside equipment











CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM			ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		<small>PACKAGE:</small>	
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								POWER SUPPLY CABLE DISTRIBUTION DIAGRAM LANG - HOA LAC (FOR REFERENCE)		XIV.1-08	
								<small>SCALE:</small>		<small>SHEET No.:</small>	<small>Rev.:</small>
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POWER SUPPLY CABLE DISTRIBUTION DIAGRAM

PHAP VAN - GIE (FOR REFERENCE)



LEGEND

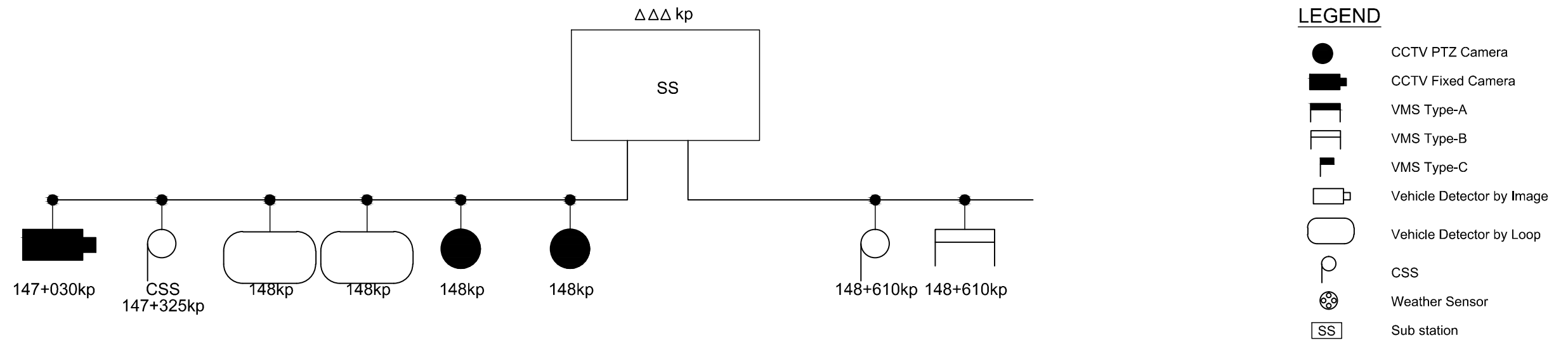
-  CCTV PTZ Camera
-  CCTV Fixed Camera
-  VMS Type-A
-  VMS Type-B
-  VMS Type-C
-  Vehicle Detector by Image
-  Vehicle Detector by Loop
-  CSS
-  Weather Sensor
-  Sub station

Note:
To construct it after conducting a local survey and collation separately in laying of piping and wiring from Sub Station to roadside equipment

CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM			ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		<small>PACKAGE:</small>	
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					<small>PREPARED BY</small>						<small>DRAWING TITLE:</small>
					<small>CHECKED BY</small>				<small>SCALE:</small>	<small>SHEET No.:</small>	<small>Rev.:</small>
					<small>APPROVED BY</small>				Sheet	of	

POWER SUPPLY CABLE DISTRIBUTION DIAGRAM

GIE - NINH BINH (FOR REFERENCE)



LEGEND

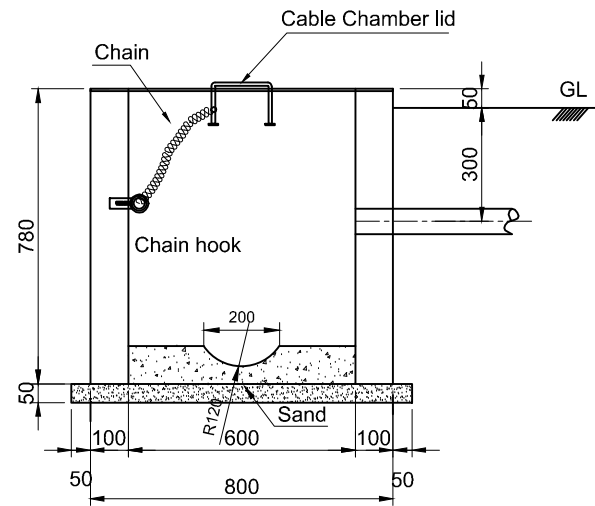
- CCTV PTZ Camera
- CCTV Fixed Camera
- VMS Type-A
- VMS Type-B
- VMS Type-C
- Vehicle Detector by Image
- Vehicle Detector by Loop
- CSS
- Weather Sensor
- Sub station

Note:
To construct it after conducting a local survey and collation separately in laying of piping and wiring from Sub Station to roadside equipment

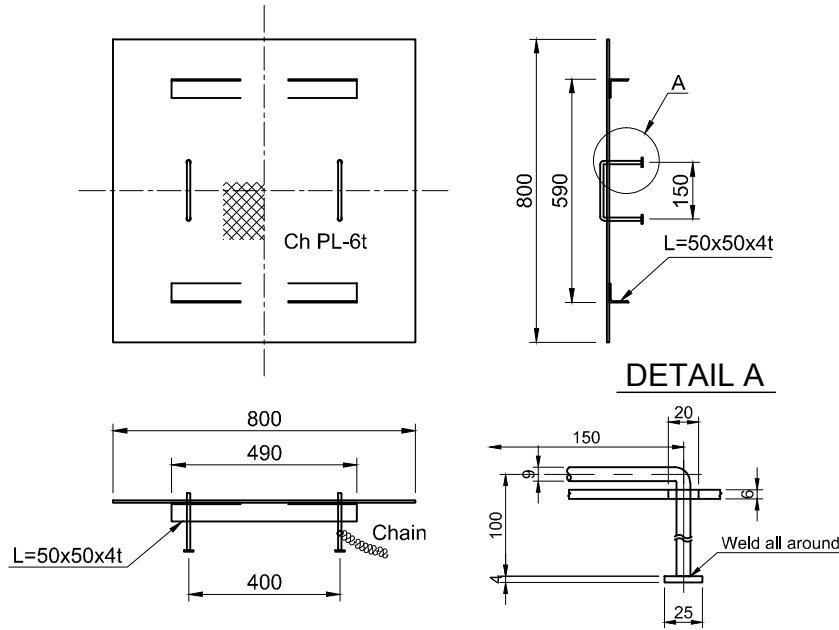
CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM			ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		<small>PACKAGE:</small>	
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					<small>PREPARED BY</small>						<small>DRAWING TITLE:</small>
					<small>CHECKED BY</small>				<small>POWER SUPPLY CABLE DISTRIBUTION DIAGRAM GIE - NINH BINH (FOR REFERENCE)</small>		<small>SHEET No.:</small>
<small>APPROVED BY</small>				<small>SCALE:</small>		<small>Sheet</small>	<small>of</small>				

CABLE CHAMBER DIAGRAM (FOR REFERENCE)

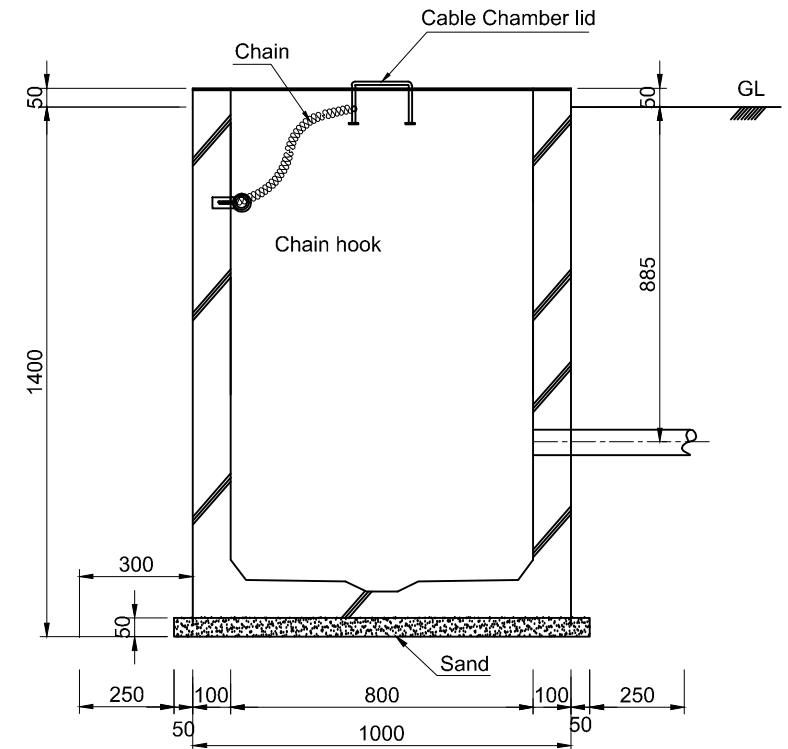
Cable Chamber View (E1-1)
(800x800x780)



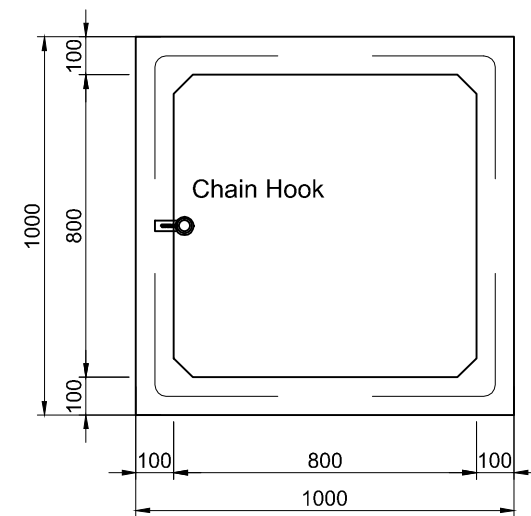
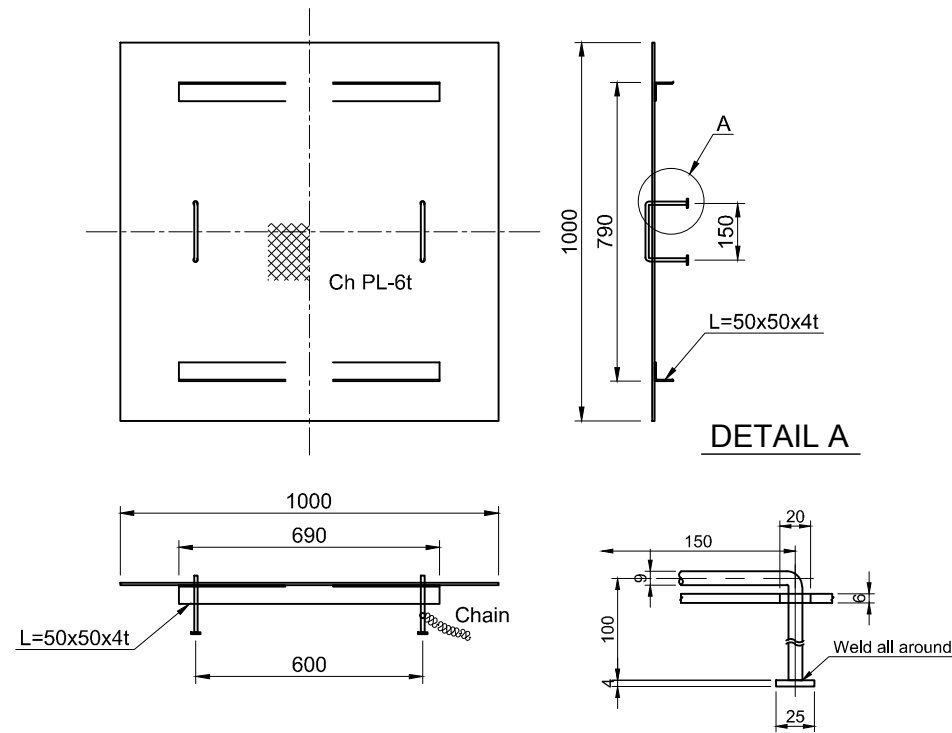
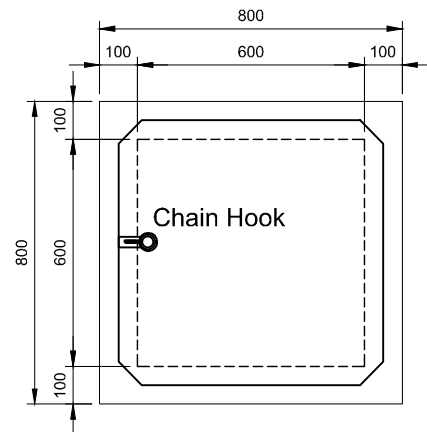
Cable Chamber lid (C1)



Cable Chamber View (E1-2)
(1000x1000x1400)



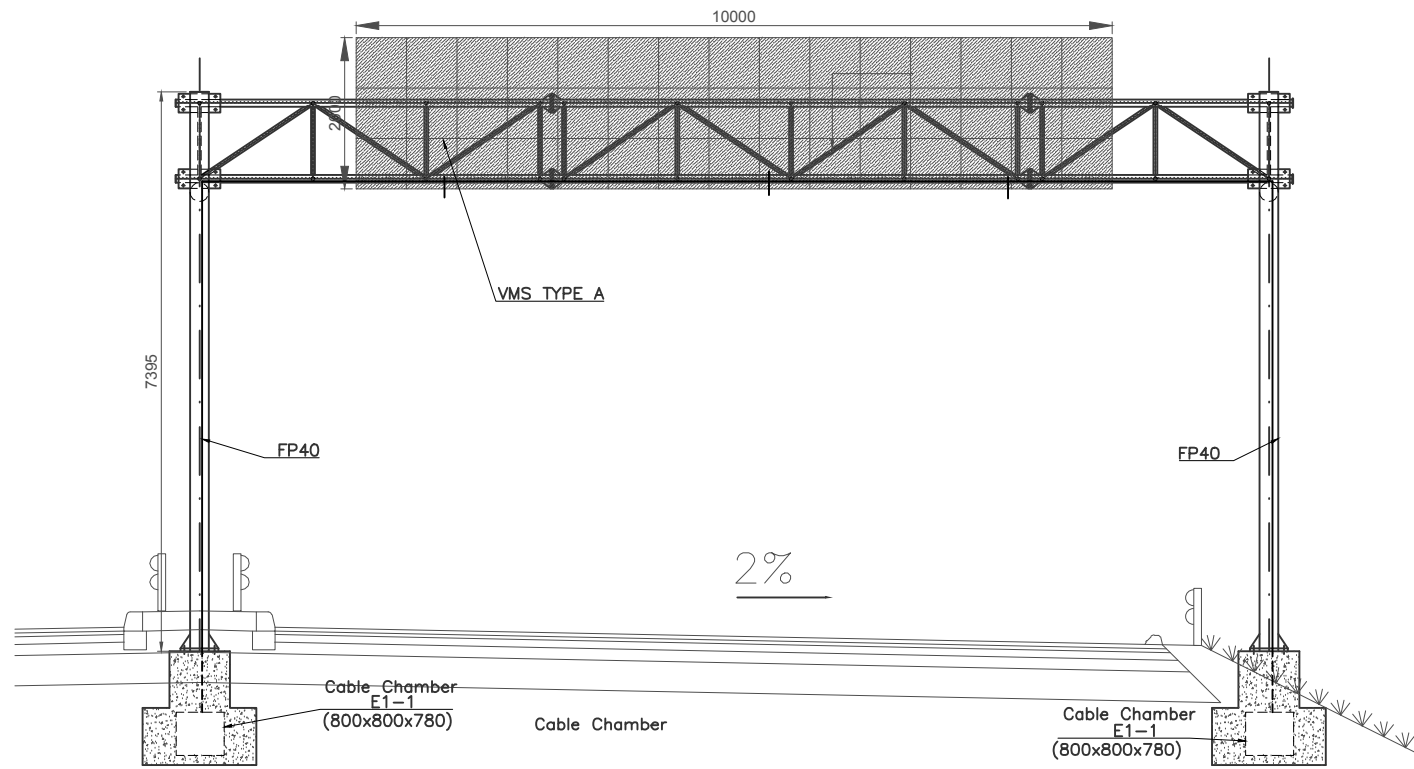
Cable Chamber lid (C2)



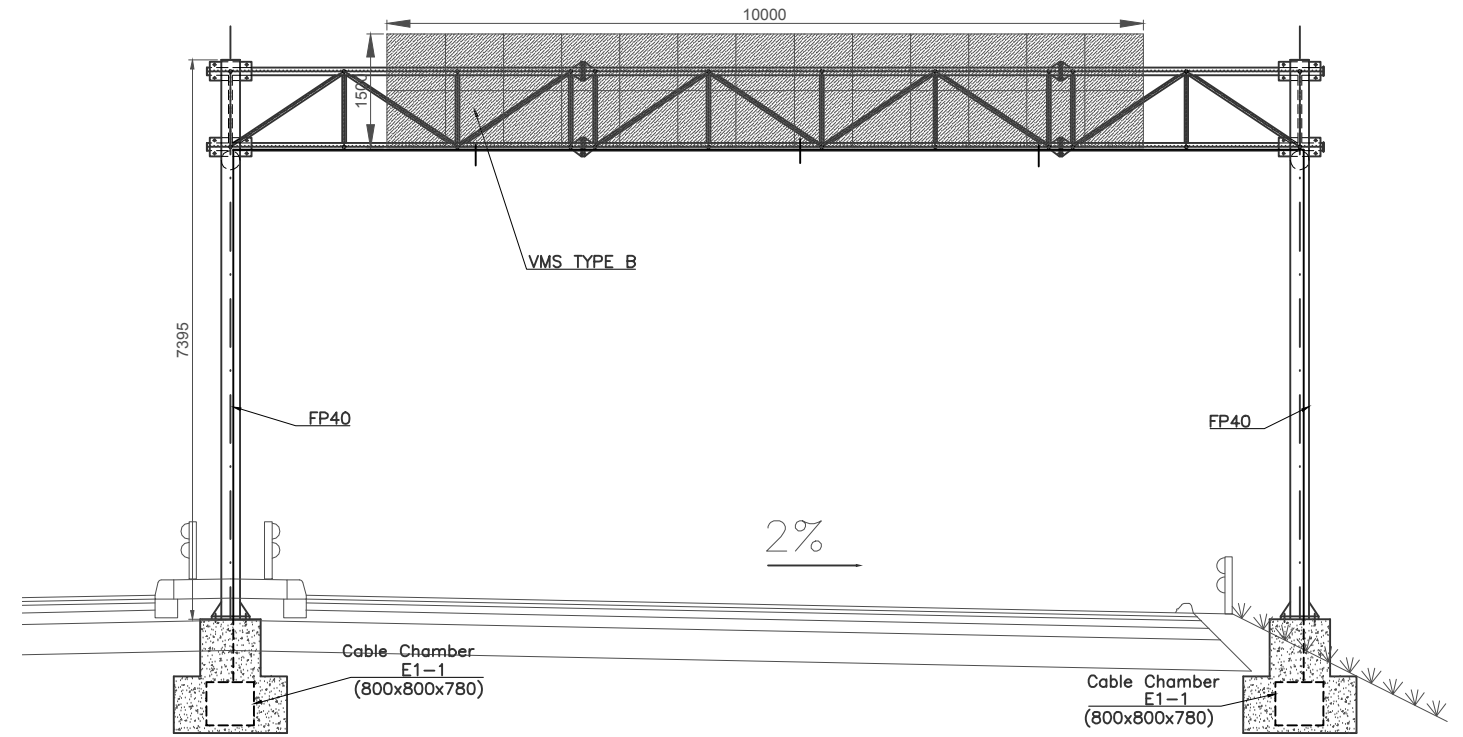
CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM					ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:									
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					MINISTRY OF TRANSPORT					DRAWING TITLE:		DRAWING No.:		XIV.1-11							
										CABLE CHAMBER DIAGRAM (FOR REFERENCE)		SCALE:				Sheet	of				
										PREPARED BY					SIGNATURE					Rev:	
										CHECKED BY					DATE					Sheet	
APPROVED BY					DATE					Sheet		of									

THE GATE TYPE PROP ATTACHING ROAD CROSSING PIPING DIAGRAM (FOR REFERENCE)

**VMS TYPE A
(FOR REFERENCE)**



**VMS TYPE B
(FOR REFERENCE)**

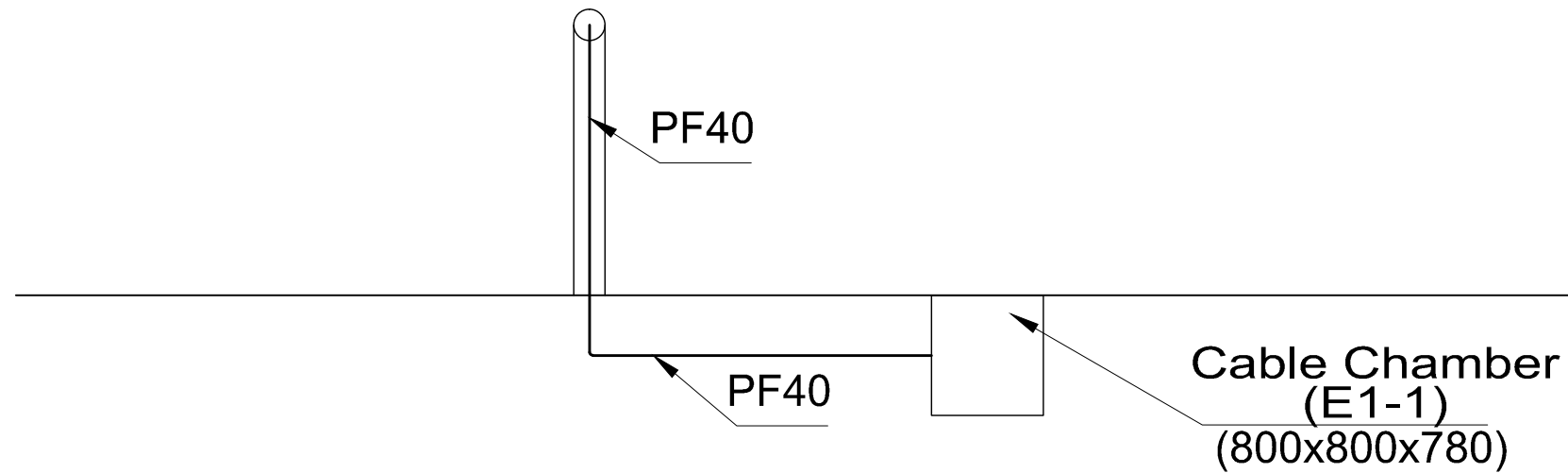
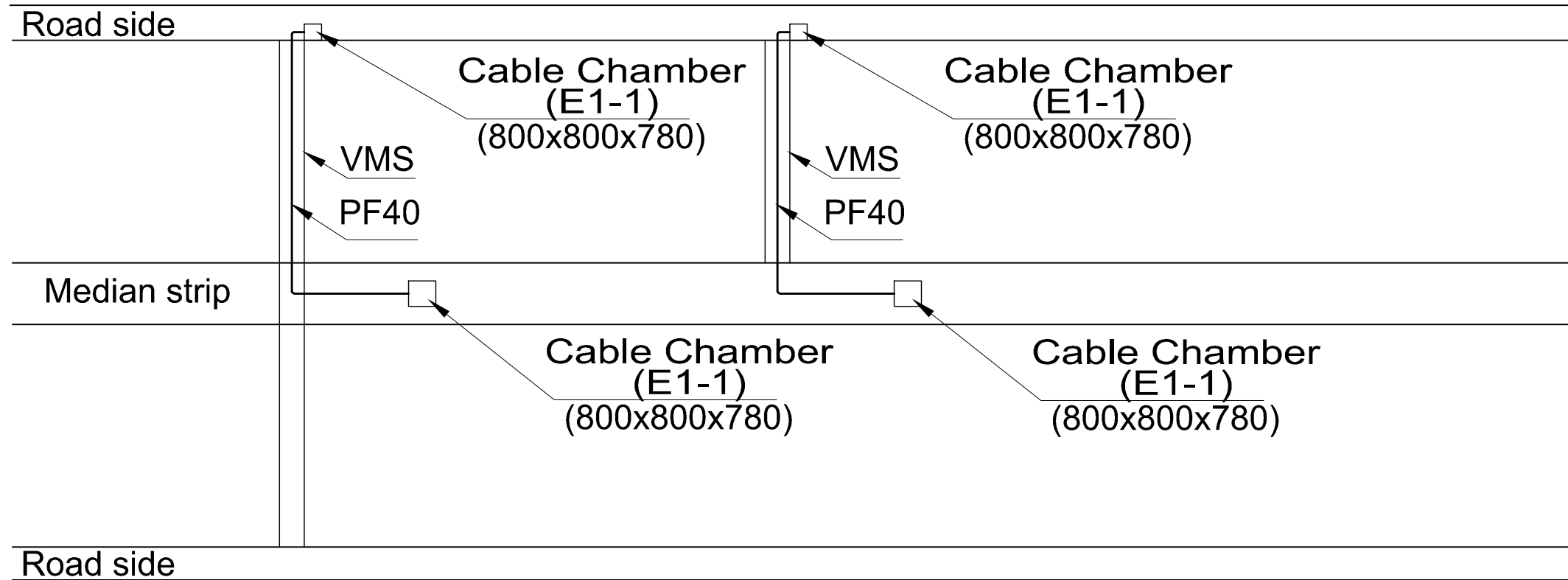


Specification	
VMS Type-A	<ul style="list-style-type: none"> - Display type: multi-colour LED - Number of rows : 3 rows - Number of columns : > 24 columns/row - Letter Height : 450mm - LED Colour: Red, Blue, Light green - LED dot pitch: < 16mm - Resolution: > 89(h) x 623(w) dots / > 55,447 dots

Specification	
VMS Type-B	<ul style="list-style-type: none"> - Display type: multi-colour LED - Number of rows : 2 rows - Number of columns : > 24 columns/row - Letter Height : 450mm - LED Colour: Red, Blue, Light green - LED dot pitch: < 16mm - Resolution: > 59(h) x 623(w) dots / > 36,757 dots

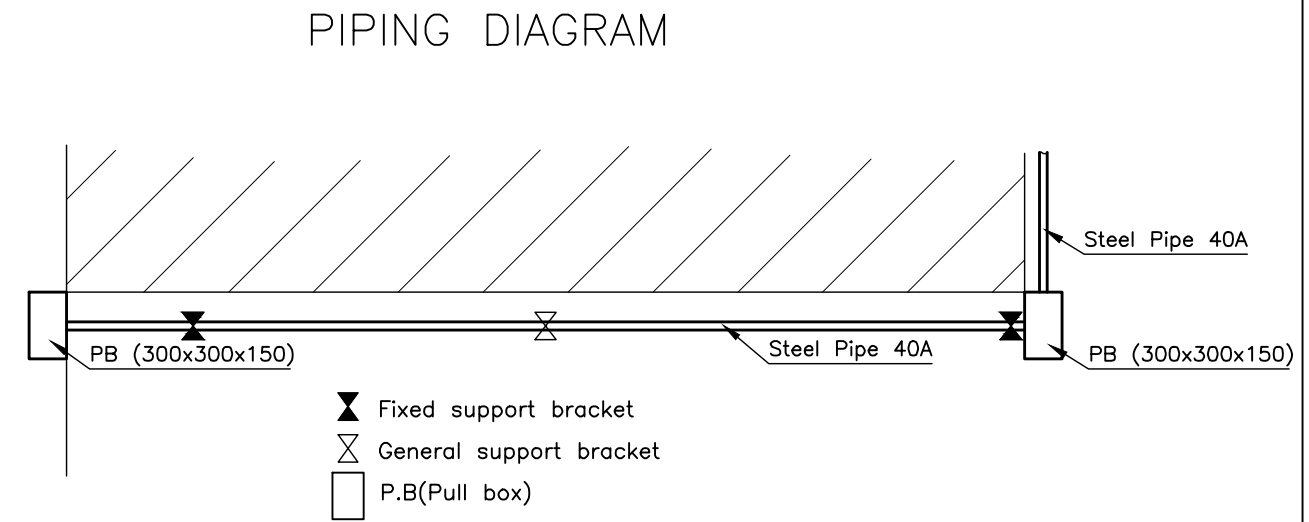
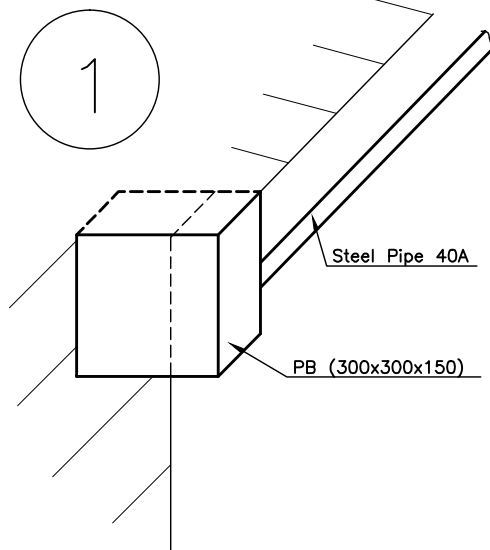
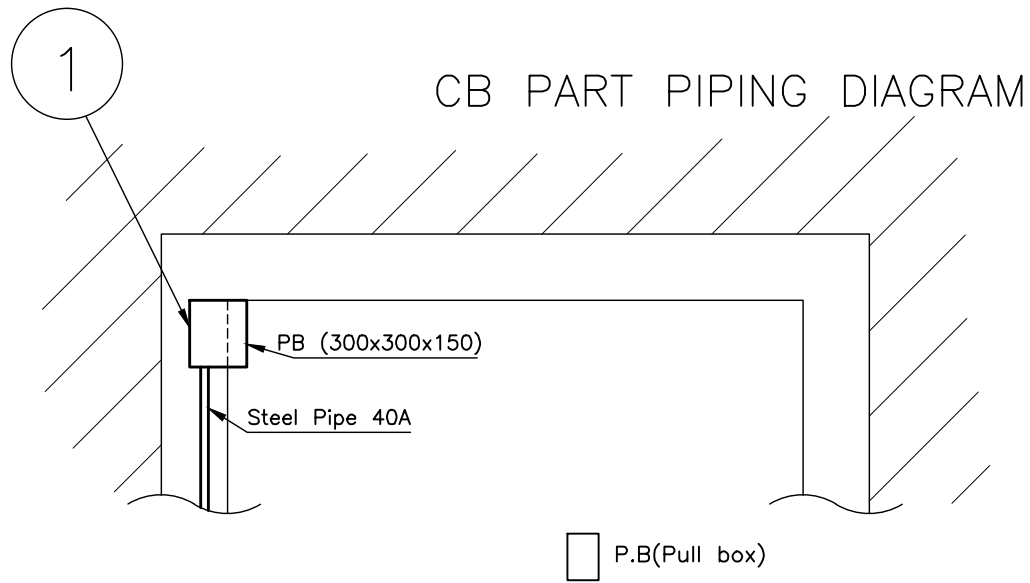
CONSULTANT				SOCIALIST REPUBLIC OF VIETNAM				ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:					
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.				MINISTRY OF TRANSPORT				DRAWING TITLE:		DRAWING No.:		XIV.1-12			
								THE GATE TYPE PROP ATTACHING ROAD CROSSING PIPING DIAGRAM (1) (FOR REFERENCE)		SCALE: 1/100				SHEET No.:	Rev.:
								TITLE	NAME	SIGNATURE	DATE	Sheet	of	Sheet	of
								PREPARED BY	CHECKED BY	APPROVED BY					

THE GATE TYPE PROP ATTACHING ROAD CROSSING PIPING DIAGRAM (FOR REFERENCE)



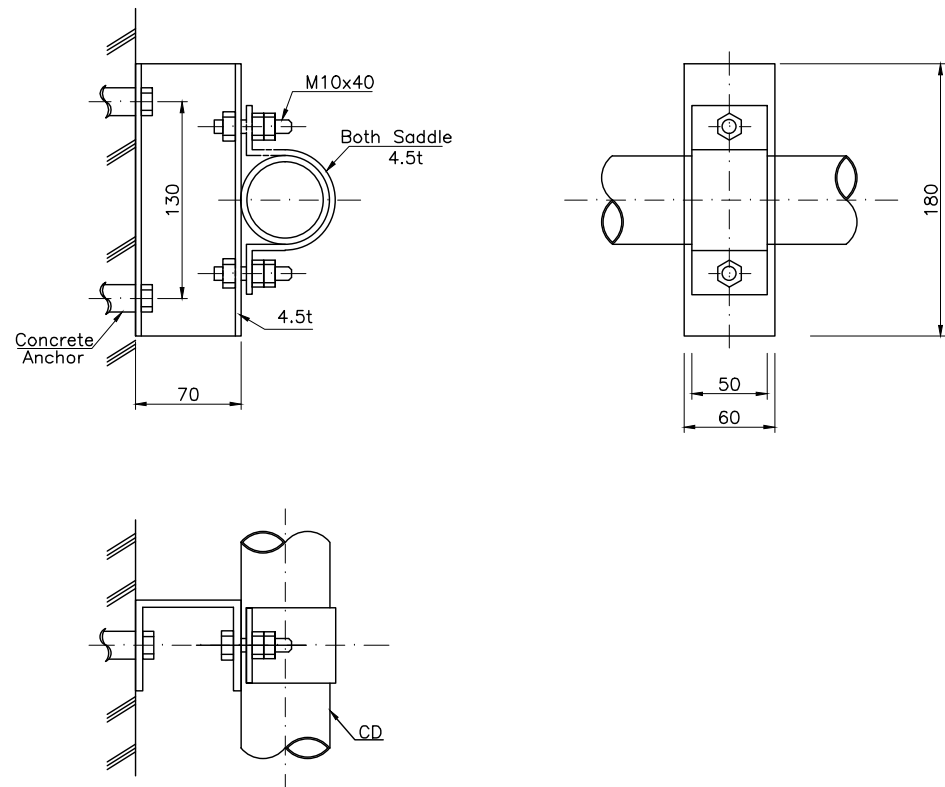
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ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					TITLE	NAME	SIGNATURE	DATE	MINISTRY OF TRANSPORT					DRAWING No.:			
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					CHECKED BY									THE GATE TYPE PROP ATTACHING ROAD CROSSING PIPING DIAGRAM (2) (FOR REFERENCE)		XIV.1-13	
					APPROVED BY									SCALE:		SHEET No.:	Rev.:
									Sheet of								

CALVERT BOX ATTACHING
ROAD CROSSING PIPING DIAGRAM
(FOR REFERENCE)

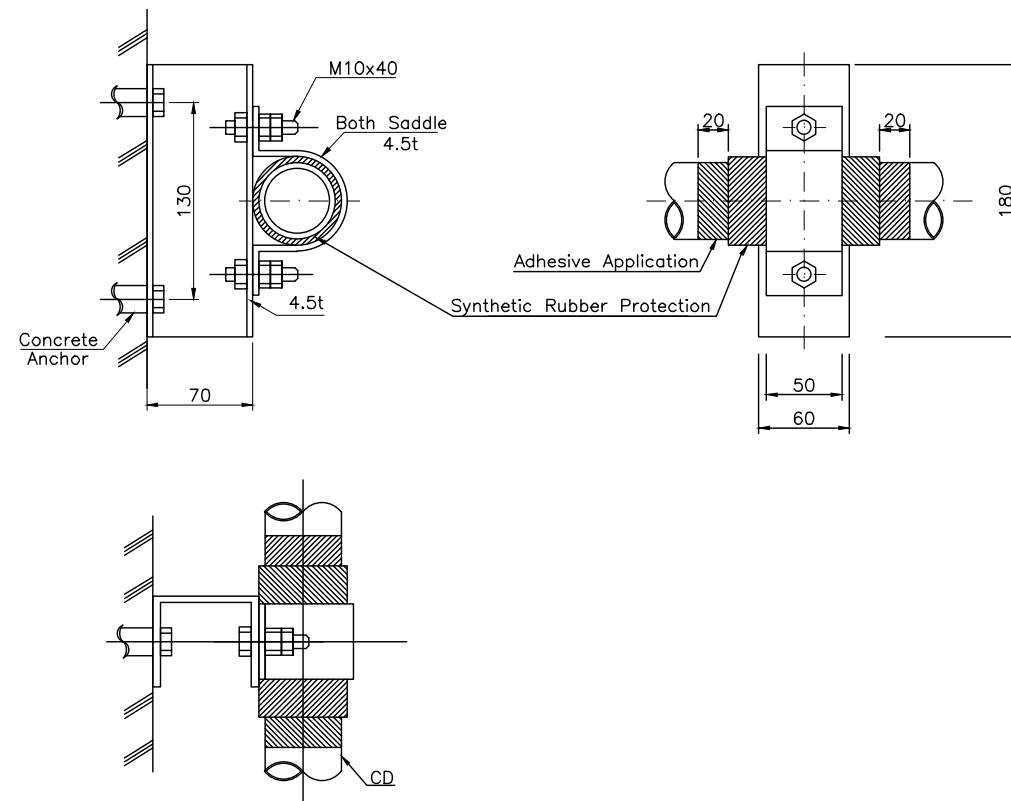


PIPING SUPPORT BRACKET DETAIL VIEW

FIXED SUPPORT BRACKET

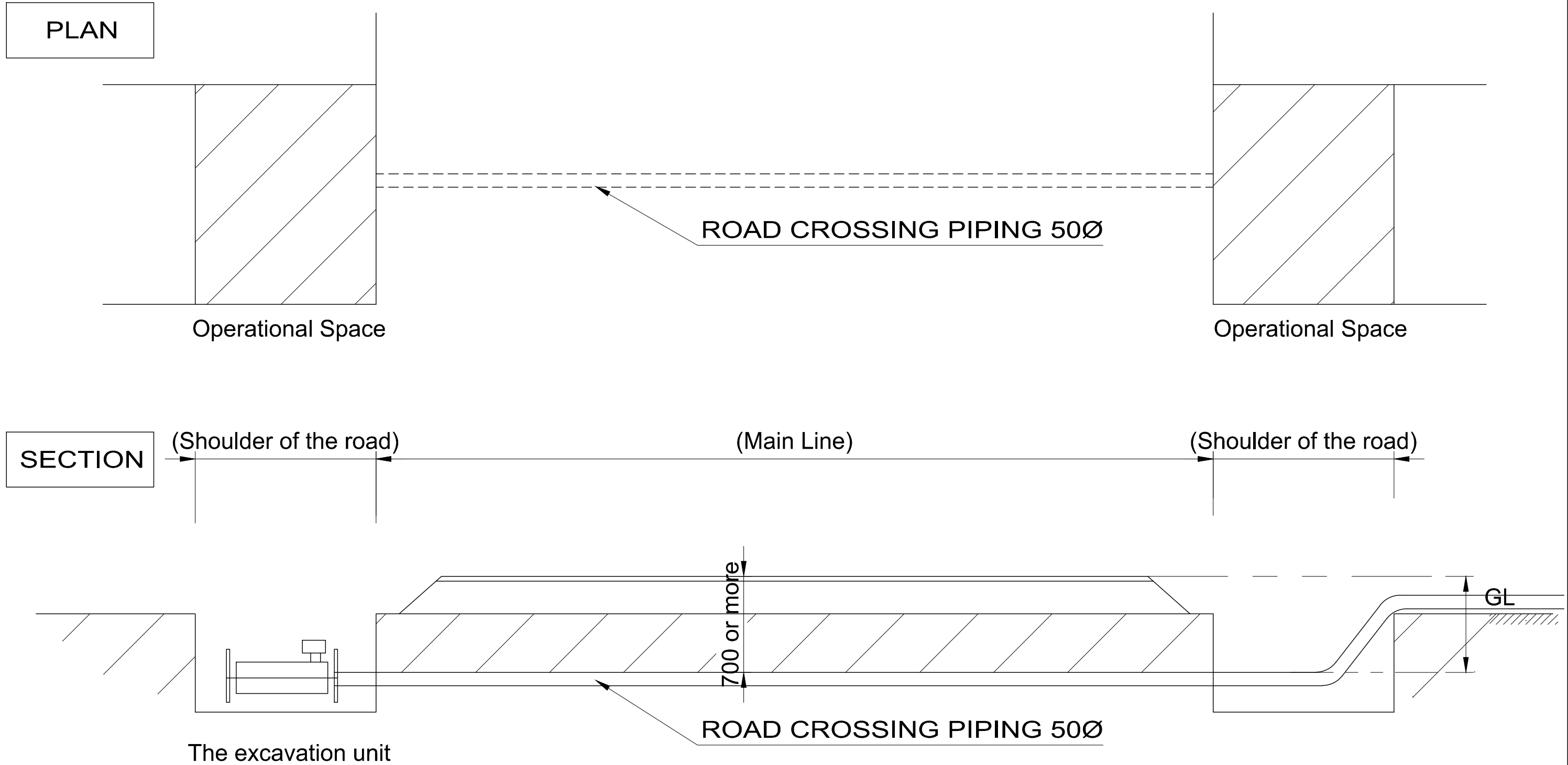


GENERAL SUPPORT BRACKET



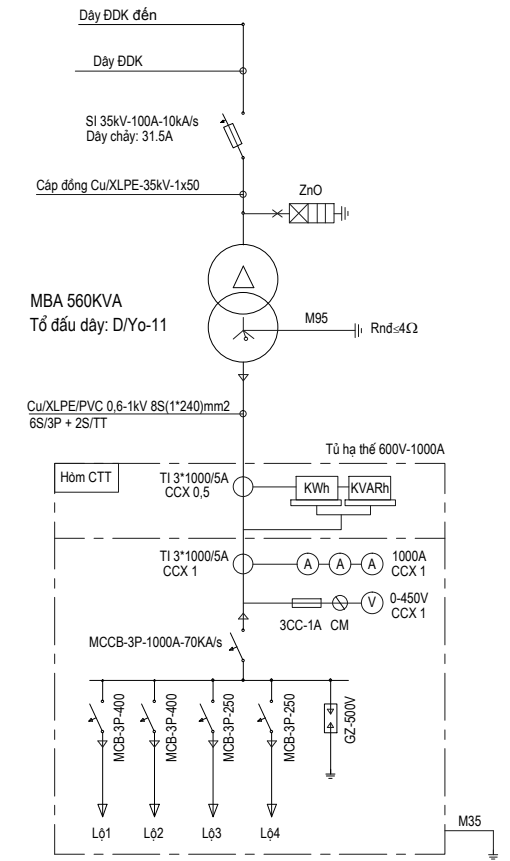
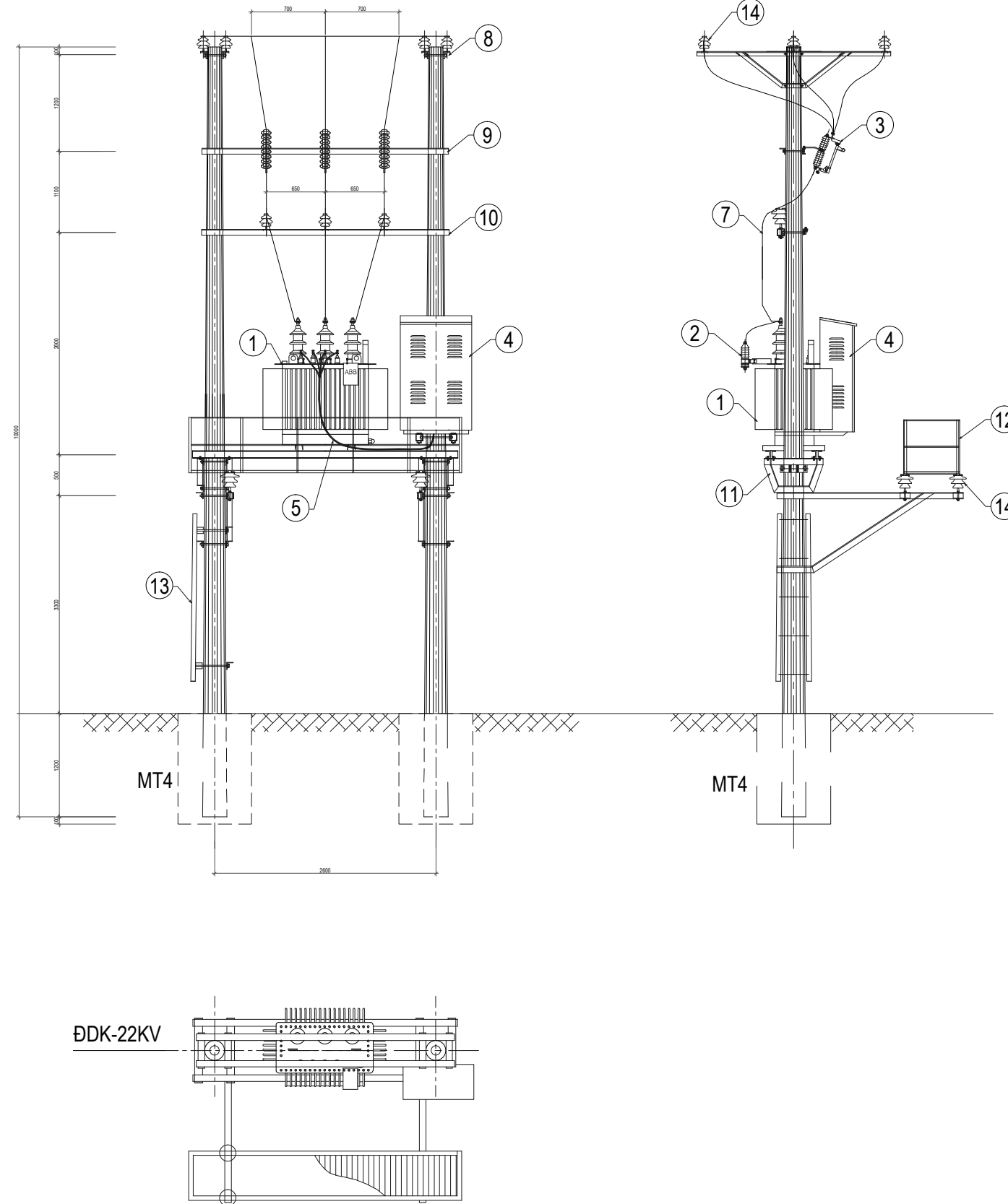
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ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					TITLE	NAME	SIGNATURE	DATE	ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM DRAWING TITLE: CALVERT BOX ATTACHING ROAD CROSSING PIPING DIAGRAM (FOR REFERENCE) SCALE:					DRAWING No.:
					PREPARED BY									XIV.1-14
					CHECKED BY									SHEET No.:
					APPROVED BY									Rev:
					MINISTRY OF TRANSPORT					Sheet	of			

NON - EXCAVATION DUCT INSTALLATION METHOD OF CONSTRUCTION ROAD CROSSING PIPING DIAGRAM (REFERENCE DIAGRAM)



CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM			ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:			
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					PREPARED BY							SHEET No.:	
					CHECKED BY				SCALE:		Sheet	of	
					APPROVED BY				MINISTRY OF TRANSPORT				

LAYOUT EQUIPMENT SUBSTATION 560KVA-22/0.4KV (REFERENCE DIAGRAM)

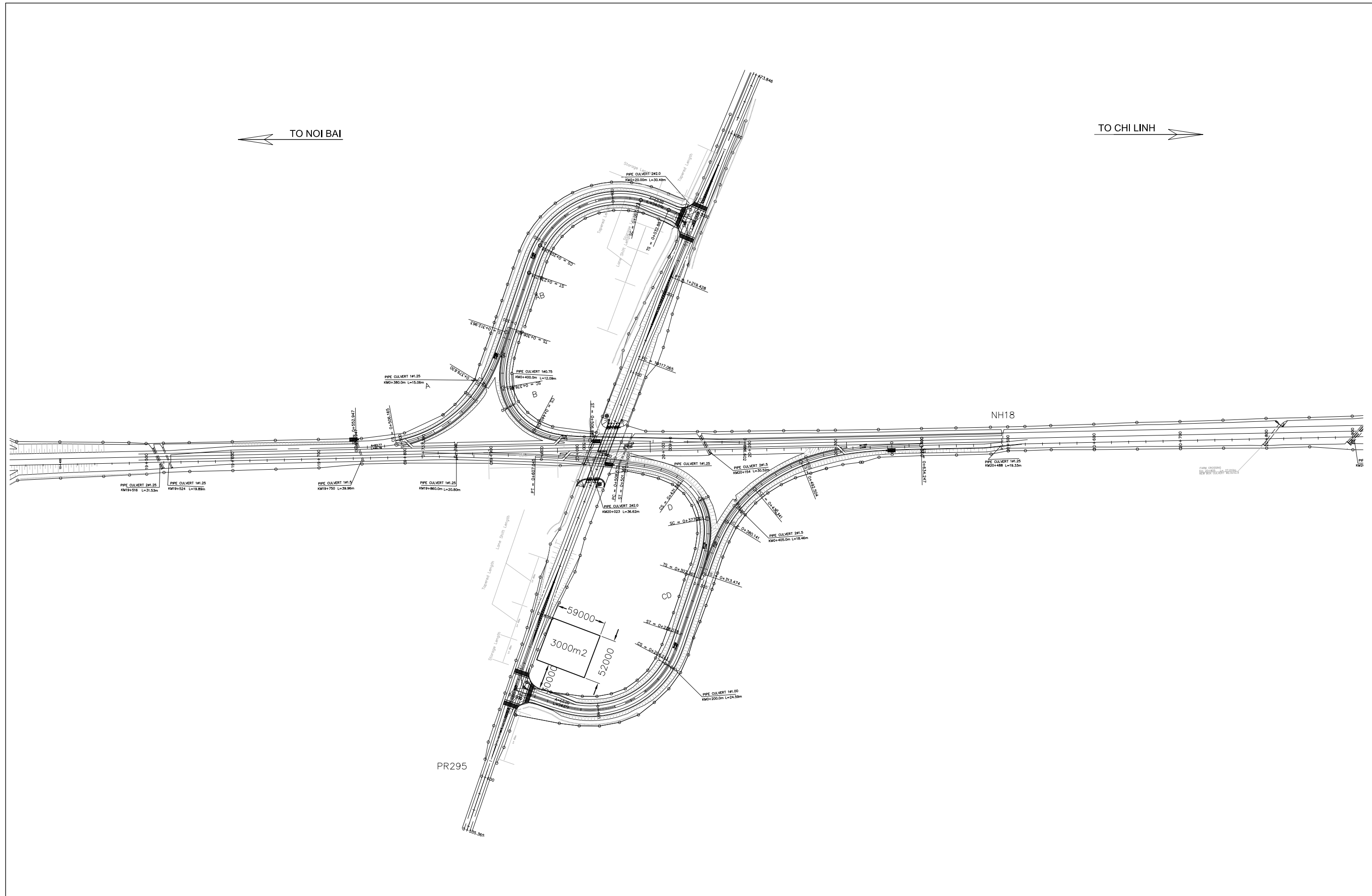


14	Cách điện đứng	SĐ-24	quả	19	
13	Thang treo	TT	cái	1	
12	Ghế thao tác	Gtt	cái	1	
11	Giá đỡ máy biến áp	Gmba	bộ	1	
10	Xà đỡ sứ TG	Xtg	bộ	1	
9	Xà đỡ cầu chì tự rơi	Xsi	bộ	1	
8	Xà đầu trạm	Xđt-D	bộ	1	
7	Thanh cái	Cu/XLPE 22-1x50mm2	m	9	
6	Cáp nối đất trung tính	Cu/PVC	m	6	Xem sơ đồ 1 sợi
5	Cáp tổng hạ thế/1 sợi	Cu/XLPE/PVC 0,6-1kV	m	8	Xem sơ đồ 1 sợi
4	Tủ hạ thế	600V	tủ	1	Xem sơ đồ 1 sợi
3	Cầu chì tự rơi	SI-24KV	bộ	1	
2	Chống sét ôxít kim loại	ZnO- 24kV	bộ	1	Xem sơ đồ 1 sợi
1	Máy biến áp	560kVA-22/0.4kV	máy	1	Xem sơ đồ 1 sợi
Số hiệu	Tên thiết bị	Quy cách mã hiệu	Đơn vị	Số lượng	Ghi chú

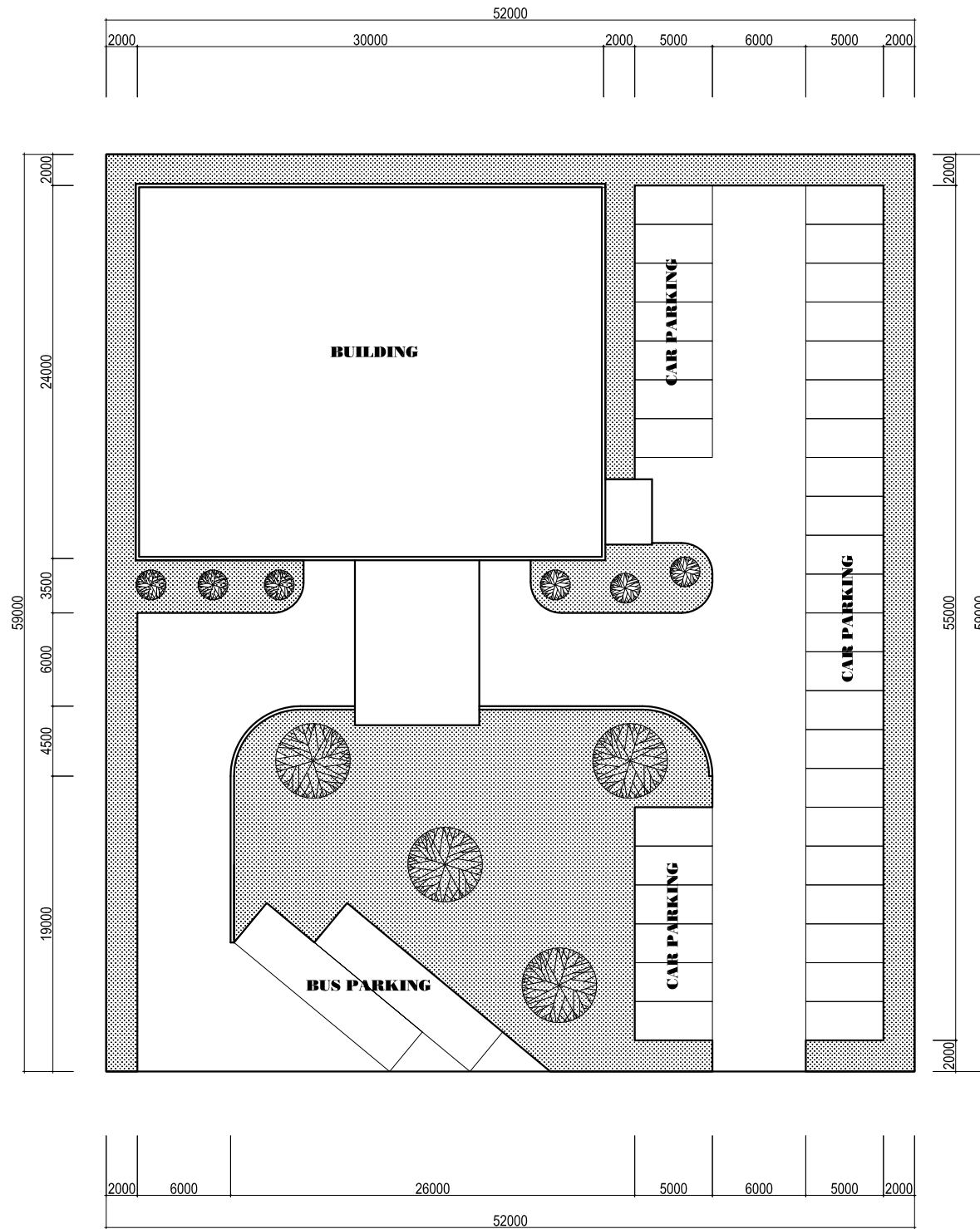
BẢNG KÊ THIẾT BỊ VẬT LIỆU CHÍNH

CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM					ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:			
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												LAYOUT EQUIPMENT SUBSTATION 560KVA-22/0.4KV (REFERENCE DIAGRAM)		XIV.1-16	
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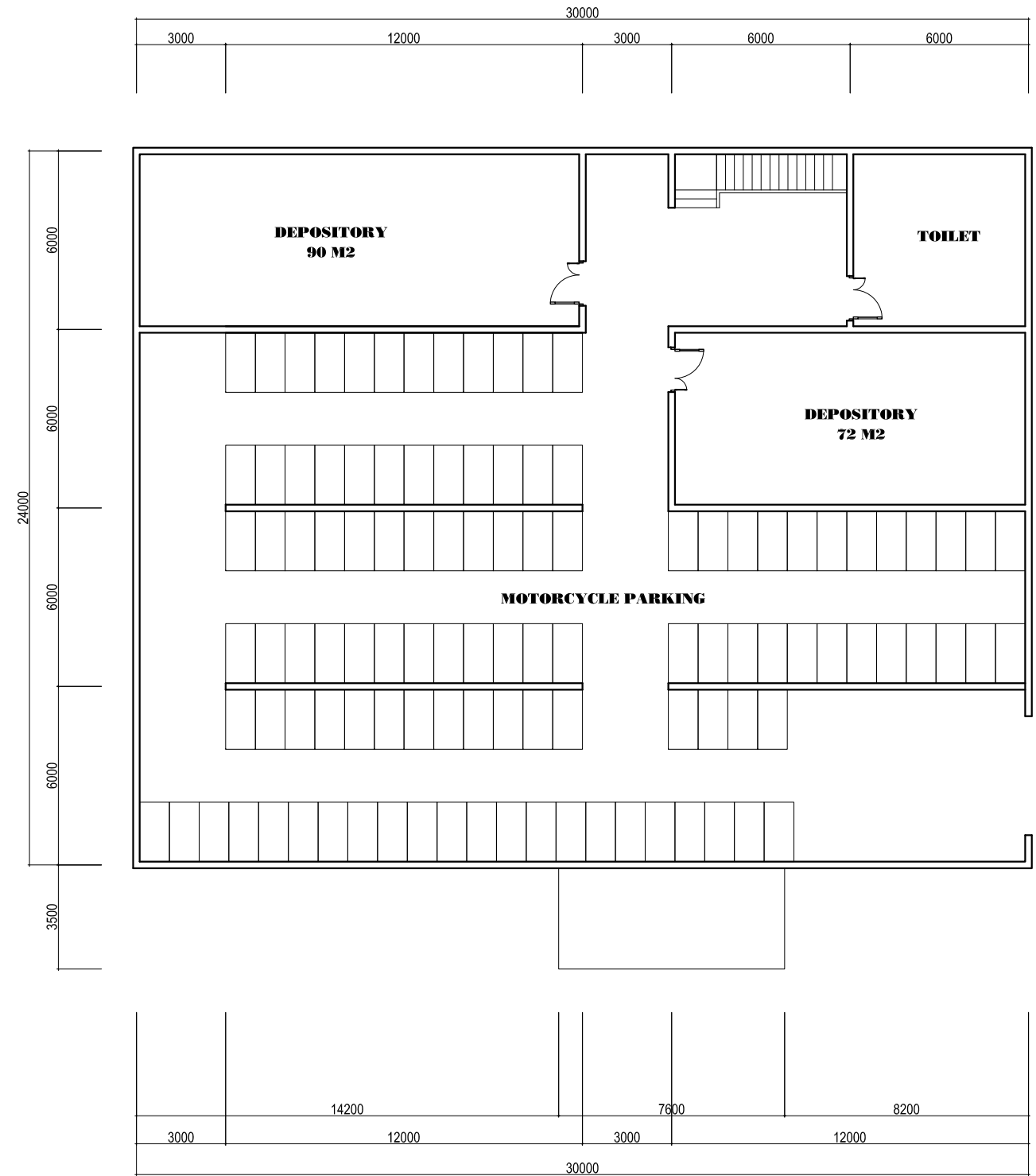
ARCHITECTURE
(FOR REFERENCE)



CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM					ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:			
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					MINISTRY OF TRANSPORT					DRAWING TITLE:		DRAWING No.:		XIV.1-01	
												LOCATION OF NORTHERN REGIONAL MAIN CENTER		SHEET No.:	Rev:
										SCALE: 1/4000				Sheet	of



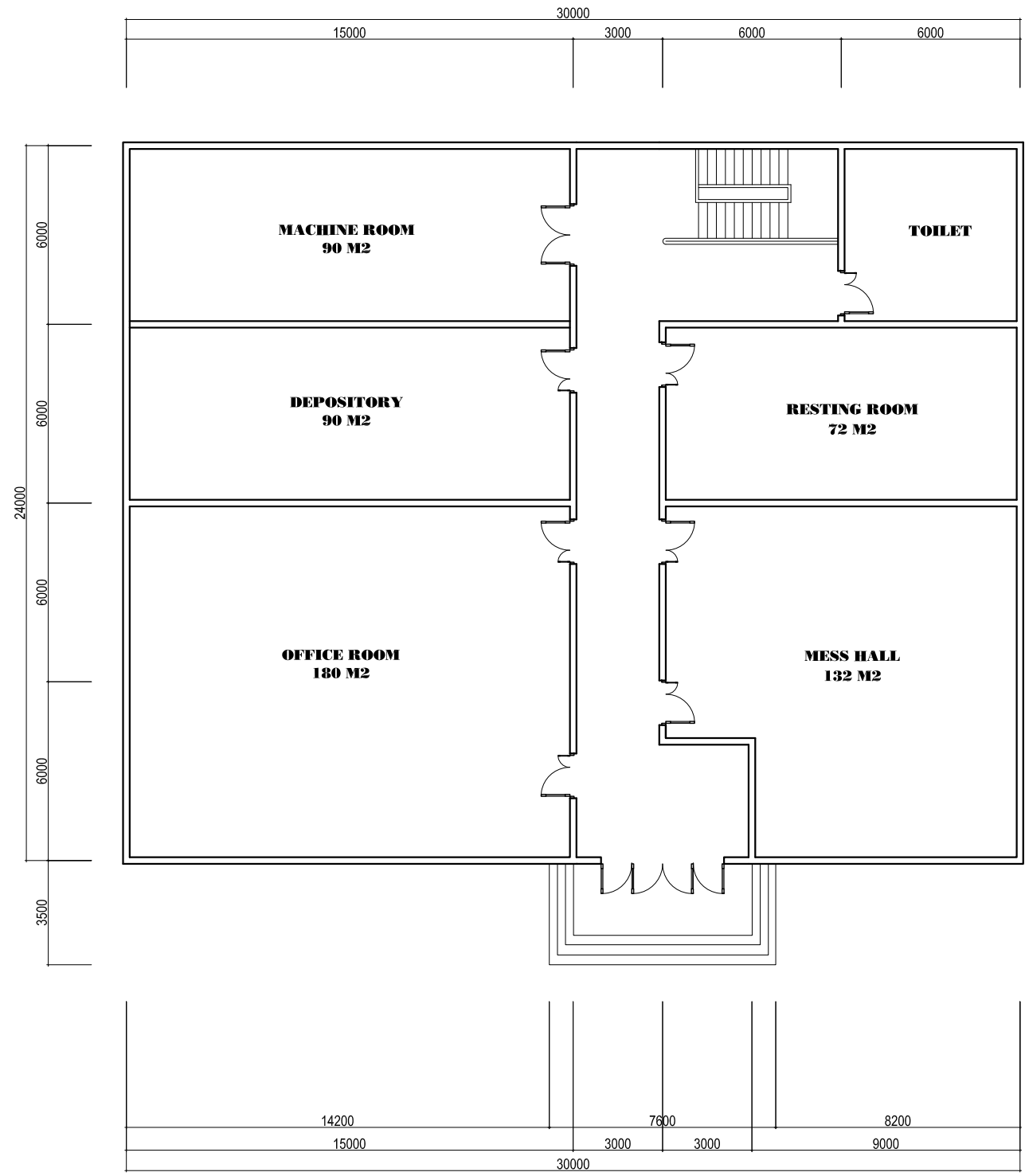
PLAN



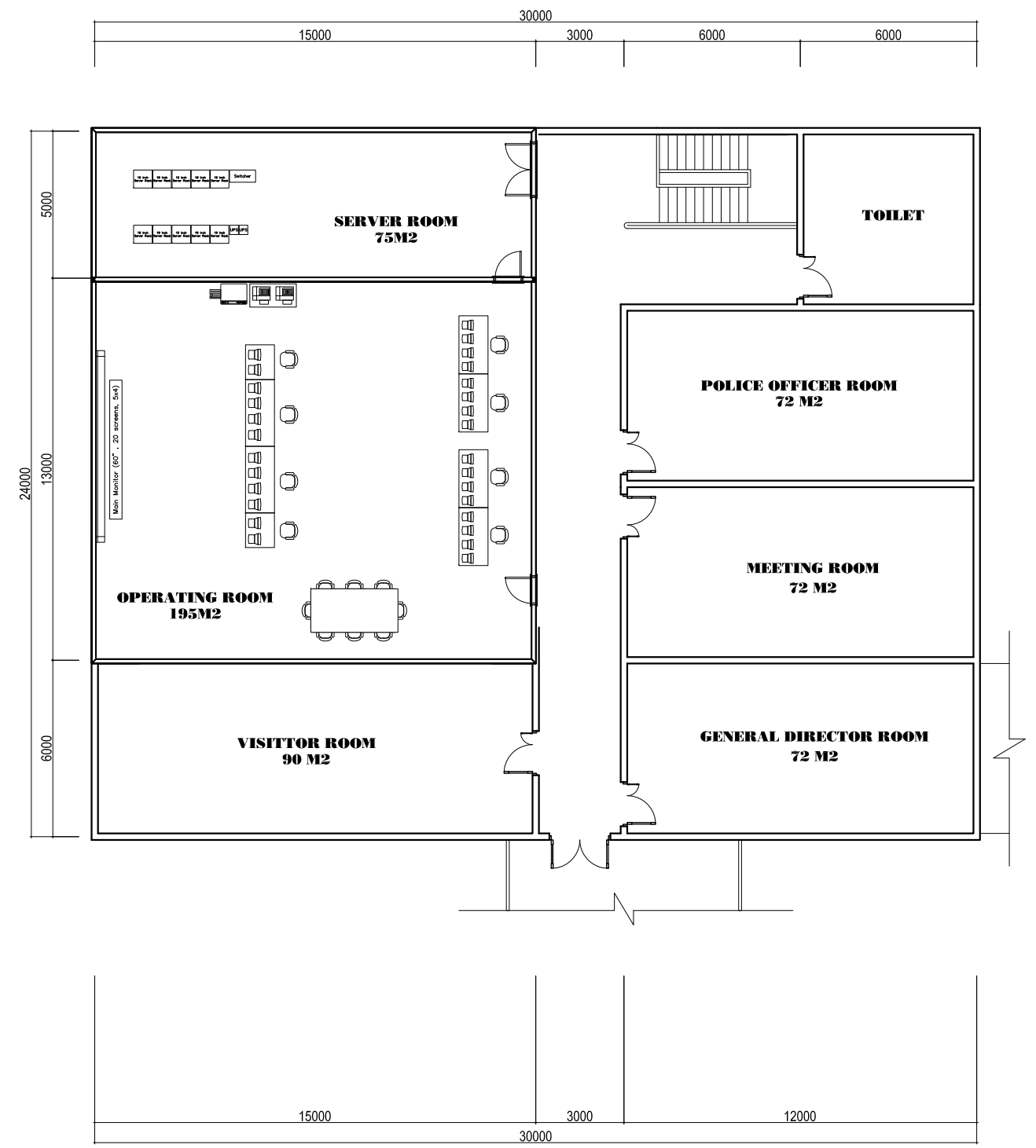
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NORTHERN REGIONAL MAIN CENTER

CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM		ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:		
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	PREPARED BY						PLAN OF NORTHERN REGIONAL MAIN CENTER (1) FOR REFERENCE		XIV.1-02		
	CHECKED BY						SCALE: 1/200, 1/400		SHEET No.:		Rev:
	APPROVED BY						Sheet of				



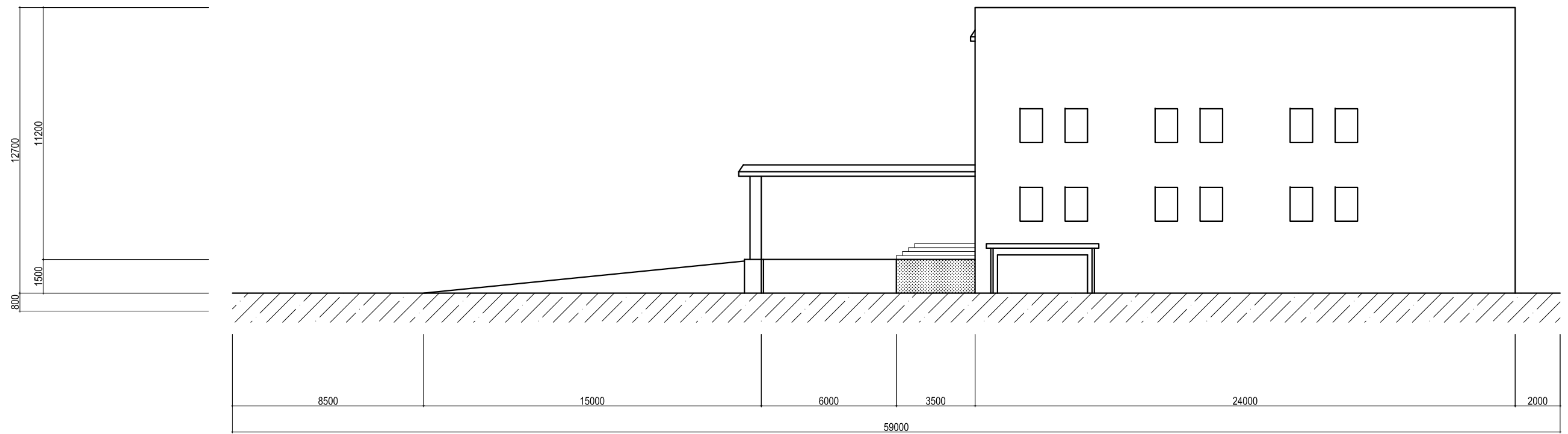
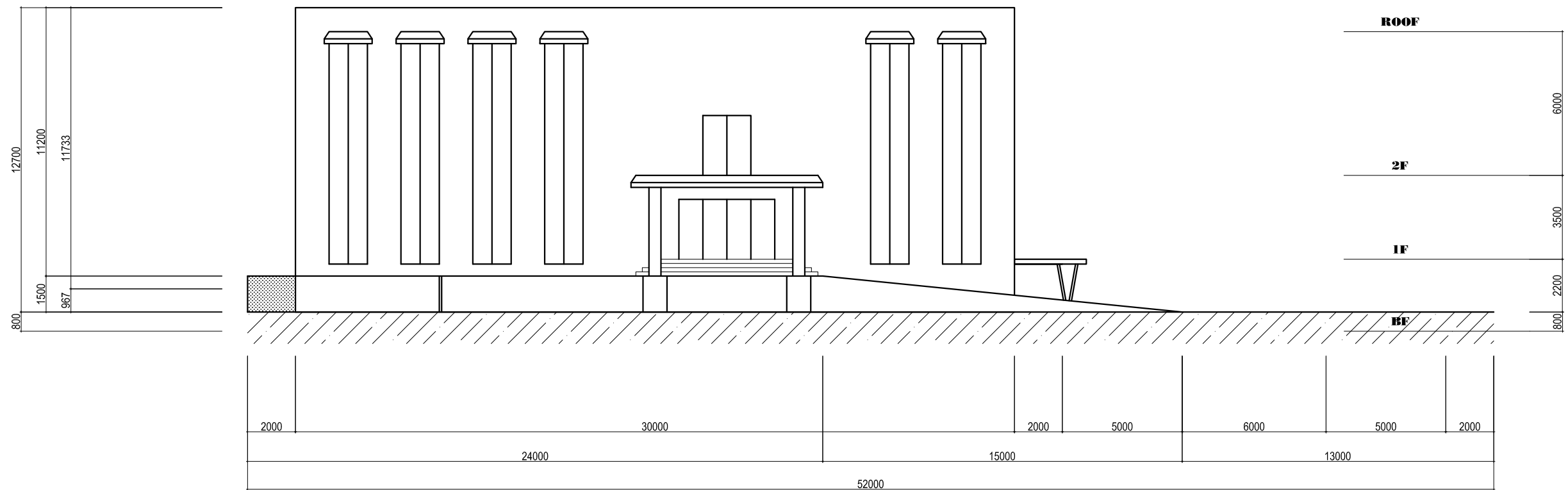
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NORTHERN REGIONAL MAIN CENTER

CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM					ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM			PACKAGE:					
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					TITLE	NAME	SIGNATURE	DATE	MINISTRY OF TRANSPORT					DRAWING TITLE: PLAN OF NORTHERN REGIONAL MAIN CENTER (2) FOR REFERENCE			DRAWING No.:	
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					CHECKED BY												SHEET No.:	
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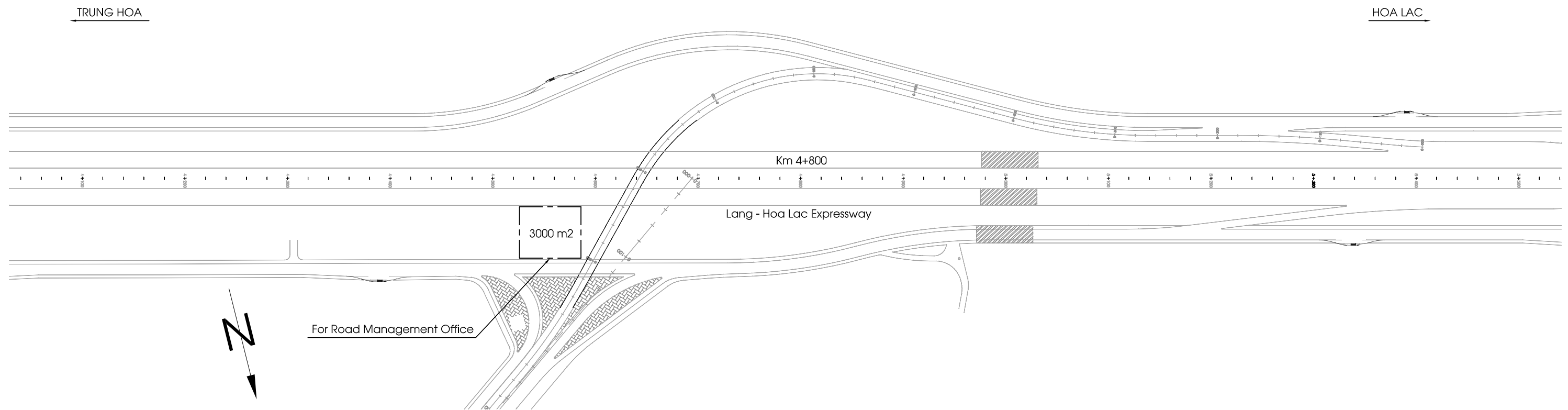


PROFILES

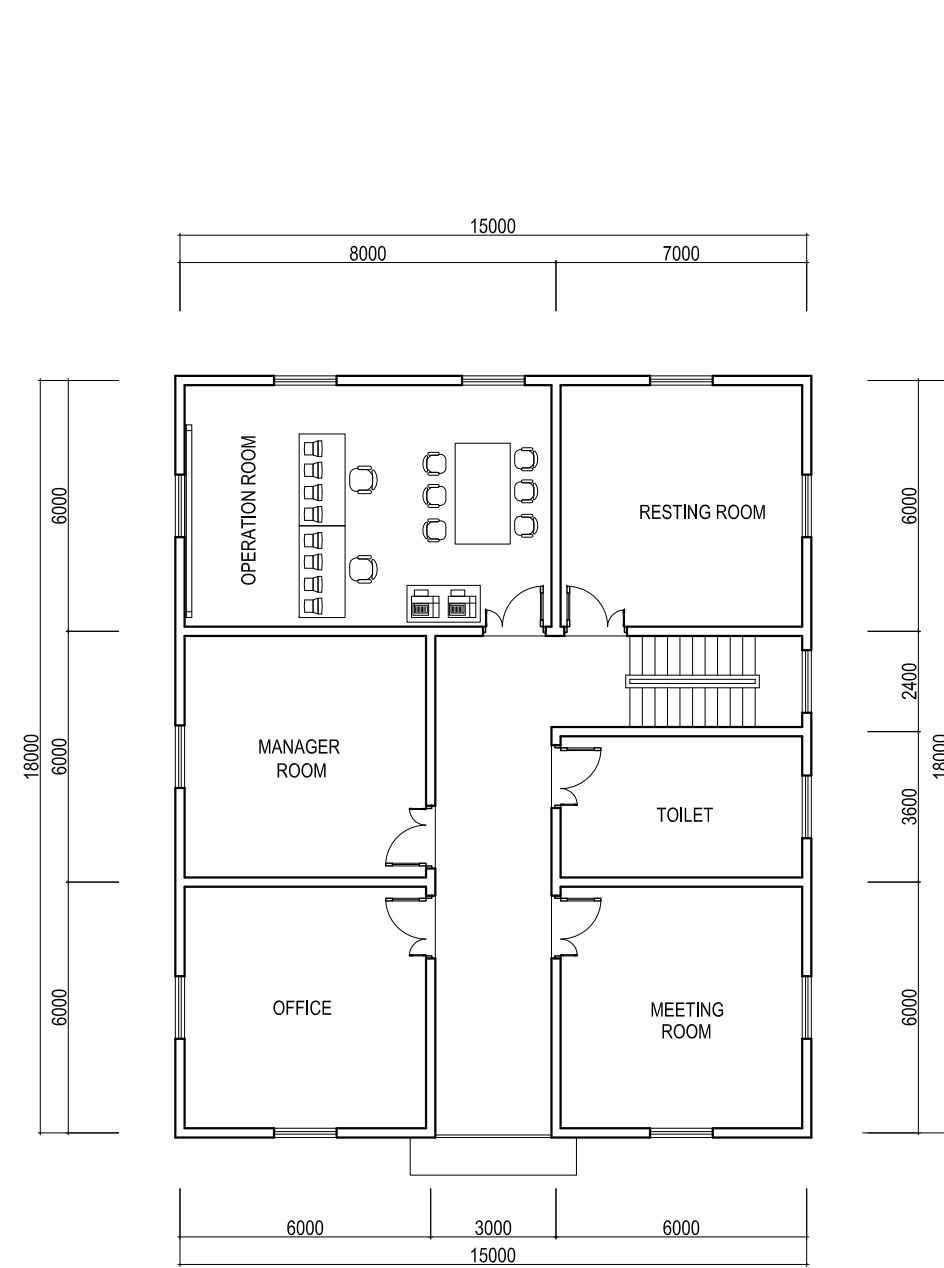
NORTHERN REGIONAL MAIN CENTER

CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM			ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:				
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					TITLE	NAME	SIGNATURE	DATE	DRAWING TITLE:		DRAWING No.:			
					MINISTRY OF TRANSPORT				PLAN OF NORTHERN REGIONAL MAIN CENTER (3) FOR REFERENCE				XIV.1-04	
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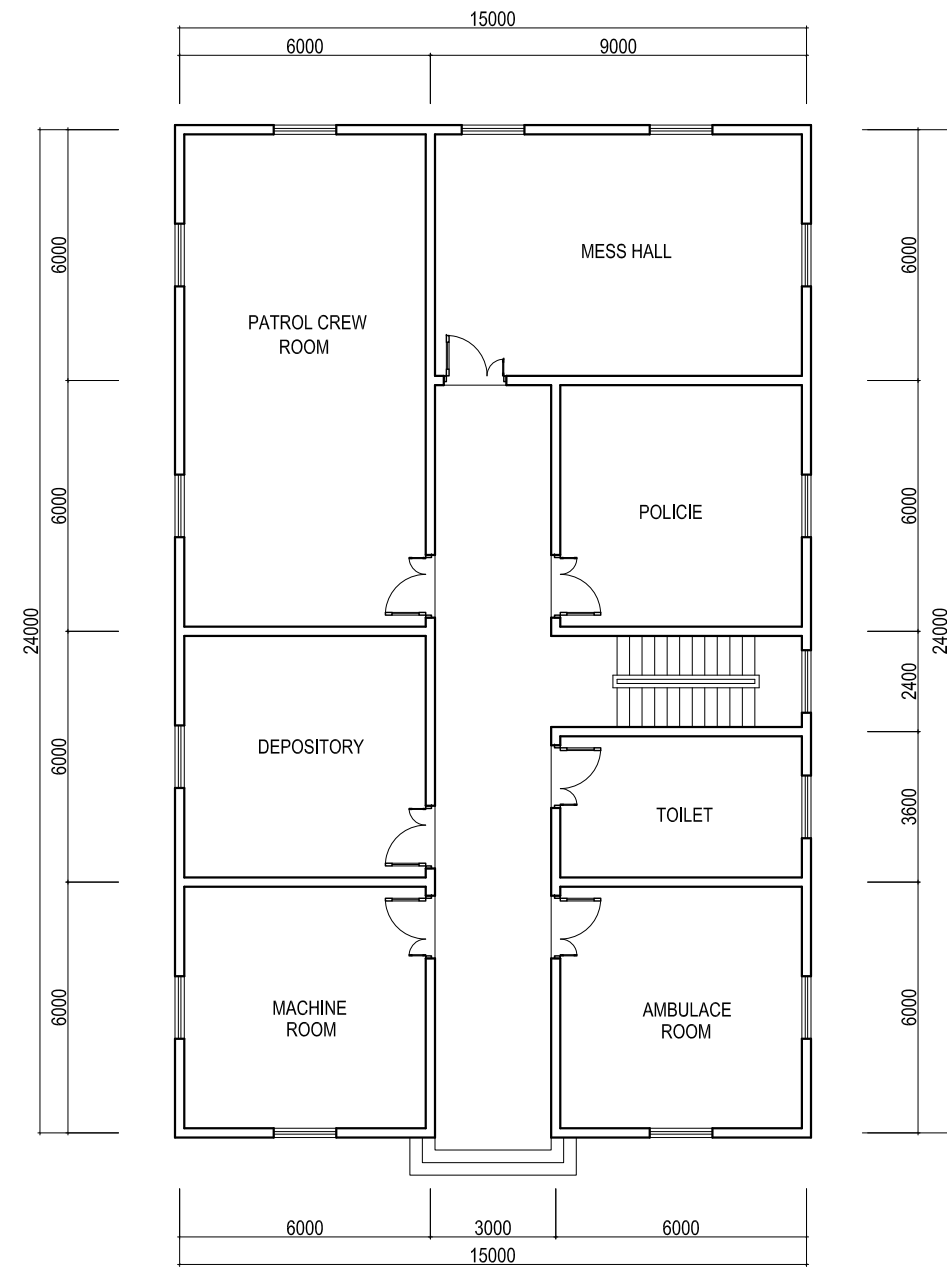
LOCATION OF ROAD MANAGEMENT OFFICE (LANG - HOA LAC)



CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM			ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		<small>PACKAGE:</small>	
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					MINISTRY OF TRANSPORT			<small>DRAWING TITLE:</small>		<small>DRAWING No.:</small>	
								LOCATION OF ROAD MANAGEMENT OFFICE FOR LANG - HOA LAC EXPRESSWAY		XIII.1-05	
								<small>SCALE: 1/4000</small>		<small>SHEET No.:</small>	<small>Rev.:</small>
<small>TITLE</small>	<small>NAME</small>	<small>SIGNATURE</small>	<small>DATE</small>	<small>PREPARED BY</small>	<small>CHECKED BY</small>	<small>APPROVED BY</small>	<small>Sheet</small>	<small>of</small>	<small> </small>		



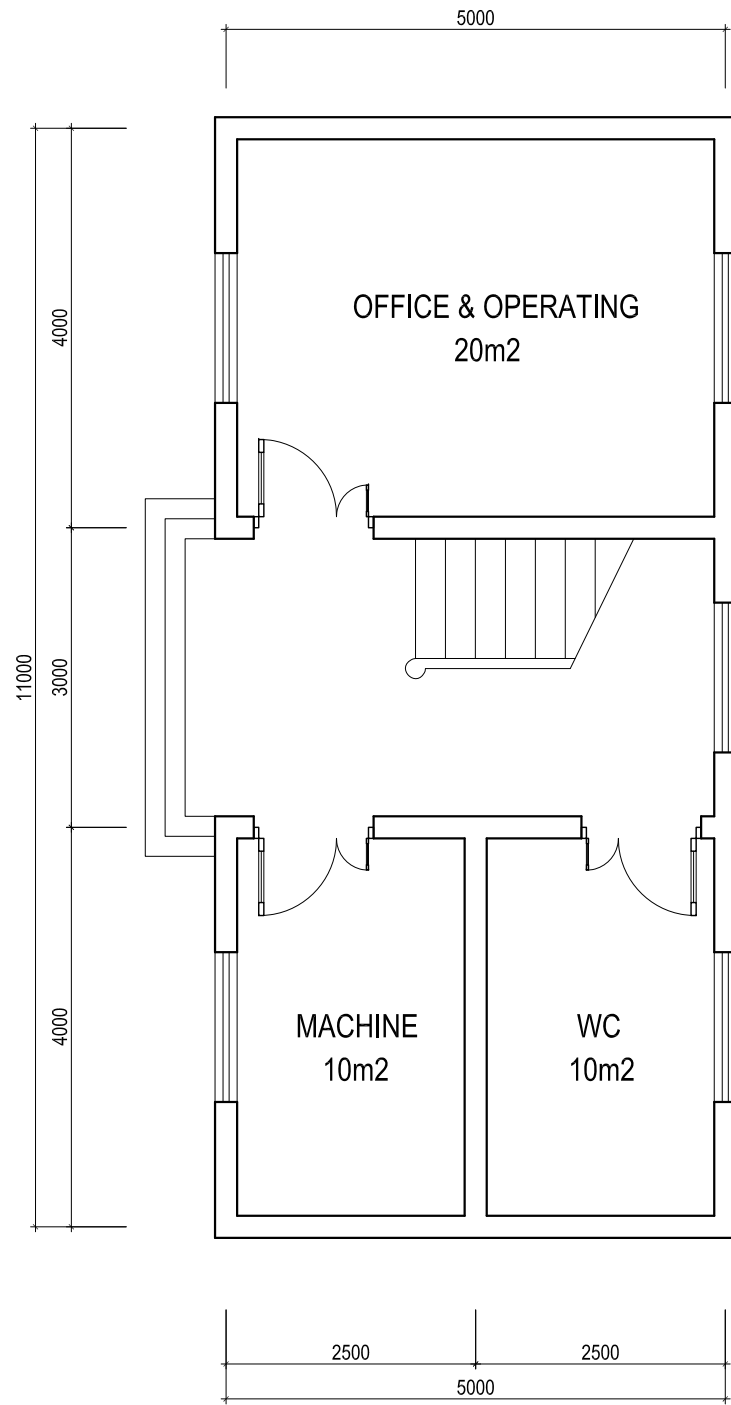
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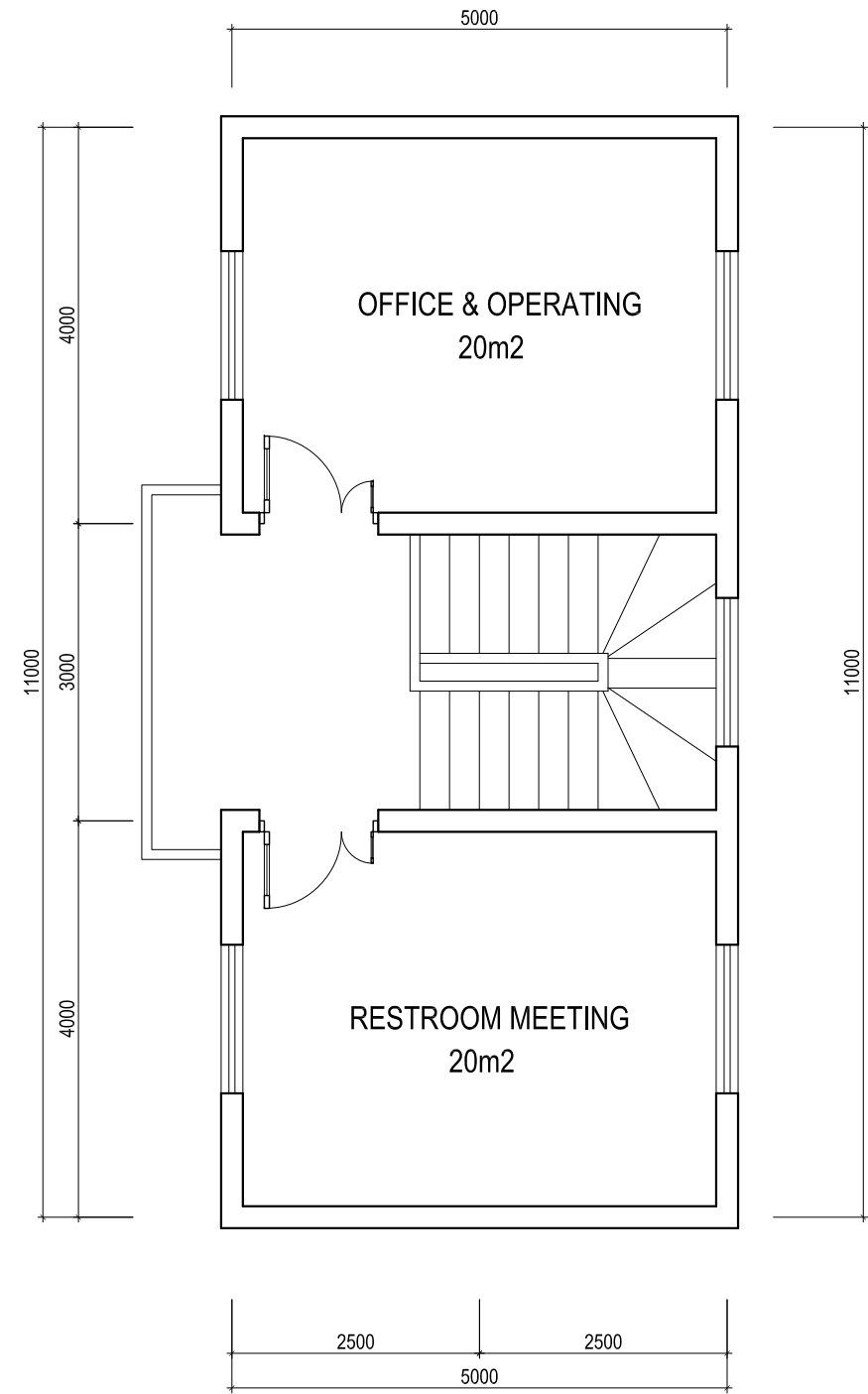
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ROAD MANAGEMENT OFFICE (LANG - HOA LAC)

CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM		ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:	
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					MINISTRY OF TRANSPORT		DRAWING TITLE: LANG - HOA LAC PLAN OF ROAD MANAGEMENT OFFICE FOR REFERENCE		DRAWING No.:	
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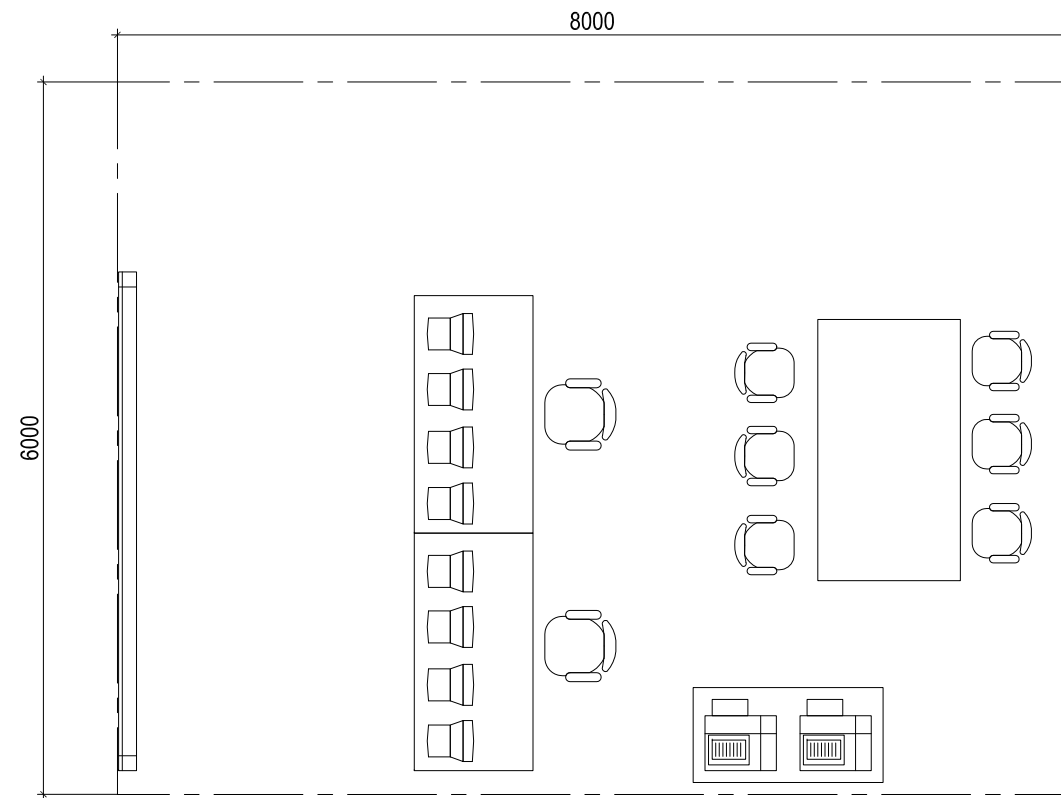


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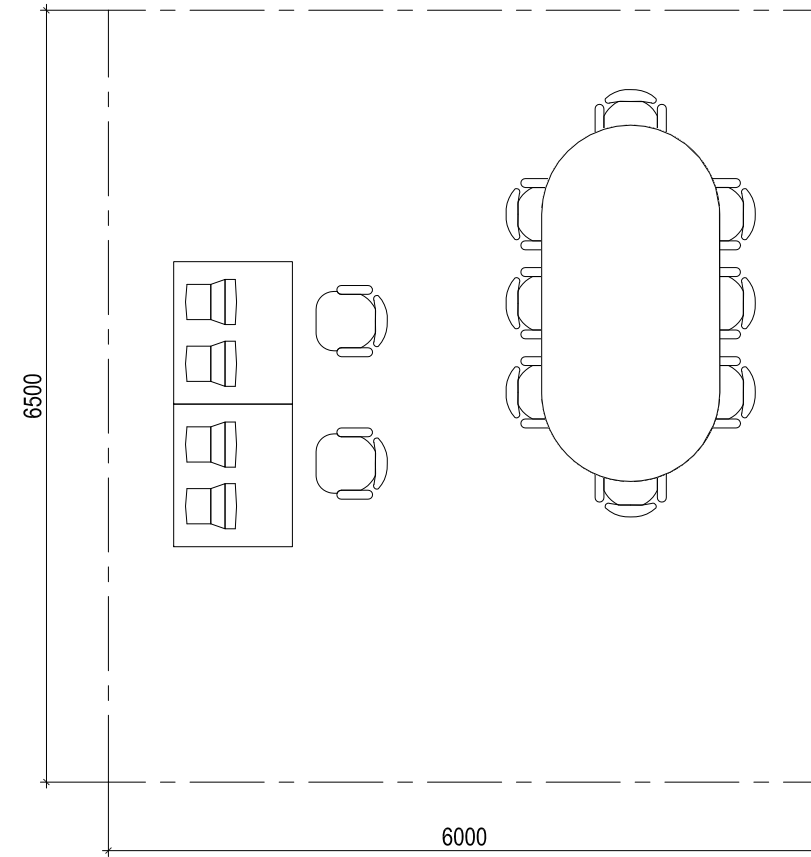


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CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM					ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM			PACKAGE:							
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					TITLE	NAME	SIGNATURE	DATE	MINISTRY OF TRANSPORT					DRAWING TITLE:			DRAWING No.:			
					PREPARED BY									PLAN OF TOLL OFFICE FOR REFERENCE			XIV.1-07			
					CHECKED BY									SCALE: 1/200			SHEET No.:		Rev:	
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PLAN FOR ROAD MANAGEMENT OFFICE



PLAN OF TOLL OFFICE
FOR REFERENCE

CONSULTANT					SOCIALIST REPUBLIC OF VIETNAM			ITS INTEGRATION PROJECT IN NORTHERN AREA OF VIETNAM		PACKAGE:			
ORIENTAL CONSULTANTS GLOBAL CO., LTD METROPOLITAN EXPRESSWAY CO., LTD NEXCO EAST ENGINEERING CO., LTD TRANSPORTATION RESEARCH INSTITUTE CO., LTD ABEAM CONSULTING LTD.					TITLE	NAME	SIGNATURE	DATE	MINISTRY OF TRANSPORT		DRAWING No.:		
					PREPARED BY								XIV.1-08
					CHECKED BY				SHEET No.:				Rev:
					APPROVED BY				SCALE: 1/50				Sheet of