

## Appendix-6: Reference Drawings

## DRAWING SCHEDULE

1. Simple and Composite Steel Girder			
1-1 Girder Length	L = 33.000 m	Width = 5.500 m	
1-2 Girder Length	L = 30.000 m	Width = 5.500 m	
1-3 Girder Length	L = 27.000 m	Width = 5.500 m	
1-4 Girder Length	L = 33.000 m	Width = 4.500 m	
1-5 Girder Length	L = 30.000 m	Width = 4.500 m	
1-6 Girder Length	L = 27.000 m	Width = 4.500 m	
2. Simple and Composite H Shaped Steel Girder			
2-1 Girder Length	L = 24.000 m	Width = 5.500 m	
2-2 Girder Length	L = 21.000 m	Width = 5.500 m	
2-3 Girder Length	L = 15.000 m	Width = 5.500 m	
2-4 Girder Length	L = 24.000 m	Width = 4.500 m	
2-5 Girder Length	L = 21.000 m	Width = 4.500 m	
2-6 Girder Length	L = 18.000 m	Width = 4.500 m	
2-7 Girder Length	L = 15.000 m	Width = 4.500 m	
3. Simple and Steel Truss			
3-1 Through Type	L=49.500 m	Width = 5.500 m	
3-2 Deck Type	L=54.000 m	Width = 4.500 m	
4. Bearing Shoe for Plate Girder			
4-1	60 t	Fix	
4-2	60 t	Mov	
4-3	40 t	Fix	
4-4	40 t	Mov	
5. Bearing Shoe (Rubber)			
5-1	500 KN	Fix , Mov	
5-2	400 KN	Fix , Mov	
5-3	300 KN	Fix , Mov	
6. Bearing Shoe for Steel Truss			
6-1	80 t	Fix	
6-2	80 t	Mov	
7. Expansion Joint			
7-1	Type	50mm	
7-2	Type	100mm	

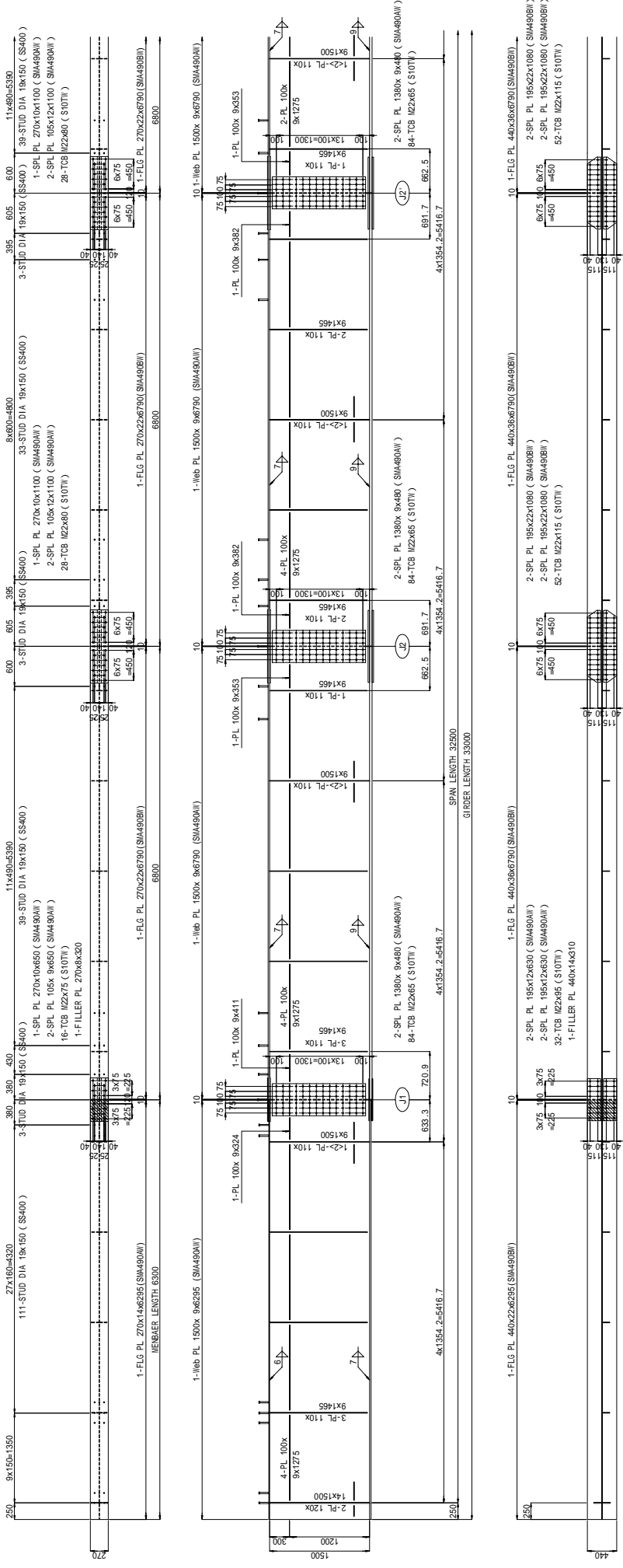
THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECTS MANAGEMENT UNIT NO. 18, MINISTRY OF TRANSPORT	
PROJECT: THE RANGT FOR IMPROVEMENT OF ROAD BRIDGES IN URBAN DISTRICTS (HANOI PROVINCE)	
CONSULTANT: ORIENTAL CONSULTANTS CO., LTD	
DESIGNED BY	CHECKED BY
APPROVED BY	
NAME	
SIGNATURE	
DATE	

# 1-1 MAIN GIRDER 1 (L-33)

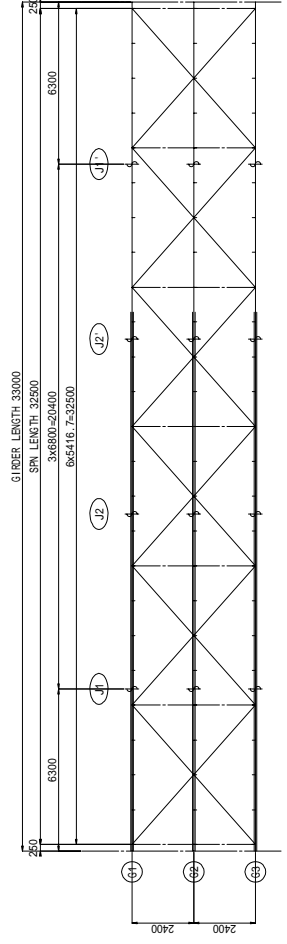
S = 1 / 60

G1, G3 <G2>

SECTION	SCALE	DRAWING NO.	SHEET NO.
	1/B		OF
DRAWING TITLE		1-1 MAIN GIRDER 1 (L-33)	
REV. NO.	DATE	DESCRIPTION	SIGNATURE



KEY PLAN



- NOTES:
- 1) Materials to be SMA490M unless otherwise noted.
  - 2) Field splices shall be connected by T C B (M22, \$10TW)
  - 3) Radius of scall top to be 35mm unless noted.
  - 4) Area denoted not to be welded.
  - 5) Main girders are symmetric with respect to the center of a span, therefore main girders are drawn from AI to the centerline.











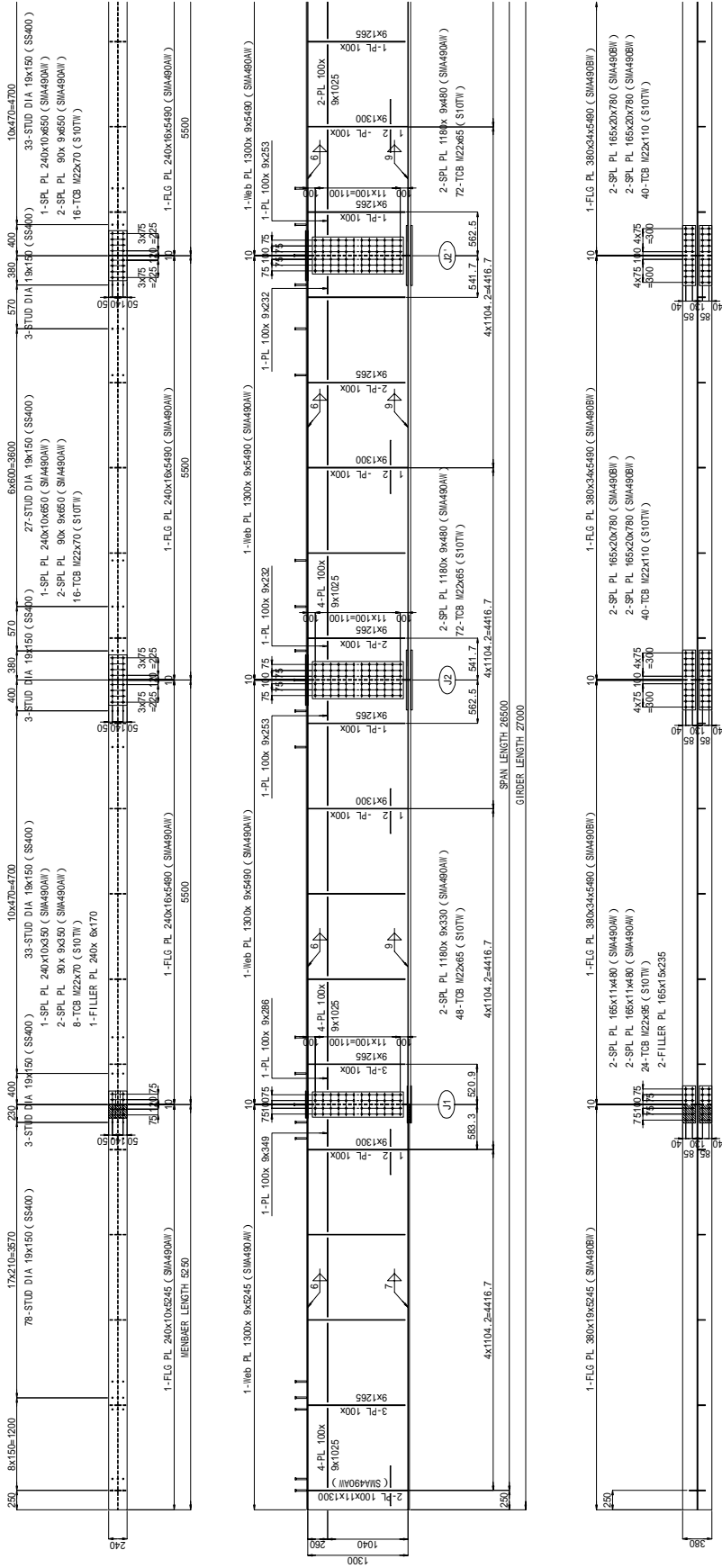


THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECTS MANAGEMENT UNIT NO. 18, MINISTRY OF TRANSPORT	
PROJECT: THE FIRST PHASE OF INVESTMENT IN UPHOLDING AND IMPROVING	
CONSULTANT: ORIENTAL CONSULTANTS CO., LTD	
DESIGNED BY	APPROVED BY
CHECKED BY	
NAME	
SIGNATURE	
DATE	

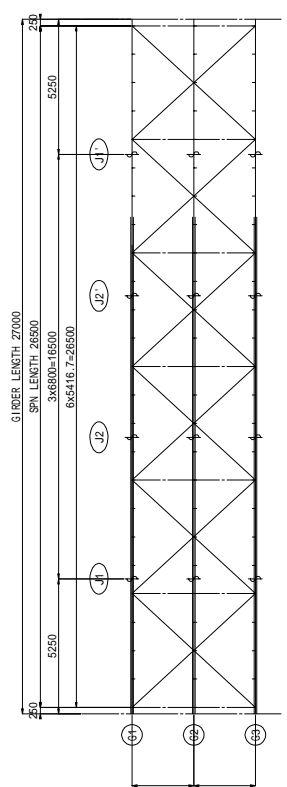
# 1-3 MAIN GIRDER 1 (L-27) S = 1 / 60

G1, G3 <G2>

SECTION	SCALE	DRAWING NO.	SHEET NO.
DRAWING TITLE	1/B	1-3 MAIN GIRDER 1 (L-27)	OF
REV. NO.	DATE	DESCRIPTION	SIGNATURE



KEY PLAN



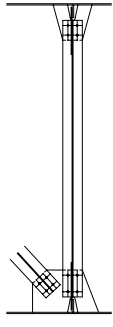
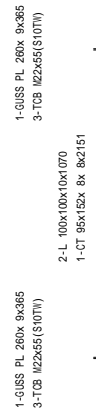
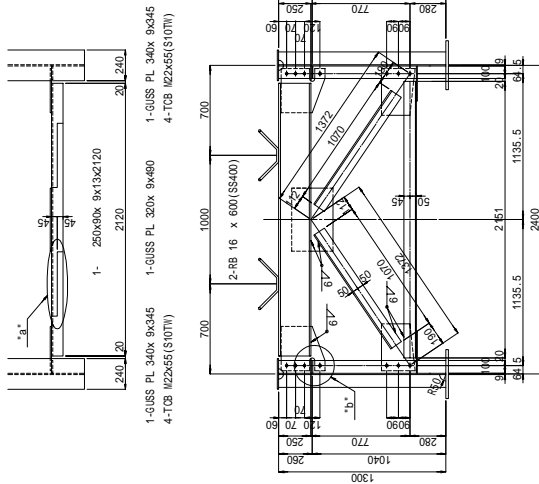
- NOTES:
- 1) Materials to be S1000 unless otherwise noted.
  - 2) Field splices shall be connected by T C B (M22 S107W).
  - 3) Radius of scallop to be 35mm unless noted.
  - 4) Area denoted not to be welded.
  - 5) Main girders are symmetric with respect to the center of a span; therefore main girders are drawn from A1 to the centerline.

THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM			
PROJECTS MANAGEMENT UNIT NO. 18, MINISTRY OF TRANSPORT			
PROJECT: THE BRIDGE FOR UPHOUGHT & BUNG BINH IN ANH XUAN PROVINCE			
CONSULTANT: ORIENTAL CONSULTANTS CO., LTD			
DESIGNED BY	CHECKED BY	APPROVED BY	
NAME	SIGNATURE	SIGNATURE	SIGNATURE
DATE	DATE	DATE	DATE

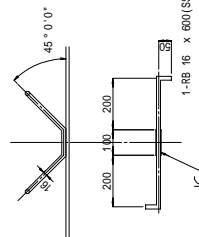
1-3 CROSS BEAM , SWAY BRACING ( L-27 ) S = 1 / 40

SECTION	SCALE	DRAWING NO.	SHEET NO.
DRAWING TITLE	1/40		OF
REV. NO.	DATE	DESCRIPTION	SIGNATURE

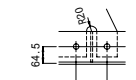
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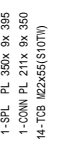
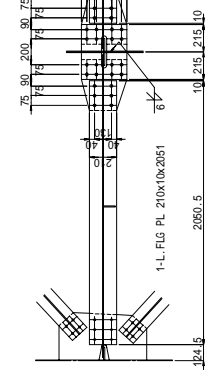
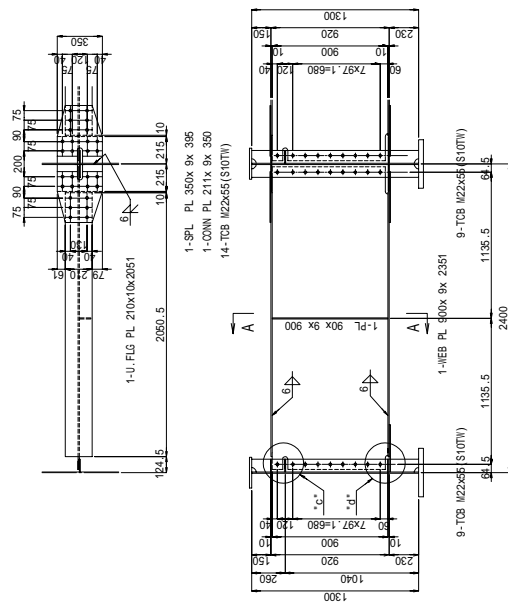
DETAIL "a" S=1/20



DETAIL "b" S=1/20



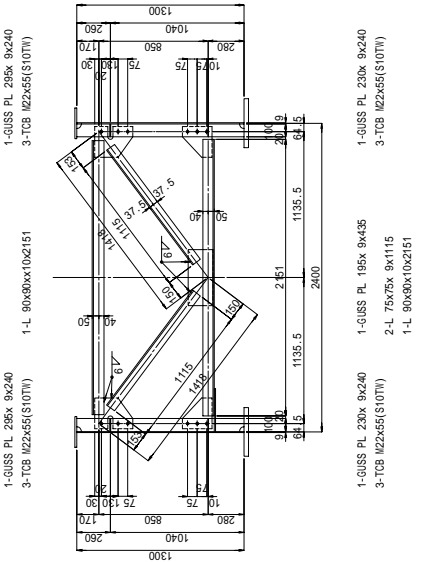
CROSS BEAM S=1/40.



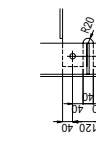
DETAIL "b" S=1/20



INT SWAY BRACING S=1/40.

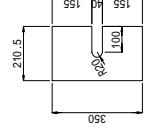


DETAIL "c" S=1/20

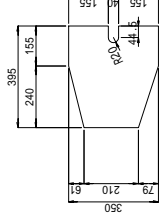


DETAIL "b" S=1/20

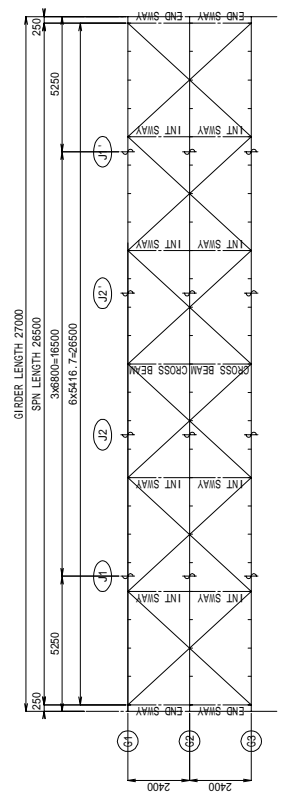
DETAIL OF CONN PL S=1/20



DETAIL OF SPL PL S=1/20



KEY PLAN

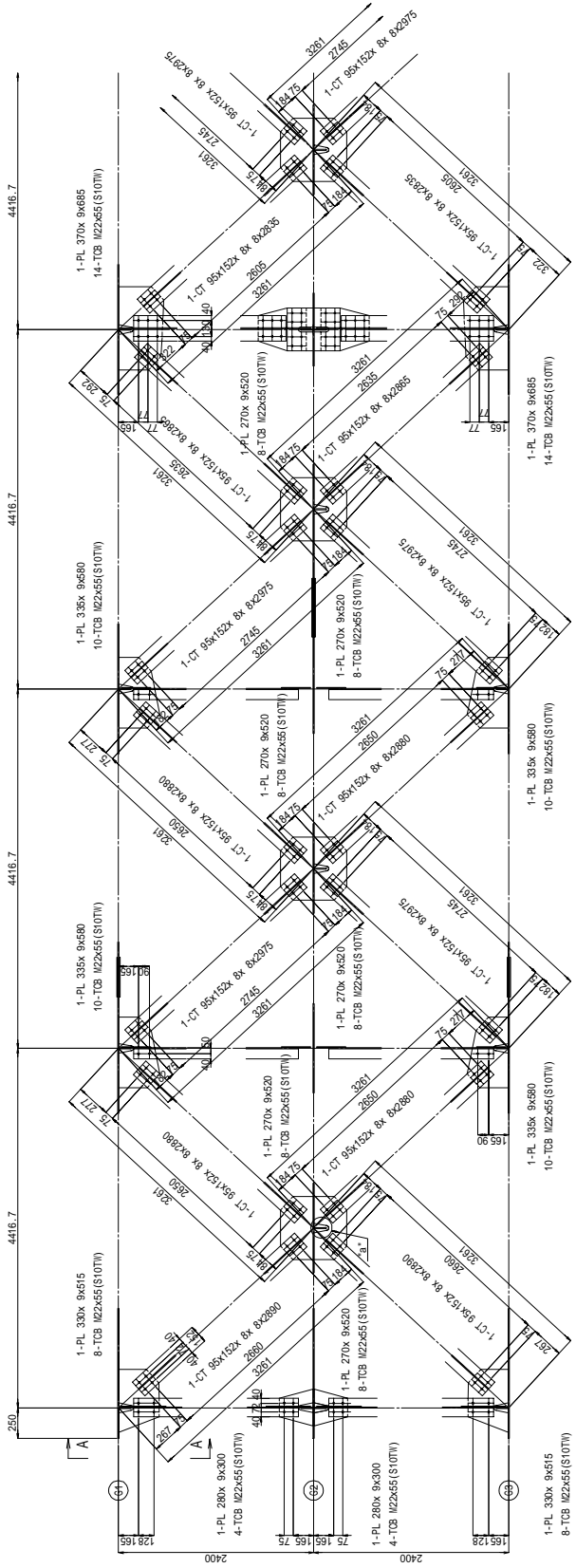


NOTES:  
1) Materials to be SH400HW unless otherwise noted.  
2) + Mark is set to be T C B ( M22.S10TV ) .  
3) Radius of scallop to be 35mm unless noted.

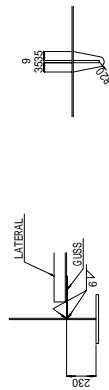
THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECTS MANAGEMENT UNIT NO. 19, MINISTRY OF TRANSPORT	
PROJECT: THE BRIDGE FOR IMPROVEMENT OF ROAD BRIDGES IN URBAN DISTRICTS (PHONG HIEP)	
CONSULTANT: ORIENTAL CONSULTANTS CO., LTD	
DESIGNED BY	CHECKED BY
APPROVED BY	
NAME	
SIGNATURE	
DATE	

# 1-3 LATERAL BRACING (L-27) S = 1 / 40 ( 1 / 60 )

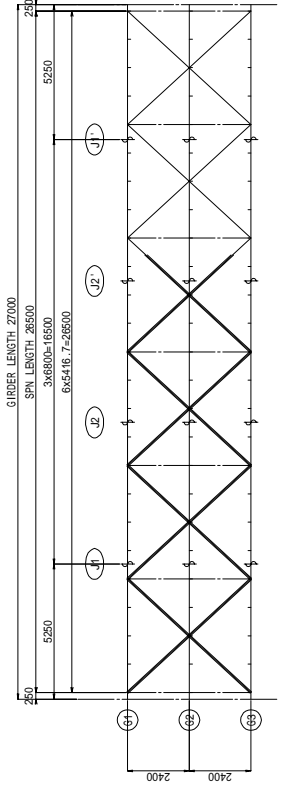
SECTION	SCALE	DRAWING NO.	SHEET NO.
	1/80 (1/60)		OF
DRAWING TITLE	1-3 LATERAL BRACING (L-27)		
REV. NO.	DATE	DESCRIPTION	SIGNATURE



DETAIL "a" S=1/20



KEY PLAN



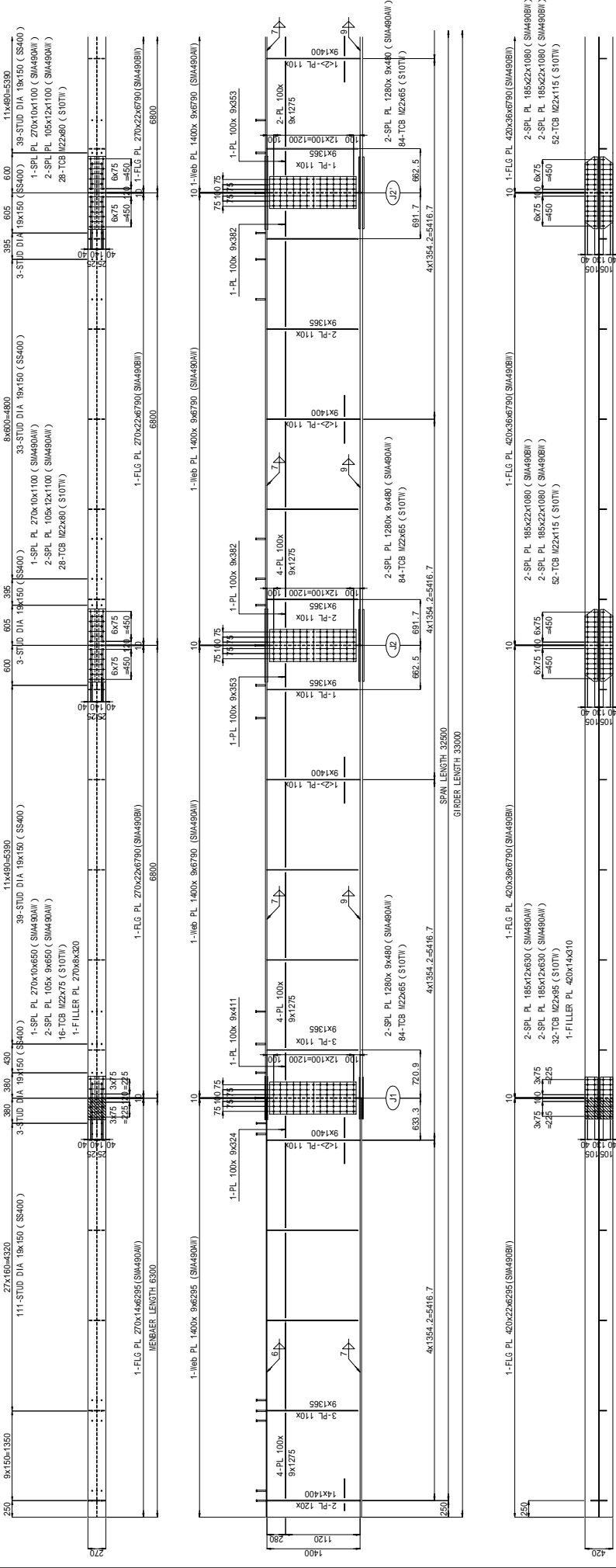
- NOTES:
- 1) Materials to be S46000W unless otherwise noted.
  - 2) Field splices shall be connected by T C B ( 122, S107H ) .
  - 3) Radius of scallops to be 35mm unless noted.
  - 4) Lateral bracings are symmetric with respect to the center of a span, therefore main girders are drawn from A1 to the centerline.

THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECTS MANAGEMENT UNIT NO. 18, MINISTRY OF TRANSPORT	
PROJECT: THE RINGWAY FOR UPHOUGHT & BANG BINH IN UPHOUGHT PROVINCE	
CONSULTANT: ORIENTAL CONSULTANTS CO., LTD	
DESIGNED BY	CHECKED BY
APPROVED BY	
NAME	
SIGNATURE	
DATE	

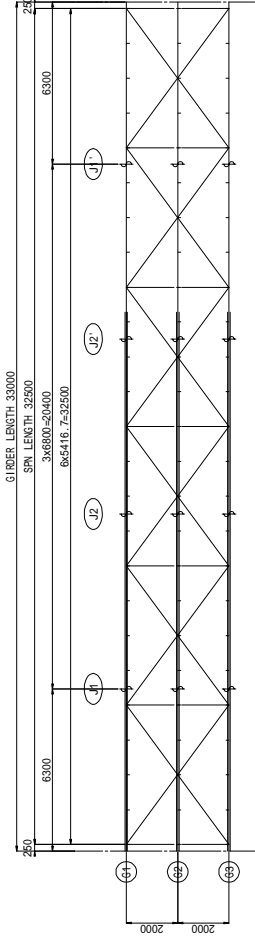
# 1-4 MAIN GIRDER 1 (L-33) S = 1 / 60

G1, G3 <G2>

SECTION	SCALE	DRAWING NO.	SHEET NO.
	1/6		OF
DRAWING TITLE		1-4 MAIN GIRDER 1 (L-33)	
REV. NO.	DATE	DESCRIPTION	SIGNATURE

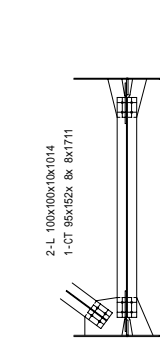
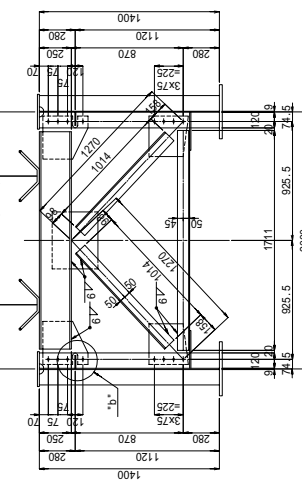
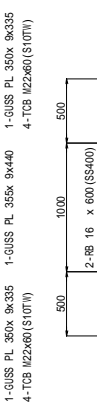
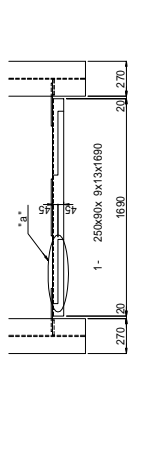


KEY PLAN

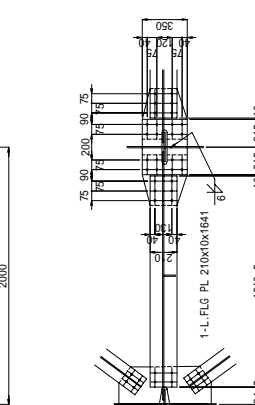
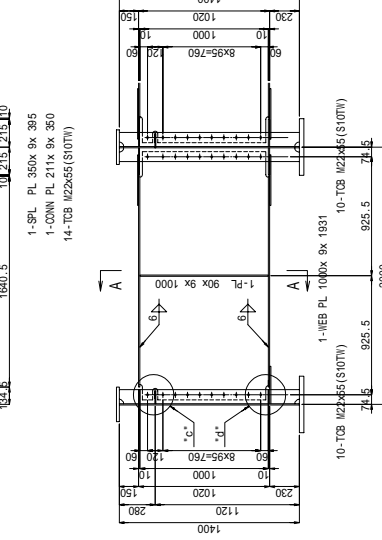
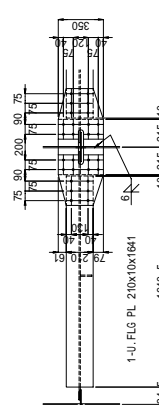


- NOTES:
- 1) Materials to be SM400W unless otherwise noted.
  - 2) Field splices shall be connected by T C B (W22.S10TV) .
  - 3) Radius of scallop to be 35mm unless noted.
  - 4) Area denoted not to be welded.
  - 5) Main girders are symmetric with respect to the center of a span; therefore main girders are drawn from AI to the centerline.

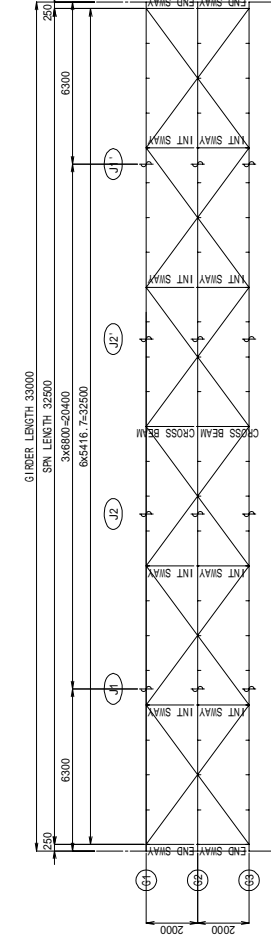
**END SWAY BRACING S=1/40**



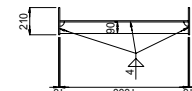
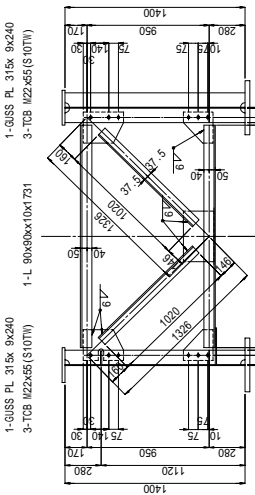
**CROSS BEAM S=1/40**



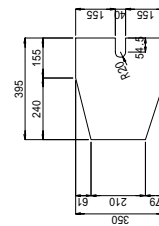
**KEY PLAN**



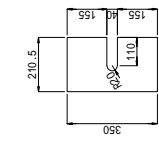
**INT SWAY BRACING S=1/40**



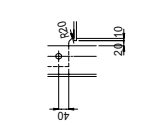
**DETAIL OF SPL PL S=1/20**



**DETAIL OF CONN PL S=1/20**



**DETAIL "b" S=1/20**



**NOTES:**

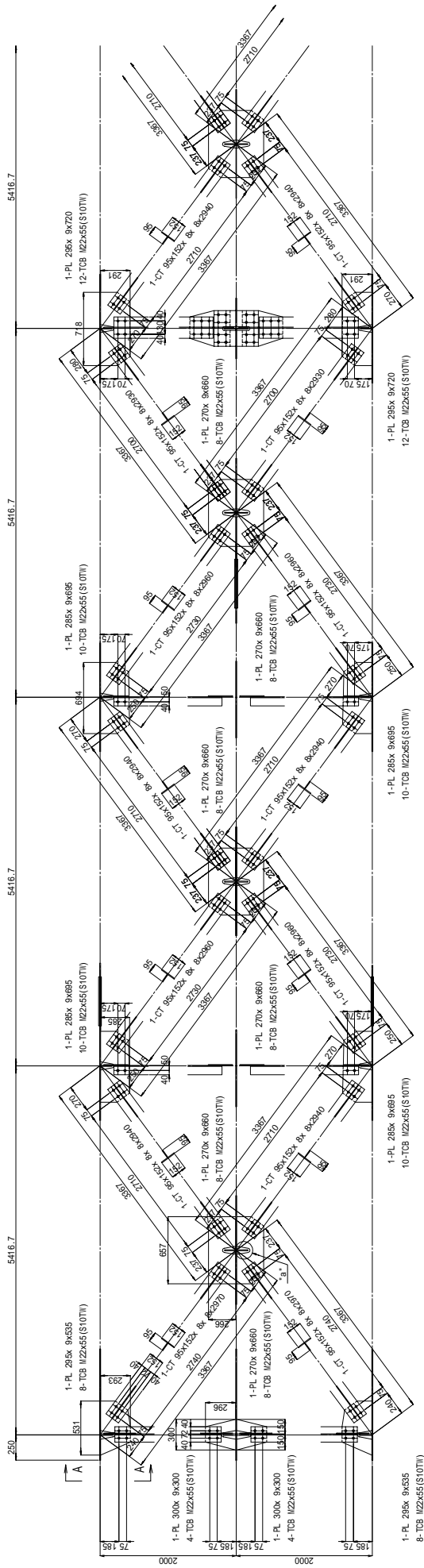
- 1) Materials to be S10400W unless otherwise noted.
- 2) Mark is set to be T C B ( M22, S10TW ) .
- 3) Radius of scall top to be 35mm unless noted.

THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECTS MANAGEMENT UNIT NO. 14, MINISTRY OF TRANSPORT	
PROJECT: THE BRIDGE FOR UPHOUGHT & HOAI BINH IN UYENH PROVINCE	
CONSULTANT: ORIENTAL CONSULTANTS CO., LTD	
DESIGNED BY	APPROVED BY
CHECKED BY	
NAME	
SIGNATURE	
DATE	

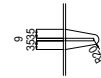
# 1-4 LATERAL BRACING ( L-33 ) S = 1 / 40 ( 1 / 60 )

SECTION	SCALE	DRAWING NO.	SHEET NO.
	1/40 (1/60)		OF
DRAWING TITLE		1-4 LATERAL BRACING ( L-33 )	
REV. NO.	DATE	DESCRIPTION	SIGNATURE

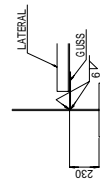
## LATERAL BRACING S=1/40(1/60)



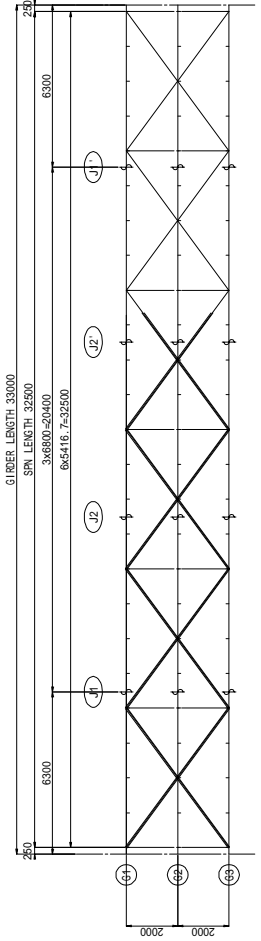
DETAIL "a" S=1/20



A - A



KEY PLAN



- NOTES:
- 1) Materials to be SH400NH unless otherwise noted.
  - 2) Field splices shall be connected by T C B ( M22, S10TH ) .
  - 3) Radius of scallop to be 35mm unless noted.
  - 4) Lateral bracing are symmetric with respect to the center of a span, therefore main girders are drawn from A1 to the centerline.

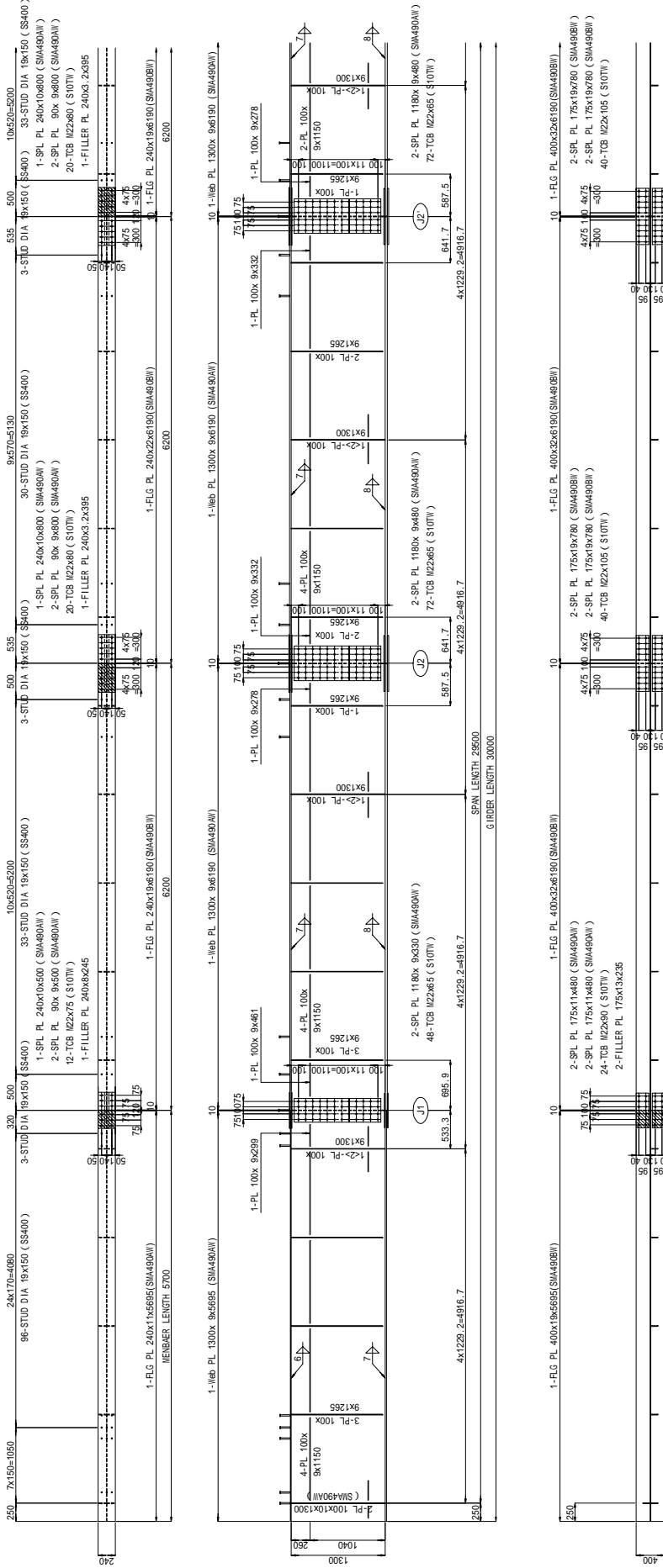
THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM PROJECTS MANAGEMENT UNIT NO. 18, MINISTRY OF TRANSPORT	
PROJECT: THE INVEST FOR IMPROVE OF ROAD BRIDGES IN UPHER MOUNTAIN PROVINCS	
CONSULTANT: ORIENTAL CONSULTANTS CO., LTD	
DESIGNED BY	CHECKED BY
APPROVED BY	
NAME	SIGNATURE
DATE	

# 1-5 MAIN GIRDER 1 (L-30)

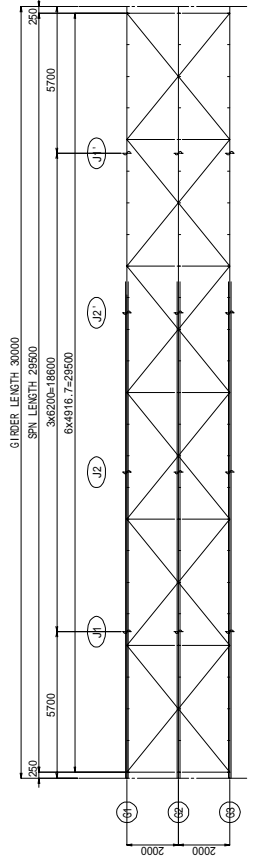
## G1, G3 <G2>

S = 1 / 60

SECTION	SCALE	DRAWING NO.	SHEET NO.
DRAWING TITLE	1/8		OF
REV. NO.	DATE	DESCRIPTION	SIGNATURE



**KEY PLAN**



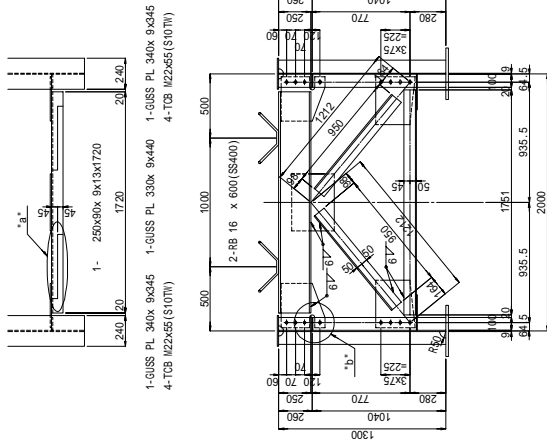
- NOTES:
- 1) Materials to be SMA490M unless otherwise noted.
  - 2) Field splices shall be connected by T C B (M22, \$10TV).
  - 3) Radius of scallop to be 35mm unless noted.
  - 4) Area denoted not to be welded.
  - 5) Main girders are symmetric with respect to the center of a span, therefore main girders are drawn from A1 to the centerline.

THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM PROJECTS MANAGEMENT UNIT NO. 18, MINISTRY OF TRANSPORT			
PROJECT: THE RING ROAD THROUGH THE CITY CENTER IN MANG THAI HAI PROVINCE			
CONSULTANT: ORIENTAL CONSULTANTS CO., LTD			
DESIGNED BY:	CHECKED BY:	APPROVED BY:	
DATE:	DATE:	DATE:	

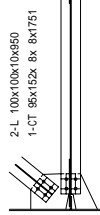
SECTION	SCALE	DRAWING NO.	SHEET NO.
	1/8		OF
<b>TITLE</b>	1-5 CROSS BEAM - SWAY BRACING (L-30)		
<b>REV. NO.</b>	<b>DATE</b>	<b>DESCRIPTION</b>	<b>SIGNATURE</b>

**1-5 CROSS BEAM , SWAY BRACING ( L-30 ) S = 1 / 40**

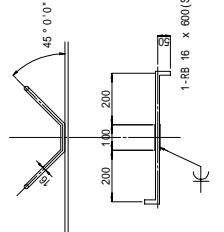
**END SWAYBRACING S=1/40.**



1- GIUSS PL 305x 9x370  
4-TCB M22x55(S10Tt)

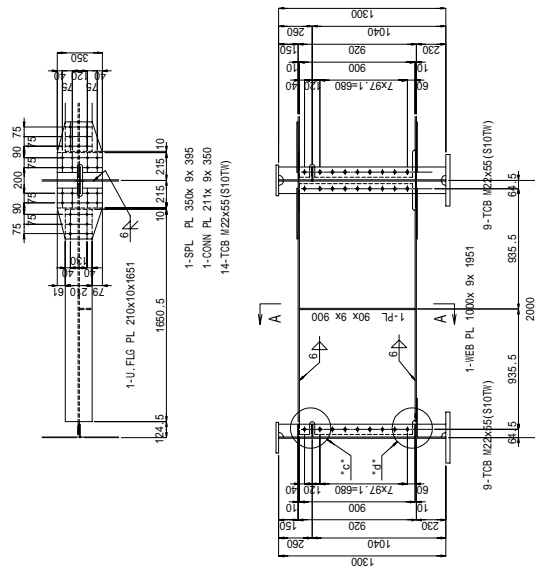


**DETAIL "a" S=1/20.**



**DETAIL "b" S=1/20.**

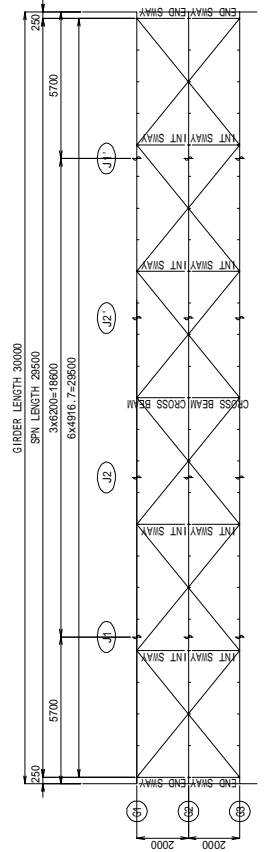
**CROSS BEAM S=1/40.**



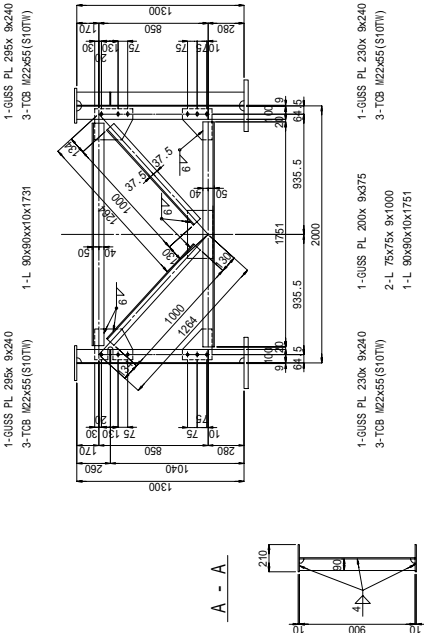
1- SPL PL 350x 9x 395  
1- COM PL 350x 9x 211  
14-TCB M22x55(S10Tt)

1- L-FLG PL 210x10x1651  
10- 215 215 110

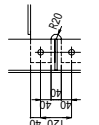
**KEY PLAN**



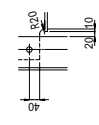
**INT SWAY BRACING S=1/40.**



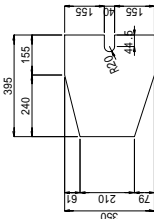
**DETAIL "c" S=1/20.**



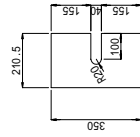
**DETAIL "b" S=1/20.**



**DETAIL OF SPL PL S=1/20.**



**DETAIL OF CONN PL S=1/20.**



NOTES:

- 1) Materials to be SH400A unless otherwise noted.
- 2) + Mark is set to be T C B ( M22.S10T ) .
- 3) Radius of scallop to be 35mm unless noted.

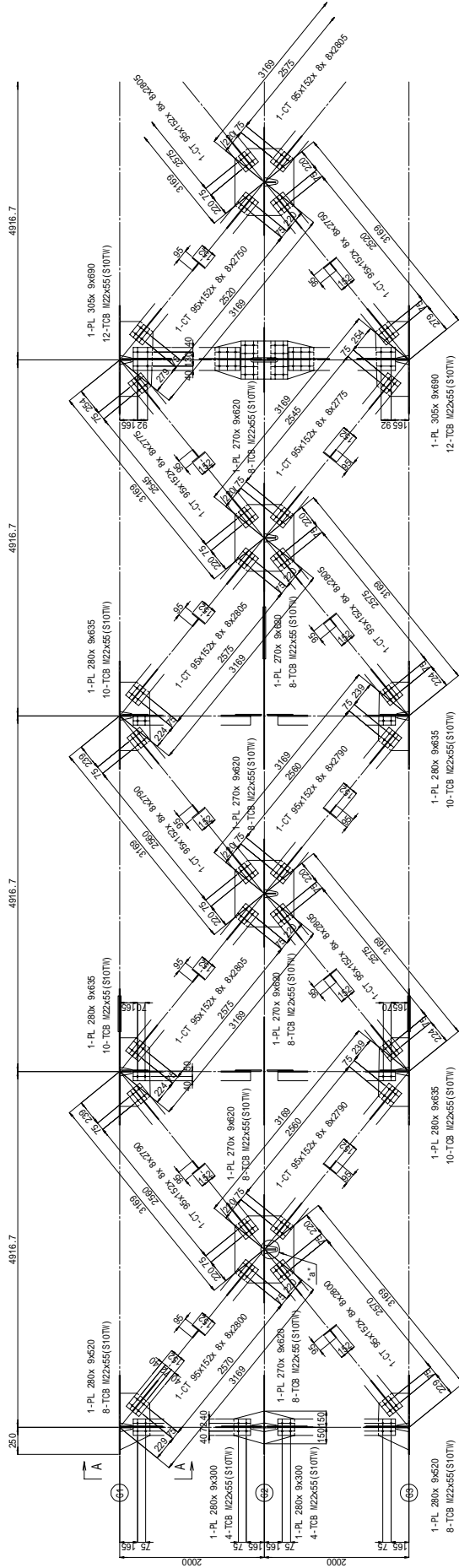


THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECTS MANAGEMENT UNIT NO. 14, MINISTRY OF TRANSPORT	
PROJECT: THE BRIDGE FOR IMPROVEMENT OF ROAD BRIDGES IN URBAN BOUNDARY TOWNS	
CONSULTANT: ORIENTAL CONSULTANTS CO., LTD	
DESIGNED BY	APPROVED BY
CHECKED BY	
NAME	
SIGNATURE	
DATE	

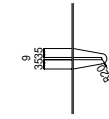
# 1-5 LATERAL BRACING ( L-30 ) S = 1 / 40 ( 1 / 60 )

SECTION	SCALE	DRAWING NO.	SHEET NO.
	1/40 (1/60)		OF
DRAWING TITLE	1-5 LATERAL BRACING (L-30)		
REV. NO.	DATE	DESCRIPTION	SIGNATURE

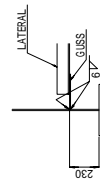
## LATERAL BRACING S=1/40(1/60)



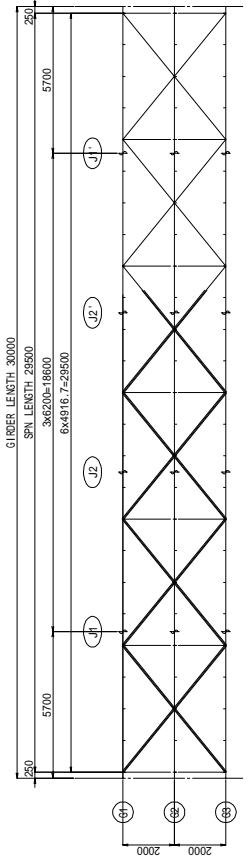
DETAIL "a" S=1/20



A - A



KEY PLAN



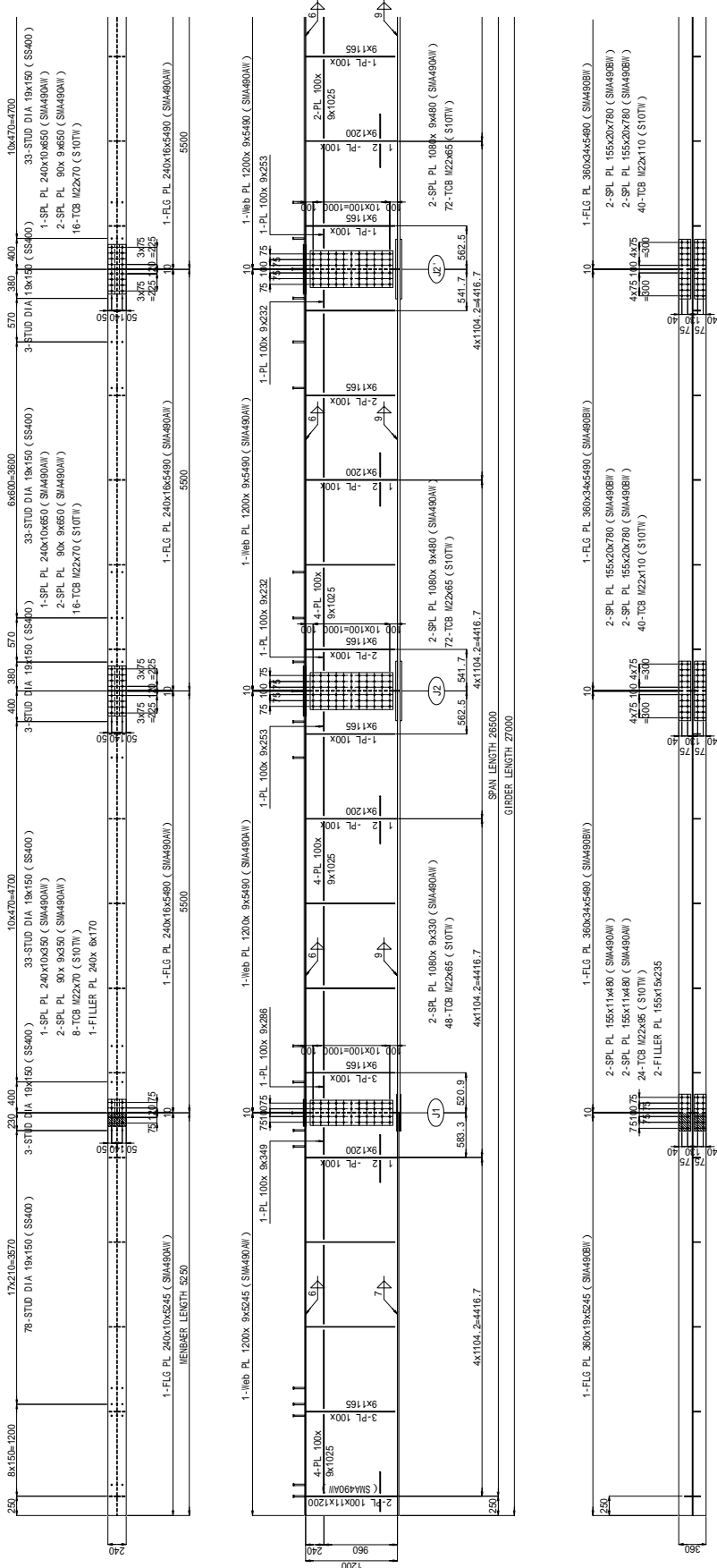
- NOTES:
- 1) Materials to be SM400ML unless otherwise noted.
  - 2) Field splices shall be connected by T C B ( 122, S10TH ) .
  - 3) Radius of scallop to be 35mm unless noted.
  - 4) Lateral bracings are symmetric with respect to the center of a span, therefore main girders are drawn from A1 to the centerline.

THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECT MANAGEMENT UNIT NO. 14, MINISTRY OF TRANSPORT	
PROJECT: THE INVEST FOR IMPROVE & MAINTAIN IN URBAN HIGHWAY PHASE	
CONSULTANT: ORIENTAL CONSULTANTS CO., LTD	
DESIGNED BY	APPROVED BY
CHECKED BY	
NAME	
SIGNATURE	
DATE	

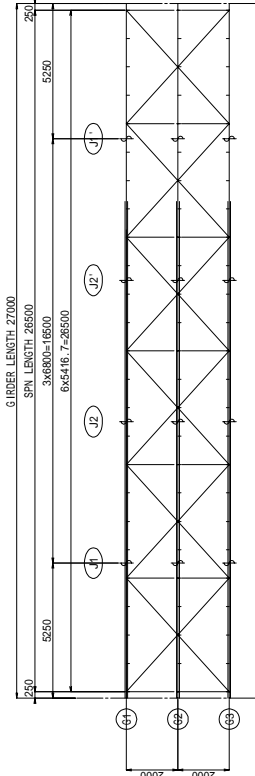
# 1-6 MAIN GIRDER 1 (L-27) S = 1 / 60

G1, G3 <G2>

SECTION	SCALE	DRAWING NO.	SHEET NO.
DRAWING TITLE	1/8		OF
REV. NO.	DATE	DESCRIPTION	SIGNATURE



KEY PLAN



- NOTES:
- 1) Materials to be SMA490BW unless otherwise noted.
  - 2) Field splices shall be connected by T C B (M22.S10TW).
  - 3) Radius of scallop to be 35mm unless noted.
  - 4) Area denoted not to be welded.
  - 5) Main girders are symmetric with respect to the center of a span, therefore main girders are drawn from A1 to the centerline.





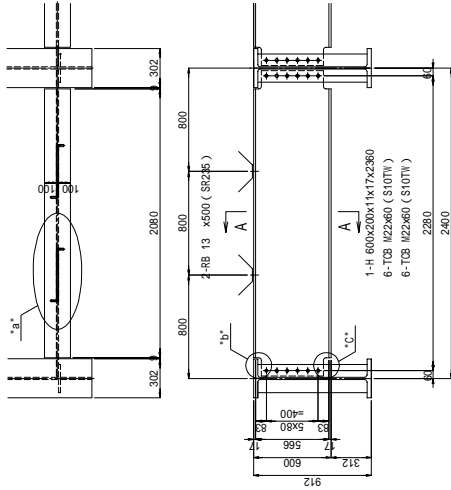


THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM			
PROJECTS MANAGEMENT UNIT NO. 14, MINISTRY OF TRANSPORT			
PROJECT: REPAIR AND IMPROVEMENT OF ROAD BRIDGE IN NUMBER 1000000000000000			
CONSULTANT: ORIENTAL CONSULTANTS CO., LTD			
DESIGNED BY	CHECKED BY	APPROVED BY	
DATE			

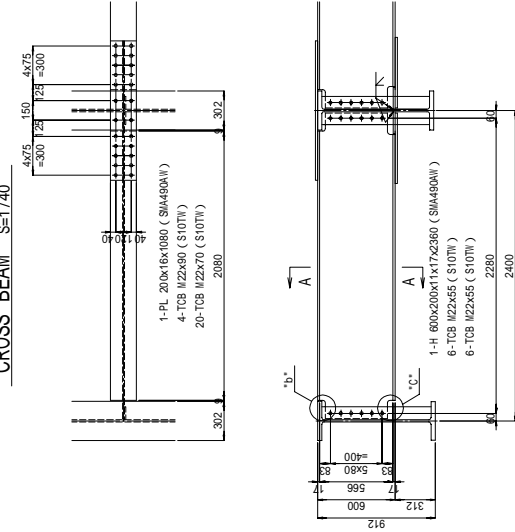
## 2-1 CROSS BEAM , SWAY BRACING ( L-24 ) S = 1 / 40

SECTION	SCALE	DRAWING NO.	SHEET NO.
1/40			OF
REV. NO.	DATE	DESCRIPTION	SIGNATURE

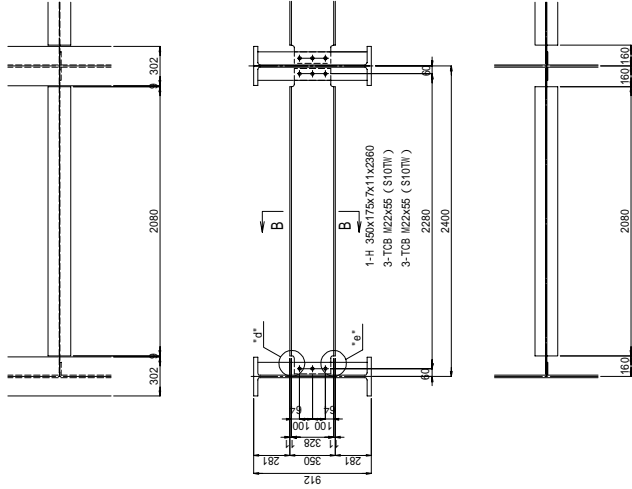
END BEAM S=1/40



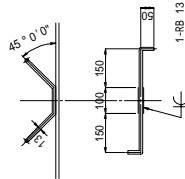
CROSS BEAM S=1/40



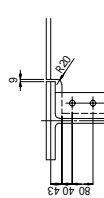
INT BEAM S=1/40



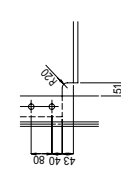
DETAIL "a" S=1/20



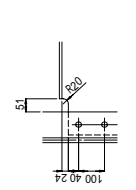
DETAIL "b" S=1/20



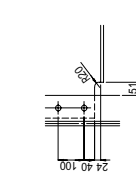
DETAIL "c" S=1/20



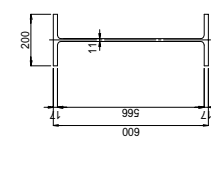
DETAIL "d" S=1/20



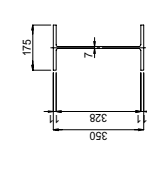
DETAIL "e" S=1/20



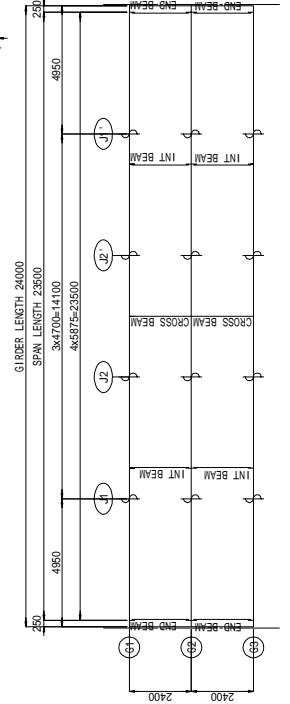
A - A S=1/20



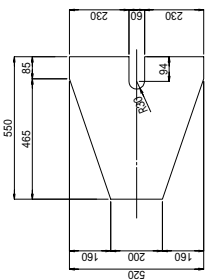
B - B S=1/20



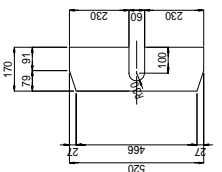
KEY PLAN



DETAIL OF SPL PL S=1/20



DETAIL OF CONN PL S=1/20



NOTE:  
 1) Materials to be SMA490W unless otherwise noted.  
 2) Mark is set to be T C B ( M22 S10TH ).  
 3) Radius of scalltop to be 35mm unless noted.

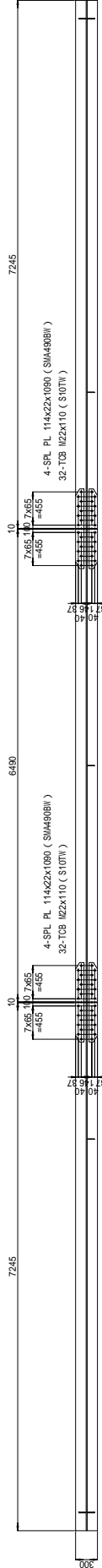
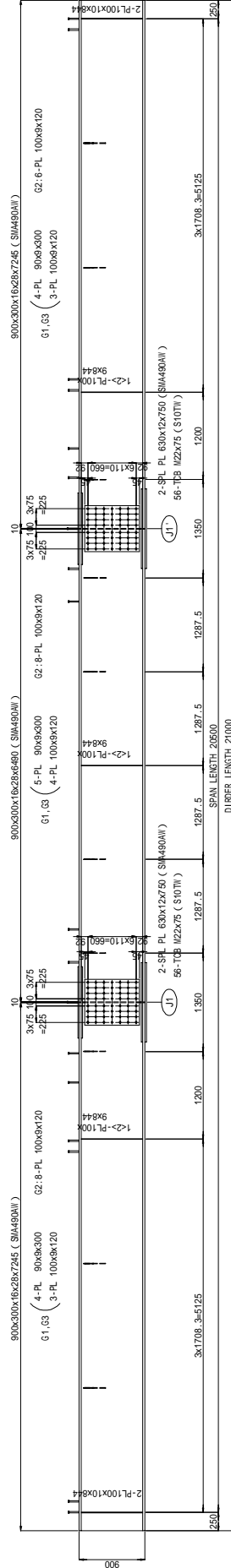
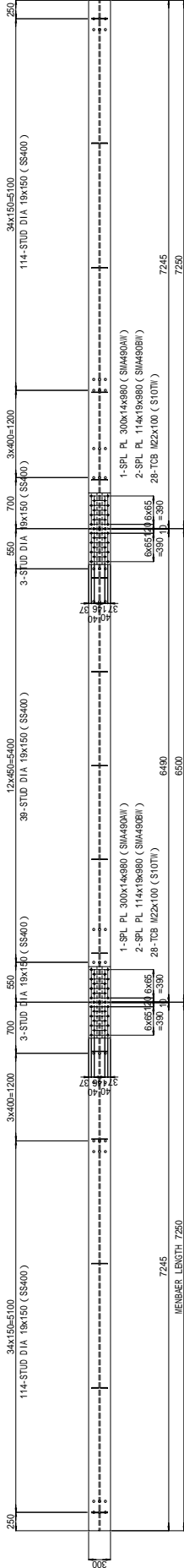
THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECT MANAGEMENT UNIT NO. 11, MINISTRY OF TRANSPORT	
PROJECT: THE PROJECT FOR IMPROVING OF ROAD BRIDGES IN BACH BINH PROVINCE	
CONSULTANT: ORIENTAL CONSULTANTS CO., LTD	
DESIGNED BY	APPROVED BY
CHECKED BY	
DATE	

# 2-2 MAIN GIRDER 1 (L-21)

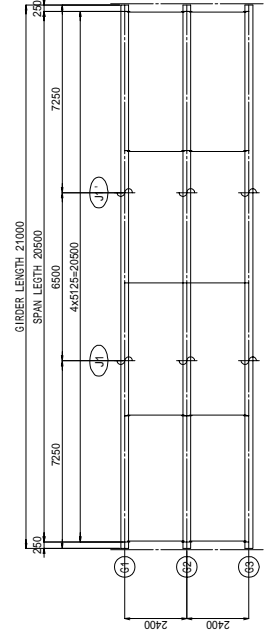
G1.G3<G2>

S = 1 / 60

SECTION	SCALE	DRAWING NO.	SHEET NO. OF
DRAWING NO.	1/60		
DATE			
DESCRIPTION			
SIGNATURE			



## KEY PLAN



- NOTES:
- 1) Materials to be SMA490W unless otherwise noted.
  - 2) Field splices shall be connected by T.C.B (W22 S10T)
  - 3) Radius of seal top to be 35mm unless noted.
  - 4) Area denoted 'not' to be welded.



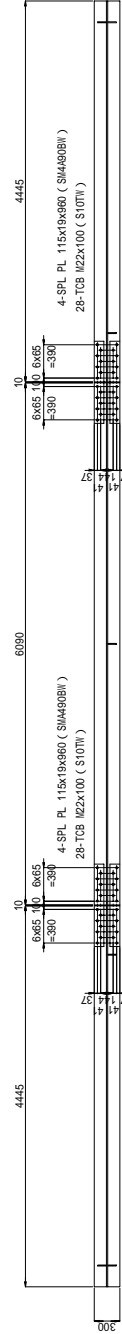
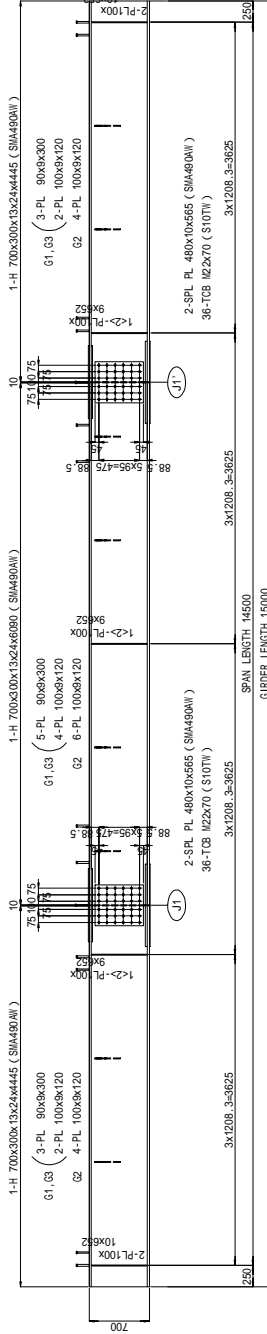
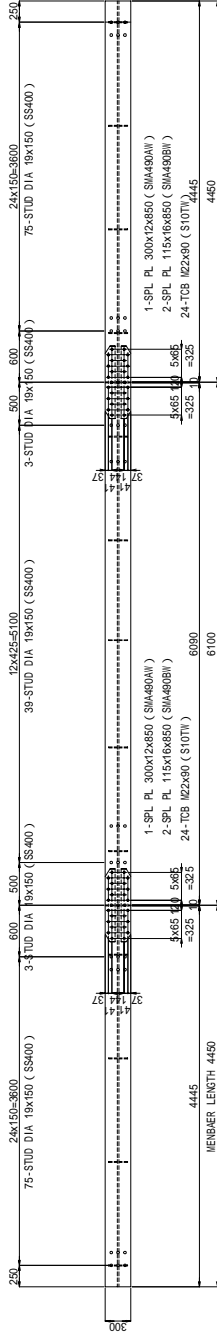


THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECTS MANAGEMENT UNIT NO. 14, MINISTRY OF TRANSPORT	
CONSULTANT: THE BUREAU FOR IMPROVEMENT OF ROAD BRIDGES IN URBAN AREAS/ROADS DIVISION	
ORIENTAL CONSULTANTS CO., LTD.	
NAME	CHECKED BY
SIGNATURE	APPROVED BY
DATE	

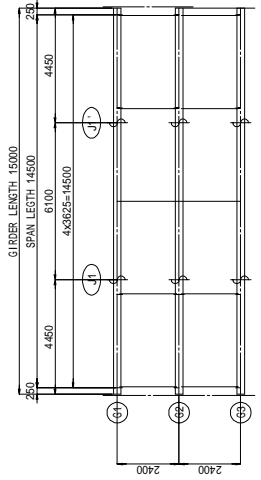
# 2-3 MAIN GIRDER 1 (L-15) S = 1 / 60

G1, G3 < G2 >

SECTION	SCALE	DRAWING NO.	SHEET NO.
DRAWING TITLE	1/60		OF
REV. NO.	DATE	DESCRIPTION	SIGNATURE



KEY PLAN



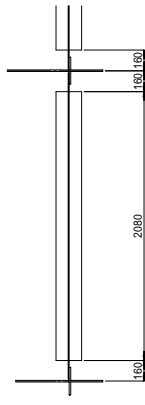
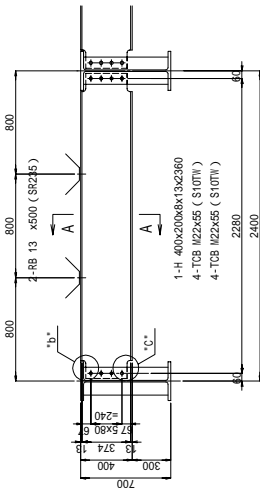
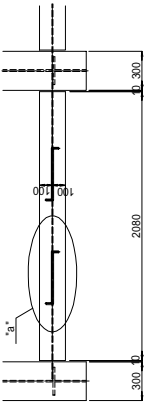
- NOTES:
- 1) Materials to be SMA490M unless otherwise noted.
  - 2) Field splices shall be connected by T.C.B. (M22 S10TW).
  - 3) Radius of scallop to be 35mm unless noted.
  - 4) Area denoted 'not to be welded'.

THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM  
 PROJECT MANAGEMENT UNIT NO. 14, MINISTRY OF TRANSPORT  
 CONSULTANT: THE PROJECT MANAGER & ENGINEERING CONSULTANTS CO., LTD  
 ORIENTAL CONSULTANTS CO., LTD

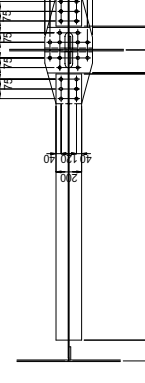
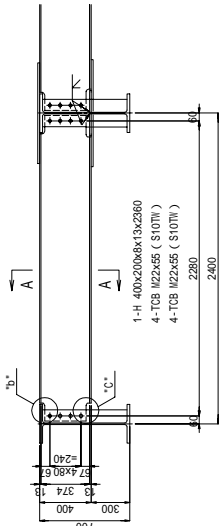
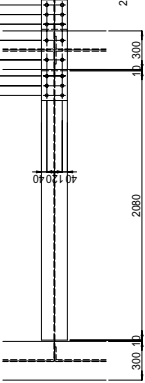
# 2-3 CROSS BEAM, SWAY BRACING (L-15) S = 1 / 40

SECTION	SCALE	DRAWING NO.	SHEET NO. OF
DRAWING NAME	1/40	2-6 CROSS BEAM, SWAY BRACING (L-15)	
DATE		DESCRIPTION	SIGNATURE

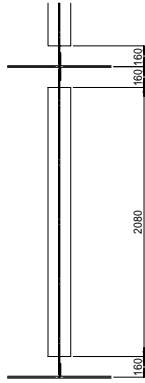
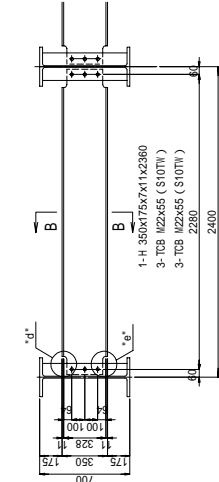
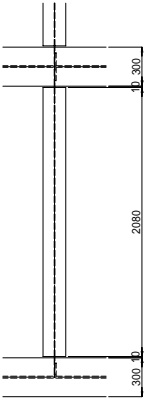
END BEAM S=1/40



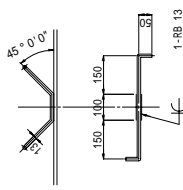
CROSS BEAM S=1/40



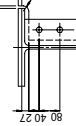
INT BEAM S=1/40



DETAIL "a" S=1/20



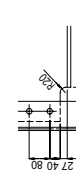
DETAIL "b" S=1/20



DETAIL "c" S=1/20



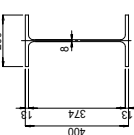
DETAIL "d" S=1/20



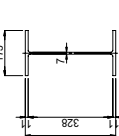
DETAIL "e" S=1/20



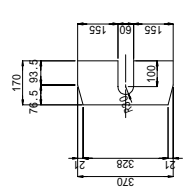
A - A S=1/20



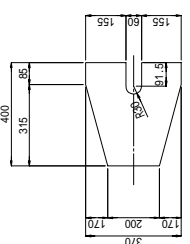
B - B S=1/20



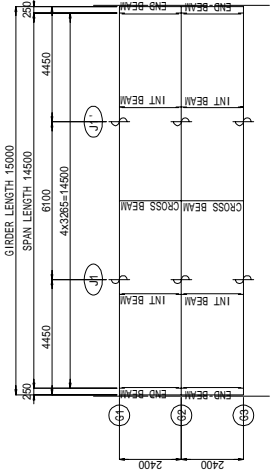
DETAIL OF CONN PL S=1/20



DETAIL OF SPL PL S=1/20



KEY PLAN



NOTE:  
 1) Materials to be SMA490AW unless otherwise noted.  
 2) \*Mark is set to be T C B ( M22, S10TW ).  
 3) Radius of scallop to be 35mm unless noted.

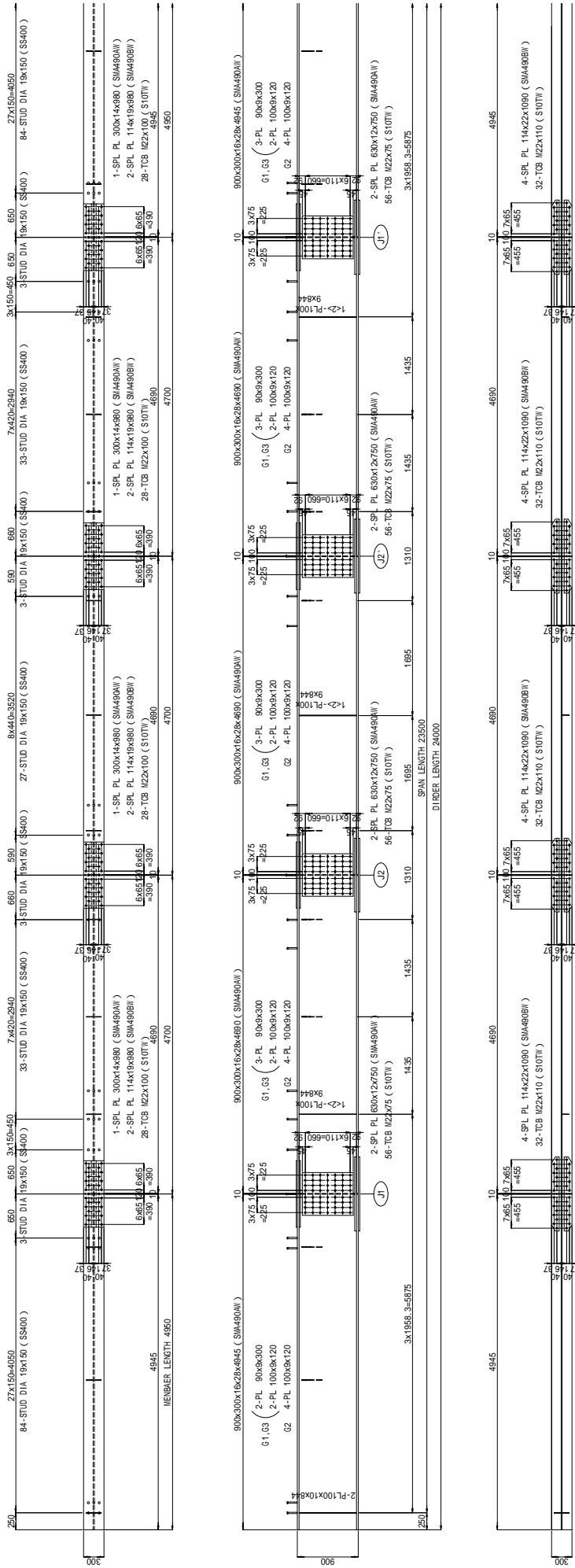
THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECTS MANAGEMENT UNIT NO. 13, MINISTRY OF TRANSPORT	
PROJECT: THE IMPACT FOR IMPROVEMENT OF ROAD SERVICE IN NUMBER THROUGH TUNNELS	
CONSULTANT:	ORIENTAL CONSULTANTS CO., LTD
DESIGNED BY:	CHECKED BY:
APPROVED BY:	DATE:

# 2-4 MAIN GIRDER 1 (L-24)

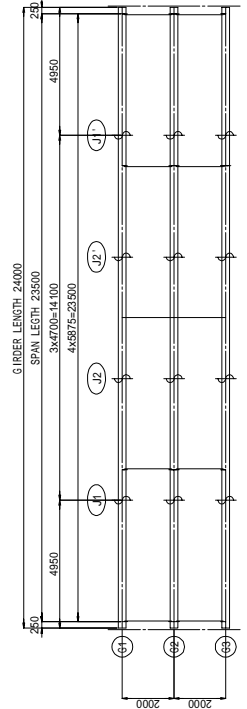
S = 1 / 60

G1, G3-G2

SECTION	SCALE	DRAWING NO.	SHEET NO.
MEMBER	1/60	2-4 MAIN GIRDER 1 (L-24)	OF
REV. NO.	DATE	DESCRIPTION	SIGNATURE



## KEY PLAN



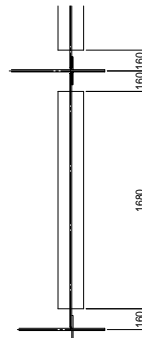
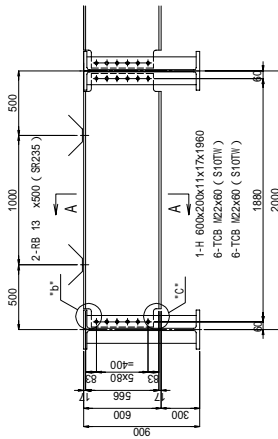
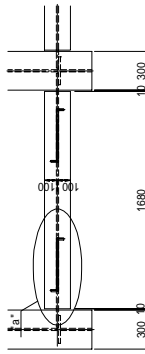
- NOTES:
- 1) Materials to be SMA490BW unless otherwise noted.
  - 2) Field splices shall be connected by T C B (M22 S10T)
  - 3) Radius of scallop to be 35mm unless noted.
  - 4) Area denoted not to be welded.

THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM			
PROJECT MANAGEMENT UNIT NO. 14, MINISTRY OF TRANSPORT			
CONSULTANT: THE PROJECT MANAGER OF BANG PHUONG II DAM (DESIGN AND CONSTRUCTION)			
ORIENTAL CONSULTANTS CO., LTD.			
DESIGNED BY	CHECKED BY	APPROVED BY	
SIGNATURE	SIGNATURE	SIGNATURE	
DATE	DATE	DATE	

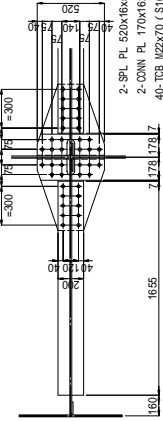
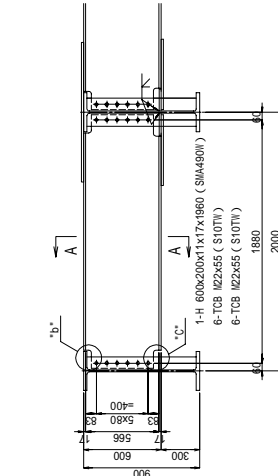
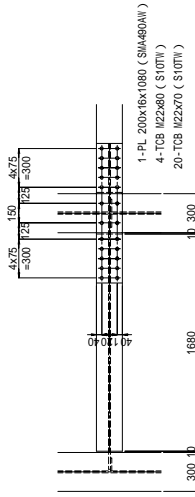
## 2-4 CROSS BEAM , SWAY BRACING ( L-24 ) S = 1 / 40

SECTION	SCALE	DRAWING NO.	SHEET NO. OF
DRAWING NO.	1/40	2-4 CROSS BEAM , SWAY BRACING (L-24)	
DATE		DESCRIPTION	SIGNATURE

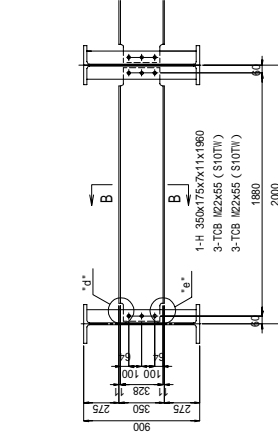
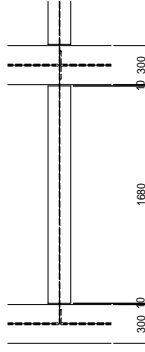
**END BEAM** S=1/40



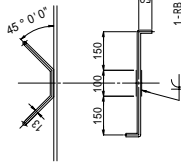
**CROSS BEAM** S=1/40



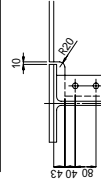
**INT BEAM** S=1/40



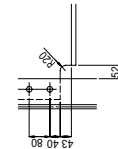
**DETAIL "a"** S=1/20



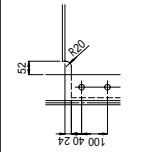
**DETAIL "b"** S=1/20



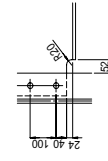
**DETAIL "c"** S=1/20



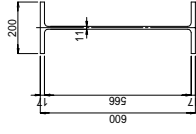
**DETAIL "d"** S=1/20



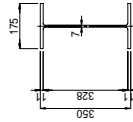
**DETAIL "e"** S=1/20



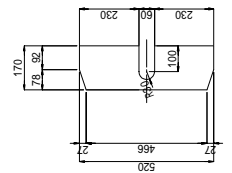
**A - A** S=1/20



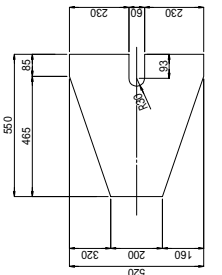
**B - B** S=1/20



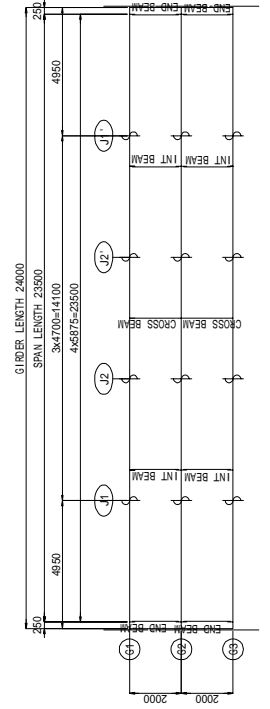
**DETAIL OF CONN PL** S=1/20



**DETAIL OF SPL PL** S=1/20



**KEY PLAN**



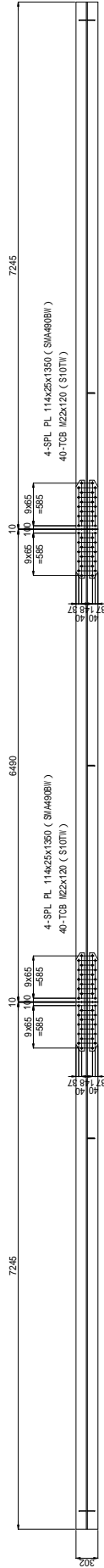
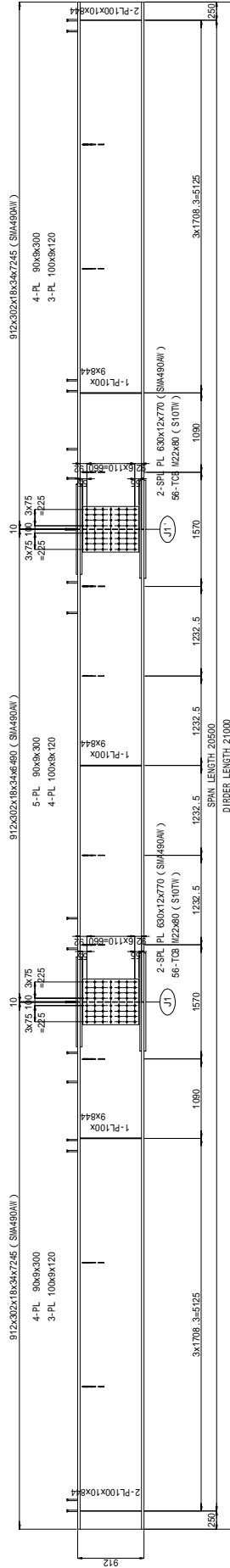
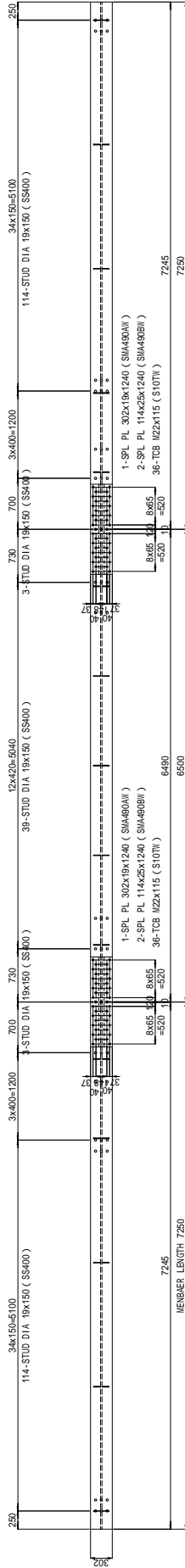
- NOTE:
- 1) Materials to be SMA490AW unless otherwise noted.
  - 2) Mark is set to be T C B ( M22.S10TH ) .
  - 3) Radius of scallop to be 35mm unless noted.

THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECTS MANAGEMENT UNIT NO. 14, MINISTRY OF TRANSPORT	
PROJECT: THE PROJECT FOR IMPROVEMENT OF MAIN BRIDGES IN HUNEN PROVINCE	
CONSULTANT: ORIENTAL CONSULTANTS CO., LTD.	
NAME	APPROVED BY
SIGNATURE	
DATE	

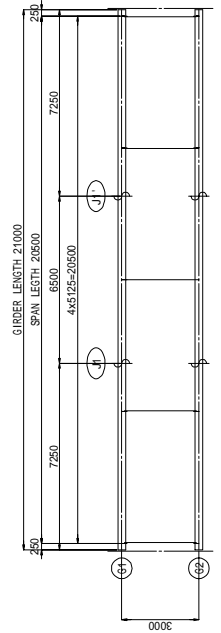
# 2-5 MAIN GIRDER 1 (L-21) S = 1 / 60

G1, G2

SECTION	SCALE	DRAWING NO.	SHEET NO.
DRAWING TITLE	1/60		OF
REV. NO.	DATE	DESCRIPTION	SIGNATURE



## KEY PLAN



### NOTES:

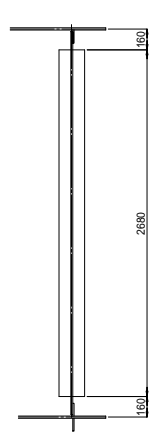
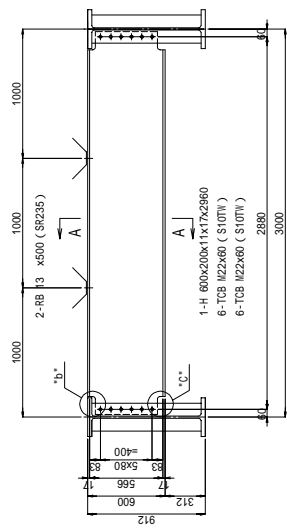
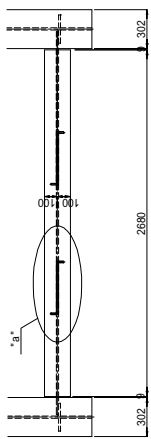
- 1) Materials to be SMA490M unless otherwise noted.
- 2) Field splices shall be connected by T.C.B. (W22 S10T).
- 3) Radius of scallop to be 35mm unless noted.
- 4) Area denoted 'not to be welded'.

THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECT MANAGEMENT UNIT NO. 14, MINISTRY OF TRANSPORT	
PROJECT: THE PROJECT FOR IMPROVING OF ROAD BRIDGES IN BACH BINH PROVINCE	
CONSULTANT	ORIENTAL CONSULTANTS CO., LTD
DESIGNED BY	CHECKED BY
APPROVED BY	DATE
DATE	

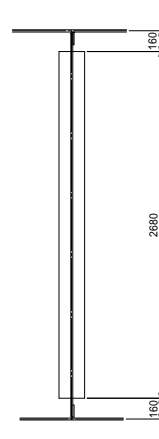
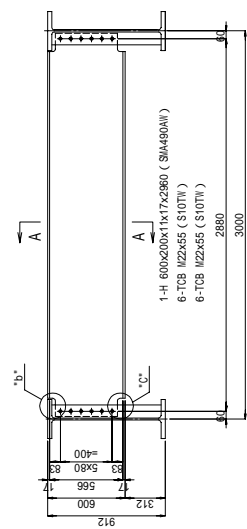
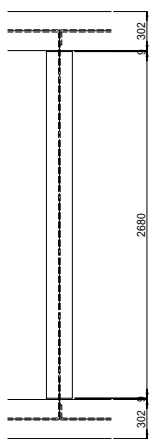
## 2-5 CROSS BEAM , SWAY BRACING ( L-21 ) S = 1 / 40

SECTION	SCALE	DRAWING NO.	SHEET NO. OF
DRAWING NO.	1/40	2-6 CROSS BEAM, SWAY BRACING (L-21)	
DATE		DESCRIPTION	SIGNATURE

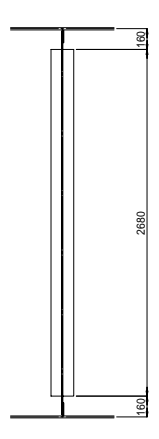
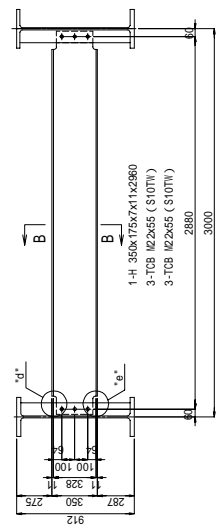
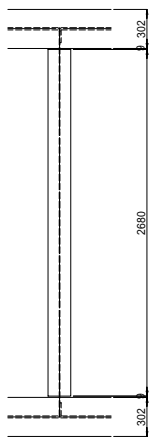
END BEAM S=1/40



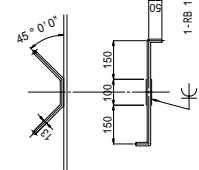
CROSS BEAM S=1/40



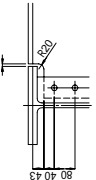
INT BEAM S=1/40



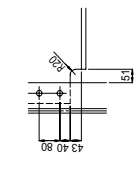
DETAIL "a" S=1/20



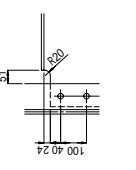
DETAIL "b" S=1/20



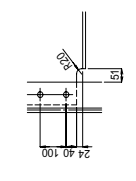
DETAIL "b" S=1/20



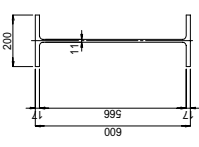
DETAIL "d" S=1/20



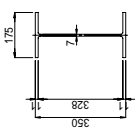
DETAIL "e" S=1/20



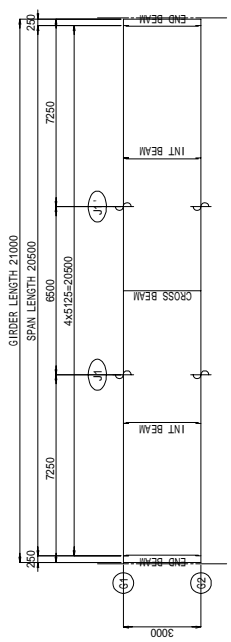
A - A S=1/20



B - B S=1/20



KEY PLAN



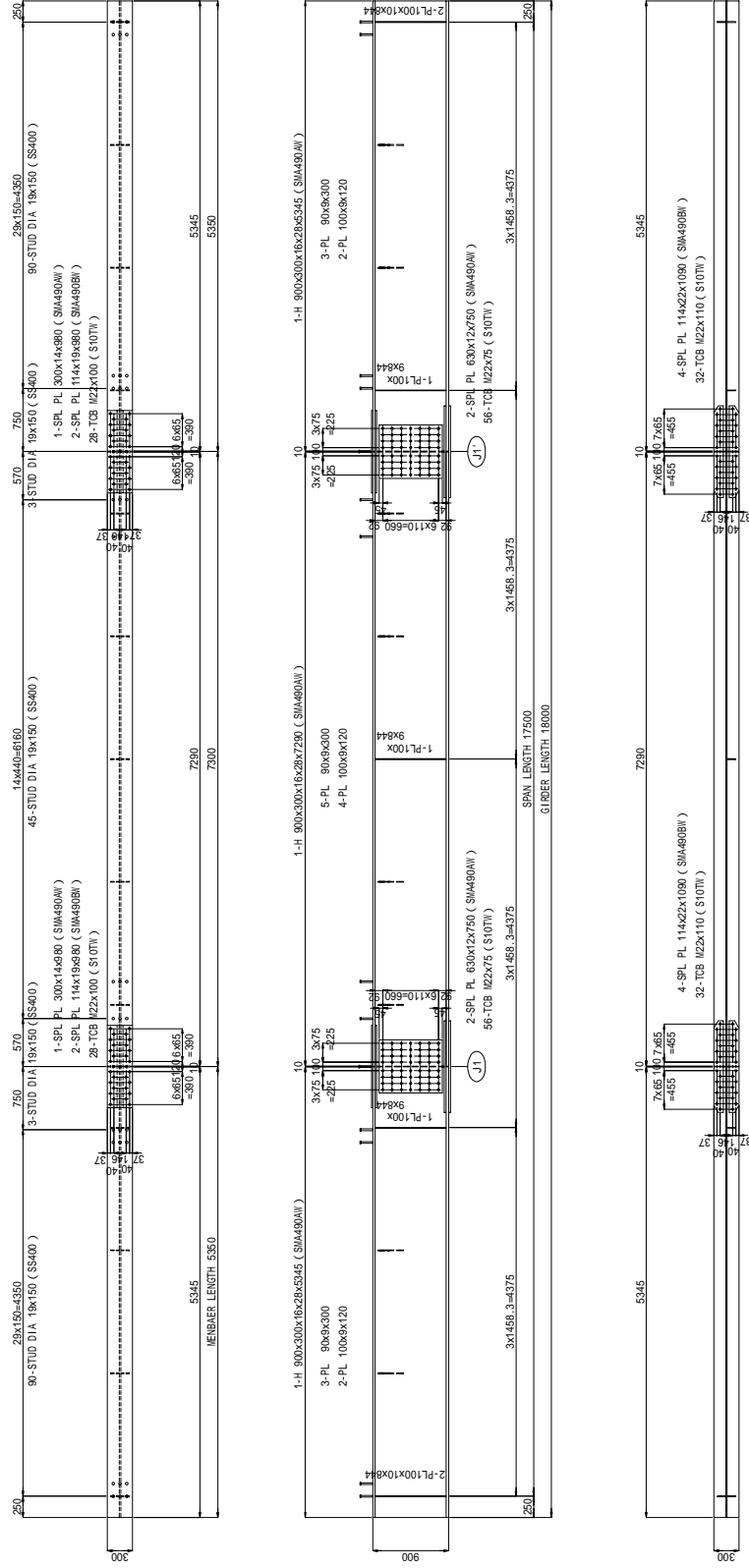
NOTE:  
 1) Materials to be SRA400W unless otherwise noted.  
 2) Mark is set to be T C B ( 422, S107W ) .  
 3) Radius of scallop to be 35mm unless noted.

THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECTS MANAGEMENT UNIT NO. 14, MINISTRY OF TRANSPORT	
PROJECT: THE PROJECT FOR IMPROVEMENT OF MAIN BRIDGES IN UENHON PROVINCE	
CONSULTANT:	ORIENTAL CONSULTANTS CO., LTD.
DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
NAME:	
SIGNATURE:	
DATE:	

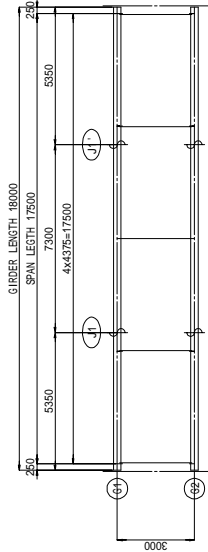
# 2-6 MAIN GIRDER 1 (L-18) S = 1 / 60

G1, G2

SECTION	SCALE	DRAWING NO.	SHEET NO.
DRAWING TITLE	1/60	2-6 MAIN GIRDER 1 (L-18)	OF
REV. NO.	DATE	DESCRIPTION	SIGNATURE



**KEY PLAN**



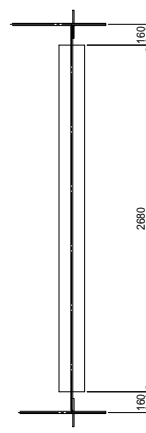
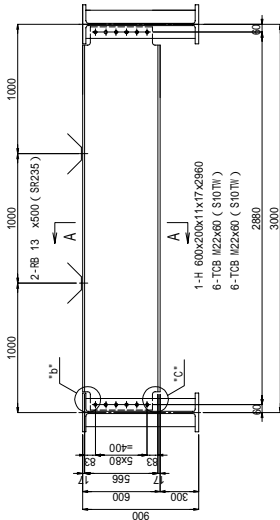
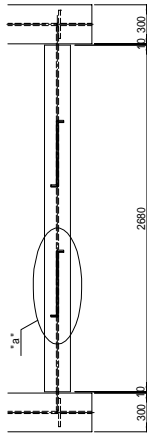
- NOTES:
- 1) Materials to be SMA490MP unless otherwise noted.
  - 2) Field splices shall be connected by T.C.B. (M22 S10TW)
  - 3) Radius of 1 scallop to be 35mm unless noted.
  - 4) Area denoted "not to be welded."

THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECTS MANAGEMENT UNIT NO. 13, MINISTRY OF TRANSPORT	
PROJECT: REPAIR FOR IMPROVEMENT OF ROAD BRIDGE IN NUMBER 18000000000000000000	
CONSULTANT:	ORIENTAL CONSULTANTS CO., LTD
DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
SCALE:	
DATE:	

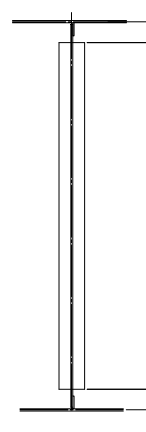
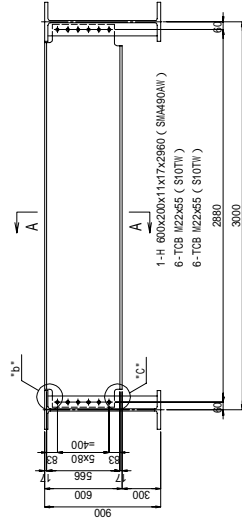
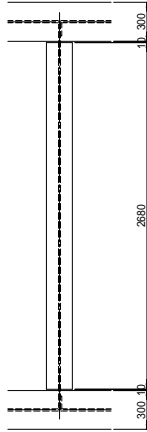
## 2-6 CROSS BEAM ( L-18 ) S = 1 / 40

SECTION	SCALE	DRAWING NO.	SHEET NO.
1/φ			OF
REV. NO.	DATE	DESCRIPTION	SIGNATURE

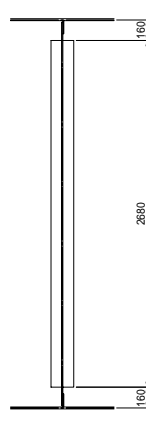
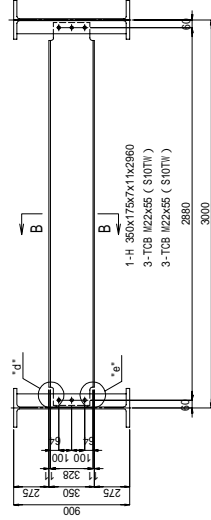
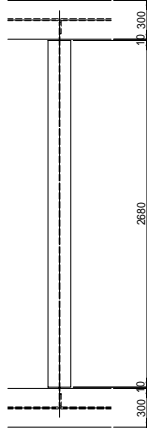
END BEAM S=1/40



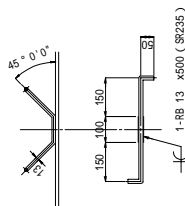
CROSS BEAM S=1/40



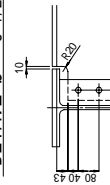
INT BEAM S=1/40



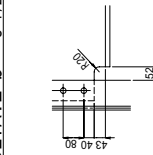
DETAIL "a" S=1/20



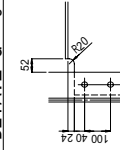
DETAIL "b" S=1/20



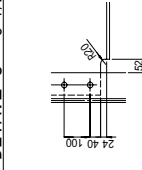
DETAIL "b" S=1/20



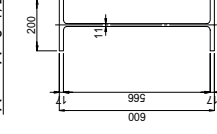
DETAIL "d" S=1/20



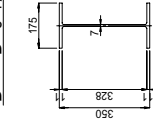
DETAIL "e" S=1/20



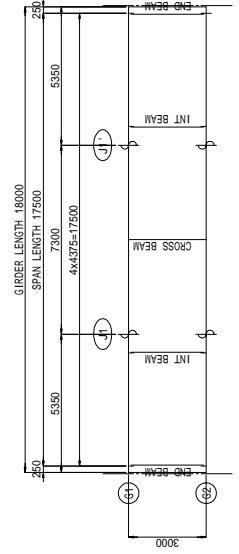
A - A S=1/20



B - B S=1/20



KEY PLAN



- NOTE:
- 1) Materials to be S107W unless otherwise noted.
  - 2) Mark is set to be T C B ( M22 S107W ) .
  - 3) Radius of scallop to be 35mm unless noted.

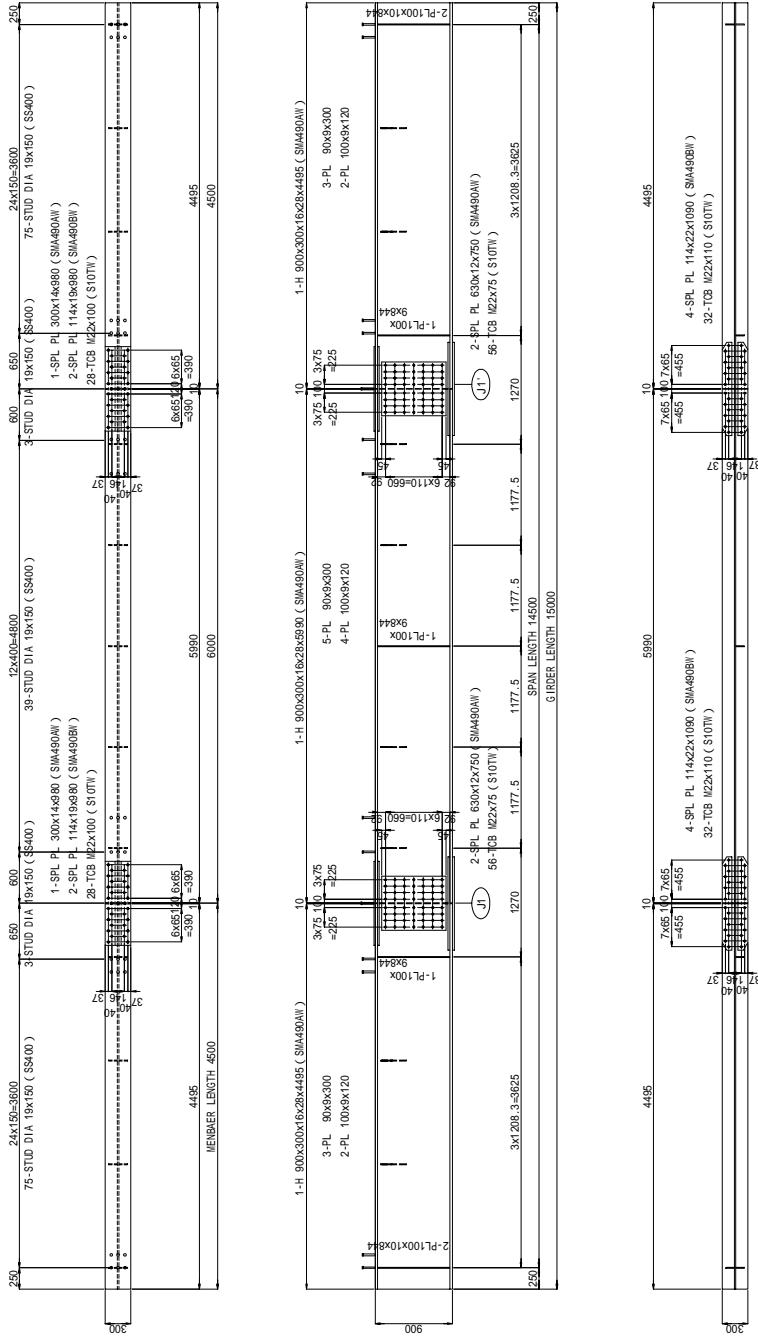


THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECTS MANAGEMENT UNIT NO. 14, MINISTRY OF TRANSPORT	
PROJECT: THE PROJECT FOR IMPROVEMENT OF ROAD BRIDGES IN UENH PROVINCE	
CONSULTANT:	ORIENTAL CONSULTANTS CO., LTD.
NAME:	APPROVED BY:
SIGNATURE:	DATE:
DATE:	

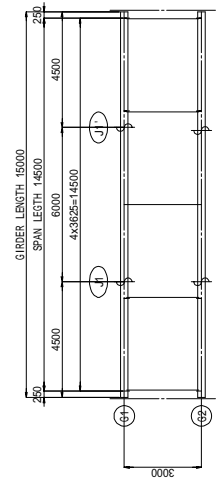
## 2-7 MAIN GIRDER 1 (L-15) S = 1 / 60

G1, G2

SECTION:	SCALE:	DRAWING NO.:	SHEET NO.:
DRAWING TITLE:	1/60	2-7 MAIN GIRDER 1 (L-15)	OF
REV. NO.:	DATE:	DESCRIPTION:	SIGNATURE:



**KEY PLAN**



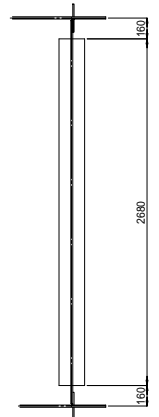
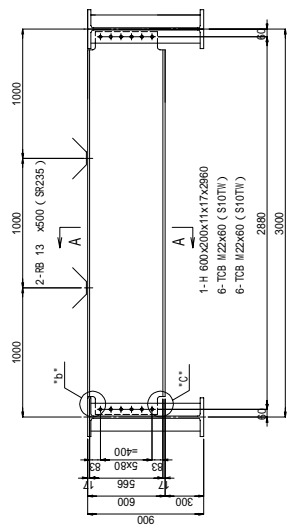
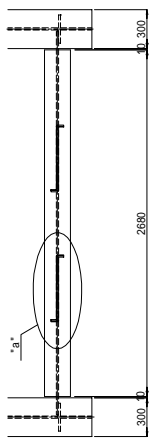
- NOTES:**
- 1) Materials to be SMA490M unless otherwise noted.
  - 2) Field splices shall be connected by T.C.B. (W22 S10TW).
  - 3) Radius of scallop to be 35mm unless noted.
  - 4) Area denoted "not to be welded."

THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECT MANAGEMENT UNIT NO. 14, MINISTRY OF TRANSPORT	
PROJECT: THE PROJECT FOR IMPROVING OF ROAD BRIDGES IN BACH BINH PROVINCE	
CONSULTANT: ORIENTAL CONSULTANTS CO., LTD.	
DESIGNED BY	CHECKED BY
APPROVED BY	
SIGNATURE	
DATE	

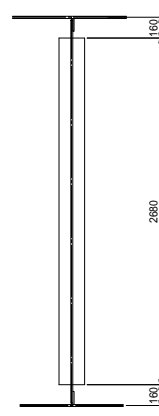
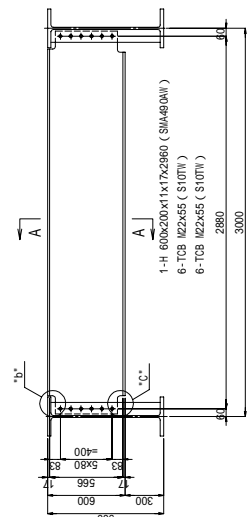
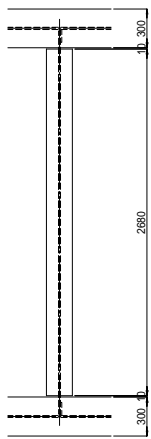
# 2-7 CROSS BEAM (L-15) S = 1 / 40

SECTION	SCALE	DRAWING NO.	SHEET NO. OF
DRAWING NO.	1/40	2-6 CROSS BEAM - SHAY BRACING (L-13)	
DATE		DESCRIPTION	SIGNATURE

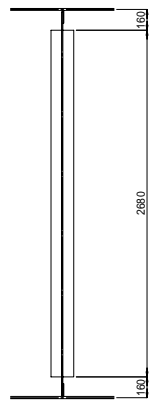
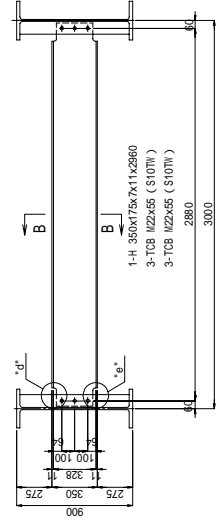
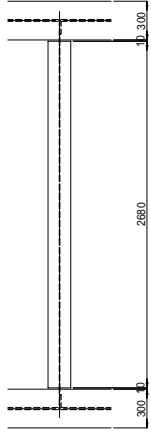
END BEAM S=1/40



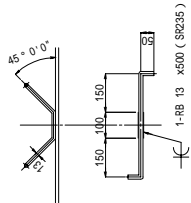
CROSS BEAM S=1/40



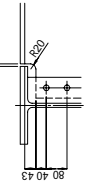
INT BEAM S=1/40



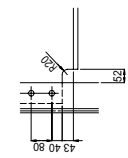
DETAIL "a" S=1/20



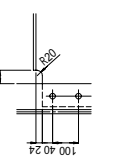
DETAIL "b" S=1/20



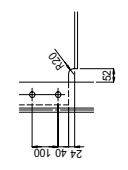
DETAIL "c" S=1/20



DETAIL "d" S=1/20



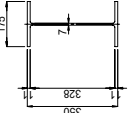
DETAIL "e" S=1/20



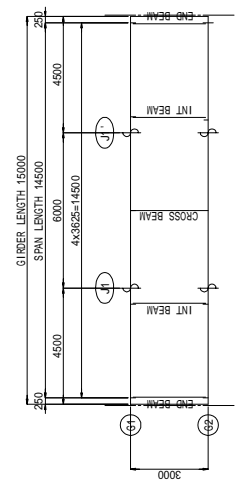
A - A S=1/20



B - B S=1/20



KEY PLAN



- NOTE:
- 1) Materials to be SMA490W unless otherwise noted.
  - 2) Mark is set to be T C B (I22.S107W).
  - 3) Radius of scallop to be 35mm unless noted.

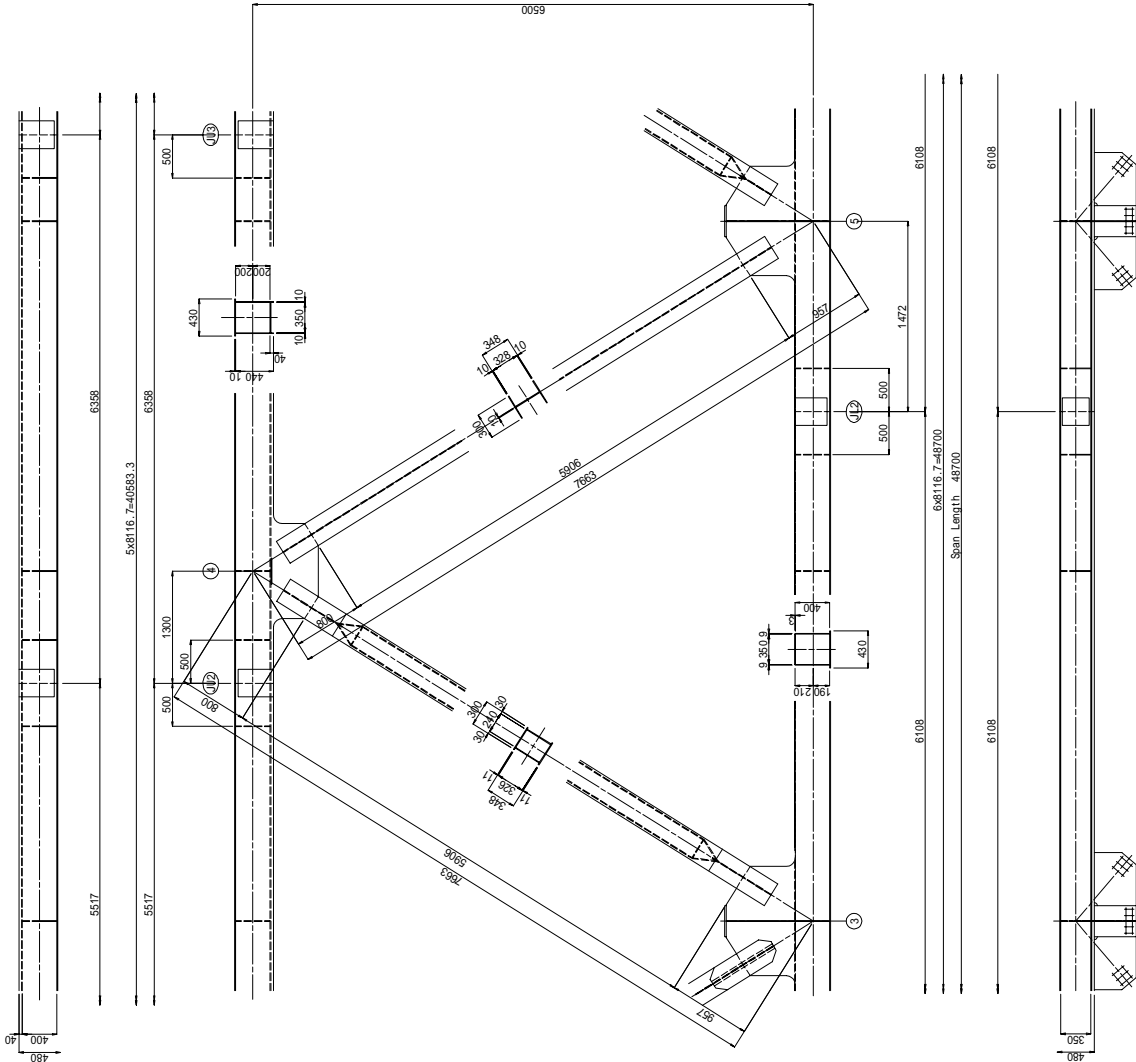


THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECT MANAGEMENT UNIT NO. 14, MINISTRY OF TRANSPORT	
PROJECT: THE PROJECT FOR IMPROVING OF ROAD BRIDGE IN NORTH HIGHLANDS PROVINCES	
CONSULTANT	ORIENTAL CONSULTANTS CO., LTD
DESIGNED BY / CHECKED BY	APPROVED BY
SIGNATURE	DATE

# 3-1 MAIN MEMBERS - 2

SCALE = 1 / 30

SECTION	SCALE	DRAWING NO.	SHEET NO.
DRAWING NO.	1/30	3-1 MAIN MEMBERS - 2	OF
DATE		DESCRIPTION	SIGNATURE



KEY PLAN  
SCALE = 1 / 300

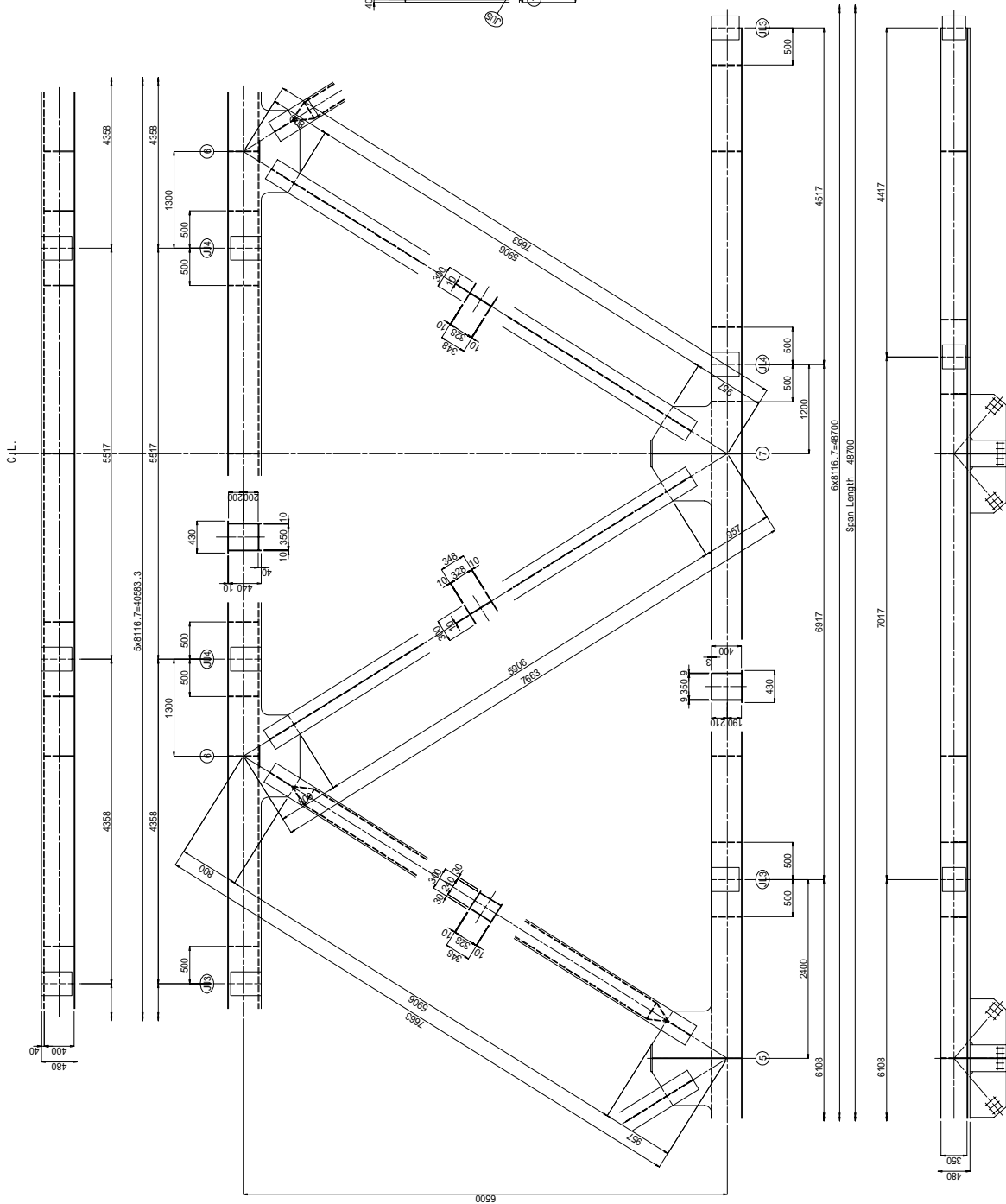
- NOTES:
- 1) Materials to be SMA400Mn unless otherwise noted.
  - 2) Field splices shall be connected by T.C.B. (J22, S107M).
  - 3) Radius of seal top to be 35mm unless noted.

THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECT MANAGEMENT UNIT NO. 14, MINISTRY OF TRANSPORT	
PROJECT: THE PROJECT FOR IMPROVING OF ROAD BRIDGE IN BACH BINH PROVINCE	
CONSULTANT	ORIENTAL CONSULTANTS CO., LTD
DESIGNED BY	CHECKED BY
DRAWN BY	APPROVED BY
DATE	

### 3-1 MAIN MEMBERS - 3

SCALE = 1 / 30

SECTION	SCALE	DRAWING NO.	SHEET NO.
	1/30	3-1 MAIN MEMBERS - 3	OF
DATE		DESCRIPTION	SIGNATURE



KEY PLAN  
SCALE = 1 / 300

- NOTES:
- 1) Materials to be SMA400M unless otherwise noted.
  - 2) Field splices shall be connected by T C B (122, S107M) .
  - 3) Radius of seal top to be 35mm unless noted.

THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECT MANAGEMENT UNIT NO. 14, MINISTRY OF TRANSPORT	
PROJECT: THE PROJECT FOR IMPROVING OF ROAD BRIDGE IN NORTH HIGHLAND PROVINCES	
CONSULTANT	ORIENTAL CONSULTANTS CO., LTD
DESIGNED BY	CHECKED BY
DRAWN BY	DATE
APPROVED BY	

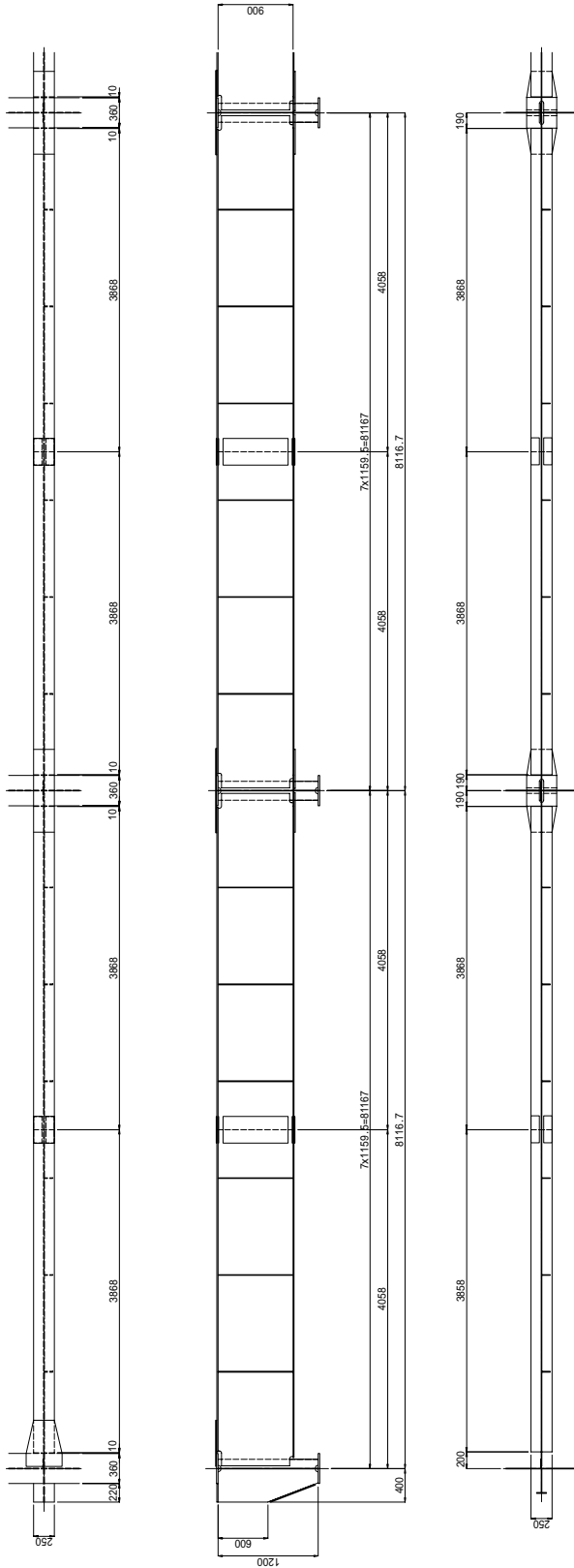
# 3-1 FLOOR BEAM

SCALE = 1 / 30

SECTION	SCALE	DRAWING NO.	SHEET NO.
DRAWING FILE NO.	1/30	3-1 FLOOR BEAM	OF
DATE		DESCRIPTION	SIGNATURE

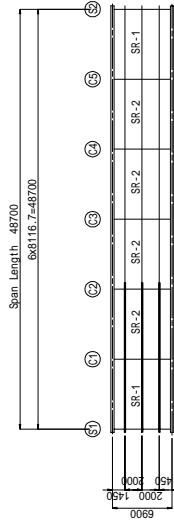
SR-1

SR-2



## KEY PLAN

SCALE = 1 / 300



- NOTES:
- 1) Materials to be SMA400W unless otherwise noted.
  - 2) Field splices shall be connected by T C B (122, S107W) .
  - 3) Radius of seal top to be 35mm unless noted.

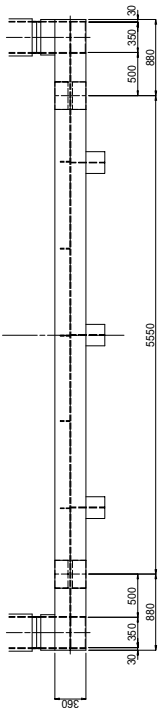
THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECTS MANAGEMENT UNIT NO. 12, MINISTRY OF TRANSPORT	
PROJECT: REPAIR FOR IMPROVEMENT OF ROAD BRIDGE IN BUNHON PROVINCE	
CONSULTANT:	ORIENTAL CONSULTANTS CO., LTD
DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DATE:	

### 3-1 CROSS BEAM

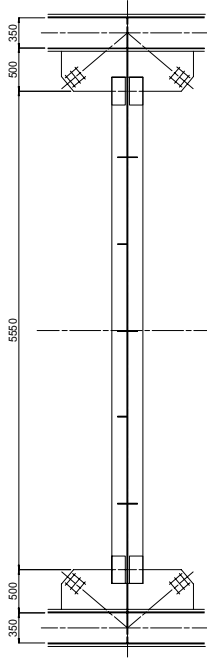
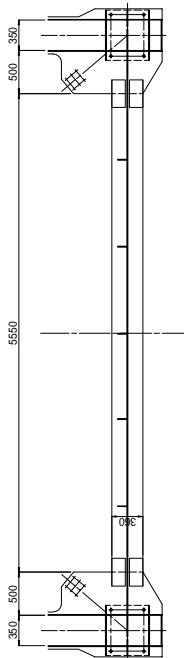
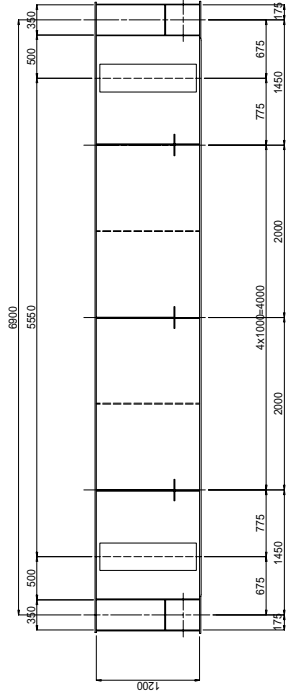
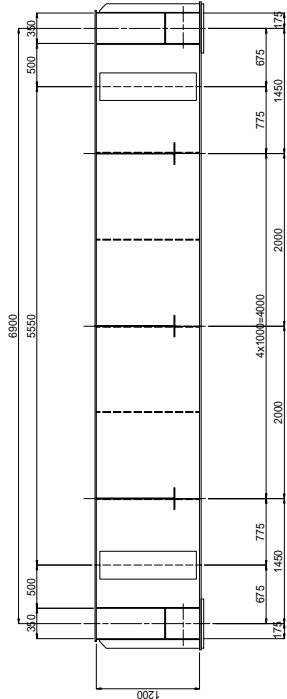
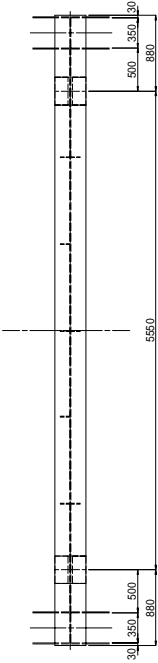
SCALE = 1 / 30

SECTION	SCALE	DRAWING NO.	SHEET NO.
	1/30	CT-	OF
DRAWING NO.		3-1 CROSS BEAM	
REV. NO.		DESCRIPTION	SIGNATURE

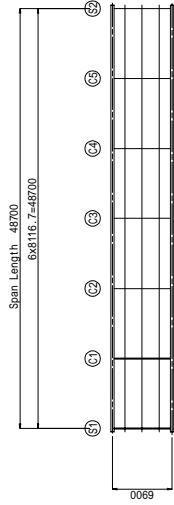
(S1) , (S2)



(C1) ~ (C5)



KEY PLAN  
SCALE = 1 / 300



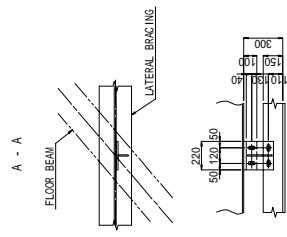
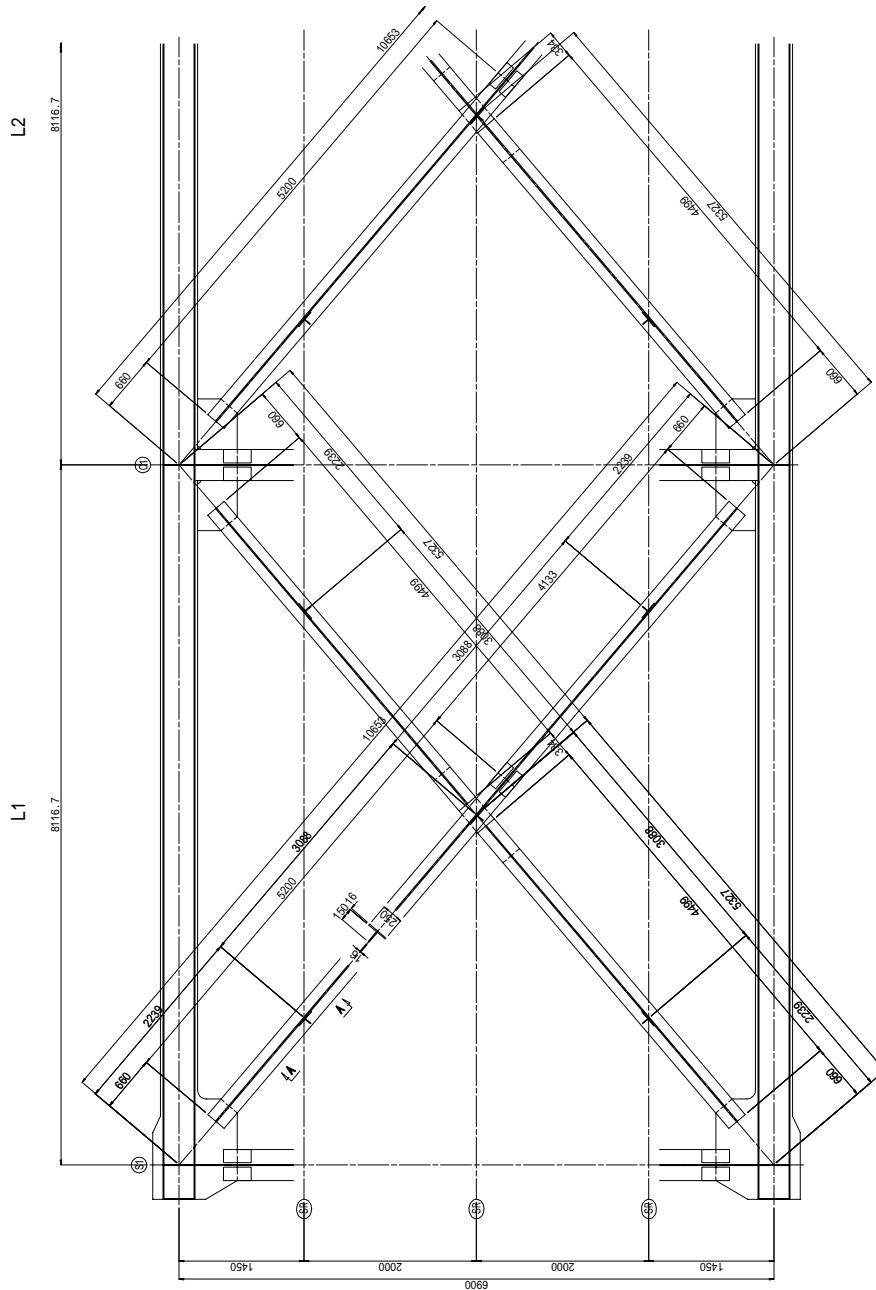
- NOTES:
- 1) Materials to be SHANODAW unless otherwise noted.
  - 2) Field splices shall be connected by T.C.B. (W22,\$10TW).
  - 3) Radius of scallap to be 35mm unless noted.

THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECT MANAGEMENT UNIT NO. 14, MINISTRY OF TRANSPORT	
PROJECT: THE PROJECT FOR IMPROVING OF ROAD BRIDGES IN NORTH HAIHONG PROVINCE	
CONSULTANT	ORIENTAL CONSULTANTS CO., LTD.
DESIGNED BY	CHECKED BY
DRAWN BY	DATE
APPROVED BY	

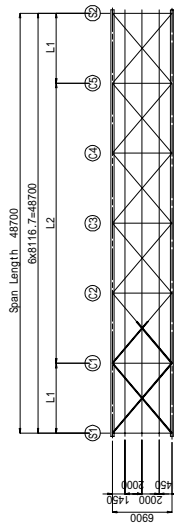
# 3-1 LOWER LATERAL BRACING

SCALE = 1 / 30

SECTION	SCALE	DRAWING NO.	SHEET NO.
DRAWING TITLE	1/30	3-1 LOWER LATERAL BRACING	OF
REV. NO.	DATE	DESCRIPTION	SIGNATURE



**KEY PLAN**  
SCALE = 1 / 300



- NOTES:
- 1) Materials to be SMA400W unless otherwise noted.
  - 2) Field splices shall be connected by T.C.B. (I22, S107W).
  - 3) Radius of seal top to be 35mm unless noted.

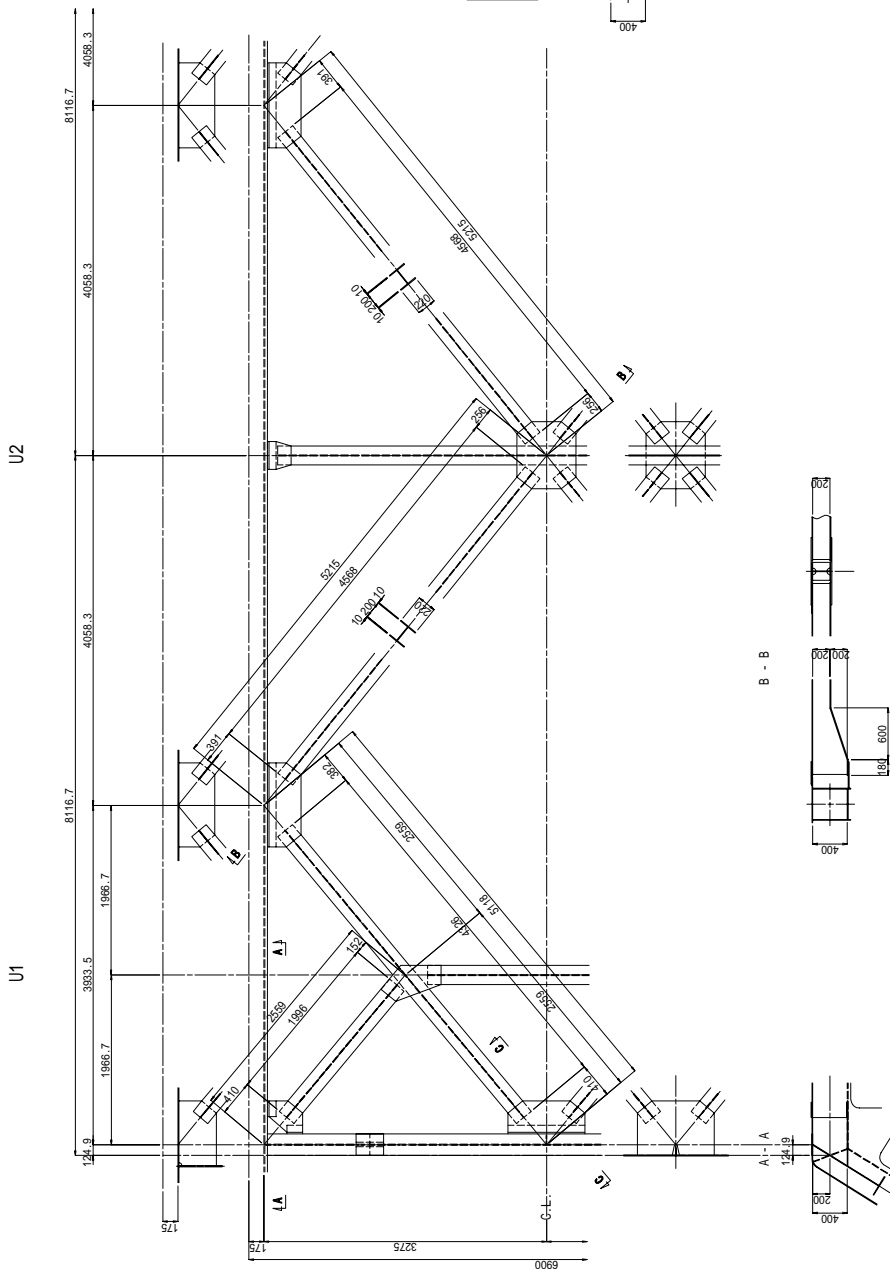


THE GOVERNMENT OF SOCIALIST REPUBLIC OF VIETNAM	
PROJECT MANAGEMENT UNIT NO. 14, MINISTRY OF TRANSPORT	
PROJECT: THE PROJECT FOR IMPROVING OF ROAD BRIDGE IN BACH BINH PROVINCE	
CONSULTANT	ORIENTAL CONSULTANTS CO., LTD
DESIGNED BY	CHECKED BY
DRAWN BY	APPROVED BY
SIGNATURE	DATE

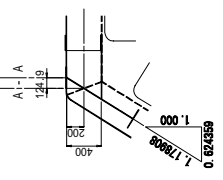
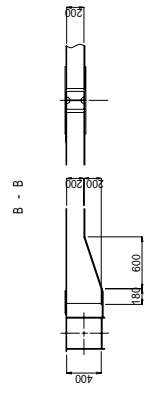
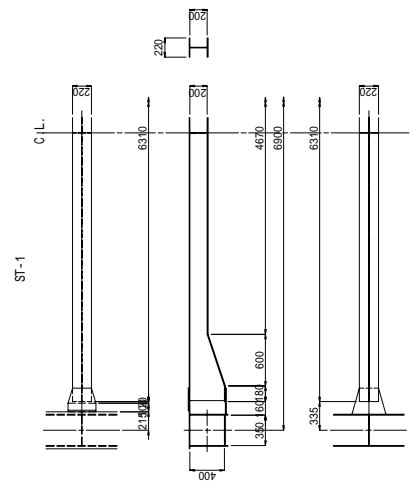
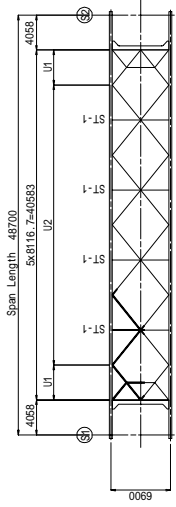
# 3-1 UPPER LATERAL BRACING

SCALE = 1 / 30

SECTION	SCALE	DRAWING NO.	SHEET NO. OF
DRAWING NO.	1/30	3-1 UPPER LATERAL BRACING	
DATE		DESCRIPTION	SIGNATURE



**KEY PLAN**  
SCALE = 1 / 300



- NOTES:
- 1) Materials to be SMA400W unless otherwise noted.
  - 2) Field splices shall be connected by T C B (122, S1071) .
  - 3) Radius of seal top to be 35mm unless noted.