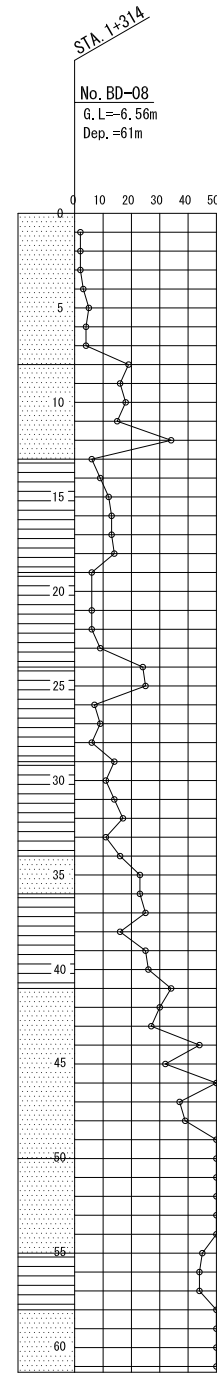
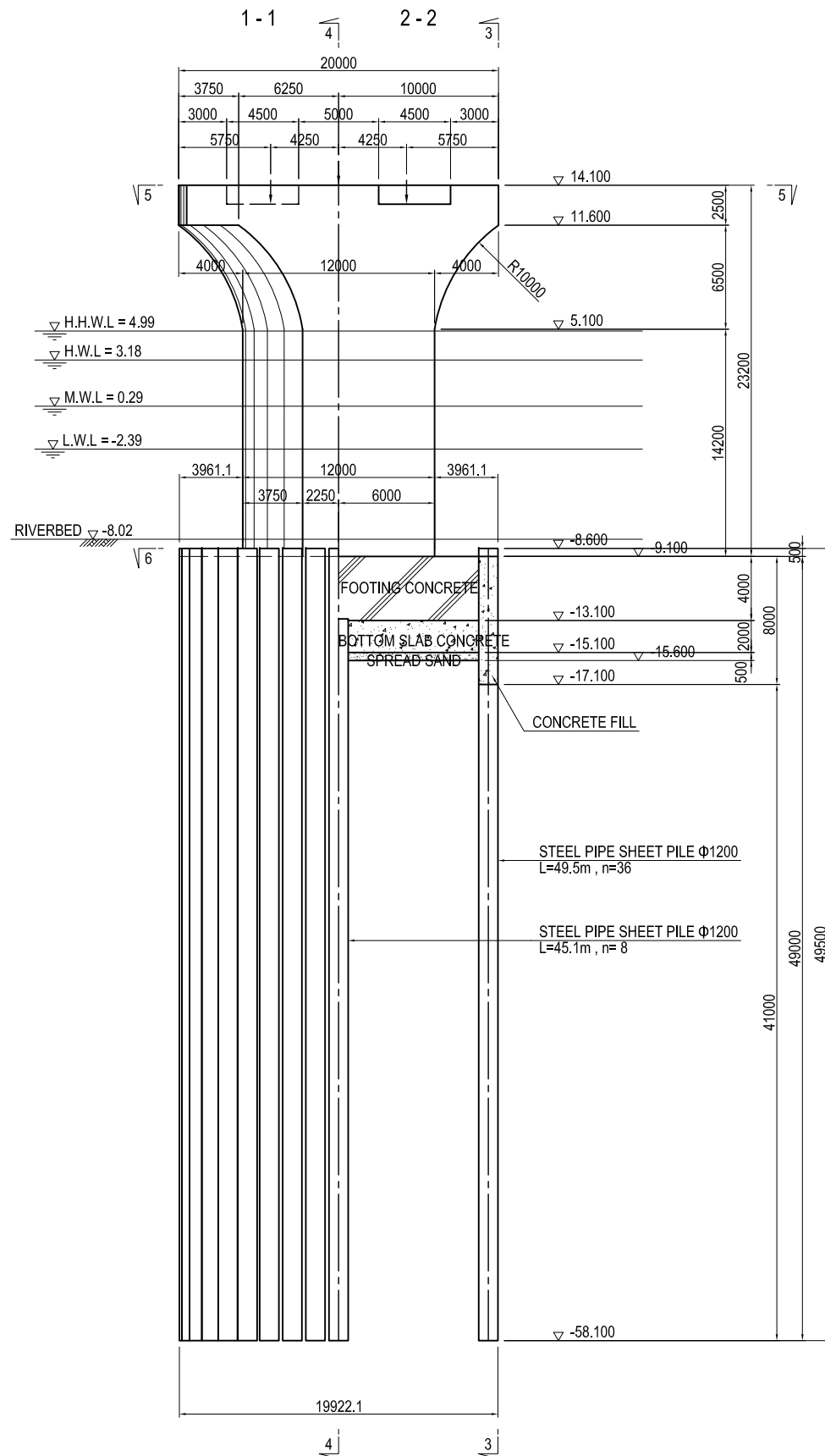
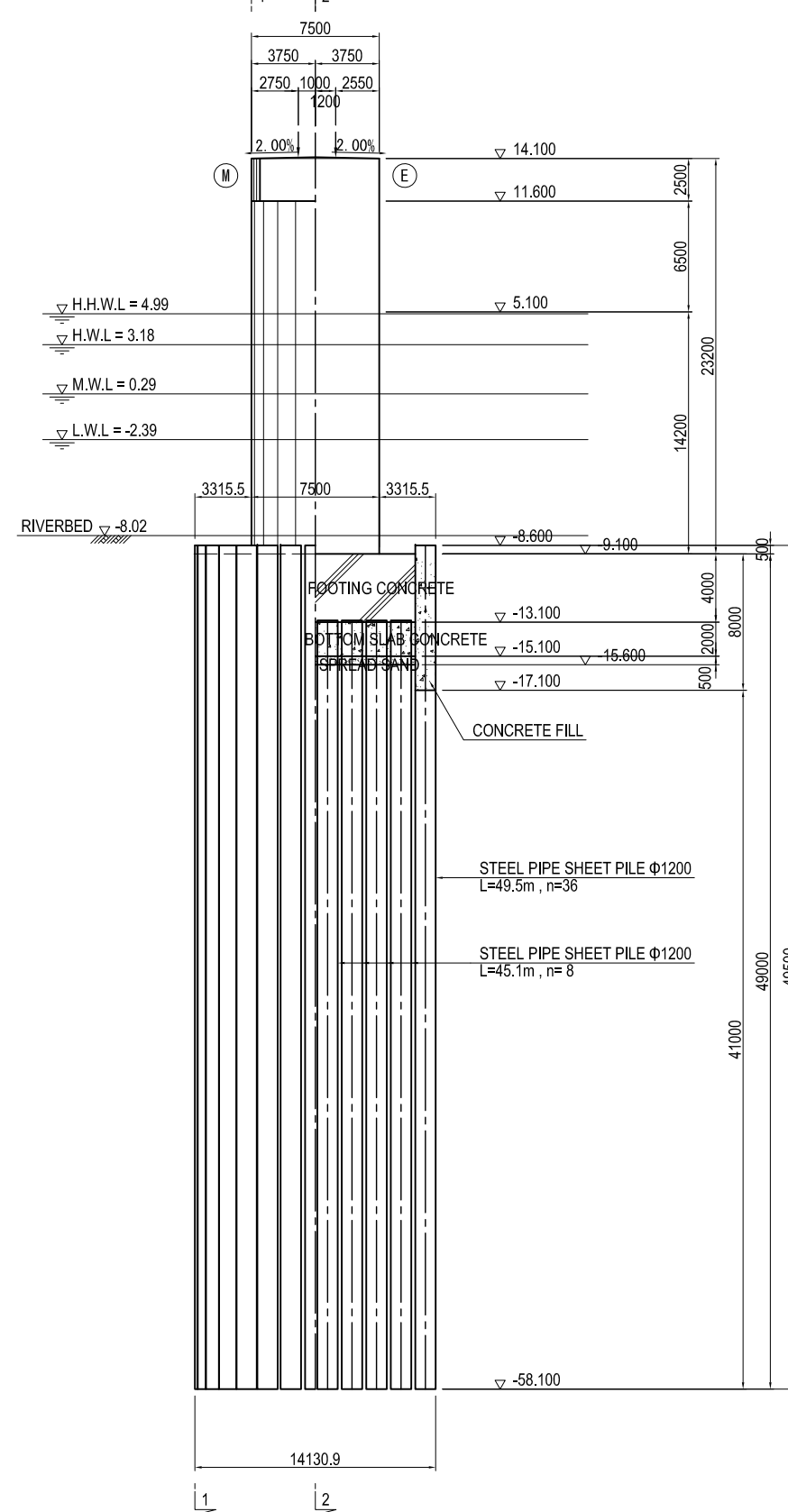


GENERAL ARRANGEMENT OF P13 PIER (1) S=1:400

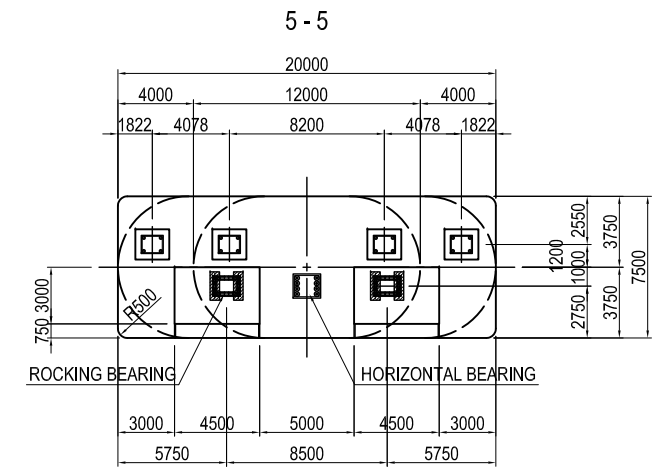
FRONT ELEVATION



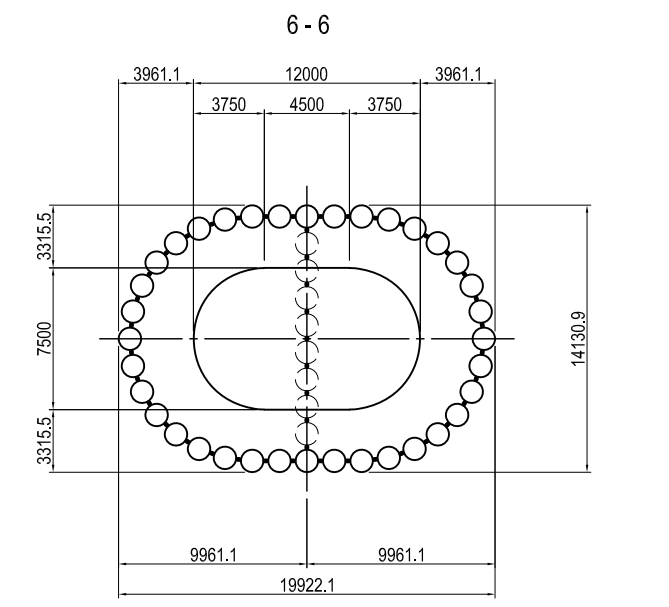
FRONT ELEVATION (Continued)



PLAN



PLAN



USE MATERIALS

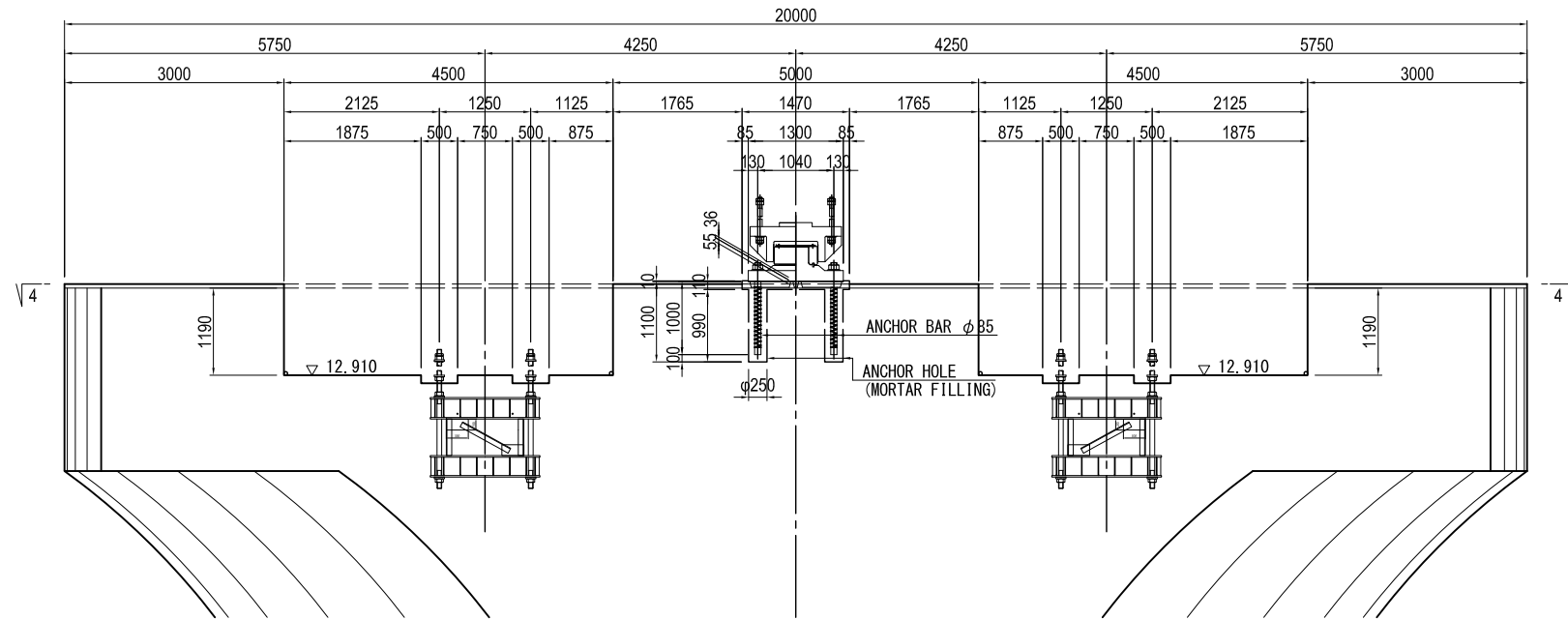
| | CONCRETE | BAR |
|-------------|-----------------------------------|-------|
| BEAM-COLUMN | $\sigma_{ck} = 30 \text{ N/mm}^2$ | SD345 |
| FOOTING | $\sigma_{ck} = 24 \text{ N/mm}^2$ | SD345 |

GENERAL ARRANGEMENT OF P13 PIER (2) S=1:100

DETAIL OF BEARING AND ANCHOR

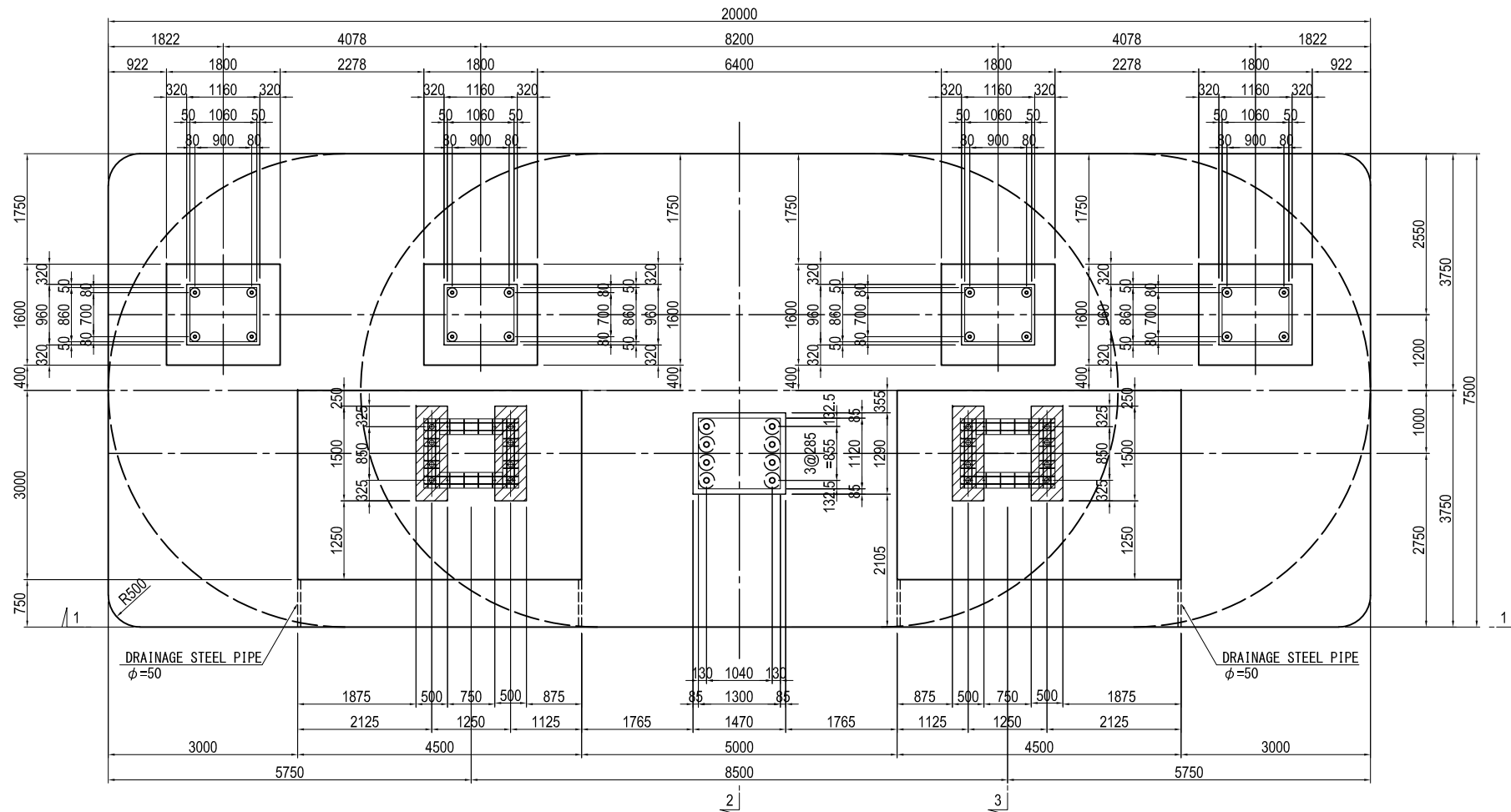
FRONT ELEVATION

1 - 1



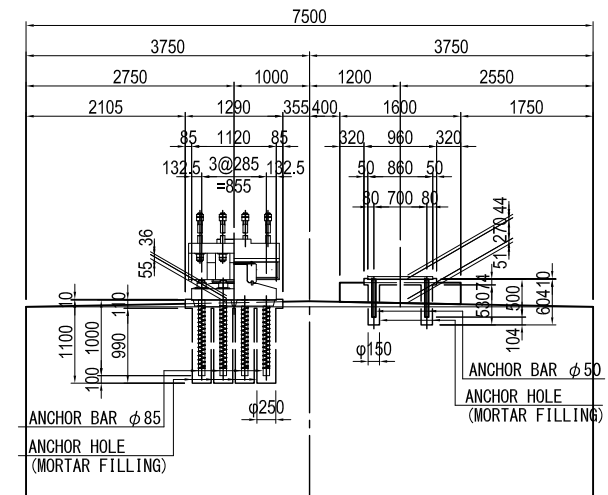
PLAN

4 - 4

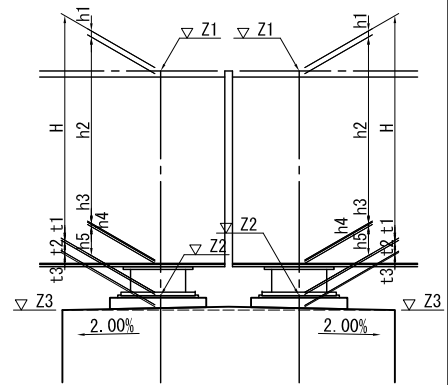
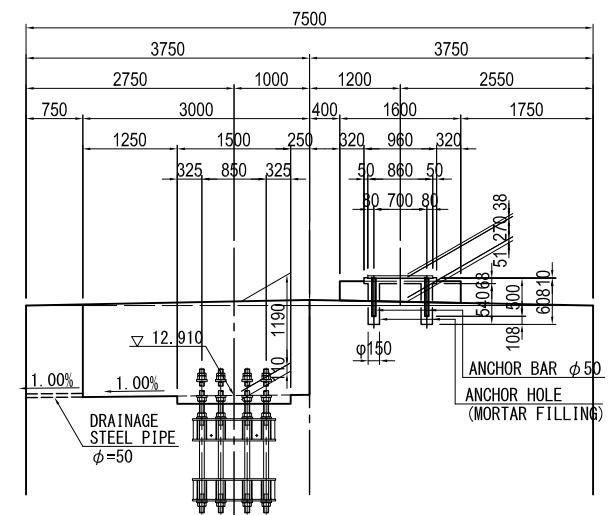


SIDE ELEVATION

2 - 2



3 - 3



| | | P13 PIER (S2) | | | P13 PIER (S1) ※ | | | |
|-----------------------------|----|---------------|--------|--------|-----------------|--------|--------|--------|
| | | SL1 | CL | SR1 | G1C | G2 | G3 | G4C |
| PROPOSED HEIGHT | Z1 | 17.712 | 17.797 | 17.712 | 17.628 | 17.709 | 17.709 | 17.628 |
| PAVEMENT | h1 | 0.080 | 0.080 | 0.080 | 0.080 | 0.080 | 0.080 | 0.080 |
| GIRDER | h2 | 2.615 | 2.700 | 2.615 | 2.709 | 2.790 | 2.790 | 2.709 |
| BOTTOM FLANGE | h3 | 0.014 | 0.014 | 0.014 | 0.020 | 0.014 | 0.014 | 0.020 |
| SOLE PLATE | h4 | — | 0.062 | — | 0.030 | 0.030 | 0.030 | 0.030 |
| BEARING | h5 | 0.903 | 0.750 | 0.903 | 0.330 | 0.330 | 0.330 | 0.330 |
| SUBTOTAL | H | 3.612 | 3.606 | 3.612 | 3.169 | 3.244 | 3.244 | 3.169 |
| ELEVATION OF BEARING BOTTOM | Z2 | 14.100 | 14.191 | 14.100 | 14.459 | 14.465 | 14.465 | 14.459 |
| MORTAR | t1 | — | 0.036 | — | 0.038 | 0.044 | 0.044 | 0.038 |
| BEARING BASE | t2 | — | — | — | 0.270 | 0.270 | 0.270 | 0.270 |
| DRAINAGE INCLINE | t3 | — | 0.055 | — | 0.051 | 0.051 | 0.051 | 0.051 |
| ELEVATION OF PIER TOP | Z3 | 14.100 | 14.100 | 14.100 | 14.100 | 14.100 | 14.100 | 14.100 |

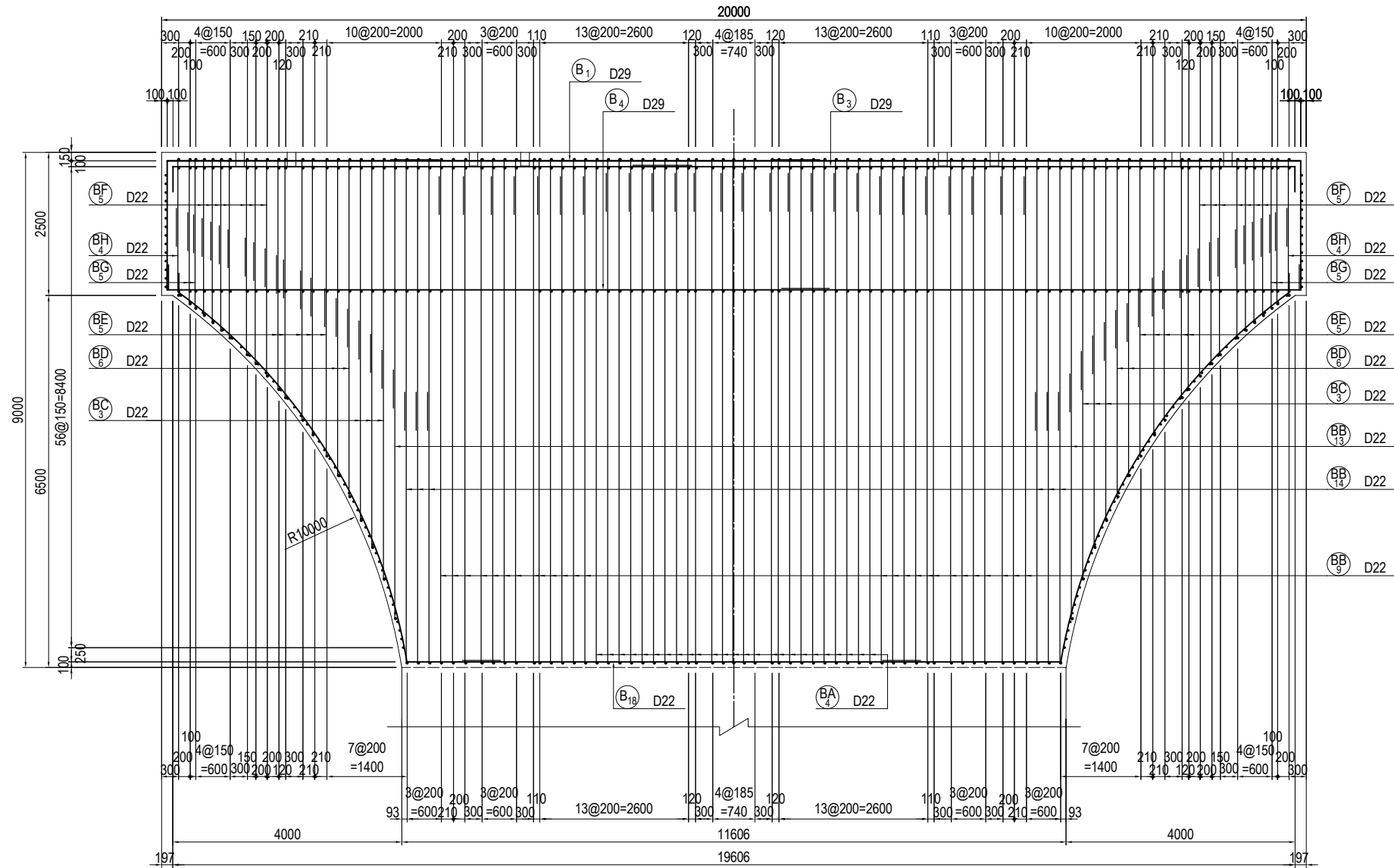
※ This non-shrinkage mortar for bearing base shall be constructed by Package- 2.

| | | | | | | | | |
|---------------------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-----------------------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|---------------------------------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JICA JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME S.TOKUMARU T. HAYAKAWA Y. SANO | SIGNATURE <i>(Signature)</i> <i>(Signature)</i> <i>(Signature)</i> | DATE 27. Nov.2017 28. Nov.2017 29. Nov.2017 | DRAWING TITLE GENERAL ARRANGEMENT OF P13 PIER (2) | PACKAGE 1 DWG No. P1-CS-2302 |
|---------------------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-----------------------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|---------------------------------------|

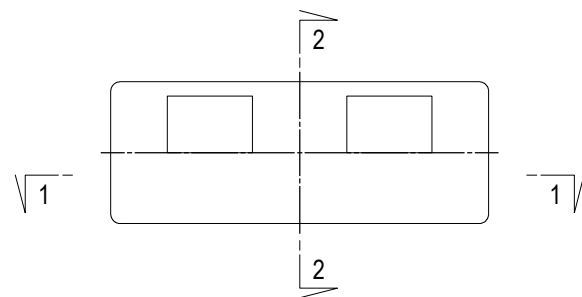
BAR ARRANGEMENT OF P13 PIER (1) S=1:100

BEAM

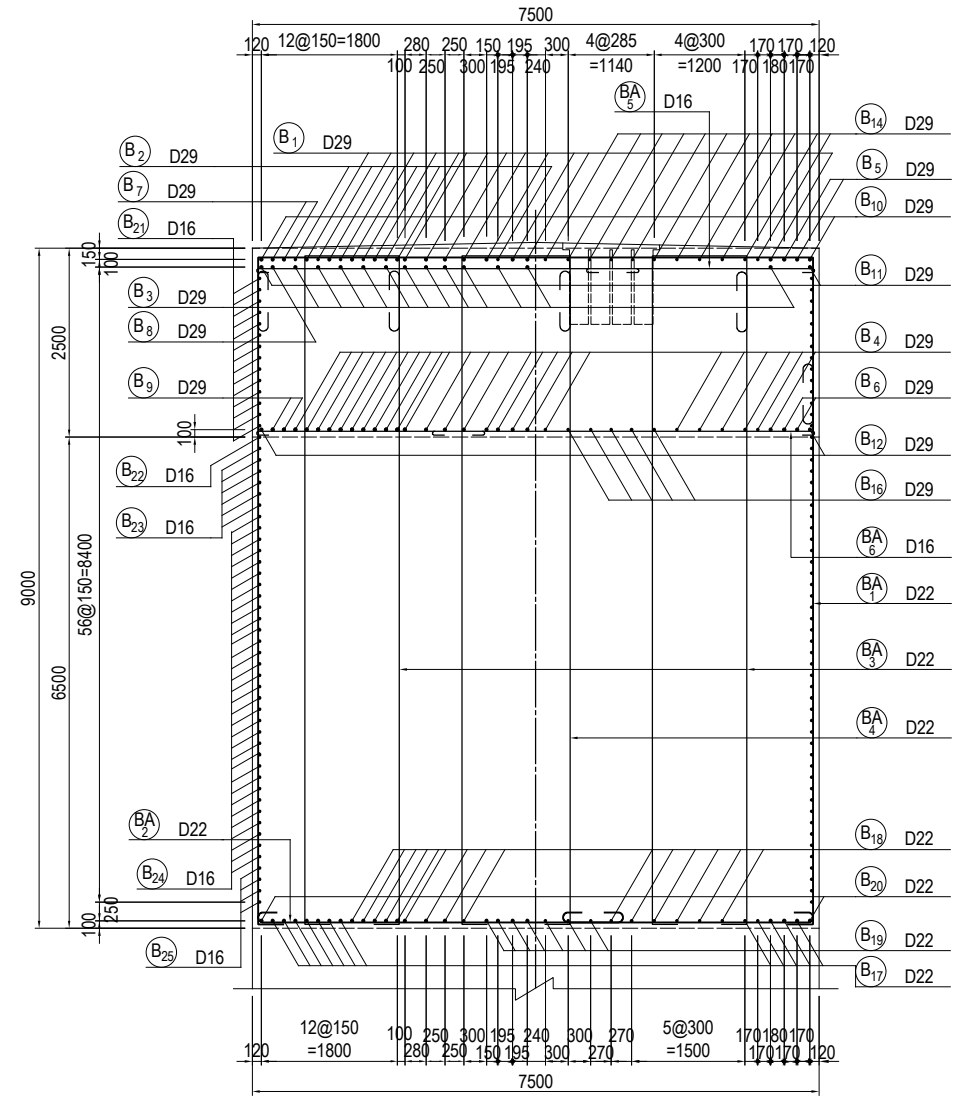
SECTION 1-1



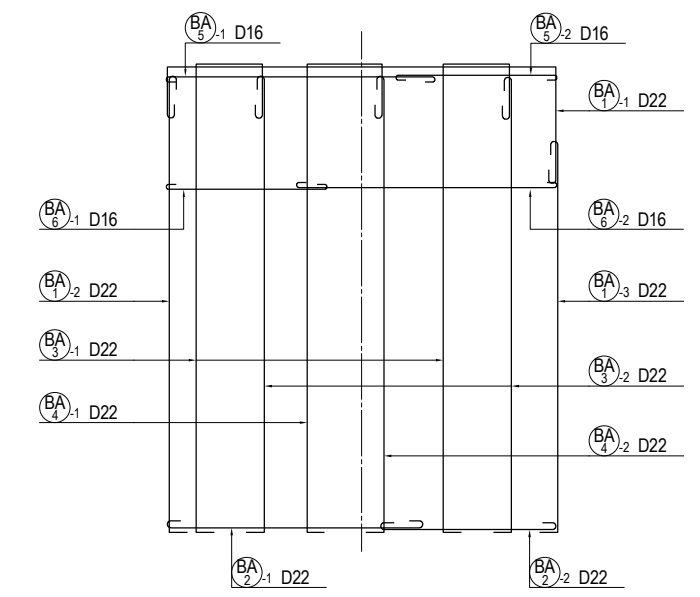
MARKING DIAGRAM



SECTION 2-2



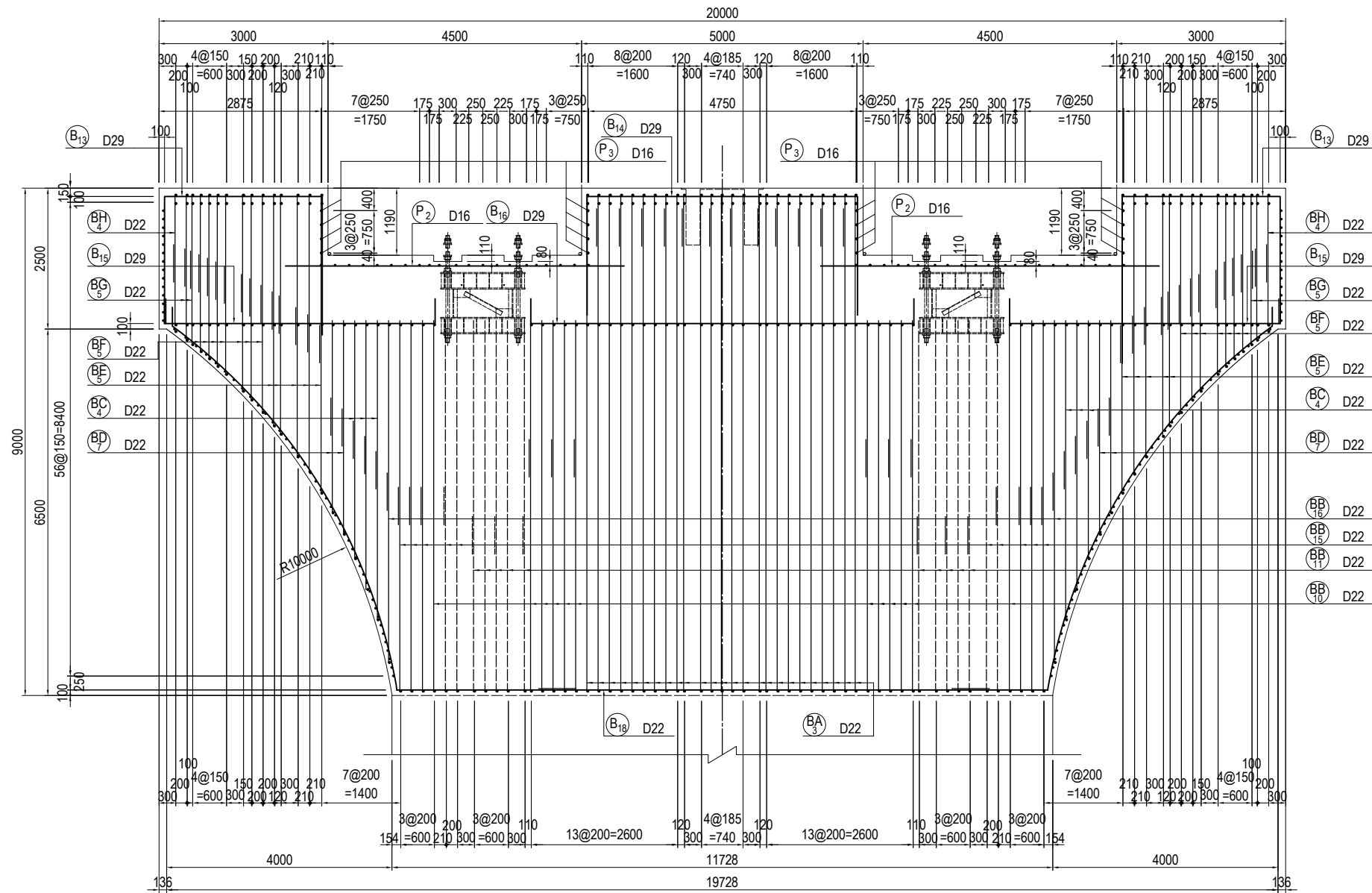
ASSEMBLY DRAWING OF STIRRUP



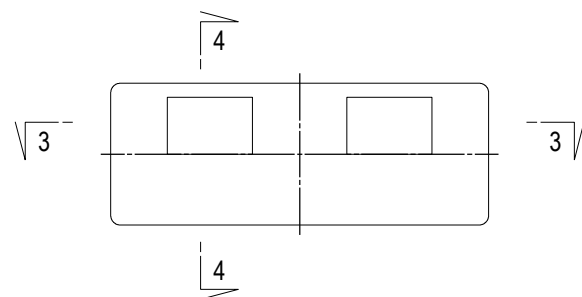
| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|---------------------------------------------------------|---------------|------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE BAR ARRANGEMENT OF P13 PIER (1) | PACKAGE | |
| | | | | PREPARED BY | S. TOKUMARU | | | 27. Nov. 2017 | 1 |
| | | | | CHECKED BY | T. HAYAKAWA | | | 28. Nov. 2017 | DWG No. |
| | | | | APPROVED BY | Y. SANO | | | 29. Nov. 2017 | P1-CS-2303 |

BAR ARRANGEMENT OF P13 PIER (2) S=1:100

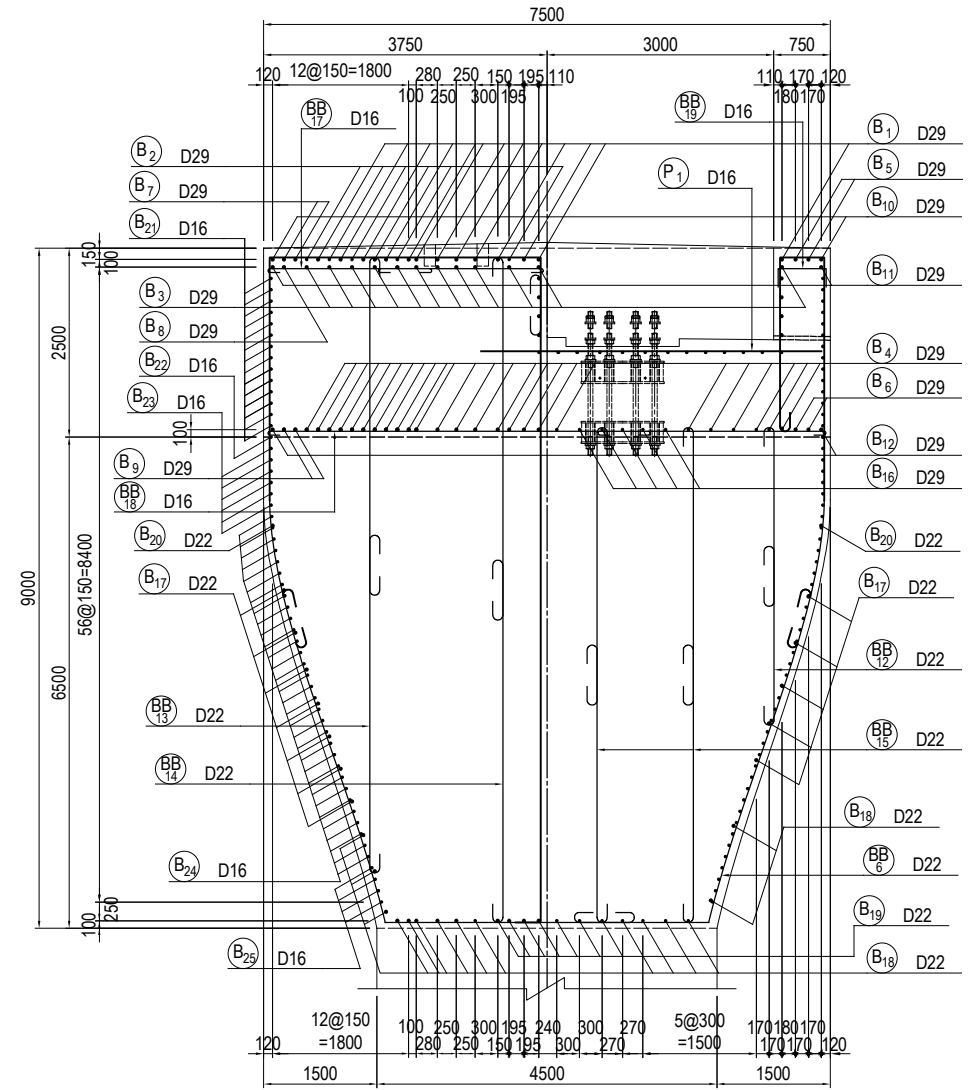
SECTION 3-3 BEAM



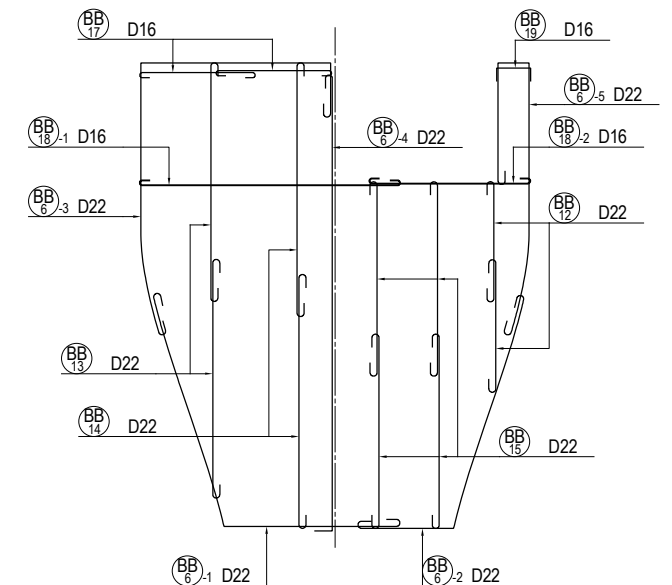
MARKING DIAGRAM



SECTION 4-4



ASSEMBLY DRAWING OF STIRRUP



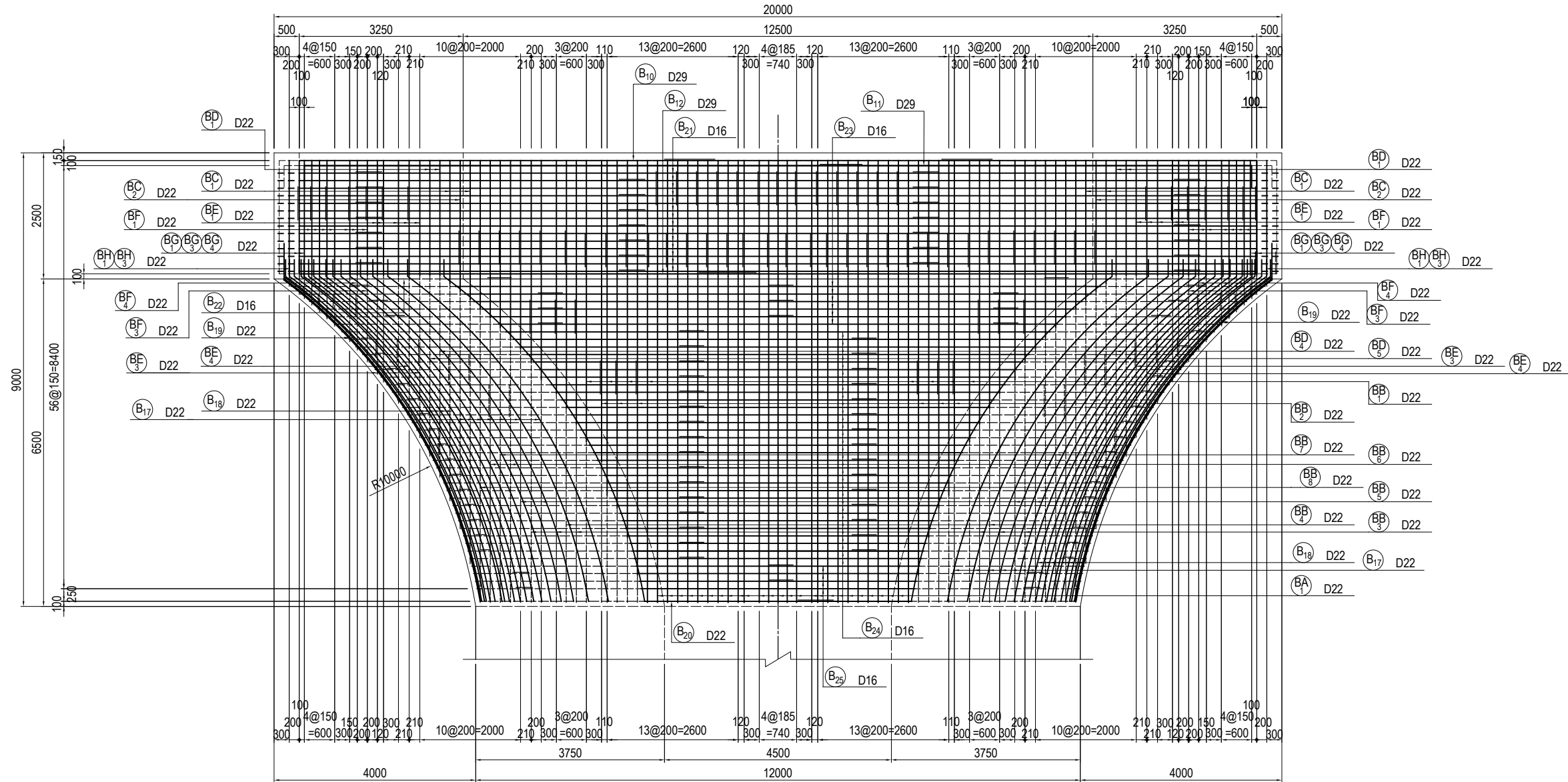
| PROJECT NAME | FINANCED BY | COUNTERPART | JICA STUDY TEAM | NAME | SIGNATURE | DATE | DRAWING TITLE | PACKAGE |
|-----------------------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------|--------------|---------------------------------|------------|
| DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | JICA JAPAN INTERNATIONAL COOPERATION AGENCY | REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | S. TOKUMARU | <i>[Signature]</i> | 27. Nov.2017 | BAR ARRANGEMENT OF P13 PIER (2) | 1 |
| | | | | T. HAYAKAWA | <i>[Signature]</i> | 28. Nov.2017 | | DWG No. |
| | | | | Y. SANO | <i>[Signature]</i> | 29. Nov.2017 | | P1-CS-2304 |

BAR ARRANGEMENT OF P13 PIER (3) S=1:100

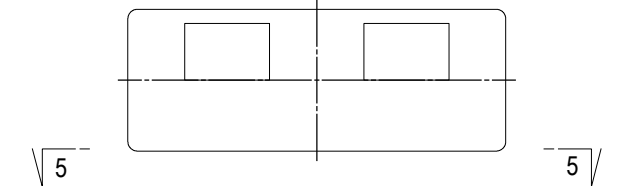
BEAM

FRONT ELEVATION

5 - 5



MARKING DIAGRAM



USE MATERIALS

| | CONCRETE | BAR |
|-------------|-----------------------------------|-------|
| BEAM-COLUMN | $\sigma_{ck} = 30 \text{ N/mm}^2$ | SD345 |

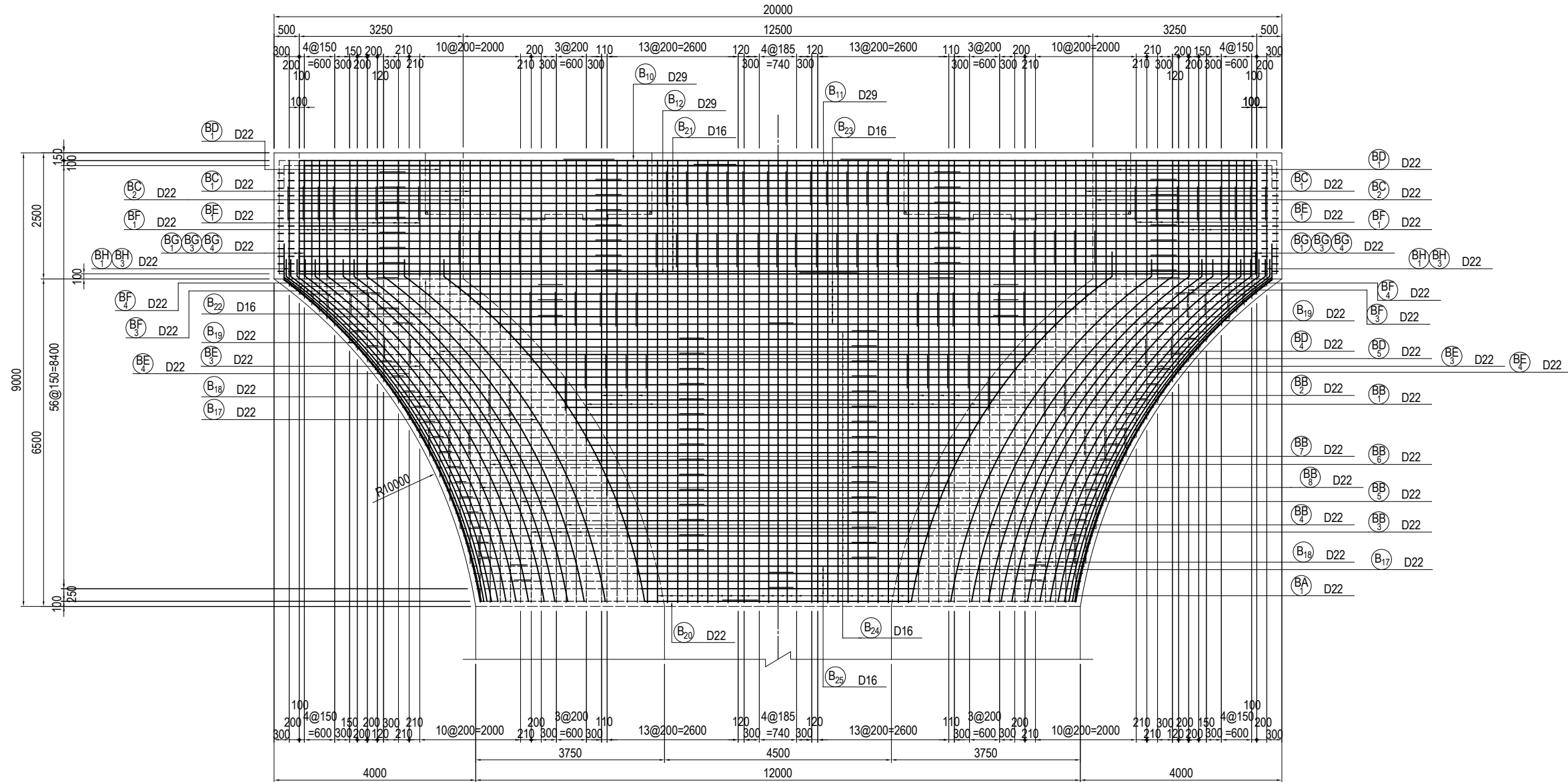
| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|--------------------------------------------------|---------------------------------------|--------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE BAR ARRANGEMENT OF P13 PIER (3) | PACKAGE 1 DWG No. P1-CS-2305 | |
| | | | | PREPARED BY | S. TOKUMARU | | | | 27. Nov.2017 |
| | | | | CHECKED BY | T. HAYAKAWA | | | | 28. Nov.2017 |
| | | | | APPROVED BY | Y. SANO | | | | 29. Nov.2017 |

BAR ARRANGEMENT OF P13 PIER (4) S=1:100

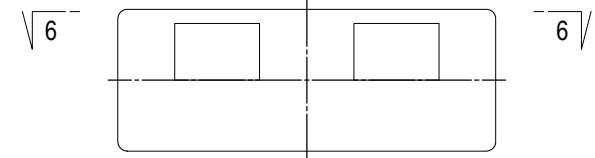
BEAM

FRONT ELEVATION

6 - 6



MARKING DIAGRAM



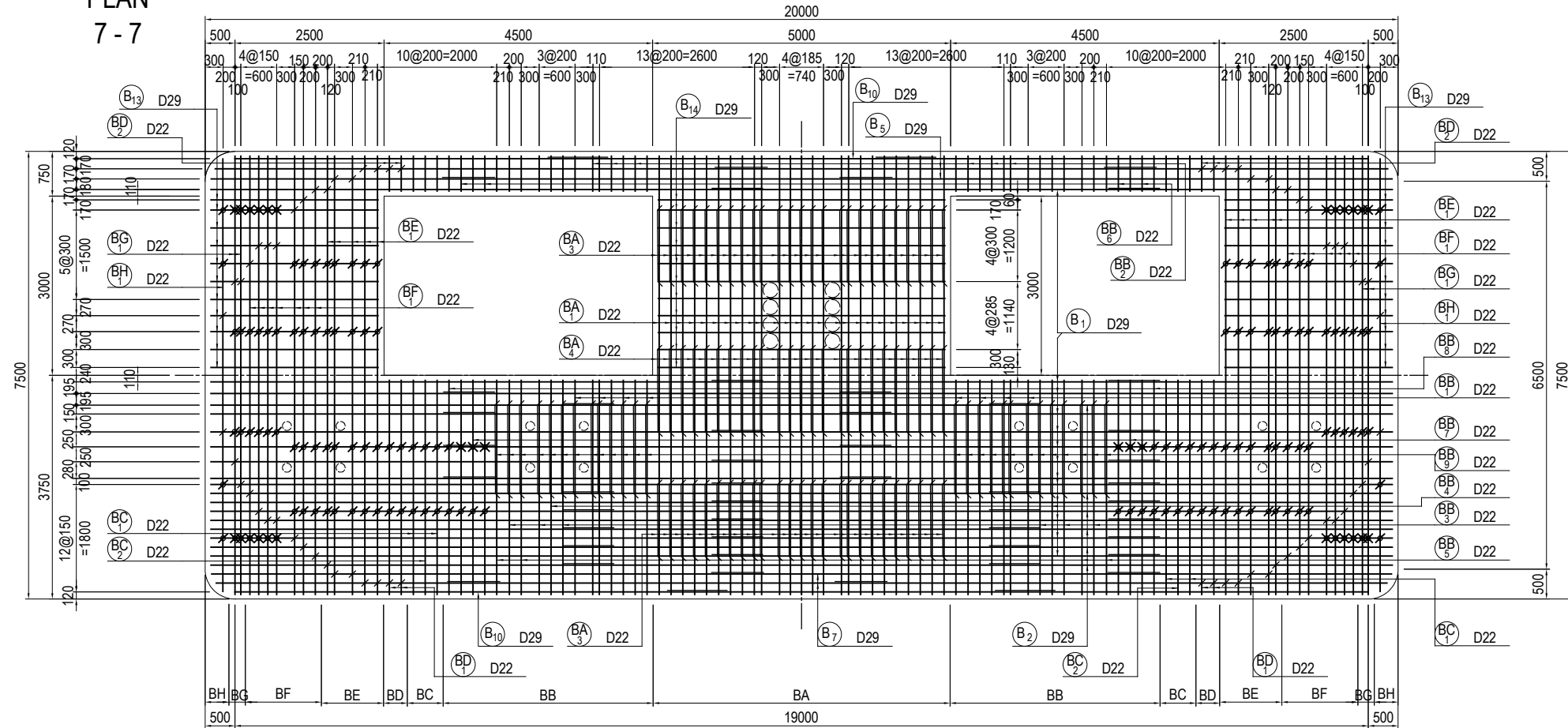
USE MATERIALS

| | CONCRETE | BAR |
|-------------|-----------------------------------|-------|
| BEAM-COLUMN | $\sigma_{ck} = 30 \text{ N/mm}^2$ | SD345 |

| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|--------------------------------------------------|---------------------------------------|--------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE BAR ARRANGEMENT OF P13 PIER (4) | PACKAGE 1 DWG No. P1-CS-2306 | |
| | | | | PREPARED BY | S. TOKUMARU | | | | 27. Nov.2017 |
| | | | | CHECKED BY | T. HAYAKAWA | | | | 28. Nov.2017 |
| | | | | APPROVED BY | Y. SANO | | | | 29. Nov.2017 |

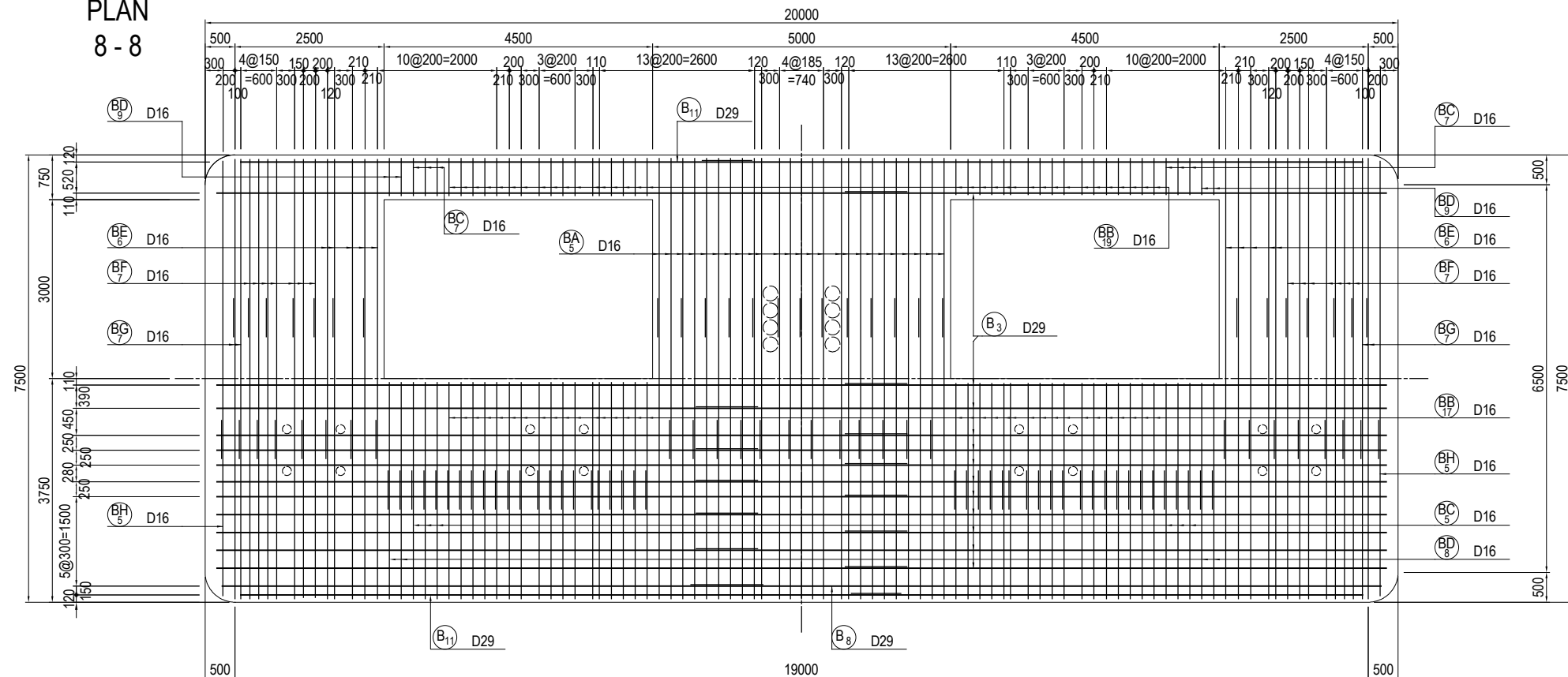
BAR ARRANGEMENT OF P13 PIER (5) S=1:100 BEAM

**PLAN
7-7**

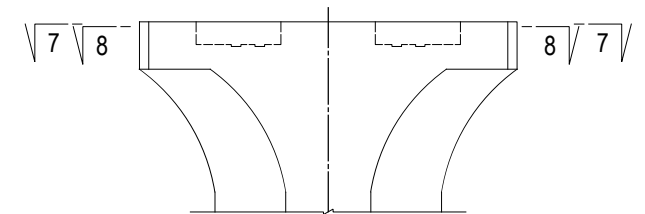


| MARKS | DIA. | NOS. OF BARS | REMARKS |
|-------|-------|--------------|--------------------|
| BB | ∅ D22 | 10 × 2 = 20 | ⊙ BB ₁₃ |
| BC | ∅ | 6 × 2 = 12 | ⊙ BB ₁₄ |
| BD | ∅ | 12 × 2 = 24 | ⊙ BC ₁ |
| BE | ∅ | 8 × 2 = 16 | ⊙ BD ₁ |
| BF | ∅ | 40 × 2 = 80 | ⊙ BE ₁ |
| BF | ∅ | 40 × 2 = 80 | ⊙ BF ₁ |
| BF | ∅ | 16 × 2 = 32 | ⊙ BF ₂ |
| BG | ∅ | 8 × 2 = 16 | ⊙ BG ₁ |
| BG | ∅ | 8 × 2 = 16 | ⊙ BG ₂ |
| BH | ∅ | 8 × 2 = 16 | ⊙ BH ₁ |

**PLAN
8-8**



MARKING DIAGRAM



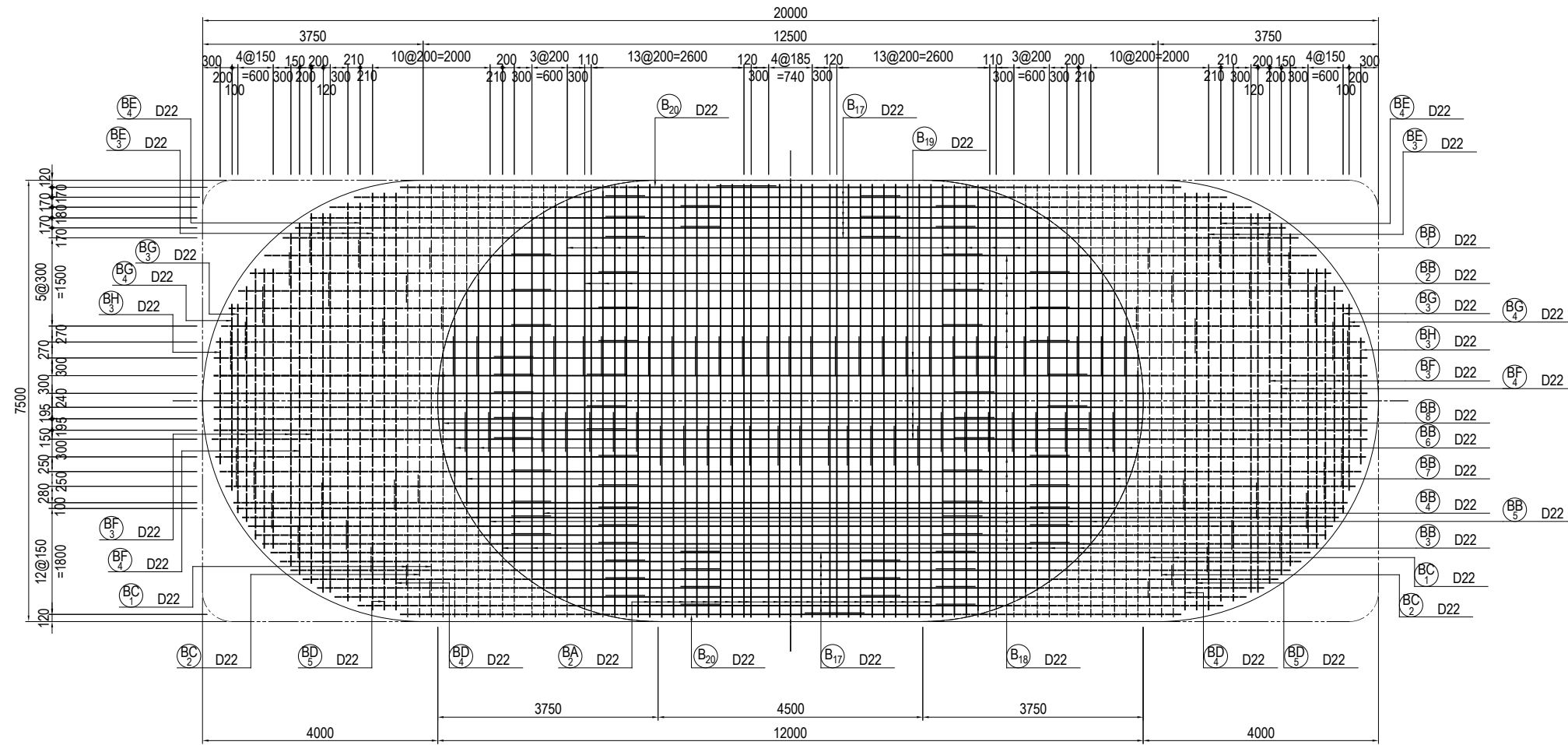
USE MATERIALS

| | CONCRETE | BAR |
|-------------|----------------------------------------|-------|
| BEAM-COLUMN | σ _{ck} = 30 N/mm ² | SD345 |

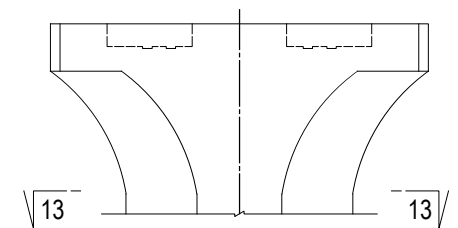
BAR ARRANGEMENT OF P13 PIER (7) S=1:100

BEAM

PLAN
13 - 13



MARKING DIAGRAM



USE MATERIALS

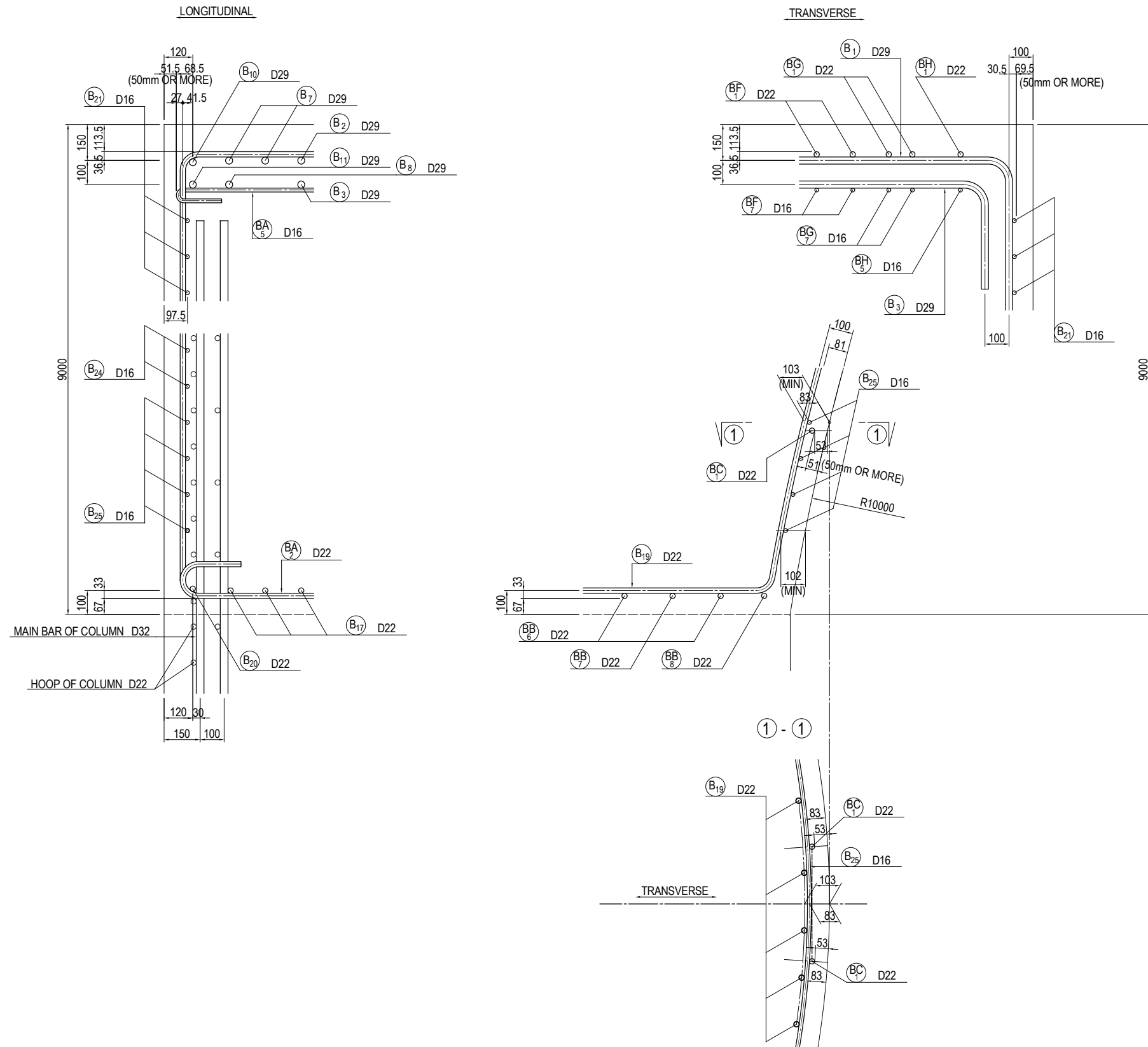
| | CONCRETE | BAR |
|-------------|-----------------------------------|-------|
| BEAM-COLUMN | $\sigma_{ck} = 30 \text{ N/mm}^2$ | SD345 |

| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|--------------------------------------------------|---------------------------------------|--------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE BAR ARRANGEMENT OF P13 PIER (7) | PACKAGE 1 DWG No. P1-CS-2309 | |
| | | | | PREPARED BY | S. TOKUMARU | | | | 27. Nov.2017 |
| | | | | CHECKED BY | T. HAYAKAWA | | | | 28. Nov.2017 |
| | | | | APPROVED BY | Y. SANO | | | | 29. Nov.2017 |

BAR ARRANGEMENT OF P13 PIER (8) S=1:20

BEAM

DETAIL OF BEAM



USE MATERIALS

| | CONCRETE | BAR |
|-------------|-----------------------------------|-------|
| BEAM-COLUMN | $\sigma_{ck} = 30 \text{ N/mm}^2$ | SD345 |

| PROJECT NAME | FINANCED BY | COUNTERPART | JICA STUDY TEAM | NAME | SIGNATURE | DATE | DRAWING TITLE | PACKAGE |
|-----------------------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------|---------------|---------------------------------|------------|
| DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | JICA JAPAN INTERNATIONAL COOPERATION AGENCY | REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | S. TOKUMARU | <i>[Signature]</i> | 27. Nov. 2017 | BAR ARRANGEMENT OF P13 PIER (8) | 1 |
| | | | | T. HAYAKAWA | <i>[Signature]</i> | 28. Nov. 2017 | | DWG No. |
| | | | | Y. SANO | <i>[Signature]</i> | 29. Nov. 2017 | | P1-CS-2310 |

BAR ARRANGEMENT OF P13 PIER (9) S=1:100

BEAM

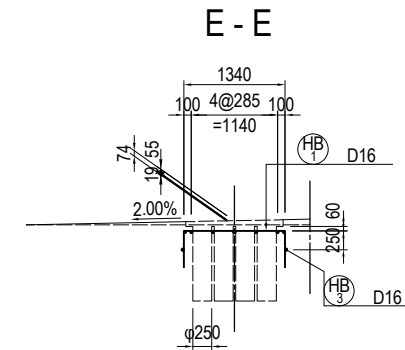
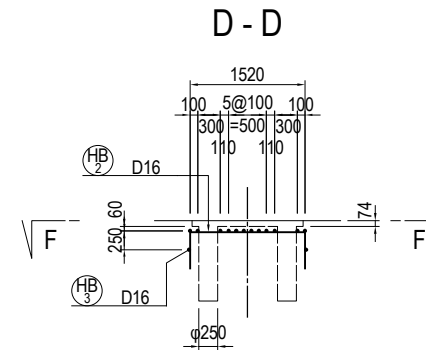
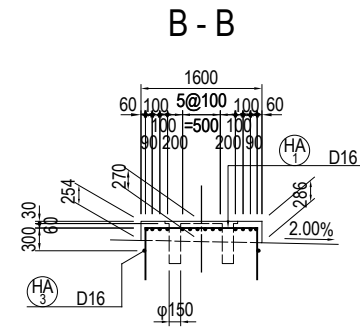
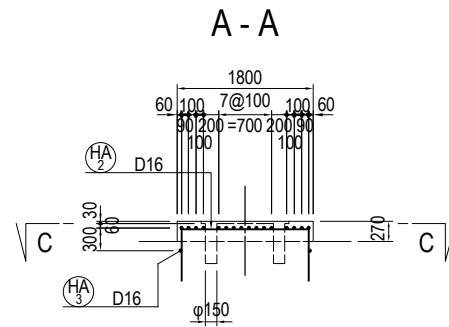
BAR ARRANGEMENT OF BEARING BASE

< G1C , G2 , G3 , G4C >

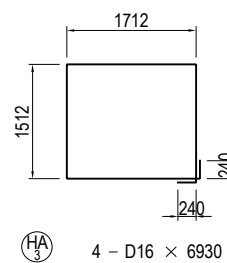
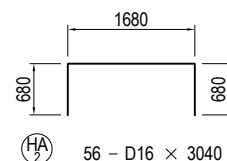
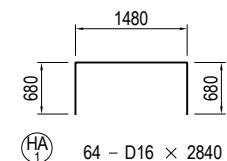
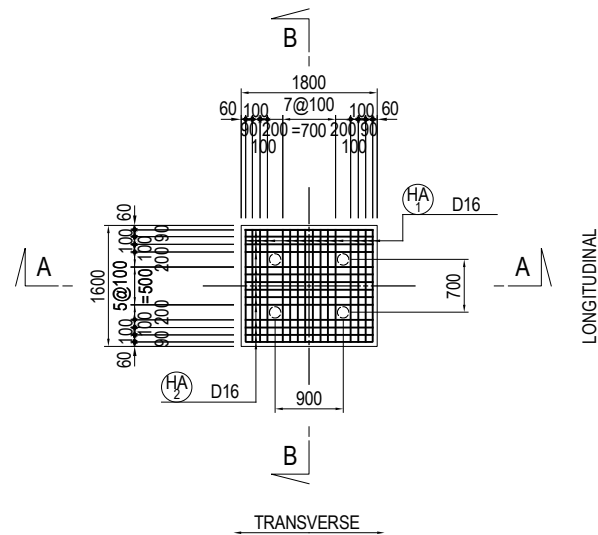
SECTION

< CL >

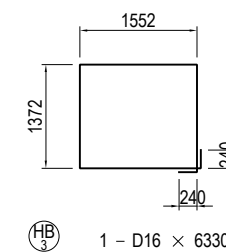
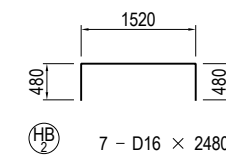
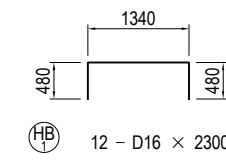
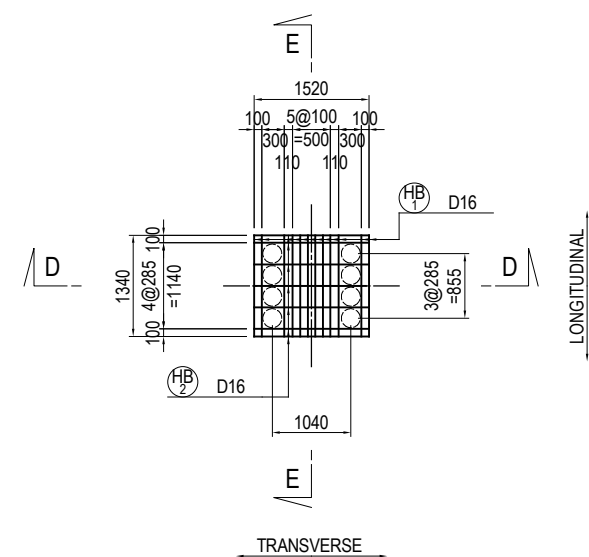
SECTION



PLAN
C - C



PLAN
F - F

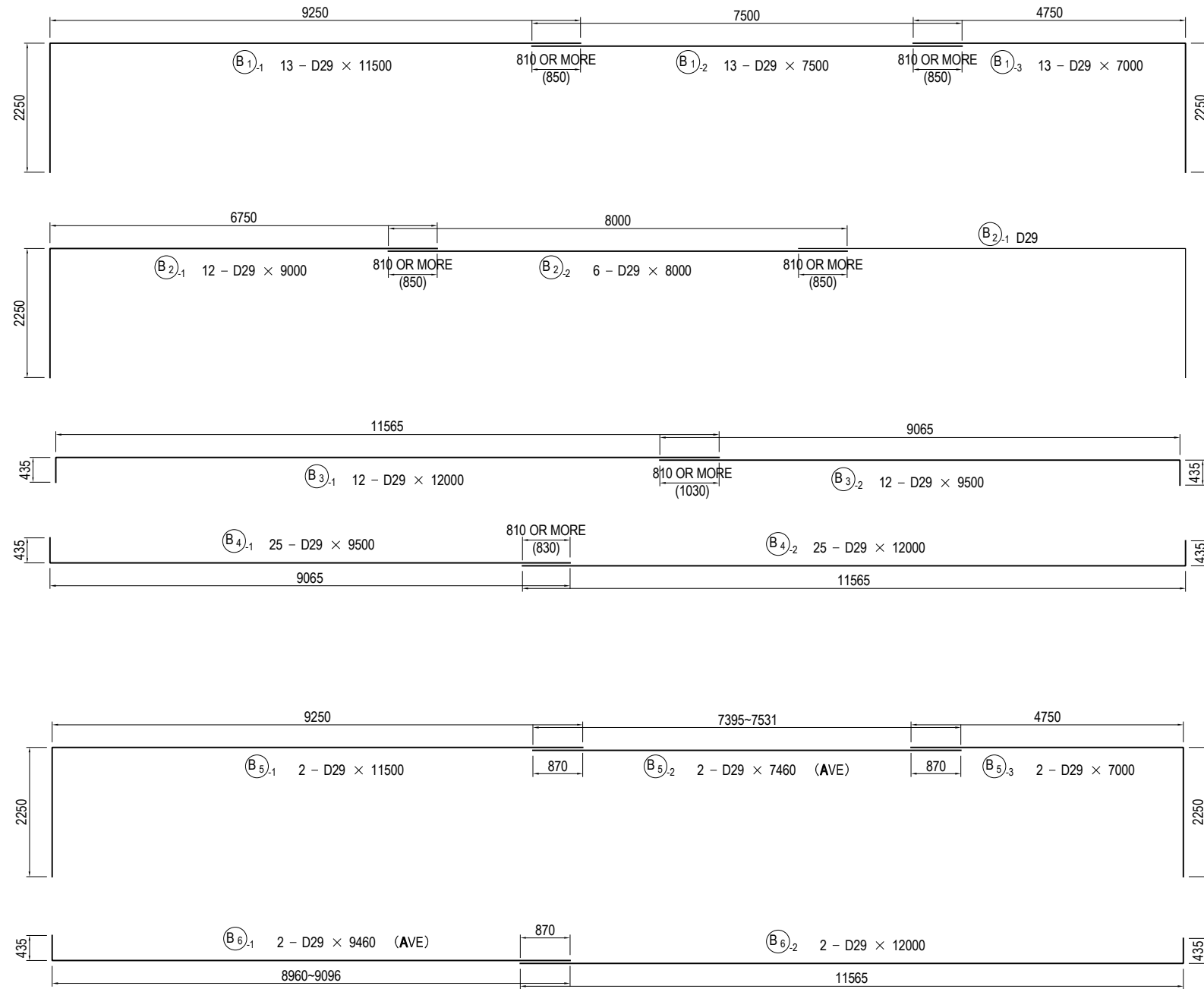


USE MATERIALS

| | CONCRETE | BAR |
|-------------|-----------------------------------|-------|
| BEAM-COLUMN | $\sigma_{ck} = 30 \text{ N/mm}^2$ | SD345 |

| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|-------------------------------------------------------------|---------------|------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE BAR ARRANGEMENT OF P13 PIER (9) | PACKAGE | |
| | | | | PREPARED BY | S. TOKUMARU | | | 27. Nov. 2017 | 1 |
| | | | | CHECKED BY | T. HAYAKAWA | | | 28. Nov. 2017 | DWG No. |
| | | | | APPROVED BY | Y. SANO | | | 29. Nov. 2017 | P1-CS-2311 |

BAR ARRANGEMENT OF P13 PIER (10) S=1:100 BEAM

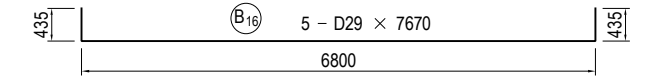
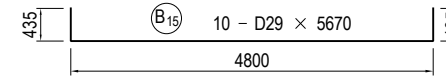
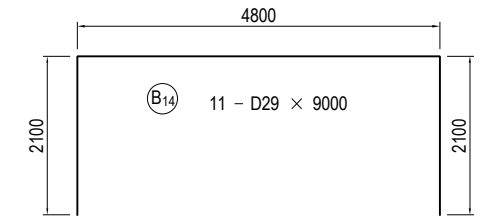
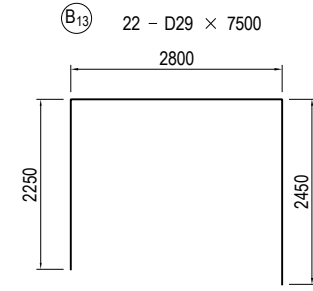
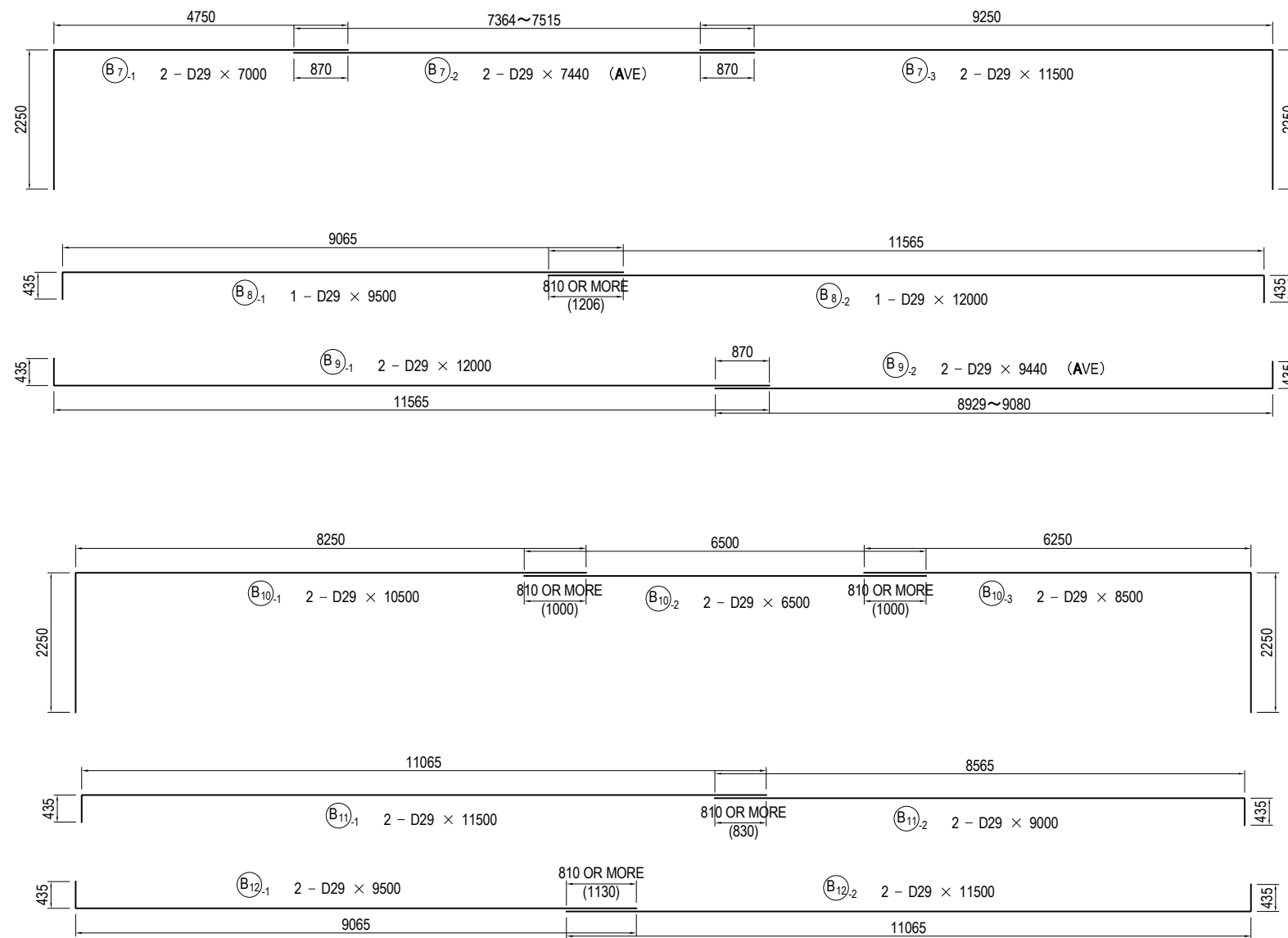


USE MATERIALS

| | CONCRETE | BAR |
|-------------|-----------------------------------|-------|
| BEAM-COLUMN | $\sigma_{ck} = 30 \text{ N/mm}^2$ | SD345 |

| PROJECT NAME | FINANCED BY | COUNTERPART | JICA STUDY TEAM | NAME | SIGNATURE | DATE | DRAWING TITLE | PACKAGE |
|-----------------------------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------|---------------|----------------------------------|------------|
| DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | JAPAN INTERNATIONAL COOPERATION AGENCY | REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | PREPARED BY S. TOKUMARU | | 27. Nov. 2017 | BAR ARRANGEMENT OF P13 PIER (10) | 1 |
| | | | | CHECKED BY T. HAYAKAWA | | 28. Nov. 2017 | | DWG No. |
| | | | | APPROVED BY Y. SANO | | 29. Nov. 2017 | | P1-CS-2312 |

BAR ARRANGEMENT OF P13 PIER (11) S=1:100 BEAM



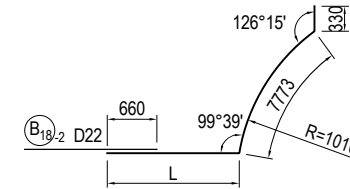
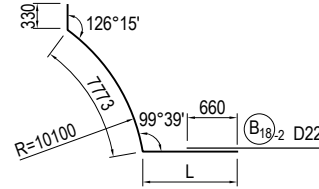
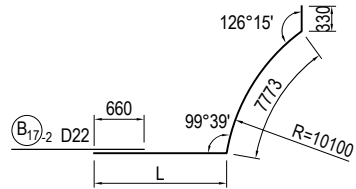
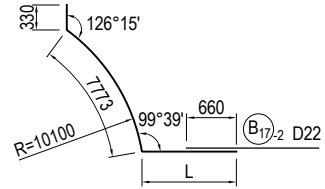
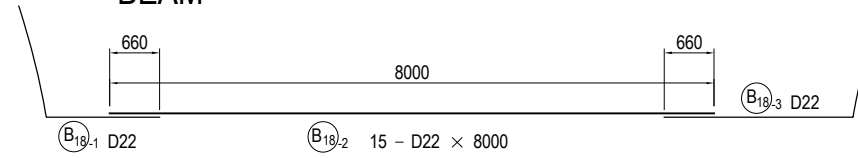
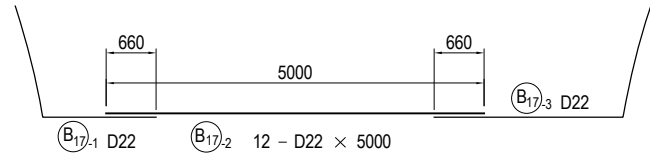
USE MATERIALS

| | CONCRETE | BAR |
|-------------|-----------------------------------|-------|
| BEAM-COLUMN | $\sigma_{ck} = 30 \text{ N/mm}^2$ | SD345 |

| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|----------------------------------------------------------|---------------|------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE BAR ARRANGEMENT OF P13 PIER (11) | PACKAGE | |
| | | | | PREPARED BY | S. TOKUMARU | | | 27. Nov. 2017 | 1 |
| | | | | CHECKED BY | T. HAYAKAWA | | | 28. Nov. 2017 | DWG No. |
| | | | | APPROVED BY | Y. SANO | | | 29. Nov. 2017 | P1-CS-2313 |

BAR ARRANGEMENT OF P13 PIER (12) S=1:100

BEAM



B17-1 12 - D22 × 9790 (AVE)

B17-3 12 - D22 × 11070 (AVE)

B19-1 15 - D22 × 9440 (AVE)

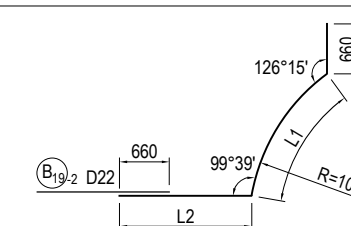
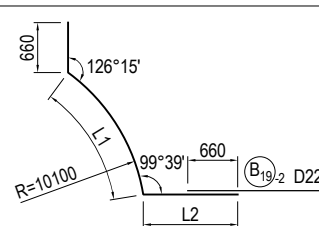
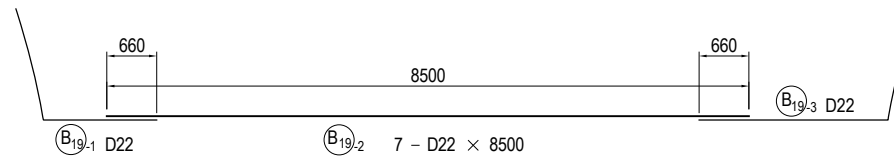
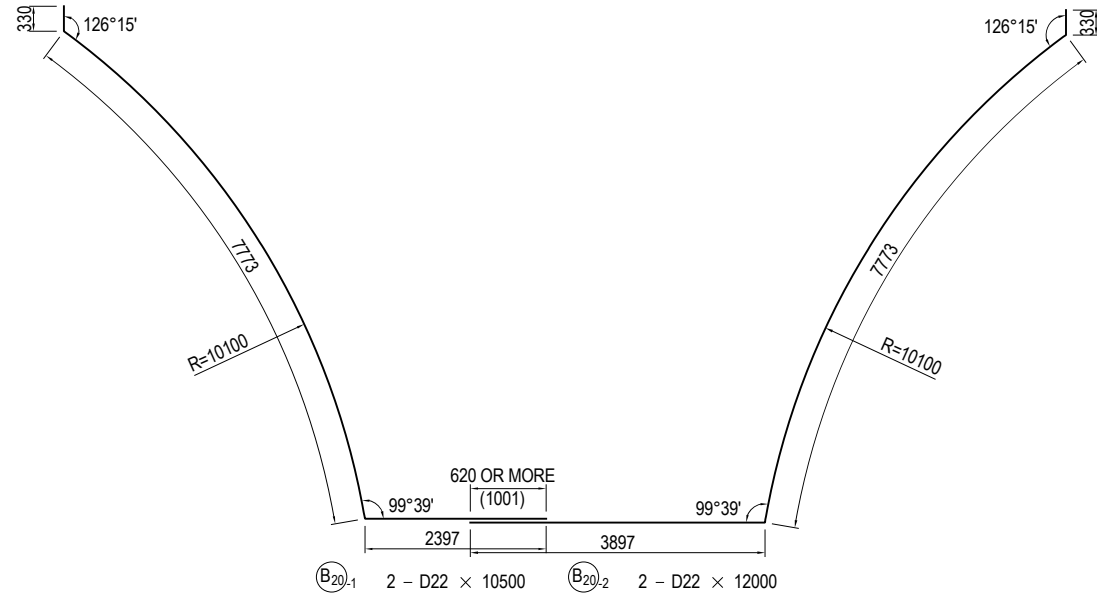
B19-3 15 - D22 × 10920 (AVE)

| MARKS | DIA. | NOS. OF BARS | LENGTH L | TOTAL LENGTH ΣL |
|---------|------|--------------|----------|-----------------|
| B17-1 1 | D22 | 1 | 948 | 9051 |
| 2 | " | 1 | 1366 | 9469 |
| 3 | " | 1 | 1696 | 9799 |
| 4 | " | 1 | 1948 | 10051 |
| 5 | " | 1 | 2162 | 10265 |
| 6 | " | 1 | 2367 | 10470 |
| 7 | " | 1 | 2208 | 10311 |
| 8 | " | 1 | 2028 | 10131 |
| 9 | " | 1 | 1820 | 9923 |
| 10 | " | 1 | 1577 | 9680 |
| 11 | " | 1 | 1280 | 9383 |
| 12 | " | 1 | 886 | 8989 |
| AVE | | 12 | 1691 | 9794 |

| MARKS | DIA. | NOS. OF BARS | LENGTH L | TOTAL LENGTH ΣL |
|---------|------|--------------|----------|-----------------|
| B17-3 1 | D22 | 1 | 2228 | 10331 |
| 2 | " | 1 | 2646 | 10749 |
| 3 | " | 1 | 2976 | 11079 |
| 4 | " | 1 | 3228 | 11331 |
| 5 | " | 1 | 3442 | 11545 |
| 6 | " | 1 | 3647 | 11750 |
| 7 | " | 1 | 3488 | 11591 |
| 8 | " | 1 | 3308 | 11411 |
| 9 | " | 1 | 3100 | 11203 |
| 10 | " | 1 | 2857 | 10960 |
| 11 | " | 1 | 2560 | 10663 |
| 12 | " | 1 | 2166 | 10269 |
| AVE | | 12 | 2971 | 11074 |

| MARKS | DIA. | NOS. OF BARS | LENGTH L | TOTAL LENGTH ΣL |
|---------|------|--------------|----------|-----------------|
| B18-1 1 | D22 | 1 | 873 | 8976 |
| 2 | " | 1 | 1120 | 9223 |
| 3 | " | 1 | 1320 | 9423 |
| 4 | " | 1 | 1480 | 9583 |
| 5 | " | 1 | 1607 | 9710 |
| 6 | " | 1 | 1695 | 9798 |
| 7 | " | 1 | 1709 | 9812 |
| 8 | " | 1 | 1632 | 9735 |
| 9 | " | 1 | 1535 | 9638 |
| 10 | " | 1 | 1399 | 9502 |
| 11 | " | 1 | 1343 | 9446 |
| 12 | " | 1 | 1252 | 9355 |
| 13 | " | 1 | 1149 | 9252 |
| 14 | " | 1 | 1035 | 9138 |
| 15 | " | 1 | 908 | 9011 |
| AVE | | 15 | 1337 | 9440 |

| MARKS | DIA. | NOS. OF BARS | LENGTH L | TOTAL LENGTH ΣL |
|---------|------|--------------|----------|-----------------|
| B18-3 1 | D22 | 1 | 2353 | 10456 |
| 2 | " | 1 | 2600 | 10703 |
| 3 | " | 1 | 2800 | 10903 |
| 4 | " | 1 | 2960 | 11063 |
| 5 | " | 1 | 3087 | 11190 |
| 6 | " | 1 | 3176 | 11279 |
| 7 | " | 1 | 3190 | 11293 |
| 8 | " | 1 | 3112 | 11215 |
| 9 | " | 1 | 3015 | 11118 |
| 10 | " | 1 | 2879 | 10982 |
| 11 | " | 1 | 2823 | 10926 |
| 12 | " | 1 | 2732 | 10835 |
| 13 | " | 1 | 2629 | 10732 |
| 14 | " | 1 | 2515 | 10618 |
| 15 | " | 1 | 2388 | 10491 |
| AVE | | 15 | 2817 | 10920 |



B19-1 7 - D22 × 9850 (AVE)

B19-3 7 - D22 × 11430 (AVE)

| MARKS | DIA. | NOS. OF BARS | LENGTH L1 | LENGTH L2 | TOTAL LENGTH ΣL |
|---------|------|--------------|-----------|-----------|-----------------|
| B19-1 1 | D22 | 1 | 7740 | 1461 | 9861 |
| 2 | " | 1 | 7680 | 1510 | 9850 |
| 3 | " | 1 | 7651 | 1533 | 9844 |
| 4 | " | 1 | 7650 | 1534 | 9844 |
| 5 | " | 1 | 7664 | 1522 | 9846 |
| 6 | " | 1 | 7691 | 1501 | 9852 |
| 7 | " | 1 | 7721 | 1477 | 9858 |
| AVE | | 7 | 7685 | 1505 | 9851 |

| MARKS | DIA. | NOS. OF BARS | LENGTH L1 | LENGTH L2 | TOTAL LENGTH ΣL |
|---------|------|--------------|-----------|-----------|-----------------|
| B19-3 1 | D22 | 1 | 7740 | 3041 | 11441 |
| 2 | " | 1 | 7680 | 3090 | 11430 |
| 3 | " | 1 | 7651 | 3113 | 11424 |
| 4 | " | 1 | 7650 | 3114 | 11424 |
| 5 | " | 1 | 7664 | 3102 | 11426 |
| 6 | " | 1 | 7691 | 3081 | 11432 |
| 7 | " | 1 | 7721 | 3057 | 11438 |
| AVE | | 7 | 7685 | 3085 | 11431 |

USE MATERIALS

| | CONCRETE | BAR |
|-------------|----------------------------------------|-------|
| BEAM-COLUMN | σ _{ck} = 30 N/mm ² | SD345 |

PROJECT NAME
DETAILED DESIGN ON
BAGO RIVER BRIDGE
CONSTRUCTION PROJECT

FINANCED BY
JICA
JAPAN INTERNATIONAL
COOPERATION AGENCY

COUNTERPART
REPUBLIC OF THE UNION OF MYANMAR
MINISTRY OF CONSTRUCTION
DEPARTMENT OF BRIDGE

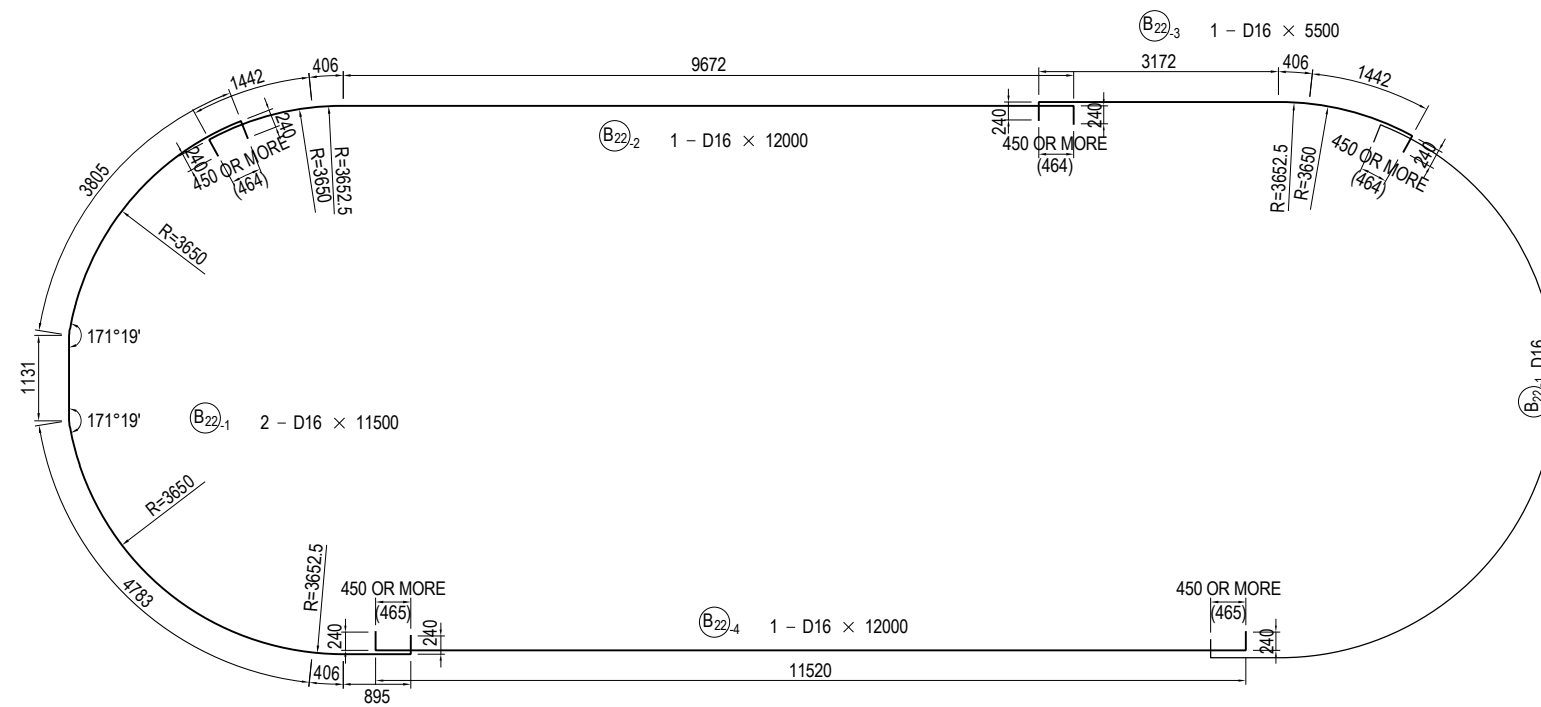
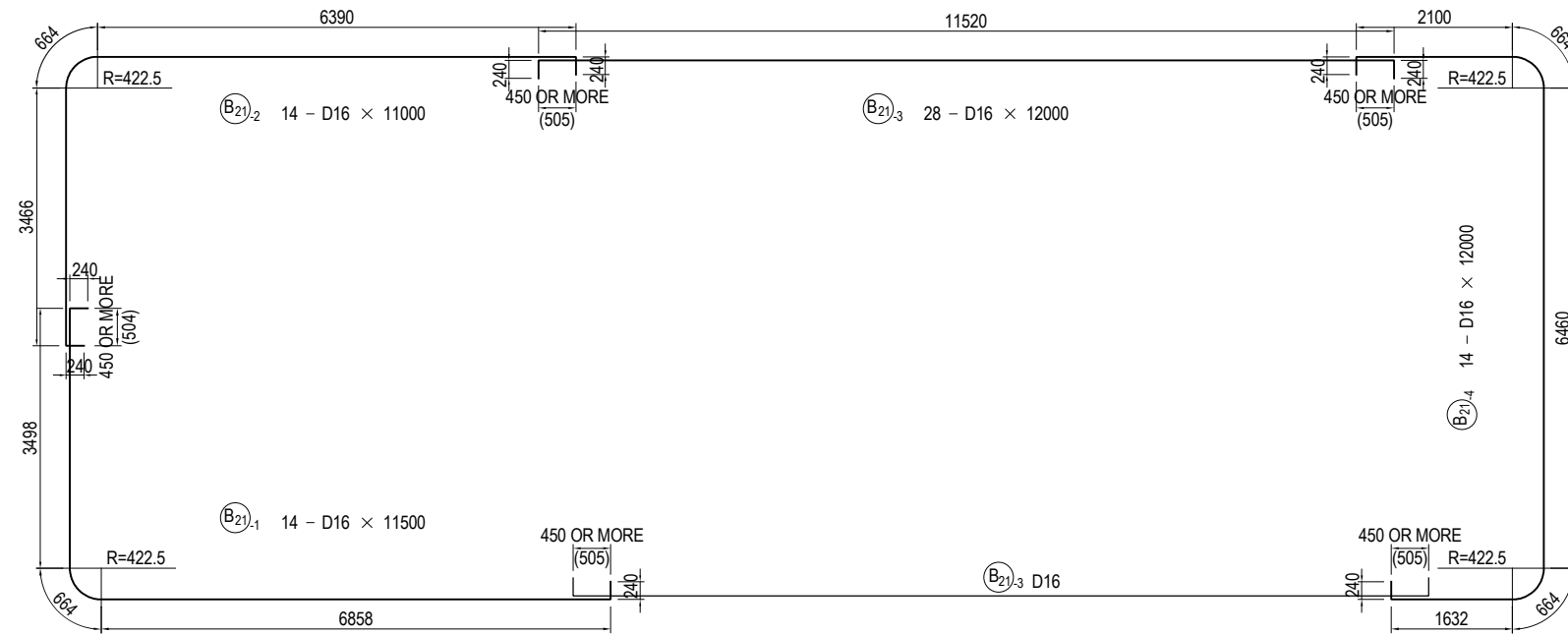
JICA STUDY TEAM
NIPPON KOEI CO., LTD.
ORIENTAL CONSULTANTS GLOBAL CO., LTD.
METROPOLITAN EXPRESSWAY COMPANY LIMITED
CHODAI CO., LTD.
NIPPON ENGINEERING CONSULTANTS CO., LTD.

| | NAME | SIGNATURE | DATE |
|-------------|-------------|--------------------|---------------|
| PREPARED BY | S. TOKUMARU | <i>[Signature]</i> | 27. Nov. 2017 |
| CHECKED BY | T. HAYAKAWA | <i>[Signature]</i> | 28. Nov. 2017 |
| APPROVED BY | Y. SANO | <i>[Signature]</i> | 29. Nov. 2017 |

DRAWING TITLE
BAR ARRANGEMENT OF P13 PIER (12)

PACKAGE
1
DWG No.
P1-CS-2314

BAR ARRANGEMENT OF P13 PIER (13) S=1:100 BEAM



USE MATERIALS

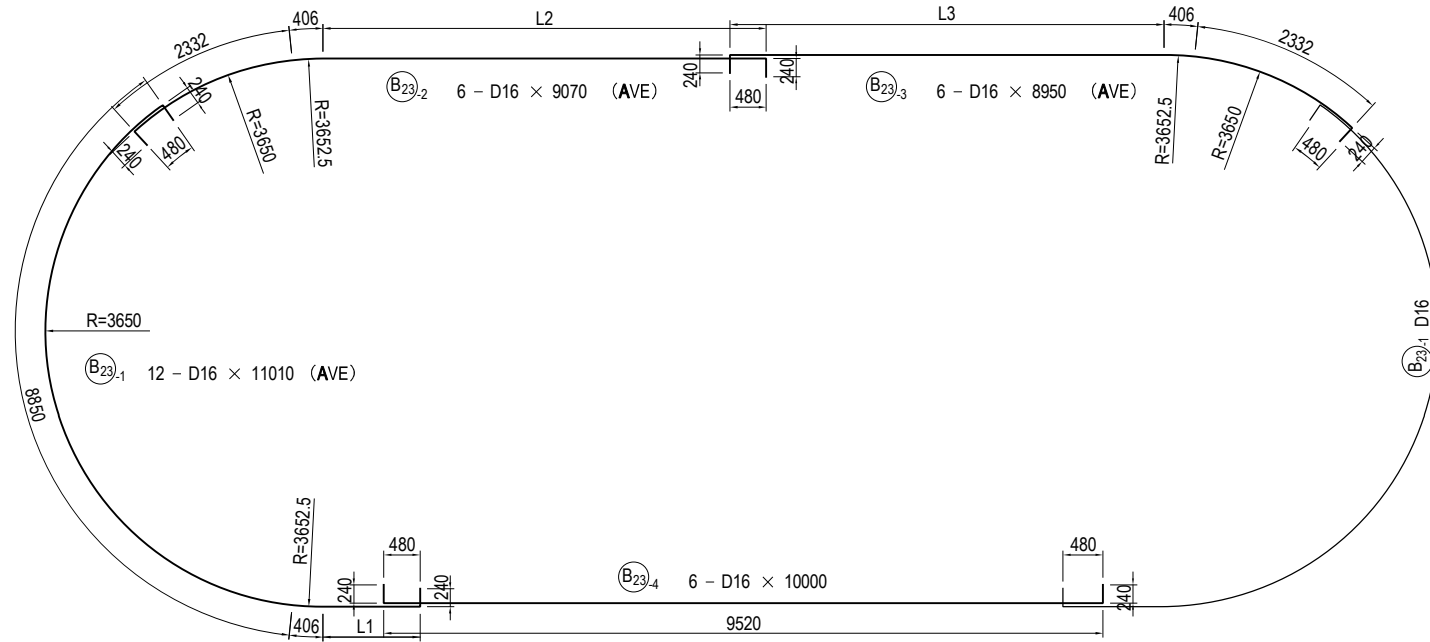
| | CONCRETE | BAR |
|--------------------|-----------------------------------|-------|
| BEAM-COLUMN | $\sigma_{ck} = 30 \text{ N/mm}^2$ | SD345 |

| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">NAME</th> <th style="width: 15%;">SIGNATURE</th> <th style="width: 15%;">DATE</th> </tr> <tr> <td>PREPARED BY</td> <td>S. TOKUMARU</td> <td>27. Nov. 2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td>28. Nov. 2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td>29. Nov. 2017</td> </tr> </table> | NAME | SIGNATURE | DATE | PREPARED BY | S. TOKUMARU | 27. Nov. 2017 | CHECKED BY | T. HAYAKAWA | 28. Nov. 2017 | APPROVED BY | Y. SANO | 29. Nov. 2017 | DRAWING TITLE <h3 style="text-align: center;">BAR ARRANGEMENT OF P13 PIER (13)</h3> | PACKAGE 1 DWG No. P1-CS-2315 |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|------|-------------|-------------|---------------|------------|-------------|---------------|-------------|---------|---------------|----------------------------------------------------------------------------------------|---------------------------------------|
| NAME | SIGNATURE | DATE | | | | | | | | | | | | | | | | |
| PREPARED BY | S. TOKUMARU | 27. Nov. 2017 | | | | | | | | | | | | | | | | |
| CHECKED BY | T. HAYAKAWA | 28. Nov. 2017 | | | | | | | | | | | | | | | | |
| APPROVED BY | Y. SANO | 29. Nov. 2017 | | | | | | | | | | | | | | | | |

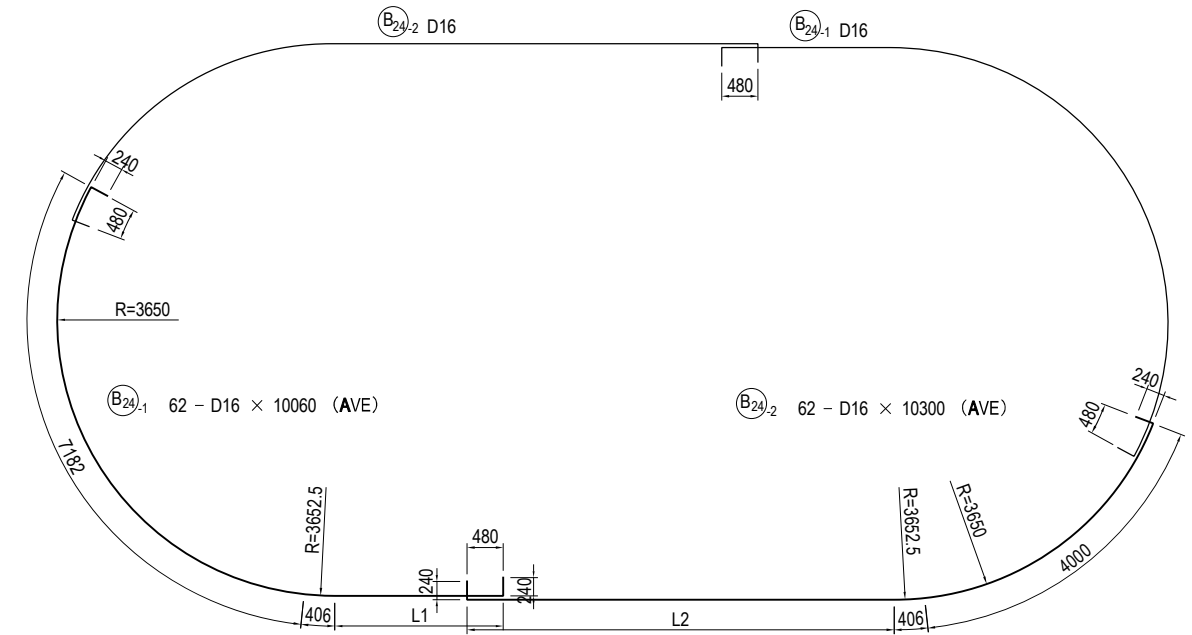
BAR ARRANGEMENT OF P13 PIER (14) S=1:100 BEAM

| MARKS | DIA. | NOS. OF BARS | LENGTH L2 | TOTAL LENGTH ΣL | |
|-------|------|--------------|-----------|-----------------|------|
| B23-2 | 1 | D16 | 1 | 6293 | 9511 |
| 2 | " | 1 | 6106 | 9324 | |
| 3 | " | 1 | 5927 | 9145 | |
| 4 | " | 1 | 5756 | 8974 | |
| 5 | " | 1 | 5593 | 8811 | |
| 6 | " | 1 | 5437 | 8655 | |
| AVE | | 6 | 5852 | 9070 | |

| MARKS | DIA. | NOS. OF BARS | LENGTH L3 | TOTAL LENGTH ΣL | |
|-------|------|--------------|-----------|-----------------|------|
| B23-3 | 1 | D16 | 1 | 6173 | 9391 |
| 2 | " | 1 | 5986 | 9204 | |
| 3 | " | 1 | 5807 | 9025 | |
| 4 | " | 1 | 5636 | 8854 | |
| 5 | " | 1 | 5473 | 8691 | |
| 6 | " | 1 | 5317 | 8535 | |
| AVE | | 6 | 5732 | 8950 | |



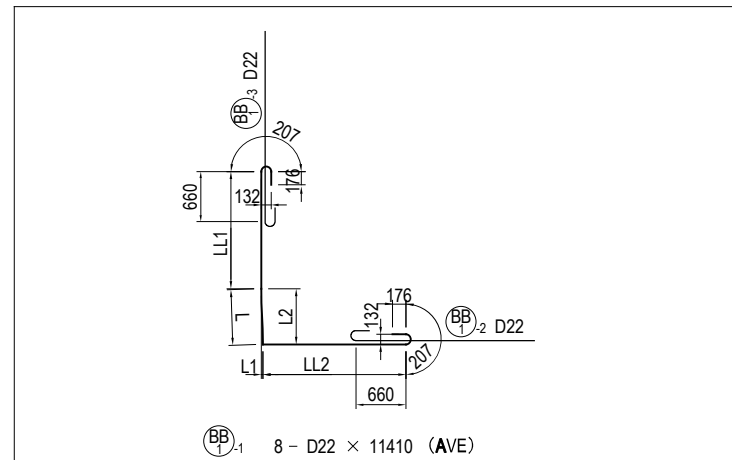
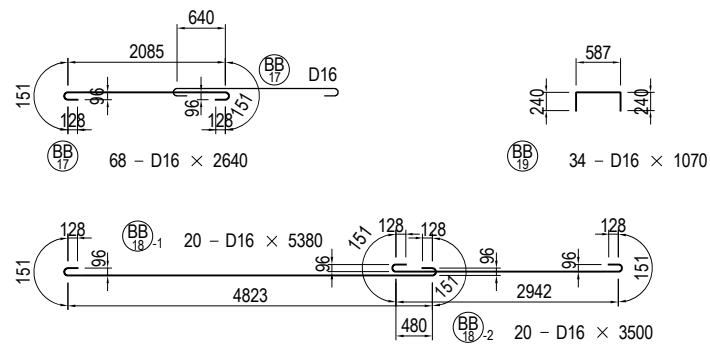
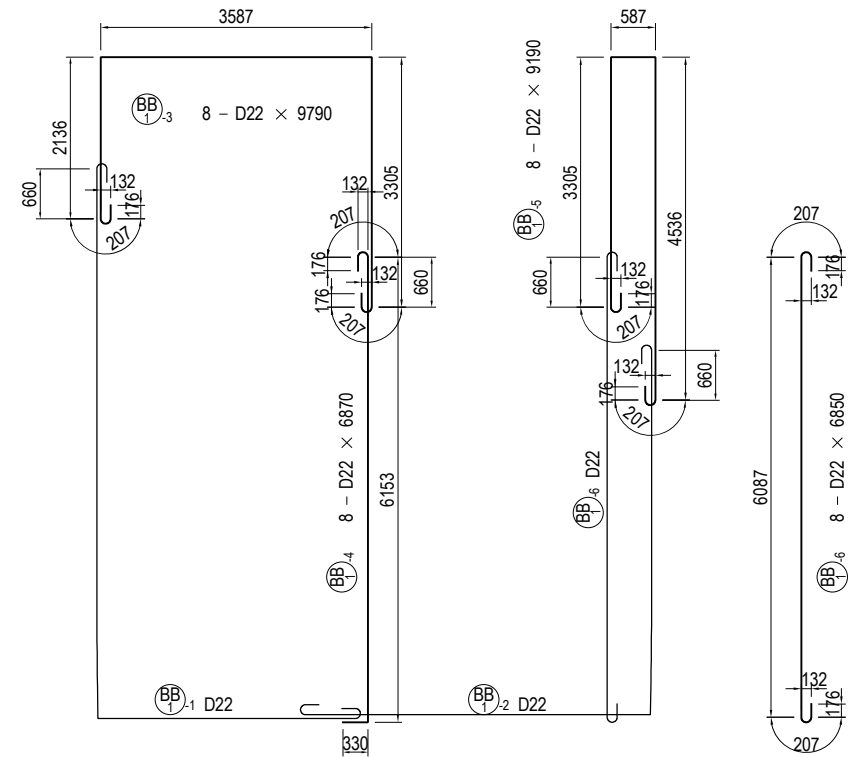
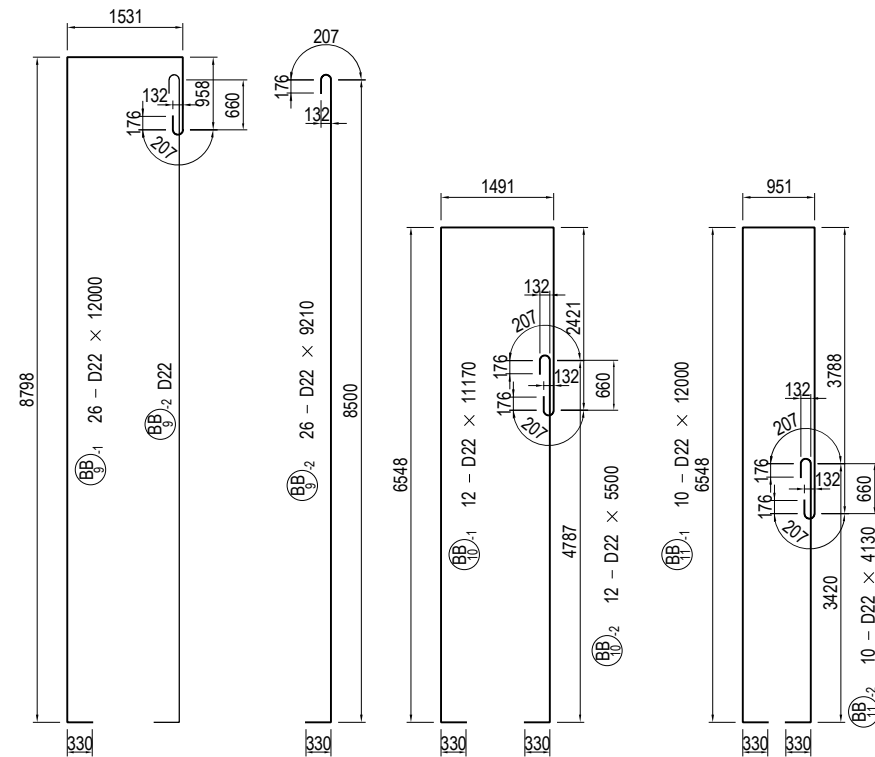
| MARKS | DIA. | NOS. OF BARS | LENGTH L1 | TOTAL LENGTH ΣL | |
|-------|------|--------------|-----------|-----------------|-------|
| B23-1 | 1 | D16 | 2 | 1713 | 11449 |
| 2 | " | 2 | 1526 | 11262 | |
| 3 | " | 2 | 1347 | 11083 | |
| 4 | " | 2 | 1176 | 10912 | |
| 5 | " | 2 | 1013 | 10749 | |
| 6 | " | 2 | 857 | 10593 | |
| AVE | | 12 | 1272 | 11008 | |



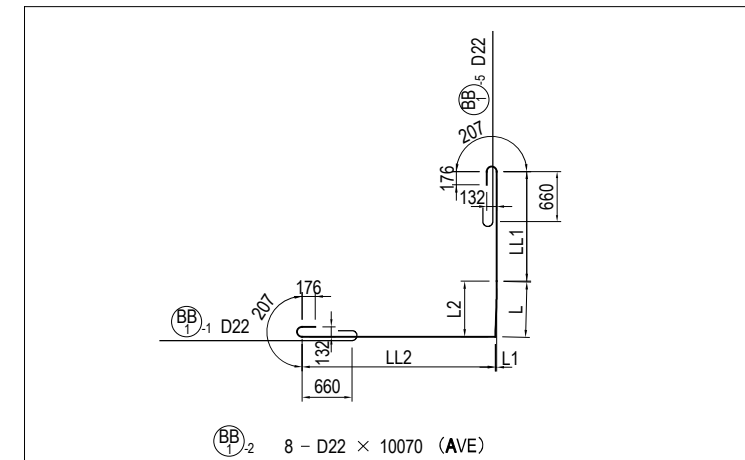
| MARKS | DIA. | NOS. OF BARS | LENGTH L1 | TOTAL LENGTH ΣL | |
|-------|------|--------------|-----------|-----------------|-------|
| B24-1 | 1 | D16 | 2 | 3518 | 11586 |
| 2 | " | 2 | 3374 | 11442 | |
| 3 | " | 2 | 3236 | 11304 | |
| 4 | " | 2 | 3104 | 11172 | |
| 5 | " | 2 | 2977 | 11045 | |
| 6 | " | 2 | 2854 | 10922 | |
| 7 | " | 2 | 2737 | 10805 | |
| 8 | " | 2 | 2624 | 10692 | |
| 9 | " | 2 | 2515 | 10583 | |
| 10 | " | 2 | 2410 | 10478 | |
| 11 | " | 2 | 2309 | 10377 | |
| 12 | " | 2 | 2213 | 10281 | |
| 13 | " | 2 | 2119 | 10187 | |
| 14 | " | 2 | 2030 | 10098 | |
| 15 | " | 2 | 1944 | 10012 | |
| 16 | " | 2 | 1861 | 9929 | |
| 17 | " | 2 | 1781 | 9849 | |
| 18 | " | 2 | 1705 | 9773 | |
| 19 | " | 2 | 1632 | 9700 | |
| 20 | " | 2 | 1562 | 9630 | |
| 21 | " | 2 | 1495 | 9563 | |
| 22 | " | 2 | 1430 | 9498 | |
| 23 | " | 2 | 1369 | 9437 | |
| 24 | " | 2 | 1310 | 9378 | |
| 25 | " | 2 | 1255 | 9323 | |
| 26 | " | 2 | 1201 | 9269 | |
| 27 | " | 2 | 1151 | 9219 | |
| 28 | " | 2 | 1103 | 9171 | |
| 29 | " | 2 | 1057 | 9125 | |
| 30 | " | 2 | 1015 | 9083 | |
| 31 | " | 2 | 974 | 9042 | |
| AVE | | 62 | 1996 | 10064 | |

| MARKS | DIA. | NOS. OF BARS | LENGTH L2 | TOTAL LENGTH ΣL | |
|-------|------|--------------|-----------|-----------------|-------|
| B24-2 | 1 | D16 | 2 | 6938 | 11824 |
| 2 | " | 2 | 6794 | 11680 | |
| 3 | " | 2 | 6656 | 11542 | |
| 4 | " | 2 | 6524 | 11410 | |
| 5 | " | 2 | 6397 | 11283 | |
| 6 | " | 2 | 6274 | 11160 | |
| 7 | " | 2 | 6157 | 11043 | |
| 8 | " | 2 | 6044 | 10930 | |
| 9 | " | 2 | 5935 | 10821 | |
| 10 | " | 2 | 5830 | 10716 | |
| 11 | " | 2 | 5729 | 10615 | |
| 12 | " | 2 | 5633 | 10519 | |
| 13 | " | 2 | 5539 | 10425 | |
| 14 | " | 2 | 5450 | 10336 | |
| 15 | " | 2 | 5364 | 10250 | |
| 16 | " | 2 | 5281 | 10167 | |
| 17 | " | 2 | 5201 | 10087 | |
| 18 | " | 2 | 5125 | 10011 | |
| 19 | " | 2 | 5052 | 9938 | |
| 20 | " | 2 | 4982 | 9868 | |
| 21 | " | 2 | 4915 | 9801 | |
| 22 | " | 2 | 4850 | 9736 | |
| 23 | " | 2 | 4789 | 9675 | |
| 24 | " | 2 | 4730 | 9616 | |
| 25 | " | 2 | 4675 | 9561 | |
| 26 | " | 2 | 4621 | 9507 | |
| 27 | " | 2 | 4571 | 9457 | |
| 28 | " | 2 | 4523 | 9409 | |
| 29 | " | 2 | 4477 | 9363 | |
| 30 | " | 2 | 4435 | 9321 | |
| 31 | " | 2 | 4394 | 9280 | |
| AVE | | 62 | 5416 | 10302 | |

BAR ARRANGEMENT OF P13 PIER (16) S=1:100 BEAM



| MARKS | DIA. | NOS. OF BARS | LENGTH L | LENGTH L1 | LENGTH L2 | LENGTH LL1 | LENGTH LL2 | TOTAL LENGTH ΣL |
|-------|------|--------------|----------|-----------|-----------|------------|------------|-----------------|
| BB1_1 | D22 | 2 | 1472 | 15 | 1472 | 5850 | 3457 | 11545 |
| 2 | " | 2 | 2385 | 72 | 2384 | 4938 | 3399 | 11488 |
| 3 | " | 2 | 3176 | 181 | 3171 | 4151 | 3289 | 11382 |
| 4 | " | 2 | 4037 | 334 | 4022 | 3300 | 3137 | 11240 |
| AVE | | 8 | 2768 | | | 4560 | 3321 | 11414 |

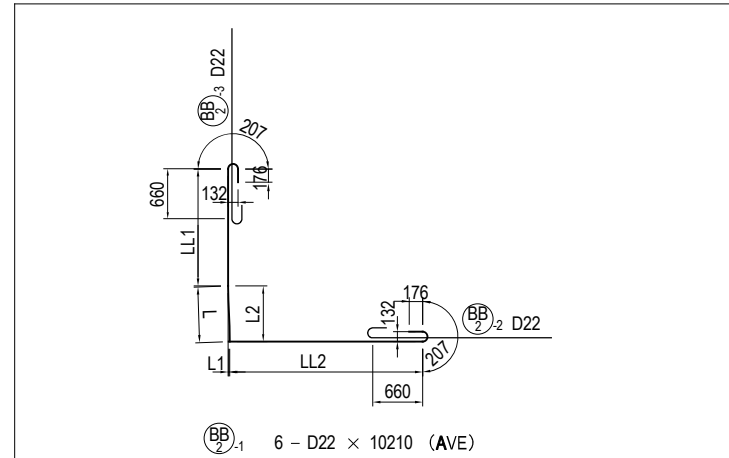
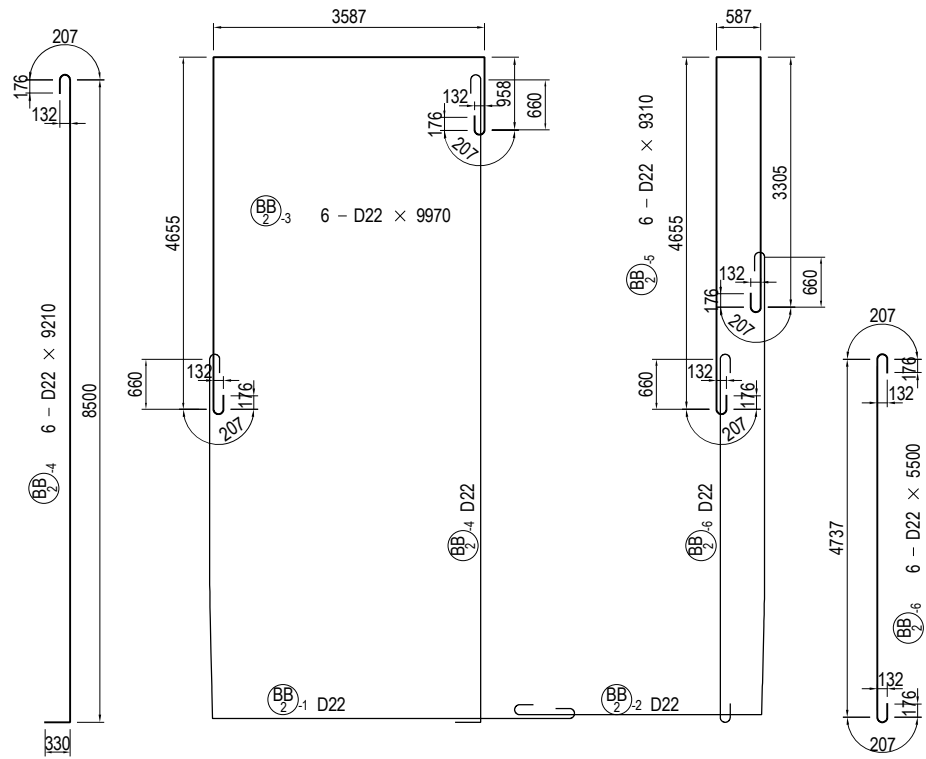


| MARKS | DIA. | NOS. OF BARS | LENGTH L | LENGTH L1 | LENGTH L2 | LENGTH LL1 | LENGTH LL2 | TOTAL LENGTH ΣL |
|-------|------|--------------|----------|-----------|-----------|------------|------------|-----------------|
| BB1_2 | D22 | 2 | 1472 | 15 | 1472 | 3450 | 4517 | 10205 |
| 2 | " | 2 | 2385 | 72 | 2384 | 2538 | 4460 | 10149 |
| 3 | " | 2 | 3176 | 181 | 3171 | 1751 | 4349 | 10042 |
| 4 | " | 2 | 4037 | 334 | 4022 | 900 | 4198 | 9901 |
| AVE | | 8 | 2768 | | | 2160 | 4381 | 10074 |

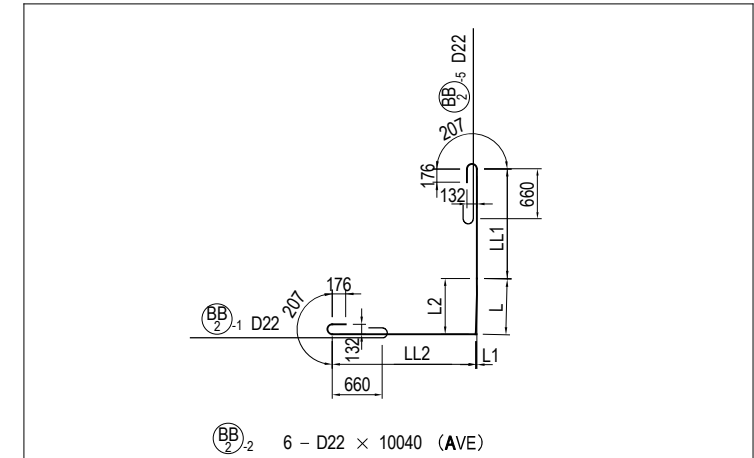
USE MATERIALS

| | CONCRETE | BAR |
|-------------|----------------------------------------|-------|
| BEAM-COLUMN | σ _{ck} = 30 N/mm ² | SD345 |

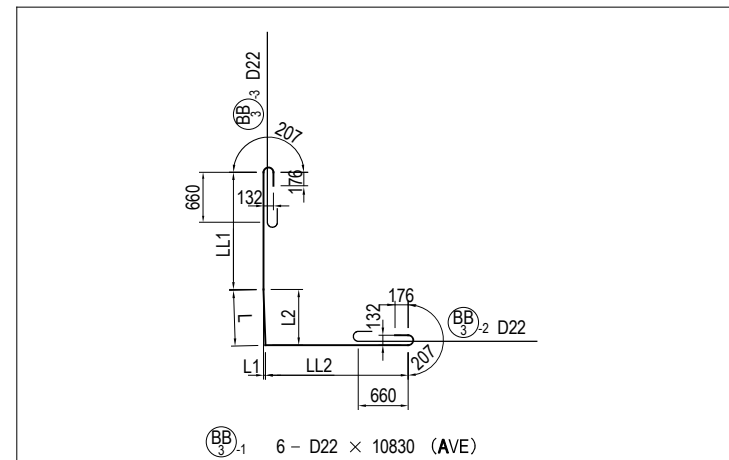
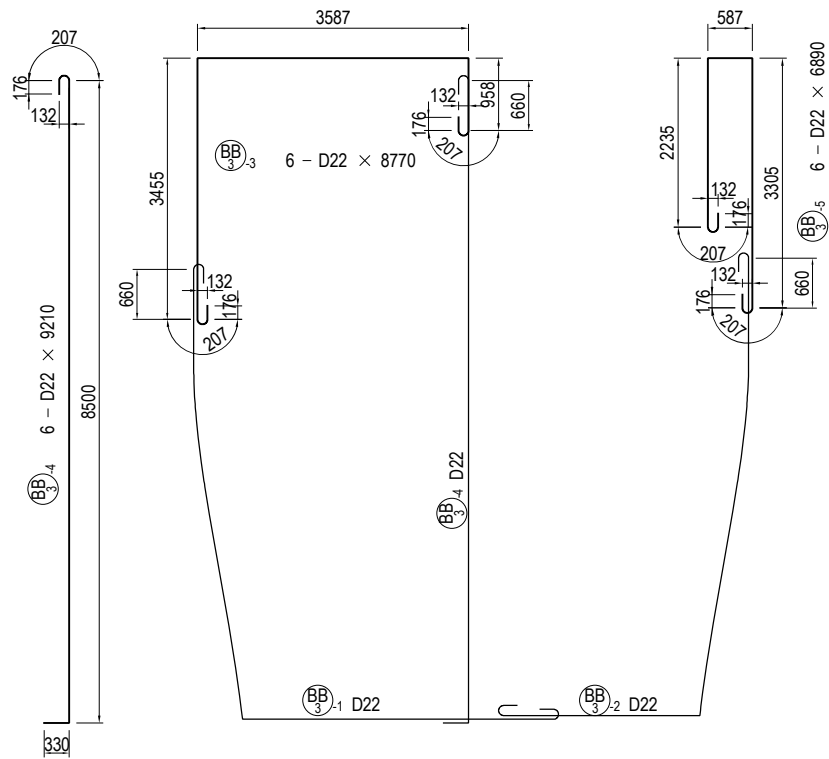
BAR ARRANGEMENT OF P13 PIER (17) S=1:100 BEAM



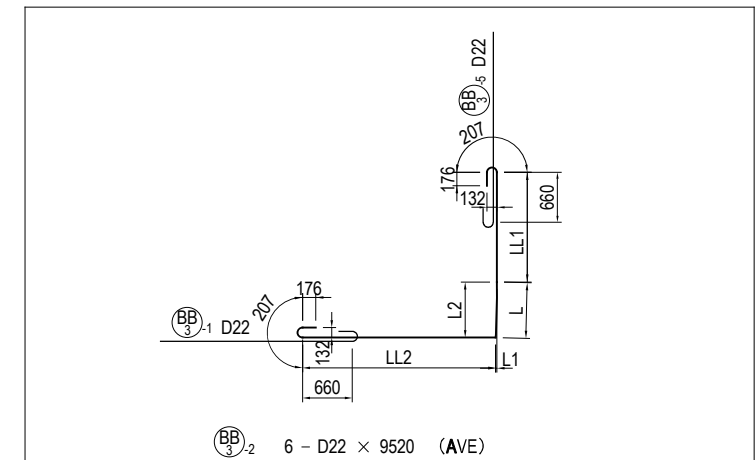
| MARKS | DIA. | NOS. OF BARS | LENGTH L | LENGTH L1 | LENGTH L2 | LENGTH LL1 | LENGTH LL2 | TOTAL LENGTH ΣL |
|-------|------|--------------|----------|-----------|-----------|------------|------------|-----------------|
| BB2-1 | D22 | 2 | 1765 | 38 | 1765 | 3038 | 4723 | 10292 |
| 2 | " | 2 | 2838 | 117 | 2835 | 1968 | 4644 | 10216 |
| 3 | " | 2 | 3332 | 220 | 3324 | 1479 | 4542 | 10119 |
| AVE | | 6 | 2645 | | | 2162 | 4636 | 10209 |



| MARKS | DIA. | NOS. OF BARS | LENGTH L | LENGTH L1 | LENGTH L2 | LENGTH LL1 | LENGTH LL2 | TOTAL LENGTH ΣL |
|-------|------|--------------|----------|-----------|-----------|------------|------------|-----------------|
| BB2-2 | D22 | 2 | 1765 | 38 | 1765 | 4388 | 3203 | 10122 |
| 2 | " | 2 | 2838 | 117 | 2835 | 3318 | 3124 | 10046 |
| 3 | " | 2 | 3332 | 220 | 3324 | 2829 | 3022 | 9949 |
| AVE | | 6 | 2645 | | | 3512 | 3116 | 10039 |



| MARKS | DIA. | NOS. OF BARS | LENGTH L | LENGTH L1 | LENGTH L2 | LENGTH LL1 | LENGTH LL2 | TOTAL LENGTH ΣL |
|-------|------|--------------|----------|-----------|-----------|------------|------------|-----------------|
| BB3-1 | D22 | 2 | 4347 | 433 | 4322 | 1681 | 4298 | 11092 |
| 2 | " | 2 | 4826 | 681 | 4772 | 1231 | 4050 | 10873 |
| 3 | " | 2 | 5498 | 1111 | 5372 | 631 | 3620 | 10515 |
| AVE | | 6 | 4890 | | | 1181 | 3989 | 10827 |



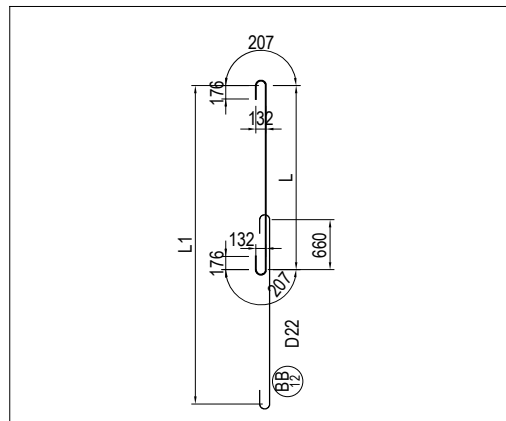
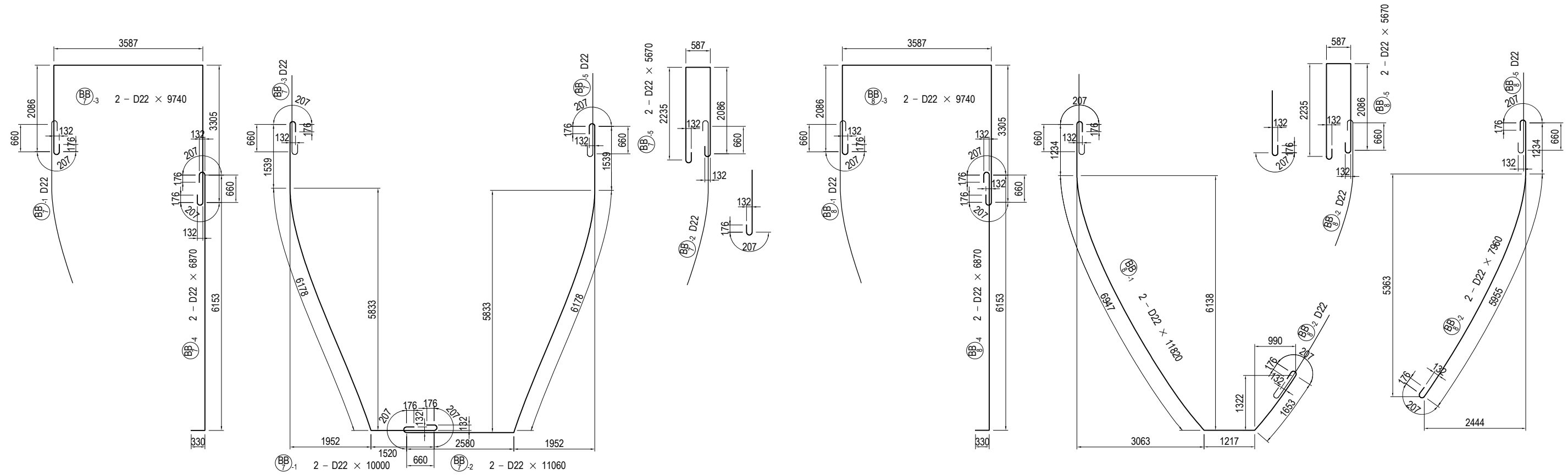
| MARKS | DIA. | NOS. OF BARS | LENGTH L | LENGTH L1 | LENGTH L2 | LENGTH LL1 | LENGTH LL2 | TOTAL LENGTH ΣL |
|-------|------|--------------|----------|-----------|-----------|------------|------------|-----------------|
| BB3-2 | D22 | 2 | 4347 | 433 | 4322 | 1831 | 2838 | 9782 |
| 2 | " | 2 | 4826 | 681 | 4772 | 1381 | 2590 | 9563 |
| 3 | " | 2 | 5498 | 1111 | 5372 | 781 | 2160 | 9205 |
| AVE | | 6 | 4890 | | | 1331 | 2529 | 9517 |

USE MATERIALS

| | CONCRETE | BAR |
|-------------|----------------------------------------|-------|
| BEAM-COLUMN | σ _{ck} = 30 N/mm ² | SD345 |

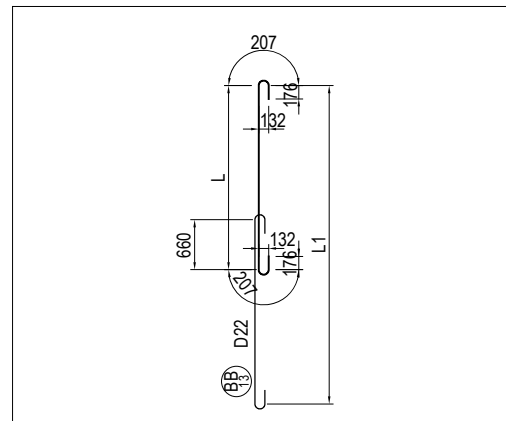
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|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|--------------------------------------------------------------|---------------------------------------|---------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE BAR ARRANGEMENT OF P13 PIER (17) | PACKAGE 1 DWG No. P1-CS-2319 | |
| | | | | PREPARED BY | S. TOKUMARU | | | | 27. Nov. 2017 |
| | | | | CHECKED BY | T. HAYAKAWA | | | | 28. Nov. 2017 |
| | | | | APPROVED BY | Y. SANO | | | | 29. Nov. 2017 |

BAR ARRANGEMENT OF P13 PIER (19) S=1:100 BEAM



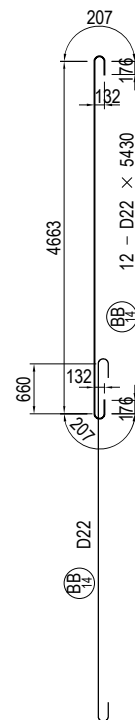
BB12 28 - D22 × 2990 (AVE)

| MARKS | DIA. | NOS. OF BARS | LENGTH L | LENGTH L1 | TOTAL LENGTH ΣL |
|--------|------|--------------|----------|-----------|-----------------|
| BB12 1 | D22 | 4 | 2953 | 5245 | 3719 |
| 2 | " | 4 | 2650 | 4640 | 3416 |
| 3 | " | 4 | 2386 | 4112 | 3152 |
| 4 | " | 4 | 2169 | 3677 | 2935 |
| 5 | " | 4 | 1975 | 3290 | 2741 |
| 6 | " | 4 | 1799 | 2938 | 2565 |
| 7 | " | 4 | 1654 | 2647 | 2420 |
| AVE | | 28 | 2227 | | 2993 |

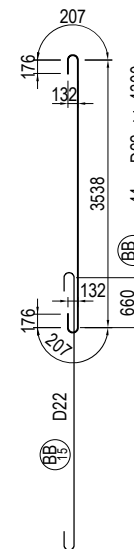


BB13 20 - D22 × 4640 (AVE)

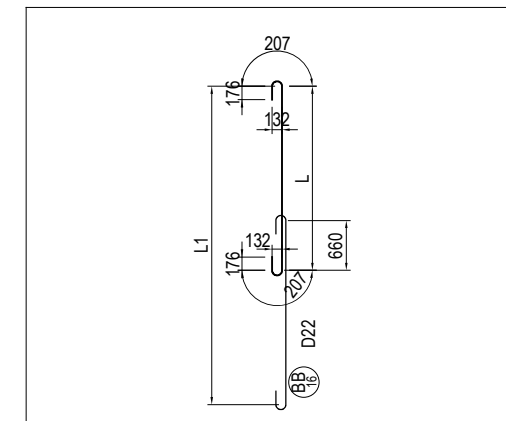
| MARKS | DIA. | NOS. OF BARS | LENGTH L | LENGTH L1 | TOTAL LENGTH ΣL |
|--------|------|--------------|----------|-----------|-----------------|
| BB13 1 | D22 | 4 | 4215 | 7770 | 4981 |
| 2 | " | 4 | 3885 | 7109 | 4651 |
| 3 | " | 4 | 3616 | 6571 | 4382 |
| 4 | " | 4 | 3407 | 6153 | 4173 |
| 5 | " | 4 | 4247 | 7834 | 5013 |
| AVE | | 20 | 3874 | | 4640 |



BB14 12 - D22 × 5430



BB15 44 - D22 × 4300



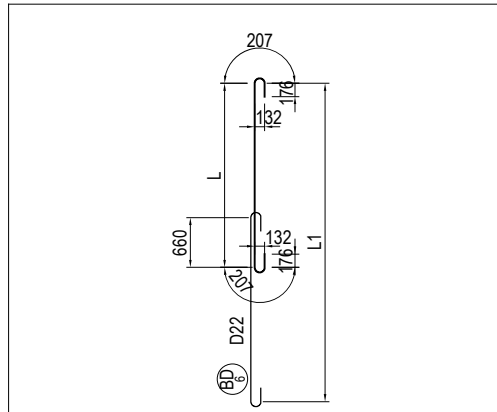
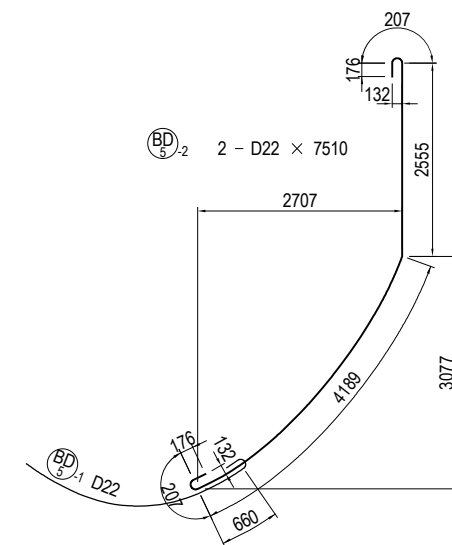
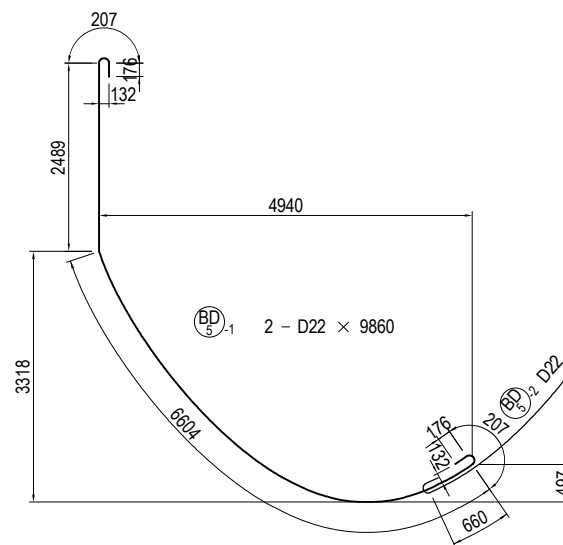
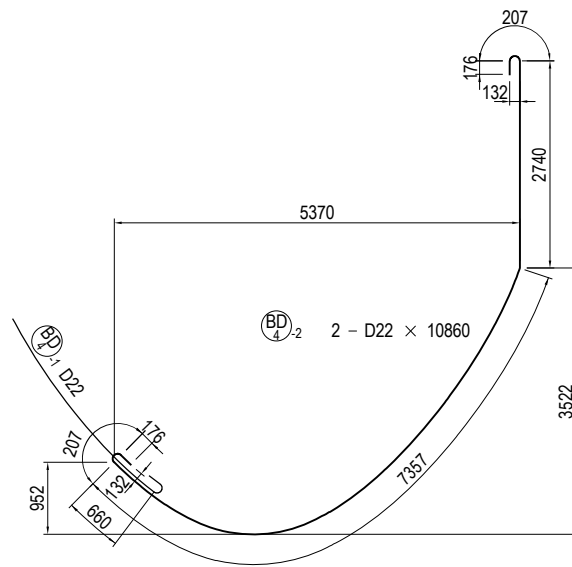
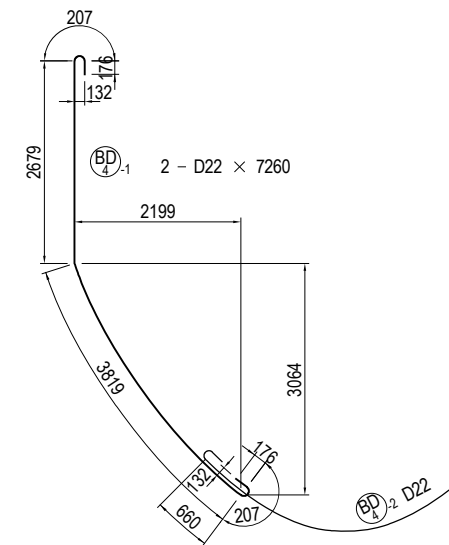
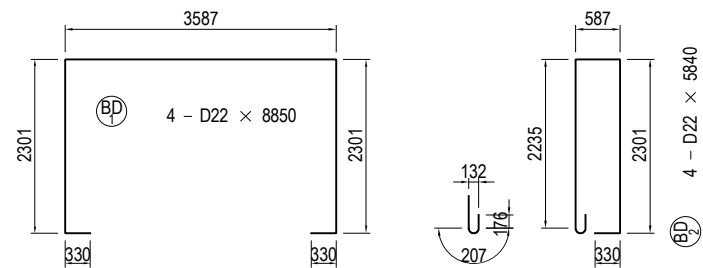
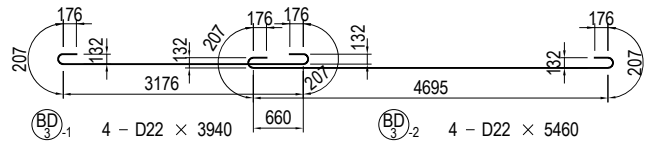
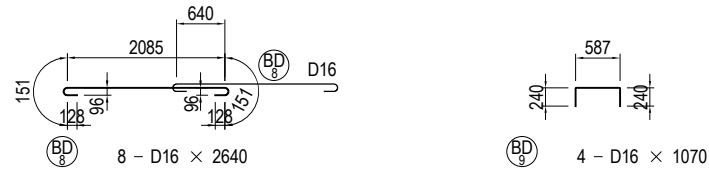
BB16 16 - D22 × 3820 (AVE)

| MARKS | DIA. | NOS. OF BARS | LENGTH L | LENGTH L1 | TOTAL LENGTH ΣL |
|--------|------|--------------|----------|-----------|-----------------|
| BB16 1 | D22 | 4 | 3261 | 5862 | 4027 |
| 2 | " | 4 | 2888 | 5116 | 3654 |
| 3 | " | 4 | 3408 | 6155 | 4174 |
| 4 | " | 4 | 2647 | 4634 | 3413 |
| AVE | | 16 | 3051 | | 3817 |

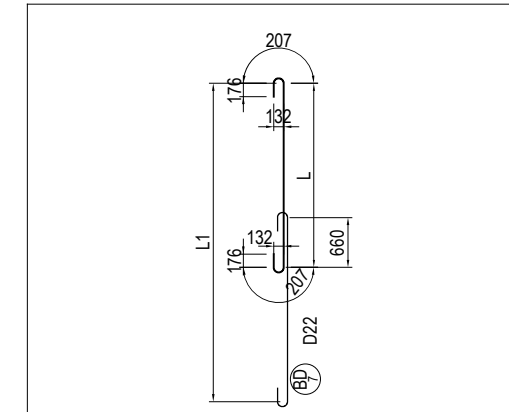
USE MATERIALS

| | CONCRETE | BAR |
|-------------|----------------------------------------|-------|
| BEAM-COLUMN | σ _{ck} = 30 N/mm ² | SD345 |

BAR ARRANGEMENT OF P13 PIER (21) S=1:100 BEAM



| MARKS | DIA. | NOS. OF BARS | LENGTH L | LENGTH L1 | TOTAL LENGTH ΣL |
|-------|------|--------------|----------|-----------|-----------------|
| BD6 1 | D22 | 4 | 2693 | 4726 | 3459 |
| 2 | " | 4 | 3312 | 5964 | 4078 |
| 3 | " | 4 | 2536 | 4411 | 3302 |
| 4 | " | 4 | 2996 | 5331 | 3762 |
| AVE | | 16 | 2884 | | 3650 |



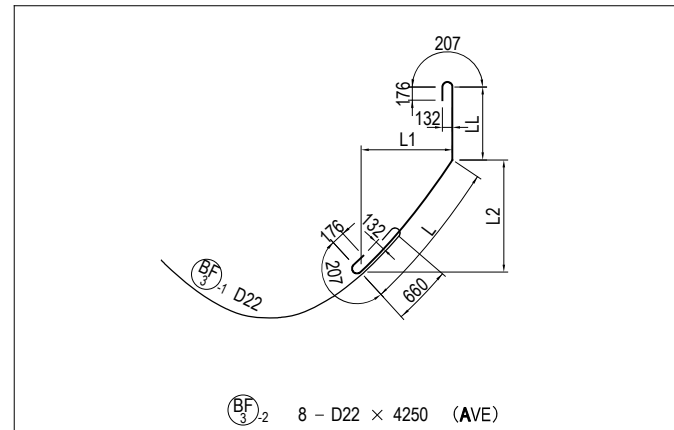
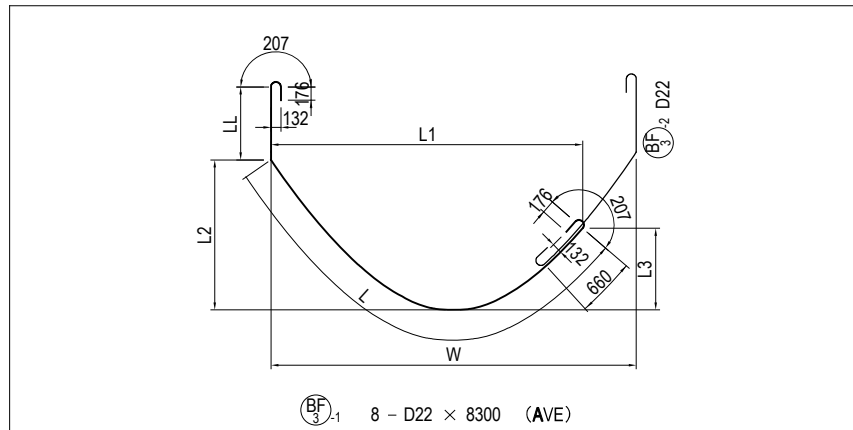
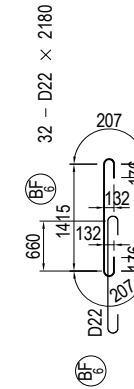
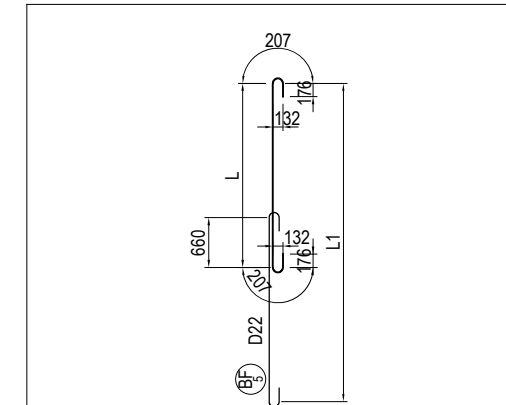
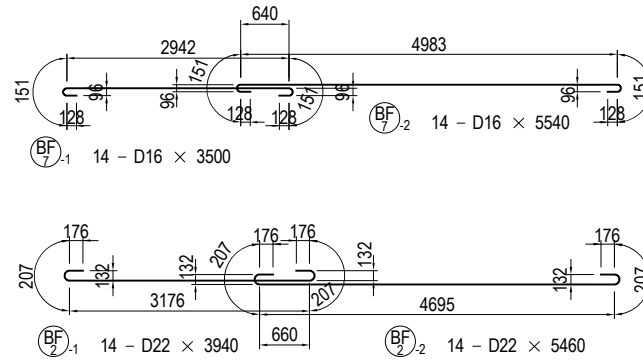
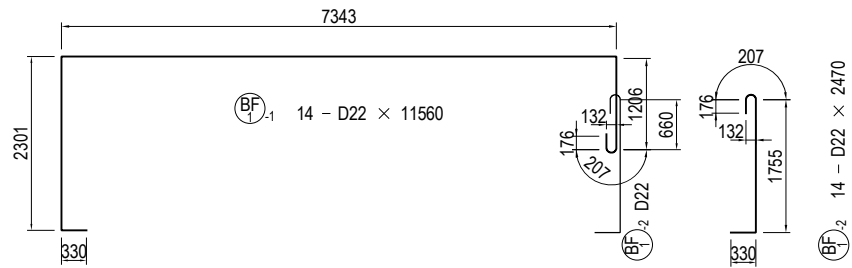
| MARKS | DIA. | NOS. OF BARS | LENGTH L | LENGTH L1 | TOTAL LENGTH ΣL |
|-------|------|--------------|----------|-----------|-----------------|
| BD7 1 | D22 | 4 | 2205 | 3749 | 2971 |
| 2 | " | 4 | 1792 | 2923 | 2558 |
| 3 | " | 4 | 1987 | 3314 | 2753 |
| 4 | " | 4 | 1617 | 2573 | 2383 |
| AVE | | 16 | 1900 | | 2666 |

USE MATERIALS

| | CONCRETE | BAR |
|-------------|----------------------------------------|-------|
| BEAM•COLUMN | σ _{ck} = 30 N/mm ² | SD345 |

| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|--------------------------------------------------------------|--------------|------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE BAR ARRANGEMENT OF P13 PIER (21) | PACKAGE | |
| | | | | PREPARED BY | S. TOKUMARU | | | 27. Nov.2017 | 1 |
| | | | | CHECKED BY | T. HAYAKAWA | | | 28. Nov.2017 | DWG No. |
| | | | | APPROVED BY | Y. SANO | | | 29. Nov.2017 | P1-CS-2323 |

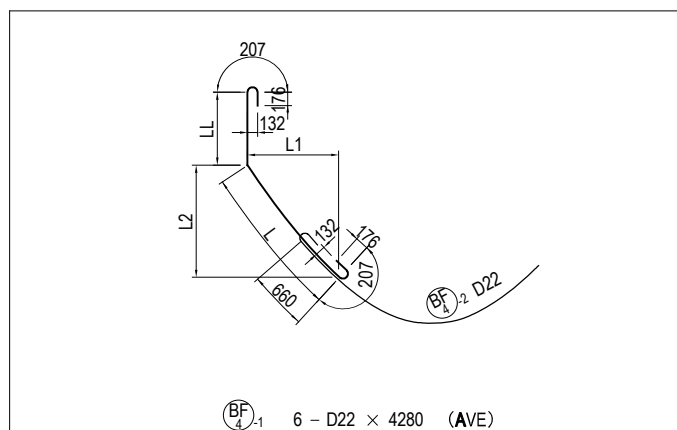
BAR ARRANGEMENT OF P13 PIER (23) S=1:100 BEAM



| MARKS | DIA. | NOS. OF BARS | LENGTH L | LENGTH L1 | LENGTH L2 | LENGTH L3 | LENGTH LL | LENGTH W | TOTAL LENGTH ΣL |
|---------|------|--------------|----------|-----------|-----------|-----------|-----------|----------|-----------------|
| BF3-1 1 | D22 | 2 | 6817 | 5941 | 1613 | 1319 | 2337 | 6272 | 9920 |
| 2 | " | 2 | 5838 | 5315 | 1177 | 946 | 2378 | 5632 | 8982 |
| 3 | " | 2 | 4681 | 4439 | 814 | 485 | 2280 | 4732 | 7727 |
| 4 | " | 2 | 3485 | 3383 | 501 | 212 | 2321 | 3982 | 6572 |
| AVE | | 8 | 5205 | | | | 2329 | | 8300 |

| MARKS | DIA. | NOS. OF BARS | LENGTH L | LENGTH L1 | LENGTH L2 | LENGTH LL | TOTAL LENGTH ΣL |
|---------|------|--------------|----------|-----------|-----------|-----------|-----------------|
| BF3-2 1 | D22 | 2 | 1155 | 825 | 805 | 2241 | 4162 |
| 2 | " | 2 | 1074 | 634 | 864 | 2344 | 4184 |
| 3 | " | 2 | 1002 | 907 | 421 | 2446 | 4214 |
| 4 | " | 2 | 1304 | 1240 | 391 | 2375 | 4445 |
| AVE | | 8 | 1134 | | | 2352 | 4251 |

| MARKS | DIA. | NOS. OF BARS | LENGTH L | LENGTH L1 | TOTAL LENGTH ΣL |
|-------|------|--------------|----------|-----------|-----------------|
| BF5 1 | D22 | 4 | 1833 | 3005 | 2599 |
| 2 | " | 4 | 2139 | 3617 | 2905 |
| 3 | " | 4 | 2212 | 3763 | 2978 |
| 4 | " | 4 | 1972 | 3284 | 2738 |
| 5 | " | 4 | 1741 | 2822 | 2507 |
| 6 | " | 4 | 2030 | 3400 | 2796 |
| 7 | " | 4 | 2099 | 3538 | 2865 |
| 8 | " | 4 | 1873 | 3085 | 2639 |
| 9 | " | 4 | 1676 | 2691 | 2442 |
| 10 | " | 4 | 1953 | 3246 | 2719 |
| 11 | " | 4 | 2020 | 3379 | 2786 |
| 12 | " | 4 | 1803 | 2945 | 2569 |
| 13 | " | 4 | 1844 | 3028 | 2610 |
| 14 | " | 4 | 1869 | 3077 | 2635 |
| 15 | " | 4 | 1774 | 2888 | 2540 |
| 16 | " | 4 | 1798 | 2936 | 2564 |
| 17 | " | 4 | 1707 | 2754 | 2473 |
| 18 | " | 4 | 1731 | 2801 | 2497 |
| 19 | " | 4 | 1645 | 2629 | 2411 |
| 20 | " | 4 | 1665 | 2670 | 2431 |
| AVE | | 80 | 1869 | | 2635 |



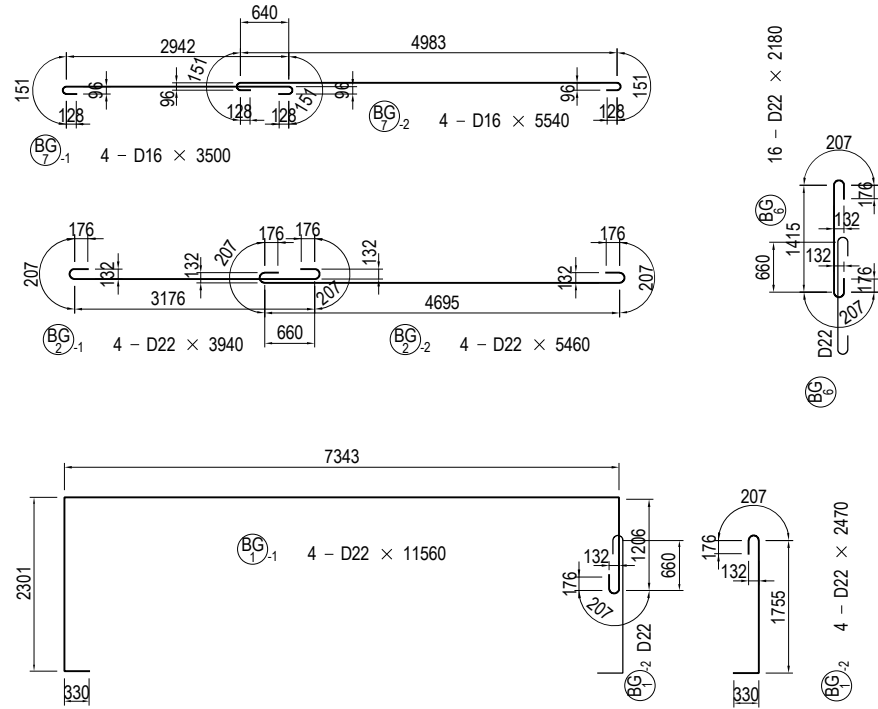
| MARKS | DIA. | NOS. OF BARS | LENGTH L | LENGTH L1 | LENGTH L2 | LENGTH LL | TOTAL LENGTH ΣL |
|---------|------|--------------|----------|-----------|-----------|-----------|-----------------|
| BF4-1 1 | D22 | 2 | 1039 | 802 | 658 | 2350 | 4155 |
| 2 | " | 2 | 1064 | 928 | 517 | 2389 | 4219 |
| 3 | " | 2 | 1418 | 1300 | 556 | 2267 | 4451 |
| AVE | | 6 | 1174 | | | 2335 | 4275 |

| MARKS | DIA. | NOS. OF BARS | LENGTH L | LENGTH L1 | LENGTH L2 | LENGTH L3 | LENGTH LL | LENGTH W | TOTAL LENGTH ΣL |
|---------|------|--------------|----------|-----------|-----------|-----------|-----------|----------|-----------------|
| BF4-2 1 | D22 | 2 | 6361 | 5675 | 1102 | 1420 | 2291 | 5952 | 9418 |
| 2 | " | 2 | 4641 | 4393 | 629 | 676 | 2563 | 4731 | 7970 |
| 3 | " | 2 | 4066 | 3906 | 346 | 624 | 2331 | 4582 | 7163 |
| AVE | | 6 | 5023 | | | | 2395 | | 8184 |

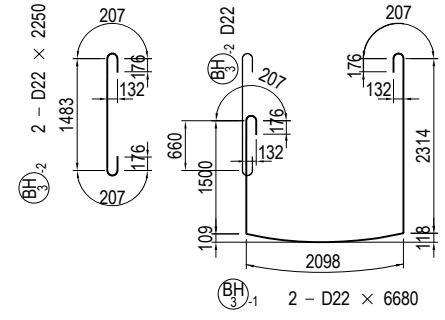
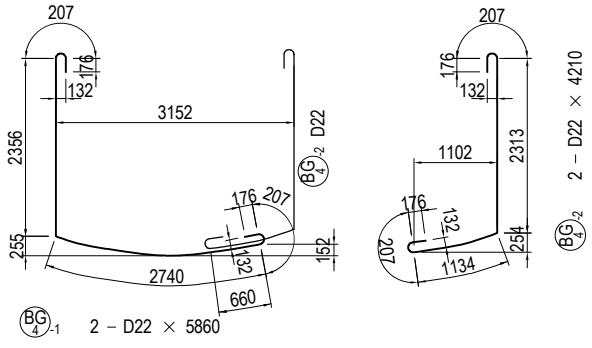
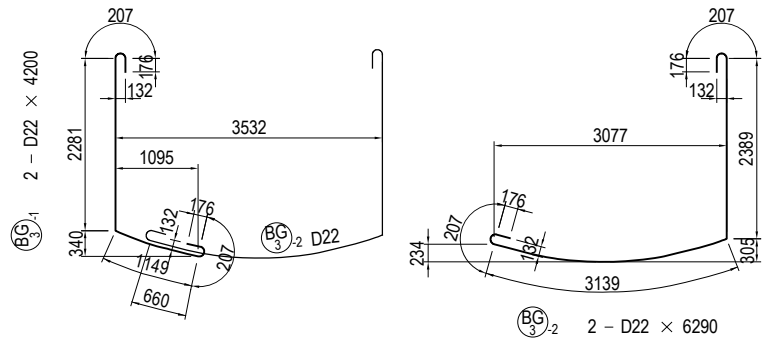
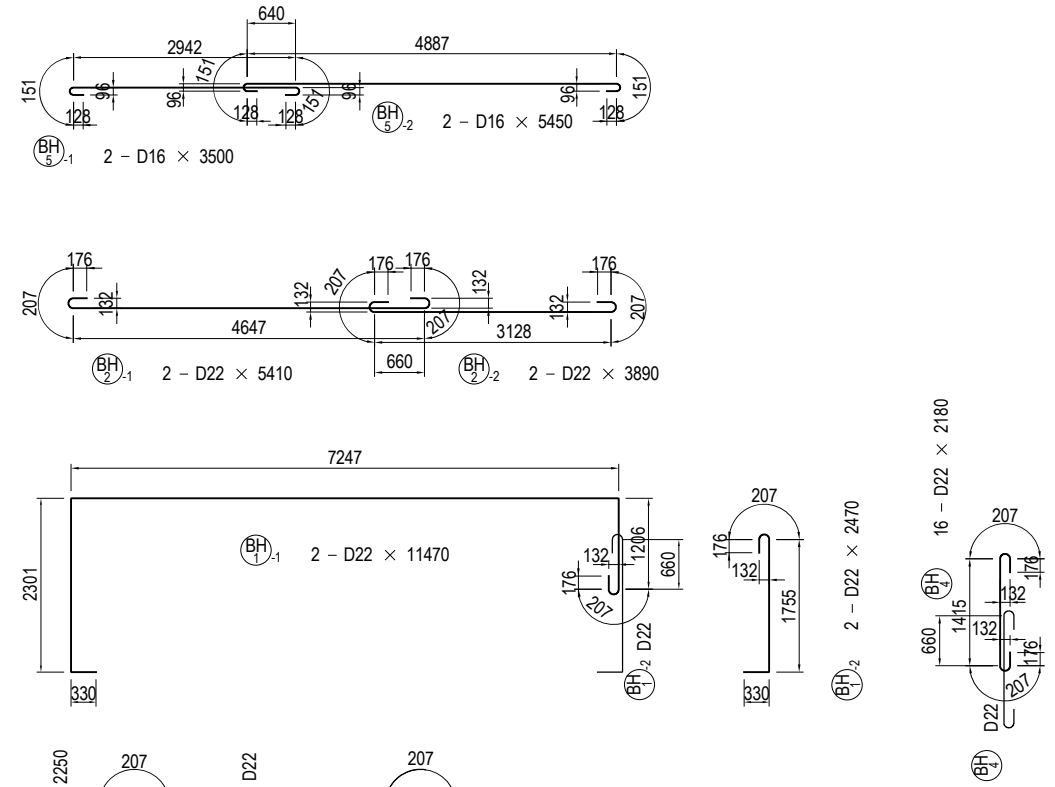
USE MATERIALS

| BEAM-COLUMN | CONCRETE | BAR |
|-------------|----------------------------------------|-------|
| | σ _{ck} = 30 N/mm ² | SD345 |

BAR ARRANGEMENT OF P13 PIER (24) S=1:100 BEAM



| BG5 16 - D22 × 2340 (AVE) | | | | | |
|---------------------------|------|--------------|----------|-----------|-----------------|
| MARKS | DIA. | NOS. OF BARS | LENGTH L | LENGTH L1 | TOTAL LENGTH ΣL |
| BG5 1 | D22 | 4 | 1583 | 2505 | 2349 |
| 2 | " | 4 | 1603 | 2545 | 2369 |
| 3 | " | 4 | 1541 | 2422 | 2307 |
| 4 | " | 4 | 1562 | 2464 | 2328 |
| AVE | | 16 | 1572 | | 2338 |



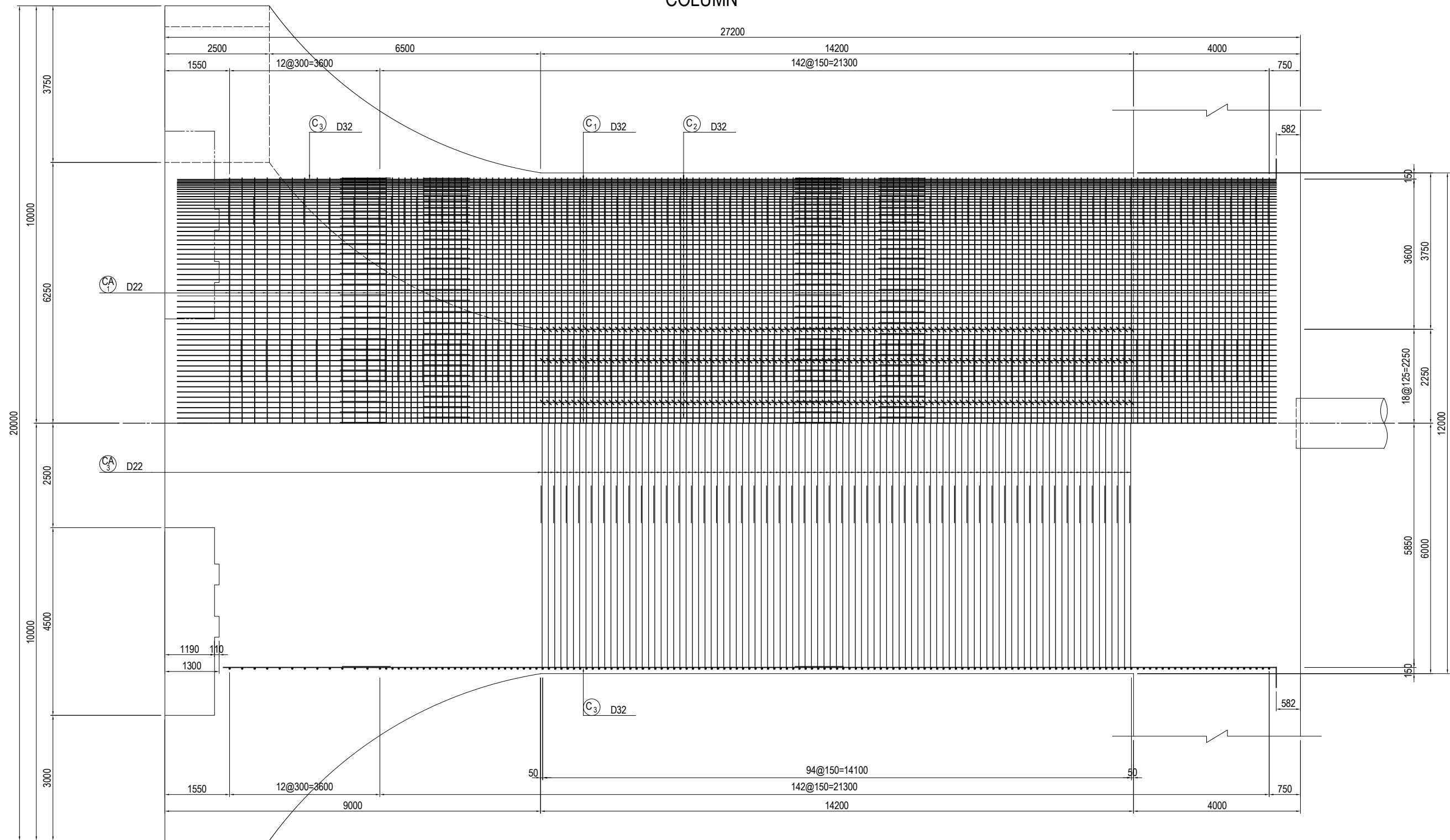
USE MATERIALS

| | CONCRETE | BAR |
|-------------|-----------------------------------|-------|
| BEAM-COLUMN | $\sigma_{ck} = 30 \text{ N/mm}^2$ | SD345 |

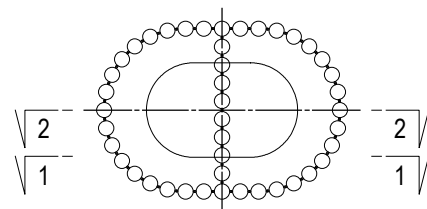
BAR ARRANGEMENT OF P13 PIER (25) S=1:100 COLUMN

FRONT ELEVATION
1-1

SECTION
2-2



MARKING DIAGRAM

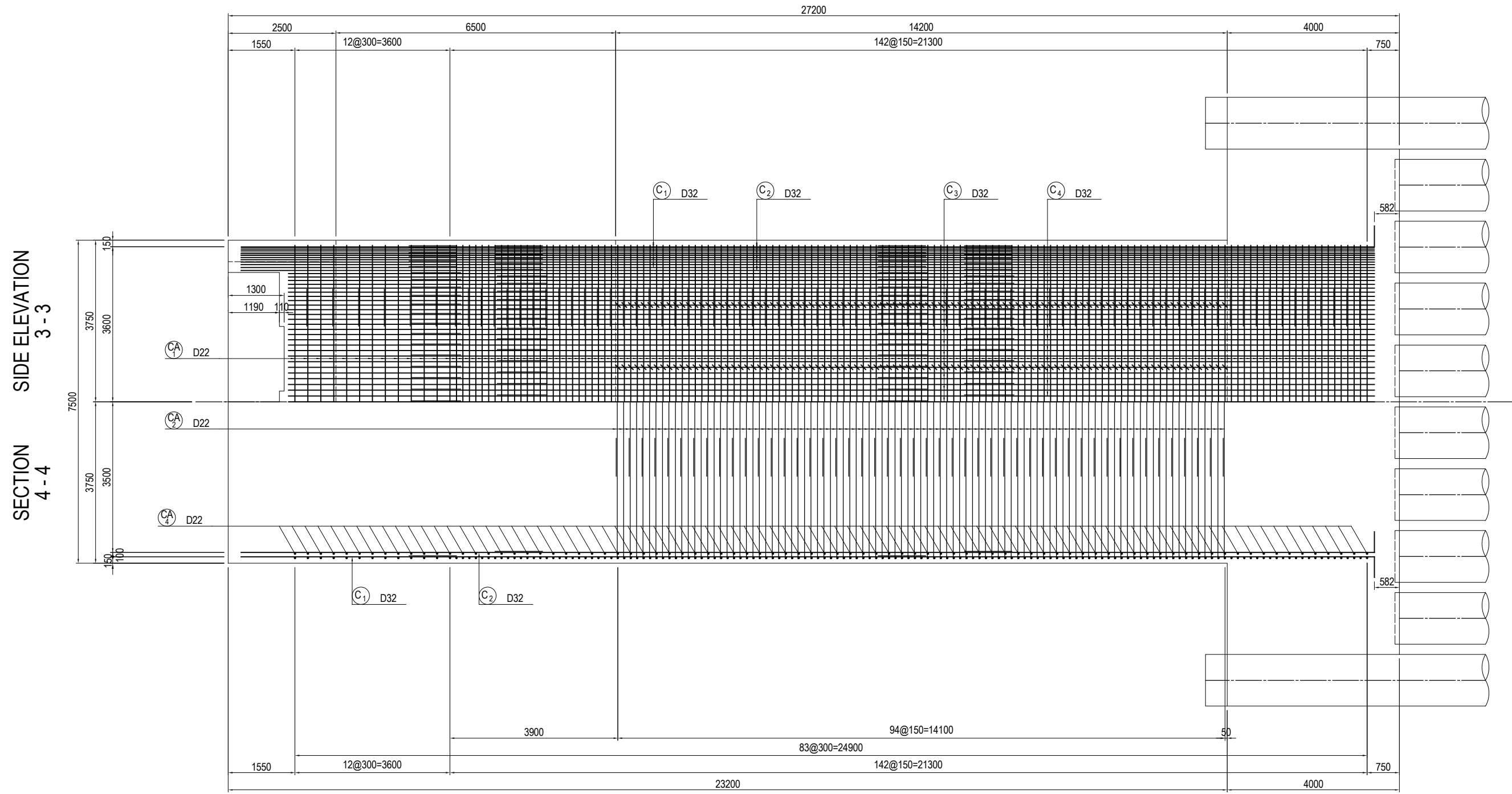


USE MATERIALS

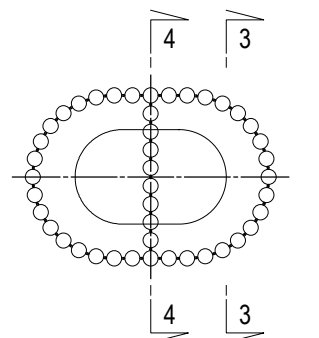
| | CONCRETE | BAR |
|-------------|-----------------------------------|-------|
| BEAM-COLUMN | $\sigma_{ck} = 30 \text{ N/mm}^2$ | SD345 |

| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|---------------------------------------------------|---------------------------------------|--------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE BAR ARRANGEMENT OF P13 PIER (25) | PACKAGE 1 DWG No. P1-CS-2327 | |
| | | | | PREPARED BY | S. TOKUMARU | | | | 27. Nov.2017 |
| | | | | CHECKED BY | T. HAYAKAWA | | | | 28. Nov.2017 |
| | | | | APPROVED BY | Y. SANO | | | | 29. Nov.2017 |

BAR ARRANGEMENT OF P13 PIER (26) S=1:100 COLUMN



MARKING DIAGRAM



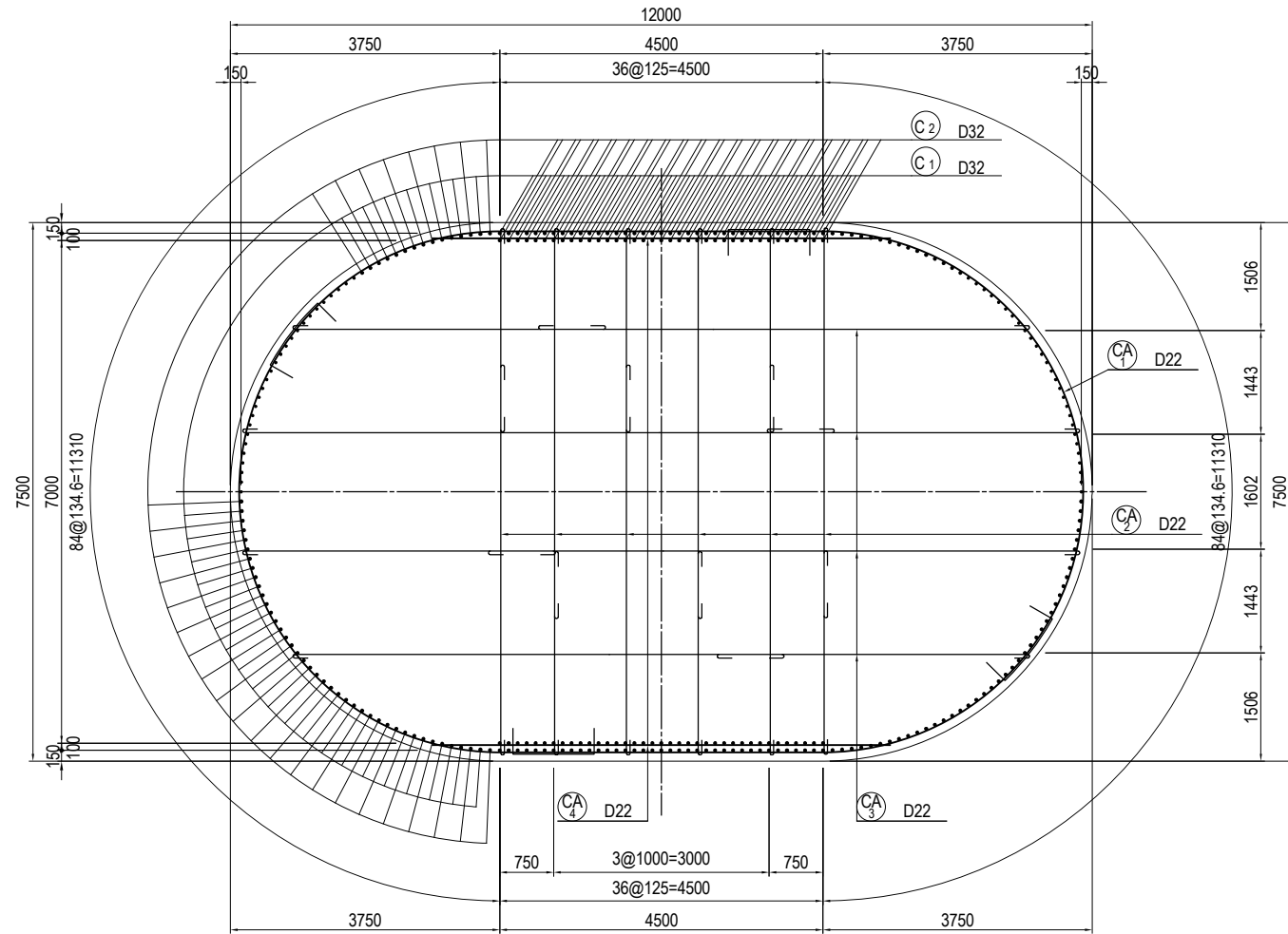
USE MATERIALS

| | CONCRETE | BAR |
|-------------|-----------------------------------|-------|
| BEAM-COLUMN | $\sigma_{ck} = 30 \text{ N/mm}^2$ | SD345 |

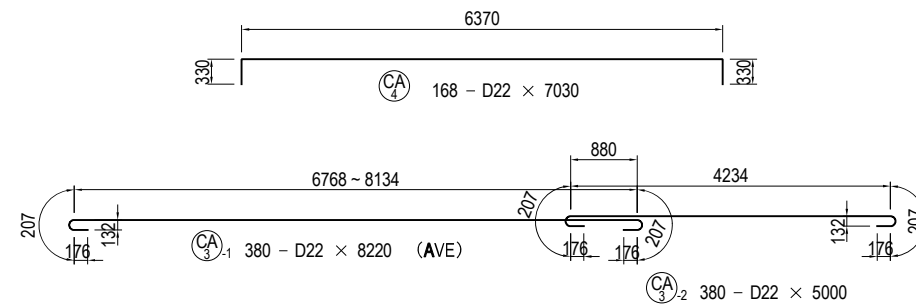
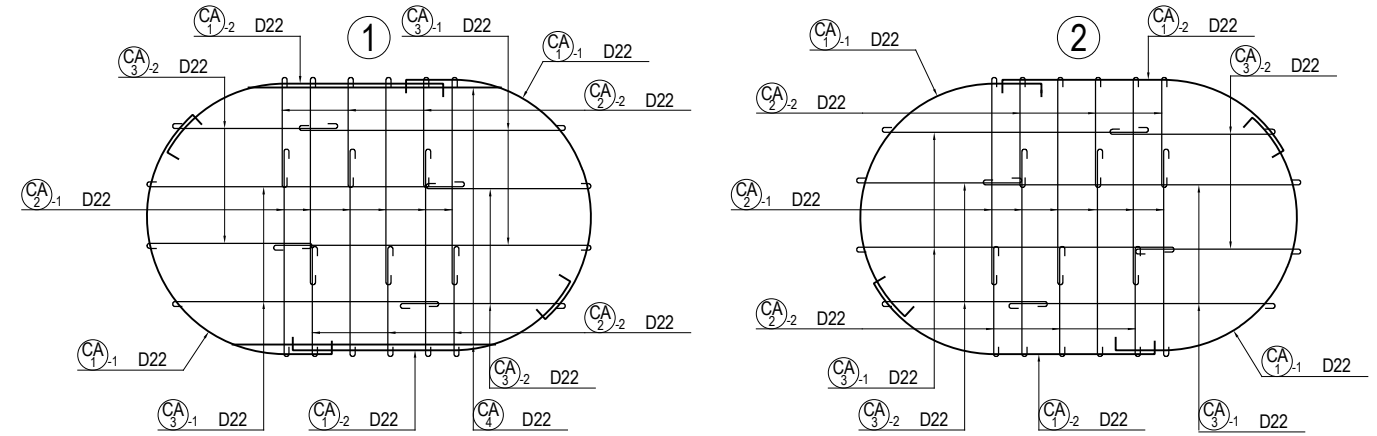
| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|----------------------------------------------------------|---------------|------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE BAR ARRANGEMENT OF P13 PIER (26) | PACKAGE | |
| | | | | PREPARED BY | S. TOKUMARU | | | 27. Nov. 2017 | 1 |
| | | | | CHECKED BY | T. HAYAKAWA | | | 28. Nov. 2017 | DWG No. |
| | | | | APPROVED BY | Y. SANO | | | 29. Nov. 2017 | P1-CS-2328 |

BAR ARRANGEMENT OF P13 PIER (27) S=1:100 COLUMN

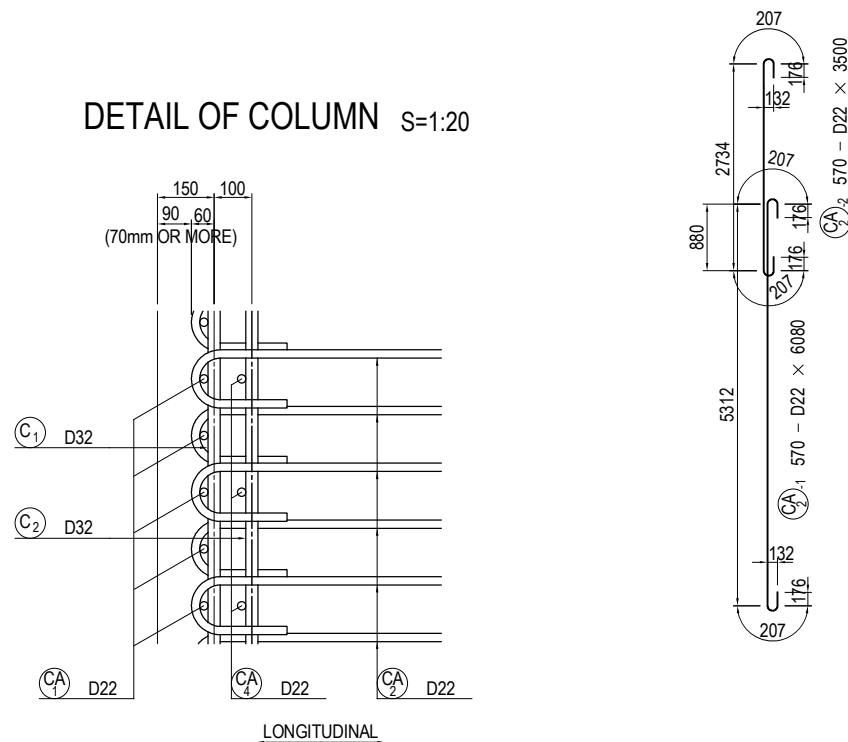
**PLAN
5-5**



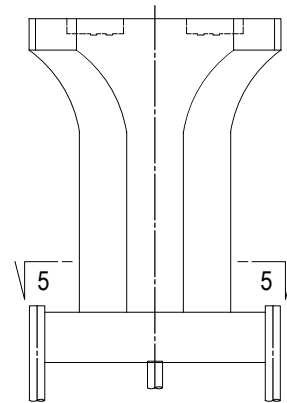
**ASSEMBLY DRAWING OF HOOP
(c.t.c. 150)**



DETAIL OF COLUMN S=1:20



MARKING DIAGRAM



LAP LENGTH LIST OF HOOP

| DIA. | R | LAP LENGTH (40φ) | L |
|------|----|------------------|------|
| D13 | 39 | 520 | 598 |
| D16 | 48 | 640 | 736 |
| D19 | 57 | 760 | 874 |
| D22 | 66 | 880 | 1012 |
| D25 | 75 | 1000 | 1150 |
| D29 | 87 | 1160 | 1334 |
| D32 | 96 | 1280 | 1472 |

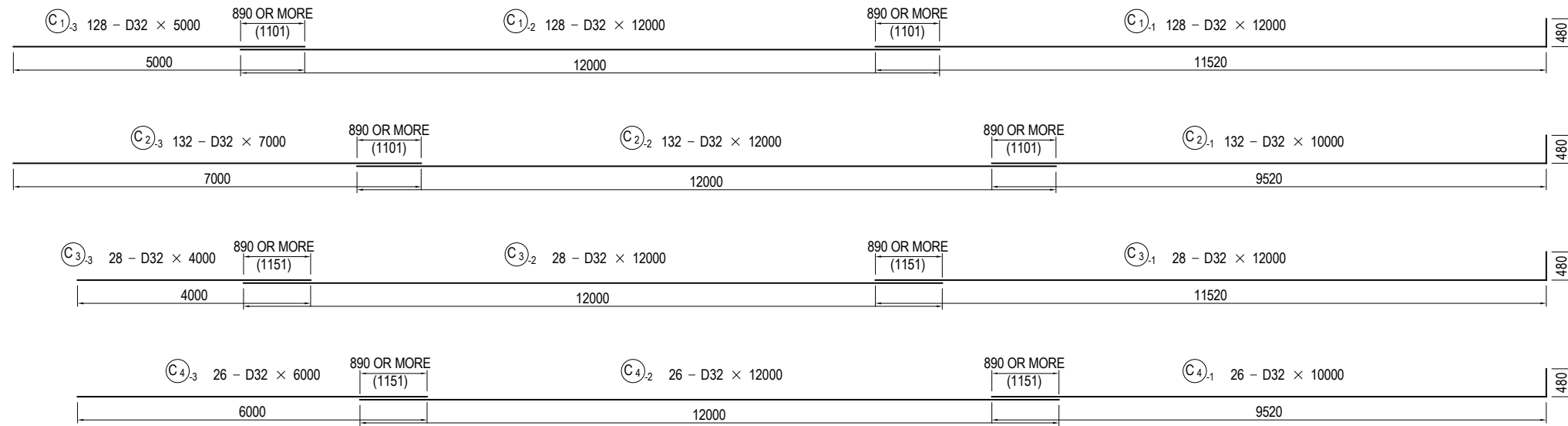
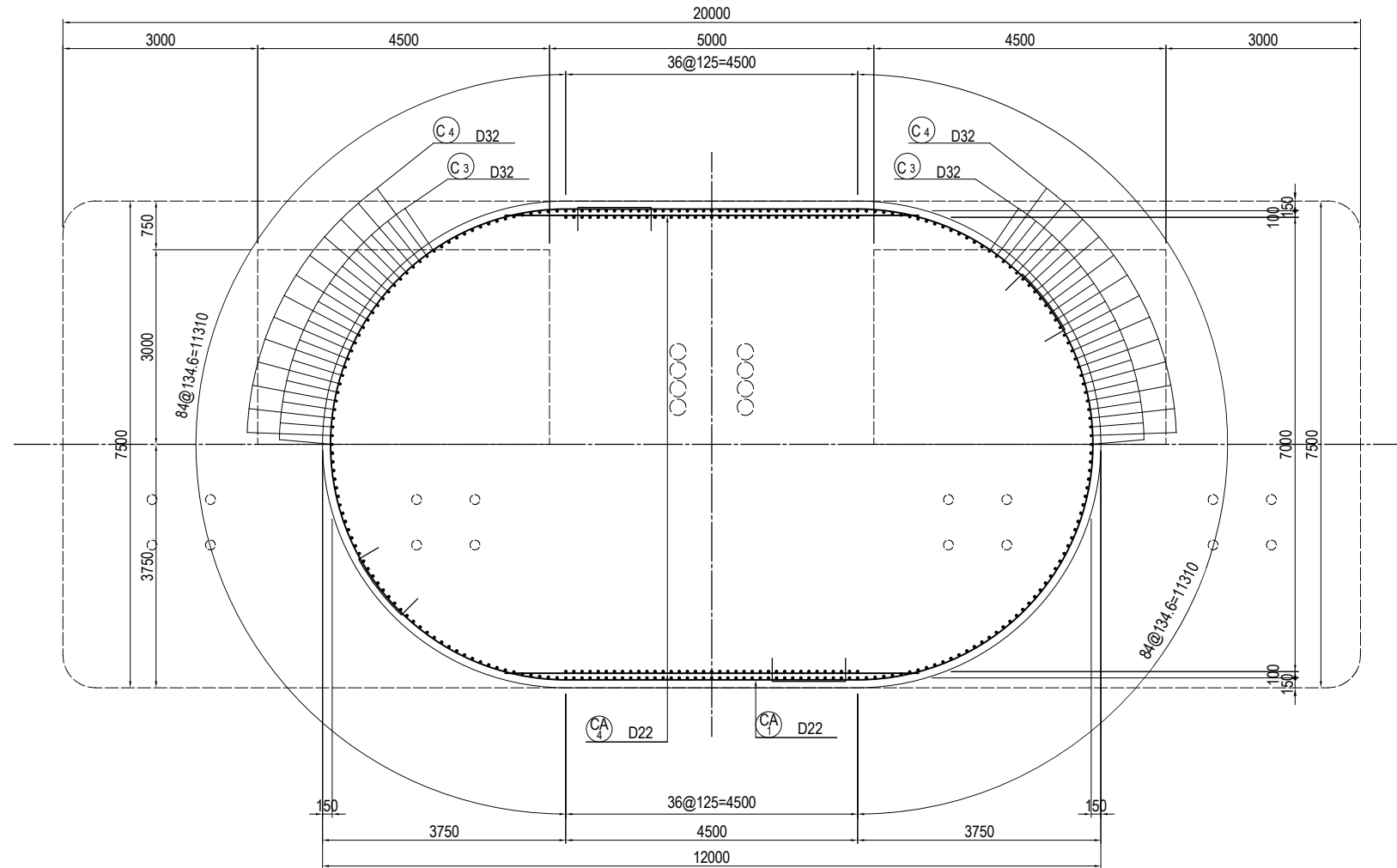
USE MATERIALS

| | CONCRETE | BAR |
|-------------|-----------------------------------|-------|
| BEAM-COLUMN | $\sigma_{ck} = 30 \text{ N/mm}^2$ | SD345 |

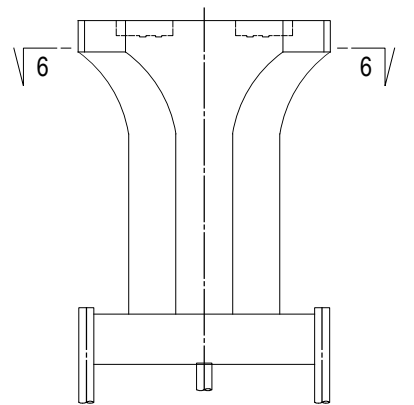
BAR ARRANGEMENT OF P13 PIER (28) S=1:100

COLUMN

PLAN
6 - 6



MARKING DIAGRAM



USE MATERIALS

| | CONCRETE | BAR |
|-------------|-----------------------------------|-------|
| BEAM-COLUMN | $\sigma_{ck} = 30 \text{ N/mm}^2$ | SD345 |

| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|---------------------------------------------------|---------------|------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE BAR ARRANGEMENT OF P13 PIER (28) | PACKAGE | |
| | | | | PREPARED BY | S. TOKUMARU | | | 27. Nov. 2017 | 1 |
| | | | | CHECKED BY | T. HAYAKAWA | | | 28. Nov. 2017 | DWG No. |
| | | | | APPROVED BY | Y. SANO | | | 29. Nov. 2017 | P1-CS-2330 |

BAR ARRANGEMENT OF P13 PIER (29) NOT TO SCALE

BAR SCHEDULE

| MARKS | DIA. | LENGTH (mm) | NOS. OF BARS | UNIT WEIGHT (kg/m) | WEIGHT/EA. (kg) | WEIGHT (kg) | REMARKS |
|-------|------|-------------|--------------|--------------------|-----------------|-------------|---------|
| B 1-1 | D29 | 11500 | 13 | 5.04 | 57.96 | 753 | ┌ |
| 1-2 | " | 7500 | 13 | " | 37.80 | 491 | ┌ |
| 1-3 | " | 7000 | 13 | " | 35.28 | 459 | ┌ |
| 2-1 | " | 9000 | 12 | " | 45.36 | 544 | ┌ |
| 2-2 | " | 8000 | 6 | " | 40.32 | 242 | ┌ |
| 3-1 | " | 12000 | 12 | " | 60.48 | 726 | ┌ |
| 3-2 | " | 9500 | 12 | " | 47.88 | 575 | ┌ |
| 4-1 | " | 9500 | 25 | " | 47.88 | 1197 | ┌ |
| 4-2 | " | 12000 | 25 | " | 60.48 | 1512 | ┌ |
| 5-1 | " | 11500 | 2 | " | 57.96 | 116 | ┌ |
| 5-2 | " | 7460 | 2 | " | 37.60 | 75 | ┌ (AVE) |
| 5-3 | " | 7000 | 2 | " | 35.28 | 71 | ┌ |
| 6-1 | " | 9460 | 2 | " | 47.68 | 95 | ┌ (AVE) |
| 6-2 | " | 12000 | 2 | " | 60.48 | 121 | ┌ |
| 7-1 | " | 7000 | 2 | " | 35.28 | 71 | ┌ |
| 7-2 | " | 7440 | 2 | " | 37.50 | 75 | ┌ (AVE) |
| 7-3 | " | 11500 | 2 | " | 57.96 | 116 | ┌ |
| 8-1 | " | 9500 | 1 | " | 47.88 | 48 | ┌ |
| 8-2 | " | 12000 | 1 | " | 60.48 | 60 | ┌ |
| 9-1 | " | 12000 | 2 | " | 60.48 | 121 | ┌ |
| 9-2 | " | 9440 | 2 | " | 47.58 | 95 | ┌ (AVE) |
| 10-1 | " | 10500 | 2 | " | 52.92 | 106 | ┌ |
| 10-2 | " | 6500 | 2 | " | 32.76 | 66 | ┌ |
| 10-3 | " | 8500 | 2 | " | 42.84 | 86 | ┌ |
| 11-1 | " | 11500 | 2 | " | 57.96 | 116 | ┌ |
| 11-2 | " | 9000 | 2 | " | 45.36 | 91 | ┌ |
| 12-1 | " | 9500 | 2 | " | 47.88 | 96 | ┌ |
| 12-2 | " | 11500 | 2 | " | 57.96 | 116 | ┌ |
| 13 | " | 7500 | 22 | " | 37.80 | 832 | ┌ |
| 14 | " | 9000 | 11 | " | 45.36 | 499 | ┌ |
| 15 | " | 5670 | 10 | " | 28.58 | 286 | ┌ |
| 16 | " | 7670 | 5 | " | 38.66 | 193 | ┌ |
| 17-1 | D22 | 9790 | 12 | 3.04 | 29.76 | 357 | ┌ (AVE) |
| 17-2 | " | 5000 | 12 | " | 15.20 | 182 | ┌ |
| 17-3 | " | 11070 | 12 | " | 33.65 | 404 | ┌ (AVE) |
| 18-1 | " | 9440 | 15 | " | 28.70 | 431 | ┌ (AVE) |
| 18-2 | " | 8000 | 15 | " | 24.32 | 365 | ┌ |
| 18-3 | " | 10920 | 15 | " | 33.20 | 498 | ┌ (AVE) |
| 19-1 | " | 9850 | 7 | " | 29.94 | 210 | ┌ (AVE) |
| 19-2 | " | 8500 | 7 | " | 25.84 | 181 | ┌ |
| 19-3 | " | 11430 | 7 | " | 34.75 | 243 | ┌ (AVE) |
| 20-1 | " | 10500 | 2 | " | 31.92 | 64 | ┌ |
| 20-2 | " | 12000 | 2 | " | 36.48 | 73 | ┌ |
| 21-1 | D16 | 11500 | 14 | 1.56 | 17.94 | 251 | ┌ |
| 21-2 | " | 11000 | 14 | " | 17.16 | 240 | ┌ |
| 21-3 | " | 12000 | 28 | " | 18.72 | 524 | ┌ |
| 21-4 | " | 12000 | 14 | " | 18.72 | 262 | ┌ |

| MARKS | DIA. | LENGTH (mm) | NOS. OF BARS | UNIT WEIGHT (kg/m) | WEIGHT/EA. (kg) | WEIGHT (kg) | REMARKS |
|----------|------|-------------|--------------|--------------------|-----------------|-------------|---------|
| B 22-1 | D16 | 11500 | 2 | 1.56 | 17.94 | 36 | ┌ |
| 22-2 | " | 12000 | 1 | " | 18.72 | 19 | ┌ |
| 22-3 | " | 5500 | 1 | " | 8.58 | 9 | ┌ |
| 22-4 | " | 12000 | 1 | " | 18.72 | 19 | ┌ |
| 23-1 | " | 11010 | 12 | " | 17.18 | 206 | ┌ (AVE) |
| 23-2 | " | 9070 | 6 | " | 14.15 | 85 | ┌ (AVE) |
| 23-3 | " | 8950 | 6 | " | 13.96 | 84 | ┌ (AVE) |
| 23-4 | " | 10000 | 6 | " | 15.60 | 94 | ┌ |
| 24-1 | " | 10060 | 62 | " | 15.69 | 973 | ┌ (AVE) |
| 24-2 | " | 10300 | 62 | " | 16.07 | 996 | ┌ (AVE) |
| 25-1 | " | 11800 | 4 | " | 18.41 | 74 | ┌ (AVE) |
| 25-2 | " | 11850 | 4 | " | 18.49 | 74 | ┌ (AVE) |
| 25-3 | " | 11680 | 4 | " | 18.22 | 73 | ┌ (AVE) |
| SUBTOTAL | | | | | | 17077 | kg |
| BA 1-1 | D22 | 11150 | 25 | 3.04 | 33.90 | 848 | ┌ |
| 1-2 | " | 9270 | 25 | " | 28.18 | 705 | ┌ |
| 1-3 | " | 8040 | 25 | " | 24.44 | 611 | ┌ |
| 2-1 | " | 5460 | 25 | " | 16.60 | 415 | ┌ |
| 2-2 | " | 3940 | 25 | " | 11.98 | 300 | ┌ |
| 3-1 | " | 11670 | 50 | " | 35.48 | 1774 | ┌ |
| 3-2 | " | 9270 | 50 | " | 28.18 | 1409 | ┌ |
| 4-1 | " | 11800 | 25 | " | 35.87 | 897 | ┌ |
| 4-2 | " | 9270 | 25 | " | 28.18 | 705 | ┌ |
| 5-1 | D16 | 5540 | 25 | 1.56 | 8.64 | 216 | ┌ |
| 5-2 | " | 3500 | 25 | " | 5.46 | 137 | ┌ |
| 6-1 | " | 3500 | 25 | " | 5.46 | 137 | ┌ |
| 6-2 | " | 5380 | 25 | " | 8.39 | 210 | ┌ |
| SUBTOTAL | | | | | | 8364 | kg |
| BB 1-1 | D22 | 11410 | 8 | 3.04 | 34.69 | 278 | ┌ (AVE) |
| 1-2 | " | 10070 | 8 | " | 30.61 | 245 | ┌ (AVE) |
| 1-3 | " | 9790 | 8 | " | 29.76 | 238 | ┌ |
| 1-4 | " | 6870 | 8 | " | 20.88 | 167 | ┌ |
| 1-5 | " | 9190 | 8 | " | 27.94 | 224 | ┌ |
| 1-6 | " | 6850 | 8 | " | 20.82 | 167 | ┌ |
| 2-1 | " | 10210 | 6 | " | 31.04 | 186 | ┌ (AVE) |
| 2-2 | " | 10040 | 6 | " | 30.52 | 183 | ┌ (AVE) |
| 2-3 | " | 9970 | 6 | " | 30.31 | 182 | ┌ |
| 2-4 | " | 9210 | 6 | " | 28.00 | 168 | ┌ |
| 2-5 | " | 9310 | 6 | " | 28.30 | 170 | ┌ |
| 2-6 | " | 5500 | 6 | " | 16.72 | 100 | ┌ |
| 3-1 | " | 10830 | 6 | " | 32.92 | 198 | ┌ (AVE) |
| 3-2 | " | 9520 | 6 | " | 28.94 | 174 | ┌ (AVE) |
| 3-3 | " | 8770 | 6 | " | 26.66 | 160 | ┌ |
| 3-4 | " | 9210 | 6 | " | 28.00 | 168 | ┌ |
| 3-5 | " | 6890 | 6 | " | 20.95 | 126 | ┌ |

| MARKS | DIA. | LENGTH (mm) | NOS. OF BARS | UNIT WEIGHT (kg/m) | WEIGHT/EA. (kg) | WEIGHT (kg) | REMARKS |
|----------|------|-------------|--------------|--------------------|-----------------|-------------|---------|
| BB 4-1 | D22 | 11100 | 2 | 3.04 | 33.74 | 67 | ┌ |
| 4-2 | " | 9260 | 2 | " | 28.15 | 56 | ┌ |
| 4-3 | " | 9740 | 2 | " | 29.61 | 59 | ┌ |
| 4-4 | " | 6870 | 2 | " | 20.88 | 42 | ┌ |
| 4-5 | " | 8570 | 2 | " | 26.05 | 52 | ┌ |
| 5-1 | " | 10610 | 4 | " | 32.25 | 129 | ┌ (AVE) |
| 5-2 | " | 11670 | 4 | " | 35.48 | 142 | ┌ (AVE) |
| 5-3 | " | 9740 | 4 | " | 29.61 | 118 | ┌ |
| 5-4 | " | 6870 | 4 | " | 20.88 | 84 | ┌ |
| 5-5 | " | 5670 | 4 | " | 17.24 | 69 | ┌ |
| 6-1 | " | 8150 | 4 | " | 24.78 | 99 | ┌ (AVE) |
| 6-2 | " | 6690 | 4 | " | 20.34 | 81 | ┌ (AVE) |
| 6-3 | " | 10480 | 4 | " | 31.86 | 127 | ┌ (AVE) |
| 6-4 | " | 9210 | 4 | " | 28.00 | 112 | ┌ |
| 6-5 | " | 8750 | 4 | " | 26.60 | 106 | ┌ (AVE) |
| 7-1 | " | 10000 | 2 | " | 30.40 | 61 | ┌ |
| 7-2 | " | 11060 | 2 | " | 33.62 | 67 | ┌ |
| 7-3 | " | 9740 | 2 | " | 29.61 | 59 | ┌ |
| 7-4 | " | 6870 | 2 | " | 20.88 | 42 | ┌ |
| 7-5 | " | 5670 | 2 | " | 17.24 | 34 | ┌ |
| 8-1 | " | 11820 | 2 | " | 35.93 | 72 | ┌ |
| 8-2 | " | 7960 | 2 | " | 24.20 | 48 | ┌ |
| 8-3 | " | 9740 | 2 | " | 29.61 | 59 | ┌ |
| 8-4 | " | 6870 | 2 | " | 20.88 | 42 | ┌ |
| 8-5 | " | 5670 | 2 | " | 17.24 | 34 | ┌ |
| 9-1 | " | 12000 | 26 | " | 36.48 | 948 | ┌ |
| 9-2 | " | 9210 | 26 | " | 28.00 | 728 | ┌ |
| 10-1 | " | 11170 | 12 | " | 33.96 | 408 | ┌ |
| 10-2 | " | 5500 | 12 | " | 16.72 | 201 | ┌ |
| 11-1 | " | 12000 | 10 | " | 36.48 | 365 | ┌ |
| 11-2 | " | 4130 | 10 | " | 12.56 | 126 | ┌ |
| 12 | " | 2990 | 28 | " | 9.09 | 255 | ┌ (AVE) |
| 13 | " | 4640 | 20 | " | 14.11 | 282 | ┌ (AVE) |
| 14 | " | 5430 | 12 | " | 16.51 | 198 | ┌ |
| 15 | " | 4300 | 44 | " | 13.07 | 575 | ┌ |
| 16 | " | 3820 | 16 | " | 11.61 | 186 | ┌ (AVE) |
| 17 | D16 | 2640 | 68 | 1.56 | 4.12 | 280 | ┌ |
| 18-1 | " | 5380 | 20 | " | 8.39 | 168 | ┌ |
| 18-2 | " | 3500 | 20 | " | 5.46 | 109 | ┌ |
| 19 | " | 1070 | 34 | " | 1.67 | 57 | ┌ |
| SUBTOTAL | | | | | | 9881 | kg |

USE MATERIALS

| | CONCRETE | BAR |
|-------------|----------------------------------------|-------|
| BEAM-COLUMN | σ _{ck} = 30 N/mm ² | SD345 |

| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|----------------------------------------------------------|---------------------------------------|---------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE BAR ARRANGEMENT OF P13 PIER (29) | PACKAGE 1 DWG No. P1-CS-2331 | |
| | | | | PREPARED BY | S. TOKUMARU | | | | 27. Nov. 2017 |
| | | | | CHECKED BY | T. HAYAKAWA | | | | 28. Nov. 2017 |
| | | | | APPROVED BY | Y. SANO | | | | 29. Nov. 2017 |

BAR ARRANGEMENT OF P13 PIER (30) NOT TO SCALE

BAR SCHEDULE

| MARKS | DIA. | LENGTH (mm) | NOS. OF BARS | UNIT WEIGHT (kg/m) | WEIGHT/EA. (kg) | WEIGHT (kg) | REMARKS |
|----------|------|-------------|--------------|--------------------|-----------------|-------------|---------|
| BC 1-1 | D22 | 8910 | 4 | 3.04 | 27.09 | 108 | ⤴ (AVE) |
| 1-2 | " | 9920 | 4 | " | 30.16 | 121 | ⤴ (AVE) |
| 1-3 | " | 4560 | 8 | " | 13.86 | 111 | ⤴ (AVE) |
| 1-4 | " | 9940 | 4 | " | 30.22 | 121 | ⤴ (AVE) |
| 2-1 | " | 6800 | 2 | " | 20.67 | 41 | ⤴ |
| 2-2 | " | 10330 | 2 | " | 31.40 | 63 | ⤴ |
| 2-3 | " | 9740 | 2 | " | 29.61 | 59 | ⤴ |
| 2-4 | " | 5350 | 2 | " | 16.26 | 33 | ⤴ |
| 2-5 | " | 5670 | 2 | " | 17.24 | 34 | ⤴ |
| 3 | " | 4090 | 24 | " | 12.43 | 298 | ⤴ (AVE) |
| 4 | " | 2830 | 36 | " | 8.60 | 310 | ⤴ (AVE) |
| 5 | D16 | 2640 | 12 | 1.56 | 4.12 | 49 | ⤴ |
| 6-1 | " | 5380 | 6 | " | 8.39 | 50 | ⤴ |
| 6-2 | " | 3500 | 6 | " | 5.46 | 33 | " |
| 7 | " | 1070 | 6 | " | 1.67 | 10 | ⤴ |
| SUBTOTAL | | | | | | 1441 | kg |
| BD 1 | D22 | 8850 | 4 | 3.04 | 26.90 | 108 | ⤴ |
| 2 | " | 5840 | 4 | " | 17.75 | 71 | ⤴ |
| 3-1 | " | 3940 | 4 | " | 11.98 | 48 | ⤴ |
| 3-2 | " | 5460 | 4 | " | 16.60 | 66 | " |
| 4-1 | " | 7260 | 2 | " | 22.07 | 44 | ⤴ |
| 4-2 | " | 10860 | 2 | " | 33.01 | 66 | ⤴ |
| 5-1 | " | 9860 | 2 | " | 29.97 | 60 | ⤴ |
| 5-2 | " | 7510 | 2 | " | 22.83 | 46 | ⤴ |
| 6 | " | 3650 | 16 | " | 11.10 | 178 | ⤴ (AVE) |
| 7 | " | 2670 | 16 | " | 8.12 | 130 | ⤴ (AVE) |
| 8 | D16 | 2640 | 8 | 1.56 | 4.12 | 33 | ⤴ |
| 9 | " | 1070 | 4 | " | 1.67 | 7 | ⤴ |
| SUBTOTAL | | | | | | 857 | kg |
| BE 1-1 | D22 | 11560 | 10 | 3.04 | 35.14 | 351 | ⤴ |
| 1-2 | " | 2470 | 10 | " | 7.51 | 75 | ⤴ |
| 2-1 | " | 3940 | 10 | " | 11.98 | 120 | ⤴ |
| 2-2 | " | 5460 | 10 | " | 16.60 | 166 | " |
| 3-1 | " | 5270 | 6 | " | 16.02 | 96 | ⤴ (AVE) |
| 3-2 | " | 10360 | 6 | " | 31.49 | 189 | ⤴ (AVE) |
| 4-1 | " | 10210 | 4 | " | 31.04 | 124 | ⤴ (AVE) |
| 4-2 | " | 5240 | 4 | " | 15.93 | 64 | ⤴ (AVE) |
| 5 | " | 3170 | 80 | " | 9.64 | 771 | ⤴ (AVE) |
| 6-1 | D16 | 5540 | 10 | 1.56 | 8.64 | 86 | ⤴ |
| 6-2 | " | 3500 | 10 | " | 5.46 | 55 | " |
| SUBTOTAL | | | | | | 2097 | kg |
| BF 1-1 | D22 | 11560 | 14 | 3.04 | 35.14 | 492 | ⤴ |
| 1-2 | " | 2470 | 14 | " | 7.51 | 105 | ⤴ |
| 2-1 | " | 3940 | 14 | " | 11.98 | 168 | ⤴ |
| 2-2 | " | 5460 | 14 | " | 16.60 | 232 | " |
| 3-1 | " | 8300 | 8 | " | 25.23 | 202 | ⤴ (AVE) |
| 3-2 | " | 4250 | 8 | " | 12.92 | 103 | ⤴ (AVE) |

| MARKS | DIA. | LENGTH (mm) | NOS. OF BARS | UNIT WEIGHT (kg/m) | WEIGHT/EA. (kg) | WEIGHT (kg) | REMARKS |
|----------|------|-------------|--------------|--------------------|-----------------|-------------|---------|
| BF 4-1 | D22 | 4280 | 6 | 3.04 | 13.01 | 78 | ⤴ (AVE) |
| 4-2 | " | 8180 | 6 | " | 24.87 | 149 | ⤴ (AVE) |
| 5 | " | 2640 | 80 | " | 8.03 | 642 | ⤴ (AVE) |
| 6 | " | 2180 | 32 | " | 6.63 | 212 | " |
| 7-1 | D16 | 3500 | 14 | 1.56 | 5.46 | 76 | ⤴ |
| 7-2 | " | 5540 | 14 | " | 8.64 | 121 | " |
| SUBTOTAL | | | | | | 2580 | kg |
| BG 1-1 | D22 | 11560 | 4 | 3.04 | 35.14 | 141 | ⤴ |
| 1-2 | " | 2470 | 4 | " | 7.51 | 30 | ⤴ |
| 2-1 | " | 3940 | 4 | " | 11.98 | 48 | ⤴ |
| 2-2 | " | 5460 | 4 | " | 16.60 | 66 | " |
| 3-1 | " | 4200 | 2 | " | 12.77 | 26 | ⤴ |
| 3-2 | " | 6290 | 2 | " | 19.12 | 38 | ⤴ |
| 4-1 | " | 5860 | 2 | " | 17.81 | 36 | ⤴ |
| 4-2 | " | 4210 | 2 | " | 12.80 | 26 | ⤴ |
| 5 | " | 2340 | 16 | " | 7.11 | 114 | ⤴ (AVE) |
| 6 | " | 2180 | 16 | " | 6.63 | 106 | " |
| 7-1 | D16 | 3500 | 4 | 1.56 | 5.46 | 22 | ⤴ |
| 7-2 | " | 5540 | 4 | " | 8.64 | 35 | " |
| SUBTOTAL | | | | | | 688 | kg |
| BH 1-1 | D22 | 11470 | 2 | 3.04 | 34.87 | 70 | ⤴ |
| 1-2 | " | 2470 | 2 | " | 7.51 | 15 | ⤴ |
| 2-1 | " | 5410 | 2 | " | 16.45 | 33 | ⤴ |
| 2-2 | " | 3890 | 2 | " | 11.83 | 24 | " |
| 3-1 | " | 6680 | 2 | " | 20.31 | 41 | ⤴ |
| 3-2 | " | 2250 | 2 | " | 6.84 | 14 | ⤴ |
| 4 | " | 2180 | 16 | " | 6.63 | 106 | " |
| 5-1 | D16 | 3500 | 2 | 1.56 | 5.46 | 11 | ⤴ |
| 5-2 | " | 5450 | 2 | " | 8.50 | 17 | " |
| SUBTOTAL | | | | | | 331 | kg |
| P 1 | D16 | 4500 | 42 | 1.56 | 7.02 | 295 | ⤴ |
| 2 | " | 6000 | 26 | " | 9.36 | 243 | " |
| 3 | " | 3690 | 16 | " | 5.76 | 92 | ⤴ |
| 4 | " | 4750 | 16 | " | 7.41 | 119 | ⤴ |
| SUBTOTAL | | | | | | 749 | kg |
| HA 1 | D16 | 2840 | 64 | 1.56 | 4.43 | 284 | ⤴ |
| 2 | " | 3040 | 56 | " | 4.74 | 265 | " |
| 3 | " | 6930 | 4 | " | 10.81 | 43 | ⤴ |
| SUBTOTAL | | | | | | 592 | kg |
| HB 1 | D16 | 2300 | 12 | 1.56 | 3.59 | 43 | ⤴ |
| 2 | " | 2480 | 7 | " | 3.87 | 27 | " |
| 3 | " | 6330 | 1 | " | 9.87 | 10 | ⤴ |
| SUBTOTAL | | | | | | 80 | kg |

| MARKS | DIA. | LENGTH (mm) | NOS. OF BARS | UNIT WEIGHT (kg/m) | WEIGHT/EA. (kg) | WEIGHT (kg) | REMARKS |
|----------|------|-------------|--------------|--------------------|-----------------|-------------|---------|
| C 1-1 | D32 | 12000 | 128 | 6.23 | 74.76 | 9569 | ⤴ |
| 1-2 | " | 12000 | 128 | " | 74.76 | 9569 | ⤴ |
| 1-3 | " | 5000 | 128 | " | 31.15 | 3987 | " |
| 2-1 | " | 10000 | 132 | " | 62.30 | 8224 | ⤴ |
| 2-2 | " | 12000 | 132 | " | 74.76 | 9868 | ⤴ |
| 2-3 | " | 7000 | 132 | " | 43.61 | 5757 | " |
| 3-1 | " | 12000 | 28 | " | 74.76 | 2093 | ⤴ |
| 3-2 | " | 12000 | 28 | " | 74.76 | 2093 | ⤴ |
| 3-3 | " | 4000 | 28 | " | 24.92 | 698 | " |
| 4-1 | " | 10000 | 26 | " | 62.30 | 1620 | ⤴ |
| 4-2 | " | 12000 | 26 | " | 74.76 | 1944 | ⤴ |
| 4-3 | " | 6000 | 26 | " | 37.38 | 972 | " |
| SUBTOTAL | | | | | | 56394 | kg |
| CA 1-1 | D22 | 10590 | 310 | 3.04 | 32.19 | 9979 | ⤴ |
| 1-2 | " | 8840 | 310 | " | 26.87 | 8330 | ⤴ |
| 2-1 | " | 6080 | 570 | " | 18.48 | 10534 | ⤴ |
| 2-2 | " | 3500 | 570 | " | 10.64 | 6065 | " |
| 3-1 | " | 8220 | 380 | " | 24.99 | 9496 | ⤴ (AVE) |
| 3-2 | " | 5000 | 380 | " | 15.20 | 5776 | " |
| 4 | " | 7030 | 168 | " | 21.37 | 3590 | ⤴ |
| SUBTOTAL | | | | | | 53770 | kg |
| | | | | | D32 | 56394 | kg |
| | | | | | D29 | 10050 | " |
| | | | | | D22 | 81098 | " |
| | | | | | D16 | 7359 | " |
| TOTAL | | | | | | 154901 | kg |

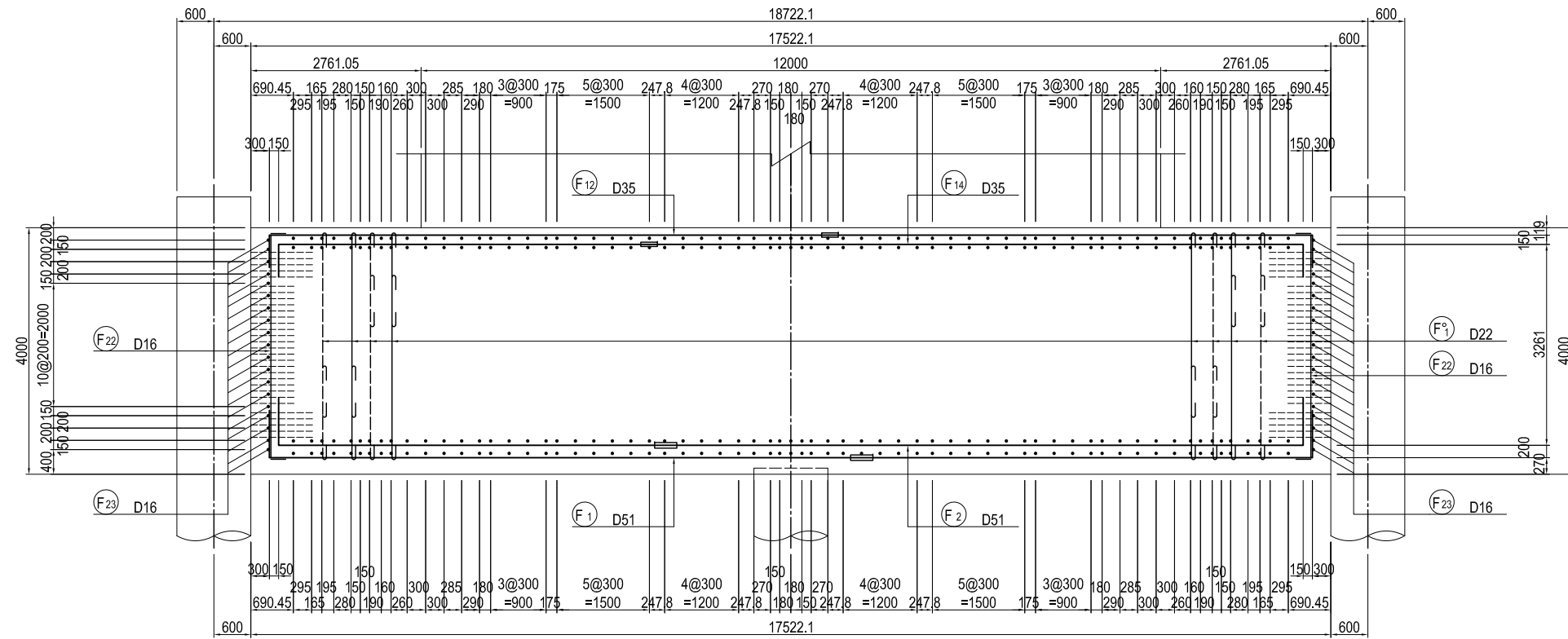
USE MATERIALS

| | CONCRETE | BAR |
|-------------|----------------------------------------|-------|
| BEAM-COLUMN | σ _{ck} = 30 N/mm ² | SD345 |

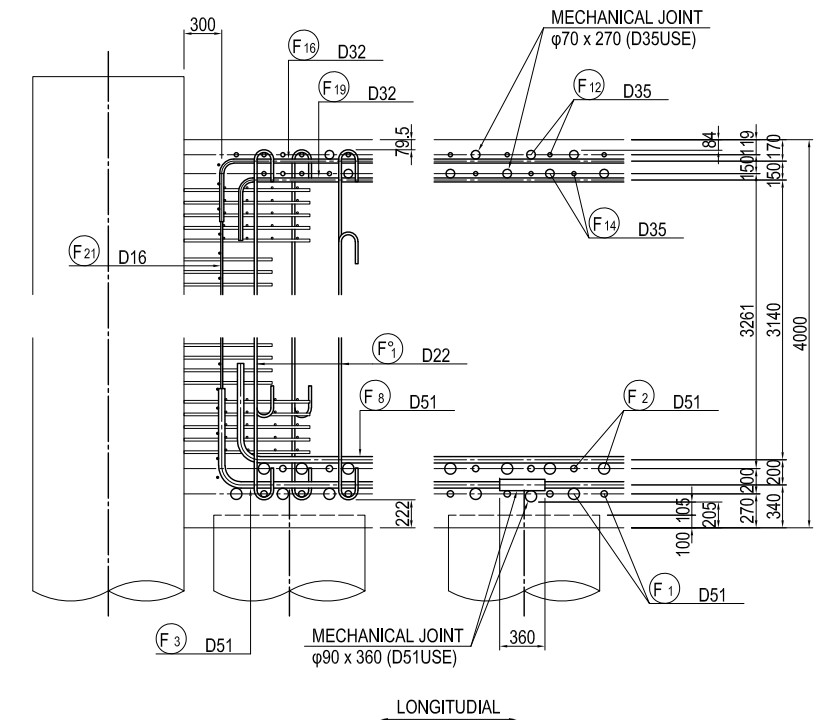
| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|----------------------------------------------------------|--------------|------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE BAR ARRANGEMENT OF P13 PIER (30) | PACKAGE | |
| | | | | PREPARED BY | S. TOKUMARU | | | 27. Nov.2017 | 1 |
| | | | | CHECKED BY | T. HAYAKAWA | | | 28. Nov.2017 | DWG No. |
| | | | | APPROVED BY | Y. SANO | | | 29. Nov.2017 | P1-CS-2332 |

BAR ARRANGEMENT OF P13 FOOTING (1) S=1:100

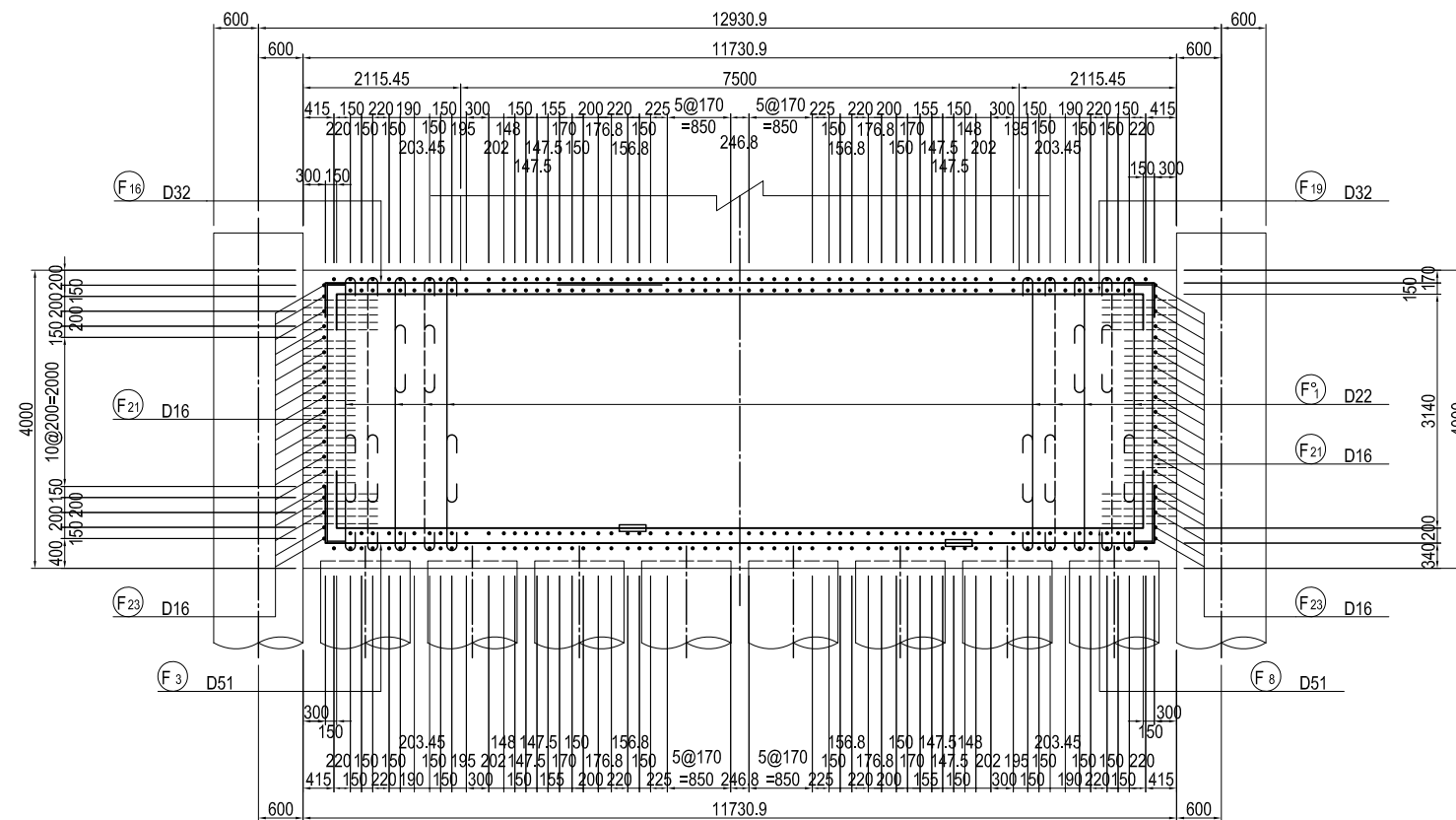
SECTION 1-1



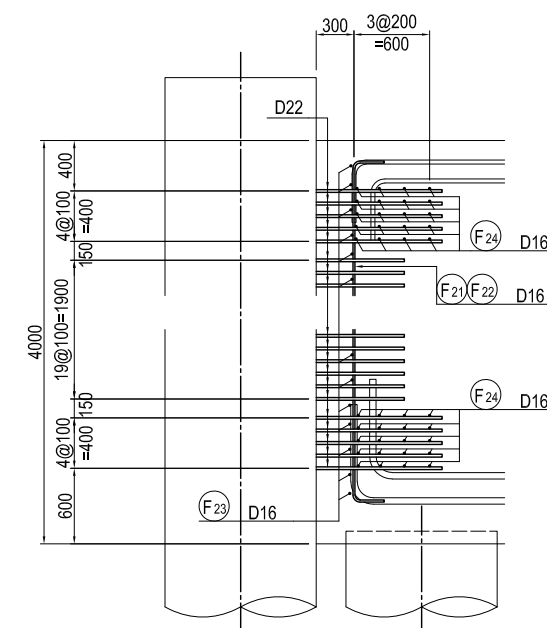
DETAIL OF PILE CAP S=1:60



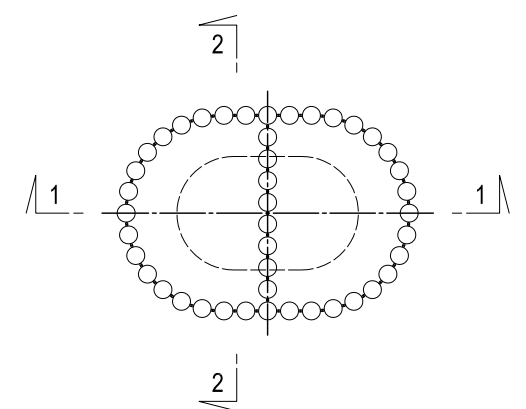
SECTION 2-2



DETAIL OF CONNECTION BETWEEN STEEL PIPE SHEET PILE AND FOOTING S=1:60



MARKING DIAGRAM



Note: — : MECHANICAL JOINT

USE MATERIALS

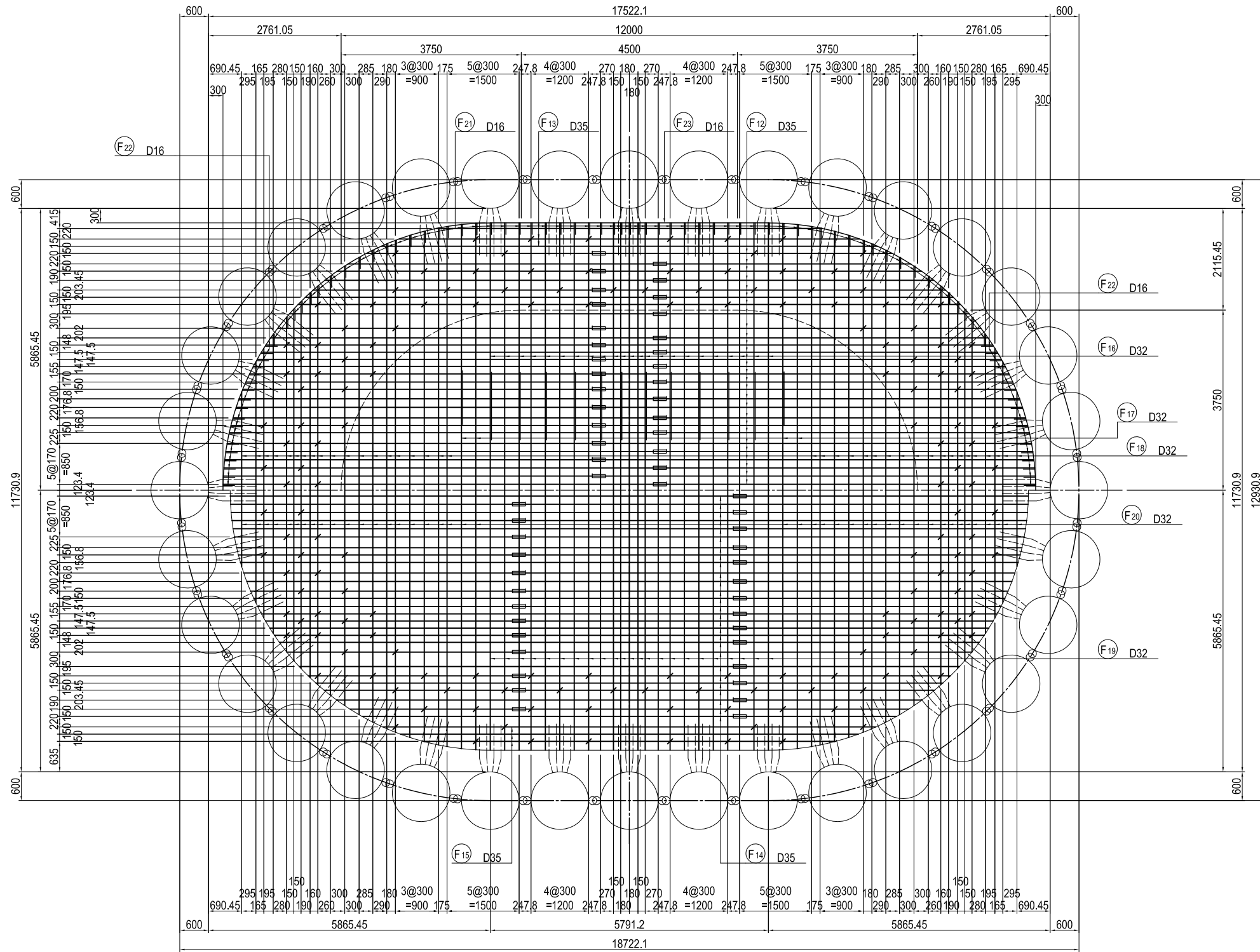
| | CONCRETE | BAR |
|---------|----------------------------|-------|
| FOOTING | σck = 24 N/mm ² | SD345 |

| | | | | | | | | |
|---------------------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------|------|-----------------------------------------------------|---------------------------------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JICA JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME PREPARED BY S. TOKUMARU CHECKED BY T. HAYAKAWA APPROVED BY Y. SANO | SIGNATURE DATE 27. Nov.2017 28. Nov.2017 29. Nov.2017 | DATE | DRAWING TITLE BAR ARRANGEMENT OF P13 FOOTING (1) | PACKAGE 1 DWG No. P1-CS-2333 |
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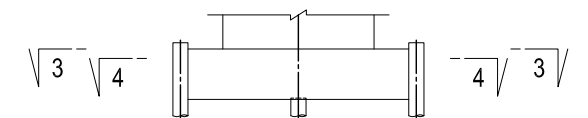
BAR ARRANGEMENT OF P13 FOOTING (2) S=1:100

PLAN 3-3

PLAN 4-4



MARKING DIAGRAM



USE MATERIALS

| | CONCRETE | BAR |
|---------|-----------------------------------|-------|
| FOOTING | $\sigma_{ck} = 24 \text{ N/mm}^2$ | SD345 |

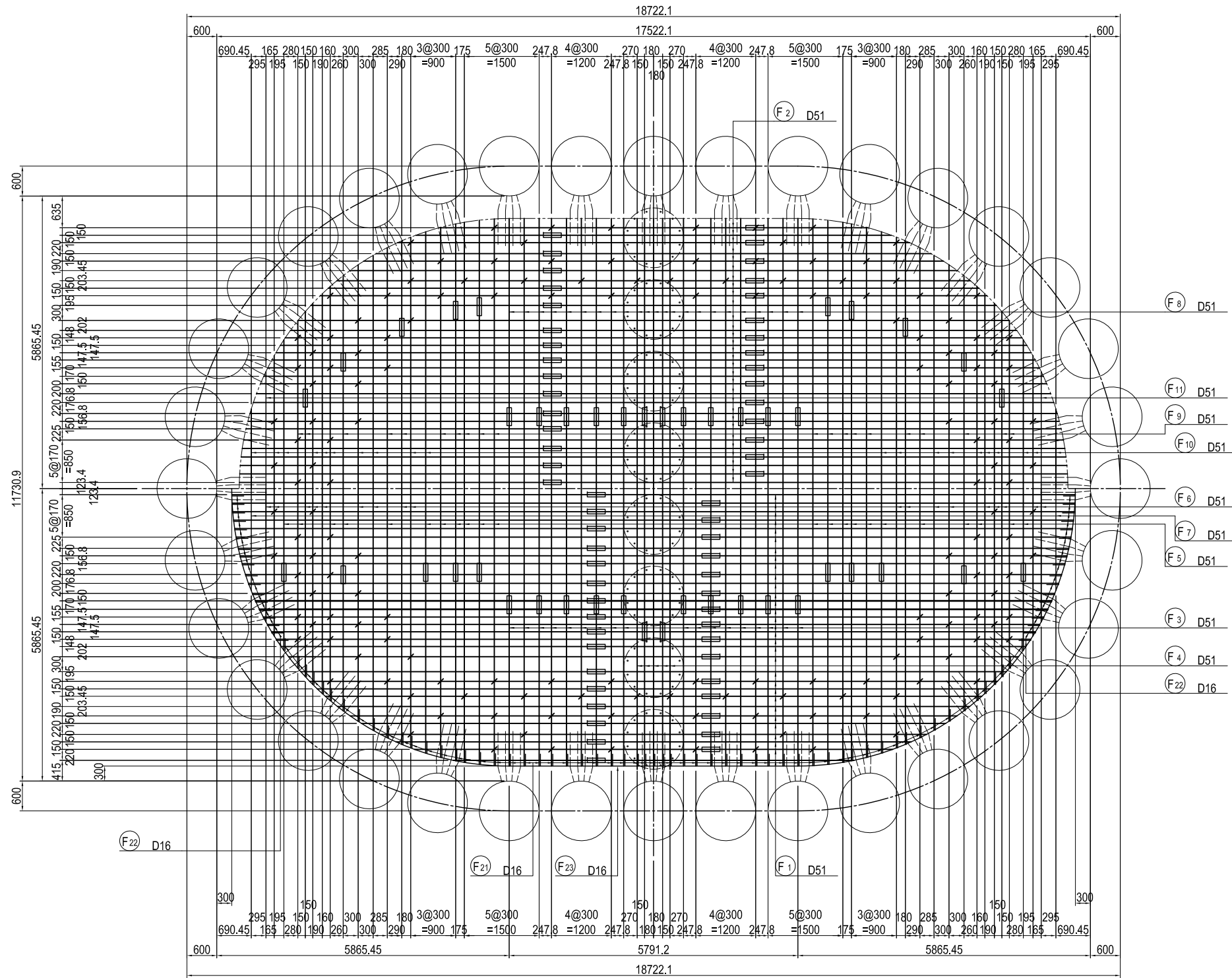
Note) : MECHANICAL JOINT

| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|------------------------------------|------------|--------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE | PACKAGE | |
| | | | | PREPARED BY | S.TOKUMARU | | | | 27. Nov.2017 |
| | | | | CHECKED BY | T. HAYAKAWA | | | | 28. Nov.2017 |
| | | | | APPROVED BY | Y. SANO | | | | 29. Nov.2017 |
| | | | | | | | BAR ARRANGEMENT OF P13 FOOTING (2) | 1 | |
| | | | | | | | | DWG No. | |
| | | | | | | | | P1-CS-2334 | |

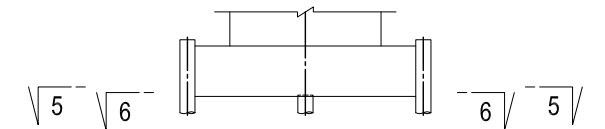
BAR ARRANGEMENT OF P13 FOOTING (3) S=1:100

PLAN 5-5

PLAN 6-6



MARKING DIAGRAM



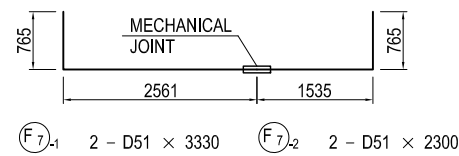
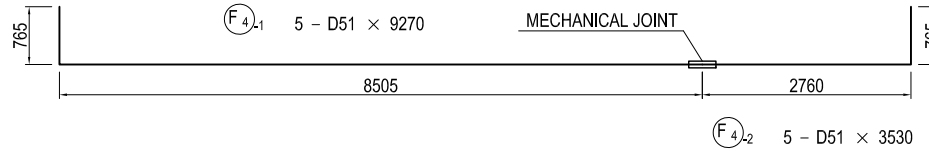
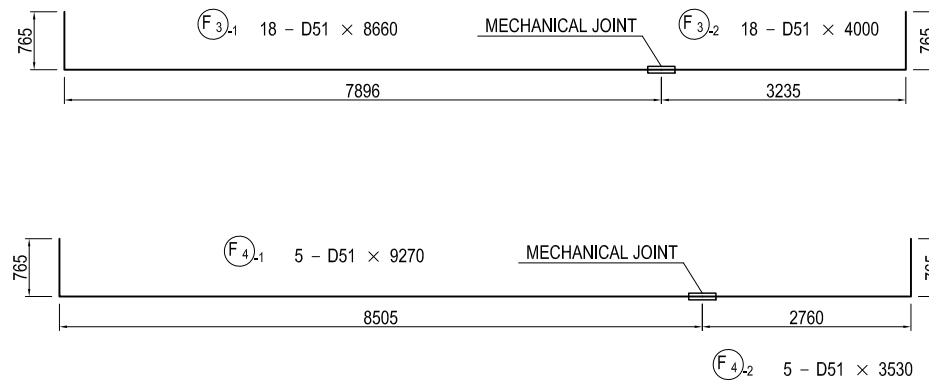
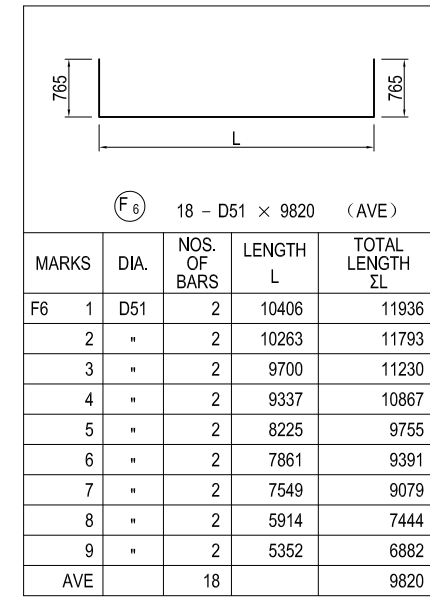
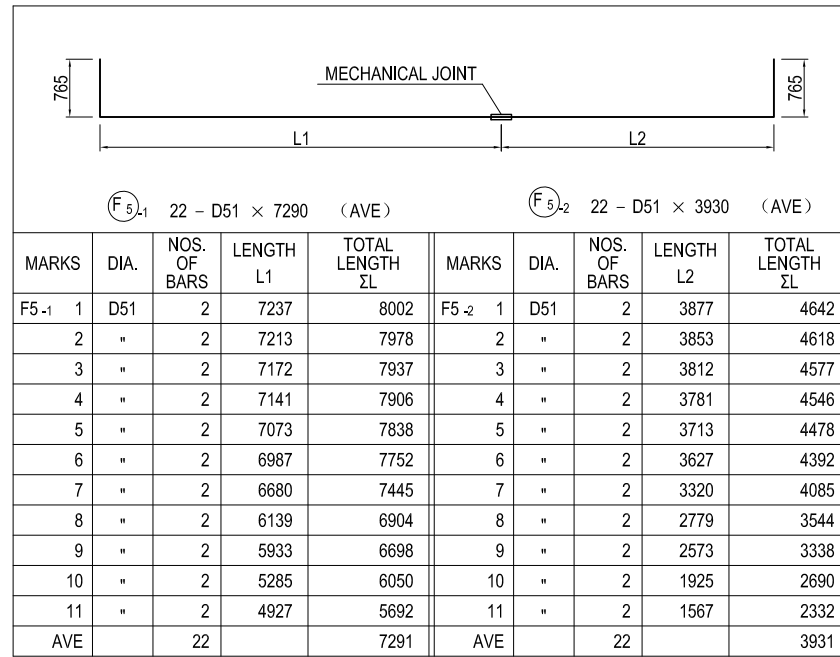
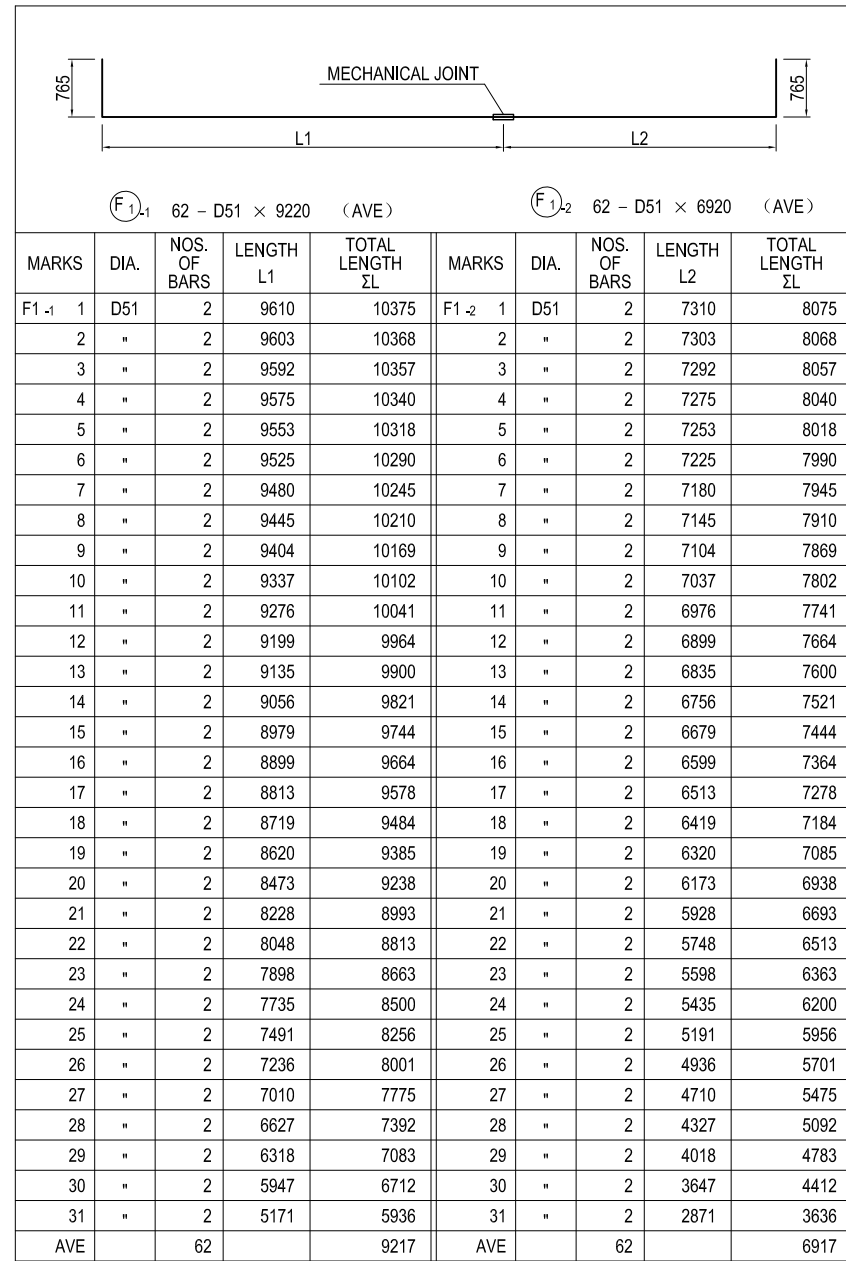
USE MATERIALS

| | CONCRETE | BAR |
|---------|----------------------------|-------|
| FOOTING | σck = 24 N/mm ² | SD345 |

Note) : MECHANICAL JOINT

| <small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | <small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY | <small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | <small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>NAME</th> <th>SIGNATURE</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY</td> <td>S. TOKUMARU</td> <td></td> <td>27. Nov.2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>28. Nov.2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>29. Nov.2017</td> </tr> </tbody> </table> | | NAME | SIGNATURE | DATE | PREPARED BY | S. TOKUMARU | | 27. Nov.2017 | CHECKED BY | T. HAYAKAWA | | 28. Nov.2017 | APPROVED BY | Y. SANO | | 29. Nov.2017 | <small>DRAWING TITLE</small> BAR ARRANGEMENT OF P13 FOOTING (3) | <small>PACKAGE</small> 1 DWG No. P1-CS-2335 |
|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------|-----------|------|-------------|-------------|--|--------------|------------|-------------|--|--------------|-------------|---------|--|--------------|---------------------------------------------------------------------------|------------------------------------------------------|
| | NAME | SIGNATURE | DATE | | | | | | | | | | | | | | | | | | | |
| PREPARED BY | S. TOKUMARU | | 27. Nov.2017 | | | | | | | | | | | | | | | | | | | |
| CHECKED BY | T. HAYAKAWA | | 28. Nov.2017 | | | | | | | | | | | | | | | | | | | |
| APPROVED BY | Y. SANO | | 29. Nov.2017 | | | | | | | | | | | | | | | | | | | |

BAR ARRANGEMENT OF P13 FOOTING (4) S=1:100

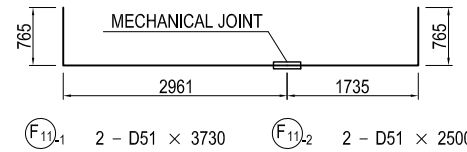
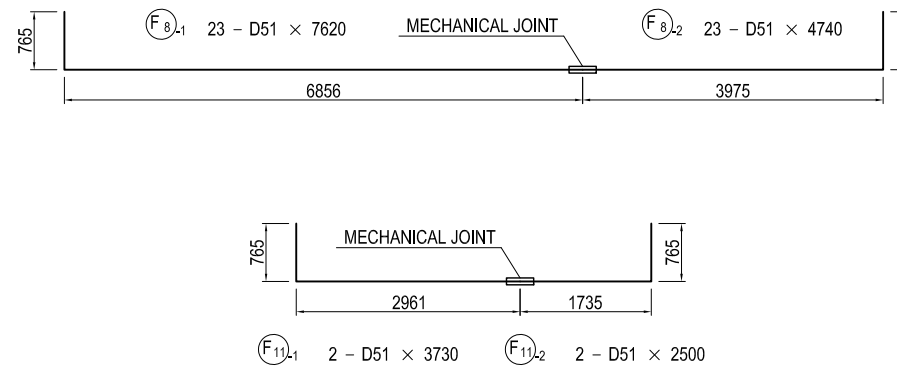
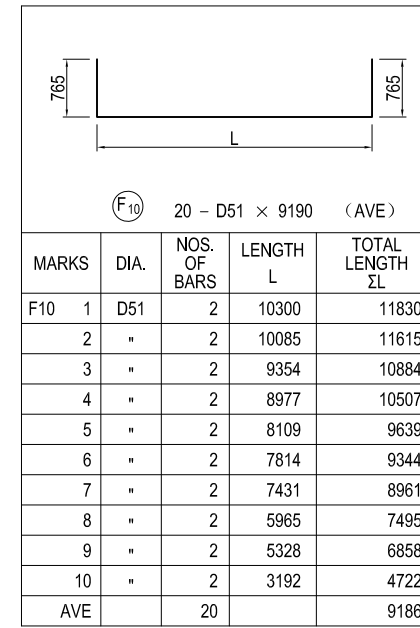
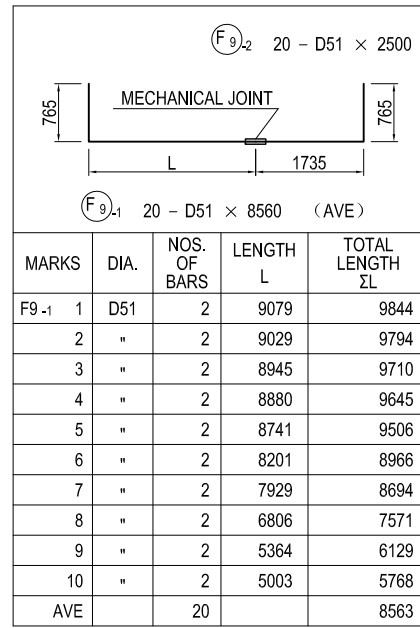
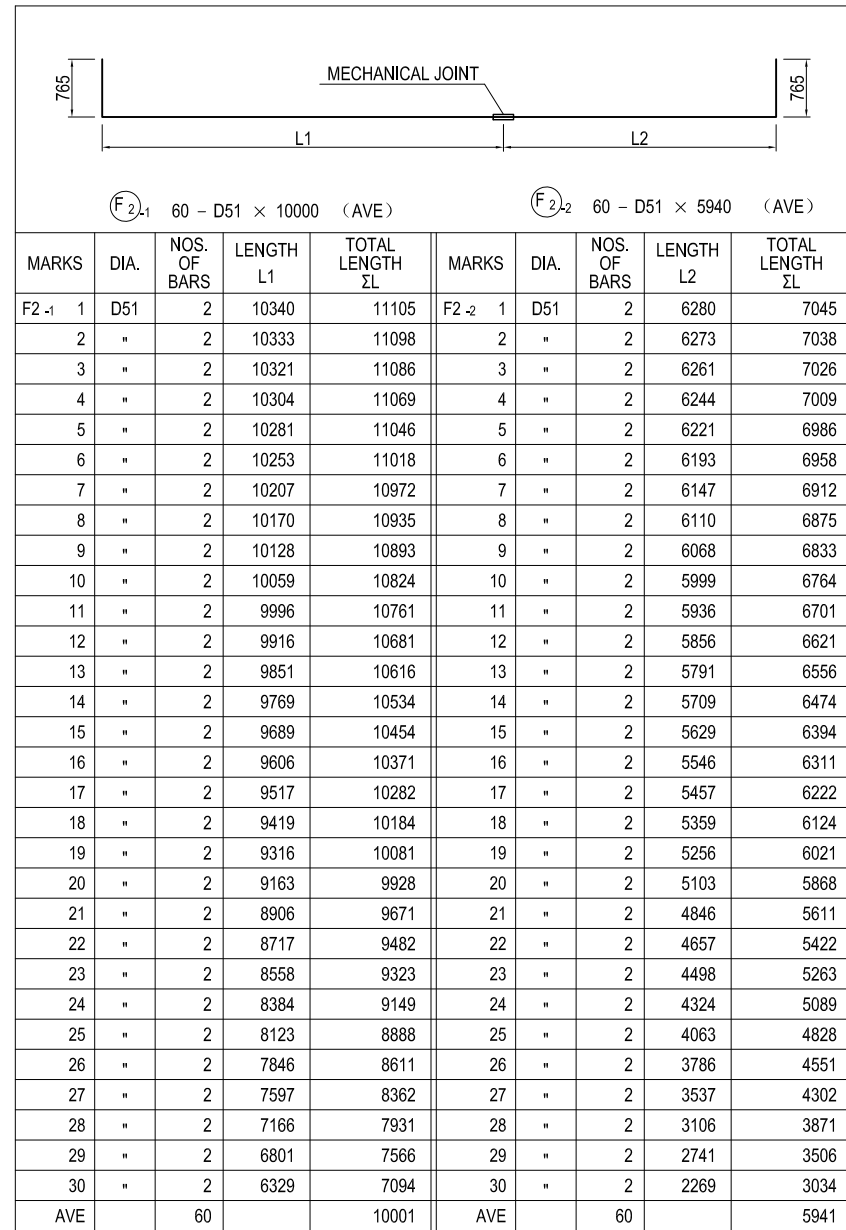


USE MATERIALS

| | CONCRETE | BAR |
|---------|----------------------------------------|-------|
| FOOTING | σ _{ck} = 24 N/mm ² | SD345 |

| <small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | <small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY | <small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | <small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NAME</th><th>SIGNATURE</th><th>DATE</th></tr> </thead> <tbody> <tr> <td>PREPARED BY</td><td>S. TOKUMARU</td><td>27. Nov.2017</td></tr> <tr> <td>CHECKED BY</td><td>T. HAYAKAWA</td><td>28. Nov.2017</td></tr> <tr> <td>APPROVED BY</td><td>Y. SANO</td><td>29. Nov.2017</td></tr> </tbody> </table> | NAME | SIGNATURE | DATE | PREPARED BY | S. TOKUMARU | 27. Nov.2017 | CHECKED BY | T. HAYAKAWA | 28. Nov.2017 | APPROVED BY | Y. SANO | 29. Nov.2017 | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>DRAWING TITLE</th><th>PACKAGE</th></tr> </thead> <tbody> <tr> <td rowspan="3" style="text-align: center; vertical-align: middle;"> BAR ARRANGEMENT OF P13 FOOTING (4) </td> <td style="text-align: center;">1</td></tr> <tr> <td style="text-align: center;">DWG No.</td></tr> <tr> <td style="text-align: center;">P1-CS-2336</td></tr> </tbody> </table> | DRAWING TITLE | PACKAGE | BAR ARRANGEMENT OF P13 FOOTING (4) | 1 | DWG No. | P1-CS-2336 |
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| NAME | SIGNATURE | DATE | | | | | | | | | | | | | | | | | | | | | |
| PREPARED BY | S. TOKUMARU | 27. Nov.2017 | | | | | | | | | | | | | | | | | | | | | |
| CHECKED BY | T. HAYAKAWA | 28. Nov.2017 | | | | | | | | | | | | | | | | | | | | | |
| APPROVED BY | Y. SANO | 29. Nov.2017 | | | | | | | | | | | | | | | | | | | | | |
| DRAWING TITLE | PACKAGE | | | | | | | | | | | | | | | | | | | | | | |
| BAR ARRANGEMENT OF P13 FOOTING (4) | 1 | | | | | | | | | | | | | | | | | | | | | | |
| | DWG No. | | | | | | | | | | | | | | | | | | | | | | |
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BAR ARRANGEMENT OF P13 FOOTING (5) S=1:100

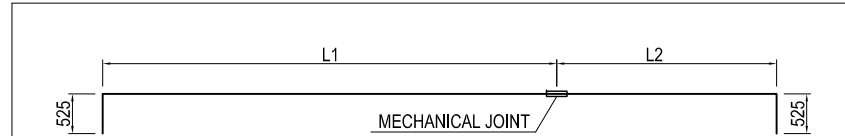


USE MATERIALS

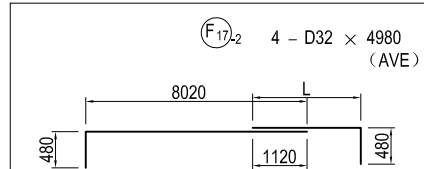
| | CONCRETE | BAR |
|---------|----------------------------------------|-------|
| FOOTING | σ _{ck} = 24 N/mm ² | SD345 |

| <small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | <small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY | <small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | <small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>NAME</th> <th>SIGNATURE</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY</td> <td>S. TOKUMARU</td> <td></td> <td>27. Nov.2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>28. Nov.2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>29. Nov.2017</td> </tr> </tbody> </table> | | NAME | SIGNATURE | DATE | PREPARED BY | S. TOKUMARU | | 27. Nov.2017 | CHECKED BY | T. HAYAKAWA | | 28. Nov.2017 | APPROVED BY | Y. SANO | | 29. Nov.2017 | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">DRAWING TITLE</th> <th>PACKAGE</th> </tr> </thead> <tbody> <tr> <td colspan="2" style="text-align: center;">BAR ARRANGEMENT OF P13 FOOTING (5)</td> <td style="text-align: center;">1</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">DWG No.</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">P1-CS-2337</td> </tr> </tbody> </table> | DRAWING TITLE | | PACKAGE | BAR ARRANGEMENT OF P13 FOOTING (5) | | 1 | | | DWG No. | | | P1-CS-2337 |
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| | NAME | SIGNATURE | DATE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PREPARED BY | S. TOKUMARU | | 27. Nov.2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHECKED BY | T. HAYAKAWA | | 28. Nov.2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| APPROVED BY | Y. SANO | | 29. Nov.2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DRAWING TITLE | | PACKAGE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BAR ARRANGEMENT OF P13 FOOTING (5) | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | DWG No. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | P1-CS-2337 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

BAR ARRANGEMENT OF P13 FOOTING (6) S=1:100



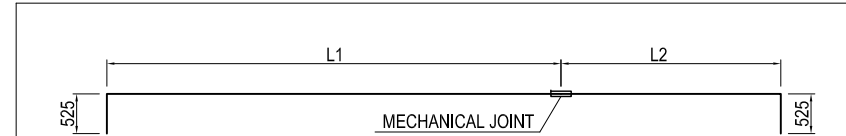
| F12-1 56 - D35 × 8750 (AVE) | | | | | F12-2 56 - D35 × 7480 (AVE) | | | | |
|-----------------------------|------|--------------|-----------|-----------------|-----------------------------|------|--------------|-----------|-----------------|
| MARKS | DIA. | NOS. OF BARS | LENGTH L1 | TOTAL LENGTH ΣL | MARKS | DIA. | NOS. OF BARS | LENGTH L2 | TOTAL LENGTH ΣL |
| F12-1 1 | D35 | 2 | 9095 | 9620 | F12-2 1 | D35 | 2 | 7825 | 8350 |
| 2 | " | 2 | 9088 | 9613 | 2 | " | 2 | 7818 | 8343 |
| 3 | " | 2 | 9077 | 9602 | 3 | " | 2 | 7807 | 8332 |
| 4 | " | 2 | 9060 | 9585 | 4 | " | 2 | 7790 | 8315 |
| 5 | " | 2 | 9038 | 9563 | 5 | " | 2 | 7768 | 8293 |
| 6 | " | 2 | 9010 | 9535 | 6 | " | 2 | 7740 | 8265 |
| 7 | " | 2 | 8965 | 9490 | 7 | " | 2 | 7695 | 8220 |
| 8 | " | 2 | 8930 | 9455 | 8 | " | 2 | 7660 | 8185 |
| 9 | " | 2 | 8889 | 9414 | 9 | " | 2 | 7619 | 8144 |
| 10 | " | 2 | 8822 | 9347 | 10 | " | 2 | 7552 | 8077 |
| 11 | " | 2 | 8761 | 9286 | 11 | " | 2 | 7491 | 8016 |
| 12 | " | 2 | 8684 | 9209 | 12 | " | 2 | 7414 | 7939 |
| 13 | " | 2 | 8620 | 9145 | 13 | " | 2 | 7350 | 7875 |
| 14 | " | 2 | 8541 | 9066 | 14 | " | 2 | 7271 | 7796 |
| 15 | " | 2 | 8464 | 8989 | 15 | " | 2 | 7194 | 7719 |
| 16 | " | 2 | 8384 | 8909 | 16 | " | 2 | 7114 | 7639 |
| 17 | " | 2 | 8298 | 8823 | 17 | " | 2 | 7028 | 7553 |
| 18 | " | 2 | 8204 | 8729 | 18 | " | 2 | 6934 | 7459 |
| 19 | " | 2 | 8105 | 8630 | 19 | " | 2 | 6835 | 7360 |
| 20 | " | 2 | 7958 | 8483 | 20 | " | 2 | 6688 | 7213 |
| 21 | " | 2 | 7713 | 8238 | 21 | " | 2 | 6443 | 6968 |
| 22 | " | 2 | 7533 | 8058 | 22 | " | 2 | 6263 | 6788 |
| 23 | " | 2 | 7383 | 7908 | 23 | " | 2 | 6113 | 6638 |
| 24 | " | 2 | 7220 | 7745 | 24 | " | 2 | 5950 | 6475 |
| 25 | " | 2 | 6976 | 7501 | 25 | " | 2 | 5706 | 6231 |
| 26 | " | 2 | 6721 | 7246 | 26 | " | 2 | 5451 | 5976 |
| 27 | " | 2 | 6495 | 7020 | 27 | " | 2 | 5225 | 5750 |
| 28 | " | 2 | 6112 | 6637 | 28 | " | 2 | 4842 | 5367 |
| AVE | | 56 | | 8745 | AVE | | 56 | | 7475 |



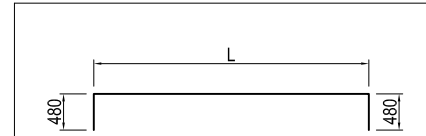
| F17-1 4 - D32 × 8500 | | | | |
|----------------------|------|--------------|----------|-----------------|
| MARKS | DIA. | NOS. OF BARS | LENGTH L | TOTAL LENGTH ΣL |
| F17-1 1 | D32 | 2 | 4215 | 4695 |
| 2 | " | 2 | 4166 | 4646 |
| AVE | | 4 | | 4671 |



| F18 38 - D32 × 9550 (AVE) | | | | |
|---------------------------|------|--------------|----------|-----------------|
| MARKS | DIA. | NOS. OF BARS | LENGTH L | TOTAL LENGTH ΣL |
| F18 1 | D32 | 2 | 10984 | 11944 |
| 2 | " | 2 | 10921 | 11881 |
| 3 | " | 2 | 10786 | 11746 |
| 4 | " | 2 | 10615 | 11575 |
| 5 | " | 2 | 10406 | 11366 |
| 6 | " | 2 | 10263 | 11223 |
| 7 | " | 2 | 9999 | 10959 |
| 8 | " | 2 | 9700 | 10660 |
| 9 | " | 2 | 9337 | 10297 |
| 10 | " | 2 | 8919 | 9879 |
| 11 | " | 2 | 8506 | 9466 |
| 12 | " | 2 | 8225 | 9185 |
| 13 | " | 2 | 7861 | 8821 |
| 14 | " | 2 | 7549 | 8509 |
| 15 | " | 2 | 7210 | 8170 |
| 16 | " | 2 | 6494 | 7454 |
| 17 | " | 2 | 5914 | 6874 |
| 18 | " | 2 | 5352 | 6312 |
| 19 | " | 2 | 4096 | 5056 |
| AVE | | 38 | | 9546 |



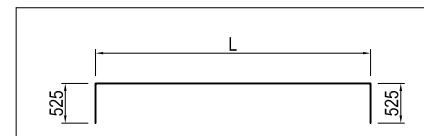
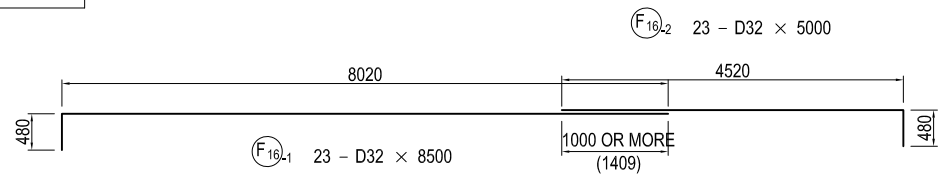
| F14-1 54 - D35 × 10310 (AVE) | | | | F14-2 54 - D35 × 5710 (AVE) | | | | | |
|------------------------------|------|--------------|-----------|-----------------------------|---------|------|--------------|-----------|-----------------|
| MARKS | DIA. | NOS. OF BARS | LENGTH L1 | TOTAL LENGTH ΣL | MARKS | DIA. | NOS. OF BARS | LENGTH L2 | TOTAL LENGTH ΣL |
| F14-1 1 | D35 | 2 | 10610 | 11135 | F14-2 1 | D35 | 2 | 6010 | 6535 |
| 2 | " | 2 | 10603 | 11128 | 2 | " | 2 | 6003 | 6528 |
| 3 | " | 2 | 10591 | 11116 | 3 | " | 2 | 5991 | 6516 |
| 4 | " | 2 | 10574 | 11099 | 4 | " | 2 | 5974 | 6499 |
| 5 | " | 2 | 10551 | 11076 | 5 | " | 2 | 5951 | 6476 |
| 6 | " | 2 | 10523 | 11048 | 6 | " | 2 | 5923 | 6448 |
| 7 | " | 2 | 10477 | 11002 | 7 | " | 2 | 5877 | 6402 |
| 8 | " | 2 | 10440 | 10965 | 8 | " | 2 | 5840 | 6365 |
| 9 | " | 2 | 10398 | 10923 | 9 | " | 2 | 5798 | 6323 |
| 10 | " | 2 | 10329 | 10854 | 10 | " | 2 | 5729 | 6254 |
| 11 | " | 2 | 10266 | 10791 | 11 | " | 2 | 5666 | 6191 |
| 12 | " | 2 | 10186 | 10711 | 12 | " | 2 | 5586 | 6111 |
| 13 | " | 2 | 10121 | 10646 | 13 | " | 2 | 5521 | 6046 |
| 14 | " | 2 | 10039 | 10564 | 14 | " | 2 | 5439 | 5964 |
| 15 | " | 2 | 9959 | 10484 | 15 | " | 2 | 5359 | 5884 |
| 16 | " | 2 | 9876 | 10401 | 16 | " | 2 | 5276 | 5801 |
| 17 | " | 2 | 9787 | 10312 | 17 | " | 2 | 5187 | 5712 |
| 18 | " | 2 | 9689 | 10214 | 18 | " | 2 | 5089 | 5614 |
| 19 | " | 2 | 9586 | 10111 | 19 | " | 2 | 4986 | 5511 |
| 20 | " | 2 | 9433 | 9958 | 20 | " | 2 | 4833 | 5358 |
| 21 | " | 2 | 9176 | 9701 | 21 | " | 2 | 4576 | 5101 |
| 22 | " | 2 | 8987 | 9512 | 22 | " | 2 | 4387 | 4912 |
| 23 | " | 2 | 8828 | 9353 | 23 | " | 2 | 4228 | 4753 |
| 24 | " | 2 | 8654 | 9179 | 24 | " | 2 | 4054 | 4579 |
| 25 | " | 2 | 8393 | 8918 | 25 | " | 2 | 3793 | 4318 |
| 26 | " | 2 | 8116 | 8641 | 26 | " | 2 | 3516 | 4041 |
| 27 | " | 2 | 7867 | 8392 | 27 | " | 2 | 3267 | 3792 |
| AVE | | 54 | | 10305 | AVE | | 54 | | 5705 |



| F20 42 - D32 × 9370 (AVE) | | | | |
|---------------------------|------|--------------|----------|-----------------|
| MARKS | DIA. | NOS. OF BARS | LENGTH L | TOTAL LENGTH ΣL |
| F20 1 | D32 | 2 | 10814 | 11774 |
| 2 | " | 2 | 10764 | 11724 |
| 3 | " | 2 | 10680 | 11640 |
| 4 | " | 2 | 10615 | 11575 |
| 5 | " | 2 | 10476 | 11436 |
| 6 | " | 2 | 10300 | 11260 |
| 7 | " | 2 | 10085 | 11045 |
| 8 | " | 2 | 9936 | 10896 |
| 9 | " | 2 | 9664 | 10624 |
| 10 | " | 2 | 9354 | 10314 |
| 11 | " | 2 | 8977 | 9937 |
| 12 | " | 2 | 8541 | 9501 |
| 13 | " | 2 | 8109 | 9069 |
| 14 | " | 2 | 7814 | 8774 |
| 15 | " | 2 | 7431 | 8391 |
| 16 | " | 2 | 7099 | 8059 |
| 17 | " | 2 | 6738 | 7698 |
| 18 | " | 2 | 5965 | 6925 |
| 19 | " | 2 | 5328 | 6288 |
| 20 | " | 2 | 4696 | 5656 |
| 21 | " | 2 | 3192 | 4152 |
| AVE | | 42 | | 9368 |



| F13 6 - D35 × 10370 (AVE) | | | | |
|---------------------------|------|--------------|----------|-----------------|
| MARKS | DIA. | NOS. OF BARS | LENGTH L | TOTAL LENGTH ΣL |
| F13 1 | D35 | 2 | 10336 | 11386 |
| 2 | " | 2 | 9595 | 10645 |
| 3 | " | 2 | 8042 | 9092 |
| AVE | | 6 | | 10374 |



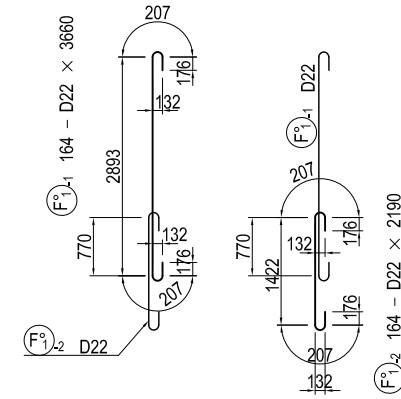
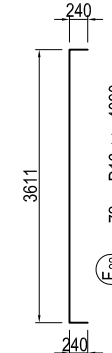
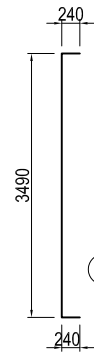
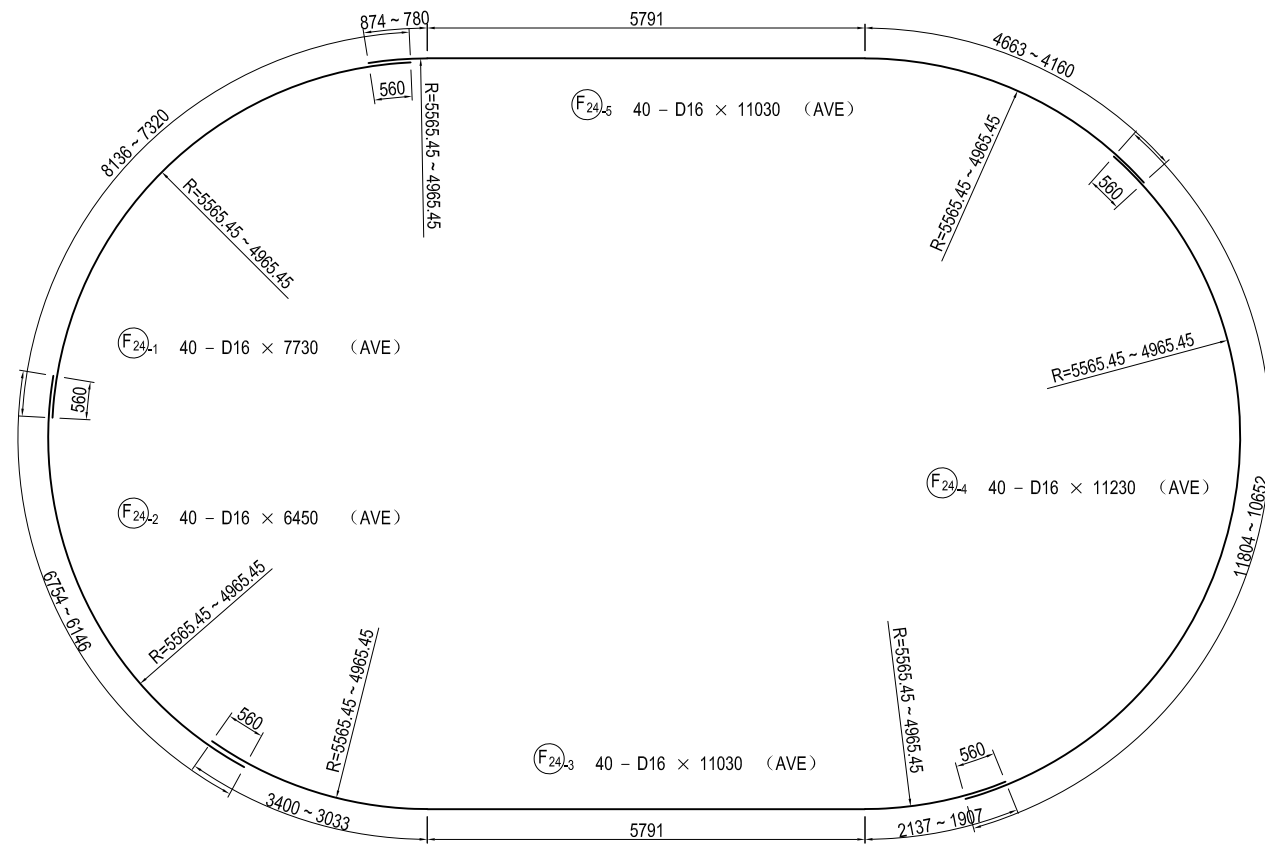
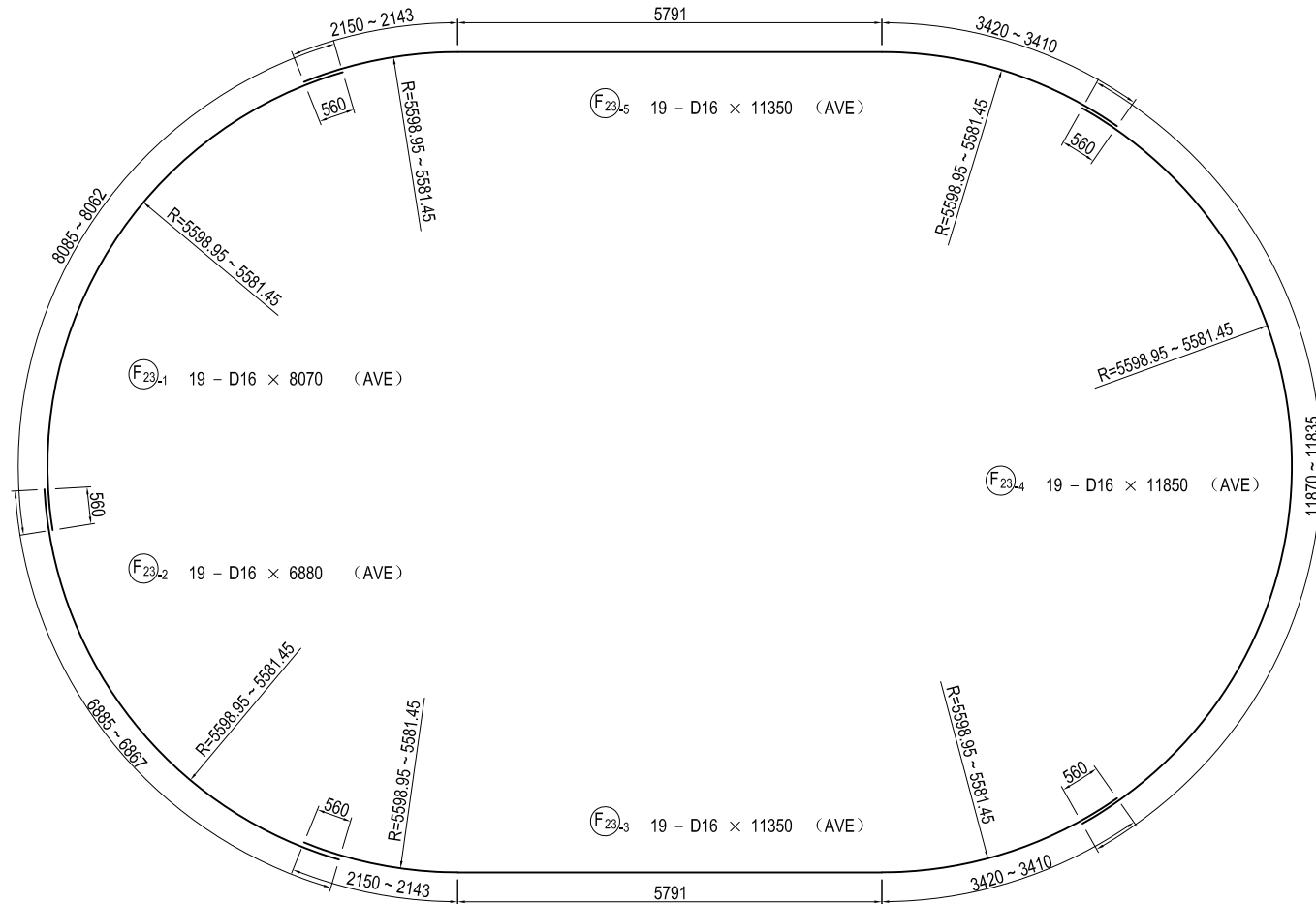
| F15 6 - D35 × 10520 (AVE) | | | | |
|---------------------------|------|--------------|----------|-----------------|
| MARKS | DIA. | NOS. OF BARS | LENGTH L | TOTAL LENGTH ΣL |
| F15 1 | D35 | 2 | 10271 | 11321 |
| 2 | " | 2 | 9541 | 10591 |
| 3 | " | 2 | 8598 | 9648 |
| AVE | | 6 | | 10520 |



USE MATERIALS

| | CONCRETE | BAR |
|---------|----------------------------------------|-------|
| FOOTING | σ _{ck} = 24 N/mm ² | SD345 |

BAR ARRANGEMENT OF P13 FOOTING (7) S=1:100



Note) The joint position of the reinforcing bar is rotated 180 degrees for each step arranged.

USE MATERIALS

| | CONCRETE | BAR |
|---------|----------------------------------------|-------|
| FOOTING | σ _{ck} = 24 N/mm ² | SD345 |

| | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-----------------------|------------------------------------------------------|------------------------------------------------------------|---------------------------------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME PREPARED BY S. TOKUMARU CHECKED BY T. HAYAKAWA APPROVED BY Y. SANO | SIGNATURE | DATE 27. Nov.2017 28. Nov.2017 29. Nov.2017 | DRAWING TITLE BAR ARRANGEMENT OF P13 FOOTING (7) | PACKAGE 1 DWG No. P1-CS-2339 |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-----------------------|------------------------------------------------------|------------------------------------------------------------|---------------------------------------|

BAR ARRANGEMENT OF P13 FOOTING (8) NOT TO SCALE

BAR SCHEDULE

| MARKS | DIA. | LENGTH (mm) | NOS. OF BARS | UNIT WEIGHT (kg/m) | WEIGHT/EA. (kg) | WEIGHT (kg) | REMARKS |
|-------|------|-------------|--------------|--------------------|-----------------|-------------|--------------|
| F 1-1 | D51 | 9220 | 62 | 15.9 | 146.60 | 9089 | ┌ (62) (AVE) |
| 1-2 | " | 6920 | 62 | " | 110.03 | 6822 | └ (AVE) |
| 2-1 | " | 10000 | 60 | " | 159.00 | 9540 | ┌ (60) (AVE) |
| 2-2 | " | 5940 | 60 | " | 94.45 | 5667 | └ (AVE) |
| 3-1 | " | 8660 | 18 | " | 137.69 | 2478 | ┌ (18) |
| 3-2 | " | 4000 | 18 | " | 63.60 | 1145 | └ |
| 4-1 | " | 9270 | 5 | " | 147.39 | 737 | ┌ (5) |
| 4-2 | " | 3530 | 5 | " | 56.13 | 281 | └ |
| 5-1 | " | 7290 | 22 | " | 115.91 | 2550 | ┌ (22) (AVE) |
| 5-2 | " | 3930 | 22 | " | 62.49 | 1375 | └ (AVE) |
| 6 | " | 9820 | 18 | " | 156.14 | 2811 | ┌ (AVE) |
| 7-1 | " | 3330 | 2 | " | 52.95 | 106 | ┌ (2) |
| 7-2 | " | 2300 | 2 | " | 36.57 | 73 | └ |
| 8-1 | " | 7620 | 23 | " | 121.16 | 2787 | ┌ (23) |
| 8-2 | " | 4740 | 23 | " | 75.37 | 1734 | └ |
| 9-1 | " | 8560 | 20 | " | 136.10 | 2722 | ┌ (20) (AVE) |
| 9-2 | " | 2500 | 20 | " | 39.75 | 795 | └ |
| 10 | " | 9190 | 20 | " | 146.12 | 2922 | ┌ (AVE) |
| 11-1 | " | 3730 | 2 | " | 59.31 | 119 | ┌ (2) |
| 11-2 | " | 2500 | 2 | " | 39.75 | 80 | └ |
| 12-1 | D35 | 8750 | 56 | 7.51 | 65.71 | 3680 | ┌ (56) (AVE) |
| 12-2 | " | 7480 | 56 | " | 56.17 | 3146 | └ (AVE) |
| 13 | " | 10370 | 6 | " | 77.88 | 467 | ┌ (AVE) |
| 14-1 | " | 10310 | 54 | " | 77.43 | 4181 | ┌ (54) (AVE) |
| 14-2 | " | 5710 | 54 | " | 42.88 | 2316 | └ (AVE) |
| 15 | " | 10520 | 6 | " | 79.01 | 474 | ┌ (AVE) |
| 16-1 | D32 | 8500 | 23 | 6.23 | 52.96 | 1218 | ┌ |
| 16-2 | " | 5000 | 23 | " | 31.15 | 716 | └ |
| 17-1 | " | 8500 | 4 | " | 52.96 | 212 | ┌ |
| 17-2 | " | 4980 | 4 | " | 31.03 | 124 | └ (AVE) |
| 18 | " | 9550 | 38 | " | 59.50 | 2261 | ┌ (AVE) |
| 19 | " | 11790 | 23 | " | 73.45 | 1689 | └ |
| 20 | " | 9370 | 42 | " | 58.38 | 2452 | └ (AVE) |

| MARKS | DIA. | LENGTH (mm) | NOS. OF BARS | UNIT WEIGHT (kg/m) | WEIGHT/EA. (kg) | WEIGHT (kg) | REMARKS |
|--------------------|------|-------------|--------------|--------------------|-----------------|-------------|---------|
| F 21 | D16 | 3970 | 118 | 1.56 | 6.19 | 730 | ┌ |
| 22 | " | 4090 | 72 | " | 6.38 | 459 | └ |
| 23-1 | " | 8070 | 19 | " | 12.59 | 239 | ┌ (AVE) |
| 23-2 | " | 6880 | 19 | " | 10.73 | 204 | └ (AVE) |
| 23-3 | " | 11350 | 19 | " | 17.71 | 336 | ┌ (AVE) |
| 23-4 | " | 11850 | 19 | " | 18.49 | 351 | └ (AVE) |
| 23-5 | " | 11350 | 19 | " | 17.71 | 336 | ┌ (AVE) |
| 24-1 | " | 7730 | 40 | " | 12.06 | 482 | ┌ (AVE) |
| 24-2 | " | 6450 | 40 | " | 10.06 | 402 | └ (AVE) |
| 24-3 | " | 11030 | 40 | " | 17.21 | 688 | ┌ (AVE) |
| 24-4 | " | 11230 | 40 | " | 17.52 | 701 | └ (AVE) |
| 24-5 | " | 11030 | 40 | " | 17.21 | 688 | ┌ (AVE) |
| SUBTOTAL | | | | | | 82385 kg | |
| F° 1-1 | D22 | 3660 | 164 | 3.04 | 11.13 | 1825 | ┌ |
| 1-2 | " | 2190 | 164 | " | 6.66 | 1092 | └ |
| SUBTOTAL | | | | | | 2917 kg | |
| (MECHANICAL JOINT) | | | | | | | |
| | | | | D51 | 53833 kg | (214) | |
| | | | | D35 | 14264 " | (110) | |
| | | | | D32 | 8672 " | | |
| | | | | D22 | 2917 " | | |
| | | | | D16 | 5616 " | | |
| | | | | TOTAL | 85302 kg | (324) | |

USE MATERIALS

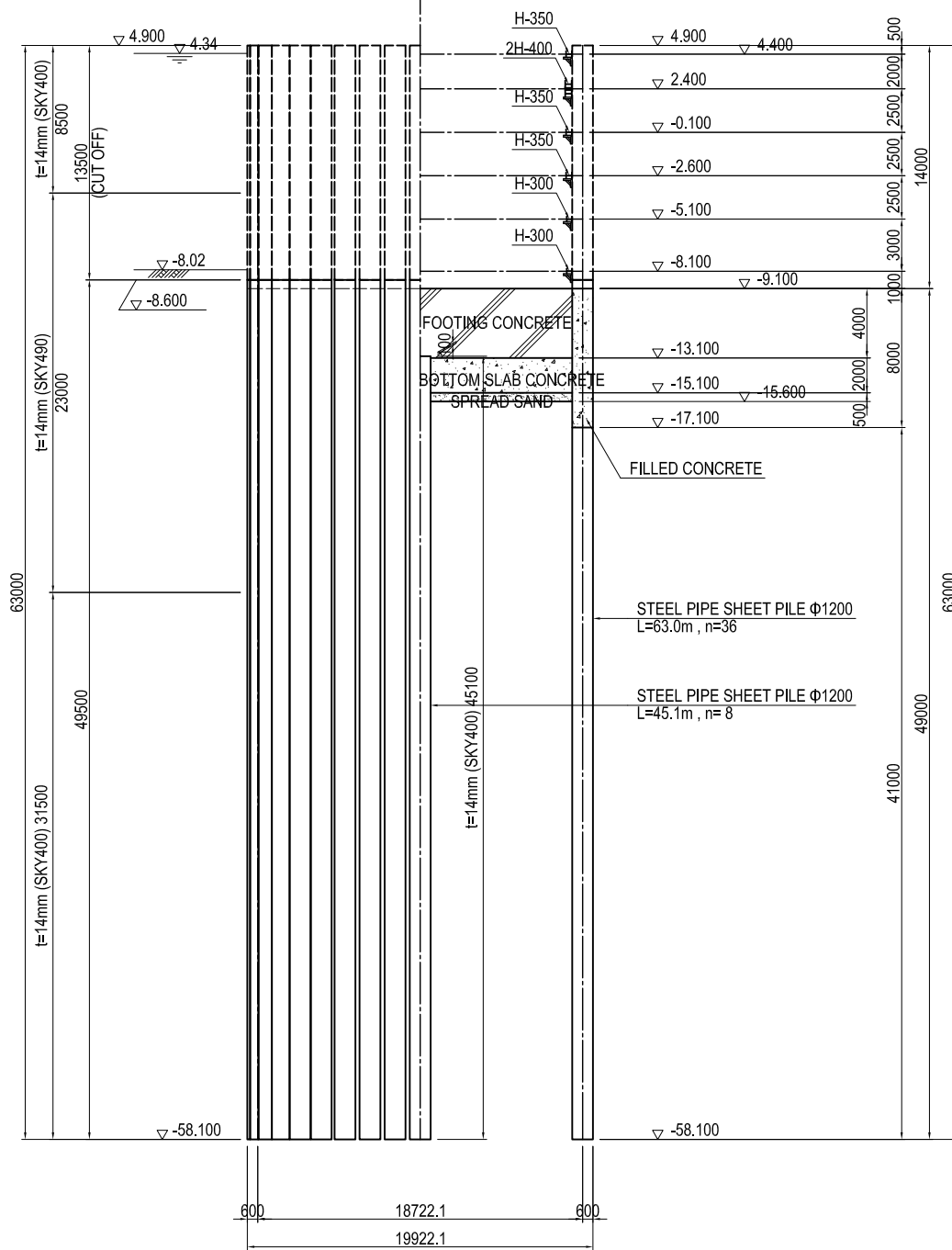
| | CONCRETE | BAR |
|---------|----------------------------------------|-------|
| FOOTING | σ _{ck} = 24 N/mm ² | SD345 |

| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|---------------|---------|--------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE | PACKAGE | |
| | | | | PREPARED BY | S. TOKUMARU | | | | 27. Nov.2017 |
| | | | | CHECKED BY | T. HAYAKAWA | | | | 28. Nov.2017 |
| | | | | APPROVED BY | Y. SANO | | | | 29. Nov.2017 |
| BAR ARRANGEMENT OF P13 FOOTING (8) | | | | | | | 1 | DWG No. | P1-CS-2340 |

GENERAL DRAWING OF STEEL PIPE SHEET PILE FOUNDATION OF P13 PIER S=1:400

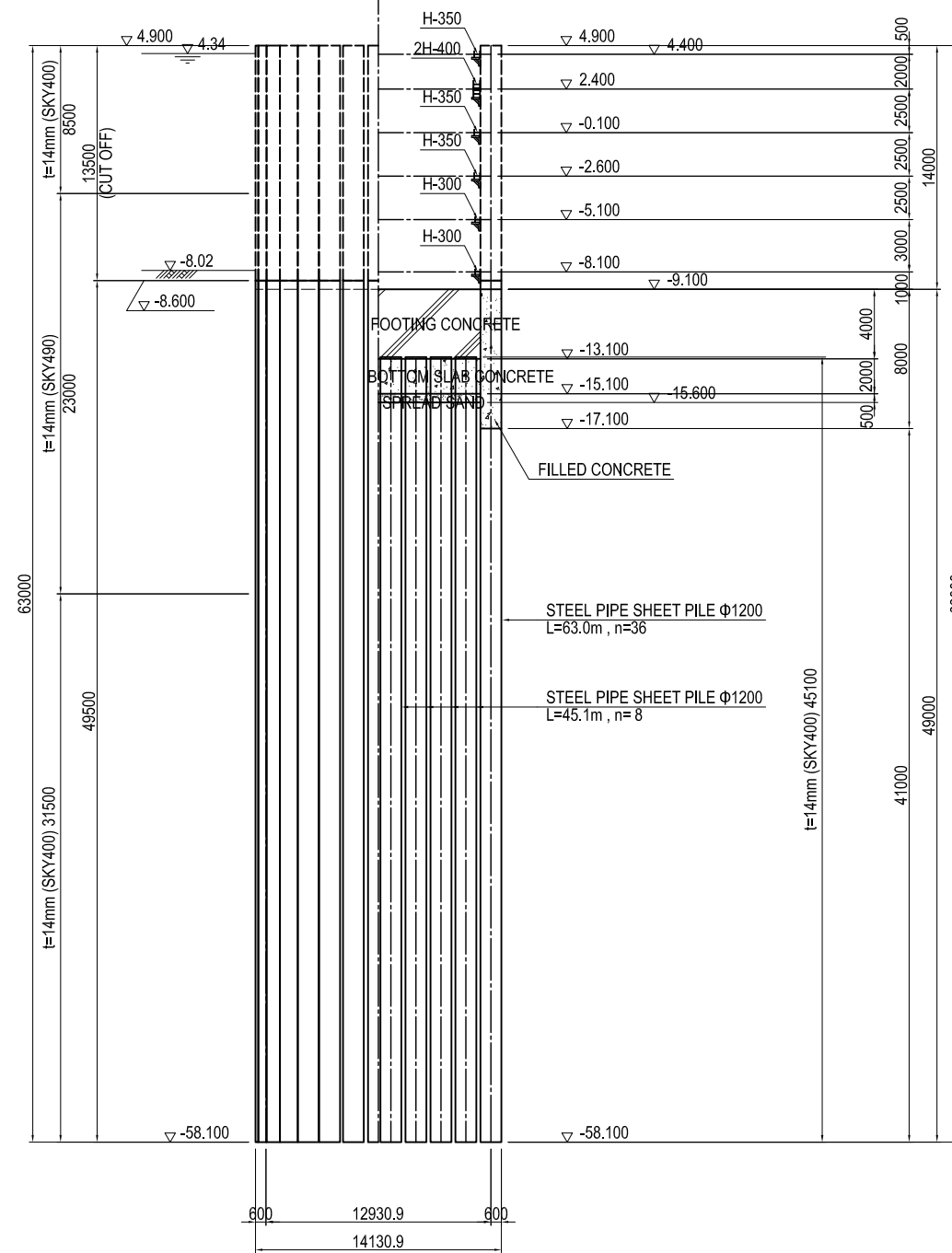
FRONT ELEVATION

1-1 2-2

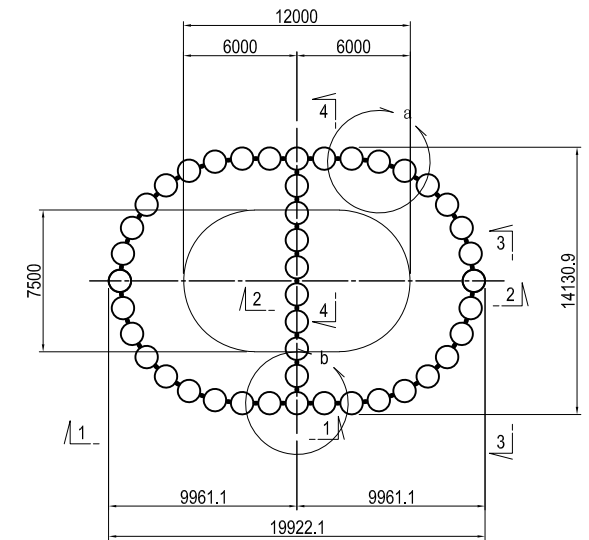


SIDE ELEVATION

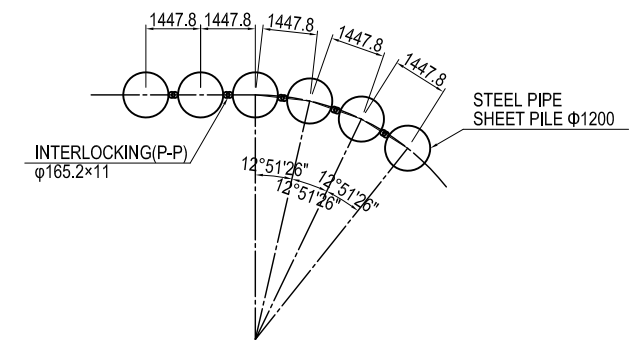
3-3 4-4



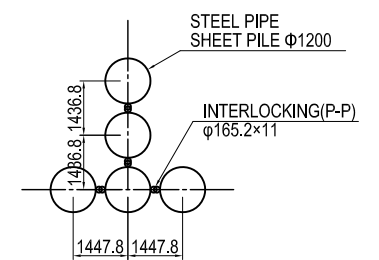
PLAN



DETAIL a S=1:200



DETAIL b S=1:200



USE MATERIALS

| | CONCRETE | BAR |
|---------|-----------------------------------|-------|
| FOOTING | $\sigma_{ck} = 24 \text{ N/mm}^2$ | SD345 |

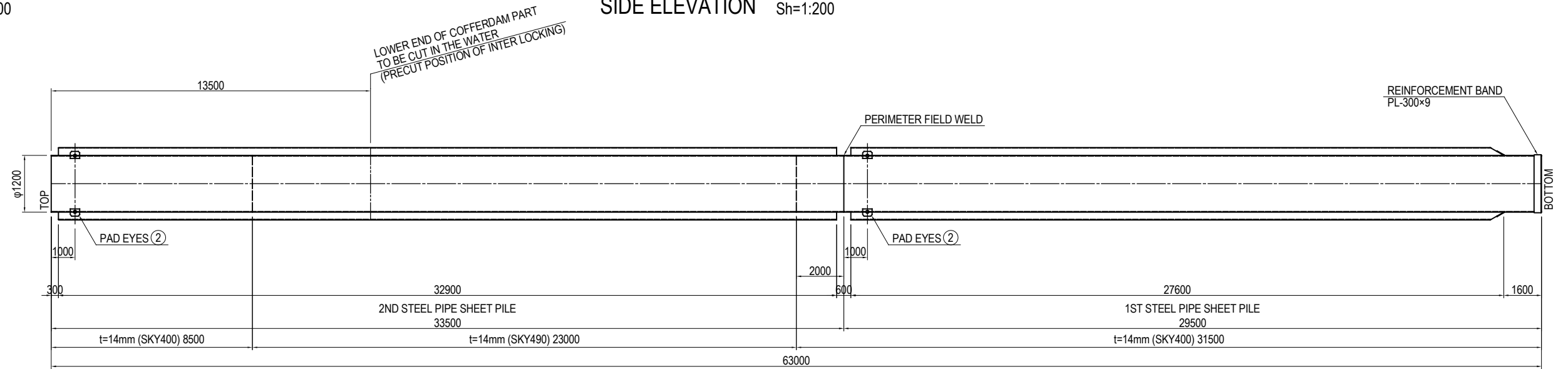
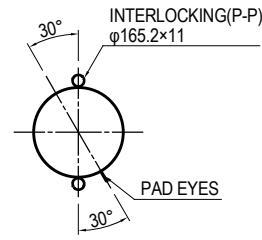
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">NAME</th> <th style="text-align: center;">SIGNATURE</th> <th style="text-align: center;">DATE</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">PREPARED BY</td> <td style="text-align: center;">S. TOKUMARU</td> <td style="text-align: center;"></td> <td style="text-align: center;">27. Nov.2017</td> </tr> <tr> <td style="text-align: center;">CHECKED BY</td> <td style="text-align: center;">T. HAYAKAWA</td> <td style="text-align: center;"></td> <td style="text-align: center;">28. Nov.2017</td> </tr> <tr> <td style="text-align: center;">APPROVED BY</td> <td style="text-align: center;">Y. SANO</td> <td style="text-align: center;"></td> <td style="text-align: center;">29. Nov.2017</td> </tr> </tbody> </table> | | NAME | SIGNATURE | DATE | PREPARED BY | S. TOKUMARU | | 27. Nov.2017 | CHECKED BY | T. HAYAKAWA | | 28. Nov.2017 | APPROVED BY | Y. SANO | | 29. Nov.2017 | DRAWING TITLE GENERAL DRAWING OF STEEL PIPE SHEET PILE FOUNDATION OF P13 PIER | PACKAGE 1 DWG No. P1-CS-2341 |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------|-----------|------|-------------|-------------|--|--------------|------------|-------------|--|--------------|-------------|---------|--|--------------|-------------------------------------------------------------------------------------|---------------------------------------|
| | NAME | SIGNATURE | DATE | | | | | | | | | | | | | | | | | | | |
| PREPARED BY | S. TOKUMARU | | 27. Nov.2017 | | | | | | | | | | | | | | | | | | | |
| CHECKED BY | T. HAYAKAWA | | 28. Nov.2017 | | | | | | | | | | | | | | | | | | | |
| APPROVED BY | Y. SANO | | 29. Nov.2017 | | | | | | | | | | | | | | | | | | | |

DETAIL OF STEEL PIPE SHEET PILE OF P13 PIER (1)

CROSS SECTION S=1:200

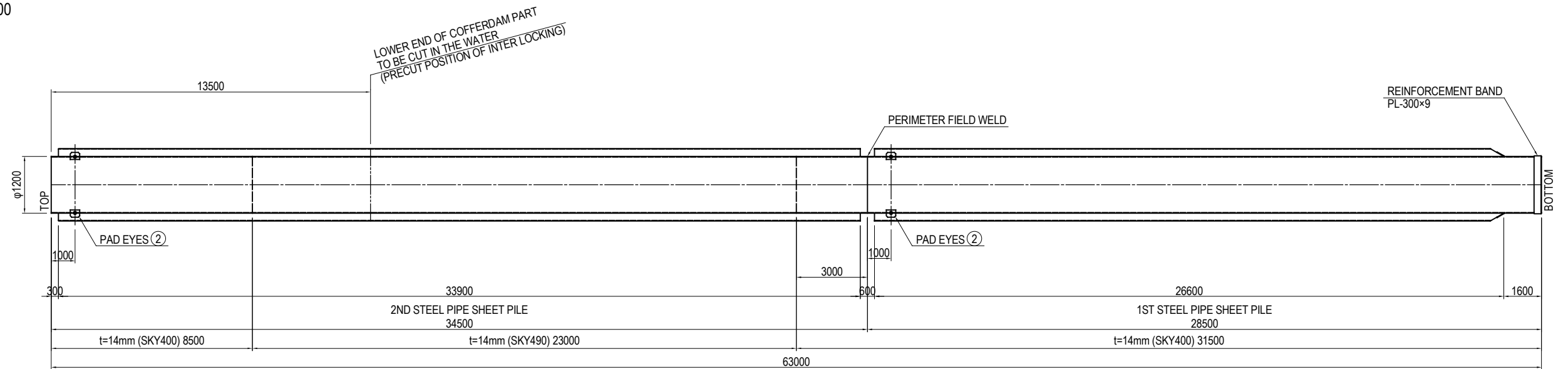
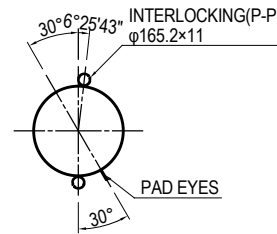
SIDE ELEVATION Sv=1:100 Sh=1:200

TYPE A

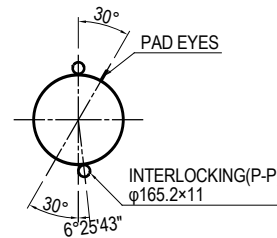


CROSS SECTION S=1:200

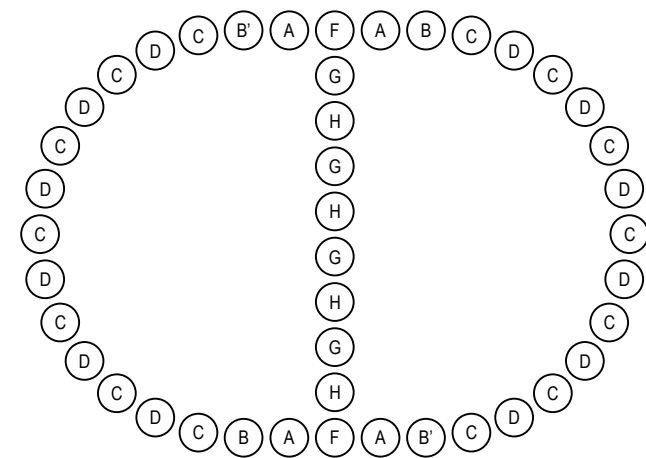
TYPE B



TYPE B'



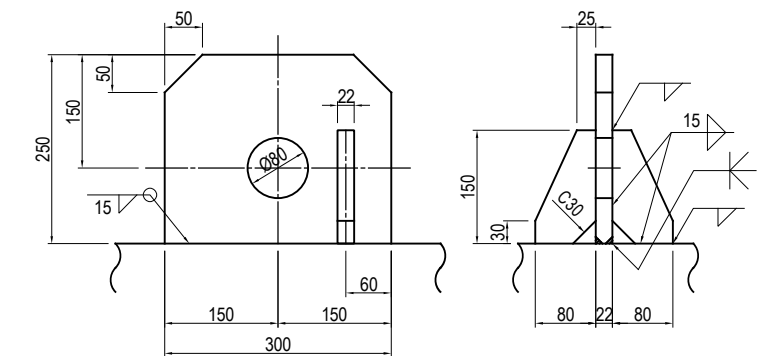
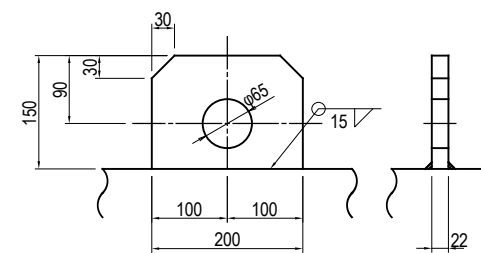
STEEL PIPE SHEET PILE TYPE AND POSITION



DETAIL OF EYES S=1:10

PAD EYES ① PL-200x150x22 (SM490A)

PAD EYES ② PL-300x250x22 (SM490A)



Note: Drawing of Pad Eye (metal fitting for hanging) and the position of perimeter field weld can be used for reference only.

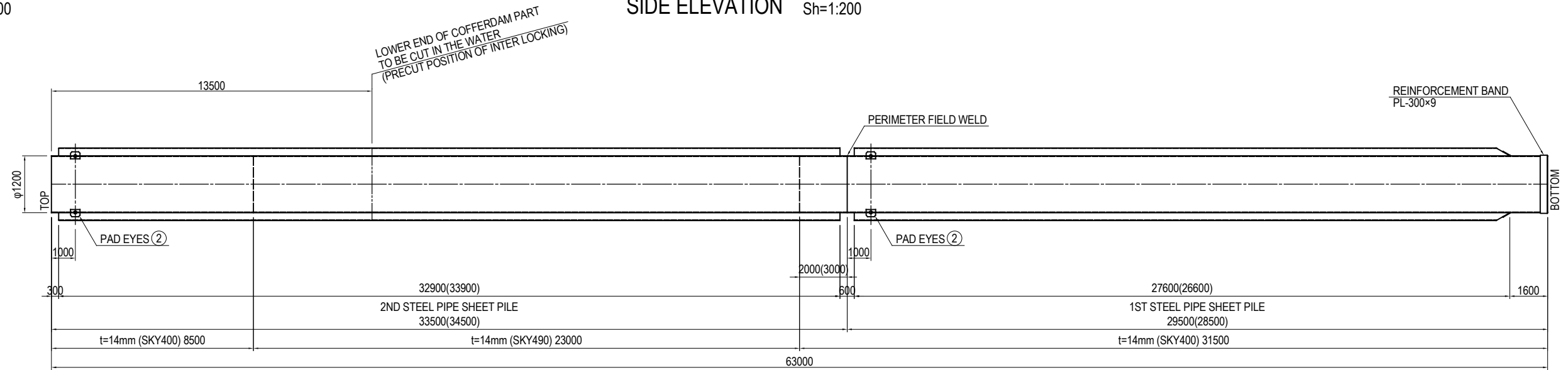
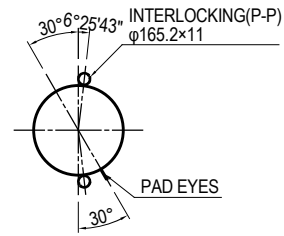
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|---------------------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------|------------------------------------------------------|------------------------------------------------------------------|---------------------------------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JICA JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME S. TOKUMARU T. HAYAKAWA Y. SANO | SIGNATURE <i>徳丸 祥樹</i> <i>平川 知平</i> <i>佐藤 祐一</i> | DATE 27. Nov.2017 28. Nov.2017 29. Nov.2017 | DRAWING TITLE DETAIL OF STEEL PIPE SHEET PILE OF P13 PIER (1) | PACKAGE 1 DWG No. P1-CS-2342 |
|---------------------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------|------------------------------------------------------|------------------------------------------------------------------|---------------------------------------|

DETAIL OF STEEL PIPE SHEET PILE OF P13 PIER (2)

CROSS SECTION S=1:200

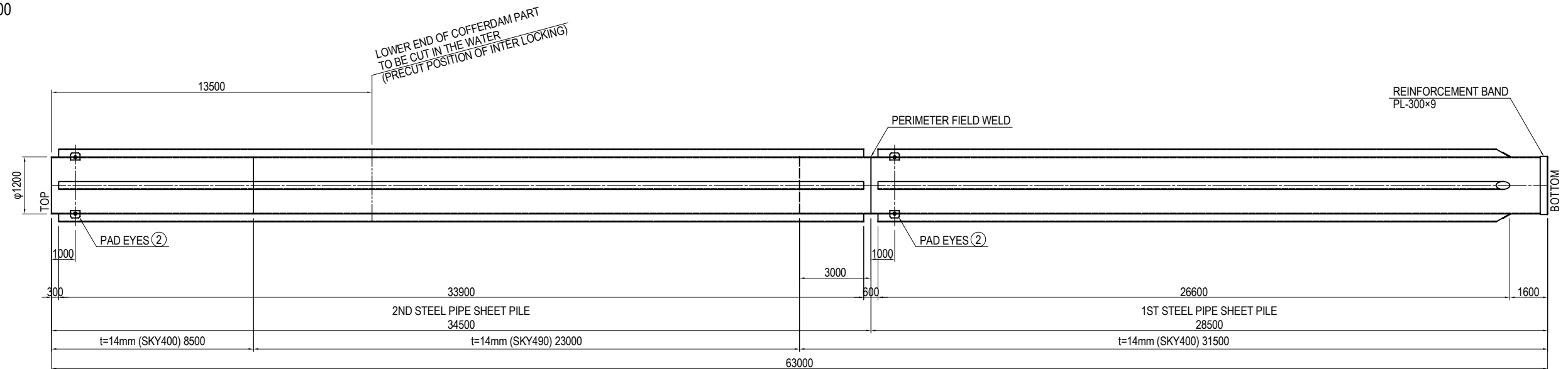
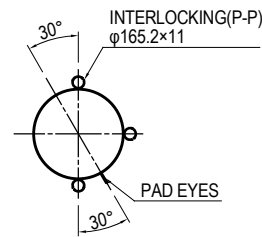
SIDE ELEVATION Sv=1:100 Sh=1:200

**TYPE C
(TYPE D)**



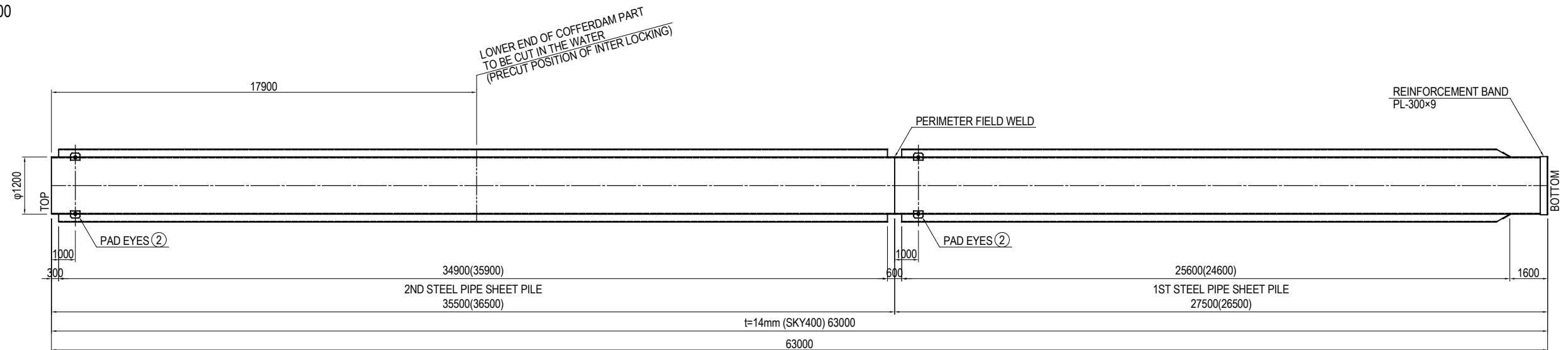
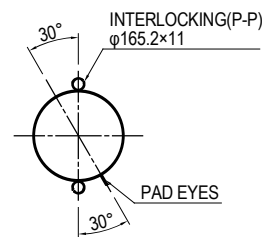
CROSS SECTION S=1:200

TYPE F



CROSS SECTION S=1:200

**TYPE G
(TYPE H)**

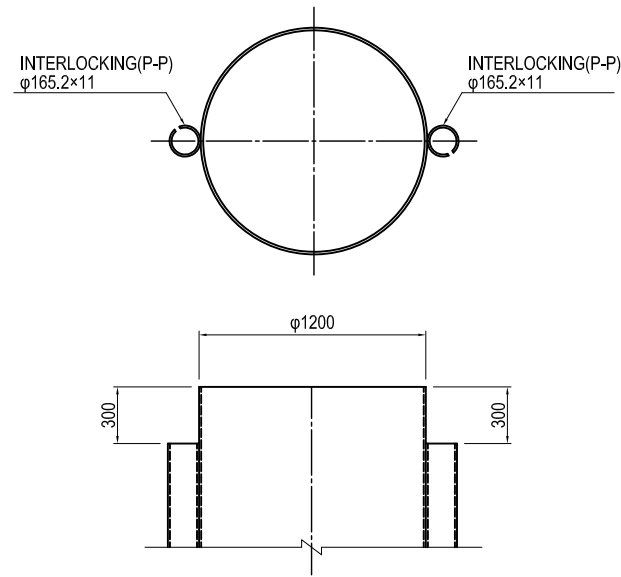


Note: Drawing of Pad Eye (metal fitting for hanging) and the position of perimeter field weld can be used for reference only.

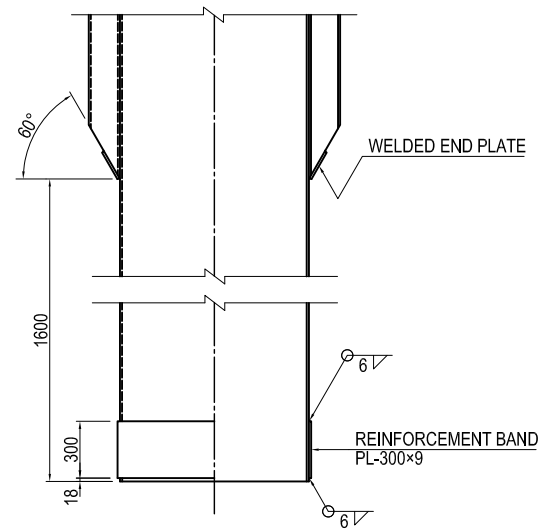
| <p>PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT</p> | <p>FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY</p> | <p>COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE</p> | <p>JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.</p> | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>NAME</th> <th>SIGNATURE</th> <th>DATE</th> </tr> <tr> <td>PREPARED BY S. TOKUMARU</td> <td></td> <td>27. Nov. 2017</td> </tr> <tr> <td>CHECKED BY T. HAYAKAWA</td> <td></td> <td>28. Nov. 2017</td> </tr> <tr> <td>APPROVED BY Y. SANO</td> <td></td> <td>29. Nov. 2017</td> </tr> </table> | NAME | SIGNATURE | DATE | PREPARED BY S. TOKUMARU | | 27. Nov. 2017 | CHECKED BY T. HAYAKAWA | | 28. Nov. 2017 | APPROVED BY Y. SANO | | 29. Nov. 2017 | <p>DRAWING TITLE DETAIL OF STEEL PIPE SHEET PILE OF P13 PIER (2)</p> | <p>PACKAGE 1 DWG No. P1-CS-2343</p> |
|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|------|----------------------------|--|---------------|---------------------------|--|---------------|------------------------|--|---------------|---------------------------------------------------------------------------------|-------------------------------------------------|
| NAME | SIGNATURE | DATE | | | | | | | | | | | | | | | | |
| PREPARED BY S. TOKUMARU | | 27. Nov. 2017 | | | | | | | | | | | | | | | | |
| CHECKED BY T. HAYAKAWA | | 28. Nov. 2017 | | | | | | | | | | | | | | | | |
| APPROVED BY Y. SANO | | 29. Nov. 2017 | | | | | | | | | | | | | | | | |

DETAIL OF INTERLOCKING OF STEEL PIPE SHEET PILE OF P13 PIER

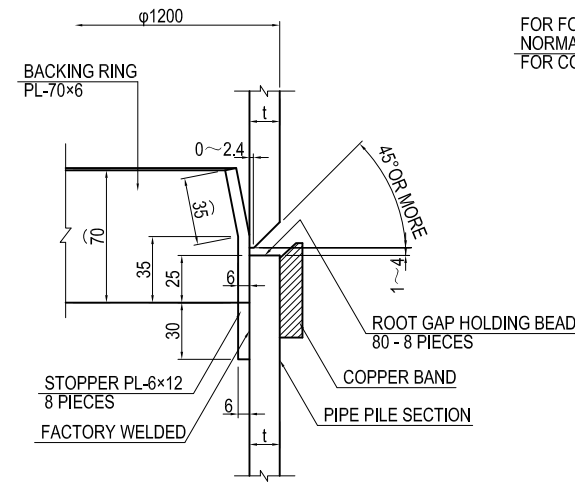
DETAIL OF STEEL PIPE SHEET PILE TOP S=1:40



DETAIL OF STEEL PIPE SHEET PILE TOE S=1:40

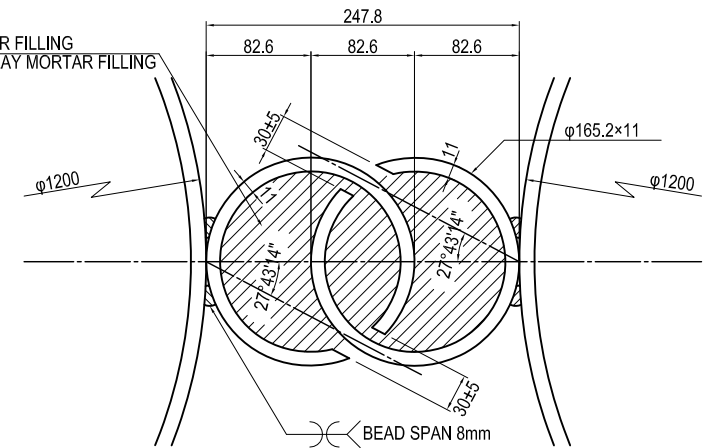


DETAIL OF PERIMETER FIELD WELDING OF STEEL PIPE SHEET PILE S=1:4



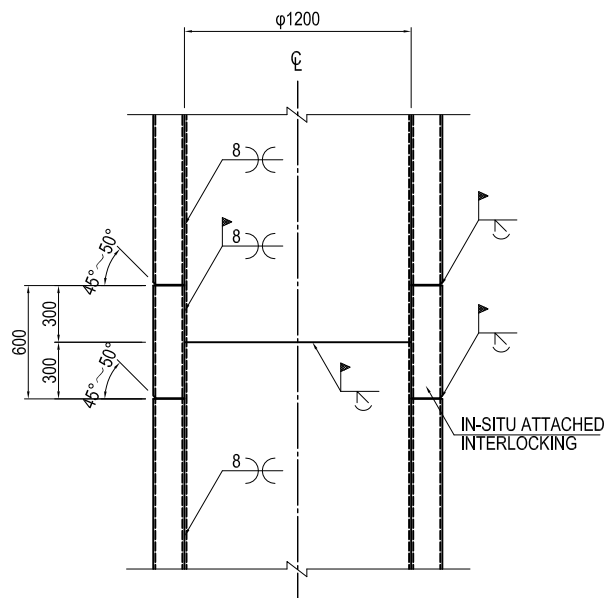
FOR FOUNDATION PART :
NORMAL STRENGTH MORTAR FILLING
FOR COFFERDAM PART : CLAY MORTAR FILLING

DETAIL OF CONNECTED INTERLOCKING(P-P) S=1:6

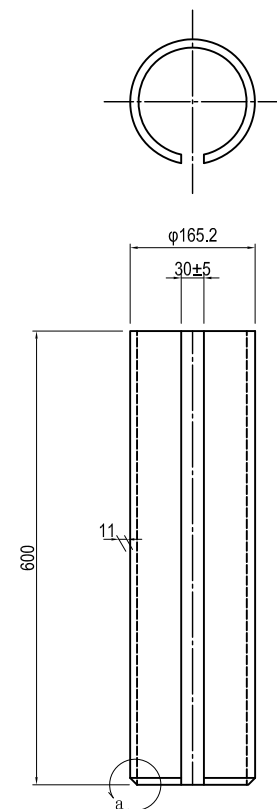


TREATMENT OF STEEL PIPE SHEET PILE INTERLOCKING

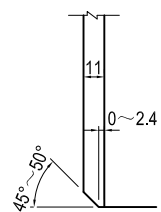
DETAIL OF IN-SITU LONGITUDINAL WELDING PART S=1:40



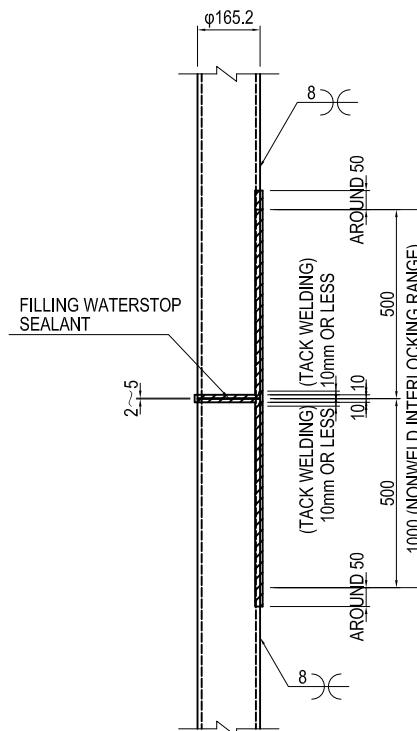
DETAIL OF IN-SITU ATTACHED INTERLOCKING S=1:10



DETAIL a

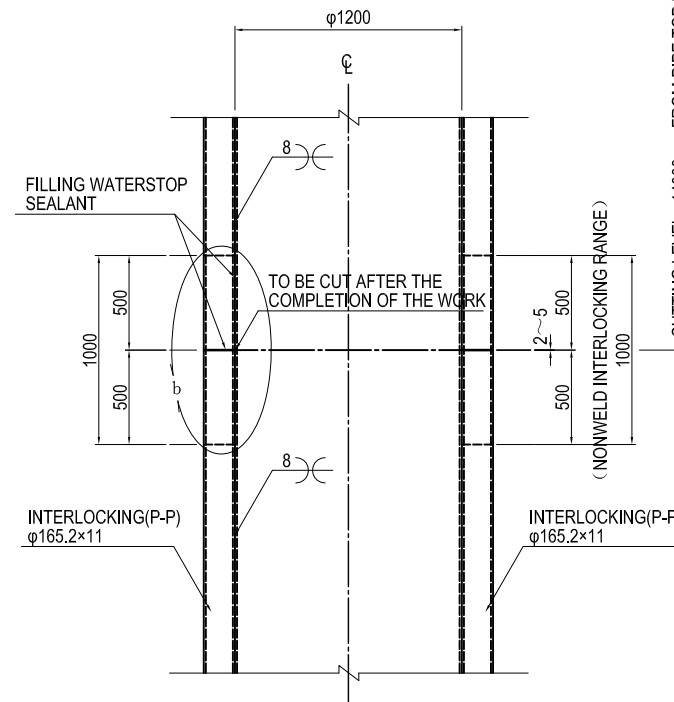


DETAIL b

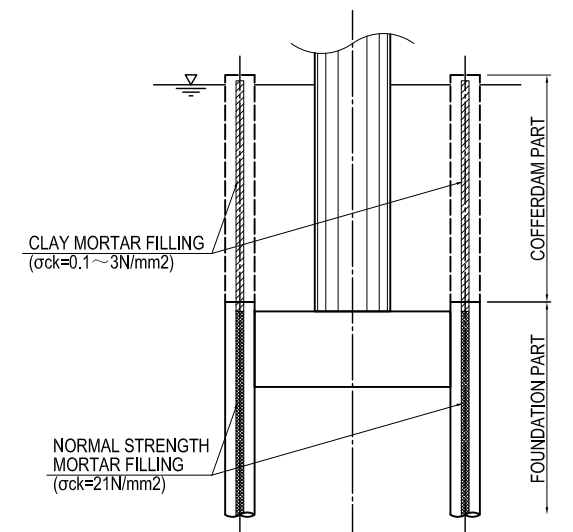


CUTTING LEVEL : 14000mm FROM PIPE TOP FOR EXTERNAL-WALL SHEET PILING.

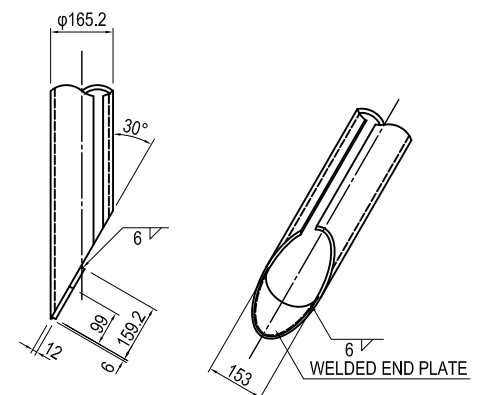
DETAIL OF PRECUT INTERLOCKING S=1:40



CUTTING LEVEL : 14000mm FROM PIPE TOP FOR EXTERNAL-WALL SHEET PILING.

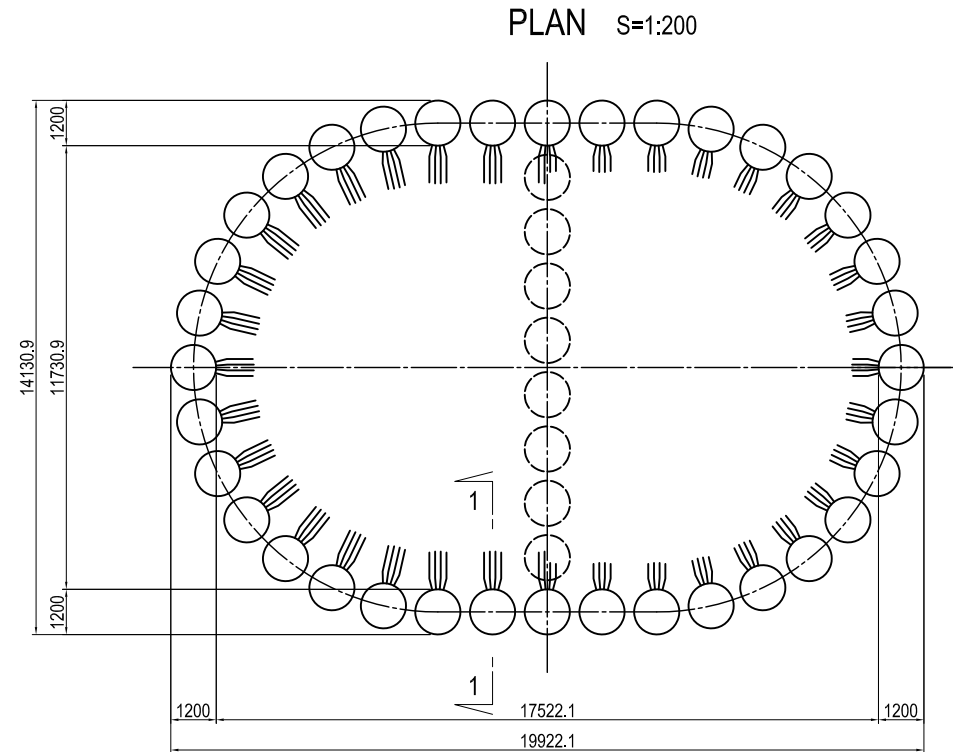


DETAIL OF INTERLOCKING TOE S=1:20

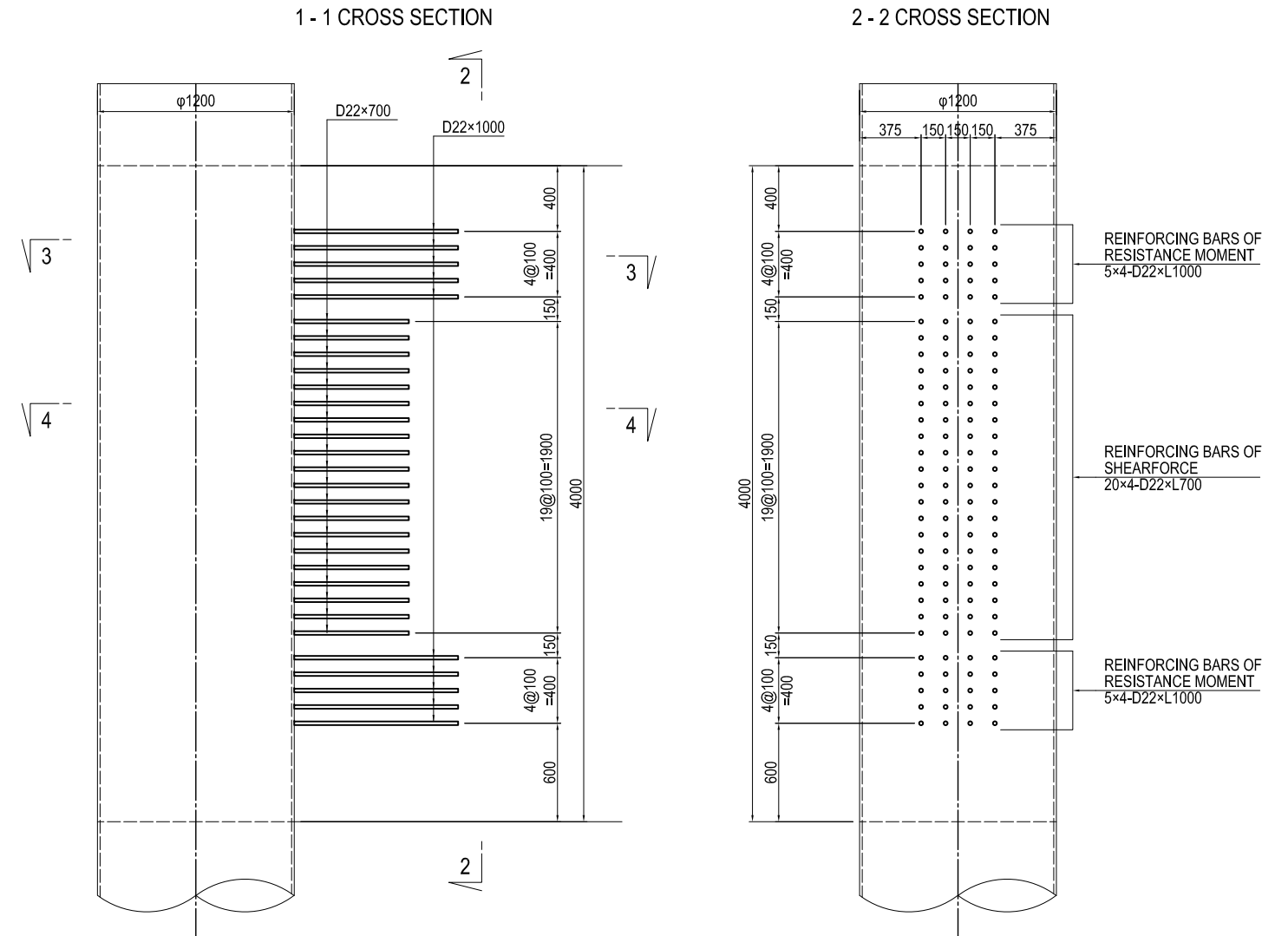


| PROJECT NAME | FINANCED BY | COUNTERPART | JICA STUDY TEAM | NAME | SIGNATURE | DATE | DRAWING TITLE | PACKAGE |
|-----------------------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------|--------------|-------------------------------------------------------------|------------|
| DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | JICA JAPAN INTERNATIONAL COOPERATION AGENCY | REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | S. TOKUMARU | | 27. Nov.2017 | DETAIL OF INTERLOCKING OF STEEL PIPE SHEET PILE OF P13 PIER | 1 |
| | | | | T. HAYAKAWA | | 28. Nov.2017 | | DWG No. |
| | | | | Y. SANO | | 29. Nov.2017 | | P1-CS-2344 |

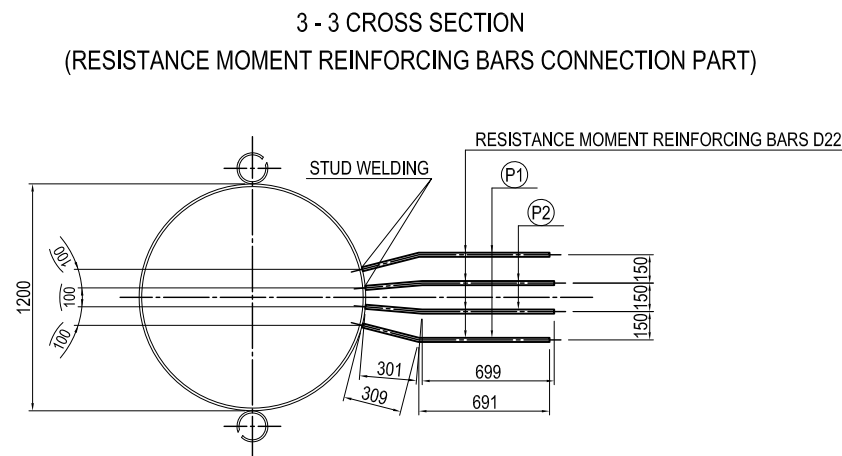
DETAIL OF CONNECTION BETWEEN STEEL PIPE SHEET PILE AND FOOTING OF P13 PIER



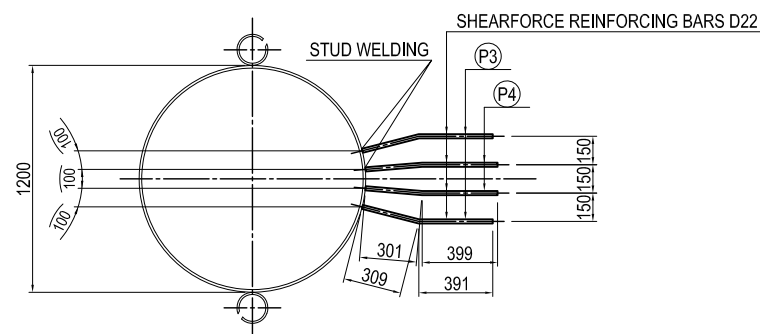
DETAIL OF CONNECTION BETWEEN STEEL PIPE SHEET PILE AND FOOTING S=1:40



CROSS SECTION OF CONNECTION BETWEEN STEEL PIPE SHEET PILE AND REINFORCING BARS S=1:40



4 - 4 CROSS SECTION (SHEARFORCE REINFORCING BARS CONNECTION PART)



FABRICATION OF REINFORCING BARS S=1:40

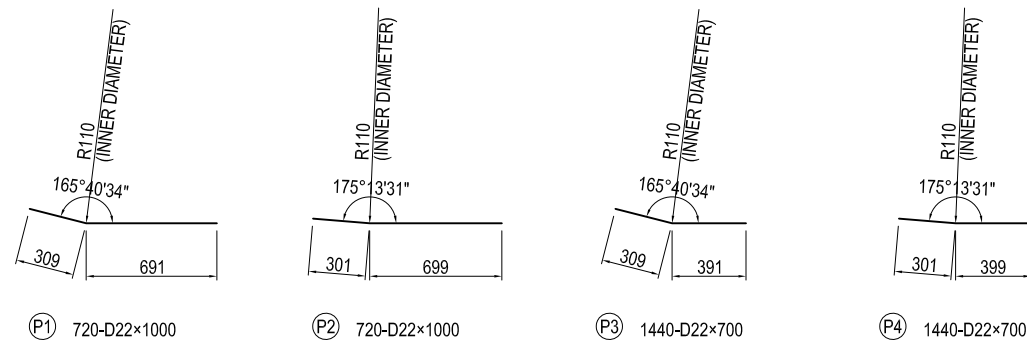
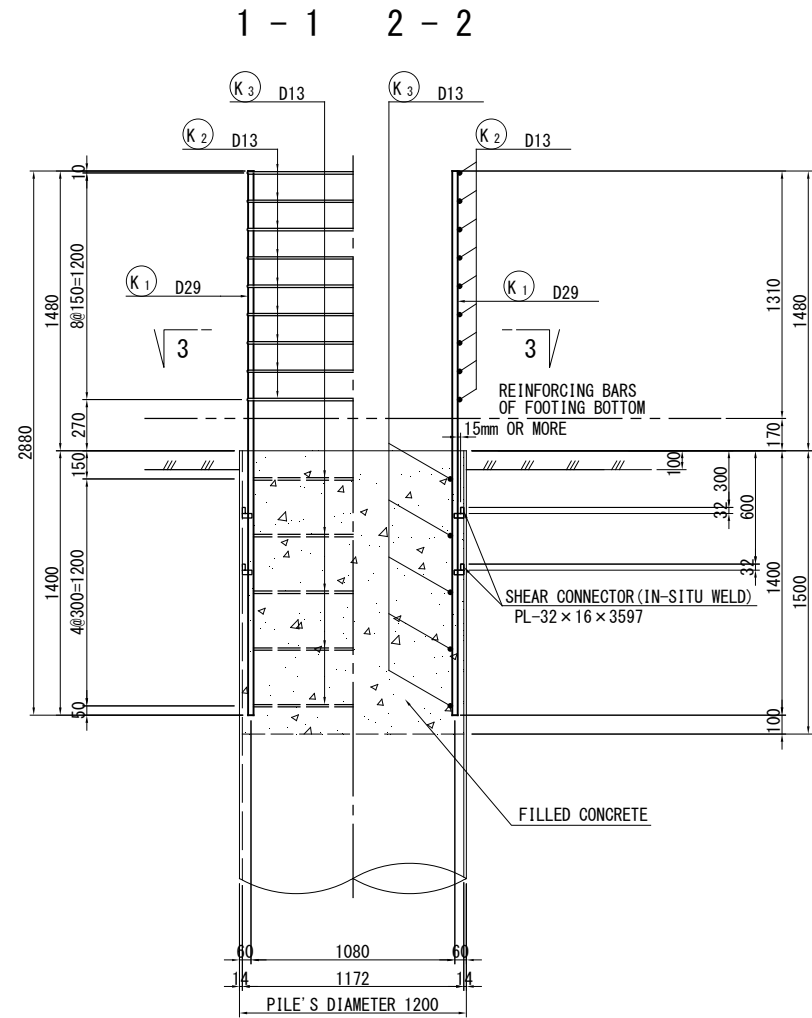


TABLE OF REINFORCING BARS

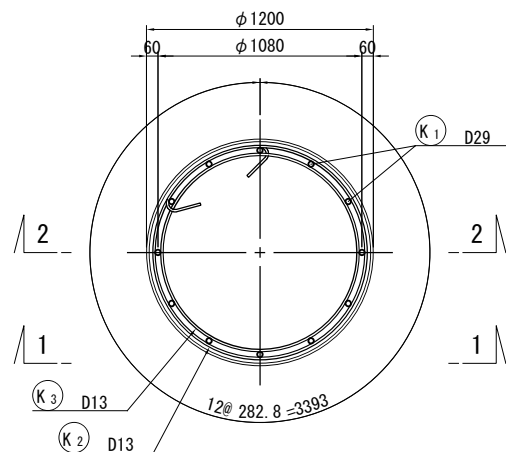
| MARK | TYPE | LENGTH (mm) | PIECES (piece) | UNIT WEIGHT (kg/m) | UNIT WEIGHT (kg/piece) | WEIGHT (kg) | GRADE | MEMO |
|------|------|-------------|----------------|--------------------|------------------------|-------------|------------------------|------|
| P1 | D22 | 1000 | 720 | 3.04 | 3.04 | 2189 | SD345 for STUD WELDING | |
| P2 | D22 | 1000 | 720 | 3.04 | 3.04 | 2189 | SD345 for STUD WELDING | |
| P3 | D22 | 700 | 1440 | 3.04 | 2.13 | 3067 | SD345 for STUD WELDING | |
| P4 | D22 | 700 | 1440 | 3.04 | 2.13 | 3067 | SD345 for STUD WELDING | |
| | | | | | D22 | 10512 | kg | |
| | | | | | TOTAL WEIGHT | 10512 | kg | |

DETAIL OF PILE TOP CONNECTION TO THE BASE CONCRETE OF P13 PIER S=1:40

DETAIL OF PILE TOP

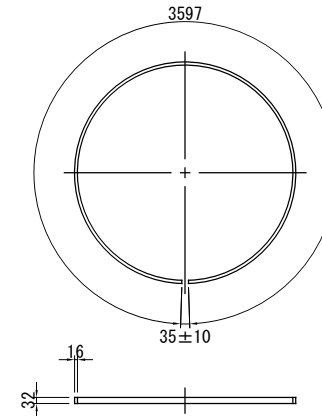


3 - 3

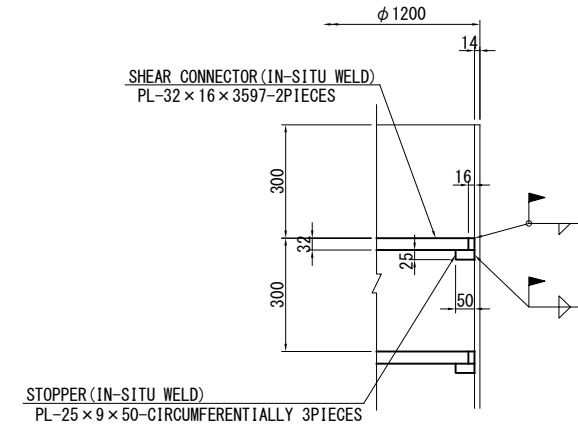


DETAIL OF ATTACHMENT OF SHEAR CONNECTOR

CENTER OF LENGTH

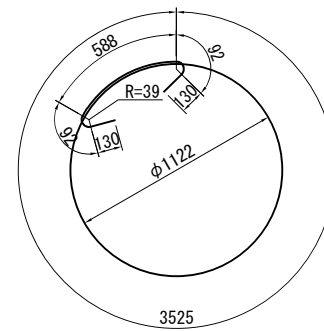


SETTING IN THE FIELD S=1:20

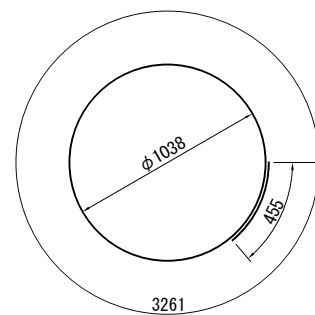


MATERIAL LIST

| MARKS | SECTION SIZE | LENGTH (mm) | NOS. OF BARS | UNIT WEIGHT (kg/m) | WEIGHT/EA. (kg) | WEIGHT (kg) | MATERIAL | REMARKS |
|----------------------------------------------------------------------|--------------|-------------|--------------|--------------------|-----------------|-------------|----------|-----------------|
| PILE TOP ACCOMPANYING ITEMS | | | | | | | | |
| PL | PL-32*16 | 3597 | 2 | 4.019 | 14.456 | 28.9 | SS400 | SHEAR CONNECTOR |
| PL | PL-25*9 | 50 | 6 | 1.766 | 0.088 | 0.5 | SS400 | STOPPER |
| REINFORCEMENT | | | | | | | | |
| K1 | D29 | 2880 | 12 | 5.04 | 14.52 | 174 | SD345 | |
| K2 | D13 | 4560 | 9 | 0.995 | 4.54 | 41 | SD345 | ○ |
| K3 | D13 | 3720 | 5 | 0.995 | 3.70 | 19 | SD345 | ○ |
| TOTAL | | | | | | 234 | | |
| FILLED CONCRETE ($\sigma_{ck} = 24 \text{ N/mm}^2$) | | | | | | | | |
| $V = 1/4 \times \pi \times 1.172^2 \times 1.300 = 1.402 \text{ m}^3$ | | | | | | | | |



(K2) 9 - D13 x 4560

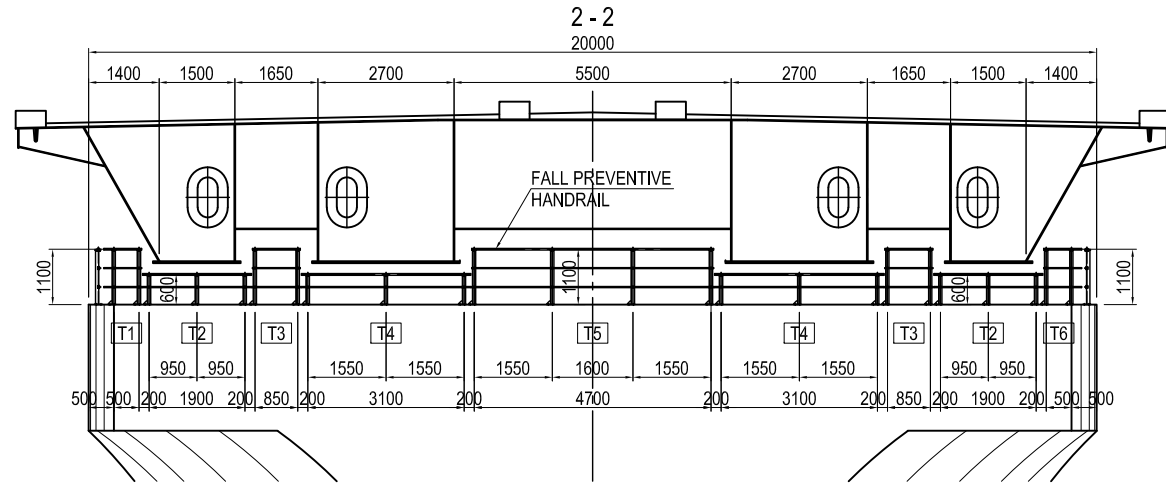


(K3) 5 - D13 x 3720

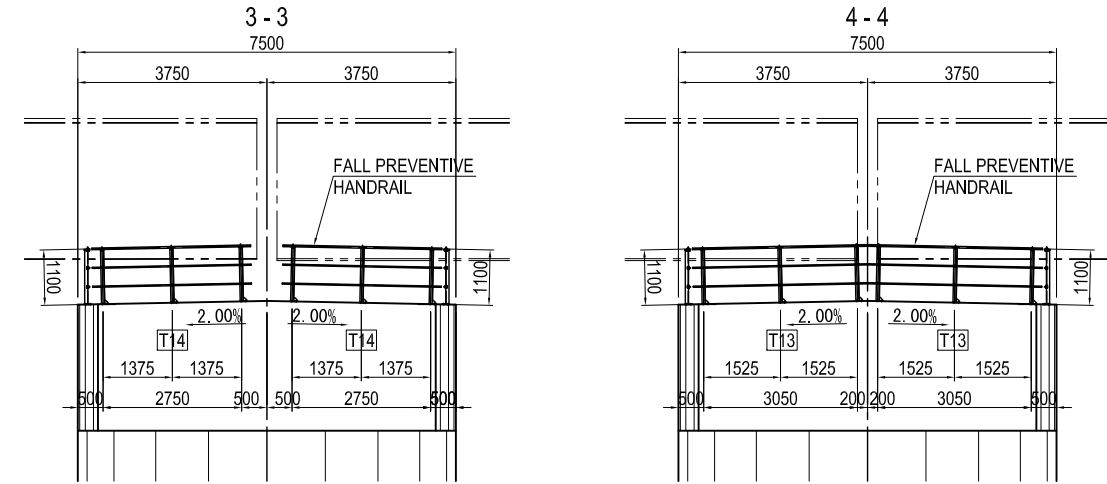
| ITEM | DIVISION | UNIT CONTENT | WEIGHT/EA. | QUANTITY |
|-----------------|-----------------------------------|--------------|------------|----------|
| NUMBER OF PILE | | Number | | 8 |
| PILE TOP | SS400 | TOTAL | kg | 29.4 |
| REINFORCEMENT | SD345 | D29 | kg | 174 |
| | | D13 | kg | 60 |
| | | TOTAL | kg | 234 |
| FILLED CONCRETE | $\sigma_{ck} = 24 \text{ N/mm}^2$ | m^3 | 1.402 | 11.2 |

FALL PREVENTIVE HANDRAIL OF P13 PIER (1) S=1:150

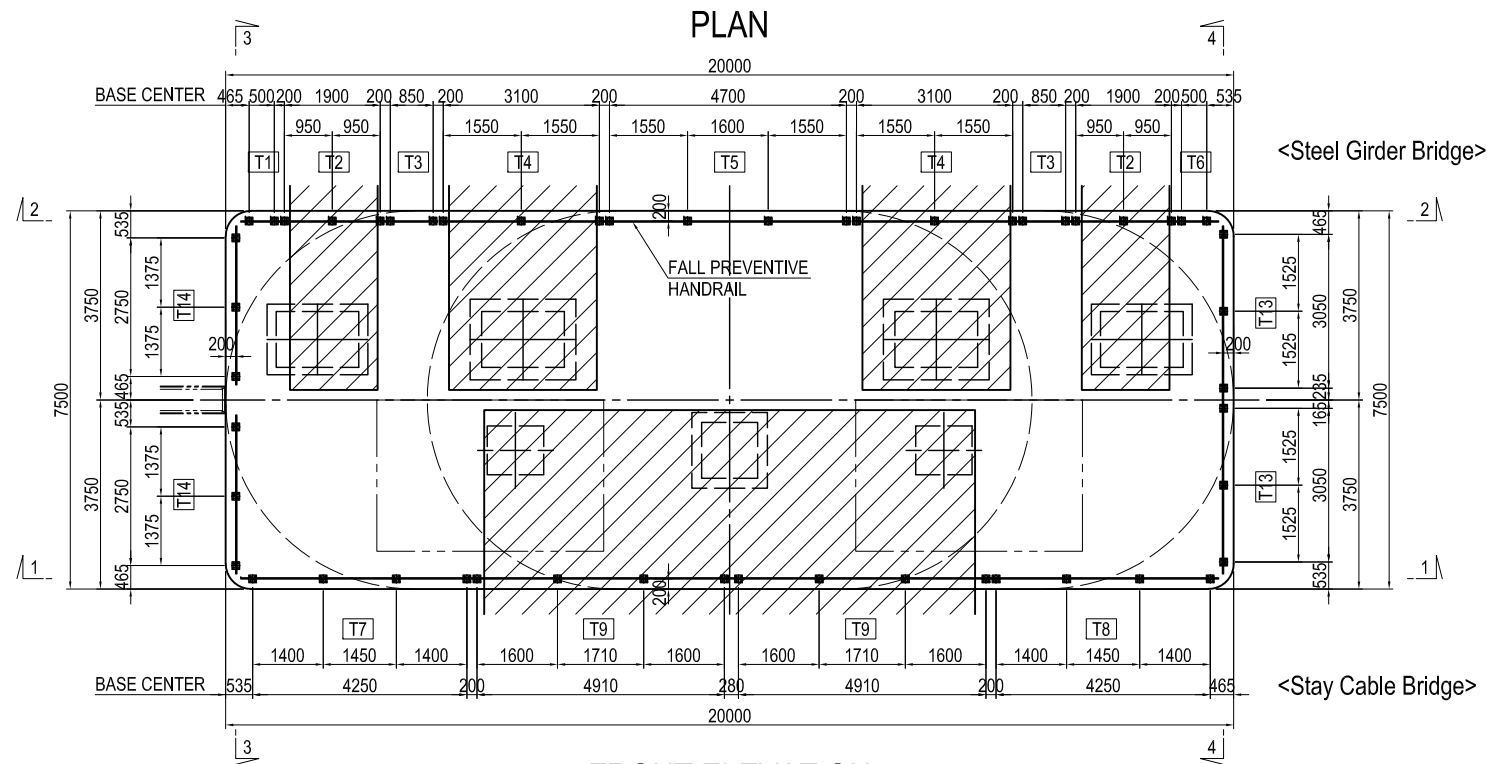
FRONT ELEVATION



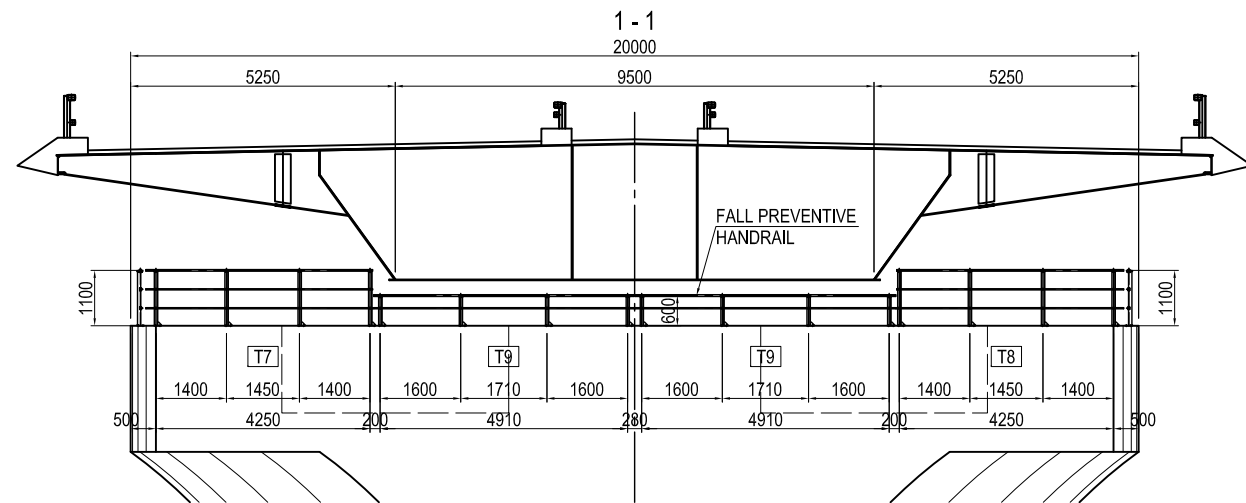
SIDE ELEVATION



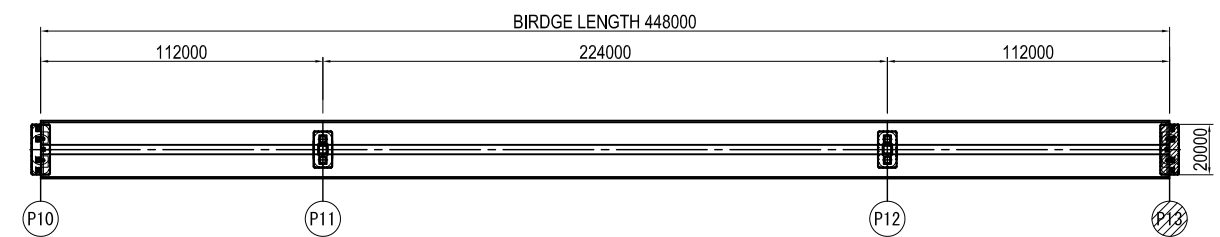
PLAN



FRONT ELEVATION

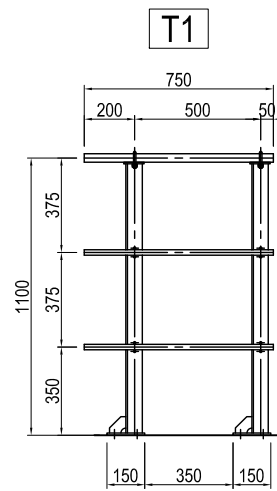


KEY PLAN

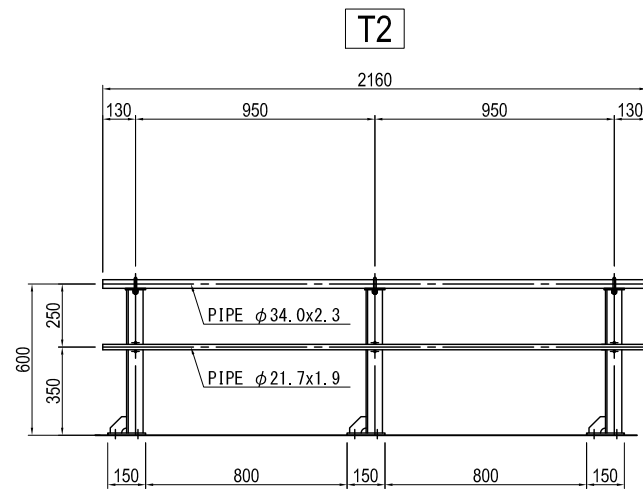


| | | | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|---------------|---------|--------------|------------------------------------------|------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE | PACKAGE | | | |
| | | | | PREPARED BY | S.TOKUMARU | | | | 27. Nov.2017 | FALL PREVENTIVE HANDRAIL OF P13 PIER (1) | 1 |
| | | | | CHECKED BY | T. HAYAKAWA | | | | 28. Nov.2017 | | DWG No. |
| | | | | APPROVED BY | Y. SANO | | | | 29. Nov.2017 | | P1-CS-2347 |

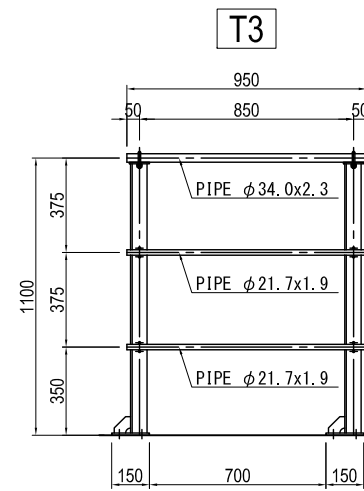
FALL PREVENTIVE HANDRAIL OF P13 PIER (2) S=1:30



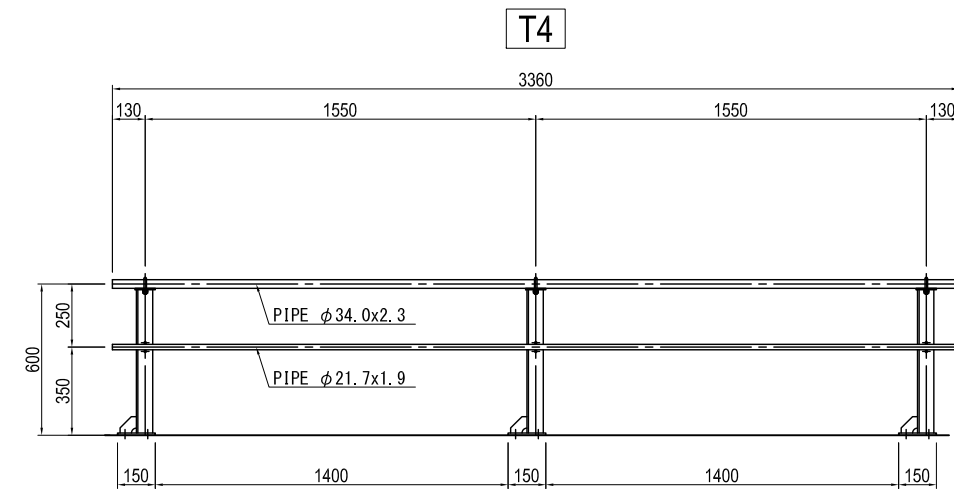
- <T1> Production volume : 1(per pier)
 1-PIPE φ34.0x2.3x750 (STK400)
 2-PIPE φ21.7x1.9x750 (STK400)
 2-L 65x65x6x1069
 2-PL 115x6x80 (SM400A)
 2-BASE PL 150x9x150 (SM400A)
 2-RIB PL 65x6x65 (SM400A)
 2-U. Bolt M10 Nominal25C
 4-U. Bolt M10 Nominal15C
 8-Driving anchor M16x125



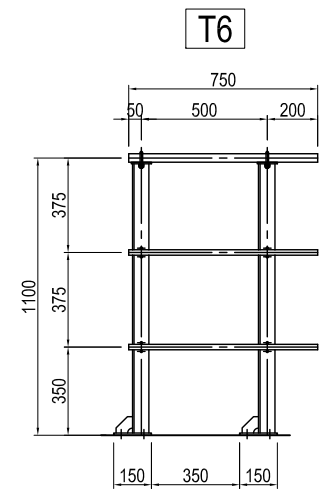
- <T2> Production volume : 2(per pier)
 1-PIPE φ34.0x2.3x2160 (STK400)
 1-PIPE φ21.7x1.9x2160 (STK400)
 3-L 65x65x6x569
 3-PL 115x6x80 (SM400A)
 3-BASE PL 150x9x150 (SM400A)
 3-RIB PL 65x6x65 (SM400A)
 3-U. Bolt M10 Nominal25C
 3-U. Bolt M10 Nominal15C
 12-Driving anchor M16x125



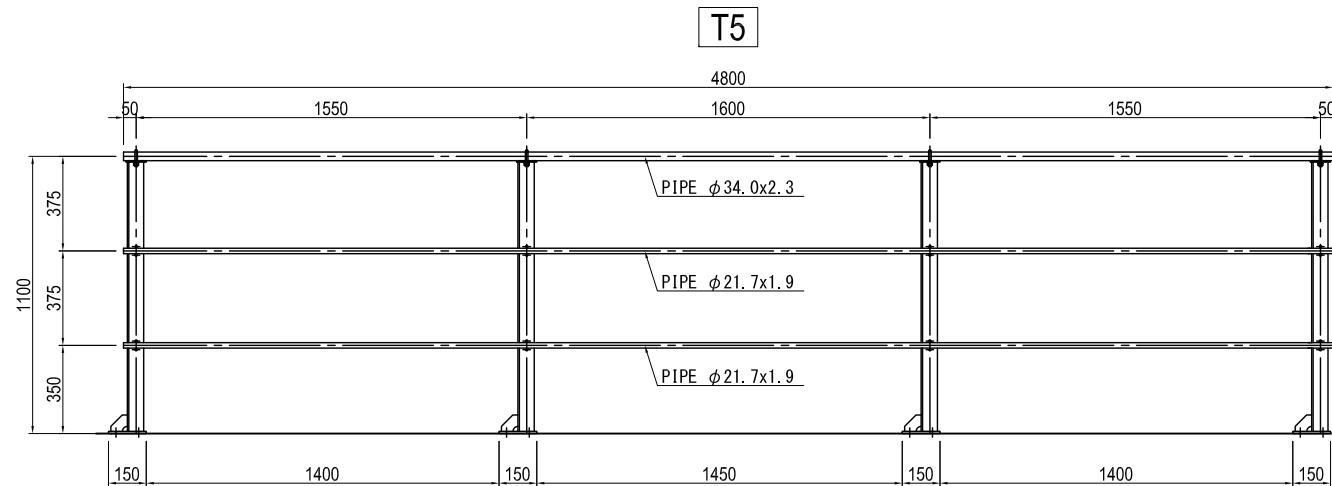
- <T3> Production volume : 2(per pier)
 1-PIPE φ34.0x2.3x950 (STK400)
 2-PIPE φ21.7x1.9x950 (STK400)
 2-L 65x65x6x1069
 2-PL 115x6x80 (SM400A)
 2-BASE PL 150x9x150 (SM400A)
 2-RIB PL 65x6x65 (SM400A)
 2-U. Bolt M10 Nominal25C
 4-U. Bolt M10 Nominal15C
 8-Driving anchor M16x125



- <T4> Production volume : 2(per pier)
 1-PIPE φ34.0x2.3x3360 (STK400)
 1-PIPE φ21.7x1.9x3360 (STK400)
 3-L 65x65x6x569
 3-PL 115x6x80 (SM400A)
 3-BASE PL 150x9x150 (SM400A)
 3-RIB PL 65x6x65 (SM400A)
 3-U. Bolt M10 Nominal25C
 3-U. Bolt M10 Nominal15C
 12-Driving anchor M16x125



- <T6> Production volume : 1(per pier)
 1-PIPE φ34.0x2.3x750 (STK400)
 2-PIPE φ21.7x1.9x750 (STK400)
 2-L 65x65x6x1069
 2-PL 115x6x80 (SM400A)
 2-BASE PL 150x9x150 (SM400A)
 2-RIB PL 65x6x65 (SM400A)
 2-U. Bolt M10 Nominal25C
 4-U. Bolt M10 Nominal15C
 8-Driving anchor M16x125



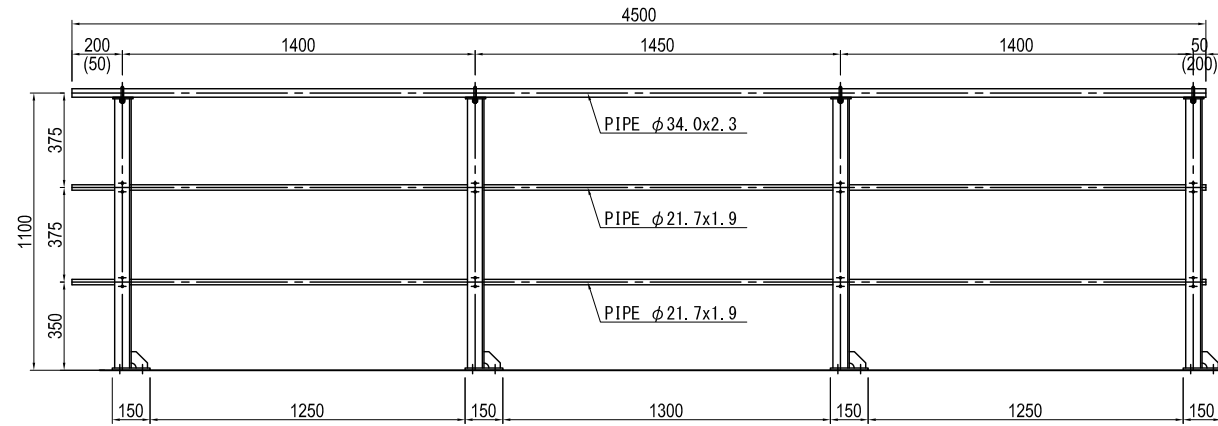
- <T5> Production volume : 1(per pier)
 1-PIPE φ34.0x2.3x4800 (STK400)
 2-PIPE φ21.7x1.9x4800 (STK400)
 4-L 65x65x6x1069
 4-PL 115x6x80 (SM400A)
 4-BASE PL 150x9x150 (SM400A)
 4-RIB PL 65x6x65 (SM400A)
 4-U. Bolt M10 Nominal25C
 8-U. Bolt M10 Nominal15C
 16-Driving anchor M16x125

Note) 1 All materials without special mention are SS400.
 2 The surface treatment of the steel member is hot-dip galvanized.
 (The amount of zinc deposition shall be JIS H 8641 2 type HDZ 55.
 However, bolts and nuts and members with a thickness
 of less than 3.2 mm shall be HDZ35.)

| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|---------------|------------|--------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE | PACKAGE | |
| | | | | PREPARED BY | S.TOKUMARU | | | | 27. Nov.2017 |
| | | | | CHECKED BY | T. HAYAKAWA | | | | 28. Nov.2017 |
| | | | | APPROVED BY | Y. SANO | | | | 29. Nov.2017 |
| FALL PREVENTIVE HANDRAIL OF P13 PIER (2) | | | | | | | 1 | DWG No. | |
| | | | | | | | | P1-CS-2348 | |

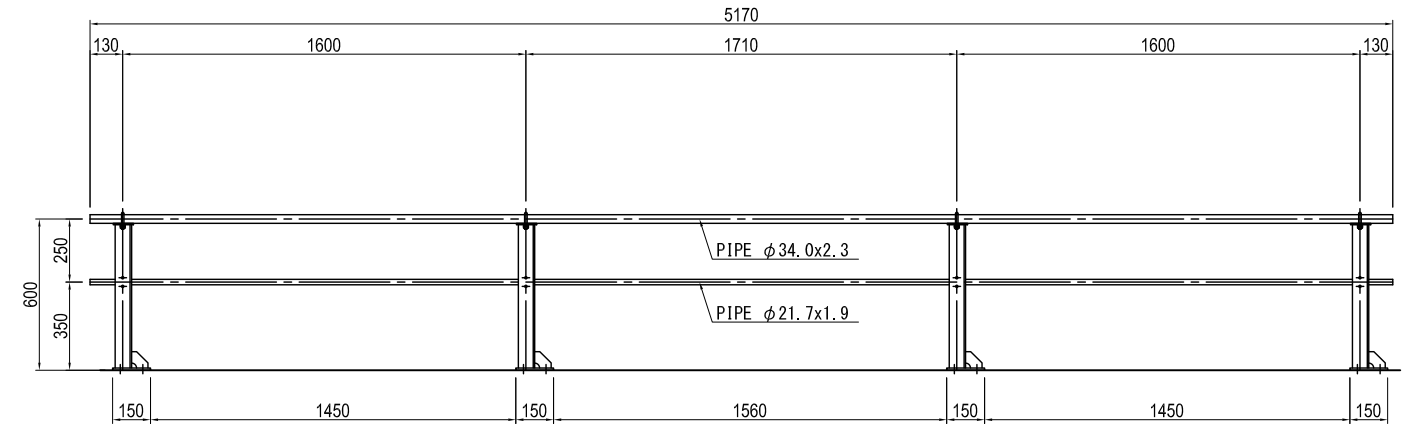
FALL PREVENTIVE HANDRAIL OF P13 PIER (3) S=1:30

T7 (T8)



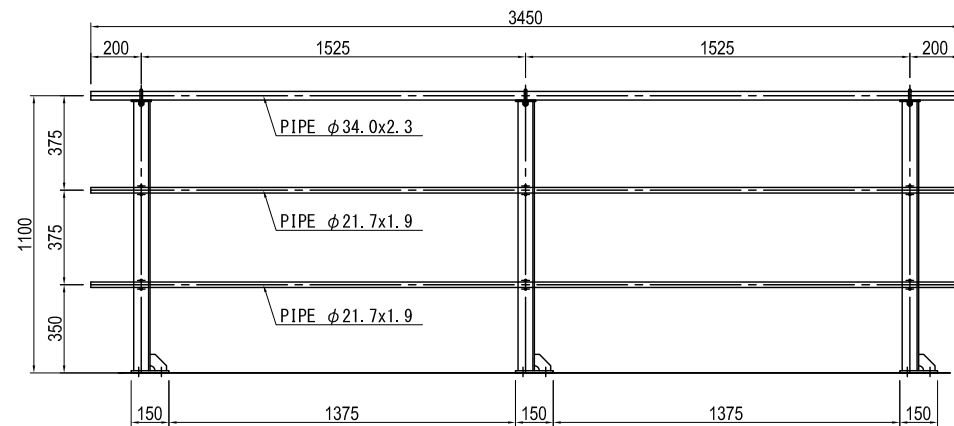
- <T7, T8> Production volume : each1 (per pier)
- | | |
|--------------------------------|---------------------------|
| 1-PIPE φ34.0x2.3x4500 (STK400) | 4-RIB PL 65x6x65 (SM400A) |
| 2-PIPE φ21.7x1.9x4500 (STK400) | 4-U. Bolt M10 Nominal25C |
| 4-L 65x65x6x1069 | 8-U. Bolt M10 Nominal15C |
| 4-PL 115x6x80 (SM400A) | 16-Driving anchor M16x125 |
| 4-BASE PL 150x9x150 (SM400A) | |

T9



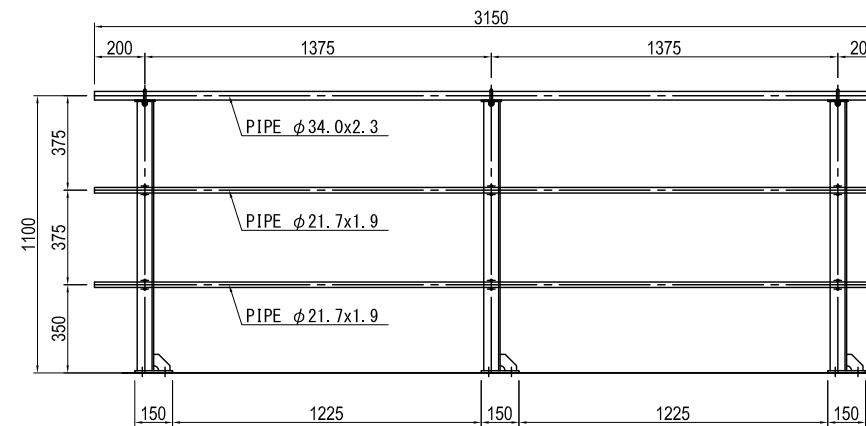
- <T9> Production volume : 2 (per pier)
- | | |
|--------------------------------|---------------------------|
| 1-PIPE φ34.0x2.3x5170 (STK400) | 4-RIB PL 65x6x65 (SM400A) |
| 1-PIPE φ21.7x1.9x5170 (STK400) | 4-U. Bolt M10 Nominal25C |
| 4-L 65x65x6x569 | 4-U. Bolt M10 Nominal15C |
| 4-PL 115x6x80 (SM400A) | 16-Driving anchor M16x125 |
| 4-BASE PL 150x9x150 (SM400A) | |

T13



- <T13> Production volume : 2 (per pier)
- | | |
|--------------------------------|---------------------------|
| 1-PIPE φ34.0x2.3x3450 (STK400) | 3-RIB PL 65x6x65 (SM400A) |
| 2-PIPE φ21.7x1.9x3450 (STK400) | 3-U. Bolt M10 Nominal25C |
| 3-L 65x65x6x1068 | 6-U. Bolt M10 Nominal15C |
| 3-PL 115x6x80 (SM400A) | 12-Driving anchor M16x125 |
| 3-BASE PL 150x9x150 (SM400A) | |

T14



- <T14> Production volume : 2 (per pier)
- | | |
|--------------------------------|---------------------------|
| 1-PIPE φ34.0x2.3x3150 (STK400) | 3-RIB PL 65x6x65 (SM400A) |
| 2-PIPE φ21.7x1.9x3150 (STK400) | 3-U. Bolt M10 Nominal25C |
| 3-L 65x65x6x1068 | 6-U. Bolt M10 Nominal15C |
| 3-PL 115x6x80 (SM400A) | 12-Driving anchor M16x125 |
| 3-BASE PL 150x9x150 (SM400A) | |

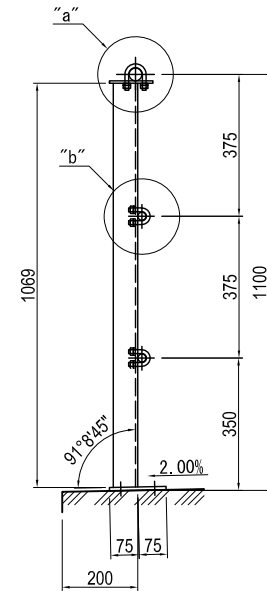
Note) 1 All materials without special mention are SS400.
 2 The surface treatment of the steel member is hot-dip galvanized.
 (The amount of zinc deposition shall be JIS H 8641 2 type HDZ 55.
 However, bolts and nuts and members with a thickness
 of less than 3.2 mm shall be HDZ35.)

| | | | | | | | | | |
|---------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------|-----------------------------------------------------------|---------------|------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY jica JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE FALL PREVENTIVE HANDRAIL OF P13 PIER (3) | PACKAGE | |
| | | | | PREPARED BY | S. TOKUMARU | 徳丸 祥樹 | | 27. Nov. 2017 | 1 |
| | | | | CHECKED BY | T. HAYAKAWA | 平川 知那 | | 28. Nov. 2017 | DWG No. |
| | | | | APPROVED BY | Y. SANO | 佐野 祐一 | | 29. Nov. 2017 | P1-CS-2349 |

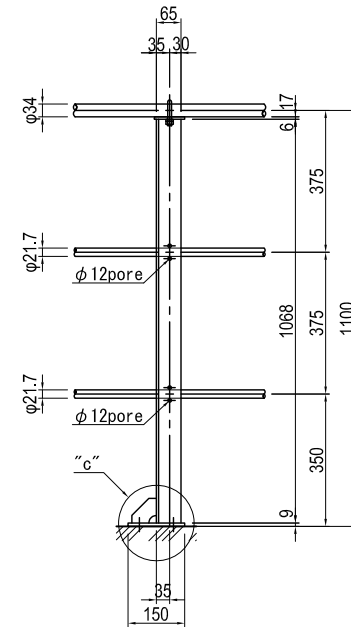
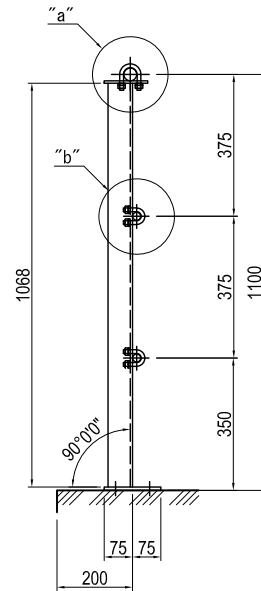
FALL PREVENTIVE HANDRAIL OF P13 PIER (4) S=1:20

DETAIL OF HANDRAIL S=1:20

T1 T3 T5 T6 ~ T8

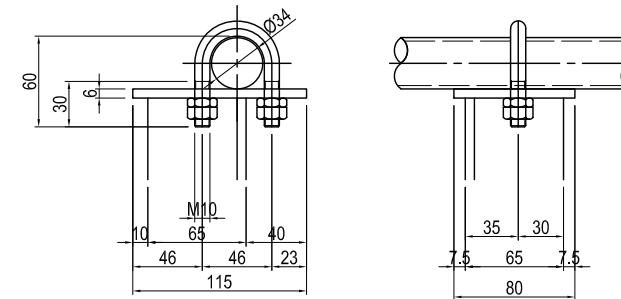


T13 T14



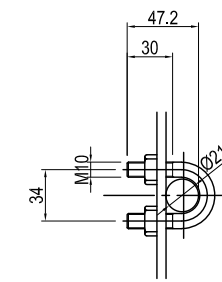
"a" DETAIL S=1:5

U.Bolt Nominal 25C

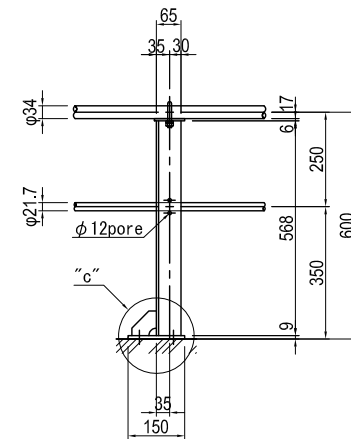
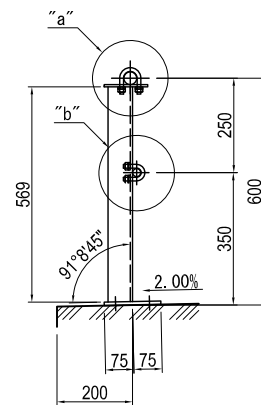


"b" DETAIL S=1:5

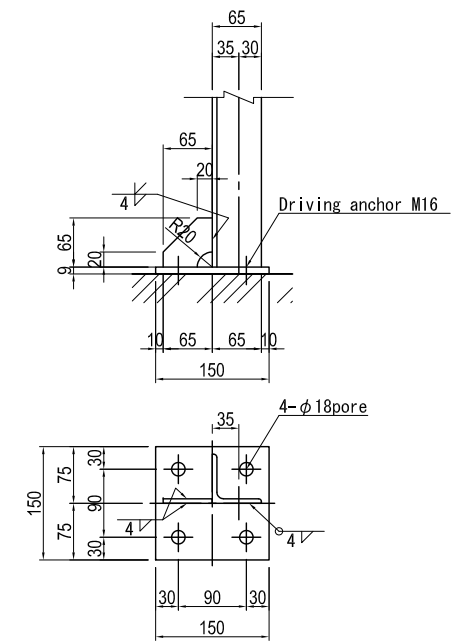
U.Bolt Nominal 15C



T2 T4 T9



"c" DETAIL S=1:10

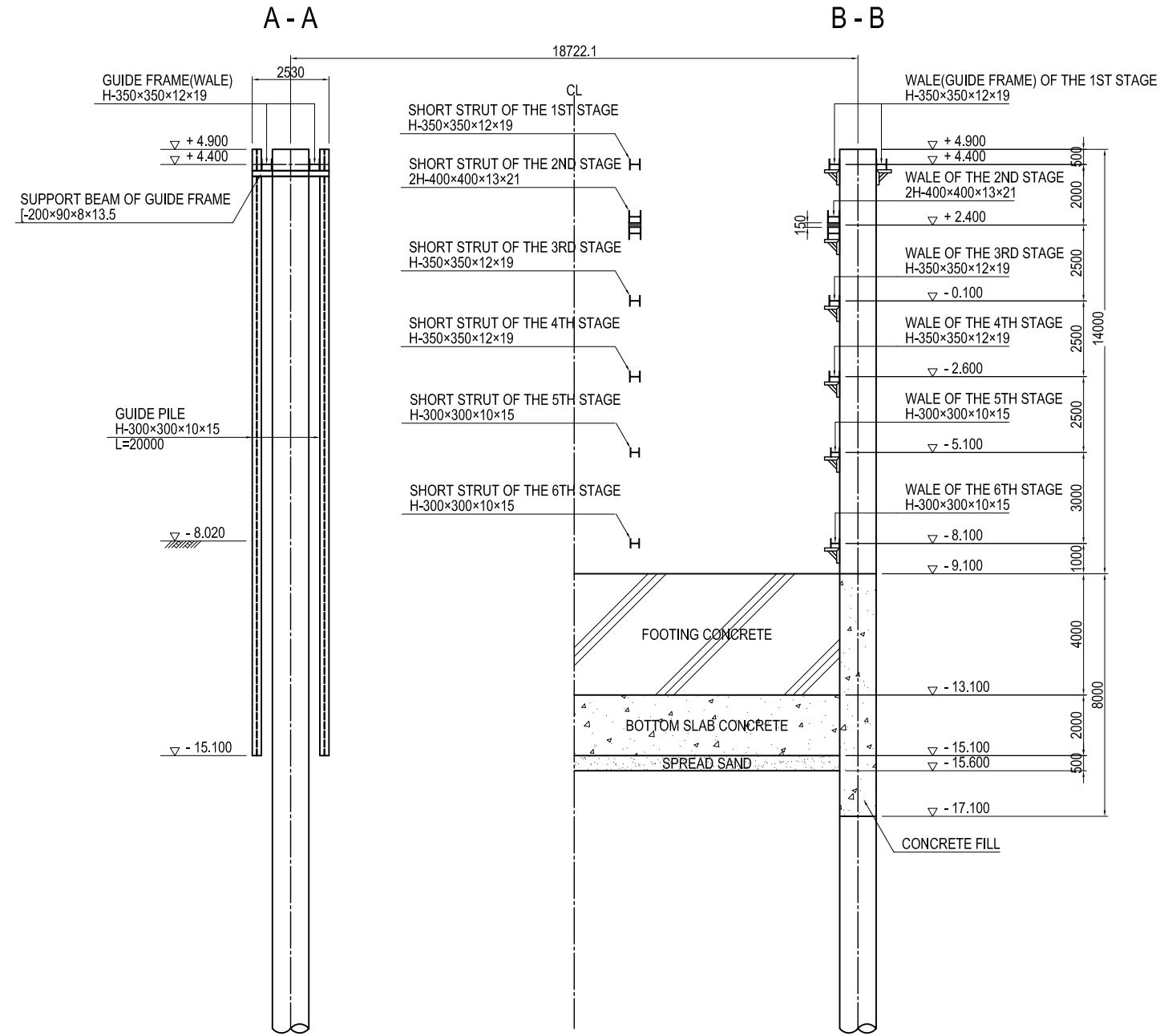


- Note) 1 All materials without special mention are SS400.
 2 The surface treatment of the steel member is hot-dip galvanized.
 (The amount of zinc deposition shall be JIS H 8641 2 type HDZ 55.
 However, bolts and nuts and members with a thickness of less than 3.2 mm shall be HDZ35.)

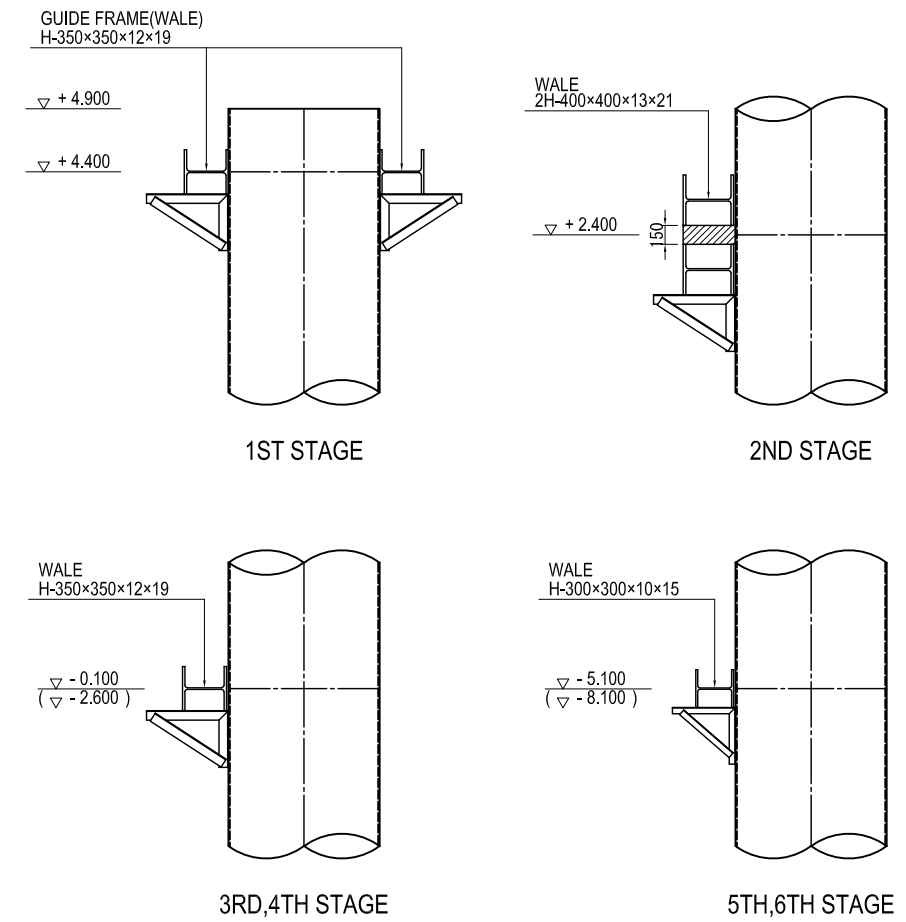
| | | | | | | | | |
|---------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------|------|-----------------------------------------------------------|---------------------------------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY jica JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME PREPARED BY S. TOKUMARU CHECKED BY T. HAYAKAWA APPROVED BY Y. SANO | SIGNATURE DATE 27. Nov.2017 28. Nov.2017 29. Nov.2017 | DATE | DRAWING TITLE FALL PREVENTIVE HANDRAIL OF P13 PIER (4) | PACKAGE 1 DWG No. P1-CS-2350 |
|---------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------|------|-----------------------------------------------------------|---------------------------------------|

(REFERENCE) LAYOUT PLAN OF COFFERDAM PART OF P13 PIER (2)

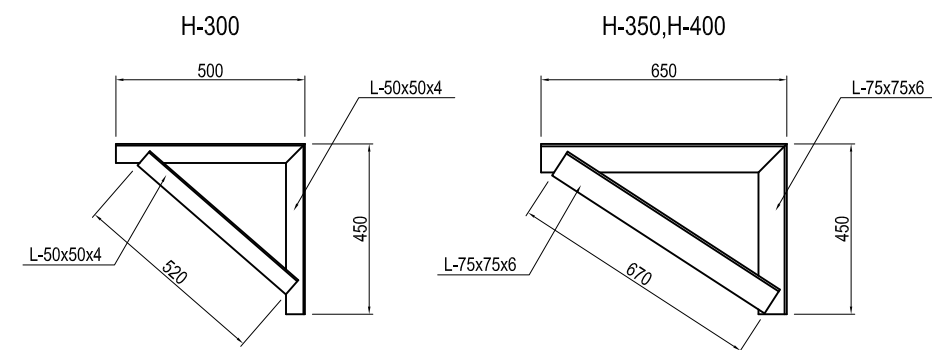
CROSS SECTION S=1:200



DETAIL OF ATTACHMENT OF WALE S=1:60



DETAIL OF BRACKET S=1:20



| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|-------------------------------------------------------------------------------|--------------|------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE (REFERENCE) LAYOUT PLAN OF COFFERDAM PART OF P13 PIER (2) | PACKAGE | |
| | | | | PREPARED BY | T. HAYAKAWA | | | 27. Nov.2017 | 1 |
| | | | | CHECKED BY | T. HAYAKAWA | | | 28. Nov.2017 | DWG No. |
| | | | | APPROVED BY | Y. SANO | | | 29. Nov.2017 | P1-CS-2352 |

(REFERENCE) CONSTRUCTION PLAN OF STEEL PIPE SHEET PILE WORK OF P13 PIER (1) S=1:400

| STEP 1 | STEP 2 | STEP 3 | STEP 4 | STEP 5 |
|--------------------------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| | | | | |
| <p>Excavate inside of exterior sheet piles and filled with concrete as shown.</p> | <p>The 1st support Installation.</p> | <p>Draining the inside of cofferdam up to +1.400m level.</p> | <p>The 2nd support Installation.</p> | <p>Underwater excavation up to -15.600m level.</p> |
| STEP 6 | STEP 7 | STEP 8 | STEP 9 | STEP 10 |
| | | | | |
| <p>Placement of spread sand followed by casting underwater bottom slab concrete.</p> | <p>Draining the inside of cofferdam up to -1.100m level.</p> | <p>Draining the inside of cofferdam up to -3.600m level after the 3rd support Installation.</p> | <p>Draining the inside of cofferdam up to -6.100m level after the 4th support Installation.</p> | <p>Draining the inside of cofferdam up to -9.100m level after the 5th support Installation.</p> |

Note : This drawing can be used for reference only.

| | | | | | | | | | |
|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------------|---------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| <p>PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT</p> | <p>FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY</p> | <p>COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE</p> | <p>JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.</p> | <p>PREPARED BY CHECKED BY APPROVED BY</p> | <p>NAME T. HAYAKAWA T. HAYAKAWA Y. SANO</p> | <p>SIGNATURE </p> | <p>DATE 27. Nov.2017 28. Nov.2017 29. Nov.2017</p> | <p>DRAWING TITLE (REFERENCE) CONSTRUCTION PLAN OF STEEL PIPE SHEET PILE WORK OF P13 PIER (1)</p> | <p>PACKAGE 1 DWG No. P1-CS-2353</p> |
|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------------|---------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------|

(REFERENCE) CONSTRUCTION PLAN OF STEEL PIPE SHEET PILE WORK OF P13 PIER (2) S=1:400

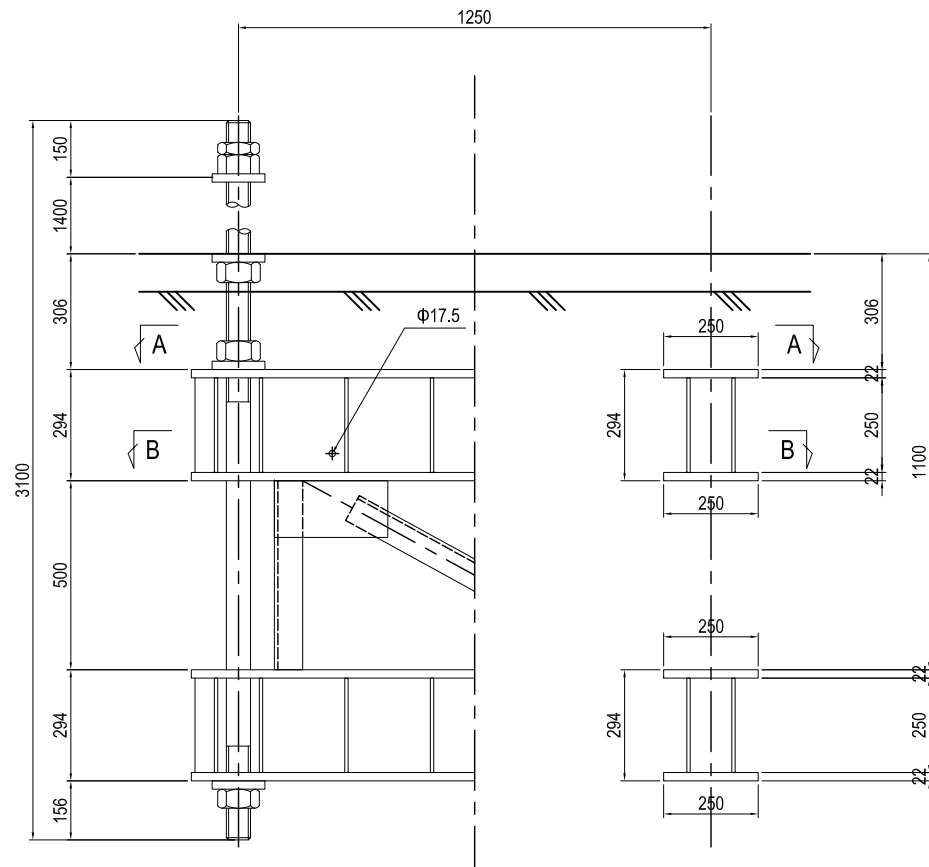
| STEP 11 | STEP 12 | STEP 13 | | |
|---------------------------------------------------------------------------------------------------|-------------------------------------|---------------------------------|--|--|
| | | | | |
| <p>Draining the inside of cofferdam up to -13.100m level. after the 6th support Installation.</p> | <p>Casting of footing concrete.</p> | <p>The 6th support Removal.</p> | | |
| | | | | |
| | | | | |

Note : This drawing can be used for reference only.

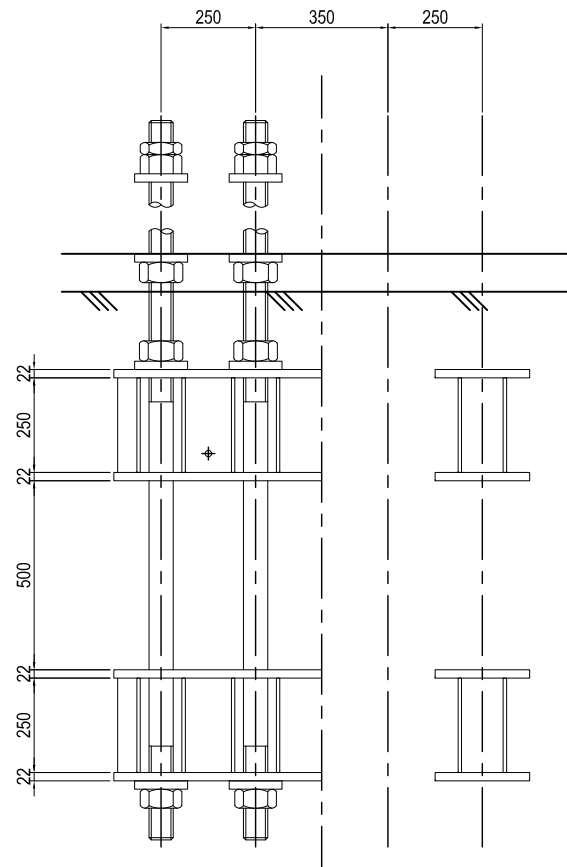
| | | | | | | | | | |
|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------------|---------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| <p>PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT</p> | <p>FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY</p> | <p>COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE</p> | <p>JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.</p> | <p>PREPARED BY CHECKED BY APPROVED BY</p> | <p>NAME T. HAYAKAWA T. HAYAKAWA Y. SANO</p> | <p>SIGNATURE </p> | <p>DATE 27. Nov.2017 28. Nov.2017 29. Nov.2017</p> | <p>DRAWING TITLE (REFERENCE) CONSTRUCTION PLAN OF STEEL PIPE SHEET PILE WORK OF P13 PIER (2)</p> | <p>PACKAGE 1 DWG No. P1-CS-2354</p> |
|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------------|---------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------|

ANCHOR FRAME S=1:20

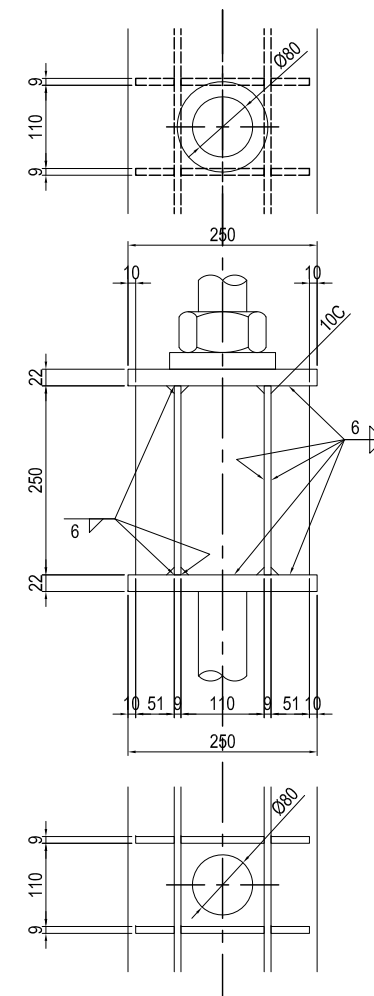
SECTION C-C



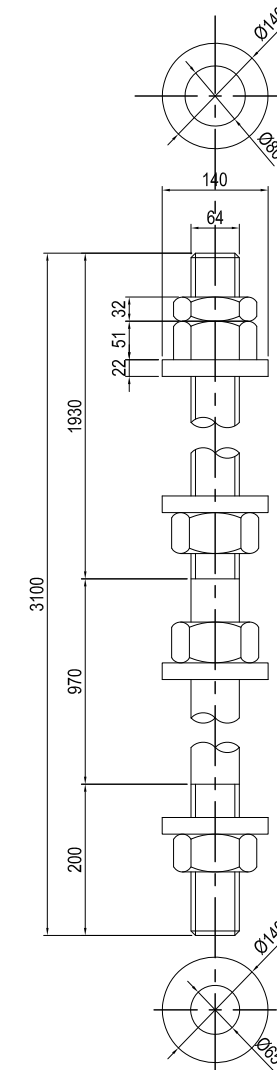
SECTION D-D



ANCHOR BEAM DETAIL 1:10



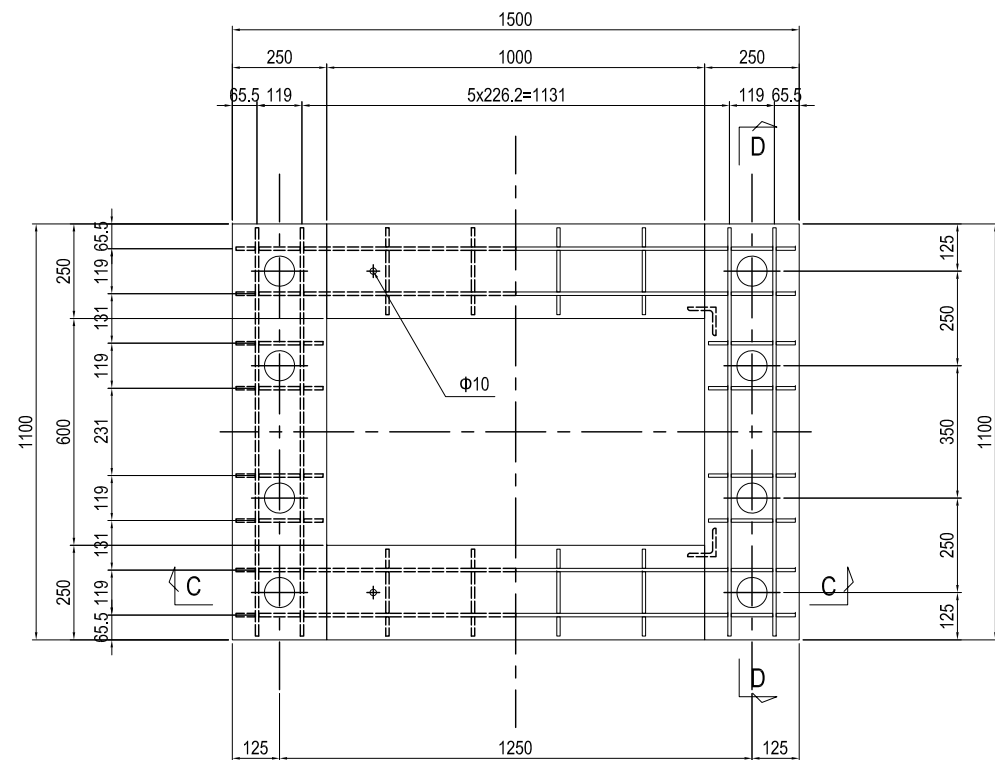
ANCHOR BOLT DETAIL 1:10



- 8- ANC. BOLT Φ64 x 3100 (S45CN)
- 32- NUT M64 (S45CN)
- 8- NUT M64 (S45CN)
- 32- PL Φ140 x 22
- 16- WASHER PL 58 x 6 x 115

SECTION A-A

SECTION B-B

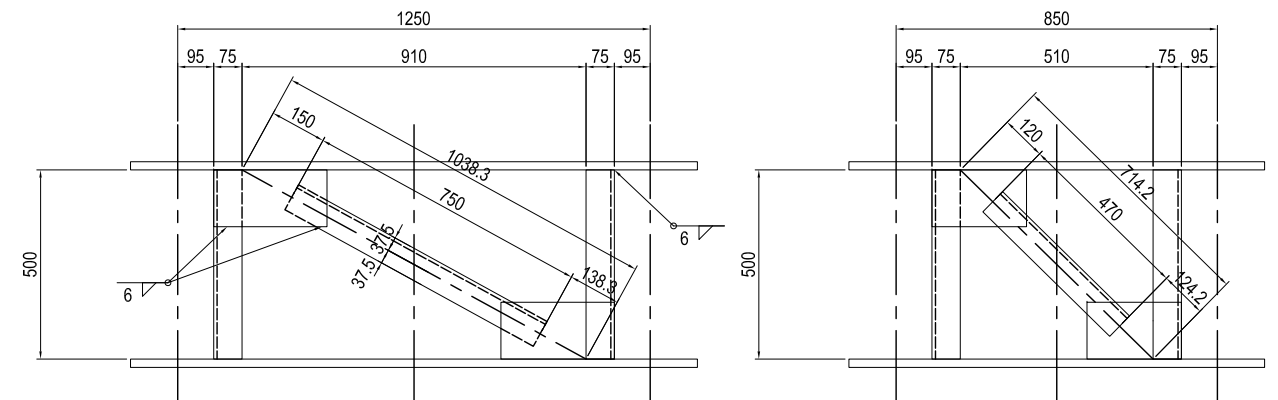


- 8- FLG PL 250 x 22 x 1100 (SM490YB)
- 8- FLG PL 250 x 22 x 1000 (SM490YB)
- 8- WEB PL 250 x 9 x 1080 (SM490YA)
- 8- WEB PL 250 x 9 x 1122 (SM490YA)
- 40- RIB PL 110 x 9 x 250 (SM490YA)
- 48- RIB PL 51 x 9 x 250 (SM490YA)

NOTES:

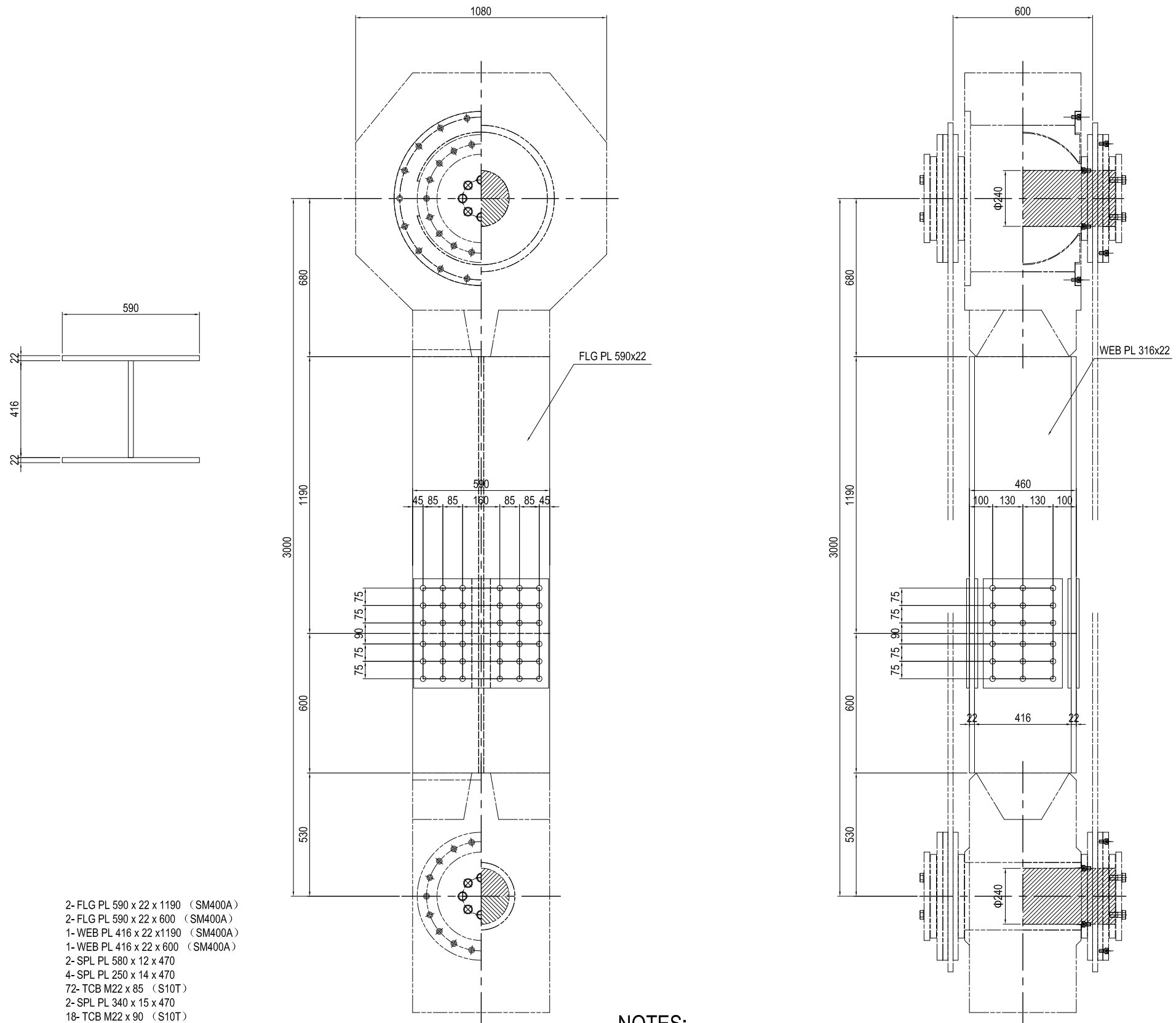
1- STEEL GRADE OF STEEL PLATE WITHOUT MARK : SS400

BRACE DETAIL



- 4- L75 x 75 x 9 x 500
- 2- L75 x 75 x 9 x 750
- 2- L75 x 75 x 9 x 470
- 4- GUSS PL x 300 x 9 x 150 (SM400A)
- 4- GUSS PL x 250 x 9 x 150 (SM400A)

TIE BAR OF ROCKING BEARING S=1:20



- 2- FLG PL 590 x 22 x 1190 (SM400A)
- 2- FLG PL 590 x 22 x 600 (SM400A)
- 1- WEB PL 416 x 22 x 1190 (SM400A)
- 1- WEB PL 416 x 22 x 600 (SM400A)
- 2- SPL PL 580 x 12 x 470
- 4- SPL PL 250 x 14 x 470
- 72- TCB M22 x 85 (S10T)
- 2- SPL PL 340 x 15 x 470
- 18- TCB M22 x 90 (S10T)

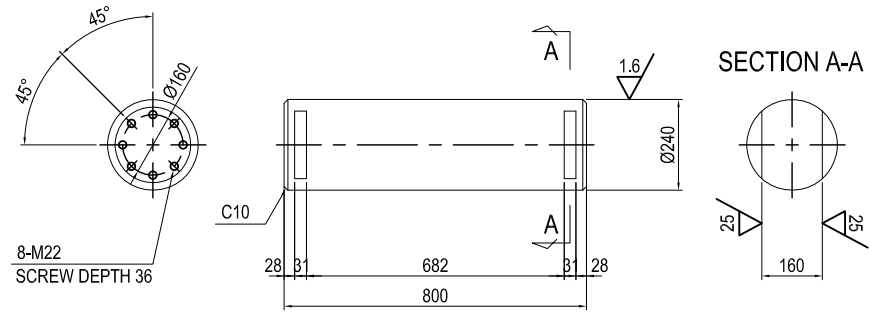
NOTES:

- 1 - STEEL GRADE OF STEEL PLATE WITHOUT MARK : SS400

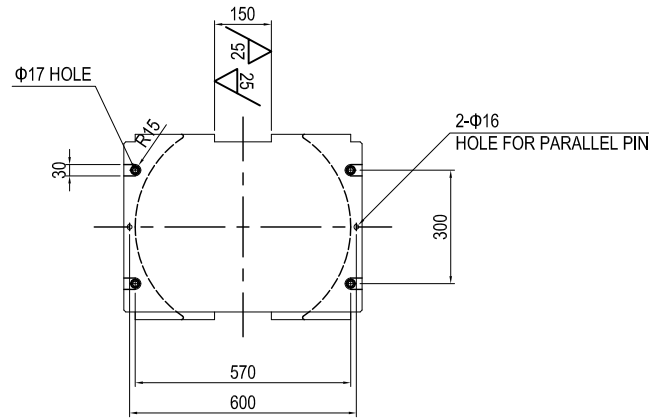
| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|---------------|---------|--------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE | PACKAGE | |
| | | | | PREPARED BY | T.TOMODA | | | | 27. Nov.2017 |
| | | | | CHECKED BY | T. HAYAKAWA | | | | 28. Nov.2017 |
| | | | | APPROVED BY | Y. SANO | | | | 29. Nov.2017 |
| TIE BAR OF ROCKING BEARING | | | | | | | 1 | DWG No. | P1-CS-3003 |

DETAIL OF TIE BAR (2) S=1:20

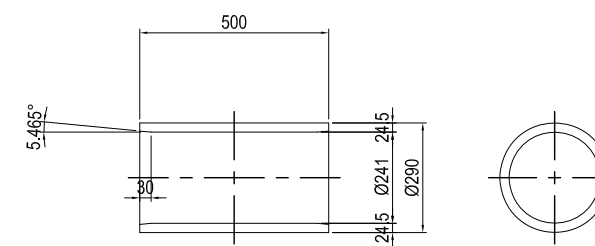
③ PIN (SUS431)



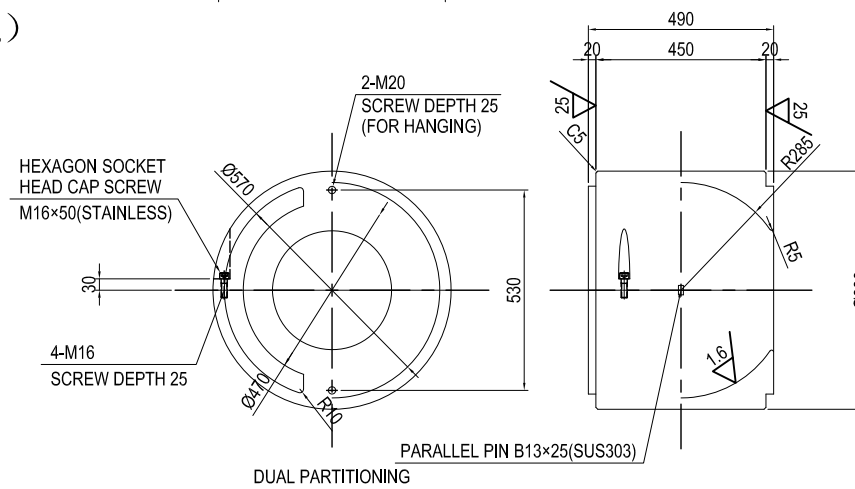
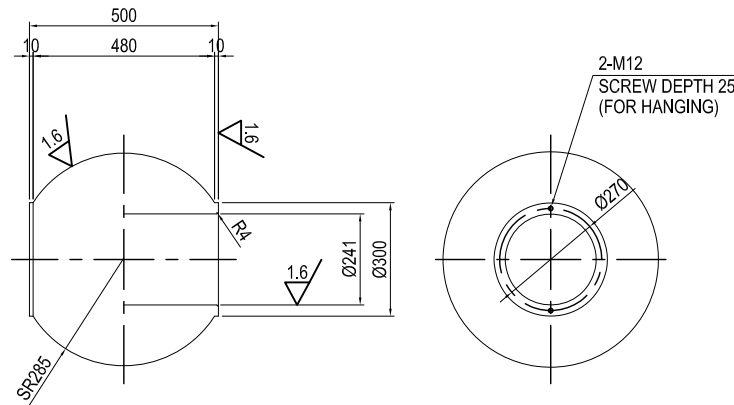
⑤ SPHERICAL BUSH BEARING (SUS431)



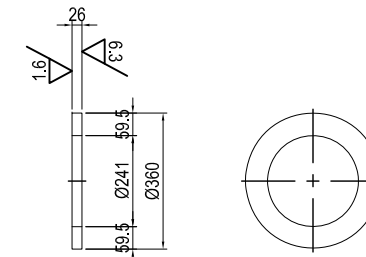
⑥ BUSH (CAC304+SL)



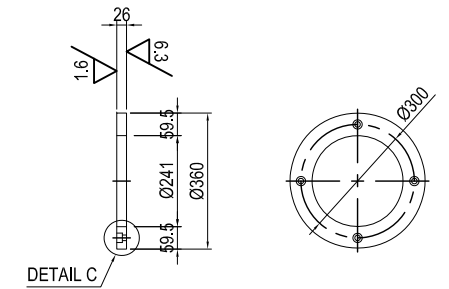
④ SPHERICAL BUSH (CAC304+SL)



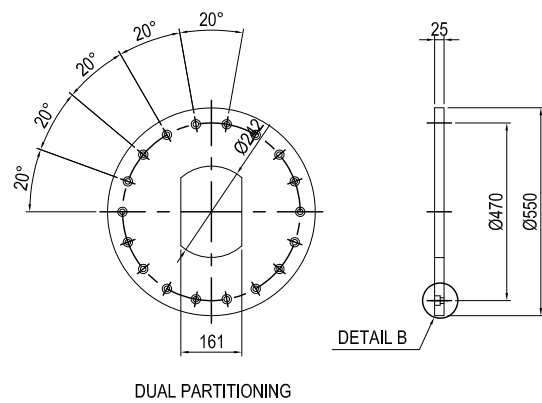
⑦ BEARING PL (CAC304+SL)



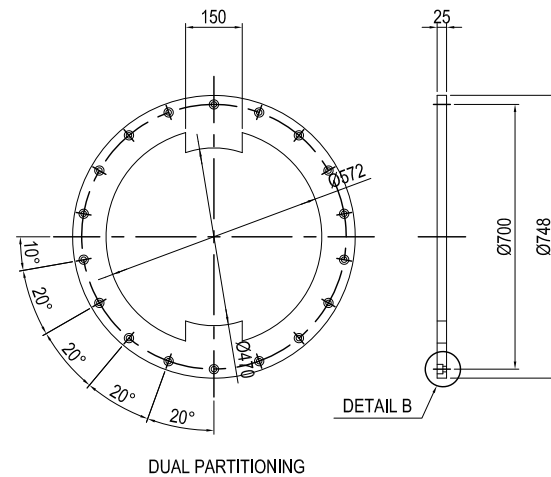
⑧ BEARING PL (CAC304+SL)



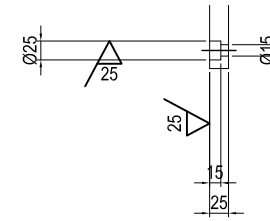
⑨ REVOLVING STOPPER (SUS410)



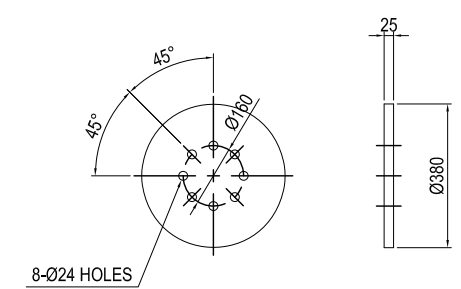
⑩ REVOLVING STOPPER (SUS410) DETAIL B S=1:10



DETAIL C S=1:10



⑫ END PL (SS400)



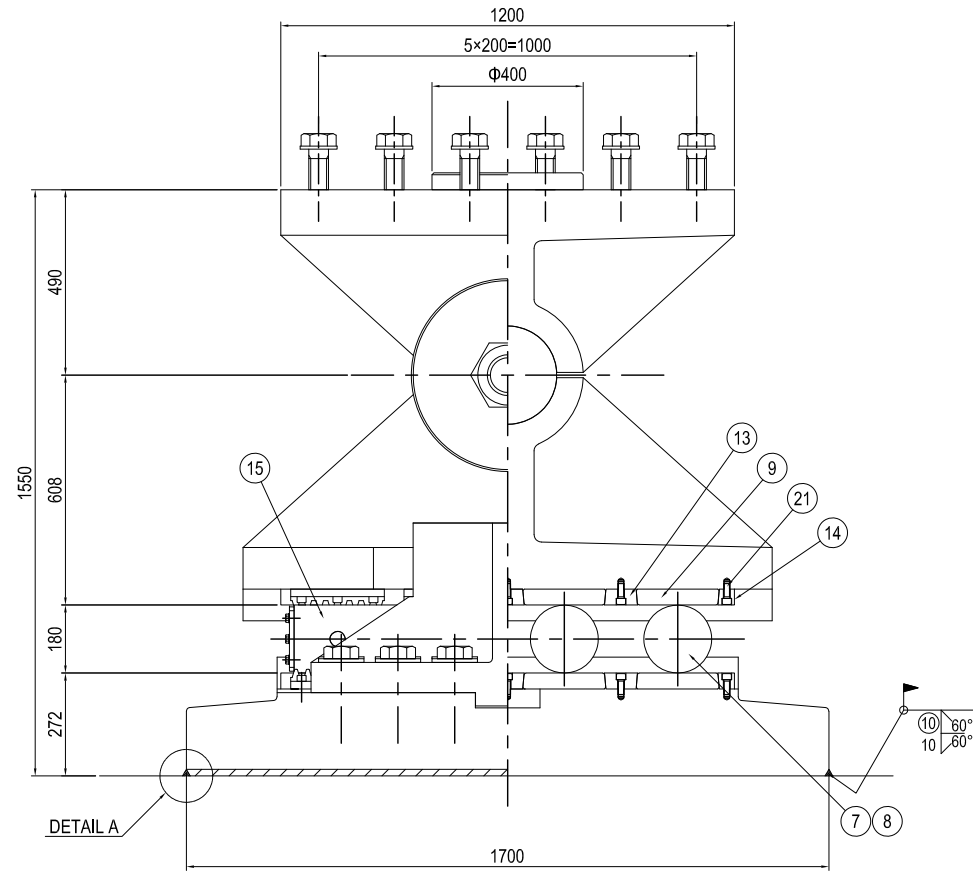
NOTES:

1 - THE CONTRACTOR HAS OPTION TO PROPOSE AN ALTERNATIVE EQUIVALENT TO THE SPECIFIED PRODUCT, WHICH SHALL BE SUBJECTED TO THE ENGINEER'S APPROVAL.

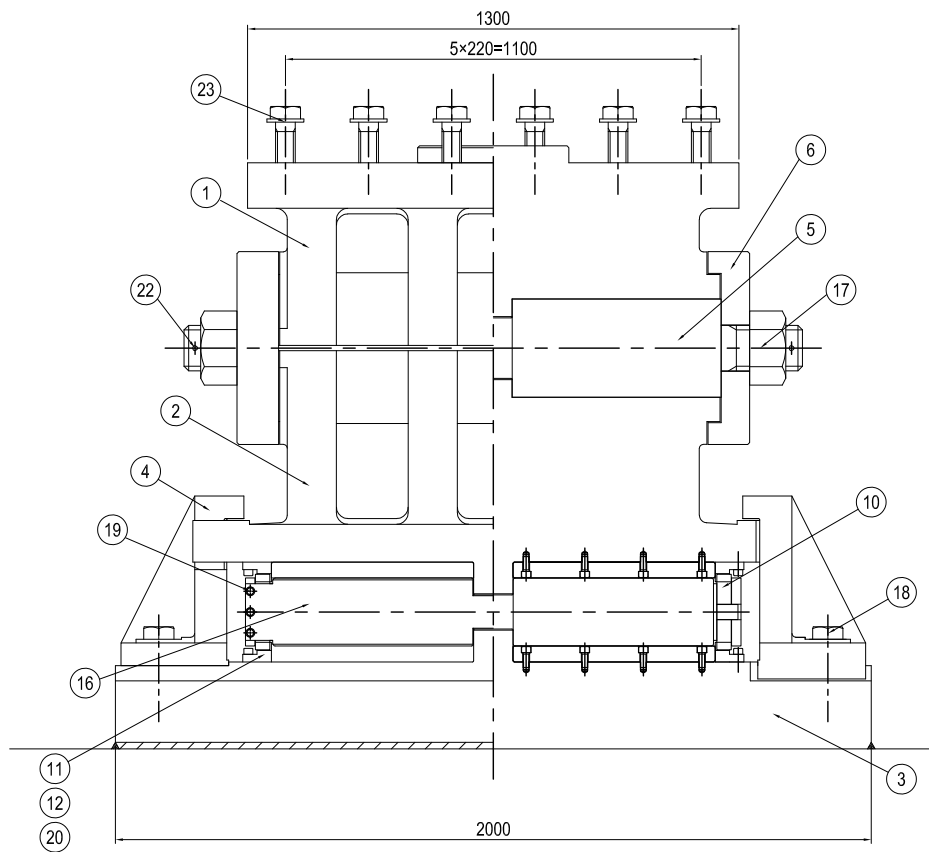
| | | | | | | | |
|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|---------------------------|-------------------------------------------------------|---------------------------------------------------------------|
| <p>PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT</p> | <p>FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY</p> | <p>COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE</p> | <p>JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.</p> | <p>NAME PREPARED BY CHECKED BY APPROVED BY</p> | <p>SIGNATURE DATE</p> | <p>DRAWING TITLE PACKAGE</p> | <p>DATE</p> |
| | | | | <p>T.TOMODA T. HAYAKAWA Y. SANO</p> | <p> </p> | <p>27. Nov.2017 28. Nov.2017 29. Nov.2017</p> | <p>DETAIL OF TIE BAR (2) 1 DWG No. P1-CS-3005</p> |

DETAIL OF PIN ROLLER BEARING (1) S=1:20

LONGITUDINAL



TRANSVERSAL



DESIGN CRITERIA

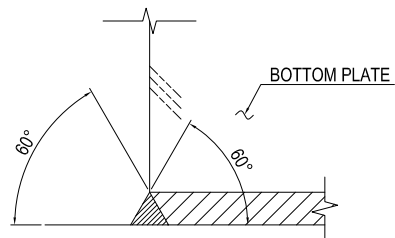
| REACTION FORCE | | |
|--------------------------------------------|---------------|-----------------------|
| ALL REACTION FORCE | R | 20800 kN |
| DEAD LOAD REACTION FORCE | Rd | 12400 kN |
| LONGITUDINAL HORIZONTAL FORCE (MOVE) | RH1f | 1040 kN |
| LONGITUDINAL HORIZONTAL FORCE (EARTHQUAKE) | RH1e | 5600 kN |
| TRANSVERSAL HORIZONTAL FORCE (EARTHQUAKE) | RH2e | 5600 kN |
| UP LIFT FORCE (EARTHQUAKE) | V | 3720 kN |
| QUANTITY OF MOVE | | |
| AVAILABLE LONGITUDINAL DISPLACEMENT | e1 | ±105 mm |
| ADMISSIBLE BEARING PRESSURE | | |
| FOR SUBSTRUCTURE | σ_{ba} | 210 N/mm ² |
| FOR SUPERSTRUCTURE | σ_{ba} | 250 N/mm ² |

MATERIALS

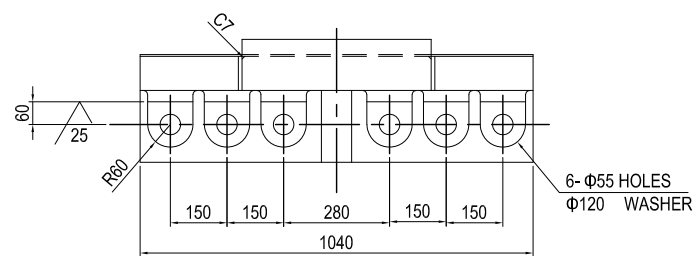
| NUMBER | THE NAME OF AN ARTICLE | MATERIAL | NUMBER | MASS (Kg) | NOTES |
|--------------------------------|-------------------------------|-----------------------------------------------------------------------------------|--------------|-----------|-----------------|
| ① | TOP BEARING | SCW480N | 1 | 2904.1 | |
| ② | BOTTOM BEARING | SCW480N | 1 | 3794.6 | |
| ③ | BOTTOM PLATE | SCW480N | 1 | 5811.1 | |
| ④ | SIDE BLOCK | SCW480N | 2 | 760.6 | |
| 5 | PIN | S35CN | 1 | 514.9 | |
| ⑥ | CAP | SM490A | 2 | 271.4 | |
| 7 | ROLLER (A) | SUS420J2 | 2 | 435.6 | |
| 8 | ROLLER (B) | SUS420J2 | 2 | 454.8 | |
| 9 | ANCHOR PLATE | SUS420J2 | 16 | 603.2 | |
| ⑩ | PINION | SS400 | 4 | 29.2 | |
| ⑪ | RACK | SS400 | 8 | 35.2 | |
| ⑫ | EDGE PLATE | SS400 | 8 | 32.8 | |
| ⑬ | SIDE PLATE (A) | SS400 | 12 | 172.8 | |
| ⑭ | SIDE PLATE (B) | SS400 | 8 | 56.0 | |
| ⑮ | CONNECTION PLATE | SS400 | 2 | 77.4 | |
| ⑯ | COVER PLATE | SS400 | 2 | 33.8 | |
| ⑰ | HEXAGON NUT | SS400 | 2 | 21.8 | JIS B 1181 M120 |
| ⑱ | HEXAGON HEAD | — | 12 | 52.3 | JIS B 1180 |
| ⑲ | BOLT WITH WASHER | — | 12 | 0.6 | JIS B 1180 |
| 20 | HEXAGON HOLE BOLT WITH WASHER | STAINLESS | 48 | 3.8 | JIS B 1176 |
| 21 | HEXAGON HOLE BOLT WITH WASHER | STAINLESS | 80 | 7.2 | JIS B 1176 |
| 22 | SPLIT PIN | STAINLESS | 2 | 0.4 | JIS B 1351 |
| ⑳ | HEXAGON HEAD BOLT WITH WASHER | — | 20 | — | JIS B 1180 |
| TOTAL WEIGHT | | | 16073.6 (kg) | | |
| CORROSION PROOF FOR OUTSIDE PL | | | | | |
| HOT-DIP GALVANIZED | | COATING OVER 550g/m ² , 350g/m ² (FOR BOLT, WASHER & NUT) | | | |

NOTES: 1- CIRCLE NUMBER IN MATERIAL TABLE INDICATES HOT-DIP GALVANIZED.

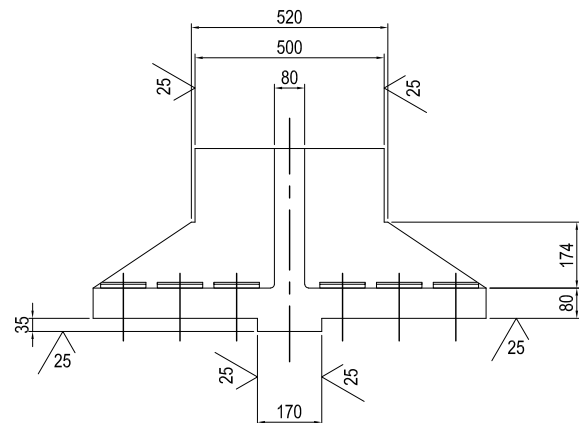
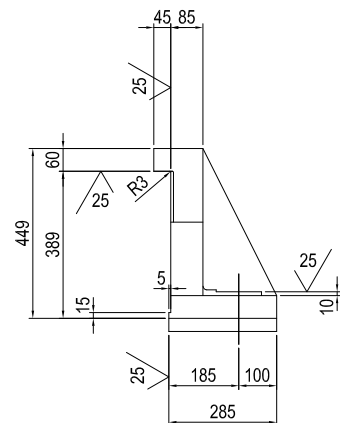
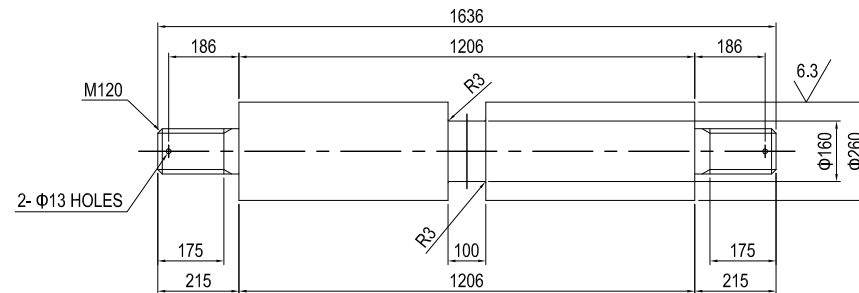
DETAIL A N.T.S.



④ (25) SCW480N



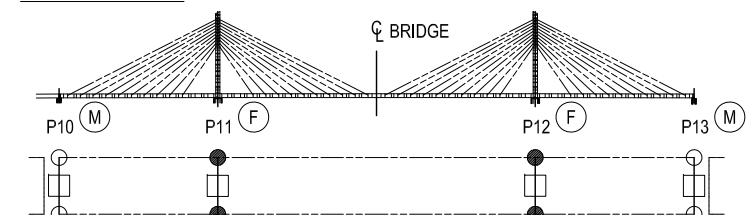
⑤ (6.3) S35CN



NOTES:

1 - THE CONTRACTOR HAS OPTION TO PROPOSE AN ALTERNATIVE EQUIVALENT TO THE SPECIFIED PRODUCT, WHICH SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.

KEY PLAN

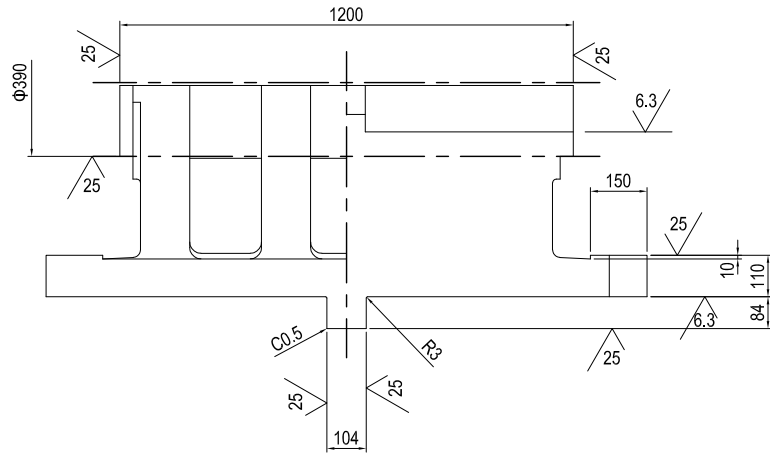
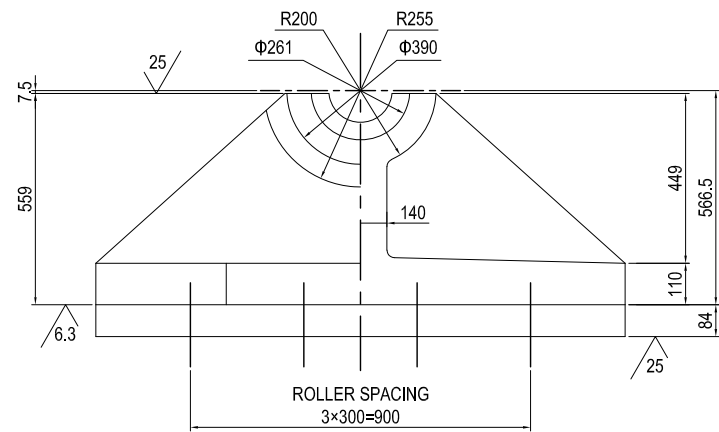


DETAIL OF PIN ROLLER BEARING (3)

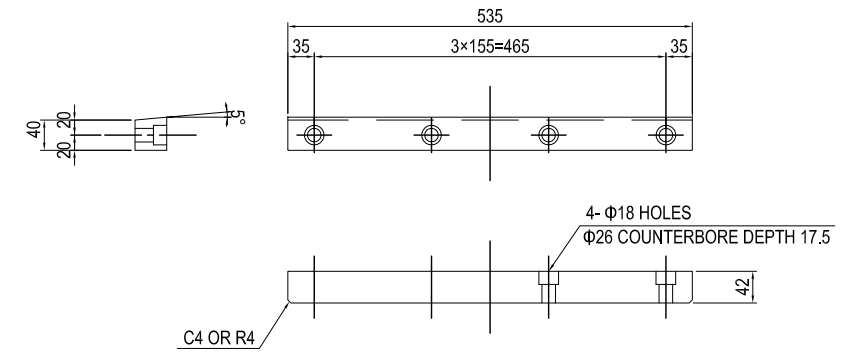
S=1:20

② $\sqrt{25}$ $\sqrt{6.3}$ SCW480N

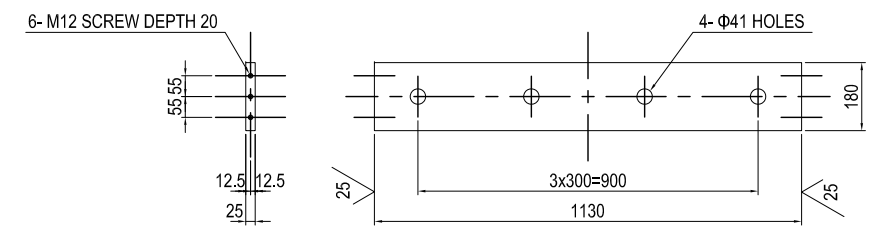
LONGITUDINAL



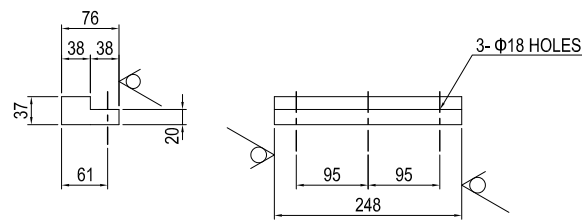
⑭ $\sqrt{25}$ SS400 S=1:10



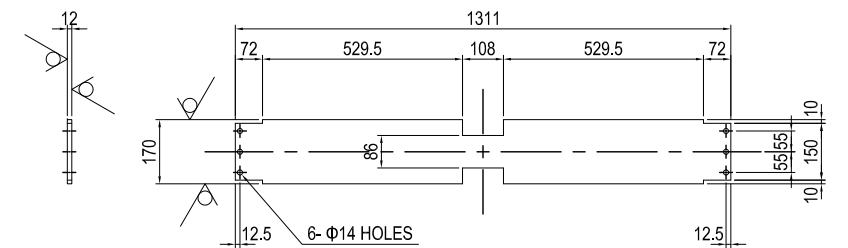
⑮ $\sqrt{25}$ SS400



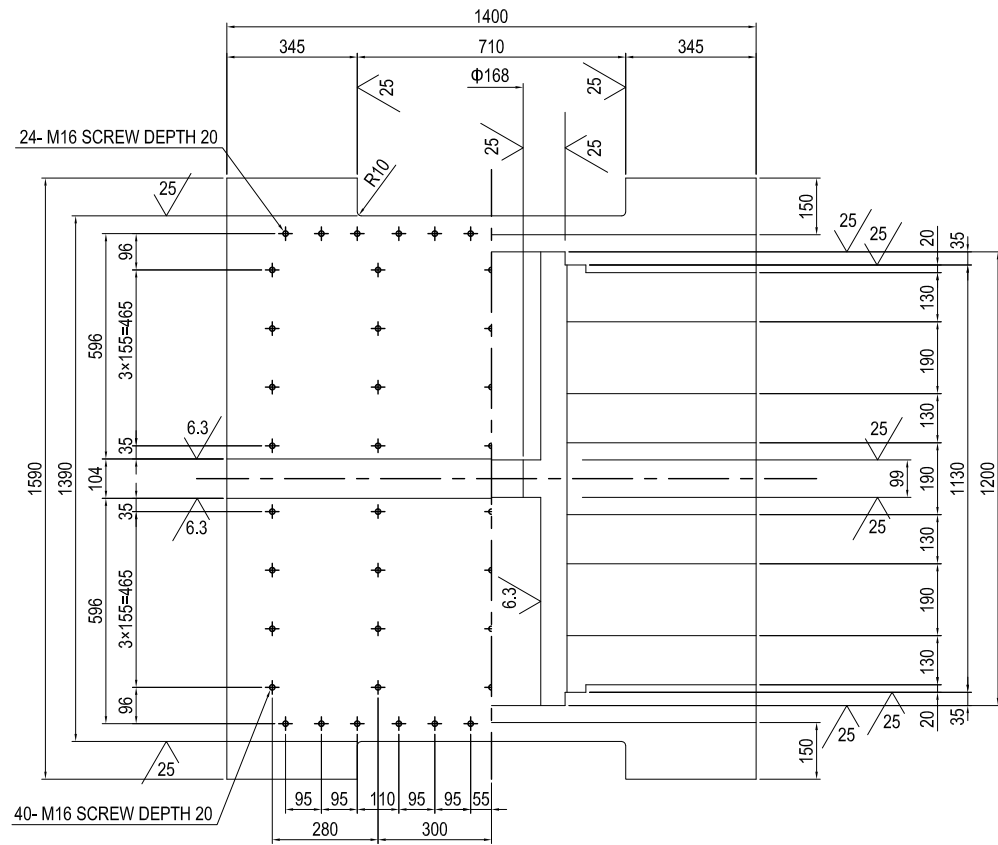
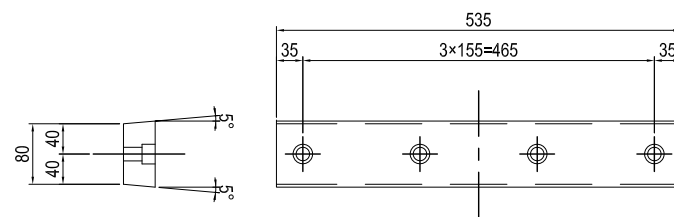
⑫ $\sqrt{25}$ SS400 S=1:10



⑯ $\sqrt{25}$ SS400



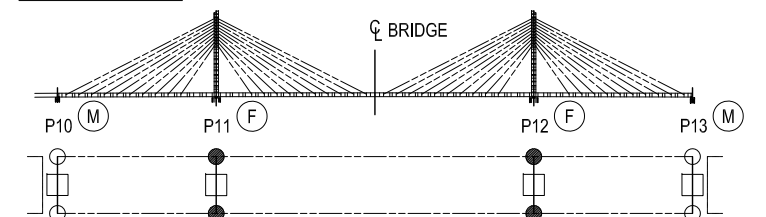
⑬ $\sqrt{25}$ SS400 S=1:10



NOTES:

1 - THE CONTRACTOR HAS OPTION TO PROPOSE AN ALTERNATIVE EQUIVALENT TO THE SPECIFIED PRODUCT, WHICH SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL..

KEY PLAN



| PROJECT NAME | FINANCED BY | COUNTERPART | JICA STUDY TEAM | NAME | SIGNATURE | DATE | DRAWING TITLE | PACKAGE |
|-----------------------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------|--------------|----------------------------------|------------|
| DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | JICA JAPAN INTERNATIONAL COOPERATION AGENCY | REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD. | T.TOMODA | 友田 隆雄 | 27. Nov.2017 | DETAIL OF PIN ROLLER BEARING (3) | 1 |
| | | | | T. HAYAKAWA | 平川 知平 | 28. Nov.2017 | | DWG No. |
| | | | | Y. SANO | 佐野 祐一 | 29. Nov.2017 | | P1-CS-3008 |

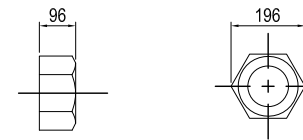
DETAIL OF PIN ROLLER BEARING (4)

S=1:20

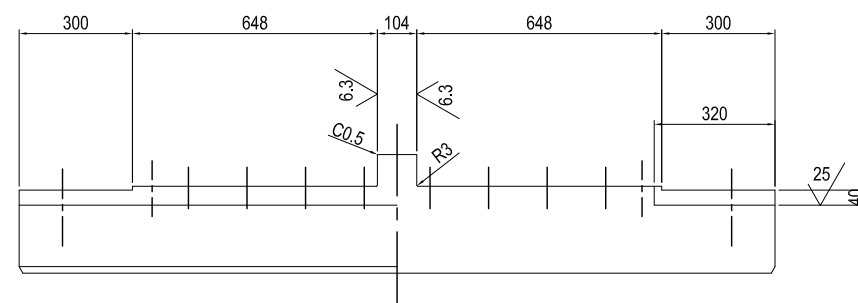
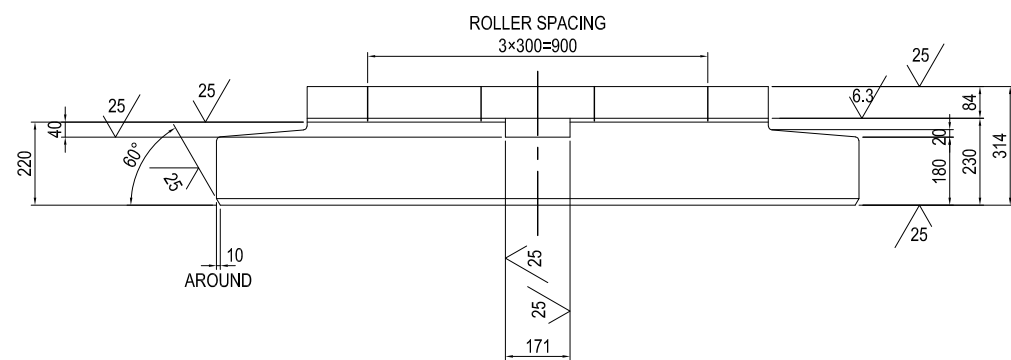
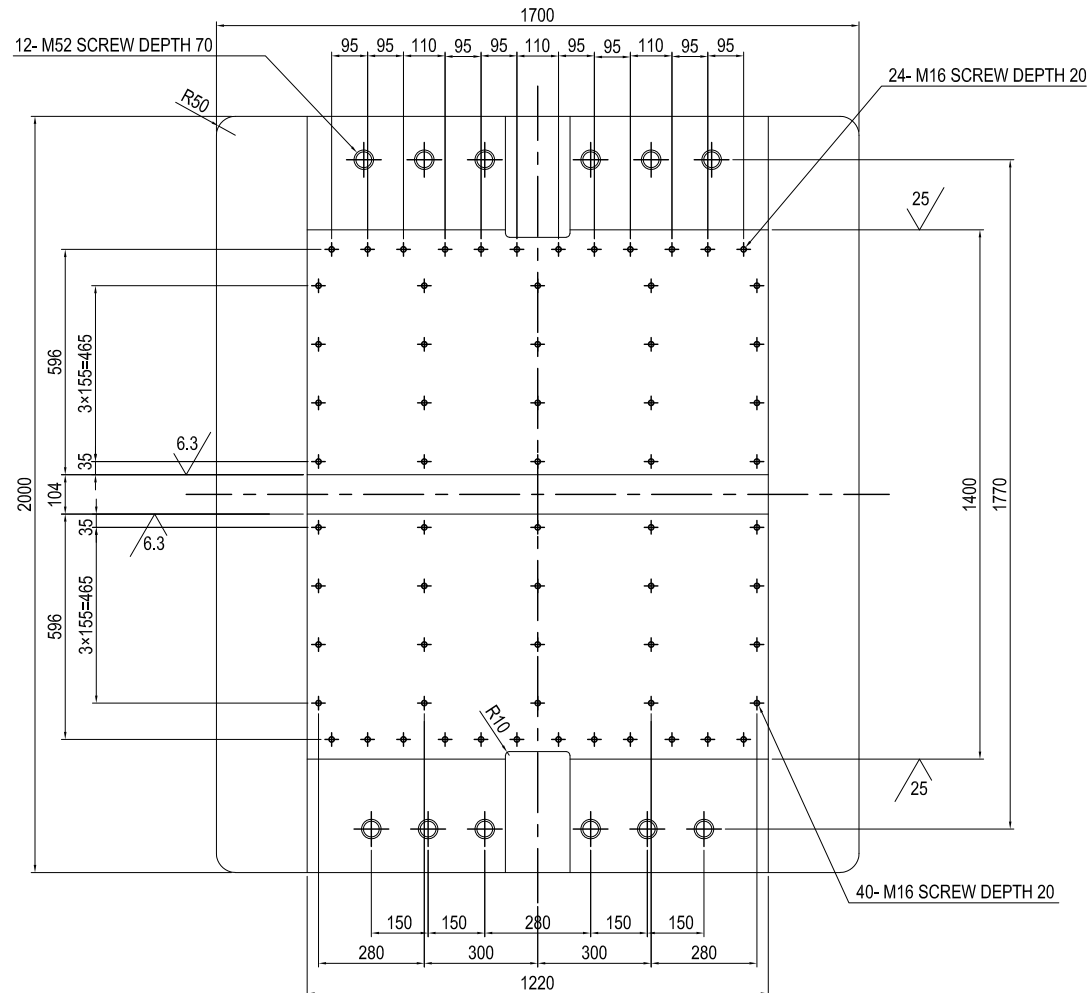
③ $\sqrt{25}$ $\sqrt{6.3}$ SCW480N

⑰ $\sqrt{25}$ SS400

LONGITUDINAL



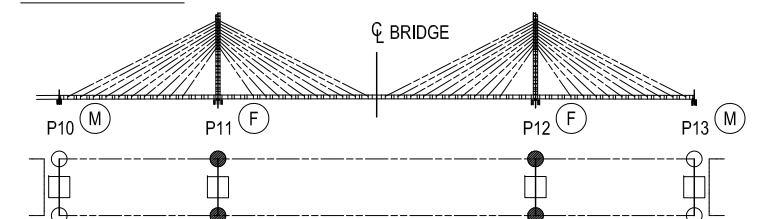
- ⑱ HEXAGON HEAD BOLT WITH WASHER M52 × 170 8.8
- ⑲ HEXAGON HEAD BOLT WITH WASHER M12 × 30 4.8
- ⑳ HEXAGON HOLE BOLT WITH WASHER M16 × 35 STAINLESS
- ㉑ HEXAGON HOLE BOLT WITH WASHER M16 × 40 STAINLESS
- ㉒ HEXAGON HEAD BOLT WITH WASHER M52 × 8.8



NOTES:

1 - THE CONTRACTOR HAS OPTION TO PROPOSE AN ALTERNATIVE EQUIVALENT TO THE SPECIFIED PRODUCT, WHICH SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL...

KEY PLAN

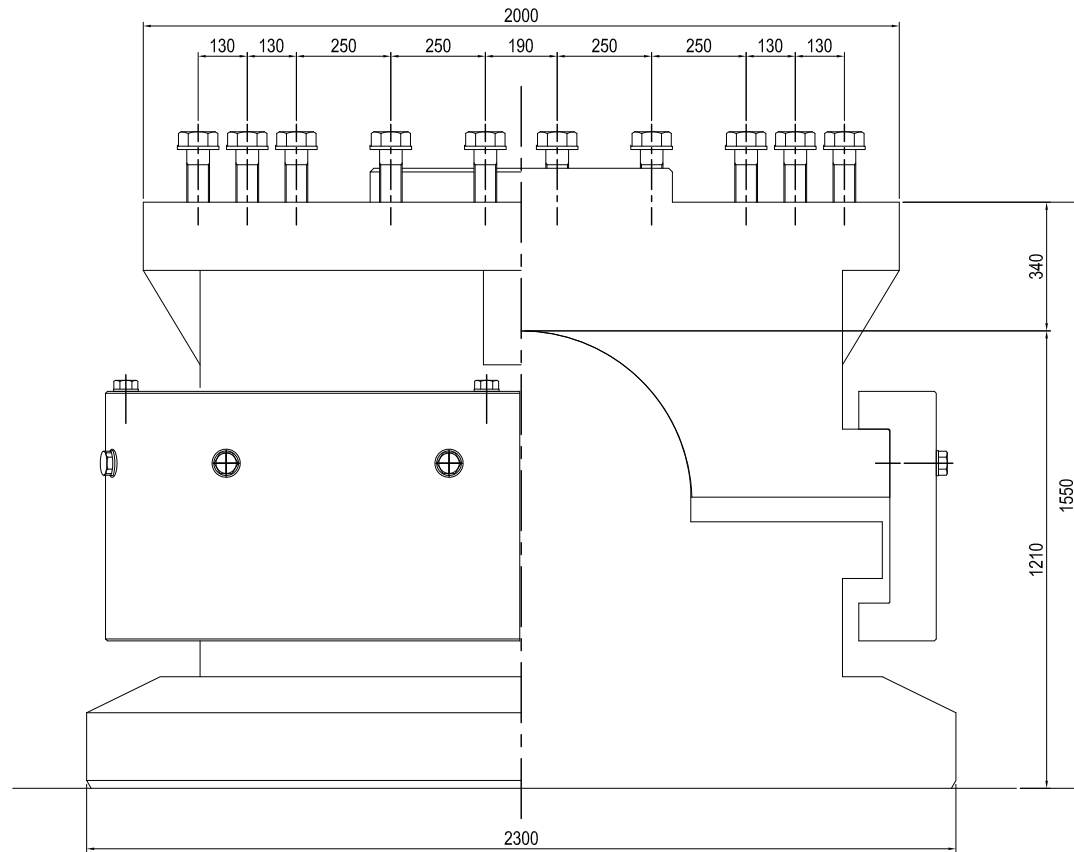


| | | | | | | | | | |
|---------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------|---------------------------------------------------|---------------------------------------|--------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY jica JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE DETAIL OF PIN ROLLER BEARING (4) | PACKAGE 1 DWG No. P1-CS-3009 | |
| | | | | PREPARED BY | T.TOMODA | 友田 隆雄 | | | 27. Nov.2017 |
| | | | | CHECKED BY | T. HAYAKAWA | 平川 知那 | | | 28. Nov.2017 |
| | | | | APPROVED BY | Y. SANO | 佐野 祐一 | | | 29. Nov.2017 |

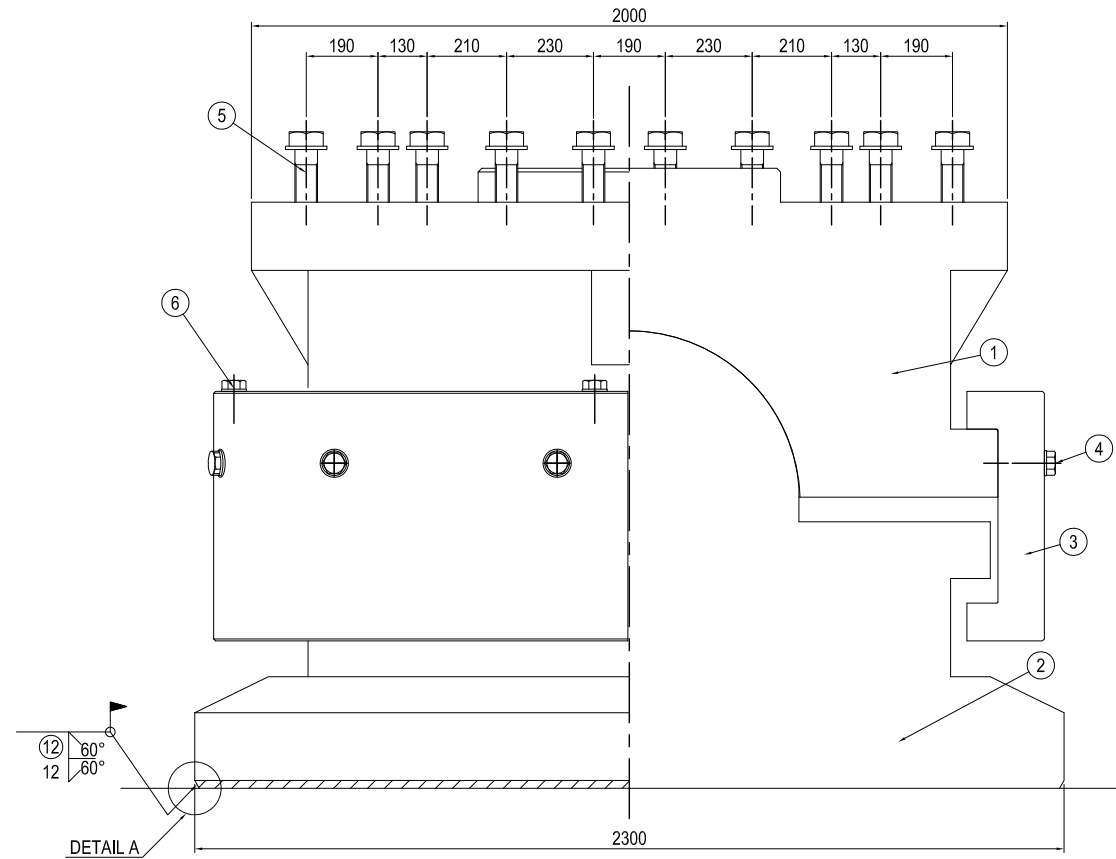
DETAIL OF PIVOT BEARING (1)

S=1:20

LONGITUDINAL



TRANSVERSAL



DESIGN CRITERIA

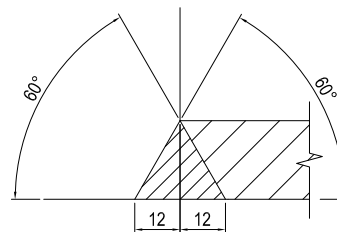
| REACTION FORCE | | |
|----------------------------------------------|---------------|-----------------------|
| ALL REACTION FORCE | R | 57700 kN |
| DEAD LOAD REACTION FORCE | Rd | 46200 kN |
| LONGITUDINAL HORIZONTAL FORCE (EARTHQUAKE) | RH1e | 25900 kN |
| TRANSVERSAL HORIZONTAL FORCE (EARTHQUAKE) | RH2e | 20500 kN |
| UP LIFT FORCE (EARTHQUAKE) | V | 13860 kN |
| ADMISSIBLE BEARING PRESSURE | | |
| FOR SUBSTRUCTURE | σ_{ba} | 210 N/mm ² |
| FOR SUPERSTRUCTURE | σ_{ba} | 250 N/mm ² |

MATERIALS

| NUMBER | THE NAME OF AN ARTICLE | MATERIAL | NUMBER | MASS (Kg) | NOTES |
|--------------------------------|-------------------------------|-----------------------------------------------------------------------------------|--------|-----------|--------------------------|
| ① | TOP BEARING | SCW480N | 1 | 16300.8 | |
| ② | BOTTOM BEARING | SCW480N | 1 | 21395.9 | |
| ③ | RING | SCW480N | 1 | 4945.5 | QUARTERS |
| ④ | HEXAGON HEAD BOLT WITH WASHER | — | 12 | 21.6 | JIS B 1180 JIS B 1256 |
| ⑤ | HEXAGON HEAD BOLT WITH WASHER | — | 36 | — | JIS B 1180 JIS B 1256 |
| ⑥ | HEXAGON HEAD BOLT WITH WASHER | — | 8 | 7.2 | JIS B 1180 JIS B 1256 |
| TOTAL WEIGHT | | | | 42671.0 | (Kg) |
| CORROSION PROOF FOR OUTSIDE PL | | | | | |
| HOT-DIP GALVANIZED | | COATING OVER 550g/m ² , 350g/m ² (FOR BOLT, WASHER & NUT) | | | |

NOTES: 1- CIRCLE NUMBER IN MATERIAL TABLE INDICATES HOT-DIP GALVANIZED.

DETAIL A S=1:2

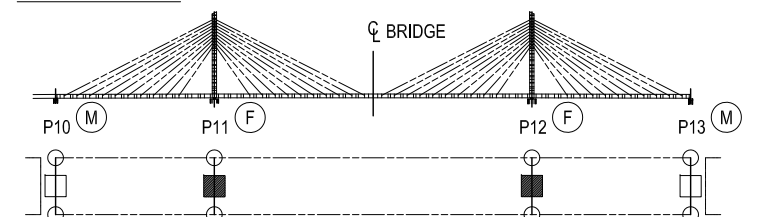


- ④ HEXAGON HEAD BOLT WITH WASHER M36 × 170 8.8
- ⑤ HEXAGON HEAD BOLT WITH WASHER M60 × 8.8
- ⑥ HEXAGON HEAD BOLT WITH WASHER M36 × 50 4.8

NOTES:

1 - THE CONTRACTOR HAS OPTION TO PROPOSE AN ALTERNATIVE EQUIVALENT TO THE SPECIFIED PRODUCT, WHICH SHALL BE SUBJECTED TO THE ENGINEER'S APPROVAL.

KEY PLAN

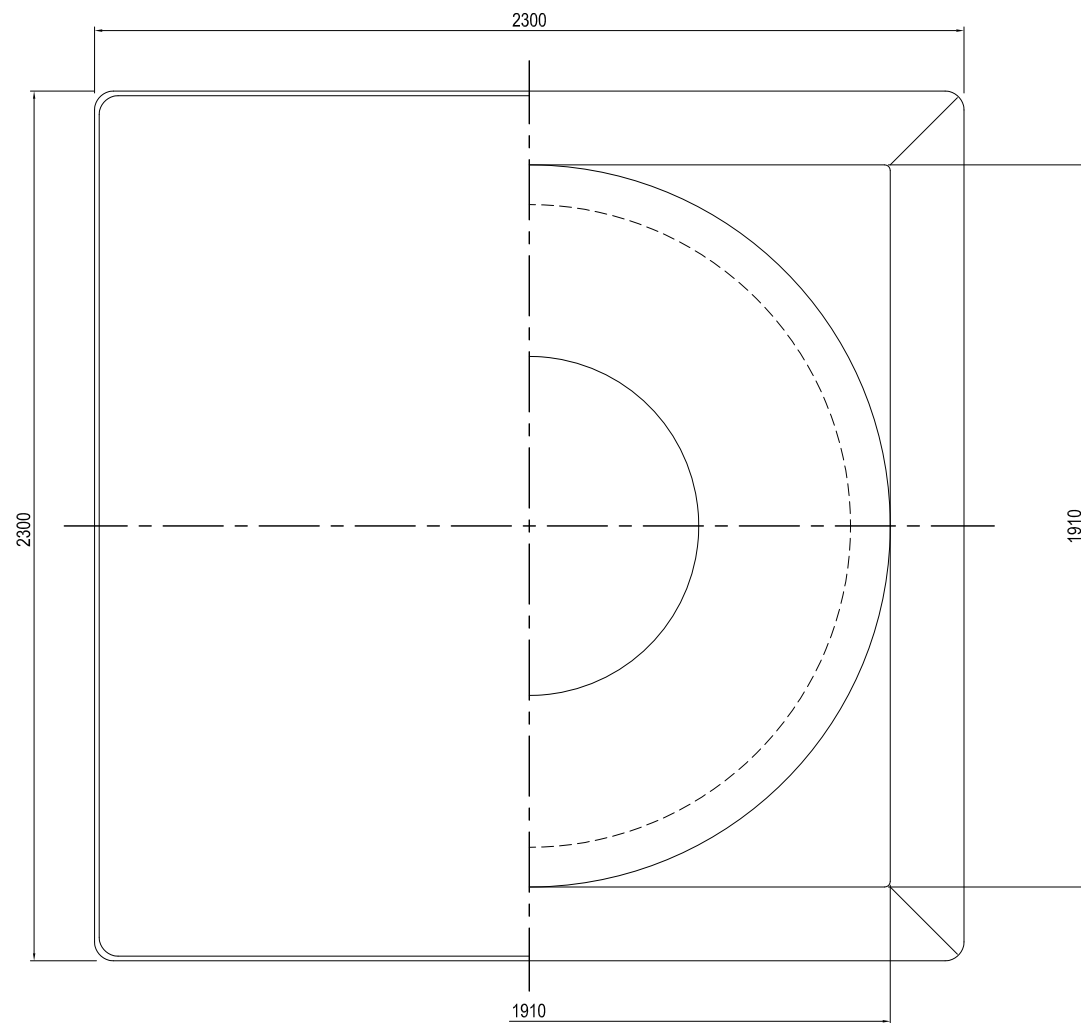
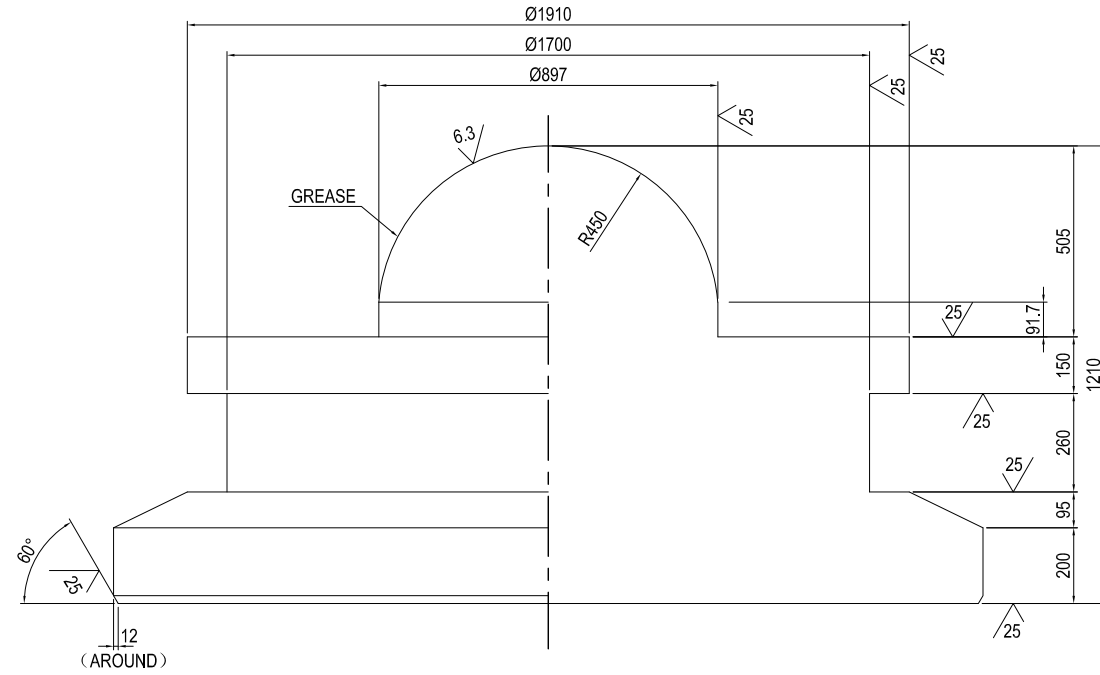


| PROJECT NAME | FINANCED BY | COUNTERPART | JICA STUDY TEAM | NAME | SIGNATURE | DATE | DRAWING TITLE | PACKAGE |
|-----------------------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------|--------------|-----------------------------|------------|
| DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | JICA JAPAN INTERNATIONAL COOPERATION AGENCY | REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | T.TOMODA | 友田 智雄 | 27. Nov.2017 | DETAIL OF PIVOT BEARING (1) | 1 |
| | | | | T. HAYAKAWA | 平川 知邦 | 28. Nov.2017 | | DWG No. |
| | | | | Y. SANO | 佐野 祐一 | 29. Nov.2017 | | P1-CS-3010 |

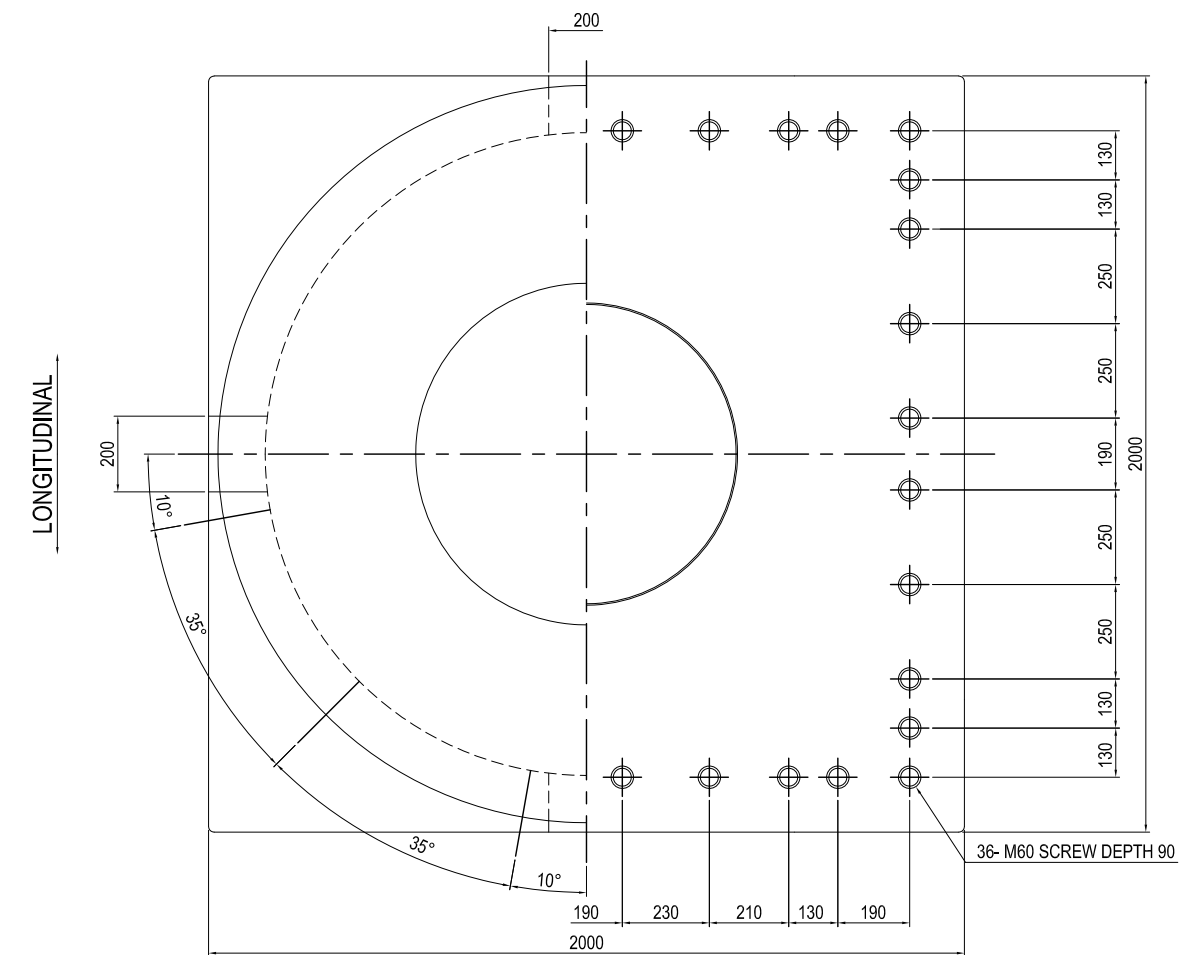
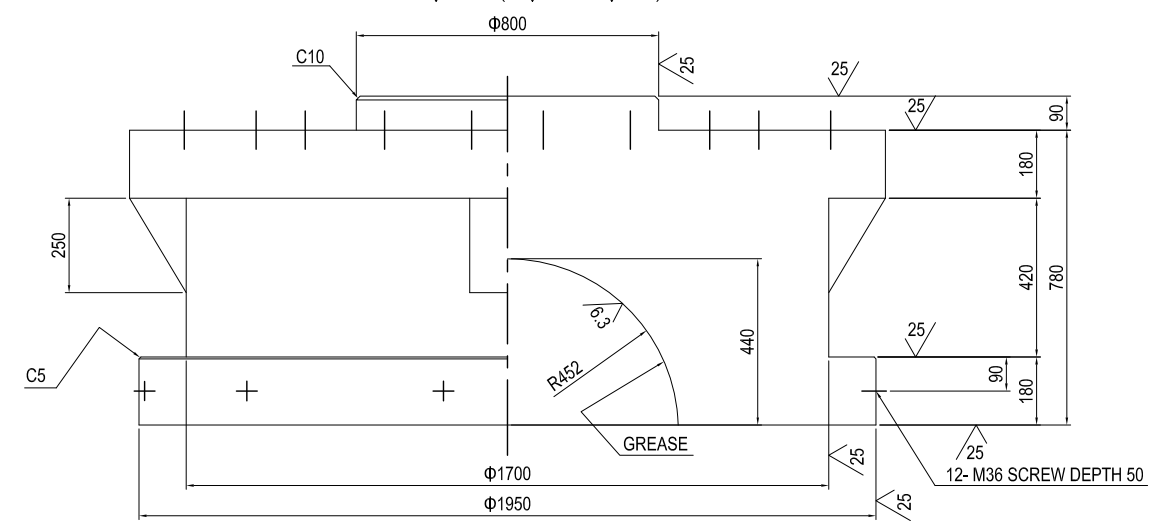
DETAIL OF PIVOT BEARING (2)

S=1:20

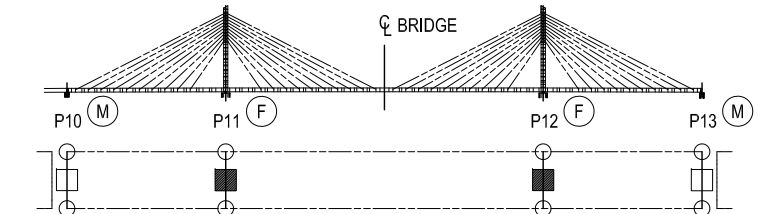
② (25/6.3) SCW480N



① (25/6.3) SCW480N



KEY PLAN



NOTES:

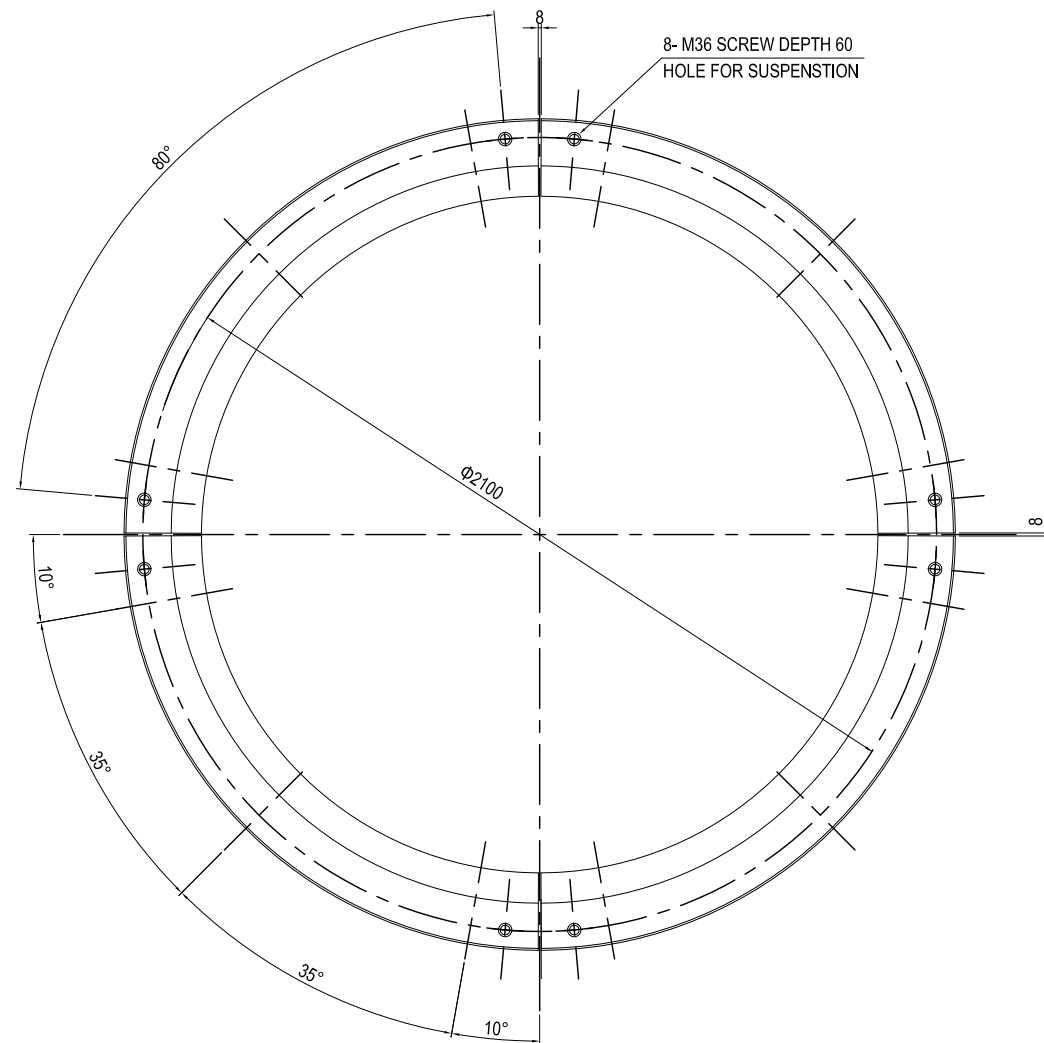
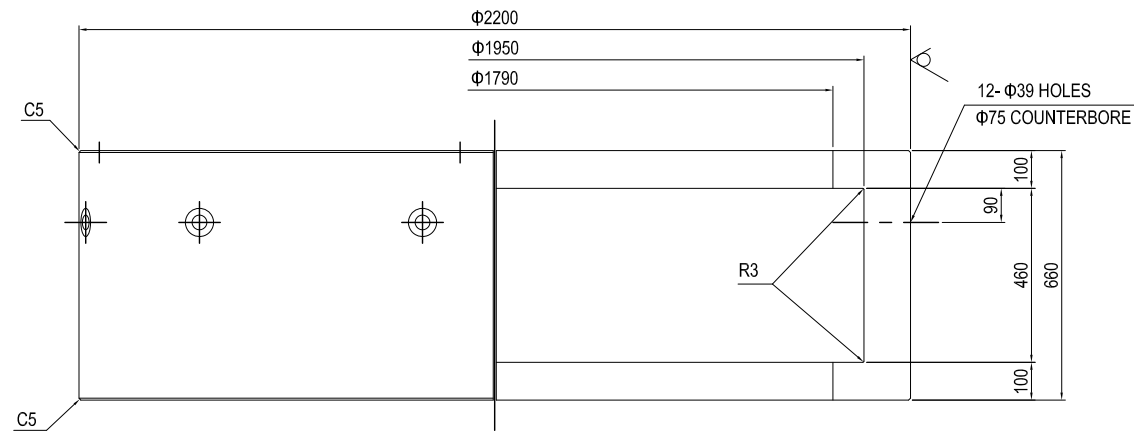
1 - THE CONTRACTOR HAS OPTION TO PROPOSE AN ALTERNATIVE EQUIVALENT TO THE SPECIFIED PRODUCT, WHICH SHALL BE SUBJECTED TO THE ENGINEER'S APPROVAL.

| | | | | | | | | | |
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| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE | PACKAGE | |
| | | | | PREPARED BY | T.TOMODA | | | | 27. Nov.2017 |
| | | | | CHECKED BY | T. HAYAKAWA | | | | 28. Nov.2017 |
| | | | | APPROVED BY | Y. SANO | | | | 29. Nov.2017 |
| | | | | | | | DETAIL OF PIVOT BEARING (2) | 1 | |
| | | | | | | | | DWG No. | |
| | | | | | | | | P1-CS-3011 | |

DETAIL OF PIVOT BEARING (3)

S=1:20

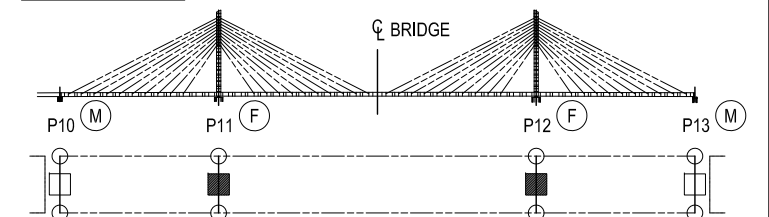
③ 25 () SCW480N



NOTES:

1 - THE CONTRACTOR HAS OPTION TO PROPOSE AN ALTERNATIVE EQUIVALENT TO THE SPECIFIED PRODUCT, WHICH SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.

KEY PLAN



| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|----------------------------------------------|--------------|------------|
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| | | | | PREPARED BY | T.TOMODA | | | 27. Nov.2017 | 1 |
| | | | | CHECKED BY | T. HAYAKAWA | | | 28. Nov.2017 | DWG No. |
| | | | | APPROVED BY | Y. SANO | | | 29. Nov.2017 | P1-CS-3012 |

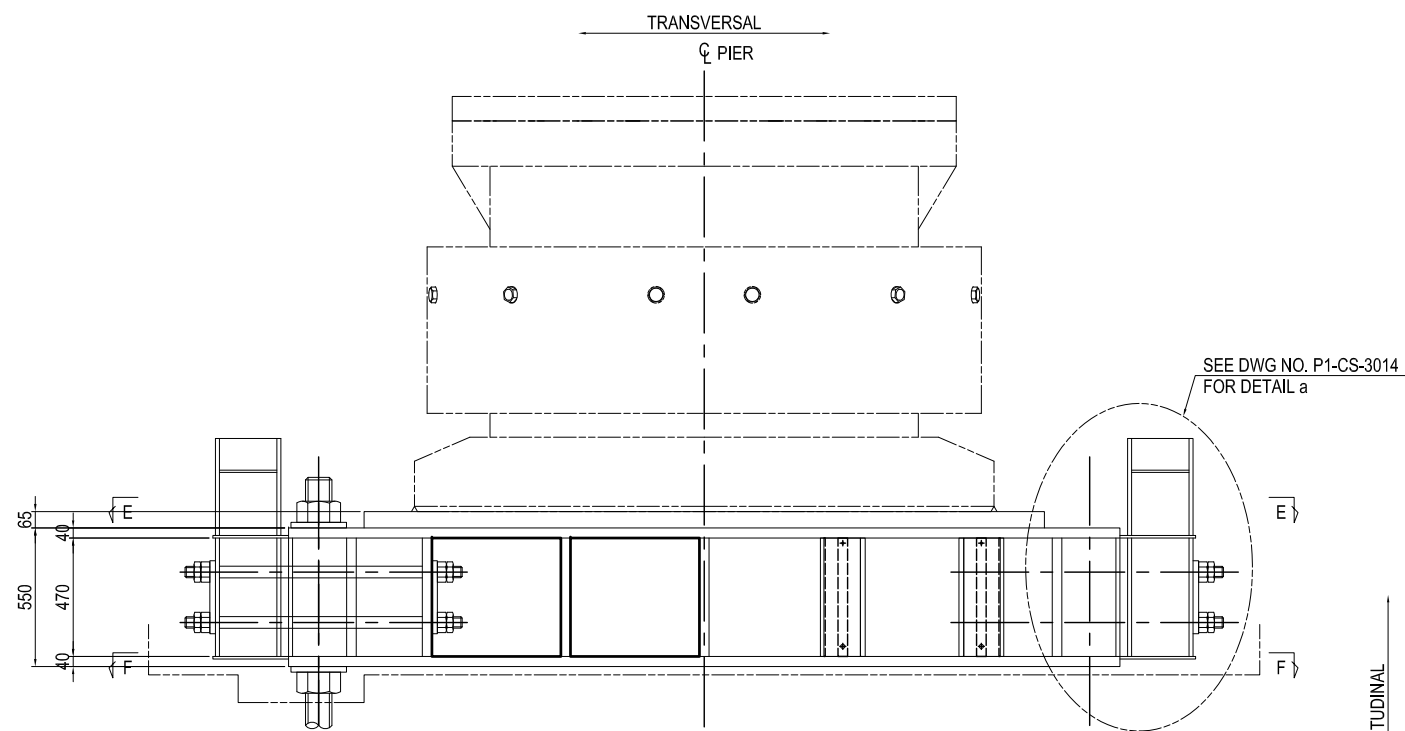
PIER P11 & P12 PEDESTAL FRAME (1) S=1:30

HALF SECTION A-A

HALF SECTION B-B

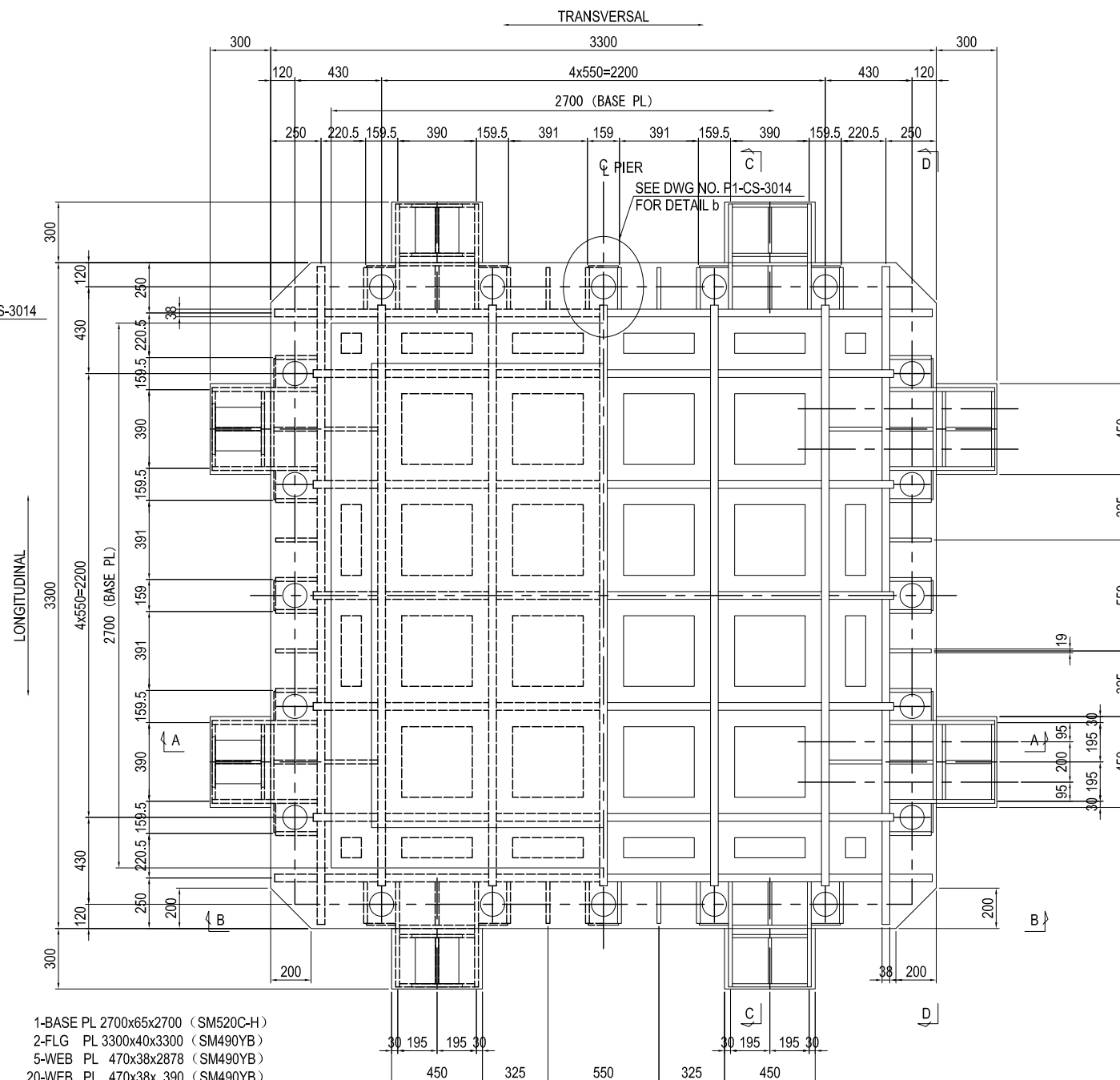
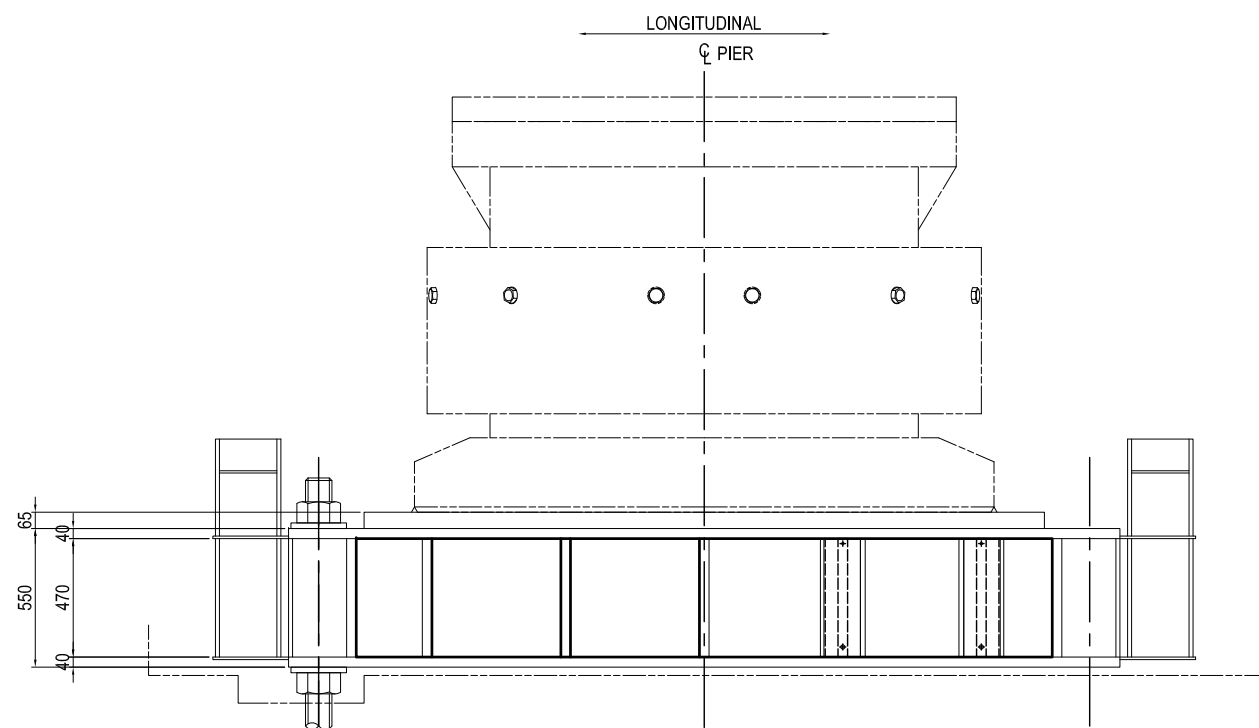
HALF SECTION E-E

HALF SECTION F-F



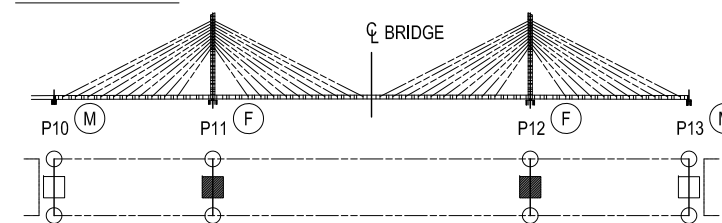
HALF SECTION C-C

HALF SECTION D-D



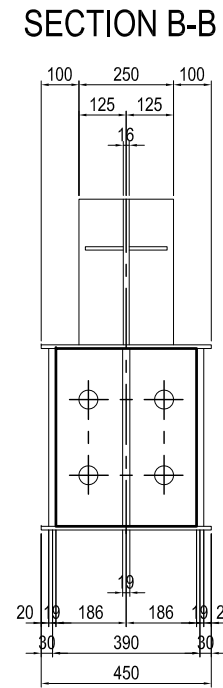
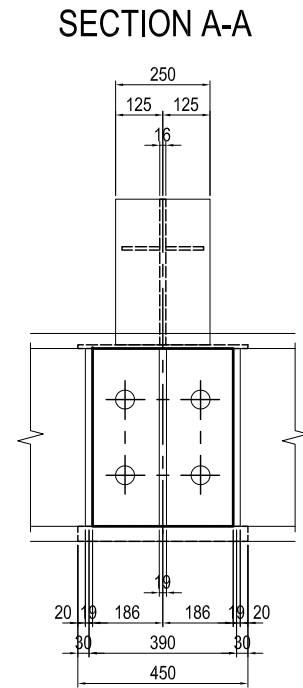
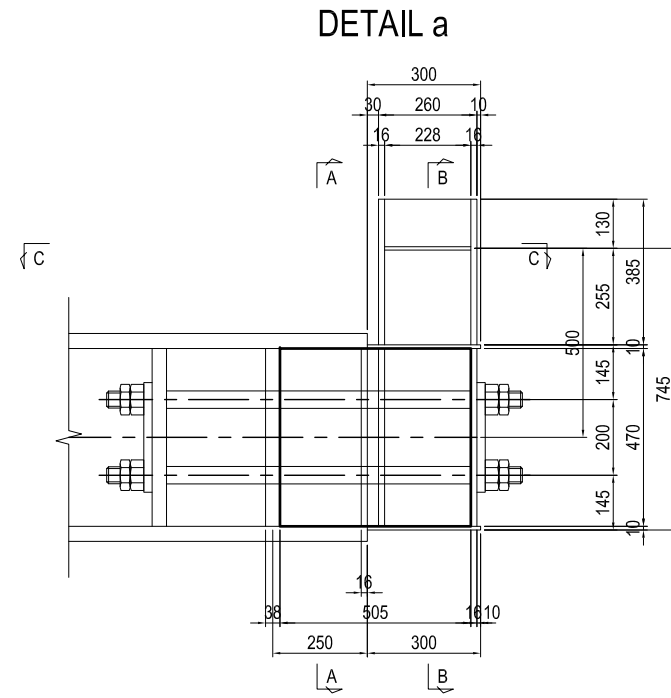
- 1-BASE PL 2700x65x2700 (SM520C-H)
- 2-FLG PL 3300x40x3300 (SM490YB)
- 5-WEB PL 470x38x2878 (SM490YB)
- 20-WEB PL 470x38x 390 (SM490YB)
- 20-WEB PL 470x38x 391 (SM490YB)
- 4-WEB PL 470x38x 262 (SM490YB)
- 10-WEB PL 470x38x 320 (SM490YB)
- 4-WEB PL 470x38x 211 (SM490YB)
- 4-WEB PL 470x38x 511 (SM490YB)
- 16-RIB PL 470x19x 206 (SM490YB)
- 8-RIB PL 470x19x 206 (SM490YB)
- 16-PL 470x 9x 145 (SM400A)
- 4-PL 470x 9x 150 (SM400A)

KEY PLAN



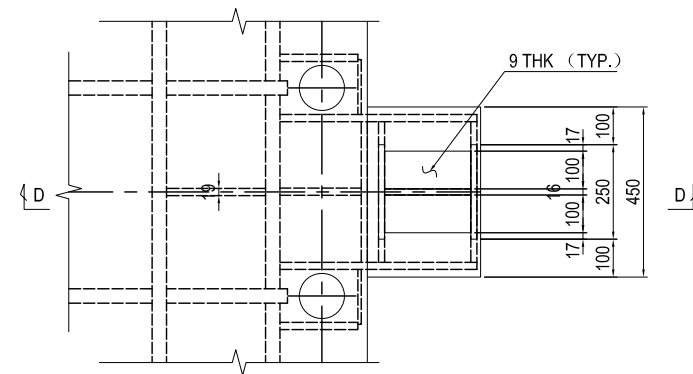
| <p>PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT</p> | <p>FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY</p> | <p>COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE</p> | <p>JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.</p> | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">NAME</th> <th style="width: 15%;">SIGNATURE</th> <th style="width: 15%;">DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY T. TOMODA</td> <td></td> <td>27. Nov. 2017</td> </tr> <tr> <td>CHECKED BY T. HAYAKAWA</td> <td></td> <td>28. Nov. 2017</td> </tr> <tr> <td>APPROVED BY Y. SANO</td> <td></td> <td>29. Nov. 2017</td> </tr> </tbody> </table> | NAME | SIGNATURE | DATE | PREPARED BY T. TOMODA | | 27. Nov. 2017 | CHECKED BY T. HAYAKAWA | | 28. Nov. 2017 | APPROVED BY Y. SANO | | 29. Nov. 2017 | <p>DRAWING TITLE PIER P11 & P12 PEDESTAL FRAME (1)</p> | <p>PACKAGE 1 DWG No. P1-CS-3013</p> |
|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|------|--------------------------|--|---------------|---------------------------|--|---------------|------------------------|--|---------------|-----------------------------------------------------------------------|-------------------------------------------------|
| NAME | SIGNATURE | DATE | | | | | | | | | | | | | | | | |
| PREPARED BY T. TOMODA | | 27. Nov. 2017 | | | | | | | | | | | | | | | | |
| CHECKED BY T. HAYAKAWA | | 28. Nov. 2017 | | | | | | | | | | | | | | | | |
| APPROVED BY Y. SANO | | 29. Nov. 2017 | | | | | | | | | | | | | | | | |

PIER P11 & P12 PEDESTAL FRAME (2) S=1:20

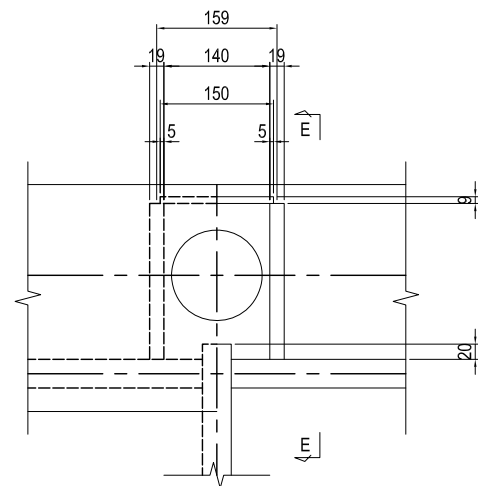


- 8-PL 470x16x 372 (SM400A)
- 16-FLG PL 470x16x 372 (SM400A)
- 16-WEB PL 470x19x 505 (SM400A)
- 16-FLG PL 385x16x 250 (SM400A)
- 8-WEB PL 385x16x 228 (SM400A)
- 16-STIFF PL 100x 9x 228 (SM400A)
- 8-RIB PL 470x19x 262 (SM400A)
- 8-RIB PL 470x19x 215 (SM400A)
- 8-RIB PL 470x16x 228 (SM400A)
- 16-BOLT M46x1100 (S35C)
- 32-NUT M45 (S35C)
- 32-NUT M45 (S35C)
- 32-WASHER PL 90x22x290 (SS400)

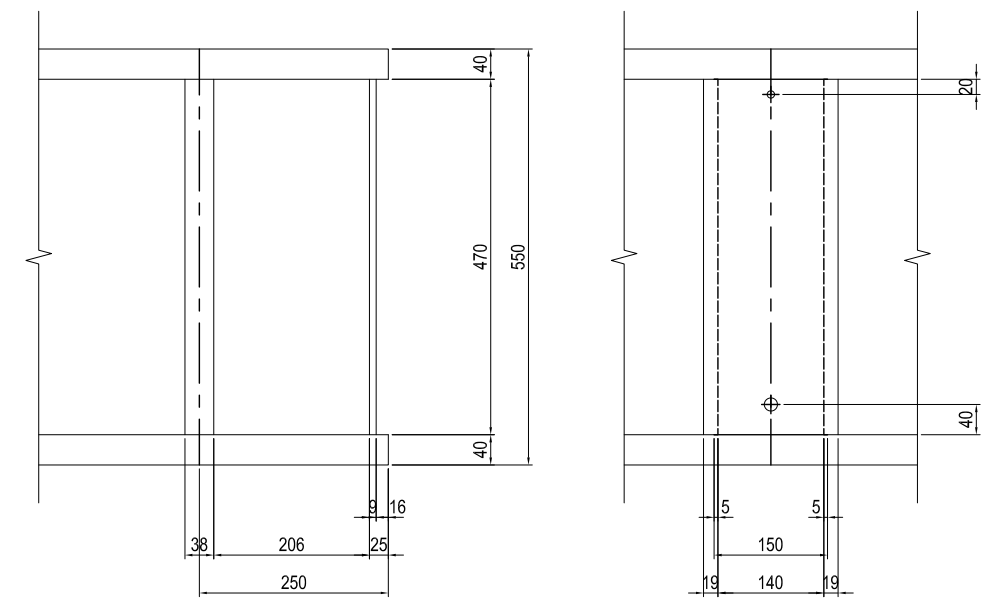
SECTION C-C



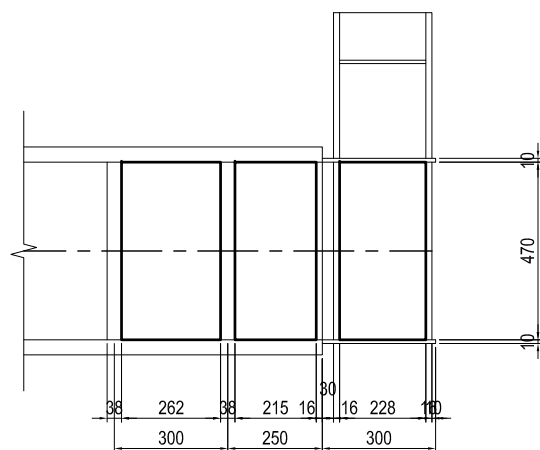
DETAIL b S=1:10



SECTION E-E S=1:10



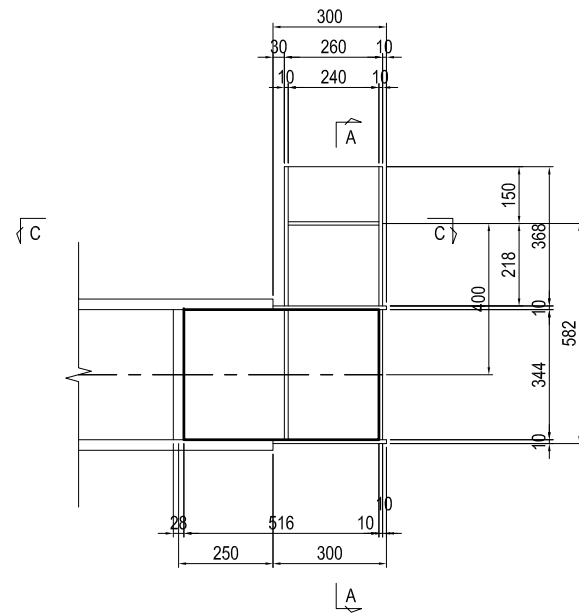
SECTION D-D



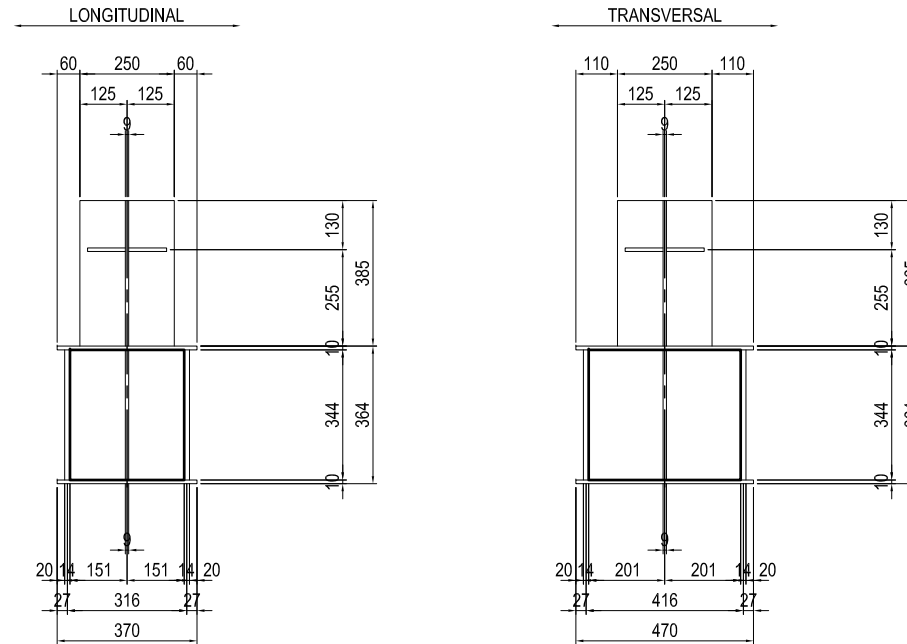
| <small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | <small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY | <small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | <small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">NAME</th> <th style="width: 20%;">SIGNATURE</th> <th style="width: 20%;">DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY T. TOMODA</td> <td></td> <td>27. Nov. 2017</td> </tr> <tr> <td>CHECKED BY T. HAYAKAWA</td> <td></td> <td>28. Nov. 2017</td> </tr> <tr> <td>APPROVED BY Y. SANO</td> <td></td> <td>29. Nov. 2017</td> </tr> </tbody> </table> | NAME | SIGNATURE | DATE | PREPARED BY T. TOMODA | | 27. Nov. 2017 | CHECKED BY T. HAYAKAWA | | 28. Nov. 2017 | APPROVED BY Y. SANO | | 29. Nov. 2017 | <small>DRAWING TITLE</small> PIER P11 & P12 PEDESTAL FRAME (2) | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 100%;">PACKAGE</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">DWG No.</td> </tr> <tr> <td style="text-align: center;">P1-CS-3014</td> </tr> </tbody> </table> | PACKAGE | 1 | DWG No. | P1-CS-3014 |
|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|------|-----------------------|--|---------------|------------------------|--|---------------|---------------------|--|---------------|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---|---------|------------|
| NAME | SIGNATURE | DATE | | | | | | | | | | | | | | | | | | | | |
| PREPARED BY T. TOMODA | | 27. Nov. 2017 | | | | | | | | | | | | | | | | | | | | |
| CHECKED BY T. HAYAKAWA | | 28. Nov. 2017 | | | | | | | | | | | | | | | | | | | | |
| APPROVED BY Y. SANO | | 29. Nov. 2017 | | | | | | | | | | | | | | | | | | | | |
| PACKAGE | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | | | | | | |
| DWG No. | | | | | | | | | | | | | | | | | | | | | | |
| P1-CS-3014 | | | | | | | | | | | | | | | | | | | | | | |

PIER P11 & P12 PEDESTAL FRAME (4) S=1:20

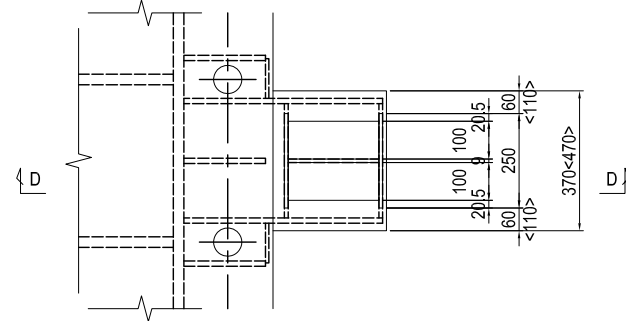
DETAIL a



SECTION A-A



SECTION C-C



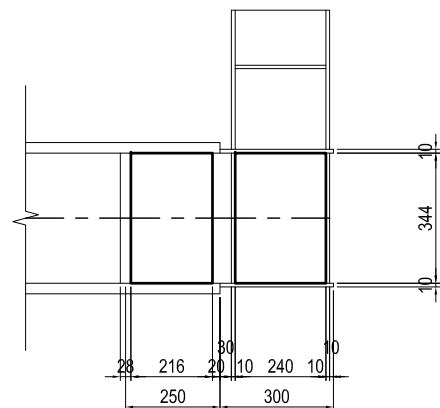
DETAIL "a" ONLY

- 8-WEB PL 344x14x 516 (SM400A)
- 4-FLG PL 344x10x 316 (SM400A)
- 8-FLG PL 385x10x 250 (SM400A)
- 4-WEB PL 385x 9x 240 (SM400A)
- 8-STIFF PL 100x 9x 240 (SM400A)
- 4-RIB PL 344x14x 216 (SM400A)
- 4-RIB PL 344x14x 240 (SM400A)

DETAIL "b" ONLY

- 8-WEB PL 344x14x 516 (SM400A)
- 4-FLG PL 344x10x 416 (SM400A)
- 8-FLG PL 385x10x 250 (SM400A)
- 4-WEB PL 385x 9x 240 (SM400A)
- 8-STIFF PL 100x 9x 240 (SM400A)
- 4-RIB PL 344x14x 216 (SM400A)
- 4-RIB PL 344x14x 240 (SM400A)

SECTION D-D

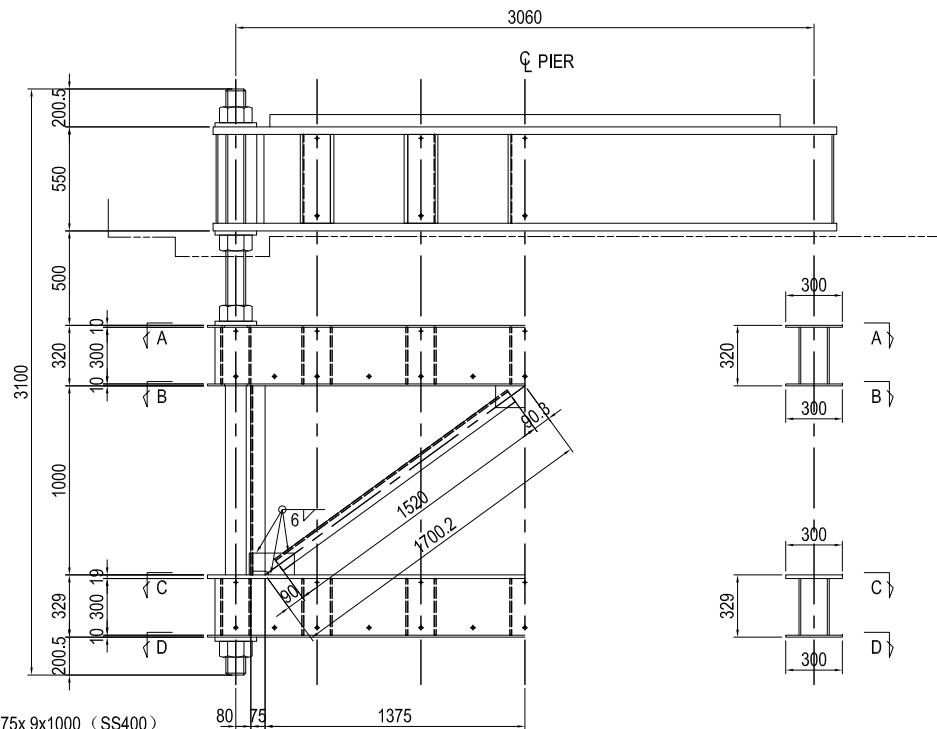


| <p>PROJECT NAME</p> <p>DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT</p> | <p>FINANCED BY</p> <p>JAPAN INTERNATIONAL COOPERATION AGENCY</p> | <p>COUNTERPART</p> <p>REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE</p> | <p>JICA STUDY TEAM</p> <p>NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.</p> | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 20%;">NAME</th> <th style="width: 20%;">SIGNATURE</th> <th style="width: 10%;">DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY</td> <td>T.TOMODA</td> <td></td> <td>27. Nov.2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>28. Nov.2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>29. Nov.2017</td> </tr> </tbody> </table> | | NAME | SIGNATURE | DATE | PREPARED BY | T.TOMODA | | 27. Nov.2017 | CHECKED BY | T. HAYAKAWA | | 28. Nov.2017 | APPROVED BY | Y. SANO | | 29. Nov.2017 | <p>DRAWING TITLE</p> <p style="text-align: center;">PIER P11 & P12 PEDESTAL FRAME (4)</p> | <p>PACKAGE</p> <p style="text-align: center;">1 DWG No. P1-CS-3016</p> |
|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------|-----------|------|-------------|----------|--|--------------|------------|-------------|--|--------------|-------------|---------|--|--------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| | NAME | SIGNATURE | DATE | | | | | | | | | | | | | | | | | | | |
| PREPARED BY | T.TOMODA | | 27. Nov.2017 | | | | | | | | | | | | | | | | | | | |
| CHECKED BY | T. HAYAKAWA | | 28. Nov.2017 | | | | | | | | | | | | | | | | | | | |
| APPROVED BY | Y. SANO | | 29. Nov.2017 | | | | | | | | | | | | | | | | | | | |

PIER P11 & P12 ANCHOR FRAME (1) S=1:40

SECTION E-E

TRANSVERSAL



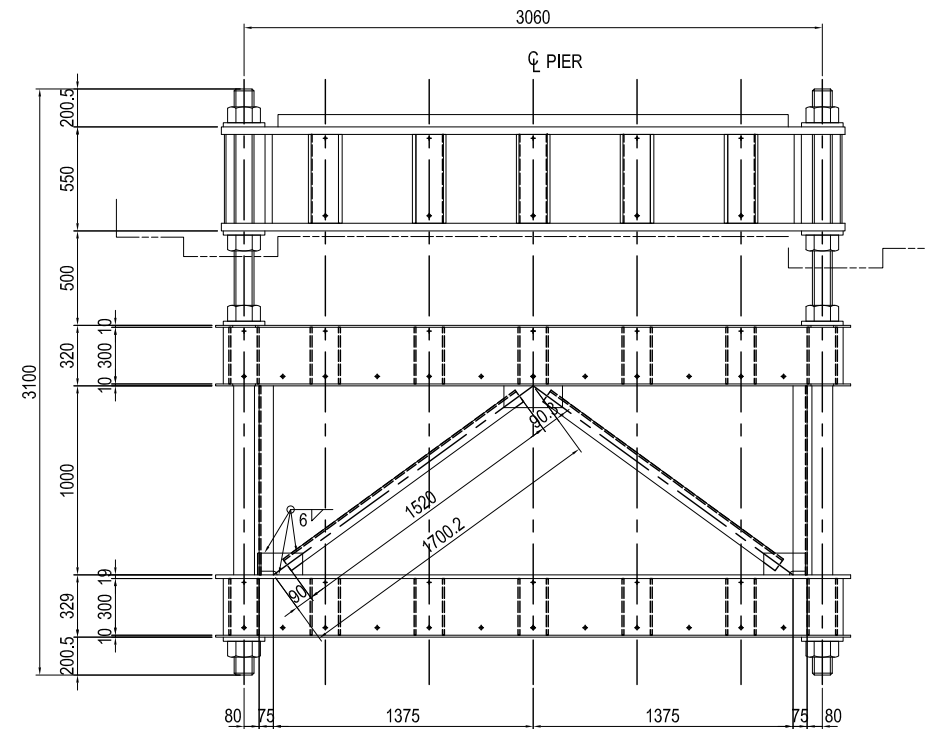
- 4-L 75x75x 9x1000 (SS400)
- 4-L 75x75x 9x1520 (SS400)
- 4-GUSS PL 120x 9x220 (SM400A)
- 2-GUSS PL 120x 9x310 (SM400A)

HALF SECTION A-A HALF SECTION B-B

TRANSVERSAL

SECTION F-F

LONGITUDINAL

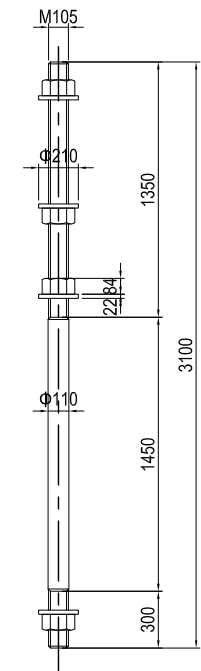


- 4-L 75x75x 9x1520 (SS400)
- 4-GUSS PL 120x 9x220 (SM400A)
- 2-GUSS PL 120x 9x310 (SM400A)

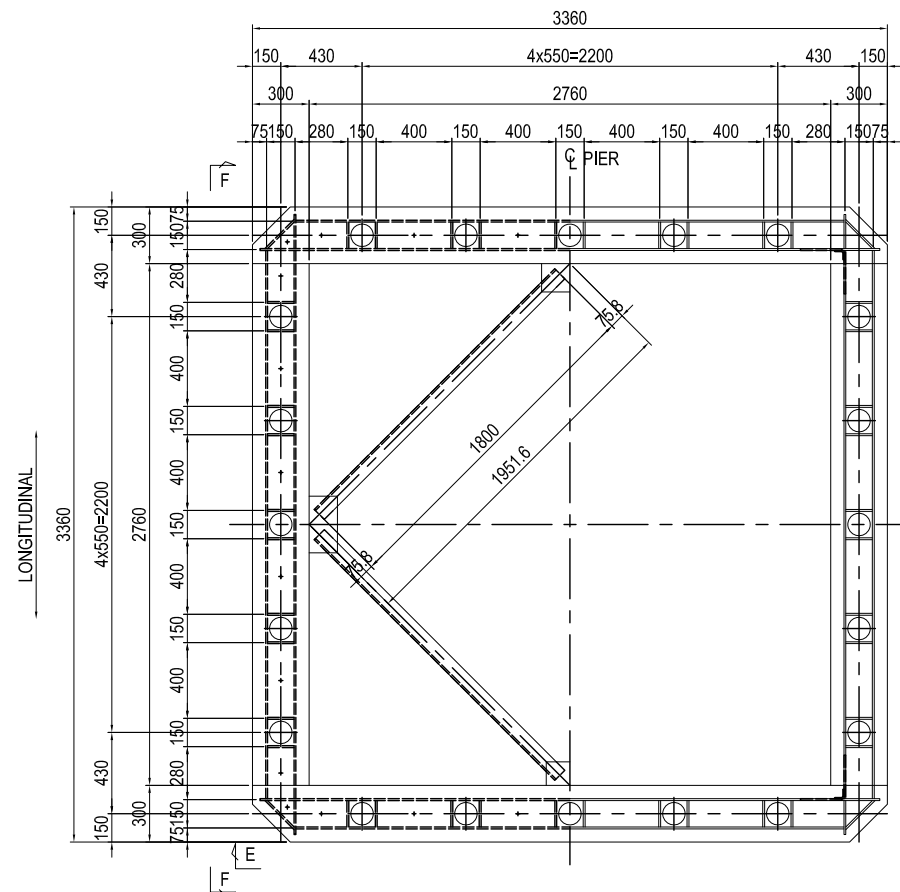
HALF SECTION C-C HALF SECTION D-D

TRANSVERSAL

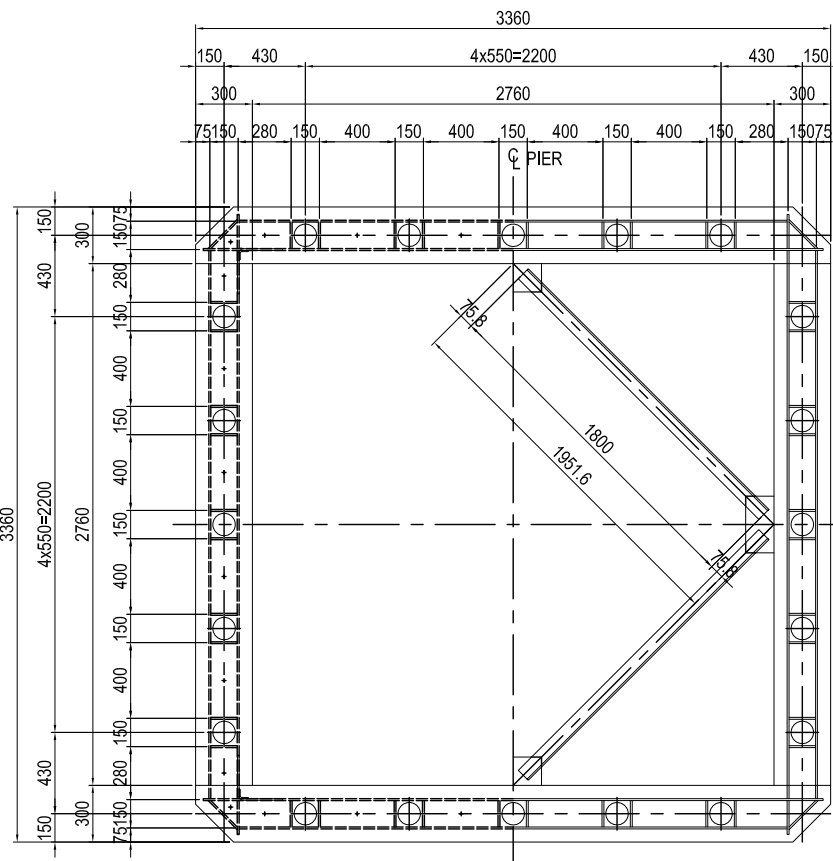
DETAIL FOR ANCHOR BOLT



- 20-ANC.BOLT M110x3100 (S35C)
- 80-NUT M105 (S35C)
- 80-WASHER PL 22x84 (SS400)

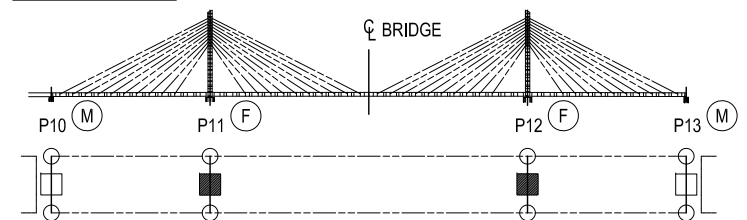


- 4-FLG PL 300x10x3360 (SM400A)
- 4-FLG PL 300x10x2760 (SM400A)
- 2-WEB PL 300x10x3280 (SM400A)
- 6-WEB PL 300x10x2900 (SM400A)
- 4-WEB PL 300x10x 180 (SM400A)
- 4-WEB PL 300x10x 218 (SM400A)
- 40-DIA PL 300x10x 140 (SM400A)
- 4-L 75x75x 9x1800 (SS400)
- 4-GUSS PL 150x 9x300 (SM400A)



- 2-FLG PL 300x19x3360 (SM400A)
- 2-FLG PL 300x19x2760 (SM400A)
- 2-FLG PL 300x10x3360 (SM400A)
- 2-FLG PL 300x10x2760 (SM400A)
- 2-WEB PL 300x10x3280 (SM400A)
- 6-WEB PL 300x10x2900 (SM400A)
- 4-WEB PL 300x10x 180 (SM400A)
- 4-WEB PL 300x10x 218 (SM400A)
- 40-DIA PL 300x10x 140 (SM400A)
- 4-L 75x75x 9x1800 (SS400)
- 4-GUSS PL 150x 9x300 (SM400A)
- 40-PL 85x 6x170 (SM400A)

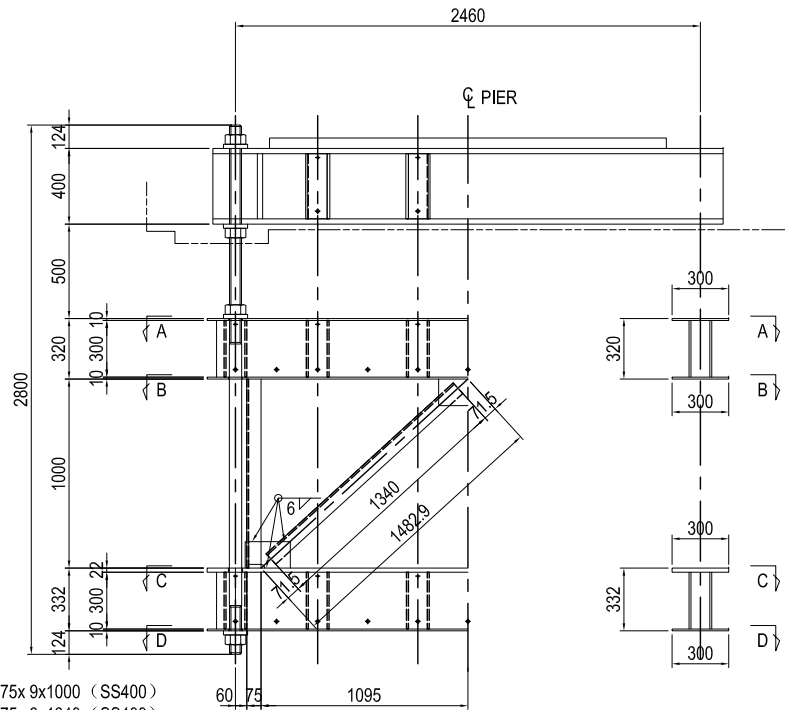
KEY PLAN



| | | | | | | | | |
|-----------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------|---------------|---------------------------------|------------|
| PROJECT NAME | FINANCED BY | COUNTERPART | JICA STUDY TEAM | NAME | SIGNATURE | DATE | DRAWING TITLE | PACKAGE |
| DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | JICA JAPAN INTERNATIONAL COOPERATION AGENCY | REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | PREPARED BY T. TOMODA | 友田 智雄 | 27. Nov. 2017 | PIER P11 & P12 ANCHOR FRAME (1) | 1 |
| | | | | CHECKED BY T. HAYAKAWA | 平川 知邦 | 28. Nov. 2017 | | DWG No. |
| | | | | APPROVED BY Y. SANO | 佐野 祐一 | 29. Nov. 2017 | | P1-CS-3017 |

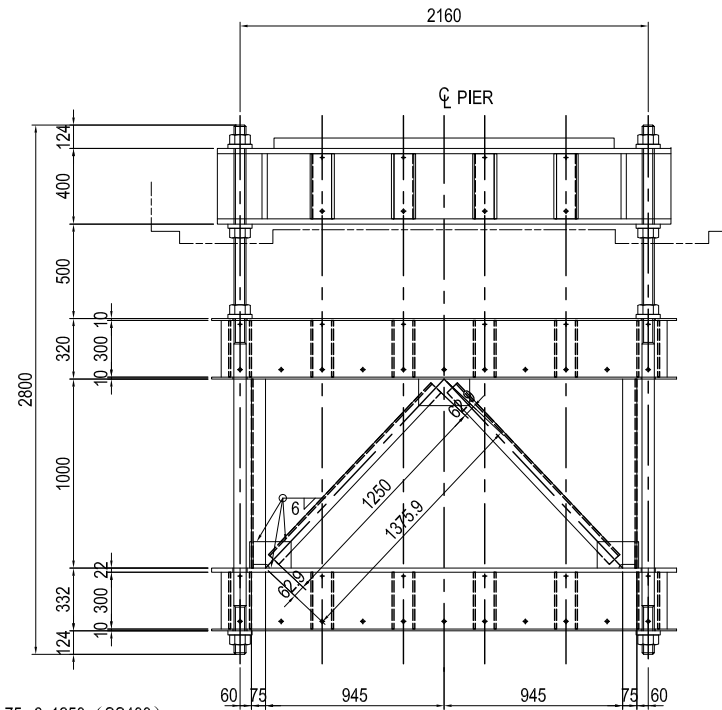
PIER P11 & P12 ANCHOR FRAME (2) S=1:40

SECTION E-E
TRANSVERSAL



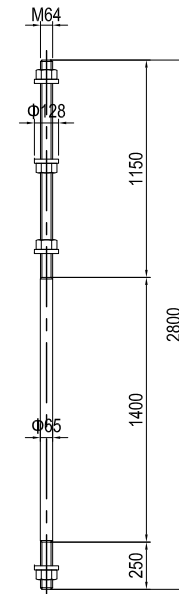
- 4-L 75x75x9x1000 (SS400)
- 4-L 75x75x9x1340 (SS400)
- 4-GUSS PL 140x9x220 (SM400A)
- 2-GUSS PL 140x9x310 (SM400A)

SECTION F-F
LONGITUDINAL



- 4-L 75x75x9x1250 (SS400)
- 4-GUSS PL 140x9x200 (SM400A)
- 2-GUSS PL 140x9x270 (SM400A)

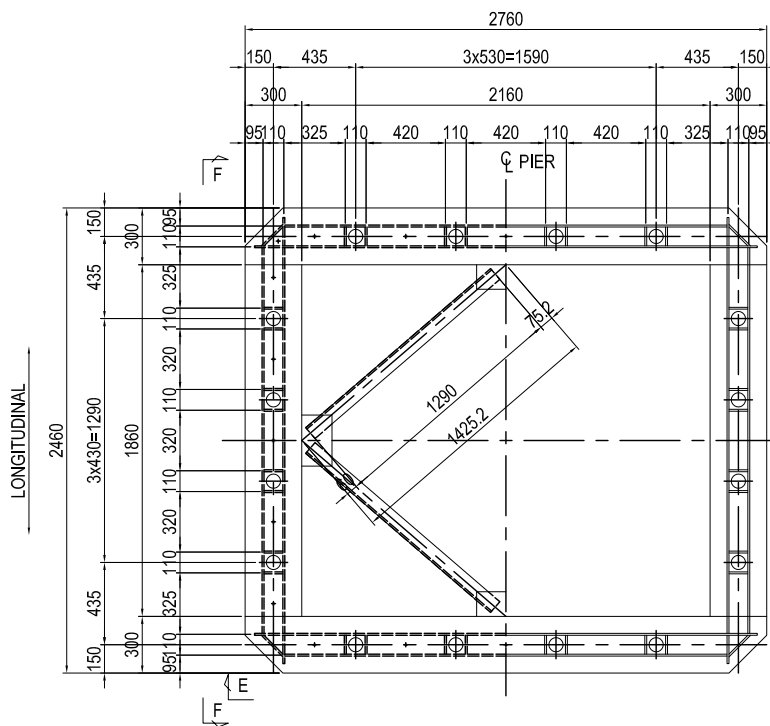
DETAIL FOR ANCHOR BOLT



- 16-ANC.BOLT M65x2800 (S35C)
- 64-NUT M64 (S35C)
- 64-WASHER PL Φ128x22 (SS400)

HALF SECTION A-A HALF SECTION B-B

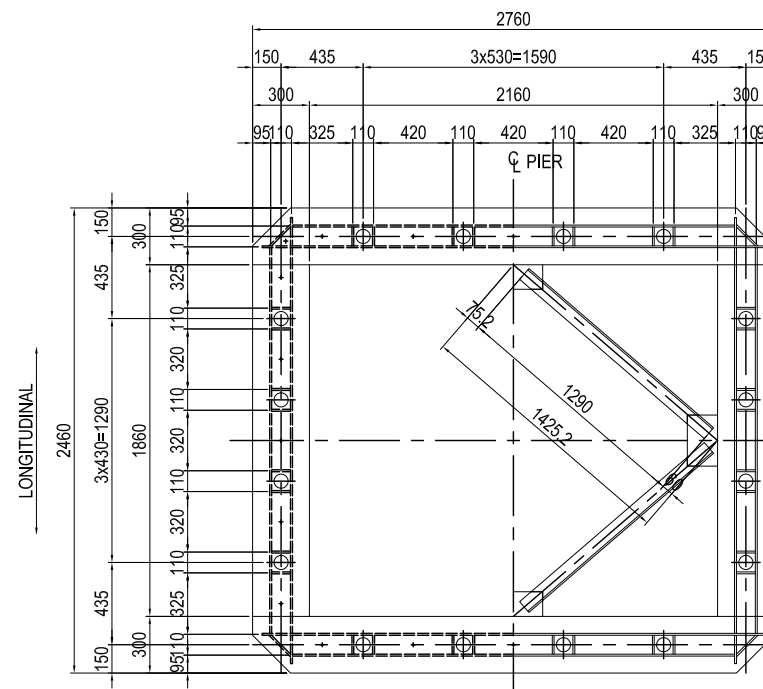
TRANSVERSAL



- 4-FLG PL 300x10x2760 (SM400A)
- 4-FLG PL 300x10x1860 (SM400A)
- 2-WEB PL 300x10x2340 (SM400A)
- 2-WEB PL 300x10x2640 (SM400A)
- 4-WEB PL 300x10x2040 (SM400A)
- 4-WEB PL 300x10x 150 (SM400A)
- 4-WEB PL 300x10x 161 (SM400A)
- 32-DIA PL 300x10x 100 (SM400A)
- 4-L 75x75x9x1290 (SS400)
- 2-GUSS PL 160x9x270 (SM400A)
- 2-GUSS PL 130x9x310 (SM400A)

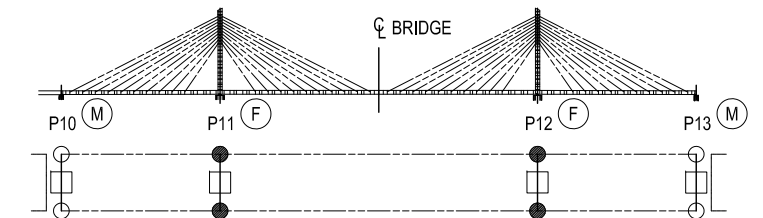
HALF SECTION C-C HALF SECTION D-D

TRANSVERSAL



- 2-FLG PL 300x22x2760 (SM400A)
- 2-FLG PL 300x22x1860 (SM400A)
- 2-FLG PL 300x10x2760 (SM400A)
- 2-FLG PL 300x10x1860 (SM400A)
- 2-WEB PL 300x10x2340 (SM400A)
- 2-WEB PL 300x10x2640 (SM400A)
- 4-WEB PL 300x10x2040 (SM400A)
- 4-WEB PL 300x10x 150 (SM400A)
- 4-WEB PL 300x10x 161 (SM400A)
- 32-DIA PL 300x10x 100 (SM400A)
- 4-L 75x75x9x1290 (SS400)
- 2-GUSS PL 160x9x270 (SM400A)
- 2-GUSS PL 130x9x310 (SM400A)
- 32- PL 58x6x115 (SM400A)

KEY PLAN

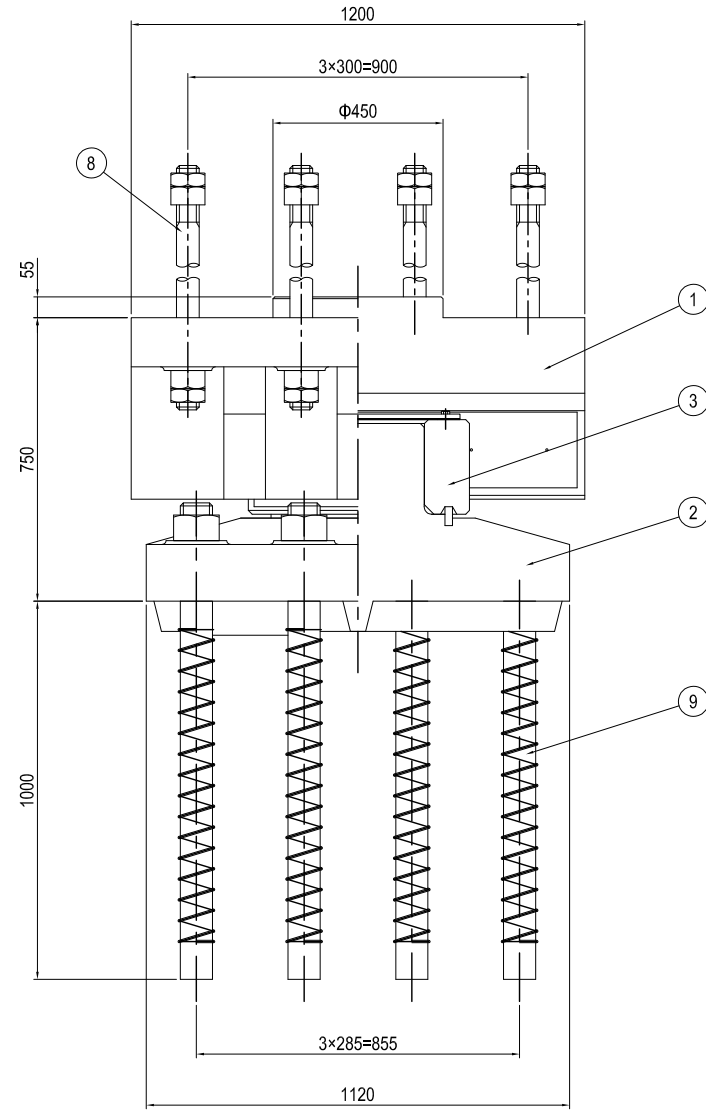


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|---------------------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------|--------------------------------------------------|---------------------------------------|--------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JICA JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE PIER P11 & P12 ANCHOR FRAME (2) | PACKAGE 1 DWG No. P1-CS-3018 | |
| | | | | PREPARED BY | T.TOMODA | 友田 智雄 | | | 27. Nov.2017 |
| | | | | CHECKED BY | T. HAYAKAWA | 平川 知平 | | | 28. Nov.2017 |
| | | | | APPROVED BY | Y. SANO | 佐野 祐一 | | | 29. Nov.2017 |

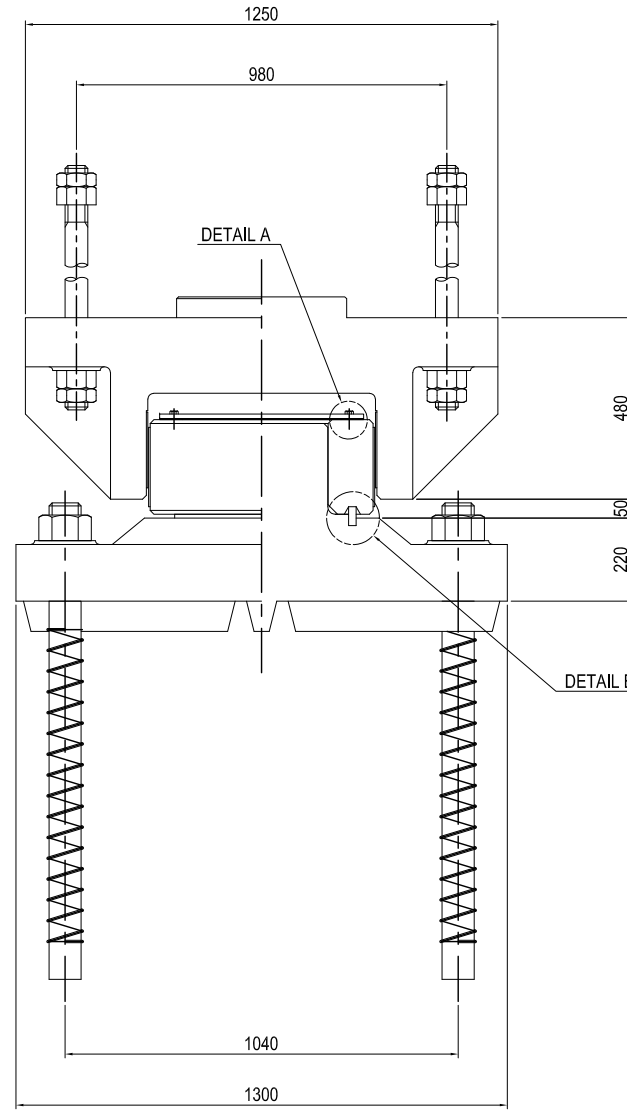
DETAIL OF BEARING FOR HORIZONTAL FORCE (1)

S=1:20

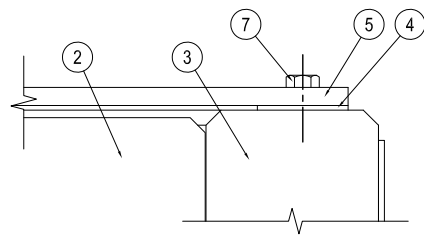
LONGITUDINAL



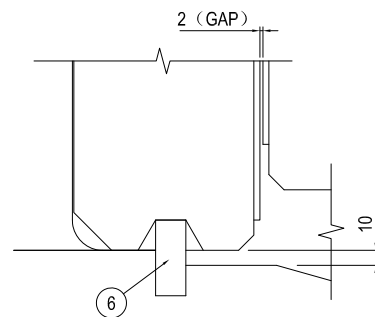
TRANSVERSAL



DETAIL A S=1:5



DETAIL B S=1:5



DESIGN CRITERIA

| REACTION FORCE | | |
|-----------------------------|---------------|-----------------------|
| TRANSVERSAL (EARTHQUAKE) | H | 6700 kN |
| QUANTITY OF MOVE | | |
| AVAILABLE DISPLACEMENT | e | ± 300 mm |
| ADMISSIBLE BEARING PRESSURE | | |
| FOR SUBSTRUCTURE | σ_{ba} | 8 N/mm ² |
| FOR SUPERSTRUCTURE | σ_{ba} | 250 N/mm ² |

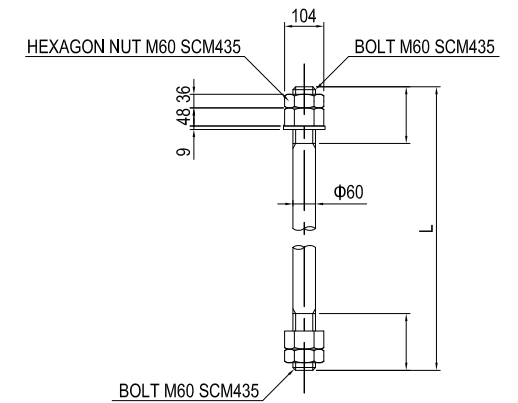
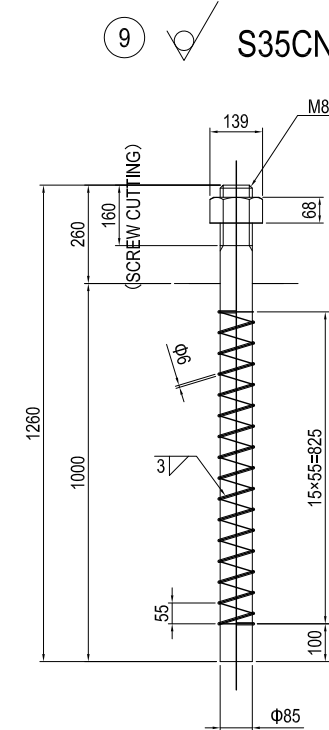
MATERIALS

| NUMBER | THE NAME OF AN ARTICLE | MATERIAL | NUMBER | MASS (Kg) | NOTES |
|--------------------------------|------------------------|-----------------------------------------------------------------------------------|--------|-----------|-----------------------|
| ① | TOP BEARING | SCW480N+SUS316 | 1 | 2898.3 | INCLUDED STAINLESS PL |
| ② | BOTTOM BEARING | SCW480N | 1 | 2088.0 | |
| ③ | COLLAR PLATE | SCW480N+SUS316 | 1 | 490.5 | INCLUDED STAINLESS PL |
| 4 | SEAL RUBBER | CHLOROPRENE RUBBER | 1 | 0.3 | |
| ⑤ | HOLDING PLATE | SS400 | 1 | 21.4 | |
| 6 | SEALRING | CHLOROPRENE RUBBER | 1 | 2.0 | |
| 7 | HEXAGON BOLT | STAINLESS | 12 | 0.5 | JIS B 1180 |
| 8 | SET BOLT WITH NUT | SCM435 | 8 | — | |
| ⑨ | ANCHOR BOLT WITH NUT | S35CN | 8 | 487.3 | JIS B 1181 M85 |
| TOTAL WEIGHT | | | | 5988.3 | (Kg) |
| CORROSION PROOF FOR OUTSIDE PL | | | | | |
| HOT-DIP GALVANIZED | | COATING OVER 550g/m ² , 350g/m ² (FOR BOLT, WASHER & NUT) | | | |

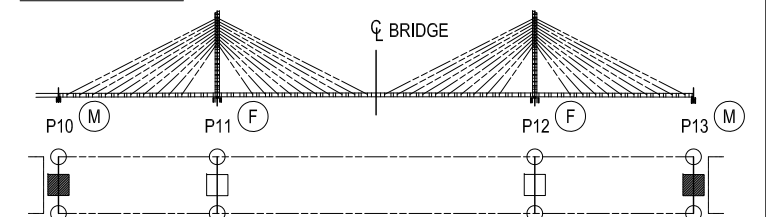
NOTES: 1- CIRCLE NUMBER IN MATERIAL TABLE INDICATES HOT-DIP GALVANIZED.
2- NUMBER 8, SET BOLT WITH NUT COATING HIGH ZINC CONCENTRATION.

⑦ HEXAGON HEAD BOLT M12 x 30 STAINLESS

⑧ BOLT M60 x L SCM435
HEXAGON NUT M60 SCM435
WASHER 60 x 110 x 9.0 22H



KEY PLAN



NOTES:

1 - THE CONTRACTOR HAS OPTION TO PROPOSE AN ALTERNATIVE EQUIVALENT TO THE SPECIFIED PRODUCT, WHICH SHALL BE SUBJECTED TO THE ENGINEER'S APPROVAL..

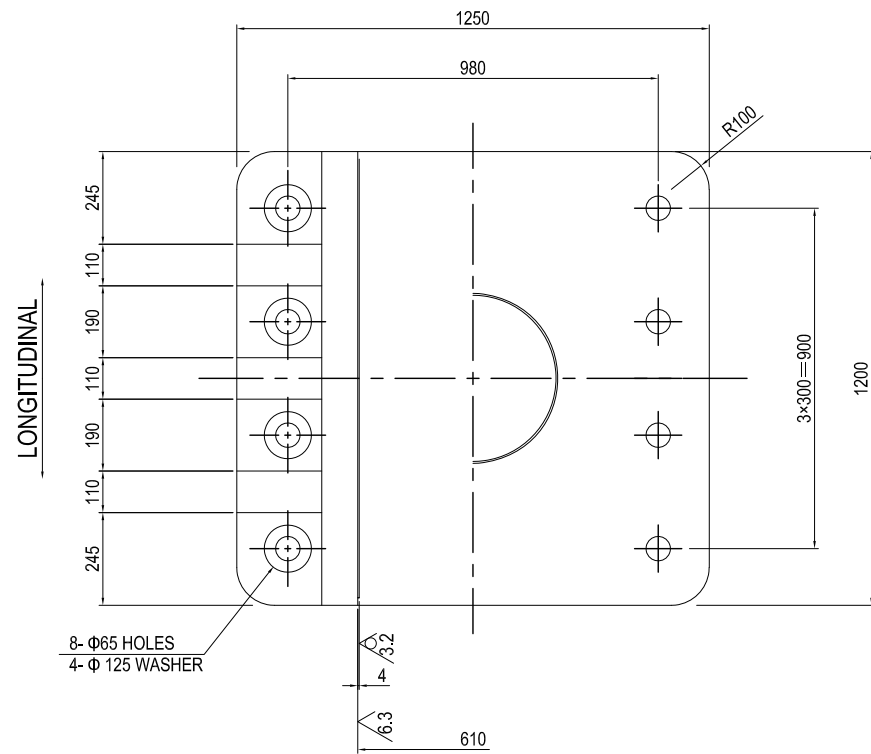
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|---------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------|------------------------------------------------------|-------------------------------------------------------------|---------------------------------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY jica JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME PREPARED BY T. TOMODA CHECKED BY T. HAYAKAWA APPROVED BY Y. SANO | SIGNATURE 友田 智雄 平川 知平 佐野 祐一 | DATE 27. Nov.2017 28. Nov.2017 29. Nov.2017 | DRAWING TITLE DETAIL OF BEARING FOR HORIZONTAL FORCE (1) | PACKAGE 1 DWG No. P1-CS-3019 |
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DETAIL OF BEARING FOR HORIZONTAL FORCE (2)

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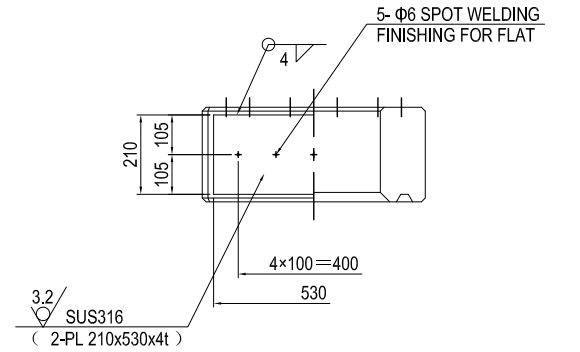
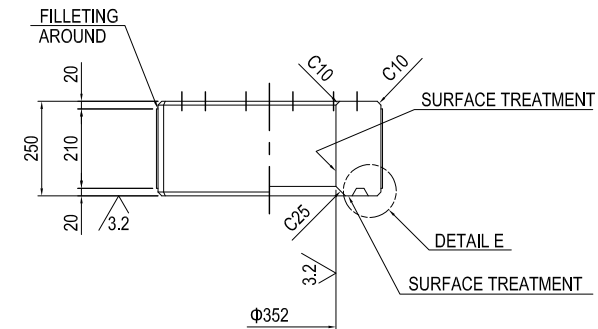
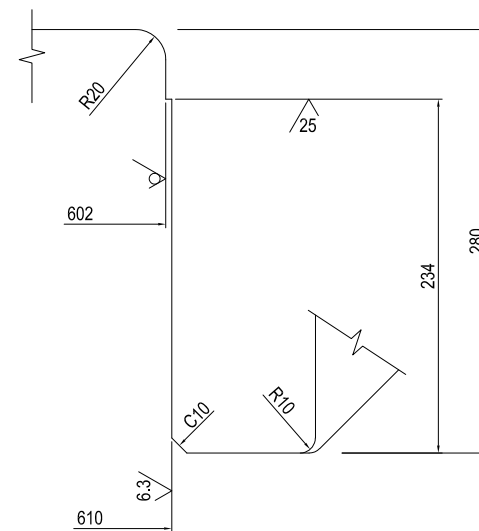
① (25/6.3) SCW480N+SUS316

③ (25/6.3/3.2) SCW480N+SUS316

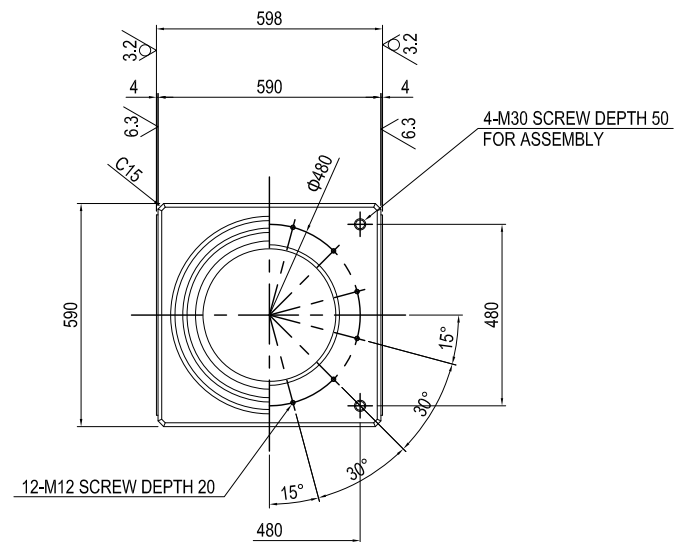


8-Φ65 HOLES
4-Φ125 WASHER

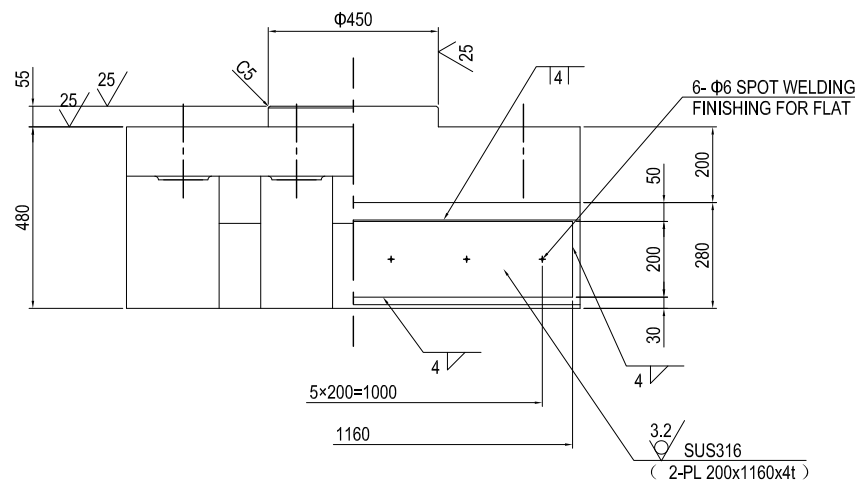
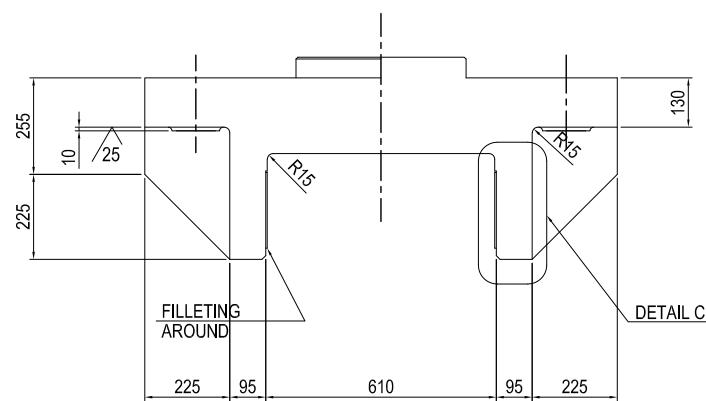
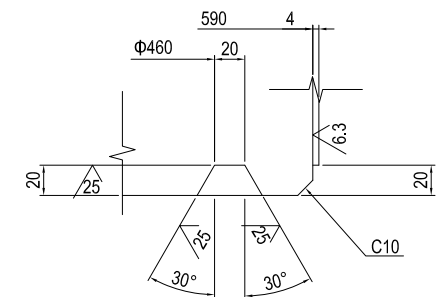
DETAIL C S=1:5



LONGITUDINAL



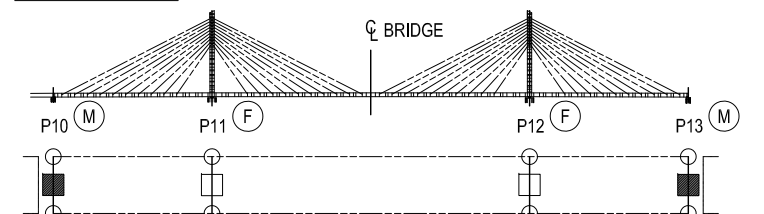
DETAIL E S=1:5



NOTES:

1 - THE CONTRACTOR HAS OPTION TO PROPOSE AN ALTERNATIVE EQUIVALENT TO THE SPECIFIED PRODUCT, WHICH SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL..

KEY PLAN



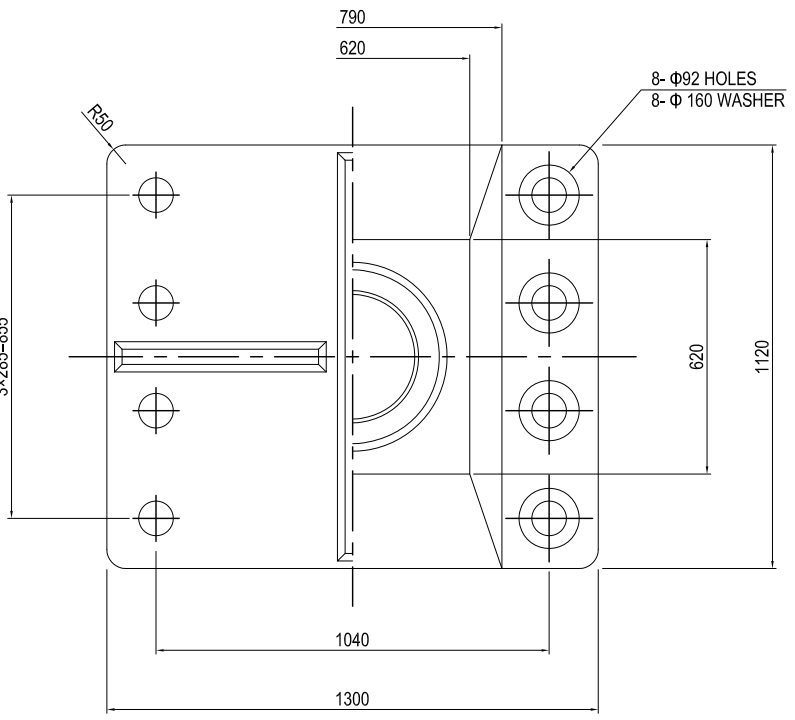
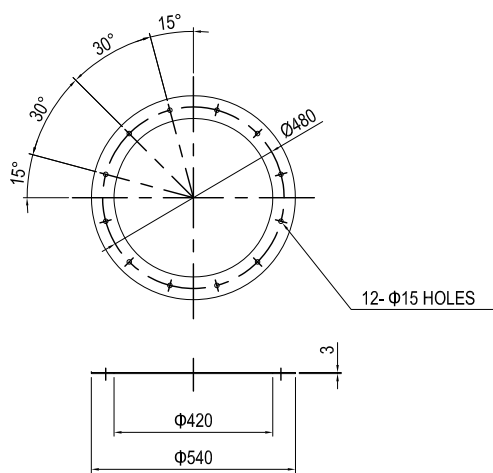
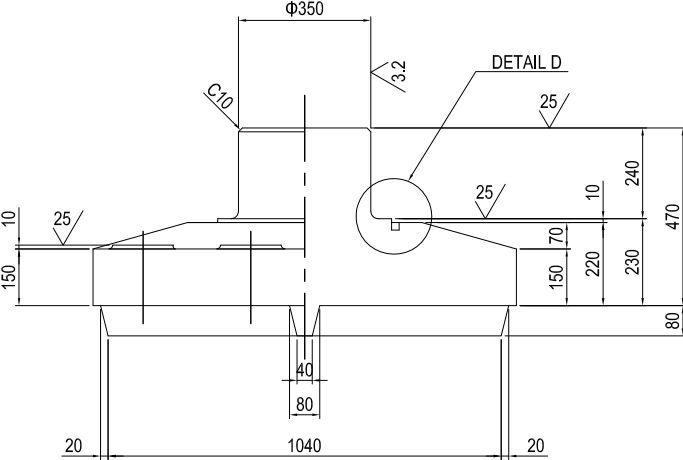
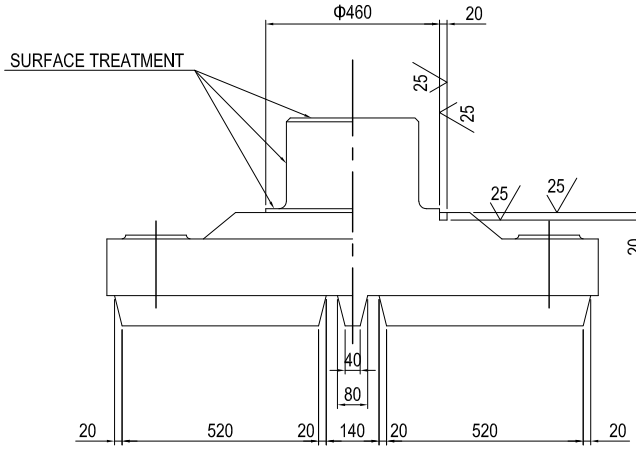
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|---------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|--------------------------------------|------------------------------------------------------|-------------------------------------------------------------|---------------------------------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY jica JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME PREPARED BY T.TOMODA CHECKED BY T. HAYAKAWA APPROVED BY Y. SANO | SIGNATURE 友田 隆雄 平川 知平 佐野 祐一 | DATE 27. Nov.2017 28. Nov.2017 29. Nov.2017 | DRAWING TITLE DETAIL OF BEARING FOR HORIZONTAL FORCE (2) | PACKAGE 1 DWG No. P1-CS-3020 |
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DETAIL OF BEARING FOR HORIZONTAL FORCE (3)

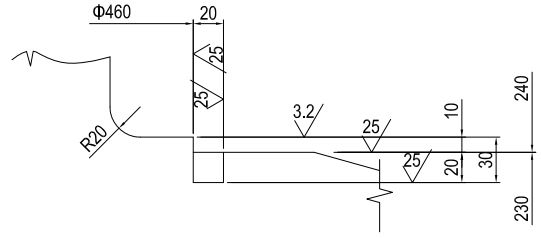
S=1:20

② ✓ (25/3.2) SCW480N

④ ✓ CHLOROPRENE RUBBER

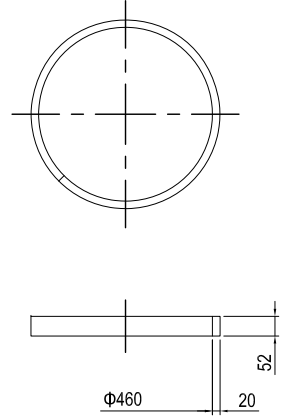
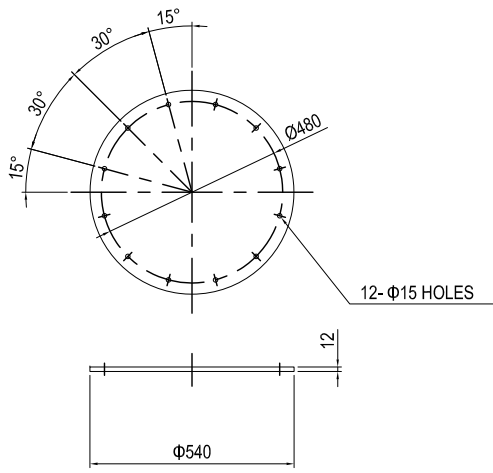


DETAIL D S=1:5

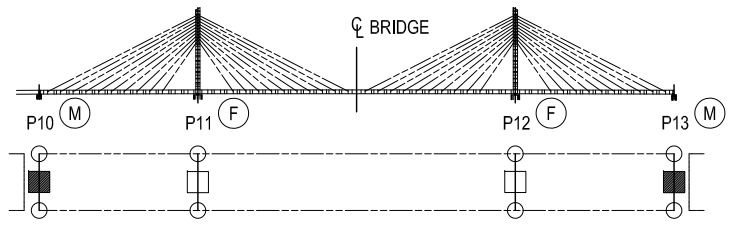


⑤ ✓ SS400

⑥ ✓ CHLOROPRENE RUBBER



KEY PLAN



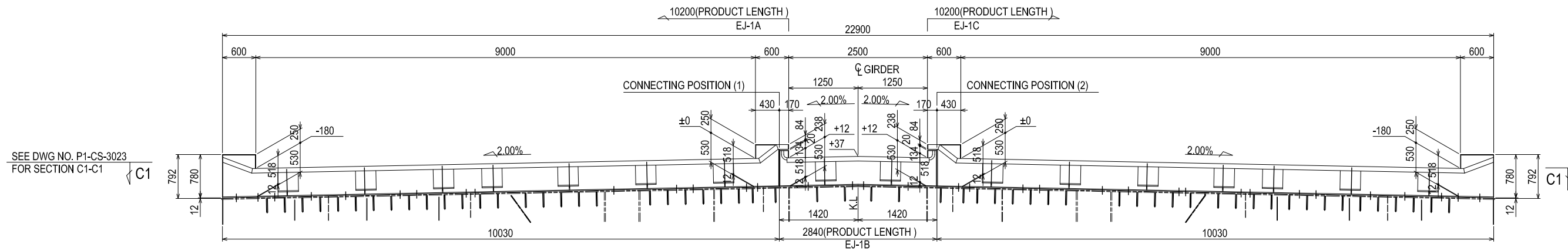
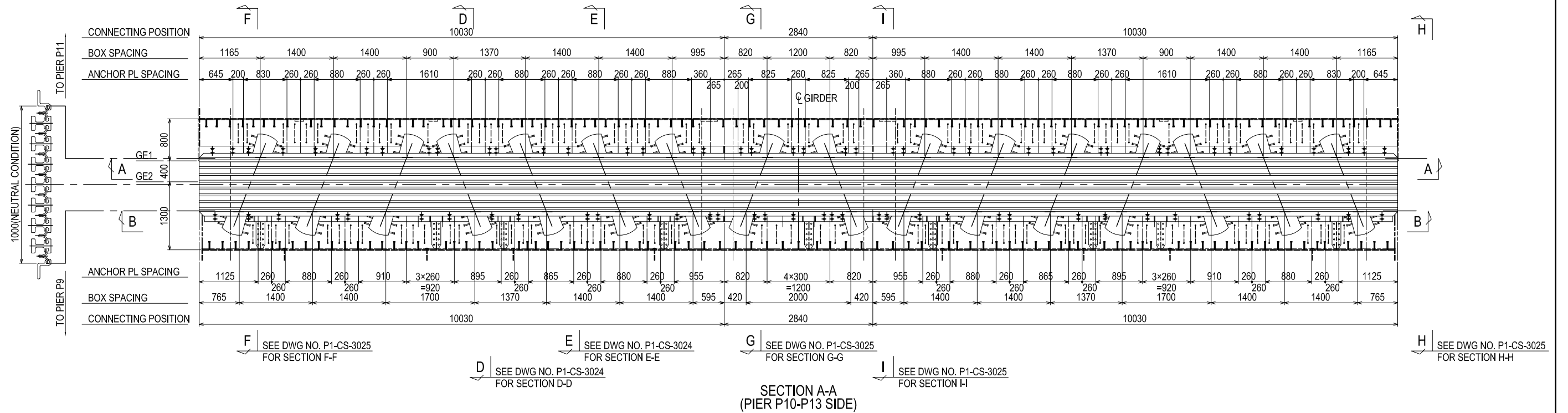
NOTES:
1 - THE CONTRACTOR HAS OPTION TO PROPOSE AN ALTERNATIVE EQUIVALENT TO THE SPECIFIED PRODUCT, WHICH SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL..

| | | | | | | | | | |
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| | | | | PREPARED BY | T.TOMODA | | | | 27. Nov.2017 |
| | | | | CHECKED BY | T. HAYAKAWA | | | | 28. Nov.2017 |
| | | | | APPROVED BY | Y. SANO | | | | 29. Nov.2017 |

EXPANSION JOINT PIER P10 (1)

S=1:80

EJ-1 ASSEMBLY DRAWING (1/2)



NOTES:
 1 - THE CONTRACTOR HAS OPTION TO PROPOSE AN ALTERNATIVE EQUIVALENT TO THE SPECIFIED PRODUCT, WHICH SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.

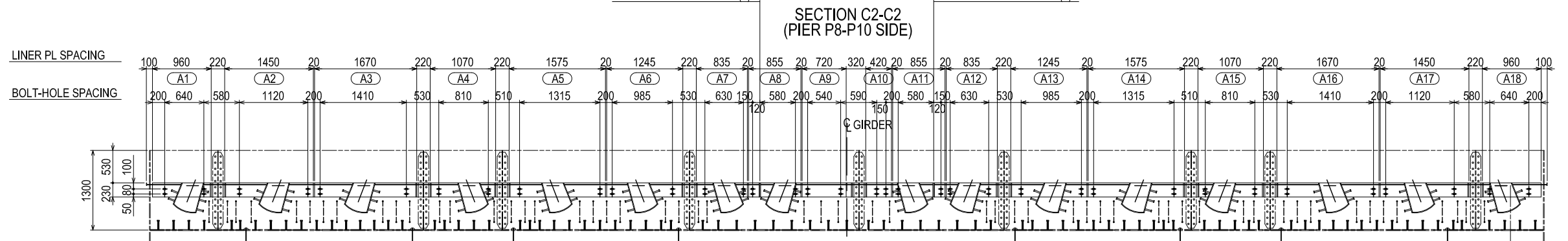
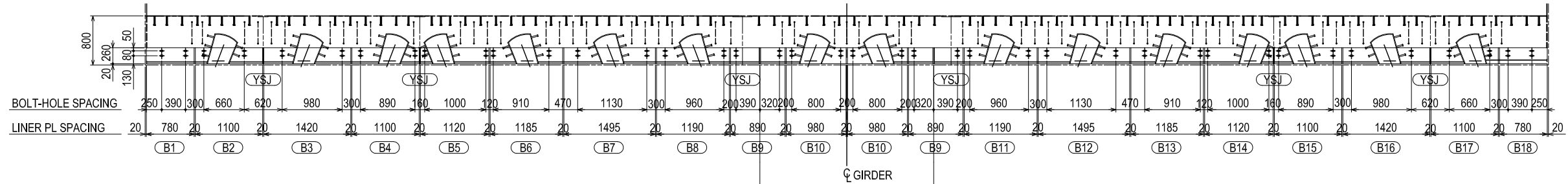
| | | | | | | | |
|---------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------|---------------------------------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY jica JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME PREPARED BY S. TOKUMARU CHECKED BY T. HAYAKAWA APPROVED BY Y. SANO | SIGNATURE DATE 27. Nov.2017 28. Nov.2017 29. Nov.2017 | DRAWING TITLE EXPANSION JOINT PIER P10 (1) | PACKAGE 1 DWG No. P1-CS-3022 |
|---------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------|---------------------------------------|

EXPANSION JOINT PIER P10 (2)

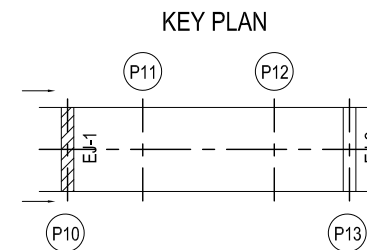
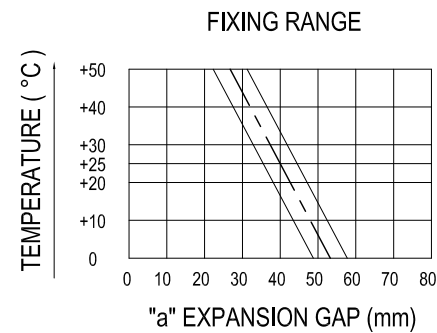
S=1:80

EJ-1 ASSEMBLY DRAWING (2/2)

SECTION C1-C1 (PIER P10-P13 SIDE)



| DESIGN CRITERIA | |
|---------------------------------|-------------|
| LOAD (WHEEL LOAD) | 72.5 kN |
| THERMAL RANGE | 0°C ~ +50°C |
| CONTINUOUS THERMAL DISPLACEMENT | 212 mm |
| CONTINUOUS AMOUNT OF RESERVE | 43 mm |
| CONTINUOUS DISPLACEMENT (TOTAL) | 255 mm |
| SEISMIC DISPLACEMENT | 568 mm |



NOTES:

- 1 - THIS DRAWING SHOWS THE CONDITION OF EXPANSION GAP "A"=40mm(AT 25) PER CELL.
- 2 - PAINTING : CONCRETE BONDING SECTIONS PAINTED WITH ZINC-RICH PRIMER (15mm) AND FOR SECTIONS REMAINING MODIFIED EPOXY RESIN IS PAINTED TWICE (TOP COATING: BLACK).
- 3 - FOR WELDING POINTS WITHOUT INSTRUCTIONS, IMPLEMENT FILLET WELDING OF 6mm.
- 4 - START INSTALLATION FROM EJ-1B.
- 5 - THE CONTRACTOR HAS OPTION TO PROPOSE AN ALTERNATIVE EQUIVALENT TO THE SPECIFIED PRODUCT, WHICH SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.

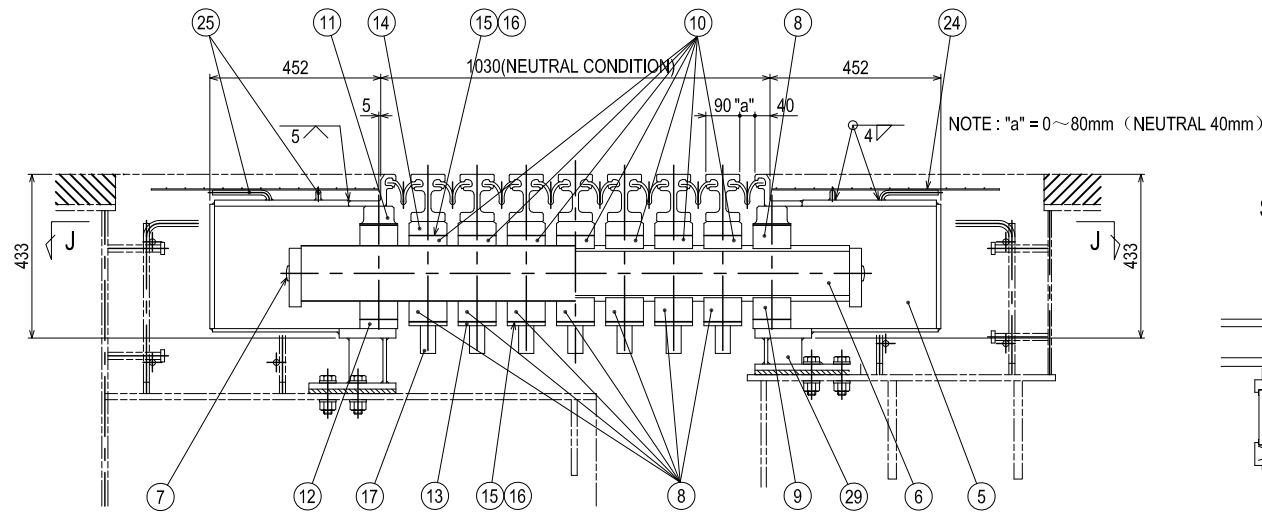
| PROJECT NAME | FINANCED BY | COUNTERPART | JICA STUDY TEAM | NAME | SIGNATURE | DATE | DRAWING TITLE | PACKAGE |
|-----------------------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------|---------------|------------------------------|------------|
| DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | JICA JAPAN INTERNATIONAL COOPERATION AGENCY | REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | S. TOKUMARU | <i>S. Tokumaru</i> | 27. Nov. 2017 | EXPANSION JOINT PIER P10 (2) | 1 |
| | | | | T. HAYAKAWA | <i>T. Hayakawa</i> | 28. Nov. 2017 | | DWG No. |
| | | | | Y. SANO | <i>Y. Sano</i> | 29. Nov. 2017 | | P1-CS-3023 |

EXPANSION JOINT PIER P10 (3)

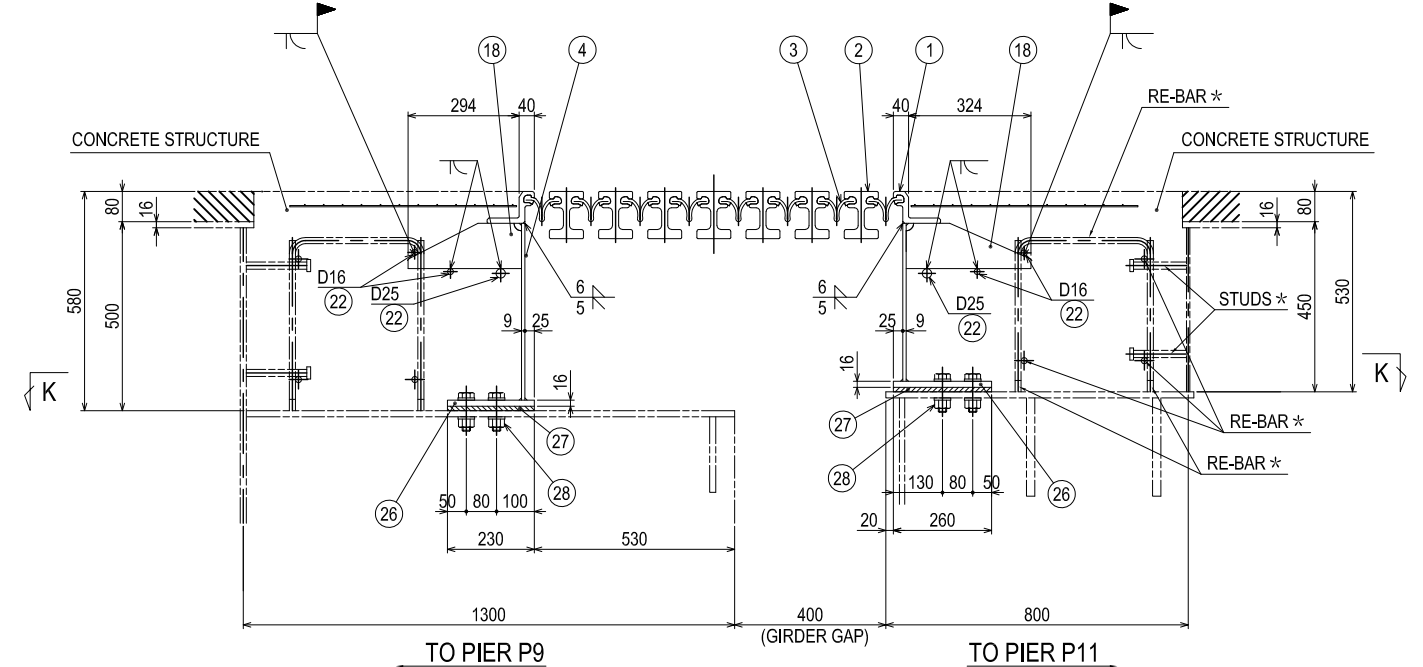
S=1:20

EJ-1 DETAIL DRAWING (1/2)

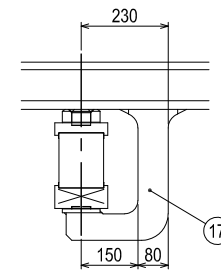
SECTION D-D



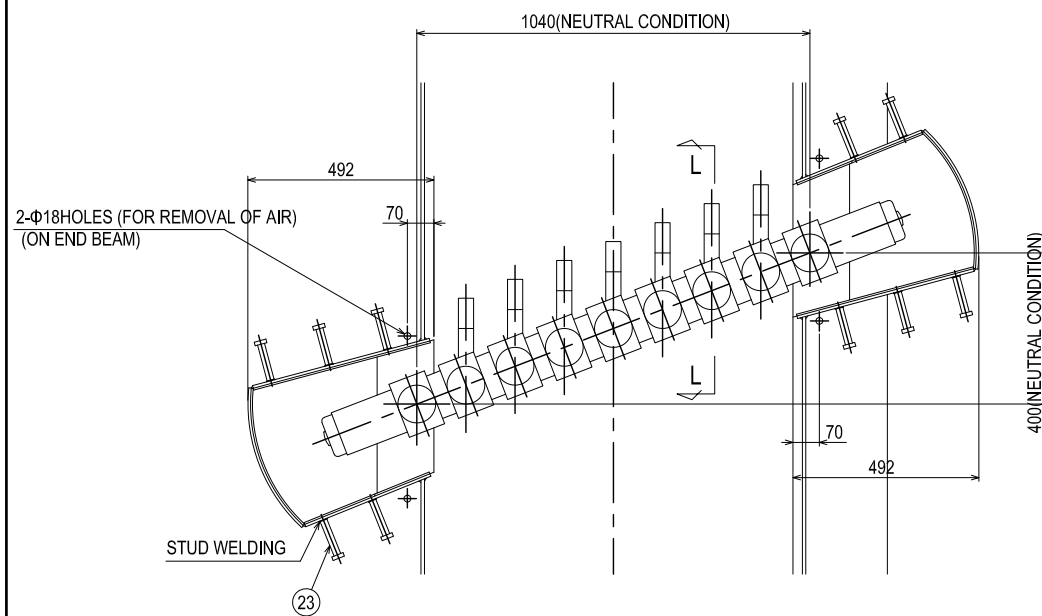
SECTION E-E



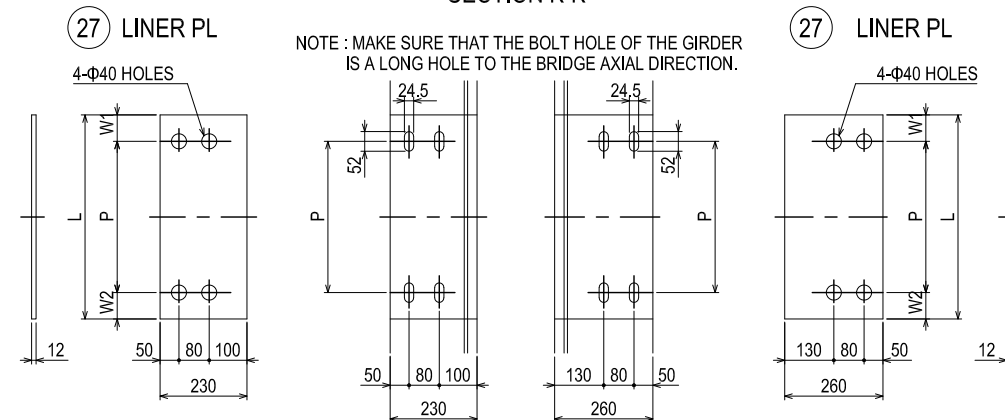
SECTION L-L



SECTION J-J



SECTION K-K



| NO. | THE NAME OF AN ARTICLE | MATERIAL |
|-----|------------------------|--------------|
| 1 | END BEAM | S355J2+AR |
| 2 | MIDDLE BEAM | S355J2+N |
| 3 | SEAL RUBBER | CR |
| 4 | WEB | SM490A |
| 5 | BOX | SM490A |
| 6 | SUPPORTING BEAM | SM490A |
| 7 | BUSH | POLYETHYLENE |
| 8 | SPRING | NR |
| 9 | EB BEARING | NR |
| 10 | MB BEARING | NR |
| 11 | SPRING-FACE A | SM490A |
| 12 | BEARING-FACE A | SM490A |
| 13 | SPRING-FACE B | SM490A |
| 14 | BEARING-FACE B | SM490A |
| 15 | SUS DISK | SUS316L |
| 16 | SLIPPING DISK | METALLOPLAST |
| 17 | PROTECTIVE PL | SM490A |
| 18 | ANCHOR | SM490A |
| 19 | COVER | SM490A |
| 20 | PL | SM490A |
| 21 | END PL | SM490A |
| 22 | REINFORCING BAR | SD345 |
| 23 | STUD | JIS B1198 |
| 24 | WELDED WIRE FABRIC | SUS304 |
| 25 | WIRE RACK | SR235 |
| 26 | BOTTOM FLANGE | SM490A |
| 27 | LINER | SS400 |
| 28 | HTB | F10T |
| 29 | SUPPORT | SM490A |
| 30 | CONNECTION | SM490A |

| | L | P | W1 | W2 | NOS. |
|-----|------|------|-----|-----|------|
| A1 | 960 | 640 | 200 | 120 | 1 |
| A2 | 1450 | 1120 | 240 | 90 | 1 |
| A3 | 1670 | 1410 | 90 | 170 | 1 |
| A4 | 1070 | 810 | 140 | 120 | 1 |
| A5 | 1575 | 1315 | 170 | 90 | 1 |
| A6 | 1245 | 985 | 90 | 170 | 1 |
| A7 | 835 | 630 | 140 | 65 | 1 |
| A8 | 855 | 700 | 65 | 90 | 1 |
| A9 | 720 | 540 | 90 | 90 | 1 |
| A10 | 420 | 150 | 180 | 90 | 1 |
| A11 | 855 | 700 | 90 | 65 | 1 |
| A12 | 835 | 630 | 65 | 140 | 1 |
| A13 | 1245 | 985 | 170 | 90 | 1 |
| A14 | 1575 | 1315 | 90 | 170 | 1 |
| A15 | 1070 | 810 | 120 | 140 | 1 |
| A16 | 1670 | 1410 | 170 | 90 | 1 |
| A17 | 1450 | 1120 | 90 | 240 | 1 |
| A18 | 960 | 640 | 120 | 200 | 1 |

| | L | P | W1 | W2 | NOS. |
|-----|------|------|-----|-----|------|
| B1 | 780 | 390 | 250 | 140 | 1 |
| B2 | 1100 | 660 | 140 | 300 | 1 |
| B3 | 1420 | 980 | 300 | 140 | 1 |
| B4 | 1100 | 890 | 140 | 70 | 1 |
| B5 | 1120 | 1000 | 70 | 50 | 1 |
| B6 | 1185 | 910 | 50 | 225 | 1 |
| B7 | 1495 | 1130 | 225 | 140 | 1 |
| B8 | 1190 | 960 | 140 | 90 | 1 |
| B9 | 890 | 710 | 90 | 90 | 2 |
| B10 | 980 | 800 | 90 | 90 | 2 |
| B11 | 1190 | 960 | 90 | 140 | 1 |
| B12 | 1495 | 1130 | 140 | 225 | 1 |
| B13 | 1185 | 910 | 225 | 50 | 1 |
| B14 | 1120 | 1000 | 50 | 70 | 1 |
| B15 | 1100 | 890 | 70 | 140 | 1 |
| B16 | 1420 | 980 | 140 | 300 | 1 |
| B17 | 1100 | 660 | 300 | 140 | 1 |
| B18 | 780 | 390 | 140 | 250 | 1 |

NOTES:

- THIS DRAWING SHOWS THE CONDITION OF EXPANSION GAP "a"=40mm(AT 25) PER CELL.
- PAINTING: CONCRETE BONDING SECTIONS PAINTED WITH ZINC-RICH PRIMER (15mm) AND FOR SECTIONS REMAINING MODIFIED EPOXY RESIN IS PAINTED TWICE (TOP COATING: BLACK).
- FOR WELDING POINTS WITHOUT INSTRUCTIONS, IMPLEMENT FILLET WELDING OF 6mm.
- ② SITE WELDING IS IMPLEMENTED PARTIALLY ON THE RE-BAR.
- *: BE SURE TO MAKE PREPARATION FOR RE-BAR AND STUDS AT TIME OF SUPERSTRUCTURE WORK.
- SEPARATELY CONSIDER CONNECTING WITH THE RE-BAR.
- THE CONTRACTOR HAS OPTION TO PROPOSE AN ALTERNATIVE EQUIVALENT TO THE SPECIFIED PRODUCT, WHICH SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.

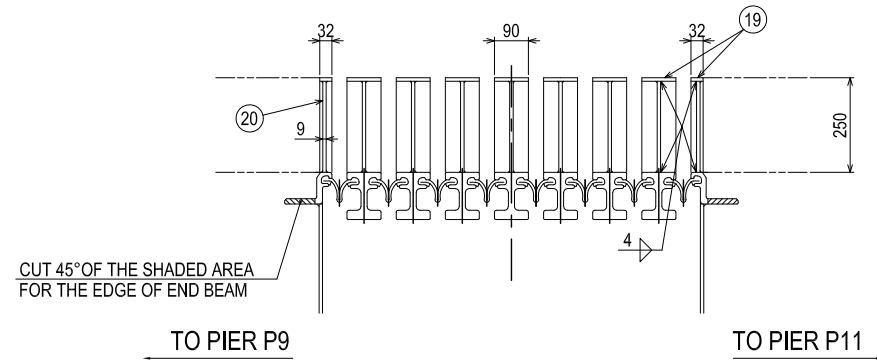
| PROJECT NAME | FINANCED BY | COUNTERPART | JICA STUDY TEAM | NAME | SIGNATURE | DATE | DRAWING TITLE | PACKAGE |
|-----------------------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------|--------------|------------------------------|------------|
| DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | JICA JAPAN INTERNATIONAL COOPERATION AGENCY | REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | S. TOKUMARU | <i>[Signature]</i> | 27. Nov.2017 | EXPANSION JOINT PIER P10 (3) | 1 |
| | | | | T. HAYAKAWA | <i>[Signature]</i> | 28. Nov.2017 | | DWG No. |
| | | | | Y. SANO | <i>[Signature]</i> | 29. Nov.2017 | | P1-CS-3024 |

EXPANSION JOINT PIER P10 (4)

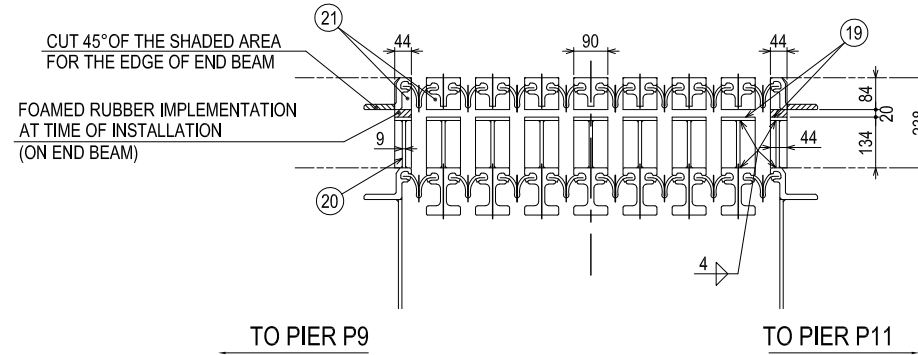
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EJ-1 DETAIL DRAWING (2/2)

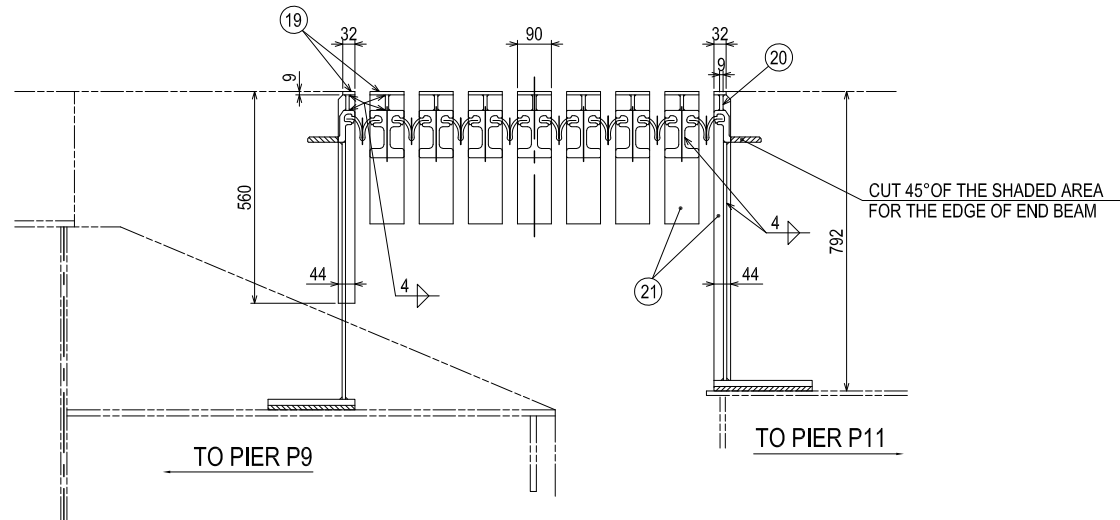
SECTION F-F
OVERALL SURFACE OF THE WHEEL GUARD OF THE EDGE OF ROADWAY



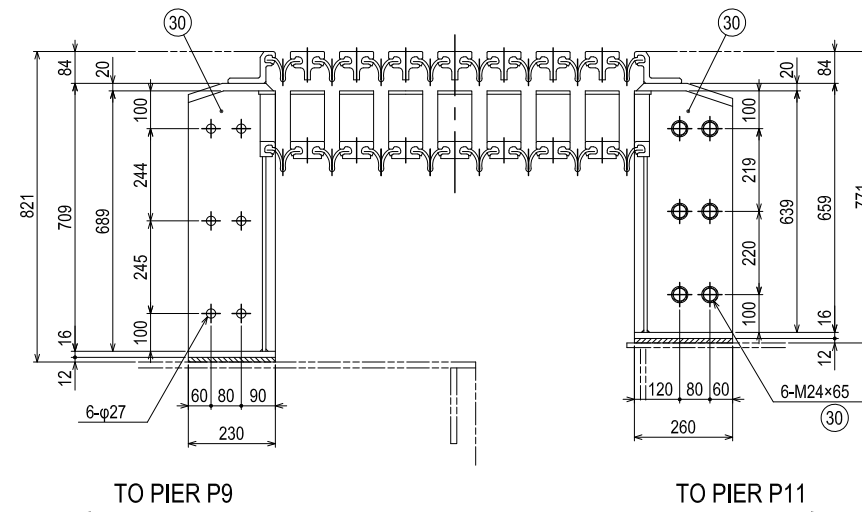
SECTION G-G
BACK SURFACE OF THE WHEEL GUARD OF CENTRAL MEDIAN



SECTION H-H
BACK SURFACE OF THE WHEEL GUARD OF THE EDGE OF ROADWAY



SECTION I-I
CONNECTION



| NO. | THE NAME OF AN ARTICLE | MATERIAL |
|-----|------------------------|--------------|
| 1 | END BEAM | S355J2+AR |
| 2 | MIDDLE BEAM | S355J2+N |
| 3 | SEAL RUBBER | CR |
| 4 | WEB | SM490A |
| 5 | BOX | SM490A |
| 6 | SUPPORTING BEAM | SM490A |
| 7 | BUSH | POLYETHYLENE |
| 8 | SPRING | NR |
| 9 | EB BEARING | NR |
| 10 | MB BEARING | NR |
| 11 | SPRING-FACE A | SM490A |
| 12 | BEARING-FACE A | SM490A |
| 13 | SPRING-FACE B | SM490A |
| 14 | BEARING-FACE B | SM490A |
| 15 | SUS DISK | SUS316L |
| 16 | SLIPPING DISK | METALLOPLAST |
| 17 | PROTECTIVE PL | SM490A |
| 18 | ANCHOR | SM490A |
| 19 | COVER | SM490A |
| 20 | PL | SM490A |
| 21 | END PL | SM490A |
| 22 | REINFORCING BAR | SD345 |
| 23 | STUD | JIS B1198 |
| 24 | WELDED WIRE FABRIC | SUS304 |
| 25 | WIRE RACK | SR235 |
| 26 | BOTTOM FLANGE | SM490A |
| 27 | LINER | SS400 |
| 28 | HTB | F10T |
| 29 | SUPPORT | SM490A |
| 30 | CONNECTION | SM490A |

NOTES:

- 1 - THIS DRAWING SHOWS THE CONDITION OF EXPANSION GAP "A"=40mm(AT 25) PER CELL.
- 2 - PAINTING : CONCRETE BONDING SECTIONS PAINTED WITH ZINC-RICH PRIMER (15mm) AND FOR SECTIONS REMAINING MODIFIED EPOXY RESIN IS PAINTED TWICE (TOP COATING: BLACK).
- 3 - FOR WELDING POINTS WITHOUT INSTRUCTIONS, IMPLEMENT FILLET WELDING OF 6mm.
- 4 - (22) SITE WELDING IS IMPLEMENTED PARTIALLY ON THE RE-BAR.
- 5 - THE CONTRACTOR HAS OPTION TO PROPOSE AN ALTERNATIVE EQUIVALENT TO THE SPECIFIED PRODUCT, WHICH SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.

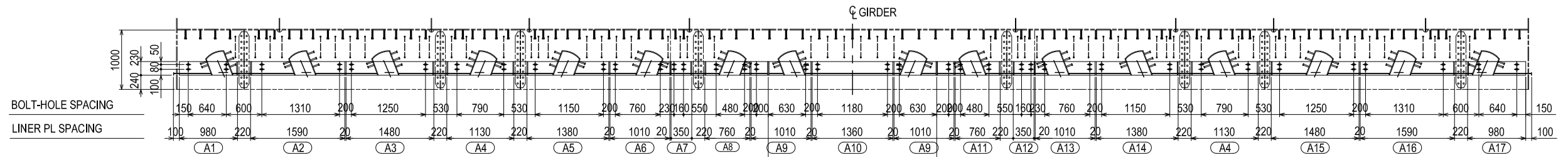
| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|-----------------------------------------------|---------------------------------------|--------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE EXPANSION JOINT PIER P10 (4) | PACKAGE 1 DWG No. P1-CS-3025 | |
| | | | | PREPARED BY | S.TOKUMARU | | | | 27. Nov.2017 |
| | | | | CHECKED BY | T. HAYAKAWA | | | | 28. Nov.2017 |
| | | | | APPROVED BY | Y. SANO | | | | 29. Nov.2017 |

EXPANSION JOINT PIER P13 (2)

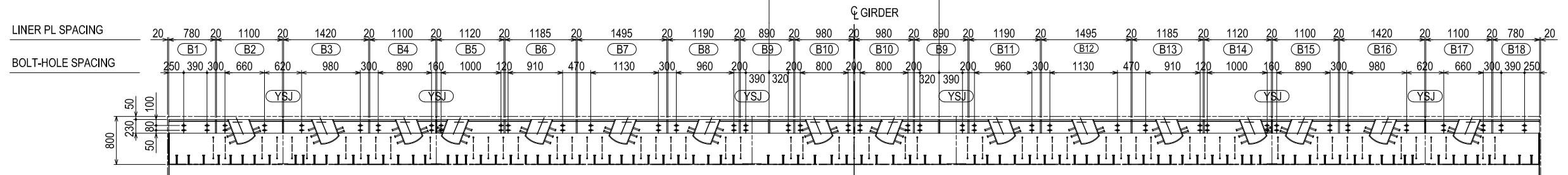
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EJ-2 ASSEMBLY DRAWING (2/2)

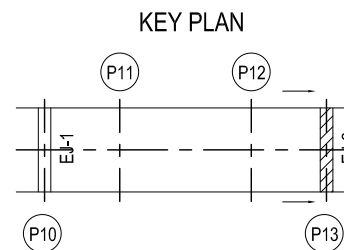
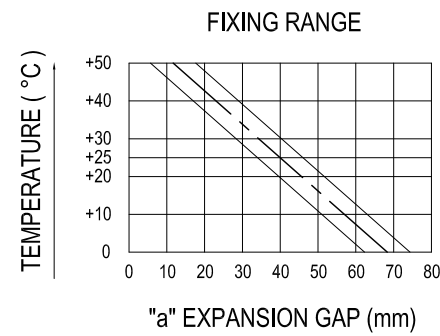
SECTION C1-C1 (PIER P13-P20 SIDE)



SECTION C2-C2 (PIER P10-P13 SIDE)



| DESIGN CRITERIA | |
|---------------------------------|-------------|
| LOAD (WHEEL LOAD) | 72.5 kN |
| THERMAL RANGE | 0°C ~ +50°C |
| CONTINUOUS THERMAL DISPLACEMENT | 340 mm |
| CONTINUOUS AMOUNT OF RESERVE | 68 mm |
| CONTINUOUS DISPLACEMENT (TOTAL) | 408 mm |
| SEISMIC DISPLACEMENT | 276 mm |



NOTES:

- 1 - THIS DRAWING SHOWS THE CONDITION OF EXPANSION GAP "A"=40mm(AT 25) PER CELL.
- 2 - PAINTING : CONCRETE BONDING SECTIONS PAINTED WITH ZINC-RICH PRIMER (15mm), AND FOR SECTIONS REMAINING MODIFIED EPOXY RESIN IS PAINTED TWICE (TOP COATING: BLACK).
- 3 - FOR WELDING POINTS WITHOUT INSTRUCTIONS, IMPLEMENT FILLET WELDING OF 6mm.
- 4 - START INSTALLATION FROM EJ-1B.
- 5 - THE CONTRACTOR HAS OPTION TO PROPOSE AN ALTERNATIVE EQUIVALENT TO THE SPECIFIED PRODUCT, WHICH SHALL BE SUBJECTED TO THE ENGINEER'S APPROVAL.

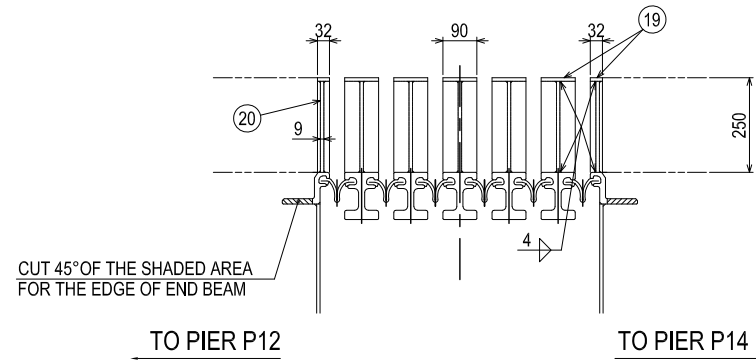
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|---------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------|-----------------------------------------------|--------------|------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY jica JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE EXPANSION JOINT PIER P13 (2) | PACKAGE | |
| | | | | PREPARED BY | S. TOKUMARU | 徳丸 祥樹 | | 27. Nov.2017 | 1 |
| | | | | CHECKED BY | T. HAYAKAWA | 平川 知那 | | 28. Nov.2017 | DWG No. |
| | | | | APPROVED BY | Y. SANO | 佐野 祐一 | | 29. Nov.2017 | P1-CS-3027 |

EXPANSION JOINT PIER P13 (4)

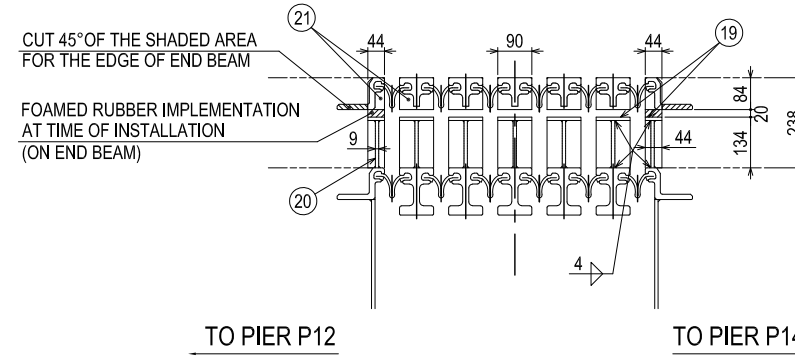
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EJ-2 DETAIL DRAWING (2/2)

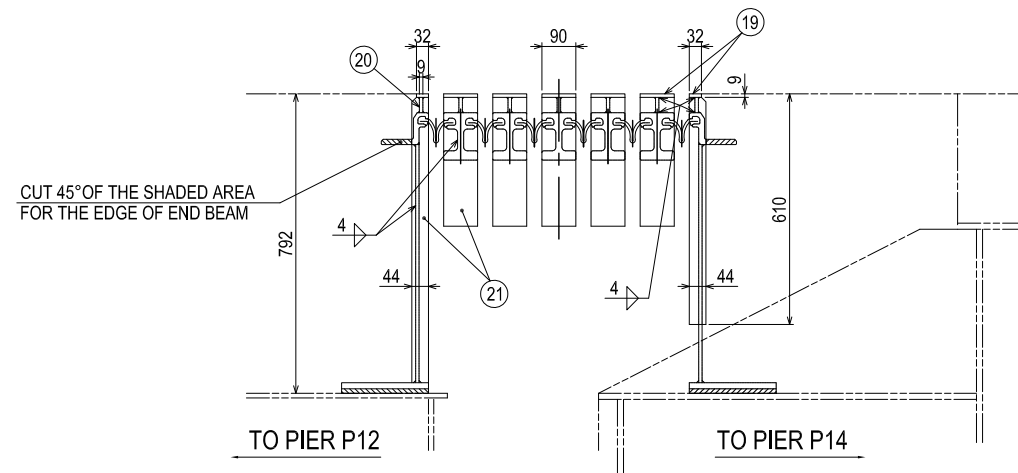
SECTION F-F
OVERALL SURFACE OF THE WHEEL GUARD OF THE EDGE OF ROADWAY



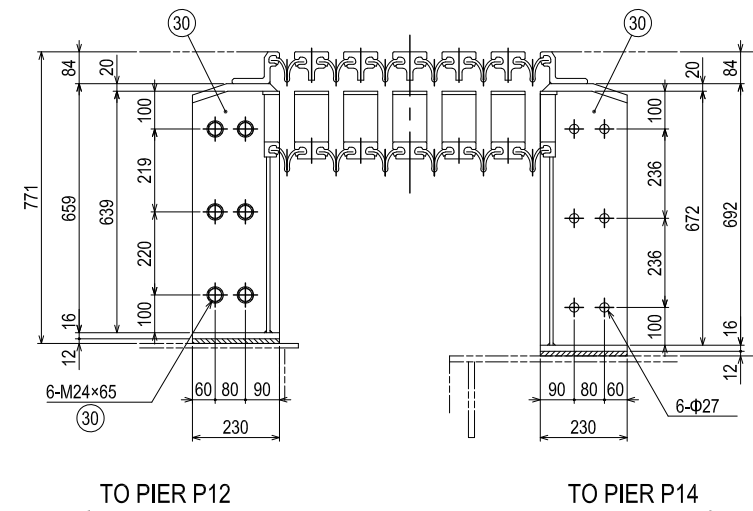
SECTION G-G
BACK SURFACE OF THE WHEEL GUARD OF CENTRAL MEDIAN



SECTION H-H
BACK SURFACE OF THE WHEEL GUARD OF THE EDGE OF ROADWAY



SECTION I-I
CONNECTION



| NO. | THE NAME OF AN ARTICLE | MATERIAL |
|-----|------------------------|--------------|
| 1 | END BEAM | S355J2+AR |
| 2 | MIDDLE BEAM | S355J2+N |
| 3 | SEAL RUBBER | CR |
| 4 | WEB | SM490A |
| 5 | BOX | SM490A |
| 6 | SUPPORTING BEAM | SM490A |
| 7 | BUSH | POLYETHYLENE |
| 8 | SPRING | NR |
| 9 | EB BEARING | NR |
| 10 | MB BEARING | NR |
| 11 | SPRING-FACE A | SM490A |
| 12 | BEARING-FACE A | SM490A |
| 13 | SPRING-FACE B | SM490A |
| 14 | BEARING-FACE B | SM490A |
| 15 | SUS DISK | SUS316L |
| 16 | SLIPPING DISK | METALLOPLAST |
| 17 | PROTECTIVE PL | SM490A |
| 18 | ANCHOR | SM490A |
| 19 | COVER | SM490A |
| 20 | PL | SM490A |
| 21 | END PL | SM490A |
| 22 | REINFORCING BAR | SD345 |
| 23 | STUD | JIS B1198 |
| 24 | WELDED WIRE FABRIC | SUS304 |
| 25 | WIRE RACK | SR235 |
| 26 | BOTTOM FLANGE | SM490A |
| 27 | LINER | SS400 |
| 28 | HTB | F10T |
| 29 | SUPPORT | SM490A |
| 30 | CONNECTION | SM490A |

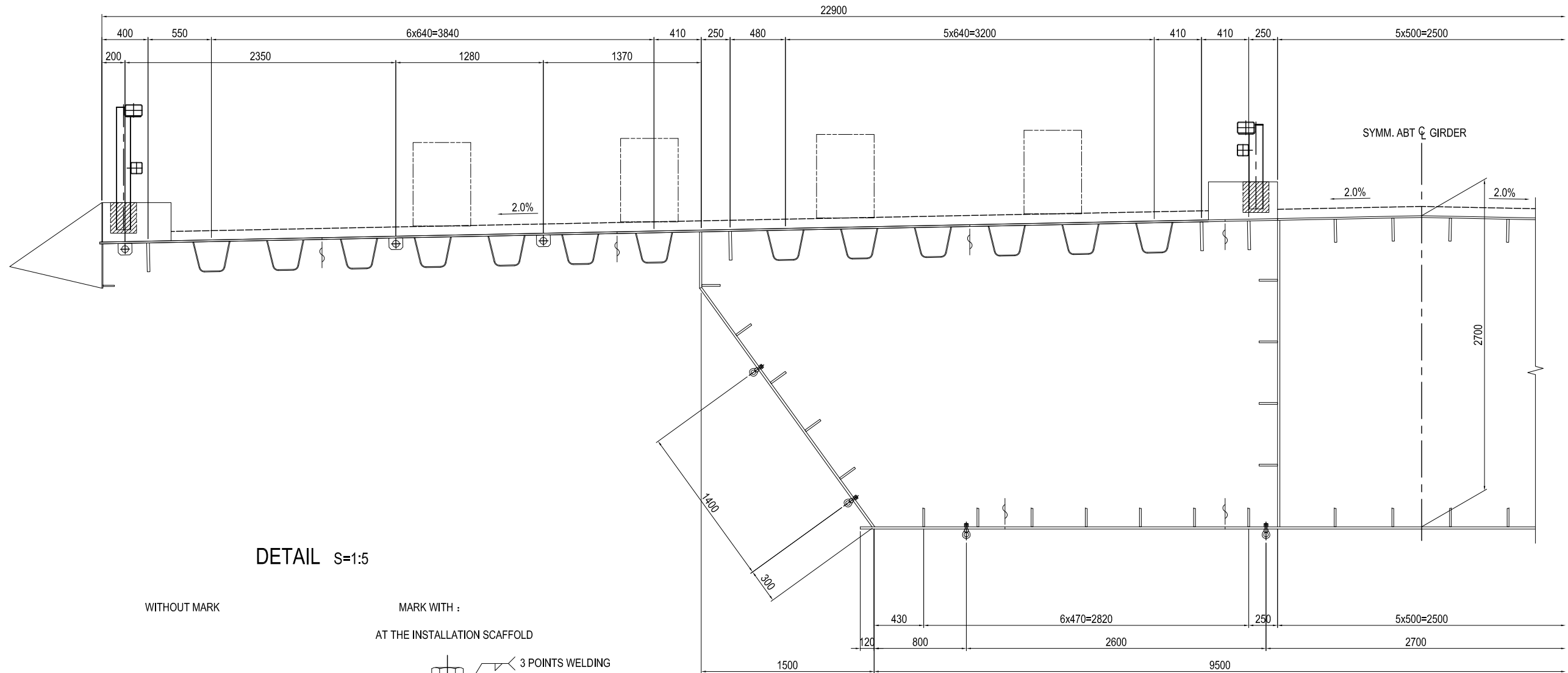
NOTES:

- THIS DRAWING SHOWS THE CONDITION OF EXPANSION GAP "A"=40mm(AT 25) PER CELL.
- PAINTING : CONCRETE BONDING SECTIONS PAINTED WITH ZINC-RICH PRIMER (15mm) AND FOR SECTIONS REMAINING MODIFIED EPOXY RESIN IS PAINTED TWICE (TOP COATING: BLACK).
- FOR WELDING POINTS WITHOUT INSTRUCTIONS, IMPLEMENT FILLET WELDING OF 6mm.
- ② SITE WELDING IS IMPLEMENTED PARTIALLY ON THE RE-BAR.
- THE CONTRACTOR HAS OPTION TO PROPOSE AN ALTERNATIVE EQUIVALENT TO THE SPECIFIED PRODUCT, WHICH SHALL BE SUBJECTED TO THE ENGINEER'S APPROVAL.

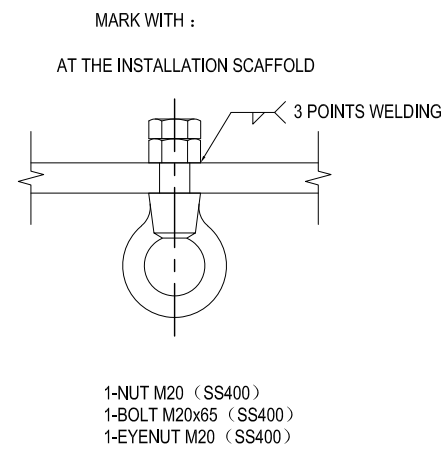
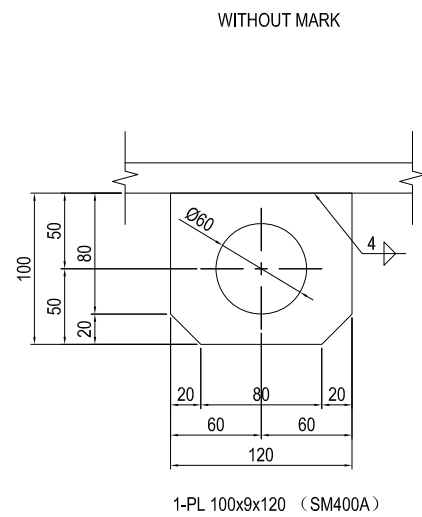
| PROJECT NAME | FINANCED BY | COUNTERPART | JICA STUDY TEAM | NAME | SIGNATURE | DATE | DRAWING TITLE | PACKAGE |
|-----------------------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------|--------------|------------------------------|------------|
| DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | JICA JAPAN INTERNATIONAL COOPERATION AGENCY | REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | S. TOKUMARU | <i>[Signature]</i> | 27. Nov.2017 | EXPANSION JOINT PIER P13 (4) | 1 |
| | | | | T. HAYAKAWA | <i>[Signature]</i> | 28. Nov.2017 | | DWG No. |
| | | | | Y. SANO | <i>[Signature]</i> | 29. Nov.2017 | | P1-CS-3029 |

HANGER S=1:40

TYPICAL SECTION



DETAIL S=1:5



NOTES:

- 1 - INSTALLATION SPACE FOR UP TO 1.8 METERS ON LONGITUDINAL.
- 1 - BE SURE TO INFILL AN OPENING MARKS WITH WITH A BOLT AFTER ERECTION.

| | | | | | | | | | |
|---------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|--------------------------------|---------------------------------------|--------------|
| PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT | FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY | COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE | JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD. | NAME | SIGNATURE | DATE | DRAWING TITLE HANGER | PACKAGE 1 DWG No. P1-CS-3030 | |
| | | | | PREPARED BY | T.TOMODA | | | | 27. Nov.2017 |
| | | | | CHECKED BY | T. HAYAKAWA | | | | 28. Nov.2017 |
| | | | | APPROVED BY | Y. SANO | | | | 29. Nov.2017 |