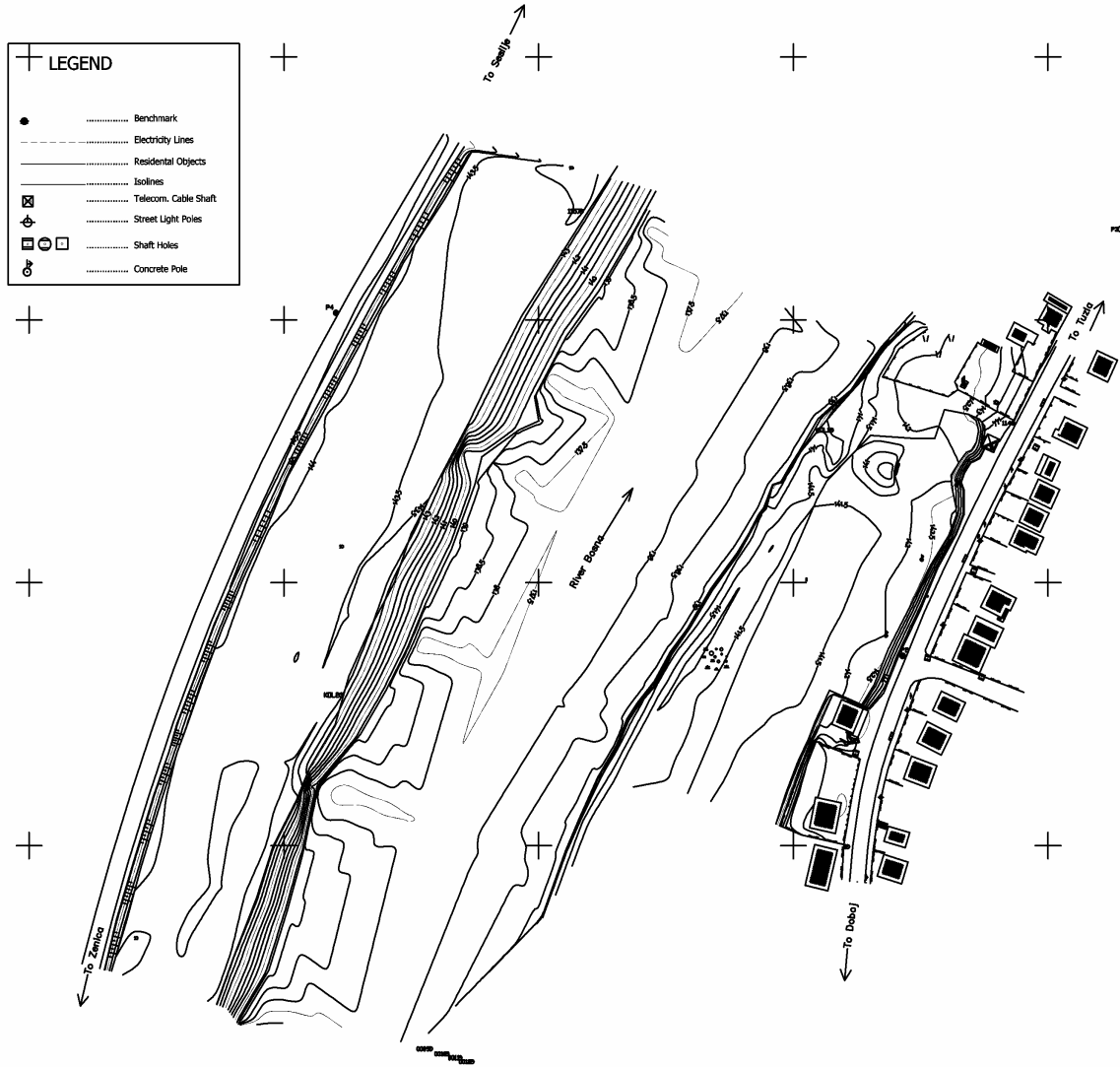


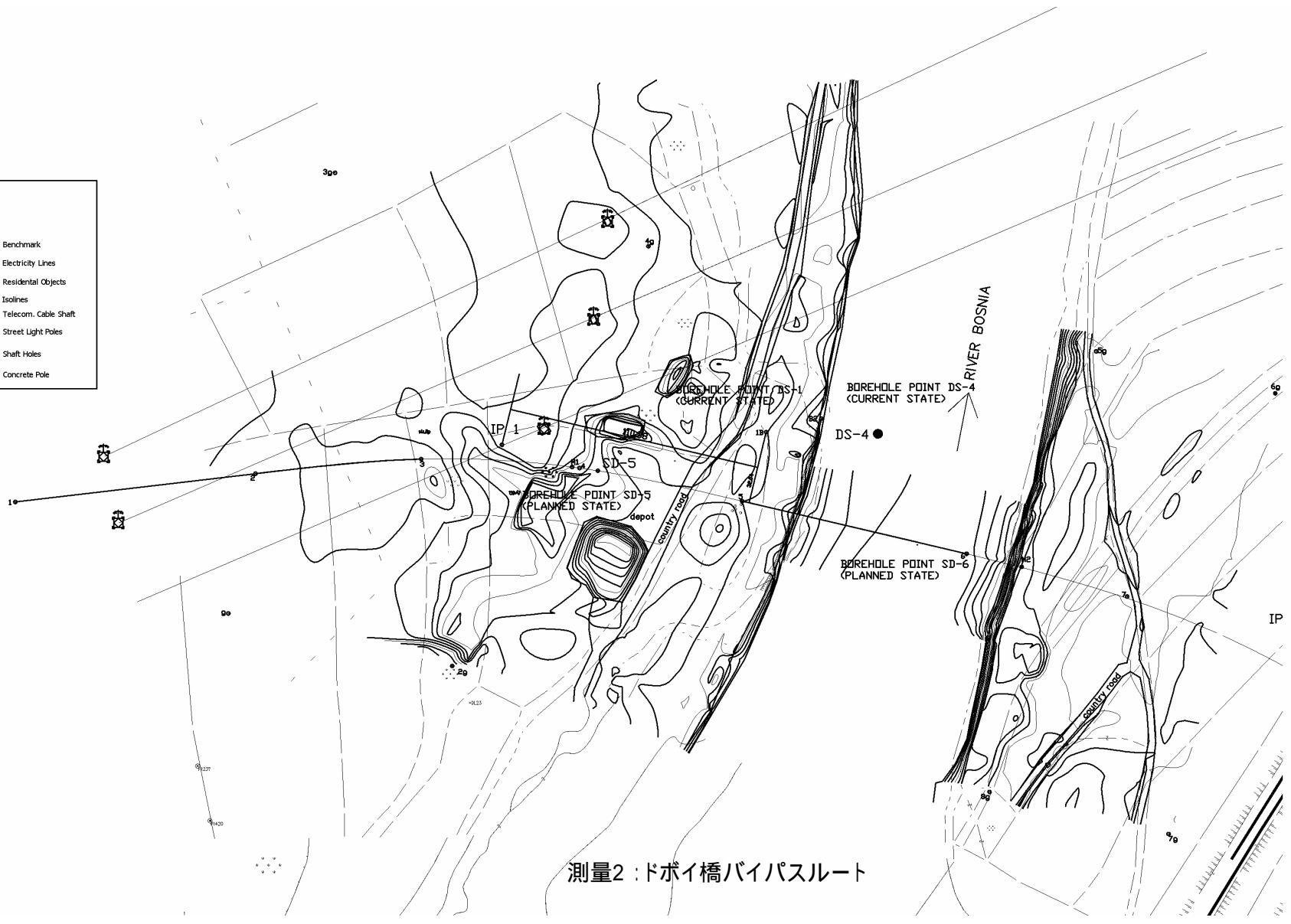
## 資料 8 その他の資料・情報

|        |          |
|--------|----------|
| 資料 8-1 | 路線測量     |
| 資料 8-2 | 地質調査     |
| 資料 8-3 | 交通量調査    |
| 資料 8-4 | 既存橋梁損傷調査 |
| 資料 8-5 | 架橋地点の検討  |

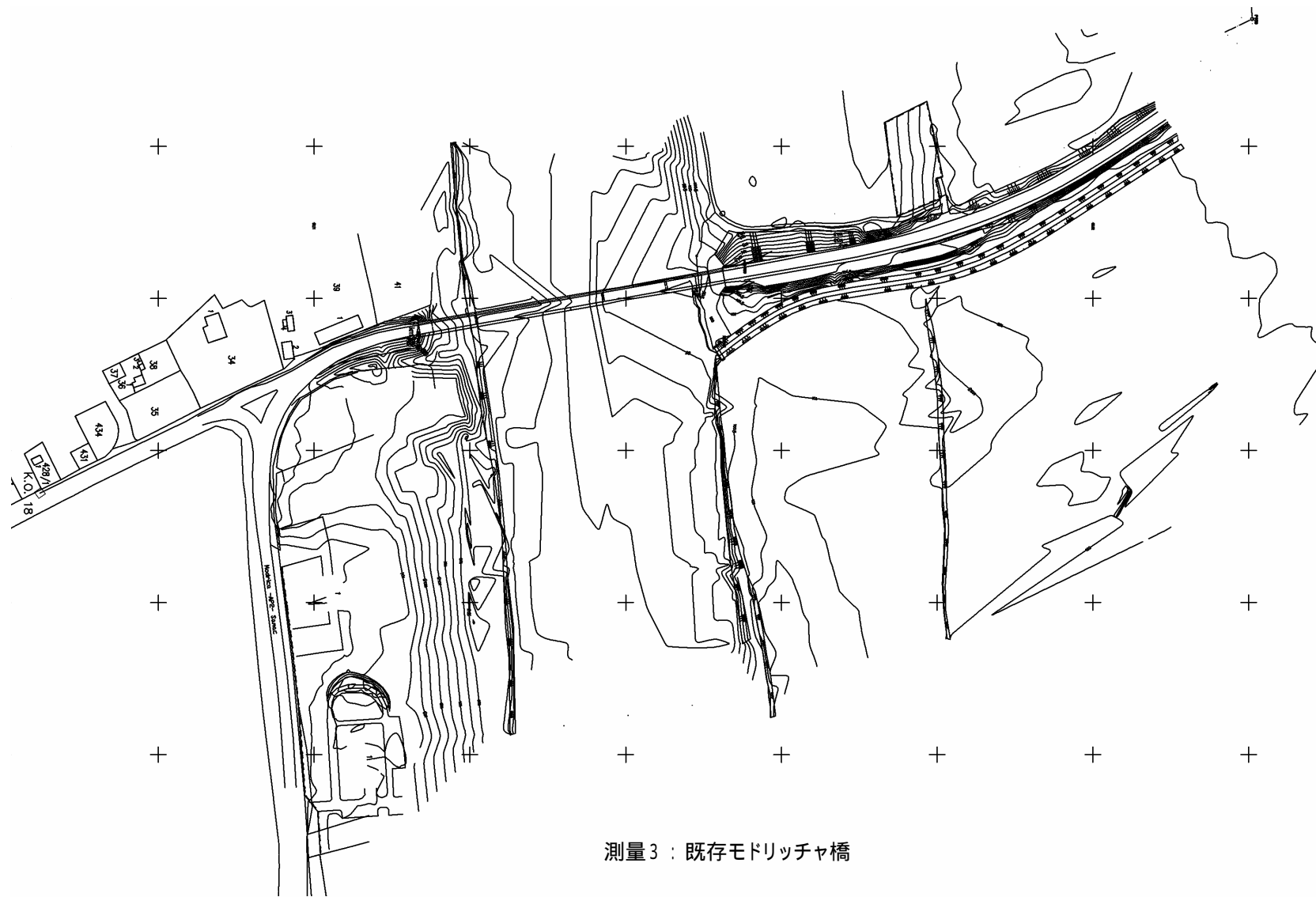


測量1：既存ドボイ橋とSFOR橋の中間地点

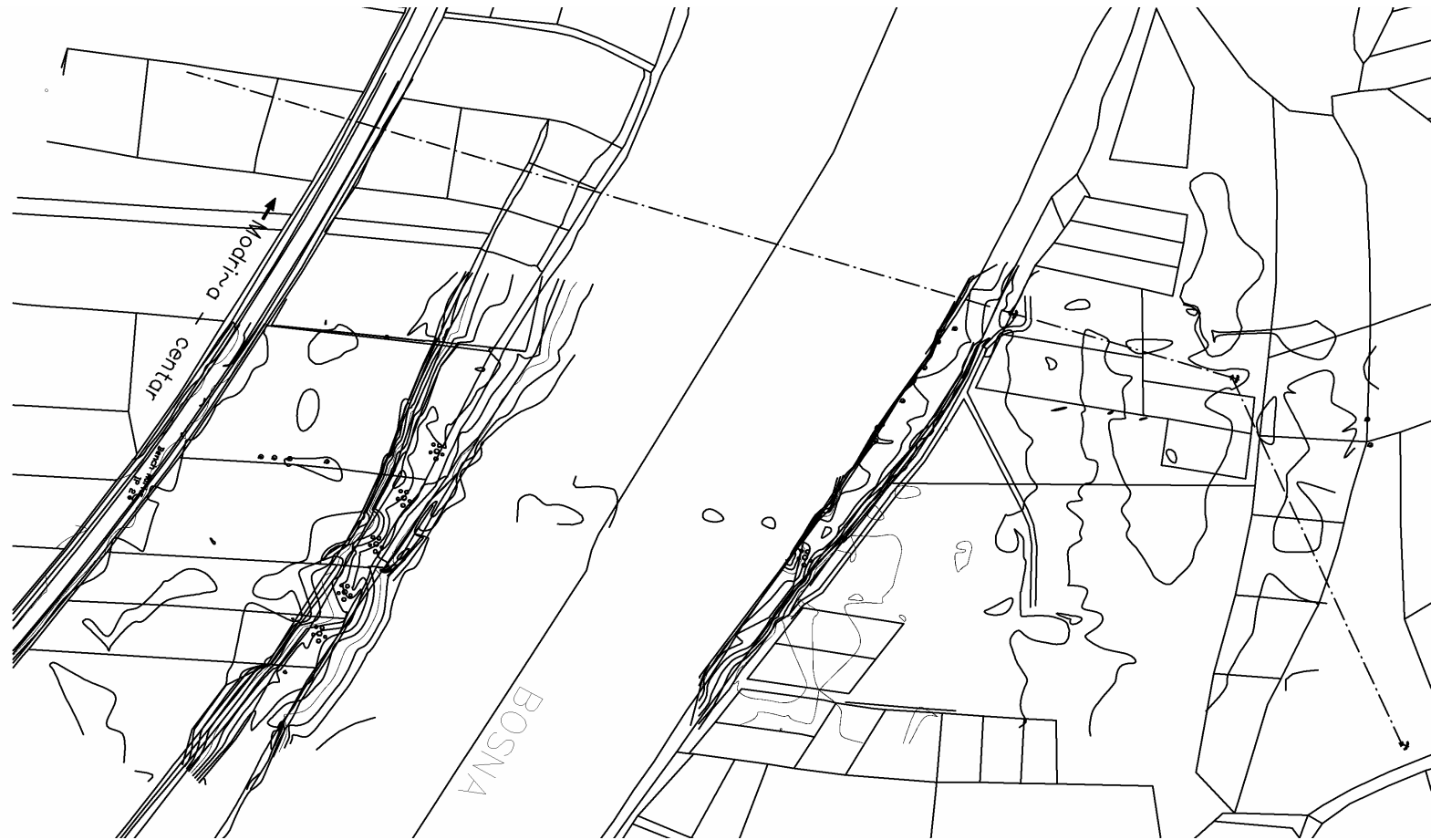
| LEGEND |                      |
|--------|----------------------|
| ●      | Benchmark            |
| —      | Electricity Lines    |
| —      | Residential Objects  |
| —      | Isolines             |
| ⊠      | Telecom. Cable Shaft |
| ⊕      | Street Light Poles   |
| ⊞      | Shaft Holes          |
| ⊙      | Concrete Pole        |



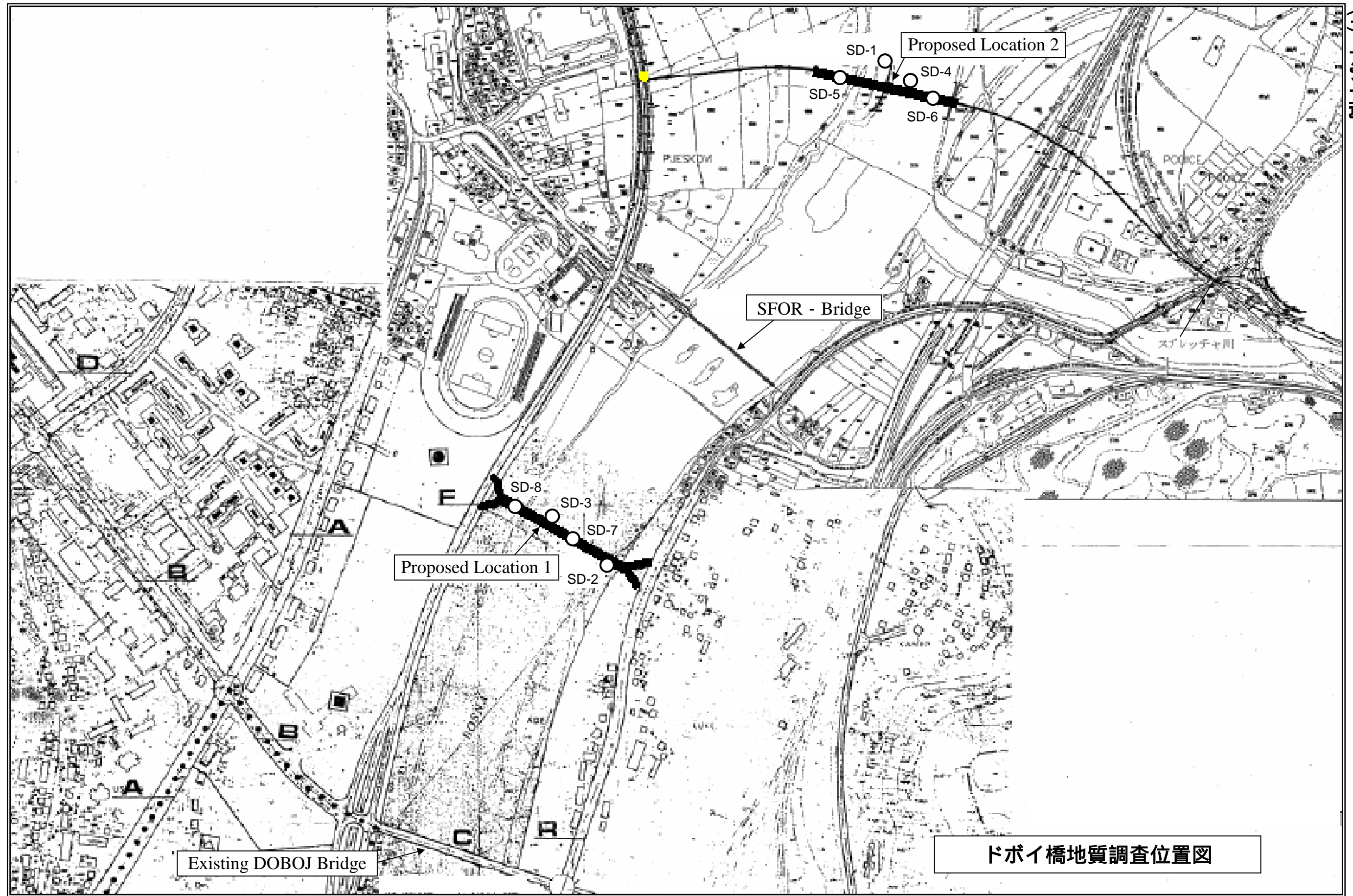
測量2 : ドボイ橋バイパスルート



測量3：既存モドリッチャ橋



測量4：モドリッチャ橋バイパスルート



ドボイ橋地質調査位置図

**BASIC DESIGN STUDY ON THE PROJECT FOR RECONSTRUCTION OF THE MAIN BRDGES  
ON ROAD NETWORK IN BOSNIA AND HERZEGOVINA  
BOREHOLE TEST RECORD**

JOB No. 348/02 BC BORING No. SD-1 SHEET 1 OF 1  
 PROJECT Nippon Koei Co., Ltd. and Central Consultant Inc. DATE STARTED 12/08/ 2002.g. LOCATION Doboj, nizvodno od SFOR-vog mosta na  
 TYPE BORING GCR 300 DATE COMPLETED 10/10/2002.g. GROUND ELEVATION 140.6 m

| DEPTH (m) | SAMPLE NUMBER | SOIL PROFILE DESCRIPTION                   | S.P.T. VALUE (BLOW/300mm) |                           |                           | MOISTURE CONTENT (%) | POCKET PEN (kN/m <sup>2</sup> ) & Q <sub>c</sub> | SHEAR STRENGTH kN/m <sup>2</sup> | WATER CONTENT % | STD. PENETRATION TEST* N-VALUE (BLOW/300mm) | C <sub>u</sub> (kN/m <sup>2</sup> ) & φ |
|-----------|---------------|--|---------------------------|---------------------------|---------------------------|----------------------|--|----------------------------------|-----------------|---|---|
|           |               |  | S.P.T. VALUE (BLOW/300mm) | S.P.T. VALUE (BLOW/300mm) | S.P.T. VALUE (BLOW/300mm) |                      |  |                                  |                 |   |   |
| 0         |               |  |                           |                           |                           |                      |  |                                  |                 |   |   |
| 1         | 1             | SOIL WITH REST BUILDING MATERIALS          | 3                         | 4                         | 6                         | 13                   |  |                                  |                 |   |   |
| 2         | 2             | SILTY CLAY OCCASIONAL SAND STIFF AND BRAWN | 4                         | 6                         | 8                         | 18                   |  |                                  |                 |   |   |
| 3         | 3             | GRAVEL WITH SAND                           | 4                         | 4                         | 7                         | 15                   |  |                                  |                 |   |   |
| 4         | 4             | ROCK                                       | 12                        | 13                        | 18                        | 43                   |  |                                  |                 |   |   |
| 5         | 5             |  | 13                        | 18                        | 20                        | 51                   |  |                                  |                 |   |   |
| 6         | 6             | SILT WITH GRAVEL AND SAND                  | 11                        | 27                        | 21                        | 50                   |  |                                  |                 |   |   |
| 7         | 7             |  | 10                        | 16                        | 20                        | 46                   |  |                                  |                 |   |   |
| 8         | 8             |  | 15                        | 18                        | 19                        | 52                   |  |                                  |                 |   |   |
| 9         | 9             | CLAY STIFF TO HARD GRAY TO RED             | 18                        | 17                        | 15                        | 50                   |  |                                  |                 |   |   |
| 10        | 10            | CLAY WITH GRAVEL GRAY WITH BROWN           | 14                        | 15                        | 23                        | 52                   |  |                                  |                 |   |   |
| 11        | 11            | CLAY HARD GRAY AND SMALL RED               | 24                        | 26                        | 28                        | 78                   | 78/30  |                                  |                 |   |   |
| 12        | 12            | CLAY HARD GRAY TO SMOLGREEN                | 25                        | 25                        | 28                        | 78                   | 78/30  |                                  |                 |   |   |
| 13        | 13            | CLAY HARD GRAY TO BROWN                    | 27                        | 32                        | 37                        | 96                   | 96/30  |                                  |                 |   |   |
| 14        | 14            |  | 26                        | 33                        | 36                        | 96                   | 95/30  |                                  |                 |   |   |
| 15        | 15            |  | 30                        | 45                        | 54                        | 129                  | 129/30   |                                  |                 |   |   |
| 16        | 16            |  | 36                        | 53                        |                           | 89                   | 89/20  |                                  |                 |   |   |
| 17        | 17            |  | 44                        | 54                        |                           | 98                   | 98/20  |                                  |                 |   |   |
| 18        | 18            |  | 40                        | 51                        |                           | 91                   | 91/20  |                                  |                 |   |   |
| 19        | 19            |  | 51                        |                           |                           | 51                   | 51/20  |                                  |                 |   |   |
| 20        | 20            |  | 55                        |                           |                           | 55                   | 55/10  |                                  |                 |   |   |
| 21        | 21            |  | 55                        |                           |                           | 55                   | 55/10  |                                  |                 |   |   |
| 22        | 22            |  | 53                        |                           |                           | 53                   | 53/10  |                                  |                 |   |   |
| 23        | 23            |  | 52                        |                           |                           | 52                   | 52/10  |                                  |                 |   |   |
| 24        | 24            |  | 56                        |                           |                           | 56                   | 56/10  |                                  |                 |   |   |
| 25        | 25            |  | 53                        |                           |                           | 53                   | 53/10  |                                  |                 |   |   |

SOIL CLASSIFICATION AS PER ASTM D 2487-93 WATER DEPTH \_\_\_\_\_ HOURS AFTER DRILLING  
 POCKET PEN (kN/m<sup>2</sup>) & Q<sub>c</sub> DRILLER \_\_\_\_\_ WATER ENCOUNTERED \_\_\_\_\_

**LEGEND**

|  |             |  |      |  |             |  |          |  |                      |
|--|-------------|--|------|--|-------------|--|----------|--|----------------------|
|  | GRAVEL      |  | SAND |  | METAMORPHIC |  | ORGANIC  |  | BOULDERS AND COBBLES |
|  | MADE GROUND |  | SILT |  | TOP SOIL    |  | BOULDERS |  | BEDROCK              |
|  |             |  | CLAY |  |             |  |          |  |                      |

**BASIC DESIGN STUDY ON THE PROJECT FOR RECONSTRUCTION OF THE MAIN BRDGES  
ON ROAD NETWORK IN BOSNIA AND HERZEGOVINA  
BOREHOLE TEST RECORD**

JOB No. 348/02 BC BORING No. SD-4 SHEET 1 OF 1  
 PROJECT Nippon Koei Co., Ltd. and Central Consultant Inc. DATE STARTED 1/18/2003 LOCATION Doboj, nizvodno od SFOR-vog mosta na  
 TYPE BORING \_\_\_\_\_ DATE COMPLETED 1/20/2003 GROUND ELEVATION 135.2 m

| DEPTH (m) | SAMPLE NUMBER | SOIL PROFILE DESCRIPTION                | S.P.T. VALUE (BLOW/300mm) |                           |                           | MOISTURE CONTENT (%) | POCKET PEN (kN/m <sup>2</sup> ) & Q <sub>c</sub> | SHEAR STRENGTH kN/m <sup>2</sup> | WATER CONTENT % | STD. PENETRATION TEST* N-VALUE (BLOW/300mm) | C <sub>u</sub> (kN/m <sup>2</sup> ) & φ |
|-----------|---------------|---|---------------------------|---------------------------|---------------------------|----------------------|--|----------------------------------|-----------------|---|---|
|           |               |   | S.P.T. VALUE (BLOW/300mm) | S.P.T. VALUE (BLOW/300mm) | S.P.T. VALUE (BLOW/300mm) |                      |  |                                  |                 |   |   |
| 0         |               |   |                           |                           |                           |                      |  |                                  |                 |   |   |
| 1         |               |   |                           |                           |                           |                      |  |                                  |                 |   |   |
| 2         |               | COBBLES AND BOULDERS                    |                           |                           |                           |                      |  |                                  |                 |   |   |
| 3         |               |   |                           |                           |                           |                      |  |                                  |                 |   |   |
| 4         | 4             | GRAVEL WITH SAND VERY DENSE             | 13                        | 11                        | 16                        | 40                   |  |                                  |                 |   |   |
| 5         | 5             |   | 16                        | 19                        | 20                        | 56                   |  |                                  |                 |   |   |
| 6         | 6             | SILT CLAY WITH SAND OCCASIONAL GRAVEL E | 12                        | 11                        | 14                        | 37                   |  |                                  |                 |   |   |
| 7         | 7             |   | 8                         | 15                        | 35                        | 58                   |  |                                  |                 |   |   |
| 8         | 8             |   | 24                        | 24                        | 39                        | 87                   | 87/30  |                                  |                 |   |   |
| 9         | 9             | ROCK                                    | 26                        | 29                        | 37                        | 92                   | 92/30  |                                  |                 |   |   |
| 10        | 10            | CLAY VERY HARD GREY AND BRAWN           | 37                        | 54                        |                           | 91                   | 91/20  |                                  |                 |   |   |
| 11        | 11            |   | 55                        | 53                        |                           | 108                  | 108/20   |                                  |                 |   |   |
| 12        | 12            | CLAY WITH GRAVEL HARD GREY AND BROWN    | 53                        | 60                        |                           | 113                  | 113/20   |                                  |                 |   |   |
| 13        | 13            |   | 63                        |                           |                           | 63                   | 63/10  |                                  |                 |   |   |
| 14        | 14            |   | 61                        |                           |                           | 61                   | 61/10  |                                  |                 |   |   |
| 15        | 15            | CLAY VERY HARD GREY                     | 62                        |                           |                           | 62                   | 62/10  |                                  |                 |   |   |
| 16        | 16            |   | 55                        |                           |                           | 55                   | 55/10  |                                  |                 |   |   |
| 17        | 17            |   | 61                        |                           |                           | 61                   | 61/10  |                                  |                 |   |   |
| 18        | 18            |   | 61                        |                           |                           | 61                   | 61/10  |                                  |                 |   |   |
| 19        | 19            | CLAY HARD LIGHT GREY                    | 62                        |                           |                           | 62                   | 62/10  |                                  |                 |   |   |
| 20        | 20            |   | 62                        |                           |                           | 62                   | 62/10  |                                  |                 |   |   |
| 21        | 21            |   | 57                        |                           |                           | 57                   | 57/10  |                                  |                 |   |   |
| 22        | 22            |   | 62                        |                           |                           | 62                   | 62/10  |                                  |                 |   |   |
| 23        | 23            |   | 57                        |                           |                           | 57                   | 57/10  |                                  |                 |   |   |
| 24        | 24            |   | 57                        |                           |                           | 57                   | 57/10  |                                  |                 |   |   |
| 25        | 25            |   | 63                        |                           |                           | 63                   | 63/10  |                                  |                 |   |   |

SOIL CLASSIFICATION AS PER ASTM D 2487-93 WATER DEPTH \_\_\_\_\_ HOURS AFTER DRILLING  
 POCKET PEN (kN/m<sup>2</sup>) & Q<sub>c</sub> DRILLER \_\_\_\_\_ WATER ENCOUNTERED \_\_\_\_\_

**LEGEND**

|  |             |  |      |  |             |  |          |  |                      |
|--|-------------|--|------|--|-------------|--|----------|--|----------------------|
|  | GRAVEL      |  | SAND |  | METAMORPHIC |  | ORGANIC  |  | BOULDERS AND COBBLES |
|  | MADE GROUND |  | SILT |  | TOP SOIL    |  | BOULDERS |  | BEDROCK              |
|  |             |  | CLAY |  |             |  |          |  |                      |

**BASIC DESIGN STUDY ON THE PROJECT FOR RECONSTRUCTION OF THE MAIN BRDGES  
ON ROAD NETWORK IN BOSNIA AND HERZEGOVINA  
BOREHOLE TEST RECORD**

JOB No. 348/02      BCBORING No. SD-2      SHEET 1 OF 1  
 PROJECT Nippon Koei Co., Ltd. and Central Consultant Inc.      DATE STARTED December 10,2002.      LOCATION Doboj, right of the banke river  
 TYPE BORING GCR 300      DATE COMPLETED December 12,2002.      GROUND ELEVATION 141.76 m

| DEPTH (m) | SAMPLE NUMBER | SOIL PROFILE DESCRIPTION                                  | SPT VALUE (BLOW/300mm)    |                           |                           | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX | CONSOLIDATION TEST | SPECIFIC GRAVITY | SEIVE (M & D) | C <sub>c</sub> (kN/m <sup>2</sup> ) | φ DEGREES | Q <sub>u</sub> (UNCONFIRMED) COMPRESSION TEST (kN/m <sup>2</sup> ) | DRY UNIT WEIGHT (kN/m <sup>3</sup> ) | SHEAR VANE (kN/m <sup>2</sup> ) |
|-----------|---------------|---|---------------------------|---------------------------|---------------------------|----------------------|--------------|---------------|------------------|--------------------|------------------|---------------|-------------------------------------|-----------|--|--------------------------------------|---------------------------------|
|           |               |   | S.P.T. VALUE (BLOW/300mm) | S.P.T. VALUE (BLOW/300mm) | S.P.T. VALUE (BLOW/300mm) |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 0         |               |   |                           |                           |                           |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 1         | 1             | SOIL SILTY SAND BROWN                                     |                           |                           |                           |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 1         | 2             | SILT WITH GRAVEL VERY DENSE GREY AND BROWN                | 50                        | 61                        | 35                        | 146                  |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 2         | 3             | SILTY CLAY OCCASIONAL GRAVEL STIFF TO HARD, GREY          | 37                        | 24                        | 76                        | 137                  |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 3         | 4             | GRAVEL WITH SAND GRAVEL VERY STIFF TO HARD GREY AND BROWN | 32                        | 53                        | 74                        | 159                  |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 4         | 5             |   | 34                        | 51                        | 63                        | 148                  |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 5         | 6             |   | 30                        | 54                        | 58                        | 142                  |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 6         | 7             |   | 36                        | 57                        | 59                        | 152                  |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 7         | 8             |   | 38                        | 61                        | 79                        | 178                  |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 8         | 9             |   | 45                        | 67                        | 80                        | 192                  |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 9         | 10            |   | 60                        |                           | 60                        |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 10        | 11            |   | 66                        |                           | 66                        |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 11        | 12            |   | 66                        |                           | 66                        |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 12        | 13            | CLAY HARD GREY  | 66                        |                           | 66                        |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 13        | 14            |   | 80                        |                           | 80                        |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 14        | 15            |   | 68                        |                           | 68                        |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 15        | 16            |   | 78                        |                           | 78                        |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 16        | 17            |   | 83                        |                           | 83                        |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 17        | 18            |   | 68                        |                           | 68                        |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 18        | 19            |   | 72                        |                           | 72                        |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 19        | 20            |   | 66                        |                           | 66                        |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 20        | 21            |   | 83                        |                           | 83                        |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 21        | 22            |   | 73                        |                           | 73                        |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 22        | 23            |   | 72                        |                           | 72                        |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 23        | 24            |   | 76                        |                           | 76                        |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 24        | 25            |   | 75                        |                           | 75                        |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |

SOIL CLASSIFICATION AS PER ASTM D 2487-93  
 WATER DEPTH \_\_\_\_\_ HOURS AFTER DRILLING  
 POCKET PEN (kN/m<sup>2</sup>) & Q<sub>u</sub> \_\_\_\_\_  
 DRILLER \_\_\_\_\_ WATER ENCOUNTERED \_\_\_\_\_

**LEGEND**

|  |             |  |      |  |             |  |          |  |                      |
|--|-------------|--|------|--|-------------|--|----------|--|----------------------|
|  | GRAVEL      |  | SAND |  | METAMORPHIC |  | ORGANIC  |  | BOULDERS AND COBBLES |
|  | MADE GROUND |  | SILT |  | TOP SOIL    |  | BOULDERS |  | BEDROCK              |
|  |             |  | CLAY |  |             |  |          |  |                      |

**BASIC DESIGN STUDY ON THE PROJECT FOR RECONSTRUCTION OF THE MAIN BRDGES  
ON ROAD NETWORK IN BOSNIA AND HERZEGOVINA  
BOREHOLE TEST RECORD**

JOB No. 348/02      BCBORING No. SD-3      SHEET 1 OF 1  
 PROJECT Nippon Koei Co., Ltd. and Central Consultant Inc.      DATE STARTED January 02,2003.      LOCATION Doboj, in the river BOSNA  
 TYPE BORING GCR 300      DATE COMPLETED January 04,2003.      GROUND ELEVATION 138.18 m

| DEPTH (m) | SAMPLE NUMBER | SOIL PROFILE DESCRIPTION                         | SPT VALUE (BLOW/300mm)    |                           |                           | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX | CONSOLIDATION TEST | SPECIFIC GRAVITY | SEIVE (M & D) | C <sub>c</sub> (kN/m <sup>2</sup> ) | φ DEGREES | Q <sub>u</sub> (UNCONFIRMED) COMPRESSION TEST (kN/m <sup>2</sup> ) | DRY UNIT WEIGHT (kN/m <sup>3</sup> ) | SHEAR VANE (kN/m <sup>2</sup> ) |
|-----------|---------------|--|---------------------------|---------------------------|---------------------------|----------------------|--------------|---------------|------------------|--------------------|------------------|---------------|-------------------------------------|-----------|--|--------------------------------------|---------------------------------|
|           |               |  | S.P.T. VALUE (BLOW/300mm) | S.P.T. VALUE (BLOW/300mm) | S.P.T. VALUE (BLOW/300mm) |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 0         |               |  |                           |                           |                           |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 1         | 1             |  |                           |                           |                           |                      |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 1         | 2             | COBBLES AND BOULDERS LITH GREY                   | 8                         | 14                        | 18                        | 40                   |              |               |                  |                    |                  |               |                                     |           |  |                                      |                                 |
| 2         | 3             |  | 40                        | 65                        | 105                       |                      |              |               |                  |                    |                  |               |                                     | 105/20    |  |                                      |                                 |
| 3         | 4             | SILTY CLAY OCCASIONAL GRAVEL STIFF TO HARD, GREY | 67                        | 70                        | 137                       |                      |              |               |                  |                    |                  |               |                                     | 137/20    |  |                                      |                                 |
| 4         | 5             |  | 78                        | 80                        | 158                       |                      |              |               |                  |                    |                  |               |                                     | 158/20    |  |                                      |                                 |
| 5         | 6             |  | 89                        |                           | 89                        |                      |              |               |                  |                    |                  |               |                                     | 89/10     |  |                                      |                                 |
| 6         | 7             |  | 92                        |                           | 92                        |                      |              |               |                  |                    |                  |               |                                     | 92/10     |  |                                      |                                 |
| 7         | 8             |  | 94                        |                           | 94                        |                      |              |               |                  |                    |                  |               |                                     | 94/10     |  |                                      |                                 |
| 8         | 9             |  | 94                        |                           | 94                        |                      |              |               |                  |                    |                  |               |                                     | 94/10     |  |                                      |                                 |
| 9         | 10            |  | 94                        |                           | 94                        |                      |              |               |                  |                    |                  |               |                                     | 94/10     |  |                                      |                                 |
| 10        | 11            |  | 95                        |                           | 95                        |                      |              |               |                  |                    |                  |               |                                     | 95/10     |  |                                      |                                 |
| 11        | 12            |  | 96                        |                           | 96                        |                      |              |               |                  |                    |                  |               |                                     | 96/10     |  |                                      |                                 |
| 12        | 13            | CLAY HARD GREY                                   | 99                        |                           | 99                        |                      |              |               |                  |                    |                  |               |                                     | 99/10     |  |                                      |                                 |
| 13        | 14            |  | 100                       |                           | 100                       |                      |              |               |                  |                    |                  |               |                                     | 100/10    |  |                                      |                                 |
| 14        | 15            |  | 102                       |                           | 102                       |                      |              |               |                  |                    |                  |               |                                     | 102/10    |  |                                      |                                 |
| 15        | 16            |  | 98                        |                           | 98                        |                      |              |               |                  |                    |                  |               |                                     | 98/10     |  |                                      |                                 |
| 16        | 17            |  | 91                        |                           | 91                        |                      |              |               |                  |                    |                  |               |                                     | 91/10     |  |                                      |                                 |
| 17        | 18            |  | 91                        |                           | 91                        |                      |              |               |                  |                    |                  |               |                                     | 91/10     |  |                                      |                                 |
| 18        | 19            |  | 86                        |                           | 86                        |                      |              |               |                  |                    |                  |               |                                     | 86/10     |  |                                      |                                 |
| 19        | 20            |  | 102                       |                           | 102                       |                      |              |               |                  |                    |                  |               |                                     | 102/10    |  |                                      |                                 |
| 20        | 21            |  | 95                        |                           | 95                        |                      |              |               |                  |                    |                  |               |                                     | 95/10     |  |                                      |                                 |
| 21        | 22            |  | 92                        |                           | 92                        |                      |              |               |                  |                    |                  |               |                                     | 92/10     |  |                                      |                                 |
| 22        | 23            |  | 96                        |                           | 96                        |                      |              |               |                  |                    |                  |               |                                     | 96/10     |  |                                      |                                 |
| 23        | 24            |  | 100                       |                           | 100                       |                      |              |               |                  |                    |                  |               |                                     | 100/10    |  |                                      |                                 |
| 24        | 25            |  | 100                       |                           | 100                       |                      |              |               |                  |                    |                  |               |                                     | 100/10    |  |                                      |                                 |

SOIL CLASSIFICATION AS PER ASTM D 2487-93  
 WATER DEPTH \_\_\_\_\_ HOURS AFTER DRILLING  
 POCKET PEN (kN/m<sup>2</sup>) & Q<sub>u</sub> \_\_\_\_\_  
 DRILLER \_\_\_\_\_ WATER ENCOUNTERED \_\_\_\_\_

**LEGEND**

|  |             |  |      |  |             |  |          |  |                      |
|--|-------------|--|------|--|-------------|--|----------|--|----------------------|
|  | GRAVEL      |  | SAND |  | METAMORPHIC |  | ORGANIC  |  | BOULDERS AND COBBLES |
|  | MADE GROUND |  | SILT |  | TOP SOIL    |  | BOULDERS |  | BEDROCK              |
|  |             |  | CLAY |  |             |  |          |  |                      |



**BASIC DESIGN STUDY ON THE PROJECT FOR RECONSTRUCTION OF THE MAIN BRDGES  
ON ROAD NETWORK IN BOSNIA AND HERZEGOVINA  
BOREHOLE TEST RECORD**

JOB No. 085/03 BC BORING No. SD-5 SHEET 1 OF 1  
 PROJECT Nippon Koei Co., Ltd. and Central Consultant Inc. DATE STARTED 01/04/2003 LOCATION Dobo, left in the bank of the river BOSNA  
 TYPE BORING GCR 300 DATE COMPLETED 01/04/2003 GROUND ELEVATION 139.03

| DEPTH (m) | SAMPLE NUMBER | SOIL PROFILE |         |  | S.P.T. VALUE (BLOW/300mm) | S.P.T. VALUE (BLOW/150mm) | S.P.T. VALUE (BLOW/300mm) | Moisture Content (%) | LIQUID LIMIT | PLASTICITY INDEX | CONSOLIDATION TEST | SPECIFIC GRAVITY | SIEVE (φ & D) | C <sub>c</sub> (mm <sup>2</sup> ) | e (mm <sup>3</sup> ) | UNSATURATED COMPRESSION Q <sub>u</sub> (kN/m <sup>2</sup> ) | DRY UNIT WEIGHT | SHEAR VANE (kNm) | SHEAR STRENGTH kN/m <sup>2</sup> | WATER CONTENT % | STD. PENETRATION TEST* N-VALUE (BLOW/300mm) |
|-----------|---------------|--------------|---------|--|---------------------------|---------------------------|---------------------------|----------------------|--------------|------------------|--------------------|------------------|---------------|-----------------------------------|----------------------|---|-----------------|------------------|----------------------------------|-----------------|---|
|           |               | DESCRIPTION  | % FINES | % COARSE   |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 0         |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 1         |               |              |         | SOIL WITH SAND AND OCCASIONAL GRAVEL AND SMOLBILDING MATERIALS | 3                         | 5                         | 16                        | 24                   |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 2         |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 3         |               |              |         | GRAVEL WITH SAND GREY  | 20                        | 43                        | 40                        | 103                  |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 4         |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 5         |               |              |         | CLAY HARD BROWN  | 20                        | 12                        | 10                        | 42                   |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 6         |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 7         |               |              |         | ROCK KRECNAK   | 51                        |                           | 51                        |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 8         |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 9         |               |              |         | CLAY VERY STIFF TO HARD BROWN TO GREY AND SMOLRED              | 24                        | 39                        | 49                        | 112                  |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 10        |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 11        |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 12        |               |              |         | SILTY SAND GREY  | 28                        | 36                        | 20                        | 84                   |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 13        |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 14        |               |              |         | CLAY HARD GREY TO BROWN  | 10                        | 20                        | 28                        | 58                   |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 15        |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 16        |               |              |         | SILTY SAND GREY  | 18                        | 29                        | 30                        | 77                   |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 17        |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 18        |               |              |         | CLAY WITH SMOL BAND BROWN                                      | 21                        | 37                        | 49                        | 107                  |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 19        |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 20        |               |              |         | CLAY WITH SMOL SAND AND OCCASIONA                              | 5                         | 35                        | 50                        | 90                   |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 21        |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 22        |               |              |         | GRAVEL HARD GREY TO RED  | 24                        | 26                        | 42                        | 92                   |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 23        |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 24        |               |              |         | GRAVEL HARD GREY TO RED  | 41                        | 51                        | 92                        |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 25        |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 26        |               |              |         | CLAY WITH SMOL SAND AND OCCASIONA                              | 40                        | 55                        | 95                        |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 27        |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 28        |               |              |         | GRAVEL HARD GREY TO RED  | 46                        | 55                        | 100                       |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 29        |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 30        |               |              |         | GRAVEL HARD GREY TO RED  | 51                        |                           | 51                        |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 31        |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 32        |               |              |         | GRAVEL HARD GREY TO RED  | 49                        | 58                        | 108                       |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 33        |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 34        |               |              |         | GRAVEL HARD GREY TO RED  | 49                        | 57                        | 106                       |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 35        |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 36        |               |              |         | GRAVEL HARD GREY TO RED  | 47                        | 58                        | 105                       |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 37        |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 38        |               |              |         | GRAVEL HARD GREY TO RED  | 55                        |                           | 55                        |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 39        |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 40        |               |              |         | GRAVEL HARD GREY TO RED  | 54                        |                           | 54                        |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 41        |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 42        |               |              |         | GRAVEL HARD GREY TO RED  | 53                        |                           | 53                        |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 43        |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 44        |               |              |         | GRAVEL HARD GREY TO RED  | 57                        |                           | 57                        |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 45        |               |              |         |  |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |

SOIL CLASSIFICATION AS PER ASTM D 2487-93  
 WATER DEPTH \_\_\_\_\_ HOURS AFTER DRILLING  
 POCKET PEN (kN/m<sup>2</sup>) & Q<sub>u</sub> \_\_\_\_\_ DRILLER \_\_\_\_\_ WATER ENCOUNTERED \_\_\_\_\_

**LEGEND**

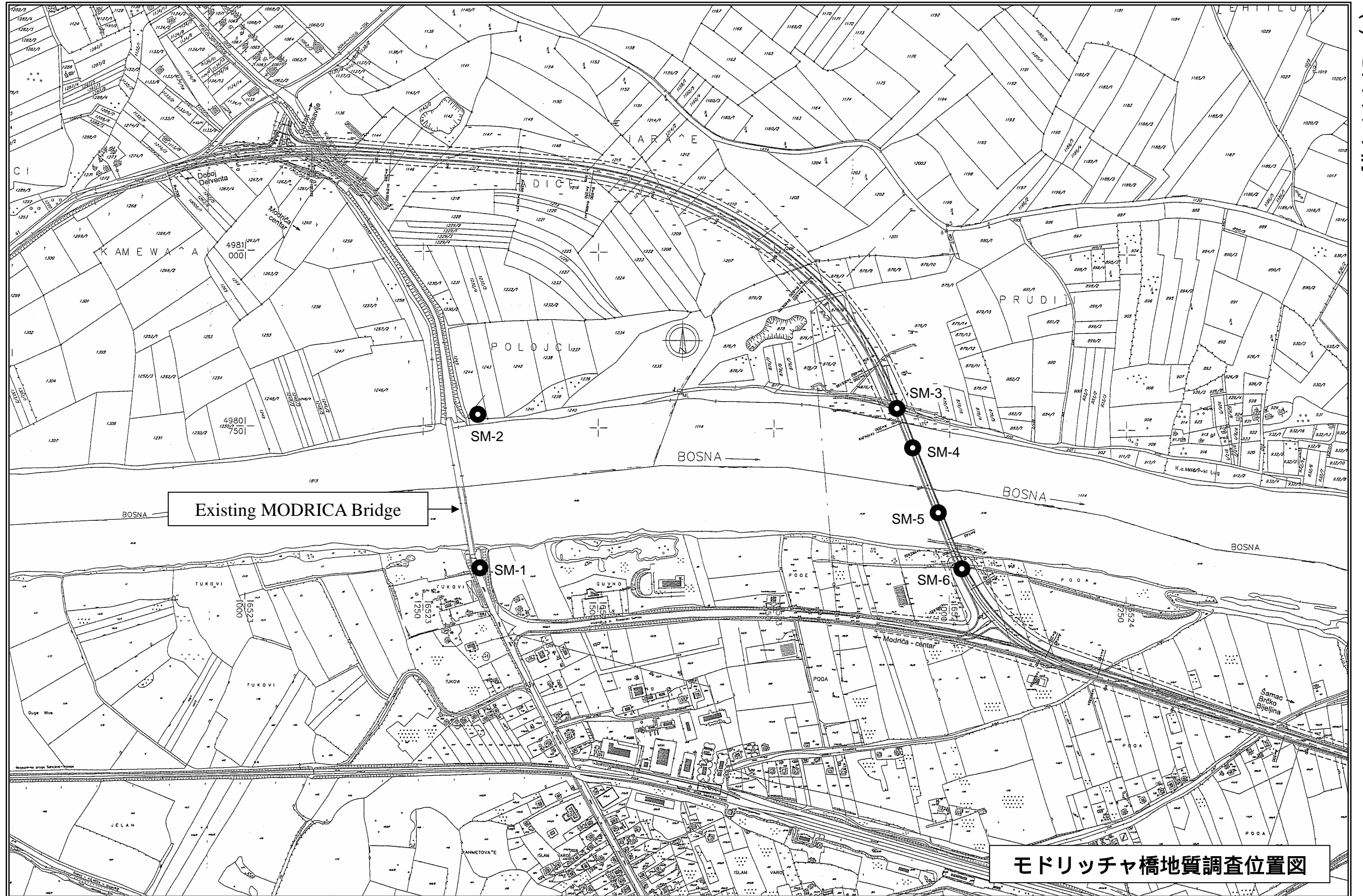
|  |             |  |      |  |             |  |          |  |                      |
|--|-------------|--|------|--|-------------|--|----------|--|----------------------|
|  | GRAVEL      |  | SAND |  | METAMORPHIC |  | ORGANIC  |  | BOULDERS AND COBBLES |
|  | MADE GROUND |  | SILT |  | CLAY        |  | TOP SOIL |  | BOULDERS             |
|  | BEDROCK     |  |      |  |             |  |          |  |                      |

**BASIC DESIGN STUDY ON THE PROJECT FOR RECONSTRUCTION OF THE MAIN BRDGES  
ON ROAD NETWORK IN BOSNIA AND HERZEGOVINA  
BOREHOLE TEST RECORD**

JOB No. 085/03 BC BORING No. SD-6 SHEET 1 OF 1  
 PROJECT Nippon Koei Co., Ltd. and Central Consultant Inc. DATE STARTED 2003/4/3 LOCATION Dobo, left in the river BOSNA  
 TYPE BORING GCR 300 DATE COMPLETED 2003/4/5 GROUND ELEVATION 135.32

| DEPTH (m) | SAMPLE NUMBER | SOIL PROFILE |         |                                   | S.P.T. VALUE (BLOW/300mm) | S.P.T. VALUE (BLOW/150mm) | S.P.T. VALUE (BLOW/300mm) | Moisture Content (%) | LIQUID LIMIT | PLASTICITY INDEX | CONSOLIDATION TEST | SPECIFIC GRAVITY | SIEVE (φ & D) | C <sub>c</sub> (mm <sup>2</sup> ) | e (mm <sup>3</sup> ) | UNSATURATED COMPRESSION Q <sub>u</sub> (kN/m <sup>2</sup> ) | DRY UNIT WEIGHT | SHEAR VANE (kNm) | SHEAR STRENGTH kN/m <sup>2</sup> | WATER CONTENT % | STD. PENETRATION TEST* N-VALUE (BLOW/300mm) |
|-----------|---------------|--------------|---------|-----------------------------------|---------------------------|---------------------------|---------------------------|----------------------|--------------|------------------|--------------------|------------------|---------------|-----------------------------------|----------------------|---|-----------------|------------------|----------------------------------|-----------------|---|
|           |               | DESCRIPTION  | % FINES | % COARSE                          |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 0         |               |              |         |                                   |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 1         |               |              |         | SAND WITH OCCASIONAL GRAVEL GREY  | 4                         | 5                         | 19                        | 28                   |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 2         |               |              |         |                                   |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 3         |               |              |         | GRAVEL WITH SAND GREY             | 6                         | 10                        | 16                        | 32                   |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 4         |               |              |         |                                   |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 5         |               |              |         | SILT SAND WITH SMOL SAND, BROWN   | 21                        | 40                        | 45                        | 106                  |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 6         |               |              |         |                                   |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 7         |               |              |         | SILT SAND WITH SMOL SAND, BROWN   | 48                        | 52                        |                           | 100                  |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 8         |               |              |         |                                   |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 9         |               |              |         | SILT SAND WITH SMOL SAND, BROWN   | 13                        | 13                        | 15                        | 41                   |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 10        |               |              |         |                                   |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 11        |               |              |         | SILT SAND WITH SMOL SAND, BROWN   | 6                         | 10                        | 15                        | 31                   |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 12        |               |              |         |                                   |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 13        |               |              |         | SILT SAND WITH SMOL SAND, BROWN   | 25                        | 40                        | 49                        | 114                  |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 14        |               |              |         |                                   |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 15        |               |              |         | CLAY WITH SMOL BAND BROWN         | 11                        | 17                        | 23                        | 51                   |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 16        |               |              |         |                                   |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 17        |               |              |         | CLAY WITH SMOL SAND AND OCCASIONA | 15                        | 20                        | 25                        | 60                   |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 18        |               |              |         |                                   |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 19        |               |              |         | CLAY WITH SMOL SAND AND OCCASIONA | 18                        | 31                        | 30                        | 79                   |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 20        |               |              |         |                                   |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 21        |               |              |         | GRAVEL HARD GREY TO RED           | 20                        | 29                        | 32                        | 81                   |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 22        |               |              |         |                                   |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 23        |               |              |         | GRAVEL HARD GREY TO RED           | 28                        | 37                        | 38                        | 103                  |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 24        |               |              |         |                                   |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 25        |               |              |         | CLAY WITH SMOL SAND AND OCCASIONA | 12                        | 35                        | 47                        | 94                   |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 26        |               |              |         |                                   |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 27        |               |              |         | GRAVEL HARD GREY TO RED           | 35                        | 47                        | 49                        | 131                  |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 28        |               |              |         |                                   |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 29        |               |              |         | GRAVEL HARD GREY TO RED           | 28                        | 48                        | 52                        | 128                  |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 30        |               |              |         |                                   |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 31        |               |              |         | GRAVEL HARD GREY TO RED           | 29                        | 35                        | 52                        | 116                  |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 32        |               |              |         |                                   |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 33        |               |              |         | GRAVEL HARD GREY TO RED           | 49                        | 52                        |                           | 101                  |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 34        |               |              |         |                                   |                           |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |
| 35        |               |              |         | GRAVEL HARD GREY TO RED           | 40                        |                           |                           |                      |              |                  |                    |                  |               |                                   |                      |   |                 |                  |                                  |                 |   |





モドリッチャ橋地質調査位置図

**BASIC DESIGN STUDY ON THE PROJECT FOR RECONSTRUCTION OF THE MAIN BRDGES  
ON ROAD NETWORK IN BOSNIA AND HERZEGOVINA  
BOREHOLE TEST RECORD**

JOB No. 348/02 BCBORING No. SM-1 SHEET 1 OF 1  
 PROJECT Nippon Koei Co., Ltd. and Central Consultant Inc. DATE STARTED November 29, 2002. LOCATION MODRICA, right on the Bosna river  
 TYPE BORING GCR 300 DATE COMPLETED December 02, 2002. GROUND ELEVATION 102.65 m

| DEPTH (m) | SAMPLE NUMBER | SOIL PROFILE |  | SPT VALUE (BLOW/300mm) | SPT VALUE (BLOW/1000mm) | SPT VALUE (BLOW/2000mm) | T <sub>90</sub> | MOISTURE CONTENT (%) | BULK UNIT WT. (kN/m <sup>3</sup> ) | SHEAR STRENGTH kN/m <sup>2</sup> | WATER CONTENT % | STD. PENETRATION TEST* N-VALUE (BLOW/300mm) | C <sub>u</sub> (mm) | C <sub>L</sub> (mm) | UNSATURATED COMPRESSION Q <sub>u</sub> (kN/m <sup>2</sup> ) | DRY UNIT WEIGHT | SHEAR VANE (kN/m <sup>2</sup> ) | LIQUID LIMIT | PLASTICITY INDEX | CONSOLIDATION TEST | SPECIFIC GRAVITY | SIEVE (W & D) | C <sub>u</sub> (mm) | C <sub>L</sub> (mm) | UNSATURATED COMPRESSION Q <sub>u</sub> (kN/m <sup>2</sup> ) | DRY UNIT WEIGHT | SHEAR VANE (kN/m <sup>2</sup> ) |  |  |  |
|-----------|---------------|--------------|--|------------------------|-------------------------|-------------------------|-----------------|----------------------|------------------------------------|----------------------------------|-----------------|---|---------------------|---------------------|---|-----------------|---------------------------------|--------------|------------------|--------------------|------------------|---------------|---------------------|---------------------|---|-----------------|---------------------------------|--|--|--|
|           |               | DESCRIPTION  | CLASSIFICATION                                 |                        |                         |                         |                 |                      |                                    |                                  |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 0         |               |              | SOIL   |                        |                         |                         |                 |                      |                                    |                                  |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 1         |               |              | SAND   |                        |                         |                         |                 |                      |                                    |                                  |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 2         |               |              | YELLOW TO BROWN                                |                        |                         |                         |                 |                      |                                    |                                  |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 3         |               |              |  |                        |                         |                         |                 |                      |                                    |                                  |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 4         |               |              | GRAVEL WITH SMALL SAND AND CLAY                |                        |                         |                         |                 |                      |                                    | 83/30                            |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 5         |               |              |  |                        |                         |                         |                 |                      |                                    |                                  |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 6         |               |              | COBBLES WITH SMALL SAND AND CLAY               |                        |                         |                         |                 |                      |                                    | 65/30                            |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 7         |               |              |  |                        |                         |                         |                 |                      |                                    | 94/30                            |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 8         |               |              |  |                        |                         |                         |                 |                      |                                    | 124/30                           |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 9         |               |              | SILTY WITH SAND BROWN                          |                        |                         |                         |                 |                      |                                    | 151/30                           |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 10        |               |              | CLAY VERY HARD GRAY TO GREEN                   |                        |                         |                         |                 |                      |                                    | 153/30                           |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 11        |               |              | COBBLES AND BouldERS WITH CLAY VERY HARD       |                        |                         |                         |                 |                      |                                    | 96/30                            |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 12        |               |              |  |                        |                         |                         |                 |                      |                                    | 142/30                           |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 13        |               |              | GRAVEL SILT WITH SAME SAND STIFF TO HARD BROWN |                        |                         |                         |                 |                      |                                    | 88/30                            |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 14        |               |              |  |                        |                         |                         |                 |                      |                                    | 78/30                            |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 15        |               |              |  |                        |                         |                         |                 |                      |                                    | 91/30                            |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 16        |               |              | CLAY HARD TO GREY                              |                        |                         |                         |                 |                      |                                    | 107/30                           |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 17        |               |              |  |                        |                         |                         |                 |                      |                                    | 109/30                           |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 18        |               |              |  |                        |                         |                         |                 |                      |                                    | 136/30                           |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 19        |               |              |  |                        |                         |                         |                 |                      |                                    | 135/30                           |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 20        |               |              | SILT WITH GRAVEL VERY DENSE GRAY TO BROWN      |                        |                         |                         |                 |                      |                                    | 110/20                           |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 21        |               |              |  |                        |                         |                         |                 |                      |                                    | 63/10                            |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 22        |               |              |  |                        |                         |                         |                 |                      |                                    | 58/10                            |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 23        |               |              |  |                        |                         |                         |                 |                      |                                    | 62/10                            |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 24        |               |              |  |                        |                         |                         |                 |                      |                                    | 108/20                           |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 25        |               |              |  |                        |                         |                         |                 |                      |                                    |                                  |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 26        |               |              |  |                        |                         |                         |                 |                      |                                    |                                  |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |
| 27        |               |              |  |                        |                         |                         |                 |                      |                                    |                                  |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |

SOIL CLASSIFICATION AS PER ASTM D 2487-93  
 WATER DEPTH \_\_\_\_\_ HOURS AFTER DRILLING  
 POCKET PEN (kN/m<sup>2</sup>) & Q<sub>u</sub> \_\_\_\_\_  
 DRILLER \_\_\_\_\_ WATER ENCOUNTERED \_\_\_\_\_

**LEGEND**

|  |             |  |         |  |             |  |          |  |                      |
|--|-------------|--|---------|--|-------------|--|----------|--|----------------------|
|  | GRAVEL      |  | SAND    |  | METAMORPHIC |  | ORGANIC  |  | BOULDERS AND COBBLES |
|  | MADE GROUND |  | SILT    |  | CLAY        |  | TOP SOIL |  | BOULDERS             |
|  |             |  | BEDROCK |  |             |  |          |  |                      |

**BASIC DESIGN STUDY ON THE PROJECT FOR RECONSTRUCTION OF THE MAIN BRDGES  
ON ROAD NETWORK IN BOSNIA AND HERZEGOVINA  
BOREHOLE TEST RECORD**

JOB No. 348/02 BCBORING No. SM-2 SHEET 1 OF 1  
 PROJECT Nippon Koei Co., Ltd. and Central Consultant Inc. DATE STARTED November 29, 2002. LOCATION MODRICA, left on the Bosna river  
 TYPE BORING GCR 300 DATE COMPLETED December 03, 2002. GROUND ELEVATION 98.19 m

| DEPTH (m) | SAMPLE NUMBER | SOIL PROFILE |  | SPT VALUE (BLOW/300mm) | SPT VALUE (BLOW/1000mm) | SPT VALUE (BLOW/2000mm) | T <sub>90</sub> | MOISTURE CONTENT (%) | BULK UNIT WT. (kN/m <sup>3</sup> ) | SHEAR STRENGTH kN/m <sup>2</sup> | WATER CONTENT % | STD. PENETRATION TEST* N-VALUE (BLOW/300mm) | C <sub>u</sub> (mm) | C <sub>L</sub> (mm) | UNSATURATED COMPRESSION Q <sub>u</sub> (kN/m <sup>2</sup> ) | DRY UNIT WEIGHT | SHEAR VANE (kN/m <sup>2</sup> ) | LIQUID LIMIT | PLASTICITY INDEX | CONSOLIDATION TEST | SPECIFIC GRAVITY | SIEVE (W & D) | C <sub>u</sub> (mm) | C <sub>L</sub> (mm) | UNSATURATED COMPRESSION Q <sub>u</sub> (kN/m <sup>2</sup> ) | DRY UNIT WEIGHT | SHEAR VANE (kN/m <sup>2</sup> ) |  |  |  |  |
|-----------|---------------|--------------|--|------------------------|-------------------------|-------------------------|-----------------|----------------------|------------------------------------|----------------------------------|-----------------|---|---------------------|---------------------|---|-----------------|---------------------------------|--------------|------------------|--------------------|------------------|---------------|---------------------|---------------------|---|-----------------|---------------------------------|--|--|--|--|
|           |               | DESCRIPTION  | CLASSIFICATION   |                        |                         |                         |                 |                      |                                    |                                  |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 0         |               |              | SOIL   |                        |                         |                         |                 |                      |                                    |                                  |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 1         |               |              | SANDY SILT YELLOW TO BROWN                             |                        |                         |                         |                 |                      |                                    |                                  |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 2         |               |              | CLAY WITH OCCASIONAL GRAVEL                            |                        |                         |                         |                 |                      |                                    | 12/11                            | 9               | 32  |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 3         |               |              | SAND WITH GRAVEL SMALL SILTY                           |                        |                         |                         |                 |                      |                                    | 14/17                            | 43              | 74  |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 4         |               |              |  |                        |                         |                         |                 |                      |                                    | 45/50                            | 50              | 145   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 5         |               |              | GRAVEL SILT WITH SOME COBBLE AND SAND VERY STIFF BROWN |                        |                         |                         |                 |                      |                                    | 24/32                            | 44              | 100   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 6         |               |              |  |                        |                         |                         |                 |                      |                                    | 31/42                            | 44              | 117   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 7         |               |              |  |                        |                         |                         |                 |                      |                                    | 22/36                            | 28              | 86  |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 8         |               |              | SILTY GRAVEL STIFF AND BROWN                           |                        |                         |                         |                 |                      |                                    | 18/36                            | 41              | 95  |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 9         |               |              | GRAVEL WITH SAND STIFFY                                |                        |                         |                         |                 |                      |                                    | 18/22                            | 31              | 71  |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 10        |               |              | CLAY VERY HARD GREY                                    |                        |                         |                         |                 |                      |                                    |                                  |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 11        |               |              |  |                        |                         |                         |                 |                      |                                    |                                  |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 12        |               |              |  |                        |                         |                         |                 |                      |                                    | 72                               |                 | 72  |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 13        |               |              |  |                        |                         |                         |                 |                      |                                    | 74                               |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 14        |               |              |  |                        |                         |                         |                 |                      |                                    | 74                               |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 15        |               |              |  |                        |                         |                         |                 |                      |                                    | 77                               |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 16        |               |              |  |                        |                         |                         |                 |                      |                                    | 75                               |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 17        |               |              |  |                        |                         |                         |                 |                      |                                    | 77                               |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 18        |               |              |  |                        |                         |                         |                 |                      |                                    | 66                               |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 19        |               |              |  |                        |                         |                         |                 |                      |                                    | 69                               |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 20        |               |              |  |                        |                         |                         |                 |                      |                                    | 73                               |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 21        |               |              |  |                        |                         |                         |                 |                      |                                    | 75                               |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 22        |               |              |  |                        |                         |                         |                 |                      |                                    | 79                               |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 23        |               |              |  |                        |                         |                         |                 |                      |                                    | 77                               |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 24        |               |              |  |                        |                         |                         |                 |                      |                                    | 73                               |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 25        |               |              |  |                        |                         |                         |                 |                      |                                    | 76                               |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 26        |               |              |  |                        |                         |                         |                 |                      |                                    | 77                               |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |
| 27        |               |              |  |                        |                         |                         |                 |                      |                                    |                                  |                 |   |                     |                     |   |                 |                                 |              |                  |                    |                  |               |                     |                     |   |                 |                                 |  |  |  |  |

SOIL CLASSIFICATION AS PER ASTM D 2487-93  
 WATER DEPTH \_\_\_\_\_ HOURS AFTER DRILLING  
 POCKET PEN (kN/m<sup>2</sup>) & Q<sub>u</sub> \_\_\_\_\_  
 DRILLER \_\_\_\_\_ WATER ENCOUNTERED \_\_\_\_\_

**LEGEND**

|  |             |  |         |  |             |  |          |  |                      |
|--|-------------|--|---------|--|-------------|--|----------|--|----------------------|
|  | GRAVEL      |  | SAND    |  | METAMORPHIC |  | ORGANIC  |  | BOULDERS AND COBBLES |
|  | MADE GROUND |  | SILT    |  | CLAY        |  | TOP SOIL |  | BOULDERS             |
|  |             |  | BEDROCK |  |             |  |          |  |                      |

**BASIC DESIGN STUDY ON THE PROJECT FOR RECONSTRUCTION OF THE MAIN BRDGS  
ON ROAD NETWORK IN BOSNIA AND HERZEGOVINA  
BOREHOLE TEST RECORD**

JOB No. 085/03 BC BORING No. SM-3 SHEET 1 OF 1  
 PROJECT Nippon Koei Co., Ltd. and Central Consultant Inc. DATE STARTED 24/03/2003 LOCATION MODRICA, left of the banke river BOSNA  
 TYPE BORING \_\_\_\_\_ DATE COMPLETED 24/03/2003 GROUND ELEVATION 102.05 m

| DEPTH (m) | TYPE NUMBER | SOIL CLASSIFICATION | DESCRIPTION   | S.P.T. VALUE (BLOW/300mm) |    | MOISTURE CONTENT (%) | LIQUID LIMIT (kN/m <sup>2</sup> ) | PLASTIC LIMIT | PLASTICITY INDEX | CONSOLIDATION TEST | SPECIFIC GRAVITY | S <sub>w</sub> (kN/m <sup>3</sup> ) | C <sub>u</sub> (kN/m <sup>2</sup> ) | C <sub>v</sub> (kN/m <sup>2</sup> ) | UNCONSOLIDATED COMPRESSION Q <sub>u</sub> (kN/m <sup>2</sup> ) | DRY UNIT WEIGHT (kN/m <sup>3</sup> ) | SHEAR VALUE (kN/m <sup>2</sup> ) |
|-----------|-------------|---------------------|---|---------------------------|----|----------------------|-----------------------------------|---------------|------------------|--------------------|------------------|-------------------------------------|-------------------------------------|-------------------------------------|--|--------------------------------------|----------------------------------|
|           |             |                     |   | 10                        | 20 |                      |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      |                                  |
| 0         |             |                     | SOIL WITH SMOL SAND                                       |                           |    |                      |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      |                                  |
| 1         |             |                     | GRAVEL AND SAND OCCASIONAL SILTY GREY TO BROWN            | 9                         | 13 | 20                   | 42                                |               |                  |                    |                  |                                     |                                     |                                     |  |                                      |                                  |
| 2         |             |                     |   | 15                        | 22 | 30                   | 67                                |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 67/30                            |
| 3         |             |                     |   | 11                        | 20 | 38                   | 69                                |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 69/30                            |
| 4         |             |                     | GRAVEL AND SAND BILTY CLAY WITH SMOL WOTHER GREY TO BROWN | 18                        | 17 | 17                   | 52                                |               |                  |                    |                  |                                     |                                     |                                     |  |                                      |                                  |
| 5         |             |                     | CLAY WITH SAND OCCASIONAL GRAVEL YELLOW TO BROWN          | 2                         | 4  | 23                   | 29                                |               |                  |                    |                  |                                     |                                     |                                     |  |                                      |                                  |
| 6         |             |                     |   | 10                        | 18 | 25                   | 53                                |               |                  |                    |                  |                                     |                                     |                                     |  |                                      |                                  |
| 7         |             |                     | CLAY WITH SMOL SAND AND GRAVRL. BROWN                     | 52                        |    | 52                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 52/10                            |
| 8         |             |                     |   | 52                        |    | 52                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 52/10                            |
| 9         |             |                     |   | 30                        | 51 | 81                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 81/20                            |
| 10        |             |                     |   | 31                        | 52 | 83                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 83/20                            |
| 11        |             |                     |   | 33                        | 52 | 85                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 85/20                            |
| 12        |             |                     | CLAY VGGY HARD BROWN                                      | 37                        | 40 | 50                   | 127                               |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 127/10                           |
| 13        |             |                     |   | 10                        | 13 | 16                   | 41                                |               |                  |                    |                  |                                     |                                     |                                     |  |                                      |                                  |
| 14        |             |                     |   | 9                         | 11 | 15                   | 35                                |               |                  |                    |                  |                                     |                                     |                                     |  |                                      |                                  |
| 15        |             |                     |   | 48                        | 52 | 100                  |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 100/20                           |
| 16        |             |                     |   | 52                        |    | 52                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 52/10                            |
| 17        |             |                     |   | 55                        |    | 55                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 55/10                            |
| 18        |             |                     |   | 57                        |    | 57                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 57/10                            |
| 19        |             |                     |   | 54                        |    | 54                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 54/10                            |
| 20        |             |                     |   | 54                        |    | 54                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 54/10                            |
| 21        |             |                     |   | 52                        |    | 52                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 52/10                            |
| 22        |             |                     |   | 56                        |    | 56                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 56/10                            |
| 23        |             |                     | CLAY VGGY HARD BROWN                                      | 57                        |    | 57                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 57/10                            |
| 24        |             |                     |   | 62                        |    | 62                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 62/10                            |
| 25        |             |                     |   | 58                        |    | 58                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 58/10                            |
| 26        |             |                     |   |                           |    |                      |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      |                                  |
| 27        |             |                     |   |                           |    |                      |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      |                                  |

SOIL CLASSIFICATION AS PER ASTM D 2487-93  
 WATER DEPTH \_\_\_\_\_ HOURS AFTER DRILLING \_\_\_\_\_  
 POCKET PEN (kN/m<sup>2</sup>) & Q<sub>u</sub> \_\_\_\_\_ DRILLER WATER ENCOUNTERED \_\_\_\_\_

**LEGEND**

|  |             |  |      |  |             |  |          |  |                      |
|--|-------------|--|------|--|-------------|--|----------|--|----------------------|
|  | GRAVEL      |  | SAND |  | METAMORPHIC |  | ORGANIC  |  | BOULDERS AND COBBLES |
|  | MADE GROUND |  | SILT |  | TOP SOIL    |  | BOULDERS |  | BEDROCK              |
|  | CLAY        |  |      |  |             |  |          |  |                      |

**BASIC DESIGN STUDY ON THE PROJECT FOR RECONSTRUCTION OF THE MAIN BRDGS  
ON ROAD NETWORK IN BOSNIA AND HERZEGOVINA  
BOREHOLE TEST RECORD**

JOB No. 085/03 BC BORING No. SM-4 SHEET 1 OF 1  
 PROJECT Nippon Koei Co., Ltd. and Central Consultant Inc. DATE STARTED 30/03/2003 LOCATION MODRICA, left in the river BOSNA  
 TYPE BORING GCR 300 DATE COMPLETED 31/03/2003 GROUND ELEVATION 98.03 m

| DEPTH (m) | TYPE NUMBER | SOIL CLASSIFICATION | DESCRIPTION  | S.P.T. VALUE (BLOW/300mm) |    | MOISTURE CONTENT (%) | LIQUID LIMIT (kN/m <sup>2</sup> ) | PLASTIC LIMIT | PLASTICITY INDEX | CONSOLIDATION TEST | SPECIFIC GRAVITY | S <sub>w</sub> (kN/m <sup>3</sup> ) | C <sub>u</sub> (kN/m <sup>2</sup> ) | C <sub>v</sub> (kN/m <sup>2</sup> ) | UNCONSOLIDATED COMPRESSION Q <sub>u</sub> (kN/m <sup>2</sup> ) | DRY UNIT WEIGHT (kN/m <sup>3</sup> ) | SHEAR VALUE (kN/m <sup>2</sup> ) |
|-----------|-------------|---------------------|--|---------------------------|----|----------------------|-----------------------------------|---------------|------------------|--------------------|------------------|-------------------------------------|-------------------------------------|-------------------------------------|--|--------------------------------------|----------------------------------|
|           |             |                     |  | 10                        | 20 |                      |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      |                                  |
| 0         |             |                     |  |                           |    |                      |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      |                                  |
| 1         |             |                     | GRAVEL AND SAND VERY DENSE GREY Y BROWN                                    | 21                        | 28 | 15                   | 64                                |               |                  |                    |                  |                                     |                                     |                                     |  |                                      |                                  |
| 2         |             |                     |  | 15                        | 15 | 48                   | 78                                |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 64/30                            |
| 3         |             |                     | CLAY WITH SAND STIFF TO HARD BROWN   | 16                        | 31 | 46                   | 93                                |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 78/30                            |
| 4         |             |                     |  | 31                        | 52 | 83                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 93/30                            |
| 5         |             |                     |  | 48                        | 52 | 100                  |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 83/20                            |
| 6         |             |                     | SILTY GRAVEL AND SAND CLAY WITH SMOL GRAVEL AND SAND BROWN GRAVEL AND SAND | 38                        | 62 | 100                  |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 100/20                           |
| 7         |             |                     | CLAY WITH SAND AND GRAVEL CLAY VERY HARD RED TO BROWN                      | 48                        | 52 | 100                  |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 100/20                           |
| 8         |             |                     |  | 47                        | 51 | 98                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 98/20                            |
| 9         |             |                     | CLAY WITH SMOL GRAVEL AND SAND BROWN                                       | 40                        | 45 | 52                   | 137                               |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 137/30                           |
| 10        |             |                     |  | 48                        | 52 | 100                  |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 100/20                           |
| 11        |             |                     |  | 10                        | 47 | 51                   | 108                               |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 108/20                           |
| 12        |             |                     | SILTY SAND AND GRAVEL BROWN  | 30                        | 42 | 38                   | 110                               |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 110/30                           |
| 13        |             |                     |  | 37                        | 51 | 88                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 88/20                            |
| 14        |             |                     |  | 38                        | 52 | 90                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 90/20                            |
| 15        |             |                     |  | 48                        | 52 | 100                  |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 100/20                           |
| 16        |             |                     |  | 61                        |    | 61                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 61/10                            |
| 17        |             |                     | CLAY WITH SMOL GRAVEL AND SAND BROWN                                       | 59                        |    | 59                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 59/10                            |
| 18        |             |                     |  | 65                        |    | 65                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 65/10                            |
| 19        |             |                     |  | 61                        |    | 61                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 61/10                            |
| 20        |             |                     |  | 70                        |    | 70                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 70/10                            |
| 21        |             |                     |  | 66                        |    | 66                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 66/10                            |
| 22        |             |                     |  | 59                        |    | 59                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 59/10                            |
| 23        |             |                     |  | 60                        |    | 60                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 60/10                            |
| 24        |             |                     |  | 66                        |    | 66                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 66/10                            |
| 25        |             |                     |  | 66                        |    | 66                   |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      | 66/10                            |
| 26        |             |                     |  |                           |    |                      |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      |                                  |
| 27        |             |                     |  |                           |    |                      |                                   |               |                  |                    |                  |                                     |                                     |                                     |  |                                      |                                  |

SOIL CLASSIFICATION AS PER ASTM D 2487-93  
 WATER DEPTH \_\_\_\_\_ HOURS AFTER DRILLING \_\_\_\_\_  
 POCKET PEN (kN/m<sup>2</sup>) & Q<sub>u</sub> \_\_\_\_\_ DRILLER WATER ENCOUNTERED \_\_\_\_\_

**LEGEND**

|  |             |  |      |  |             |  |          |  |                      |
|--|-------------|--|------|--|-------------|--|----------|--|----------------------|
|  | GRAVEL      |  | SAND |  | METAMORPHIC |  | ORGANIC  |  | BOULDERS AND COBBLES |
|  | MADE GROUND |  | SILT |  | TOP SOIL    |  | BOULDERS |  | BEDROCK              |
|  | CLAY        |  |      |  |             |  |          |  |                      |

**BASIC DESIGN STUDY ON THE PROJECT FOR RECONSTRUCTION OF THE MAIN BRDGES  
ON ROAD NETWORK IN BOSNIA AND HERZEGOVINA  
BOREHOLE TEST RECORD**

JOB No. 085/03 BC BORING No. SM-5 SHEET 1 OF 1  
 PROJECT Nippon Koei Co., Ltd. and Central Consultant Inc. DATE STARTED 27/03/2003 LOCATION MODRICA, right in the river BOSNA  
 TYPE BORING GCR 300 DATE COMPLETED 28/03/2003 GROUND ELEVATION 98.57 m

| DEPTH (m) | SAMPLE NUMBER | SOIL PROFILE |  | S.P.T. VALUE (BLOW/300mm) | S.P.T. VALUE (BLOW/150mm) | S.P.T. VALUE (BLOW/30mm) | Total | MOISTURE CONTENT (%) | BULK UNIT WT (kN/m <sup>3</sup> ) | SHEAR STRENGTH kN/m <sup>2</sup> |    |    |    |    | LIQUID LIMIT | PLASTICITY INDEX | CONSOLIDATION TEST | SPECIFIC GRAVITY | SEIVE (W & D) | C <sub>c</sub> (kN/m <sup>2</sup> ) | φ (DEGREES) | UNCONF. COMPRESS. Q <sub>u</sub> (TEST kN/m <sup>2</sup> ) | DRY UNIT WEIGHT | SHEAR VANE (kN/m <sup>2</sup> ) |  |  |  |  |
|-----------|---------------|--------------|--|---------------------------|---------------------------|--------------------------|-------|----------------------|-----------------------------------|----------------------------------|----|----|----|----|--------------|------------------|--------------------|------------------|---------------|-------------------------------------|-------------|--|-----------------|---------------------------------|--|--|--|--|
|           |               | DESCRIPTION  |  |                           |                           |                          |       |                      |                                   | 10                               | 20 | 30 | 40 | 50 |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 0         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 1         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 2         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 3         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 4         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 5         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 6         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 7         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 8         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 9         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 10        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 11        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 12        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 13        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 14        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 15        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 16        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 17        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 18        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 19        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 20        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 21        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 22        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 23        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 24        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 25        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 26        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |
| 27        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |

SOIL CLASSIFICATION AS PER ASTM D 2487-93  
 WATER DEPTH \_\_\_\_\_ HOURS AFTER DRILLING \_\_\_\_\_  
 POCKET PEN (kN/m<sup>2</sup>) & Q<sub>u</sub> \_\_\_\_\_  
 DRILLER \_\_\_\_\_  
 WATER ENCOUNTERED \_\_\_\_\_

**LEGEND**

|  |             |  |      |  |             |  |          |  |                      |
|--|-------------|--|------|--|-------------|--|----------|--|----------------------|
|  | GRAVEL      |  | SAND |  | METAMORPHIC |  | ORGANIC  |  | BOULDERS AND COBBLES |
|  | MADE GROUND |  | SILT |  | TOP SOIL    |  | BOULDERS |  | BEDROCK              |
|  | CLAY        |  |      |  |             |  |          |  |                      |

**BASIC DESIGN STUDY ON THE PROJECT FOR RECONSTRUCTION OF THE MAIN BRDGES  
ON ROAD NETWORK IN BOSNIA AND HERZEGOVINA  
BOREHOLE TEST RECORD**

JOB No. 085/03 BC BORING No. SM-6 SHEET 1 OF 1  
 PROJECT Nippon Koei Co., Ltd. and Central Consultant Inc. DATE STARTED 21/03/2003 LOCATION MODRICA, right of the banke river BOSNA  
 TYPE BORING GCR 300 DATE COMPLETED 23/03/2003 GROUND ELEVATION 102.65 m

| DEPTH (m) | SAMPLE NUMBER | SOIL PROFILE |  | S.P.T. VALUE (BLOW/300mm) | S.P.T. VALUE (BLOW/150mm) | S.P.T. VALUE (BLOW/30mm) | Total | MOISTURE CONTENT (%) | BULK UNIT WT (kN/m <sup>3</sup> ) | SHEAR STRENGTH kN/m <sup>2</sup> |    |    |    |    | LIQUID LIMIT | PLASTICITY INDEX | CONSOLIDATION TEST | SPECIFIC GRAVITY | SEIVE (W & D) | C <sub>c</sub> (kN/m <sup>2</sup> ) | φ (DEGREES) | UNCONF. COMPRESS. Q <sub>u</sub> (TEST kN/m <sup>2</sup> ) | DRY UNIT WEIGHT | SHEAR VANE (kN/m <sup>2</sup> ) |  |  |  |  |  |
|-----------|---------------|--------------|--|---------------------------|---------------------------|--------------------------|-------|----------------------|-----------------------------------|----------------------------------|----|----|----|----|--------------|------------------|--------------------|------------------|---------------|-------------------------------------|-------------|--|-----------------|---------------------------------|--|--|--|--|--|
|           |               | DESCRIPTION  |  |                           |                           |                          |       |                      |                                   | 10                               | 20 | 30 | 40 | 50 |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 0         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 1         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 2         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 3         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 4         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 5         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 6         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 7         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 8         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 9         |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 10        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 11        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 12        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 13        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 14        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 15        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 16        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 17        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 18        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 19        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 20        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 21        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 22        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 23        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 24        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 25        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 26        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |
| 27        |               |              |  |                           |                           |                          |       |                      |                                   |                                  |    |    |    |    |              |                  |                    |                  |               |                                     |             |  |                 |                                 |  |  |  |  |  |

SOIL CLASSIFICATION AS PER ASTM D 2487-93  
 WATER DEPTH \_\_\_\_\_ HOURS AFTER DRILLING \_\_\_\_\_  
 POCKET PEN (kN/m<sup>2</sup>) & Q<sub>u</sub> \_\_\_\_\_  
 DRILLER \_\_\_\_\_  
 WATER ENCOUNTERED \_\_\_\_\_

**LEGEND**

|  |             |  |      |  |             |  |          |  |                      |
|--|-------------|--|------|--|-------------|--|----------|--|----------------------|
|  | GRAVEL      |  | SAND |  | METAMORPHIC |  | ORGANIC  |  | BOULDERS AND COBBLES |
|  | MADE GROUND |  | SILT |  | TOP SOIL    |  | BOULDERS |  | BEDROCK              |
|  | CLAY        |  |      |  |             |  |          |  |                      |

資料8-3 交通量調査 (1) ドボイ橋

Date: 27, November, 2002 (Wednesday)

Location: Doboj Bridge

| Time          | Motorcycle | Passenger Cars | Buses    |     | Trucks         |                 | Tractor, Roadroller etc | Total | Total of Each direction |          | Bicycle | Pedestrian | Total | Total of Each direction |          |
|---------------|------------|----------------|----------|-----|----------------|-----------------|-------------------------|-------|-------------------------|----------|---------|------------|-------|-------------------------|----------|
|               |            |                | Mini Bus | Bus | 2axles, 3axles | 4 or more axles |                         |       | To Tuzla                | To Doboj |         |            |       | To Tuzla                | To Doboj |
|               |            |                |          |     |                |                 |                         |       |                         |          |         |            |       |                         |          |
| 12:00 - 13:00 | 0          | 665            | 12       | 12  | 62             | 11              | 2                       | 764   | 370                     | 394      | 0       | 370        | 370   | 190                     | 180      |
| 13:00 - 14:00 | 0          | 659            | 7        | 8   | 52             | 6               | 2                       | 734   | 405                     | 329      | 8       | 130        | 138   | 84                      | 54       |
| 14:00 - 15:00 | 1          | 694            | 6        | 10  | 56             | 16              | 2                       | 785   | 412                     | 373      | 6       | 160        | 166   | 125                     | 41       |
| 15:00 - 16:00 | 1          | 786            | 7        | 14  | 52             | 13              | 2                       | 875   | 504                     | 371      | 1       | 330        | 331   | 270                     | 61       |
| 16:00 - 17:00 | 2          | 536            | 5        | 11  | 36             | 26              | 1                       | 617   | 293                     | 324      | 2       | 60         | 62    | 31                      | 31       |
| 17:00 - 18:00 | 2          | 482            | 4        | 9   | 18             | 9               | 0                       | 524   | 253                     | 271      | 3       | 80         | 83    | 71                      | 12       |
| 18:00 - 19:00 | 0          | 470            | 8        | 11  | 20             | 5               | 0                       | 514   | 245                     | 269      | 0       | 90         | 90    | 60                      | 30       |
| 19:00 - 20:00 | 0          | 344            | 6        | 9   | 12             | 3               | 0                       | 374   | 168                     | 206      | 0       | 80         | 80    | 40                      | 40       |
| 20:00 - 21:00 | 0          | 257            | 3        | 0   | 11             | 7               | 0                       | 278   | 152                     | 126      | 0       | 50         | 50    | 20                      | 30       |
| 21:00 - 22:00 | 0          | 203            | 3        | 0   | 12             | 2               | 0                       | 220   | 118                     | 102      | 0       | 30         | 30    | 10                      | 20       |
| 22:00 - 23:00 | 0          | 156            | 2        | 0   | 10             | 8               | 0                       | 176   | 112                     | 64       | 0       | 15         | 15    | 10                      | 5        |
| 23:00 - 0:00  | 0          | 113            | 2        | 0   | 4              | 1               | 0                       | 120   | 85                      | 35       | 0       | 0          | 0     | 0                       | 0        |
| Sub Total     | 6          | 5365           | 65       | 84  | 345            | 107             | 9                       | 5981  | 3117                    | 2864     | 20      | 1395       | 1415  | 911                     | 504      |
| 0:00 - 1:00   | 0          | 96             | 0        | 0   | 4              | 2               | 0                       | 102   | 48                      | 54       | 0       | 5          | 5     | 5                       | 0        |
| 1:00 - 2:00   | 0          | 35             | 0        | 0   | 2              | 1               | 0                       | 38    | 16                      | 22       | 0       | 2          | 2     | 2                       | 0        |
| 2:00 - 3:00   | 0          | 27             | 0        | 0   | 2              | 1               | 0                       | 30    | 14                      | 16       | 0       | 0          | 0     | 0                       | 0        |
| 3:00 - 4:00   | 0          | 24             | 0        | 0   | 3              | 1               | 0                       | 28    | 17                      | 11       | 0       | 3          | 3     | 3                       | 0        |
| 4:00 - 5:00   | 0          | 18             | 1        | 6   | 4              | 7               | 0                       | 36    | 13                      | 23       | 1       | 0          | 1     | 1                       | 0        |
| 5:00 - 6:00   | 1          | 56             | 1        | 2   | 6              | 4               | 0                       | 70    | 24                      | 46       | 2       | 0          | 2     | 1                       | 1        |
| 6:00 - 7:00   | 0          | 596            | 0        | 28  | 32             | 6               | 0                       | 662   | 284                     | 378      | 1       | 150        | 151   | 31                      | 120      |
| 7:00 - 8:00   | 0          | 557            | 3        | 6   | 53             | 6               | 0                       | 625   | 323                     | 302      | 1       | 100        | 101   | 41                      | 60       |
| 8:00 - 9:00   | 0          | 503            | 1        | 6   | 79             | 13              | 0                       | 602   | 333                     | 269      | 0       | 110        | 110   | 30                      | 80       |
| 9:00 - 10:00  | 1          | 583            | 1        | 4   | 53             | 16              | 3                       | 661   | 298                     | 363      | 1       | 30         | 31    | 31                      | 0        |
| 10:00 - 11:00 | 0          | 651            | 0        | 7   | 75             | 18              | 1                       | 752   | 331                     | 421      | 1       | 50         | 51    | 21                      | 30       |
| 11:00 - 12:00 | 1          | 598            | 1        | 9   | 60             | 9               | 2                       | 680   | 321                     | 359      | 0       | 30         | 30    | 30                      | 0        |
| Sub Total     | 3          | 3744           | 8        | 68  | 373            | 84              | 6                       | 4286  | 2022                    | 2264     | 7       | 480        | 487   | 196                     | 291      |
| Grand Total   | 9          | 9109           | 73       | 152 | 718            | 191             | 15                      | 10267 | 5139                    | 5128     | 27      | 1875       | 1902  | 1107                    | 795      |

Date: 28, November, 2002 (Thursday)

Location: Doboj Bridge

| Time          | Motorcycle | Passenger Cars | Buses    |                 | Trucks         |                 | Tractor, Roadroller etc | Total | Total of Each direction |          | Bicycle | Pedestrian | Total | Total of Each direction |          |
|---------------|------------|----------------|----------|-----------------|----------------|-----------------|-------------------------|-------|-------------------------|----------|---------|------------|-------|-------------------------|----------|
|               |            |                | Mini Bus | Medium Bus over | 2axles, 3axles | 4 or more axles |                         |       | To Tuzla                | To Doboj |         |            |       | To Tuzla                | To Doboj |
|               |            |                |          |                 |                |                 |                         |       |                         |          |         |            |       |                         |          |
| 12:00 - 13:00 | 1          | 698            | 15       | 12              | 45             | 10              | 0                       | 781   | 393                     | 388      | 7       | 410        | 417   | 233                     | 184      |
| 13:00 - 14:00 | 2          | 679            | 12       | 11              | 45             | 13              | 0                       | 762   | 405                     | 357      | 2       | 230        | 232   | 172                     | 60       |
| 14:00 - 15:00 | 0          | 656            | 18       | 11              | 42             | 16              | 1                       | 744   | 383                     | 361      | 5       | 240        | 245   | 144                     | 101      |
| 15:00 - 16:00 | 0          | 835            | 10       | 17              | 50             | 14              | 0                       | 926   | 519                     | 407      | 4       | 310        | 314   | 250                     | 64       |
| 16:00 - 17:00 | 5          | 570            | 4        | 10              | 55             | 8               | 0                       | 652   | 355                     | 297      | 5       | 70         | 75    | 52                      | 23       |
| 17:00 - 18:00 | 0          | 430            | 1        | 8               | 17             | 7               | 1                       | 464   | 212                     | 252      | 2       | 30         | 32    | 22                      | 10       |
| 18:00 - 19:00 | 0          | 450            | 1        | 5               | 28             | 4               | 0                       | 488   | 227                     | 261      | 0       | 130        | 130   | 80                      | 50       |
| 19:00 - 20:00 | 0          | 271            | 0        | 8               | 18             | 10              | 0                       | 307   | 126                     | 181      | 0       | 110        | 110   | 80                      | 30       |
| 20:00 - 21:00 | 0          | 252            | 0        | 1               | 10             | 8               | 0                       | 271   | 131                     | 140      | 0       | 60         | 60    | 30                      | 30       |
| 21:00 - 22:00 | 0          | 200            | 0        | 0               | 9              | 7               | 0                       | 216   | 111                     | 105      | 0       | 30         | 30    | 10                      | 20       |
| 22:00 - 23:00 | 0          | 148            | 0        | 0               | 3              | 3               | 0                       | 154   | 80                      | 74       | 0       | 20         | 20    | 20                      | 0        |
| 23:00 - 0:00  | 0          | 104            | 0        | 0               | 7              | 0               | 0                       | 111   | 56                      | 55       | 0       | 10         | 10    | 10                      | 0        |
| Sub Total     | 8          | 5293           | 61       | 83              | 329            | 100             | 2                       | 5876  | 2998                    | 2878     | 25      | 1650       | 1675  | 1103                    | 572      |
| 0:00 - 1:00   | 0          | 50             | 0        | 0               | 4              | 1               | 0                       | 55    | 22                      | 33       | 0       | 2          | 2     | 2                       | 0        |
| 1:00 - 2:00   | 0          | 39             | 0        | 0               | 4              | 1               | 0                       | 44    | 24                      | 20       | 0       | 0          | 0     | 0                       | 0        |
| 2:00 - 3:00   | 0          | 29             | 0        | 0               | 3              | 2               | 1                       | 35    | 21                      | 14       | 1       | 0          | 1     | 1                       | 0        |
| 3:00 - 4:00   | 0          | 15             | 0        | 0               | 1              | 4               | 3                       | 23    | 12                      | 11       | 3       | 0          | 3     | 3                       | 0        |
| 4:00 - 5:00   | 0          | 36             | 0        | 1               | 4              | 6               | 0                       | 47    | 30                      | 17       | 0       | 0          | 0     | 0                       | 0        |
| 5:00 - 6:00   | 1          | 66             | 0        | 7               | 12             | 10              | 20                      | 116   | 69                      | 47       | 20      | 0          | 20    | 20                      | 0        |
| 6:00 - 7:00   | 0          | 575            | 1        | 22              | 29             | 7               | 3                       | 637   | 249                     | 388      | 3       | 200        | 203   | 23                      | 180      |
| 7:00 - 8:00   | 1          | 639            | 2        | 7               | 37             | 15              | 0                       | 701   | 337                     | 364      | 0       | 270        | 270   | 80                      | 190      |
| 8:00 - 9:00   | 0          | 551            | 1        | 6               | 65             | 10              | 2                       | 635   | 291                     | 344      | 1       | 60         | 61    | 31                      | 30       |
| 9:00 - 10:00  | 1          | 658            | 1        | 6               | 75             | 19              | 4                       | 764   | 392                     | 372      | 3       | 190        | 193   | 43                      | 150      |
| 10:00 - 11:00 | 1          | 596            | 1        | 4               | 70             | 14              | 2                       | 688   | 339                     | 349      | 0       | 70         | 70    | 40                      | 30       |
| 11:00 - 12:00 | 0          | 673            | 1        | 10              | 80             | 14              | 2                       | 780   | 427                     | 353      | 0       | 110        | 110   | 50                      | 60       |
| Sub Total     | 4          | 3927           | 7        | 63              | 384            | 103             | 37                      | 4525  | 2213                    | 2312     | 31      | 902        | 933   | 293                     | 640      |
| Grand Total   | 12         | 9220           | 68       | 146             | 713            | 203             | 39                      | 10401 | 5211                    | 5190     | 56      | 2552       | 2608  | 1396                    | 1212     |

## (2) SFORベイリー橋

Date: 27, November, 2002 (Wednesday)

Location: SFOR Bailey Bridge (Doboj)

| Time          | Motorcycle | Passenger Cars | Buses    |                 | Trucks         |                 | Tractor, Roadroller etc | Total | Total of Each direction |          | Bicycle | Pedestrian | Total | Total of Each direction |          |
|---------------|------------|----------------|----------|-----------------|----------------|-----------------|-------------------------|-------|-------------------------|----------|---------|------------|-------|-------------------------|----------|
|               |            |                | Mini Bus | Medium Bus over | 2axles, 3axles | 4 or more axles |                         |       | To Tuzla                | To Doboj |         |            |       | To Tuzla                | To Doboj |
|               |            |                |          |                 |                |                 |                         |       |                         |          |         |            |       |                         |          |
| 12:00 - 13:00 | 2          | 150            | 0        | 0               | 2              | 75              | 0                       | 229   | 113                     | 116      | 1       | 139        | 140   | 84                      | 56       |
| 13:00 - 14:00 | 0          | 277            | 0        | 3               | 0              | 135             | 0                       | 415   | 203                     | 212      | 14      | 147        | 161   | 99                      | 62       |
| 14:00 - 15:00 | 0          | 150            | 0        | 0               | 26             | 50              | 0                       | 226   | 116                     | 110      | 9       | 84         | 93    | 55                      | 38       |
| 15:00 - 16:00 | 0          | 297            | 0        | 0               | 10             | 65              | 0                       | 372   | 170                     | 202      | 12      | 138        | 150   | 104                     | 46       |
| 16:00 - 17:00 | 2          | 226            | 0        | 3               | 0              | 43              | 0                       | 274   | 139                     | 135      | 5       | 42         | 47    | 24                      | 23       |
| 17:00 - 18:00 | 0          | 265            | 0        | 0               | 34             | 135             | 0                       | 434   | 223                     | 211      | 29      | 88         | 117   | 57                      | 60       |
| 18:00 - 19:00 | 1          | 104            | 11       | 0               | 25             | 16              | 0                       | 157   | 77                      | 80       | 1       | 34         | 35    | 25                      | 10       |
| 19:00 - 20:00 | 0          | 81             | 3        | 1               | 17             | 15              | 0                       | 117   | 63                      | 54       | 0       | 16         | 16    | 8                       | 8        |
| 20:00 - 21:00 | 0          | 73             | 5        | 0               | 23             | 8               | 0                       | 109   | 54                      | 55       | 0       | 2          | 2     | 2                       | 0        |
| 21:00 - 22:00 | 0          | 32             | 0        | 0               | 15             | 13              | 0                       | 60    | 36                      | 24       | 0       | 3          | 3     | 3                       | 0        |
| 22:00 - 23:00 | 0          | 33             | 1        | 1               | 0              | 14              | 0                       | 49    | 23                      | 26       | 0       | 2          | 2     | 1                       | 1        |
| 23:00 - 0:00  | 0          | 25             | 1        | 0               | 0              | 14              | 0                       | 40    | 22                      | 18       | 0       | 4          | 4     | 3                       | 1        |
| Sub Total     | 5          | 1713           | 21       | 8               | 152            | 583             | 0                       | 2482  | 1239                    | 1243     | 71      | 699        | 770   | 465                     | 305      |
| 0:00 - 1:00   | 0          | 19             | 0        | 0               | 1              | 2               | 0                       | 22    | 10                      | 12       | 0       | 11         | 11    | 5                       | 6        |
| 1:00 - 2:00   | 0          | 5              | 0        | 0               | 0              | 3               | 0                       | 8     | 4                       | 4        | 0       | 3          | 3     | 1                       | 2        |
| 2:00 - 3:00   | 0          | 6              | 0        | 0               | 1              | 2               | 0                       | 9     | 2                       | 7        | 0       | 5          | 5     | 2                       | 3        |
| 3:00 - 4:00   | 0          | 17             | 0        | 0               | 0              | 5               | 0                       | 22    | 17                      | 5        | 0       | 7          | 7     | 6                       | 1        |
| 4:00 - 5:00   | 0          | 24             | 0        | 0               | 0              | 24              | 0                       | 48    | 19                      | 29       | 0       | 7          | 7     | 5                       | 2        |
| 5:00 - 6:00   | 0          | 87             | 1        | 0               | 0              | 40              | 0                       | 128   | 62                      | 66       | 0       | 30         | 30    | 17                      | 13       |
| 6:00 - 7:00   | 1          | 128            | 14       | 1               | 23             | 28              | 0                       | 195   | 74                      | 121      | 1       | 109        | 110   | 36                      | 74       |
| 7:00 - 8:00   | 0          | 126            | 30       | 0               | 13             | 39              | 1                       | 209   | 82                      | 127      | 3       | 83         | 86    | 28                      | 58       |
| 8:00 - 9:00   | 0          | 97             | 12       | 0               | 33             | 39              | 1                       | 182   | 84                      | 98       | 6       | 49         | 55    | 20                      | 35       |
| 9:00 - 10:00  | 0          | 122            | 18       | 0               | 22             | 32              | 1                       | 195   | 86                      | 109      | 8       | 52         | 60    | 26                      | 34       |
| 10:00 - 11:00 | 1          | 134            | 24       | 1               | 50             | 45              | 0                       | 255   | 118                     | 137      | 5       | 68         | 73    | 33                      | 40       |
| 11:00 - 12:00 | 0          | 101            | 15       | 1               | 28             | 20              | 0                       | 165   | 79                      | 86       | 4       | 67         | 71    | 38                      | 33       |
| Sub Total     | 2          | 866            | 114      | 3               | 171            | 279             | 3                       | 1438  | 637                     | 801      | 27      | 491        | 518   | 217                     | 301      |
| Grand Total   | 7          | 2579           | 135      | 11              | 323            | 862             | 3                       | 3920  | 1876                    | 2044     | 98      | 1190       | 1288  | 682                     | 606      |

Date: 28, November, 2002 (Thursday)

Location: SFOR Bailey Bridge (Doboj)

| Time          | Motorcycle | Passenger Cars | Buses    |                 | Trucks         |                 | Tractor, Roadroller etc | Total | Total of Each direction |          | Bicycle | Pedestrian | Total | Total of Each direction |          |
|---------------|------------|----------------|----------|-----------------|----------------|-----------------|-------------------------|-------|-------------------------|----------|---------|------------|-------|-------------------------|----------|
|               |            |                | Mini Bus | Medium Bus over | 2axles, 3axles | 4 or more axles |                         |       | To Tuzla                | To Doboj |         |            |       | To Tuzla                | To Doboj |
|               |            |                |          |                 |                |                 |                         |       |                         |          |         |            |       |                         |          |
| 12:00 - 13:00 | 0          | 194            | 0        | 0               | 26             | 27              | 4                       | 251   | 127                     | 124      | 2       | 137        | 139   | 84                      | 55       |
| 13:00 - 14:00 | 0          | 95             | 1        | 0               | 13             | 27              | 3                       | 139   | 71                      | 68       | 1       | 76         | 77    | 44                      | 33       |
| 14:00 - 15:00 | 1          | 201            | 0        | 2               | 14             | 53              | 1                       | 272   | 139                     | 133      | 9       | 91         | 100   | 51                      | 49       |
| 15:00 - 16:00 | 0          | 255            | 0        | 0               | 21             | 57              | 5                       | 338   | 186                     | 152      | 13      | 145        | 158   | 101                     | 57       |
| 16:00 - 17:00 | 0          | 213            | 16       | 0               | 6              | 62              | 0                       | 297   | 148                     | 149      | 5       | 53         | 58    | 22                      | 36       |
| 17:00 - 18:00 | 0          | 138            | 3        | 0               | 5              | 102             | 0                       | 248   | 131                     | 117      | 6       | 58         | 64    | 40                      | 24       |
| 18:00 - 19:00 | 0          | 102            | 3        | 0               | 14             | 70              | 0                       | 189   | 91                      | 98       | 2       | 31         | 33    | 20                      | 13       |
| 19:00 - 20:00 | 0          | 66             | 9        | 1               | 6              | 15              | 0                       | 97    | 57                      | 40       | 0       | 19         | 19    | 16                      | 3        |
| 20:00 - 21:00 | 0          | 70             | 7        | 0               | 9              | 27              | 0                       | 113   | 54                      | 59       | 1       | 2          | 3     | 2                       | 1        |
| 21:00 - 22:00 | 0          | 47             | 9        | 0               | 0              | 21              | 0                       | 77    | 36                      | 41       | 0       | 2          | 2     | 2                       | 0        |
| 22:00 - 23:00 | 0          | 44             | 0        | 0               | 15             | 25              | 0                       | 84    | 43                      | 41       | 0       | 2          | 2     | 1                       | 1        |
| 23:00 - 0:00  | 0          | 47             | 0        | 0               | 33             | 27              | 0                       | 107   | 44                      | 63       | 0       | 12         | 12    | 8                       | 4        |
| Sub Total     | 1          | 1472           | 48       | 3               | 162            | 513             | 13                      | 2212  | 1127                    | 1085     | 39      | 628        | 667   | 391                     | 276      |
| 0:00 - 1:00   | 0          | 17             | 0        | 0               | 10             | 16              | 0                       | 43    | 29                      | 14       | 0       | 7          | 7     | 2                       | 5        |
| 1:00 - 2:00   | 1          | 49             | 3        | 0               | 15             | 18              | 0                       | 86    | 41                      | 45       | 0       | 13         | 13    | 8                       | 5        |
| 2:00 - 3:00   | 0          | 36             | 0        | 0               | 1              | 14              | 0                       | 51    | 24                      | 27       | 0       | 2          | 2     | 0                       | 2        |
| 3:00 - 4:00   | 0          | 33             | 0        | 0               | 0              | 4               | 0                       | 37    | 21                      | 16       | 0       | 1          | 1     | 0                       | 1        |
| 4:00 - 5:00   | 0          | 36             | 0        | 0               | 1              | 11              | 0                       | 48    | 31                      | 17       | 0       | 19         | 19    | 6                       | 13       |
| 5:00 - 6:00   | 0          | 72             | 0        | 0               | 10             | 39              | 0                       | 121   | 68                      | 53       | 0       | 33         | 33    | 20                      | 13       |
| 6:00 - 7:00   | 0          | 143            | 80       | 0               | 54             | 73              | 0                       | 350   | 166                     | 184      | 3       | 79         | 82    | 21                      | 61       |
| 7:00 - 8:00   | 0          | 99             | 80       | 2               | 70             | 74              | 0                       | 325   | 135                     | 190      | 12      | 90         | 102   | 30                      | 72       |
| 8:00 - 9:00   | 0          | 141            | 46       | 1               | 72             | 54              | 1                       | 315   | 147                     | 168      | 2       | 44         | 46    | 6                       | 40       |
| 9:00 - 10:00  | 0          | 140            | 28       | 0               | 57             | 75              | 0                       | 300   | 145                     | 155      | 27      | 68         | 95    | 33                      | 62       |
| 10:00 - 11:00 | 1          | 143            | 26       | 0               | 69             | 47              | 0                       | 286   | 139                     | 147      | 6       | 64         | 70    | 29                      | 41       |
| 11:00 - 12:00 | 0          | 147            | 30       | 0               | 70             | 59              | 1                       | 307   | 142                     | 165      | 22      | 54         | 76    | 33                      | 43       |
| Sub Total     | 2          | 1056           | 293      | 3               | 429            | 484             | 2                       | 2269  | 1088                    | 1181     | 72      | 474        | 546   | 188                     | 358      |
| Grand Total   | 3          | 2528           | 341      | 6               | 591            | 997             | 15                      | 4481  | 2215                    | 2266     | 111     | 1102       | 1213  | 579                     | 634      |



## (3) トボイ駅構内入場数

Date: 27, November, 2002 (Wednesday)

Location: Doboj Railway Station

| Time          | Motorcycle | Passenger Cars | Buses    |     | Trucks         |                 | Tractor, Roadroller etc | Total | Bicycle | Pedestrian | Total |
|---------------|------------|----------------|----------|-----|----------------|-----------------|-------------------------|-------|---------|------------|-------|
|               |            |                | Mini Bus | Bus | 2axles, 3axles | 4 or more axles |                         |       |         |            |       |
| 12:00 - 13:00 | 0          | 54             | 5        | 3   | 3              | 0               | 0                       | 65    | 0       | 110        | 110   |
| 13:00 - 14:00 | 0          | 48             | 1        | 0   | 4              | 4               | 0                       | 57    | 0       | 70         | 70    |
| 14:00 - 15:00 | 0          | 51             | 0        | 0   | 5              | 0               | 0                       | 56    | 2       | 80         | 82    |
| 15:00 - 16:00 | 0          | 60             | 0        | 0   | 3              | 4               | 0                       | 67    | 0       | 60         | 60    |
| 16:00 - 17:00 | 0          | 30             | 5        | 0   | 2              | 3               | 0                       | 40    | 0       | 50         | 50    |
| 17:00 - 18:00 | 0          | 24             | 0        | 0   | 3              | 0               | 0                       | 27    | 0       | 60         | 60    |
| 18:00 - 19:00 | 0          | 52             | 1        | 1   | 0              | 2               | 0                       | 56    | 1       | 70         | 71    |
| 19:00 - 20:00 | 0          | 49             | 0        | 0   | 2              | 0               | 0                       | 51    | 0       | 60         | 60    |
| 20:00 - 21:00 | 0          | 17             | 0        | 0   | 0              | 0               | 0                       | 17    | 0       | 20         | 20    |
| 21:00 - 22:00 | 0          | 19             | 1        | 0   | 0              | 0               | 0                       | 20    | 0       | 20         | 20    |
| 22:00 - 23:00 | 0          | 6              | 0        | 0   | 0              | 2               | 0                       | 8     | 0       | 20         | 20    |
| 23:00 - 0:00  | 0          | 5              | 0        | 0   | 0              | 0               | 0                       | 5     | 0       | 0          | 0     |
| Sub Total     | 0          | 415            | 13       | 4   | 22             | 15              | 0                       | 469   | 3       | 620        | 623   |
| 0:00 - 1:00   | 0          | 1              | 0        | 0   | 1              | 1               | 0                       | 3     | 0       | 10         | 10    |
| 1:00 - 2:00   | 0          | 1              | 0        | 0   | 0              | 0               | 0                       | 1     | 0       | 0          | 0     |
| 2:00 - 3:00   | 0          | 0              | 0        | 0   | 0              | 0               | 0                       | 0     | 0       | 0          | 0     |
| 3:00 - 4:00   | 0          | 0              | 0        | 0   | 0              | 0               | 0                       | 0     | 0       | 0          | 0     |
| 4:00 - 5:00   | 0          | 0              | 0        | 0   | 0              | 0               | 0                       | 0     | 0       | 0          | 0     |
| 5:00 - 6:00   | 0          | 6              | 0        | 0   | 1              | 1               | 0                       | 8     | 0       | 10         | 10    |
| 6:00 - 7:00   | 0          | 71             | 8        | 1   | 3              | 1               | 0                       | 84    | 1       | 70         | 71    |
| 7:00 - 8:00   | 0          | 85             | 2        | 0   | 2              | 3               | 0                       | 92    | 2       | 40         | 42    |
| 8:00 - 9:00   | 1          | 54             | 4        | 0   | 3              | 5               | 0                       | 67    | 0       | 30         | 30    |
| 9:00 - 10:00  | 0          | 51             | 5        | 0   | 3              | 2               | 0                       | 61    | 1       | 30         | 31    |
| 10:00 - 11:00 | 1          | 58             | 1        | 1   | 5              | 3               | 0                       | 69    | 0       | 60         | 60    |
| 11:00 - 12:00 | 1          | 62             | 1        | 1   | 2              | 0               | 1                       | 68    | 0       | 30         | 30    |
| Sub Total     | 3          | 389            | 21       | 3   | 20             | 16              | 1                       | 453   | 4       | 280        | 284   |
| Grand Total   | 3          | 804            | 34       | 7   | 42             | 31              | 1                       | 922   | 7       | 900        | 907   |

Date: 28, November, 2002 (Thursday)

Location: Doboj Railway Station

| Time          | Motorcycle | Passenger Cars | Buses    |                         | Trucks         |                 | Tractor, Roadroller etc | Total | Bicycle | Pedestrian | Total |
|---------------|------------|----------------|----------|-------------------------|----------------|-----------------|-------------------------|-------|---------|------------|-------|
|               |            |                | Mini Bus | Medium Bus over 25 pass | 2axles, 3axles | 4 or more axles |                         |       |         |            |       |
| 12:00 - 13:00 | 0          | 65             | 0        | 1                       | 5              | 2               | 0                       | 73    | 1       | 160        | 161   |
| 13:00 - 14:00 | 0          | 67             | 0        | 0                       | 2              | 3               | 0                       | 72    | 0       | 110        | 110   |
| 14:00 - 15:00 | 0          | 50             | 0        | 3                       | 2              | 3               | 0                       | 58    | 0       | 40         | 40    |
| 15:00 - 16:00 | 0          | 77             | 0        | 1                       | 2              | 1               | 0                       | 81    | 0       | 160        | 160   |
| 16:00 - 17:00 | 0          | 33             | 0        | 0                       | 7              | 0               | 0                       | 40    | 2       | 30         | 32    |
| 17:00 - 18:00 | 0          | 25             | 0        | 0                       | 1              | 0               | 0                       | 26    | 0       | 10         | 10    |
| 18:00 - 19:00 | 0          | 63             | 0        | 0                       | 2              | 0               | 0                       | 65    | 0       | 140        | 140   |
| 19:00 - 20:00 | 0          | 50             | 0        | 1                       | 0              | 4               | 0                       | 55    | 0       | 120        | 120   |
| 20:00 - 21:00 | 0          | 22             | 0        | 0                       | 0              | 3               | 0                       | 25    | 0       | 20         | 20    |
| 21:00 - 22:00 | 0          | 25             | 0        | 0                       | 0              | 0               | 0                       | 25    | 0       | 10         | 10    |
| 22:00 - 23:00 | 0          | 11             | 0        | 0                       | 0              | 4               | 0                       | 15    | 0       | 10         | 10    |
| 23:00 - 0:00  | 0          | 8              | 0        | 0                       | 0              | 0               | 0                       | 8     | 0       | 0          | 0     |
| Sub Total     | 0          | 496            | 0        | 6                       | 21             | 20              | 0                       | 543   | 3       | 810        | 813   |
| 0:00 - 1:00   | 0          | 0              | 0        | 0                       | 0              | 0               | 0                       | 0     | 0       | 0          | 0     |
| 1:00 - 2:00   | 0          | 1              | 0        | 0                       | 0              | 1               | 0                       | 2     | 0       | 0          | 0     |
| 2:00 - 3:00   | 0          | 0              | 0        | 0                       | 0              | 0               | 0                       | 0     | 0       | 0          | 0     |
| 3:00 - 4:00   | 0          | 2              | 0        | 0                       | 1              | 1               | 0                       | 4     | 1       | 3          | 4     |
| 4:00 - 5:00   | 0          | 0              | 0        | 0                       | 0              | 0               | 0                       | 0     | 0       | 0          | 0     |
| 5:00 - 6:00   | 0          | 4              | 0        | 0                       | 0              | 2               | 0                       | 6     | 0       | 20         | 20    |
| 6:00 - 7:00   | 0          | 71             | 1        | 2                       | 6              | 0               | 0                       | 80    | 1       | 20         | 21    |
| 7:00 - 8:00   | 0          | 92             | 1        | 0                       | 2              | 1               | 0                       | 96    | 1       | 50         | 51    |
| 8:00 - 9:00   | 0          | 64             | 3        | 0                       | 5              | 5               | 0                       | 77    | 1       | 30         | 31    |
| 9:00 - 10:00  | 0          | 69             | 0        | 0                       | 3              | 6               | 0                       | 78    | 0       | 30         | 30    |
| 10:00 - 11:00 | 0          | 56             | 0        | 0                       | 7              | 2               | 0                       | 65    | 1       | 40         | 41    |
| 11:00 - 12:00 | 1          | 63             | 0        | 2                       | 4              | 0               | 0                       | 70    | 3       | 50         | 53    |
| Sub Total     | 1          | 422            | 5        | 4                       | 28             | 18              | 0                       | 478   | 8       | 243        | 251   |
| Grand Total   | 1          | 918            | 5        | 10                      | 49             | 38              | 0                       | 1021  | 11      | 1053       | 1064  |

## (4) モドリッチャ橋

Date: 27, November, 2002 (Wednesday)

Location: Modorica Bridge

| Time          | Motorcycle | Passenger Cars | Buses    |                 | Trucks         |                 | Tractor, Roadroller etc | Total | Total of Each direction |             | Bicycle | Pedestrian | Total | Total of Each direction |             |
|---------------|------------|----------------|----------|-----------------|----------------|-----------------|-------------------------|-------|-------------------------|-------------|---------|------------|-------|-------------------------|-------------|
|               |            |                | Mini Bus | Medium Bus over | 2axles, 3axles | 4 or more axles |                         |       | To Doboj                | To Modorica |         |            |       | To Doboj                | To Modorica |
|               |            |                |          |                 |                |                 |                         |       |                         |             |         |            |       |                         |             |
| 12:00 - 13:00 | 2          | 495            | 0        | 17              | 51             | 34              | 7                       | 606   | 313                     | 293         | 24      | 13         | 37    | 16                      | 21          |
| 13:00 - 14:00 | 1          | 410            | 0        | 9               | 59             | 38              | 3                       | 520   | 284                     | 236         | 11      | 34         | 45    | 27                      | 18          |
| 14:00 - 15:00 | 1          | 441            | 0        | 13              | 40             | 44              | 11                      | 550   | 290                     | 260         | 8       | 21         | 29    | 16                      | 13          |
| 15:00 - 16:00 | 1          | 463            | 0        | 7               | 45             | 50              | 6                       | 572   | 303                     | 269         | 16      | 20         | 36    | 8                       | 28          |
| 16:00 - 17:00 | 0          | 379            | 0        | 6               | 41             | 55              | 5                       | 486   | 259                     | 227         | 14      | 12         | 26    | 10                      | 16          |
| 17:00 - 18:00 | 3          | 362            | 0        | 11              | 22             | 45              | 0                       | 443   | 214                     | 229         | 9       | 18         | 27    | 10                      | 17          |
| 18:00 - 19:00 | 0          | 247            | 0        | 10              | 13             | 31              | 0                       | 301   | 130                     | 171         | 1       | 17         | 18    | 11                      | 7           |
| 19:00 - 20:00 | 0          | 220            | 0        | 7               | 24             | 46              | 1                       | 298   | 141                     | 157         | 1       | 7          | 8     | 5                       | 3           |
| 20:00 - 21:00 | 0          | 154            | 0        | 5               | 11             | 44              | 0                       | 214   | 124                     | 90          | 3       | 1          | 4     | 3                       | 1           |
| 21:00 - 22:00 | 0          | 161            | 0        | 6               | 9              | 40              | 0                       | 216   | 104                     | 112         | 1       | 0          | 1     | 1                       | 0           |
| 22:00 - 23:00 | 0          | 87             | 0        | 3               | 5              | 23              | 0                       | 118   | 63                      | 55          | 0       | 11         | 11    | 1                       | 10          |
| 23:00 - 0:00  | 0          | 88             | 0        | 10              | 7              | 29              | 0                       | 134   | 56                      | 78          | 0       | 5          | 5     | 0                       | 5           |
| Sub Total     | 8          | 3507           | 0        | 104             | 327            | 479             | 33                      | 4458  | 2281                    | 2177        | 88      | 159        | 247   | 108                     | 139         |
| 0:00 - 1:00   | 0          | 63             | 0        | 6               | 3              | 11              | 0                       | 83    | 35                      | 48          | 0       | 0          | 0     | 0                       | 0           |
| 1:00 - 2:00   | 0          | 17             | 0        | 1               | 2              | 34              | 0                       | 54    | 34                      | 20          | 0       | 0          | 0     | 0                       | 0           |
| 2:00 - 3:00   | 0          | 18             | 0        | 5               | 7              | 1               | 0                       | 31    | 21                      | 10          | 0       | 0          | 0     | 0                       | 0           |
| 3:00 - 4:00   | 0          | 7              | 0        | 6               | 4              | 3               | 0                       | 20    | 12                      | 8           | 0       | 1          | 1     | 0                       | 1           |
| 4:00 - 5:00   | 0          | 33             | 0        | 2               | 10             | 8               | 0                       | 53    | 25                      | 28          | 0       | 0          | 0     | 0                       | 0           |
| 5:00 - 6:00   | 0          | 68             | 0        | 2               | 10             | 8               | 0                       | 88    | 51                      | 37          | 0       | 0          | 0     | 0                       | 0           |
| 6:00 - 7:00   | 0          | 210            | 0        | 8               | 20             | 10              | 0                       | 248   | 122                     | 126         | 3       | 6          | 9     | 2                       | 7           |
| 7:00 - 8:00   | 1          | 431            | 0        | 2               | 35             | 28              | 6                       | 503   | 245                     | 258         | 6       | 5          | 11    | 9                       | 2           |
| 8:00 - 9:00   | 1          | 423            | 0        | 7               | 34             | 36              | 8                       | 509   | 251                     | 258         | 7       | 9          | 16    | 10                      | 6           |
| 9:00 - 10:00  | 2          | 414            | 0        | 3               | 38             | 37              | 7                       | 501   | 271                     | 230         | 12      | 8          | 20    | 9                       | 11          |
| 10:00 - 11:00 | 2          | 334            | 0        | 7               | 24             | 31              | 4                       | 402   | 210                     | 192         | 11      | 6          | 17    | 9                       | 8           |
| 11:00 - 12:00 | 2          | 490            | 0        | 10              | 36             | 28              | 7                       | 573   | 306                     | 267         | 6       | 4          | 10    | 7                       | 3           |
| Sub Total     | 8          | 2508           | 0        | 59              | 223            | 235             | 32                      | 3065  | 1583                    | 1482        | 45      | 39         | 84    | 46                      | 38          |
| Grand Total   | 16         | 6015           | 0        | 163             | 550            | 714             | 65                      | 7523  | 3864                    | 3659        | 133     | 198        | 331   | 154                     | 177         |

Date: 28, November, 2002 (Thursday)

Location: Modorica Bridge

| Time          | Motorcycle | Passenger Cars | Buses    |                 | Trucks         |                 | Tractor, Roadroller etc | Total | Total of Each direction |             | Bicycle | Pedestrian | Total | Total of Each direction |             |
|---------------|------------|----------------|----------|-----------------|----------------|-----------------|-------------------------|-------|-------------------------|-------------|---------|------------|-------|-------------------------|-------------|
|               |            |                | Mini Bus | Medium Bus over | 2axles, 3axles | 4 or more axles |                         |       | To Doboj                | To Modorica |         |            |       | To Doboj                | To Modorica |
|               |            |                |          |                 |                |                 |                         |       |                         |             |         |            |       |                         |             |
| 12:00 - 13:00 | 0          | 536            | 0        | 18              | 45             | 34              | 7                       | 640   | 325                     | 315         | 12      | 18         | 30    | 17                      | 13          |
| 13:00 - 14:00 | 0          | 505            | 0        | 13              | 46             | 42              | 3                       | 609   | 309                     | 300         | 13      | 17         | 30    | 17                      | 13          |
| 14:00 - 15:00 | 1          | 445            | 0        | 11              | 45             | 36              | 5                       | 543   | 260                     | 283         | 11      | 9          | 20    | 8                       | 12          |
| 15:00 - 16:00 | 1          | 442            | 0        | 7               | 42             | 26              | 4                       | 522   | 276                     | 246         | 5       | 9          | 14    | 10                      | 4           |
| 16:00 - 17:00 | 3          | 439            | 0        | 4               | 40             | 35              | 1                       | 522   | 274                     | 248         | 10      | 15         | 25    | 10                      | 15          |
| 17:00 - 18:00 | 0          | 355            | 0        | 8               | 28             | 42              | 1                       | 434   | 215                     | 219         | 10      | 4          | 14    | 10                      | 4           |
| 18:00 - 19:00 | 1          | 276            | 0        | 11              | 15             | 20              | 3                       | 326   | 162                     | 164         | 2       | 5          | 7     | 1                       | 6           |
| 19:00 - 20:00 | 0          | 184            | 0        | 6               | 14             | 36              | 0                       | 240   | 98                      | 142         | 0       | 0          | 0     | 0                       | 0           |
| 20:00 - 21:00 | 0          | 166            | 0        | 3               | 14             | 35              | 0                       | 218   | 122                     | 96          | 0       | 1          | 1     | 1                       | 0           |
| 21:00 - 22:00 | 0          | 109            | 0        | 3               | 10             | 38              | 0                       | 160   | 106                     | 54          | 7       | 2          | 9     | 2                       | 7           |
| 22:00 - 23:00 | 1          | 85             | 0        | 12              | 9              | 22              | 0                       | 129   | 62                      | 67          | 0       | 4          | 4     | 1                       | 3           |
| 23:00 - 0:00  | 0          | 69             | 0        | 4               | 10             | 12              | 0                       | 95    | 52                      | 43          | 0       | 0          | 0     | 0                       | 0           |
| Sub Total     | 7          | 3611           | 0        | 100             | 318            | 378             | 24                      | 4438  | 2261                    | 2177        | 70      | 84         | 154   | 77                      | 77          |
| 0:00 - 1:00   | 0          | 34             | 0        | 3               | 4              | 22              | 0                       | 63    | 37                      | 26          | 0       | 0          | 0     | 0                       | 0           |
| 1:00 - 2:00   | 0          | 23             | 0        | 4               | 7              | 45              | 0                       | 79    | 48                      | 31          | 0       | 1          | 1     | 1                       | 0           |
| 2:00 - 3:00   | 0          | 11             | 0        | 4               | 11             | 5               | 0                       | 31    | 21                      | 10          | 0       | 0          | 0     | 0                       | 0           |
| 3:00 - 4:00   | 0          | 12             | 0        | 5               | 5              | 2               | 0                       | 24    | 14                      | 10          | 0       | 0          | 0     | 0                       | 0           |
| 4:00 - 5:00   | 0          | 36             | 0        | 2               | 13             | 8               | 0                       | 59    | 34                      | 25          | 0       | 2          | 2     | 0                       | 2           |
| 5:00 - 6:00   | 0          | 74             | 0        | 2               | 14             | 13              | 0                       | 103   | 66                      | 37          | 0       | 1          | 1     | 1                       | 0           |
| 6:00 - 7:00   | 2          | 242            | 0        | 9               | 28             | 14              | 0                       | 295   | 170                     | 125         | 1       | 9          | 10    | 5                       | 5           |
| 7:00 - 8:00   | 0          | 432            | 0        | 3               | 34             | 38              | 7                       | 514   | 272                     | 242         | 2       | 11         | 13    | 9                       | 4           |
| 8:00 - 9:00   | 1          | 459            | 0        | 9               | 28             | 50              | 7                       | 554   | 260                     | 294         | 7       | 13         | 20    | 10                      | 10          |
| 9:00 - 10:00  | 4          | 388            | 0        | 4               | 40             | 47              | 2                       | 485   | 245                     | 240         | 1       | 6          | 7     | 2                       | 5           |
| 10:00 - 11:00 | 0          | 399            | 0        | 6               | 18             | 35              | 4                       | 462   | 237                     | 225         | 6       | 11         | 17    | 7                       | 10          |
| 11:00 - 12:00 | 2          | 517            | 0        | 8               | 38             | 34              | 5                       | 604   | 314                     | 290         | 5       | 12         | 17    | 6                       | 11          |
| Sub Total     | 9          | 2627           | 0        | 59              | 240            | 313             | 25                      | 3273  | 1718                    | 1555        | 22      | 66         | 88    | 41                      | 47          |
| Grand Total   | 16         | 6238           | 0        | 159             | 558            | 691             | 49                      | 7711  | 3979                    | 3732        | 92      | 150        | 242   | 118                     | 124         |

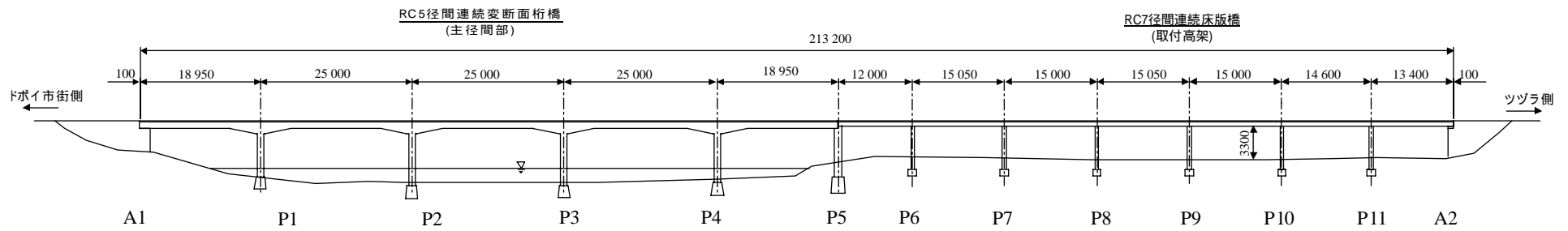
資料8-4 既設橋梁損傷調査

(1) ドボイ橋

|        |                     | ドボイ橋  |   |  |
|--------|---------------------|---|---|--|
| 橋梁諸元   | 橋梁形式                | RC5径間連続T桁橋 + RC7径間連続主版桁橋  |   |  |
|        | 橋長                  | 213,200   |   |  |
|        | 支間長                 | (18,950+3@25,000+18,950)+(12,000+5@15,000+14,700+13,400)  |   |  |
|        | 幅員                  | 全幅  | 13,900  |  |
|        |                     | 車道  | 9,000   |  |
|        |                     | 歩道  | 2,250(有効幅員:2,050) × 2                             |  |
|        | 橋台                  | 逆T式橋台 (推定)  |   |  |
| 橋脚     | 河川部：壁式橋脚 高架部：パイルベント |   |   |  |
| 基礎     | 河川部：不明 高架部：杭と推定     |   |   |  |
| 損傷状況   | 床版                  | <p>・ RC5径間連続T桁橋は中間床版の中央付近に複数の大きな曲げひび割れが発生し、多くの遊離石灰が見られる。右岸側径間ではコンクリートの剥落があり、鉄筋が露出し全体的に発錆している。張出床版は、約20～50cm間隔で規則的にひび割れが発生し、遊離石灰が見られる。</p> <p>・ RC7径間連続床版橋は、無数にひび割れが発生し、床版下面の約30～40%が遊離石灰で白くなっている。ひび割れに沿った遊離石灰は幾つものつららを成し、水滴が落ちている。また、鉄筋が腐食しコンクリートが剥落している箇所が多く見受けられる</p> |   |  |
|        | 主桁                  | <p>・ RC5径間連続T桁橋はひび割れの発生が少ないものの、フランジ下面のコンクリートの剥落駆け落ちが見られる。掛け違い部の主桁では支承上に圧壊したと思われる欠け落ちがある。主桁には、施工不良によるジャンカが多く今後剥落・欠け落ちが進行するものと思われる。</p> <p>・ RC7径間連続床版橋は、支間中央付近で重量を軽減するため桁構造になっている。桁の至る所でコンクリートが剥落し、鉄筋が形状をと留めない程発錆、断面欠損している。また、本橋中央下流側では鉄筋の間から常時水が落ち、みず道ができています。</p>      |   |  |
|        | 橋台                  | <p>・ 左岸側橋台は、上流側に沓座面から縦方向に伸びる大きなひび割れ（亀裂）があり、コンクリートの劣化が進んでいるものと思われる。また、沓座面には目的が不明であるが、補強（型枠が取り付けられた状態）されている。</p> <p>・ 右岸側橋台は、旧橋台前面に新しく橋台を構築している。この橋台は、ひび割れ、その他の損傷は見受けられない。</p>  |   |  |
|        | 橋脚                  | <p>・ 河川内橋脚は全体的に大きなひび割れが少ないものの、右岸側近くの橋台には遊離石灰を伴う縦方向のひび割れが発生、コンクリートの剥離があり、劣化が進んでいるものと思われる。掛け違い橋脚は水平方向のひび割れが発達し、打ち継目から遊離石灰が発生している。</p> <p>・ 高水敷の2柱式橋脚は大きな損傷は見受けられないが、柱頭部では床版の影響を受け鉄筋が腐食していると思われる箇所が2箇所ほどある。</p>  |   |  |
|        | 基礎                  | 損傷状況不明  |   |  |
| 試験     | シットハンマーによる圧縮試験      | 上部工   | 主桁：220kg/cm <sup>2</sup> 床版：230kg/cm <sup>2</sup> |  |
|        |                     | 下部工   | 掛け違い橋脚：177kg/cm <sup>2</sup>                      |  |
|        | 中性化試験               | 中性化深さ：5～10mm（右岸側第1径間主桁で実施）  |   |  |
| 耐久性評価* | ランク：E（危険な状態）        |   |   |  |

\*印は、東京都建設局橋梁の点検要領に準じて部材の損傷ランクをつけ、耐久性の評価を行ったものである。詳しくは橋梁調査票を参照。

# ドボイ橋 橋梁調査写真



D-01 ボスナ河を渡河する主径間部 (右岸より)



D-02 取付高架部全景



D-03 主径間 A1橋台の損傷状況



D-04 主径間部 桁損傷状況



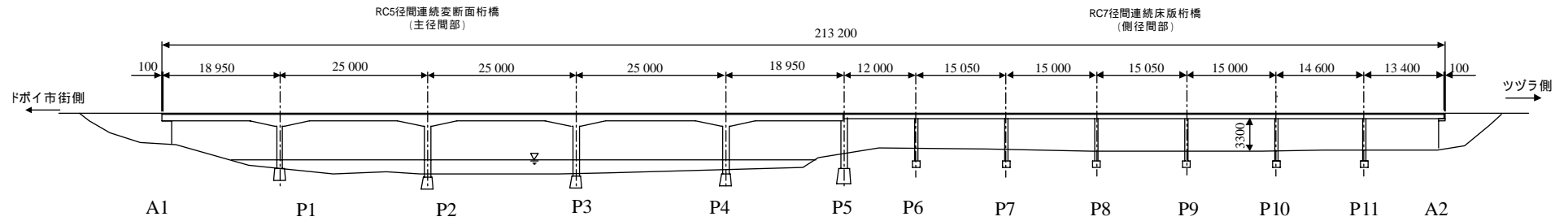
D-05 側径間部 床版損傷状況



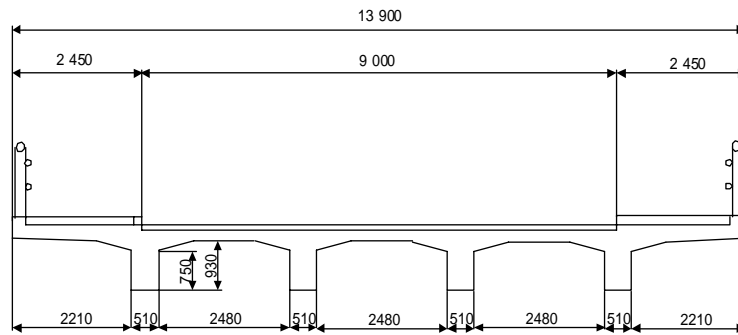
D-06 側径間部 激しく劣化した橋梁主要部材

# ドボイ橋 橋梁一般図

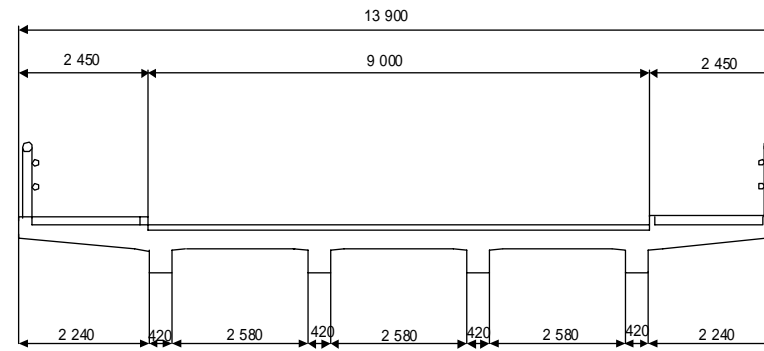
## 橋梁側面図



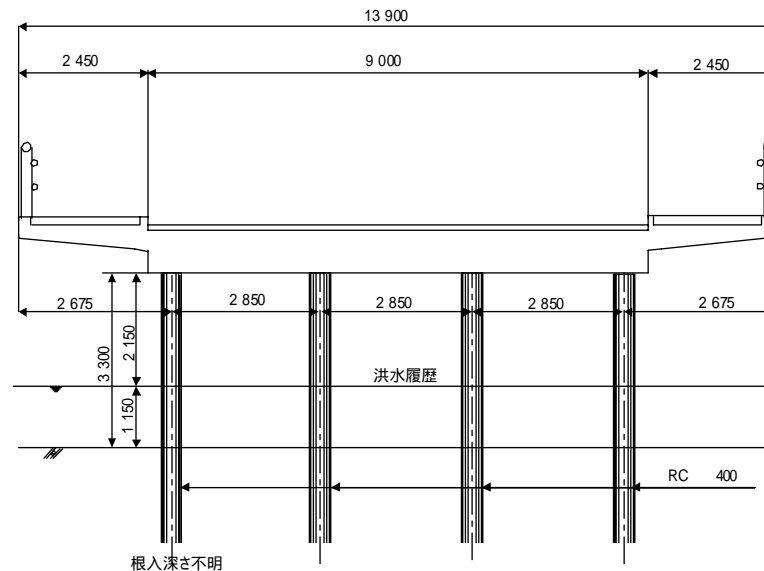
上部工横断面図(主径間部P5上)



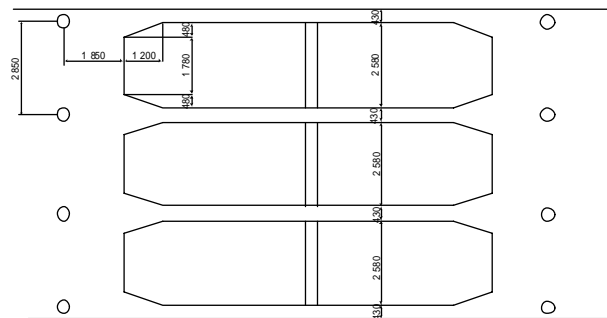
上部工断面図(側径間部 支間中央)



上部工断面図(側径間部 橋脚上)



床版平面図(側径間部)



(2) モドリッチャ橋

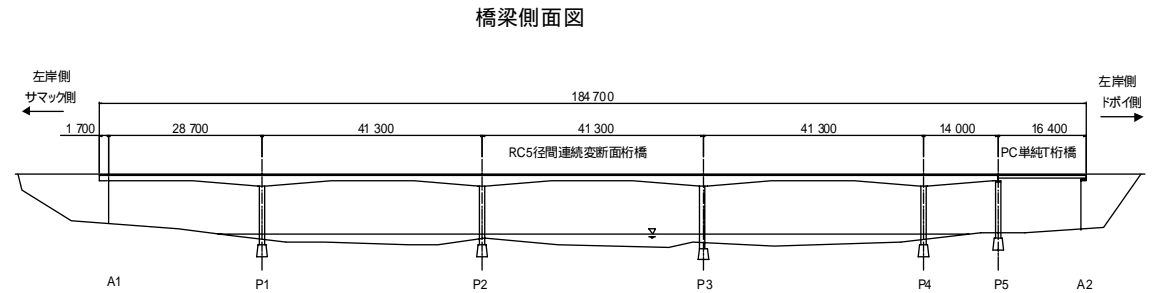
|        |                   | モドリッチャ橋  |  |  |
|--------|-------------------|--|--|--|
| 橋梁諸元   | 橋梁形式              | RC5径間連続T桁（2主桁）橋 + PC単純T桁橋  |  |  |
|        | 橋長                | 184,700  |  |  |
|        | 支間長               | (28,700+3@41,300+14,000)+16,400  |  |  |
|        | 幅員                | 全幅   | 9,400  |  |
|        |                   | 車道   | 6,000  |  |
|        |                   | 歩道   | 1,700(有効幅員:1,500) × 2  |  |
|        | 橋台                | 逆T式橋台  |  |  |
|        | 橋脚                | 河川部：壁式橋脚（石張り） 2柱式門型橋脚（新設）  |  |  |
| 基礎     | 橋台：直接基礎 橋脚：ケーソン基礎 |  |  |  |
| 損傷状況   | 床版                | <ul style="list-style-type: none"> <li>・ RC5径間連続T桁橋の中間床版は、1～3本の大きな曲げひび割れが見られる。横桁と主桁の交差部から45度方向にせん断ひび割れが発達している。左岸側から3径間目の床版には、直径約80cm程度の大きさで床版が抜け、補修した後がある。路面状況から床版が抜け落ちて不思議ではない箇所が数箇所見受けられる。張出床版には、20～100cm間隔で遊離石灰を伴う規則的なひび割れが発生している。</li> <li>・ PC単純T桁橋は、空爆で破壊されたRC5径間連続T桁橋の左岸端部建設された橋梁で特に問題はない。</li> </ul> |  |  |
|        | 主桁                | <ul style="list-style-type: none"> <li>・ RC5径間連続T桁橋は、中間支点付近に床版から繋がるひび割れが発達している。支間中央においても、50cm以下の間隔で曲げひび割れが発生している。主桁下面には、コンクリートの欠け落ち、鉄筋露出があるとともに、かぶり不足から鉄筋が腐食している箇所がある。</li> <li>・ PC単純T桁橋は、床版同様特に問題はない</li> </ul>  |  |  |
|        | 橋台                | <ul style="list-style-type: none"> <li>・ 左岸側橋台は、PC単純T桁橋施工時に桁高を合わせるため既設橋のパラペットを撤去し、既設橋台前面にRC構造で拡幅しており、ひび割れその他の損傷は見受けられない。</li> <li>・ 右岸側橋台は正面コンクリートが変色しているが、ひび割れ・欠け落ち等はない。しかし、側面に貼り付けた自然石に原因不明のひび割れが発生している。このひび割れは、両側面とも橋座面に繋がっている。</li> </ul>  |  |  |
|        | 橋脚                | <ul style="list-style-type: none"> <li>・ 壁式橋脚は自然石が周囲を覆っており、内部に異常がある場合、自然石の目地にひび割れが発生するものと考えられる。しかし、目地には何ら異常が認められなかった。また、自然石に覆われていない柱頭部のコンクリートは、ひび割れ・欠け落ち・変色等も認められなかった。</li> <li>・ 新設された2柱式門型橋脚はひび割れ・欠け落ち等がないものの、上流側梁下面にかぶり不足で鉄筋腐食が見られる。</li> </ul>   |  |  |
|        | 基礎                | 基礎形式は図面で確認。損傷状況は不明   |  |  |
| 試験     | シュミットハンマーによる圧縮試験  | 上部工  | 主桁：460kg/cm <sup>2</sup> 床版：460kg/cm <sup>2</sup>            |  |
|        |                   | 下部工  | 右岸側橋台：330kg/cm <sup>2</sup> 壁式橋脚：480kg/cm <sup>2</sup> （柱頭部） |  |
|        | 中性化試験             | 中性化深さ：1～10mm（左岸側橋台の残骸で実施）  |  |  |
| 耐久性評価* |                   | ランク：E（危険な状態）   |  |  |

\*印は、東京都建設局橋梁の点検要領に準じて部材の損傷ランクをつけ、耐久性の評価を行ったものである。詳しくは橋梁調査票を参照。

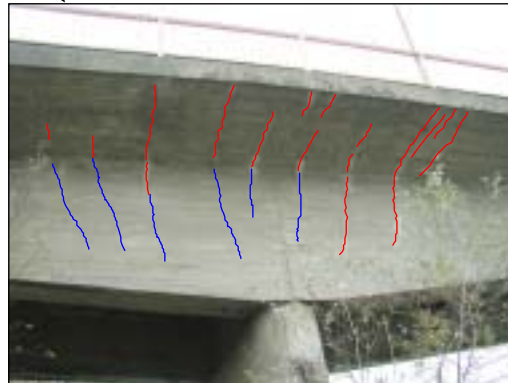
# モドリッチャ橋 橋梁調査写真



M-1 橋梁全景 (右岸下流側より)



M-2 主桁支間中央部に発生しているひび割れ



M-3 主桁P1橋脚部に発生しているひび割れ(下流側)



M-4 PCT桁部



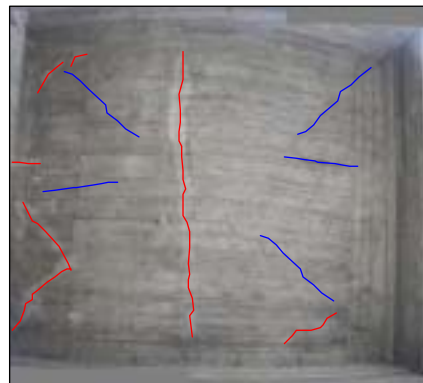
M-5 A1橋台



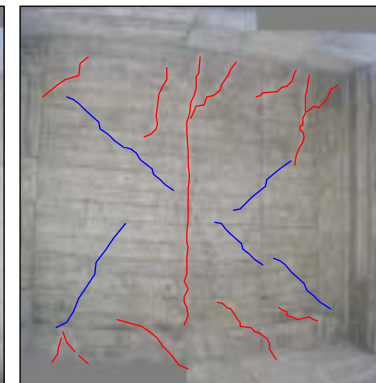
M-6 P1橋脚 自然石で被覆されている



M-7 横桁に発生しているひび割れ幅0.8mm



M-8 床版下面に発生しているひび割れ



遊離石灰を伴うひび割れ (Red line)

遊離石灰を伴わないひび割れ (Blue line)





## 資料 8-5 架橋地点の検討

### (1) ドボイ橋架橋位置の比較検討

資料 8-4 に記述したとおり、既存橋梁（旧橋）の補強による復旧は困難（工法・費用）である。現在の交通を担っている既存の 2 橋梁（旧橋およびベイリー構造の SFOR 仮橋）の機能を代替する新橋を建設することとし、架橋地点代替案を検討する。

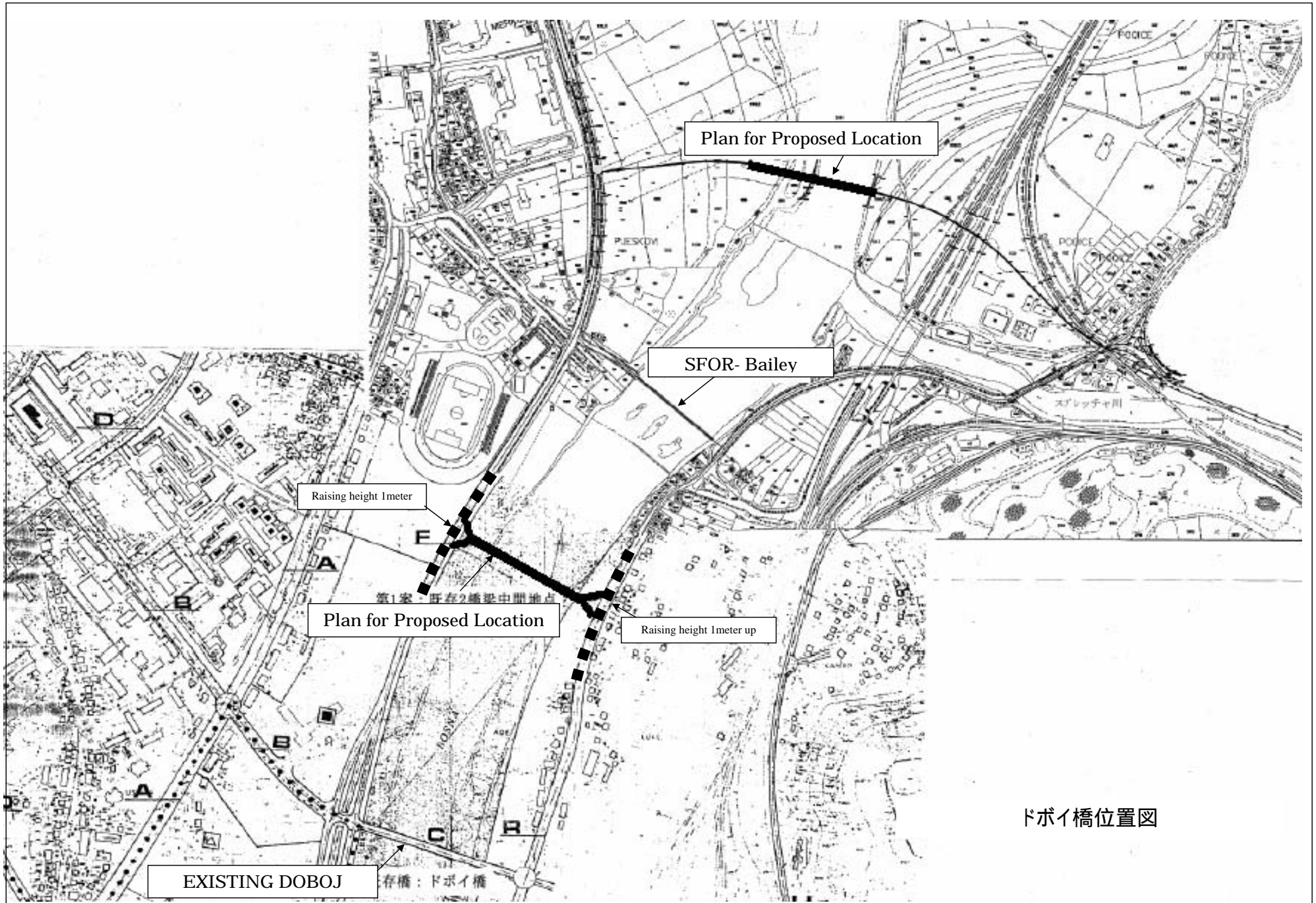
架橋地点第 1 案として、旧橋近傍および SFOR 仮橋近傍等を比較検討した結果、当該 2 橋梁の中間位置に橋梁を建設する案を検討する。

一方、架橋地点第 2 案として、11 月 18 日付の協議議事録に記されたように、「ス」共和国側は M4-3 路線のバイパス（現橋の約 1km 下流側）建設予定路線上に新橋を架けることを強く望んでいるため、バイパス上に橋梁を建設する案を検討する。

このような状況を踏まえて、本調査ではいくつかの前提のもとに先ず架橋位置（本文 図 3-3）の比較を実施した。架橋地点第 2 案（バイパス案）の詳細な位置は、「ス」共和国運輸通信省道路局により、複数のルート案を比較検討した結果から決められた。この過程で最も大きな決定要因は、土地取得の難易度であった。

架橋地点第 1 案の場合の橋梁規模は既存橋梁（旧橋）と同一幅員、架橋地点第 2 案では歩行者数の減少を考慮して歩道幅を既存橋梁よりも縮小した幅員とした。

比較検討の結果、次頁の表に示すようにバイパス案が無償資金協力事業として最適であるとの結論を得た。判断の大きな要素は、低廉な総事業費、M4-3 路線の幾何構造改良による交通流の改善と交通安全、都市計画との整合、市街地環境の改善である。



ドボイ橋位置図

### ドボイ橋架橋地点代替案の比較検討

|                    | 「架橋候補地1案」 - 既存橋とSFORの仮橋の中間地点での新設案  |   | 「架橋候補地2案」 - ボスナ川とスプレッチャ川の合流点下流側のバイパス計画線上での新設案   |   |
|--------------------|--|---|---|---|
| 前提条件               | 1) 既存橋とSFORの仮設橋の中間地点での新橋建設   |   | 1) 河川合流点下流のバイパス計画線上での新橋建設<br>2) バイパスと鉄道のアンダーパスの建設が必要  |   |
| 計画内容               | 1)   | (無償資金協力分)<br>- 新設橋梁の建設(橋長200m)<br>- 取付道路(交差点2箇所の設置)<br>- 護岸工<br>- 照明等付帯工                      | 1) (無償資金協力分)<br>- 新橋の建設(橋長200m)<br>- 取付道路(橋梁右岸100m、左岸50m、計150m)<br>- 護岸工<br>- 照明等付帯工                      |   |
|                    | 2)   | (「ス」共和国側負担分)<br>- 橋梁に接続する既存道路の嵩上げが必要<br>(嵩上げ高左岸側(E73)0.3m、右岸側(M4-3)1.2m)                      | 2) (「ス」共和国側負担分)<br>- 接続道路の建設(800m)<br>- 交差点設置(2箇所)<br>- 鉄道のアンダーパスの建設                                      |   |
| 橋梁タイプ              | - プレテンション方式PC2径間連続T桁橋+ポストテンション方式PC4径間連続I合成桁橋+プレテンション方式PC3径間連続T桁橋<br>- 径間割 : 16m x2+30.0m x4+16m x3=200m<br>- 総幅員 : 13.80m(既存橋梁と同一幅員)<br>- 下部工形式 : 壁式橋脚7基、逆T式橋台2基 |   | - ポストテンション方式PC5径間連続I合成桁橋<br>- 径間割 : 40mx5=200m<br>- 総幅員 : 12.20m(歩道幅員1.2mに縮小)<br>- 下部工形式 : 壁式橋脚4基、逆T式橋台2基 |   |
| 比較評価               |  |   |   |   |
| -1 整備水準            |  | 通常の新設橋梁としての耐用年数を保証可能  |   | 通常の新設橋梁としての耐用年数を保証可能  |
| -2 接続道路            |  | 既存道路との交差点設置が必要<br>既存道路の嵩上げが必要<br>(嵩上げ高左岸側(E73)0.3m、右岸側(M4-3)1.2m)                             |   | 既存道路との交差点設置および接続道路の建設が必要  |
| -3 幹線道路整備水準        |  | 線形改良されず、市街地を通過するため走行速度(30~40km/h)の改善はされない   |   | 道路線形は、市街地を避けたバイパス計画であり設計速度(80km/h)の線形に改善される   |
| -4 交差流(長距離)        |  | 通過交通(ツツラへ/から) : 長距離交通流改善されず<br>ドボイ駅へ/から : 現況と同じ<br>ドボイ市へ/から : 現況と同じ                           |   | 通過交通(ツツラへ/から) : 長距離交通流改善される<br>ドボイ駅へ/から : 現況と同じ<br>ドボイ市へ/から : 改善される                           |
| -5 上部構造            |  | 駅利用の歩行者を考慮して歩道幅員を2mとした。<br>コンクリート橋であり、塗装の必要はない。   |   | 歩行者が駅前より、少ないので歩道幅員を1.2mとした。<br>コンクリート橋であり、塗装の必要はない。   |
| -6 用地取得の必要性        |  | 用地取得必要 2案に比べ面積小(約2,700m <sup>2</sup> )  |   | 用地取得必要 1案に比べ面積大(接続道路建設地約22,000m <sup>2</sup> )  |
| -7 左岸市街地の環境        |  | 交通量は現在とほぼ同様であり、環境は改善されない  |   | 通過交通がバイパスへ配分され、環境が大きく改善される  |
| -8 都市計画との整合        |  | ドボイ市が計画している都市計画との整合が図れない  |   | ドボイ市の都市計画に沿ったバイパス計画である  |
| -9 工期(実質)          |  | 24ヵ月(16ヶ月)  |   | 24ヶ月(16ヶ月)  |
| -10 無償資金協力分(建設工事費) | 1.14   | 橋梁建設費(上下部工)費=0.161x13.8mx200m=444百万円<br>橋面工・護岸工・照明 =42百万円<br>取付道路(交差点設置含む)=27百万円<br>合計 513百万円 | 1.00  | 橋梁建設費(上下部工)費=0.161x12.2mx200m=393百万円<br>橋面工・護岸工・照明 =37百万円<br>取付道路(交差点設置含む)=24百万円<br>合計 454百万円 |
| -11 ス側負担分          | 1.00   | 工事負担 : 既存道路の嵩上げ等 40百万円<br>用地取得費 : 22百万円(約2,700m <sup>2</sup> )                                | 1.68  | 工事負担 : 接続道路(バイパス建設)68百万円<br>用地取得費 : 36百万円(約22,000m <sup>2</sup> )                             |
| -12 総事業費           | 1.03   | 合計 575百万円   | 1.00  | 合計 558百万円   |
| 総合評価               |  |   |   |   |

## (2) モドリッチャ橋架橋位置の比較検討

モドリッチャ橋について「ス」共和国側は、ドボイ橋同様、前後の道路線形改良を目的としたバイパスを建設し、そのバイパス上での新橋の建設を希望している（バイパス案：本文 図 3-4）。しかしながら、基本設計調査で実施した既存橋梁の健全度調査の結果、既存橋脚を利用出来る可能性があり、その場合、（仮橋を含む迂回路建設 + 既存橋梁の上部工・橋台のみ新設）が既存橋梁復旧の一つの代替案になり得る（現橋復旧案）。

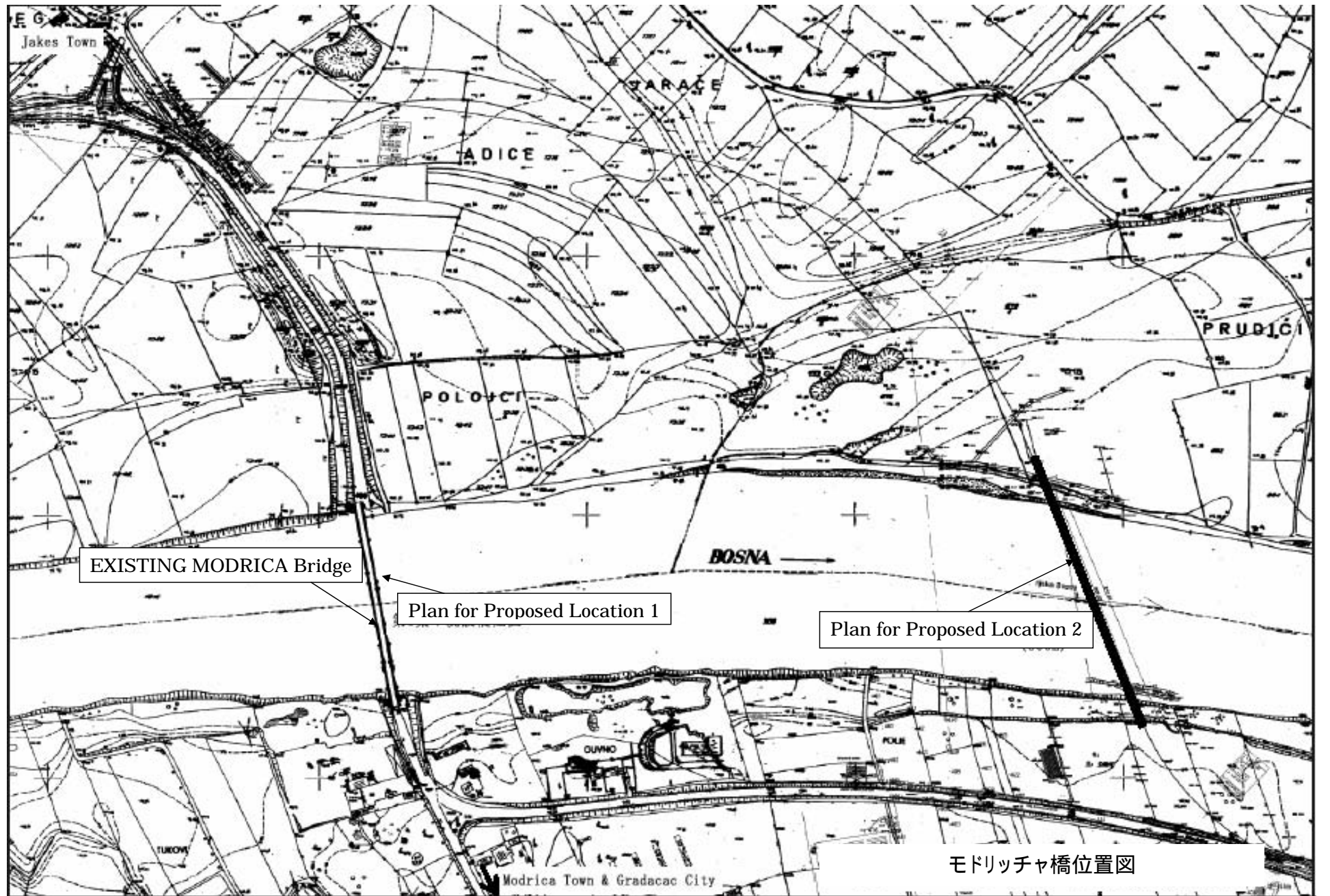
架橋地点第 1 案としては、現橋復旧案を対象として既存橋梁位置とする。架橋地点第 2 案としては、バイパス案を対象とする。

バイパスルートの詳細な位置は、ドボイ橋の場合と同様、「ス」共和国運輸通信省道路局が近傍での複数のルート案の比較検討の結果から決められた。ここでも土地取得の難易度が、その最適ルートを判定する最も大きな要因であった。

この両案の比較のポイントは、既存橋梁前後のクランク状の道路線型は「ス」共和国内を通過する欧州幹線道路 E-73 上での唯一の隘路であり、近々その改良（バイパス建設）を実施しなければならないことが明らかであること、および現橋復旧案の総事業費は、バイパス案より低額と想定されるものの、仮設工事である迂回路の建設に高額な費用を要することにある。さらに、この両案の実施の目的、実施後の施設の整備水準は同一ではなく、その意味ではこの両案は同じ目標における代替案ではない。両案の比較検討はこれらに留意しつつ行われた。

検討結果は次頁の表に示す通り、架橋地点第 2 案（バイパス案）が総合的には有利と判断され、基本設計調査団は架橋地点第 2 案を無償資金協力事業として実施すべきとした。

比較における両案の橋梁規模は、現地調査時に実測された交通量 7,500 台/日を担うに十分な幅員（往復 2 車線+歩道）とし、現橋復旧案での上部工は、現在の上部工より軽量でなければならないことから鋼桁構造とした。



EXISTING MODRICA Bridge

Plan for Proposed Location 1

Plan for Proposed Location 2

モドリッチャ橋位置図

### モドリッチャ橋架橋地点代替案の比較検討

|                       | 第1案「現橋復旧案」- 上部工改修案   | 第2案「バイパス案」- 新設案  |
|-----------------------|--|--|
| 前提条件                  | 1) 既存橋の改修計画<br>2) 安定計算・材料強度試験の結果、既存橋梁橋脚を再利用し、上部工および橋台を建設する。  | 1) バイパス計画線上での新橋建設<br>2) 道路線形が設計速度80km/hに改良される。   |
| 計画内容                  | 1) (無償資金協力分)<br>- 既存橋梁上部工の撤去 (29.5m+41.3m×3+29.5m=182.9m)<br>- 新規 鋼製上部工の架設(183m)<br>- 既存 橋台 2 基の撤去と新設, 既設 橋脚梁の改良<br>- 取付道路・護岸工・照明等付帯工等<br>2) (「ス」共和国側負担分)<br>- 迂回路の建設と撤去 (仮橋150mを含む) | 1) (無償資金協力分)<br>- 新橋の建設 (橋長240m)<br>- 取付道路(橋梁前後 右岸側100m, 左岸側 50m、計150m)<br>- 護岸工, 照明等付帯工<br>2) (「ス」共和国側負担分)<br>- 接続道路の建設(小橋梁建設・交差点 2カ所を含む) |
| 橋梁タイプ                 | - 鋼 5 径間連続非合成鋼桁橋<br>- 径間割 : 29.55m+41.3m×3+29.55m=183m<br>- 総幅員 : 12.20m<br>- 下部工形式 : 逆 T 式橋台2基、既設橋脚改築 (梁部)  | - ポストテンション方式 PC 6 径間連続 I 桁橋 (プレキャストコンクリート)<br>- 径間割 : 40m×6=240m<br>- 総幅員 : 12.20m<br>- 下部工形式 : 壁式橋脚5基、逆 T 式橋台2基                           |
| <b>比較評価</b>           |  |  |
| -1 整備水準               | 既存施設利用により、バイパス案より劣る  | 通常の新設橋梁としての耐用年数を保証可能   |
| -2 迂回路・接続道路           | 上部工建設中の迂回路・仮橋が必要   | 既存橋を迂回路として使用可能   |
| -3 幹線道路整備水準           | 線形改良されず<br>走行速度( 30 ~ 40 km/h )改良されず<br>交通マスタープランとの整合が図れない   | 設計速度 = 80km/hの線形に改良される<br>交通マスタープランとの整合が図れる  |
| -4 交差点                | 交差点改良されず   | 交差点改良により交差点での交通流は改善  |
| -5 上部工構造              | 既存上部工より軽量化を図れる鋼桁を採用<br>定期的な塗装が必要   | PC橋は、第1案の鋼桁より経済性に優れる<br>コンクリート構造の場合 塗装不要   |
| -6 用地取得の必要性           | 迂回路のための借地必要 (面積小)  | 用地取得を要す (約26,000m <sup>2</sup> )   |
| -7 工期 (実質)            | 10ヶ月   | 26ヵ月(18ヶ月)   |
| -8 無償資金協力分<br>(建設工事費) | 1.00<br>上部工費=0.113×12.2m×183m=252百万円、<br>上部工・橋台撤去費=20百万円 橋台 2 基=27百万円、<br>橋脚柱頭部撤去拡幅等 = 30百万円<br>橋面工・護岸工・照明 =45百万円<br>合計 374百万円   | 1.30<br>橋梁建設 (上下部) 費=0.150×12.2m×240m=439百万円、<br>取付道路 (交差点設置含む) =50百万円<br>合計 489百万円  |
| -9 ス側負担分              | 1.00<br>工事負担 : 迂回路建設撤去費=84百万円<br>用地取得費 : なし  | 1.81<br>工事負担 : 接続道路・小橋梁建設費=109百万円<br>用地取得費 : 43百万円 (約 26,000m <sup>2</sup> )   |
| -10 総事業費 (設監費除く)      | 1.00<br>合計 374百万円  | 1.71<br>合計 641百万円  |
| 総合評価                  | 24ヵ月 (16ヶ月)  | 24ヶ月 (16ヶ月)  |