

| M<br>A<br>R<br>K | S<br>I<br>Z<br>E | NO LGTH |    |    |    | K                   | M<br>A<br>R<br>K | S<br>I<br>Z<br>E | NO LGTH |    |    |                     | K              | M<br>A<br>R<br>K | S<br>I<br>Z<br>E | NO LGTH |    |                     |    | K   | M<br>A<br>R<br>K | S<br>I<br>Z<br>E | NO LGTH |                     |                |    | K  | M<br>A<br>R<br>K | S<br>I<br>Z<br>E | NO LGTH             |    |    |    | K  |    |    |    |    |    |   |
|------------------|------------------|---------|----|----|----|---------------------|------------------|------------------|---------|----|----|---------------------|----------------|------------------|------------------|---------|----|---------------------|----|-----|------------------|------------------|---------|---------------------|----------------|----|----|------------------|------------------|---------------------|----|----|----|----|----|----|----|----|----|---|
|                  |                  | ①       | FT | IN | FT |                     |                  |                  | IN      | ①  | FT | IN                  |                |                  |                  | FT      | IN | ①                   | FT |     |                  |                  | IN      | FT                  | IN             | ①  |    |                  |                  | FT                  | IN | FT | IN |    | ①  | FT | IN | FT | IN | ① |
| <b>9' X 6'</b>   |                  |         |    |    |    | 9' X 6' (CONTINUED) |                  |                  |         |    |    | 9' X 7' (CONTINUED) |                |                  |                  |         |    | 9' X 8' (CONTINUED) |    |     |                  |                  |         | 9' X 8' (CONTINUED) |                |    |    |                  |                  | 9' X 9' (CONTINUED) |    |    |    |    |    |    |    |    |    |   |
| A1               | 5                | 2       | 9  | 8  |    | S8                  | 5                | 2                | 6       | 4  |    | K5                  | 4              | 6                | 9                | 6       |    | E2                  | 5  | 2   | 20               | 2                | 15      | 2                   | X3             | 4  | 1  | 3                | 7                | 1                   | 7  | M2 | 4  | 35 | 4  | 9  |    |    |    |   |
| A2               | 5                | 2       | 12 | 11 |    | S9                  | 5                | 2                | 7       | 0  |    | M1                  | 4              | 1                | 2                | 5       |    | F                   | 4  | 15  | 1                | 5                | 0       | 6                   | X4             | 4  | 1  | 4                | 1                | 1                   | 10 | N1 | 4  | 8  | 11 | 6  |    |    |    |   |
| B1               | 5                | 4       | 3  | 0  |    | S10                 | 5                | 2                | 7       | 8  |    | M2                  | 4              | 31               | 3                | 9       |    | G1                  | 4  | 1   | 14               | 5                |         |                     | X5             | 4  | 1  | 4                | 5                | 2                   | 0  | N2 | 4  | 5  | 22 | 2  |    |    |    |   |
| B2               | 5                | 4       | 3  | 9  |    | S11                 | 5                | 2                | 8       | 0  |    | N1                  | 4              | 7                | 9                | 6       |    | G2                  | 4  | 2   | 16               | 4                |         |                     | X6             | 4  | 1  | 4                | 11               | 2                   | 3  | N3 | 4  | 3  | 24 | 8  |    |    |    |   |
| B3               | 5                | 4       | 4  | 6  |    | T1                  | 5                | 2                | 2       | 0  |    | N2                  | 4              | 5                | 19               | 10      |    | G3                  | 4  | 2   | 18               | 2                |         |                     | Z              | 4  | 2  | 8                | 8                | 7                   | 8  | P  | 7  | 37 | 7  | 3  | 5  | 0  |    |   |
| B4               | 5                | 4       | 5  | 4  |    | T2                  | 5                | 2                | 3       | 5  |    | N3                  | 4              | 2                | 21               | 10      |    | G4                  | 4  | 2   | 20               | 2                |         |                     |                |    |    |                  |                  |                     | Q  | 5  | 5  | 10 | 2  |    |    |    |    |   |
| B5               | 5                | 4       | 6  | 1  |    | T3                  | 5                | 2                | 4       | 10 |    | P                   | 5              | 32               | 5                | 9       | 4  | 0                   | G5 | 4   | 2                | 22               | 1       |                     |                |    |    |                  |                  |                     | R  | 5  | 11 | 4  | 1  |    |    |    |    |   |
| B6               | 5                | 4       | 6  | 10 |    | T4                  | 5                | 2                | 6       | 3  |    | Q                   | 5              | 5                | 10               | 2       |    | G6                  | 4  | 3   | 24               | 0                |         |                     | <b>9' X 9'</b> |    |    |                  |                  |                     | S1 | 5  | 2  | 1  | 5  |    |    |    |    |   |
| B7               | 5                | 18      | 7  | 3  |    | T5                  | 5                | 2                | 7       | 8  |    | R                   | 5              | 11               | 3                | 7       |    | H                   | 4  | 13  | 13               | 2                | 11      | 2                   |                |    |    |                  |                  |                     | S2 | 5  | 2  | 2  | 1  |    |    |    |    |   |
| C1               | 4                | 2       | 9  | 6  |    | T6                  | 5                | 2                | 9       | 1  |    | S1                  | 5              | 2                | 1                | 5       |    | J1                  | 5  | 4   | 4                | 0                |         |                     | A1             | 5  | 2  | 13               | 1                |                     |    | S3 | 5  | 2  | 2  | 9  |    |    |    |   |
| C2               | 4                | 2       | 12 | 2  |    | T7                  | 5                | 2                | 10      | 6  |    | S2                  | 5              | 2                | 2                | 1       |    | J2                  | 5  | 4   | 5                | 1                |         |                     | A2             | 5  | 2  | 17               | 6                |                     |    | S4 | 5  | 2  | 3  | 6  |    |    |    |   |
| C3               | 4                | 2       | 14 | 9  |    | T8                  | 5                | 2                | 11      | 2  |    | S3                  | 5              | 2                | 2                | 9       |    | J3                  | 5  | 4   | 6                | 2                |         |                     | B1             | 5  | 4  | 4                | 6                |                     |    | S5 | 5  | 2  | 4  | 2  |    |    |    |   |
| C4               | 4                | 2       | 17 | 3  |    |                     |                  |                  |         |    |    | S4                  | 5              | 2                | 3                | 6       |    | J4                  | 5  | 4   | 7                | 3                |         |                     | B2             | 5  | 4  | 5                | 3                |                     |    | S6 | 5  | 2  | 4  | 11 |    |    |    |   |
| C5               | 4                | 2       | 19 | 11 |    |                     |                  |                  |         |    |    | S5                  | 5              | 2                | 4                | 2       |    | J5                  | 5  | 4   | 8                | 4                |         |                     | B3             | 5  | 4  | 6                | 0                |                     |    | S7 | 5  | 2  | 5  | 7  |    |    |    |   |
| C6               | 4                | 4       | 20 | 3  |    | <b>9' X 7'</b>      |                  |                  |         |    |    | S6                  | 5              | 2                | 4                | 11      |    | J6                  | 5  | 2   | 9                | 5                |         |                     | B4             | 5  | 4  | 6                | 9                |                     |    | S8 | 5  | 2  | 6  | 4  |    |    |    |   |
| E1               | 5                | 2       | 19 | 7  | 14 | 7                   | A1               | 5                | 2       | 10 | 10 |                     | S7             | 5                | 2                | 5       | 7  |                     | K1 | 4   | 2                | 1                | 1       |                     |                | B5 | 5  | 4                | 7                | 6                   |    |    | S9 | 5  | 2  | 7  | 0  |    |    |   |
| E2               | 5                | 2       | 20 | 2  | 15 | 2                   | A2               | 5                | 2       | 14 | 5  |                     | S8             | 5                | 2                | 6       | 4  |                     | K2 | 4   | 2                | 2                | 11      |                     |                | B6 | 5  | 4                | 8                | 3                   |    |    | T1 | 5  | 2  | 2  | 0  |    |    |   |
| F                | 4                | 15      | 1  | 5  | 0  | 6                   | B1               | 5                | 4       | 3  | 6  |                     | S9             | 5                | 2                | 7       | 0  |                     | K3 | 4   | 2                | 4                | 9       |                     |                | B7 | 5  | 4                | 9                | 0                   |    |    | T2 | 5  | 2  | 3  | 5  |    |    |   |
| G1               | 4                | 1       | 14 | 3  |    |                     | B2               | 5                | 4       | 4  | 3  |                     | S10            | 5                | 2                | 7       | 8  |                     | K4 | 5   | 2                | 6                | 8       |                     |                | B8 | 5  | 4                | 9                | 9                   |    |    | T3 | 5  | 2  | 4  | 10 |    |    |   |
| G2               | 4                | 2       | 16 | 3  |    |                     | B3               | 5                | 4       | 5  | 0  |                     | T1             | 5                | 2                | 2       | 0  |                     | K5 | 4   | 2                | 8                | 6       |                     |                | B9 | 5  | 18               | 10               | 3                   |    |    | T4 | 5  | 2  | 6  | 3  |    |    |   |
| G3               | 4                | 2       | 18 | 2  |    |                     | B4               | 5                | 4       | 5  | 9  |                     | T2             | 5                | 2                | 3       | 5  |                     | K6 | 4   | 2                | 10               | 4       |                     |                | C1 | 4  | 2                | 9                | 8                   |    |    | T5 | 5  | 2  | 7  | 8  |    |    |   |
| G4               | 4                | 2       | 20 | 1  |    |                     | B5               | 5                | 4       | 6  | 7  |                     | T3             | 5                | 2                | 4       | 10 |                     | M1 | 4   | 1                | 3                | 0       |                     |                | C2 | 4  | 2                | 12               | 3                   |    |    | T6 | 5  | 2  | 9  | 1  |    |    |   |
| G5               | 4                | 3       | 22 | 0  |    |                     | B6               | 5                | 4       | 7  | 4  |                     | T4             | 5                | 2                | 6       | 3  |                     | M2 | 4   | 33               | 4                | 9       |                     |                | C3 | 4  | 2                | 15               | 0                   |    |    | T7 | 5  | 2  | 10 | 6  |    |    |   |
| H                | 4                | 12      | 11 | 4  | 9  | 2                   | B7               | 5                | 4       | 8  | 1  |                     | T5             | 5                | 2                | 7       | 8  |                     | N1 | 4   | 8                | 10               | 6       |                     |                | C4 | 4  | 2                | 17               | 6                   |    |    | T8 | 5  | 2  | 11 | 2  |    |    |   |
| J1               | 5                | 4       | 3  | 1  |    |                     | B8               | 5                | 16      | 8  | 3  |                     | T6             | 5                | 2                | 9       | 1  |                     | N2 | 4   | 5                | 20               | 10      |                     |                | C5 | 4  | 2                | 20               | 3                   |    |    | X1 | 4  | 1  | 2  | 9  | 1  | 2  |   |
| J2               | 5                | 4       | 4  | 2  |    |                     | C1               | 4                | 2       | 9  | 8  |                     | T7             | 5                | 2                | 10      | 6  |                     | N3 | 4   | 3                | 23               | 3       |                     |                | C6 | 4  | 2                | 22               | 10                  |    |    | X2 | 4  | 1  | 3  | 1  | 1  | 4  |   |
| J3               | 5                | 4       | 5  | 3  |    |                     | C2               | 4                | 2       | 12 | 3  |                     | T8             | 5                | 2                | 11      | 2  |                     | P  | 6   | 34               | 6                | 9       | 4                   | 6              |    | C7 | 4                | 8                | 24                  | 6  |    |    | X3 | 4  | 1  | 3  | 5  | 1  | 6 |
| J4               | 5                | 4       | 6  | 4  |    |                     | C3               | 4                | 2       | 14 | 11 |                     |                |                  |                  |         |    | Q                   | 5  | 5   | 10               | 2                |         |                     | E1             | 5  | 2  | 19               | 7                | 14                  | 7  | X4 | 4  | 1  | 3  | 11 | 1  | 9  |    |   |
| J5               | 5                | 2       | 7  | 5  |    |                     | C4               | 4                | 2       | 17 | 5  |                     |                |                  |                  |         |    | R                   | 5  | 11  | 4                | 1                |         |                     | E2             | 5  | 2  | 20               | 2                | 15                  | 2  | X5 | 4  | 1  | 4  | 3  | 1  | 11 |    |   |
| K1               | 4                | 2       | 1  | 0  |    |                     | C5               | 4                | 2       | 20 | 1  |                     | <b>9' X 8'</b> |                  |                  |         |    |                     | S1 | 5   | 2                | 1                | 5       |                     |                | F  | 4  | 15               | 1                | 5                   | 0  | 6  | X6 | 4  | 1  | 4  | 7  | 2  | 1  |   |
| K2               | 4                | 2       | 2  | 10 |    |                     | C6               | 4                | 6       | 21 | 8  |                     | A1             | 5                | 2                | 12      | 0  |                     | S2 | 5   | 2                | 2                | 1       |                     |                | G1 | 4  | 2                | 14               | 10                  |    |    | X7 | 4  | 1  | 4  | 11 | 2  | 3  |   |
| K3               | 4                | 2       | 4  | 8  |    |                     | E1               | 5                | 2       | 19 | 7  | 14                  | 7              | A2               | 5                | 2       | 16 | 0                   |    | S3  | 5                | 2                | 2       | 9                   |                |    | G2 | 4                | 2                | 16                  | 8  |    |    | Z  | 4  | 2  | 9  | 8  | 8  | 8 |
| K4               | 4                | 2       | 6  | 6  |    |                     | E2               | 5                | 2       | 20 | 2  | 15                  | 2              | B1               | 5                | 4       | 4  | 0                   |    | S4  | 5                | 2                | 3       | 6                   |                |    | G3 | 4                | 2                | 18                  | 6  |    |    |    |    |    |    |    |    |   |
| K5               | 4                | 2       | 8  | 3  |    |                     | F                | 4                | 15      | 1  | 5  | 0                   | 6              | B2               | 5                | 4       | 4  | 9                   |    | S5  | 5                | 2                | 4       | 2                   |                |    | G4 | 4                | 2                | 20                  | 3  |    |    |    |    |    |    |    |    |   |
| K6               | 4                | 4       | 8  | 6  |    |                     | G1               | 4                | 2       | 14 | 8  |                     |                | B3               | 5                | 4       | 4  | 9                   |    | S6  | 5                | 2                | 4       | 11                  |                |    | G5 | 4                | 2                | 22                  | 3  |    |    |    |    |    |    |    |    |   |
| M1               | 4                | 2       | 2  | 3  |    |                     | G2               | 4                | 2       | 16 | 6  |                     |                | B4               | 5                | 4       | 5  | 6                   |    | S7  | 5                | 2                | 5       | 7                   |                |    | G6 | 4                | 3                | 24                  | 0  |    |    |    |    |    |    |    |    |   |
| M2               | 4                | 28      | 3  | 9  |    |                     | G3               | 4                | 2       | 18 | 4  |                     |                | B5               | 5                | 4       | 6  | 3                   |    | S8  | 5                | 2                | 6       | 4                   |                |    | H  | 4                | 13               | 14                  | 10 | 12 | 2  |    |    |    |    |    |    |   |
| N1               | 4                | 7       | 8  | 6  |    |                     | G4               | 4                | 2       | 20 | 2  |                     |                | B6               | 5                | 4       | 7  | 0                   |    | S9  | 5                | 2                | 7       | 0                   |                |    | J1 | 5                | 4                | 4                   | 7  |    |    |    |    |    |    |    |    |   |
| N2               | 4                | 5       | 18 | 6  |    |                     | G5               | 4                | 3       | 22 | 0  |                     |                | B7               | 5                | 4       | 8  | 6                   |    | S10 | 5                | 2                | 7       | 8                   |                |    | J2 | 5                | 4                | 5                   | 7  |    |    |    |    |    |    |    |    |   |
| N3               | 4                | 2       | 20 | 5  |    |                     | H                | 4                | 12      | 12 | 4  | 10                  | 2              | B8               | 5                | 4       | 8  | 6                   |    | S11 | 5                | 2                | 8       | 0                   |                |    | J3 | 5                | 4                | 6                   | 8  |    |    |    |    |    |    |    |    |   |
| P                | 5                | 30      | 5  | 3  | 3  | 6                   | J1               | 5                | 4       | 3  | 7  |                     |                | B8               | 5                | 18      | 9  | 3                   |    | T1  | 5                | 2                | 2       | 0                   |                |    | J4 | 5                | 4                | 7                   | 9  |    |    |    |    |    |    |    |    |   |
| Q                | 5                | 5       | 10 | 2  |    |                     | J2               | 5                | 4       | 4  | 7  |                     |                | C1               | 4                | 2       | 9  | 8                   |    | T2  | 5                | 2                | 3       | 5                   |                |    | J5 | 5                | 4                | 8                   | 10 |    |    |    |    |    |    |    |    |   |
| R                | 5                | 11      | 3  | 7  |    |                     | J3               | 5                | 4       | 5  | 9  |                     |                | C2               | 4                | 2       | 12 | 4                   |    | T3  | 5                | 2                | 4       | 10                  |                |    | J6 | 5                | 4                | 9                   | 11 |    |    |    |    |    |    |    |    |   |
| S1               | 5                | 2       | 1  | 5  |    |                     | J4               | 5                | 4       | 6  | 10 |                     |                | C3               | 4                | 2       | 14 | 11                  |    | T4  | 5                | 2                | 6       | 3                   |                |    | K1 | 4                | 2                | 2                   | 10 |    |    |    |    |    |    |    |    |   |
| S2               | 5                | 2       | 2  | 1  |    |                     | J5               | 5                | 4       | 7  | 10 |                     |                | C4               | 4                | 2       | 17 | 7                   |    | T5  | 5                | 2                | 7       | 8                   |                |    | K2 | 4                | 2                | 4                   | 9  |    |    |    |    |    |    |    |    |   |
| S3               | 5                | 2       | 2  | 9  |    |                     | K1               | 4                | 2       | 2  | 10 |                     |                | C5               | 4                | 2       | 20 | 2                   |    | T6  | 5                | 2                | 9       | 1                   |                |    | K3 | 4                | 2                | 6                   | 7  |    |    |    |    |    |    |    |    |   |
| S4               | 5                | 2       | 3  | 6  |    |                     | K2               | 4                | 2       | 4  | 8  |                     |                | C6               | 4                | 2       | 22 | 10                  |    | T7  | 5                | 2                | 10      | 6                   |                |    | K4 | 4                | 2                | 8                   | 5  |    |    |    |    |    |    |    |    |   |
| S5               | 5                | 2       | 4  | 2  |    |                     | K3               | 4                | 2       | 6  | 6  |                     |                | C7               | 4                | 6       | 23 | 1                   |    | T8  | 5                | 2                | 11      | 2                   |                |    | K5 | 4                | 2                | 10                  | 3  |    |    |    |    |    |    |    |    |   |
| S6               | 5                | 2       | 4  | 11 |    |                     | K4               | 4                | 2       | 8  | 5  |                     |                | E1               | 5                | 2       | 19 | 7                   | 14 | 7   | X1               | 4                | 1       | 2                   | 9              | 1  | 2  | K6               | 4                | 8                   | 11 | 6  |    |    |    |    |    |    |    |   |
| S7               | 5                | 2       | 5  | 7  |    |                     |                  |                  |         |    |    |                     |                | E2               | 5                | 2       | 20 | 2                   | 15 | 2   | X2               | 4                | 1       | 3                   | 1              | 1  | 4  | M1               | 4                | 2                   | 2  | 10 |    |    |    |    |    |    |    |   |

- NOTES**
- NUMBER OF BARS IN ONE HEADWALL.
  - DIMENSIONS ARE 0. TO 0. OF BARS.
  - ALL BARS ARE STRAIGHT EXCEPT THOSE SHOWN BELOW.
  - R = BOX OR PIPE RISE
  - W = WING WALL WIDTH

**BENT BAR SHAPES**

