

J:\Standard Drawing Revision Work\2020 revised Std. Drawings\Standard Abutments\Std. Abutments\

DATE: 24-MAY-2017

SHEET LOCATION:

0° SKEW 16'-0" - 17'-6" BRIDGE WIDTH 2:1 FILL SLOPES

Bill of Reinforcement

| MARK | A1 | | A2 | | A3 | | A4 | | A5 | | A6 | | | | A7 | | A8 | | A9 | | A10 | | A11 | | A12 | | A13 | | A14 | | A15 | | A16 | | A17 | | A18 | | | | | | | | | | | |
|-------|------|---------|------|--------|--------|--------|------|--------|------|--------|-----|--------|-----|---------|------|--------|--------|--------|------|---------|------|--------|-------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|-----|----|----|----|----|----|---|----|---|----|---|---|
| TYPE | Str. | | Str. | | Str. | | Str. | | Str. | | 4 | | | | Str. | | Str. | | Str. | | Str. | | Str. | | Str. | | Str. | | Str. | | Str. | | Str. | | Str. | | | | | | | | | | | | | |
| SIZE | #5 | | #5 | | #5 | | #5 | | #5 | | #5 | | | | #5 | | #5 | | #5 | | #5 | | #5 | | #5 | | #5 | | #5 | | #5 | | #5 | | #5 | | | | | | | | | | | | | |
| H | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | | | | | | | | | | | | |
| | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | | | | | | | | | | | | |
| 15-16 | 64 | 10 11 8 | 12 | 64 | 7 11 8 | 12 | 24 | 24 | 0 | 24 | 25 | 10 | 62 | 9 11 12 | 8 | 65 | 5 4 11 | 12 | 62 | 6 12 10 | 12 | 65 | 12 10 | 12 | 14 | 24 | 0 | 14 | 22 | 7 | 14 | 24 | 0 | 14 | 23 | 0 | 2 | 24 | 4 | 96 | 5 | 9 | | | | | | |
| 13-14 | 60 | 9 10 8 | 12 | 60 | 7 10 8 | 12 | 22 | 20 | 9 | 22 | 20 | 9 | 56 | 8 8 12 | 6 | 59 | 5 4 11 | 12 | 56 | 6 10 10 | 12 | 59 | 10 10 | 12 | 21 | 0 | 12 | 19 | 7 | 12 | 21 | 0 | 12 | 19 | 7 | 12 | 23 | 0 | 2 | 21 | 4 | 84 | 5 | 9 | | | | |
| 11-12 | 57 | 8 9 8 | 12 | 57 | 6 9 8 | 12 | 20 | 18 | 7 | 20 | 18 | 7 | 52 | 7 7 11 | 12 | 55 | 5 4 11 | 12 | 52 | 5 8 10 | 12 | 55 | 8 10 | 12 | 19 | 0 | 10 | 17 | 7 | 10 | 19 | 0 | 10 | 17 | 7 | 10 | 25 | 11 | 20 | 4 | 76 | 5 | 9 | | | | | |
| 9-10 | 53 | 7 8 8 | 12 | 53 | 5 8 8 | 12 | 18 | 16 | 4 | 18 | 16 | 4 | 48 | 6 6 11 | 12 | 51 | 1 0 0 | 6 | 48 | 5 6 10 | 12 | 51 | 6 10 | 12 | 8 | 17 | 0 | 8 | 15 | 7 | 8 | 17 | 0 | 8 | 15 | 7 | 8 | 26 | 0 | 8 | 23 | 0 | 2 | 17 | 4 | 68 | 5 | 9 |
| 7-8 | 46 | 6 7 2 | 12 | 46 | 5 7 2 | 12 | 16 | 11 | 9 | 16 | 11 | 9 | 40 | 5 5 7 | 12 | 43 | 0 10 0 | 5 | 40 | 4 10 12 | 43 | 4 | 10 | 12 | 6 | 13 | 0 | 6 | 11 | 7 | 6 | 13 | 0 | 6 | 11 | 7 | 6 | 26 | 0 | 6 | 23 | 0 | 2 | 13 | 4 | 52 | 5 | 9 |
| 5-6 | 44 | 5 6 2 | 12 | 44 | 5 6 2 | 12 | 14 | 9 | 7 | 14 | 9 | 7 | 36 | 5 5 7 | 12 | 39 | 0 10 0 | 5 | 36 | 5 2 10 | 12 | 39 | 2 10 | 12 | 4 | 11 | 0 | 4 | 9 | 7 | 4 | 11 | 0 | 4 | 9 | 7 | 4 | 26 | 0 | 4 | 23 | 0 | 2 | 11 | 4 | 44 | 5 | 9 |

Reinforcement Details

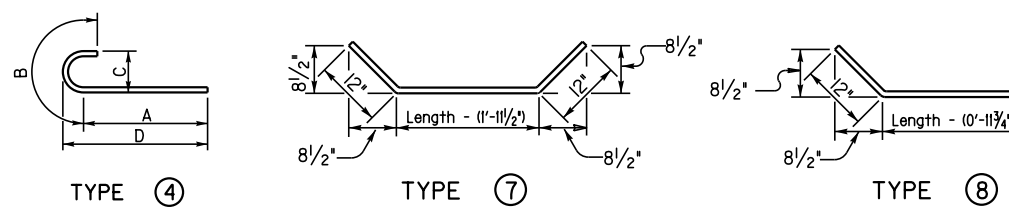
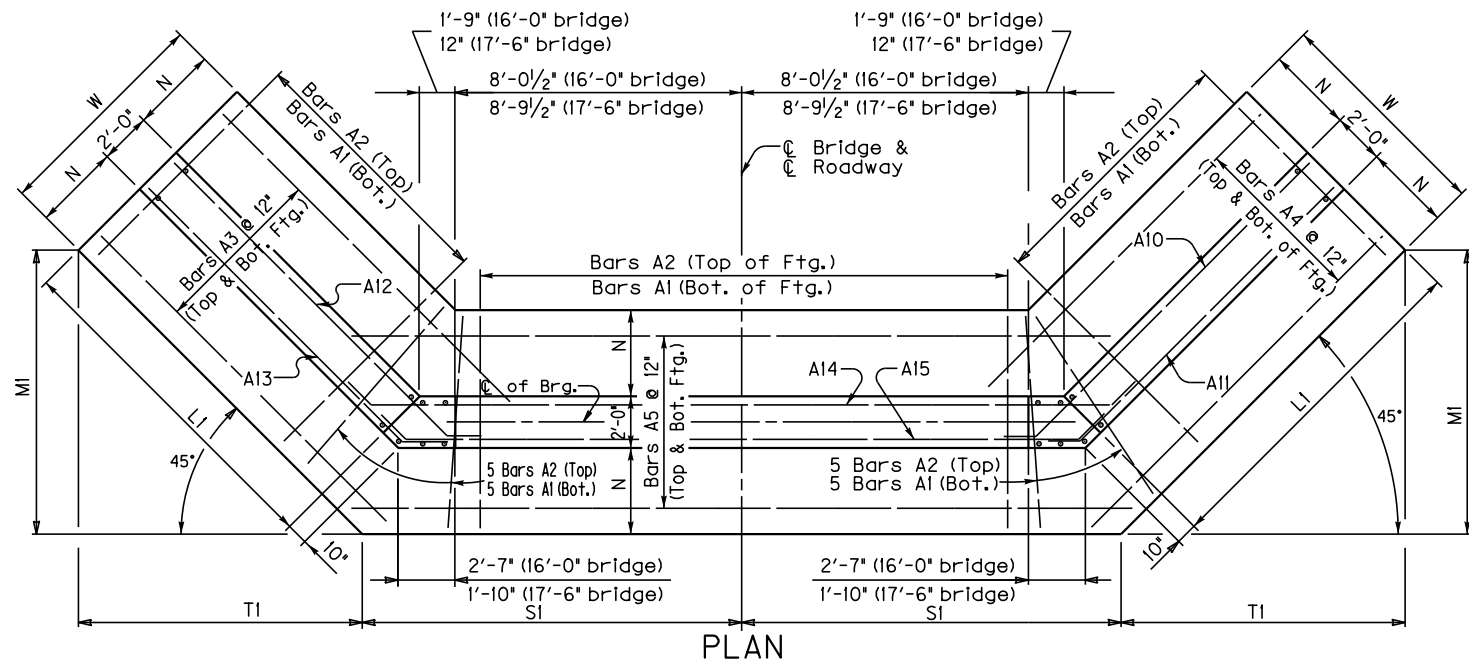
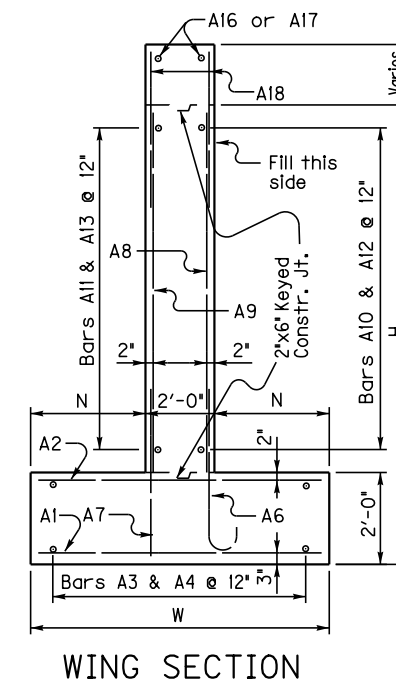
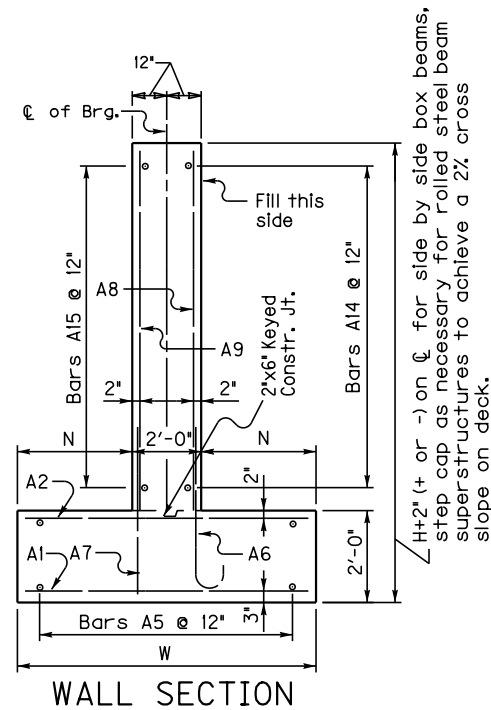


Table of Dimensions

| H | W | N | MI | SI | T1 | L1 | Length | | |
|-------|----|---|----|----|-------|--------|--------|-----|-------|
| | | | | | | | ft. | in. | |
| 15-16 | 12 | 0 | 5 | 0 | 16 | 10 3/4 | 21 | 12 | 8 1/4 |
| 13-14 | 11 | 0 | 4 | 6 | 14 | 7 1/2 | 18 | 12 | 5 3/4 |
| 11-12 | 10 | 0 | 4 | 13 | 7 1/2 | 16 | 16 | 12 | 3 3/8 |
| 9-10 | 9 | 0 | 3 | 6 | 11 | 6 1/8 | 14 | 12 | 1 7/8 |
| 7-8 | 7 | 6 | 2 | 9 | 8 1/2 | 10 | 10 | 11 | 9 1/8 |
| 5-6 | 6 | 6 | 2 | 3 | 6 | 10 7/8 | 8 | 11 | 6 3/8 |



Note: Trim A16 & A17 bars if necessary



| Quantities | | |
|------------|-----------|---------------|
| H | Concrete* | Reinforcement |
| | C. Y. | LBS. |
| 5 | 28.8 | 2509 |
| 6 | 31.5 | 2509 |
| 7 | 41.2 | 3487 |
| 8 | 44.2 | 3487 |
| 9 | 62.2 | 5347 |
| 10 | 65.8 | 5347 |
| 11 | 79.1 | 7448 |
| 12 | 83.1 | 7448 |
| 13 | 97.9 | 10372 |
| 14 | 102.1 | 10372 |
| 15 | 122.3 | 13758 |
| 16 | 127 | 13758 |

*Concrete quantities computed using 2' beam depth on 1/2' pad & 16'-0" Bridge Width

GENERAL NOTES

SPECIFICATIONS: Construct abutments according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Abutments are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. Dimensions may be adjusted to allow for 17'-6" rolled steel beam bridge width.

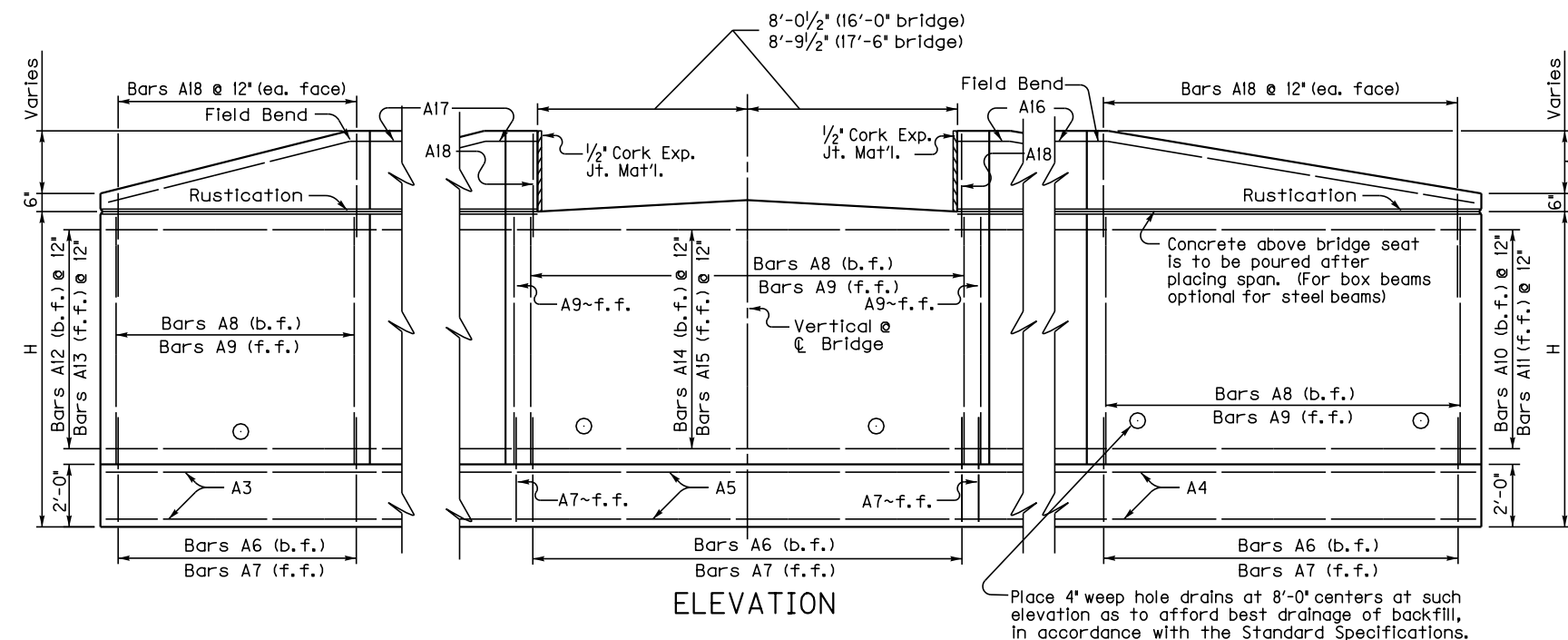
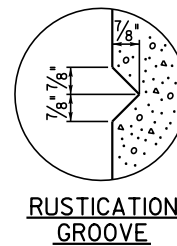
FOUNDATION PRESSURE: Construct abutment footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.

WING LENGTHS: Calculated assuming 2' superstructure depth and stream bank elevation at top of footing.

FOOTING ELEVATION: Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)

NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
 Concrete, Class 'A' = 3500 psi
 Steel Reinforcement = Grade 60



ABUTMENT DETAILS

| SKEW | WIDTH | DATE |
|------|-------|------------|
| 0 | 16 | April 2017 |

J:\Standard Drawing Revision Work\2020 revised Std. Drawings\Standard Abutments\Std. Abutments\

0° SKEW 24'-0" - 25'-6" BRIDGE WIDTH 2:1 FILL SLOPES

Bill of Reinforcement

| MARK | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | A9 | A10 | A11 | A12 | A13 | A14 | A15 | A16 | A17 | A18 | | | | | | | | |
|-------|------|------------|--------|-----------|---------|----------|------|------------|---------------------|-----|-----------|-----------|------------|------------|----------|----------|----------|---------|----------|----------|----------|---------|--------|--------|-----|-----|
| TYPE | Str. | Str. | Str. | Str. | Str. | 4 | Str. | Str. | Str. | 8 | 8 | 8 | 8 | 7 | 7 | Str. | Str. | Str. | | | | | | | | |
| SIZE | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | | | | | | | | |
| H | No. | Length | Length | Length | Length | A | B | C | D | No. | Length | Length | Length | Length | Length | Length | Length | Length | | | | | | | | |
| 15-16 | 72 | 10 11 8 12 | 72 | 7 11 8 12 | 24 24 0 | 24 33 10 | 70 | 9 11 12 8 | 11 10 11 3/4 | 8 6 | 73 | 5 4 11 12 | 70 | 6 12 10 12 | 73 | 12 10 12 | 14 24 0 | 14 22 7 | 14 24 0 | 14 22 7 | 14 33 11 | 14 31 0 | 2 24 4 | 2 24 4 | 96 | 5 9 |
| 13-14 | 68 | 9 10 8 12 | 68 | 7 10 8 12 | 22 20 9 | 22 33 5 | 64 | 8 8 3 12 6 | 11 1 3 0 8 7 3 | 6 7 | 5 4 11 12 | 64 | 6 10 10 12 | 67 | 10 10 12 | 21 0 | 12 19 7 | 12 21 0 | 12 19 7 | 12 33 11 | 12 31 0 | 2 21 4 | 2 21 4 | 84 | 5 9 | |
| 11-12 | 65 | 8 9 8 12 | 65 | 6 9 8 12 | 20 18 7 | 20 33 0 | 60 | 7 7 1 12 5 | 10 1/2 1 2 0 7 6 2 | 6 3 | 5 4 11 12 | 60 | 5 8 10 12 | 63 | 8 10 12 | 19 0 | 10 17 7 | 10 19 0 | 10 17 7 | 10 33 11 | 10 31 0 | 2 19 4 | 2 19 4 | 76 | 5 9 | |
| 9-10 | 61 | 7 8 8 12 | 61 | 5 8 8 12 | 18 16 4 | 18 32 7 | 56 | 6 6 1 12 5 | 1 1 0 0 6 5 4 | 5 9 | 5 4 11 12 | 56 | 5 6 10 12 | 59 | 6 10 12 | 8 17 0 | 8 15 7 | 8 17 0 | 8 15 7 | 8 34 0 | 8 31 0 | 2 17 4 | 2 17 4 | 68 | 5 9 | |
| 7-8 | 54 | 6 7 2 12 | 54 | 5 7 2 12 | 16 11 9 | 16 31 6 | 48 | 5 5 7 12 4 | 8 1/2 0 10 0 5 4 11 | 5 1 | 5 4 11 12 | 48 | 4 10 12 | 51 | 4 10 12 | 6 13 0 | 6 11 7 6 | 6 13 0 | 6 11 7 6 | 6 34 0 | 6 31 0 | 2 13 4 | 2 13 4 | 52 | 5 9 | |
| 5-6 | 52 | 5 6 2 12 | 52 | 5 6 2 12 | 14 9 7 | 14 31 1 | 44 | 5 5 7 12 4 | 8 1/2 0 10 0 5 4 11 | 4 7 | 5 4 11 12 | 44 | 5 2 10 12 | 47 | 2 10 12 | 4 11 0 | 4 9 7 4 | 4 11 0 | 4 9 7 4 | 4 34 0 | 4 31 0 | 2 11 4 | 2 11 4 | 44 | 5 9 | |

Reinforcement Details

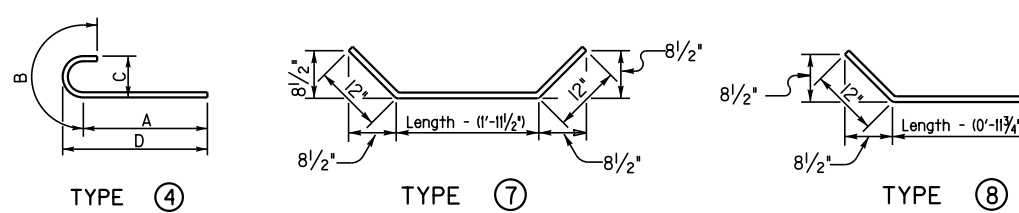
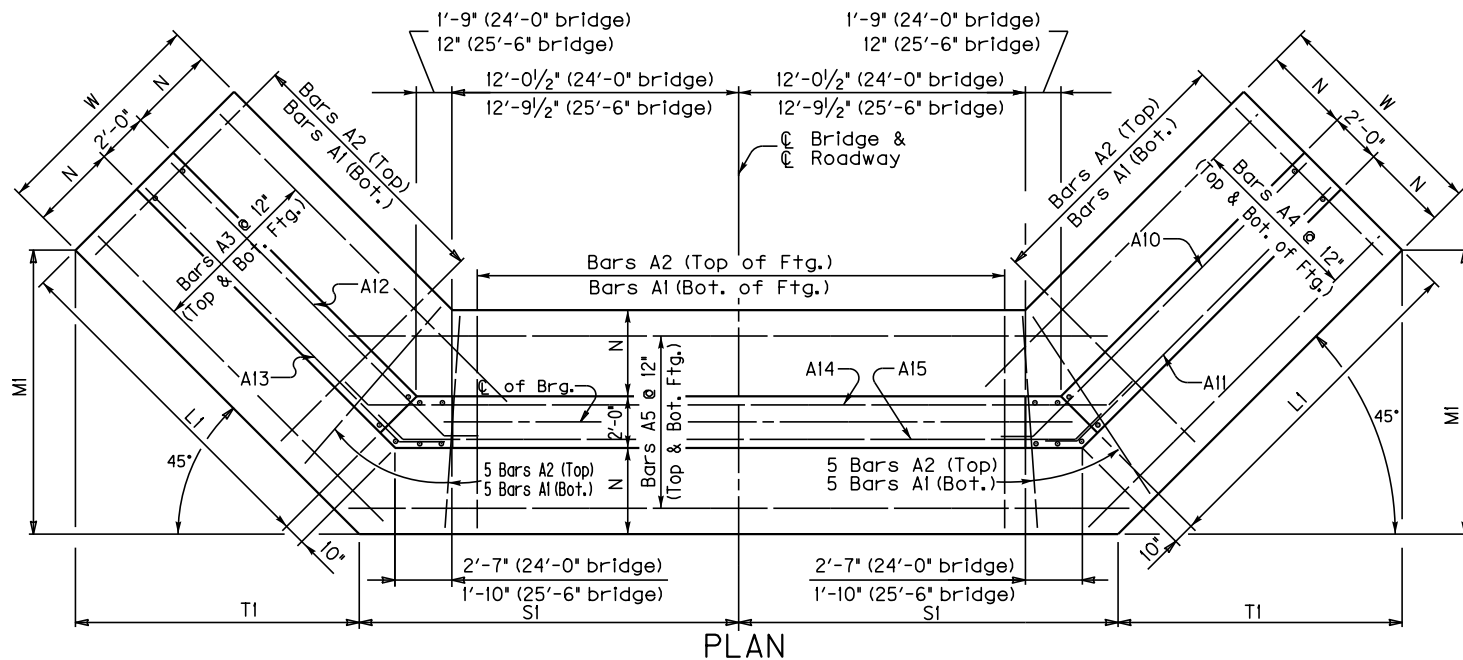
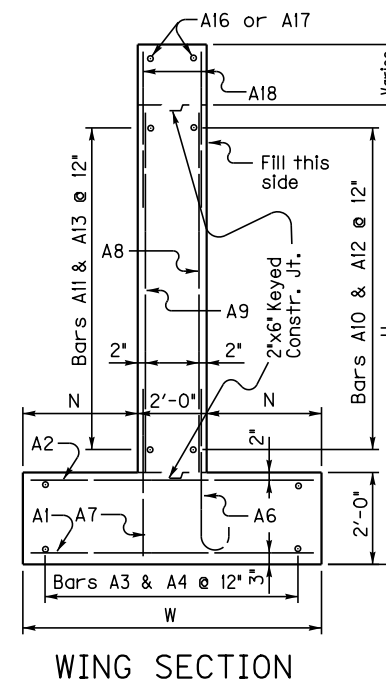
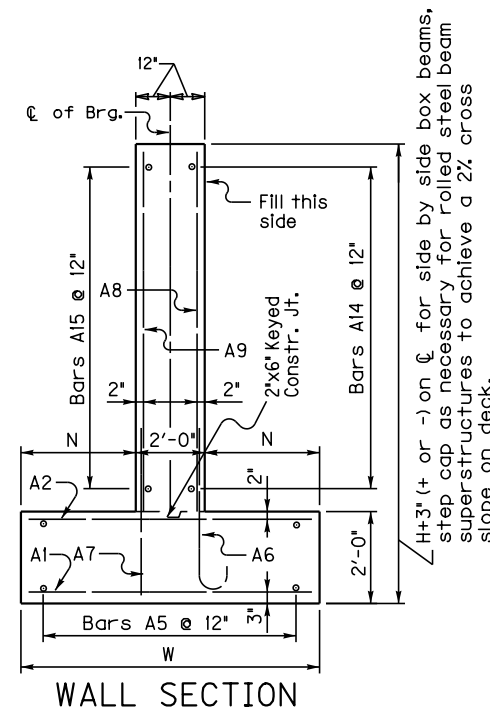


Table of Dimensions

| H | W | N | MI | SI | | T1 | | L1 |
|-------|----|---|----|--------|-----------|----------|-----------|----|
| | | | | Length | Length | Length | Length | |
| 15-16 | 12 | 0 | 5 | 0 | 16 10 3/4 | 16 8 1/4 | 16 10 3/4 | 21 |
| 13-14 | 11 | 0 | 4 | 6 | 14 7 3/8 | 16 5 3/4 | 14 7 3/8 | 18 |
| 11-12 | 10 | 0 | 4 | 0 | 13 7/8 | 16 3 3/8 | 13 7/8 | 16 |
| 9-10 | 9 | 0 | 3 | 6 | 11 6 1/8 | 16 1 7/8 | 11 6 1/8 | 14 |
| 7-8 | 7 | 6 | 2 | 9 | 8 5/2 | 15 9 1/8 | 8 5/2 | 10 |
| 5-6 | 6 | 6 | 2 | 3 | 6 10 7/8 | 15 6 3/8 | 6 10 7/8 | 8 |



Note: Trim A16 & A17 bars if necessary



| H | Quantities | |
|----|------------|---------------|
| | Concrete* | Reinforcement |
| 5 | 34.5 | 2932 |
| 6 | 37.9 | 2932 |
| 7 | 48.7 | 4037 |
| 8 | 52.4 | 4037 |
| 9 | 71.8 | 6075 |
| 10 | 76 | 6075 |
| 11 | 90.5 | 8412 |
| 12 | 95.1 | 8412 |
| 13 | 111.1 | 11660 |
| 14 | 115.9 | 11660 |
| 15 | 137.3 | 15348 |
| 16 | 142.6 | 15348 |

*Concrete quantities computed using 21\"/>

GENERAL NOTES

SPECIFICATIONS: Construct abutments according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Abutments are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. Dimensions may be adjusted to allow for 25'-6\"/>

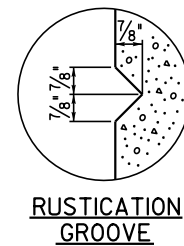
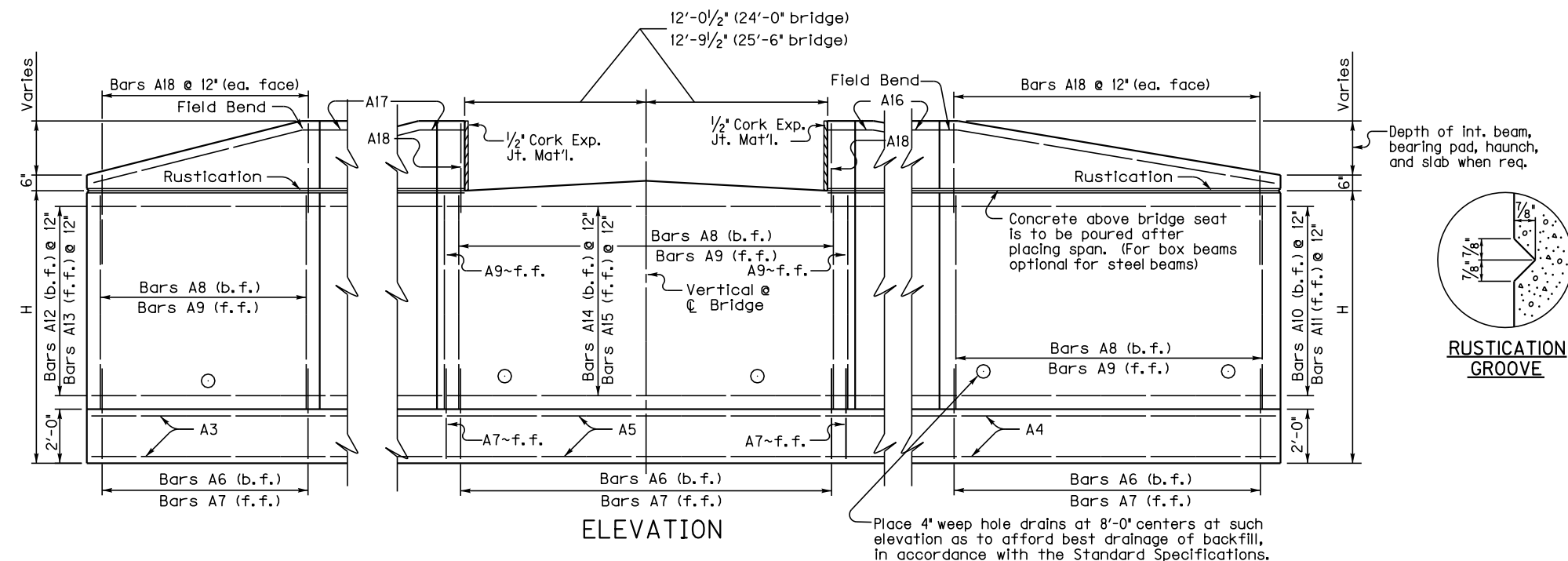
FOUNDATION PRESSURE: Construct abutment footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.

WING LENGTHS: Calculated assuming 21\"/>

FOOTING ELEVATION: Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0\"/>

NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
 Concrete, Class 'A' = 3500 psi
 Steel Reinforcement = Grade 60



ABUTMENT DETAILS

| SKEW | WIDTH | DATE |
|------|-------|------------|
| 0 | 24 | April 2017 |

DATE: 24-MAY-2017 SHEET LOCATION:

0° SKEW 32'-0" - 33'-6" BRIDGE WIDTH 2:1 FILL SLOPES

Bill of Reinforcement

| MARK | A1 | A2 | A3 | A4 | A5 | A6 | | | | A7 | A8 | A9 | A10 | A11 | A12 | A13 | A14 | A15 | A16 | A17 | A18 | |
|-------|------|--------|--------|--------|--------|-----|--------|--------|--------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----|
| TYPE | Str. | Str. | Str. | Str. | Str. | 4 | | | | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | |
| SIZE | *5 | | | | | | | | | *5 | | | | | *5 | | | | | | | |
| H | No. | Length | Length | Length | Length | No. | Length | Length | Length | No. | Length | Length | Length | Length | Length | Length | Length | Length | Length | Length | Length | |
| | | ft. | ft. | ft. | ft. | | ft. | ft. | ft. | | ft. | ft. | ft. | ft. | ft. | ft. | ft. | ft. | ft. | ft. | ft. | |
| 15-16 | 80 | 10 | 11 | 8 | 12 | 80 | 7 | 11 | 8 | 12 | 24 | 0 | 24 | 24 | 0 | 24 | 24 | 0 | 24 | 24 | 0 | 24 |
| 13-14 | 76 | 9 | 10 | 8 | 12 | 76 | 7 | 10 | 8 | 12 | 22 | 0 | 22 | 20 | 9 | 22 | 20 | 9 | 22 | 20 | 9 | 22 |
| 11-12 | 73 | 8 | 9 | 8 | 12 | 73 | 6 | 9 | 8 | 12 | 20 | 18 | 7 | 20 | 18 | 7 | 20 | 18 | 7 | 20 | 18 | 7 |
| 9-10 | 69 | 7 | 8 | 8 | 12 | 69 | 5 | 8 | 8 | 12 | 18 | 16 | 4 | 18 | 16 | 4 | 18 | 16 | 4 | 18 | 16 | 4 |
| 7-8 | 62 | 6 | 7 | 2 | 12 | 62 | 5 | 7 | 2 | 12 | 16 | 11 | 9 | 16 | 11 | 9 | 16 | 11 | 9 | 16 | 11 | 9 |
| 5-6 | 60 | 5 | 6 | 2 | 12 | 60 | 5 | 6 | 2 | 12 | 14 | 9 | 7 | 14 | 9 | 7 | 14 | 9 | 7 | 14 | 9 | 7 |

Reinforcement Details

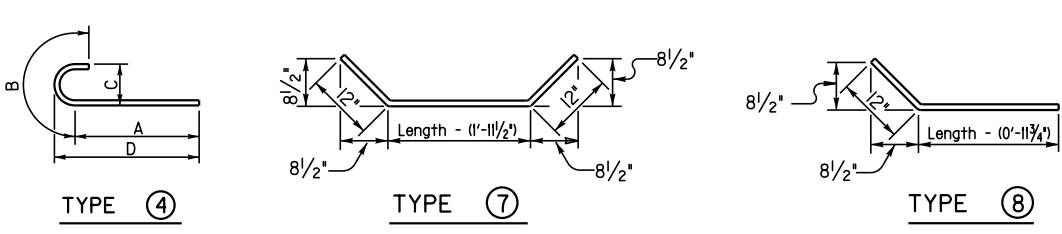
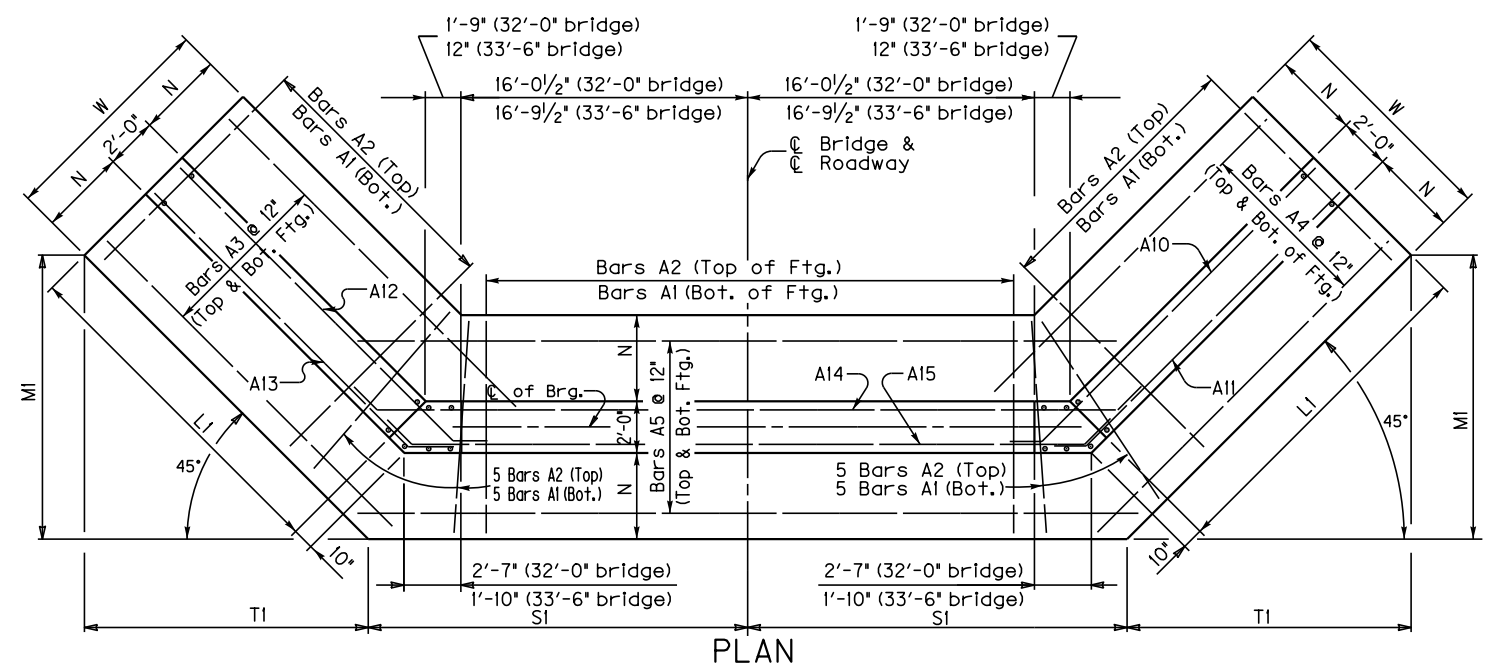
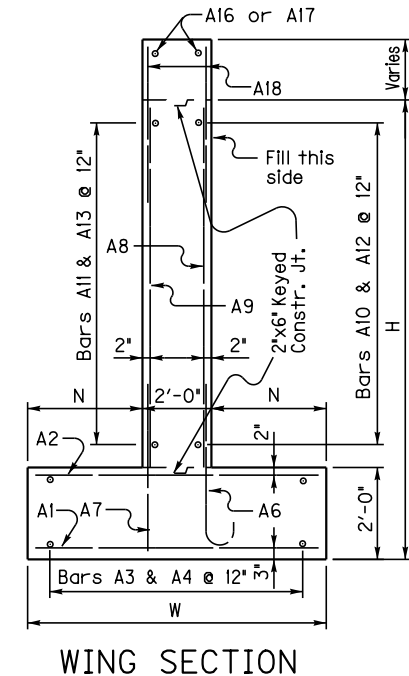
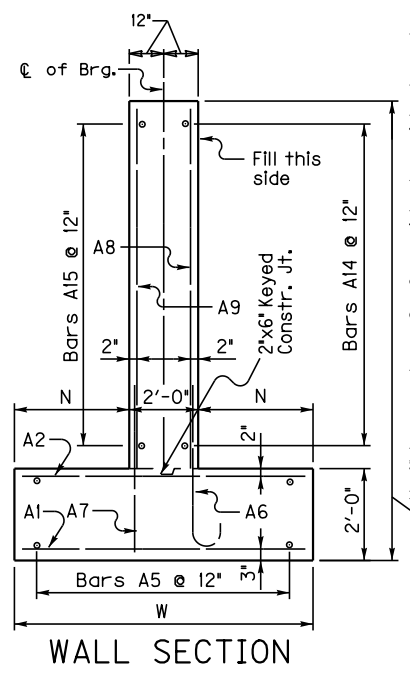


Table of Dimensions

| H | W | | N | | MI | | SI | | TI | | LI | |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| | Length | Length | Length | Length | Length | Length | Length | Length | Length | Length | Length | |
| 15-16 | 12 | 0 | 5 | 0 | 16 | 10 3/4 | 20 | 8 1/4 | 16 | 10 3/4 | 21 | |
| 13-14 | 11 | 0 | 4 | 6 | 14 | 7 5/8 | 20 | 5 3/4 | 14 | 7 5/8 | 18 | |
| 11-12 | 10 | 0 | 4 | 0 | 13 | 7/8 | 20 | 3 3/8 | 13 | 7/8 | 16 | |
| 9-10 | 9 | 0 | 3 | 6 | 11 | 6/8 | 20 | 7/8 | 11 | 6/8 | 14 | |
| 7-8 | 7 | 6 | 2 | 9 | 8 | 5/2 | 19 | 9/8 | 8 | 5/2 | 10 | |
| 5-6 | 6 | 6 | 2 | 3 | 6 | 10 7/8 | 19 | 6 3/8 | 6 | 10 7/8 | 8 | |



Note: Trim A16 & A17 bars if necessary



| H | Concrete* | | Reinforcement | |
|----|-----------|-------|---------------|-------|
| | C. Y. | LBS. | C. Y. | LBS. |
| 5 | 40.3 | 3354 | 3354 | 3354 |
| 6 | 44.3 | 3354 | 3354 | 3354 |
| 7 | 56.3 | 4586 | 4586 | 4586 |
| 8 | 60.5 | 4586 | 4586 | 4586 |
| 9 | 81.4 | 6803 | 6803 | 6803 |
| 10 | 86.2 | 6803 | 6803 | 6803 |
| 11 | 101.9 | 9375 | 9375 | 9375 |
| 12 | 107.1 | 9375 | 9375 | 9375 |
| 13 | 124.3 | 12949 | 12949 | 12949 |
| 14 | 129.7 | 12949 | 12949 | 12949 |
| 15 | 152.3 | 16937 | 16937 | 16937 |
| 16 | 158.1 | 16937 | 16937 | 16937 |

*Concrete quantities computed using 2' beam depth on 1/2" pad & 32'-0" Bridge Width

GENERAL NOTES

SPECIFICATIONS: Construct abutments according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Abutments are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. Dimensions may be adjusted to allow for 33'-6" rolled steel beam bridge width.

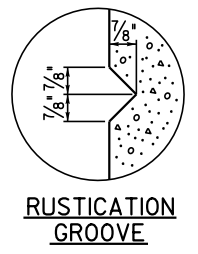
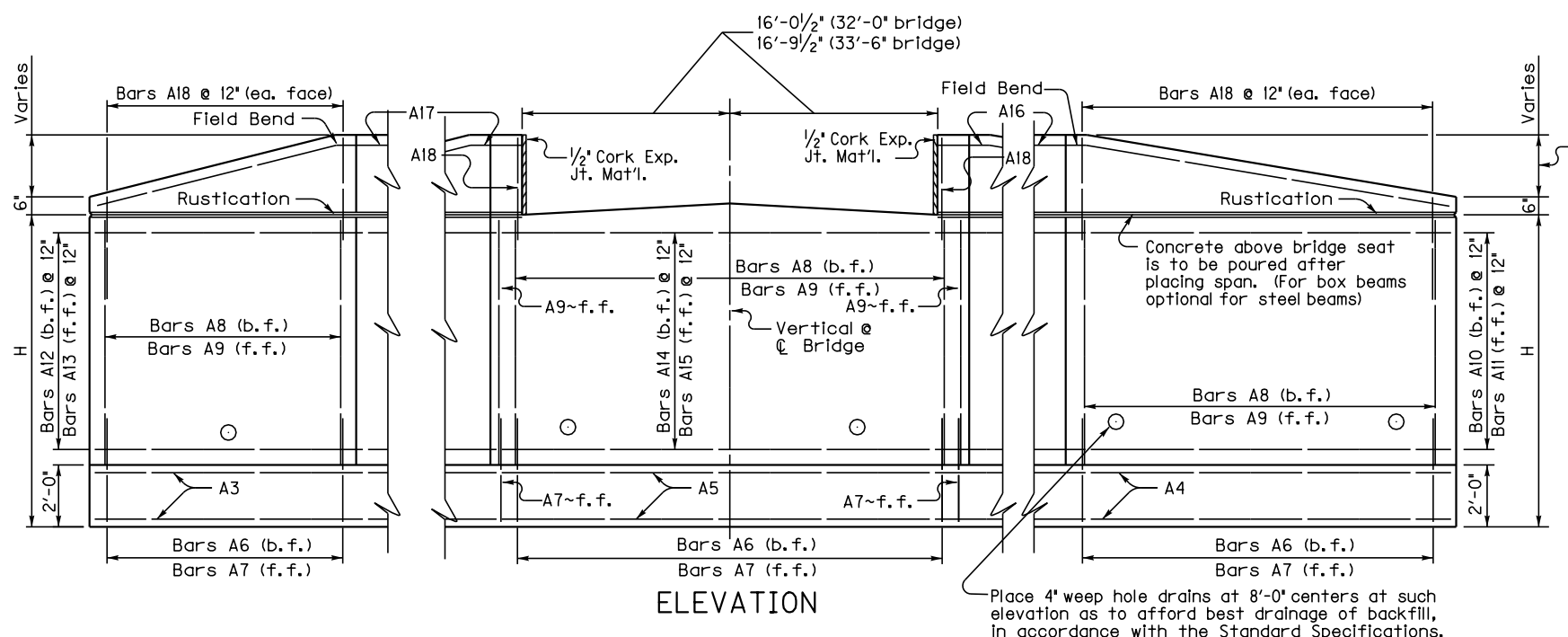
FOUNDATION PRESSURE: Construct abutment footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.

WING LENGTHS: Calculated assuming 2' superstructure depth and stream bank elevation at top of footing.

FOOTING ELEVATION: Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)

NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
 Concrete, Class 'A' = 3500 psi
 Steel Reinforcement = Grade 60



Place 4" weep hole drains at 8'-0" centers at such elevation as to afford best drainage of backfill, in accordance with the Standard Specifications.

ABUTMENT DETAILS

| SKEW | WIDTH | DATE |
|------|-------|------------|
| 0 | 32 | April 2017 |

DATE: 24-MAY-2017 SHEET LOCATION: J:\Standard Drawing Revision Work\2020 revised Std. Drawings\Standard Abutments\Std. Abutments\

15° SKEW 16'-0" - 17'-6" BRIDGE WIDTH 2:1 FILL SLOPES

Bill of Reinforcement

| MARK | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | A9 | A10 | A11 | A12 | A13 | A14 | A15 | A16 | A17 | A18 | | |
|-------|------|------|--------|---------|------|------|--------|---------|------|------|--------|---------|-----|------|--------|---------|------|------|--------|---------|
| TYPE | Str. | Str. | Str. | Str. | Str. | | Str. | Str. | Str. | 8 | 8 | 8 | 8 | 7 | 7 | Str. | Str. | Str. | | |
| SIZE | | | #5 | #5 | #5 | 4 | | | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | | |
| H | No. | Size | Length | Spacing | No. | Size | Length | Spacing | No. | Size | Length | Spacing | No. | Size | Length | Spacing | No. | Size | Length | Spacing |
| 15-16 | 66 | 10 | 11 | 8 | 12 | 66 | 7 | 11 | 8 | 12 | 66 | 7 | 11 | 8 | 12 | 66 | 7 | 11 | 8 | 12 |
| 13-14 | 61 | 9 | 10 | 8 | 12 | 61 | 7 | 10 | 8 | 12 | 61 | 7 | 10 | 8 | 12 | 61 | 7 | 10 | 8 | 12 |
| 11-12 | 57 | 8 | 9 | 8 | 12 | 57 | 6 | 9 | 8 | 12 | 57 | 6 | 9 | 8 | 12 | 57 | 6 | 9 | 8 | 12 |
| 9-10 | 52 | 7 | 8 | 8 | 12 | 52 | 5 | 8 | 8 | 12 | 52 | 5 | 8 | 8 | 12 | 52 | 5 | 8 | 8 | 12 |
| 7-8 | 47 | 6 | 7 | 2 | 12 | 47 | 5 | 7 | 2 | 12 | 47 | 5 | 7 | 2 | 12 | 47 | 5 | 7 | 2 | 12 |
| 5-6 | 44 | 5 | 6 | 2 | 12 | 44 | 5 | 6 | 2 | 12 | 44 | 5 | 6 | 2 | 12 | 44 | 5 | 6 | 2 | 12 |

Reinforcement Details

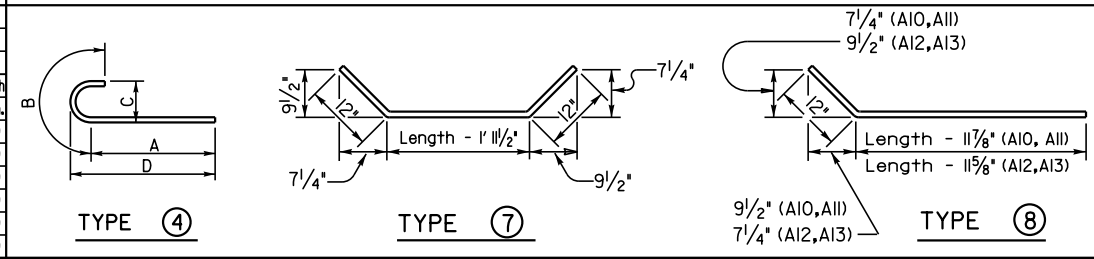
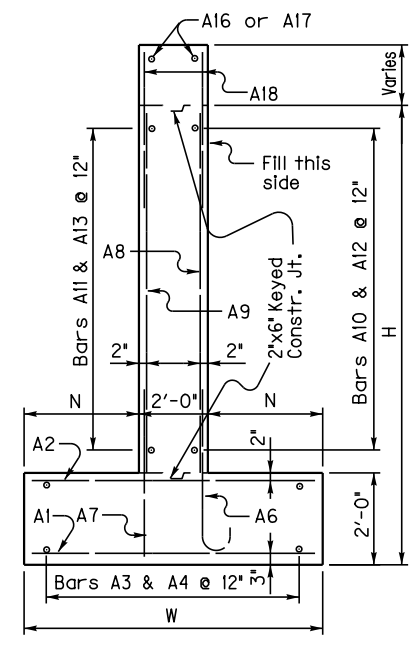
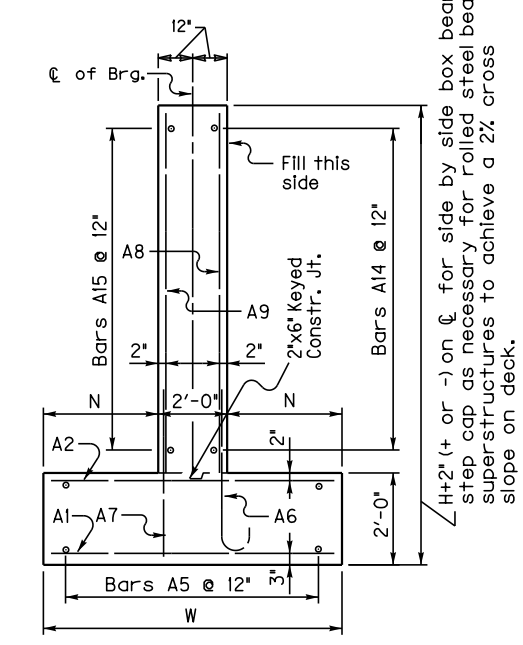
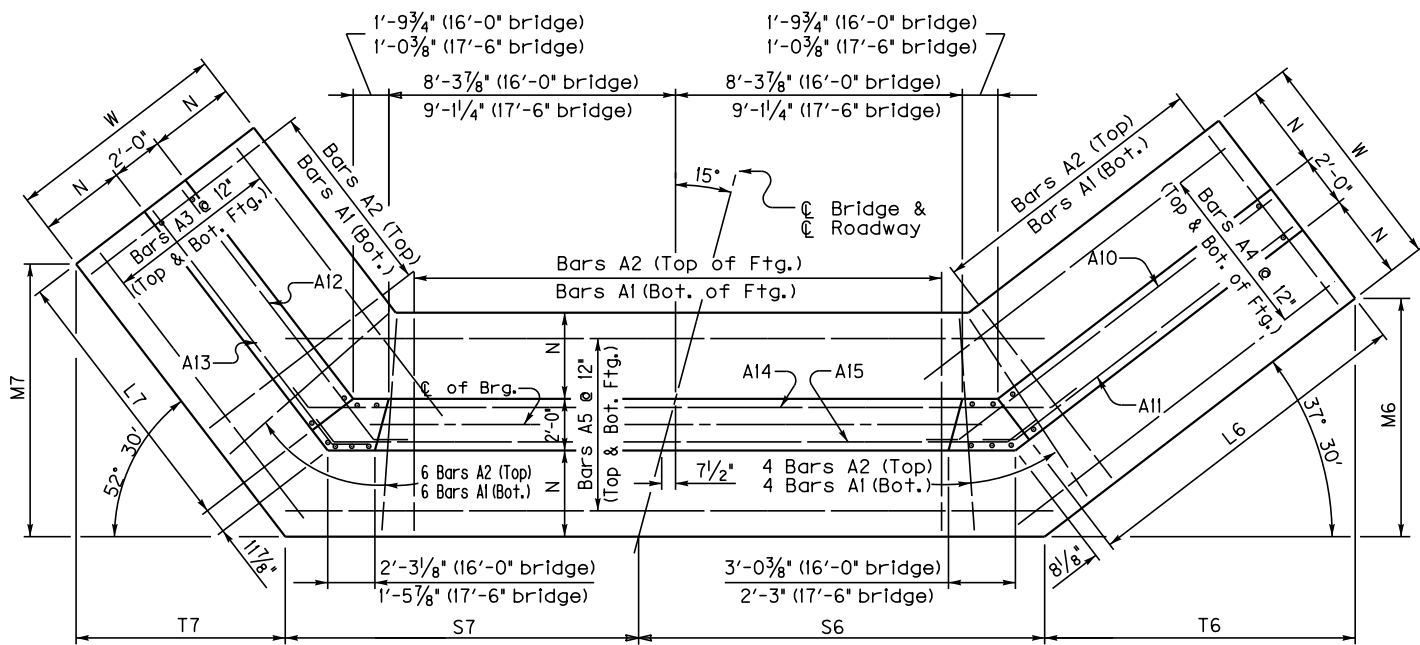


Table of Dimensions

| H | W | N | M6 | M7 | S6 | S7 | T6 | T7 | L6 | L7 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Length | Length | Length | Length | Length | Length | Length | Length | Length | Length | Length |
| 15-16 | 12 | 0 | 5 | 0 | 16 | 7/8 | 17 | 1/4 | 14 | 4 5/8 |
| 13-14 | 11 | 0 | 4 | 6 | 14 | 1 1/2 | 15 | 2 1/8 | 14 | 1 |
| 11-12 | 10 | 0 | 4 | 0 | 12 | 2 3/8 | 13 | 5/2 | 13 | 9 3/8 |
| 9-10 | 9 | 0 | 3 | 6 | 10 | 3 3/4 | 10 | 10 1/4 | 13 | 5 3/4 |
| 7-8 | 7 | 6 | 2 | 9 | 7 | 8 1/8 | 9 | 0 | 13 | 1 1/4 |
| 5-6 | 6 | 6 | 2 | 3 | 6 | 4 1/4 | 7 | 2 5/8 | 12 | 8 5/8 |

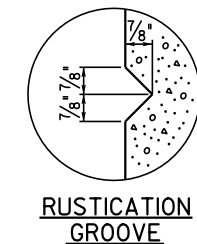
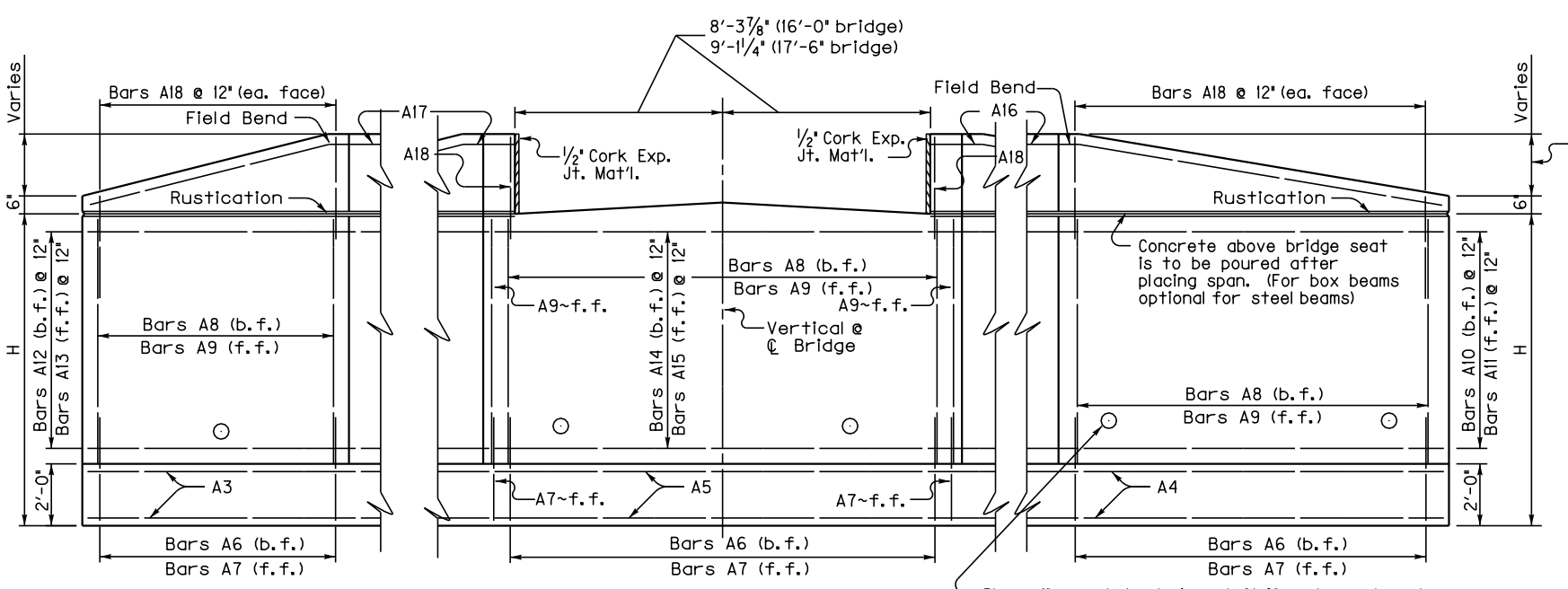


Quantities

| H | Concrete* | Reinforcement |
|----|-----------|---------------|
| | C.Y. | LBS. |
| 5 | 29.3 | 2550 |
| 6 | 32.1 | 2550 |
| 7 | 41.8 | 3558 |
| 8 | 45 | 3558 |
| 9 | 60.4 | 5225 |
| 10 | 64 | 5225 |
| 11 | 80.2 | 7523 |
| 12 | 84.1 | 7523 |
| 13 | 100.8 | 10646 |
| 14 | 105.2 | 10646 |
| 15 | 123.7 | 14022 |
| 16 | 128.4 | 14022 |

*Concrete quantities computed using 2' beam depth on 1/2' pad & 16'-0" Bridge Width

Note: Trim A16 & A17 bars if necessary



GENERAL NOTES

SPECIFICATIONS: Construct abutments according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Abutments are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. Dimensions may be adjusted to allow for 17'-6" rolled steel beam bridge width.

FOUNDATION PRESSURE: Construct abutment footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.

WING LENGTHS: Calculated assuming 2' superstructure depth and stream bank elevation at top of footing.

FOOTING ELEVATION: Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)

NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
 Concrete, Class 'A' = 3500 psi
 Steel Reinforcement = Grade 60

Place 4" weep hole drains at 8'-0" centers at such elevation as to afford best drainage of backfill, in accordance with the Standard Specifications.

ABUTMENT DETAILS

| SKEW | WIDTH | DATE |
|------|-------|------------|
| 15 | 16 | April 2017 |

DATE: 24-MAY-2017 SHEET LOCATION: J:\Standard Drawing Revision Work\2020 revised Std. Drawings\Standard Abutments\Std. Abutments\

J:\Standard Drawing Revision Work\2020 revised Std. Drawings\Standard Abutments\Std. Abutments\

15° SKEW 24'-0" - 25'-6" BRIDGE WIDTH 2:1 FILL SLOPES

Bill of Reinforcement

| MARK | A1 | A2 | A3 | A4 | A5 | A6 | | | | A7 | A8 | A9 | A10 | A11 | A12 | A13 | A14 | A15 | A16 | A17 | A18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|------|------|--------|---------|------|------|--------|---------|-----|------|--------|---------|-----|-----|-----|-----|-----|------|--------|---------|------|------|--------|---------|-----|------|--------|---------|-----|------|--------|---------|-----|------|--------|---------|-----|------|--------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|----|----|----|----|---|---|
| TYPE | Str. | Str. | Str. | Str. | Str. | 4 | | | | Str. | Str. | Str. | 8 | 8 | 8 | 8 | 7 | 7 | Str. | Str. | Str. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SIZE | | | *5 | *5 | *5 | 4 | | | | *5 | *5 | *5 | *5 | *5 | *5 | *5 | *5 | *5 | *5 | *5 | *5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H | No. | Size | Length | Spacing | No. | Size | Length | Spacing | No. | Size | Length | Spacing | A | B | C | D | No. | Size | Length | Spacing | No. | Size | Length | Spacing | No. | Size | Length | Spacing | No. | Size | Length | Spacing | No. | Size | Length | Spacing | No. | Size | Length | Spacing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15-16 | 74 | 10 | 11 | 8 | 12 | 74 | 11 | 8 | 12 | 24 | 26 | 7 | 24 | 34 | 8 | 71 | 9 | 9 | 11 | 12 | 8 | 74 | 5 | 4 | 11 | 12 | 71 | 6 | 12 | 10 | 12 | 74 | 12 | 10 | 12 | 14 | 27 | 4 | 14 | 25 | 6 | 14 | 20 | 10 | 14 | 19 | 9 | 14 | 35 | 0 | 14 | 31 | 11 | 2 | 27 | 7 | 2 | 21 | 2 | 97 | 5 | 9 | | | | | | | | |
| 13-14 | 69 | 9 | 10 | 8 | 12 | 69 | 7 | 10 | 8 | 12 | 22 | 19 | 2 | 22 | 23 | 5 | 66 | 8 | 8 | 12 | 6 | 69 | 5 | 4 | 11 | 12 | 66 | 6 | 10 | 10 | 12 | 69 | 10 | 10 | 12 | 12 | 24 | 4 | 12 | 22 | 6 | 12 | 18 | 10 | 12 | 17 | 9 | 12 | 35 | 0 | 12 | 31 | 11 | 2 | 24 | 7 | 2 | 19 | 2 | 87 | 5 | 9 | | | | | | | | |
| 11-12 | 66 | 8 | 9 | 8 | 12 | 66 | 6 | 9 | 8 | 12 | 20 | 16 | 11 | 20 | 20 | 3 | 61 | 7 | 7 | 11 | 12 | 5 | 10 | 1/2 | 1 | 2 | 0 | 7 | 6 | 2 | 64 | 5 | 4 | 11 | 61 | 5 | 5 | 6 | 10 | 12 | 64 | 8 | 10 | 12 | 21 | 4 | 10 | 19 | 6 | 10 | 16 | 10 | 10 | 15 | 9 | 10 | 35 | 1 | 10 | 31 | 11 | 2 | 21 | 7 | 2 | 17 | 2 | 77 | 5 | 9 |
| 9-10 | 60 | 7 | 8 | 8 | 12 | 60 | 5 | 8 | 8 | 12 | 18 | 13 | 8 | 18 | 17 | 1 | 55 | 6 | 6 | 11 | 12 | 5 | 1 | 0 | 0 | 6 | 5 | 4 | 58 | 5 | 4 | 11 | 55 | 5 | 5 | 6 | 10 | 12 | 58 | 6 | 10 | 12 | 8 | 18 | 4 | 8 | 16 | 6 | 8 | 13 | 10 | 8 | 12 | 9 | 8 | 35 | 1 | 8 | 31 | 11 | 2 | 18 | 7 | 2 | 14 | 2 | 65 | 5 | 9 | |
| 7-8 | 56 | 6 | 7 | 2 | 12 | 56 | 5 | 7 | 2 | 12 | 16 | 11 | 2 | 16 | 12 | 6 | 49 | 5 | 5 | 7 | 12 | 4 | 8 | 1/2 | 0 | 10 | 5 | 4 | 52 | 5 | 4 | 11 | 49 | 5 | 4 | 10 | 12 | 52 | 4 | 10 | 12 | 6 | 14 | 4 | 6 | 12 | 6 | 11 | 10 | 6 | 10 | 9 | 6 | 35 | 1 | 6 | 31 | 11 | 2 | 14 | 7 | 2 | 12 | 2 | 53 | 5 | 9 | | | |
| 5-6 | 52 | 5 | 6 | 2 | 12 | 52 | 5 | 6 | 2 | 12 | 14 | 8 | 11 | 14 | 10 | 4 | 45 | 5 | 5 | 7 | 12 | 4 | 8 | 1/2 | 0 | 10 | 5 | 4 | 48 | 5 | 4 | 11 | 45 | 5 | 4 | 10 | 12 | 48 | 2 | 10 | 12 | 4 | 12 | 4 | 10 | 6 | 4 | 9 | 10 | 4 | 8 | 9 | 4 | 35 | 1 | 4 | 31 | 11 | 2 | 12 | 7 | 2 | 10 | 2 | 45 | 5 | 9 | | | |

Reinforcement Details

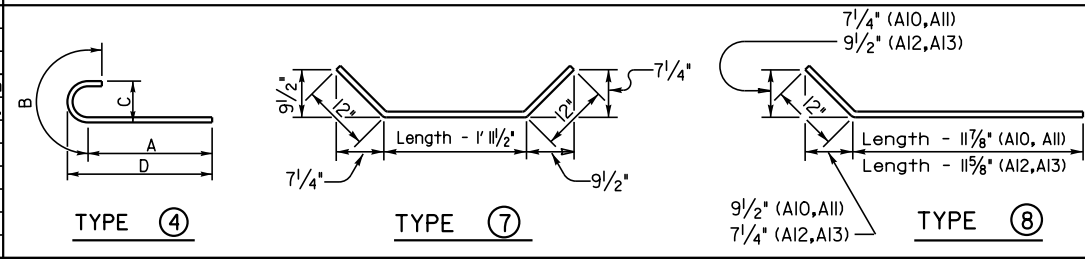
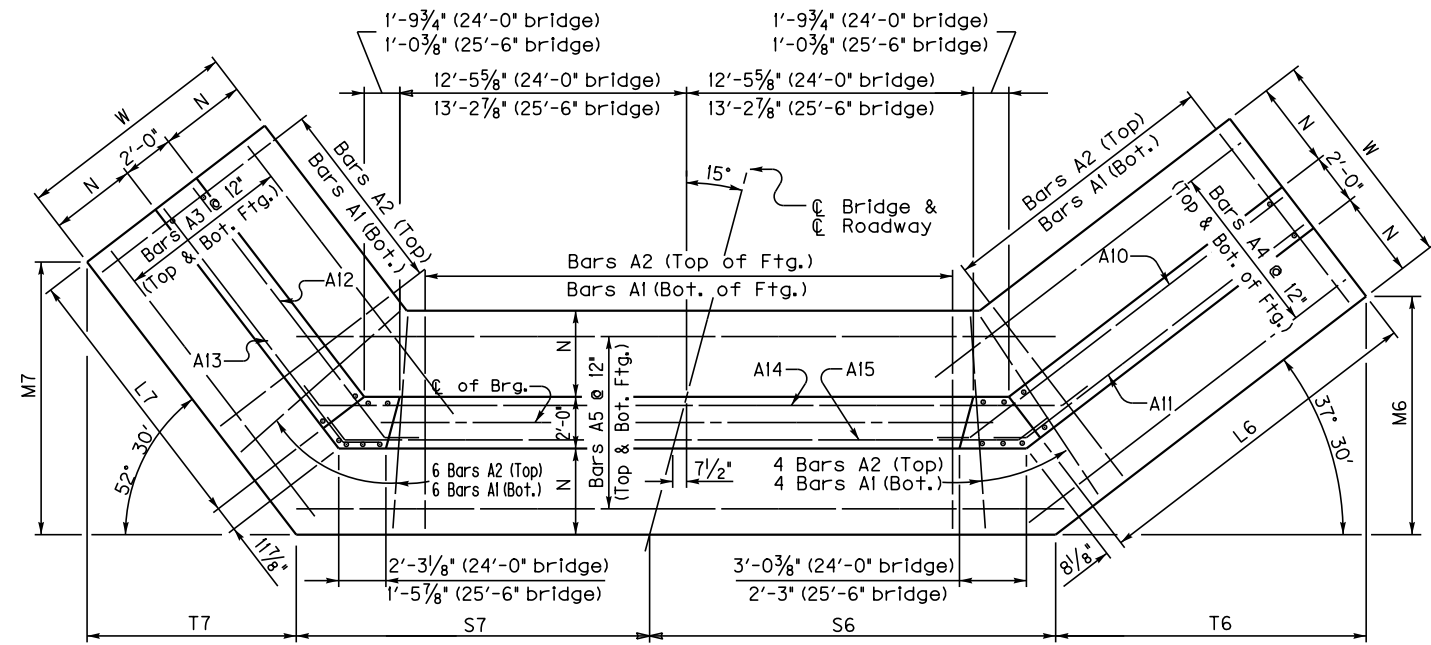


Table of Dimensions

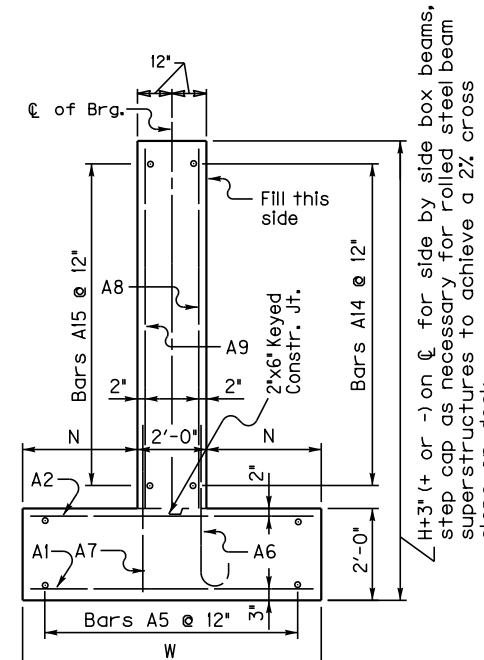
| H | W | N | M6 | M7 | S6 | S7 | T6 | T7 | L6 | L7 | | | | | | | | | |
|-------|----|---|----|----|----|-----|----|-----|----|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | | | | | | | | | | Length | Length | Length | Length | Length | Length | Length | Length | Length |
| 15-16 | 12 | 0 | 5 | 0 | 16 | 3/4 | 17 | 1/4 | 18 | 6 | 3/8 | 15 | 10 | 2 | 20 | 11 | 3 | 24 | 18 |
| 13-14 | 11 | 0 | 4 | 6 | 14 | 1/2 | 15 | 2 | 18 | 2 | 3/4 | 15 | 8 | 3/8 | 18 | 4 | 11 | 8 | 16 |
| 11-12 | 10 | 0 | 4 | 0 | 12 | 2 | 13 | 5 | 17 | 1 | 1/8 | 15 | 7 | 1/2 | 15 | 10 | 3 | 18 | 14 |
| 9-10 | 9 | 0 | 3 | 6 | 10 | 3/4 | 10 | 10 | 17 | 7 | 15 | 6 | 13 | 4 | 8 | 4 | 15 | 11 | |
| 7-8 | 7 | 6 | 2 | 9 | 7 | 8 | 9 | 0 | 17 | 2 | 15 | 4 | 10 | 1/8 | 6 | 10 | 11 | 9 | |
| 5-6 | 6 | 6 | 2 | 3 | 6 | 4 | 7 | 2 | 16 | 10 | 15 | 2 | 8 | 3 | 5 | 6 | 2 | 9 | 7 |



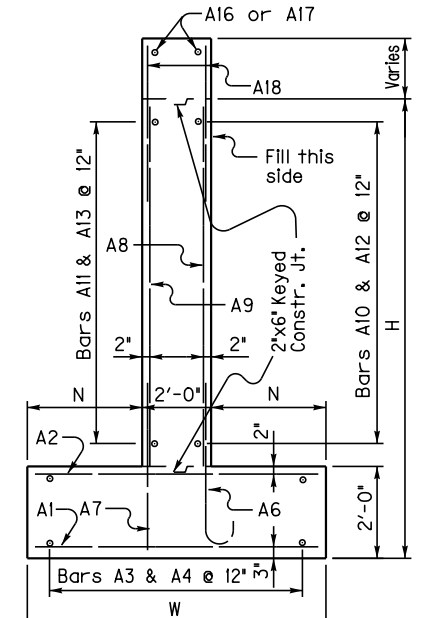
PLAN

(Left Skew as shown; right skew opp. hand)

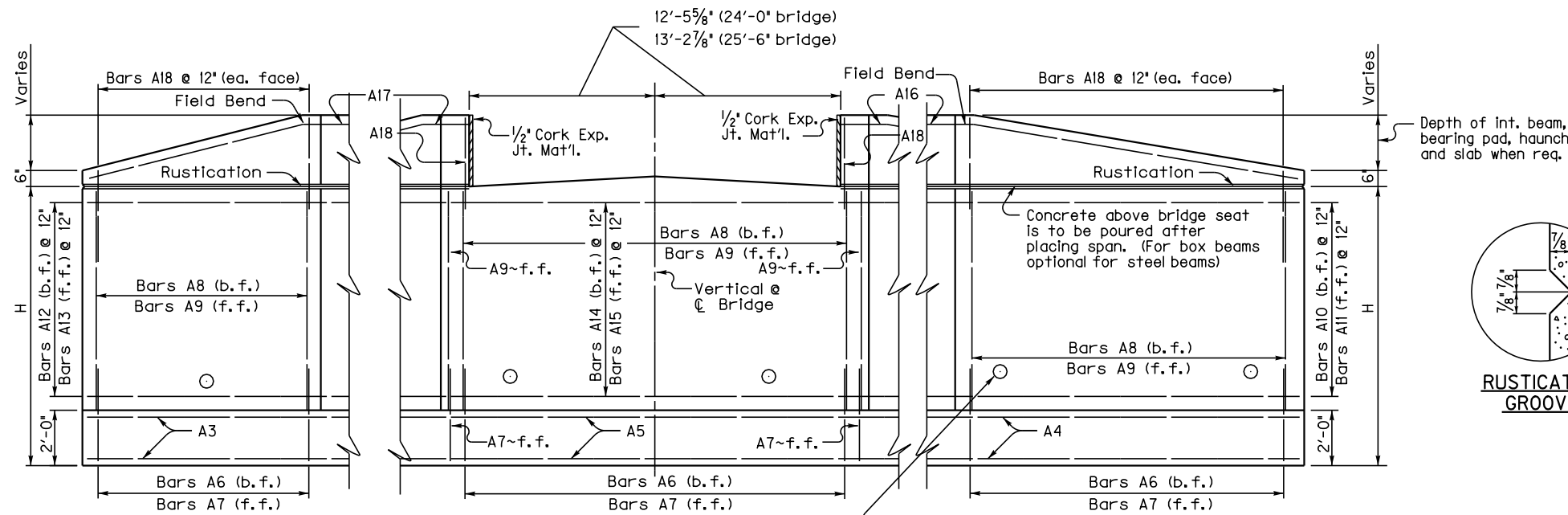
Note: Trim A16 & A17 bars if necessary



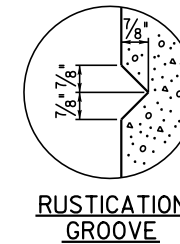
WALL SECTION



WING SECTION



ELEVATION



RUSTICATION GROOVE

Place 4" weep hole drains at 8'-0" centers at such elevation as to afford best drainage of backfill, in accordance with the Standard Specifications.

Quantities

| H | Concrete* | | Reinforcement |
|----|-----------|-------|---------------|
| | C.Y. | LBS. | |
| 5 | 35.3 | 2979 | |
| 6 | 38.7 | 2979 | |
| 7 | 49.6 | 4133 | |
| 8 | 53.4 | 4133 | |
| 9 | 70.4 | 5963 | |
| 10 | 74.5 | 5963 | |
| 11 | 91.9 | 8538 | |
| 12 | 96.5 | 8538 | |
| 13 | 114.4 | 11946 | |
| 14 | 119.4 | 11946 | |
| 15 | 139.1 | 15625 | |
| 16 | 144.5 | 15625 | |

*Concrete quantities computed using 2' beam depth on 1/2' pad & 24'-0" Bridge Width

GENERAL NOTES

SPECIFICATIONS: Construct abutments according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Abutments are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. Dimensions may be adjusted to allow for 25'-6" rolled steel beam bridge width.

FOUNDATION PRESSURE: Construct abutment footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.

WING LENGTHS: Calculated assuming 2' superstructure depth and stream bank elevation at top of footing.

FOOTING ELEVATION: Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)

NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
Concrete, Class 'A' = 3500 psi
Steel Reinforcement = Grade 60

ABUTMENT DETAILS

| SKEW | WIDTH | DATE |
|------|-------|------------|
| 15 | 24 | April 2017 |

DATE: 24-MAY-2017

SHEET LOCATION:

J:\Standard Drawing Revision Work\2020 revised Std. Drawings\Standard Abutments\Std. Abutments\

15° SKEW 32'-0" - 33'-6" BRIDGE WIDTH 2:1 FILL SLOPES

Bill of Reinforcement

| MARK | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | A9 | A10 | A11 | A12 | A13 | A14 | A15 | A16 | A17 | A18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|------|------|--------|--------|--------|-----|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|----|---|---|----|----|---|----|-----|---|----|----|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|
| TYPE | Str. | Str. | Str. | Str. | Str. | | Str. | Str. | Str. | 8 | 8 | 8 | 8 | 7 | 7 | Str. | Str. | Str. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SIZE | | | #5 | #5 | #5 | 4 | | | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H | No. | Size | Length | Length | Length | No. | Size | Length | Length | Length | Length | Length | Length | Length | Length | Length | Length | Length | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ft. | in. | ft. | in. | ft. | ft. | ft. | ft. | ft. | ft. | ft. | ft. | ft. | ft. | ft. | ft. | ft. | ft. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15-16 | 82 | 10 | 11 | 8 | 12 | 82 | 7 | 11 | 8 | 12 | 24 | 21 | 5 | 24 | 26 | 7 | 24 | 43 | 0 | 79 | 9 | 9 | 11 | 12 | 8 | 83 | 5 | 4 | 11 | 12 | 79 | 6 | 12 | 10 | 12 | 83 | 12 | 10 | 12 | 14 | 27 | 4 | 14 | 25 | 6 | 14 | 20 | 10 | 14 | 19 | 9 | 14 | 43 | 3 | 14 | 40 | 3 | 2 | 27 | 7 | 2 | 21 | 2 | 97 | 5 | 9 | | | | | | | | |
| 13-14 | 78 | 9 | 10 | 8 | 12 | 78 | 7 | 10 | 8 | 12 | 22 | 19 | 2 | 22 | 23 | 5 | 22 | 42 | 7 | 74 | 8 | 8 | 3 | 12 | 6 | 11 | 1 | 3 | 0 | 8 | 7 | 3 | 78 | 5 | 4 | 11 | 12 | 74 | 6 | 10 | 10 | 12 | 78 | 10 | 10 | 12 | 12 | 24 | 4 | 12 | 22 | 6 | 12 | 18 | 10 | 12 | 17 | 9 | 12 | 43 | 4 | 12 | 40 | 3 | 2 | 24 | 7 | 2 | 19 | 2 | 87 | 5 | 9 | |
| 11-12 | 74 | 8 | 9 | 8 | 12 | 74 | 6 | 9 | 8 | 12 | 20 | 16 | 11 | 20 | 20 | 3 | 20 | 42 | 2 | 69 | 7 | 7 | 1 | 12 | 5 | 10 | 1/2 | 1 | 2 | 0 | 7 | 6 | 2 | 73 | 5 | 4 | 11 | 12 | 69 | 5 | 8 | 10 | 12 | 73 | 8 | 10 | 12 | 10 | 21 | 4 | 10 | 19 | 6 | 10 | 16 | 10 | 10 | 15 | 9 | 10 | 43 | 4 | 10 | 40 | 3 | 2 | 21 | 7 | 2 | 17 | 2 | 77 | 5 | 9 |
| 9-10 | 68 | 7 | 8 | 8 | 12 | 68 | 5 | 8 | 8 | 12 | 18 | 13 | 8 | 18 | 17 | 1 | 18 | 41 | 9 | 63 | 6 | 6 | 1 | 12 | 5 | 1 | 1 | 0 | 0 | 6 | 5 | 4 | 67 | 5 | 4 | 11 | 12 | 63 | 5 | 6 | 10 | 12 | 67 | 6 | 10 | 12 | 8 | 18 | 4 | 8 | 16 | 6 | 8 | 13 | 10 | 8 | 12 | 9 | 8 | 43 | 4 | 8 | 40 | 3 | 2 | 18 | 7 | 2 | 14 | 2 | 65 | 5 | 9 | |
| 7-8 | 64 | 6 | 7 | 2 | 12 | 64 | 5 | 7 | 2 | 12 | 16 | 11 | 2 | 16 | 12 | 6 | 16 | 40 | 9 | 57 | 5 | 5 | 7 | 12 | 4 | 8 | 1/2 | 0 | 10 | 0 | 5 | 4 | 61 | 5 | 4 | 11 | 12 | 57 | 5 | 4 | 10 | 12 | 61 | 4 | 10 | 12 | 6 | 14 | 4 | 6 | 12 | 6 | 11 | 10 | 6 | 10 | 9 | 6 | 43 | 4 | 6 | 40 | 3 | 2 | 14 | 7 | 2 | 12 | 2 | 53 | 5 | 9 | | |
| 5-6 | 60 | 5 | 6 | 2 | 12 | 60 | 5 | 6 | 2 | 12 | 14 | 8 | 11 | 14 | 10 | 4 | 14 | 40 | 4 | 53 | 5 | 5 | 7 | 12 | 4 | 8 | 1/2 | 0 | 10 | 0 | 5 | 4 | 57 | 5 | 4 | 11 | 12 | 53 | 5 | 2 | 10 | 12 | 57 | 2 | 10 | 12 | 4 | 12 | 4 | 10 | 6 | 4 | 9 | 10 | 4 | 8 | 9 | 4 | 43 | 4 | 4 | 40 | 3 | 2 | 12 | 7 | 2 | 10 | 2 | 45 | 5 | 9 | | |

Reinforcement Details

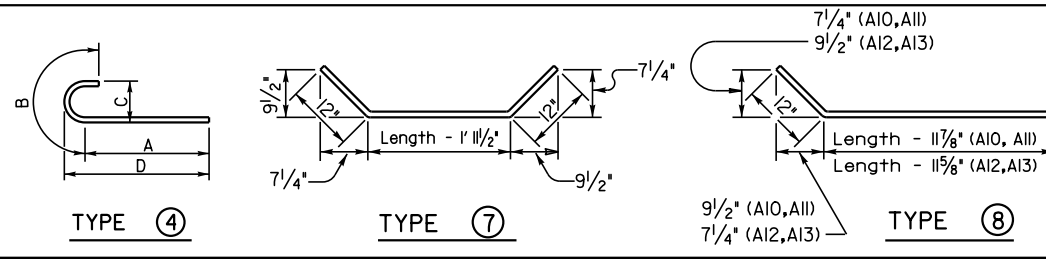
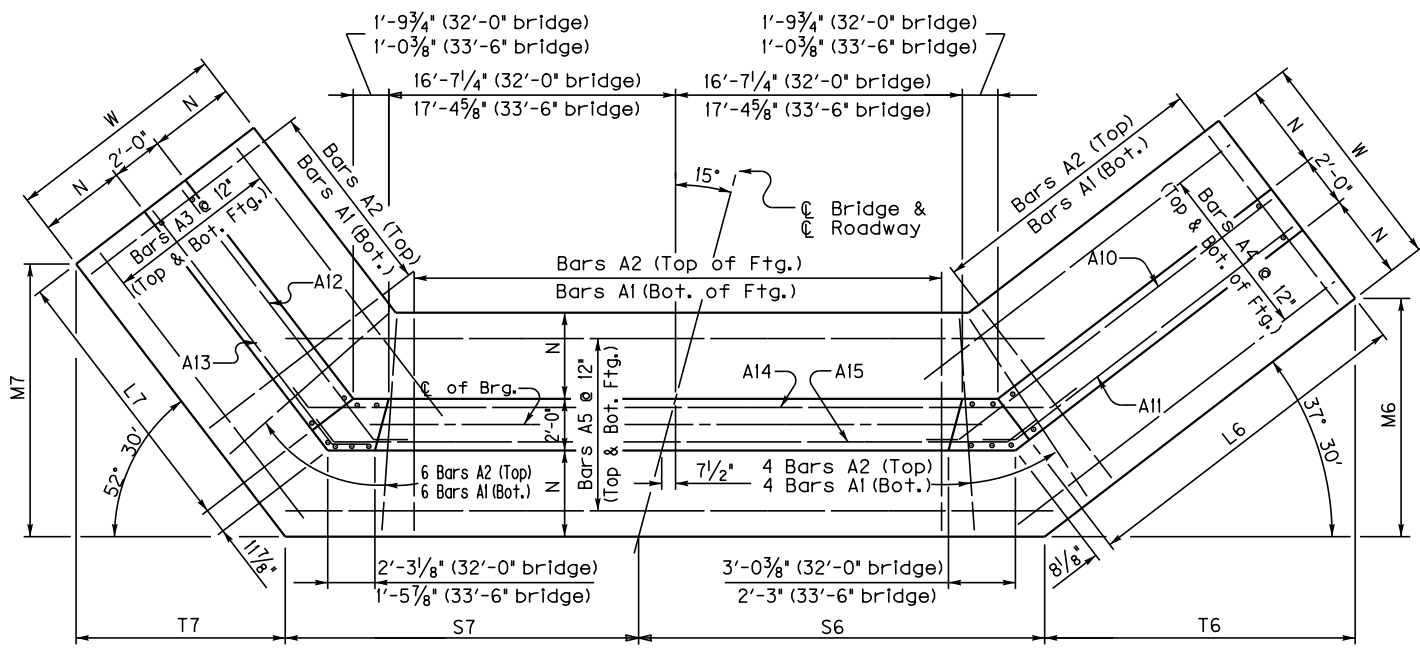


Table of Dimensions

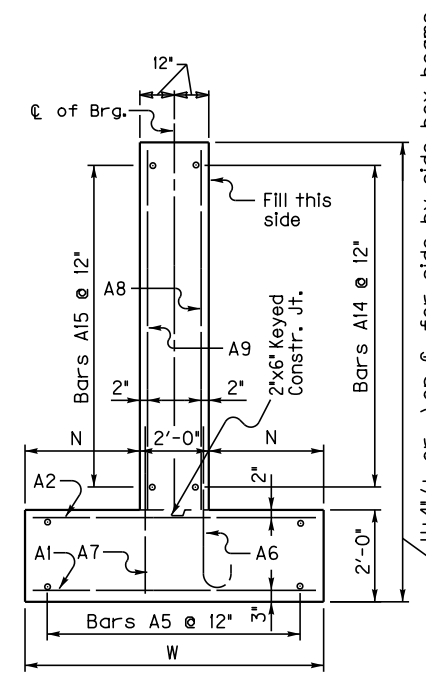
| H | W | N | M6 | M7 | S6 | S7 | T6 | T7 | L6 | L7 | | | | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|---|----|----|-----|----|-----|----|----|
| ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | | | | | | | | | |
| 15-16 | 12 | 0 | 5 | 0 | 16 | 3/4 | 17 | 1/4 | 22 | 8 | 19 | 0 | 20 | 11 | 3/8 | 13 | 3/4 | 24 | 18 |
| 13-14 | 11 | 0 | 4 | 6 | 14 | 1/2 | 15 | 2 | 22 | 4 | 19 | 0 | 19 | 10 | 5/8 | 12 | 4 | 21 | 16 |
| 11-12 | 10 | 0 | 4 | 0 | 12 | 2 | 13 | 5 | 22 | 3/4 | 19 | 9 | 14 | 10 | 3/4 | 10 | 3 | 18 | 14 |
| 9-10 | 9 | 0 | 3 | 6 | 10 | 3/4 | 10 | 0 | 21 | 9 | 19 | 7 | 13 | 4 | 8 | 4 | 15 | 11 | |
| 7-8 | 7 | 6 | 2 | 9 | 7 | 8 | 9 | 0 | 21 | 3 | 19 | 5 | 10 | 1 | 6 | 10 | 11 | 9 | |
| 5-6 | 6 | 6 | 2 | 3 | 6 | 4 | 7 | 2 | 21 | 0 | 19 | 4 | 8 | 3 | 5 | 6 | 9 | 7 | |



PLAN

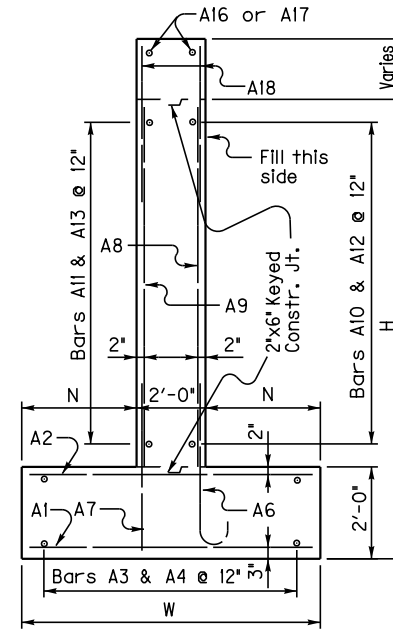
(Left Skew as shown; right skew opp. hand)

Note: Trim A16 & A17 bars if necessary



WALL SECTION

H+4 (+ or -) on center for side by side box beams, step cap as necessary for rolled steel beam superstructures to achieve a 2% cross slope on deck.



WING SECTION

| Quantities | | |
|------------|-----------|---------------|
| H | Concrete* | Reinforcement |
| | C.Y. | LBS. |
| 5 | 41.3 | 3417 |
| 6 | 45.3 | 3417 |
| 7 | 57.5 | 4702 |
| 8 | 61.8 | 4702 |
| 9 | 80.4 | 6714 |
| 10 | 85.1 | 6714 |
| 11 | 103.8 | 9529 |
| 12 | 109 | 9529 |
| 13 | 128.1 | 13325 |
| 14 | 133.7 | 13325 |
| 15 | 154.6 | 17249 |
| 16 | 160.6 | 17249 |

*Concrete quantities computed using 2' beam depth on 1/2 pad & 32'-0" Bridge Width

GENERAL NOTES

SPECIFICATIONS: Construct abutments according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Abutments are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. Dimensions may be adjusted to allow for 33'-6" rolled steel beam bridge width.

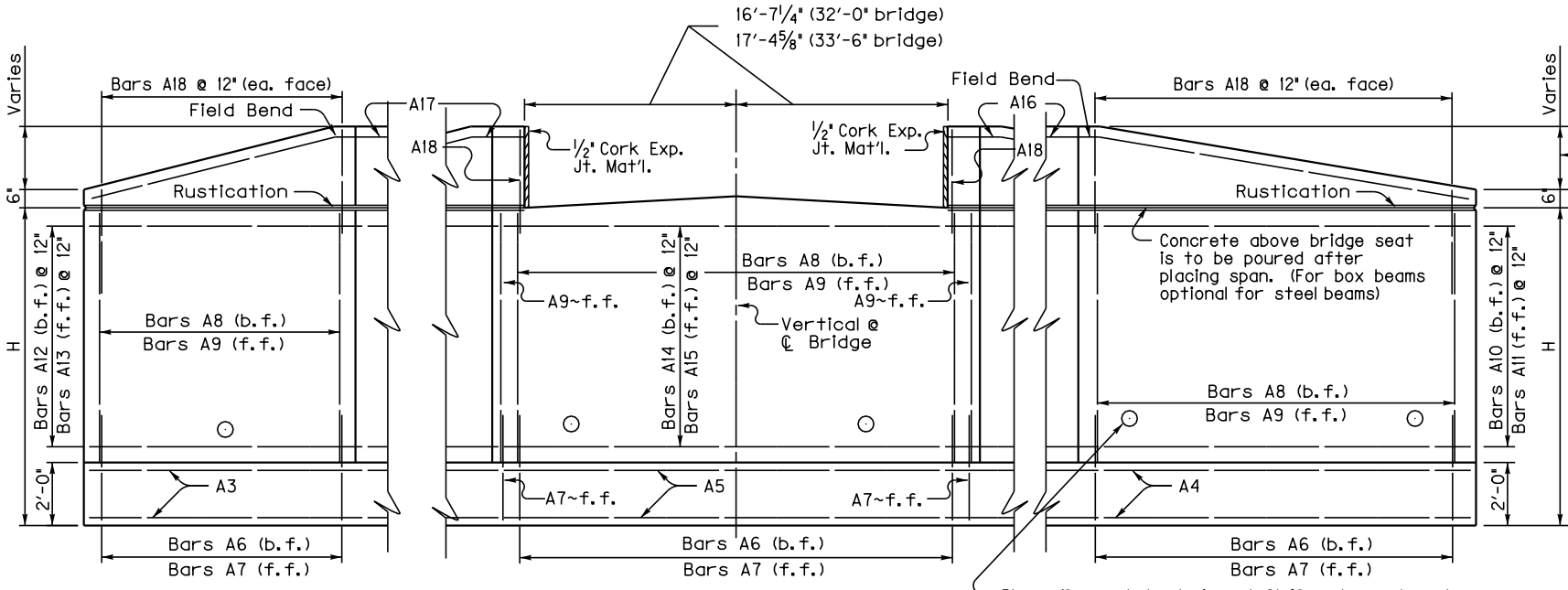
FOUNDATION PRESSURE: Construct abutment footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.

WING LENGTHS: Calculated assuming 2' superstructure depth and stream bank elevation at top of footing.

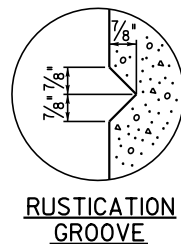
FOOTING ELEVATION: Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)

NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
 Concrete, Class 'A' = 3500 psi
 Steel Reinforcement = Grade 60



ELEVATION



RUSTICATION GROOVE

Place 4" weep hole drains at 8'-0" centers at such elevation as to afford best drainage of backfill, in accordance with the Standard Specifications.

ABUTMENT DETAILS

| SKEW | WIDTH | DATE |
|------|-------|------------|
| 15 | 32 | April 2017 |

DATE: 24-MAY-2017 SHEET LOCATION:

30° SKEW 16'-0" - 17'-6" BRIDGE WIDTH 2:1 FILL SLOPES

J:\Standard Drawing Revision Work\2020 revised Std. Drawings\Standard Abutments\Std. Abutments\

Bill of Reinforcement

| MARK | A1 | A2 | A3 | A4 | A5 | A6 | | | | A7 | A8 | A9 | A10 | A11 | A12 | A13 | A14 | A15 | A16 | A17 | A18 |
|-------|------|------------|--------|-----------|------------------------|--------|--------------------------------|----------------|---------------|-----------|-----------|------------|---------|------------|---------------------|---------------|----------|----------|---------|----------|---------|
| TYPE | Str. | Str. | Str. | Str. | Str. | 4 | | | | Str. | Str. | Str. | 8 | 8 | 8 | 8 | 7 | 7 | Str. | Str. | Str. |
| SIZE | | | #5 | #5 | #5 | | | | | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 |
| H | No. | Length | Length | Length | Length | Length | Length | Length | Length | No. | Length | Length | Length | Length | Length | Length | Length | Length | Length | Length | Length |
| 15-16 | 72 | 10 11 8 12 | 72 | 7 11 8 12 | 24 31 2 24 28 8 | 69 | 9 9 11 12 | 8 1/8 | 1 10 0 11 3/4 | 8 | 72 | 5 4 11 12 | 69 | 6 12 10 12 | 72 | 12 10 12 | 14 32 10 | 14 30 4 | 14 19 8 | 14 18 11 | 14 29 5 |
| 13-14 | 65 | 9 10 8 12 | 65 | 7 10 8 12 | 22 27 1 22 28 3 | 62 | 8 8 3 12 6 | 11 1 3 0 8 7 3 | 65 | 5 4 11 12 | 62 | 6 10 10 12 | 65 | 10 10 12 | 28 10 | 12 26 4 | 12 16 8 | 12 15 11 | 12 29 5 | 12 26 0 | 2 29 2 |
| 11-12 | 60 | 8 9 8 12 | 60 | 6 9 8 12 | 20 22 11 20 27 10 | 56 | 7 7 1 12 5 10 1/2 | 1 2 0 7 6 2 59 | 5 4 11 12 | 56 | 5 8 10 12 | 59 | 8 10 12 | 24 10 | 10 22 4 | 10 14 8 | 10 13 11 | 10 29 6 | 10 26 0 | 2 25 2 | |
| 9-10 | 56 | 7 8 8 12 | 56 | 5 8 8 12 | 18 19 10 18 27 5 | 51 | 6 6 1 12 5 1 1 0 0 6 5 4 | 54 | 5 4 11 12 | 51 | 5 6 10 12 | 54 | 6 10 12 | 8 21 10 | 8 19 4 | 8 12 8 8 11 | 8 29 6 | 8 26 0 | 2 22 2 | | |
| 7-8 | 51 | 6 7 2 12 | 51 | 5 7 2 12 | 16 16 10 16 14 2 | 44 | 5 5 7 12 4 8 1/2 0 10 0 5 4 11 | 47 | 5 4 11 12 | 44 | 4 10 12 | 47 | 4 10 12 | 6 16 11 | 6 14 4 | 6 10 8 6 9 11 | 6 29 6 | 6 26 0 | 2 17 2 | | |
| 5-6 | 46 | 5 6 2 12 | 46 | 5 6 2 12 | 14 8 3 14 11 0 14 26 1 | 39 | 5 5 7 12 4 8 1/2 0 10 0 5 4 11 | 42 | 5 4 11 12 | 39 | 5 2 10 12 | 42 | 2 10 12 | 4 13 11 | 4 11 4 4 8 8 4 7 11 | 4 29 6 | 4 26 0 | 2 14 2 | | | |

Reinforcement Details

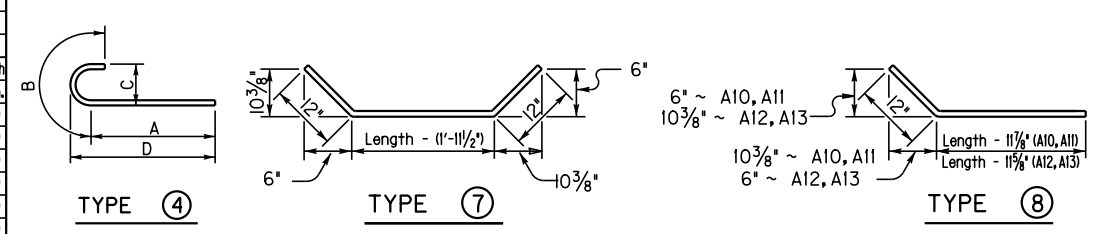
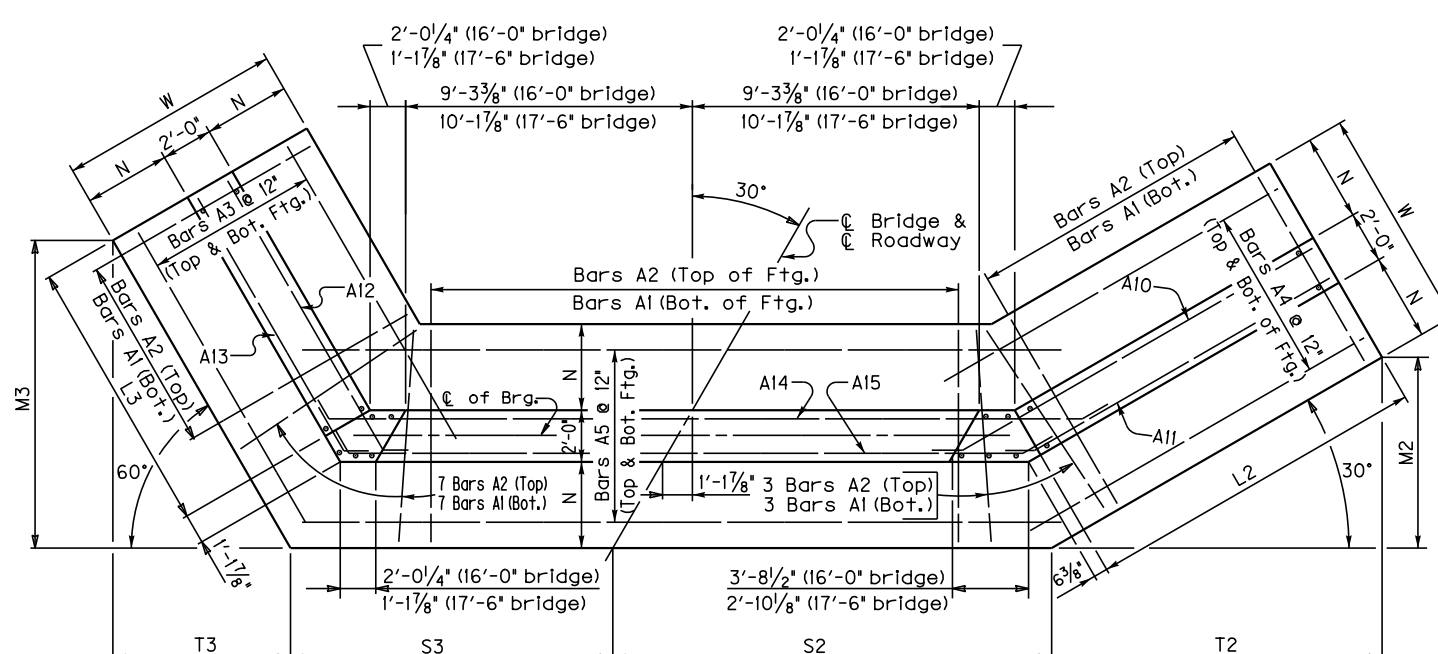
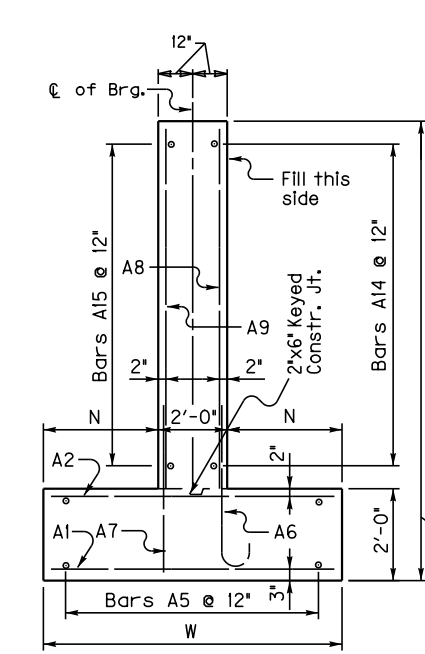


Table of Dimensions

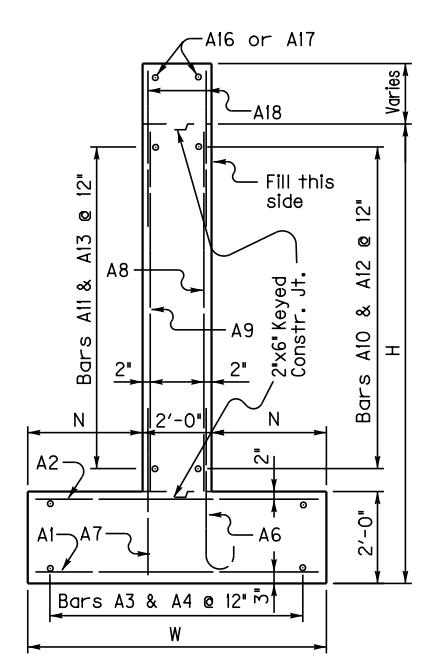
| H | W | N | M2 | M3 | S2 | S3 | T2 | T3 | L2 | L3 |
|-------|------|-----|----------|----------|-----------|----------|------------|----------|-----|-----|
| ft. | ft. | ft. | ft. | ft. | ft. | ft. | ft. | ft. | ft. | ft. |
| 15-16 | 12 0 | 5 0 | 15 5/4 | 18 2 3/4 | 17 2 3/8 | 11 3 3/8 | 26 8 7/8 | 10 6 1/4 | 29 | 17 |
| 13-14 | 11 0 | 4 6 | 13 4 1/4 | 15 4 1/2 | 16 9 5/8 | 11 3 3/8 | 23 1 1/8 | 8 10 1/2 | 25 | 14 |
| 11-12 | 10 0 | 4 0 | 11 3 3/8 | 13 4 3/4 | 16 4 1/2 | 11 3 3/8 | 19 7 7 8/4 | 21 | 12 | |
| 9-10 | 9 0 | 3 6 | 9 8 3/8 | 11 4 3/8 | 15 1 1/2 | 11 3 3/8 | 16 10 3/8 | 6 7 | 18 | 10 |
| 7-8 | 7 6 | 2 9 | 7 1 5/8 | 9 3 3/8 | 15 3 3/8 | 11 3 3/8 | 12 4 3/8 | 5 4 1/2 | 13 | 8 |
| 5-6 | 6 6 | 2 3 | 6 7 3/8 | 7 3 3/8 | 14 10 3/4 | 11 3 3/8 | 9 7 3/4 | 4 2 3/4 | 10 | 6 |



PLAN
(Left Skew as shown; right skew opp. hand)



WALL SECTION



WING SECTION

| Quantities | | |
|------------|-------------------|-----------------------|
| H | Concrete* C.Y. | Reinforcement LBS. |
| 5 | 31.1 | 2680 |
| 6 | 34 | 2680 |
| 7 | 45.2 | 3824 |
| 8 | 48.5 | 3824 |
| 9 | 65.9 | 5650 |
| 10 | 69.8 | 5650 |
| 11 | 85.1 | 7935 |
| 12 | 89.3 | 7935 |
| 13 | 108.2 | 11357 |
| 14 | 112.9 | 11357 |
| 15 | 135.9 | 15311 |
| 16 | 141.1 | 15311 |

*Concrete quantities computed using 2' beam depth on 1/2' pad & 16'-0" Bridge Width

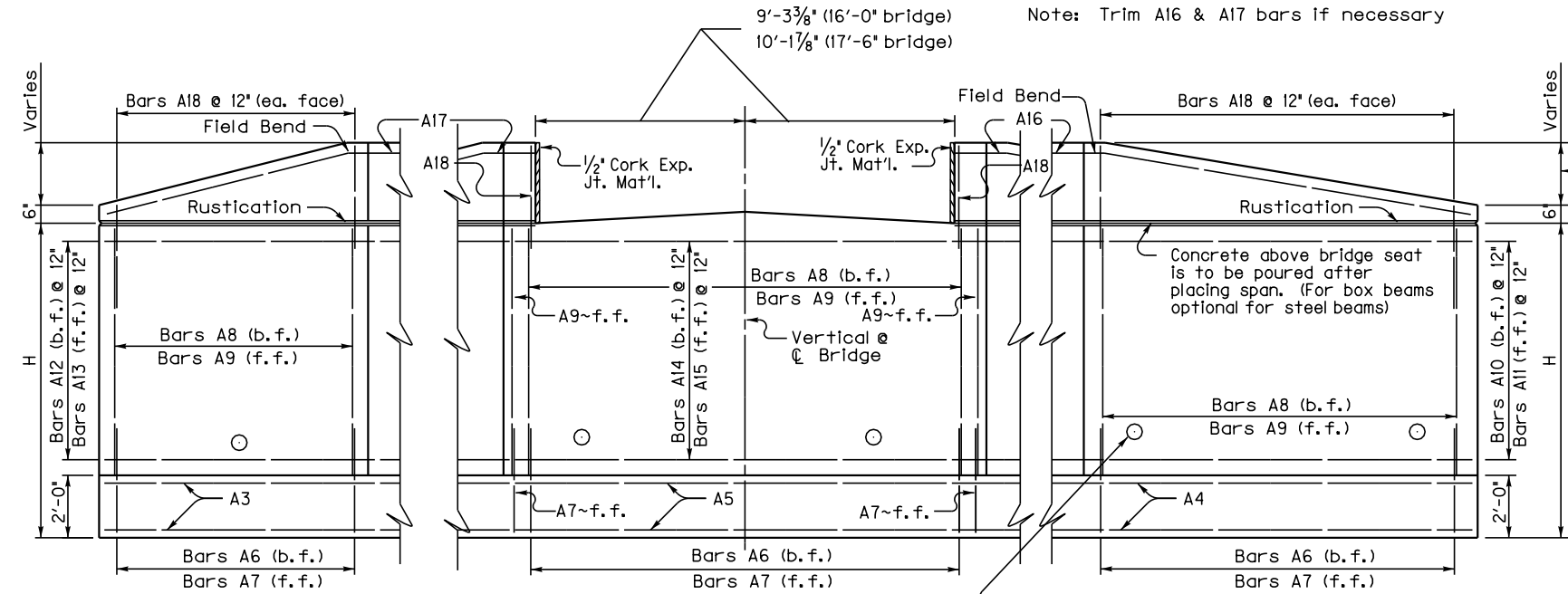
GENERAL NOTES

- SPECIFICATIONS:** Construct abutments according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Abutments are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. Dimensions may be adjusted to allow for 17'-6" rolled steel beam bridge width.
- FOUNDATION PRESSURE:** Construct abutment footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.
- WING LENGTHS:** Calculated assuming 2' superstructure depth and stream bank elevation at top of footing.
- FOOTING ELEVATION:** Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)
- NOTE:** Distances to bars shown are clear dimensions unless otherwise noted.

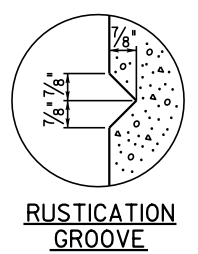
MATERIAL SPECIFICATIONS:
 Concrete, Class 'A' = 3500 psi
 Steel Reinforcement = Grade 60

ABUTMENT DETAILS

| SKEW | WIDTH | DATE |
|------|-------|------------|
| 30 | 16 | April 2017 |



ELEVATION



RUSTICATION GROOVE

Place 4" weep hole drains at 8'-0" centers at such elevation as to afford best drainage of backfill, in accordance with the Standard Specifications.

DATE: 24-MAY-2017 SHEET LOCATION:

30° SKEW 24'-0" - 25'-6" BRIDGE WIDTH 2:1 FILL SLOPES

Bill of Reinforcement

| MARK | A1 | A2 | A3 | A4 | A5 | A6 | | | | A7 | A8 | A9 | A10 | A11 | A12 | A13 | A14 | A15 | A16 | A17 | A18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|------|------|--------|---------|------|------|--------|---------|-----|------|--------|---------|------|------|--------|---------|------|------|--------|---------|------|------|--------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|----|----|---|----|---|-----|---|---|
| TYPE | Str. | Str. | Str. | Str. | Str. | 4 | | | | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SIZE | #5 | #5 | #5 | #5 | #5 | #5 | | | | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H | No. | Size | Length | Spacing | No. | Size | Length | Spacing | No. | Size | Length | Spacing | No. | Size | Length | Spacing | No. | Size | Length | Spacing | No. | Size | Length | Spacing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15-16 | 81 | 10 | 11 | 8 | 12 | 81 | 7 | 11 | 8 | 12 | 24 | 31 | 2 | 24 | 37 | 11 | 78 | 9 | 9 | 11 | 12 | 8 | 62 | 5 | 4 | 11 | 12 | 78 | 6 | 12 | 10 | 12 | 82 | 12 | 10 | 12 | 14 | 32 | 10 | 14 | 30 | 4 | 14 | 19 | 8 | 14 | 18 | 11 | 14 | 38 | 8 | 14 | 35 | 3 | 2 | 29 | 2 | 2 | 20 | 1 | 107 | 5 | 9 |
| 13-14 | 75 | 9 | 10 | 8 | 12 | 75 | 7 | 10 | 8 | 12 | 22 | 17 | 8 | 22 | 27 | 11 | 71 | 8 | 8 | 3 | 12 | 6 | 61 | 3 | 10 | 12 | 71 | 6 | 10 | 10 | 12 | 75 | 10 | 10 | 12 | 28 | 10 | 12 | 26 | 4 | 12 | 16 | 8 | 12 | 15 | 11 | 12 | 38 | 8 | 12 | 35 | 3 | 2 | 29 | 2 | 2 | 17 | 1 | 93 | 5 | 9 | | |
| 11-12 | 69 | 8 | 9 | 8 | 12 | 69 | 6 | 9 | 8 | 12 | 20 | 15 | 5 | 20 | 22 | 11 | 65 | 7 | 7 | 1 | 12 | 5 | 59 | 4 | 11 | 12 | 65 | 5 | 8 | 10 | 12 | 69 | 8 | 10 | 12 | 24 | 10 | 12 | 22 | 4 | 10 | 14 | 8 | 10 | 13 | 11 | 10 | 38 | 9 | 10 | 35 | 3 | 2 | 25 | 2 | 2 | 15 | 1 | 81 | 5 | 9 | | |
| 9-10 | 65 | 7 | 8 | 8 | 12 | 65 | 5 | 8 | 8 | 12 | 18 | 13 | 1 | 18 | 19 | 10 | 60 | 6 | 6 | 1 | 12 | 5 | 54 | 4 | 11 | 12 | 60 | 5 | 6 | 10 | 12 | 64 | 6 | 10 | 12 | 8 | 21 | 10 | 8 | 19 | 4 | 8 | 12 | 8 | 11 | 11 | 8 | 38 | 9 | 8 | 35 | 3 | 2 | 22 | 2 | 2 | 13 | 1 | 71 | 5 | 9 | | |
| 7-8 | 60 | 6 | 7 | 2 | 12 | 60 | 5 | 7 | 2 | 12 | 16 | 10 | 6 | 16 | 14 | 2 | 53 | 5 | 5 | 7 | 12 | 4 | 48 | 4 | 11 | 12 | 53 | 4 | 10 | 12 | 57 | 4 | 10 | 12 | 6 | 16 | 11 | 6 | 14 | 4 | 6 | 10 | 8 | 6 | 9 | 11 | 6 | 38 | 9 | 6 | 35 | 3 | 2 | 17 | 2 | 2 | 11 | 1 | 57 | 5 | 9 | | |
| 5-6 | 55 | 5 | 6 | 2 | 12 | 55 | 5 | 6 | 2 | 12 | 14 | 8 | 3 | 14 | 11 | 0 | 48 | 5 | 5 | 7 | 12 | 4 | 48 | 5 | 7 | 12 | 4 | 48 | 5 | 2 | 10 | 12 | 52 | 2 | 10 | 12 | 4 | 13 | 11 | 4 | 11 | 4 | 8 | 4 | 7 | 11 | 4 | 38 | 9 | 4 | 35 | 3 | 2 | 14 | 2 | 2 | 9 | 1 | 47 | 5 | 9 | | |

Reinforcement Details

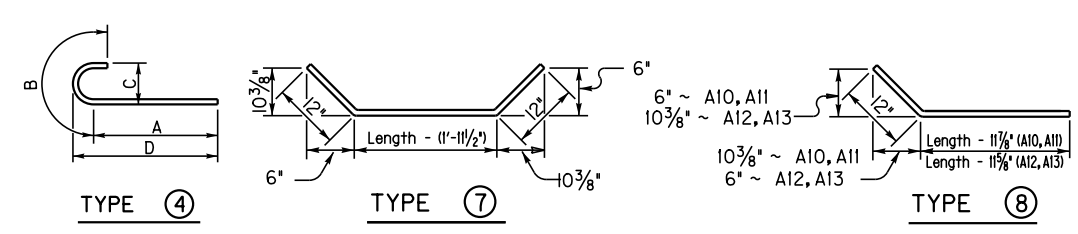
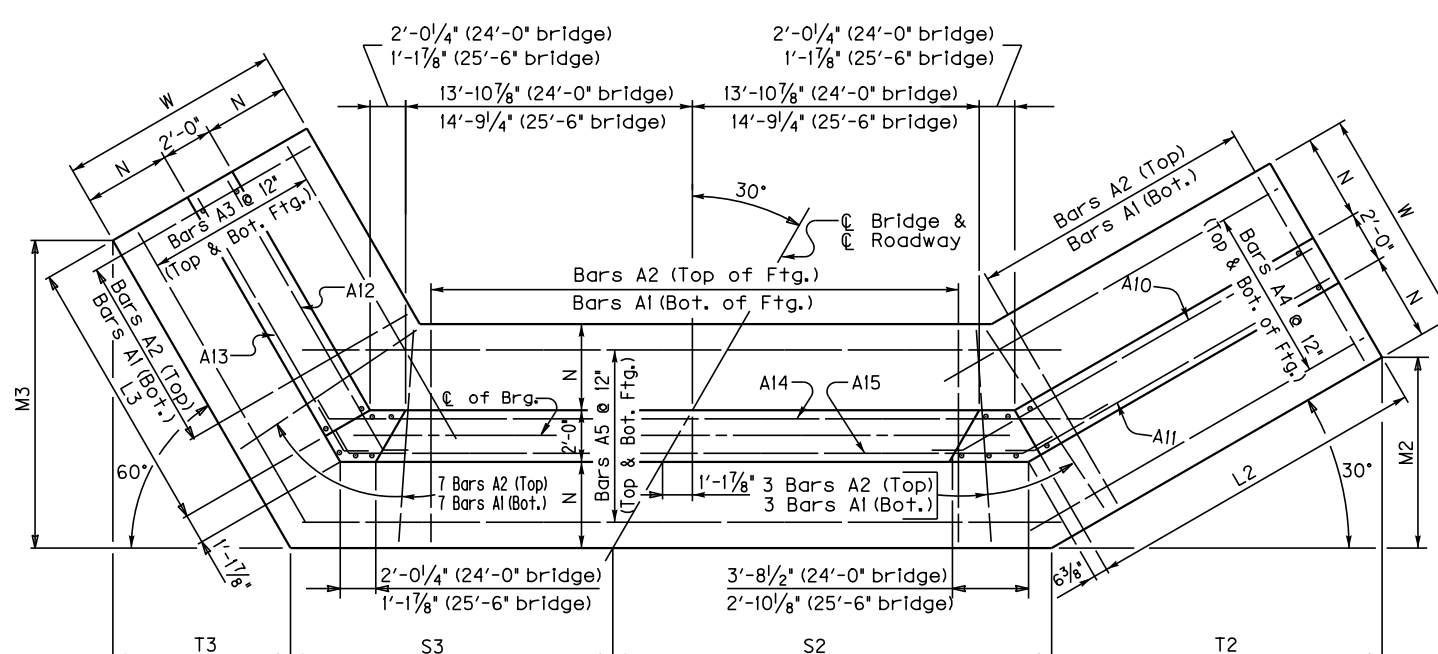
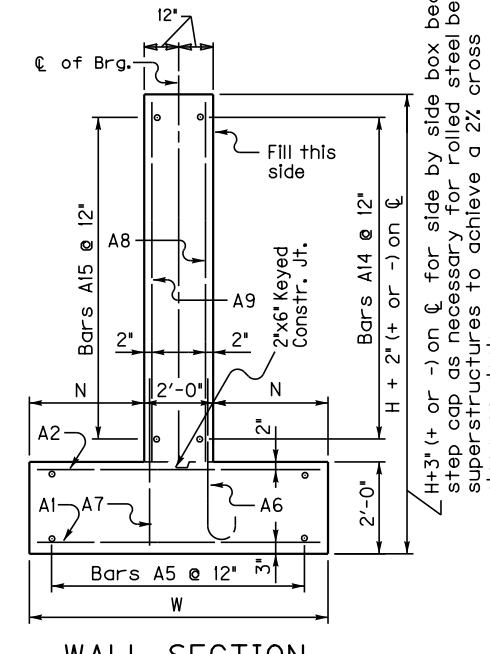


Table of Dimensions

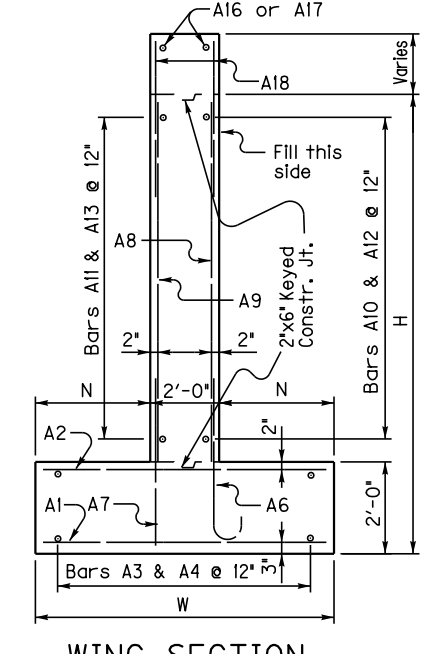
| H | W | N | M2 | M3 | S2 | S3 | T2 | T3 | L2 | L3 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Length | Length | Length | Length | Length | Length | Length | Length | Length | Length | Length |
| 15-16 | 12 | 0 | 5 | 0 | 15 | 5/4 | 18 | 2 3/4 | 21 | 10 3/4 |
| 13-14 | 11 | 0 | 4 | 6 | 13 | 4/4 | 15 | 4 1/2 | 21 | 5 |
| 11-12 | 10 | 0 | 4 | 0 | 11 | 3 3/4 | 13 | 4 3/4 | 21 | 0 |
| 9-10 | 9 | 0 | 3 | 6 | 9 | 8 3/4 | 11 | 4 3/4 | 20 | 6 3/4 |
| 7-8 | 7 | 6 | 2 | 9 | 7 | 1 5/8 | 9 | 3 3/4 | 19 | 1 1/4 |
| 5-6 | 6 | 6 | 2 | 3 | 5 | 6 3/4 | 7 | 3 3/4 | 19 | 6 3/4 |



PLAN
(Left Skew as shown; right skew opp. hand)
Note: Trim A16 & A17 bars if necessary



WALL SECTION



WING SECTION

| H | Quantities | |
|----|----------------|--------------------|
| | Concrete* C.Y. | Reinforcement LBS. |
| 5 | 37.7 | 3169 |
| 6 | 41.4 | 3169 |
| 7 | 53.8 | 4459 |
| 8 | 57.9 | 4459 |
| 9 | 77 | 6490 |
| 10 | 81.5 | 6490 |
| 11 | 98.2 | 9044 |
| 12 | 103.1 | 9044 |
| 13 | 123.4 | 12893 |
| 14 | 128.8 | 12893 |
| 15 | 153.2 | 17131 |
| 16 | 159.1 | 17131 |

*Concrete quantities computed using 2' beam depth on 1/2' pad & 24'-0" Bridge Width

GENERAL NOTES

SPECIFICATIONS: Construct abutments according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Abutments are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. Dimensions may be adjusted to allow for 25'-6" rolled steel beam bridge width.

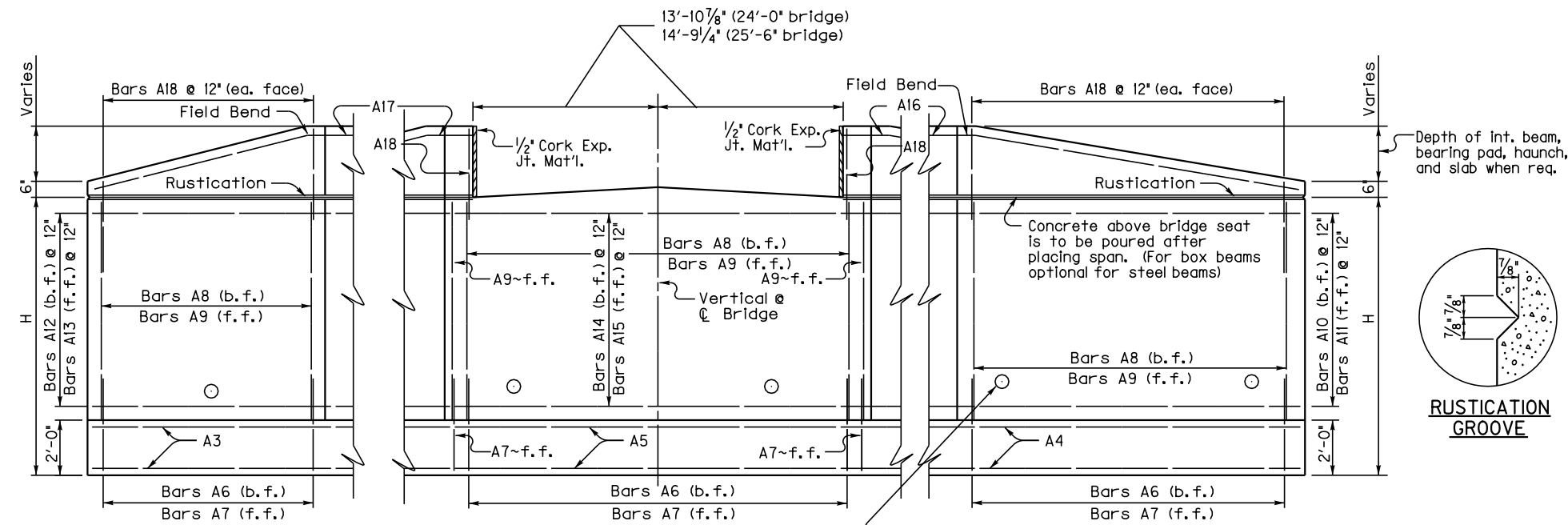
FOUNDATION PRESSURE: Construct abutment footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.

WING LENGTHS: Calculated assuming 2' superstructure depth and stream bank elevation at top of footing.

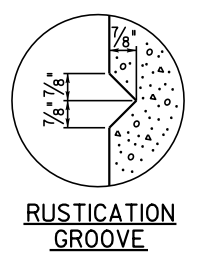
FOOTING ELEVATION: Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)

NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
Concrete, Class 'A' = 3500 psi
Steel Reinforcement = Grade 60



ELEVATION
Place 4" weep hole drains at 8'-0" centers at such elevation as to afford best drainage of backfill, in accordance with the Standard Specifications.



RUSTICATION GROOVE

ABUTMENT DETAILS

| SKEW | WIDTH | DATE |
|------|-------|------------|
| 30 | 24 | April 2017 |

DATE: 24-MAY-2017 SHEET LOCATION: J:\Standard Drawing Revision Work\2020 revised Std. Drawings\Standard Abutments\Std. Abutments\

30° SKEW 32'-0" - 33'-6" BRIDGE WIDTH 2:1 FILL SLOPES

Bill of Reinforcement

| MARK | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | A9 | A10 | A11 | A12 | A13 | A14 | A15 | A16 | A17 | A18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|----|----|----|----|-----|----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|
| TYPE | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SIZE | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15-16 | 90 | 10 | 11 | 8 | 12 | 90 | 7 | 11 | 8 | 12 | 24 | 31 | 2 | 24 | 47 | 2 | 88 | 9 | 11 | 8 | 12 | 88 | 6 | 12 | 10 | 12 | 14 | 32 | 10 | 14 | 30 | 4 | 14 | 19 | 8 | 14 | 18 | 11 | 14 | 47 | 11 | 14 | 44 | 6 | 2 | 33 | 2 | 2 | 20 | 1 | 107 | 5 | 9 | | | | | | | | | | | | | | | | | | |
| 13-14 | 84 | 9 | 10 | 8 | 12 | 84 | 7 | 10 | 8 | 12 | 22 | 27 | 1 | 22 | 46 | 9 | 81 | 8 | 8 | 12 | 6 | 11 | 3 | 0 | 8 | 7 | 3 | 84 | 5 | 4 | 11 | 12 | 88 | 6 | 10 | 10 | 12 | 84 | 10 | 10 | 12 | 28 | 10 | 12 | 26 | 4 | 12 | 16 | 8 | 12 | 15 | 11 | 12 | 47 | 11 | 12 | 44 | 6 | 2 | 29 | 2 | 2 | 17 | 1 | 93 | 5 | 9 | | | | |
| 11-12 | 78 | 8 | 9 | 8 | 12 | 78 | 6 | 9 | 8 | 12 | 20 | 22 | 1 | 20 | 46 | 4 | 75 | 7 | 7 | 12 | 5 | 10 | 1/2 | 1 | 2 | 0 | 7 | 78 | 5 | 4 | 11 | 12 | 75 | 5 | 8 | 10 | 12 | 78 | 8 | 10 | 12 | 24 | 10 | 22 | 4 | 10 | 14 | 8 | 10 | 13 | 11 | 10 | 47 | 11 | 10 | 44 | 6 | 2 | 25 | 2 | 2 | 15 | 1 | 81 | 5 | 9 | | | | | |
| 9-10 | 75 | 7 | 8 | 8 | 12 | 75 | 5 | 8 | 8 | 12 | 18 | 13 | 1 | 18 | 19 | 10 | 18 | 45 | 11 | 7 | 0 | 6 | 5 | 4 | 7 | 3 | 5 | 4 | 75 | 5 | 4 | 11 | 12 | 70 | 5 | 6 | 10 | 12 | 73 | 6 | 10 | 12 | 73 | 6 | 10 | 12 | 8 | 21 | 10 | 8 | 19 | 4 | 8 | 12 | 8 | 11 | 8 | 48 | 0 | 8 | 44 | 6 | 2 | 22 | 2 | 2 | 13 | 1 | 71 | 5 | 9 |
| 7-8 | 69 | 6 | 7 | 2 | 12 | 69 | 5 | 7 | 2 | 12 | 16 | 10 | 6 | 16 | 14 | 2 | 16 | 45 | 0 | 6 | 3 | 5 | 7 | 12 | 4 | 8 | 1/2 | 0 | 10 | 0 | 5 | 4 | 11 | 66 | 5 | 4 | 10 | 12 | 66 | 4 | 10 | 12 | 66 | 4 | 10 | 12 | 6 | 14 | 4 | 6 | 10 | 8 | 6 | 9 | 11 | 6 | 48 | 0 | 6 | 44 | 6 | 2 | 17 | 2 | 2 | 11 | 1 | 57 | 5 | 9 | |
| 5-6 | 65 | 5 | 6 | 2 | 12 | 65 | 5 | 6 | 2 | 12 | 14 | 8 | 3 | 14 | 11 | 0 | 14 | 44 | 7 | 5 | 5 | 7 | 12 | 4 | 8 | 1/2 | 0 | 10 | 0 | 5 | 4 | 11 | 61 | 5 | 4 | 10 | 12 | 61 | 2 | 10 | 12 | 61 | 2 | 10 | 12 | 4 | 13 | 11 | 4 | 11 | 4 | 8 | 4 | 7 | 11 | 4 | 48 | 0 | 4 | 44 | 6 | 2 | 14 | 2 | 2 | 9 | 1 | 47 | 5 | 9 | |

Reinforcement Details

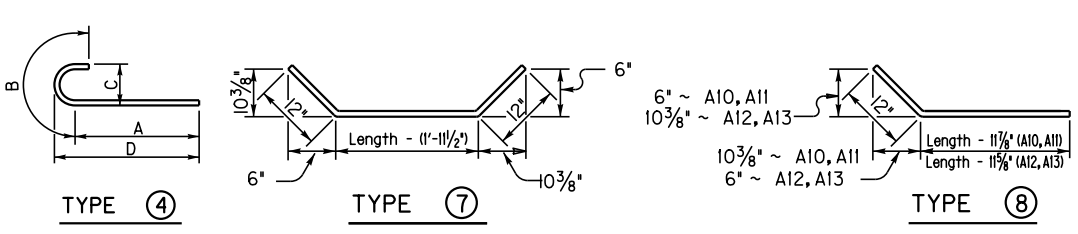
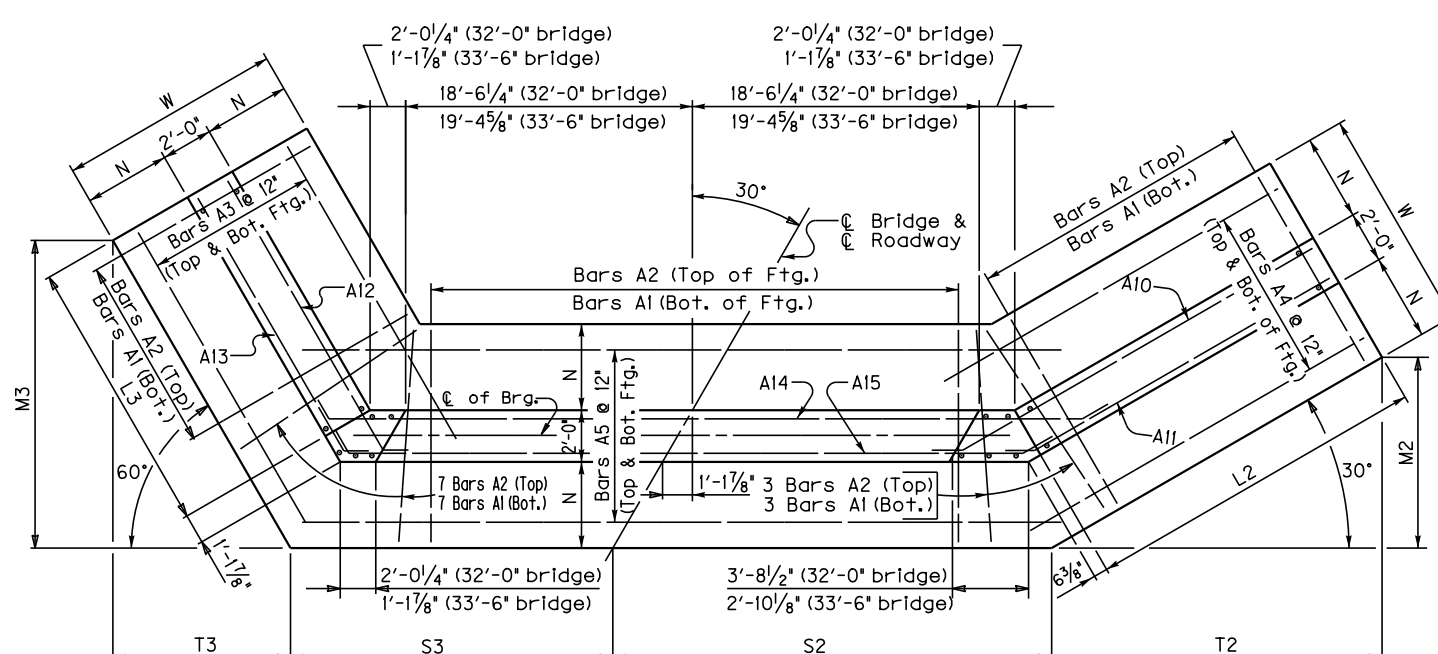


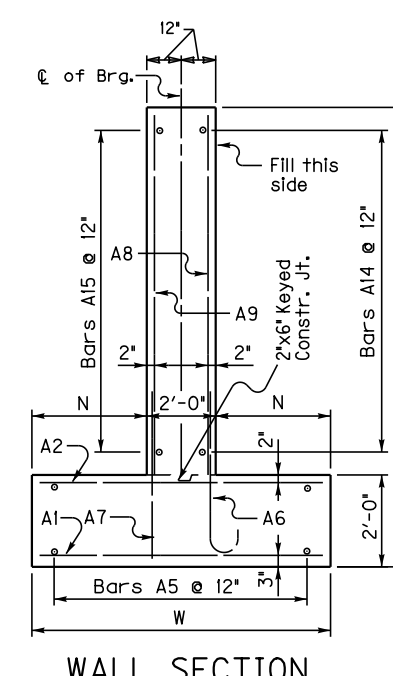
Table of Dimensions

| H | W | N | M2 | M3 | S2 | S3 | T2 | T3 | L2 | L3 | | | | | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|----|----|-----|----|-----|-----|----|----|
| ft. | ft. | ft. | ft. | ft. | ft. | ft. | ft. | ft. | ft. | ft. | | | | | | | | | | |
| 15-16 | 12 | 0 | 5 | 0 | 15 | 5/4 | 18 | 2 | 26 | 5/2 | 20 | 6/2 | 26 | 8 | 7/8 | 10 | 6 | 4 | 29 | 17 |
| 13-14 | 11 | 0 | 4 | 6 | 13 | 4/4 | 15 | 4 | 26 | 1/2 | 20 | 6/2 | 23 | 1 | 7/8 | 8 | 10 | 1/2 | 25 | 14 |
| 11-12 | 10 | 0 | 4 | 0 | 11 | 3/8 | 13 | 4 | 25 | 7/8 | 20 | 6/2 | 19 | 7 | 7 | 8 | 1/2 | 21 | 12 | |
| 9-10 | 9 | 0 | 3 | 6 | 9 | 8/8 | 11 | 4 | 25 | 2 | 20 | 6/2 | 16 | 10 | 7/8 | 6 | 7 | 18 | 10 | |
| 7-8 | 7 | 6 | 2 | 9 | 7 | 1 | 9 | 3 | 24 | 6 | 20 | 6/2 | 12 | 4 | 5 | 4 | 13 | 8 | | |
| 5-6 | 6 | 6 | 2 | 3 | 5 | 6 | 7 | 3 | 24 | 1 | 20 | 6/2 | 9 | 7 | 4 | 2 | 10 | 6 | | |

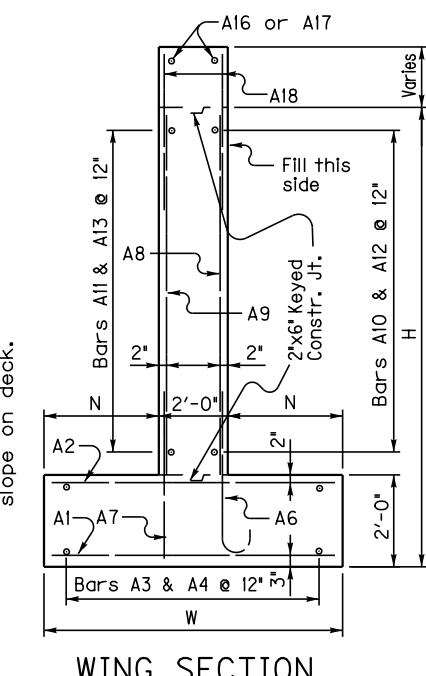


PLAN (Left Skew as shown; right skew opp. hand)

Note: Trim A16 & A17 bars if necessary



WALL SECTION



WING SECTION

| H | Quantities | |
|----|------------|---------------|
| | Concrete* | Reinforcement |
| | C.Y. | LBS. |
| 5 | 44.4 | 3672 |
| 6 | 48.7 | 3672 |
| 7 | 62.6 | 5096 |
| 8 | 67.3 | 5096 |
| 9 | 88.1 | 7361 |
| 10 | 93.4 | 7361 |
| 11 | 111.4 | 10161 |
| 12 | 117 | 10161 |
| 13 | 138.6 | 14393 |
| 14 | 144.7 | 14393 |
| 15 | 170.5 | 18985 |
| 16 | 177.1 | 18985 |

*Concrete quantities computed using 2' beam depth on 1/2" pad & 32'-0" Bridge Width

GENERAL NOTES

SPECIFICATIONS: Construct abutments according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Abutments are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. Dimensions may be adjusted to allow for 33'-6" rolled steel beam bridge width.

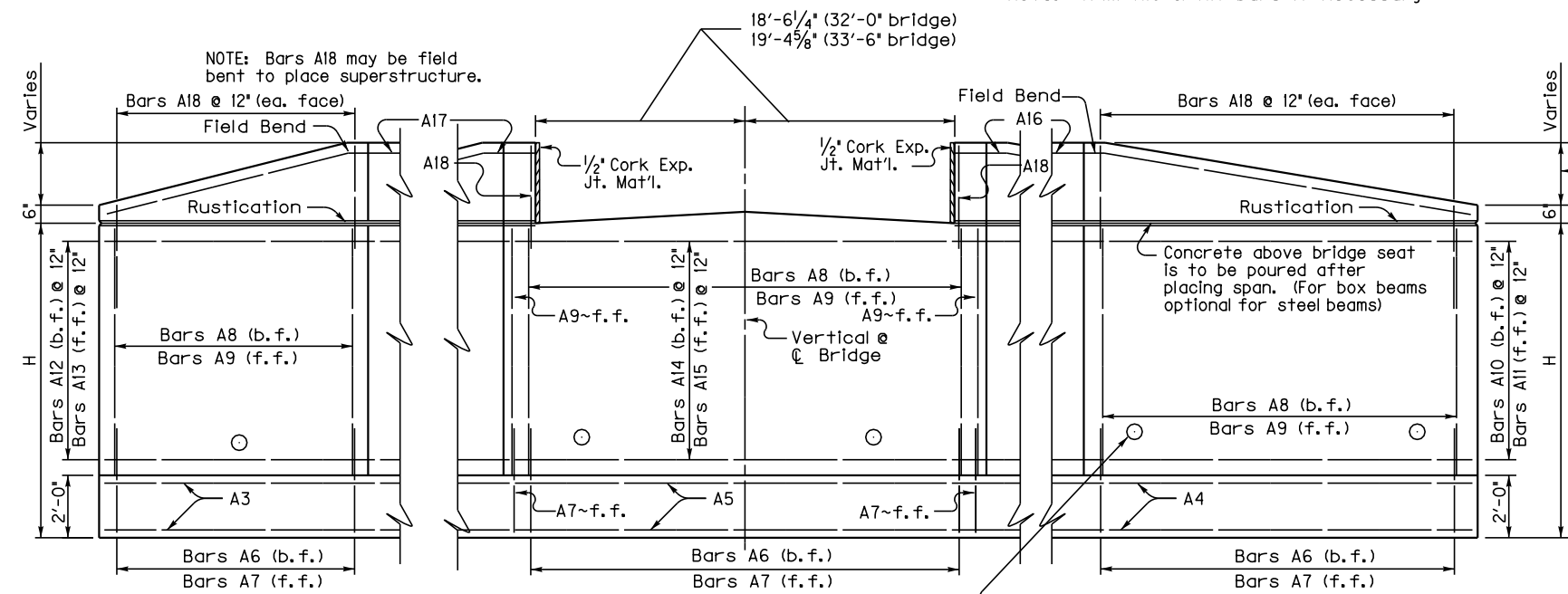
FOUNDATION PRESSURE: Construct abutment footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.

WING LENGTHS: Calculated assuming 2' superstructure depth and stream bank elevation at top of footing.

FOOTING ELEVATION: Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)

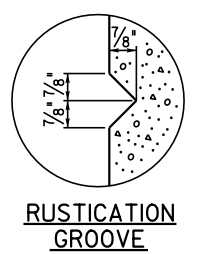
NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
 Concrete, Class "A" = 3500 psi
 Steel Reinforcement = Grade 60



ELEVATION

Place 4" weep hole drains at 8'-0" centers at such elevation as to afford best drainage of backfill, in accordance with the Standard Specifications.



RUSTICATION GROOVE

ABUTMENT DETAILS

| SKEW | WIDTH | DATE |
|------|-------|------------|
| 30 | 32 | April 2017 |

DATE: 24-MAY-2017 SHEET LOCATION: J:\Standard Drawing Revision Work\2020 revised Std. Drawings\Standard Abutments\Std. Abutments\

FILE NAME: J:\Standard Drawing Revision Work\2020 revised Std. Drawings\Standard Abutments\Std. Abutments\1
 USERNAME: Joseph.vanzee
 DATE: 24-MAY-2017
 SHEET LOCATION:

45° SKEW 16'-0" - 17'-6" BRIDGE WIDTH 2:1 FILL SLOPES

Bill of Reinforcement

| MARK | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | A9 | A10 | A11 | A12 | A13 | A14 | A15 | A16 | A17 | A18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|------|------|--------|---------|------|------|--------|---------|------|------|--------|---------|------|------|--------|---------|------|------|--------|---------|---|----|----|----|----|----|-----|----|----|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|----|----|----|----|---|---|
| TYPE | Str. | Str. | Str. | Str. | Str. | | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SIZE | | | #5 | #5 | #5 | 4 | | | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H | No. | Size | Length | Spacing | No. | Size | Length | Spacing | No. | Size | Length | Spacing | No. | Size | Length | Spacing | No. | Size | Length | Spacing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15-16 | 84 | 10 | 11 | 8 | 12 | 84 | 7 | 11 | 8 | 12 | 24 | 20 | 6 | 24 | 38 | 11 | 24 | 33 | 10 | 81 | 9 | 11 | 12 | 8 | 85 | 5 | 4 | 11 | 12 | 81 | 6 | 12 | 10 | 12 | 85 | 12 | 10 | 12 | 14 | 41 | 8 | 14 | 38 | 2 | 14 | 18 | 6 | 14 | 18 | 1 | 14 | 35 | 4 | 14 | 31 | 2 | 2 | 42 | 2 | 2 | 19 | 1 | 12 | 4 | 5 | 9 | | | | | | | |
| 13-14 | 78 | 9 | 10 | 8 | 12 | 78 | 7 | 10 | 8 | 12 | 22 | 18 | 2 | 22 | 34 | 10 | 22 | 33 | 4 | 75 | 8 | 8 | 3 | 12 | 6 | 11 | 1 | 3 | 0 | 8 | 7 | 3 | 79 | 5 | 4 | 11 | 12 | 75 | 6 | 10 | 10 | 12 | 79 | 10 | 10 | 12 | 37 | 9 | 12 | 34 | 2 | 12 | 16 | 6 | 12 | 16 | 1 | 12 | 35 | 4 | 12 | 31 | 2 | 2 | 38 | 2 | 2 | 17 | 1 | 12 | 5 | 9 | |
| 11-12 | 73 | 8 | 9 | 8 | 12 | 73 | 6 | 9 | 8 | 12 | 20 | 15 | 10 | 20 | 29 | 9 | 20 | 32 | 11 | 68 | 7 | 7 | 1 | 12 | 5 | 10 | 1/2 | 1 | 2 | 0 | 7 | 6 | 2 | 72 | 5 | 4 | 11 | 12 | 68 | 5 | 8 | 10 | 12 | 72 | 8 | 10 | 12 | 32 | 9 | 10 | 29 | 2 | 10 | 14 | 6 | 10 | 14 | 1 | 10 | 35 | 4 | 10 | 31 | 2 | 2 | 33 | 2 | 2 | 15 | 1 | 98 | 5 | 9 |
| 9-10 | 66 | 7 | 8 | 8 | 12 | 66 | 5 | 8 | 8 | 12 | 18 | 13 | 6 | 18 | 24 | 8 | 18 | 32 | 6 | 61 | 6 | 6 | 1 | 12 | 5 | 1 | 1 | 0 | 0 | 6 | 5 | 4 | 65 | 5 | 4 | 11 | 12 | 61 | 5 | 6 | 10 | 12 | 65 | 6 | 10 | 12 | 8 | 27 | 8 | 24 | 2 | 8 | 12 | 6 | 8 | 12 | 1 | 8 | 35 | 5 | 8 | 31 | 2 | 2 | 28 | 2 | 2 | 13 | 1 | 84 | 5 | 9 | |
| 7-8 | 61 | 6 | 7 | 2 | 12 | 61 | 5 | 7 | 2 | 12 | 16 | 10 | 11 | 16 | 18 | 11 | 16 | 31 | 8 | 54 | 5 | 5 | 7 | 12 | 4 | 8 | 1/2 | 0 | 10 | 0 | 5 | 4 | 58 | 5 | 4 | 11 | 12 | 54 | 4 | 10 | 12 | 58 | 4 | 10 | 12 | 6 | 19 | 2 | 6 | 10 | 6 | 10 | 1 | 6 | 35 | 5 | 6 | 31 | 2 | 2 | 23 | 2 | 2 | 11 | 1 | 70 | 5 | 9 | | | | | |
| 5-6 | 54 | 5 | 6 | 2 | 12 | 54 | 5 | 6 | 2 | 12 | 14 | 8 | 7 | 14 | 13 | 9 | 14 | 31 | 2 | 47 | 5 | 5 | 7 | 12 | 4 | 8 | 1/2 | 0 | 10 | 0 | 5 | 4 | 51 | 5 | 4 | 11 | 12 | 47 | 5 | 2 | 10 | 12 | 51 | 2 | 10 | 12 | 4 | 17 | 10 | 4 | 14 | 2 | 4 | 8 | 6 | 4 | 8 | 1 | 4 | 35 | 5 | 4 | 31 | 2 | 2 | 18 | 2 | 2 | 9 | 1 | 56 | 5 | 9 |

Reinforcement Details

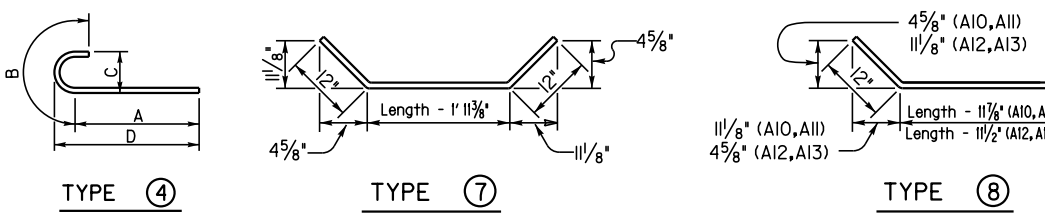
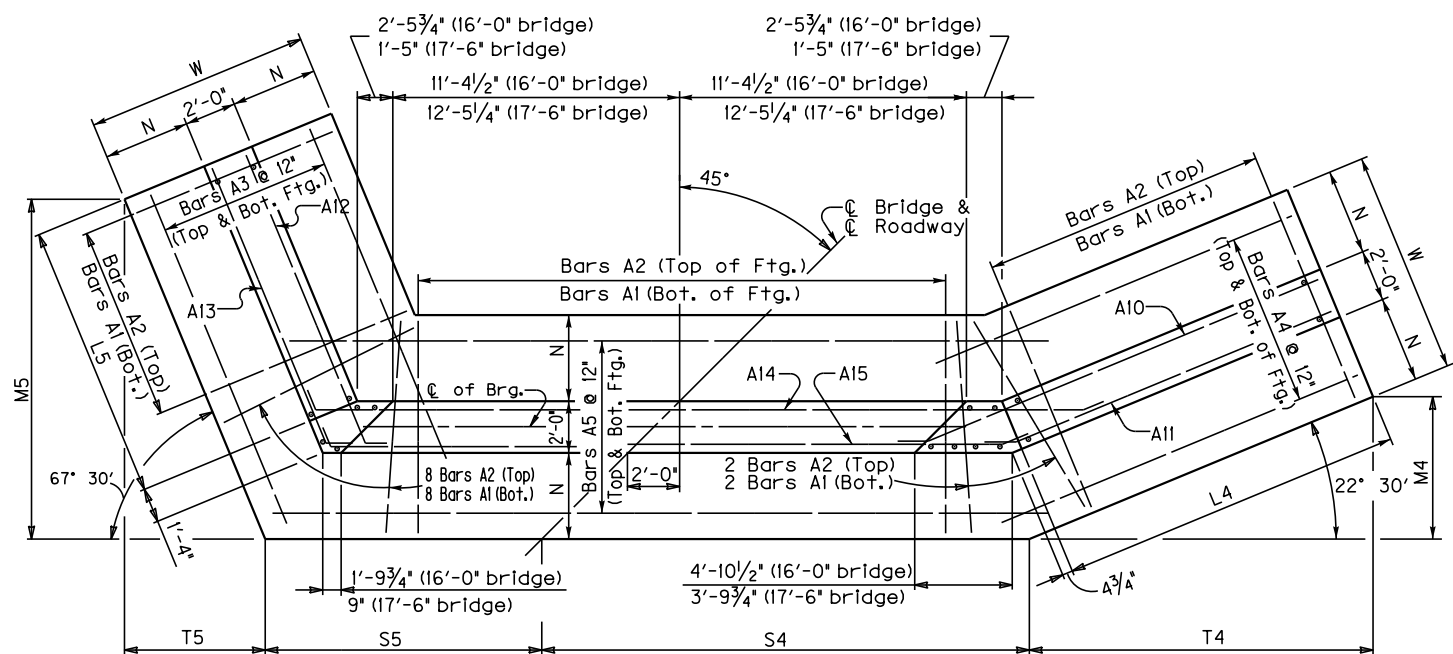


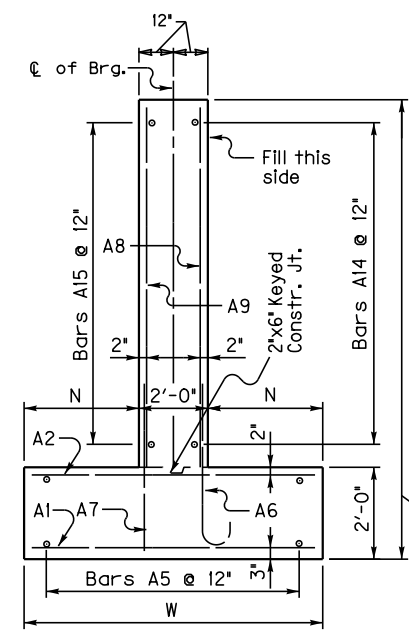
Table of Dimensions

| H | W | N | M4 | M5 | S4 | S5 | T4 | T5 | L4 | L5 | | | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|-----|------|-----|------|----|------|----|------|---|-----|----|----|
| ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | | | | | | | | |
| 15-16 | 12 | 0 | 5 | 0 | 14 | 8/4 | 19 | 1/4 | 22 | 2/8 | 11 | 6/4 | 35 | 5/8 | 7 | 11 | 37 | 16 |
| 13-14 | 11 | 0 | 4 | 6 | 13 | 1/2 | 16 | 11/8 | 21 | 7/8 | 11 | 8/4 | 31 | 8/4 | 7 | 1/4 | 33 | 14 |
| 11-12 | 10 | 0 | 4 | 0 | 11 | 2 | 14 | 9/2 | 21 | 1/2 | 11 | 10/4 | 26 | 11/8 | 6 | 1/2 | 28 | 12 |
| 9-10 | 9 | 0 | 3 | 6 | 9 | 2/8 | 12 | 7/8 | 20 | 5/4 | 12 | 1/4 | 22 | 3/8 | 5 | 2/4 | 23 | 10 |
| 7-8 | 7 | 6 | 2 | 9 | 7 | 3 | 10 | 3/8 | 19 | 6/2 | 12 | 3/4 | 17 | 6 | 4 | 3/8 | 18 | 8 |
| 5-6 | 6 | 6 | 2 | 3 | 5 | 3/8 | 8 | 2 | 18 | 11/8 | 12 | 5/4 | 12 | 9/2 | 3 | 4/8 | 13 | 6 |

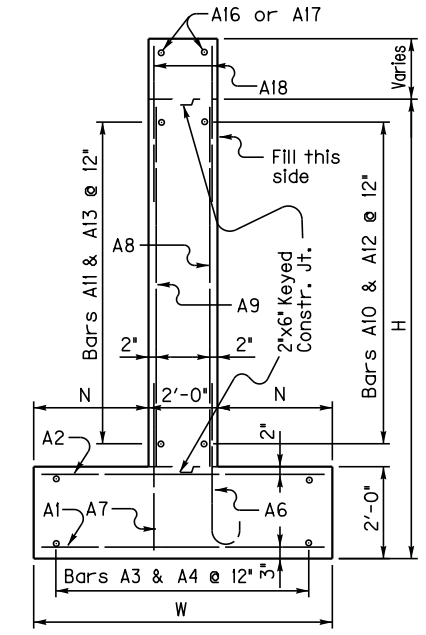


PLAN

(Left Skew as shown; right skew opp. hand) Note: Trim A16 & A17 bars if necessary



WALL SECTION



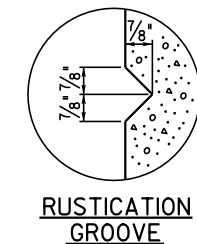
WING SECTION

| H | Quantities | |
|----|------------|---------------|
| | Concrete* | Reinforcement |
| | C.Y. | LBS. |
| 5 | 37.3 | 3183 |
| 6 | 40.9 | 3183 |
| 7 | 55.2 | 4629 |
| 8 | 59.3 | 4629 |
| 9 | 78.6 | 6685 |
| 10 | 83.2 | 6685 |
| 11 | 103 | 9579 |
| 12 | 108.2 | 9579 |
| 13 | 130.6 | 13631 |
| 14 | 136.2 | 13631 |
| 15 | 159.3 | 17871 |
| 16 | 165.4 | 17871 |

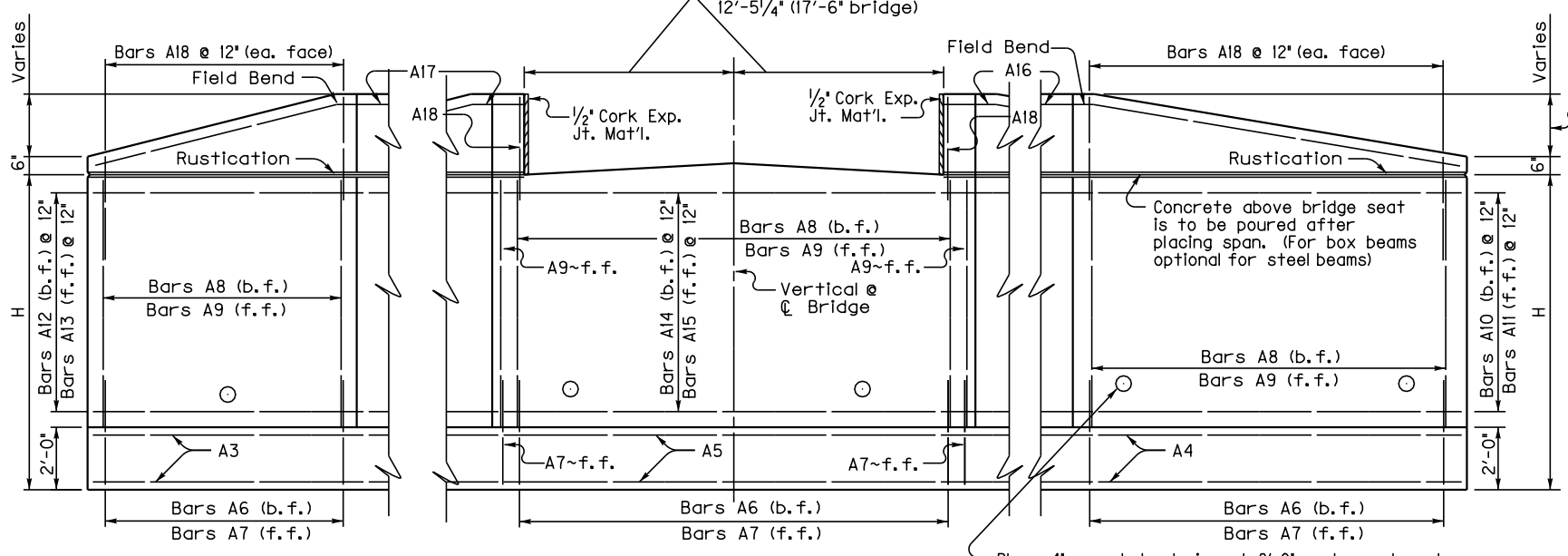
*Concrete quantities computed using 21' beam depth on 1/2' pad & 16'-0" Bridge Width

GENERAL NOTES

- SPECIFICATIONS:** Construct abutments according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Abutments are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. Dimensions may be adjusted to allow for 17'-6" rolled steel beam bridge width.
- FOUNDATION PRESSURE:** Construct abutment footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.
- WING LENGTHS:** Calculated assuming 21' superstructure depth and stream bank elevation at top of footing.
- FOOTING ELEVATION:** Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)
- NOTE:** Distances to bars shown are clear dimensions unless otherwise noted.
- MATERIAL SPECIFICATIONS:**
 Concrete, Class 'A' = 3500 psi
 Steel Reinforcement = Grade 60



RUSTICATION GROOVE



ELEVATION

Place 4" weep hole drains at 8'-0" centers at such elevation as to afford best drainage of backfill, in accordance with the Standard Specifications.

| ABUTMENT DETAILS | | |
|------------------|-------|------------|
| SKEW | WIDTH | DATE |
| 45 | 16 | April 2017 |

45° SKEW 24'-0" - 25'-6" BRIDGE WIDTH 2:1 FILL SLOPES

Bill of Reinforcement

| MARK | A1 | A2 | A3 | A4 | A5 | A6 | | | | A7 | A8 | A9 | A10 | A11 | A12 | A13 | A14 | A15 | A16 | A17 | A18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|------|------|--------|--------|--------|-----|------|--------|--------|--------|------|------|--------|--------|--------|-----|------|--------|--------|--------|------|------|--------|--------|--------|-----|------|--------|--------|--------|-----|------|--------|--------|--------|-----|------|--------|--------|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|----|---|---|
| TYPE | Str. | Str. | Str. | Str. | Str. | 4 | | | | Str. | Str. | Str. | 8 | 8 | 8 | 8 | 7 | 7 | Str. | Str. | Str. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SIZE | #5 | | | | | | | | | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | #5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H | No. | Size | Length | Length | Length | No. | Size | Length | Length | Length | No. | Size | Length | Length | Length | No. | Size | Length | Length | Length | No. | Size | Length | Length | Length | No. | Size | Length | Length | Length | No. | Size | Length | Length | Length | No. | Size | Length | Length | Length | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15-16 | 95 | 10 | 11 | 8 | 12 | 95 | 7 | 11 | 8 | 12 | 24 | 20 | 6 | 24 | 38 | 11 | 24 | 45 | 1 | 93 | 9 | 11 | 12 | 8 | 1/8 | 1 | 10 | 0 | 11 | 3/4 | 8 | 6 | 96 | 5 | 4 | 11 | 12 | 93 | 6 | 12 | 10 | 12 | 96 | 12 | 10 | 12 | 14 | 41 | 8 | 14 | 38 | 2 | 14 | 18 | 6 | 14 | 18 | 1 | 14 | 46 | 7 | 14 | 42 | 5 | 2 | 42 | 2 | 2 | 19 | 1 | 12 | 4 | 5 | 9 | | |
| 13-14 | 90 | 9 | 10 | 8 | 12 | 90 | 7 | 10 | 8 | 12 | 22 | 18 | 2 | 22 | 34 | 10 | 22 | 44 | 8 | 87 | 8 | 8 | 12 | 6 | 11 | 1 | 3 | 0 | 8 | 7 | 3 | 90 | 5 | 4 | 11 | 12 | 87 | 6 | 10 | 10 | 12 | 90 | 10 | 10 | 12 | 12 | 37 | 9 | 12 | 34 | 2 | 12 | 16 | 6 | 12 | 16 | 1 | 12 | 46 | 8 | 12 | 42 | 5 | 2 | 38 | 2 | 2 | 17 | 1 | 12 | 5 | 9 | | | | |
| 11-12 | 84 | 8 | 9 | 8 | 12 | 84 | 6 | 9 | 8 | 12 | 20 | 15 | 10 | 20 | 29 | 9 | 20 | 44 | 3 | 80 | 7 | 7 | 1 | 12 | 5 | 10 | 1/2 | 1 | 2 | 0 | 7 | 6 | 2 | 83 | 5 | 4 | 11 | 12 | 80 | 5 | 8 | 10 | 12 | 83 | 8 | 10 | 12 | 10 | 32 | 9 | 10 | 29 | 2 | 10 | 14 | 6 | 10 | 14 | 1 | 10 | 46 | 8 | 10 | 42 | 5 | 2 | 33 | 2 | 2 | 15 | 1 | 98 | 5 | 9 | | |
| 9-10 | 77 | 7 | 8 | 8 | 12 | 77 | 5 | 8 | 8 | 12 | 18 | 13 | 6 | 18 | 24 | 8 | 18 | 43 | 10 | 73 | 6 | 6 | 1 | 12 | 5 | 1 | 0 | 0 | 6 | 5 | 4 | 76 | 5 | 4 | 11 | 12 | 73 | 5 | 6 | 10 | 12 | 76 | 6 | 10 | 12 | 76 | 6 | 10 | 12 | 8 | 27 | 9 | 8 | 24 | 2 | 8 | 12 | 6 | 8 | 12 | 1 | 8 | 46 | 8 | 8 | 42 | 5 | 2 | 28 | 2 | 2 | 13 | 1 | 84 | 5 | 9 |
| 7-8 | 72 | 6 | 7 | 2 | 12 | 72 | 5 | 7 | 2 | 12 | 16 | 10 | 11 | 16 | 18 | 11 | 16 | 42 | 11 | 66 | 5 | 5 | 7 | 12 | 4 | 8 | 1/2 | 0 | 10 | 0 | 5 | 4 | 11 | 69 | 5 | 4 | 11 | 12 | 66 | 5 | 4 | 10 | 12 | 69 | 4 | 10 | 12 | 6 | 22 | 10 | 6 | 19 | 2 | 6 | 10 | 6 | 10 | 1 | 6 | 46 | 9 | 6 | 42 | 5 | 2 | 23 | 2 | 2 | 11 | 1 | 70 | 5 | 9 | | | |
| 5-6 | 66 | 5 | 6 | 2 | 12 | 66 | 5 | 6 | 2 | 12 | 14 | 8 | 7 | 14 | 13 | 9 | 14 | 42 | 6 | 59 | 5 | 5 | 7 | 12 | 4 | 8 | 1/2 | 0 | 10 | 0 | 5 | 4 | 11 | 62 | 5 | 4 | 11 | 12 | 59 | 5 | 2 | 10 | 12 | 62 | 2 | 10 | 12 | 4 | 17 | 10 | 4 | 14 | 2 | 4 | 8 | 6 | 4 | 8 | 1 | 4 | 46 | 9 | 4 | 42 | 5 | 2 | 18 | 2 | 2 | 9 | 1 | 56 | 5 | 9 | | |

Reinforcement Details

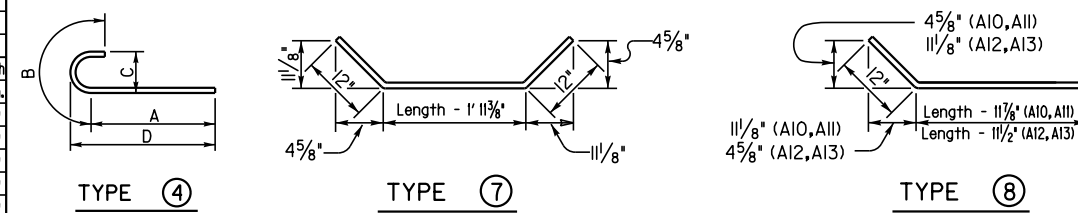
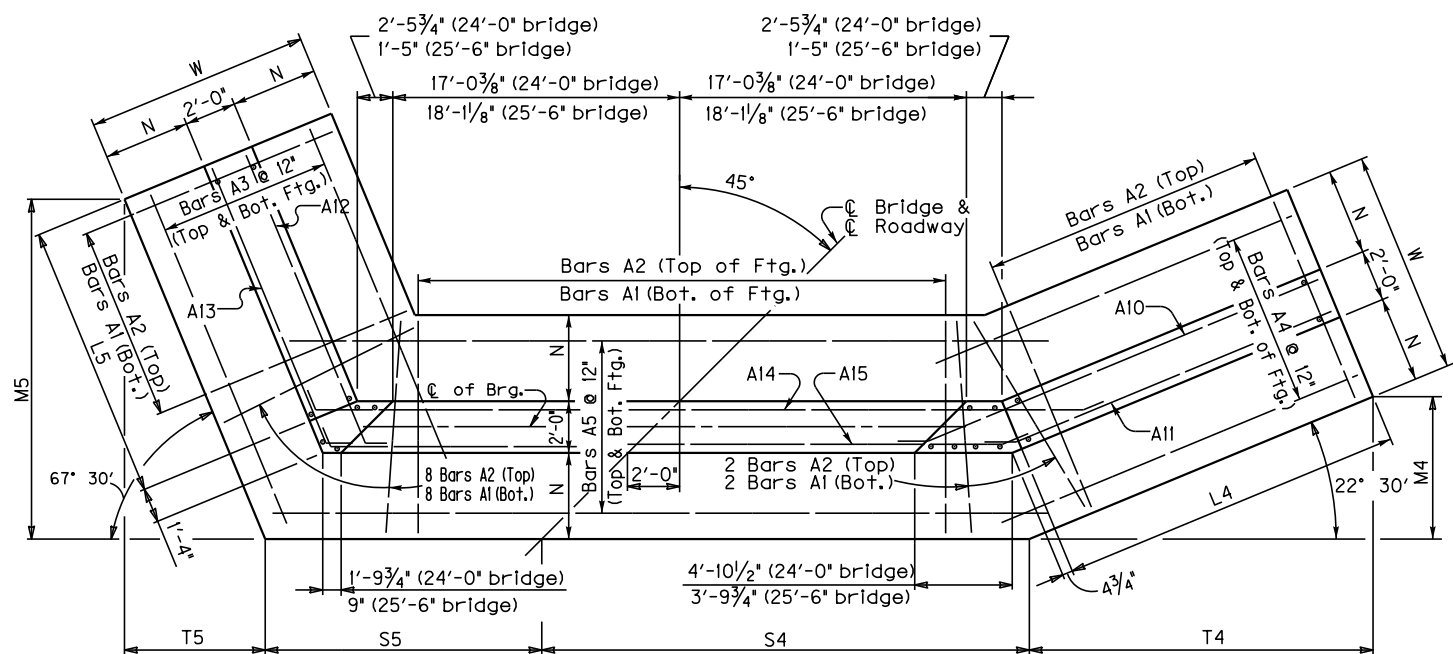
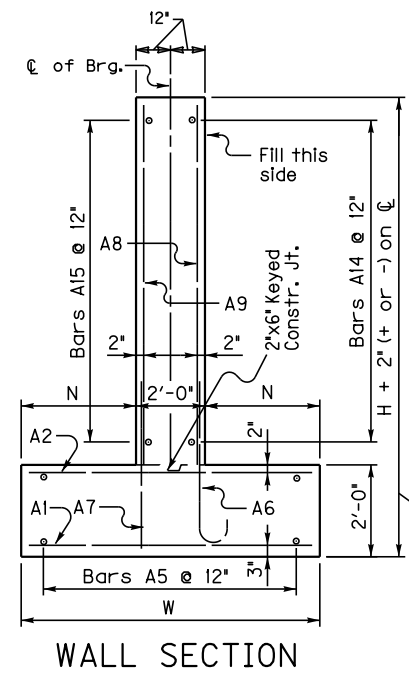


Table of Dimensions

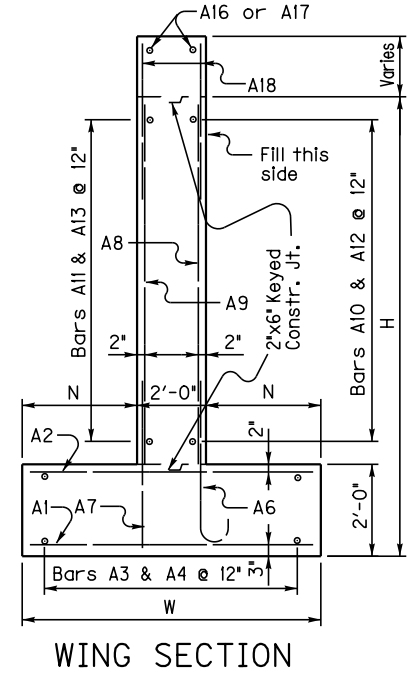
| H | W | | N | | M4 | | M5 | | S4 | | S5 | | T4 | | T5 | | L4 | | L5 | | | |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|
| | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | ft. | in. | | |
| 15-16 | 12 | 0 | 5 | 0 | 14 | 8 | 1/4 | 19 | 1 | 1/4 | 27 | 10 | 3 | 17 | 2 | 3 | 35 | 5 | 7 | 11 | 37 | 16 |
| 13-14 | 11 | 0 | 4 | 6 | 13 | 1/2 | 16 | 1 | 1 | 27 | 3 | 5 | 17 | 4 | 3 | 31 | 8 | 7 | 1 | 33 | 14 | |
| 11-12 | 10 | 0 | 4 | 0 | 11 | 2 | 14 | 9 | 2 | 26 | 8 | 3 | 17 | 6 | 3 | 26 | 11 | 6 | 1/2 | 28 | 12 | |
| 9-10 | 9 | 0 | 3 | 6 | 9 | 2 | 12 | 7 | 2 | 26 | 1 | 1/8 | 17 | 8 | 3 | 22 | 3 | 5 | 2 | 24 | 10 | |
| 7-8 | 7 | 6 | 2 | 9 | 7 | 3 | 10 | 3 | 3 | 25 | 2 | 3 | 17 | 1 | 1 | 17 | 6 | 4 | 3 | 18 | 8 | |
| 5-6 | 6 | 6 | 2 | 3 | 5 | 3 | 8 | 2 | 2 | 24 | 7 | 4 | 18 | 1 | 1 | 12 | 9 | 2 | 3 | 13 | 6 | |



PLAN
(Left Skew as shown; right skew opp. hand)
Note: Trim A16 & A17 bars if necessary



WALL SECTION



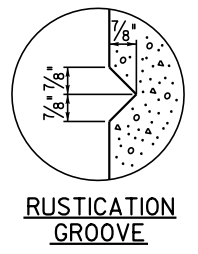
WING SECTION

| H | Concrete* | | Reinforcement | |
|----|-----------|-------|---------------|------|
| | C.Y. | LBS. | C.Y. | LBS. |
| 5 | 45.4 | 3793 | | |
| 6 | 49.8 | 3793 | | |
| 7 | 65.9 | 5403 | | |
| 8 | 70.8 | 5403 | | |
| 9 | 92.2 | 7713 | | |
| 10 | 97.6 | 7713 | | |
| 11 | 119.1 | 10941 | | |
| 12 | 125.1 | 10941 | | |
| 13 | 149.2 | 15514 | | |
| 14 | 155.7 | 15514 | | |
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| 16 | 187.4 | 20122 | | |

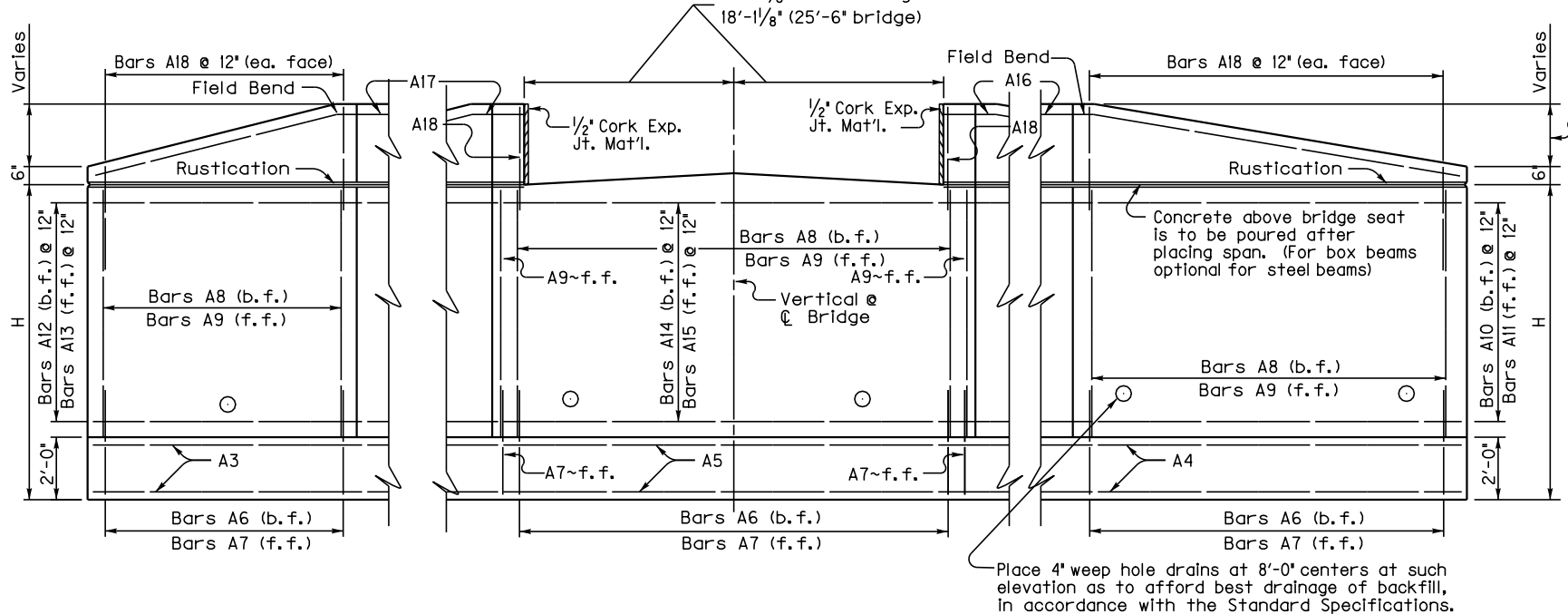
*Concrete quantities computed using 2' beam depth on 1/2' pad & 24'-0" Bridge Width

GENERAL NOTES

- SPECIFICATIONS:** Construct abutments according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Abutments are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. Dimensions may be adjusted to allow for 25'-6" rolled steel beam bridge width.
- FOUNDATION PRESSURE:** Construct abutment footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.
- WING LENGTHS:** Calculated assuming 2' superstructure depth and stream bank elevation at top of footing.
- FOOTING ELEVATION:** Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)
- NOTE:** Distances to bars shown are clear dimensions unless otherwise noted.
- MATERIAL SPECIFICATIONS:**
 Concrete, Class 'A' = 3500 psi
 Steel Reinforcement = Grade 60



RUSTICATION GROOVE



ELEVATION

| ABUTMENT DETAILS | | |
|------------------|-------|------------|
| SKEW | WIDTH | DATE |
| 45 | 24 | April 2017 |

FILE NAME: J:\Standard Drawing Revision Work\2020 revised Std. Drawings\Standard Abutments\Std. Abutments.v
 USERNAME: Joseph.vanzee
 DATE: 24-MAY-2017
 SHEET LOCATION:

45° SKEW 32'-0" - 33'-6" BRIDGE WIDTH 2:1 FILL SLOPES

Bill of Reinforcement

| MARK TYPE SIZE | A1 | | A2 | | A3 | | A4 | | A5 | | A6 | | | | A7 | | A8 | | A9 | | A10 | | A11 | | A12 | | A13 | | A14 | | A15 | | A16 | | A17 | | A18 | | | | | | | | | | | | | | | | | | | | | |
|----------------------|------|--------|------|--------|------|--------|------|--------|------|--------|----|----|-----|----|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|
| | Str. | | Str. | | Str. | | Str. | | Str. | | 4 | | | | Str. | | Str. | | Str. | | Str. | | Str. | | Str. | | Str. | | Str. | | Str. | | Str. | | Str. | | | | | | | | | | | | | | | | | | | | | | | |
| | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | A | B | C | D | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | No. | Length | | | | | | | | | | | | | | | | | | | | | | |
| 15-16 | 106 | 11 | 106 | 7 | 11 | 106 | 24 | 38 | 11 | 24 | 56 | 5 | 104 | 9 | 11 | 104 | 6 | 12 | 104 | 6 | 12 | 104 | 14 | 41 | 8 | 14 | 38 | 2 | 14 | 18 | 1 | 14 | 57 | 11 | 14 | 53 | 9 | 2 | 42 | 2 | 2 | 19 | 1 | 12 | 4 | 5 | 9 | | | | | | | | | | | |
| 13-14 | 101 | 9 | 101 | 7 | 101 | 8 | 12 | 22 | 18 | 22 | 34 | 10 | 22 | 56 | 0 | 98 | 8 | 8 | 98 | 6 | 10 | 98 | 10 | 10 | 12 | 10 | 12 | 37 | 9 | 12 | 34 | 2 | 12 | 16 | 6 | 12 | 16 | 1 | 12 | 57 | 11 | 12 | 53 | 9 | 2 | 38 | 2 | 2 | 17 | 1 | 11 | 2 | 5 | 9 | | | | |
| 11-12 | 95 | 8 | 95 | 6 | 95 | 8 | 12 | 20 | 15 | 20 | 29 | 9 | 20 | 55 | 7 | 91 | 7 | 7 | 91 | 5 | 8 | 91 | 8 | 10 | 12 | 94 | 8 | 10 | 12 | 32 | 9 | 10 | 29 | 2 | 10 | 14 | 6 | 10 | 14 | 1 | 10 | 58 | 0 | 10 | 53 | 9 | 2 | 33 | 2 | 2 | 15 | 1 | 9 | 8 | 5 | 9 | | |
| 9-10 | 89 | 7 | 89 | 5 | 89 | 8 | 12 | 18 | 13 | 18 | 24 | 8 | 18 | 55 | 1 | 84 | 6 | 6 | 84 | 4 | 6 | 84 | 6 | 10 | 12 | 87 | 6 | 10 | 12 | 27 | 8 | 24 | 2 | 8 | 12 | 6 | 8 | 12 | 1 | 8 | 58 | 0 | 8 | 53 | 9 | 2 | 28 | 2 | 2 | 13 | 1 | 8 | 4 | 5 | 9 | | | |
| 7-8 | 83 | 6 | 83 | 4 | 83 | 5 | 7 | 12 | 10 | 11 | 16 | 4 | 11 | 16 | 5 | 77 | 5 | 5 | 77 | 4 | 4 | 77 | 4 | 10 | 12 | 80 | 4 | 10 | 12 | 6 | 19 | 2 | 6 | 10 | 6 | 10 | 1 | 6 | 58 | 1 | 6 | 53 | 9 | 2 | 23 | 2 | 2 | 11 | 1 | 7 | 0 | 5 | 9 | | | | | |
| 5-6 | 77 | 5 | 77 | 3 | 77 | 4 | 12 | 14 | 8 | 14 | 13 | 9 | 14 | 53 | 10 | 70 | 5 | 5 | 70 | 4 | 4 | 70 | 5 | 12 | 4 | 87 | 2 | 10 | 12 | 7 | 19 | 2 | 4 | 17 | 10 | 4 | 14 | 2 | 4 | 8 | 6 | 4 | 8 | 1 | 4 | 58 | 1 | 4 | 53 | 9 | 2 | 18 | 2 | 2 | 9 | 1 | 5 | 9 |

Reinforcement Details

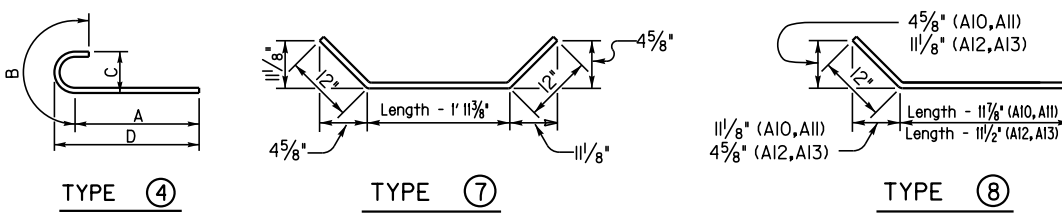
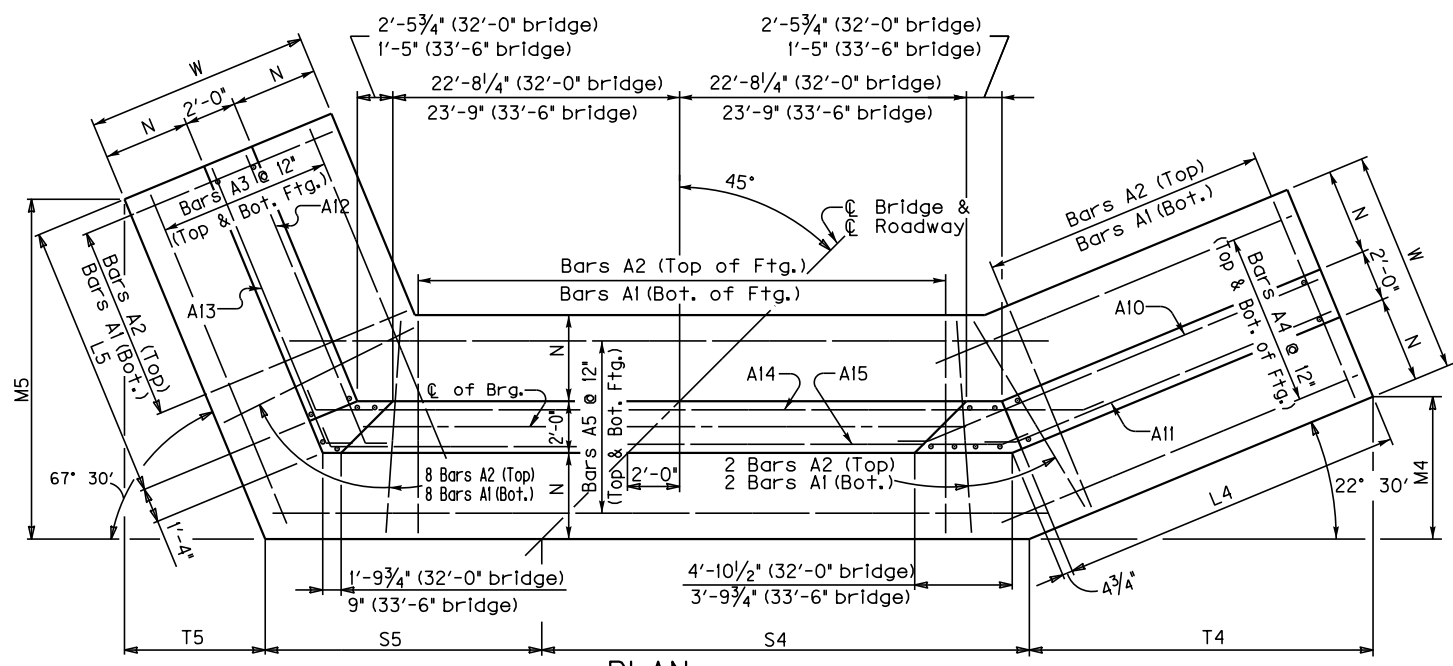


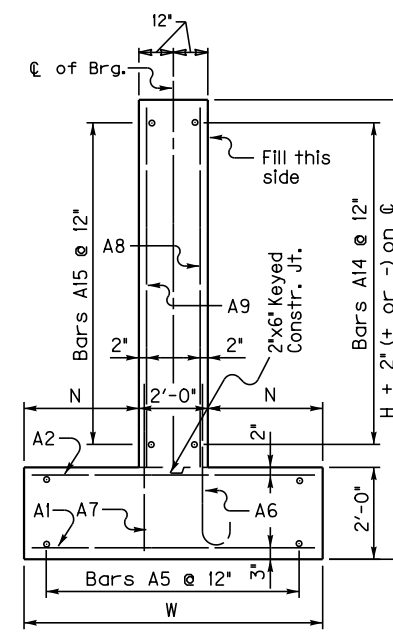
Table of Dimensions

| H | W | | N | | M4 | | M5 | | S4 | | S5 | | T4 | | T5 | | L4 | | L5 | |
|-------|--------|-----|--------|-----|--------|-------|--------|--------|--------|--------|--------|-----|--------|--------|--------|--------|--------|-----|--------|-----|
| | Length | ft. | Length | ft. | Length | ft. | Length | ft. | Length | ft. | Length | ft. | Length | ft. | Length | ft. | Length | ft. | Length | ft. |
| 15-16 | 12 | 0 | 5 | 0 | 14 | 8 1/4 | 19 | 1 1/4 | 33 | 6 3/4 | 22 | 10 | 35 | 5 5/8 | 7 | 11 | 37 | 16 | | |
| 13-14 | 11 | 0 | 4 | 6 | 13 | 1 1/2 | 16 | 11 3/8 | 32 | 11 1/2 | 23 | 0 | 31 | 8 3/4 | 7 | 11 | 33 | 14 | | |
| 11-12 | 10 | 0 | 4 | 0 | 11 | 2 | 14 | 9 1/2 | 32 | 4 1/4 | 23 | 2 | 26 | 11 5/8 | 6 | 11 1/2 | 28 | 12 | | |
| 9-10 | 9 | 0 | 3 | 6 | 9 | 2 3/4 | 12 | 7 3/4 | 31 | 9 3/8 | 23 | 4 | 22 | 3 3/8 | 5 | 2 3/4 | 23 | 10 | | |
| 7-8 | 7 | 6 | 2 | 9 | 7 | 3 | 10 | 3 3/8 | 30 | 10 1/4 | 23 | 7 | 17 | 6 | 4 | 3 3/8 | 18 | 8 | | |
| 5-6 | 6 | 6 | 2 | 3 | 5 | 3 3/8 | 8 | 2 | 30 | 3 3/8 | 23 | 9 | 12 | 9 1/2 | 3 | 4 3/8 | 13 | 6 | | |

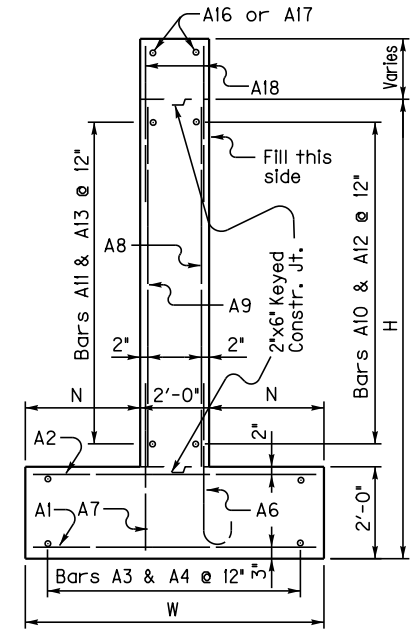


PLAN
(Left Skew as shown; right skew opp. hand)

Note: Trim A16 & A17 bars if necessary



WALL SECTION



WING SECTION

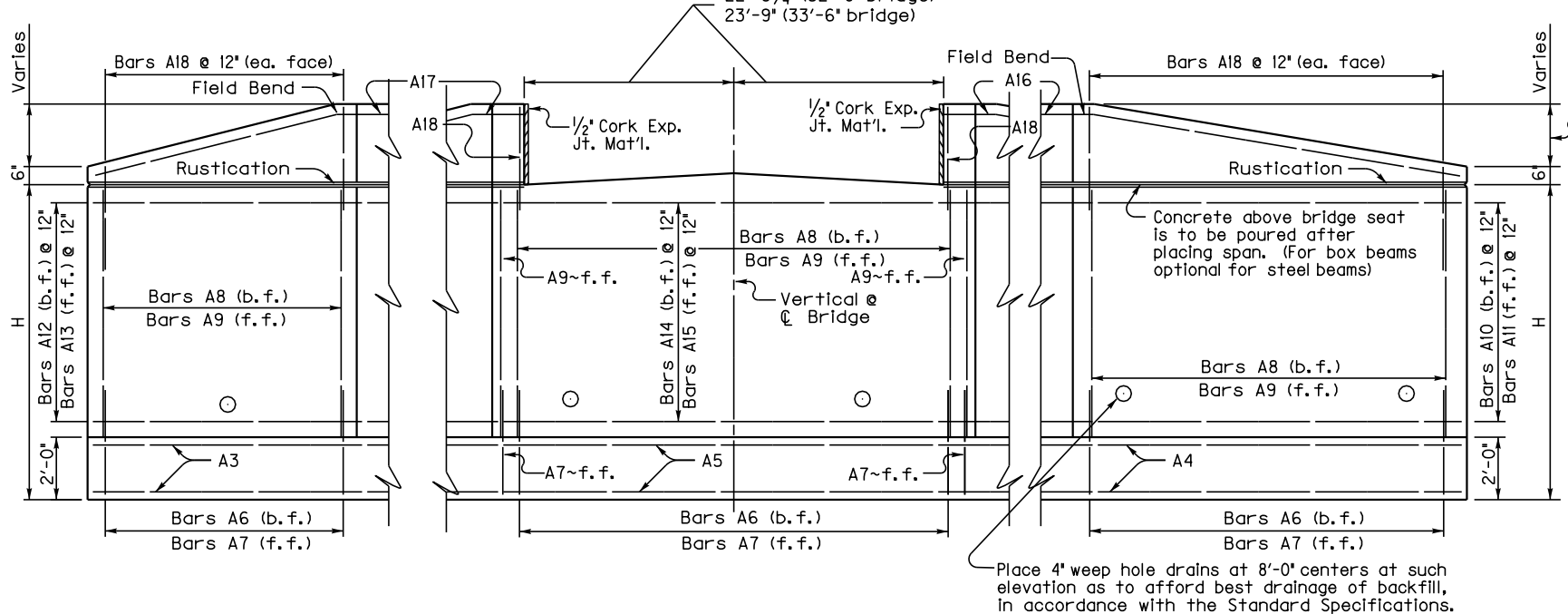
Quantities

| H | Concrete* | | Reinforcement | |
|----|-----------|--|---------------|--|
| | C.Y. | | LBS. | |
| 5 | 53.6 | | 4382 | |
| 6 | 58.9 | | 4382 | |
| 7 | 76.6 | | 6168 | |
| 8 | 82.4 | | 6168 | |
| 9 | 105.8 | | 8751 | |
| 10 | 112.1 | | 8751 | |
| 11 | 135.3 | | 12280 | |
| 12 | 142.1 | | 12280 | |
| 13 | 167.9 | | 17300 | |
| 14 | 175.2 | | 17300 | |
| 15 | 201.6 | | 22326 | |
| 16 | 209.4 | | 22326 | |

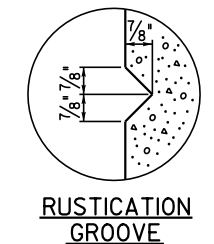
*Concrete quantities computed using 2' beam depth on 1/2" pad & 32'-0" Bridge Width

GENERAL NOTES

- SPECIFICATIONS:** Construct abutments according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Abutments are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. Dimensions may be adjusted to allow for 33'-6" rolled steel beam bridge width.
- FOUNDATION PRESSURE:** Construct abutment footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.
- WING LENGTHS:** Calculated assuming 2' superstructure depth and stream bank elevation at top of footing.
- FOOTING ELEVATION:** Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)
- NOTE:** Distances to bars shown are clear dimensions unless otherwise noted.
- MATERIAL SPECIFICATIONS:**
 Concrete, Class 'A' = 3500 psi
 Steel Reinforcement = Grade 60



ELEVATION



RUSTICATION
GROOVE

FILE NAME: J:\Standard Drawing Revision Work\2020 revised Std. Drawings\Standard Abutments\Std. Abutments\1
 USERNAME: Joseph.vanzee
 DATE: 24-MAY-2017
 SHEET LOCATION: