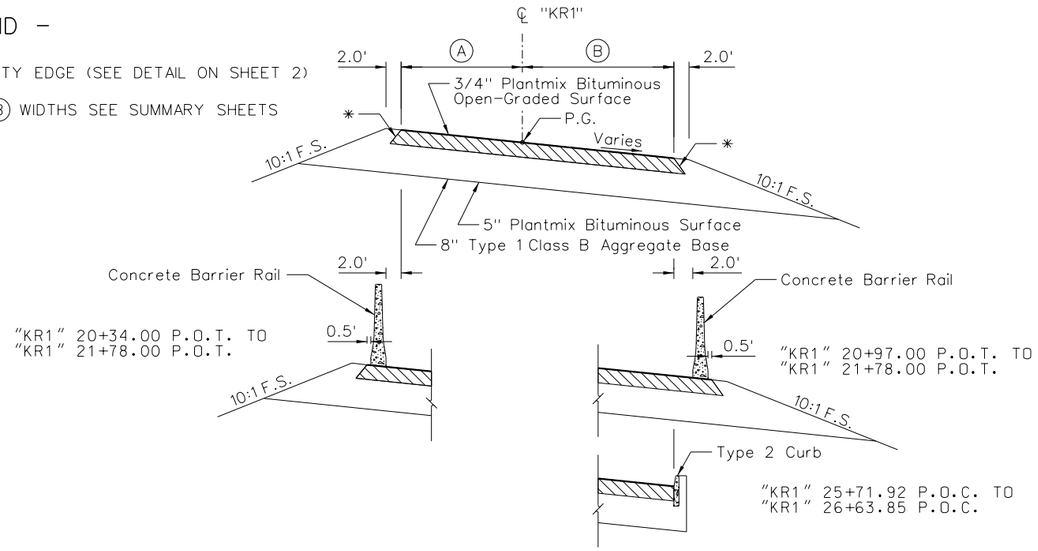
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 102 |

- LEGEND -

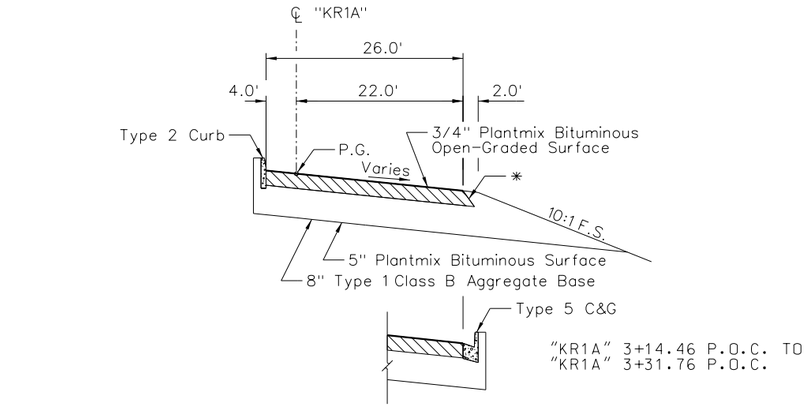
✳ - 30° SAFETY EDGE (SEE DETAIL ON SHEET 2)

NOTE: FOR (A) & (B) WIDTHS SEE SUMMARY SHEETS



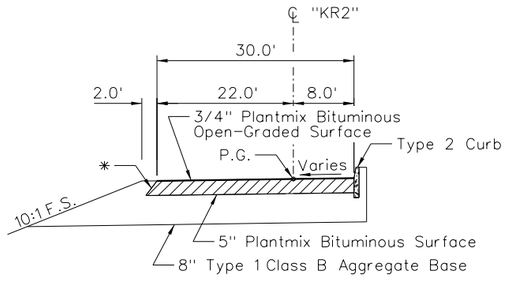

## SECTION OF IMPROVEMENT

"KR1" 16+51.20 P.O.T. TO "KR1" 26+63.85 P.O.C.



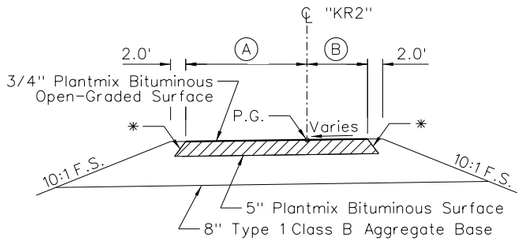

## SECTION OF IMPROVEMENT

"KR1A" 2+40.39 P.O.C. TO "KR1A" 3+31.76 P.O.C.



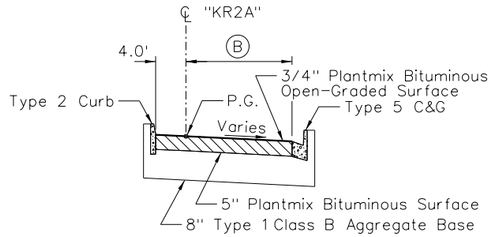

## SECTION OF IMPROVEMENT

"KR2" 21+15.09 P.O.C. TO "KR2" 22+19.06 P.O.C.



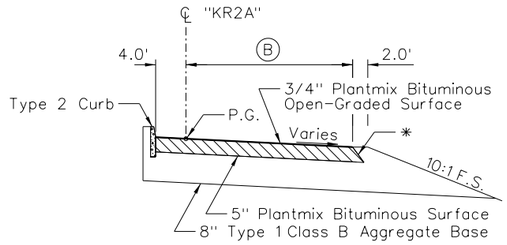

## SECTION OF IMPROVEMENT

"KR2" 22+19.06 P.O.C. TO "KR2" 33+78.24 P.O.C.




## SECTION OF IMPROVEMENT

"KR2A" 3+09.03 P.O.C. TO "KR2A" 4+19.40 P.O.T.




## SECTION OF IMPROVEMENT

"KR2A" 4+19.40 P.O.T. TO "KR2A" 5+09.16 P.O.C.

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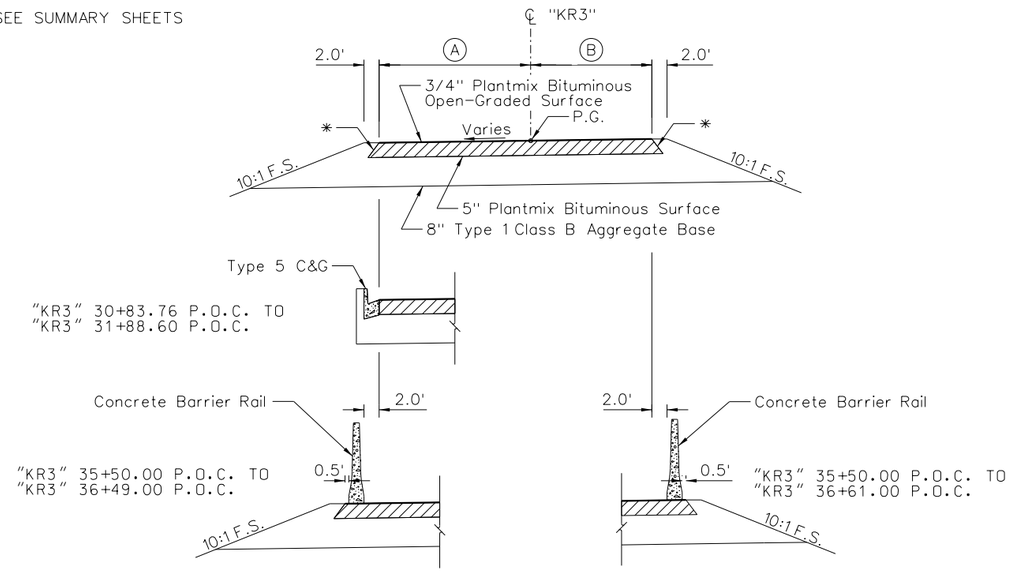
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 102A |

## - LEGEND -

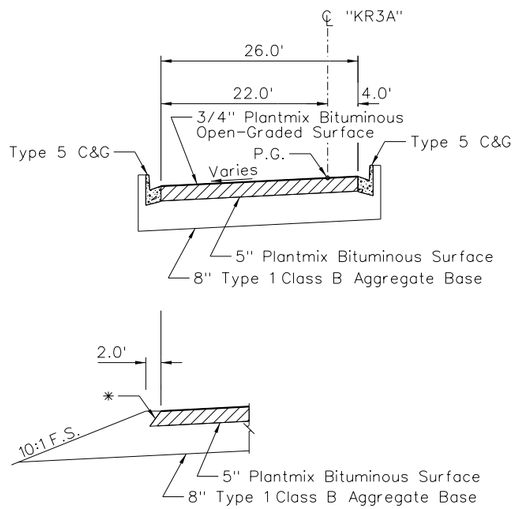
✳ - 30° SAFETY EDGE (SEE DETAIL ON SHEET 2)

NOTE: FOR (A) & (B) WIDTHS SEE SUMMARY SHEETS




SECTION OF IMPROVEMENT

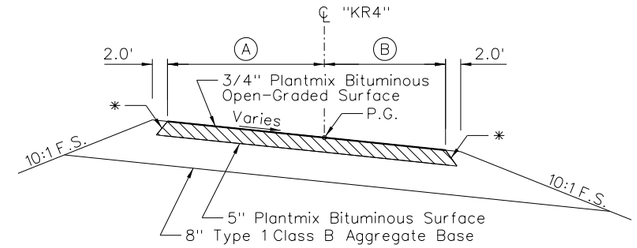
"KR3" 30+83.76 P.O.C. TO "KR3" 41+23.76 P.O.C.

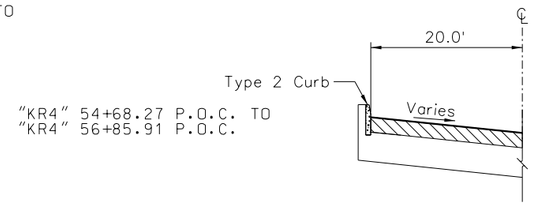



"KR3A" 3+66.08 P.O.C. TO "KR3A" 4+17.75 P.O.C.

SECTION OF IMPROVEMENT

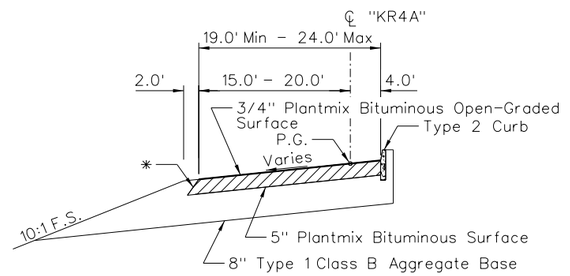
"KR3A" 3+27.54 P.O.C. TO "KR3A" 4+17.75 P.O.C.




SECTION OF IMPROVEMENT

"KR4" 40+00.00 P.O.C. TO "KR4" 56+85.91 P.O.C.




SECTION OF IMPROVEMENT

"KR4A" 4+67.71 P.O.T. TO "KR4A" 7+94.65 P.O.T.

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| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 102B |

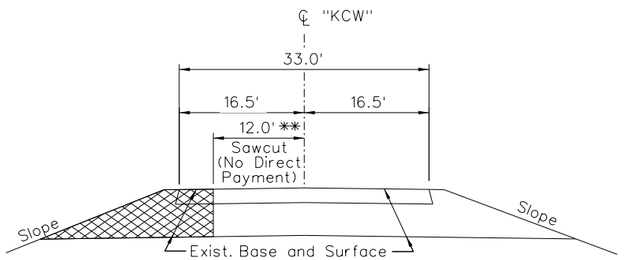
## - LEGEND -

- LIMITS OF ROADWAY EXCAVATION

✳ - 30° SAFETY EDGE (SEE DETAIL ON SHEET 2)

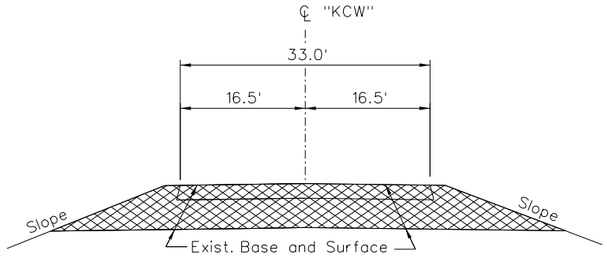
✳✳ - SAWCUT FULL DEPTH VARIES. NO DIRECT PAYMENT

NOTE: FOR WIDTHS SEE SUMMARY SHEETS



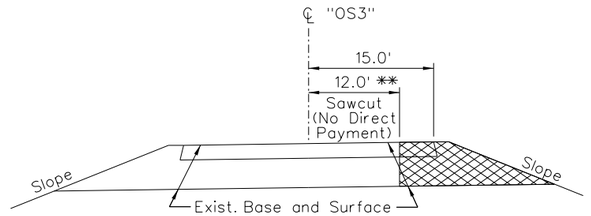

AS CONSTRUCTED

"KCW" 190+73.73 P.O.T. TO "KCW" 193+00.00 P.O.T.



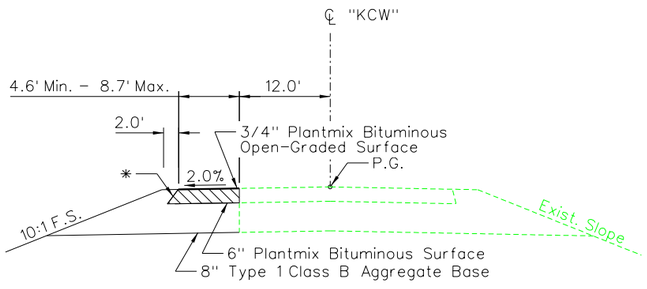

AS CONSTRUCTED

"KCW" 193+00.00 P.O.T. TO "KCW" 210+85.83 P.O.T.



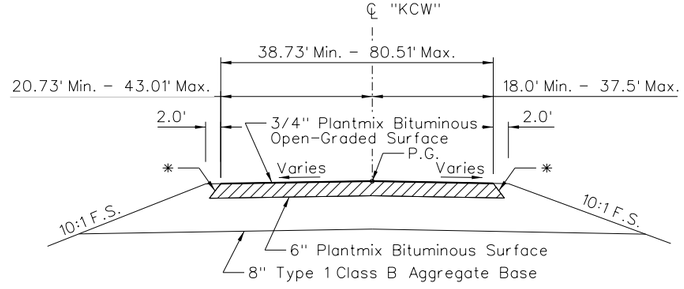

AS CONSTRUCTED

"OS3" 425+62.77 P.O.C. TO "OS3" 428+24.59 P.T.
"OS3" 430+25.97 P.O.T. TO "OS3" 432+06.18 P.O.T.



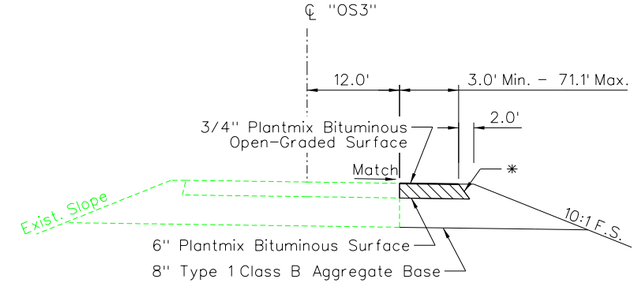

SECTION OF IMPROVEMENT

"KCW" 190+73.73 P.O.T. TO "KCW" 193+00.00 P.O.T.




SECTION OF IMPROVEMENT

"KCW" 193+00.00 P.O.T. TO "KCW" 199+45.82 P.O.T.




SECTION OF IMPROVEMENT

"OS3" 425+62.77 P.O.C. TO "OS3" 428+24.59 P.T.
"OS3" 430+25.97 P.O.T. TO "OS3" 432+06.18 P.O.T.

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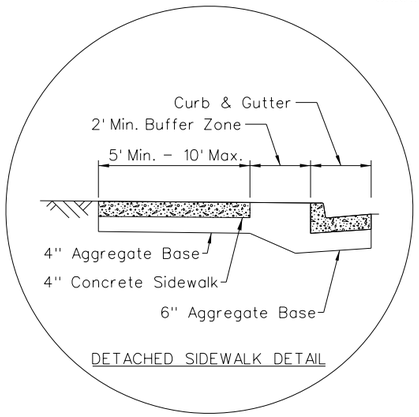
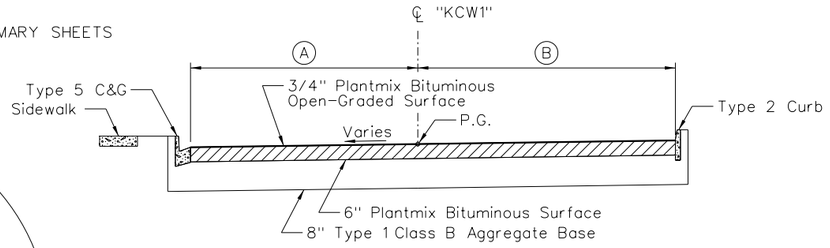
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 102C |

## - LEGEND -

NOTE: FOR (A) & (B) WIDTHS SEE SUMMARY SHEETS

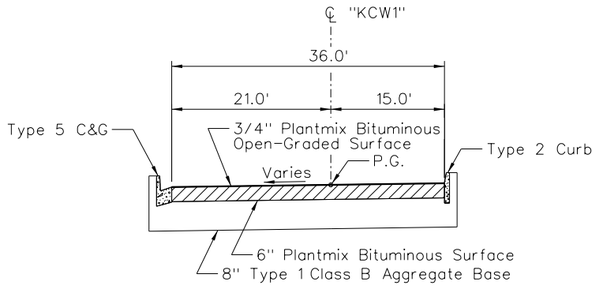


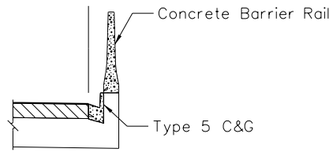

DETACHED SIDEWALK DETAIL




## SECTION OF IMPROVEMENT

"KCW1" 10+85.17 P.O.T. TO "KCW1" 19+87.80 P.O.C.

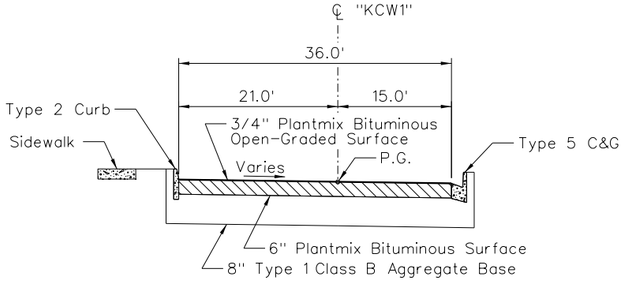



"KCW1" 21+06.04 P.O.T. TO
"KCW1" 21+51.22 P.O.C.

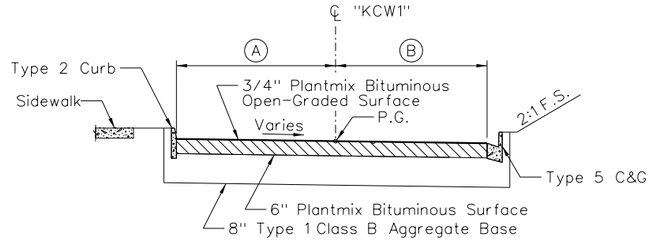
## SECTION OF IMPROVEMENT

"KCW1" 19+87.80 P.O.C. TO "KCW1" 21+51.22 P.O.C.



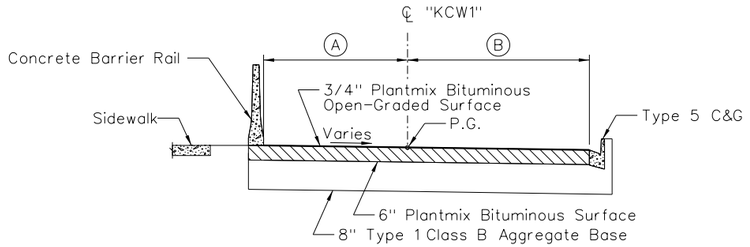

## SECTION OF IMPROVEMENT

"KCW1" 21+51.22 P.O.C. TO "KCW1" 22+82.69 P.O.C.



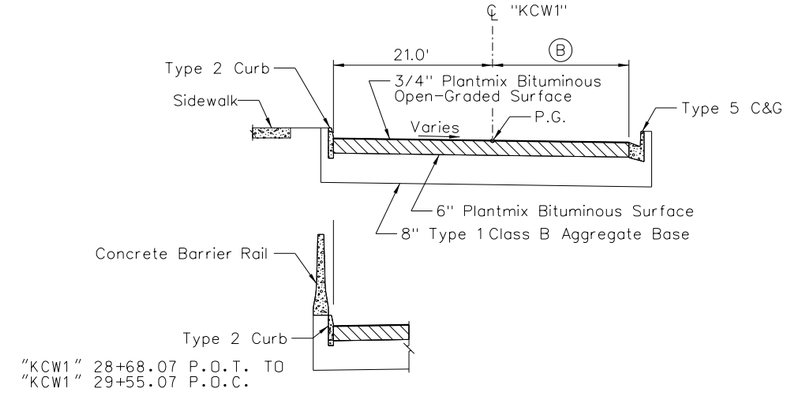

## SECTION OF IMPROVEMENT

"KCW1" 22+82.69 P.O.C. TO "KCW1" 23+96.20 P.O.T.




## SECTION OF IMPROVEMENT

"KCW1" 23+96.20 P.O.T. TO "KCW1" 26+99.45 P.O.C.




"KCW1" 28+68.07 P.O.T. TO
"KCW1" 29+55.07 P.O.C.

## SECTION OF IMPROVEMENT

"KCW1" 26+99.45 P.O.C. TO "KCW1" 29+55.07 P.O.C.

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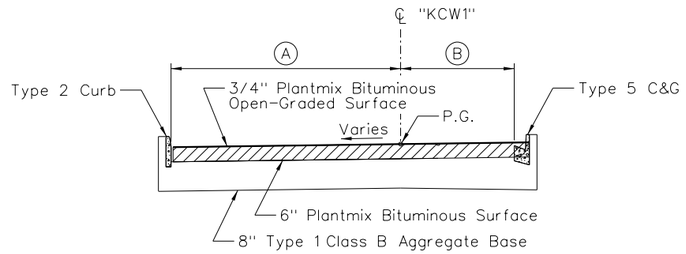
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 102D |

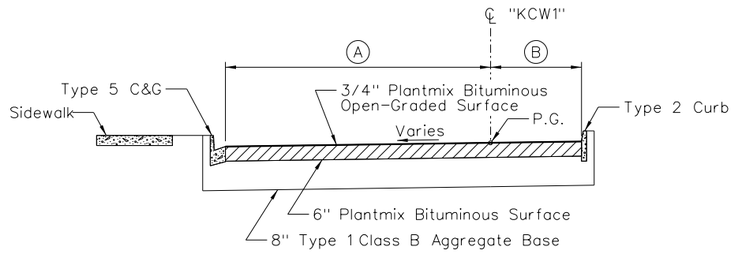
# - LEGEND -

NOTE: FOR (A) & (B) WIDTHS SEE SUMMARY SHEETS



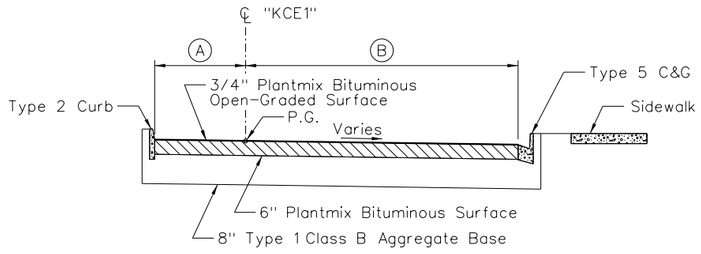

## SECTION OF IMPROVEMENT

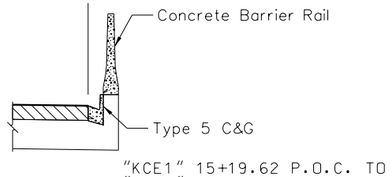
"KCW1" 29+55.07 P.O.C. TO "KCW1" 29+60.00 P.O.C.




## SECTION OF IMPROVEMENT

"KCW1" 29+60.00 P.O.C. TO "KCW1" 34+74.10 P.O.T.

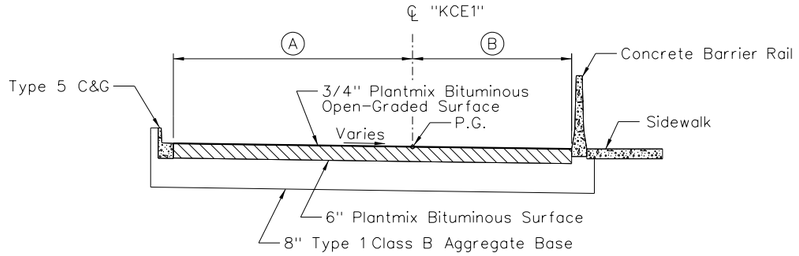



"KCE1" 15+19.62 P.O.C. TO "KCE1" 16+50.49 P.O.T.

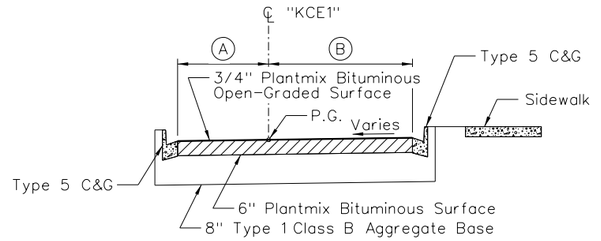
## SECTION OF IMPROVEMENT

"KCE1" 5+94.12 P.O.T. TO "KCE1" 17+81.37 P.O.C.



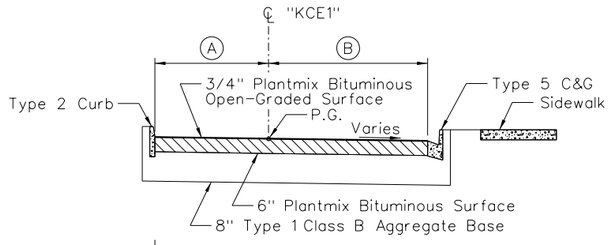

## SECTION OF IMPROVEMENT

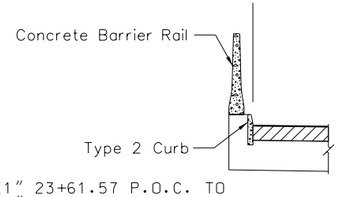
"KCE1" 17+81.37 P.O.C. TO "KCE1" 21+22.36 P.O.T.




## SECTION OF IMPROVEMENT

"KCE1" 21+22.36 P.O.T. TO "KCE1" 22+66.80 P.O.C.

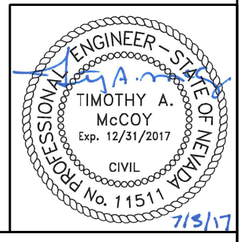



"KCE1" 23+61.57 P.O.C. TO "KCE1" 24+12.53 P.O.C.

## SECTION OF IMPROVEMENT

"KCE1" 22+66.80 P.O.C. TO "KCE1" 30+22.79 P.O.T.




GCW ENGINEERS \ SURVEYORS
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| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 102E |

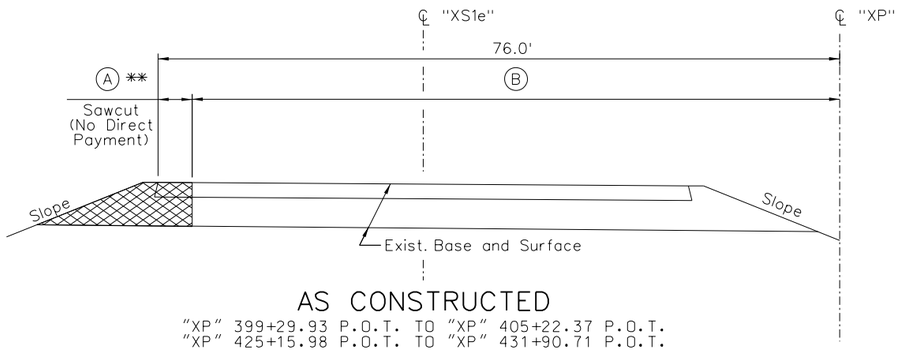
## - LEGEND -

- LIMITS OF ROADWAY EXCAVATION

* - 30° SAFETY EDGE (SEE DETAIL ON SHEET 2)

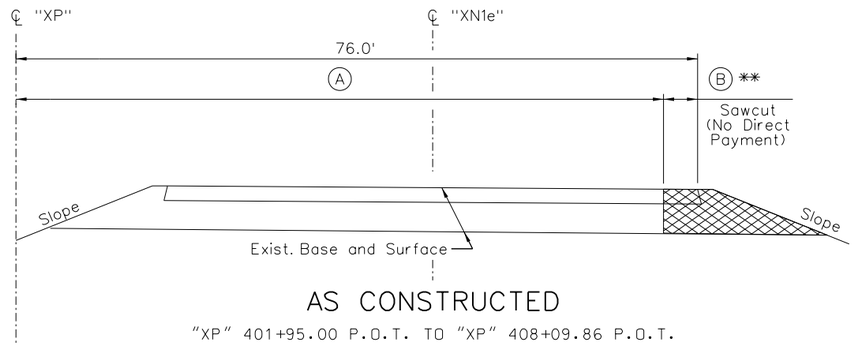
** - SAWCUT FULL DEPTH VARIES. NO DIRECT PAYMENT

NOTE: FOR (A) & (B) WIDTHS SEE SUMMARY SHEETS



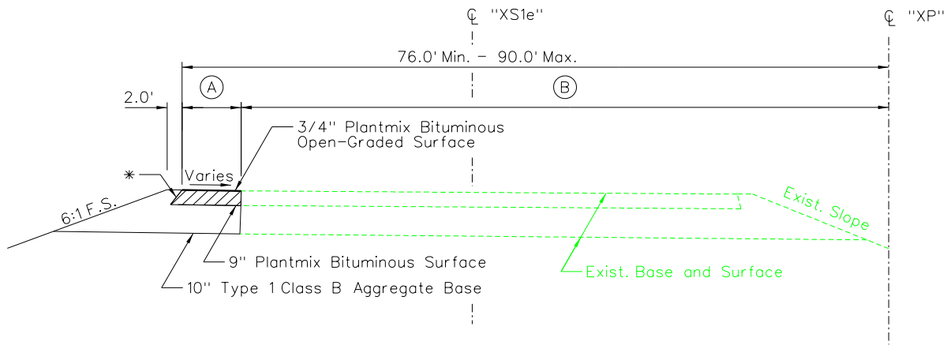

AS CONSTRUCTED

"XP" 399+29.93 P.O.T. TO "XP" 405+22.37 P.O.T.
"XP" 425+15.98 P.O.T. TO "XP" 431+90.71 P.O.T.



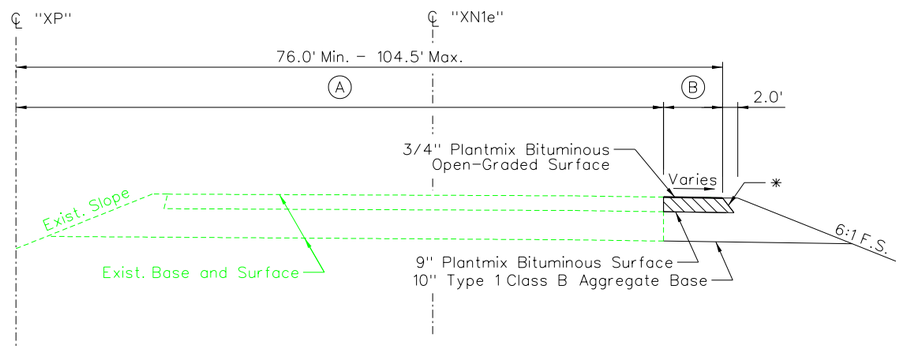

AS CONSTRUCTED

"XP" 401+95.00 P.O.T. TO "XP" 408+09.86 P.O.T.




SECTION OF IMPROVEMENT

"XP" 399+29.93 P.O.T. TO "XP" 405+22.37 P.O.T.
"XP" 425+15.98 P.O.T. TO "XP" 431+90.71 P.O.T.




SECTION OF IMPROVEMENT

"XP" 401+95.00 P.O.T. TO "XP" 408+09.86 P.O.T.

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

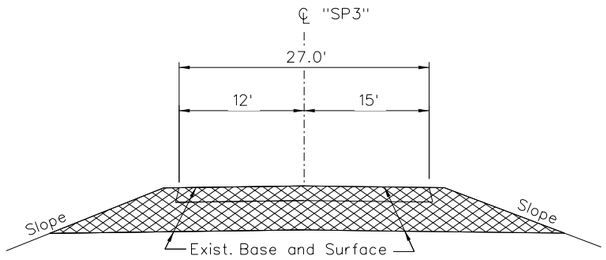
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 102F |

## - LEGEND -

- LIMITS OF ROADWAY EXCAVATION

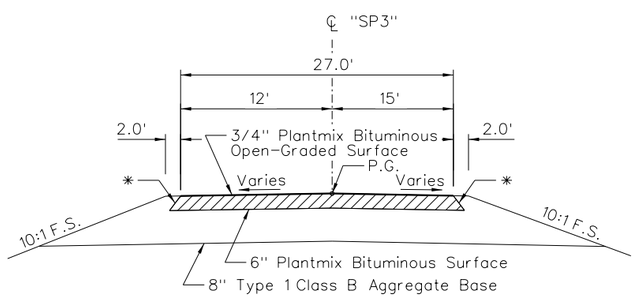
✳ - 30° SAFETY EDGE (SEE DETAIL ON SHEET 2)

NOTE: FOR WIDTHS SEE SUMMARY SHEETS




## AS CONSTRUCTED

"SP3" 410+56.33 P.O.T. TO "SP3" 410+92.71 P.O.T.




## SECTION OF IMPROVEMENT

"SP3" 410+56.33 P.O.T. TO "SP3" 410+92.71 P.O.T.

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/3/17

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

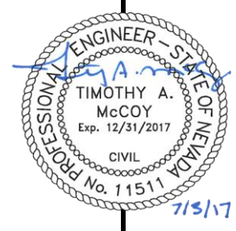
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 103 |

| LOCATION | | | | | LENGTH | BASE AGGREGATE (TYPE 1 CLASS B) INCLUDES SLOPE ALLOWANACE AND 1' WIDENING (includes 8% for moisture) | | | | PLANTMIX DENSE GRADE SURFACE TYPE 2C (WET) INCLUDES ANGLE OF REPOSE | | | | PLANTMIX OPEN GRADE SURFACE 1/2-INCH (WET) | | | | COLD MILLING |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | STATIONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | AREA SQYD |
| **RAMP "KR1"** | | | | | | | | | | | | | | | | | | |
| **LEFT SIDE** | | | | | | | | | | | | | | | | | | |
| "KR1" | 16+51.20 | to | "KR1" | 17+93.64 | 1.42 | 19.00 to 16.00 | 8.00 | 82.25 | 117.16 | 19.00 to 16.00 | 5.0 | 55.44 | 78.97 | 19.00 to 16.00 | 0.75 | 7.77 | 11.07 | |
| "KR1" | 17+93.64 | to | "KR1" | 20+13.00 | 2.19 | 16.00 to 16.00 | 8.00 | 75.20 | 164.96 | 16.00 to 16.00 | 5.0 | 50.74 | 111.30 | 16.00 to 16.00 | 0.75 | 7.11 | 15.59 | |
| "KR1" | 20+13.00 | to | "KR1" | 20+34.00 | 0.21 | 18.00 to 18.00 | 8.00 | 84.60 | 17.77 | 18.00 to 18.00 | 5.0 | 57.00 | 11.97 | 18.00 to 18.00 | 0.75 | 8.00 | 1.68 | |
| "KR1" | 20+34.00 | to | "KR1" | 21+78.00 | 1.44 | 20.50 to 20.50 | 8.00 | 96.35 | 138.74 | 20.50 to 20.50 | 5.0 | 64.84 | 93.36 | 20.50 to 20.50 | 0.75 | 9.11 | 13.11 | |
| "KR1" | 21+78.00 | to | "KR1" | 25+17.80 | 3.40 | 16.00 to 16.00 | 8.00 | 75.20 | 255.53 | 16.00 to 16.00 | 5.0 | 50.74 | 172.41 | 16.00 to 16.00 | 0.75 | 7.11 | 24.15 | |
| "KR1" | 25+17.80 | to | "KR1" | 25+49.23 | 0.31 | 16.00 to 17.00 | 8.00 | 77.55 | 24.37 | 16.00 to 17.00 | 5.0 | 52.31 | 16.44 | 16.00 to 17.00 | 0.75 | 7.33 | 2.30 | |
| "KR1" | 25+49.23 | to | "KR1" | 25+83.03 | 0.34 | 17.00 to 18.00 | 8.00 | 82.25 | 27.80 | 17.00 to 18.00 | 5.0 | 55.44 | 18.74 | 17.00 to 18.00 | 0.75 | 7.77 | 2.63 | |
| "KR1" | 25+83.03 | to | "KR1" | 26+65.48 | 0.82 | 18.00 to 18.00 | 8.00 | 84.60 | 69.75 | 18.00 to 18.00 | 5.0 | 57.00 | 47.00 | 18.00 to 18.00 | 0.75 | 8.00 | 6.59 | |
| **RIGHT SIDE** | | | | | | | | | | | | | | | | | | |
| "KR1" | 16+51.20 | to | "KR1" | 20+48.92 | 3.98 | 20.00 to 20.00 | 8.00 | 94.00 | 373.86 | 20.00 to 20.00 | 5.0 | 63.27 | 251.64 | 20.00 to 20.00 | 0.75 | 8.88 | 35.33 | |
| "KR1" | 20+48.92 | to | "KR1" | 21+07.02 | 0.58 | 20.00 to 25.84 | 8.00 | 107.72 | 62.59 | 20.00 to 25.84 | 5.0 | 72.42 | 42.07 | 20.00 to 25.84 | 0.75 | 10.18 | 5.92 | |
| "KR1" | 21+07.02 | to | "KR1" | 21+33.27 | 0.26 | 25.84 to 30.00 | 8.00 | 131.22 | 34.45 | 25.84 to 30.00 | 5.0 | 88.08 | 23.12 | 25.84 to 30.00 | 0.75 | 12.40 | 3.26 | |
| "KR1" | 21+33.27 | to | "KR1" | 21+78.00 | 0.45 | 36.50 to 36.50 | 8.00 | 171.55 | 76.73 | 36.50 to 36.50 | 5.0 | 114.96 | 51.42 | 36.50 to 36.50 | 0.75 | 16.21 | 7.25 | |
| "KR1" | 21+78.00 | to | "KR1" | 23+78.55 | 2.01 | 32.00 to 32.00 | 8.00 | 150.40 | 301.63 | 32.00 to 32.00 | 5.0 | 100.86 | 202.28 | 32.00 to 32.00 | 0.75 | 14.21 | 28.51 | |
| "KR1" | 23+78.55 | to | "KR1" | 25+10.98 | 1.32 | 32.00 to 43.53 | 8.00 | 177.50 | 235.06 | 32.00 to 43.53 | 5.0 | 118.92 | 157.49 | 32.00 to 43.53 | 0.75 | 16.78 | 22.22 | |
| "KR1" | 25+10.98 | to | "KR1" | 25+49.82 | 0.39 | 43.53 to 57.11 | 8.00 | 236.50 | 91.86 | 43.53 to 57.11 | 5.0 | 158.25 | 61.47 | 43.53 to 57.11 | 0.75 | 22.35 | 8.68 | |
| "KR1" | 25+49.82 | to | "KR1" | 25+63.13 | 0.13 | 57.11 to 27.82 | 8.00 | 199.59 | 26.56 | 57.11 to 27.82 | 5.0 | 133.03 | 17.71 | 57.11 to 27.82 | 0.75 | 18.86 | 2.51 | |
| "KR1" | 25+63.13 | to | "KR1" | 25+71.92 | 0.09 | 27.82 to 20.99 | 8.00 | 114.70 | 10.08 | 27.82 to 20.99 | 5.0 | 76.45 | 6.72 | 27.82 to 20.99 | 0.75 | 10.84 | 0.95 | |
| "KR1" | 25+71.92 | to | "KR1" | 26+63.85 | 0.92 | 20.99 to 22.00 | 8.00 | 101.03 | 92.87 | 20.99 to 22.00 | 5.0 | 67.34 | 61.90 | 20.99 to 22.00 | 0.75 | 9.55 | 8.78 | |
| "KR1" | 26+63.85 | to | "KR1" | 26+65.48 | 0.02 | 22.00 to 22.00 | 8.00 | 103.40 | 1.69 | 22.00 to 22.00 | 5.0 | 68.92 | 1.12 | 22.00 to 22.00 | 0.75 | 9.77 | 0.16 | |
| **RAMP "KR1A"** | | | | | | | | | | | | | | | | | | |
| **LEFT SIDE** | | | | | | | | | | | | | | | | | | |
| "KR1A" | 2+31.32 | to | "KR1A" | 2+40.39 | 0.09 | 11.43 to 4.00 | 8.00 | 36.26 | 3.29 | 11.43 to 4.00 | 5.0 | 24.17 | 2.19 | 11.43 to 4.00 | 0.75 | 3.43 | 0.31 | |
| "KR1A" | 2+40.39 | to | "KR1A" | 3+39.49 | 0.99 | 4.00 to 4.00 | 8.00 | 18.80 | 18.63 | 4.00 to 4.00 | 5.0 | 12.53 | 12.42 | 4.00 to 4.00 | 0.75 | 1.78 | 1.76 | |
| "KR1A" | 3+39.49 | to | "KR1A" | 3+41.60 | 0.02 | 4.00 to 0.00 | 8.00 | 9.40 | 0.20 | 4.00 to 0.00 | 5.0 | 6.27 | 0.13 | 4.00 to 0.00 | 0.75 | 0.89 | 0.02 | |
| **RIGHT SIDE** | | | | | | | | | | | | | | | | | | |
| "KR1A" | 2+31.32 | to | "KR1A" | 3+31.76 | 1.00 | 22.00 to 22.00 | 8.00 | 103.40 | 103.85 | 22.00 to 22.00 | 5.0 | 68.92 | 69.22 | 22.00 to 22.00 | 0.75 | 9.77 | 9.82 | |
| "KR1A" | 3+31.76 | to | "KR1A" | 3+41.98 | 0.10 | 22.00 to 22.98 | 8.00 | 105.70 | 10.80 | 22.00 to 22.98 | 5.0 | 70.45 | 7.20 | 22.00 to 22.98 | 0.75 | 9.99 | 1.02 | |
| "KR1A" | 3+41.98 | to | "KR1A" | 3+62.53 | 0.21 | 22.98 to 0.00 | 8.00 | 54.00 | 11.10 | 22.98 to 0.00 | 5.0 | 35.99 | 7.40 | 22.98 to 0.00 | 0.75 | 5.10 | 1.05 | |

PROFESSIONAL ENGINEER – STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
No. 11511
CIVIL
7/3/17

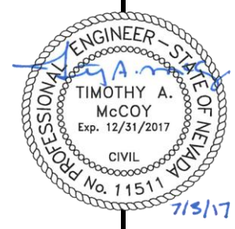
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 103A |

| LOCATION | | | | | LENGTH | BASE AGGREGATE (TYPE 1 CLASS B) INCLUDES SLOPE ALLOWANACE AND 1' WIDENING (includes 8% for moisture) | | | | PLANTMIX DENSE GRADE SURFACE TYPE 2C (WET) INCLUDES ANGLE OF REPOSE | | | | PLANTMIX OPEN GRADE SURFACE 1/2-INCH (WET) | | | | COLD MILLING |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | STATIONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | AREA SQYD |
| **RAMP "KR2"** | | | | | | | | | | | | | | | | | | |
| **LEFT SIDE** | | | | | | | | | | | | | | | | | | |
| "KR2" | 21+10.64 | to | "KR2" | 23+55.26 | 2.45 | 22.00 to 22.00 | 8.00 | 103.40 | 252.94 | 22.00 to 22.00 | 5.0 | 69.54 | 170.10 | 22.00 to 22.00 | 0.75 | 9.77 | 23.91 | |
| "KR2" | 23+55.26 | to | "KR2" | 24+47.26 | 0.92 | 22.00 to 16.00 | 8.00 | 89.30 | 82.16 | 22.00 to 16.00 | 5.0 | 60.14 | 55.33 | 22.00 to 16.00 | 0.75 | 8.44 | 7.76 | |
| "KR2" | 24+47.26 | to | "KR2" | 33+78.24 | 9.31 | 16.00 to 16.00 | 8.00 | 75.20 | 700.10 | 16.00 to 16.00 | 5.0 | 50.74 | 472.37 | 16.00 to 16.00 | 0.75 | 7.11 | 66.17 | |
| **RIGHT SIDE** | | | | | | | | | | | | | | | | | | |
| "KR2" | 21+10.64 | to | "KR2" | 21+15.09 | 0.04 | 11.45 to 8.00 | 8.00 | 45.71 | 2.03 | 11.45 to 8.00 | 5.0 | 30.47 | 1.36 | 11.45 to 8.00 | 0.75 | 4.32 | 0.19 | |
| "KR2" | 21+15.09 | to | "KR2" | 22+19.06 | 1.04 | 8.00 to 8.00 | 8.00 | 37.60 | 39.09 | 8.00 to 8.00 | 5.0 | 25.06 | 26.06 | 8.00 to 8.00 | 0.75 | 3.55 | 3.69 | |
| "KR2" | 22+19.06 | to | "KR2" | 22+20.64 | 0.02 | 8.00 to 8.88 | 8.00 | 39.67 | 0.63 | 8.00 to 8.88 | 5.0 | 26.44 | 0.42 | 8.00 to 8.88 | 0.75 | 3.75 | 0.06 | |
| "KR2" | 22+20.64 | to | "KR2" | 22+44.66 | 0.24 | 8.88 to 23.02 | 8.00 | 74.97 | 18.01 | 8.88 to 23.02 | 5.0 | 49.97 | 12.00 | 8.88 to 23.02 | 0.75 | 7.09 | 1.70 | |
| "KR2" | 22+44.66 | to | "KR2" | 22+54.11 | 0.09 | 23.02 to 17.39 | 8.00 | 94.96 | 8.97 | 23.02 to 17.39 | 5.0 | 63.91 | 6.04 | 23.02 to 17.39 | 0.75 | 8.98 | 0.85 | |
| "KR2" | 22+54.11 | to | "KR2" | 23+09.00 | 0.55 | 17.39 to 8.00 | 8.00 | 59.67 | 32.75 | 17.39 to 8.00 | 5.0 | 40.39 | 22.17 | 17.39 to 8.00 | 0.75 | 5.64 | 3.10 | |
| "KR2" | 23+09.00 | to | "KR2" | 33+76.57 | 10.68 | 8.00 to 8.00 | 8.00 | 37.60 | 401.41 | 8.00 to 8.00 | 5.0 | 25.68 | 274.12 | 8.00 to 8.00 | 0.75 | 3.55 | 37.94 | |
| **RAMP "KR2A"** | | | | | | | | | | | | | | | | | | |
| **LEFT SIDE** | | | | | | | | | | | | | | | | | | |
| "KR2A" | 3+04.15 | to | "KR2A" | 3+09.03 | 0.05 | 8.28 to 4.00 | 8.00 | 28.86 | 1.41 | 8.28 to 4.00 | 5.0 | 19.23 | 0.94 | 8.28 to 4.00 | 0.75 | 2.73 | 0.13 | |
| "KR2A" | 3+09.03 | to | "KR2A" | 5+09.16 | 2.00 | 4.00 to 4.00 | 8.00 | 18.80 | 37.62 | 4.00 to 4.00 | 5.0 | 12.53 | 25.08 | 4.00 to 4.00 | 0.75 | 1.78 | 3.56 | |
| "KR2A" | 5+09.16 | to | "KR2A" | 5+10.67 | 0.02 | 4.00 to 4.92 | 8.00 | 20.96 | 0.32 | 4.00 to 4.92 | 5.0 | 13.97 | 0.21 | 4.00 to 4.92 | 0.75 | 1.98 | 0.03 | |
| **RIGHT SIDE** | | | | | | | | | | | | | | | | | | |
| "KR2A" | 3+04.15 | to | "KR2A" | 3+14.13 | 0.10 | 14.00 to 14.00 | 8.00 | 65.80 | 6.57 | 14.00 to 14.00 | 5.0 | 43.86 | 4.38 | 14.00 to 14.00 | 0.75 | 6.22 | 0.62 | |
| "KR2A" | 3+14.13 | to | "KR2A" | 3+57.49 | 0.43 | 14.00 to 18.48 | 8.00 | 76.33 | 33.10 | 14.00 to 18.48 | 5.0 | 50.88 | 22.06 | 14.00 to 18.48 | 0.75 | 7.21 | 3.13 | |
| "KR2A" | 3+57.49 | to | "KR2A" | 4+12.32 | 0.55 | 18.48 to 22.17 | 8.00 | 95.53 | 52.38 | 18.48 to 22.17 | 5.0 | 63.67 | 34.91 | 18.48 to 22.17 | 0.75 | 9.03 | 4.95 | |
| "KR2A" | 4+12.32 | to | "KR2A" | 4+19.40 | 0.07 | 22.17 to 22.00 | 8.00 | 103.80 | 7.35 | 22.17 to 22.00 | 5.0 | 69.19 | 4.90 | 22.17 to 22.00 | 0.75 | 9.81 | 0.69 | |
| "KR2A" | 4+19.40 | to | "KR2A" | 4+94.87 | 0.75 | 22.00 to 22.00 | 8.00 | 103.40 | 78.04 | 22.00 to 22.00 | 5.0 | 69.54 | 52.48 | 22.00 to 22.00 | 0.75 | 9.77 | 7.38 | |
| "KR2A" | 4+94.87 | to | "KR2A" | 5+10.67 | 0.16 | 22.00 to 24.83 | 8.00 | 110.05 | 17.39 | 22.00 to 24.83 | 5.0 | 73.97 | 11.69 | 22.00 to 24.83 | 0.75 | 10.40 | 1.64 | |



| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 103B |

| LOCATION | LENGTH | BASE AGGREGATE (TYPE 1 CLASS B) INCLUDES SLOPE ALLOWANACE AND 1' WIDENING (includes 8% for moisture) | | | | PLANTMIX DENSE GRADE SURFACE TYPE 2C (WET) INCLUDES ANGLE OF REPOSE | | | | PLANTMIX OPEN GRADE SURFACE 1/2-INCH (WET) | | | | COLD MILLING |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | STATIONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | AREA SQYD |
| **RAMP "KR3"** | | | | | | | | | | | | | | |
| **LEFT SIDE** | | | | | | | | | | | | | | |
| "KR3" 30+81.96 to "KR3" 30+83.76 | 0.02 | 10.87 to 9.50 | 8.00 | 47.87 | 0.86 | 10.87 to 9.50 | 5.0 | 31.91 | 0.57 | 10.87 to 9.50 | 0.75 | 4.52 | 0.08 | |
| "KR3" 30+83.76 to "KR3" 31+88.60 | 1.05 | 8.00 to 8.00 | 8.00 | 37.60 | 39.42 | 8.00 to 8.00 | 5.0 | 25.06 | 26.27 | 8.00 to 8.00 | 0.75 | 3.55 | 3.73 | |
| "KR3" 31+88.60 to "KR3" 31+98.91 | 0.10 | 8.00 to 15.75 | 8.00 | 55.81 | 5.75 | 8.00 to 15.75 | 5.0 | 37.20 | 3.84 | 8.00 to 15.75 | 0.75 | 5.28 | 0.54 | |
| "KR3" 31+98.91 to "KR3" 32+16.42 | 0.18 | 15.75 to 42.84 | 8.00 | 137.69 | 24.11 | 15.75 to 42.84 | 5.0 | 91.77 | 16.07 | 15.75 to 42.84 | 0.75 | 13.01 | 2.28 | |
| "KR3" 32+16.42 to "KR3" 32+30.84 | 0.14 | 42.84 to 33.13 | 8.00 | 178.53 | 25.74 | 42.84 to 33.13 | 5.0 | 119.61 | 17.25 | 42.84 to 33.13 | 0.75 | 16.87 | 2.43 | |
| "KR3" 32+30.84 to "KR3" 32+80.43 | 0.50 | 33.13 to 20.06 | 8.00 | 125.00 | 61.99 | 33.13 to 20.06 | 5.0 | 83.93 | 41.62 | 33.13 to 20.06 | 0.75 | 11.81 | 5.86 | |
| "KR3" 32+80.43 to "KR3" 32+87.00 | 0.07 | 20.06 to 20.00 | 8.00 | 94.14 | 6.19 | 20.06 to 20.00 | 5.0 | 63.36 | 4.16 | 20.06 to 20.00 | 0.75 | 8.90 | 0.58 | |
| "KR3" 32+87.00 to "KR3" 35+50.00 | 2.63 | 20.00 to 20.00 | 8.00 | 94.00 | 247.22 | 20.00 to 20.00 | 5.0 | 63.27 | 166.40 | 20.00 to 20.00 | 0.75 | 8.88 | 23.37 | |
| "KR3" 35+50.00 to "KR3" 35+90.41 | 0.40 | 24.50 to 24.50 | 8.00 | 115.15 | 46.53 | 24.50 to 24.50 | 5.0 | 77.37 | 31.26 | 24.50 to 24.50 | 0.75 | 10.88 | 4.40 | |
| "KR3" 35+90.41 to "KR3" 36+13.10 | 0.23 | 18.00 to 14.37 | 8.00 | 76.07 | 17.26 | 18.00 to 14.37 | 5.0 | 51.32 | 11.64 | 18.00 to 14.37 | 0.75 | 7.19 | 1.63 | |
| "KR3" 36+13.10 to "KR3" 36+76.74 | 0.64 | 14.37 to 8.00 | 8.00 | 52.57 | 33.46 | 14.37 to 8.00 | 5.0 | 35.66 | 22.69 | 14.37 to 8.00 | 0.75 | 4.97 | 3.16 | |
| "KR3" 36+76.74 to "KR3" 41+23.76 | 4.47 | 8.00 to 8.00 | 8.00 | 37.60 | 168.08 | 8.00 to 8.00 | 5.0 | 25.68 | 114.78 | 8.00 to 8.00 | 0.75 | 3.55 | 15.89 | |
| **RIGHT SIDE** | | | | | | | | | | | | | | |
| "KR3" 30+81.97 to "KR3" 32+42.91 | 1.61 | 18.00 to 18.00 | 8.00 | 84.60 | 136.16 | 18.00 to 18.00 | 5.0 | 57.00 | 91.74 | 18.00 to 18.00 | 0.75 | 8.00 | 12.87 | |
| "KR3" 32+42.91 to "KR3" 32+80.43 | 0.38 | 18.00 to 16.77 | 8.00 | 81.71 | 30.66 | 18.00 to 16.77 | 5.0 | 55.08 | 20.67 | 18.00 to 16.77 | 0.75 | 7.72 | 2.90 | |
| "KR3" 32+80.43 to "KR3" 33+01.69 | 0.21 | 16.77 to 16.00 | 8.00 | 77.01 | 16.37 | 16.77 to 16.00 | 5.0 | 51.95 | 11.04 | 16.77 to 16.00 | 0.75 | 7.28 | 1.55 | |
| "KR3" 33+01.69 to "KR3" 35+50.00 | 2.48 | 16.00 to 16.00 | 8.00 | 75.20 | 186.73 | 16.00 to 16.00 | 5.0 | 50.74 | 125.99 | 16.00 to 16.00 | 0.75 | 7.11 | 17.65 | |
| "KR3" 35+50.00 to "KR3" 36+61.00 | 1.11 | 20.50 to 20.50 | 8.00 | 96.35 | 106.95 | 20.50 to 20.50 | 5.0 | 64.84 | 71.97 | 20.50 to 20.50 | 0.75 | 9.11 | 10.11 | |
| "KR3" 36+61.00 to "KR3" 36+82.00 | 0.21 | 18.00 to 18.00 | 8.00 | 84.60 | 17.77 | 18.00 to 18.00 | 5.0 | 57.00 | 11.97 | 18.00 to 18.00 | 0.75 | 8.00 | 1.68 | |
| "KR3" 36+82.00 to "KR3" 39+81.32 | 2.99 | 16.00 to 16.00 | 8.00 | 75.20 | 225.09 | 16.00 to 16.00 | 5.0 | 50.74 | 151.87 | 16.00 to 16.00 | 0.75 | 7.11 | 21.27 | |
| "KR3" 39+81.32 to "KR3" 41+23.76 | 1.42 | 16.00 to 19.00 | 8.00 | 82.25 | 117.16 | 16.00 to 19.00 | 5.0 | 55.44 | 78.97 | 16.00 to 19.00 | 0.75 | 7.77 | 11.07 | |
| **RAMP "KR3A"** | | | | | | | | | | | | | | |
| **LEFT SIDE** | | | | | | | | | | | | | | |
| "KR3A" 3+24.83 to "KR3A" 3+49.64 | 0.25 | 29.53 to 22.00 | 8.00 | 121.10 | 30.04 | 29.53 to 22.00 | 5.0 | 80.71 | 20.03 | 29.53 to 22.00 | 0.75 | 11.45 | 2.84 | |
| "KR3A" 3+49.64 to "KR3A" 4+28.36 | 0.79 | 22.00 to 22.00 | 8.00 | 103.40 | 81.40 | 22.00 to 22.00 | 5.0 | 68.92 | 54.25 | 22.00 to 22.00 | 0.75 | 9.77 | 7.69 | |
| **RIGHT SIDE** | | | | | | | | | | | | | | |
| "KR3A" 3+27.54 to "KR3A" 4+17.75 | 0.90 | 4.00 to 4.00 | 8.00 | 18.80 | 16.96 | 4.00 to 4.00 | 5.0 | 12.53 | 11.30 | 4.00 to 4.00 | 0.75 | 1.78 | 1.60 | |
| "KR3A" 4+17.75 to "KR3A" 4+28.36 | 0.11 | 4.00 to 11.70 | 8.00 | 36.90 | 3.91 | 4.00 to 11.70 | 5.0 | 24.59 | 2.61 | 4.00 to 11.70 | 0.75 | 3.49 | 0.37 | |



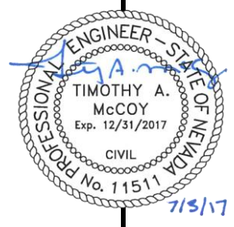
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 103C |

| LOCATION | LENGTH | BASE AGGREGATE (TYPE 1 CLASS B) INCLUDES SLOPE ALLOWANACE AND 1' WIDENING (includes 8% for moisture) | | | | PLANTMIX DENSE GRADE SURFACE TYPE 2C (WET) INCLUDES ANGLE OF REPOSE | | | | PLANTMIX OPEN GRADE SURFACE 1/2-INCH (WET) | | | | COLD MILLING |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | STATIONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | AREA SQYD |
| **RAMP "KR4"** | | | | | | | | | | | | | | |
| **LEFT SIDE** | | | | | | | | | | | | | | |
| "KR4" 43+68.09 to "KR4" 47+09.75 | 3.42 | 20.70 to 32.00 | 8.00 | 123.85 | 423.13 | 20.70 to 32.00 | 5.0 | 83.16 | 284.13 | 20.70 to 32.00 | 0.75 | 11.71 | 39.99 | |
| "KR4" 47+09.75 to "KR4" 52+65.44 | 5.56 | 32.00 to 32.00 | 8.00 | 150.40 | 835.76 | 32.00 to 32.00 | 5.0 | 100.86 | 560.48 | 32.00 to 32.00 | 0.75 | 14.21 | 78.99 | |
| "KR4" 52+65.44 to "KR4" 53+39.39 | 0.74 | 32.00 to 33.38 | 8.00 | 153.64 | 113.62 | 32.00 to 33.38 | 5.0 | 103.02 | 76.19 | 32.00 to 33.38 | 0.75 | 14.52 | 10.74 | |
| "KR4" 53+39.39 to "KR4" 54+13.41 | 0.74 | 33.38 to 36.15 | 8.00 | 163.40 | 120.95 | 33.38 to 36.15 | 5.0 | 109.52 | 81.07 | 33.38 to 36.15 | 0.75 | 15.44 | 11.43 | |
| "KR4" 54+13.41 to "KR4" 54+59.73 | 0.46 | 36.15 to 46.00 | 8.00 | 193.05 | 89.42 | 36.15 to 46.00 | 5.0 | 129.29 | 59.89 | 36.15 to 46.00 | 0.75 | 18.25 | 8.45 | |
| "KR4" 54+59.73 to "KR4" 54+66.52 | 0.07 | 46.00 to 21.66 | 8.00 | 159.00 | 10.80 | 46.00 to 21.66 | 5.0 | 105.98 | 7.20 | 46.00 to 21.66 | 0.75 | 15.03 | 1.02 | |
| "KR4" 54+66.52 to "KR4" 54+68.27 | 0.02 | 21.66 to 20.00 | 8.00 | 97.90 | 1.71 | 21.66 to 20.00 | 5.0 | 65.25 | 1.14 | 21.66 to 20.00 | 0.75 | 9.25 | 0.16 | |
| "KR4" 54+68.27 to "KR4" 56+85.91 | 2.18 | 20.00 to 20.00 | 8.00 | 94.00 | 204.58 | 20.00 to 20.00 | 5.0 | 62.65 | 136.36 | 20.00 to 20.00 | 0.75 | 8.88 | 19.34 | |
| "KR4" 56+85.91 to "KR4" 56+88.48 | 0.03 | 20.00 to 22.25 | 8.00 | 99.29 | 2.55 | 20.00 to 22.25 | 5.0 | 66.18 | 1.70 | 20.00 to 22.25 | 0.75 | 9.38 | 0.24 | |
| **RIGHT SIDE** | | | | | | | | | | | | | | |
| "KR4" 43+68.10 to "KR4" 53+73.01 | 10.05 | 16.00 to 16.00 | 8.00 | 75.20 | 755.69 | 16.00 to 16.00 | 5.0 | 50.74 | 509.88 | 16.00 to 16.00 | 0.75 | 7.11 | 71.42 | |
| "KR4" 53+73.01 to "KR4" 54+65.01 | 0.92 | 16.00 to 22.00 | 8.00 | 89.30 | 82.16 | 16.00 to 22.00 | 5.0 | 60.14 | 55.33 | 16.00 to 22.00 | 0.75 | 8.44 | 7.76 | |
| "KR4" 54+65.01 to "KR4" 56+88.48 | 2.23 | 22.00 to 22.00 | 8.00 | 103.40 | 231.07 | 22.00 to 22.00 | 5.0 | 69.54 | 155.39 | 22.00 to 22.00 | 0.75 | 9.77 | 21.84 | |
| **RAMP "KR4A"** | | | | | | | | | | | | | | |
| **LEFT SIDE** | | | | | | | | | | | | | | |
| "KR4A" 4+65.74 to "KR4A" 6+46.68 | 1.81 | 20.00 to 20.00 | 8.00 | 94.00 | 170.08 | 20.00 to 20.00 | 5.0 | 63.27 | 114.48 | 20.00 to 20.00 | 0.75 | 8.88 | 16.08 | |
| "KR4A" 6+46.68 to "KR4A" 6+54.70 | 0.08 | 20.00 to 20.27 | 8.00 | 94.63 | 7.59 | 20.00 to 20.27 | 5.0 | 63.69 | 5.11 | 20.00 to 20.27 | 0.75 | 8.94 | 0.72 | |
| "KR4A" 6+54.70 to "KR4A" 7+28.41 | 0.74 | 20.27 to 16.84 | 8.00 | 87.21 | 64.28 | 20.27 to 16.84 | 5.0 | 58.74 | 43.30 | 20.27 to 16.84 | 0.75 | 8.24 | 6.08 | |
| "KR4A" 7+28.41 to "KR4A" 7+49.37 | 0.21 | 16.84 to 15.00 | 8.00 | 74.82 | 15.68 | 16.84 to 15.00 | 5.0 | 50.49 | 10.58 | 16.84 to 15.00 | 0.75 | 7.07 | 1.48 | |
| "KR4A" 7+49.37 to "KR4A" 7+99.60 | 0.50 | 15.00 to 15.00 | 8.00 | 70.50 | 35.41 | 15.00 to 15.00 | 5.0 | 46.99 | 23.60 | 15.00 to 15.00 | 0.75 | 6.66 | 3.35 | |
| **RIGHT SIDE** | | | | | | | | | | | | | | |
| "KR4A" 4+65.74 to "KR4A" 4+67.71 | 0.02 | 5.65 to 4.00 | 8.00 | 22.68 | 0.45 | 5.65 to 4.00 | 5.0 | 15.12 | 0.30 | 5.65 to 4.00 | 0.75 | 2.14 | 0.04 | |
| "KR4A" 4+67.71 to "KR4A" 7+94.65 | 3.27 | 4.00 to 4.00 | 8.00 | 18.80 | 61.46 | 4.00 to 4.00 | 5.0 | 12.53 | 40.97 | 4.00 to 4.00 | 0.75 | 1.78 | 5.81 | |
| "KR4A" 7+94.65 to "KR4A" 7+99.60 | 0.05 | 4.00 to 8.28 | 8.00 | 28.86 | 1.43 | 4.00 to 8.28 | 5.0 | 19.23 | 0.95 | 4.00 to 8.28 | 0.75 | 2.73 | 0.14 | |

PROFESSIONAL ENGINEER – STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 103D |

| LOCATION | LENGTH | BASE AGGREGATE (TYPE 1 CLASS B) INCLUDES SLOPE ALLOWANACE AND 1' WIDENING (includes 8% for moisture) | | | | PLANTMIX DENSE GRADE SURFACE TYPE 2C (WET) INCLUDES ANGLE OF REPOSE | | | | PLANTMIX OPEN GRADE SURFACE 1/2-INCH (WET) | | | | COLD MILLING |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | STATIONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | AREA SQYD |
| **KYLE CANYON** | | | | | | | | | | | | | | |
| **LEFT SIDE** | | | | | | | | | | | | | | |
| "KCW" 190+73.73 to "KCW" 193+00.00 | 2.26 | 4.61 to 8.73 | 8.00 | 31.35 | 70.93 | 4.61 to 8.73 | 6.0 | 25.95 | 58.72 | 4.61 to 8.73 | 0.75 | 2.96 | 6.70 | |
| "KCW" 193+00.00 to "KCW" 198+34.65 | 5.35 | 20.73 to 30.45 | 8.00 | 120.27 | 643.04 | 20.73 to 30.45 | 6.0 | 97.08 | 519.02 | 20.73 to 30.45 | 0.75 | 11.37 | 60.78 | |
| "KCW" 198+34.65 to "KCW" 199+45.82 | 1.11 | 30.45 to 43.01 | 8.00 | 172.63 | 191.91 | 30.45 to 43.01 | 6.0 | 138.95 | 154.48 | 30.45 to 43.01 | 0.75 | 16.32 | 18.14 | |
| "KCW" 199+45.82 to "KCW" 199+78.82 | 0.33 | 43.01 to 62.41 | 8.00 | 247.74 | 81.75 | 43.01 to 62.41 | 6.0 | 199.03 | 65.68 | 43.01 to 62.41 | 0.75 | 23.41 | 7.73 | |
| **RIGHT SIDE** | | | | | | | | | | | | | | |
| "KCW" 193+00.00 to "KCW" 199+19.18 | 6.19 | 18.00 to 29.26 | 8.00 | 111.06 | 687.67 | 18.00 to 29.26 | 6.0 | 89.71 | 555.45 | 18.00 to 29.26 | 0.75 | 10.50 | 64.99 | |
| "KCW" 199+19.18 to "KCW" 199+66.59 | 0.47 | 29.26 to 66.37 | 8.00 | 224.73 | 106.54 | 29.26 to 66.37 | 6.0 | 180.63 | 85.63 | 29.26 to 66.37 | 0.75 | 21.24 | 10.07 | |
| **OSO BLANCA** | | | | | | | | | | | | | | |
| **LEFT SIDE** | | | | | | | | | | | | | | |
| "OS3" 427+80.16 to "OS3" 428+59.96 | 0.80 | 14.00 to 29.01 | 8.00 | 101.07 | 80.66 | 14.00 to 29.01 | 6.0 | 81.72 | 65.21 | 14.00 to 29.01 | 0.75 | 9.55 | 7.62 | |
| "OS3" 428+59.96 to "OS3" 429+26.19 | 0.66 | 29.01 to 33.34 | 8.00 | 146.52 | 97.04 | 29.01 to 33.34 | 6.0 | 118.07 | 78.20 | 29.01 to 33.34 | 0.75 | 13.85 | 9.17 | |
| "OS3" 429+26.19 to "OS3" 429+89.26 | 0.63 | 33.34 to 25.21 | 8.00 | 137.59 | 86.78 | 33.34 to 25.21 | 6.0 | 110.93 | 69.96 | 33.34 to 25.21 | 0.75 | 13.00 | 8.20 | |
| "OS3" 429+89.26 to "OS3" 430+25.54 | 0.36 | 25.21 to 13.00 | 8.00 | 89.79 | 32.58 | 25.21 to 13.00 | 6.0 | 72.70 | 26.37 | 25.21 to 13.00 | 0.75 | 8.49 | 3.08 | |
| **RIGHT SIDE** | | | | | | | | | | | | | | |
| "OS3" 425+62.77 to "OS3" 427+01.91 | 1.39 | 3.50 to 30.35 | 8.00 | 79.55 | 110.68 | 3.50 to 30.35 | 6.0 | 64.50 | 89.75 | 3.50 to 30.35 | 0.75 | 7.52 | 10.46 | |
| "OS3" 427+01.91 to "OS3" 427+47.77 | 0.46 | 30.35 to 45.68 | 8.00 | 178.67 | 81.94 | 30.35 to 45.68 | 6.0 | 143.78 | 65.94 | 30.35 to 45.68 | 0.75 | 16.89 | 7.74 | |
| "OS3" 427+47.77 to "OS3" 427+80.16 | 0.32 | 45.68 to 55.61 | 8.00 | 238.03 | 77.10 | 45.68 to 55.61 | 6.0 | 191.26 | 61.95 | 45.68 to 55.61 | 0.75 | 22.50 | 7.29 | |
| "OS3" 427+80.16 to "OS3" 428+24.59 | 0.44 | 45.68 to 83.61 | 8.00 | 303.83 | 134.99 | 45.68 to 83.61 | 6.0 | 243.89 | 108.36 | 45.68 to 83.61 | 0.75 | 28.72 | 12.76 | |
| "OS3" 428+24.59 to "OS3" 428+29.80 | 0.05 | 83.61 to 86.13 | 8.00 | 398.89 | 20.78 | 83.61 86.13 | 6.0 | 319.92 | 16.67 | 83.61 86.13 | 0.75 | 37.70 | 1.96 | |
| "OS3" 428+29.80 to "OS3" 428+34.48 | 0.05 | 86.13 to 88.51 | 8.00 | 410.40 | 19.21 | 86.13 88.51 | 6.0 | 328.26 | 15.36 | 86.13 88.51 | 0.75 | 38.79 | 1.82 | |
| "OS3" 428+34.48 to "OS3" 430+21.14 | 1.87 | 50.20 to 38.00 | 8.00 | 207.27 | 386.89 | 50.20 38.00 | 6.0 | 165.78 | 309.45 | 50.20 38.00 | 0.75 | 19.59 | 36.57 | |
| "OS3" 430+21.14 to "OS3" 430+25.97 | 0.05 | 38.00 to 37.40 | 8.00 | 177.19 | 8.56 | 38.00 to 37.40 | 6.0 | 142.60 | 6.89 | 38.00 to 37.40 | 0.75 | 16.75 | 0.81 | |
| "OS3" 430+25.97 to "OS3" 432+06.18 | 1.80 | 25.40 to 3.00 | 8.00 | 66.74 | 120.27 | 25.40 3.00 | 6.0 | 54.26 | 97.78 | 25.40 3.00 | 0.75 | 6.31 | 11.37 | |



| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 103E |

| LOCATION | | | | | LENGTH | BASE AGGREGATE (TYPE 1 CLASS B) INCLUDES SLOPE ALLOWANACE AND 1' WIDENING (includes 8% for moisture) | | | | PLANTMIX DENSE GRADE SURFACE TYPE 2C (WET) INCLUDES ANGLE OF REPOSE | | | | PLANTMIX OPEN GRADE SURFACE 1/2-INCH (WET) | | | | COLD MILLING |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | STATIONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | AREA SQYD |
| **KYLE CANYON-WESTBOUND** | | | | | | | | | | | | | | | | | | |
| **LEFT SIDE** | | | | | | | | | | | | | | | | | | |
| "KCW1 | 10+42.27 | to | "KCW1' | 10+74.20 | 0.32 | 64.09 to 30.00 | 8.00 | 221.11 | 70.60 | 64.09 to 30.00 | 6.0 | 176.85 | 56.47 | 64.09 to 30.00 | 0.75 | 20.90 | 6.67 | |
| "KCW1 | 10+74.20 | to | "KCW1' | 12+40.17 | 1.66 | 30.00 to 30.00 | 8.00 | 141.00 | 234.02 | 30.00 to 30.00 | 6.0 | 112.78 | 187.18 | 30.00 to 30.00 | 0.75 | 13.33 | 22.12 | |
| "KCW1 | 12+40.17 | to | "KCW1' | 12+86.53 | 0.46 | 30.00 to 23.26 | 8.00 | 125.16 | 58.02 | 30.00 to 23.26 | 6.0 | 100.11 | 46.41 | 30.00 to 23.26 | 0.75 | 11.83 | 5.48 | |
| "KCW1 | 12+86.53 | to | "KCW1' | 13+22.90 | 0.36 | 23.26 to 18.00 | 8.00 | 96.96 | 35.26 | 23.26 to 18.00 | 6.0 | 77.55 | 28.21 | 23.26 to 18.00 | 0.75 | 9.16 | 3.33 | |
| "KCW1 | 13+22.90 | to | "KCW1' | 17+52.41 | 4.30 | 18.00 to 18.00 | 8.00 | 84.60 | 363.37 | 18.00 to 18.00 | 6.0 | 67.67 | 290.64 | 18.00 to 18.00 | 0.75 | 8.00 | 34.34 | |
| "KCW1 | 17+52.41 | to | "KCW1' | 19+87.83 | 2.35 | 18.00 to 21.01 | 8.00 | 91.67 | 215.82 | 18.00 to 21.01 | 6.0 | 73.32 | 172.62 | 18.00 to 21.01 | 0.75 | 8.66 | 20.40 | |
| "KCW1 | 19+87.83 | to | "KCW1' | 20+10.34 | 0.23 | 21.01 to 29.72 | 8.00 | 119.22 | 26.84 | 21.01 to 29.72 | 6.0 | 95.35 | 21.46 | 21.01 to 29.72 | 0.75 | 11.27 | 2.54 | |
| "KCW1 | 20+10.34 | to | "KCW1' | 20+44.87 | 0.35 | 29.72 to 25.81 | 8.00 | 130.50 | 45.06 | 29.72 to 25.81 | 6.0 | 104.38 | 36.04 | 29.72 to 25.81 | 0.75 | 12.33 | 4.26 | |
| "KCW1 | 20+44.87 | to | "KCW1' | 20+48.78 | 0.04 | 25.81 to 21.00 | 8.00 | 110.00 | 4.30 | 25.81 to 21.00 | 6.0 | 87.99 | 3.44 | 25.81 to 21.00 | 0.75 | 10.40 | 0.41 | |
| "KCW1 | 20+48.78 | to | "KCW1' | 20+68.05 | 0.19 | 21.00 to 21.00 | 8.00 | 98.70 | 19.02 | 21.00 to 21.00 | 6.0 | 78.94 | 15.21 | 21.00 to 21.00 | 0.75 | 9.33 | 1.80 | |
| "KCW1 | 20+68.05 | to | "KCW1' | 20+89.05 | 0.21 | 21.00 to 0.00 | 8.00 | 49.35 | 10.36 | 21.00 to 0.00 | 6.0 | 39.47 | 8.29 | 21.00 to 0.00 | 0.75 | 4.66 | 0.98 | |
| "KCW1 | 21+19.00 | to | "KCW1' | 21+49.76 | 0.31 | 0.00 to 24.09 | 8.00 | 56.61 | 17.41 | 0.00 to 24.09 | 6.0 | 45.28 | 13.93 | 0.00 to 24.09 | 0.75 | 5.35 | 1.65 | |
| "KCW1 | 21+49.76 | to | "KCW1' | 21+50.20 | 0.00 | 24.09 to 21.71 | 8.00 | 107.63 | 0.47 | 24.09 to 21.71 | 6.0 | 86.09 | 0.38 | 24.09 to 21.71 | 0.75 | 10.17 | 0.04 | |
| "KCW1 | 21+50.20 | to | "KCW1' | 21+51.22 | 0.01 | 21.71 to 21.00 | 8.00 | 100.37 | 1.02 | 21.71 to 21.00 | 6.0 | 80.28 | 0.82 | 21.71 to 21.00 | 0.75 | 9.49 | 0.10 | |
| "KCW1 | 21+51.22 | to | "KCW1' | 22+83.42 | 1.32 | 21.00 to 21.00 | 8.00 | 98.70 | 130.48 | 21.00 to 21.00 | 6.0 | 78.94 | 104.36 | 21.00 to 21.00 | 0.75 | 9.33 | 12.33 | |
| "KCW1 | 22+83.42 | to | "KCW1' | 22+87.16 | 0.04 | 21.00 to 21.02 | 8.00 | 98.75 | 3.69 | 21.00 to 21.02 | 6.0 | 78.98 | 2.95 | 21.00 to 21.02 | 0.75 | 9.33 | 0.35 | |
| "KCW1 | 22+87.16 | to | "KCW1' | 23+35.32 | 0.48 | 21.02 to 19.61 | 8.00 | 95.48 | 45.98 | 21.02 to 19.61 | 6.0 | 76.37 | 36.78 | 21.02 to 19.61 | 0.75 | 9.02 | 4.35 | |
| "KCW1 | 23+35.32 | to | "KCW1' | 23+60.12 | 0.25 | 19.61 to 19.00 | 8.00 | 90.73 | 22.50 | 19.61 to 19.00 | 6.0 | 72.57 | 18.00 | 19.61 to 19.00 | 0.75 | 8.58 | 2.13 | |
| "KCW1 | 23+60.12 | to | "KCW1' | 25+94.93 | 2.35 | 19.00 to 19.00 | 8.00 | 89.30 | 209.69 | 19.00 to 19.00 | 6.0 | 71.43 | 167.72 | 19.00 to 19.00 | 0.75 | 8.44 | 19.82 | |
| "KCW1 | 25+94.93 | to | "KCW1' | 26+19.73 | 0.25 | 19.00 to 19.61 | 8.00 | 90.73 | 22.50 | 19.00 to 19.61 | 6.0 | 72.57 | 18.00 | 19.00 to 19.61 | 0.75 | 8.58 | 2.13 | |
| "KCW1 | 26+19.73 | to | "KCW1' | 26+67.89 | 0.48 | 19.61 to 21.02 | 8.00 | 95.48 | 45.98 | 19.61 to 21.02 | 6.0 | 76.37 | 36.78 | 19.61 to 21.02 | 0.75 | 9.02 | 4.35 | |
| "KCW1 | 26+67.89 | to | "KCW1' | 26+99.47 | 0.32 | 21.02 to 21.00 | 8.00 | 98.75 | 31.18 | 21.02 to 21.00 | 6.0 | 78.98 | 24.94 | 21.02 to 21.00 | 0.75 | 9.33 | 2.95 | |
| "KCW1 | 26+99.47 | to | "KCW1' | 28+03.83 | 1.04 | 21.00 to 21.00 | 8.00 | 98.70 | 103.00 | 21.00 to 21.00 | 6.0 | 78.94 | 82.39 | 21.00 to 21.00 | 0.75 | 9.33 | 9.74 | |
| "KCW1 | 28+03.83 | to | "KCW1' | 28+05.30 | 0.01 | 21.00 to 24.09 | 8.00 | 105.96 | 1.56 | 21.00 to 24.09 | 6.0 | 84.75 | 1.25 | 21.00 to 24.09 | 0.75 | 10.01 | 0.15 | |
| "KCW1 | 28+05.30 | to | "KCW1' | 28+36.06 | 0.31 | 24.09 to 0.00 | 8.00 | 56.61 | 17.41 | 24.09 to 0.00 | 6.0 | 45.28 | 13.93 | 24.09 to 0.00 | 0.75 | 5.35 | 1.65 | |
| "KCW1 | 28+64.53 | to | "KCW1' | 28+68.07 | 0.04 | 0.00 to 2.07 | 8.00 | 4.86 | 0.17 | 0.00 to 2.07 | 6.0 | 3.89 | 0.14 | 0.00 to 2.07 | 0.75 | 0.46 | 0.02 | |
| "KCW1 | 28+68.07 | to | "KCW1' | 28+87.27 | 0.19 | 2.07 to 21.00 | 8.00 | 54.21 | 10.41 | 2.07 to 21.00 | 6.0 | 43.36 | 8.33 | 2.07 to 21.00 | 0.75 | 5.12 | 0.98 | |
| "KCW1 | 28+87.27 | to | "KCW1' | 29+55.09 | 0.68 | 21.00 to 21.00 | 8.00 | 98.70 | 66.94 | 21.00 to 21.00 | 6.0 | 78.94 | 53.54 | 21.00 to 21.00 | 0.75 | 9.33 | 6.33 | |
| "KCW1 | 29+55.09 | to | "KCW1' | 29+59.80 | 0.05 | 21.00 to 25.28 | 8.00 | 108.76 | 5.12 | 21.00 to 25.28 | 6.0 | 86.99 | 4.10 | 21.00 to 25.28 | 0.75 | 10.28 | 0.48 | |
| "KCW1 | 29+59.80 | to | "KCW1' | 29+65.49 | 0.06 | 25.28 to 46.71 | 8.00 | 169.18 | 9.63 | 25.28 to 46.71 | 6.0 | 135.31 | 7.70 | 25.28 to 46.71 | 0.75 | 15.99 | 0.91 | |
| "KCW1 | 29+65.49 | to | "KCW1' | 30+13.68 | 0.48 | 46.71 to 37.23 | 8.00 | 197.26 | 95.06 | 46.71 to 37.23 | 6.0 | 157.78 | 76.03 | 46.71 to 37.23 | 0.75 | 18.64 | 8.98 | |
| "KCW1 | 30+13.68 | to | "KCW1' | 30+60.43 | 0.47 | 37.23 to 35.00 | 8.00 | 169.74 | 79.35 | 37.23 to 35.00 | 6.0 | 135.77 | 63.47 | 37.23 to 35.00 | 0.75 | 16.04 | 7.50 | |
| "KCW1 | 30+60.43 | to | "KCW1' | 31+08.51 | 0.48 | 35.00 to 35.00 | 8.00 | 164.50 | 79.09 | 35.00 to 35.00 | 6.0 | 131.57 | 63.26 | 35.00 to 35.00 | 0.75 | 15.55 | 7.48 | |
| "KCW1 | 31+08.51 | to | "KCW1' | 31+69.08 | 0.61 | 35.00 to 24.46 | 8.00 | 139.73 | 84.64 | 35.00 to 24.46 | 6.0 | 111.76 | 67.69 | 35.00 to 24.46 | 0.75 | 13.21 | 8.00 | |
| "KCW1 | 31+69.08 | to | "KCW1' | 32+09.41 | 0.40 | 24.46 to 18.00 | 8.00 | 99.78 | 40.24 | 24.46 to 18.00 | 6.0 | 79.81 | 32.19 | 24.46 to 18.00 | 0.75 | 9.43 | 3.80 | |
| "KCW1 | 32+09.41 | to | "KCW1' | 34+25.25 | 2.16 | 18.00 to 18.00 | 8.00 | 84.60 | 182.60 | 18.00 to 18.00 | 6.0 | 67.67 | 146.05 | 18.00 to 18.00 | 0.75 | 8.00 | 17.26 | |
| "KCW1 | 34+25.25 | to | "KCW1' | 34+46.32 | 0.21 | 18.00 to 25.91 | 8.00 | 103.19 | 21.74 | 18.00 to 25.91 | 6.0 | 83.41 | 17.57 | 18.00 to 25.91 | 0.75 | 9.75 | 2.05 | |
| "KCW1 | 34+46.32 | to | "KCW1' | 34+72.10 | 0.26 | 25.91 to 59.13 | 8.00 | 199.84 | 51.52 | 25.91 to 59.13 | 6.0 | 160.72 | 41.43 | 25.91 to 59.13 | 0.75 | 18.89 | 4.87 | |
| "KCW1 | 34+72.10 | to | "KCW1' | 34+74.10 | 0.02 | 59.13 to 59.13 | 8.00 | 277.91 | 5.56 | 59.13 to 59.13 | 6.0 | 223.16 | 4.46 | 59.13 to 59.13 | 0.75 | 26.27 | 0.53 | |

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

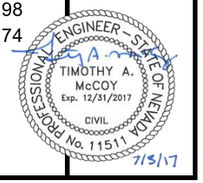
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 103F |

| LOCATION | | | | | | LENGTH | BASE AGGREGATE (TYPE 1 CLASS B) INCLUDES SLOPE ALLOWANACE AND 1' WIDENING (includes 8% for moisture) | | | | PLANTMIX DENSE GRADE SURFACE TYPE 2C (WET) INCLUDES ANGLE OF REPOSE | | | | PLANTMIX OPEN GRADE SURFACE 1/2-INCH (WET) | | | | COLD MILLING |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | STATIONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | AREA SQYD |
| **KYLE CANYON-WESTBOUND** | | | | | | | | | | | | | | | | | | | |
| **RIGHT SIDE** | | | | | | | | | | | | | | | | | | | |
| "KCW1 | 10+42.28 | to | "KCW1' | 10+82.17 | | 0.40 | 37.00 to 37.00 | 8.00 | 173.90 | 69.37 | 37.00 to 37.00 | 6.0 | 139.09 | 55.48 | 37.00 to 37.00 | 0.75 | 16.44 | 6.56 | |
| "KCW1 | 10+82.17 | to | "KCW1' | 10+85.17 | | 0.03 | 37.00 to 34.00 | 8.00 | 166.85 | 5.01 | 37.00 to 34.00 | 6.0 | 133.45 | 4.00 | 37.00 to 34.00 | 0.75 | 15.77 | 0.47 | |
| "KCW1 | 10+85.17 | to | "KCW1' | 13+93.06 | | 3.08 | 34.00 to 34.00 | 8.00 | 159.80 | 492.01 | 34.00 to 34.00 | 6.0 | 127.81 | 393.53 | 34.00 to 34.00 | 0.75 | 15.10 | 46.50 | |
| "KCW1 | 13+93.06 | to | "KCW1' | 14+54.71 | | 0.62 | 34.00 to 26.16 | 8.00 | 141.38 | 87.16 | 34.00 to 26.16 | 6.0 | 113.08 | 69.71 | 34.00 to 26.16 | 0.75 | 13.36 | 8.24 | |
| "KCW1 | 14+54.71 | to | "KCW1' | 15+64.77 | | 1.10 | 26.16 to 12.00 | 8.00 | 89.68 | 98.70 | 26.16 to 12.00 | 6.0 | 71.73 | 78.94 | 26.16 to 12.00 | 0.75 | 8.48 | 9.33 | |
| "KCW1 | 15+64.77 | to | "KCW1' | 17+58.23 | | 1.93 | 12.00 to 12.00 | 8.00 | 56.40 | 109.11 | 12.00 to 12.00 | 6.0 | 45.11 | 87.27 | 12.00 to 12.00 | 0.75 | 5.33 | 10.31 | |
| "KCW1 | 17+58.23 | to | "KCW1' | 17+77.46 | | 0.19 | 12.00 to 12.24 | 8.00 | 56.96 | 10.95 | 12.00 to 12.24 | 6.0 | 45.56 | 8.76 | 12.00 to 12.24 | 0.75 | 5.38 | 1.04 | |
| "KCW1 | 17+77.46 | to | "KCW1' | 20+02.23 | | 2.25 | 12.24 to 15.00 | 8.00 | 64.01 | 143.88 | 12.24 to 15.00 | 6.0 | 51.20 | 115.08 | 12.24 to 15.00 | 0.75 | 6.05 | 13.60 | |
| "KCW1 | 20+02.23 | to | "KCW1' | 20+50.23 | | 0.48 | 15.00 to 15.00 | 8.00 | 70.50 | 33.84 | 15.00 to 15.00 | 6.0 | 56.39 | 27.07 | 15.00 to 15.00 | 0.75 | 6.66 | 3.20 | |
| "KCW1 | 20+50.23 | to | "KCW1' | 20+50.90 | | 0.01 | 15.00 to 16.73 | 8.00 | 74.57 | 0.50 | 15.00 to 16.73 | 6.0 | 59.64 | 0.40 | 15.00 to 16.73 | 0.75 | 7.05 | 0.05 | |
| "KCW1 | 20+50.90 | to | "KCW1' | 20+68.05 | | 0.17 | 16.73 to 0.00 | 8.00 | 39.32 | 6.74 | 16.73 to 0.00 | 6.0 | 31.45 | 5.39 | 16.73 to 0.00 | 0.75 | 3.72 | 0.64 | |
| "KCW1 | 21+02.50 | to | "KCW1' | 21+06.04 | | 0.04 | 0.00 to 2.07 | 8.00 | 4.86 | 0.17 | 0.00 to 2.07 | 6.0 | 3.89 | 0.14 | 0.00 to 2.07 | 0.75 | 0.46 | 0.02 | |
| "KCW1 | 21+06.04 | to | "KCW1' | 21+19.00 | | 0.13 | 2.07 to 15.00 | 8.00 | 40.11 | 5.20 | 2.07 to 15.00 | 6.0 | 32.09 | 4.16 | 2.07 to 15.00 | 0.75 | 3.79 | 0.49 | |
| "KCW1 | 21+19.00 | to | "KCW1' | 22+82.69 | | 1.64 | 15.00 to 15.00 | 8.00 | 70.50 | 115.40 | 15.00 to 15.00 | 6.0 | 56.39 | 92.30 | 15.00 to 15.00 | 0.75 | 6.66 | 10.91 | |
| "KCW1 | 22+82.69 | to | "KCW1' | 22+85.56 | | 0.03 | 16.50 to 18.74 | 8.00 | 82.81 | 2.38 | 16.50 to 18.74 | 6.0 | 66.24 | 1.90 | 16.50 to 18.74 | 0.75 | 7.83 | 0.22 | |
| "KCW1 | 22+85.56 | to | "KCW1' | 23+06.82 | | 0.21 | 18.74 to 57.55 | 8.00 | 179.28 | 38.12 | 18.74 to 57.55 | 6.0 | 144.27 | 30.67 | 18.74 to 57.55 | 0.75 | 16.94 | 3.60 | |
| "KCW1 | 23+06.82 | to | "KCW1' | 23+28.28 | | 0.21 | 57.55 to 48.17 | 8.00 | 248.44 | 53.32 | 57.55 to 48.17 | 6.0 | 199.59 | 42.83 | 57.55 to 48.17 | 0.75 | 23.48 | 5.04 | |
| "KCW1 | 23+28.28 | to | "KCW1' | 23+40.25 | | 0.12 | 48.17 to 44.06 | 8.00 | 216.74 | 25.94 | 48.17 to 44.06 | 6.0 | 173.36 | 20.75 | 48.17 to 44.06 | 0.75 | 20.48 | 2.45 | |
| "KCW1 | 23+40.25 | to | "KCW1' | 24+50.68 | | 1.10 | 44.06 to 24.00 | 8.00 | 159.94 | 176.62 | 44.06 to 24.00 | 6.0 | 127.93 | 141.27 | 44.06 to 24.00 | 0.75 | 15.12 | 16.69 | |
| "KCW1 | 24+50.68 | to | "KCW1' | 25+94.93 | | 1.44 | 24.00 to 24.00 | 8.00 | 112.80 | 162.71 | 24.00 to 24.00 | 6.0 | 90.22 | 130.15 | 24.00 to 24.00 | 0.75 | 10.66 | 15.38 | |
| "KCW1 | 25+94.93 | to | "KCW1' | 25+98.87 | | 0.04 | 24.00 to 23.99 | 8.00 | 112.78 | 4.44 | 24.00 to 23.99 | 6.0 | 90.20 | 3.55 | 24.00 to 23.99 | 0.75 | 10.66 | 0.42 | |
| "KCW1 | 25+98.87 | to | "KCW1' | 26+82.76 | | 0.84 | 23.99 to 21.85 | 8.00 | 107.72 | 90.37 | 23.99 to 21.85 | 6.0 | 86.16 | 72.28 | 23.99 to 21.85 | 0.75 | 10.18 | 8.54 | |
| "KCW1 | 26+82.76 | to | "KCW1' | 27+03.45 | | 0.21 | 21.85 to 26.70 | 8.00 | 114.09 | 23.61 | 21.85 to 26.70 | 6.0 | 91.26 | 18.88 | 21.85 to 26.70 | 0.75 | 10.78 | 2.23 | |
| "KCW1 | 27+03.45 | to | "KCW1' | 27+36.11 | | 0.33 | 26.70 to 50.13 | 8.00 | 180.55 | 58.97 | 26.70 to 50.13 | 6.0 | 145.29 | 47.45 | 26.70 to 50.13 | 0.75 | 17.06 | 5.57 | |
| "KCW1 | 27+36.11 | to | "KCW1' | 27+62.31 | | 0.26 | 50.13 to 20.73 | 8.00 | 166.52 | 43.63 | 50.13 to 20.73 | 6.0 | 133.19 | 34.90 | 50.13 to 20.73 | 0.75 | 15.74 | 4.12 | |
| "KCW1 | 27+62.31 | to | "KCW1' | 27+63.98 | | 0.02 | 20.73 to 19.50 | 8.00 | 94.54 | 1.58 | 20.73 to 19.50 | 6.0 | 75.62 | 1.26 | 20.73 to 19.50 | 0.75 | 8.94 | 0.15 | |
| "KCW1 | 27+63.98 | to | "KCW1' | 28+26.28 | | 0.62 | 18.00 to 15.31 | 8.00 | 78.28 | 48.77 | 18.00 to 15.31 | 6.0 | 62.61 | 39.01 | 18.00 to 15.31 | 0.75 | 7.40 | 4.61 | |
| "KCW1 | 28+26.28 | to | "KCW1' | 28+36.05 | | 0.10 | 15.31 to 15.03 | 8.00 | 71.30 | 6.97 | 15.31 to 15.03 | 6.0 | 57.03 | 5.57 | 15.31 to 15.03 | 0.75 | 6.74 | 0.66 | |
| "KCW1 | 28+36.05 | to | "KCW1' | 28+45.29 | | 0.09 | 15.03 to 5.80 | 8.00 | 48.95 | 4.52 | 15.03 to 5.80 | 6.0 | 39.15 | 3.62 | 15.03 to 5.80 | 0.75 | 4.63 | 0.43 | |
| "KCW1 | 28+45.29 | to | "KCW1' | 28+55.19 | | 0.10 | 5.80 to 0.00 | 8.00 | 13.63 | 1.35 | 5.80 to 0.00 | 6.0 | 10.90 | 1.08 | 5.80 to 0.00 | 0.75 | 1.29 | 0.13 | |
| "KCW1 | 28+87.27 | to | "KCW1' | 29+08.71 | | 0.21 | 0.00 to 18.29 | 8.00 | 42.98 | 9.22 | 0.00 to 18.29 | 6.0 | 34.38 | 7.37 | 0.00 to 18.29 | 0.75 | 4.06 | 0.87 | |
| "KCW1 | 29+08.71 | to | "KCW1' | 29+09.35 | | 0.01 | 18.29 to 16.50 | 8.00 | 81.76 | 0.52 | 18.29 to 16.50 | 6.0 | 65.39 | 0.42 | 18.29 to 16.50 | 0.75 | 7.73 | 0.05 | |
| "KCW1 | 29+09.35 | to | "KCW1' | 29+60.00 | | 0.51 | 15.00 to 15.00 | 8.00 | 70.50 | 35.71 | 15.00 to 15.00 | 6.0 | 56.39 | 28.56 | 15.00 to 15.00 | 0.75 | 6.66 | 3.37 | |
| "KCW1 | 29+60.00 | to | "KCW1' | 29+70.98 | | 0.11 | 16.50 to 16.39 | 8.00 | 77.29 | 8.49 | 16.50 to 16.39 | 6.0 | 61.82 | 6.79 | 16.50 to 16.39 | 0.75 | 7.31 | 0.80 | |
| "KCW1 | 29+70.98 | to | "KCW1' | 31+65.28 | | 1.94 | 16.39 to 13.13 | 8.00 | 69.37 | 134.79 | 16.39 to 13.13 | 6.0 | 55.49 | 107.81 | 16.39 to 13.13 | 0.75 | 6.56 | 12.74 | |
| "KCW1 | 31+65.28 | to | "KCW1' | 31+95.06 | | 0.30 | 13.13 to 12.45 | 8.00 | 60.11 | 17.90 | 13.13 to 12.45 | 6.0 | 48.08 | 14.32 | 13.13 to 12.45 | 0.75 | 5.68 | 1.69 | |
| "KCW1 | 31+95.06 | to | "KCW1' | 32+21.92 | | 0.27 | 12.45 to 12.00 | 8.00 | 57.46 | 15.43 | 12.45 to 12.00 | 6.0 | 45.96 | 12.34 | 12.45 to 12.00 | 0.75 | 5.43 | 1.46 | |
| "KCW1 | 32+21.92 | to | "KCW1' | 34+09.99 | | 1.88 | 12.00 to 12.00 | 8.00 | 56.40 | 106.07 | 12.00 to 12.00 | 6.0 | 45.11 | 84.84 | 12.00 to 12.00 | 0.75 | 5.33 | 10.03 | |
| "KCW1 | 34+09.99 | to | "KCW1' | 34+44.12 | | 0.34 | 12.00 to 20.22 | 8.00 | 75.72 | 25.84 | 12.00 to 20.22 | 6.0 | 60.56 | 20.67 | 12.00 to 20.22 | 0.75 | 7.16 | 2.44 | |
| "KCW1 | 34+44.12 | to | "KCW1' | 34+45.16 | | 0.01 | 20.22 to 22.47 | 8.00 | 100.32 | 1.04 | 20.22 to 22.47 | 6.0 | 80.24 | 0.83 | 20.22 to 22.47 | 0.75 | 9.48 | 0.10 | |
| "KCW1 | 34+45.16 | to | "KCW1' | 34+74.10 | | 0.29 | 22.47 to 22.47 | 8.00 | 105.61 | 30.56 | 22.47 to 22.47 | 6.0 | 84.47 | 24.45 | 22.47 to 22.47 | 0.75 | 9.98 | 2.89 | |

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 103G |

| LOCATION | | | | | LENGTH | BASE AGGREGATE (TYPE 1 CLASS B) INCLUDES SLOPE ALLOWANACE AND 1' WIDENING (includes 8% for moisture) | | | | PLANTMIX DENSE GRADE SURFACE TYPE 2C (WET) INCLUDES ANGLE OF REPOSE | | | | PLANTMIX OPEN GRADE SURFACE 1/2-INCH (WET) | | | | COLD MILLING |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | STATIONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | AREA SQYD |
| **KYLE CANYON-EASTBOUND** | | | | | | | | | | | | | | | | | | |
| **LEFT SIDE** | | | | | | | | | | | | | | | | | | |
| "KCE1" | 5+51.22 | to | "KCE1" | 5+91.12 | 0.40 | 15.00 to 15.00 | 8.00 | 70.50 | 28.13 | 15.00 to 15.00 | 6.0 | 56.39 | 22.50 | 15.00 to 15.00 | 0.75 | 6.66 | 2.66 | |
| "KCE1" | 5+91.12 | to | "KCE1" | 5+94.12 | 0.03 | 15.00 to 12.00 | 8.00 | 63.45 | 1.90 | 15.00 to 12.00 | 6.0 | 50.75 | 1.52 | 15.00 to 12.00 | 0.75 | 6.00 | 0.18 | |
| "KCE1" | 5+94.12 | to | "KCE1" | 6+43.31 | 0.49 | 12.00 to 12.00 | 8.00 | 56.40 | 27.74 | 12.00 to 12.00 | 6.0 | 45.11 | 22.19 | 12.00 to 12.00 | 0.75 | 5.33 | 2.62 | |
| "KCE1" | 6+43.31 | to | "KCE1" | 6+64.69 | 0.21 | 12.00 to 12.37 | 8.00 | 57.27 | 12.24 | 12.00 to 12.37 | 6.0 | 45.81 | 9.79 | 12.00 to 12.37 | 0.75 | 5.41 | 1.16 | |
| "KCE1" | 6+64.69 | to | "KCE1" | 7+00.62 | 0.36 | 12.37 to 13.00 | 8.00 | 59.62 | 21.42 | 12.37 to 13.00 | 6.0 | 47.69 | 17.13 | 12.37 to 13.00 | 0.75 | 5.63 | 2.02 | |
| "KCE1" | 7+00.62 | to | "KCE1" | 7+73.26 | 0.73 | 13.00 to 13.00 | 8.00 | 61.10 | 44.38 | 13.00 to 13.00 | 6.0 | 48.87 | 35.50 | 13.00 to 13.00 | 0.75 | 5.77 | 4.19 | |
| "KCE1" | 7+73.26 | to | "KCE1" | 8+33.59 | 0.60 | 13.00 to 14.08 | 8.00 | 63.64 | 38.39 | 13.00 to 14.08 | 6.0 | 50.90 | 30.71 | 13.00 to 14.08 | 0.75 | 6.01 | 3.63 | |
| "KCE1" | 8+33.59 | to | "KCE1" | 10+74.78 | 2.41 | 14.08 to 15.00 | 8.00 | 68.34 | 164.82 | 14.08 to 15.00 | 6.0 | 54.66 | 131.83 | 14.08 to 15.00 | 0.75 | 6.46 | 15.58 | |
| "KCE1" | 10+74.78 | to | "KCE1" | 17+63.96 | 6.89 | 15.00 to 15.00 | 8.00 | 70.50 | 485.87 | 15.00 to 15.00 | 6.0 | 56.39 | 388.62 | 15.00 to 15.00 | 0.75 | 6.66 | 45.92 | |
| "KCE1" | 17+63.96 | to | "KCE1" | 17+65.76 | 0.02 | 15.00 to 16.36 | 8.00 | 73.70 | 1.33 | 15.00 to 16.36 | 6.0 | 58.95 | 1.06 | 15.00 to 16.36 | 0.75 | 6.97 | 0.13 | |
| "KCE1" | 17+65.76 | to | "KCE1" | 17+81.27 | 0.16 | 16.36 to 39.88 | 8.00 | 132.16 | 20.50 | 16.36 to 39.88 | 6.0 | 105.71 | 16.40 | 16.36 to 39.88 | 0.75 | 12.49 | 1.94 | |
| "KCE1" | 17+81.27 | to | "KCE1" | 17+93.95 | 0.13 | 39.88 to 31.61 | 8.00 | 168.00 | 21.30 | 39.88 to 31.61 | 6.0 | 135.25 | 17.15 | 39.88 to 31.61 | 0.75 | 15.88 | 2.01 | |
| "KCE1" | 17+93.95 | to | "KCE1" | 19+12.59 | 1.19 | 31.61 to 11.89 | 8.00 | 102.23 | 121.28 | 31.61 to 11.89 | 6.0 | 81.76 | 97.00 | 31.61 to 11.89 | 0.75 | 9.66 | 11.46 | |
| "KCE1" | 19+12.59 | to | "KCE1" | 19+23.63 | 0.11 | 11.89 to 12.00 | 8.00 | 56.14 | 6.20 | 11.89 to 12.00 | 6.0 | 44.90 | 4.96 | 11.89 to 12.00 | 0.75 | 5.31 | 0.59 | |
| "KCE1" | 19+23.63 | to | "KCE1" | 20+98.36 | 1.75 | 12.00 to 30.02 | 8.00 | 98.75 | 172.54 | 12.00 to 30.02 | 6.0 | 79.86 | 139.54 | 12.00 to 30.02 | 0.75 | 9.33 | 16.31 | |
| "KCE1" | 20+98.36 | to | "KCE1" | 22+09.90 | 1.12 | 12.00 to 30.02 | 8.00 | 98.75 | 110.14 | 12.00 to 30.02 | 6.0 | 79.86 | 89.07 | 12.00 to 30.02 | 0.75 | 9.33 | 10.41 | |
| "KCE1" | 22+09.90 | to | "KCE1" | 22+45.14 | 0.35 | 30.02 to 46.13 | 8.00 | 178.95 | 63.06 | 30.02 to 46.13 | 6.0 | 144.01 | 50.75 | 30.02 to 46.13 | 0.75 | 16.91 | 5.96 | |
| "KCE1" | 22+45.14 | to | "KCE1" | 22+62.31 | 0.17 | 46.13 to 18.42 | 8.00 | 151.69 | 26.05 | 46.13 to 18.42 | 6.0 | 121.33 | 20.83 | 46.13 to 18.42 | 0.75 | 14.34 | 2.46 | |
| "KCE1" | 22+62.31 | to | "KCE1" | 22+66.80 | 0.04 | 18.42 to 15.00 | 8.00 | 78.54 | 3.53 | 18.42 to 15.00 | 6.0 | 62.82 | 2.82 | 18.42 to 15.00 | 0.75 | 7.42 | 0.33 | |
| "KCE1" | 22+66.80 | to | "KCE1" | 26+40.68 | 3.74 | 15.00 to 15.00 | 8.00 | 70.50 | 263.59 | 15.00 to 15.00 | 6.0 | 56.39 | 210.83 | 15.00 to 15.00 | 0.75 | 6.66 | 24.91 | |
| "KCE1" | 26+40.68 | to | "KCE1" | 26+97.76 | 0.57 | 15.00 to 23.09 | 8.00 | 89.51 | 51.09 | 15.00 to 23.09 | 6.0 | 71.60 | 40.87 | 15.00 to 23.09 | 0.75 | 8.46 | 4.83 | |
| "KCE1" | 26+97.76 | to | "KCE1" | 27+74.88 | 0.77 | 23.09 to 28.35 | 8.00 | 120.88 | 93.23 | 23.09 to 28.35 | 6.0 | 96.69 | 74.57 | 23.09 to 28.35 | 0.75 | 11.43 | 8.81 | |
| "KCE1" | 27+74.88 | to | "KCE1" | 28+60.25 | 0.85 | 28.35 to 22.00 | 8.00 | 118.32 | 101.01 | 28.35 to 22.00 | 6.0 | 94.64 | 80.79 | 28.35 to 22.00 | 0.75 | 11.18 | 9.55 | |
| "KCE1" | 28+60.25 | to | "KCE1" | 29+93.90 | 1.34 | 22.00 to 22.00 | 8.00 | 103.40 | 138.19 | 22.00 to 22.00 | 6.0 | 82.70 | 110.53 | 22.00 to 22.00 | 0.75 | 9.77 | 13.06 | |
| "KCE1" | 29+93.90 | to | "KCE1" | 29+95.84 | 0.02 | 22.00 to 23.53 | 8.00 | 107.00 | 2.08 | 22.00 to 23.53 | 6.0 | 85.58 | 1.66 | 22.00 to 23.53 | 0.75 | 10.11 | 0.20 | |
| "KCE1" | 29+95.84 | to | "KCE1" | 30+24.79 | 0.29 | 23.53 to 23.53 | 8.00 | 110.59 | 32.02 | 23.53 to 23.53 | 6.0 | 88.46 | 25.61 | 23.53 to 23.53 | 0.75 | 10.45 | 3.03 | |
| **RIGHT SIDE** | | | | | | | | | | | | | | | | | | |
| "KCE1" | 5+51.22 | to | "KCE1" | 5+89.44 | 0.38 | 70.97 to 73.47 | 8.00 | 339.43 | 129.73 | 70.97 to 73.47 | 6.0 | 271.49 | 103.76 | 70.97 to 73.47 | 0.75 | 32.08 | 12.26 | |
| "KCE1" | 5+89.44 | to | "KCE1" | 6+38.00 | 0.49 | 73.47 to 38.47 | 8.00 | 263.06 | 127.74 | 73.47 to 38.47 | 6.0 | 210.41 | 102.17 | 73.47 to 38.47 | 0.75 | 24.86 | 12.07 | |
| "KCE1" | 6+38.00 | to | "KCE1" | 6+93.14 | 0.55 | 38.47 to 33.87 | 8.00 | 170.00 | 93.74 | 38.47 to 33.87 | 6.0 | 135.97 | 74.98 | 38.47 to 33.87 | 0.75 | 16.07 | 8.86 | |
| "KCE1" | 6+93.14 | to | "KCE1" | 8+00.80 | 1.08 | 33.87 to 36.00 | 8.00 | 164.19 | 176.77 | 33.87 to 36.00 | 6.0 | 131.33 | 141.39 | 33.87 to 36.00 | 0.75 | 15.52 | 16.71 | |
| "KCE1" | 8+00.80 | to | "KCE1" | 14+18.98 | 6.18 | 36.00 to 36.00 | 8.00 | 169.20 | 1045.96 | 36.00 to 36.00 | 6.0 | 135.33 | 836.60 | 36.00 to 36.00 | 0.75 | 15.99 | 98.86 | |
| "KCE1" | 14+18.98 | to | "KCE1" | 15+09.49 | 0.91 | 36.00 to 49.28 | 8.00 | 200.41 | 181.39 | 36.00 to 49.28 | 6.0 | 160.29 | 145.08 | 36.00 to 49.28 | 0.75 | 18.94 | 17.14 | |
| "KCE1" | 15+09.49 | to | "KCE1" | 15+15.02 | 0.06 | 49.28 to 26.82 | 8.00 | 178.84 | 9.89 | 49.28 to 26.82 | 6.0 | 143.04 | 7.91 | 49.28 to 26.82 | 0.75 | 16.90 | 0.93 | |
| "KCE1" | 15+15.02 | to | "KCE1" | 15+19.62 | 0.05 | 26.82 to 22.50 | 8.00 | 115.90 | 5.33 | 26.82 to 22.50 | 6.0 | 92.70 | 4.26 | 26.82 to 22.50 | 0.75 | 10.95 | 0.50 | |
| "KCE1" | 15+19.62 | to | "KCE1" | 18+46.75 | 3.27 | 21.00 to 21.00 | 8.00 | 98.70 | 322.88 | 21.00 to 21.00 | 6.0 | 78.94 | 258.25 | 21.00 to 21.00 | 0.75 | 9.33 | 30.52 | |
| "KCE1" | 18+46.75 | to | "KCE1" | 18+50.67 | 0.04 | 21.00 to 21.02 | 8.00 | 98.75 | 3.87 | 21.00 to 21.02 | 6.0 | 78.98 | 3.10 | 21.00 to 21.02 | 0.75 | 9.33 | 0.37 | |
| "KCE1" | 18+50.67 | to | "KCE1" | 18+98.84 | 0.48 | 21.02 to 19.61 | 8.00 | 95.48 | 45.99 | 21.02 to 19.61 | 6.0 | 76.37 | 36.79 | 21.02 to 19.61 | 0.75 | 9.02 | 4.35 | |
| "KCE1" | 18+98.84 | to | "KCE1" | 19+23.63 | 0.25 | 19.61 to 19.00 | 8.00 | 90.73 | 22.49 | 19.61 to 19.00 | 6.0 | 72.57 | 17.99 | 19.61 to 19.00 | 0.75 | 8.58 | 2.13 | |
| "KCE1" | 19+23.63 | to | "KCE1" | 21+58.45 | 2.35 | 19.00 to 19.00 | 8.00 | 89.30 | 209.69 | 19.00 to 19.00 | 6.0 | 71.43 | 167.72 | 19.00 to 19.00 | 0.75 | 8.44 | 19.82 | |
| "KCE1" | 21+58.45 | to | "KCE1" | 21+93.28 | 0.35 | 19.00 to 20.20 | 8.00 | 92.12 | 32.09 | 19.00 to 20.20 | 6.0 | 73.68 | 25.66 | 19.00 to 20.20 | 0.75 | 8.71 | 3.03 | |
| "KCE1" | 21+93.28 | to | "KCE1" | 22+46.77 | 0.53 | 20.20 to 21.72 | 8.00 | 98.51 | 52.69 | 20.20 to 21.72 | 6.0 | 78.79 | 42.15 | 20.20 to 21.72 | 0.75 | 9.31 | 4.98 | |
| "KCE1" | 22+46.77 | to | "KCE1" | 22+75.68 | 0.29 | 21.72 to 21.00 | 8.00 | 100.39 | 29.02 | 21.72 to 21.00 | 6.0 | 80.30 | 23.21 | 21.72 to 21.00 | 0.75 | 9.49 | 2.74 | |



| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 103H |

| LOCATION | LENGTH | BASE AGGREGATE (TYPE 1 CLASS B) INCLUDES SLOPE ALLOWANACE AND 1' WIDENING (includes 8% for moisture) | | | | PLANTMIX DENSE GRADE SURFACE TYPE 2C (WET) INCLUDES ANGLE OF REPOSE | | | | PLANTMIX OPEN GRADE SURFACE 1/2-INCH (WET) | | | | COLD MILLING |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | STATIONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | AREA SQYD |
| **KYLE CANYON-EASTBOUND** | | | | | | | | | | | | | | |
| **RIGHT SIDE-Continued** | | | | | | | | | | | | | | |
| "KCE1" 22+75.68 to "KCE1" 24+68.55 | 1.93 | 21.00 to 21.00 | 8.00 | 98.70 | 190.36 | 21.00 to 21.00 | 6.0 | 78.94 | 152.26 | 21.00 to 21.00 | 0.75 | 9.33 | 17.99 | |
| "KCE1" 24+68.55 to "KCE1" 24+70.31 | 0.02 | 22.50 to 25.15 | 8.00 | 111.98 | 1.97 | 22.50 to 25.15 | 6.0 | 89.56 | 1.58 | 22.50 to 25.15 | 0.75 | 10.58 | 0.19 | |
| "KCE1" 24+70.31 to "KCE1" 25+16.53 | 0.46 | 25.15 to 21.00 | 8.00 | 108.45 | 50.13 | 25.15 to 21.00 | 6.0 | 86.74 | 40.09 | 25.15 to 21.00 | 0.75 | 10.25 | 4.74 | |
| "KCE1" 25+16.53 to "KCE1" 27+22.90 | 2.06 | 21.00 to 21.00 | 8.00 | 98.70 | 203.69 | 21.00 to 21.00 | 6.0 | 78.94 | 162.92 | 21.00 to 21.00 | 0.75 | 9.33 | 19.25 | |
| "KCE1" 27+22.90 to "KCE1" 28+60.93 | 1.38 | 21.00 to 18.47 | 8.00 | 92.75 | 128.03 | 21.00 to 18.47 | 6.0 | 74.19 | 102.40 | 21.00 to 18.47 | 0.75 | 8.77 | 12.10 | |
| "KCE1" 28+60.93 to "KCE1" 28+86.34 | 0.25 | 18.47 to 18.00 | 8.00 | 85.70 | 21.78 | 18.47 to 18.00 | 6.0 | 68.55 | 17.42 | 18.47 to 18.00 | 0.75 | 8.10 | 2.06 | |
| "KCE1" 28+86.34 to "KCE1" 29+93.90 | 1.08 | 18.00 to 18.00 | 8.00 | 84.60 | 91.00 | 18.00 to 18.00 | 6.0 | 67.67 | 72.78 | 18.00 to 18.00 | 0.75 | 8.00 | 8.60 | |
| "KCE1" 29+93.90 to "KCE1" 30+22.79 | 0.29 | 18.00 to 36.24 | 8.00 | 127.46 | 36.82 | 18.00 to 36.24 | 6.0 | 102.83 | 29.71 | 18.00 to 36.24 | 0.75 | 12.05 | 3.48 | |
| "KCE1" 30+22.79 to "KCE1" 30+24.79 | 0.02 | 36.24 to 36.24 | 8.00 | 170.33 | 3.41 | 36.24 to 36.24 | 6.0 | 137.11 | 2.74 | 36.24 to 36.24 | 0.75 | 16.10 | 0.32 | |

PROFESSIONAL ENGINEER – STATE OF NEVADA
TIMOTHY A. McCOY
No. 11511
Exp. 12/31/2017
CIVIL
7/5/17

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 103I |

| LOCATION | | | | | LENGTH | BASE AGGREGATE (TYPE 1 CLASS B) INCLUDES SLOPE ALLOWANACE AND 1' WIDENING (includes 8% for moisture) | | | | PLANTMIX DENSE GRADE SURFACE TYPE 2C (WET) INCLUDES ANGLE OF REPOSE | | | | PLANTMIX OPEN GRADE SURFACE 1/2-INCH (WET) | | | | COLD MILLING |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | STATIONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | WIDTH FEET | DEPTH INCH | TONS PER STA | UNIT TONS | AREA SQYD |
| **US95 NORTHBOUND** | | | | | | | | | | | | | | | | | | |
| **RIGHT SIDE** | | | | | | | | | | | | | | | | | | |
| "XP" | 401+95.00 | to | "XP" | 402+56.01 | 0.61 | 37.70 to 40.89 | 10.00 | 230.86 | 140.85 | 37.70 to 40.89 | 9.00 | 222.93 | 136.01 | 37.70 to 40.89 | 0.75 | 17.46 | 10.65 | |
| "XP" | 402+56.01 | to | "XP" | 403+21.86 | 0.66 | 40.89 to 39.48 | 10.00 | 236.09 | 155.46 | 40.89 to 39.48 | 9.00 | 227.95 | 150.10 | 40.89 to 39.48 | 0.75 | 17.85 | 11.75 | |
| "XP" | 403+21.86 | to | "XP" | 405+05.35 | 1.83 | 39.48 to 55.74 | 10.00 | 279.71 | 513.24 | 39.48 to 55.74 | 9.00 | 269.81 | 495.08 | 39.48 to 55.74 | 0.75 | 21.15 | 38.81 | |
| "XP" | 405+05.35 | to | "XP" | 405+09.84 | 0.04 | 55.74 to 17.00 | 10.00 | 213.67 | 9.59 | 55.74 to 17.00 | 9.00 | 206.43 | 9.27 | 55.74 to 17.00 | 0.75 | 16.16 | 0.73 | |
| "XP" | 405+09.84 | to | "XP" | 408+09.86 | 3.00 | 13.00 to 5.00 | 10.00 | 52.88 | 158.64 | 13.00 to 5.00 | 9.00 | 52.10 | 156.30 | 13.00 to 5.00 | 0.75 | 4.00 | 11.99 | |
| **US95 SOUTHBOUND** | | | | | | | | | | | | | | | | | | |
| **LEFT SIDE** | | | | | | | | | | | | | | | | | | |
| "XP" | 399+29.93 | to | "XP" | 401+29.73 | 2.00 | 24.00 to 24.00 | 10.00 | 141.00 | 281.72 | 24.00 to 24.00 | 9.0 | 136.68 | 273.09 | 24.00 to 24.00 | 0.75 | 10.66 | 21.30 | |
| "XP" | 401+29.73 | to | "XP" | 402+18.53 | 0.89 | 24.00 to 30.09 | 10.00 | 158.89 | 141.09 | 24.00 to 30.09 | 9.0 | 153.85 | 136.62 | 24.00 to 30.09 | 0.75 | 12.01 | 10.67 | |
| "XP" | 402+18.53 | to | "XP" | 403+01.07 | 0.83 | 30.09 to 32.88 | 10.00 | 184.97 | 152.68 | 30.09 to 32.88 | 9.0 | 178.89 | 147.65 | 30.09 to 32.88 | 0.75 | 13.99 | 11.54 | |
| "XP" | 403+01.07 | to | "XP" | 404+18.41 | 1.17 | 32.88 to 47.49 | 10.00 | 236.09 | 277.02 | 32.88 to 47.49 | 9.0 | 227.95 | 267.47 | 32.88 to 47.49 | 0.75 | 17.85 | 20.95 | |
| "XP" | 404+18.41 | to | "XP" | 404+22.37 | 0.04 | 47.49 to 11.00 | 10.00 | 171.81 | 6.80 | 47.49 to 11.00 | 9.0 | 166.26 | 6.58 | 47.49 to 11.00 | 0.75 | 12.99 | 0.51 | |
| "XP" | 404+22.37 | to | "XP" | 405+22.37 | 1.00 | 7.00 to 5.00 | 10.00 | 35.25 | 35.25 | 7.00 to 5.00 | 9.0 | 35.18 | 35.18 | 7.00 to 5.00 | 0.75 | 2.67 | 2.67 | |
| "XP" | 425+15.98 | to | "XP" | 428+15.98 | 3.00 | 5.00 to 13.00 | 10.00 | 52.88 | 158.63 | 5.00 to 13.00 | 9.0 | 52.10 | 156.29 | 5.00 to 13.00 | 0.75 | 4.00 | 11.99 | |
| "XP" | 428+15.98 | to | "XP" | 428+18.41 | 0.02 | 17.00 to 43.89 | 10.00 | 178.86 | 4.35 | 17.00 to 43.89 | 9.0 | 171.68 | 4.17 | 17.00 to 43.89 | 0.75 | 13.52 | 0.33 | |
| "XP" | 428+18.41 | to | "XP" | 428+38.01 | 0.20 | 43.89 to 42.18 | 10.00 | 252.83 | 49.55 | 43.89 to 42.18 | 9.0 | 244.02 | 47.83 | 43.89 to 42.18 | 0.75 | 19.12 | 3.75 | |
| "XP" | 428+38.01 | to | "XP" | 430+32.47 | 1.94 | 42.18 to 27.83 | 10.00 | 205.65 | 399.92 | 42.18 to 27.83 | 9.0 | 198.74 | 386.46 | 42.18 to 27.83 | 0.75 | 15.55 | 30.24 | |
| "XP" | 430+32.47 | to | "XP" | 430+98.47 | 0.66 | 27.83 to 28.90 | 10.00 | 166.64 | 109.99 | 27.83 to 28.90 | 9.0 | 161.29 | 106.45 | 27.83 to 28.90 | 0.75 | 12.60 | 8.32 | |
| "XP" | 430+98.47 | to | "XP" | 431+30.54 | 0.32 | 28.90 to 27.16 | 10.00 | 164.68 | 52.81 | 28.90 to 27.16 | 9.0 | 159.40 | 51.12 | 28.90 to 27.16 | 0.75 | 12.45 | 3.99 | |
| "XP" | 431+30.54 | to | "XP" | 431+90.71 | 0.60 | 27.16 to 24.00 | 10.00 | 150.28 | 90.42 | 27.16 to 24.00 | 9.0 | 145.59 | 87.60 | 27.16 to 24.00 | 0.75 | 11.36 | 6.84 | |
| | | | | | | | | TOTAL | 24738 | | | TOTAL | 19141 | | | TOTAL | 2286 | 0.00 |
| | | | | | | | | **USE TOTAL** | **24740** | | | **USE TOTAL** | **19150** | | | **USE TOTAL** | **2290** | **0.00** |

PROFESSIONAL ENGINEER – STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 103J |

## SUMMARY OF EXCAVATION AND EMBANKMENT

| Location | | | | Length (FT) | Roadway Excavation (CUYD) | Embankment (CUYD) |
|---|---|---|---|---|---|---|
| **KYLE CANYON** | | | | | | |
| "KCW" | 184+90.00 | to | "KCW" 200+00.00 | 1510.00 | 1,830 | |
| **OSO BLANCA** | | | | | | |
| "OS3" | 425+62.77 | to | "OS3" 432+06.18 | 643.41 | 650 | |
| **KYLE CANYON (EASTBOUND)** | | | | | | |
| "KCE1" | 5+07.25 | | "KCE1" 30+24.79 | 2517.54 | 165,750 | |
| **KYLE CANYON (WESTBOUND)** | | | | | | |
| "KCW1" | 10+00.00 | to | "KCW1" 34+43.21 | 2443.21 | 40,600 | |
| **RAMP "KR1"** | | | | | | |
| "KR1" | 13+52.71 | to | "KR1" 26+63.85 | 1311.14 | 30,950 | |
| **RAMP "KR2"** | | | | | | |
| "KR2" | 21+10.64 | to | "KR2" 33+76.57 | 1265.93 | 38,000 | |
| **RAMP "KR3"** | | | | | | |
| "KR3" | 30+81.97 | to | "KR1" 41+15.87 | 1033.90 | 57,950 | |
| **RAMP "KR4"** | | | | | | |
| "KR4" | 40+00.00 | to | "KR4" 56+88.48 | 1688.48 | 119,000 | |
| **RAMP "XP"** | | | | | | |
| "XP" | 403+85.23 | to | "XP" 408+79.73 | 494.50 | 130 | |
| **RAMP "SP3"** | | | | | | |
| "SP3" | 410+56.33 | to | "KR4" 410+92.71 | 36.38 | 5 | |
| | | | **TOTAL:** | | **454,865** | |
| | | | **USE TOTAL:** | | **454,870** | |

PROFESSIONAL ENGINEER – STATE OF NEVADA
TIMOTHY A. McCOY
No. 11511
Exp. 12/31/2017
CIVIL
7/3/17

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 103K |

| RAISED PAVEMENT MARKERS | |
|---|---|
| NON-REFLECTIVE | 3,850 |
| REFLECTIVE | 1,400 |
| **TOTAL:** | **5,250** |

| OBJECT MARKERS / GUIDE POST | |
|---|---|
| TYPE 1 REFLECTORS (WHITE) | 314 |
| TYPE 2 OBJECT MARKERS | 14 |
| **TOTAL:** | **328** |

| THEORETICAL APPLICATION OF SURFACING MATERIALS | | |
|---|---|---|
| ASPHALT CEMENT, PG 76-22NV or PG 76-22NVTR ( Type 2C) (Dense Grade) | **4.50** | **%** |
| ASPHALT CEMENT,PG 76-22NV or PG 76-22NVTR (1/2" Size) (Open Grade) | **5.50** | **%** |
| | | **%** |
| MINERAL FILLER | **1.50** | **%** |
| CUTBACK ASPHALT, PRIME COAT, TYPEMC-70NV | **0.28** | **gal/yd²** |
| SPECIFIC GRAVITY | **2.70** | |
| EMULSIFIED ASPHALT,PRIME COAT, TYPE SS-1H (DILUTED) | | |
| Tack Cold Milled Surface | **0.10** | **gal/yd²** |
| Tack Open Grade | **0.07** | **gal/yd²** |
| Tack Plantmix Bituminous Surface Lifts | **0.06** | **gal/yd²** |
| Seal Coats | **0.12** | **gal/yd²** |
| AGG.BASE UNIT WEIGHT | **141.00** | **lbs/ft$^3$** |
| DENSE-GRADED PLANTMIX WET (TYPE 2) | **2.03** | **ton/yd$^3$** |
| OPEN-GRADED PLANTMIX WET | **1.92** | **ton/yd$^3$** |
| Weight Volume Relationship for SS-1h | **241.00** | **gal/ton** |

| CLEARING AND GRUBBING | QUANTITY ACRE |
|---|---|
| "XP" 399+29.93 to "XP" 428+18.17 | 27.30 |
| **TOTAL** | **27.30** |

| ASPHALT CEMENT AND MINERAL FILLER QUANTITIES (FOR INFORMATIONAL PURPOSES ONLY) | PG 76-22NV or 76-22NVTR TONS | MINERAL FILLER TONS |
|---|---|---|
| **DENSE GRADE - TYPE2:** | **948** | **316** |
| **OPEN GRADE:** | **0** | **37** |
| **USE TOTAL:** | **950** | **360** |

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/26/17

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 104 |

## - LEGEND -

* - LIMITS OF PAVING

▨ - LIMITS OF PLANTMIXING MISCELLANEOUS AREAS

| NO. | DESC | RADIUS | DELTA | LENGTH | TANGENT |
|---|---|---|---|---|---|
| C10 | KR1 | 3400.00' | 9° 29'33" | 563.30' | 282.29' |
| C17 | EOP | 3416.00' | 3° 27'55" | 206.61' | 103.33' |
| C40 | KR4 | 3400.00' | 13° 56'30" | 827.32' | 415.71' |
| C43 | EOP | 3368.00' | 10° 42'23" | 629.36' | 315.60' |
| C44 | EOP | 3368.00' | 1° 58'53" | 116.47' | 58.24' |

(1) "XP" 404+22.37 "XP" 405+22.37 PAVE MISC. AREA, 71.00' LT.

SECTION 7
SECTION 6
T.19S., R.60E.
OSO BLANCA RD
R/W
E.O.P.
"OS3"
395
400
405
(2) 8'X 6'X3 RCB
"KR4" +27.32 32.00' LT.
"KR4" 48+27.32 P.T.
"KR4" +09.75 32.00' LT.
C44
E.O.P.
"KR4" 40+00.00 P.O.B.= (78' LT.) "XP" 400+53.26 P.O.T.
"KR4" +68.10 16.00' RT.
"XP" +22.37 78.00' LT.
C43
"KR4"
45
N 50° 32'49" W 586.09'
"XS1e"
"XP" +29.93 90.00' LT.
"XP" +29.73 90.00' LT.
C40
VARIES
"XP" +22.37 76.00' LT.
"XP" +29.93 66.00' LT.
"XP" +18.53 66.00' LT.
"XP" +01.07 71.00' LT.
"XP" +22.37 71.00' LT.
"XP" +22.37 71.00' LT.
N 36° 36'19" W 9758.64'
266.00'
"XP"
95 SOUTH BOUND
N 36° 36'19" W 12809.83'
95 NORTH BOUND
"XP" +95.00 66.00' RT.
"XP" +56.01 66.00' RT.
"XP" +09.85 84.00' RT.
"XP" +97.25 71.00' RT.
"XP" +09.86 71.00' RT.
N 36° 36'19" W 9775.58'
"XP" +21.86 71.00' RT.
EX. 42" CMP
"XP" +97.25 79.00' RT.
"XP" +09.86 76.00' RT.
"KR1" +34.00 20.50' LT.
"KR1" +93.64 16.00' LT.
E.O.P.
"XN1e"
"KR1" 10+00.00 P.O.B.= (66' RT.) "XP" 398+57.85 P.O.T.
N 33° 36'19" W 435.98'
"XP" +95.00 103.70' RT.
"KR1" 14+35.98 P.C.
15
C10
"KR1" +51.20 19.00' LT.
"KR1"
C17
"KR1" +13.00 18.00' LT.
"KR1" 19+99.28 P.T.
"KR1" +13.00 16.00' LT.
"KR1" +34.00 18.00' LT.
20
254.00'
R/W
E.O.P.
"SP3"
EX. 42" CMP
SKY POINTE DR
1/4 SECTION LINE

(2) "XP" 406+97.25 "XP" 408+09.86 PAVE MISC. AREA, 71.00' RT.

(3) "KR1" 20+34.00 INSTALL IMPACT ATTENUATOR, LT.

(4) "KR1" 20+34.00 "KR1" 21+78.00 CONSTRUCT CONCRETE BARRIER RAIL (TYPE A), LT.

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/3/17

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 105 |

- LEGEND -

* - LIMITS OF PAVING

- LIMITS OF PLANTMIXING MISCELLANEOUS AREAS

| NO. | DESC | RADIUS | DELTA | LENGTH | TANGENT |
|---|---|---|---|---|---|
| C11 | KR1 | 800.00' | 12° 13'30" | 170.69' | 85.67' |
| C12 | KR1 | 200.00' | 70° 16'03" | 245.28' | 140.74' |
| C13 | KR1A | 194.00' | 46° 32'59" | 157.61' | 83.45' |
| C14 | EOP | 292.00' | 11° 28'42" | 58.50' | 29.35' |
| C15 | EOP | 308.00' | 4° 56'43" | 26.58' | 13.30' |
| C16 | EOP | 296.00' | 11° 55'55" | 61.64' | 30.93' |
| C20 | KR2 | 175.00' | 133° 12'30" | 406.86' | 404.48' |
| C21 | KR2 | 2300.00' | 18° 28'33" | 741.67' | 374.08' |
| C24 | KR2A | 100.00' | 31° 24'50" | 54.83' | 28.12' |
| C25 | KR2A | 54.00' | 16° 17'40" | 15.36' | 7.73' |
| C26 | EOP | 40.00' | 38° 56'05" | 27.18' | 14.14' |
| C27 | EOP | 292.00' | 16° 53'46" | 86.11' | 43.37' |

| NO. | DESC | RADIUS | DELTA | LENGTH | TANGENT |
|---|---|---|---|---|---|
| C30 | KR3 | 200.00' | 80° 20'12" | 280.43' | 168.82' |
| C31 | KR3 | 3400.00' | 10° 40'13" | 633.19' | 317.52' |
| C33 | KR3A | 250.00' | 45° 07'23" | 196.89' | 103.87' |
| C34 | EOP | 342.00' | 10° 44'54" | 64.16' | 32.17' |
| C35 | EOP | 308.00' | 4° 15'20" | 22.88' | 11.44' |
| C36 | EOP | 292.00' | 12° 32'02" | 63.88' | 32.07' |
| C37 | EOP | 296.00' | 10° 44'54" | 55.53' | 27.85' |
| C41 | KR4 | 175.00' | 123° 56'31" | 378.56' | 328.73' |
| C42 | KR4A | 100.00' | 42° 14'12" | 73.72' | 38.62' |
| C45 | EOP | 1980.00' | 2° 08'24" | 73.95' | 36.98' |
| C46 | EOP | 292.00' | 16° 53'45" | 86.11' | 43.37' |

"KR4A" 7+28.41 P.T.
"KR4A" 6+54.70 P.C.
"KR4A" 4+00.00 P.O.B.=
(15.87' LT.) "KR4" 54+06.28 P.O.T.
"KR4" 54+13.41 P.C.C.
N 52° 41'13" W 304.67'
"KR4A"
"KR4" +39.37 33.38' LT.
"KR4" +65.44 32.00' LT.
C45
E.O.P.
N 50° 32'49" W 586.09'
"KR4"
C46
"KR4" +73.01 16.00' RT.
C41
"KR4" +65.01 22.00' RT.
E.O.P.
"KR4" 57+91.97 P.O.E.=
(12' RT.) "KCW1" 23+97.39 P.O.T.
"KCW1"
C42
"KR3A" 3+00.00 P.O.B.=
"KCW1" 20+33.84 P.O.C.
"KR3A"
E.O.P.
C33
"KR3A" +49.99 22.00' LT.
C34
"KR3A" 5+11.57 P.O.E.=
"KR3" 32+80.43 P.T.
"KR3" +87.00 20.00' LT.
"KR3" 35+10.29 P.C.
"KR3" +50.00 24.50' LT.
"KR3" +50.00 20.00' LT.
"KR3"
N 21° 06'26" W 229.86'
C30
"KR3" +23.85 8.00' LT.
C37
"KR3" +01.69 16.00' RT.
"KR3" +42.91 18.00' RT.
E.O.P.
"KCE1"
"KR3" 30+00.00 P.O.B.=
"KCE1" 18+46.75 P.T.
KYLE CANYON RD (SR 157)
"KR3" +50.00 16.00' RT.
"KR3" +50.00 20.50' RT.
"KCR4"
E.O.P.
"KCW"
"KR3"
"KR3" +90.41 24.50' LT.
"KR3" +90.41 18.00' LT.
C35
"KR3" +13.10 14.37' LT.
C36
"KR3" +49.00 22.00' LT.
"KR3" +76.74 8.00' LT.
C31
"KR3" +61.00 20.50' RT.
"KR3" +61.00 18.00' RT.
"KR3" +82.00 18.00' RT.
"KR3" +82.00 16.00' RT.
KYLE CANYON RD
MH
T. 19S., R. 60E., SEC. 6
E.O.P.
"XS1e"
N 36° 36'19" W 9758.64'
95 SOUTH BOUND
N 36° 36'19" W 12809.83'
95 NORTH BOUND
N 36° 36'19" W 75.52'
"XN1e"
I-3190 S
I-3190 N
EX. 6'X3' BOX
EX. 24" CMP
EX. 2
"KR1" +48.92 20.00' RT.
C14
"KR1" +07.02 25.84' RT.
C15
"KR1" +78.00 20.50' LT.
"KR1" +78.00 16.00' LT.
E.O.P.
"KR1"
N 24° 06'46" W 379.27'
"KR1" +33.27 30.00' RT.
"KR1" +78.00 32.00' RT.
"KR1" +97.00 34.00' RT.
"KR1" +33.27 36.50' RT.
"KR1" +78.00 36.50' RT.
E.O.P.
"KR1" 23+78.55 P.C.
"KR1A" 1+00.00 P.O.B.=
(12' RT.) "KR1" 24+34.71 P.O.C.
N 24° 06'46" W 82.05'
"KR1A" 1+82.05 P.C.
"KR1A"
C13
"KR1A" 3+39.66 P.T.
N 22° 26'13" E 28.11'
"KR1A" 3+67.78 P.O.E.=
"KCE1" 24+98.57 P.O.C.
"KR1" 28+30.66 P.O.E.=
"KCW1" 25+94.93 P.O.T.
"KCW1"
S 73° 23'41" W 36.15'
"KR1" 27+94.52 P.T.
"KR1" 25+49.24 P.C.C.
"KR1" +17.80 16.00' LT.
"KR1" +91.80 15.61' RT.
C16
C11
C12
"KR1" +83.03 18.00' LT.
"KCE1"
"KR2" 20+00.00 P.O.B.=
"KCE1" 21+51.66 P.O.T.
C20
"KR2A" 5+08.56 P.C.
C25
"KR2A" 5+23.92 P.O.E.=
"KR2" 22+32.01 P.O.C.
"KR2" +47.26 16.00' LT.
"KR2" +55.26 22.00' LT.
C27
N 59° 48'50" W 129.41'
"KR2" 25+36.28 P.C.
"KR2A"
"KR2" +54.11 17.39' RT.
"KR2" +09.00 8.00' RT.
C26
"KR2A" +94.87 22.00' RT.
"KR2" 24+06.86 P.T.
"KR2"
N 66° 42'34" W 96.24'
"KR2A" 4+12.32 P.T.
C24
"KR2A" 3+57.49 P.C.C.
E.O.P.
C21
E.O.P.
E.O.P.
"KCE"
E.O.P.

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 105A |

| | | |
|---|---|---|
| (1) | "KR3" 31+88.60<br>"KR3" 32+23.85 | PAVE MISC. AREA, 8.00' LT. |
| (2) | "KR3" 35+50.00<br>"KR3" 36+49.00 | CONSTRUCT CONCRETE BARRIER RAIL (TYPE A), LT. |
| (3) | "KR3" 35+50.00<br>"KR3" 36+61.00 | CONSTRUCT CONCRETE BARRIER RAIL (TYPE A), RT. |
| (4) | "KR3" 36+49.00 | INSTALL IMPACT ATTENUATOR, LT. |
| (5) | "KR3" 36+61.00 | INSTALL IMPACT ATTENUATOR, RT. |
| (6) | "KR1" 20+97.00 | INSTALL IMPACT ATTENUATOR, RT. |
| (7) | "KR1" 20+97.00<br>"KR1" 21+78.00 | CONSTRUCT CONCRETE BARRIER RAIL (TYPE A), RT. |
| (8) | "KR1" 24+91.80<br>"KR1" 25+71.92 | PAVE MISC. AREA, RT. |

PROFESSIONAL ENGINEER - STATE OF NEVADA
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1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 106 |

- LEGEND -

* - LIMITS OF PAVING

- LIMITS OF PLANTMIXING MISCELLANEOUS AREAS

| NO. | DESC | RADIUS | DELTA | LENGTH | TANGENT |
|---|---|---|---|---|---|
| C21 | KR2 | 2300.00' | 18° 28'33" | 741.67' | 374.08' |
| C22 | KR2 | 8100.00' | 4° 43'58" | 669.08' | 334.73' |
| C31 | KR3 | 3400.00' | 10° 40'13" | 633.19' | 317.52' |
| C32 | KR3 | 9200.00' | 1° 49'40" | 293.48' | 146.75' |

(1) "XP" 425+15.98
"XP" 426+28.48
PAVE MISC. AREA, 71.00' LT.

R/W
E.O.P.
"OS3"
OSO BLANCA RD
445
EX. 24" CMP
EX. 42" CMP
R/W
E.O.P.
"OS1e"
VARIES
RANGE 59 E
SECTION 1
RANGE 60 E
SECTION 6
C31
"KR3"
E.O.P.
"KR3" +81.32
16.00' RT.
"KR3" +23.76
19.00' RT.
"KR3" 41+43.48 P.C.C.
C32
"KCR3"
"KR3" 44+36.96 P.T.
N 33° 36'19" W, 366.39'
"KR3" 48+03.35 P.O.E.
(66' LT.) "XP" 434+96.01 P.O.T.
"XP" +90.71
90.01' LT.
E.O.P.
"XP" +15.98
76.00' LT.
E.O.P.
"XP" +28.48
79.00' LT.
"XP" +15.98
71.00' LT.
"XP" +28.48
71.00' LT.
"XP" +15.98
84.00' LT.
"XP" +90.71
66.00' LT.
N 36° 36'19" W 3743.86'
EX. 24" RCP
EX. 42" CMP
"XP"
N 36° 36'19" W 12809.83'
95 SOUTH BOUND
95 NORTH BOUND
E.O.P.
"XN1e"
E.O.P.
E.O.P.
"KR2"
"KR2" +78.24
16.00' LT.
"KR2" +76.56
7.72' RT.
"KR2" 32+77.94 P.C.C.
C22
"KR2" 39+47.03 P.O.E.=
(78' RT.) "XP" 433+87.58 P.O.T.
C21
1/4 SECTION LINE
"SP3"
SKY POINTE DR
EX. 42" CMP
R/W
E.O.P.
R/W

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/3/17

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 107 |

- LEGEND -

* - LIMITS OF PAVING

- LIMITS OF PLANTMIXING MISCELLANEOUS AREAS

(1) "KCW" 190+73.73 PAVE MISC. AREA, 12.00' LT.
"KCW" 192+60.02

T.19S. R.59E.
SEC. 1

"KCW" 176+08.15 P.O.B.

1/4 SECTION LINE

"KCW" 176+08.15 P.O.B.

R/W

E.O.P.

100.00'

KYLE CANYON RD (SR 157)

N 86°19'50" E 2391.85'

"KCW"

"KCW" +73.73
16.50' LT.

"KCW" +73.73
12.00' LT.

180

185

190

E.O.P.

R/W

R/W

R/W

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
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CIVIL
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7/3/17

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| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 108 |

## - LEGEND -

* - LIMITS OF PAVING

▨ - LIMITS OF PLANTMIXING MISCELLANEOUS AREAS

| | | |
|---|---|---|
| 1 | "OS3" 431+65.47<br>"OS3" 432+06.18 | PAVE MISC. AREA, 12.00' RT. |
| 2 | "KCW1" 10+40.04<br>"KCW1" 10+74.20 | PAVE MISC. AREA, 30.00' LT. |
| 3 | "OS3" 430+21.14<br>"KCW1" 19+12.43 | CONSTRUCT 5.0' CONCRETE SIDEWALK, 40.00' RT. TO 29.23' LT. |
| 4 | "OS3" 430+21.14<br>"KR3A" 3+66.08 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 39.50' RT. TO 23.50' LT. |
| 5 | "KCW1" 10+51.95 | CONSTRUCT CONCRETE CURB RAMP (TYPE B), 41.15' LT. |
| 6 | "KCW1" 10+71.54 | RECONSTRUCT NDOT MONUMENT TO GRADE, 38.17' LT. |
| 7 | "KCW1" 10+85.17<br>"KCW1" 20+50.23 | CONSTRUCT CONCRETE CURB (TYPE 2), 34.00' RT. TO 15.00' RT. |

| NO. | DESC | RADIUS | DELTA | LENGTH | TANGENT |
|---|---|---|---|---|---|
| C50 | KCE1 | 625.00' | 22°11'01" | 241.98' | 122.53' |
| C51 | KCE1 | 435.00' | 24°57'31" | 189.49' | 96.27' |
| C52 | KCE1 | 350.00' | 82°34'41" | 504.44' | 307.36' |
| C59 | EOP | 200.00' | 38°56'46" | 135.95' | 70.72' |
| C70 | KCW1 | 1050.00' | 29°55'14" | 548.32' | 280.57' |
| C77 | FC | 300.00' | 20°55'18" | 109.54' | 55.39' |

"KCW1" 10+00.00 P.O.B.=
(26' LT.) "KCW" 200+01.70 P.O.T.

"KCW" 200+00.00 P.O.T.

"KCE1" 5+05.55 P.O.B.=
(26' RT.) "KCW" 199+98.30 P.O.T.

"KCW" +00.00
12.00' LT.
MATCH EXISTING

"KCW" +60.02
20.00' LT.

"KCW" +60.02
12.00' LT.

"KCW" +00.00
18.00' RT.
MATCH EXISTING

100.00'

R/W

BARRIER RAIL (SEE NDOT PLANS)

EXIST PARK AND RIDE PAVEMENT

E.O.P.

"KCW"

N 86°19'50" E 2391.85'

195

KYLE CANYON RD (SR 157)

N 0°04'22" E 864.57'

"OS3" +06.18
12.00' RT.
MATCH EXISTING

"OS3" +06.18
15.00' RT.
MATCH EXISTING

"OS3" +65.47
12.00' RT.

"OS3" +65.47
20.06' RT.

"OS3" +25.97
12.00' RT.
MATCH EXISTING

"OS3" +25.97
13.00' LT.
MATCH EXISTING

"OS3" +21.14
39.50' RT.

"KCW1" +40.04
30.00' LT.

"KCW1" 11+49.45 P.C.

"KCW1"

"KCR3"

430

205

KYLE CANYON RD

N 86°19'50" E 149.45'

N 86°19'50" E 137.06'

"KCW1" +54.71
26.16' RT.

"KCE1" +11.60
13.67' LT.

C70

C77

C50

"KCE1" 6+43.31 P.C.

"KCW1" +64.77
12.00' RT.

C51

"KCE1"

"OS3" +29.13
87.47' RT.

"OS3" +47.77
57.68' RT.

"OS3" +80.16
14.00' LT.
MATCH EXISTING

"OS3" +80.16
12.00' RT.
MATCH EXISTING

Δ=75°00'56"
R=500.00'
L=654.63'
T=383.77'

"OS3" +01.91
42.35' RT.

"KCE1" 8+85.29 P.C.C.

C59

"OS3"

"OS3" +20.55
20.11' RT.

"OS3" +20.55
12.00' RT.

"OS3" +62.77
15.50' RT.
MATCH EXISTING

"OS3" +62.77
12.00' RT.
MATCH EXISTING

"KCE1" 10+74.78 P.T.

"KCE1" +17.34
37.50' RT.

"KCE1" +23.60
45.74' RT.

"KCE1" +52.79
88.34' RT.

"KCE1" 11+23.34 P.C.

C52

S 46°31'39" E 48.55'

T.19S.

VARIES

RANGE 59 SECTION 1 SECTION 6 RANGE 60

TOSO BLANCA RD

E.O.P.

"KCW"

SEE SHEET 109 FOR "KCE1" CONTINUATION & 110 FOR "KCW1" CONTINUATION

| | | |
|---|---|---|
| 8 | "OS3" 428+11.87<br>"KCE1" 5+75.19 | CONSTRUCT CONCRETE MEDIAN ISLAND PAVING, 38.00' RT. TO 36.50' RT. |
| 9 | "OS3" 428+11.87<br>"KCE1" 5+75.19 | CONSTRUCT CONCRETE GLUE DOWN CURB (TYPE A), 38.00' RT. TO 36.50' RT. |
| 10 | "KCE1" 5+54.06 | CONSTRUCT MEDIAN CROSSING (CUT THROUGH), 32.00' RT. |
| 11 | "OS3" 428+53.87 | CONSTRUCT MEDIAN CROSSING (CUT THROUGH), 38.00' RT. |
| 12 | "OS3" 428+48.66 | CONSTRUCT MEDIAN CROSSING (CUT THROUGH), 61.73' RT. |
| 13 | "OS3" 425+62.77<br>"OS3" 426+20.55 | PAVE MISC. AREA, 12.00' RT. |
| 14 | "OS3" 428+22.57<br>"KCE1" 11+23.60 | CONSTRUCT 5.0' CONCRETE SIDEWALK, 99.87' RT. TO 45.74' RT. |
| 15 | "OS3" 428+29.13<br>"KR4A" 7+49.37 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 87.47' RT. TO 16.50' LT. |
| 16 | "KCE1" 5+94.12<br>"KCE1" 16+13.19 | CONSTRUCT CONCRETE CURB (TYPE 2), 12.00' LT. TO 15.00' LT. |
| 17 | "KCE1" 5+91.79<br>"KCE1" 7+11.60 | CONSTRUCT CONCRETE MEDIAN ISLAND PAVING, LT. |
| 18 | "OS3" 428+36.21 | CONSTRUCT CONCRETE CURB RAMP (TYPE B), 91.17' RT. |
| 19 | "KCE1" 11+23.60<br>"KR4A" 7+55.08 | CONSTRUCT 10.0' CONCRETE SIDEWALK, 45.74' RT. TO 17.00' LT. |
| 20 | "KCE1" 11+52.79<br>"KCE1" 13+42.71 | CONSTRUCT CONCRETE RETAINING WALL, RT.<br>(SEE SHEET BW102 FOR DETAILS) |
| 21 | "KCE1" 9+01.00 | ADJUST TYPE "AR-1" AND TYPE "C" TEST STATIONS, RT.<br>(BY LVVWD) |
| 22 | "KCE1" 11+17.34 | CONSTRUCT SPECIAL BIKE RAMP, 37.50' RT.<br>(SEE SHEET SD-101 FOR DETAILS) |

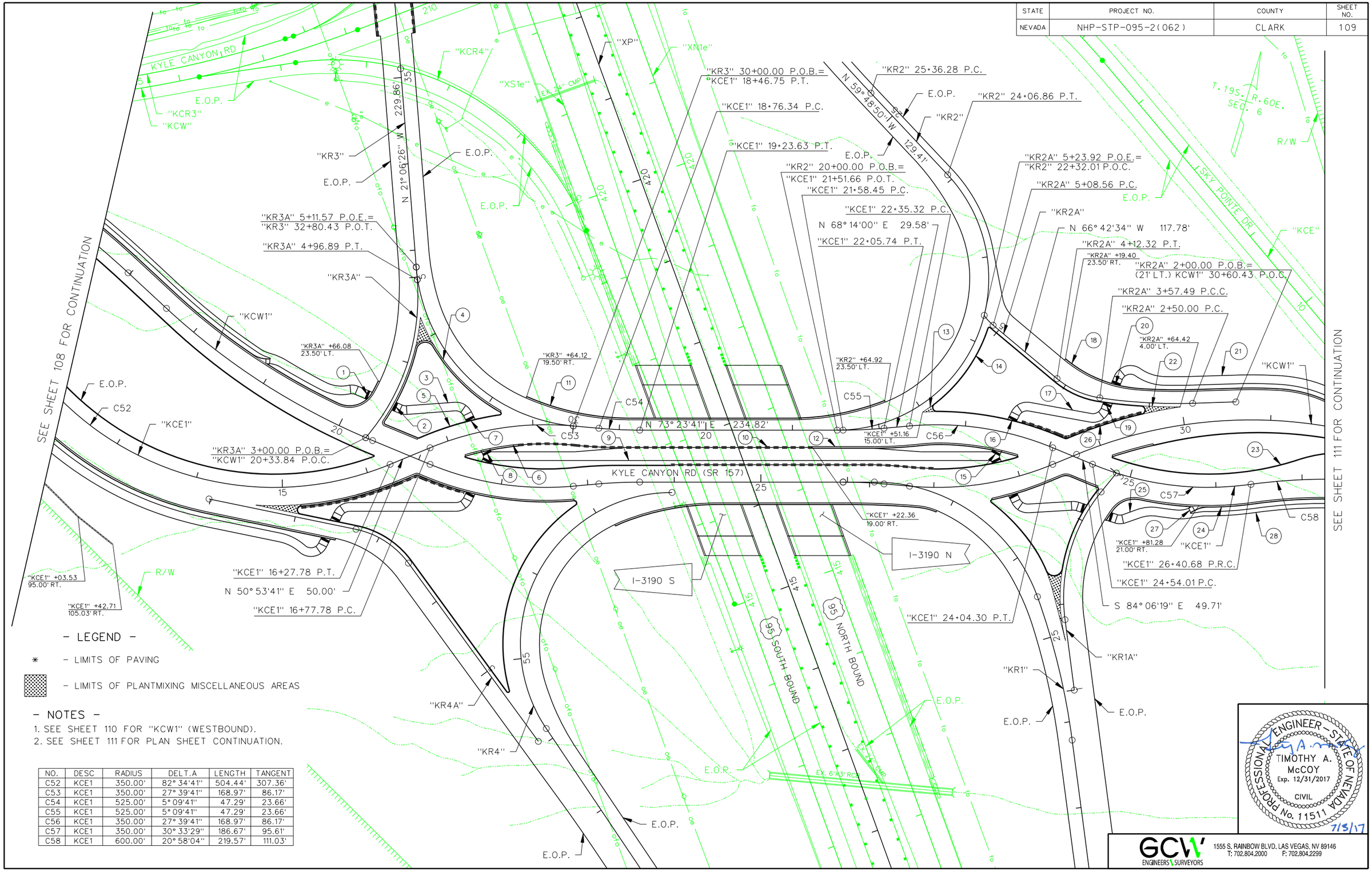
APPROVED FOR CONSTRUCTION

LVVWD ENGINEERING SERVICES MANAGER
LVVWD PROJECT #124469 DATE:

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 109 |




## - LEGEND -

* - LIMITS OF PAVING

▨ - LIMITS OF PLANTMIXING MISCELLANEOUS AREAS

## - NOTES -

1. SEE SHEET 110 FOR "KCW1" (WESTBOUND).
2. SEE SHEET 111 FOR PLAN SHEET CONTINUATION.

| NO. | DESC | RADIUS | DELT.A | LENGTH | TANGENT |
|---|---|---|---|---|---|
| C52 | KCE1 | 350.00' | 82° 34'41" | 504.44' | 307.36' |
| C53 | KCE1 | 350.00' | 27° 39'41" | 168.97' | 86.17' |
| C54 | KCE1 | 525.00' | 5° 09'41" | 47.29' | 23.66' |
| C55 | KCE1 | 525.00' | 5° 09'41" | 47.29' | 23.66' |
| C56 | KCE1 | 350.00' | 27° 39'41" | 168.97' | 86.17' |
| C57 | KCE1 | 350.00' | 30° 33'29" | 186.67' | 95.61' |
| C58 | KCE1 | 600.00' | 20° 58'04" | 219.57' | 111.03' |

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| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 109A |

| | | |
|---|---|---|
| 1 | "KR3A" 3+44.17 | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 5 C&G), 23.85' LT. (SEE SHEET SD-101 FOR DETAILS) |
| 2 | "KR3A" 3+47.91 | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 5 C&G), 5.50' RT. (SEE SHEET SD-101 FOR DETAILS) |
| 3 | "KR3A" 3+52.88<br>"KCE1" 17+36.04 | CONSTRUCT 10.0' CONCRETE SIDEWALK, 6.00' RT. TO 15.67' LT. |
| 4 | "KCW1" 20+89.72<br>"KR3" 30+83.76 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 22.50' LT. TO 9.50' LT. |
| 5 | "KCW1" 20+89.72<br>"KR3" 30+83.76 | CONSTRUCT CONCRETE CURB (TYPE 2), 22.50' LT. TO 9.50' LT. |
| 6 | "KCE1" 17+14.26<br>"KCE1" 17+81.37 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 22.50' RT. |
| 7 | "KCE1" 17+31.27 | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 2 CURB), 15.00' LT. (SEE SHEET SD-101 FOR DETAILS) |
| 8 | "KCE1" 17+40.26 | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 5 C&G), 22.50' RT. (SEE SHEET SD-102 FOR DETAILS) |
| 9 | "KCE1" 17+34.88<br>"KCE1" 23+47.19 | CONSTRUCT CONCRETE SIDEWALK, 23.00' RT. |
| 10 | "KCE1" 17+81.37<br>"KCE1" 21+22.36 | CONSTRUCT CONCRETE BARRIER RAIL (TYPE FA), RT. |
| 11 | "KR3" 30+64.12<br>"KR2" 20+64.92 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 19.50' RT. TO 23.50' LT. |
| 12 | "KCE1" 21+22.36<br>"KCE1" 23+67.82 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 20.50' RT. TO 22.50' RT. |
| 13 | "KCE1" 22+51.16<br>"KCE1" 22+66.80 | PAVE MISC. AREA, 15.00' LT. |
| 14 | "KCE1" 22+66.80<br>"KCE1" 22+66.80 | CONSTRUCT CONCRETE CURB (TYPE 2), 15.00' LT. |
| 15 | "KCE1" 23+41.82 | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 5 C&G), 22.50' RT. (SEE SHEET SD-102 FOR DETAILS) |
| 16 | "KCE1" 23+50.80 | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 2 CURB), 15.00' LT. (SEE SHEET SD-101 FOR DETAILS) |
| 17 | "KCE1" 23+46.04<br>"KR2A" 3+42.25 | CONSTRUCT 10.0' CONCRETE SIDEWALK, 15.67' LT. TO 4.67' LT. |
| 18 | "KR2A" 4+19.40<br>"KCW1" 34+25.25 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 23.50' RT. TO 19.50' LT. |
| 19 | "KR2A" 3+47.21 | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 2 CURB), 4.00' LT. (SEE SHEET SD-101 FOR DETAILS) |
| 20 | "KR2A" 3+41.34 | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 5 C&G), 17.27' RT. (SEE SHEET SD-101 FOR DETAILS) |
| 21 | "KR2A" 3+46.34<br>"KCW1" 32+61.03 | CONSTRUCT 10.0' CONCRETE SIDEWALK, 18.50' RT. TO 27.57' LT. |
| 22 | "KR2A" 2+64.42<br>"KR2A" 3+09.03 | PAVE MISC. AREA, 4.00' LT. |
| 23 | "KCW1" 29+09.35<br>"KCE1" 29+93.90 | CONSTRUCT CONCRETE CURB (TYPE 2), 16.50' RT. TO 22.00' LT. |
| 24 | "KR1A" 3+14.46<br>"KCE1" 29+93.90 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 23.50' RT. TO 19.50' RT. |
| 25 | "KR1A" 3+15.03<br>"KCE1" 25+72.76 | CONSTRUCT 10.0' CONCRETE SIDEWALK, 24.00' RT. TO 30.75' RT. |
| 26 | "KCE1" 23+61.57<br>"KCW1" 29+55.09 | CONSTRUCT CONCRETE BARRIER RAIL (TYPE A), LT. |
| 27 | "KCE1" 25+81.28 | CONSTRUCT SPECIAL BIKE RAMP, 21.00' RT. (SEE SHEET SD-101 FOR DETAILS) |
| 28 | "KCE1" 25+72.76<br>"KCE1" 29+54.80 | CONSTRUCT 5.0' CONCRETE SIDEWALK, 30.75' RT. TO 20.00' RT. |

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 110 |

KYLE CANYON RD (SR 157)

SKYLPOINTE DR

T. 19S. R. 60E. SEC. 6

"KCR4" "XP" "XN1e" "XS1e" EX. 24" CMP

"KCR3" "KCW" E.O.P.

"KCW1" 16+97.77 P.T.

E.O.P. E.O.P. E.O.P. "KR3"

S 63° 44'56" E 60.46'

"KCW1" 17+58.23 P.C.

"KCW1" +52.41 19.50' LT.

"KR3A"

"KCW1" 21+14.27 P.C.

S 84° 06'19" E 71.81'

"KCW1" 20+42.46 P.T.

"KCW1" +81.81 19.32' LT.

"KCW1" +77.46 12.23' RT.

C70 C78 C71 C79 "KCW1" E.O.P. "KCE1"

"KCW1" +02.23 15.00' RT.

"KR4A" 9+01.71 P.O.E.= (21' RT.) "KCW1" 14+18.97 P.O.C.

S 85° 04'35" W 173.30'

"KR4A" +47.38 4.00' RT.

"KR4A" +49.37 16.50' LT.

R/W

"KR4A" 7+28.41 P.T.

"KR4A" 6+54.70 P.C.

N 52° 41'13" W 304.67'

"KR4A" "KR4"

"KR4A" 4+00.00 P.O.B.= (15.87' LT.) "KR4" 54+06.28 P.O.T.

"KR4" 54+13.41 P.C.

E.O.P.

I-3190 S

"KCW1" 23+60.12 P.T.

"KCW1" 23+12.82 P.C.

I-3190 N

"KCW1" 26+71.81 P.C.

"KCW1" 26+42.23 P.T.

S 73° 23'41" W 36.15'

C74

N 73° 23'41" E 234.82'

C72 C73 C75

"KR4" +13.70 23.50' RT.

N 68° 14'00" E 29.58'

"KCW1" 22+83.24 P.T.

"KR4" 57+91.97 P.O.E.= (12' RT.) "KCW1" 23+97.39 P.O.T.

"KR1" +13.00 19.50' LT.

N 78° 33'22" E 29.58'

"KR1" 27+94.52 P.T.

"KR1" 25+49.24 P.C.C.

"KR1" 28+30.66 P.O.E.= "KCW1" 25+94.93 P.C.

95 SOUTH BOUND 95 NORTH BOUND

EX. 6'X3' RCB

E.O.P. E.O.P. E.O.P. E.O.P. E.O.P. E.O.P.

"KCW1" 28+40.79 P.T.

N 50° 53'41" E 29.81'

"KCW1" 28+70.60 P.C.

"KCE"

"KR2" "KR2A" "KCW1" C76

"KR1A" 3+67.78 P.O.E.= "KCE1" 24+83.40 P.O.C.

N 22° 26'13" E 33.94'

"KR1A" +14.46 23.50' RT.

"KCE1"

"KR1A" 3+39.66 P.T.

"KR1A"

"KR1A" 1+82.05 P.C.

N 24° 06'46" E 82.05'

"KR1A" 1+00.00 P.O.E.= (12' RT.) "LR1" 24+34.71 P.O.C.

"KR1"

R/W

SEE SHEET 108 FOR CONTINUATION

SEE SHEET 111 FOR CONTINUATION

- LEGEND -

* - LIMITS OF PAVING

- LIMITS OF PLANTMIXING MISCELLANEOUS AREAS

- NOTES -

1. SEE SHEET 109 FOR "KCE1" (EASTBOUND).
2. SEE SHEET 111 FOR PLAN SHEET CONTINUATION.

| NO. | DESC | RADIUS | DELTA | LENGTH | TANGENT |
|---|---|---|---|---|---|
| C70 | KCW1 | 1050.00' | 29° 55'14" | 548.32' | 280.57' |
| C71 | KCW1 | 800.00' | 20° 21'23" | 284.23' | 143.63' |
| C72 | KCW1 | 350.00' | 27° 39'41" | 168.97' | 86.17' |
| C73 | KCW1 | 525.00' | 5° 09'41" | 47.29' | 23.66' |
| C74 | KCW1 | 525.00' | 5° 09'41" | 47.29' | 23.66' |
| C75 | KCW1 | 350.00' | 27° 39'41" | 168.97' | 86.17' |
| C76 | KCW1 | 525.00' | 35° 24'35" | 324.46' | 167.60' |
| C78 | FC | 750.50' | 17° 30'57" | 229.43' | 115.62' |
| C79 | FC | 750.00' | 17° 28'31" | 228.75' | 115.27' |

PROFESSIONAL ENGINEER - STATE OF NEVADA
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GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 110A |

| | | |
|---|---|---|
| 1 | "KR4A" 7+94.65<br>"KR4A" 8+47.38 | PAVE MISC. AREA, 4.00' RT. |
| 2 | "KCE1" 15+19.62<br>"KCW1" 22+82.69 | CONSTRUCT CONCRETE CURB (TYPE 2), 22.50' RT. TO 16.50' RT. |
| 3 | "KCE1" 15+19.62<br>"KCW1" 22+82.69 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 22.50' RT. TO 16.50' RT. |
| 4 | "KR4A" 7+60.12 | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 5 C&G), 16.50' LT.<br>(SEE SHEET SD-101 FOR DETAILS) |
| 5 | "KR4A" 7+54.63 | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 2 CURB), 4.00' RT.<br>(SEE SHEET SD-101 FOR DETAILS) |
| 6 | "KR4A" 7+59.63<br>"KCW1" 21+72.85 | CONSTRUCT 10.0' CONCRETE SIDEWALK, 4.67' RT. TO 17.00' RT. |
| 7 | "KCE1" 17+14.26<br>"KCW1" 23+96.20 | CONSTRUCT CONCRETE CURB (TYPE 2), 22.50 RT. TO 19.00' LT. |
| 8 | "KCW1" 21+68.06 | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 5 C&G), 16.50' RT.<br>(SEE SHEET SD-101 FOR DETAILS) |
| 9 | "KCW1" 21+77.01 | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 2 CURB), 21.00' LT.<br>(SEE SHEET SD-102 FOR DETAILS) |
| 10 | "KR4" 57+13.70<br>"KR1" 54+13.00 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 23.50' RT. TO 19.50' LT. |
| 11 | "KCW1" 23+96.20<br>"KCW1" 26+99.45 | CONSTRUCT CONCRETE BARRIER RAIL (TYPE FA), LT. |
| 12 | "KCW1" 26+99.45<br>"KCE1" 23+67.82 | CONSTRUCT CONCRETE CURB (TYPE 2), 21.00' LT. TO 22.50' RT. |
| 13 | "KCW1" 27+63.98<br>"KCE1" 24+68.55 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 19.50' RT. TO 22.50' RT. |
| 14 | "KCW1" 27+63.98<br>"KCE1" 24+68.55 | CONSTRUCT CONCRETE CURB (TYPE 2), 19.50' RT. TO 22.50' RT. |
| 15 | "KCW1" 27+78.04 | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 2 CURB), 21.00' LT.<br>(SEE SHEET SD-102 FOR DETAILS) |
| 16 | "KCW1" 27+87.41 | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 5 C&G), 18.49' RT.<br>(SEE SHEET SD-101 FOR DETAILS) |
| 17 | "KCW1" 27+82.70<br>"KR1A" 3+08.06 | CONSTRUCT 10.0' CONCRETE SIDEWALK, 19.20' RT. TO 4.67' LT. |
| 18 | "KR1A" 3+13.22 | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 2 CURB), 4.00' LT.<br>(SEE SHEET SD-101 FOR DETAILS) |
| 19 | "KR1A" 3+20.77 | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 5 C&G), 23.50' RT.<br>(SEE SHEET SD-101 FOR DETAILS) |
| 20 | "KCW1" 29+09.35<br>"KCW1" 29+60.00 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 16.50' RT. |
| 21 | "KCW1" 29+60.00<br>"KCW1" 34+44.12 | CONSTRUCT CONCRETE CURB (TYPE 2), 16.50' RT. TO 20.22' RT. |
| 22 | "KCE1" 15+19.62<br>"KCW1" 21+61.13 | CONSTRUCT CONCRETE BARRIER RAIL (TYPE A), RT. |
| 23 | "KCW1" 18+81.81 | CONSTRUCT SPECIAL BIKE RAMP, 19.32' LT.<br>(SEE SHEET SD-101 FOR DETAILS) |
| 24 | "KCW1" 19+12.43<br>"KR3A" 3+49.72 | CONSTRUCT 10.0' CONCRETE SIDEWALK, 29.23' LT. TO 24.00' LT. |

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
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No. 11511
7/3/17

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 111 |

- LEGEND -

* - LIMITS OF PAVING

- LIMITS OF PLANTMIXING MISCELLANEOUS AREAS

| NO. | ALG | RADIUS | DELTA | LENGTH | TANGENT |
|---|---|---|---|---|---|
| C58 | KCE1 | 600.00' | 20°58'04" | 219.57' | 111.03' |
| C76 | KCW1 | 525.00' | 35°24'35" | 324.46' | 167.60' |

1. "KCW1" 32+61.03 to "KCW1" 34+00.00 — CONSTRUCT 5.0' CONCRETE SIDEWALK, 27.57' LT. TO 20.00' LT.
2. "KCW1" 34+25.25 to "KCW1" 34+74.10 — PAVE MISC. AREA, 18.00' LT.
3. "KCW1" 32+67.04 — CONSTRUCT SPECIAL BIKE RAMP, 19.50' LT. (SEE SHEET SD-101 FOR DETAILS)
4. "KCE1" 29+93.90 to "KCE1" 30+24.79 — PAVE MISC. AREA, 18.00' RT.
5. "SP3" 410+56.33 to "SP3" 411+92.71 — PAVE MISC. AREA

SEE SHEET 109 FOR "KCE1" CONTINUATION &
SEE SHEET 110 FOR "KCW1" CONTINUATION

R/W
50.00'
"SP3"
"KCE"
"KCW1" 31+95.06 P.T.
KYLE CANYON RD
C76
"KCW1"
"KCW1" +67.04
19.50' LT.
"KCW1" +25.25
19.50' LT.
"KCW1" +74.10
59.13' LT.
MATCH EXIST.
"KCW1" +74.10
18.00' LT.
KYLE CANYON RD (SR 157)
N 86°18'16" E 303.07'
"KCW1" 34+98.13 P.O.E.=
"SP3" 414+64.40 P.O.T.
N 86°18'16" E 188.57'
30
C58
"KCE1"
"KCE1" 28+60.25 P.T.
"KCE1" 30+48.81 P.O.E.=
"SP3" 414+18.40 P.O.T.
"KCE1" +24.79
18.00' RT.
"KCE1" +24.79
36.24' RT.
MATCH EXIST.
SKY POINTE DR
E.O.P.
"SP3" +92.71
12.21' LT.
"SP3" +92.71
14.74' RT.
"SP3" +56.33
12.03' LT.
"SP3" +56.33
14.87' RT.
EXISTING BRIDGE

1/4 SECTION LINE

T. 19S. R. 60E.
SEC. 6

PROFESSIONAL ENGINEER - STATE OF NEVADA
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7/5/17

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 112 |

D.N. LT.

D.N. RT.

EXCAVATION $yd^3$

BORROW $yd^3$

EMBANKMENT $yd^3$

+00.00

10:1 F.S.~2:1 B.S. OR 10:1 F.S.

10:1 F.S.~2:1 B.S. OR 10:1 F.S.

+21.09

+0.05 ft/ft

Level

-0.05 ft/ft

+00.00

-0.02 ft./ft. Lt. & Rt. Shldr.

+00.00

Trans. Lt. & Rt. Shldr.

+60.00

-.01 ft./ft. Lt. & Rt. Shldr.

+00.00

SUPERELEVATION

2880
2875
2870
2865
2860
2855
2850
2845
2840
2835

BEGIN PROFILE "KCW" 193+00 2870.74

-3.50%

+00.00 2863.74 NO V.C.

"KCW"

-3.72%

+00.00 2852.59 NO V.C.

EXISTING GROUND

-3.60%

END PROFILE "KCW" 200+00.00= (26.00' LT) "KCE1" 5+07.25 2845.39

-3.60%

"KCW"

190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205

PROFESSIONAL ENGINEER STATE OF NEVADA
JOHN R. TOBIN
Exp. 06/30/2018
CIVIL
No. 8150

7/3/17

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 113 |

D.N. LT. +93.05 | +00.62 VARIES +13.19 | +70.43 +69.96 VARIES +46.75 | 2:1 B.S.

D.N. RT. 2:1 B.S. +81.89 | +47.50 VARIES +50.49 | +14.26 VARIES

EXCAVATION yd³
BORROW yd³
EMBANKMENT yd³

MATCH EXISTING SUPERELEVATION +0.01 ft./ft. Lt. Shldr.

Trans. Lt. Shldr. +16.00 +56.00

+0.02 ft./ft. Lt. Shldr.

-0.01 ft./ft. Rt. Shldr.

Trans. Rt. Shldr. +44.18 +16.00 +56.00

-0.02 ft./ft. Rt. Shldr.

+0.05 ft/ft | Level | -0.05 ft/ft

# SUPERELEVATION

-3.60% -3.60%

BEGIN PROFILE "KCE1" 5+05.55= (52.00' RT) "KCW1" 9+96.60 2845.13

+60.00 2839.57 150.00' V.C.

EXISTING GROUND

-5.97%

"KCE1"

EX. 36" MLCP W

+30.00 2799.57 130.00' V.C.

℄ "KCW1"

-2.95%

24" RCP, SEE DRAINAGE PLANS FOR DETAILS

# "KCE1"

APPROVED FOR CONSTRUCTION

LVVWD ENGINEERING SERVICES MANAGER
LVVWD PROJECT #124469 DATE:

PROFESSIONAL ENGINEER STATE OF NEVADA
JOHN R. TOBIN
Exp. 06/30/2018
CIVIL
No. 8150

7/3/17

2845 2840 2835 2830 2825 2820 2815 2810 2805 2800 2795 2790 2785 2780

4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 114 |

| | | |

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 115 |

D.N. LT. +74.20 — +85.17 — 2:1 B.S. — +87.79 — +50.23

D.N. RT. VARIES

EXCAVATION $yd^3$
BORROW $yd^3$
EMBANKMENT $yd^3$

+0.05 ft/ft

Level

-0.05 ft/ft

MATCH EXISTING SUPERELEVATION
+0.01 ft./ft. Rt. Shldr.
Trans. Rt. Shldr. +19.00 +64.00
+0.02 ft./ft. Rt. Shldr.
Trans. Rt. Shldr. +16.00 +51.23 +0.0073 ft./ft. Rt. Shldr.

-0.01 ft./ft. Lt. Shldr.
Trans. Lt. Shldr. +71.20 +19.00 +64.00
-0.02 ft./ft. Lt. Shldr.
Trans. Lt. Shldr. +16.00 +51.23 -0.0069 ft./ft. Lt. Shldr.

SEE "KCE1"

SUPERELEVATION

-3.60%
-3.60%
-5.92%
-3.60%
-3.60%

BEGIN PROFILE
"KCW1" 10+00.00=
(52.00' LT) "KCE1" 5+08.95
2845.14

+65.00
2835.60
150.00' V.C.

EXISTING GROUND

"KCW1"

EX. 36" MLCP W

+50.00
2795.03
100.00' V.C.

+51.23
2791.39

℄ "KCE1"

SEE "KCE1" PROFILE
("KCE1" 16+25.72 TO
"KCE1" 24+60.68)

"KCW1"

APPROVED FOR CONSTRUCTION

LVVWD ENGINEERING SERVICES MANAGER
LVVWD PROJECT #124469 DATE:

PROFESSIONAL ENGINEER STATE OF NEVADA
JOHN R. TOBIN
Exp. 06/30/2018
CIVIL
No. 8150
7/3/17

2845 2840 2835 2830 2825 2820 2815 2810 2805 2800 2795 2790 2785 2780

8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 116 |

D.N. LT. VARIES +08.08 +28.11 +60.43 2:1 B.S. +25.26

D.N. RT. +09.35 VARIES +14.00

| | |
|---|---|
| EXCAVATION | $yd^3$ |
| BORROW | $yd^3$ |
| EMBANKMENT | $yd^3$ |

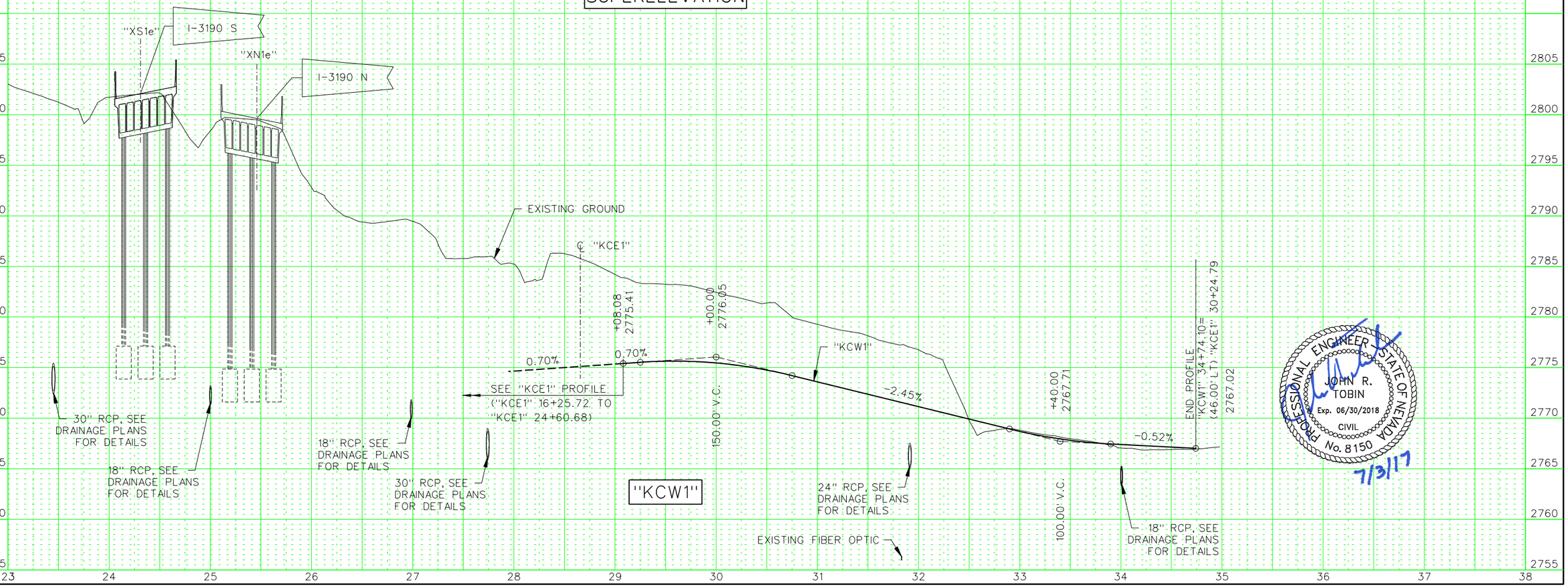
+0.05 ft/ft | Level | -0.05 ft/ft

+0.021 ft./ft. Lt. Shldr. — Trans. Lt. Shldr. (+08.08 to +09.00) — +0.02 ft./ft. Rt. Shldr. — Trans. Rt. Shldr. (+14.00 to +44.00) — +0.0077 ft./ft. Rt. Shldr.

-0.0213 ft./ft. Rt. Shldr. — Trans. Rt. Shldr. (+08.08 to +09.00) — -0.02 ft./ft. Lt. Shldr. — Trans. Lt. Shldr. (+14.00 to +44.00) — -0.0077 ft./ft. Lt. Shldr.

SEE "KCE1"

## SUPERELEVATION




PROFESSIONAL ENGINEER STATE OF NEVADA
JOHN R. TOBIN
Exp. 06/30/2018
CIVIL
No. 8150
7/3/17

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 117 |

+51.20 — +48.39 — +65.83

D.N. LT. — TRANS. GORE — 10:1 F.S.~2:1 B.S. OR 10:1 F.S. ~ 2:1 F.S.

D.N. RT. — 10:1 F.S.~2:1 B.S. OR 10:1 F.S. — +71.92

EXCAVATION yd³
BORROW yd³
EMBANKMENT yd³

+0.05 ft/ft — Level — -0.05 ft/ft

+51.20 | +0.046 ft./ft. Lt. Shldr. | +75.00 | Trans. Lt. Shldr. | +50.00 | +0.02 ft./ft. Lt. Shldr. | +03.00 | Trans. Lt. Shldr. | +93.00 | +0.02 ft./ft. Rt. Shldr. | +45.00 | Trans. Rt. Shldr. | +65.83 | MATCH EXISTING SUPERELEVATION +0.0134 ft./ft. Rt. Shldr.

+51.20 | -0.046 ft./ft. Rt. Shldr. | +75.00 | Trans. Rt. Shldr. | +50.00 | -0.02 ft./ft. Rt. Shldr. | +03.00 | Trans. Rt. Shldr. | +93.00 | -0.02 ft./ft. Lt. Shldr. | +45.00 | Trans. Lt. Shldr. | +65.83 | -0.0123 ft./ft. Lt. Shldr.

## SUPERELEVATION

BEGIN PROFILE "KR1" 16+51.20 = (106.87' R1) "XP" 405+07.66
2779.01

+10.00
2784.46

EXISTING GROUND

END PROFILE "KR1" 26+65.83 = (36.77' R1) "KCW1" 27+46.85
2773.87

1.52% — 1.52% — -2.37% — 1.93% — 1.93%

+50.00
2771.63

680.00' V.C.

220.00' V.C.

5' X 3' RCB, SEE DRAINAGE PLANS FOR DETAILS

18" RCP, SEE DRAINAGE PLANS FOR DETAILS

"KR1"

24" RCP, SEE DRAINAGE PLANS FOR DETAILS

13' X 8' RCB, SEE DRAINAGE PLANS FOR DETAILS

18" RCP, SEE DRAINAGE PLANS FOR DETAILS

42" RCP, SEE DRAINAGE PLANS FOR DETAILS

2800 2795 2790 2785 2780 2775 2770 2765 2760 2755 2750

15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

PROFESSIONAL ENGINEER — STATE OF NEVADA
JOHN R. TOBIN
Exp. 06/30/2018
CIVIL
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| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 118 |

D.N. LT.

D.N. RT.

| | |
|---|---|
| EXCAVATION | $yd^3$ |
| BORROW | $yd^3$ |
| EMBANKMENT | $yd^3$ |

+39.49
+40.39 — VARIES — +45.34
10:1 F.S.~2:1 B.S.

+0.05 ft/ft
Level
-0.05 ft/ft

+40.39 +65.00 +00.00 +45.34
+0.02 ft./ft. Lt. Shldr. — Trans. Lt. Shldr. — +0.01 ft./ft. Lt. Shldr.
MATCH EXISTING SUPERELEVATION
-0.02 ft./ft. Rt. Shldr. — Trans. Rt. Shldr. — -0.01 ft./ft. Rt. Shldr.
+40.39 +65.00 +00.00 +45.34

SUPERELEVATION

2795 2790 2785 2780 2775 2770 2765 2760 2755

EXISTING GROUND

BEGIN PROFILE "KR1A" 2+40.39= (42.98' RT) "KR1" 25+64.64
2773.51
+70.00
2773.83
END PROFILE "KR1A" 3+45.34= (20.98' RT) "KCE1" 24+75.69
2774.28

1.08% 1.08% 0.60% 1.72%
50.00' V.C.
"KR1A"

18" RCP, SEE DRAINAGE PLANS FOR DETAILS
"KR1A"
42" RCP, SEE DRAINAGE PLANS FOR DETAILS

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0 1 2 3 4 5 6 7

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 119 |

+00.00 D.N. LT. / D.N. RT.
+15.09
+19.06 — VARIES
+54.11
10:1 F.S.~2:1 B.S.
+79.27
TRANS. GORE
+77.11

| | |
|---|---|
| EXCAVATION | $yd^3$ |
| BORROW | $yd^3$ |
| EMBANKMENT | $yd^3$ |

## SUPERELEVATION

+0.05 ft/ft — Level — -0.05 ft/ft

+10.43 / +91.00 — +0.02 ft./ft. Rt. Shldr.
-0.02 ft./ft. Lt. Shldr.
Trans. Lt. Shldr.
Trans. Rt. Shldr.
+69.00
+0.04 ft./ft. Lt. Shldr.
-0.04 ft./ft. Rt. Shldr.
+66.00 / +01.00 / +77.11
Trans. Lt. Shldr.
Trans. Rt. Shldr.
+0.0283 ft./ft. Lt. Shldr.
-0.0283 ft./ft. Rt. Shldr.

BEGIN PROFILE "KR2" 21+10.43=
(27.67' LT) "KCE" 22+55.99
2776.49

-2.40%
-2.40%
+15.00
2773.98
200.00' V.C.

24" RCP, SEE DRAINAGE PLANS FOR DETAILS

EXISTING GROUND

4.64%

"KR2"

+90.00
2809.94

1.34%
1.34%

550.00' V.C.

6' X 3' RCB, SEE DRAINAGE PLANS FOR DETAILS

END PROFILE
"KR2" 33+77.11=
(98.32' RT) "XP" 428+18.16
2815.13

"KR2"

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2820 2815 2810 2805 2800 2795 2790 2785 2780 2775 2770 2765 2760

20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 120 |

D.N. LT.

D.N. RT.

| | |
|---|---|
| EXCAVATION | $yd^3$ |
| BORROW | $yd^3$ |
| EMBANKMENT | $yd^3$ |

+00.00 — +36.94 — VARIES — +09.15 — +13.84

10:1 F.S.~2:1 B.S.

+0.05 ft/ft

Level

-0.05 ft/ft

+05.33 — +0.02 ft./ft. Lt. Shldr. — +13.84

+05.33 — -0.02 ft./ft. Rt. Shldr. — +13.84

SUPERELEVATION

2795 2790 2785 2780 2775 2770 2765 2760 2755

BEGIN PROFILE "KR2A" 3+05.33= (29.72' LT) "KCW1" 29+59.85
2775.57

EXISTING GROUND

"KR2A"

+15.00
2776.76

END PROFILE "KR2A" 5+13.84= (8.16' RT) "KR2" 22+26.25
2776.06

1.11% 1.09% -0.71% -0.70%

50.00' V.C.

18" RCP, SEE DRAINAGE PLANS FOR DETAILS

"KR2A"

0 1 2 3 4 5 6 7 8

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| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 121 |

+83.76 — VARIES — +88.60 — +80.43 — 10:1 F.S.~2:1 B.S. — +23.76

D.N. LT. +66.35

D.N. RT. — 10:1 F.S.~2:1 B.S. — +26.59 — TRANS. GORE

| | |
|---|---|
| EXCAVATION | $yd^3$ |
| BORROW | $yd^3$ |
| EMBANKMENT | $yd^3$ |

+0.05 ft/ft

Level

-0.05 ft/ft

+0.005 ft./ft. Lt. Shldr.

-0.005 ft./ft. Rt. Shldr.

+81.66

+17.00

Trans. Lt. Shldr.

Trans. Rt. Shldr.

+0.02 ft./ft. Lt. Shldr.

-0.02 ft./ft. Rt. Shldr.

+89.00

+44.00

Trans. Rt. Shldr.

Trans. Lt. Shldr.

+0.04 ft./ft. Rt. Shldr.

-0.04 ft./ft. Lt. Shldr.

+15.00 +23.76

+0.0379 ft./ft. Rt. Shldr.

+0.020 ft./ft. Rt. Shldr.

Trans. Rt. Shldr.

Trans. Lt. Shldr.

-0.020 ft./ft. Lt. Shldr.

+0.0379 ft./ft. Lt. Shldr.

## SUPERELEVATION

EXISTING GROUND

BEGIN PROFILE "KR3" 30+81.66= (24.95'LT) "KCE" 17+72.06 2787.04

+00.00 2793.59

3.00%

4.61%

100.00' V.C.

+30.00 2813.42

400.00' V.C.

1.29%

1.29%

END PROFILE "KR3" 41+23.76= (106.92'LT) "XP" 4.28+17.69 2818.49

"KR3"

6'X 3' RCB, SEE DRAINAGE PLANS FOR DETAILS

42" RCP, SEE DRAINAGE PLANS FOR DETAILS

24" RCP, SEE DRAINAGE PLANS FOR DETAILS

18" RCP, SEE DRAINAGE PLANS FOR DETAILS

## "KR3"

2825 2820 2815 2810 2805 2800 2795 2790 2785 2780 2775

30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45

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| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 122 |

D.N. LT.

D.N. RT.

| | |
|---|---|
| EXCAVATION | $yd^3$ |
| BORROW | $yd^3$ |
| EMBANKMENT | $yd^3$ |

+49.64 ← 10:1 F.S.~2:1 F.S. → +96.89

+27.54 ← VARIES → +17.75

+0.05 ft/ft

Level

-0.05 ft/ft

+0.0289 ft./ft. Lt. Shldr.

+0.02 ft./ft. Lt. Shldr.

Trans. Lt. Shldr.

+0.0284 ft./ft. Rt. Shldr.

-0.02 ft./ft. Rt. Shldr.

Trans. Rt. Shldr.

+21.78

+40.00

+96.89

## SUPERELEVATION

EXISTING GROUND

BEGIN PROFILE "KR3A" 3+21.78= (21.01' LT) "KCW1" 20+39.63

END PROFILE "KR3A" 4+96.89= (0.54' LT) "KR3" 32+65.77

2791.57

2792.59

+30.00 2790.54

-2.10%

-0.95%

3.06%

3.06%

"KR3A"

120.00' V.C.

18" RCP, SEE DRAINAGE PLANS FOR DETAILS

24" RCP, SEE DRAINAGE PLANS FOR DETAILS

"KR3A"

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2815 2810 2805 2800 2795 2790 2785 2780 2775

0 1 2 3 4 5 6 7 8

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 123 |

+68.09 — TRANS. GORE — +20.00 — 10:1 F.S.~2:1 B.S. — +06.28

D.N. LT.

D.N. RT.

TRANS. GORE — +70.00 — 10:1 F.S.~2:1 B.S. — +91.97

EXCAVATION yd³
BORROW yd³
EMBANKMENT yd³

+0.05 ft/ft

Level

-0.05 ft/ft

+68.10 +0.046 ft./ft. Rt. Shldr. +69+00 Trans. Rt. Shldr. +31.00 +0.02 ft./ft. Lt. Shldr. +53.00 Trans. Lt. Shldr. +88.86 +0.0341 ft./ft. Lt. Shldr.

+68.10 -0.046 ft./ft. Lt. Shldr. +69+00 Trans. Lt. Shldr. +31.00 -0.02 ft./ft. Rt. Shldr. +53.00 Trans. Rt. Shldr. +88.86 -0.0317 ft./ft. Rt. Shldr.

## SUPERELEVATION

BEGIN PROFILE "KR4" 43+68.10= (97.91' LT.) "XP" 404+20.64 2780.73

1.54%

(2) 5' X 3' RCB, SEE DRAINAGE PLANS FOR DETAILS

+45.00 2789.60

420.00' V.C.

"KR4"

13' X 8' RCB, SEE DRAINAGE PLANS FOR DETAILS

EXISTING GROUND

-1.90%

+95.00 2777.28

160.00' V.C.

3.95%

END PROFILE "KR4" 56+88.86= (38.07' RT.) "KCWT" 22.96.59 2780.99

24" RCP, SEE DRAINAGE PLANS FOR DETAILS

30" RCP, SEE DRAINAGE PLANS FOR DETAILS

2805 2800 2795 2790 2785 2780 2775 2770 2765 2760

43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58

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| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 124 |

D.N. LT.

D.N. RT.

| | |
|---|---|
| EXCAVATION | $yd^3$ |
| BORROW | $yd^3$ |
| EMBANKMENT | $yd^3$ |

+00.00 — 10:1 F.S. ~ 2:1 B.S. — +57.47 — VARIES — +01.21

+67.71 — VARIES — +99.65

+0.05 ft/ft

Level

-0.05 ft/ft

+0.02 ft./ft. Lt. Shldr.

-0.02 ft./ft. Rt. Shldr.

+39.72 Trans. Lt. Shldr.

+10.00

+0.02 ft./ft. Rt. Shldr.

+22.00 Trans. Rt. Shldr.

+42.00

+99.65

+0.0123 ft./ft. Rt. Shldr.

+39.72 Trans. Rt. Shldr.

+10.00

-0.02 ft./ft. Lt. Shldr.

+22.00 Trans. Lt. Shldr.

+42.00

+99.65

-0.0123 ft./ft. Lt. Shldr.

## SUPERELEVATION

2815 2810 2805 2800 2795 2790 2785 2780 2775 2770 2765

EXISTING GROUND

BEGIN PROFILE "KR4A" 4+39.72= (20.09' (LT) "KR4" 54+42.75 2781.12

-1.60%

-1.30%

+40.00 2779.82

200.00' V.C.

"KR4A"

5.93%

+30.00 2791.08

70.00' V.C.

3.44%

3.18%

END PROFILE "KR4A" 7+99.65= (34.78' RT) "KCE1" 15+12.93 2793.48

18" RCP, SEE DRAINAGE PLANS FOR DETAILS

24" RCP, SEE DRAINAGE PLANS FOR DETAILS

## "KR4A"

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0 1 2 3 4 5 6 7 8 9 10

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 125 |

| NO. | RADIUS | DELTA | LENGTH | TANGENT |
|---|---|---|---|---|
| 1 | 60.00' | 74° 24'34" | 77.92' | 45.55' |
| 2 | 30.50' | 93° 44'31" | 49.90' | 32.56' |
| 3 | 3.00' | 180° 00'00" | 9.42' | --- |
| 4 | 50.00' | 74° 01'50" | 64.60' | 37.70' |
| 5 | 3.00' | 86° 15'25" | 4.52' | 2.81' |
| 6 | 3.00' | 119° 58'11" | 6.28' | 5.19' |
| 7 | 282.00' | 7° 14'06" | 35.61' | 17.83' |
| 8 | 4.00' | 159° 05'41" | 11.11' | 21.68' |
| 9 | 252.00' | 17° 27'51" | 76.81' | 38.71' |
| 10 | 75.50' | 45° 44'52" | 60.28' | 31.85' |
| 11 | 150.50' | 19° 52'17" | 52.20' | 26.36' |
| 12 | 400.00' | 5° 15'14" | 36.68' | 18.35' |
| 13 | 638.00' | 6° 39'33" | 74.15' | 37.12' |
| 14 | 777.50' | 7° 28'25" | 101.41' | 50.78' |
| 15 | 1000.00' | 3° 31'52" | 61.63' | 30.82' |
| 16 | 149.50' | 18° 40'05" | 48.71' | 24.57' |
| 17 | 150.50' | 14° 09'17" | 37.18' | 18.69' |
| 18 | 300.00' | 11° 33'06" | 60.48' | 30.35' |
| 19 | 75.00' | 55° 34'54" | 72.76' | 35.53' |
| 20 | 594.00' | 10° 48'24" | 112.04' | 56.18' |
| 21 | 250.50' | 1° 11'39" | 5.22' | 2.61' |
| 22 | 350.00' | 13° 34'44" | 82.95' | 41.67' |

T.19S. R.60E
SEC. 6

R/W
"OS3"
"OS3" +25.97
12.00' RT.
MATCH EXIST.
N 7° 00'45" W 186.47'
431
"OS3" +21.14
39.50' RT.
"OS3" +21.14
44.55' RT.
"OS3" +25.97
13.00' LT.
MATCH EXIST.
CONCRETE CURB
RAMP
"OS3" +25.54
13.00' LT.
"OS3" +21.14
38.00' RT.
"KCW1" +69.10
42.00' LT.
"KCW1" +74.20
37.00' LT.
5.0' SIDEWALK
TYPE 5 C&G
"KCW1" +51.95
41.15' LT.
"KCW1" +74.20
31.50' LT.
5.0'
"KCW1" +40.17
31.50' LT.
S 85° 17'21" W, 761.05'
"KCW" +45.82
43.01' LT.
"KCW" +34.65
30.45' LT.
"KCW1" +86.94
24.70' LT.
"KCW1" +22.90
19.50' LT.
"KCW1"
"KCW"
KYLE CANYON RD (SR 157)
"KCW1" +49.45
34.00' RT.
"KCW1" +85.17
34.00' RT.
CONCRETE ISLAND
PAVING
"KCW"
N 86° 19'50" E 64.28'
"KCW1" +06.41
34.67' RT.
TYPE 2 CURB
N 86° 19'50" E 70.98'
"KCE1"
"KCE1" +94.12
12.00' LT.
"KCW1" +93.06
34.00' RT.
"KCW1" +54.71
26.16' RT.
N 87° 22'20" E 621.20'
"KCE1" +49.05
32.00' RT.
"KCE1" +59.07
32.00' RT.
CONCRETE ISLAND
PAVING
"KCE1" +64.68
12.37' LT.
"KCE1" +00.62
13.00' LT.
"KCE1" +73.26
13.00' LT.
"KCE1" +33.59
14.08' LT.
"OS3" +93.90
78.73' LT.
CONCRETE ISLAND
PAVING
"KCE1" +72.60
32.00' RT.
"KCE1" +44.34
32.00' RT.
"KCE1" +38.34
39.93' RT.
"KCE1" +93.07
35.37' RT.
"OS3" +69.92
38.00' RT.
"KCE1" +75.19
36.50' RT.
"OS3" +58.87
45.50' RT.
TYPE A CURB
"OS3" +58.87
38.00' RT.
"OS3" +53.63
63.60' RT.
"OS3" +59.96
29.01' LT.
"OS3" +57.15
55.50' RT.
"OS3" +36.21
91.17' RT.
"OS3" +48.87
38.00' RT.
"OS3" +44.35
59.86' RT.
"KCE1" +59.71
47.08' RT.
"KCE1" +92.60
45.86' RT.
TYPE 5 C&G
5.0' SIDEWALK
"KCE1" +00.80
37.50' RT.
"OS3" +48.87
49.46' RT.
"KCE1" +06.43
68.19' RT.
TYPE
A CURB
R=5'
CONCRETE ISLAND
PAVING
CONCRETE CURB
RAMP
"OS3" +22.57
99.87' RT.
"OS3" +11.87
38.00' RT.
"OS3" +10.30
45.73' RT.
"OS3" +33.78
89.84' RT.
"OS3" +29.13
87.41' RT.
"OS3" +29.80
86.13' RT.
CONTROL OF ACCESS
R/W
R/W
R/W
"OS3" +80.16
14.00' LT.
MATCH EXIST.
"OS3" +80.16
12.00' RT.
MATCH EXIST.
OSO BLANCA RD
"OS3" +47.77
57.68' RT.
N 9° 01'01" E 44.01'
428
430
199
201
202
203
204
SECTION 1
SECTION 6
RANGE 59
RANGE 60

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STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# GEOMETRICS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 126 |

T.19S. R.60E. SEC. 6

"XS1e"

"XP"

"KCW1"

"KCE1"

"KR3"

"KR3A"

"KR4"

"KR4A"

KYLE CANYON RD (SR 157)

5.0' SIDEWALK
"KCW1" +74.10
31.22' LT.
R=40'
"KCW1" +85.44
32.81' LT.
"KCW1" +92.62
34.72' LT.
TYPE 5 C&G
R=60'
"KCW1" +07.09
36.68' LT.
"KCW1" +81.81
19.32' LT.
"KCW1" +90.26
28.91' LT.
"KCW1" +07.25
26.68' LT.
10.0'
5.0'
"KCW1" +29.42
27.02' LT.
"KCW1" +62.44
37.56' LT.
"KCW1" +62.63
27.56' LT.
10.0' SIDEWALK
"KCW1" +87.80
22.50' LT.
CONCRETE CURB RAMP
"KR3A" +66.08
23.50' LT.
"KR3A" +49.72
24.00' LT.
"KR3A" +44.17
23.85' LT.
"KCW1" +00.72
50.49' LT.
R=20'
"KCW1" +01.17
40.50' LT.
R=10'
"KCW1" +88.84
46.39' LT.
"KCW1" +96.15
39.11' LT.
R=40'
"KR3A" +52.88
6.00' RT.
"KR3A" +47.91
5.50' RT.
"KR3A" +27.54
5.50' RT.
"KR3A" +17.75
5.50' RT.
"KR3" +88.60
9.50' LT.
TYPE 5 C&G
"KR3A" +53.55
13.47' RT.
R=10'
"KR3A" +54.97
17.92' RT.
R=20'
"KCE1" +19.36
40.54' LT.
"KCE1" +33.98
24.96' LT.
10.0' SIDEWALK
"KCE1" +17.52
30.74' LT.
"KR3A" +47.23
23.38' RT.
"KR3A" +44.14
14.57' RT.
"KCE1" +24.83
22.83' LT.
CONCRETE CURB RAMP
"KCE1" +36.04
15.67' LT.
"KR3" +64.12
19.50' RT.
"KR3" +83.76
9.50' LT.
TYPE 5 C&G
"KCE1" +63.96
15.00' LT.
"KCE1" +31.27
15.00' LT.
TYPE 2 CURB
"KCE1" +12.56
13.39' LT.
"KCE1" +40.26
22.50' RT.
"KCW1" +48.78
22.50' LT.
"KCW1" +89.72
22.50' LT.
"KCE1" +70.43
15.00' LT.
CONCRETE CURB RAMP
"KCE1" +81.37
21.00' RT.
"KCE1" +46.49
24.96' RT.
10.0' SIDEWALK
"KCE1" +50.67
21.02' RT.
"KCE1" +98.84
19.61' RT.
CONC. BARRIER RAIL TYPE FA
"KCE1" +34.88
23.00' RT.
"KCE1" +36.00
27.39' RT.
"KCE1" +14.26
22.50' RT.
"KCE1" +81.37
22.50' RT.
"KCE1" +51.23
29.51' RT.
"KCE1" +98.93
21.60' RT.
14.0'
TYPE 2 CURB
"KCW1" +50.23
15.00' RT.
"KCE1" +13.19
15.00' LT.
"KCW1" +51.22
21.00' LT.
"KCW1" +72.82
26.06' LT.
"KCW1" +71.70
21.67' LT.
"KCW1" +77.01
21.00' LT.
TYPE 5 C&G
"KCW1" +83.68
25.09' LT.
CONCRETE CURB RAMP
TYPE 2 CURB
"KCW1" +87.16
21.02' RT.
"KCW1" +35.32
19.61' LT.
"KCW1" +96.20
19.00' LT.
N 73°23'41" E 61.79
CONC. BARRIER RAIL TYPE FA
"KCE1" +50.49
22.50' RT.
"KCW1" +06.04
16.50' RT.
"KCW1" +61.13
17.50' RT.
"KCW1" +68.06
16.50' RT.
"KCW1" +82.69
16.50' RT.
"KCW1" +50.68
25.50' RT.
TYPE 5 C&G
"KCE1" +71.97
27.80' RT.
"KCE1" +53.83
34.91' RT.
"KCE1" +19.62
22.50' RT.
"KCE1" +19.62
23.50' RT.
CONCRETE CURB RAMP
CONC. BARRIER RAIL TYPE A
"KCW1" +61.65
24.33' RT.
"KCW1" +55.00
32.07' RT.
"KCW1" +72.85
17.00' RT.
CONCRETE CURB RAMP
"KCW1" +76.10
26.46' RT.
"KCW1" +57.44
41.70' RT.
"KR4" +85.91
20.00' LT.
TYPE 5 C&G
"KCW1" +40.78
45.48' RT.
"KR4A" +59.63
4.67' RT.
"KR4A" +39.75
R=10' 18.93' RT.
"KR4A" +47.38
11.73' RT.
"KR4A" +94.65
4.00' RT.
"KR4A" +67.37
24.23' LT.
"KR4A" +54.63
4.00' RT.
"KR4A" +60.12
16.50' LT.
10.0' SIDEWALK
"KR4A" +46.68
20.00' LT.
TYPE 2 CURB
"KR4" +13.70
23.50' RT.
"KR4A" +12.48
22.00' LT.
"KR4A" +12.48
32.00' LT.
R=50'
"KR4A" +82.09
30.26' LT.
"KR4A" +87.16
38.89' LT.
R=20'
CONCRETE CURB RAMP
"KR4A" +57.71
26.82' LT.
"KR4A" +49.37
15.00' LT.
"KR4A" +49.37
16.50' LT.
"KR4A" +55.08
17.00' LT.

| NO. | RADIUS | DELTA | LENGTH | TANGENT |
|---|---|---|---|---|
| 1 | 30.50' | 86°05'43" | 45.83' | 28.49' |
| 2 | 2.50' | 101°48'36" | 4.44' | 3.08' |
| 3 | 10.50' | 135°33'23" | 24.84' | 25.70' |
| 4 | 2.00 | 142°27'01" | 4.97' | 5.88' |
| 5 | 2.00' | 45°00'00" | 1.57' | 0.83' |
| 6 | 1.00' | 137°23'02" | 2.40' | 2.56' |
| 7 | 1.00' | 147°01'14" | 2.56' | 3.38' |
| 8 | 5.00' | 163°31'28" | 14.27' | 34.54' |
| 9 | 3.50' | 45°00'00" | 2.75' | 1.45' |
| 10 | 3.00' | 150°29'51" | 7.87' | 11.33' |
| 11 | 2.00' | 159°53'54" | 5.58' | 11.28' |
| 12 | 120.00' | 42°14'12" | 88.46' | 46.35' |
| 13 | 329.00' | 22°17'40" | 128.02' | 64.83' |
| 14 | 328.00' | 11°23'07" | 65.18' | 32.70' |
| 15 | 482.00' | 5°50'38" | 49.16' | 24.60' |
| 16 | 300.50' | 23°31'53" | 123.42' | 62.59' |
| 17 | 481.00 | 5°50'38" | 49.06' | 24.55' |
| 18 | 298.50' | 21°15'20" | 110.74' | 56.01' |

INSET A

TYPE 2 CURB
"KR4" +68.27
20.00' LT.
"KR4A" +67.71
4.00' RT.
"KR4A"
"KR4"

SEE INSET A

PROFESSIONAL ENGINEER — STATE OF NEVADA
JOHN R. TOBIN
Exp. 06/30/2018
CIVIL
No. 8150
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# GEOMETRICS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 127 |

| NO. | RADIUS | DELTA | LENGTH | TANGENT |
|---|---|---|---|---|
| 1 | 5.00' | 142° 19'42" | 12.42' | 14.66' |
| 2 | 2.00' | 111° 37'04" | 3.89' | 2.94' |
| 3 | 5.00' | 162° 51'59" | 14.21' | 33.19' |
| 4 | 5.00' | 45° 00'00" | 3.93' | 2.07' |
| 5 | 148.50' | 35° 33'17" | 92.15' | 47.61' |
| 6 | 483.50' | 6° 20'17" | 53.48' | 26.77' |
| 7 | 198.50' | 7° 47'00" | 26.96' | 13.50' |
| 8 | 482.00' | 5° 50'38" | 49.16' | 24.60' |
| 9 | 328.00' | 5° 12'36" | 29.83' | 14.92' |
| 10 | 998.50' | 4° 44'11" | 82.54' | 41.29' |
| 11 | 68.50' | 18° 37'04" | 22.26 | 11.23' |
| 12 | 2.00' | 130° 19'53" | 4.55' | 4.32' |
| 13 | 12.50' | 45° 00'00" | 9.82' | 5.18' |
| 14 | 2.00' | 108° 52'19" | 3.80' | 2.80' |
| 15 | 10.00' | 147° 31'02" | 25.74' | 34.33' |
| 16 | 158.00' | 12° 04'29" | 33.30' | 16.71' |
| 17 | 1.00' | 147° 01'14" | 2.57' | 3.38' |
| 18 | 1.00' | 142° 24'17" | 2.49' | 2.94' |
| 19 | 30.50' | 65° 33'19" | 34.90' | 19.64' |
| 20 | 500.00' | 21° 38'50" | 188.91' | 95.59' |
| 21 | 335.00' | 37° 33'32" | 219.60' | 113.91' |
| 22 | 298.50' | 21° 15'20" | 110.74' | 56.01' |

T. 19S. R. 60E. SEC. 6

"KR2" +19.06 8.00' RT.
"KR2A" +09.16 4.00' LT.
"KR2A"
"KR2A" +19.40 23.50' RT.
"KR2A" +33.86 24.34' RT.
R=20'
CONCRETE CURB RAMP
"KR2A" +18.67 30.11' RT.
"KR2A" +83.59 31.00' RT.
"KR2A" +43.92 27.07' RT.
"KR2A" +13.26 38.72' RT.
"KR2A" +83.59 21.00' RT.
"KR2A" +41.34 17.27' RT.
R=50'
10.0' SIDEWALK
"KR2A" +00.00 15.50' RT.
"KR2A" +46.34 18.50' RT.
TYPE 5 C&G
"KR2" TYPE 2 CURB
"KCE1" +64.58 40.85' LT.
"KCE1" +65.51 30.91' LT.
R=20'
"KR2A" +47.21 4.00' LT.
CONCRETE CURB RAMP
"KCE1" +57.24 22.83' LT.
"KR2A" +14.13 15.50' RT.
"KR2A" +42.25 4.67' LT.
"KCE1" +48.10 24.96' LT.
10.0' SIDEWALK
"KR2A" +54.32 11.75' LT.
CONCRETE CURB RAMP
"KR2A" +09.03 4.00' LT.
"KCE1" +46.04 15.67' LT.
R=10'
"KCW1" +55.09 22.17' LT.
"KR2" +64.92 23.50' LT.
"KR2" +15.09 8.00' RT.
"KCW1" +02.35 38.14' LT.
"KCW1" +55.09 21.00' LT.
"KCW1" +97.72 29.44' LT.
"KCE1" +66.80 15.00' LT.
"KCE1" +50.80 15.00' LT.
"KCE1" +61.57 16.17' LT.
"KR2A" +44.85 14.30' LT.
"KCE1" +41.82 22.50' RT.
CONC. BARRIER RAIL TYPE A
"XN1e"
"XP"
"KCE1" +98.37 13.50' LT.
TYPE 5 C&G
"KCE1" +22.36 19.00' RT.
"KCE1" +46.86 23.22' RT.
"KCE1" +75.68 22.50' RT.
"KCE1" +35.59 24.96' RT.
"KCE1" +12.53 15.00' LT.
"KCW1" +68.07 21.00' LT.
"KCE1" +47.19 23.00' RT.
"KCE1" +46.07 27.39' RT.
"KCE1" +67.82 22.50' RT.
"KCE1" +93.18 21.70' RT.
"KCE1" +22.36 20.50' RT.
"KCE1" +93.15 22.20' RT.
"KCE1" +46.45 30.67' RT.
CONCRETE CURB RAMP
"KCW1" +09.35 16.50' RT.
"KCW1" +70.98 16.39' RT.
"KCW1" +60.00 16.50' RT.
"KCW1" +03.83 21.00' LT.
"KCW1" +71.37 25.09' LT.
"KCW1" +82.24 26.06' LT.
"KCW1" +78.04 21.00' LT.
"KCW1" +83.35 21.67' LT.
"KCW1" +45.29 16.50' RT.
"KCE1" +73.41 15.00' LT.
TYPE 5 C&G
TYPE 2 CURB
"KCE1" +35.31 22.50' RT.
"KCW1" +19.73 19.61' LT.
"KCW1" +67.89 21.02' LT.
"KCW1" +99.45 21.00' LT.
"KCW1" +87.41 18.49' RT.
TYPE 2 CURB
"KR1A" +15.76 14.07' LT.
TYPE 5 C&G
"KCE1" +68.55 22.50' RT.
"KR1A" +39.49 4.00' LT.
"KCE1" +16.53 22.50' RT.
"KCE1" +37.28 28.00' RT.
"KCE1" +15.46 34.87' RT.
"KCE1" +57.02 28.00' RT.
TYPE 5 C&G
"KCE1" +81.28 21.00' RT.
5.0' SIDEWALK
"KCW1" +82.70 19.20' RT.
"KCW1" +93.74 26.12' RT.
"KR1A" +13.00 20.71' LT.
"KCW1" +63.98 19.50' RT.
"KCW1" +00.86 34.01' RT.
"KR1" +63.85 22.00' RT.
10.0' SIDEWALK
"KR1A" +31.76 23.50' RT.
CONCRETE CURB RAMP
"KR1A" +13.22 4.00' LT.
"KR1A" +05.35 15.22' LT.
"KR1A" +20.77 23.50' RT.
"KCE1" +37.28 38.00' RT.
"KR1" +47.33 37.07' RT.
R=10'
"KR1A" +06.62 11.83' LT.
R=40'
R=388'
"KCE1" +88.99 33.00' RT.
R=40'
"KCE1" +20.21 43.37' RT.
R=60'
"KR1" +29.50 42.61' RT.
CONCRETE CURB RAMP
"KCE1" +82.93 33.61' RT.
"KCE1" +02.91 44.03' RT.
"KCE1" +72.76 30.75' RT.
"KR1A" +08.06 4.67' LT.
"KCE1" +07.81 52.33' RT.
"KR1A" +14.46 23.50' RT.
"KCE1" +57.02 38.00' RT.
"KCE1" +70.92 36.31' RT.
R=20'
"KCE1" +97.43 45.80' RT.
10.0' SIDEWALK
TYPE 2 CURB
"KR1A"
"KCE1" +97.08 55.79' RT.
"KR1A" +15.03 24.00' RT.
"KR1" +01.95 22.00' RT.
"KR1" +13.00 19.50' LT.
"KR1" +71.92 20.99' RT.
"KR1A" +40.39 4.00' LT.
"KCW1" +98.88 25.49' RT.
"KCW1" +82.72 23.35' RT.
"XS1e"
KYLE CANYON RD (SR 157)
CONC. BARRIER RAIL TYPE FA
14.0'

PROFESSIONAL ENGINEER — STATE OF NEVADA
JOHN R. TOBIN
Exp. 06/30/2018
CIVIL
No. 8150
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# GEOMETRICS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | 128 |

| NO. | RADIUS | DELTA | LENGTH | TANGENT |
|---|---|---|---|---|
| 1 | 149.50' | 25°18'05" | 66.01' | 33.56' |
| 2 | 150.50' | 15°51'20" | 41.65' | 20.96' |
| 3 | 800.00' | 4°00'20" | 55.93' | 27.98' |
| 4 | 150.00' | 31°08'42" | 81.54' | 41.80' |
| 5 | 2.00' | 152°55'30" | 5.34' | 8.31' |
| 6 | 577.50' | 7°51'07" | 79.14' | 39.63' |
| 7 | 692.50' | 13°06'57" | 158.52' | 79.61' |
| 8 | 32.00' | 41°09'38" | 22.99' | 12.02' |
| 9 | 110.00' | 22°02'19" | 42.31' | 21.42' |
| 10 | 75.00' | 27°04'30" | 35.44' | 18.06' |
| 11 | 32.00' | 64°31'41" | 36.04' | 20.20' |

T. 19S. R. 60E
SEC. 6

TYPE 5 C&G
10.0' SIDEWALK
"KCW1" +08.51
36.50' LT.
"KCW1" +60.43
36.50' LT.
"KR2A"
"KCW1"
"KCW1" +69.54
25.88' LT.
"KCW1" +09.41
19.50' LT.
"KCW1" +65.28
13.13' RT.
"KCW1" +67.04
19.50' LT.
"KCW1" +80.21
19.50' LT.
"KCW1" +61.03
27.57' LT.
5.0' SIDEWALK
"KCW1" +58.34
30.00' LT.
"KCW1" +73.95
27.50' LT.
"KCW1" +89.56
25.00' LT.
"KCW1" +00.00
25.00' LT.
"KCW1" +00.00
20.00' LT.
"KCW1" +46.32
25.91' LT.
"KCW1" +72.10
59.13' LT.
"KCW1" +74.10
59.13' LT.
"SP3""
"KCW1" +25.25
19.50' LT.
"KCW1" +25.25
18.00' LT.
"KCW1" +09.99
12.00' RT.
"KCW1" +44.12
20.22' RT.
"KCE1" +93.90
22.00' LT.
"KCE1" +97.76
23.09' LT.
"KCE1"
"KCE1" +74.88
28.35' LT.
"KCW1" +21.92
12.00' RT.
TYPE 2 CURB
S 86°18'16" W 188.06'
S 86°18'16" W 222.75'
"KCE1" +40.68
22.50' RT.
"KCE1" +22.90
22.50' RT.
"KCE1" +86.34
19.50' RT.
5.0' SIDEWALK
TYPE 5 C&G
"KCE1" +54.80
20.00' RT.
"KCE1" +93.90
18.00' RT.
"KCE1" +18.77
30.00' RT.
"KCE1" +34.39
27.50' RT.
"KCE1" +50.00
25.00' RT.
"KCE1" +54.80
25.00' RT.
"KCE1" +93.90
19.50' RT.
"KCE1" +22.79
36.24' RT.
MATCH EXIST.
"KCE1" +24.79
36.24' RT.
MATCH EXIST.
R=50'
R/W
KYLE CANYON RD (SR 157)
SKY POINTE DR
416
415
414
413
31
32
33
34
27
28
29
30

PROFESSIONAL ENGINEER
JOHN R. TOBIN
Exp. 06/30/2018
CIVIL
No. 8150
STATE OF NEVADA
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# GEOMETRICS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | EC101 |

"KR4" 40+00.00 P.O.B.=
(78.00' LT.) XP" 400+53.26 P.O.T.

T.1.95. R.60'. SEC. 6

"XP" +29.93 90.00' LT. 2772.68
"XP" +50.00 90.00' LT. 2773.04
"XP" +72.00 90.00' LT. 2773.36
"XP" +00.00 90.00' LT. 2773.68
"XP" +25.00 90.00' LT. 2774.03
"XP" +50.00 90.00' LT. 2774.34
"KR4" +21.81 11.93' LT. 2774.64
"KR4" +38.87 11.78' LT. 2774.87
"KR4" +71.98 11.24' LT. 2775.56
+97.09 11.80' LT. 2775.98
+22.22 12.62' LT. 2776.36
+47.36 13.45' LT. 2776.73
+71.00 14.22' LT. 2777.12
+95.92 15.04' LT. 2777.52
+20.85 15.86' LT. 2777.89
+46.86 16.71' LT. 2778.26
+70.75 17.49' LT. 2778.58
+95.72 18.32' LT. 2778.90
+20.70 19.14' LT. 2779.20
+45.71 19.96' LT. 2779.47
"KR4" +68.10 20.70' LT. 2779.78
"KR4" +00.00 21.75' LT. 2780.22

24.0'
12.0'
2.07%
2.07%
2.07%
2.66%
3.19%
3.71%
4.24%
4.60%
4.60%
2.40%

"XP" +72.00 66.00' LT. 2773.86
+00.00 66.00' LT. 2774.32
+25.00 66.00' LT. 2774.80
+50.00 66.00' LT. 2775.24
+75.00 66.00' LT. 2775.66
"XP" +92.00 66.00' LT. 2775.98
+25.00 66.00' LT. 2776.66
+50.00 66.00' LT. 2777.14
+75.00 66.00' LT. 2777.59
+00.00 66.00' LT. 2778.05
+25.00 66.39' LT. 2778.50
+50.00 67.91' LT. 2778.94
+75.00 69.42' LT. 2779.35
"XP" +01.07 71.00' LT. 2779.77
"XP" +25.00 71.00' LT. 2780.15
+50.00 71.00' LT. 2780.56
+75.00 71.00' LT. 2780.95
+00.00 71.00' LT. 2781.38
"XP" +22.37 71.00' LT. 2781.80
+50.00 71.00' LT. 2782.29
+75.00 71.00' LT. 2782.77
+100.00 71.00' LT. 2783.23

"KR4" +46.86 16.00' RT. 2779.77
"KR4" +70.75 16.00' RT. 2780.12
+95.72 16.00' RT. 2780.48
+20.70 16.00' RT. 2780.82
+45.71 16.00' RT. 2781.13
"KR4" +68.10 16.00' RT. 2781.47
"KR4" +00.00 16.00' RT. 2781.96
"XP" +22.37 76.00' LT. 2783.54
"XP" +50.00 77.45' LT. 2782.12
+75.00 76.95' LT. 2782.61
+00.00 76.45' LT. 2783.10

"XP" +29.93 66.00' LT. 2773.18
"XP" +50.00 66.00' LT. 2773.53
"XP" +25.00 71.00' LT. 2780.15
"XP" +22.37 71.00' LT. 2781.80
"XP" +22.37 71.00' LT. 2783.66

1.64%
2.05%
2.10%
2.89%
3.00%
2.64%
2.69%
2.39%

"KR4"
"XS1e"
SAWCUT

95 SOUTH BOUND

"XP"
N 36° 36'19" W 12809.83'

54.0'

95 NORTH BOUND

"XP" +95.00 66.00' RT. 2775.02
"XP" +00.00 66.00' RT. 2775.10
+25.00 66.00' RT. 2775.49
+50.00 66.00' RT. 2775.91
+75.00 67.44' RT. 2776.27
+00.00 69.34' RT. 2776.65
+25.00 71.00' RT. 2777.05
"XP" +40.00 71.00' RT. 2777.31
+50.00 71.00' RT. 2777.48
+75.00 71.00' RT. 2777.99
+00.00 71.00' RT. 2778.45
+25.00 71.00' RT. 2778.77
+50.00 71.00' RT. 2779.13
+75.00 71.00' RT. 2779.62
"XP" +00.00 71.00' RT. 2780.07
"XP" +09.85 71.00' RT. 2780.25

"XN1e"
N 36° 36'19" W 9775.52'

"KR1"
N 33° 36'19" W 435.98'

1.89%
1.98%
2.44%
2.91%
3.31%
3.79%
4.30%
4.60%
3.33%
2.58%
2.25%
2.48%
1.99%
1.95%
2.65%
2.67%
2.08%
2.12%

"KR1" +43.67 20.00' RT. 2774.35
"KR1" +38.66 20.00' RT. 2774.30
+68.70 20.00' RT. 2774.53
+93.74 20.00' RT. 2774.73
+18.77 20.00' RT. 2774.93
+43.85 20.00' RT. 2775.14
"KR1" +66.63 20.00' RT. 2775.35
"KR1" +81.58 20.00' RT. 2775.48
+91.55 20.00' RT. 2775.64
+16.47 20.00' RT. 2776.09
+41.41 20.00' RT. 2776.54
+66.37 20.00' RT. 2776.81
+91.34 20.00' RT. 2777.06
+16.33 20.00' RT. 2777.48
"KR1" +41.34 20.00' RT. 2777.94
"KR1" +51.20 20.00' RT. 2778.09

"KR1" +66.63 19.00' LT. 2777.03
"KR1" +81.58 19.00' LT. 2777.27
+91.55 19.00' LT. 2777.43
+16.47 19.00' LT. 2777.89
+41.41 19.00' LT. 2778.33
+66.37 19.00' LT. 2778.61
+91.34 19.00' LT. 2778.85
+16.33 19.00' LT. 2779.27
+41.34 19.00' LT. 2779.74
"KR1" +51.20 19.00' LT. 2779.89

"KR1" 14+35.98 P.C.

R/W

11 12 13 14 15 16

399 400 401 402 403 404 405

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

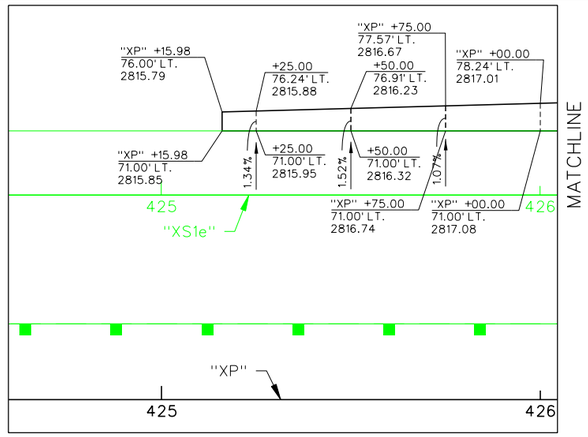
US95/KYLE CANYON RD INTERCHANGE

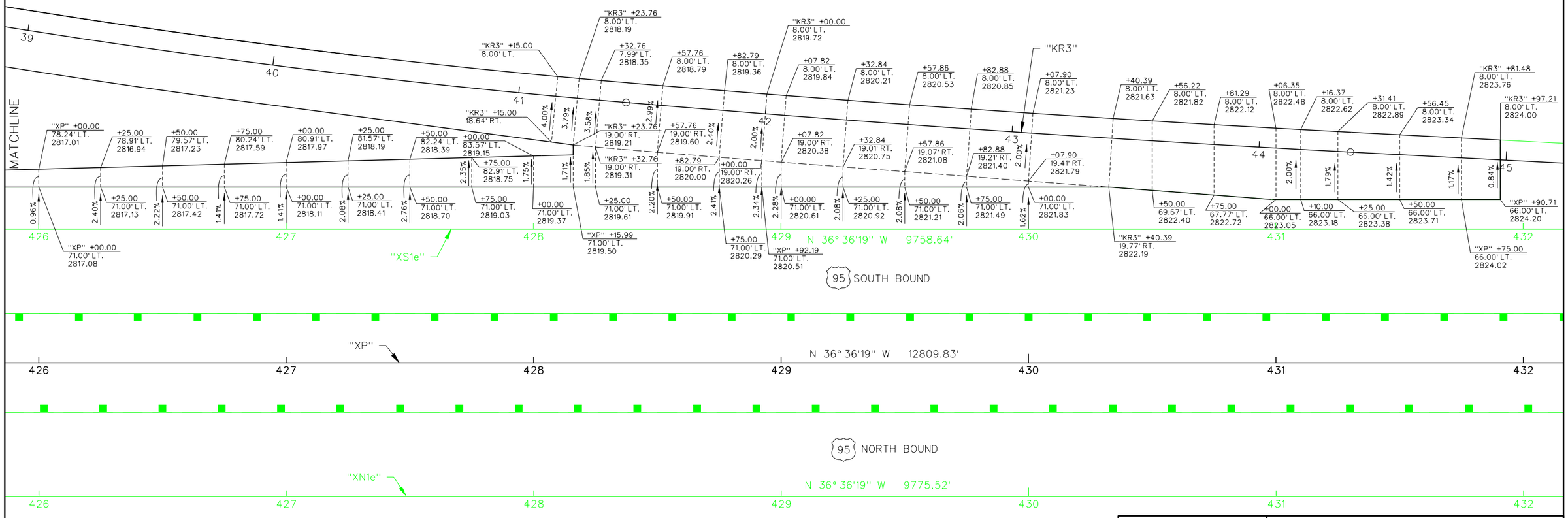
# ELEVATION CONTROL

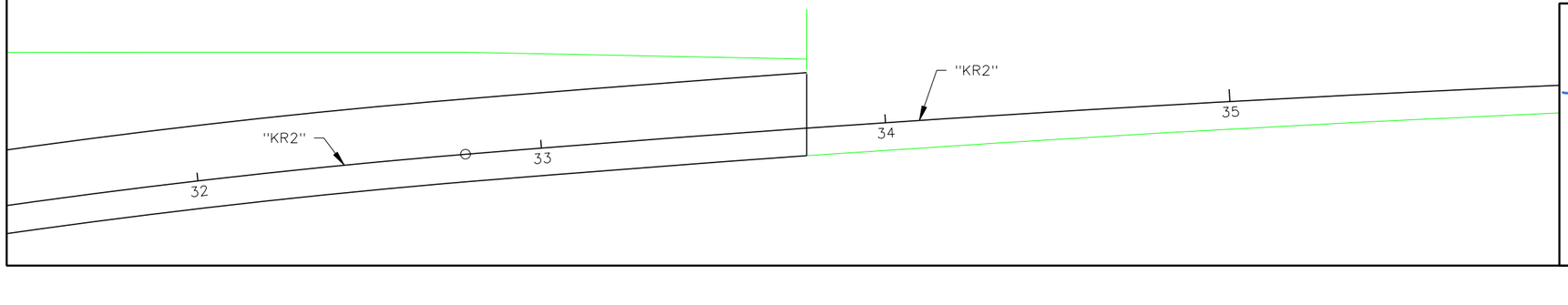
PROFESSIONAL ENGINEER – STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

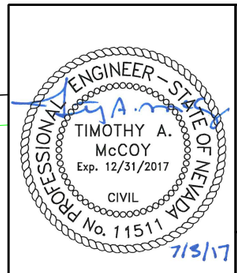
GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | EC102 |






STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

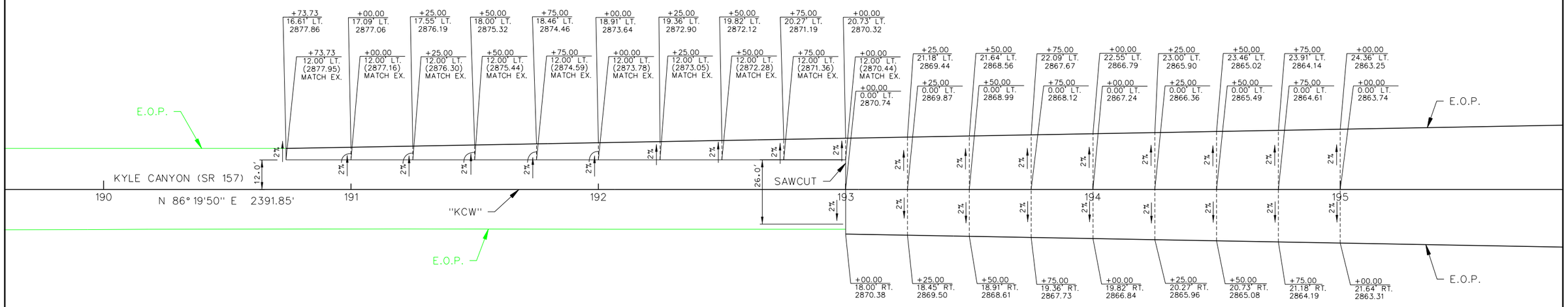
US95/KYLE CANYON RD INTERCHANGE

# ELEVATION CONTROL

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | EC103 |

T.19S. R.60E.
SEC. 6




PROFESSIONAL ENGINEER – STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# ELEVATION CONTROL


GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | EC104 |

T.19S. R.60E.
SEC. 6

E.O.P.
"OS3" +75.00
12.00' RT.
2844.52
SAWCUT
"OS3" +50.00
12.00' RT.
2844.54
"OS3" +25.97
12.00' RT.
2844.26
"OS3" +25.55
12.64' LT.
2844.75
"KCW1" 10+00.00 P.O.B.=
"OS3" 429+54.43 P.O.T.
"OS3"
431
OSO BLANCA RD
2.14%
2.07%
2.00%
2.04%
"OS3" +75.00
31.30' RT.
2844.11
"OS3" +50.00
34.41' RT.
2844.07
"OS3" +25.97
37.40' RT.
2843.74
"KCW" +74.18
57.60' LT.
2845.74
"KCW" +50.00
44.04' LT.
2846.75
"KCW" +74.18
42.46' LT.
2845.89
"KCW" +25.00
39.03' LT.
2847.70
"KCW" +00.00
35.25' LT.
2848.64
"KCW1" +42.27
31.97' LT.
2843.34
430
"KCW1" +73.30
30.00' LT.
2842.20
"KCW1" +85.17
30.00' LT.
2841.77
"KCW1" 11+49.45 P.C.
3.60%
1%
30.0'
E.O.P.
KYLE CANYON ROAD (SR 157)
"KCW"
N 86° 19'50" E 2391.85'
"KCW1"
N 86° 19'50" E 149.45'
197
198
199
11
12
13
203
+00.00
2848.99
+25.00
2848.09
+50.00
2847.19
+74.18
2846.32
+00.00
2845.39
"KCW1" +23.30
34.00' RT.
2844.41
"KCW1" +42.27
34.00' RT.
2843.96
"KCW1" +73.30
34.00' RT.
2842.84
"KCW1" +85.17
34.00' RT.
2842.41
"KCW"
201
202
3.53%
3.60%
26.0'
"KCW1" +63.65
34.00' RT.
2843.19
"KCE1" +94.12
12.00' LT.
2842.05
E.O.P.
"KCW" +00.00
28.91' RT.
2848.70
"KCW" +25.00
29.70' RT.
2847.79
"KCW" +50.00
31.34' RT.
2846.88
"KCW" +50.00
40.60' RT.
2846.78
"KCW" +74.18
32.92' RT.
2845.99
"KCW" 200+00.00 P.T.=
"OS3" 429+28.37 P.O.T.
"KCE1" 5+05.55 P.O.B.=
"OS3" 429+02.31 P.O.T
428
N 86° 19'50" E 137.76'
"KCE1" +51.22
32.00' RT.
2843.13
"KCE1" +72.60
32.00' RT.
2842.40
"KCE1" +94.12
32.56' RT.
2841.61
"KCE1" +73.61
33.93' RT.
2837.78
"KCE1"
"KCE1" 6+43.31 P.C.
6
7
8
1.23%
1.65%
1.58%
3.56%
4.87%
GRADE BREAK
"KCE1" +32.25
34.21' RT.
2843.78
"OS3" +70.44
71.88' RT.
2842.10
"OS3" +38.31
56.91' RT.
2842.81
"OS3" +48.47
97.91' RT.
2841.42
"OS3" +25.48
84.03' RT.
2842.21
"OS3" +40.00
20.09' LT.
2845.45
"OS3" +40.00
38.00' RT.
2843.50
0.44%
3.07%
2.51%
1.45%
"OS3" +07.79
15.74' LT.
2844.27
"OS3" +07.79
40.61' RT.
2843.49
"OS3" +93.83
72.25' RT.
2842.80
"OS3" +80.16
14.00' LT.
2843.92
"OS3" +80.16
67.61' RT.
2843.00
1.98%
2.10%
SAWCUT
"OS3" +80.16
12.00' RT.
2844.10
GRADE BREAK
E.O.P.

PROFESSIONAL ENGINEER – STATE OF NEVADA
TIMOTHY A. McCOY
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STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# ELEVATION CONTROL

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | EC105 |

"KR3A"
"KR3"
"KCW1"
"KCE1"
"KR4A"
"KR4"
"XP"
"XS1e"
GRADE BREAK
KYLE CANYON RD (SR 157)
T. 19S. R. 60E. SEC. 6

"KCE1" +52.78
31.82' LT.
2790.69

"KCE1" +69.01
15.59' LT.
2789.88

"KCE1" +88.79
15.00' LT.
2789.29

"KCE1" +00.00
15.00' LT.
2788.96

"KCE1" +14.26
15.00' LT.
2788.54

"KCE1" +41.79
42.81' LT.
2791.24

"KCE1" +25.72
26.89' LT.
2791.39

"KCW1" 20+42.46 P.T.

"KCE1" +13.96
15.32' LT.
2791.51

"KCE1" +52.78
2790.05

"KCE1" +41.79
2790.38

"KCE1" +13.96
2791.20

"KCE1" +14.26
2788.24

"KCE1" +14.26
22.50' RT.
2787.79

+88.79
2788.99

+00.00
2788.66

+69.01
2789.57

"KCE1" +00.00
41.53' RT.
2787.83

"KCE1" +88.79
54.68' RT.
2787.90

"KCE1" +69.01
39.18' RT.
2788.79

"KCE1" +13.96
22.50' RT.
2790.75

"KCE1" +52.78
23.35' RT.
2789.58

"KCE1" +41.79
22.50' RT.
2789.93

"KCE1" 16+27.78 P.T.

"KCE1" 16+77.78 P.C.

"KCW1" 21+14.27 P.C.

"KCE1" 18+46.75 P.T.

"KCE1" 18+76.34 P.C.

"KCE1" 19+23.63 P.T.

"KCW1" 23+60.12 P.T.

"KCW1" 23+12.82 P.C.

"KCW1" 22+83.24 P.T.

0.67%
0.75%
2.95%
0.18%
0.42%
2%
15.0'
22.5'
21.0'
16.5'

PROFESSIONAL ENGINEER – STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

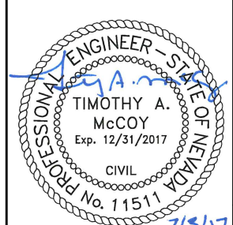
# ELEVATION CONTROL

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | EC106 |

T.19S. R.60E. SEC. 6

"KR2"
"KR2A"
"KCE1" 22+35.32 P.C.
"KCE1" 22+05.74 P.T.
"KCE1" 21+58.45 P.C.
"KCE1" 24+54.01 P.C.
"KCE1" 24+04.30 P.T.
"XP"
"XN1e"
"KCE1"
"KR2A" +05.33 14.00' RT. 2775.29
"KR2A" +83.63 14.00' RT. 2775.04
"KR2A" +62.60 14.00' RT. 2774.73
"KR2A" +53.24 14.00' RT. 2774.60
"KCE1" +47.37 45.67' LT. 2775.85
"KCE1" +67.82 15.00' LT. 2775.92
"KCE1" +94.19 15.00' LT. 2775.69
"KCE1" +29.30 29.37' LT. 2775.69
"KCW1" +09.00 19.62' LT. 2774.98
"KCW1" +00.00 20.74' LT. 2775.12
"KCW1" +80.00 24.38' LT. 2775.40
"KCW1" +59.85 29.72' LT. 2775.64
GRADE BREAK
KYLE CANYON RD (SR 157)
"KCE1" +67.82 2775.62
"KCE1" +94.19 2775.39
"KCE1" +67.82 22.50' RT. 2775.17
"KCE1" +29.30 2775.10
+47.37 2774.94
"KCE1" +61.74 29.69' LT. 2775.42
"KCE1" +72.77 16.79' LT. 2775.06
"KCE1" +00.00 15.00' LT. 2774.79
"KCE1" +16.53 15.00' LT. 2774.65
+72.77 2774.73
+00.00 2774.49
"KCE1" +16.53 2774.35
"KCE1" +81.96 41.39' RT. 2774.67
"KCE1" +94.19 55.69' RT. 2774.28
"KCE1" +29.30 24.04' RT. 2774.62
"KCE1" +47.37 22.50' RT. 2774.49
"KCE1" +16.53 22.50' RT. 2773.90
"KCE1" +00.00 22.50' RT. 2774.04
"KCE1" +72.77 22.50' RT. 2774.28
"KCE1" 26+40.68 P.R.C.
"KCW1"
"KCW1" 26+71.81 P.C.
"KCW1" 26+42.23 P.T.
"KCW1" 25+94.93 P.C.
"KCW1" 28+40.79 P.T.
"KCW1" 28+70.60 P.C.
"KR1"
"KR1A"
"XS1e"
15.0'
22.5'
2%
2.05%
2.18%
2.19%
0.85%




STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# ELEVATION CONTROL

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | EC107 |

T. 19S. R. 60E. SEC. 6

"KR2A"

"KCW1"

"KCW1" 31+95.06 P.T.

"KCE1"

"KCE1" 28+60.25 P.T.

KYLE CANYON RD (SR 157)

N 86° 18'16" E 303.07'

N 86° 18'16" E 188.57'

18.0'

46.0'

18.0'

R/W

E.O.P.

SKY POINTE DR

"SP3"

"KCW1" +14.00
18.00' LT.
2766.97

"KCW1" +25.25
18.00' LT.
2767.00

"KCW1" +43.21
23.51' LT.
2767.34

"KCW1" +72.10
59.13' LT.
(2766.43)
MATCH EX.

"KCW1" +74.10
59.13' LT.
(2766.52)
MATCH EX.

"KCW1" +98.13
59.13' LT.
(2766.81)

SAWCUT

"KCW1" +74.10
0.00
(2766.94)
MATCH EX.

"KCW1" 34+98.13 P.O.E.=
"SP3" 414+64.40 P.O.T.

"KCW1" +14.00
12.11' RT.
2767.57

"KCW1" +25.25
13.57' RT.
2767.48

"KCE1" +24.79
0.00
(2767.41)
MATCH EX.

"KCE1" +48.81
0.00
(2767.57)

"KCE1" 30+48.81 P.O.E.=
"SP3" 414+18.40 P.O.T.

SAWCUT

"KCE1" +93.90
18.00' RT.
2767.65

"KCE1" +48.81
36.24' RT.
(2767.86)

"KCE1" +22.79
36.24' RT.
(2767.38)
MATCH EX.

"KCE1" +24.79
36.24' RT.
(2767.49)
MATCH EX.

2.00%
1.54%
0.80%
0.77%
1.20%
0.75%
0.75%
0.67%
0.47%
1.54%

415
416
414
413

30
29
28
27
34
33
32
31

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# ELEVATION CONTROL

PROFESSIONAL ENGINEER – STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | LC101 |

Project Name: 73627GCW_ALG
Description: ALG master file-120915
Horizontal Alignment Name: KR1

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| | Element: Linear | | | |
| POB | ( ) | 10+00.00 | 26823820.39 | 737561.13 |
| PC | ( ) | 14+35.98 | 26824183.51 | 737319.83 |
| | Tangent Direction: | | N 33°36'19" W | |
| | Tangent Length: | | 435.98 | |
| | Element: Circular | | | |
| PC | ( ) | 14+35.98 | 26824183.51 | 737319.83 |
| PI | ( ) | 17+18.28 | 26824418.62 | 737163.59 |
| CC | ( ) | | 26826065.30 | 740151.59 |
| PT | ( ) | 19+99.28 | 26824676.29 | 737048.26 |
| | Radius: | | 3400.00 | |
| | Delta: | | 9°29'33" Right | |
| | Degree of Curvature(Arc): | | 1°41'07" | |
| | Length: | | 563.30 | |
| | Tangent: | | 282.29 | |
| | Chord: | | 562.65 | |
| | Middle Ordinate: | | 11.66 | |
| | External: | | 11.70 | |
| | Tangent Direction: | | N 33°36'19" W | |
| | Radial Direction: | | N 56°23'41" E | |
| | Chord Direction: | | N 28°51'33" W | |
| | Radial Direction: | | N 65°53'14" E | |
| | Tangent Direction: | | N 24°06'46" W | |
| | Element: Linear | | | |
| PT | ( ) | 19+99.28 | 26824676.29 | 737048.26 |
| PC | ( ) | 23+78.55 | 26825022.46 | 736893.32 |
| | Tangent Direction: | | N 24°06'46" W | |
| | Tangent Length: | | 379.27 | |
| | Element: Circular | | | |
| PC | ( ) | 23+78.55 | 26825022.46 | 736893.32 |
| PI | ( ) | 24+64.22 | 26825100.66 | 736858.32 |
| CC | ( ) | | 26824695.63 | 736163.12 |
| PCC | ( ) | 25+49.24 | 26825169.67 | 736807.55 |
| | Radius: | | 800.00 | |
| | Delta: | | 12°13'30" Left | |
| | Degree of Curvature(Arc): | | 7°09'43" | |
| | Length: | | 170.69 | |
| | Tangent: | | 85.67 | |
| | Chord: | | 170.37 | |
| | Middle Ordinate: | | 4.55 | |
| | External: | | 4.57 | |
| | Tangent Direction: | | N 24°06'46" W | |
| | Radial Direction: | | N 65°53'14" E | |
| | Chord Direction: | | N 30°13'31" W | |
| | Radial Direction: | | N 53°39'44" E | |
| | Tangent Direction: | | N 36°20'16" W | |
| | Element: Circular | | | |
| PCC | ( ) | 25+49.24 | 26825169.67 | 736807.55 |
| PI | ( ) | 26+89.98 | 26825283.04 | 736724.16 |
| CC | ( ) | | 26825051.16 | 736646.45 |
| PT | ( ) | 27+94.52 | 26825242.82 | 736589.29 |
| | Radius: | | 200.00 | |
| | Delta: | | 70°16'03" Left | |
| | Degree of Curvature(Arc): | | 28°38'52" | |
| | Length: | | 245.28 | |
| | Tangent: | | 140.74 | |
| | Chord: | | 230.20 | |
| | Middle Ordinate: | | 36.44 | |
| | External: | | 44.56 | |
| | Tangent Direction: | | N 36°20'16" W | |
| | Radial Direction: | | N 53°39'44" E | |
| | Chord Direction: | | N 71°28'17" W | |
| | Radial Direction: | | N 16°36'19" W | |
| | Tangent Direction: | | S 73°23'41" W | |
| | Element: Linear | | | |
| PT | ( ) | 27+94.52 | 26825242.82 | 736589.29 |
| POE | ( ) | 28+30.66 | 26825232.49 | 736554.65 |
| | Tangent Direction: | | S 73°23'41" W | |
| | Tangent Length: | | 36.15 | |

Project Name: 73627GCW_ALG
Description: ALG master file-120915
Horizontal Alignment Name: KR1A

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| | Element: Linear | | | |
| POB | ( ) | 1+00.00 | 26825078.53 | 736879.18 |
| PC | ( ) | 1+82.05 | 26825153.42 | 736845.66 |
| | Tangent Direction: | | N 24°06'46" W | |
| | Tangent Length: | | 82.05 | |
| | Element: Circular | | | |
| PC | ( ) | 1+82.05 | 26825153.42 | 736845.66 |
| PI | ( ) | 2+65.50 | 26825229.59 | 736811.57 |
| CC | ( ) | | 26825232.68 | 737022.73 |
| PT | ( ) | 3+39.66 | 26825306.72 | 736843.42 |
| | Radius: | | 194.00 | |
| | Delta: | | 46°32'59" Right | |
| | Degree of Curvature(Arc): | | 29°32'02" | |
| | Length: | | 157.61 | |
| | Tangent: | | 83.45 | |
| | Chord: | | 153.32 | |
| | Middle Ordinate: | | 15.79 | |
| | External: | | 17.19 | |
| | Tangent Direction: | | N 24°06'46" W | |
| | Radial Direction: | | N 65°53'14" E | |
| | Chord Direction: | | N 0°50'16" W | |
| | Radial Direction: | | S 67°33'47" E | |
| | Tangent Direction: | | N 22°26'13" E | |
| | Element: Linear | | | |
| PT | ( ) | 3+39.66 | 26825306.72 | 736843.42 |
| POE | ( ) | 3+67.78 | 26825332.70 | 736854.15 |
| | Tangent Direction: | | N 22°26'13" E | |
| | Tangent Length: | | 28.11 | |

PROFESSIONAL LAND SURVEYOR - STATE OF NEVADA
PAUL BURN
EXP. 12-31-18
No. 11174
6-28-17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# LOCATION CONTROL

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | LC102 |

Project Name: 73627GCW_ALG
Description: ALG master file-120915
Horizontal Alignment Name: KR2

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| **Element: Circular** | | | | |
| PC | ( ) | 20+00.00 | 26825288.05 | 736531.00 |
| PI | ( ) | 24+04.48 | 26825403.64 | 736918.61 |
| CC | ( ) | | 26825455.75 | 736480.99 |
| PT | ( ) | 24+06.86 | 26825607.02 | 736568.98 |
| Radius: | | 175.00 | | |
| Delta: | | 133°12'30" Left | | |
| Degree of Curvature(Arc): | | 32°44'26" | | |
| Length: | | 406.86 | | |
| Tangent: | | 404.48 | | |
| Chord: | | 321.22 | | |
| Middle Ordinate: | | 105.51 | | |
| External: | | 265.72 | | |
| Tangent Direction: | | N 73°23'40" E | | |
| Radial Direction: | | S 16°36'20" E | | |
| Chord Direction: | | N 6°47'25" E | | |
| Radial Direction: | | N 30°11'10" E | | |
| Tangent Direction: | | N 59°48'50" W | | |
| **Element: Linear** | | | | |
| PT | ( ) | 24+06.86 | 26825607.02 | 736568.98 |
| PC | ( ) | 25+36.28 | 26825672.09 | 736457.12 |
| Tangent Direction: | | N 59°48'50" W | | |
| Tangent Length: | | 129.41 | | |
| **Element: Circular** | | | | |
| PC | ( ) | 25+36.28 | 26825672.09 | 736457.12 |
| PI | ( ) | 29+10.36 | 26825860.18 | 736133.76 |
| CC | ( ) | | 26827660.20 | 737613.58 |
| PCC | ( ) | 32+77.94 | 26826141.05 | 735886.68 |
| Radius: | | 2300.00 | | |
| Delta: | | 18°28'33" Right | | |
| Degree of Curvature(Arc): | | 2°29'28" | | |
| Length: | | 741.67 | | |
| Tangent: | | 374.08 | | |
| Chord: | | 738.46 | | |
| Middle Ordinate: | | 29.83 | | |
| External: | | 30.22 | | |
| Tangent Direction: | | N 59°48'50" W | | |
| Radial Direction: | | N 30°11'10" E | | |
| Chord Direction: | | N 50°34'33" W | | |
| Radial Direction: | | N 48°39'43" E | | |
| Tangent Direction: | | N 41°20'17" W | | |
| **Element: Circular** | | | | |
| PCC | ( ) | 32+77.94 | 26826141.05 | 735886.68 |
| PI | ( ) | 36+12.67 | 26826392.37 | 735665.59 |
| CC | ( ) | | 26831491.10 | 741968.37 |
| PT | ( ) | 39+47.03 | 26826661.08 | 735465.99 |
| Radius: | | 8100.00 | | |
| Delta: | | 4°43'58" Right | | |
| Degree of Curvature(Arc): | | 0°42'26" | | |
| Length: | | 669.08 | | |
| Tangent: | | 334.73 | | |
| Chord: | | 668.89 | | |
| Middle Ordinate: | | 6.91 | | |
| External: | | 6.91 | | |
| Tangent Direction: | | N 41°20'17" W | | |
| Radial Direction: | | N 48°39'43" E | | |
| Chord Direction: | | N 38°58'18" W | | |
| Radial Direction: | | N 53°23'41" E | | |
| Tangent Direction: | | N 36°36'19" W | | |

Project Name: 73627GCW_ALG
Description: ALG master file-120915
Horizontal Alignment Name: KR2A

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| **Element: Linear** | | | | |
| POB | ( ) | 2+00.00 | 26825450.79 | 736962.88 |
| PC | ( ) | 2+50.00 | 26825435.02 | 736915.43 |
| Tangent Direction: | | S 71°36'43" W | | |
| Tangent Length: | | 50.00 | | |
| **Element: Circular** | | | | |
| PC | ( ) | 2+50.00 | 26825435.02 | 736915.43 |
| PI | ( ) | 3+03.89 | 26825418.02 | 736864.29 |
| CC | ( ) | | 26826004.39 | 736726.16 |
| PCC | ( ) | 3+57.49 | 26825410.41 | 736810.94 |
| Radius: | | 600.00 | | |
| Delta: | | 10°15'53" Right | | |
| Degree of Curvature(Arc): | | 9°32'57" | | |
| Length: | | 107.49 | | |
| Tangent: | | 53.89 | | |
| Chord: | | 107.35 | | |
| Middle Ordinate: | | 2.41 | | |
| External: | | 2.42 | | |
| Tangent Direction: | | S 71°36'43" W | | |
| Radial Direction: | | N 18°23'17" W | | |
| Chord Direction: | | S 76°44'39" W | | |
| Radial Direction: | | N 8°07'24" W | | |
| Tangent Direction: | | S 81°52'36" W | | |
| **Element: Circular** | | | | |
| PCC | ( ) | 3+57.49 | 26825410.41 | 736810.94 |
| PI | ( ) | 3+85.61 | 26825406.43 | 736783.10 |
| CC | ( ) | | 26825509.40 | 736796.81 |
| PT | ( ) | 4+12.32 | 26825417.55 | 736757.27 |
| Radius: | | 100.00 | | |
| Delta: | | 31°24'50" Right | | |
| Degree of Curvature(Arc): | | 57°17'45" | | |
| Length: | | 54.83 | | |
| Tangent: | | 28.12 | | |
| Chord: | | 54.14 | | |
| Middle Ordinate: | | 3.73 | | |
| External: | | 3.88 | | |
| Tangent Direction: | | S 81°52'36" W | | |
| Radial Direction: | | N 8°07'24" W | | |
| Chord Direction: | | N 82°24'59" W | | |
| Radial Direction: | | N 23°17'26" E | | |
| Tangent Direction: | | N 66°42'34" W | | |
| **Element: Linear** | | | | |
| PT | ( ) | 4+12.32 | 26825417.55 | 736757.27 |
| PC | ( ) | 5+08.56 | 26825455.61 | 736668.87 |
| Tangent Direction: | | N 66°42'34" W | | |
| Tangent Length: | | 96.24 | | |
| **Element: Circular** | | | | |
| PC | ( ) | 5+08.56 | 26825455.61 | 736668.87 |
| PI | ( ) | 5+16.29 | 26825458.66 | 736661.77 |
| CC | ( ) | | 26825505.20 | 736690.22 |
| PT | ( ) | 5+23.92 | 26825463.59 | 736655.81 |
| Radius: | | 54.00 | | |
| Delta: | | 16°17'40" Right | | |
| Degree of Curvature(Arc): | | 106°06'12" | | |
| Length: | | 15.36 | | |
| Tangent: | | 7.73 | | |
| Chord: | | 15.31 | | |
| Middle Ordinate: | | 0.55 | | |
| External: | | 0.55 | | |
| Tangent Direction: | | N 66°42'34" W | | |
| Radial Direction: | | N 23°17'26" E | | |
| Chord Direction: | | N 58°33'44" W | | |
| Radial Direction: | | N 39°35'06" E | | |
| Tangent Direction: | | N 50°24'54" W | | |

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US95/KYLE CANYON RD INTERCHANGE

# LOCATION CONTROL

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | LC103 |

Project Name: 73627GCW_ALG
Description: ALG master file-120915
Horizontal Alignment Name: KR3

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| **Element: Circular** | | | | |
| PC | ( ) | 30+00.00 | 26825205.55 | 736237.62 |
| PI | ( ) | 31+68.82 | 26825172.06 | 736072.15 |
| CC | ( ) | | 26825401.58 | 736197.94 |
| PT | ( ) | 32+80.43 | 26825329.56 | 736011.36 |
| Radius: | | 200.00 | | |
| Delta: | | 80°20'12" Right | | |
| Degree of Curvature(Arc): | | 28°38'52" | | |
| Length: | | 280.43 | | |
| Tangent: | | 168.82 | | |
| Chord: | | 258.01 | | |
| Middle Ordinate: | | 47.17 | | |
| External: | | 61.73 | | |
| Tangent Direction: | | S 78°33'22" W | | |
| Radial Direction: | | N 11°26'38" W | | |
| Chord Direction: | | N 61°16'32" W | | |
| Radial Direction: | | N 68°53'34" E | | |
| Tangent Direction: | | N 21°06'26" W | | |
| **Element: Linear** | | | | |
| PT | ( ) | 32+80.43 | 26825329.56 | 736011.36 |
| PC | ( ) | 35+10.29 | 26825543.99 | 735928.58 |
| Tangent Direction: | | N 21°06'26" W | | |
| Tangent Length: | | 229.86 | | |
| **Element: Circular** | | | | |
| PC | ( ) | 35+10.29 | 26825543.99 | 735928.58 |
| PI | ( ) | 38+27.80 | 26825840.21 | 735814.24 |
| CC | ( ) | | 26824319.61 | 732756.69 |
| PCC | ( ) | 41+43.48 | 26826110.13 | 735647.03 |
| Radius: | | 3400.00 | | |
| Delta: | | 10°40'13" Left | | |
| Degree of Curvature(Arc): | | 1°41'07" | | |
| Length: | | 633.19 | | |
| Tangent: | | 317.52 | | |
| Chord: | | 632.28 | | |
| Middle Ordinate: | | 14.73 | | |
| External: | | 14.79 | | |
| Tangent Direction: | | N 21°06'26" W | | |
| Radial Direction: | | N 68°53'34" E | | |
| Chord Direction: | | N 26°26'33" W | | |
| Radial Direction: | | N 58°13'21" E | | |
| Tangent Direction: | | N 31°46'39" W | | |
| **Element: Circular** | | | | |
| PCC | ( ) | 41+43.48 | 26826110.13 | 735647.03 |
| PI | ( ) | 42+90.23 | 26826234.88 | 735569.74 |
| CC | ( ) | | 26821265.19 | 727826.12 |
| PT | ( ) | 44+36.96 | 26826357.11 | 735488.52 |
| Radius: | | 9200.00 | | |
| Delta: | | 1°49'40" Left | | |
| Degree of Curvature(Arc): | | 0°37'22" | | |
| Length: | | 293.48 | | |
| Tangent: | | 146.75 | | |
| Chord: | | 293.47 | | |
| Middle Ordinate: | | 1.17 | | |
| External: | | 1.17 | | |
| Tangent Direction: | | N 31°46'39" W | | |
| Radial Direction: | | N 58°13'21" E | | |
| Chord Direction: | | N 32°41'29" W | | |
| Radial Direction: | | N 56°23'41" E | | |
| Tangent Direction: | | N 33°36'19" W | | |
| **Element: Linear** | | | | |
| PT | ( ) | 44+36.96 | 26826357.11 | 735488.52 |
| POE | ( ) | 48+03.35 | 26826662.26 | 735285.74 |
| Tangent Direction: | | N 33°36'19" W | | |
| Tangent Length: | | 366.39 | | |

Project Name: 73627GCW_ALG
Description: ALG master file-120915
Horizontal Alignment Name: KR3A

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| **Element: Circular** | | | | |
| PC | ( ) | 3+00.00 | 26825124.08 | 736011.78 |
| PI | ( ) | 4+03.87 | 26825218.95 | 736054.05 |
| CC | ( ) | | 26825225.83 | 735783.42 |
| PT | ( ) | 4+96.89 | 26825315.85 | 736016.64 |
| Radius: | | 250.00 | | |
| Delta: | | 45°07'23" Left | | |
| Degree of Curvature(Arc): | | 22°55'06" | | |
| Length: | | 196.89 | | |
| Tangent: | | 103.87 | | |
| Chord: | | 191.84 | | |
| Middle Ordinate: | | 19.13 | | |
| External: | | 20.72 | | |
| Tangent Direction: | | N 24°00'58" E | | |
| Radial Direction: | | S 65°59'02" E | | |
| Chord Direction: | | N 1°27'16" E | | |
| Radial Direction: | | N 68°53'34" E | | |
| Tangent Direction: | | N 21°06'26" W | | |
| **Element: Linear** | | | | |
| PT | ( ) | 4+96.89 | 26825315.85 | 736016.64 |
| POE | ( ) | 5+11.57 | 26825329.56 | 736011.36 |
| Tangent Direction: | | N 21°06'26" W | | |
| Tangent Length: | | 14.69 | | |

PROFESSIONAL LAND SURVEYOR - STATE OF NEVADA
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# LOCATION CONTROL

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | LC104 |

Project Name: 73627GCW_ALG
Description: ALG master file-120915
Horizontal Alignment Name: KR4

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| | Element: Circular | | | |
| PC | ( ) | 40+00.00 | 26823891.40 | 737329.01 |
| PI | ( ) | 44+15.71 | 26824225.12 | 737081.12 |
| CC | ( ) | | 26821863.98 | 734599.62 |
| PT | ( ) | 48+27.32 | 26824489.28 | 736760.13 |
| | Radius: | | 3400.00 | |
| | Delta: | | 13°56'30" Left | |
| | Degree of Curvature(Arc): | | 1°41'07" | |
| | Length: | | 827.32 | |
| | Tangent: | | 415.71 | |
| | Chord: | | 825.28 | |
| | Middle Ordinate: | | 25.13 | |
| | External: | | 25.32 | |
| | Tangent Direction: | | N 36°36'19" W | |
| | Radial Direction: | | N 53°23'41" E | |
| | Chord Direction: | | N 43°34'34" W | |
| | Radial Direction: | | N 39°27'11" E | |
| | Tangent Direction: | | N 50°32'49" W | |
| | Element: Linear | | | |
| PT | ( ) | 48+27.32 | 26824489.28 | 736760.13 |
| PC | ( ) | 54+13.41 | 26824861.71 | 736307.58 |
| | Tangent Direction: | | N 50°32'49" W | |
| | Tangent Length: | | 586.09 | |
| | Non-collinear | | | |
| | Element: Circular | | | |
| PC | ( ) | 54+13.41 | 26824861.71 | 736307.58 |
| PI | ( ) | 57+42.13 | 26825070.59 | 736053.76 |
| CC | ( ) | | 26824996.83 | 736418.78 |
| PT | ( ) | 57+91.97 | 26825164.53 | 736368.77 |
| | Radius: | | 175.00 | |
| | Delta: | | 123°56'31" Right | |
| | Degree of Curvature(Arc): | | 32°44'26" | |
| | Length: | | 378.56 | |
| | Tangent: | | 328.73 | |
| | Chord: | | 308.95 | |
| | Middle Ordinate: | | 92.76 | |
| | External: | | 197.41 | |
| | Tangent Direction: | | N 50°32'50" W | |
| | Radial Direction: | | N 39°27'10" E | |
| | Chord Direction: | | N 11°25'25" E | |
| | Radial Direction: | | S 16°36'19" E | |
| | Tangent Direction: | | N 73°23'41" E | |

Project Name: 73627GCW_ALG
Description: ALG master file-120915
Horizontal Alignment Name: KR4A

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| | Element: Linear | | | |
| POB | ( ) | 4+00.00 | 26824844.92 | 736303.01 |
| PC | ( ) | 6+54.70 | 26824999.31 | 736100.44 |
| | Tangent Direction: | | N 52°41'13" W | |
| | Tangent Length: | | 254.70 | |
| | Element: Circular | | | |
| PC | ( ) | 6+54.70 | 26824999.31 | 736100.44 |
| PI | ( ) | 6+93.32 | 26825022.72 | 736069.72 |
| CC | ( ) | | 26824919.78 | 736039.82 |
| PT | ( ) | 7+28.41 | 26825019.41 | 736031.24 |
| | Radius: | | 100.00 | |
| | Delta: | | 42°14'12" Left | |
| | Degree of Curvature(Arc): | | 57°17'45" | |
| | Length: | | 73.72 | |
| | Tangent: | | 38.62 | |
| | Chord: | | 72.06 | |
| | Middle Ordinate: | | 6.72 | |
| | External: | | 7.20 | |
| | Tangent Direction: | | N 52°41'13" W | |
| | Radial Direction: | | N 37°18'47" E | |
| | Chord Direction: | | N 73°48'19" W | |
| | Radial Direction: | | N 4°55'25" W | |
| | Tangent Direction: | | S 85°04'35" W | |
| | Element: Linear | | | |
| PT | ( ) | 7+28.41 | 26825019.41 | 736031.24 |
| POE | ( ) | 9+01.71 | 26825004.54 | 735858.58 |
| | Tangent Direction: | | S 85°04'35" W | |
| | Tangent Length: | | 173.30 | |

Project Name: 73627GCW_ALG
Description: ALG master file-120915
Horizontal Alignment Name: KCW

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| | Element: Linear | | | |
| POB | ( ) | 176+08.15 | 26825145.61 | 732626.69 |
| POE | ( ) | 200+00.00 | 26825298.69 | 735013.64 |
| | Tangent Direction: | | N 86°19'50" E | |
| | Tangent Length: | | 2391.85 | |

Project Name: 73627GCW-Sky Village 13x8 Drainage
Description: 13x8 RCBC Drainage
Horizontal Alignment Name: MOSM

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| | Element: Linear | | | |
| POB | ( ) | 63+16.93 | 26824474.77 | 736556.38 |
| POE | ( ) | 69+73.68 | 26824866.39 | 737083.59 |
| | Tangent Direction: | | N 53°23'41" E | |
| | Tangent Length: | | 656.75 | |

PROFESSIONAL LAND SURVEYOR - STATE OF NEVADA
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# LOCATION CONTROL

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | LC105 |

Project Name: 73627GCW_ALG
Description: ALG master file-120915
Horizontal Alignment Name: KCW1

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| **Element: Linear** | | | | |
| POB | ( ) | 10+00.00 | 26825324.74 | 735013.67 |
| PC | ( ) | 11+49.45 | 26825334.31 | 735162.81 |
| Tangent Direction: | | N 86°19'50" E | | |
| Tangent Length: | | 149.45 | | |
| **Element: Circular** | | | | |
| PC | ( ) | 11+49.45 | 26825334.31 | 735162.81 |
| PI | ( ) | 14+30.02 | 26825352.26 | 735442.80 |
| CC | ( ) | | 26824286.46 | 735230.01 |
| PT | ( ) | 16+97.77 | 26825228.17 | 735694.43 |
| Radius: | | 1050.00 | | |
| Delta: | | 29°55'14" Right | | |
| Degree of Curvature(Arc): | | 5°27'24" | | |
| Length: | | 548.32 | | |
| Tangent: | | 280.57 | | |
| Chord: | | 542.11 | | |
| Middle Ordinate: | | 35.59 | | |
| External: | | 36.84 | | |
| Tangent Direction: | | N 86°19'50" E | | |
| Radial Direction: | | S 3°40'10" E | | |
| Chord Direction: | | S 78°42'33" E | | |
| Radial Direction: | | S 26°15'04" W | | |
| Tangent Direction: | | S 63°44'56" E | | |
| **Element: Linear** | | | | |
| PT | ( ) | 16+97.77 | 26825228.17 | 735694.43 |
| PC | ( ) | 17+58.23 | 26825201.43 | 735748.65 |
| Tangent Direction: | | S 63°44'56" E | | |
| Tangent Length: | | 60.46 | | |
| **Element: Circular** | | | | |
| PC | ( ) | 17+58.23 | 26825201.43 | 735748.65 |
| PI | ( ) | 19+01.86 | 26825137.90 | 735877.47 |
| CC | ( ) | | 26825918.92 | 736102.50 |
| PT | ( ) | 20+42.46 | 26825123.15 | 736020.34 |
| Radius: | | 800.00 | | |
| Delta: | | 20°21'23" Left | | |
| Degree of Curvature(Arc): | | 7°09'43" | | |
| Length: | | 284.23 | | |
| Tangent: | | 143.63 | | |
| Chord: | | 282.74 | | |
| Middle Ordinate: | | 12.59 | | |
| External: | | 12.79 | | |
| Tangent Direction: | | S 63°44'56" E | | |
| Radial Direction: | | S 26°15'04" W | | |
| Chord Direction: | | S 73°55'37" E | | |
| Radial Direction: | | S 5°53'41" W | | |
| Tangent Direction: | | S 84°06'19" E | | |
| **Element: Linear** | | | | |
| PT | ( ) | 20+42.46 | 26825123.15 | 736020.34 |
| PC | ( ) | 21+14.27 | 26825115.77 | 736091.77 |
| Tangent Direction: | | S 84°06'19" E | | |
| Tangent Length: | | 71.81 | | |
| **Element: Circular** | | | | |
| PC | ( ) | 21+14.27 | 26825115.77 | 736091.77 |
| PI | ( ) | 22+00.43 | 26825106.92 | 736177.48 |
| CC | ( ) | | 26825463.92 | 736127.71 |
| PT | ( ) | 22+83.24 | 26825138.88 | 736257.50 |
| Radius: | | 350.00 | | |
| Delta: | | 27°39'41" Left | | |
| Degree of Curvature(Arc): | | 16°22'13" | | |
| Length: | | 168.97 | | |
| Tangent: | | 86.17 | | |
| Chord: | | 167.34 | | |
| Middle Ordinate: | | 10.15 | | |
| External: | | 10.45 | | |
| Tangent Direction: | | S 84°06'19" E | | |
| Radial Direction: | | S 5°53'41" W | | |
| Chord Direction: | | N 82°03'50" E | | |
| Radial Direction: | | S 21°46'00" E | | |
| Tangent Direction: | | N 68°14'00" E | | |
| **Element: Linear** | | | | |
| PT | ( ) | 22+83.24 | 26825138.88 | 736257.50 |
| PC | ( ) | 23+12.82 | 26825149.85 | 736284.98 |
| Tangent Direction: | | N 68°14'00" E | | |
| Tangent Length: | | 29.58 | | |
| **Element: Circular** | | | | |
| PC | ( ) | 23+12.82 | 26825149.85 | 736284.98 |
| PI | ( ) | 23+36.49 | 26825158.62 | 736306.95 |
| CC | ( ) | | 26824662.28 | 736479.66 |
| PT | ( ) | 23+60.12 | 26825165.38 | 736329.63 |
| Radius: | | 525.00 | | |
| Delta: | | 5°09'41" Right | | |
| Degree of Curvature(Arc): | | 10°54'49" | | |
| Length: | | 47.29 | | |
| Tangent: | | 23.66 | | |
| Chord: | | 47.28 | | |
| Middle Ordinate: | | 0.53 | | |
| External: | | 0.53 | | |
| Tangent Direction: | | N 68°14'00" E | | |
| Radial Direction: | | S 21°46'00" E | | |
| Chord Direction: | | N 70°48'50" E | | |
| Radial Direction: | | S 16°36'19" E | | |
| Tangent Direction: | | N 73°23'41" E | | |
| **Element: Linear** | | | | |
| PT | ( ) | 23+60.12 | 26825165.38 | 736329.63 |
| PC | ( ) | 25+94.93 | 26825232.49 | 736554.65 |
| Tangent Direction: | | N 73°23'41" E | | |
| Tangent Length: | | 234.82 | | |
| **Element: Circular** | | | | |
| PC | ( ) | 25+94.93 | 26825232.49 | 736554.65 |
| PI | ( ) | 26+18.60 | 26825239.25 | 736577.33 |
| CC | ( ) | | 26824729.38 | 736704.68 |
| PT | ( ) | 26+42.23 | 26825243.95 | 736600.52 |
| Radius: | | 525.00 | | |
| Delta: | | 5°09'41" Right | | |
| Degree of Curvature(Arc): | | 10°54'49" | | |
| Length: | | 47.29 | | |
| Tangent: | | 23.66 | | |
| Chord: | | 47.28 | | |
| Middle Ordinate: | | 0.53 | | |
| External: | | 0.53 | | |
| Tangent Direction: | | N 73°23'41" E | | |
| Radial Direction: | | S 16°36'19" E | | |
| Chord Direction: | | N 75°58'32" E | | |
| Radial Direction: | | S 11°26'38" E | | |
| Tangent Direction: | | N 78°33'22" E | | |
| **Element: Linear** | | | | |
| PT | ( ) | 26+42.23 | 26825243.95 | 736600.52 |
| PC | ( ) | 26+71.81 | 26825249.82 | 736629.52 |
| Tangent Direction: | | N 78°33'22" E | | |
| Tangent Length: | | 29.58 | | |
| **Element: Circular** | | | | |
| PC | ( ) | 26+71.81 | 26825249.82 | 736629.52 |
| PI | ( ) | 27+57.98 | 26825266.91 | 736713.97 |
| CC | ( ) | | 26825592.86 | 736560.07 |
| PT | ( ) | 28+40.79 | 26825321.26 | 736780.84 |
| Radius: | | 350.00 | | |
| Delta: | | 27°39'41" Left | | |
| Degree of Curvature(Arc): | | 16°22'13" | | |
| Length: | | 168.97 | | |
| Tangent: | | 86.17 | | |
| Chord: | | 167.34 | | |
| Middle Ordinate: | | 10.15 | | |
| External: | | 10.45 | | |
| Tangent Direction: | | N 78°33'22" E | | |
| Radial Direction: | | S 11°26'38" E | | |
| Chord Direction: | | N 64°43'32" E | | |
| Radial Direction: | | S 39°06'19" E | | |
| Tangent Direction: | | N 50°53'41" E | | |
| **Element: Linear** | | | | |
| PT | ( ) | 28+40.79 | 26825321.26 | 736780.84 |
| PC | ( ) | 28+70.60 | 26825340.07 | 736803.97 |
| Tangent Direction: | | N 50°53'41" E | | |
| Tangent Length: | | 29.81 | | |
| **Element: Circular** | | | | |
| PC | ( ) | 28+70.60 | 26825340.07 | 736803.97 |
| PI | ( ) | 30+38.20 | 26825445.78 | 736934.02 |
| CC | ( ) | | 26824932.67 | 737135.11 |
| PT | ( ) | 31+95.06 | 26825456.58 | 737101.27 |
| Radius: | | 525.00 | | |
| Delta: | | 35°24'35" Right | | |
| Degree of Curvature(Arc): | | 10°54'49" | | |
| Length: | | 324.46 | | |
| Tangent: | | 167.60 | | |
| Chord: | | 319.32 | | |
| Middle Ordinate: | | 24.87 | | |
| External: | | 26.10 | | |
| Tangent Direction: | | N 50°53'41" E | | |
| Radial Direction: | | S 39°06'19" E | | |
| Chord Direction: | | N 68°35'59" E | | |
| Radial Direction: | | S 3°41'44" E | | |
| Tangent Direction: | | N 86°18'16" E | | |
| **Element: Linear** | | | | |
| PT | ( ) | 31+95.06 | 26825456.58 | 737101.27 |
| POE | ( ) | 34+98.13 | 26825476.12 | 737403.72 |
| Tangent Direction: | | N 86°18'16" E | | |
| Tangent Length: | | 303.07 | | |

PROFESSIONAL LAND SURVEYOR · STATE OF NEVADA
PAUL BURN
EXP. 12-31-18
No. 11174
6-28-17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# LOCATION CONTROL

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | LC106 |

Project Name: 73627GCW_ALG
Description: ALG master file-120915
Horizontal Alignment Name: KCE1

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| **Element: Linear** | | | | |
| POB | ( ) | 5+05.55 | 26825272.63 | 735013.60 |
| PC | ( ) | 6+43.31 | 26825281.45 | 735151.08 |
| Tangent Direction: | | N 86°19'50" E | | |
| Tangent Length: | | 137.76 | | |
| **Element: Circular** | | | | |
| PC | ( ) | 6+43.31 | 26825281.45 | 735151.08 |
| PI | ( ) | 7+65.84 | 26825289.29 | 735273.36 |
| CC | ( ) | | 26824657.73 | 735191.08 |
| PCC | ( ) | 8+85.29 | 26825250.38 | 735389.54 |
| Radius: | | 625.00 | | |
| Delta: | | 22°11'01" Right | | |
| Degree of Curvature(Arc): | | 9°10'02" | | |
| Length: | | 241.98 | | |
| Tangent: | | 122.53 | | |
| Chord: | | 240.48 | | |
| Middle Ordinate: | | 11.67 | | |
| External: | | 11.90 | | |
| Tangent Direction: | | N 86°19'50" E | | |
| Radial Direction: | | S 3°40'10" E | | |
| Chord Direction: | | S 82°34'39" E | | |
| Radial Direction: | | S 18°30'51" W | | |
| Tangent Direction: | | S 71°29'09" E | | |
| **Element: Circular** | | | | |
| PCC | ( ) | 8+85.29 | 26825250.38 | 735389.54 |
| PI | ( ) | 9+81.57 | 26825219.81 | 735480.83 |
| CC | ( ) | | 26824837.90 | 735251.42 |
| PT | ( ) | 10+74.78 | 26825153.58 | 735550.70 |
| Radius: | | 435.00 | | |
| Delta: | | 24°57'31" Right | | |
| Degree of Curvature(Arc): | | 13°10'17" | | |
| Length: | | 189.49 | | |
| Tangent: | | 96.27 | | |
| Chord: | | 188.00 | | |
| Middle Ordinate: | | 10.28 | | |
| External: | | 10.53 | | |
| Tangent Direction: | | S 71°29'09" E | | |
| Radial Direction: | | S 18°30'51" W | | |
| Chord Direction: | | S 59°00'23" E | | |
| Radial Direction: | | S 43°28'22" W | | |
| Tangent Direction: | | S 46°31'38" E | | |
| **Element: Linear** | | | | |
| PT | ( ) | 10+74.78 | 26825153.58 | 735550.70 |
| PC | ( ) | 11+23.34 | 26825120.17 | 735585.93 |
| Tangent Direction: | | S 46°31'38" E | | |
| Tangent Length: | | 48.55 | | |
| **Element: Circular** | | | | |
| PC | ( ) | 11+23.34 | 26825120.17 | 735585.93 |
| PI | ( ) | 14+30.70 | 26824908.70 | 735808.99 |
| CC | ( ) | | 26825374.17 | 735826.74 |
| PT | ( ) | 16+27.78 | 26825102.57 | 736047.50 |
| Radius: | | 350.00 | | |
| Delta: | | 82°34'41" Left | | |
| Degree of Curvature(Arc): | | 16°22'13" | | |
| Length: | | 504.44 | | |
| Tangent: | | 307.36 | | |
| Chord: | | 461.90 | | |
| Middle Ordinate: | | 87.01 | | |
| External: | | 115.80 | | |
| Tangent Direction: | | S 46°31'38" E | | |
| Radial Direction: | | S 43°28'22" W | | |
| Chord Direction: | | S 87°48'58" E | | |
| Radial Direction: | | S 39°06'19" E | | |
| Tangent Direction: | | N 50°53'41" E | | |
| **Element: Linear** | | | | |
| PT | ( ) | 16+27.78 | 26825102.57 | 736047.50 |
| PC | ( ) | 16+77.78 | 26825134.11 | 736086.30 |
| Tangent Direction: | | N 50°53'41" E | | |
| Tangent Length: | | 50.00 | | |

| | | | | |
|---|---|---|---|---|
| **Element: Circular** | | | | |
| PC | ( ) | 16+77.78 | 26825134.11 | 736086.30 |
| PI | ( ) | 17+63.95 | 26825188.46 | 736153.16 |
| CC | ( ) | | 26824862.51 | 736307.06 |
| PT | ( ) | 18+46.75 | 26825205.55 | 736237.62 |
| Radius: | | 350.00 | | |
| Delta: | | 27°39'41" Right | | |
| Degree of Curvature(Arc): | | 16°22'13" | | |
| Length: | | 168.97 | | |
| Tangent: | | 86.17 | | |
| Chord: | | 167.34 | | |
| Middle Ordinate: | | 10.15 | | |
| External: | | 10.45 | | |
| Tangent Direction: | | N 50°53'41" E | | |
| Radial Direction: | | S 39°06'19" E | | |
| Chord Direction: | | N 64°43'32" E | | |
| Radial Direction: | | S 11°26'38" E | | |
| Tangent Direction: | | N 78°33'22" E | | |
| **Element: Linear** | | | | |
| PT | ( ) | 18+46.75 | 26825205.55 | 736237.62 |
| PC | ( ) | 18+76.34 | 26825211.42 | 736266.61 |
| Tangent Direction: | | N 78°33'22" E | | |
| Tangent Length: | | 29.58 | | |
| **Element: Circular** | | | | |
| PC | ( ) | 18+76.34 | 26825211.42 | 736266.61 |
| PI | ( ) | 19+00.00 | 26825216.12 | 736289.81 |
| CC | ( ) | | 26825725.99 | 736162.45 |
| PT | ( ) | 19+23.63 | 26825222.88 | 736312.48 |
| Radius: | | 525.00 | | |
| Delta: | | 5°09'41" Left | | |
| Degree of Curvature(Arc): | | 10°54'49" | | |
| Length: | | 47.29 | | |
| Tangent: | | 23.66 | | |
| Chord: | | 47.28 | | |
| Middle Ordinate: | | 0.53 | | |
| External: | | 0.53 | | |
| Tangent Direction: | | N 78°33'22" E | | |
| Radial Direction: | | S 11°26'38" E | | |
| Chord Direction: | | N 75°58'32" E | | |
| Radial Direction: | | S 16°36'19" E | | |
| Tangent Direction: | | N 73°23'41" E | | |
| **Element: Linear** | | | | |
| PT | ( ) | 19+23.63 | 26825222.88 | 736312.48 |
| PC | ( ) | 21+58.45 | 26825289.99 | 736537.51 |
| Tangent Direction: | | N 73°23'41" E | | |
| Tangent Length: | | 234.82 | | |
| **Element: Circular** | | | | |
| PC | ( ) | 21+58.45 | 26825289.99 | 736537.51 |
| PI | ( ) | 21+82.11 | 26825296.75 | 736560.18 |
| CC | ( ) | | 26825793.09 | 736387.47 |
| PT | ( ) | 22+05.74 | 26825305.52 | 736582.16 |
| Radius: | | 525.00 | | |
| Delta: | | 5°09'41" Left | | |
| Degree of Curvature(Arc): | | 10°54'49" | | |
| Length: | | 47.29 | | |
| Tangent: | | 23.66 | | |
| Chord: | | 47.28 | | |
| Middle Ordinate: | | 0.53 | | |
| External: | | 0.53 | | |
| Tangent Direction: | | N 73°23'41" E | | |
| Radial Direction: | | S 16°36'19" E | | |
| Chord Direction: | | N 70°48'50" E | | |
| Radial Direction: | | S 21°46'00" E | | |
| Tangent Direction: | | N 68°14'00" E | | |
| **Element: Linear** | | | | |
| PT | ( ) | 22+05.74 | 26825305.52 | 736582.16 |
| PC | ( ) | 22+35.32 | 26825316.49 | 736609.63 |
| Tangent Direction: | | N 68°14'00" E | | |
| Tangent Length: | | 29.58 | | |

| | | | | |
|---|---|---|---|---|
| **Element: Circular** | | | | |
| PC | ( ) | 22+35.32 | 26825316.49 | 736609.63 |
| PI | ( ) | 23+21.49 | 26825348.45 | 736689.66 |
| CC | ( ) | | 26824991.45 | 736739.42 |
| PT | ( ) | 24+04.30 | 26825339.60 | 736775.37 |
| Radius: | | 350.00 | | |
| Delta: | | 27°39'41" Right | | |
| Degree of Curvature(Arc): | | 16°22'13" | | |
| Length: | | 168.97 | | |
| Tangent: | | 86.17 | | |
| Chord: | | 167.34 | | |
| Middle Ordinate: | | 10.15 | | |
| External: | | 10.45 | | |
| Tangent Direction: | | N 68°14'00" E | | |
| Radial Direction: | | S 21°46'00" E | | |
| Chord Direction: | | N 82°03'50" E | | |
| Radial Direction: | | S 5°53'41" W | | |
| Tangent Direction: | | S 84°06'19" E | | |
| **Element: Linear** | | | | |
| PT | ( ) | 24+04.30 | 26825339.60 | 736775.37 |
| PC | ( ) | 24+54.01 | 26825334.49 | 736824.81 |
| Tangent Direction: | | S 84°06'19" E | | |
| Tangent Length: | | 49.71 | | |
| **Element: Circular** | | | | |
| PC | ( ) | 24+54.01 | 26825334.49 | 736824.81 |
| PI | ( ) | 25+49.62 | 26825324.67 | 736919.92 |
| CC | ( ) | | 26825682.64 | 736860.76 |
| PRC | ( ) | 26+40.68 | 26825364.57 | 737006.81 |
| Radius: | | 350.00 | | |
| Delta: | | 30°33'29" Left | | |
| Degree of Curvature(Arc): | | 16°22'13" | | |
| Length: | | 186.67 | | |
| Tangent: | | 95.61 | | |
| Chord: | | 184.46 | | |
| Middle Ordinate: | | 12.37 | | |
| External: | | 12.82 | | |
| Tangent Direction: | | S 84°06'19" E | | |
| Radial Direction: | | S 5°53'41" W | | |
| Chord Direction: | | N 80°36'57" E | | |
| Radial Direction: | | S 24°39'48" E | | |
| Tangent Direction: | | N 65°20'12" E | | |
| **Element: Circular** | | | | |
| PRC | ( ) | 26+40.68 | 26825364.57 | 737006.81 |
| PI | ( ) | 27+51.70 | 26825410.90 | 737107.71 |
| CC | ( ) | | 26824819.30 | 737257.18 |
| PT | ( ) | 28+60.25 | 26825418.06 | 737218.51 |
| Radius: | | 600.00 | | |
| Delta: | | 20°58'04" Right | | |
| Degree of Curvature(Arc): | | 9°32'57" | | |
| Length: | | 219.57 | | |
| Tangent: | | 111.03 | | |
| Chord: | | 218.35 | | |
| Middle Ordinate: | | 10.02 | | |
| External: | | 10.19 | | |
| Tangent Direction: | | N 65°20'12" E | | |
| Radial Direction: | | S 24°39'48" E | | |
| Chord Direction: | | N 75°49'14" E | | |
| Radial Direction: | | S 3°41'44" E | | |
| Tangent Direction: | | N 86°18'16" E | | |
| **Element: Linear** | | | | |
| PT | ( ) | 28+60.25 | 26825418.06 | 737218.51 |
| POE | ( ) | 30+48.81 | 26825430.21 | 737406.68 |
| Tangent Direction: | | N 86°18'16" E | | |
| Tangent Length: | | 188.57 | | |

PROFESSIONAL LAND SURVEYOR - STATE OF NEVADA
PAUL BURN
EXP. 12-31-18
No. 11174
6-28-17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# LOCATION CONTROL

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | LC107 |

Project Name: 73627GCW_ALG
Description:
Horizontal Alignment Name: berm1

Style: NWALG:Alignment01

| | STATION | NORTHING | EASTING |
|---|---|---|---|
| **Element: Circular** | | | |
| PC ( ) | 0+00.00 | 26825176.81 | 735136.90 |
| PI ( ) | 0+27.91 | 26825203.14 | 735146.17 |
| CC ( ) | | 26825161.21 | 735181.23 |
| PCC ( ) | 0+50.37 | 26825207.60 | 735173.72 |
| Radius: | | 47.00 | |
| Delta: | | 61°24'31" Right | |
| Degree of Curvature(Arc): | | 121°54'58" | |
| Length: | | 50.37 | |
| Tangent: | | 27.91 | |
| Chord: | | 47.99 | |
| Middle Ordinate: | | 6.59 | |
| External: | | 7.66 | |
| Tangent Direction: | | N 19°23'48" E | |
| Radial Direction: | | S 70°36'12" E | |
| Chord Direction: | | N 50°06'03" E | |
| Radial Direction: | | S 9°11'41" E | |
| Tangent Direction: | | N 80°48'19" E | |
| **Non-collinear** | | | |
| **Element: Circular** | | | |
| PCC ( ) | 0+50.37 | 26825207.60 | 735173.72 |
| PI ( ) | 0+62.63 | 26825209.56 | 735185.82 |
| CC ( ) | | 26825097.04 | 735191.62 |
| PCC ( ) | 0+74.79 | 26825208.85 | 735198.05 |
| Radius: | | 112.00 | |
| Delta: | | 12°29'26" Right | |
| Degree of Curvature(Arc): | | 51°09'25" | |
| Length: | | 24.42 | |
| Tangent: | | 12.26 | |
| Chord: | | 24.37 | |
| Middle Ordinate: | | 0.66 | |
| External: | | 0.67 | |
| Tangent Direction: | | N 80°48'14" E | |
| Radial Direction: | | S 9°11'46" E | |
| Chord Direction: | | N 87°02'57" E | |
| Radial Direction: | | S 3°17'40" W | |
| Tangent Direction: | | S 86°42'20" E | |
| **Element: Circular** | | | |
| PCC ( ) | 0+74.79 | 26825208.85 | 735198.05 |
| PI ( ) | 1+23.05 | 26825206.08 | 735246.24 |
| CC ( ) | | 26824471.07 | 735155.58 |
| PCC ( ) | 1+71.18 | 26825197.06 | 735293.65 |
| Radius: | | 739.00 | |
| Delta: | | 7°28'25" Right | |
| Degree of Curvature(Arc): | | 7°45'11" | |
| Length: | | 96.39 | |
| Tangent: | | 48.26 | |
| Chord: | | 96.32 | |
| Middle Ordinate: | | 1.57 | |
| External: | | 1.57 | |
| Tangent Direction: | | S 86°42'20" E | |
| Radial Direction: | | S 3°17'40" W | |
| Chord Direction: | | S 82°58'08" E | |
| Radial Direction: | | S 10°46'05" W | |
| Tangent Direction: | | S 79°13'55" E | |
| **Element: Circular** | | | |
| PCC ( ) | 1+71.18 | 26825197.06 | 735293.65 |
| PI ( ) | 2+08.35 | 26825190.12 | 735330.17 |
| CC ( ) | | 26824657.73 | 735191.08 |
| PCC ( ) | 2+45.40 | 26825178.32 | 735365.41 |
| Radius: | | 549.00 | |
| Delta: | | 7°44'46" Right | |
| Degree of Curvature(Arc): | | 10°26'11" | |
| Length: | | 74.22 | |
| Tangent: | | 37.17 | |
| Chord: | | 74.17 | |
| Middle Ordinate: | | 1.25 | |
| External: | | 1.26 | |
| Tangent Direction: | | S 79°13'55" E | |
| Radial Direction: | | S 10°46'05" W | |
| Chord Direction: | | S 75°21'32" E | |
| Radial Direction: | | S 18°30'51" W | |
| Tangent Direction: | | S 71°29'09" E | |
| **Element: Circular** | | | |
| PCC ( ) | 2+45.40 | 26825178.32 | 735365.41 |
| PI ( ) | 2+96.62 | 26825162.05 | 735413.98 |
| CC ( ) | | 26824837.90 | 735251.42 |
| PCC ( ) | 3+47.16 | 26825132.85 | 735456.07 |
| Radius: | | 359.00 | |
| Delta: | | 16°14'27" Right | |
| Degree of Curvature(Arc): | | 15°57'35" | |
| Length: | | 101.76 | |
| Tangent: | | 51.22 | |
| Chord: | | 101.42 | |
| Middle Ordinate: | | 3.60 | |
| External: | | 3.64 | |
| Tangent Direction: | | S 71°29'09" E | |
| Radial Direction: | | S 18°30'51" W | |
| Chord Direction: | | S 63°21'56" E | |
| Radial Direction: | | S 34°45'18" W | |
| Tangent Direction: | | S 55°14'42" E | |
| **Element: Circular** | | | |
| PCC ( ) | 3+47.16 | 26825132.85 | 735456.07 |
| PI ( ) | 3+63.17 | 26825123.72 | 735469.22 |
| CC ( ) | | 26825055.62 | 735402.48 |
| PT ( ) | 3+78.88 | 26825110.76 | 735478.61 |
| Radius: | | 94.00 | |
| Delta: | | 19°19'54" Right | |
| Degree of Curvature(Arc): | | 60°57'11" | |
| Length: | | 31.72 | |
| Tangent: | | 16.01 | |
| Chord: | | 31.57 | |
| Middle Ordinate: | | 1.33 | |
| External: | | 1.35 | |
| Tangent Direction: | | S 55°14'42" E | |
| Radial Direction: | | S 34°45'18" W | |
| Chord Direction: | | S 45°34'46" E | |
| Radial Direction: | | S 54°05'11" W | |
| Tangent Direction: | | S 35°54'49" E | |
| **Element: Linear** | | | |
| PT ( ) | 3+78.88 | 26825110.76 | 735478.61 |
| POE ( ) | 4+37.13 | 26825063.58 | 735512.78 |
| Tangent Direction: | | S 35°54'49" E | |
| Tangent Length: | | 58.25 | |

Project Name: 73627GCW_ALG
Description:
Horizontal Alignment Name: berm2

| | STATION | NORTHING | EASTING |
|---|---|---|---|
| **Element: Circular** | | | |
| PC ( ) | 0+00.00 | 26824927.12 | 735767.15 |
| PI ( ) | 0+49.46 | 26824920.59 | 735816.17 |
| CC ( ) | | 26825374.17 | 735826.74 |
| PT ( ) | 0+98.52 | 26824924.83 | 735865.45 |
| Radius: | | 451.00 | |
| Delta: | | 12°30'57" Left | |
| Degree of Curvature(Arc): | | 12°42'15" | |
| Length: | | 98.52 | |
| Tangent: | | 49.46 | |
| Chord: | | 98.32 | |
| Middle Ordinate: | | 2.69 | |
| External: | | 2.70 | |
| Tangent Direction: | | S 82°24'29" E | |
| Radial Direction: | | S 7°35'31" W | |
| Chord Direction: | | S 88°39'57" E | |
| Radial Direction: | | S 4°55'26" E | |
| Tangent Direction: | | N 85°04'34" E | |
| **Non-collinear** | | | |
| **Element: Linear** | | | |
| PT ( ) | 0+98.52 | 26824924.83 | 735865.45 |
| PC ( ) | 1+53.41 | 26824929.54 | 735920.14 |
| Tangent Direction: | | N 85°04'35" E | |
| Tangent Length: | | 54.89 | |
| **Element: Circular** | | | |
| PC ( ) | 1+53.41 | 26824929.54 | 735920.14 |
| PI ( ) | 2+34.91 | 26824936.54 | 736001.33 |
| CC ( ) | | 26824719.32 | 735938.25 |
| PT ( ) | 3+08.95 | 26824887.14 | 736066.15 |
| Radius: | | 211.00 | |
| Delta: | | 42°14'12" Right | |
| Degree of Curvature(Arc): | | 27°09'16" | |
| Length: | | 155.54 | |
| Tangent: | | 81.50 | |
| Chord: | | 152.04 | |
| Middle Ordinate: | | 14.17 | |
| External: | | 15.19 | |
| Tangent Direction: | | N 85°04'35" E | |
| Radial Direction: | | S 4°55'25" E | |
| Chord Direction: | | S 73°48'19" E | |
| Radial Direction: | | S 37°18'47" W | |
| Tangent Direction: | | S 52°41'13" E | |
| **Element: Linear** | | | |
| PT ( ) | 3+08.95 | 26824887.14 | 736066.15 |
| PC ( ) | 4+18.78 | 26824820.57 | 736153.50 |
| Tangent Direction: | | S 52°41'13" E | |
| Tangent Length: | | 109.82 | |
| **Element: Circular** | | | |
| PC ( ) | 4+18.78 | 26824820.57 | 736153.50 |
| PI ( ) | 4+37.98 | 26824808.92 | 736168.77 |
| CC ( ) | | 26824772.05 | 736116.52 |
| PT ( ) | 4+55.99 | 26824790.63 | 736174.62 |
| Radius: | | 61.00 | |
| Delta: | | 34°57'26" Right | |
| Degree of Curvature(Arc): | | 93°55'39" | |
| Length: | | 37.22 | |
| Tangent: | | 19.21 | |
| Chord: | | 36.64 | |
| Middle Ordinate: | | 2.82 | |
| External: | | 2.95 | |
| Tangent Direction: | | S 52°41'13" E | |
| Radial Direction: | | S 37°18'47" W | |
| Chord Direction: | | S 35°12'30" E | |
| Radial Direction: | | S 72°16'13" W | |
| Tangent Direction: | | S 17°43'47" E | |
| **Element: Linear** | | | |
| PT ( ) | 4+55.99 | 26824790.63 | 736174.62 |
| POE ( ) | 4+86.27 | 26824761.78 | 736183.84 |
| Tangent Direction: | | S 17°43'47" E | |
| Tangent Length: | | 30.28 | |

PROFESSIONAL LAND SURVEYOR - STATE OF NEVADA
PAUL BURN
EXP. 12-31-18
No. 11174
6-28-17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# LOCATION CONTROL

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | LC108 |

Project Name: 73627GCW_ALG
Description:
Horizontal Alignment Name: berm3

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| | Element: Linear | | | |
| POB | ( ) | 0+00.00 | 26824774.76 | 736214.64 |
| PC | ( ) | 4+08.66 | 26824547.63 | 736554.36 |
| | Tangent Direction: | S 56°14'00" E | | |
| | Tangent Length: | 408.66 | | |
| | Element: Circular | | | |
| PC | ( ) | 4+08.66 | 26824547.63 | 736554.36 |
| PI | ( ) | 4+33.97 | 26824533.56 | 736575.40 |
| CC | ( ) | | 26824121.58 | 736269.50 |
| PT | ( ) | 4+59.25 | 26824517.48 | 736594.96 |
| | Radius: | 512.50 | | |
| | Delta: | 5°39'20" Right | | |
| | Degree of Curvature(Arc): | 11°10'47" | | |
| | Length: | 50.59 | | |
| | Tangent: | 25.31 | | |
| | Chord: | 50.57 | | |
| | Middle Ordinate: | 0.62 | | |
| | External: | 0.62 | | |
| | Tangent Direction: | S 56°14'00" E | | |
| | Radial Direction: | S 33°46'00" W | | |
| | Chord Direction: | S 53°24'20" E | | |
| | Radial Direction: | S 39°25'20" W | | |
| | Tangent Direction: | S 50°34'40" E | | |
| | Element: Linear | | | |
| PT | ( ) | 4+59.25 | 26824517.48 | 736594.96 |
| PC | ( ) | 8+29.38 | 26824282.44 | 736880.88 |
| | Tangent Direction: | S 50°34'40" E | | |
| | Tangent Length: | 370.13 | | |
| | Element: Circular | | | |
| PC | ( ) | 8+29.38 | 26824282.44 | 736880.88 |
| PI | ( ) | 8+42.08 | 26824274.37 | 736890.69 |
| CC | ( ) | | 26824257.33 | 736860.24 |
| PT | ( ) | 8+53.60 | 26824261.78 | 736892.43 |
| | Radius: | 32.50 | | |
| | Delta: | 42°42'07" Right | | |
| | Degree of Curvature(Arc): | 176°17'41" | | |
| | Length: | 24.22 | | |
| | Tangent: | 12.70 | | |
| | Chord: | 23.67 | | |
| | Middle Ordinate: | 2.23 | | |
| | External: | 2.39 | | |
| | Tangent Direction: | S 50°34'40" E | | |
| | Radial Direction: | S 39°25'20" W | | |
| | Chord Direction: | S 29°13'37" E | | |
| | Radial Direction: | S 82°07'27" W | | |
| | Tangent Direction: | S 7°52'33" E | | |

Project Name: 73627GCW_ALG
Description:
Horizontal Alignment Name: berm4

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| | Element: Linear | | | |
| POB | ( ) | 0+00.00 | 26825306.18 | 735672.23 |
| PC | ( ) | 2+08.82 | 26825236.59 | 735869.11 |
| | Tangent Direction: | S 70°31'56" E | | |
| | Tangent Length: | 208.82 | | |
| | Element: Circular | | | |
| PC | ( ) | 2+08.82 | 26825236.59 | 735869.11 |
| PI | ( ) | 2+79.44 | 26825213.05 | 735935.70 |
| CC | ( ) | | 26825270.53 | 735881.11 |
| PT | ( ) | 2+87.97 | 26825280.76 | 735915.62 |
| | Radius: | 36.00 | | |
| | Delta: | 125°58'46" Left | | |
| | Degree of Curvature(Arc): | 159°09'18" | | |
| | Length: | 79.16 | | |
| | Tangent: | 70.62 | | |
| | Chord: | 64.15 | | |
| | Middle Ordinate: | 19.65 | | |
| | External: | 43.27 | | |
| | Tangent Direction: | S 70°31'56" E | | |
| | Radial Direction: | S 19°28'04" W | | |
| | Chord Direction: | N 46°28'41" E | | |
| | Radial Direction: | N 73°29'18" E | | |
| | Tangent Direction: | N 16°30'42" W | | |
| | Element: Linear | | | |
| PT | ( ) | 2+87.97 | 26825280.76 | 735915.62 |
| PC | ( ) | 5+94.34 | 26825574.50 | 735828.55 |
| | Tangent Direction: | N 16°30'42" W | | |
| | Tangent Length: | 306.37 | | |
| | Element: Circular | | | |
| PC | ( ) | 5+94.34 | 26825574.50 | 735828.55 |
| PI | ( ) | 6+24.03 | 26825602.96 | 735820.11 |
| CC | ( ) | | 26825544.37 | 735726.92 |
| PT | ( ) | 6+52.24 | 26825622.91 | 735798.11 |
| | Radius: | 106.00 | | |
| | Delta: | 31°17'41" Left | | |
| | Degree of Curvature(Arc): | 54°03'09" | | |
| | Length: | 57.90 | | |
| | Tangent: | 29.69 | | |
| | Chord: | 57.18 | | |
| | Middle Ordinate: | 3.93 | | |
| | External: | 4.08 | | |
| | Tangent Direction: | N 16°30'42" W | | |
| | Radial Direction: | N 73°29'18" E | | |
| | Chord Direction: | N 32°09'33" W | | |
| | Radial Direction: | N 42°11'36" E | | |
| | Tangent Direction: | N 47°48'24" W | | |
| | Element: Linear | | | |
| PT | ( ) | 6+52.24 | 26825622.91 | 735798.11 |
| PC | ( ) | 6+76.32 | 26825639.08 | 735780.27 |
| | Tangent Direction: | N 47°48'24" W | | |
| | Tangent Length: | 24.08 | | |
| | Element: Circular | | | |
| PC | ( ) | 6+76.32 | 26825639.08 | 735780.27 |
| PI | ( ) | 6+98.23 | 26825653.79 | 735764.04 |
| CC | ( ) | | 26825661.31 | 735800.42 |
| PRC | ( ) | 7+14.17 | 26825673.73 | 735773.12 |
| | Radius: | 30.00 | | |
| | Delta: | 72°16'41" Right | | |
| | Degree of Curvature(Arc): | 190°59'09" | | |
| | Length: | 37.84 | | |
| | Tangent: | 21.91 | | |
| | Chord: | 35.38 | | |
| | Middle Ordinate: | 5.77 | | |
| | External: | 7.15 | | |
| | Tangent Direction: | N 47°48'24" W | | |
| | Radial Direction: | N 42°11'36" E | | |
| | Chord Direction: | N 11°40'03" W | | |
| | Radial Direction: | S 65°31'42" E | | |
| | Tangent Direction: | N 24°28'18" E | | |

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| | Element: Circular | | | |
| PRC | ( ) | 7+14.17 | 26825673.73 | 735773.12 |
| PI | ( ) | 7+25.22 | 26825683.80 | 735777.70 |
| CC | ( ) | | 26825717.64 | 735676.64 |
| PT | ( ) | 7+36.20 | 26825694.59 | 735780.10 |
| | Radius: | 106.00 | | |
| | Delta: | 11°54'33" Left | | |
| | Degree of Curvature(Arc): | 54°03'09" | | |
| | Length: | 22.03 | | |
| | Tangent: | 11.06 | | |
| | Chord: | 21.99 | | |
| | Middle Ordinate: | 0.57 | | |
| | External: | 0.58 | | |
| | Tangent Direction: | N 24°28'18" E | | |
| | Radial Direction: | S 65°31'42" E | | |
| | Chord Direction: | N 18°31'01" E | | |
| | Radial Direction: | S 77°26'15" E | | |
| | Tangent Direction: | N 12°33'45" E | | |

PROFESSIONAL LAND SURVEYOR · STATE OF NEVADA
PAUL BURN
EXP. 12-31-18
No. 11174
6-28-17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# LOCATION CONTROL

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | LC109 |

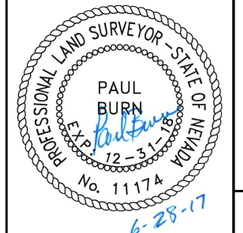
Project Name: 73627GCW_ALG
Description:
Horizontal Alignment Name: berm5

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| | Element: Circular | | | |
| PC | ( ) | 0+00.00 | 26825341.44 | 736483.97 |
| PI | ( ) | 0+43.22 | 26825355.00 | 736525.01 |
| CC | ( ) | | 26825430.69 | 736454.48 |
| PT | ( ) | 0+81.03 | 26825394.98 | 736541.43 |
| | Radius: | | 94.00 | |
| | Delta: | | 49°23'15" Left | |
| | Degree of Curvature(Arc): | | 60°57'11" | |
| | Length: | | 81.03 | |
| | Tangent: | | 43.22 | |
| | Chord: | | 78.54 | |
| | Middle Ordinate: | | 8.60 | |
| | External: | | 9.46 | |
| | Tangent Direction: | | N 71°43'05" E | |
| | Radial Direction: | | S 18°16'55" E | |
| | Chord Direction: | | N 47°01'28" E | |
| | Radial Direction: | | S 67°40'10" E | |
| | Tangent Direction: | | N 22°19'50" E | |
| | Element: Linear | | | |
| PT | ( ) | 0+81.03 | 26825394.98 | 736541.43 |
| PC | ( ) | 1+14.27 | 26825425.73 | 736554.06 |
| | Tangent Direction: | | N 22°19'50" E | |
| | Tangent Length: | | 33.25 | |
| | Element: Circular | | | |
| PC | ( ) | 1+14.27 | 26825425.73 | 736554.06 |
| PI | ( ) | 1+57.28 | 26825465.52 | 736570.41 |
| CC | ( ) | | 26825455.75 | 736480.99 |
| PT | ( ) | 1+93.05 | 26825500.84 | 736545.86 |
| | Radius: | | 79.00 | |
| | Delta: | | 57°07'55" Left | |
| | Degree of Curvature(Arc): | | 72°31'35" | |
| | Length: | | 78.77 | |
| | Tangent: | | 43.01 | |
| | Chord: | | 75.55 | |
| | Middle Ordinate: | | 9.62 | |
| | External: | | 10.95 | |
| | Tangent Direction: | | N 22°19'50" E | |
| | Radial Direction: | | S 67°40'10" E | |
| | Chord Direction: | | N 6°14'07" W | |
| | Radial Direction: | | N 55°11'55" E | |
| | Tangent Direction: | | N 34°48'05" W | |
| | Element: Linear | | | |
| PT | ( ) | 1+93.05 | 26825500.84 | 736545.86 |
| PC | ( ) | 2+09.82 | 26825514.61 | 736536.28 |
| | Tangent Direction: | | N 34°48'05" W | |
| | Tangent Length: | | 16.78 | |
| | Element: Circular | | | |
| PC | ( ) | 2+09.82 | 26825514.61 | 736536.28 |
| PI | ( ) | 2+46.55 | 26825544.77 | 736515.32 |
| CC | ( ) | | 26825403.89 | 736376.98 |
| PT | ( ) | 2+82.42 | 26825565.18 | 736484.78 |
| | Radius: | | 194.00 | |
| | Delta: | | 21°26'29" Left | |
| | Degree of Curvature(Arc): | | 29°32'02" | |
| | Length: | | 72.60 | |
| | Tangent: | | 36.73 | |
| | Chord: | | 72.18 | |
| | Middle Ordinate: | | 3.39 | |
| | External: | | 3.45 | |
| | Tangent Direction: | | N 34°48'05" W | |
| | Radial Direction: | | N 55°11'55" E | |
| | Chord Direction: | | N 45°31'19" W | |
| | Radial Direction: | | N 33°45'26" E | |
| | Tangent Direction: | | N 56°14'34" W | |
| | Element: Linear | | | |
| PT | ( ) | 2+82.42 | 26825565.18 | 736484.78 |
| POE | ( ) | 5+13.76 | 26825693.73 | 736292.46 |
| | Tangent Direction: | | N 56°14'34" W | |
| | Tangent Length: | | 231.33 | |

Project Name: 73627GCW_ALG
Description:
Horizontal Alignment Name: berm6

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| | Element: Circular | | | |
| PC | ( ) | 0+00.00 | 26825473.96 | 736828.83 |
| PI | ( ) | 0+12.89 | 26825472.63 | 736841.65 |
| CC | ( ) | | 26825548.56 | 736836.53 |
| PCC | ( ) | 0+25.53 | 26825475.67 | 736854.18 |
| | Radius: | | 75.00 | |
| | Delta: | | 19°30'24" Left | |
| | Degree of Curvature(Arc): | | 76°23'40" | |
| | Length: | | 25.53 | |
| | Tangent: | | 12.89 | |
| | Chord: | | 25.41 | |
| | Middle Ordinate: | | 1.08 | |
| | External: | | 1.10 | |
| | Tangent Direction: | | S 84°06'18" E | |
| | Radial Direction: | | S 5°53'42" W | |
| | Chord Direction: | | N 86°08'31" E | |
| | Radial Direction: | | S 13°36'41" E | |
| | Tangent Direction: | | N 76°23'19" E | |
| | Element: Circular | | | |
| PCC | ( ) | 0+25.53 | 26825475.67 | 736854.18 |
| PI | ( ) | 0+48.22 | 26825481.00 | 736876.23 |
| CC | ( ) | | 26826004.39 | 736726.16 |
| PT | ( ) | 0+70.89 | 26825488.16 | 736897.76 |
| | Radius: | | 544.00 | |
| | Delta: | | 4°46'36" Left | |
| | Degree of Curvature(Arc): | | 10°31'56" | |
| | Length: | | 45.35 | |
| | Tangent: | | 22.69 | |
| | Chord: | | 45.34 | |
| | Middle Ordinate: | | 0.47 | |
| | External: | | 0.47 | |
| | Tangent Direction: | | N 76°23'19" E | |
| | Radial Direction: | | S 13°36'41" E | |
| | Chord Direction: | | N 74°00'01" E | |
| | Radial Direction: | | S 18°23'17" E | |
| | Tangent Direction: | | N 71°36'43" E | |
| | Element: Linear | | | |
| PT | ( ) | 0+70.89 | 26825488.16 | 736897.76 |
| PC | ( ) | 1+20.89 | 26825503.93 | 736945.21 |
| | Tangent Direction: | | N 71°36'43" E | |
| | Tangent Length: | | 50.00 | |
| | Element: Circular | | | |
| PC | ( ) | 1+20.89 | 26825503.93 | 736945.21 |
| PI | ( ) | 1+47.54 | 26825512.34 | 736970.50 |
| CC | ( ) | | 26824932.67 | 737135.11 |
| PRC | ( ) | 1+74.16 | 26825518.48 | 736996.44 |
| | Radius: | | 602.00 | |
| | Delta: | | 5°04'14" Right | |
| | Degree of Curvature(Arc): | | 9°31'03" | |
| | Length: | | 53.28 | |
| | Tangent: | | 26.66 | |
| | Chord: | | 53.26 | |
| | Middle Ordinate: | | 0.59 | |
| | External: | | 0.59 | |
| | Tangent Direction: | | N 71°36'43" E | |
| | Radial Direction: | | S 18°23'17" E | |
| | Chord Direction: | | N 74°08'50" E | |
| | Radial Direction: | | S 13°19'03" E | |
| | Tangent Direction: | | N 76°40'57" E | |

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| | Element: Circular | | | |
| PRC | ( ) | 1+74.16 | 26825518.48 | 736996.44 |
| PI | ( ) | 1+85.65 | 26825521.13 | 737007.62 |
| CC | ( ) | | 26825577.84 | 736982.39 |
| PT | ( ) | 1+96.87 | 26825527.66 | 737017.07 |
| | Radius: | | 61.00 | |
| | Delta: | | 21°19'50" Left | |
| | Degree of Curvature(Arc): | | 93°55'39" | |
| | Length: | | 22.71 | |
| | Tangent: | | 11.49 | |
| | Chord: | | 22.58 | |
| | Middle Ordinate: | | 1.05 | |
| | External: | | 1.07 | |
| | Tangent Direction: | | N 76°40'57" E | |
| | Radial Direction: | | S 13°19'03" E | |
| | Chord Direction: | | N 66°01'02" E | |
| | Radial Direction: | | S 34°38'54" E | |
| | Tangent Direction: | | N 55°21'06" E | |
| | Element: Linear | | | |
| PT | ( ) | 1+96.87 | 26825527.66 | 737017.07 |
| POE | ( ) | 2+24.89 | 26825543.59 | 737040.12 |
| | Tangent Direction: | | N 55°21'06" E | |
| | Tangent Length: | | 28.02 | |




STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# LOCATION CONTROL

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | LC110 |

Project Name: 73627GCW_ALG
Description:
Horizontal Alignment Name: berm7

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| | Element: Circular | | | |
| PC | ( ) | 0+00.00 | 26825278.04 | 736175.19 |
| PI | ( ) | 0+49.81 | 26825270.49 | 736224.42 |
| CC | ( ) | | 26825520.70 | 736212.41 |
| PT | ( ) | 0+98.29 | 26825282.72 | 736272.71 |
| | Radius: | | 245.50 | |
| | Delta: | | 22°56'20" Left | |
| | Degree of Curvature(Arc): | | 23°20'18" | |
| | Length: | | 98.29 | |
| | Tangent: | | 49.81 | |
| | Chord: | | 97.63 | |
| | Middle Ordinate: | | 4.90 | |
| | External: | | 5.00 | |
| | Tangent Direction: | | S 81°16'48" E | |
| | Radial Direction: | | S 8°43'12" W | |
| | Chord Direction: | | N 87°15'02" E | |
| | Radial Direction: | | S 14°13'08" E | |
| | Tangent Direction: | | N 75°46'52" E | |

Project Name: 73627GCW_ALG
Description:
Horizontal Alignment Name: ditch1

| | | STATION | NORTHING | EASTING |
|---|---|---|---|---|
| | Element: Linear | | | |
| POB | ( ) | 0+00.00 | 26825162.77 | 736682.90 |
| PC | ( ) | 0+41.07 | 26825137.17 | 736715.02 |
| | Tangent Direction: | | S 51°26'09" E | |
| | Tangent Length: | | 41.07 | |
| | Element: Circular | | | |
| PC | ( ) | 0+41.07 | 26825137.17 | 736715.02 |
| PI | ( ) | 0+46.28 | 26825133.92 | 736719.09 |
| CC | ( ) | | 26825051.16 | 736646.45 |
| PCC | ( ) | 0+51.47 | 26825130.31 | 736722.83 |
| | Radius: | | 110.00 | |
| | Delta: | | 5°25'03" Right | |
| | Degree of Curvature(Arc): | | 52°05'13" | |
| | Length: | | 10.40 | |
| | Tangent: | | 5.20 | |
| | Chord: | | 10.40 | |
| | Middle Ordinate: | | 0.12 | |
| | External: | | 0.12 | |
| | Tangent Direction: | | S 51°26'09" E | |
| | Radial Direction: | | S 38°33'51" W | |
| | Chord Direction: | | S 48°43'38" E | |
| | Radial Direction: | | S 43°58'54" W | |
| | Tangent Direction: | | S 46°01'06" E | |
| | Element: Circular | | | |
| PCC | ( ) | 0+51.47 | 26825130.31 | 736722.83 |
| PI | ( ) | 0+77.35 | 26825112.34 | 736741.45 |
| CC | ( ) | | 26824969.13 | 736567.28 |
| PT | ( ) | 1+02.99 | 26825090.61 | 736755.48 |
| | Radius: | | 224.00 | |
| | Delta: | | 13°10'39" Right | |
| | Degree of Curvature(Arc): | | 25°34'43" | |
| | Length: | | 51.52 | |
| | Tangent: | | 25.87 | |
| | Chord: | | 51.40 | |
| | Middle Ordinate: | | 1.48 | |
| | External: | | 1.49 | |
| | Tangent Direction: | | S 46°01'06" E | |
| | Radial Direction: | | S 43°58'54" W | |
| | Chord Direction: | | S 39°25'46" E | |
| | Radial Direction: | | S 57°09'33" W | |
| | Tangent Direction: | | S 32°50'27" E | |
| | Element: Linear | | | |
| PT | ( ) | 1+02.99 | 26825090.61 | 736755.48 |
| PC | ( ) | 2+49.61 | 26824967.42 | 736834.99 |
| | Tangent Direction: | | S 32°50'27" E | |
| | Tangent Length: | | 146.62 | |
| | Element: Circular | | | |
| PC | ( ) | 2+49.61 | 26824967.42 | 736834.99 |
| PI | ( ) | 2+79.35 | 26824942.44 | 736851.12 |
| CC | ( ) | | 26824699.52 | 736419.94 |
| PT | ( ) | 3+09.01 | 26824915.70 | 736864.13 |
| | Radius: | | 494.00 | |
| | Delta: | | 6°53'23" Right | |
| | Degree of Curvature(Arc): | | 11°35'54" | |
| | Length: | | 59.40 | |
| | Tangent: | | 29.74 | |
| | Chord: | | 59.37 | |
| | Middle Ordinate: | | 0.89 | |
| | External: | | 0.89 | |
| | Tangent Direction: | | S 32°50'27" E | |
| | Radial Direction: | | S 57°09'33" W | |
| | Chord Direction: | | S 29°23'46" E | |
| | Radial Direction: | | S 64°02'56" W | |
| | Tangent Direction: | | S 25°57'04" E | |
| | Element: Linear | | | |
| PT | ( ) | 3+09.01 | 26824915.70 | 736864.13 |
| POE | ( ) | 6+10.33 | 26824644.76 | 736995.99 |
| | Tangent Direction: | | S 25°57'04" E | |
| | Tangent Length: | | 301.32 | |

PROFESSIONAL LAND SURVEYOR · STATE OF NEVADA
PAUL BURN
EXP. 12-31-18
No. 11174
6-28-17

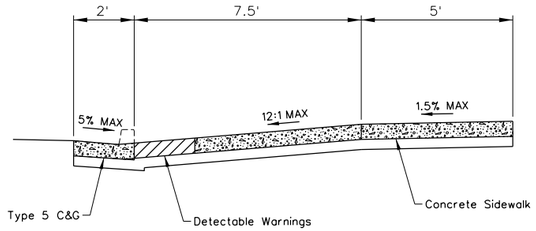
STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

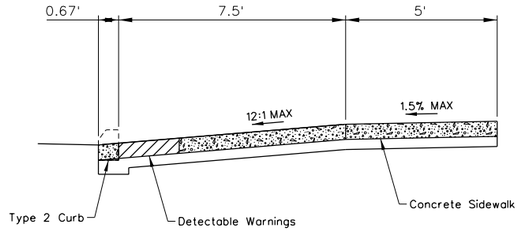
# LOCATION CONTROL

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

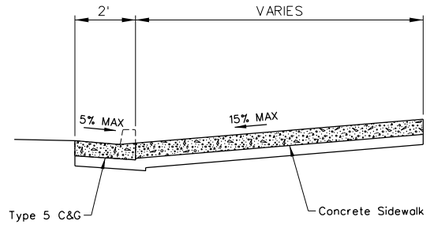
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | SD101 |



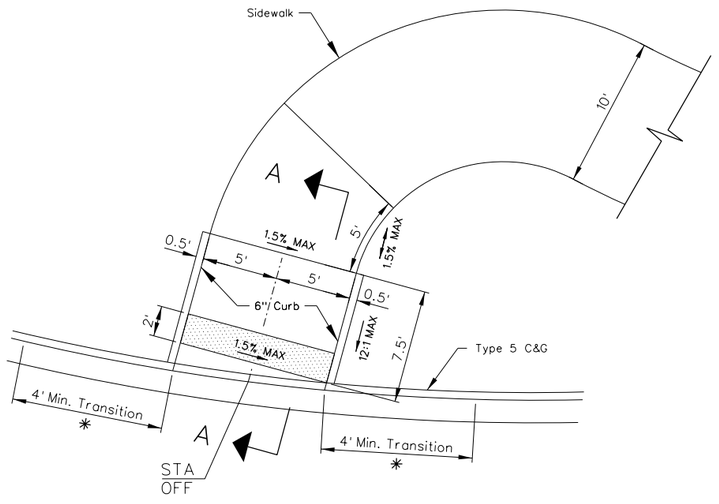

SECTION A-A



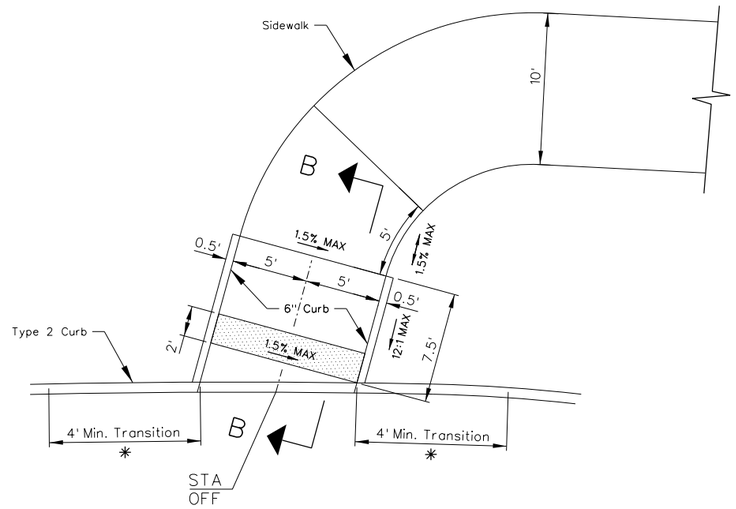

SECTION B-B



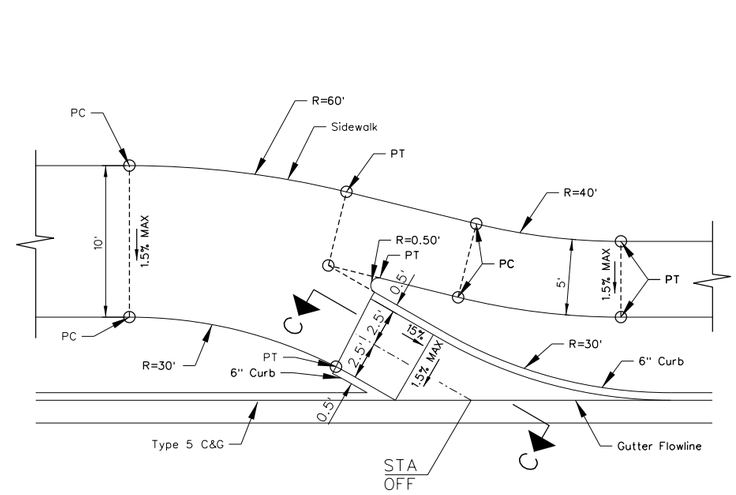

SECTION C-C




SPECIAL SIDEWALK RAMP
TYPE B W/ TYPE 5 C&G




SPECIAL SIDEWALK RAMP
TYPE B W/ TYPE 2 CURB




SPECIAL BIKE RAMP

* - SEE TABLE A ON NDOT STD PLAN R-5.2.1

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

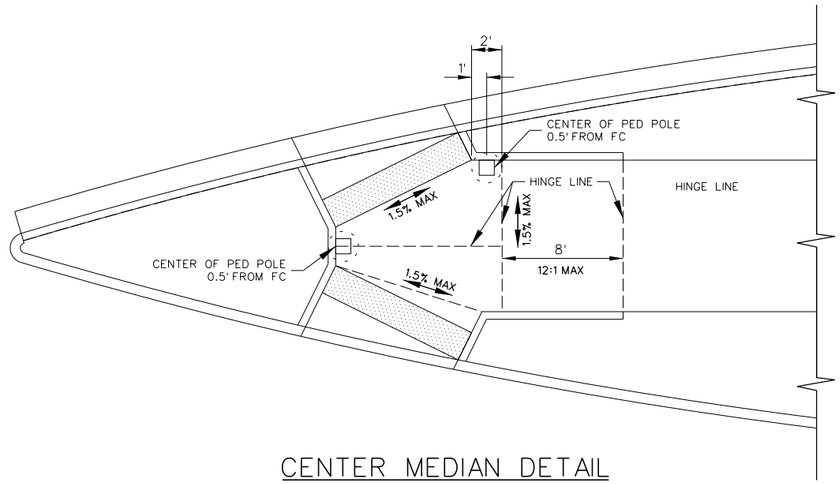
STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# SPECIAL DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | SD102 |




CENTER MEDIAN DETAIL

PROFESSIONAL ENGINEER – STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# SPECIAL DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

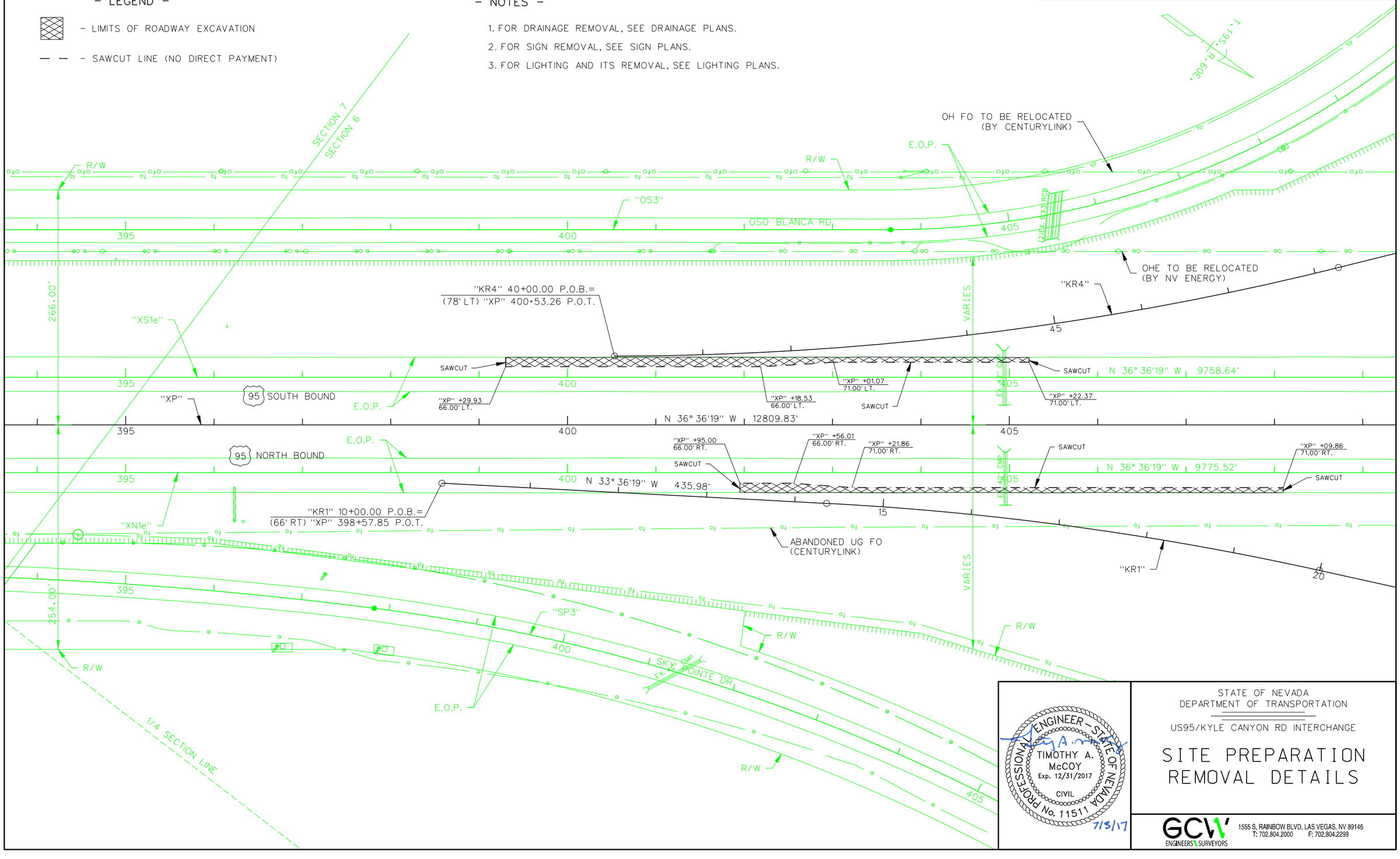
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | SP101 |

## - LEGEND -

- LIMITS OF ROADWAY EXCAVATION
- SAWCUT LINE (NO DIRECT PAYMENT)

## - NOTES -

1. FOR DRAINAGE REMOVAL, SEE DRAINAGE PLANS.
2. FOR SIGN REMOVAL, SEE SIGN PLANS.
3. FOR LIGHTING AND ITS REMOVAL, SEE LIGHTING PLANS.




PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# SITE PREPARATION REMOVAL DETAILS


GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | SP102 |

## - LEGEND -

- LIMITS OF ROADWAY EXCAVATION
- SAWCUT LINE (NO DIRECT PAYMENT)

## - NOTES -

1. FOR DRAINAGE REMOVAL, SEE DRAINAGE PLANS.
2. FOR SIGN REMOVAL, SEE SIGN PLANS.
3. FOR LIGHTING AND ITS REMOVAL, SEE LIGHTING PLANS.

"KR4A" 4+00.00 P.O.B.=
(15.87' LT.) "KR4" 54+06.28 P.O.T.

"KR4A"

"KR4"

OH FO TO BE RELOCATED
(BY CENTURYLINK)

OHE TO BE RELOCATED
(BY NV ENERGY)

"KR4" 57+91.97 P.O.E.=
(12' RT.) "KCW1" 23+97.39 P.O.T.

"KR3A" 3+00.00 P.O.B.=
"KCW1" 20+33.84 P.O.C.

"KR3A"

"KR3A" 5+11.57 P.O.E.=
"KR3" 32+80.43 P.T.

"KR3"

"KR3" 30+00.00 P.O.B.=
"KCE1" 18+46.75 P.O.T.

T. 195
SEC. 6
R. 60E.

E.O.P.

"KCR3"

E.O.P.

"KCW"

"KCR4"

"XS1e"

N 36° 36'19" W 9758.64'

"XP" +66.85
80.50' LT.

"XP" +55.94
80.50' LT.

"XP" +55.94
76.00' LT.

"XP" +55.00
76.00' LT.

SAWCUT

"XP" +51.42
38.10' LT.

"XP" +00.35
82.50' LT.

"XP" +00.35
79.50' LT.

"XP" +85.17
37.79' LT.

SAWCUT

"XP" +14.90
82.50' LT.

"XP" +54.55
77.46' LT.

"XP" +04.90
77.46' LT.

SAWCUT

EX. 24" CMP

"XP"

N 36° 36'19" W 12809.83'

95 SOUTH BOUND

95 NORTH BOUND

EX. 6'X3' RCB

EX. 24" CMP

"XN1e"

N 36° 36'19" W 9775.52'

E.O.P.

SAWCUT

"XP" +28.76
24.16' RT.

"XP" +62.69
23.97' RT.

SAWCUT

"XP" +09.61
76.79' RT.

"XP" +43.41
76.95' RT.

"XP" +37.74
88.00' RT.

SAWCUT

"XP" +05.40
88.00' RT.

"KCE"

E.O.P.

ABANDONED UG FO
(CENTURYLINK)

ABANDONED UG FO
(CENTURYLINK)

"KR1" 28+30.66 P.O.E.=
"KCW1" 25+94.93 P.O.T.

"KR2" 20+00.00 P.O.B.=
"KCE1" 21+51.66 P.O.T.

"KR1"

"KR2"

"KR1A" 1+00.00 P.O.B. =
(12' RT.) "KR1" 24+34.71, P.O.C.

"KCW1"

"KCE1"

"KR1A"

"KR2A" 5+23.92 P.O.E.=
"KR2" 22+32.01 P.O.C.

"KR2A"

"KR1A" 3+67.78 P.O.E.=
"KCE1" 24+98.57 P.O.C.

R/W

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# SITE PREPARATION REMOVAL DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | SP103 |

## - LEGEND -

- LIMITS OF ROADWAY EXCAVATION
- SAWCUT LINE (NO DIRECT PAYMENT)

## - NOTES -

1. FOR DRAINAGE REMOVAL, SEE DRAINAGE PLANS.
2. FOR SIGN REMOVAL, SEE SIGN PLANS.
3. FOR LIGHTING AND ITS REMOVAL, SEE LIGHTING PLANS.

OH FO TO BE RELOCATED (BY CENTURYLINK)

OHE TO BE RELOCATED (BY NV ENERGY)

"KR3"

"KR3" 41+43.48 P.C.C.

"KCR3"

"KR3" 44+36.96 P.T.

"KR3" 48+03.35 P.O.E. (66' LT.) "XP" 434+96.01 P.O.T.

"XP" +15.98 77.30' LT.

"XP" +15.98 71.00' LT.

"XP" +32.47 71.00' LT.

"XP" +98.29 66.00' LT.

"XP" +90.71 66.00' LT.

"XP" +90.71 90.28' LT.

SAWCUT

"XS1e"

"XN1e"

"XP"

"KR2"

"KR2" 39+47.03 P.O.E. (78' RT.) "XP" 433+87.58 P.O.T.

ABANDONED UG FO (CENTURYLINK)

"SP3"

E.O.P.

R/W

"OS3"

"OS0"

N 36° 36'19" W 12809.83'

N 36° 36'19" W 743.86'

95 SOUTH BOUND

95 NORTH BOUND

RANGE 59 SECTION 1

RANGE 60 SECTION 6

1/4 SECTION LINE

SKY POINTE DR

EX. 24" RCP

EX. 6'X3' RCB

EX. 24" CMP

EX. 42" CMP

EX. 42" CMP

EX. 42" CMP

EX. 42" CMP

EX. 42" CMP

EX. 42" CMP

EX. 42" CMP

VARIES

VARIES

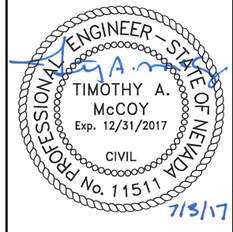
425

430

435

440

445




STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# SITE PREPARATION REMOVAL DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | SP104 |

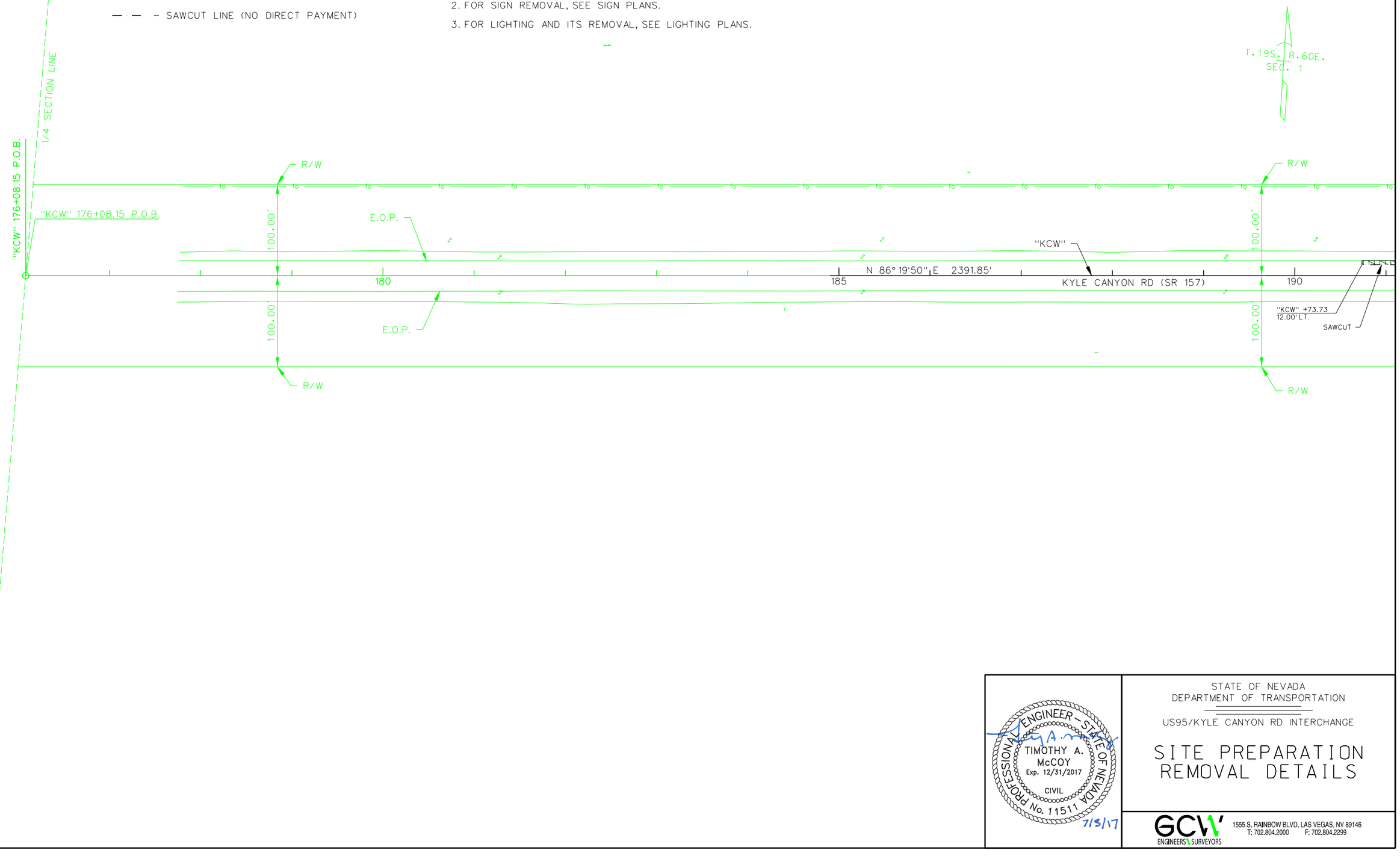
## - LEGEND -

- LIMITS OF ROADWAY EXCAVATION

— — - SAWCUT LINE (NO DIRECT PAYMENT)

## - NOTES -

1. FOR DRAINAGE REMOVAL, SEE DRAINAGE PLANS.
2. FOR SIGN REMOVAL, SEE SIGN PLANS.
3. FOR LIGHTING AND ITS REMOVAL, SEE LIGHTING PLANS.




PROFESSIONAL ENGINEER – STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# SITE PREPARATION REMOVAL DETAILS


GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

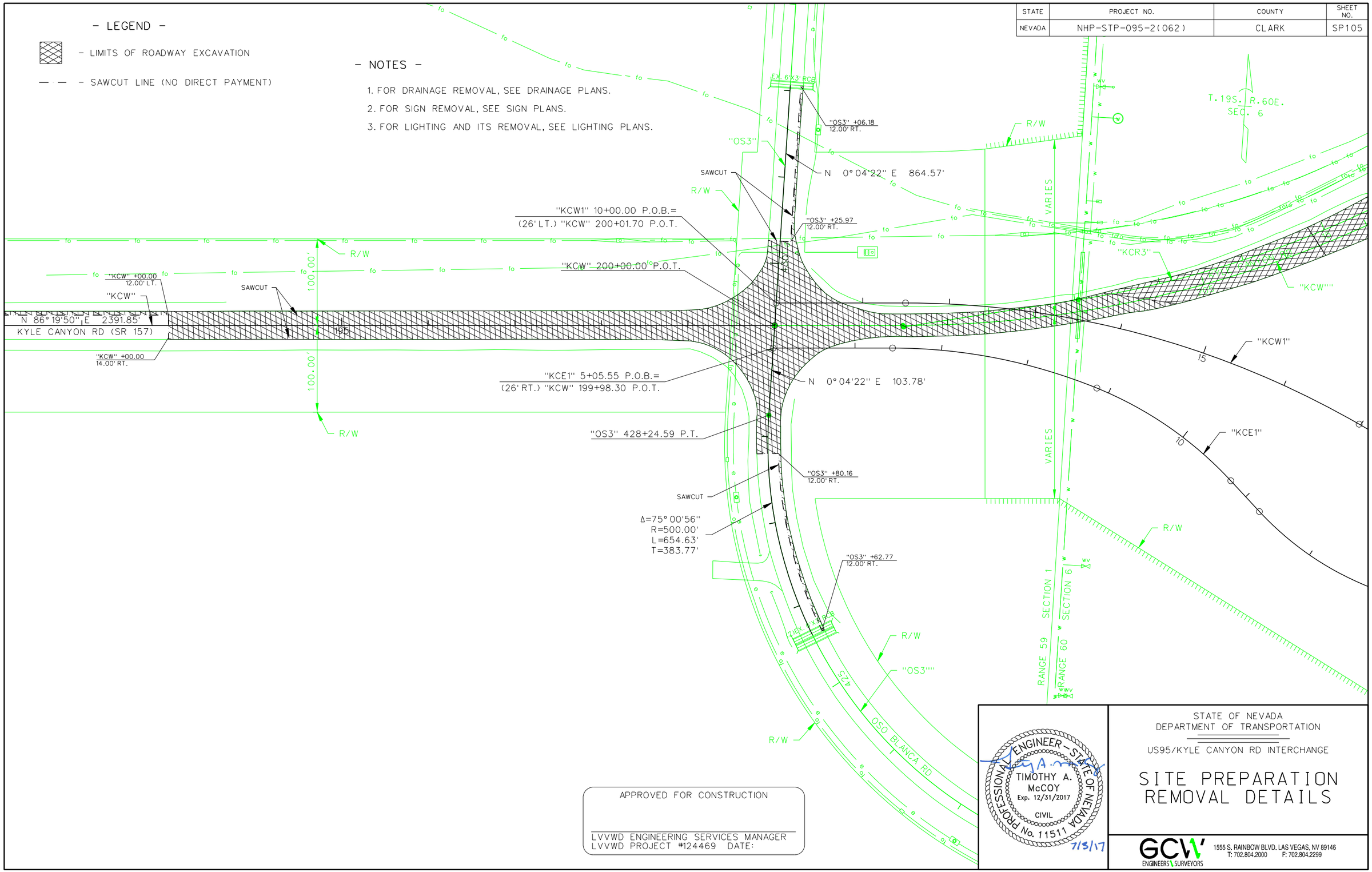
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | SP105 |

## - LEGEND -

- LIMITS OF ROADWAY EXCAVATION
- SAWCUT LINE (NO DIRECT PAYMENT)

## - NOTES -

1. FOR DRAINAGE REMOVAL, SEE DRAINAGE PLANS.
2. FOR SIGN REMOVAL, SEE SIGN PLANS.
3. FOR LIGHTING AND ITS REMOVAL, SEE LIGHTING PLANS.




APPROVED FOR CONSTRUCTION

LVVWD ENGINEERING SERVICES MANAGER
LVVWD PROJECT #124469 DATE:

PROFESSIONAL ENGINEER – STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# SITE PREPARATION REMOVAL DETAILS


GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | SP106 |

"KCW"
"KCR3"
"KCR4"
"XS1e"
"XP"
"XN1e"
ABANDONED UG FO (CENTURYLINK)
T. 19S. R. 60E. SEC. 6
R/W
"KCW1"
"KR3"
"KR3A" 5+11.57 P.O.E.= "KR3" 32+80.43 P.O.T.
"KR3A"
"KR3A" 3+00.00 P.O.B.= "KCW1" 20+33.84 P.O.C.
"KR3" 30+00.00 P.T.= "KCE1" 18+46.75 P.T.
"KCE1"
"KR2"
"KR2A" 5+23.92 P.O.E.= "KR2" 22+32.01 P.O.C.
"KR2" 20+00.00 P.O.B.= "KCE1" 21+51.66 P.O.T.
"KR2A" 2+00.00 P.O.B.= (21' LT.) KCW1" 30+60.43 P.O.C.
"KR2A"
"KCW1"
"KCE"
R/W
OH FO TO BE RELOCATED (BY CENTURYLINK)
"KR4"
"KR4A" 9+01.71 P.O.E.= (21' RT) "KCW1" 14+18.97 P.O.C.
"KR4A"
"KR4" 57+91.97 P.T.= (12' RT.) "KCW1" 23+97.39 P.O.T.
"KR1" 28+30.66 P.O.E.= "KCW1" 25+94.93 P.C.
"KR1"
"KR1A" 3+67.78 P.O.E.= "KCE1" 24+83.40 P.O.C.
"KR1A"
"KR1A" 1+00.00 P.O.E.= (12' RT.) "LR1" 24+34.71 P.O.C.
"KCE1"
R/W
OHE TO BE RELOCATED (BY NV ENERGY)
"KR4A" 4+00.00 P.O.B.= (15.87' LT) "KR4" 54+06.28 P.O.T.
95 SOUTH BOUND
95 NORTH BOUND

- LEGEND -

- LIMITS OF ROADWAY EXCAVATION

— — - SAWCUT LINE (NO DIRECT PAYMENT)

- NOTES -

1. FOR DRAINAGE REMOVAL, SEE DRAINAGE PLANS.
2. FOR SIGN REMOVAL, SEE SIGN PLANS.
3. FOR LIGHTING AND ITS REMOVAL, SEE LIGHTING PLANS.

PROFESSIONAL ENGINEER – STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/3/17

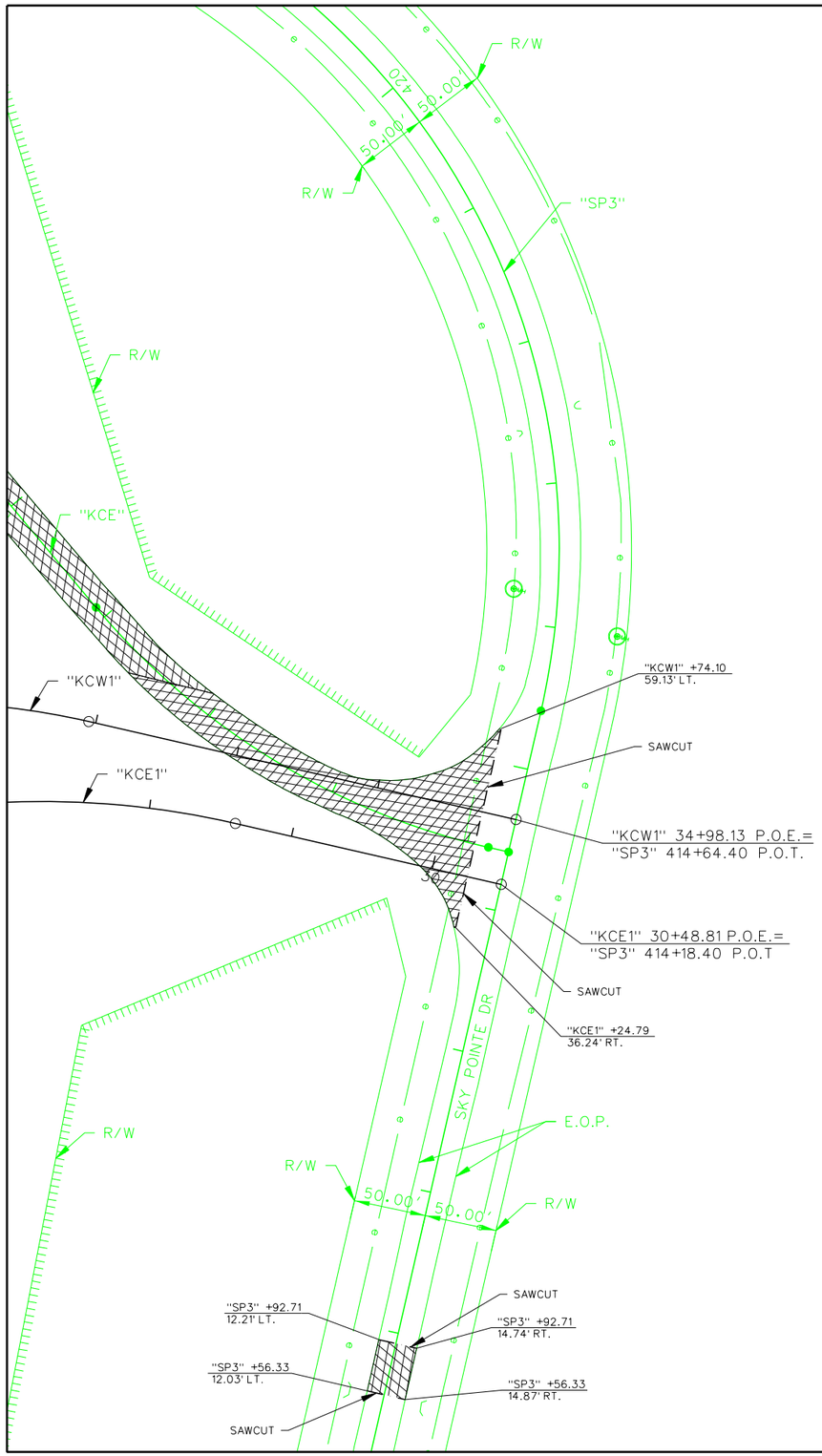
STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

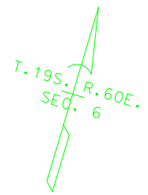
US95/KYLE CANYON RD INTERCHANGE

# SITE PREPARATION REMOVAL DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | SP107 |




1/4 SECTION LINE

- LEGEND -

▨ - LIMITS OF ROADWAY EXCAVATION

— — - SAWCUT LINE (NO DIRECT PAYMENT)

- NOTES -

1. FOR DRAINAGE REMOVAL, SEE DRAINAGE PLANS.
2. FOR SIGN REMOVAL, SEE SIGN PLANS.
3. FOR LIGHTING AND ITS REMOVAL, SEE LIGHTING PLANS.

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# SITE PREPARATION REMOVAL DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | D101 |

- LEGEND -

- RIPRAP

R/W

SECTION 7

SECTION 6

"XS1e"

"XP"

95 SOUTH BOUND

95 NORTH BOUND

"SP3"

"KR4" +74.24
82.40' LT.

"KR4"

"KR1" +91.99
60.60' LT.

"KR1"

OSO BLANCA RD

SKY POINTE DR

1/4 SECTION LINE

395

400

405

CUT

FILL

10:1

6:1

2.0%

4.2%

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7/3/17

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PROFESSIONAL ENGINEER - STATE OF NEVADA
STEPHEN M. JONES
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No. 19638

7/3/2017

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# DRAINAGE PLAN

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | D101A |

| | | |
|---|---|---|
| (1) | "KR4" 45+10 TO "KR4" 44+69 | CONSTRUCT U-CHANNEL CONCRETE STRUCTURE<br>FROM "KR4" 45+10, 95.3' LT.<br>TO "KR4" 44+69, 52.8' LT.<br>(SEE SHEETS DP105 AND DS101) |
| (2) | "KR4" 44+69 TO "XP" 403+94 | CONSTRUCT 5'x3'x222' RCB FROM "KR4" 44+69, 52.8' LT<br>(UIE=2775.00') TO "XP" 403+94, 3.0' RT. (LIE = 2772.48')<br>CONSTRUCT HEADWALL TYPE II<br>CLASS 300 RIPRAP 30' LENGTH AT OUTLET<br>(SEE SHEET DP105) |
| (3) | "KR4" 44+74 TO "KR1" 15+68 | CONSTRUCT 5'x3'x323' RCB FROM "KR4" 44+74, 50.3' LT<br>(UIE=2774.90') TO "KR1" 15+68, 49.1' RT. (LIE = 2770.75')<br>CONSTRUCT HEADWALL TYPE II<br>CLASS 300 RIPRAP APRON AT OUTLET<br>(SEE SHEET DP105) |
| (4) | "XP" 404+94 | CONSTRUCT TYPE 2A DROP INLET, 83.6' LT. WITH CONCRETE APRON,<br>(GRATE ELEV= 2782.15', INV ELEV= 2777.34', H= 4.81')<br>INTO 5x3' RCB<br>(SEE SHEETS DP105 AND DS102) |
| (5) | "XP" 405+04 | CONSTRUCT TYPE 2A DROP INLET WITH APRON, 84.2' LT.<br>(GRATE ELEV= 2782.24', INV ELEV= 2777.65', H= 4.6')<br>INSTALL 18" X 8' RCP FROM "XP" 405+04, 84.2' LT. (UIE= 2775.65')<br>TO "XP" 404+97, 84.5' LT. (LIE = 2774.88')<br>CONNECT TO 5'x3' RCB<br>(SEE SHEET DP107) |
| (6) | "XP" 404+67 | CONSTRUCT TYPE 2A DROP INLET, 2.3' RT. WITH CONCRETE APRON,<br>(GRATE ELEV= 2778.68', INV ELEV= 2776.18', H= 2.5') INTO 5'x3' RCB<br>(SEE SHEET DP105 AND DS102) |
| (7) | "XP" 404+95 TO "XP" 404+96 | REMOVE 42" CMP |
| (8) | "XP" 404+95 TO "XP" 404+96 | ABANDON 42" CMP |
| (9) | "KR4" 45+90 | INSTALL 24" RCP END SECTION, 88.5' LT.<br>INSTALL 24" X 101' RCP FROM "KR4" 45+90, 88.5' LT. (UIE= 2785.18')<br>TO "KR4" 44+90, 64.3' LT. (LIE = 2776.96'),<br>CONNECT TO CONCRETE U-CHANNEL.<br>(SEE SHEET DP107) |
| (10) | "KR1" 19+48 | CONSTRUCT TYPE 2A DROP INLET, 44.0' LT. WITH CONCRETE APRON,<br>(GRATE ELEV= 2779.53', INV ELEV= 2776.53', H= 3.00')<br>INSTALL 18" X 91' RCP FROM "KR1" 19+48, 44.0' LT. (UIE= 2776.53')<br>TO "KR1" 19+48, 47.2' RT. (LIE = 2776.07')<br>INSTALL 18" RCP END SECTION, RT.<br>CLASS 300 RIPRAP APRON AT OUTLET, 3.1 SS TRAPEZOIDAL B/W<br>(SEE SHEET DP107) |
| (11) | "KR4" 45+74 TO "KR4" 54+23 | CONSTRUCT CLASS 300 RIPRAP LINED FACE BERM 3<br>FROM "KR4" 54+23, 126.6' LT TO "KR4" 45+74, 82.4' LT<br>(SEE SHEET DP117) |
| (12) | "KR1" 19+92 TO "KR1" 26+73 | CONSTRUCT CLASS 300 RIPRAP LINED DITCH 1<br>FROM "KR1" 26+73, 82.6' LT TO 19+92, 60.6' LT<br>(SEE SHEET DP121) |

PROFESSIONAL ENGINEER STATE OF NEVADA
STEPHEN M. JONES
Exp. 06/30/2019
CIVIL
No. 19638
7/3/2017

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# DRAINAGE PLAN

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | D102 |

- LEGEND -

- RIPRAP

RCB BY OTHERS

"MOSM" 63+16.93 P.O.B.

"KR4A" +44.38 138.36' LT.

"KR4" +23.00 126.65' LT.

"KR4" "KR4A" "KR3A" "KR3" "KCW1" "KCR3" "KCR4" "KCW" "KCE1" "KR1" "KR2" "KR1A" "KR2A" "XS1e" "XP" "XN1e" "MOSM"

"KR3" +08.95 78.62' LT.

"KCE1" +09.10 85.95' LT.

"KCE1" +99.42 68.23' LT.

"KCE1" +21.84 64.61' LT.

"KR1" +73.41 82.58' LT.

"KR2" +85.14 69.05' LT.

95 SOUTH BOUND

95 NORTH BOUND

US 95

KYLE CANYON RD (SR 157)

KYLE CANYON RD

T.19S. R.60E. SEC. 6

EX. 24" CMP

EX. 72" RCP

RCB BY OTHERS

R/W

CUT FILL

NOTE: FOR ALL DRAINAGE INFORMATION ON KYLE CANYON RD SEE SHEET D104-D107.

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STEPHEN M. JONES
Exp. 06/30/2019
CIVIL
No. 19638
7/3/2017

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# DRAINAGE PLAN

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | D102A |

| | | |
|---|---|---|
| (1) | "XP" 412+42 | CONSTRUCT 5-2G EMBANKMENT PROTECTOR INLET, 76.3' RT.<br>(GRATE ELEV= 2792.94', INV ELEV= 2787.95', H= 4.99')<br>INSTALL 18" X 17' RCP FROM "XP" 412+42, 76.3' RT. (UIE= 2787.95')<br>TO "XP" 412+24, 76.3' RT. (LIE= 2786.94')<br>CONNECT EXISTING 6' X 3' RCB<br>(SEE SHEET DP108) |
| (2) | "XP" 412+52 | CONSTRUCT TYPE 2 DROP INLET, 76.3' RT.<br>(GRATE ELEV= 2793.13', INV ELEV= 2788.14', H= 4.99')<br>INSTALL 18" X 10' RCP FROM "XP" 412+52, 76.3' RT. (UIE= 2788.14')<br>TO "XP" 412+42, 76.3' RT. (LIE= 2788.05')<br>CONNECT TO TYPE 5-2G EMBANKMENT PROTECTOR<br>(SEE SHEET DP108) |
| (3) | "XP" 412+62 | CONSTRUCT TYPE 2 DROP INLET, 76.3' RT.<br>(GRATE ELEV= 2793.30', INV ELEV= 2788.32', H= 4.98')<br>INSTALL 18" X 10' RCP FROM "XP" 412+62, 76.3' RT. (UIE= 2788.32')<br>TO "XP" 412+52, 76.3' RT. (LIE= 2788.24')<br>CONNECT TO TYPE 2 DROP INLET<br>(SEE SHEET DP108) |
| (4) | "XP" 412+49 TO<br>"XP" 412+95 | ABANDON 24" CMP |
| (5) | "XP" 418+13 | CONSTRUCT TYPE 5-2G EMBANKMENT PROTECTOR, 76.3' RT.<br>(GRATE ELEV= 2804.97', INV ELEV= 2802.49', H= 2.48')<br>INSTALL 12" X 20' CMP FROM "XP" 418+13, 76.5' LT. (UIE= 2802.41')<br>TO "XP" 418+13, 96.0' LT. (LIE= 2802.49')<br>CLASS 150 RIPRAP APRON AT OUTLET |
| (6) | "XP" 418+21 | CONSTRUCT TYPE 2 DROP INLET, 76.3' RT<br>(GRATE ELEV= 2805.11', INV ELEV= 2802.62', H= 2.49')<br>INSTALL 12" X 8' CMP FROM "XP" 418+21, 76.5' LT. (UIE= 2802.59')<br>TO "XP" 412+13, 76.5' RT. (LIE= 2802.49')<br>CONNECT TO TYPE 5-2G EMBANKMENT PROTECTOR |
| (7) | "XP" 421+25 | ABANDON 24" CMP |
| (8) | "KR1" 23+00 | CONSTRUCT TYPE 2B DROP INLET, 44.0' LT. WITH CONCRETE APRON,<br>(GRATE ELEV= 2775.26', INV ELEV= 2772.25', H= 3.01')<br>INSTALL 24" X 108' RCP FROM "KR1" 23+00, 44.0' LT. (UIE= 2772.25')<br>"KR1" 22+82, 62.0' RT. (LIE = 2772.00')<br>INSTALL 24" RCP END SECTION RT.<br>CLASS 300 RIPRAP APRON AT OUTLET, 3:1 SS TRAPEZOIDAL B/W<br>(SEE SHEET DP108) |
| (9) | "KR1" 23+04 | INSTALL 24" RCP END SECTION, 65.5' LT.<br>INSTALL 24" X 22' RCP FROM "KR1" 23+00, 44.0' LT. (LIE= 2772.35')<br>TO "KR1" 23+04, 65.5' LT. (UIE = 2778.22')<br>CONNECT TO TYPE 2B DROP INLET<br>CLASS 300 RIPRAP APRON AT INLET TO EXISTING 6'x3' RCB<br>AT "KR1" 23+37, 145.1' LT.<br>(SEE SHEET DP108) |
| (10) | "XP" 415+63 | CONSTRUCT TYPE 5-2G EMBANKMENT PROTECTOR, 76.5' LT.<br>(GRATE ELEV.= 2800.51, INV ELEV 2798.51, H=2.0')<br>INSTALL 12" X 41' CMP FROM "XP" 415+63, 76.5' LT. (UIE= 2798.51')<br>TO "XP" 415+28, 97.8' LT. (LIE= 2797.75')<br>CLASS 150 RIPRAP APRON AT OUTLET |
| (11) | "KCE1" 13+42 TO<br>"KR4A" 4+44 | CONSTRUCT CLASS 300 RIPRAP LINED BERM 2<br>FROM "KCE1" 13+42, 101.0' RT. TO "KR4A" 4+44, 138.4' LT.<br>(SEE SHEET DP116) |
| (12) | "KCW1" 16+46 TO<br>"KR3" 37+09 | CONSTRUCT CLASS 300 RIPRAP LINED BERM 4<br>FROM "KCW1" 16+46, 61.5' LT. TO "KR3" 37+09, 78.6' LT.<br>(SEE SHEET DP118) |
| (13) | "KCE1" 18+09 TO<br>"KCE1" 18+99 | CONSTRUCT CLASS 300 RIPRAP LINED BERM 7<br>FROM "KCE1" 18+09, 86.0' LT. TO "KCE1" 18+99, 68.2' LT.<br>(SEE SHEET DP120) |
| (14) | "KCE1" 21+22 TO<br>"KR2" 26+85 | CONSTRUCT CLASS 300 RIPRAP LINED BERM 5<br>FROM "KCE1" 21+22, 64.6' LT TO "KR2" 26+85, 69.0' LT<br>(SEE SHEET DP119) |
| (15) | "MOSM" 64+01 TO<br>"MOSM" 69+21 | CONSTRUCT 13' X 8' X 520.0 RCB FROM "MOSM" 64+01 (UIE= 2773.45')<br>TO "MOSM" 69+21 (LIE= 2763.06')<br>PLUG BOTH ENDS<br>(SEE SHEET DP104 AND DS102) |

PROFESSIONAL ENGINEER
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Exp. 06/30/2019
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No. 19638
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STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# DRAINAGE PLAN

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | D103 |

- LEGEND -

- RIPRAP

"KR3" +08.95
78.62' LT.

"KR3"

"KCR3"

"KR2"

"SP3"

"OS3"

"XS1e"

"XP"

"XN1e"

R/W

OSO BLANCA RD

SKY POINTE DR

US 95

95 SOUTH BOUND

95 NORTH BOUND

1/4 SECTION LINE

T.19S. R.60E. SEC. 6

RANGE 59

RANGE 60

EX. 24" CMP

EX. 42" CMP

EX. 6'X3' RCB

EX. 4'X4' RCB

CUT

FILL

VARIES

TIMOTHY A. McCOY
Exp. 12/31/2017
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No. 11511

7/5/17

FOR GRADING ONLY

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7/3/2017

STATE OF NEVADA
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US95/KYLE CANYON RD INTERCHANGE

# DRAINAGE PLAN

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T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | D103A |

| | | |
|---|---|---|
| (1) | "KR3" 37+83 TO "XP" 424+54 | CONSTRUCT 6' X 3' X 197' RCB FROM "KR3" 37+83, 42.4' LT. (UIE = 2803.06')<br>TO "XP" 424+54, 2.4' LT. (LIE = 2800.18)<br>CONSTRUCT RCB HEADWALL TYPE I AT INLET.<br>(SEE SHEET DP103) |
| (2) | "XP" 424+54 TO "KR2" 29+68 | CONSTRUCT 6' X 3' X 191' RCB FROM "XP" 424+54, 2.4' LT. (UIE = 2800.18)<br>TO "KR2" 29+68, 34.9' RT. (LIE = 2799.23)<br>CONSTRUCT RCB HEADWALL TYPE I AT OUTLET.<br>CLASS 300 RIPRAP APRON AT OUTLET, 3:1 TRAPEZOIDAL B/W<br>(SEE SHEET DP103) |
| (3) | "KR3" 37+82 | CONSTRUCT TYPE 2A DROP INLET, 43.9' RT. WITH CONCRETE APRON,<br>(GRATE ELEV= 2811.32')<br>ON TO 6' X 3' RCB<br>(SEE SHEET DP103 AND DS102) |
| (4) | "XP" 424+51 | CONSTRUCT TYPE 2A DROP INLET, 3.1' RT. WITH CONCRETE APRON,<br>(GRATE ELEV= 2805.91')<br>ON TO 6' X 3' RCB<br>(SEE SHEET DP103 AND DS102) |
| (5) | "KR2" 29+97 | CONSTRUCT TYPE 2A DROP INLET, 40.8' LT. WITH CONCRETE APRON,<br>(GRATE ELEV= 2806.14')<br>ON TO 6' X 3' RCB<br>(SEE SHEET DP103 AND DS102) |
| (6) | "KR3" 37+83 TO "KR2" 29+99 | REMOVE 6' X 3' RCB<br>REMOVE HEADWALL "KR3" 37+83, 4.5' LT. AND<br>"KR2" 29+99, 42.0' LT. |
| (7) | "KR3" 37+62 TO "KR3" 37+81 | REMOVE 24" RCP FROM "KR3" 37+62, 62.4' RT.<br>TO "KR3" 37+81, 60.6' RT.<br>REMOVE RCP END SECTION |
| (8) | "XP" 424+91 TO "XP" 424+52 | REMOVE 24" CMP FROM "XP" 424+91, 4.3' RT.<br>TO "XP" 424+52, 22.5' RT.<br>REMOVE CMP END SECTION |
| (9) | "XP" 430+18 TO "XP" 430+21 | INSTALL 42" X 17' CMP FROM "XP" 430+18, 119.1' RT. (LIE= 2809.97')<br>TO "XP" 430+21, 102.1' RT. (UIE= 2810.50')<br>CONNECT TO EXISTING 42" CMP<br>INSTALL 42" CMP END SECTION, 119.1' RT.<br>CLASS 300 RIPRAP APRON AT OUTLET<br>(SEE SHEET DP108) |
| (10) | "XP" 430+40 | CONSTRUCT TYPE 2A DROP INLET, 3.7' RT. WITH CONCRETE APRON,<br>(GRATE ELEV= 2818.25', INV ELEV= 2813.27', H= 4.98')<br>ONTO EXISTING 42" CMP.<br>REMOVE EXISTING DROP INLET<br>INSTALL 42" X 6' CMP FROM "XP" 430+40', 3.7' RT. (UIE= 2813.27')<br>TO "XP" 430+39', 9.7' RT. (LIE= 2813.09')<br>CONNECT TO EXISTING 42" CMP<br>(SEE SHEET DP108) |
| (11) | "XP" 430+63 TO "XP" 430+63 | EXTEND EXISTING 42" CMP<br>INSTALL 42" X 3' CMP FROM "XP" 430+63, 114.2' LT. (LIE= 2817.24')<br>TO "XP" 430+63, 116.8' LT. (UIE= 2817.32')<br>INSTALL 42" CMP END SECTION, 116.8' LT.<br>(SEE SHEET DP108) |

PROFESSIONAL ENGINEER STATE OF NEVADA
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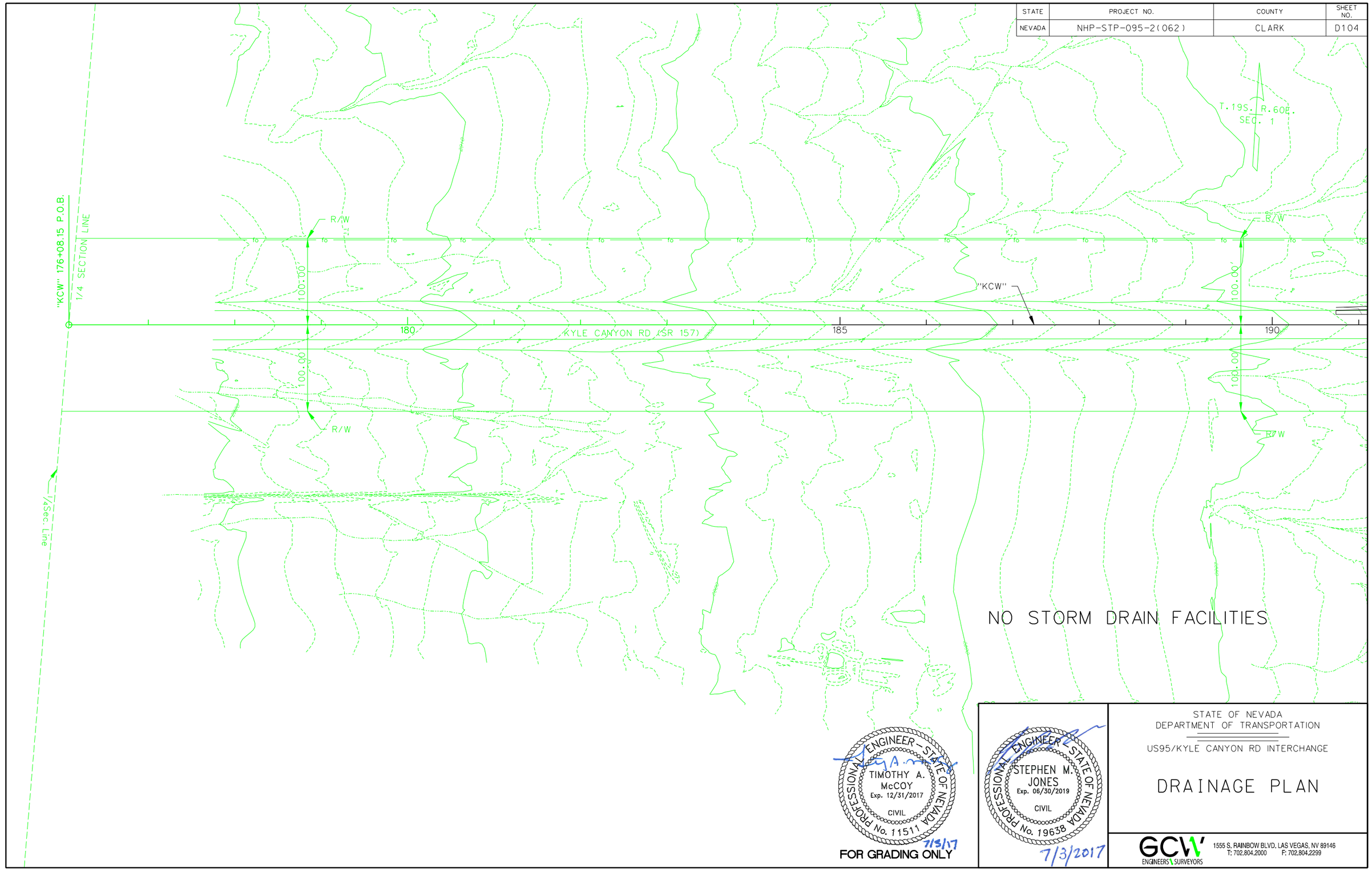
US95/KYLE CANYON RD INTERCHANGE

# DRAINAGE PLAN

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | D104 |




PROFESSIONAL ENGINEER – STATE OF NEVADA
TIMOTHY A. McCOY
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PROFESSIONAL ENGINEER – STATE OF NEVADA
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DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# DRAINAGE PLAN

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| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | D105 |

- LEGEND -

- RIPRAP

T.19S. R.60E.

| | | |
|---|---|---|
| (1) | "KCE1" 10+24 | INSTALL 30" RCP END SECTION, 89.0' RT.<br>INSTALL 30" X 59' RCP FROM "KCE1" 10+24, 89.0' RT. (UIE= 2825.35')<br>TO "KCE1" 10+49, 40.5' RT. (LIE = 2808.23')<br>CONNECT TO TYPE 1 MANHOLE CLASS 300 RIP RAP AT INLET<br>CLASS 300 RIPRAP APRON AT INLET<br>(SEE SHEET DP101) |
| (2) | "KCE1" 10+49 | CONSTRUCT TYPE 1 MANHOLE, 40.5' RT.<br>(COVER ELEV=2816.05', INV ELEV=2808.13', H=7.92')<br>INSTALL 30" X 212' RCP FROM "KCE1" 10+49, 40.5' RT. (UIE= 2808.13')<br>TO "KCE1" 12+53, 22.5' RT. (LIE = 2797.31')<br>CONNECT TO TYPE 1 MANHOLE.<br>(SEE SHEET DP101) |
| (3) | "KCE1" 12+53 | CONSTRUCT TYPE 1 MANHOLE, 22.5' RT.<br>(COVER ELEV=2803.70', INV ELEV=2797.21', H=6.49')<br>INSTALL 30" X 95' RCP FROM "KCE1" 12+53, 22.5' RT. (UIE= 2797.21')<br>TO "KCE1" 13+42, 28.5' RT. (LIE = 2792.59')<br>CONNECT TO TYPE 1 MANHOLE<br>(SEE SHEET DP101) |
| (4) | "KCE1" 12+50 | CONSTRUCT TYPE 11 DROP INLET (37.5' RT.)<br>(GRATE ELEV= 2803.50', INV ELEV= 2798.96', L= 7', H= 4.54')<br>INSTALL 18" X 15' RCP FROM "KCE1" 12+50, 37.5' RT. (UIE= 2798.96')<br>TO "KCE1" 12+53, 22.5' RT. (LIE = 2798.21')<br>CONNECT TO TYPE 1 MANHOLE<br>(SEE SHEET DP109) |
| (5) | "KCE1" 6+22 TO<br>"KCE1" 11+09 | CONSTRUCT CLASS 300 RIPRAP LINED BERM 1<br>FROM "KCE1" 6+22, 103.5' RT TO "KCE1" 11+09, 91.4' RT<br>(SEE SHEET DP116) |

PROFESSIONAL ENGINEER - STATE OF NEVADA
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FOR GRADING ONLY

APPROVED FOR CONSTRUCTION

LVVWD ENGINEERING SERVICES MANAGER
LVVWD PROJECT #124469 DATE:

PROFESSIONAL ENGINEER - STATE OF NEVADA
STEPHEN M. JONES
Exp. 06/30/2019
CIVIL
No. 19638
7/3/2017

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# DRAINAGE PLAN

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| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | D106 |

- LEGEND -

- RIPRAP

KYLE CANYON RD (SR 157)

KYLE CANYON RD

SKY POINTE DR

T. 19S. R. 60E. SEC. 16

"KCW" "KCR3" "KCR4" "KR3" "KR3A" "KR4" "KR4A" "KR2" "KR2A" "KR1" "KR1A" "KCW1" "KCE" "KCE1" "XP" "XS1e" "XN1e"

"KCW1" +46.34 61.48' LT.

"KR2A" +27.84 59.72' RT.

"KCW1" +47.94 93.26' LT.

"KCE1" +42.52 101.00' RT.

"KR4A" +44.38 138.36' LT.

EX. 24" CMP

EX. 6'X3' RCB

95 NORTH BOUND

95 SOUTH BOUND

R/W

CUT

FILL

TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
PROFESSIONAL ENGINEER - STATE OF NEVADA

7/3/17

FOR GRADING ONLY

STEPHEN M. JONES
Exp. 06/30/2019
CIVIL
No. 19638
PROFESSIONAL ENGINEER - STATE OF NEVADA

7/3/2017

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# DRAINAGE PLAN

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | D106A |

① "KCE1" 13+40
CONSTRUCT TYPE 11 DROP INLET (37.5' RT.)
(GRATE ELEV= 2798.78', INV ELEV= 2795.00', L= 7', H= 3.78')
INSTALL 18" X 9' RCP FROM "KCE1" 13+40, 37.5' RT. (UIE= 2795.00')
TO "KCE1" 13+42, 28.5' RT. (LIE = 2793.59')
CONNECT TO TYPE 1 MANHOLE
(SEE SHEET DP109)

② "KCE1" 13+42
CONSTRUCT TYPE 1 MANHOLE, 28.5' RT.
(COVER ELEV=2798.99', INV ELEV= 2792.49', H= 6.50')
INSTALL 30" X 215' RCP FROM "KCE1" 13+42, 28.5' RT. (UIE= 2792.49')
TO "KCE1" 15+42, 35.8' RT. (LIE = 2785.70')
CONNECT TO TYPE 1 MANHOLE
(SEE SHEET DP101)

③ "KCE1" 15+42
CONSTRUCT TYPE 1 MANHOLE, 35.8' RT.
(COVER ELEV=2792.88', INV ELEV= 2785.60', H=7.2')
INSTALL 30" X 162' RCP FROM "KCE1" 15+42, 35.8' RT. (UIE= 2785.60')
TO "KCW1" 21+68, 62.8' RT. (LIE = 2781.12')
CONNECT TO TYPE 1 MANHOLE
(SEE SHEET DP101)

④ "KCW1" 21+68
CONSTRUCT TYPE 1 MANHOLE, 62.8' RT.
(COVER ELEV=2786.44', INV ELEV= 2781.02', H=5.42')
INSTALL 30" X 130' RCP FROM "KCW1" 21+68, 62.8' RT. (UIE= 2781.02')
TO "KCW1" 22+78, 15.5' RT. (LIE = 2775.41')
CONNECT TO TYPE 3 DROP INLET
(SEE SHEET DP101)

⑤ "KCW1" 22+78
CONSTRUCT TYPE 3 DROP INLET, 15.5' RT.
(GRATE ELEV= 2782.49', INV ELEV= 2775.31', H= 7.18')
INSTALL 30" X 87' RCP FROM "KCW1" 22+78, 15.5' RT. (UIE= 2775.31')
TO "KCW1" 23+64, 41.5' RT. (LIE = 2769.36')
CONNECT TO TYPE 2 MANHOLE
(SEE SHEET DP101)

⑥ "KCW1" 23+64
CONSTRUCT TYPE 2 MANHOLE, 41.5' RT.
(COVER ELEV=2780.59', INV ELEV= 2769.26', H= 11.33')
INSTALL 42" X 149' RCP FROM "KCW1" 23+64, 41.5' RT. (UIE= 2769.26')
TO "KCW1" 25+12, 28.5' RT. (LIE = 2768.50')
CONNECT TO TYPE 2 MANHOLE
(SEE SHEET DP101)

⑦ "KCW1" 25+12
CONSTRUCT TYPE 2 MANHOLE, 28.5' RT.
(COVER ELEV=2777.92', INV ELEV= 2768.40', H=9.52')
INSTALL 42" X 203' RCP FROM "KCW1" 25+12, 28.5' RT. (UIE= 2768.40')
TO "KCW1" 27+14, 39.2' RT. (LIE = 2767.43')
CONNECT TO TYPE 2 MANHOLE
(SEE SHEET DP101)

⑧ "KCW1" 27+14
CONSTRUCT TYPE 2 MANHOLE, 39.2' RT.
(COVER ELEV=2773.74', INV ELEV= 2767.33', H=6.41')
INSTALL 42" X 117' RCP FROM "KCW1" 27+14, 39.2' RT. (UIE= 2767.33')
TO "KCW1" 28+17, 54.2' RT. (LIE = 2765.18')
CONNECT TO TYPE 2 MANHOLE
(SEE SHEET DP101)

⑨ "KCW1" 28+17
CONSTRUCT TYPE 2 MANHOLE, 54.2' RT.
(COVER ELEV=2774.54', INV ELEV= 2765.08', H=9.46')
INSTALL 42" X 105' RCP FROM "KCW1" 28+17, 54.2' RT. (UIE= 2765.08')
TO "KCW1" 25+16, 28.0' RT. (LIE = 2764.65')
CONNECT TO TYPE 2 MANHOLE
(SEE SHEET DP102)

⑩ "KCE1" 25+16
CONSTRUCT TYPE 2 MANHOLE, 28.0' RT.
(COVER ELEV=2774.15', INV ELEV= 2764.46', H= 9.69')
INSTALL 42" X 276' RCP FROM "KCE1" 25+16, 28.0' RT. (UIE= 2764.46')
TO "KCE1" 27+87, 7.2' RT. (LIE = 2763.74')
CONNECT TO TYPE 4 MANHOLE
(SEE SHEET DP102)

⑪ "KR4A" 7+99
CONSTRUCT TYPE 11 DROP INLET, 16.5' LT.
(GRATE ELEV= 2793.08', INV ELEV= 2788.45', L= 7', H= 4.63')
INSTALL 18" X 20' RCP FROM "KR4A" 7+99, 16.5' LT. (UIE= 2788.45')
TO "KR4A" 7+79, 16.5' LT. (LIE = 2787.99')
CONNECT TO TYPE 3 DROP INLET
(SEE SHEET DP109)

⑫ "KR4A" 7+79
CONSTRUCT TYPE 3 DROP INLET, 16.5' LT.
(GRATE ELEV= 2792.36', INV ELEV= 2787.89', L= 7', H= 4.47')
INSTALL 18" X 27' RCP FROM "KR4A" 7+79, 16.5' LT. (UIE= 2787.89')
TO "KCE1" 15+42, 35.8' RT. (LIE = 2786.70')
CONNECT TO TYPE 1 MANHOLE
(SEE SHEET DP109)

⑬ "KCE1" 15+92
CONSTRUCT TYPE 2B DROP INLET, 23.7' LT. WITH CONCRETE APRON,
(GRATE ELEV= 2792.80', INV ELEV= 2787.28', H= 5.52')
INSTALL 24" X 66' RCP FROM "KCE1" 15+92, 23.7' LT. (UIE= 2787.28')
TO "KCE1" 16+40, 21.3' RT. (LIE = 2785.10')
CONNECT TO TYPE 3 DROP INLET
(SEE SHEET DP110)

⑭ "KCE1" 16+40
CONSTRUCT TYPE 3 DROP INLET, 21.3' RT.
(GRATE ELEV= 2789.99', INV ELEV= 2785.00', H= 4.99')
INSTALL 24" X 89' RCP FROM "KCE1" 16+40, 21.3' RT. (UIE= 2785.00')
TO "KCW1" 21+68, 62.8' RT. (LIE = 2781.62')
CONNECT TO TYPE 1 MANHOLE
(SEE SHEET DP110)

⑮ "KR3A" 4+86
INSTALL 18" RCP END SECTION, 111.4' LT.
INSTALL 18" X 75' RCP FROM "KR3A" 4+86, 111.4' LT. (UIE= 2811.67')
TO "KR3A" 4+40, 42.9' LT. (LIE = 2784.95')
CONNECT TO TYPE 2B DROP INLET
CLASS 300 RIPRAP APRON AT INLET
(SEE SHEET DP106)

⑯ "KR3A" 4+40
CONSTRUCT TYPE 2B DROP INLET, 42.9' LT. WITH CONCRETE APRON,
(GRATE ELEV= 2789.86', INV ELEV = 2784.85', H= 5.01')
INSTALL 24" X 60' RCP FROM "KR2A" 4+40, 42.9' LT. (UIE 2784.85')
TO "KR2A" 3+99, 4.3' RT. (LIE= 2784.51')
CONNECT TO TYPE 3 DROP INLET
(SEE SHEET DP106)

⑰ "KR3A" 3+99
CONSTRUCT TYPE 3 DROP INLET, 4.3' RT.
(GRATE ELEV= 2790.88', INV ELEV= 2784.41', H= 6.47')
INSTALL 24" X 120' RCP FROM "KR3A" 3+99, 4.3' RT. (UIE= 2784.41')
TO "KC3" 30+90, 30.9' RT. (LIE = 2781.13')
CONNECT TO TYPE 1 MANHOLE
(SEE SHEET DP106)

⑱ "KR3" 30+90
CONSTRUCT TYPE 2B DROP INLET, 30.9' RT. WITH CONCRETE APRON,
(GRATE ELEV= 2785.83', INV ELEV= 2781.03', H= 4.8')
INSTALL 30" X 101' RCP FROM "KR3" 30+90, 30.9' RT. (UIE= 2781.03')
TO "KCW1" 18+70, 16.8' LT. (LIE = 2778.39')
CONNECT TO TYPE 1 MANHOLE
(SEE SHEET DP106)

⑲ "KCE1" 18+70
CONSTRUCT TYPE 1 MANHOLE, 16.8' LT.
(COVER ELEV=2784.48', INV ELEV= 2778.29', H=6.19')
INSTALL 30" X 133' RCP FROM "KCE1" 18+70, 16.8' LT. (UIE= 2778.29')
TO "KCW1" 23+64, 41.5' RT. (LIE = 2769.76')
CONNECT TO TYPE 2 MANHOLE
(SEE SHEET DP106)

⑳ "KCW1" 19+00
CONSTRUCT TYPE 11 DROP INLET, 21.1' LT.
(GRATE ELEV= 2797.23', INV ELEV= 2793.23', L= 10', H= 4.00')
INSTALL 18" X 68' RCP FROM "KCW1" 19+00, 21.1' LT. (UIE= 2793.23')
TO "KCW1" 19+70, 22.2' LT. (LIE = 2789.55')
CONNECT TO TYPE 11 DROP INLET
(SEE SHEET DP114)

㉑ "KCW1" 19+70
CONSTRUCT TYPE 11 DROP INLET, 22.2' LT.
(GRATE ELEV= 2793.88', INV ELEV= 2789.45', L= 10', H= 4.43')
INSTALL 18" X 62' RCP FROM "KCW1" 19+70, 22.2' LT. (UIE= 2789.45')
TO "KR3A" 3+60, 22.3' LT. (LIE = 2787.19')
CONNECT TO TYPE 3 DROP INLET
(SEE SHEET DP114)

㉒ "KR3A" 3+60
CONSTRUCT TYPE 3 DROP INLET, 22.3' LT.
(GRATE ELEV= 2791.63', INV ELEV= 2787.09', H= 4.54')
INSTALL 18" X 46' RCP FROM "KR3A" 3+60, 22.3' LT. (UIE= 2787.09')
TO "KR3A" 3+99, 4.3' RT. (LIE = 2784.91')
CONNECT TO TYPE 3 DROP INLET
(SEE SHEET DP114)

㉓ "KR3" 30+89
CONSTRUCT TYPE 3 DROP INLET, 8.3' LT.
(GRATE ELEV= 2787.25', INV ELEV= 2782.51', H= 4.74')
INSTALL 18" X 39' RCP FROM "KR3" 30+89, 8.3' LT. (UIE= 2782.51')
TO "KR3" 30+90, 30.9' RT. (LIE = 2781.82')
CONNECT TO TYPE 2B DROP INLET
(SEE SHEET DP114)

㉔ "KCE1" 18+73
INSTALL 24" RCP END SECTION, 75.2' LT.
INSTALL 24" X 59' RCP FROM "KCE1" 18+73, 75.2' LT. (UIE= 2801.66')
TO "KCE1" 18+70, 16.8' LT. (LIE = 2778.79')
CONNECT TO TYPE 1 MANHOLE
CLASS 300 RIPRAP APRON AT INLET
(SEE SHEET DP115)

㉕ "KR4A" 4+90
INSTALL 24" RCP END SECTION, 121.2' LT.
INSTALL 24" X 78' RCP FROM "KR4A" 4+90, 121.2' LT. (UIE= 2806.47')
TO "KR4A" 5+00, 44.0' LT. (LIE = 2772.95')
CONNECT TO TYPE 2B DROP INLET
CLASS 300 RIPRAP APRON AT INLET
(SEE SHEET DP110)

㉖ "KR4A" 5+00
CONSTRUCT TYPE 2B DROP INLET, 44.0' LT. WITH CONCRETE APRON,
(GRATE ELEV= 2778.47', INV ELEV= 2772.85', H= 5.62')
INSTALL 24" X 158' RCP FROM "KR4A" 5+00, 44.0' LT. (UIE= 2772.85')
TO "KR4" 55+71, 46.0' RT. (LIE = 2770.56')
CONNECT TO TYPE 2B DROP INLET
(SEE SHEET DP110)

㉗ "KR4" 55+71
CONSTRUCT TYPE 2B DROP INLET, 46.0' RT. WITH CONCRETE APRON,
(GRATE ELEV= 2775.63', INV ELEV= 2770.46', H= 5.17')
INSTALL 30" X 140' RCP FROM "KR4" 55+71, 46.0' RT. (UIE= 2770.46')
TO "KCW1" 23+64, 41.5' RT. (LIE = 2769.76')
CONNECT TO TYPE 2 MANHOLE
(SEE SHEET DP110)

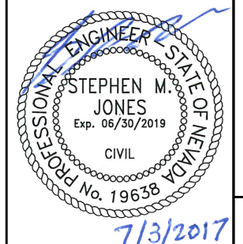
㉘ "KCE1" 20+08
INSTALL 18" RCP END SECTION, 69.3' LT.
INSTALL 18" X 58' RCP FROM "KCE1" 20+08, 69.3' LT. (UIE= 2795.22')
TO "KCE1" 20+30, 16.5' LT. (LIE = 2775.99')
CONNECT TO TYPE 1 MANHOLE
CLASS 300 RIPRAP APRON AT INLET
(SEE SHEET DP111)

㉙ "KCE1" 20+30
CONSTRUCT TYPE 1 MANHOLE, 16.5' LT.
(COVER ELEV=2780.88', INV ELEV= 2775.89', H=4.99')
INSTALL 18" X 114' RCP FROM "KCE1" 20+30, 16.5' LT. (UIE= 2775.89')
TO "KCW1" 25+12, 28.5' RT. (LIE = 2769.90')
CONNECT TO TYPE 2 MANHOLE
(SEE SHEET DP111)

㉚ "KCW1" 26+97
CONSTRUCT TYPE 2 DROP INLET, 24.5' LT.
(GRATE ELEV= 2776.02', INV ELEV= 2770.58', H= 5.44')
INSTALL 18" X 51' RCP FROM "KCW1" 26+97, 24.5' LT. (UIE= 2770.58')
TO "KCW1" 27+00, 26.8' RT. (LIE = 2769.65')
CONNECT TO TYPE 11 DROP INLET
(SEE SHEET DP111)

㉛ "KCW1" 27+00
CONSTRUCT TYPE 11 DROP INLET, 26.8' RT
(GRATE ELEV= 2774.43', INV ELEV= 2769.55', L= 10', H= 4.88')
INSTALL 18" X 20' RCP FROM "KCW1" 27+00, 26.8' RT. (UIE= 2769.55')
TO "KCW1" 27+14, 39.2' RT. (LIE = 2769.22')
CONNECT TO TYPE 2 MANHOLE
(SEE SHEET DP102)

㉜ "KR2" 21+79
INSTALL 24" RCP END SECTION, 102.8' LT.
INSTALL 24" X 57' RCP FROM "KR2" 21+79, 102.8' LT. (UIE= 2789.86')
TO "KR2" 21+85, 46.0' LT. (LIE = 2767.75')
CONNECT TO TYPE 2A DROP INLET
CLASS 300 RIPRAP APRON AT INLET
(SEE SHEET DP112)




STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# DRAINAGE PLAN

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | D106B |

(33) "KR2" 21+85

CONSTRUCT TYPE 2A DROP INLET, 46.0' LT. WITH CONCRETE APRON,
(GRATE ELEV= 2772.88', INV ELEV= 2767.65', H= 5.23')
INSTALL 24" X 98' RCP FROM "KR2" 21+85, 46.0' LT. (UIE= 2767.65')
TO "KCE1" 23+31, 50.0' LT. (LIE = 2766.97')
CONNECT TO TYPE 2B DROP INLET
(SEE SHEET DP112)

(34) "KCE1" 23+31

CONSTRUCT TYPE 2B DROP INLET, 50.0' LT. WITH CONCRETE APRON,
(GRATE ELEV= 2776.45', INV ELEV= 2766.97', H= 9.48')
INSTALL 24" X 73' RCP FROM "KCE1" 23+31, 50.0' LT. (UIE= 2766.97')
TO "KCE1" 23+30, 22.5' RT. (LIE = 2766.60')
CONNECT TO TYPE II DROP INLET
(SEE SHEET DP112)

(35) "KCE1" 23+30

CONSTRUCT TYPE II DROP INLET, 22.5' RT.
(GRATE ELEV= 2775.34', INV ELEV= 2766.50', H= 8.84')
INSTALL 30" X 58' RCP FROM "KCE1" 23+30, 22.5' RT. (UIE= 2766.50')
TO "KCW1" 27+76, 19.0' RT. (LIE = 2766.05')
CONNECT TO TYPE 11 DROP INLET
(SEE SHEET DP112)

(36) "KCW1" 27+76

CONSTRUCT TYPE 11 DROP INLET (19.0' RT.)
(GRATE ELEV= 2774.14', INV ELEV= 2765.95', L= 15', H= 8.19')
INSTALL 30" X 57' RCP FROM "KCW1" 27+76,19.0' RT. (UIE= 2765.95')
TO "KCW1" 28+17, 54.2' RT. (LIE = 2765.28')
CONNECT TO TYPE 2 MANHOLE
(SEE SHEET DP102)

(37) "KR2A" 5+09

CONSTRUCT TYPE 2B DROP INLET, 52.5' RT. WITH CONCRETE APRON,
(GRATE ELEV= 2774.75', INV ELEV= 2768.46', H= 6.29')
INSTALL 18" X 115' RCP FROM "KR2A" 5+09, 52.5' RT. (UIE= 2768.46')
TO "KCE1" 23+31, 50.0' LT. (LIE = 2767.07')
CONNECT TO TYPE 2A DROP INLET
(SEE SHEET DP112)

(38) "KCW1" 29+15

CONSTRUCT TYPE 3 DROP INLET,15.3' RT.
(GRATE ELEV= 2775.04', INV ELEV= 2769.87', H= 5.17')
INSTALL 18" X 63' RCP FROM "KCW1" 29+15, 15.3' RT. (UIE= 2769.87')
TO "KCE1" 25+16, 28.0' RT. (LIE = 2766.46')
CONNECT TO TYPE 2 MANHOLE
(SEE SHEET DP113)

(39) "KR1" 25+62

CONSTRUCT TYPE 2B DROP INLET, 45.6' LT. WITH CONCRETE APRON,
(GRATE ELEV= 2769.81', INV ELEV= 2766.08', H= 3.73')
INSTALL 18" X 137' RCP FROM "KR1" 25+62, 45.6' LT. (UIE= 2766.08')
TO "KR1A" 2+16, 59.8' RT. (LIE = 2765.39')
CONNECT TO TYPE 2B DROP INLET
(SEE SHEET DP113)

(40) "KR1A" 2+16

CONSTRUCT TYPE 2B DROP INLET, 59.8' RT. WITH CONCRETE APRON,
(GRATE ELEV= 2771.25', INV ELEV= 2765.29', H= 5.96')
INSTALL 24" X 10' RCP FROM "KR1A" 2+16, 59.8' RT. (UIE= 2765.29')
TO "KR1A" 2+29, 62.6' RT. (LIE = 2765.24')
CONNECT TO TYPE 2B DROP INLET
(SEE SHEET DP113)

(41) "KR1A" 2+29

CONSTRUCT TYPE 2B DROP INLET, 62.6' RT. WITH CONCRETE APRON,
(GRATE ELEV= 2771.33', INV ELEV= 2765.14', H= 6.19')
INSTALL 24" X 96' RCP FROM "KR1A" 2+29, 62.6' RT. (UIE= 2765.14')
TO "KCE1" 25+16, 28.0' RT. (LIE = 2764.66')
CONNECT TO TYPE 2 MANHOLE
(SEE SHEET DP113)

(42) "KCW1" 31+30

INSTALL 24" RCP END SECTION, 95.5' LT.
INSTALL 24" X 80' RCP FROM "KCW1" 31+30, 95.5' LT. (UIE= 2773.49')
TO "KCW1" 31+70, 28.8' LT. (LIE = 2765.88')
CONNECT TO TYPE 1 MANHOLE
CLASS 300 RIPRAP APRON AT INLET
(SEE SHEET DP113)

(43) "KCW1" 31+70

CONSTRUCT TYPE 1 MANHOLE, 28.8' LT.
(COVER ELEV=2771.81', INV ELEV=2765.78', H=6.03')
INSTALL 24" X 110' RCP FROM "KCW1" 31+70, 28.8' LT. (UIE= 2765.78')
TO "KCE1" 27+87, 7.2' RT. (LIE = 2764.31')
CONNECT TO TYPE 4 MANHOLE
(SEE SHEET DP113)

(44) "KR2A" 3+28 TO "KCW1" 31+48

CONSTRUCT CLASS 300 RIPRAP LINED BERM 6
FROM "KR2A" 3+28, 59.7' RT TO "KCW1" 31+48, 93.3' LT
(SEE SHEET DP119)

(45) "KCE1" 17+76

CONSTRUCT TYPE 3 DROP INLET, 21.5' RT.
(GRATE ELEV= 2785.94', INV ELEV= 2781.17', H= 4.77')
INSTALL 18" X 90' RCP FROM "KCW1" 17+76, 21.5' RT. (UIE= 2781.17')
TO "KCE1" 22+78, 15.5' RT. (LIE = 2782.45')
CONNECT TO TYPE 3 DROP INLET
(SEE SHEET DP111)

PROFESSIONAL ENGINEER | STATE OF NEVADA
STEPHEN M. JONES
Exp. 06/30/2019
CIVIL
No. 19638
7/3/2017

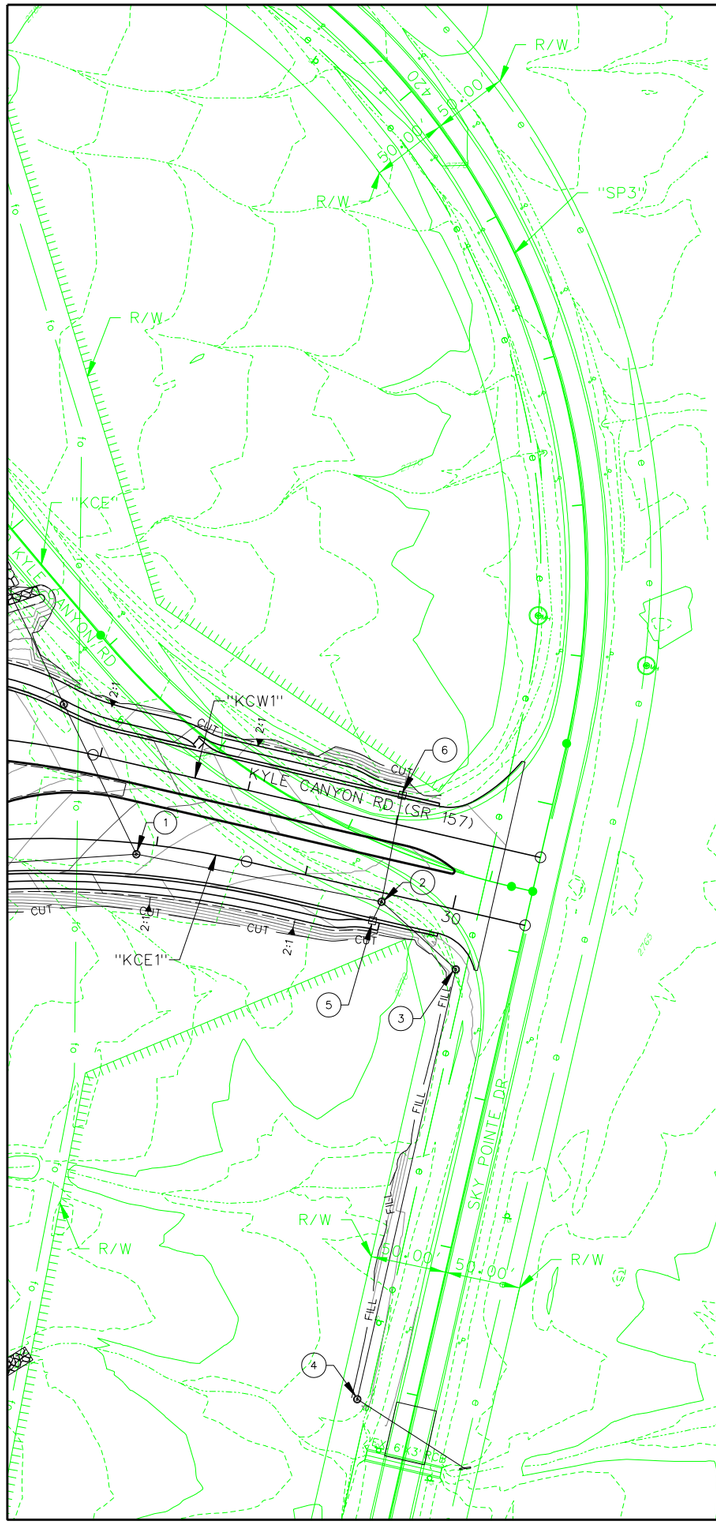
STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# DRAINAGE PLAN

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD, LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | D107 |




1. "KCE1" 27+87
   CONSTRUCT TYPE 4 MANHOLE, 7.2' RT.
   (COVER ELEV=2769.26', INV ELEV=2763.64', H=5.62')
   INSTALL 60" X 38" x 165' HERCP FROM "KCE1" 27+87, 7.2' RT.
   (UIE= 2763.64') TO "KCE1" 29+53, 6.0' RT. (LIE = 2763.19')
   CONNECT TO TYPE 4 MANHOLE
   (SEE SHEET DP102)

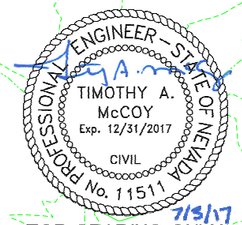
2. "KCE1" 29+53
   CONSTRUCT TYPE 4 MANHOLE, 6.0' RT.
   (COVER ELEV=2767.66', INV ELEV=2763.19', H=4.47')
   INSTALL 60" X 38" X 66' HERCP FROM "KCE1" 29+53, 6.0' RT.
   (UIE= 2763.19') TO "SP3" 413+80, 38.0' LT. (LIE = 2762.99')
   CONNECT TO TYPE 4 MANHOLE
   (SEE SHEET DP102)

3. "SP3" 413+80
   CONSTRUCT TYPE 4 MANHOLE, 38.0' LT.
   (COVER ELEV=2768.49', INV ELEV=2762.99', H=5.5')
   INSTALL 60" X 38' X 291' HERCP FROM "SP3" 413+80, 38.0' LT.
   (UIE= 2762.99') TO "SP3" 410+89, 38.0' LT. (LIE = 2762.12')
   CONNECT TO TYPE 4 MANHOLE
   (SEE SHEET DP102)

4. "SP3" 410+89
   CONSTRUCT TYPE 4 MANHOLE, 38.0' LT.
   (COVER ELEV=2767.62', INV ELEV=2762.02', H=5.6')
   INSTALL 60" X 38' X 85' HERCP FROM "SP3" 410+89, 38.0' LT.
   (UIE= 2762.02') TO "SP3" 410+60, 41.7' RT. (LIE = 2761.77')
   CONSTRUCT CULVERT. HEADWALL RT.
   (SEE SHEET DP102)

5. "KCE1" 29+50
   CONSTRUCT TYPE 11 DROP INLET, 19.50' RT.
   (GRATE ELEV= 2767.41', INV ELEV= 2763.36', L= 15', H= 4.05')
   INSTALL 24" X 14' RCP FROM "KCE1" 29+50, 19.5' RT. (UIE= 2763.36')
   TO "KCE1" 29+53, 6.0' RT. (LIE = 2763.29')
   CONNECT TO TYPE 4 MANHOLE
   (SEE SHEET DP115)

6. "KCW1" 34+00
   CONSTRUCT TYPE 11 DROP INLET, 19.5' LT.
   (GRATE ELEV= 2766.92', INV ELEV= 2763.65', L= 7', H= 3.27')
   INSTALL 18" X 72' RCP FROM "KCW1" 34+00, 19.5' LT. (UIE= 2763.65')
   TO "KCE1" 29+53, 6.0' RT. (LIE = 2763.29')
   CONNECT TO TYPE 4 MANHOLE
   (SEE SHEET DP115)




FOR GRADING ONLY




STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# DRAINAGE PLAN

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | D102A |

| | | |
|---|---|---|
| (1) | "XP" 412+42 | CONSTRUCT 5-2G EMBANKMENT PROTECTOR INLET, 76.3' RT.<br>(GRATE ELEV= 2792.94', INV ELEV= 2787.95', H= 4.99')<br>INSTALL 18" X 17' RCP FROM "XP" 412+42, 76.3' RT. (UIE= 2787.95')<br>TO "XP" 412+24, 76.3' RT. (LIE= 2786.94')<br>CONNECT EXISTING 6' X 3' RCB<br>(SEE SHEET DP108) |
| (2) | "XP" 412+52 | CONSTRUCT TYPE 2 DROP INLET, 76.3' RT.<br>(GRATE ELEV= 2793.13', INV ELEV= 2788.14', H= 4.99')<br>INSTALL 18" X 10' RCP FROM "XP" 412+52, 76.3' RT. (UIE= 2788.14')<br>TO "XP" 412+42, 76.3' RT. (LIE= 2788.05')<br>CONNECT TO TYPE 5-2G EMBANKMENT PROTECTOR<br>(SEE SHEET DP108) |
| (3) | "XP" 412+62 | CONSTRUCT TYPE 2 DROP INLET, 76.3' RT.<br>(GRATE ELEV= 2793.30', INV ELEV= 2788.32', H= 4.98')<br>INSTALL 18" X 10' RCP FROM "XP" 412+62, 76.3' RT. (UIE= 2788.32')<br>TO "XP" 412+52, 76.3' RT. (LIE= 2788.24')<br>CONNECT TO TYPE 2 DROP INLET<br>(SEE SHEET DP108) |
| (4) | "XP" 412+49 TO<br>"XP" 412+95 | ABANDON 24" CMP |
| (5) | "XP" 418+13 | CONSTRUCT TYPE 5-2G EMBANKMENT PROTECTOR, 76.3' RT.<br>(GRATE ELEV= 2804.97', INV ELEV= 2802.49', H= 2.48')<br>INSTALL 12" X 20' CMP FROM "XP" 418+13, 76.5' LT. (UIE= 2802.41')<br>TO "XP" 418+13, 96.0' LT. (LIE= 2802.49')<br>CLASS 150 RIPRAP APRON AT OUTLET |
| (6) | "XP" 418+21 | CONSTRUCT TYPE 2 DROP INLET, 76.3' RT<br>(GRATE ELEV= 2805.11', INV ELEV= 2802.62', H= 2.49')<br>INSTALL 12" X 8' CMP FROM "XP" 418+21, 76.5' LT. (UIE= 2802.59')<br>TO "XP" 412+13, 76.5' RT. (LIE= 2802.49')<br>CONNECT TO TYPE 5-2G EMBANKMENT PROTECTOR |
| (7) | "XP" 421+25 | ABANDON 24" CMP |
| (8) | "KR1" 23+00 | CONSTRUCT TYPE 2B DROP INLET, 44.0' LT. WITH CONCRETE APRON,<br>(GRATE ELEV= 2775.26', INV ELEV= 2772.25', H= 3.01')<br>INSTALL 24" X 108' RCP FROM "KR1" 23+00, 44.0' LT. (UIE= 2772.25')<br>"KR1" 22+82, 62.0' RT. (LIE = 2772.00')<br>INSTALL 24" RCP END SECTION RT.<br>CLASS 300 RIPRAP APRON AT OUTLET, 3:1 SS TRAPEZOIDAL B/W<br>(SEE SHEET DP108) |
| (9) | "KR1" 23+04 | INSTALL 24" RCP END SECTION, 65.5' LT.<br>INSTALL 24" X 22' RCP FROM "KR1" 23+00, 44.0' LT. (LIE= 2772.35')<br>TO "KR1" 23+04, 65.5' LT. (UIE = 2778.22')<br>CONNECT TO TYPE 2B DROP INLET<br>CLASS 300 RIPRAP APRON AT INLET TO EXISTING 6'x3' RCB<br>AT "KR1" 23+37, 145.1' LT.<br>(SEE SHEET DP108) |
| (10) | "XP" 415+63 | CONSTRUCT TYPE 5-2G EMBANKMENT PROTECTOR, 76.5' LT.<br>(GRATE ELEV.= 2800.51, INV ELEV 2798.51, H=2.0')<br>INSTALL 12" X 41' CMP FROM "XP" 415+63, 76.5' LT. (UIE= 2798.51')<br>TO "XP" 415+28, 97.8' LT. (LIE= 2797.75')<br>CLASS 150 RIPRAP APRON AT OUTLET |
| (11) | "KCE1" 13+42 TO<br>"KR4A" 4+44 | CONSTRUCT CLASS 300 RIPRAP LINED BERM 2<br>FROM "KCE1" 13+42, 101.0' RT. TO "KR4A" 4+44, 138.4' LT.<br>(SEE SHEET DP116) |
| (12) | "KCW1" 16+46 TO<br>"KR3" 37+09 | CONSTRUCT CLASS 300 RIPRAP LINED BERM 4<br>FROM "KCW1" 16+46, 61.5' LT. TO "KR3" 37+09, 78.6' LT.<br>(SEE SHEET DP118) |
| (13) | "KCE1" 18+09 TO<br>"KCE1" 18+99 | CONSTRUCT CLASS 300 RIPRAP LINED BERM 7<br>FROM "KCE1" 18+09, 86.0' LT. TO "KCE1" 18+99, 68.2' LT.<br>(SEE SHEET DP120) |
| (14) | "KCE1" 21+22 TO<br>"KR2" 26+85 | CONSTRUCT CLASS 300 RIPRAP LINED BERM 5<br>FROM "KCE1" 21+22, 64.6' LT TO "KR2" 26+85, 69.0' LT<br>(SEE SHEET DP119) |
| (15) | "MOSM" 64+01 TO<br>"MOSM" 69+21 | CONSTRUCT 13' X 8' X 520.0 RCB FROM "MOSM" 64+01 (UIE= 2773.45')<br>TO "MOSM" 69+21 (LIE= 2763.06')<br>PLUG BOTH ENDS<br>(SEE SHEET DP104 AND DS102) |

PROFESSIONAL ENGINEER
STATE OF NEVADA
STEPHEN M. JONES
Exp. 06/30/2019
CIVIL
No. 19638
7/3/2017

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# DRAINAGE PLAN

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
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| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DP101 |

NOTE: DEPICTED UTILITY LOCATIONS ARE APPROXIMATE ONLY. CONTRACTOR TO VERIFY EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.

D105 1

"KCE1" 10+24.20, 89.03' RT.
30" RCP END SECTION

D105 2

"KCE1" 10+48.77, 40.50' RT.
TYPE 1 MANHOLE
COVER ELEV = 2816.05'

18.2'
RIPRAP
CLASS 300

UIE= 2825.35'

30" x 58.9' RCP
S= 29.07%
$Q_{50}$ = 24 CFS

LIE= 2808.23'

UIE= 2808.13'

30" x 211.9' RCP
CLASS III
S= 5.11%
$Q_{50}$ = 24 CFS

D105 3

"KCE1" 12+53.24, 22.49' RT.
TYPE 1 MANHOLE
COVER ELEV = 2803.70'

D106 2

"KCE1" 13+41.70, 28.49' RT.
TYPE 1 MANHOLE
COVER ELEV = 2798.99'

LIE= 2797.31'

UIE= 2797.21'

30" x 94.8' RCP
CLASS III
S= 4.87%
$Q_{50}$ = 27.4 CFS

LIE= 2792.59'

UIE= 2792.49'

30" x 215.3' RCP
CLASS III
S= 3.15%
$Q_{50}$ = 29.4 CFS

FINISHED GRADE

HGL

D106 3

"KCE1" 15+41.54, 35.75' RT.
TYPE 1 MANHOLE
COVER ELEV = 2792.88'

LIE= 2785.70'

UIE= 2785.60'

30" x 161.8' RCP
CLASS III
S= 2.77%
$Q_{50}$ = 31.5 CFS

EXISTING GROUND

D106 4

"KCW1" 21+68.48, 62.79' RT.
TYPE 1 MANHOLE
COVER ELEV = 2786.44'

LIE= 2781.12'

UIE= 2781.02'

30" x 130.0' RCP
CLASS III
S= 4.31%
$Q_{50}$ = 34.1 CFS

D106 5

"KCW1" 22+78.00, 15.50' RT.
TYPE 3 DROP INLET
GRATE ELEV = 2782.49'

"KR4"

LIE= 2775.41'

UIE= 2775.31'

30" x 87.3' RCP
CLASS III
S= 6.82%
$Q_{50}$ = 34.8 CFS

LIE= 2769.36'

UIE= 2769.26'

42" x 148.9' RCP
CLASS III
S= 0.51%
$Q_{50}$ = 58 CFS

D106 6

"KCW1" 23+64.14, 41.46' RT.
TYPE 2 MANHOLE
COVER ELEV = 2780.59'

"XS1E"

D106 7

"XP1"

"XN1E"

FINISHED GRADE

"KCW1" 25+12.48, 28.50' RT.
TYPE 2 MANHOLE
COVER ELEV = 2777.92'

Existing Fiber Optic

LIE= 2768.50'

UIE= 2768.40'

42" x 203.2' RCP
CLASS III
S= 0.48%
$Q_{50}$ = 59.4 CFS

D106 8

"KCW1" 27+13.98, 39.24' RT.
TYPE 2 MANHOLE
COVER ELEV = 2773.74'

LIE= 2767.43'

UIE= 2767.33'

42" x 116.8' RCP
CLASS III
S= 1.84%
$Q_{50}$ = 61 CFS

SEE SHEET DP102

PROFESSIONAL ENGINEER | STATE OF NEVADA
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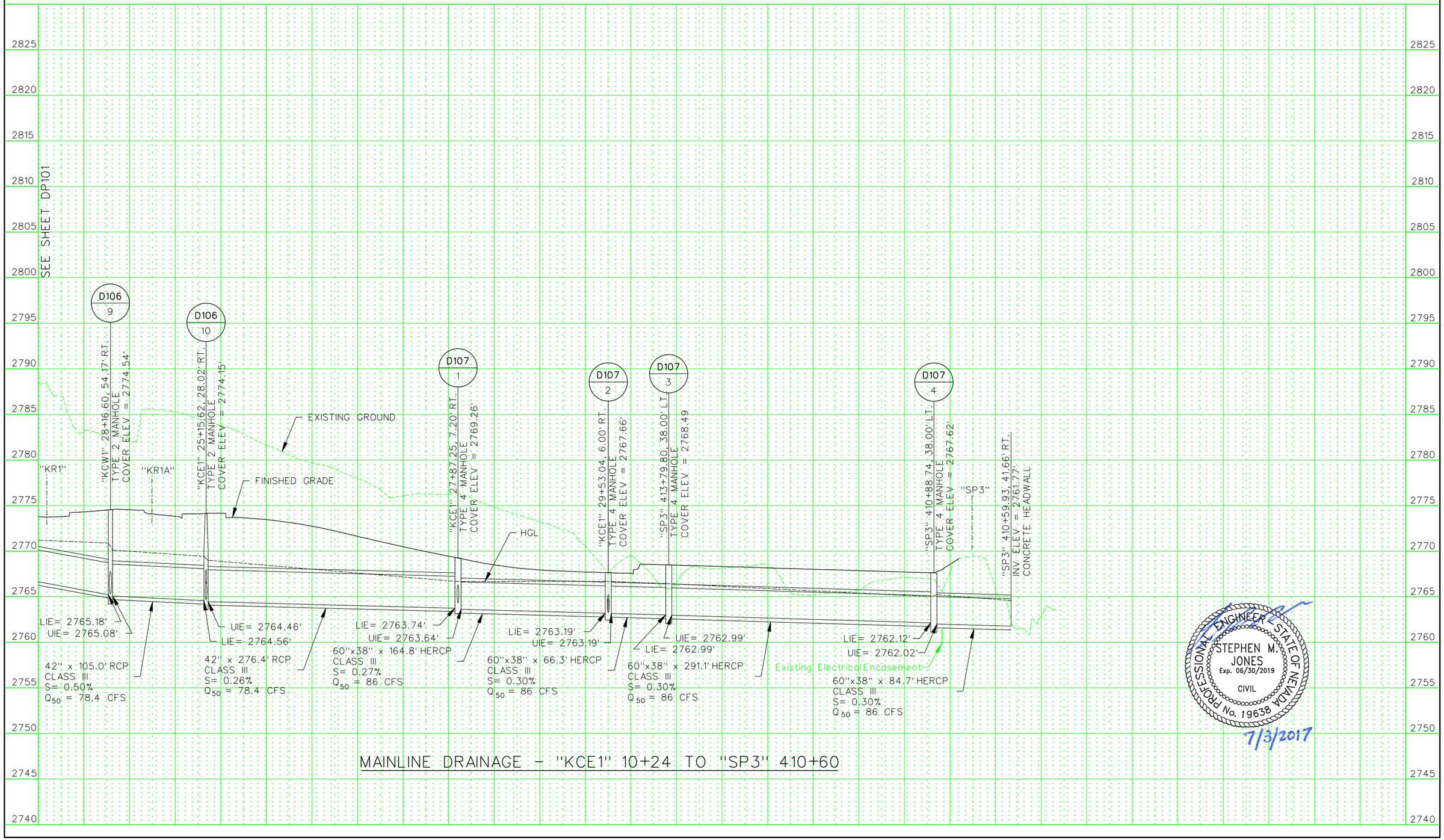
MAINLINE DRAINAGE – "KCE1" 10+24 TO "SP3" 410+60

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DP102 |

NOTE: DEPICTED UTILITY LOCATIONS ARE APPROXIMATE ONLY. CONTRACTOR TO VERIFY EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.




MAINLINE DRAINAGE - "KCE1" 10+24 TO "SP3" 410+60

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STEPHEN M. JONES
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CIVIL
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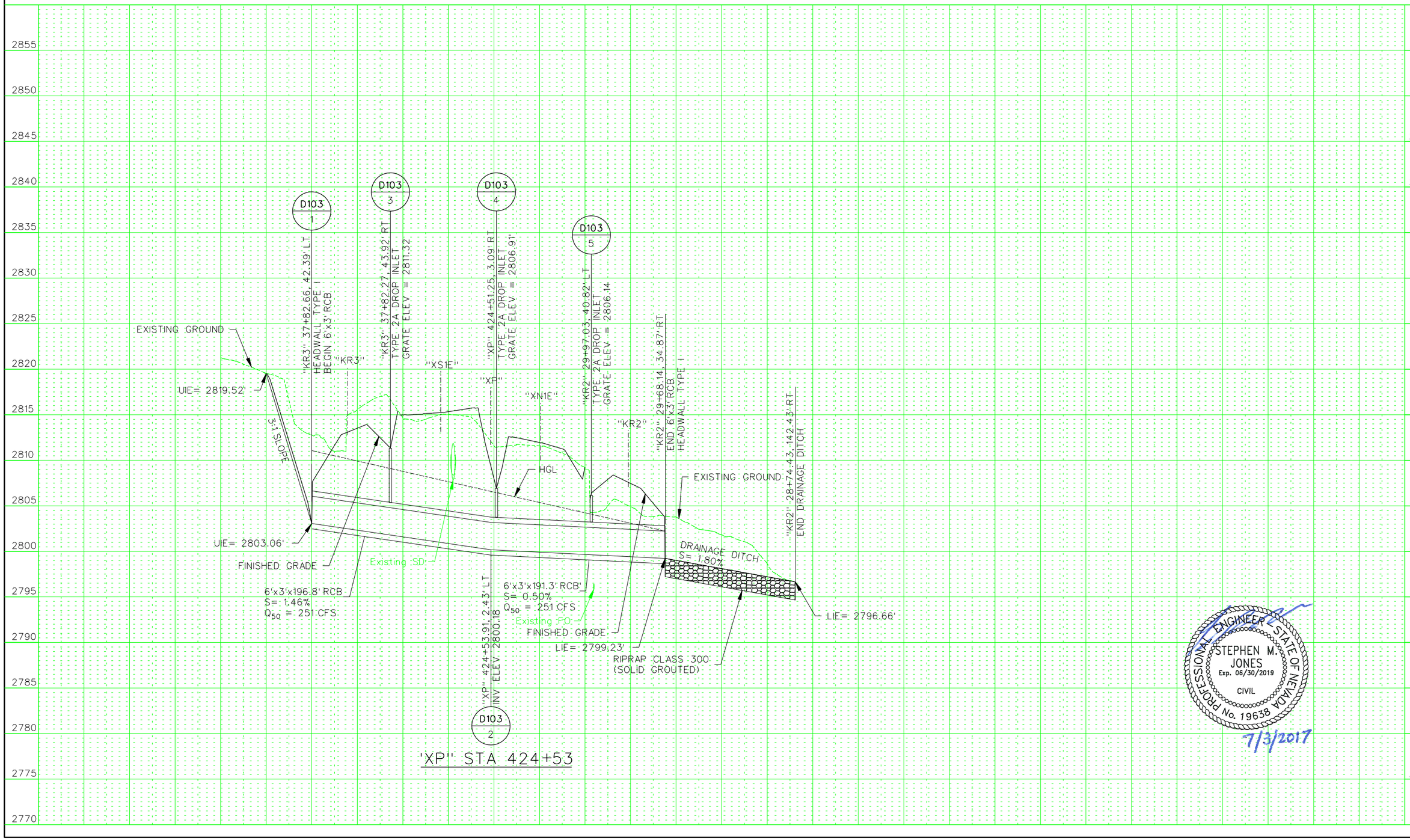
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DP103 |

NOTE: DEPICTED UTILITY LOCATIONS ARE APPROXIMATE ONLY. CONTRACTOR TO VERIFY EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.




'XP' STA 424+53

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STATE OF NEVADA
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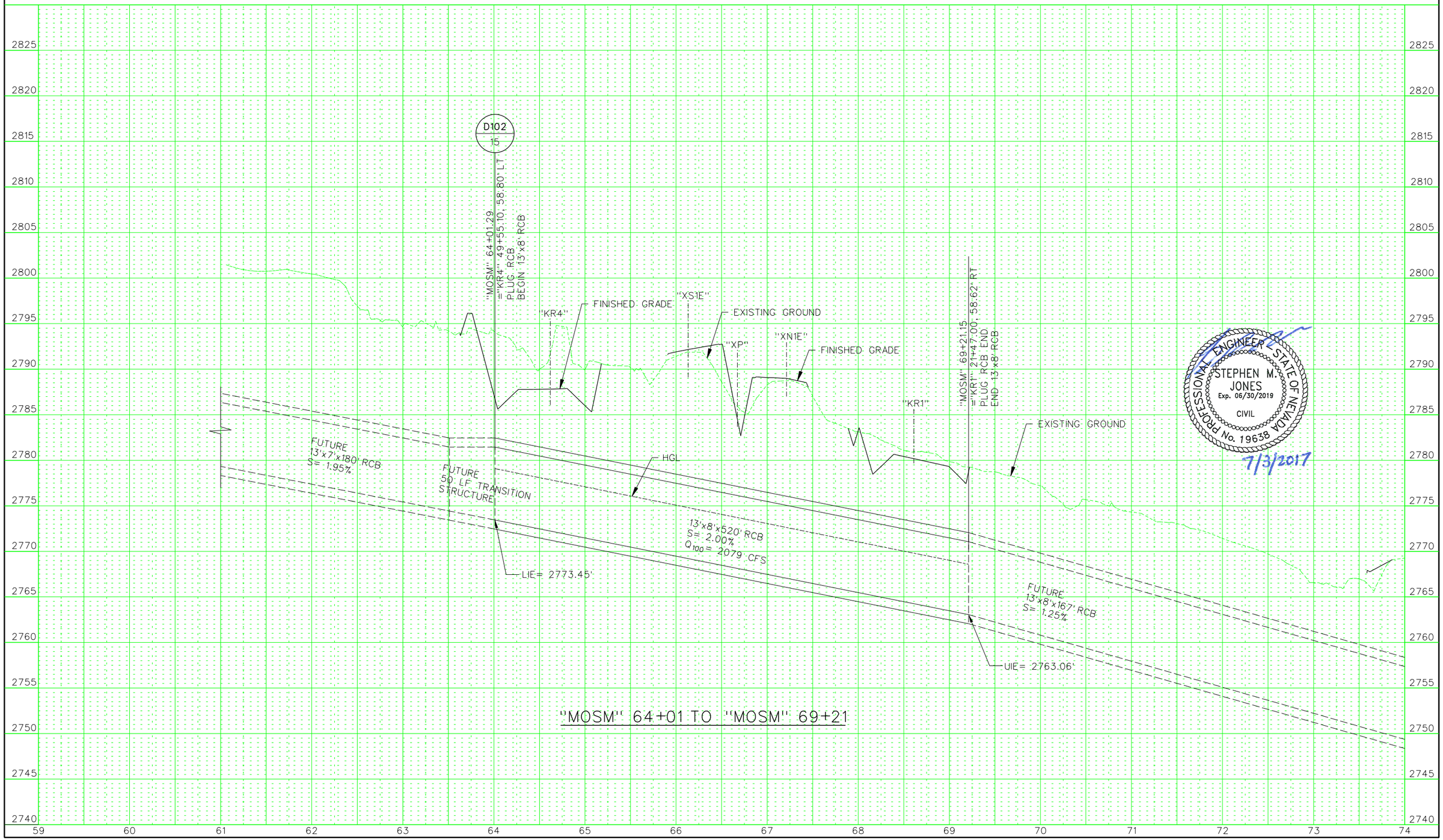
No. 19638

7/3/2017

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DP104 |




"MOSM" 64+01 TO "MOSM" 69+21

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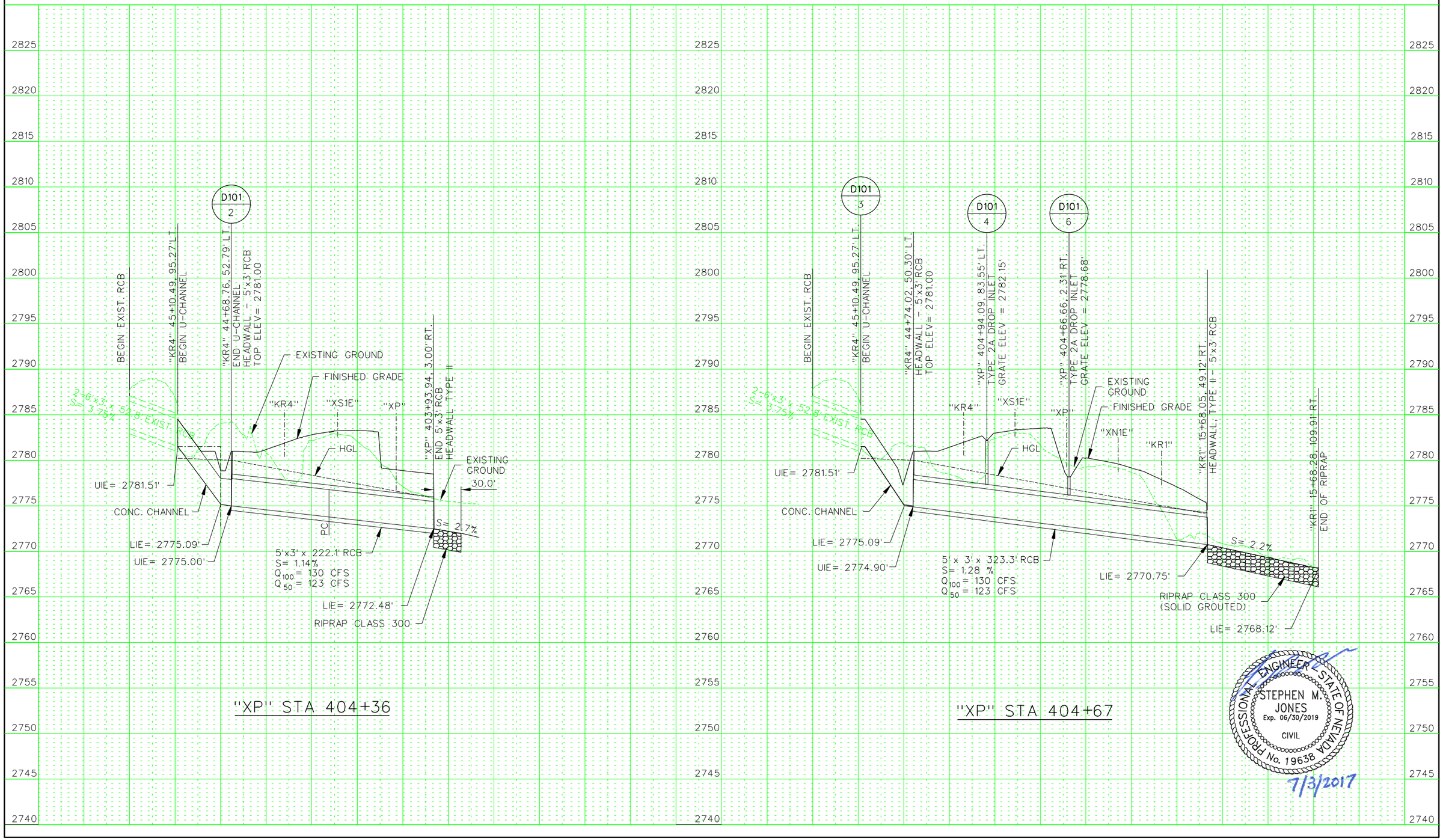
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DP105 |

NOTE: DEPICTED UTILITY LOCATIONS ARE APPROXIMATE ONLY. CONTRACTOR TO VERIFY EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.

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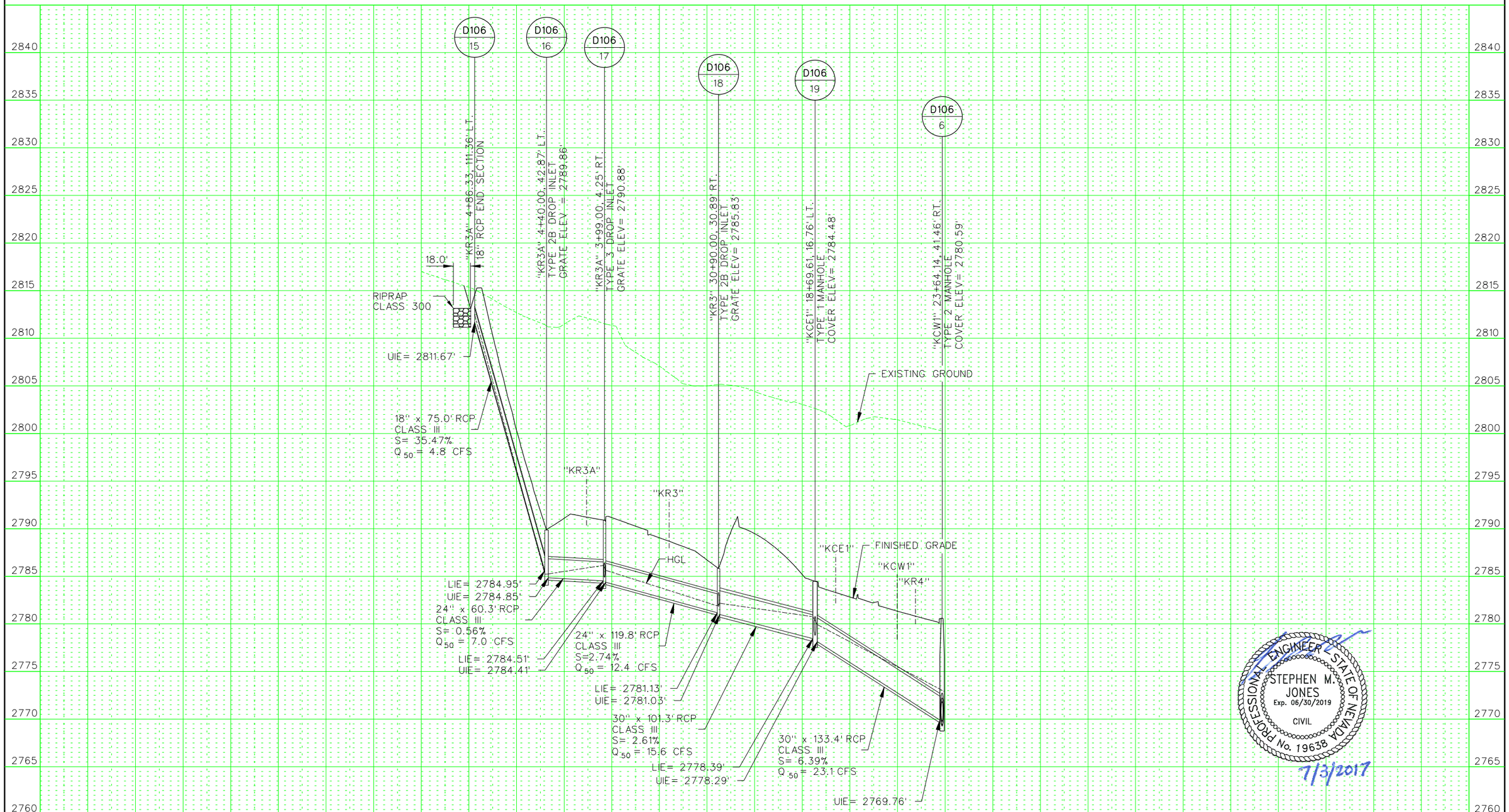
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DP106 |




MAINLINE DRAINAGE 2 – "KR3A" 4+86 TO "KCW1" 23+63

PROFESSIONAL ENGINEER
STATE OF NEVADA
STEPHEN M. JONES
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No. 19638
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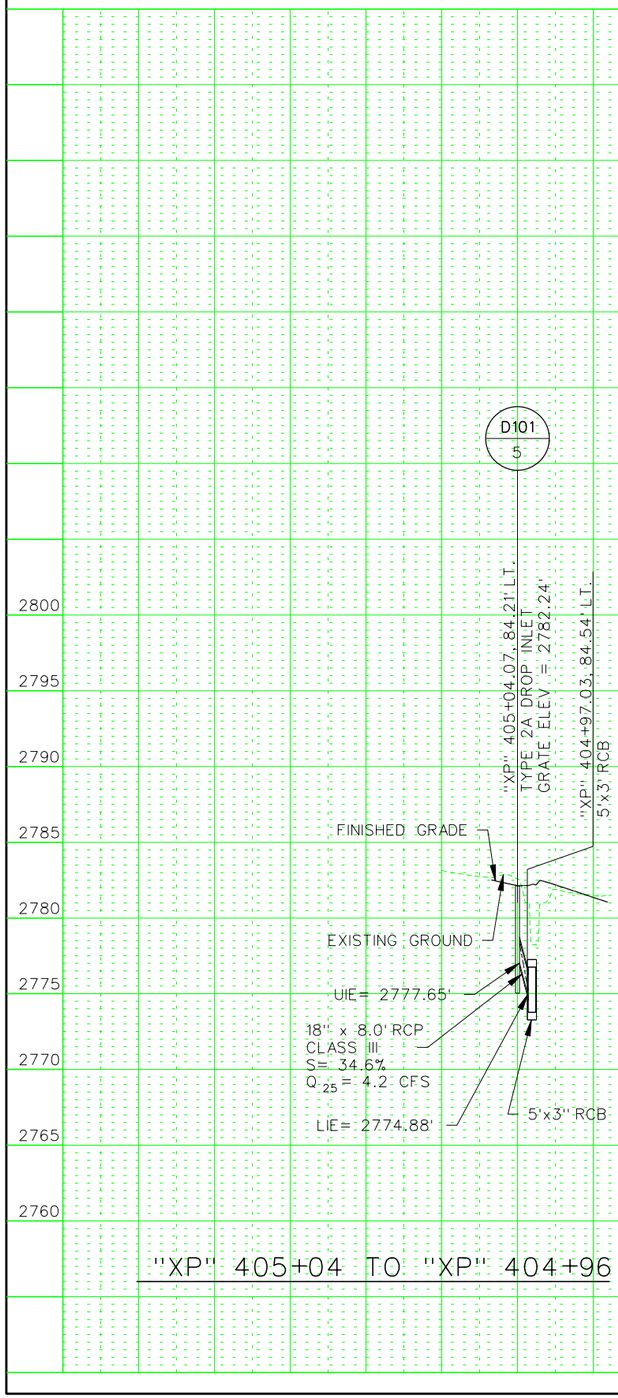
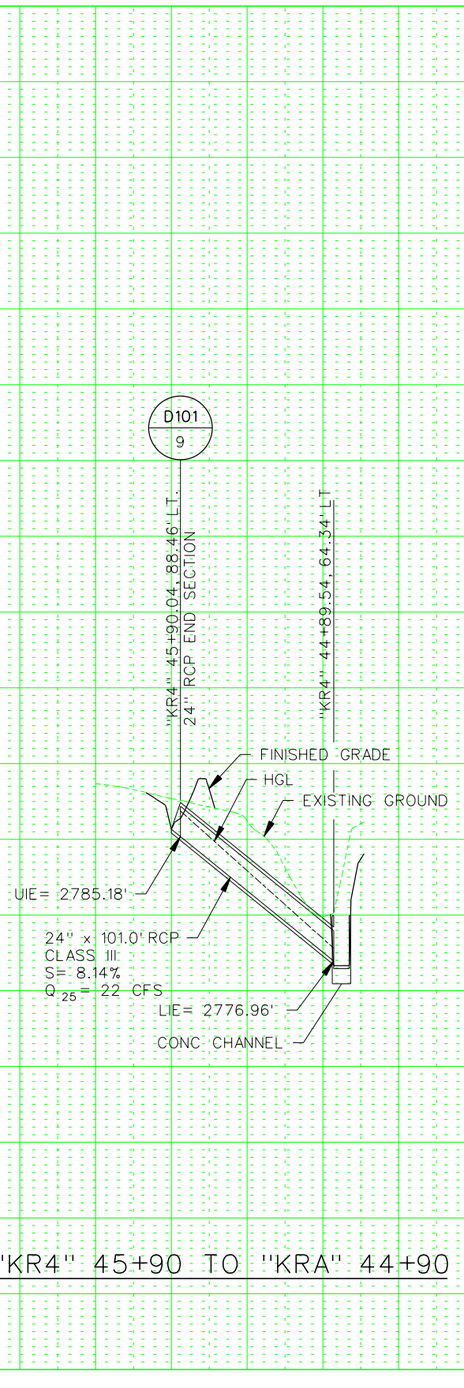
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DP107 |



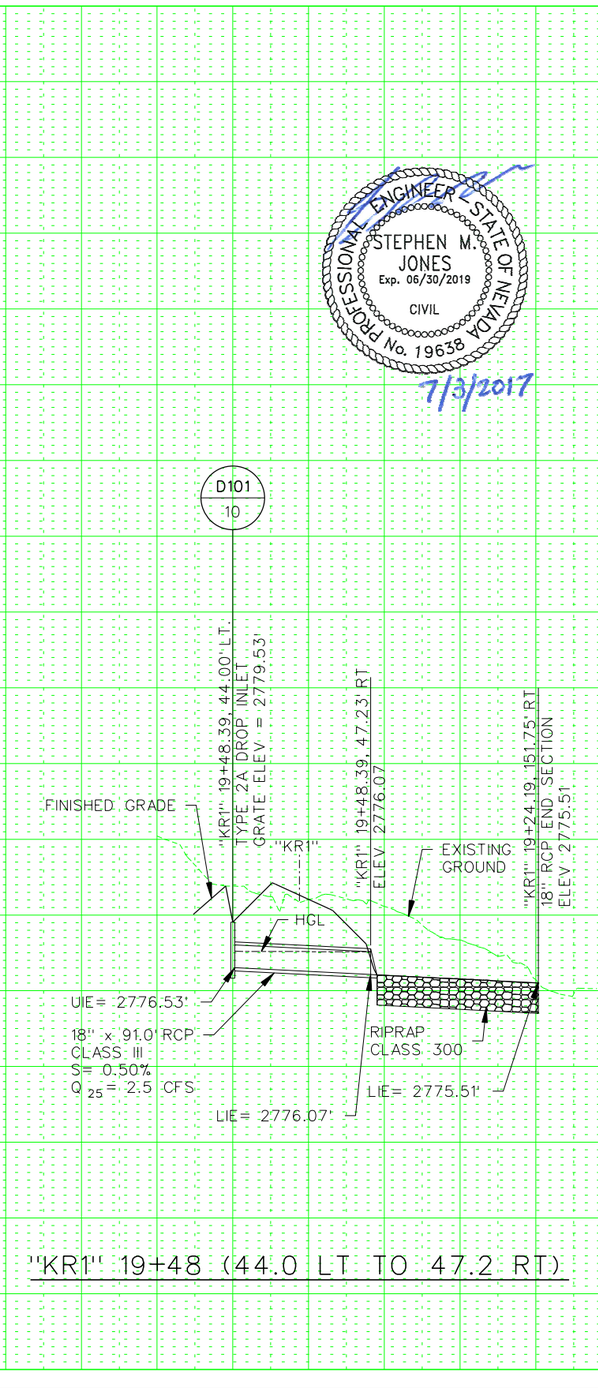

7/3/2017




"XP" 405+04 TO "XP" 404+96

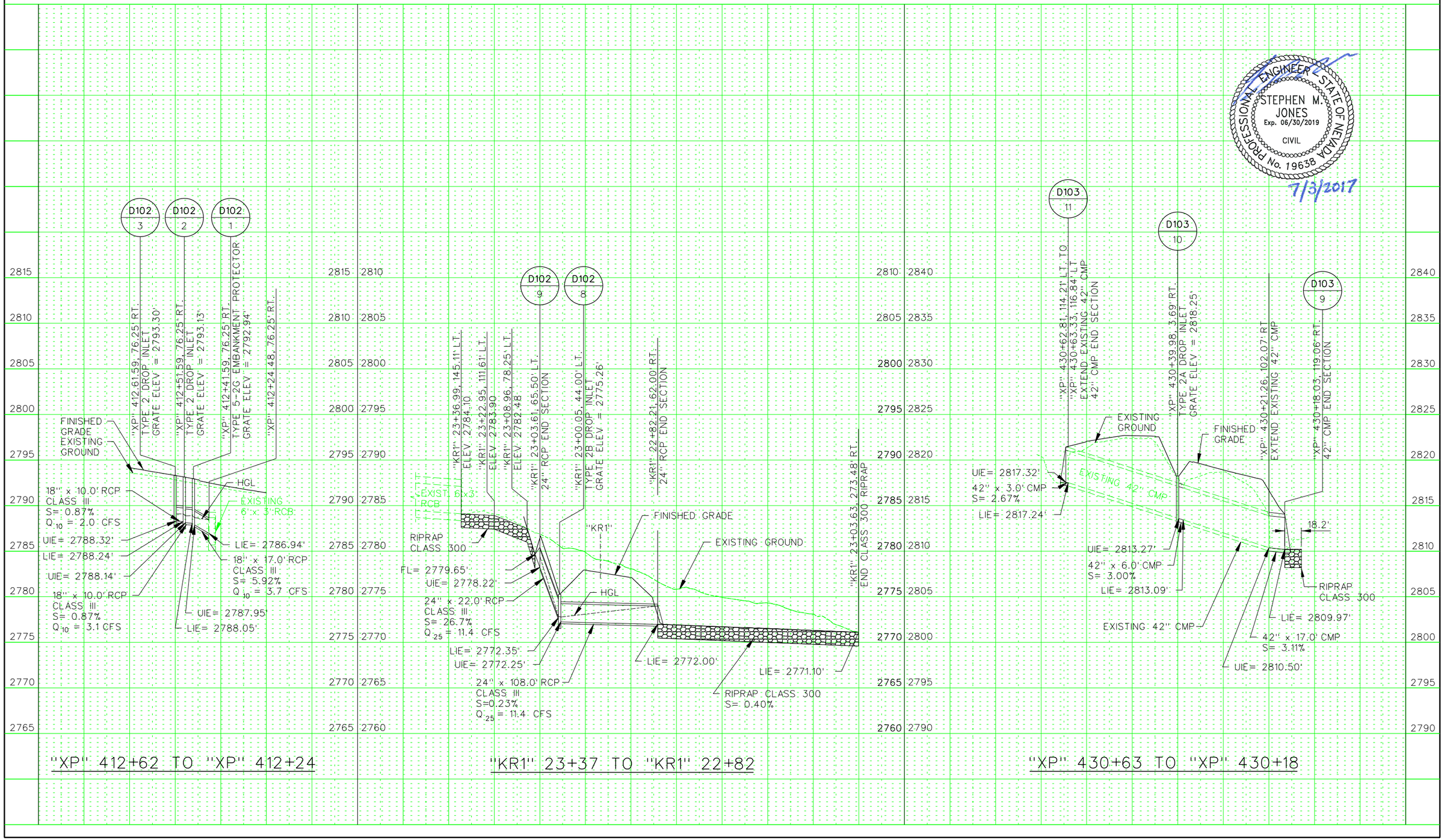



"KR4" 45+90 TO "KRA" 44+90




"KR1" 19+48 (44.0 LT TO 47.2 RT)

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DP108 |




"XP" 412+62 TO "XP" 412+24

"KR1" 23+37 TO "KR1" 22+82

"XP" 430+63 TO "XP" 430+18

PROFESSIONAL ENGINEER - STATE OF NEVADA
STEPHEN M. JONES
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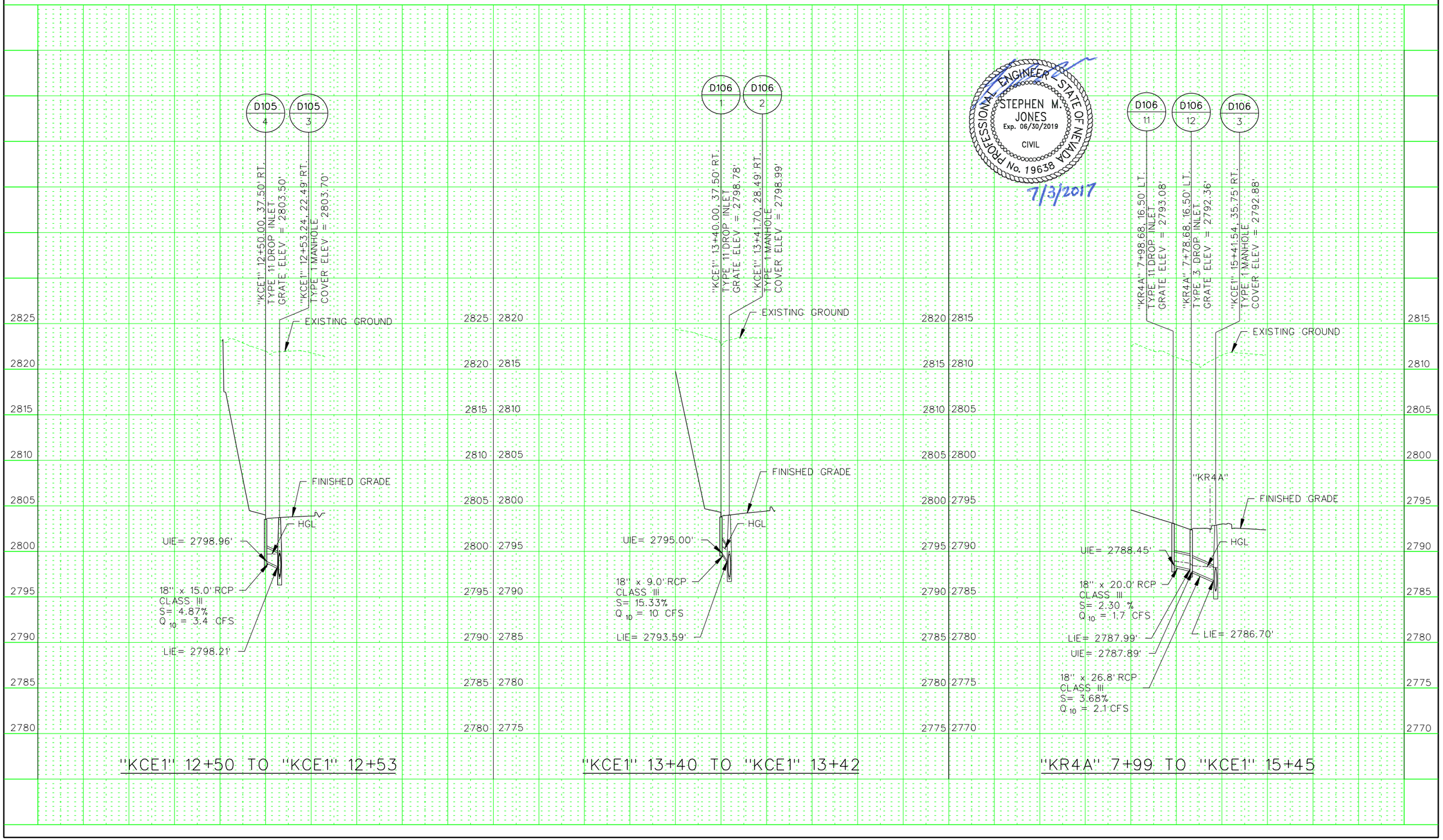
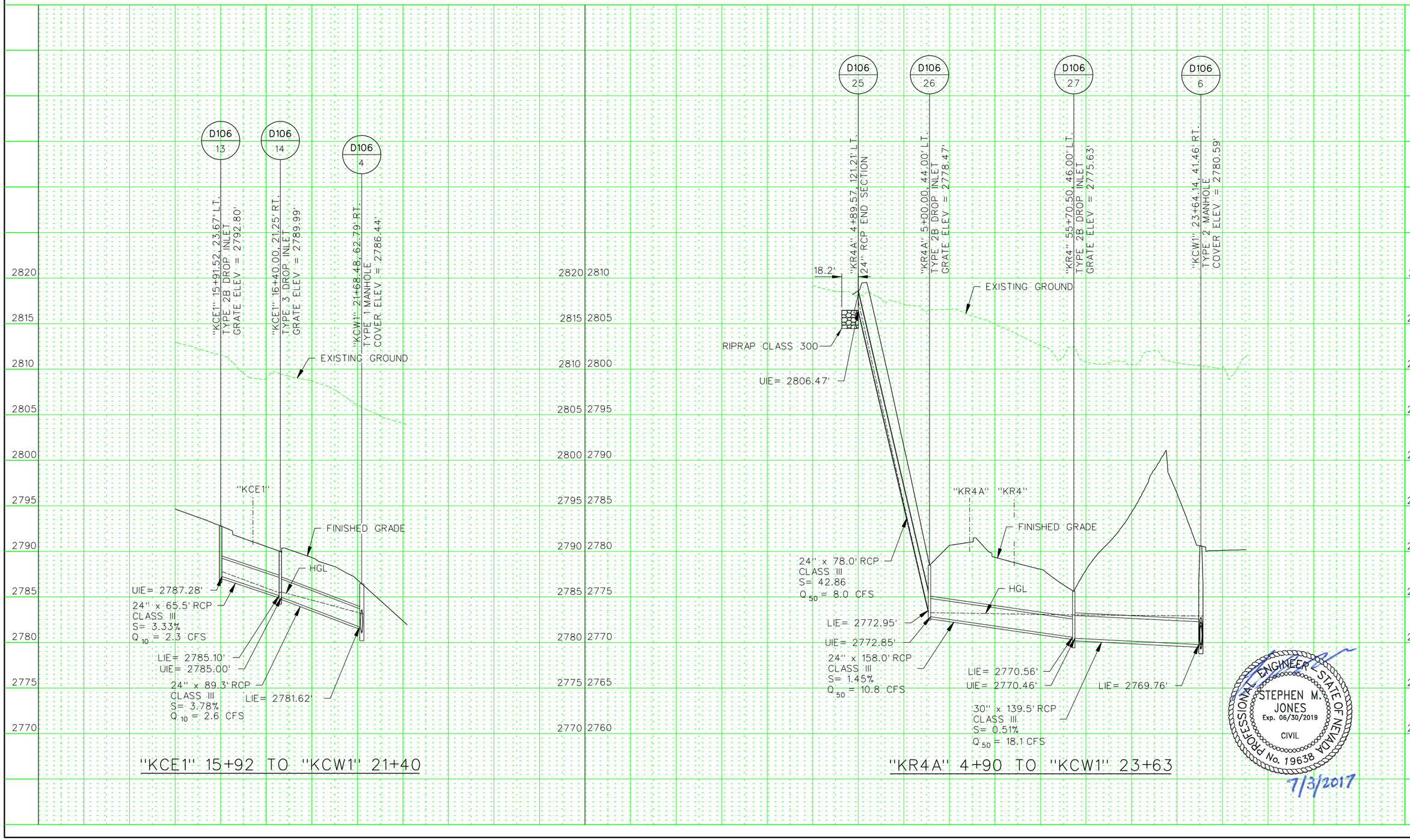
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DP109 |



| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DP110 |




"KCE1" 15+92 TO "KCW1" 21+40

"KR4A" 4+90 TO "KCW1" 23+63

PROFESSIONAL ENGINEER STATE OF NEVADA
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Exp. 06/30/2019
CIVIL
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| NEVADA | NHP-STP-095-2(062) | CLARK | DP111 |

PROFESSIONAL ENGINEER
STATE OF NEVADA
STEPHEN M. JONES
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D106 45
D106 5
D106 28
D106 29
D106 7
D106 30
D106 31
D106 8

EXISTING GROUND
"KCE" 17+76.30, 21.50' RT.
TYPE 3 DROP INLET
GRATE ELEV = 2785.94'
"KCW1" 22+78.00, 15.50' RT.
TYPE 3 DROP INLET
GRATE ELEV = 2782.49'
FINISHED GRADE
UIE= 2781.17'
18" x 90.0' RCP
CLASS III
S= 5.29%
$Q_{25}$ = NUISANCE FLOWS
LIE= 2776.41'

"KCE1" 20+07.60, 69.25' LT.
18" RCP END SECTION
"KCE1" 20+30.47, 16.50' LT.
TYPE 1 MANHOLE
COVER ELEV = 2780.88'
"KCW1" 25+12.48, 28.50' RT.
TYPE 2 MANHOLE
COVER ELEV = 2777.92'
18.2'
EXISTING GROUND
FINISHED GRADE
RIPRAP CLASS 300
UIE= 2795.22'
18" x 58.0' RCP
CLASS III
S= 33.44%
$Q_{25}$ = 1.4 CFS
"KCE1"
"KCW1"
HGL
LIE= 2775.99'
UIE= 2775.89'
18" x 114.0' RCP
CLASS III
S= 5.23%
$Q_{25}$ = 1.4 CFS
LIE= 2769.90'

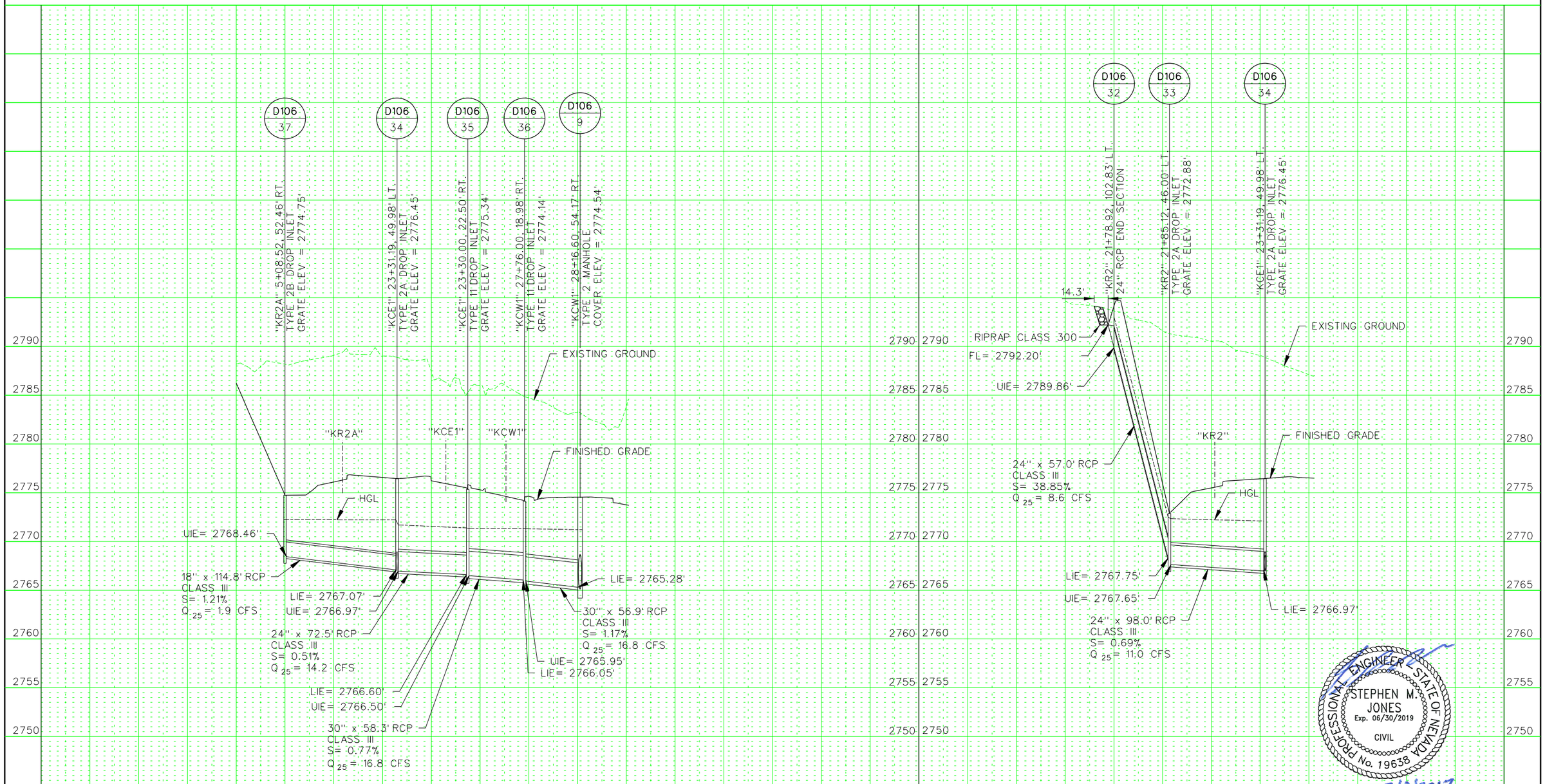
"KCW1" 26+97.00, 24.50' LT.
TYPE 2 DROP INLET
GRATE ELEV = 2776.02'
"KCW1" 27+00.00, 26.84' RT.
TYPE 11 DROP INLET
GRATE ELEV = 2774.43'
"KCW1" 27+13.98, 39.24' RT.
TYPE 2 MANHOLE
COVER ELEV = 2773.74'
EXISTING GROUND
"KCW1"
"KR1"
FINISHED GRADE
HGL
UIE= 2770.58'
18" x 51.4' RCP
CLASS III
S= 1.81%
$Q_{10}$ = 0.3 CFS
LIE= 2769.65'
UIE= 2769.55'
LIE= 2769.22'
18" x 19.7' RCP
CLASS III
S= 1.66%
$Q_{10}$ = 0.3 CFS

"KCE1" 17+76 TO "KCW1" 22+78

"KCE1" 20+08 TO "KCW1" 25+12

"KCW1" 26+97 TO "KCW1" 27+00

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DP112 |




"KR2A" 5+09 TO "KCW1" 27+76

"KR2" 21+79 TO "KCE1" 23+31

PROFESSIONAL ENGINEER STATE OF NEVADA
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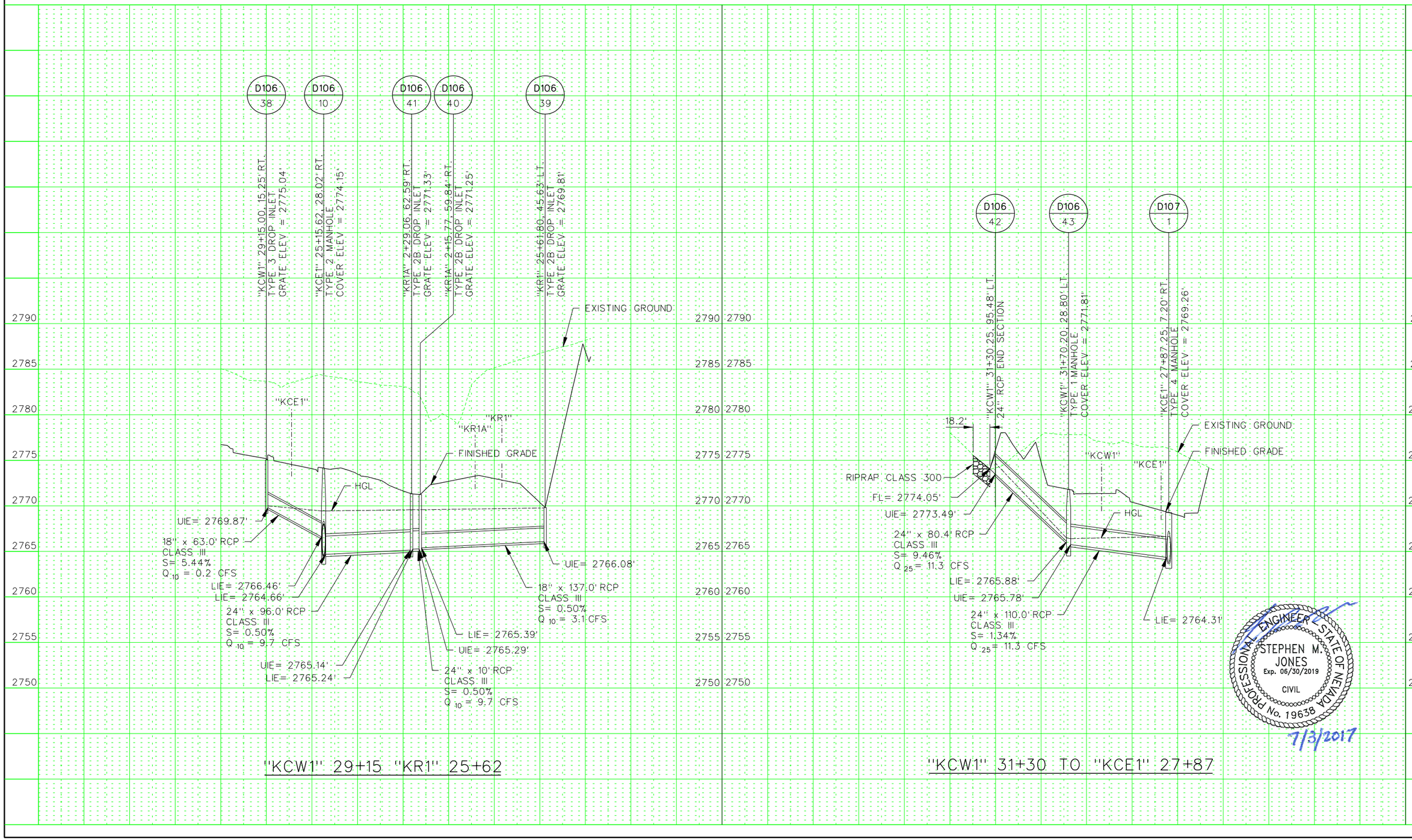
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DP113 |




PROFESSIONAL ENGINEER / STATE OF NEVADA
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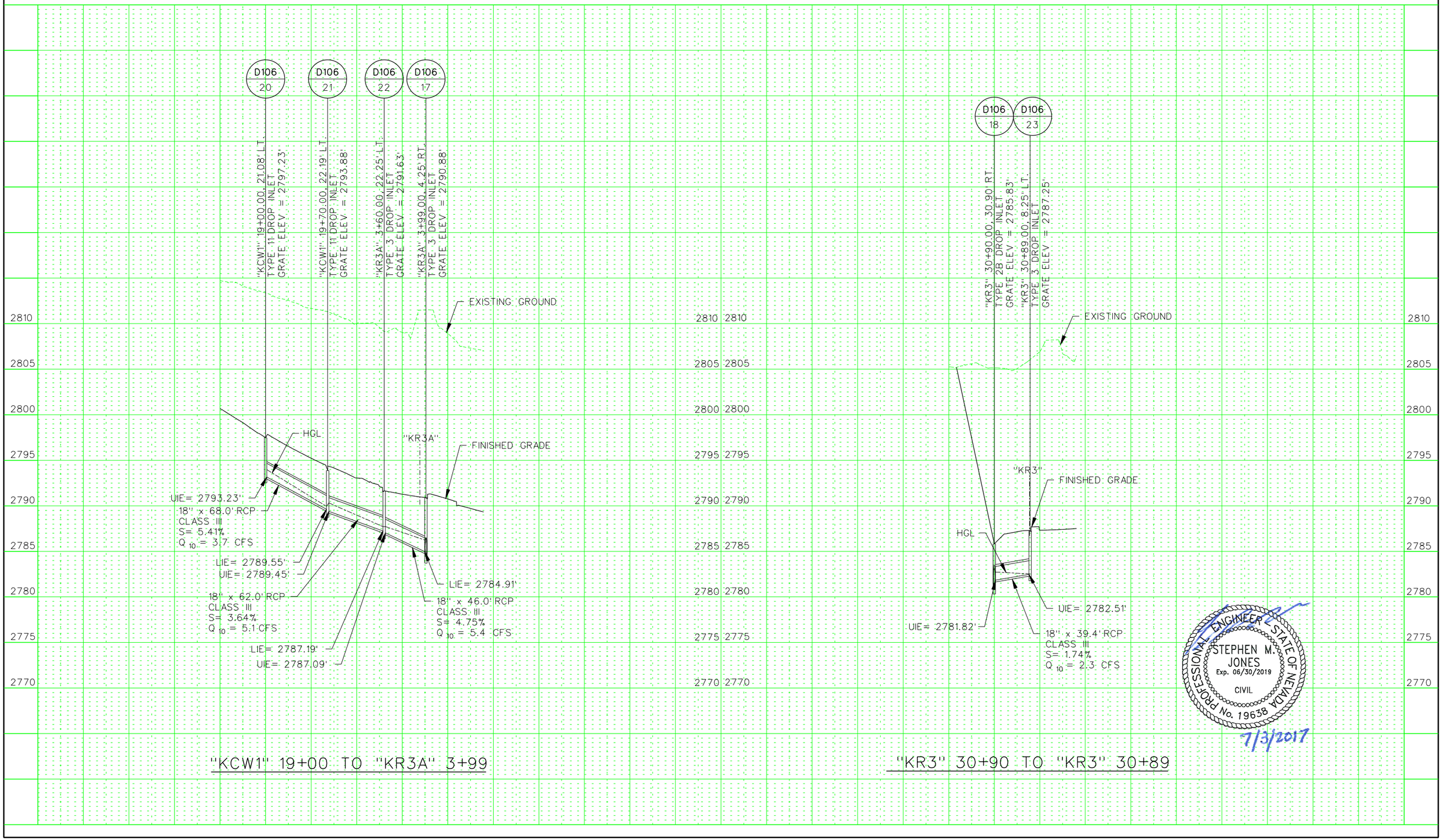
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DP114 |




"KCW1" 19+00 TO "KR3A" 3+99

"KR3" 30+90 TO "KR3" 30+89

PROFESSIONAL ENGINEER
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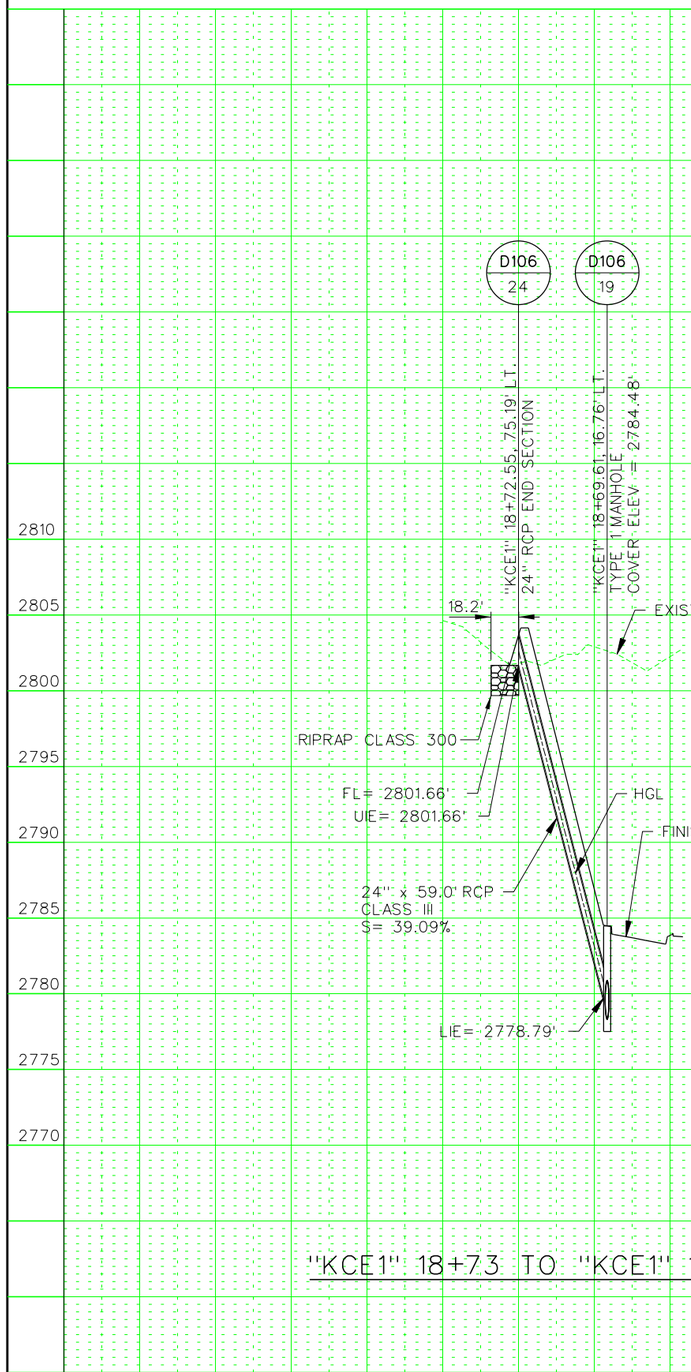
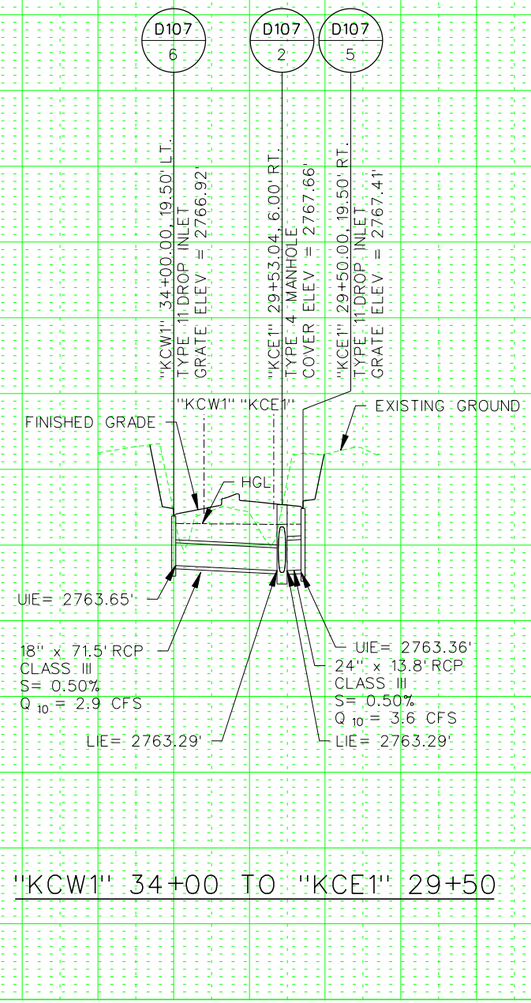
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DP115 |




"KCE1" 18+73 TO "KCE1" 18+70

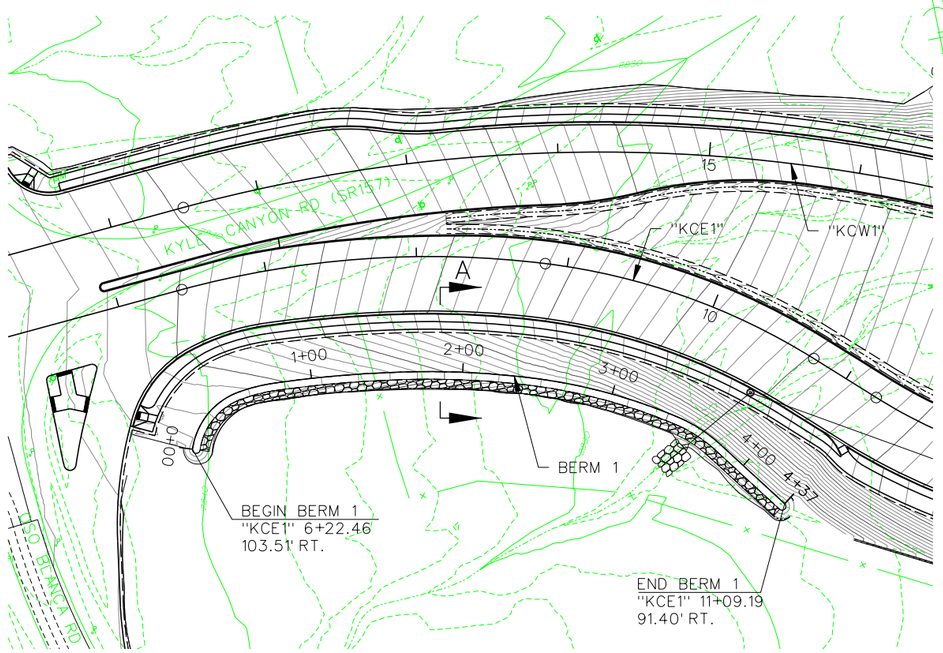



"KCW1" 34+00 TO "KCE1" 29+50

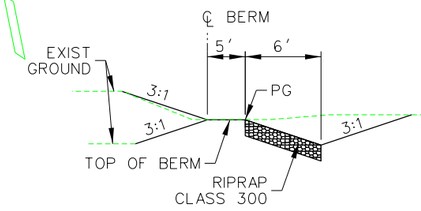
PROFESSIONAL ENGINEER
STEPHEN M. JONES
Exp. 06/30/2019
CIVIL
STATE OF NEVADA
No. 19638

7/3/2017

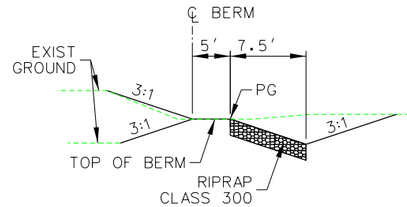
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DP116 |



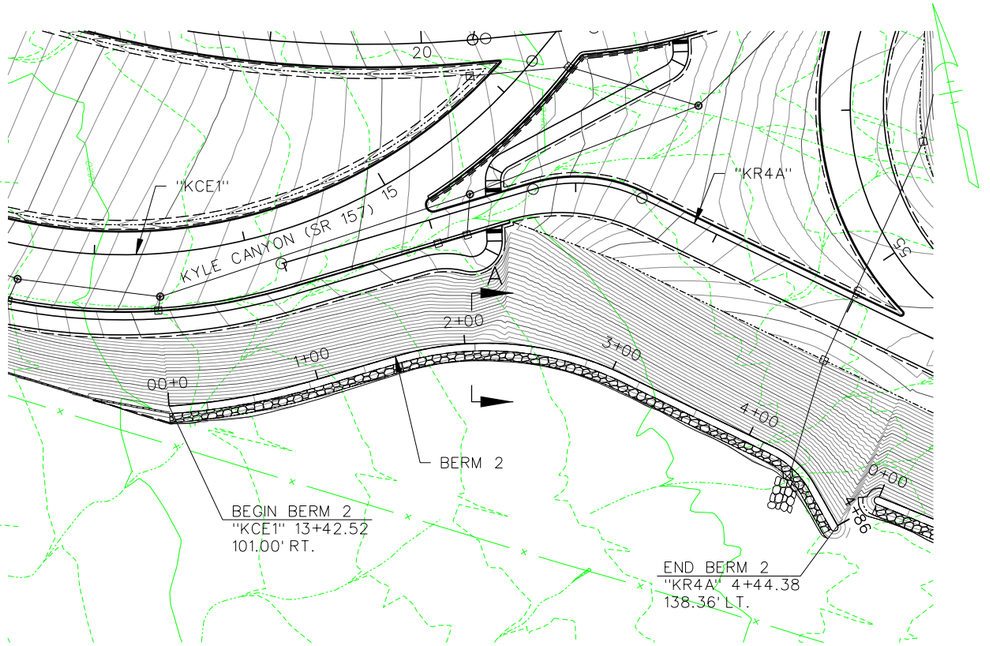

PLAN – BERM 1




SECTION – A

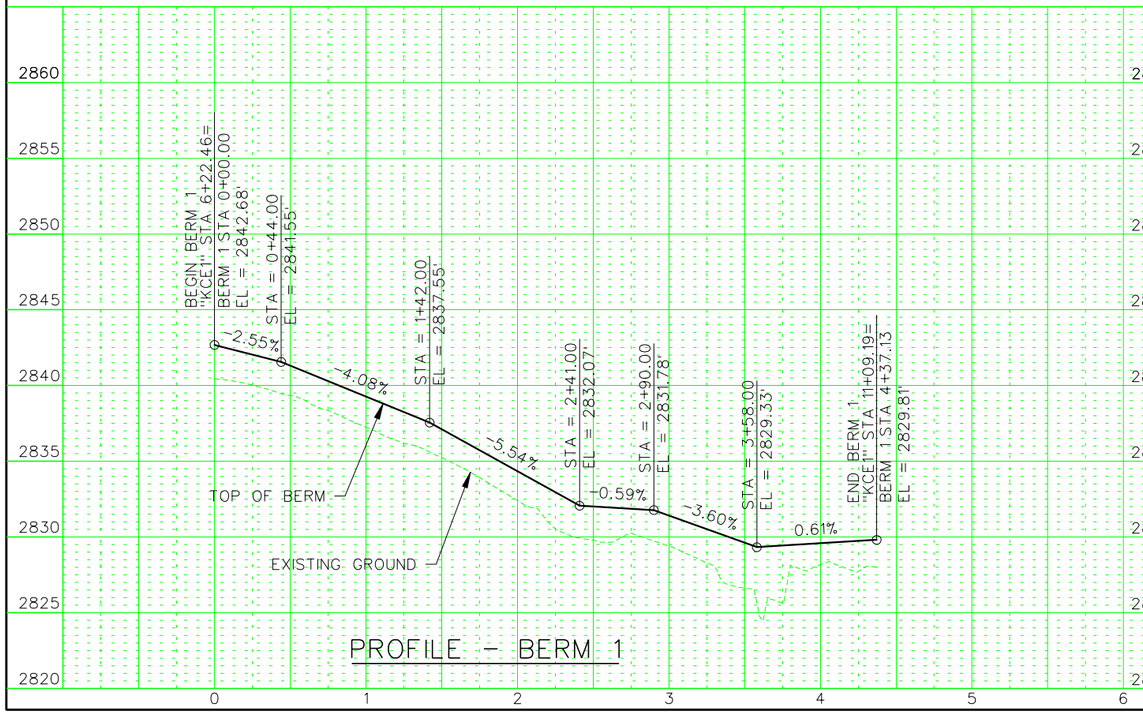



SECTION – B

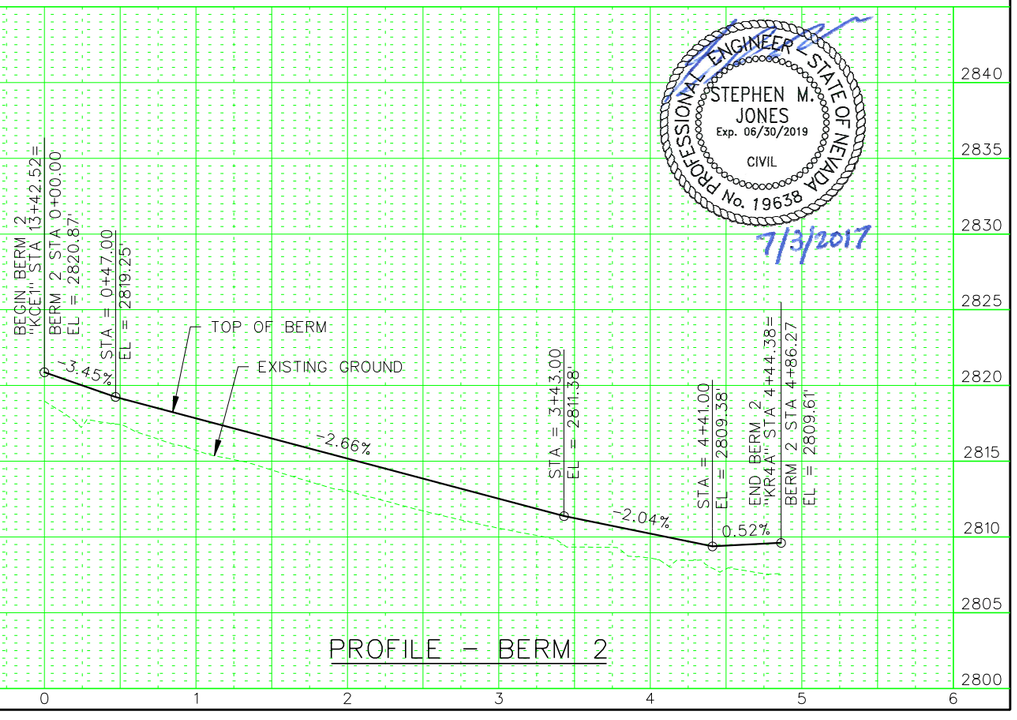



PLAN – BERM 2

NOTE :
FOR GEOMETRIC ALIGNMENT SEE SHT LC107




PROFILE – BERM 1




PROFILE – BERM 2

PROFESSIONAL ENGINEER
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STEPHEN M. JONES
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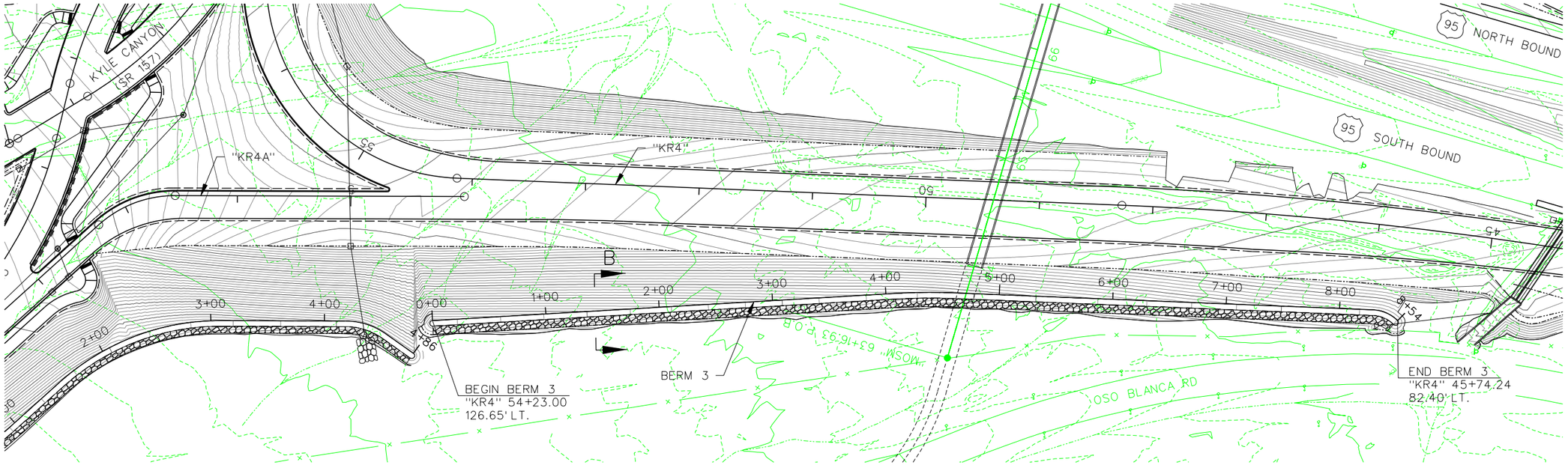
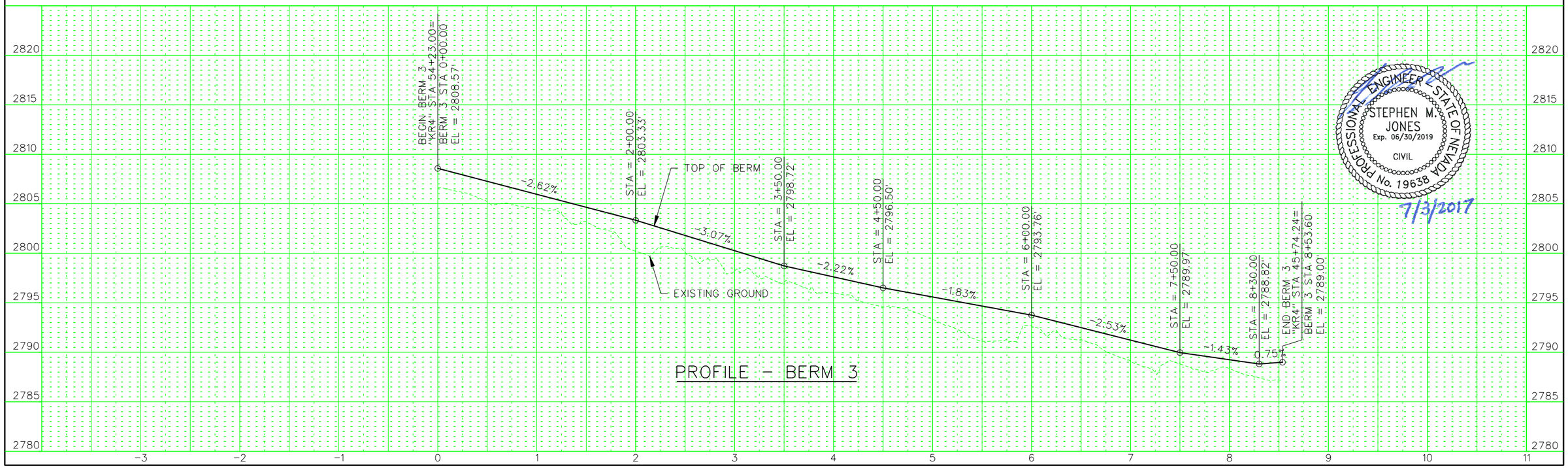
No. 19638
CIVIL
7/3/2017

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DP117 |




## PLAN - BERM 3

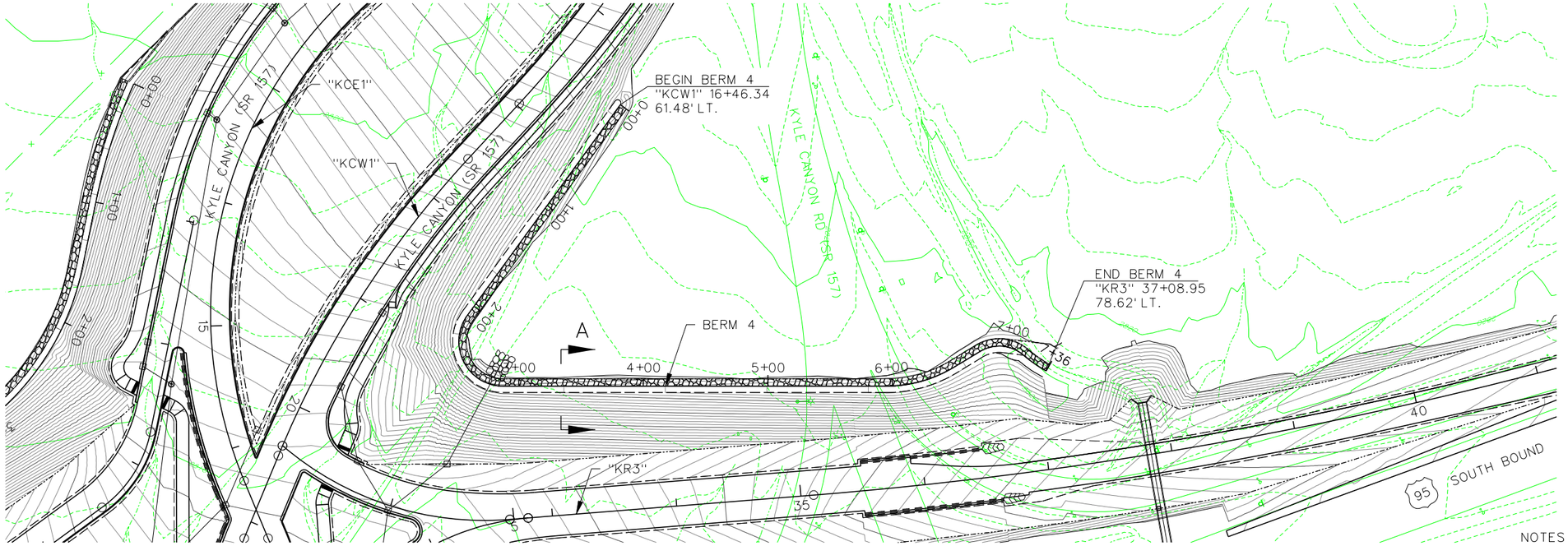
NOTES :
1. FOR GEOMETRIC ALIGNMENT SEE SHT LC108
2. SEE SHEET DP116 FOR SECTIONS




## PROFILE - BERM 3

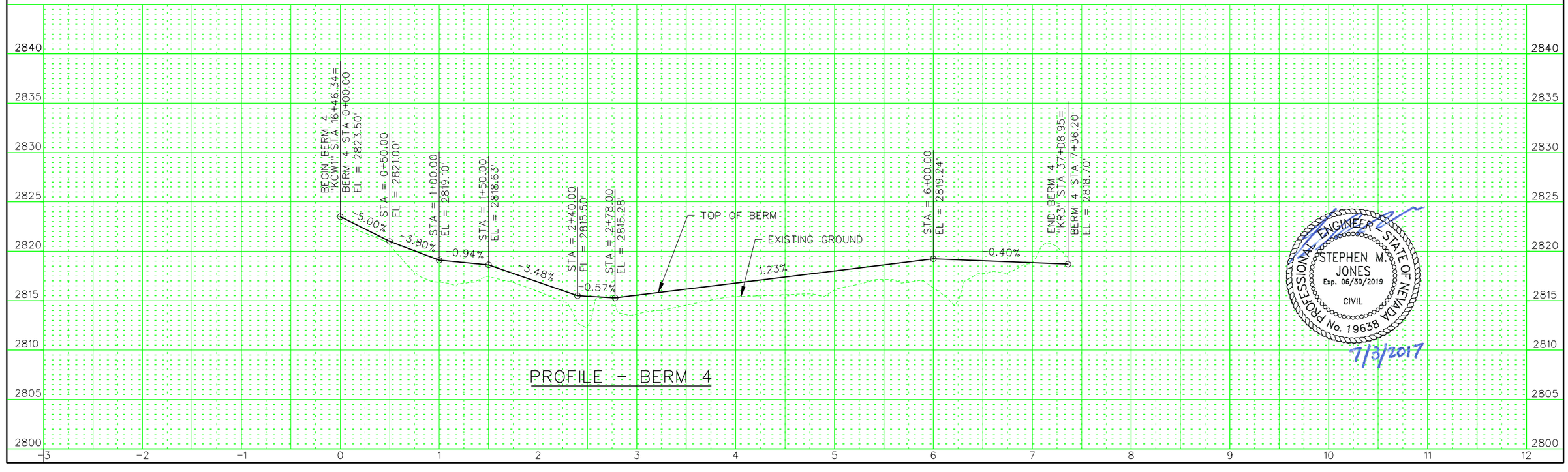
PROFESSIONAL ENGINEER | STATE OF NEVADA
STEPHEN M. JONES
Exp. 06/30/2019
CIVIL
No. 19638
7/3/2017

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DP118 |




PLAN - BERM 4

NOTES :
1. FOR GEOMETRIC ALIGNMENT SEE SHT LC108
2. SEE SHEET DP116 FOR SECTIONS

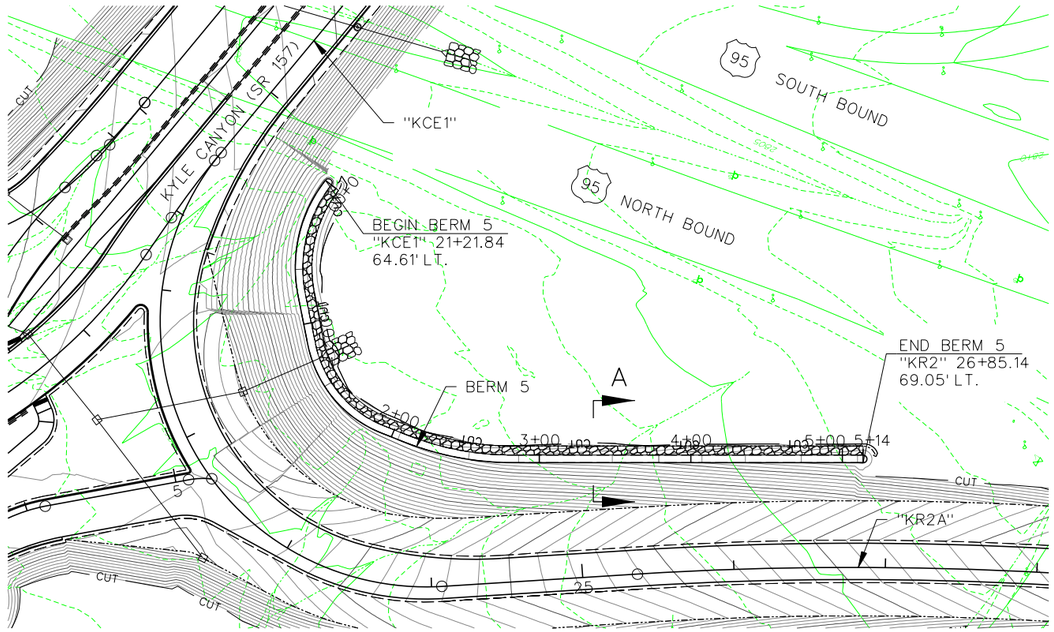



PROFILE - BERM 4

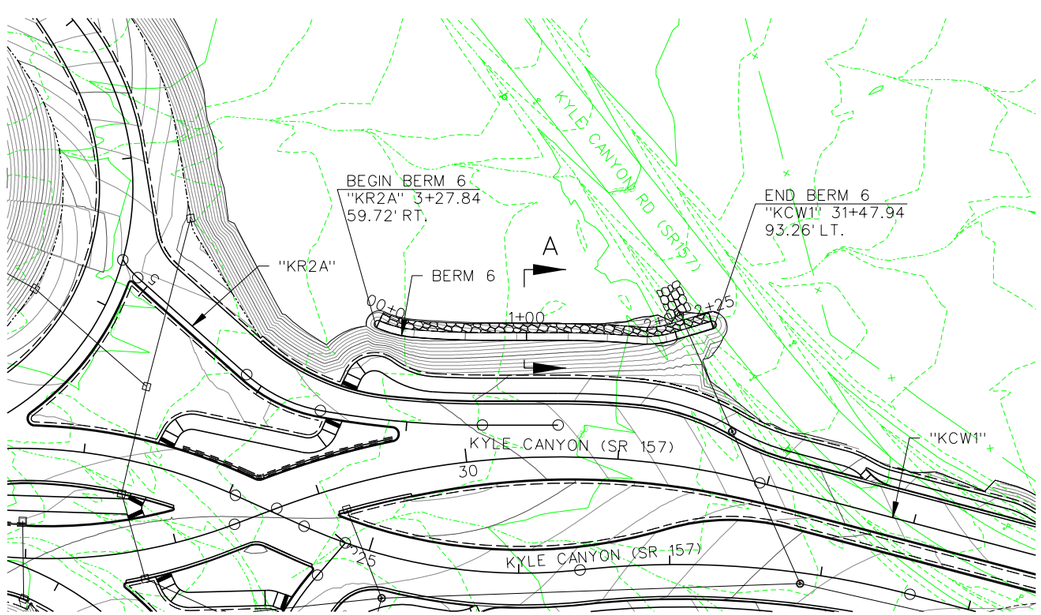
PROFESSIONAL ENGINEER
STATE OF NEVADA
STEPHEN M. JONES
Exp. 06/30/2019
CIVIL
No. 19638

7/3/2017

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DP119 |

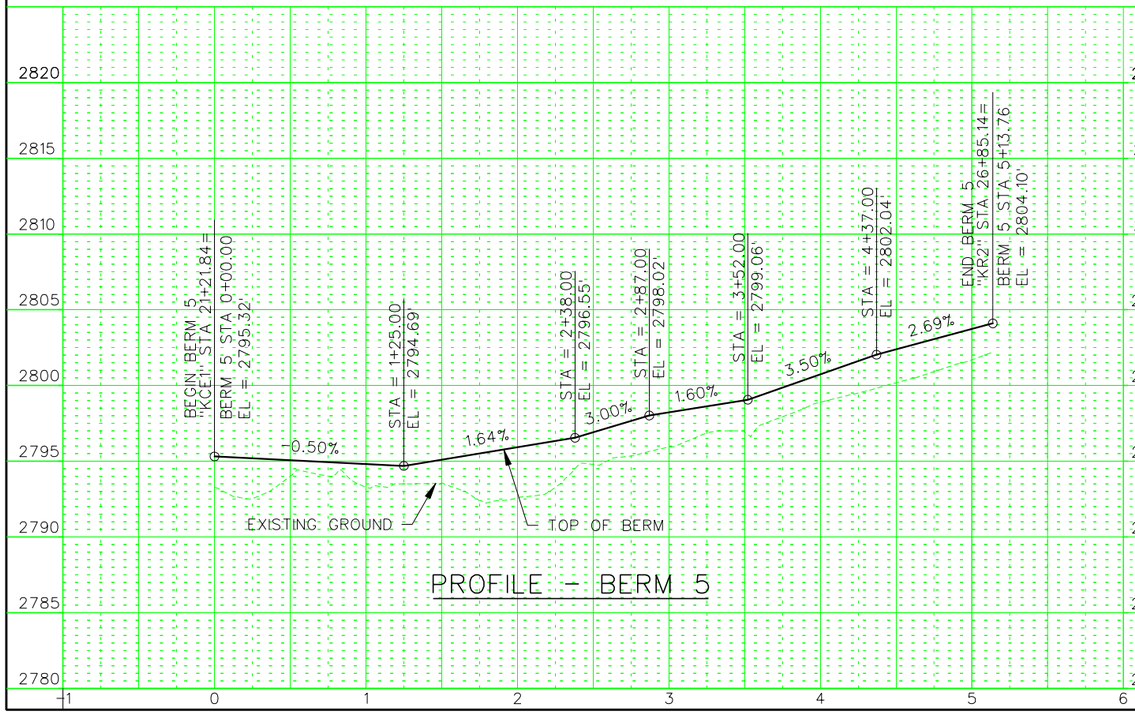



PLAN - BERM 5




PLAN - BERM 6

NOTES :
1. FOR GEOMETRIC ALIGNMENT SEE SHT LC109
2. SEE SHEET DP116 FOR SECTIONS



| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
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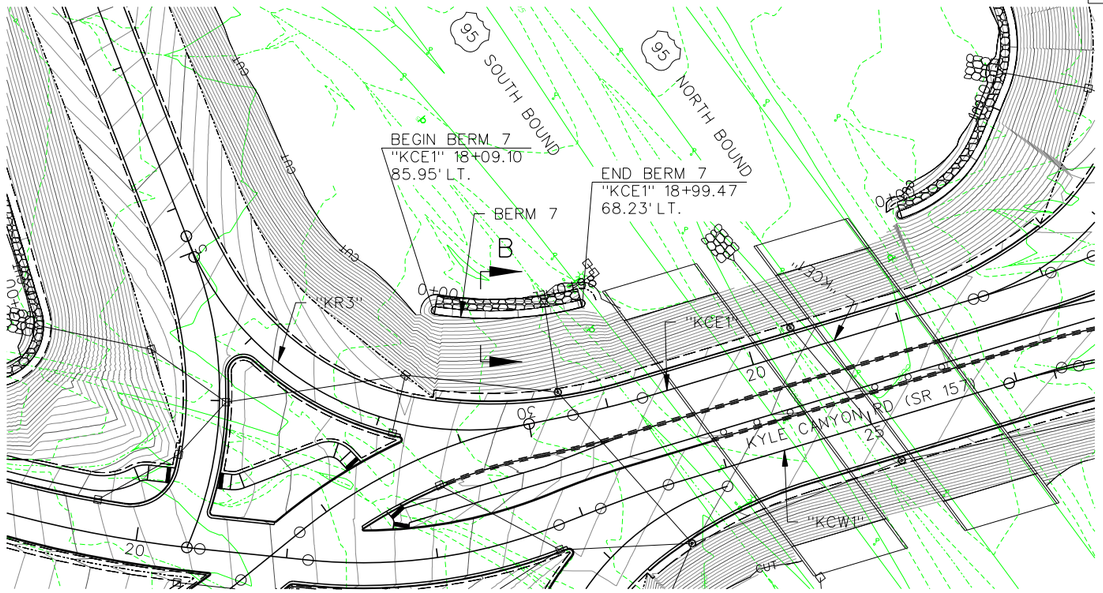
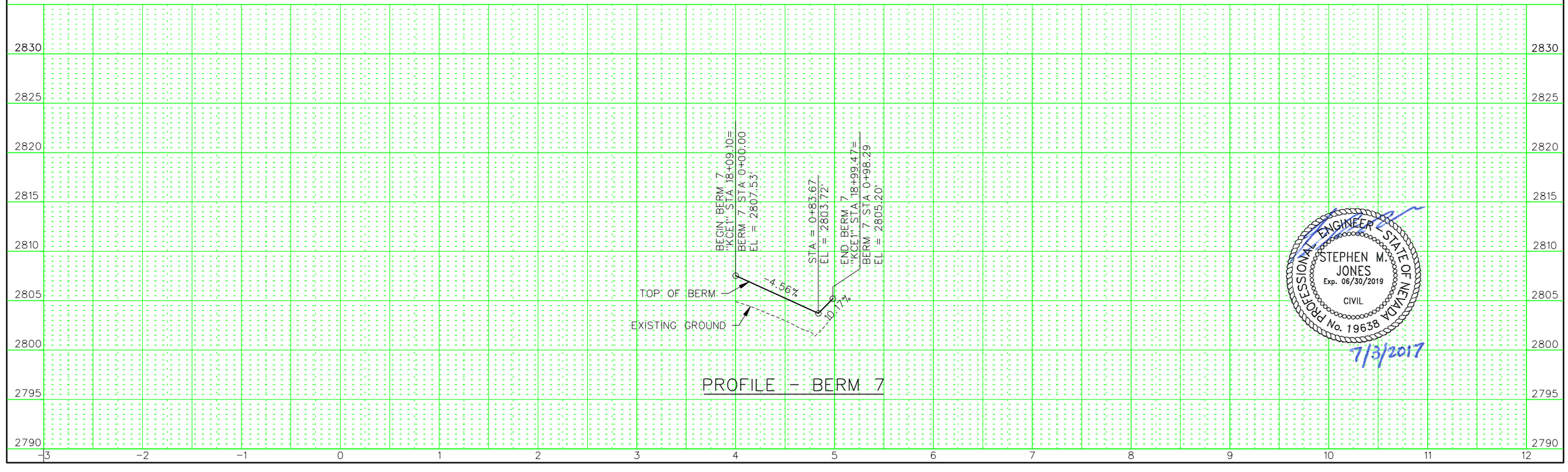



PLAN - BERM 7

NOTES :
1. FOR GEOMETRIC ALIGNMENT SEE SHT LC110
2. SEE SHEET DP116 FOR SECTIONS

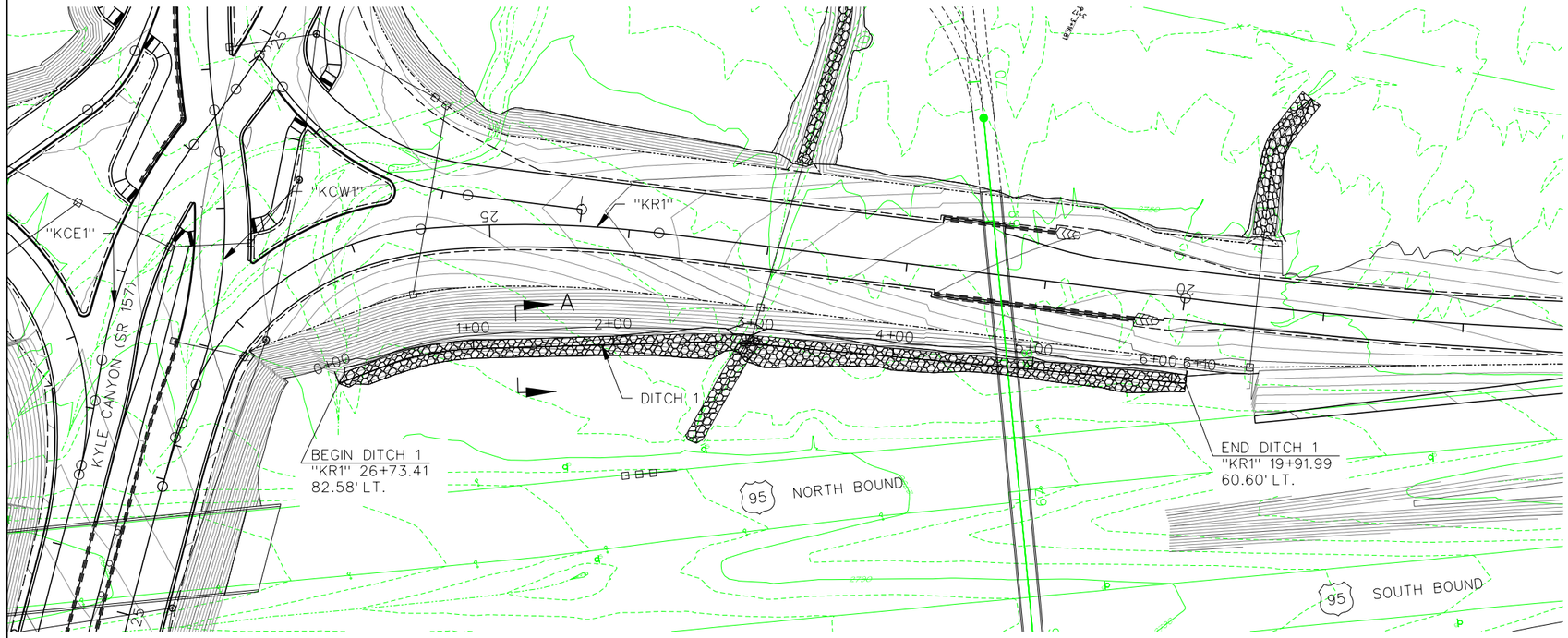



PROFILE - BERM 7

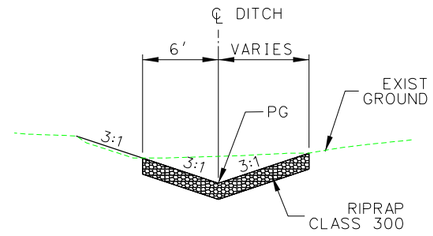
PROFESSIONAL ENGINEER
STATE OF NEVADA
STEPHEN M. JONES
Exp. 06/30/2019
CIVIL
No. 19638

7/3/2017

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DP121 |

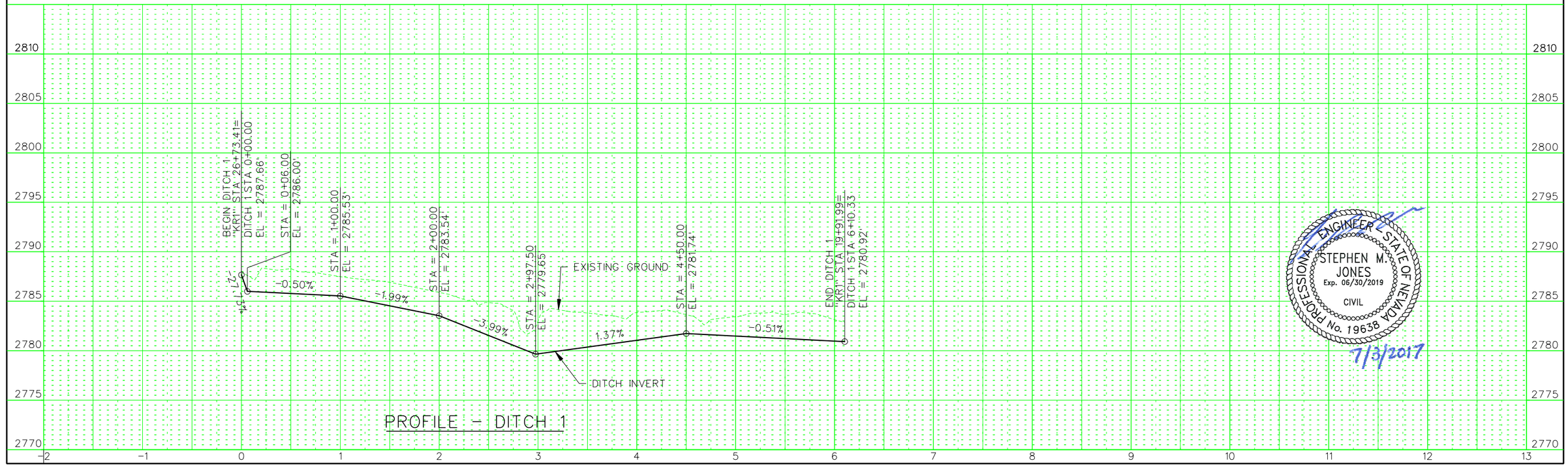



PLAN – DITCH 1



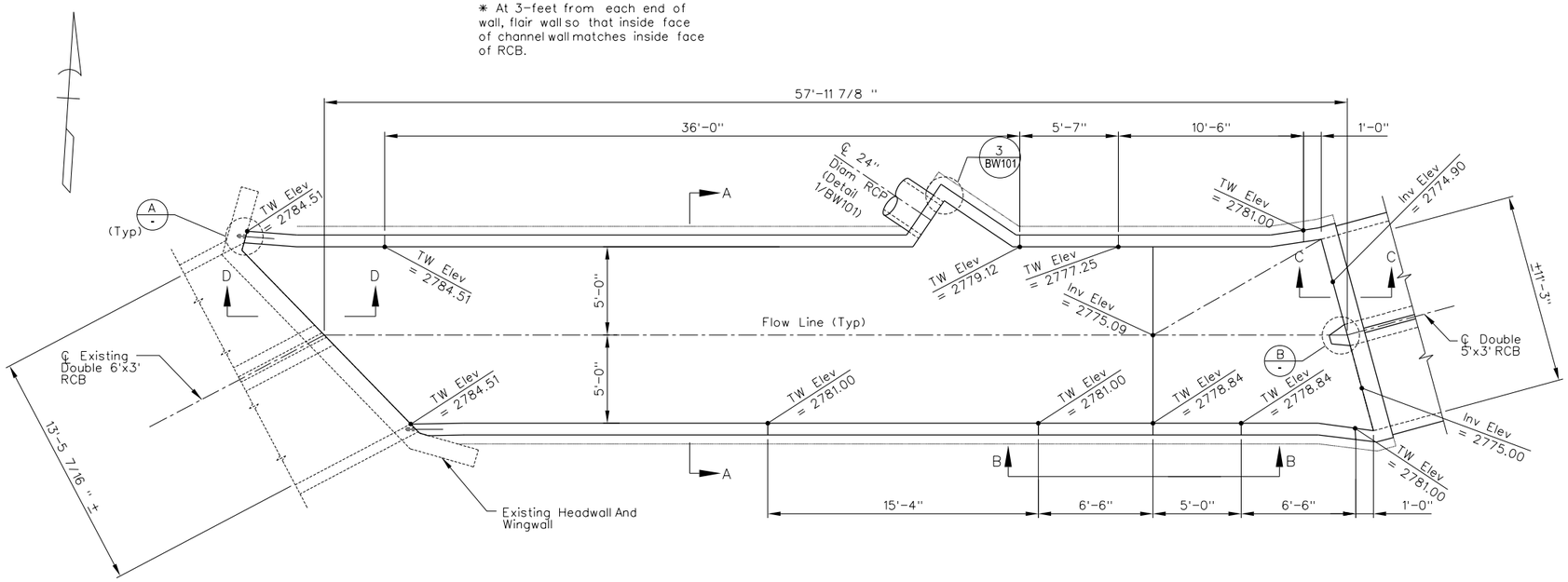

SECTION – A

NOTE :
FOR GEOMETRIC ALIGNMENT SEE SHT LC110

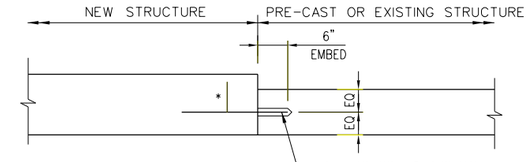



PROFILE – DITCH 1

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DS101 |

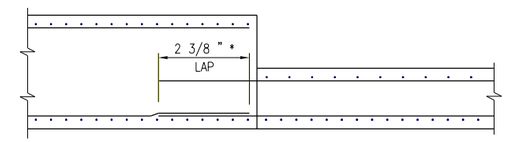



## CHANNEL PLAN



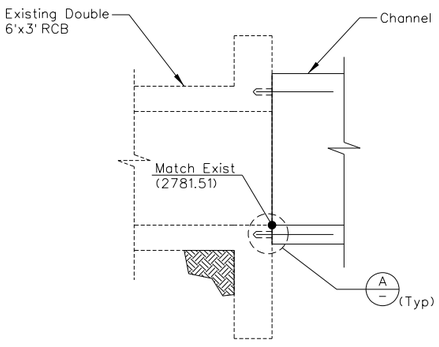

* PROVIDE MIN 6" EMBEDMENT AND STANDARD HOOK WHERE 2'-0" STRAIGHT EXTENSION CANNOT BE ACCOMPLISHED

CAST-IN-PLACE CONNECTION TO PRE-CAST OR EXISTING STRUCTURE

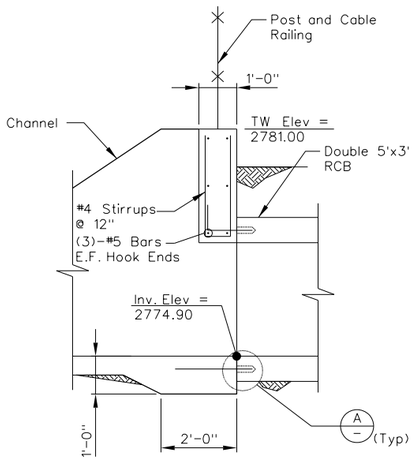



CAST-IN-PLACE CONNECTION TO CAST-IN-PLACE STRUCTURE

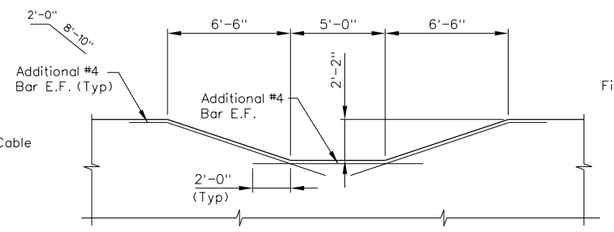
## DETAIL "A"



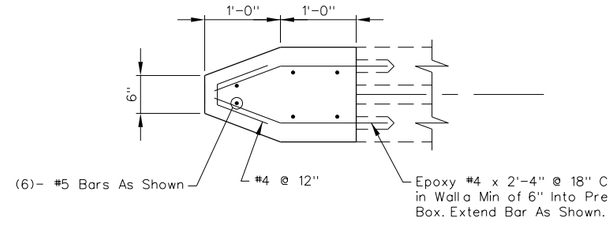

## SECTION D-D



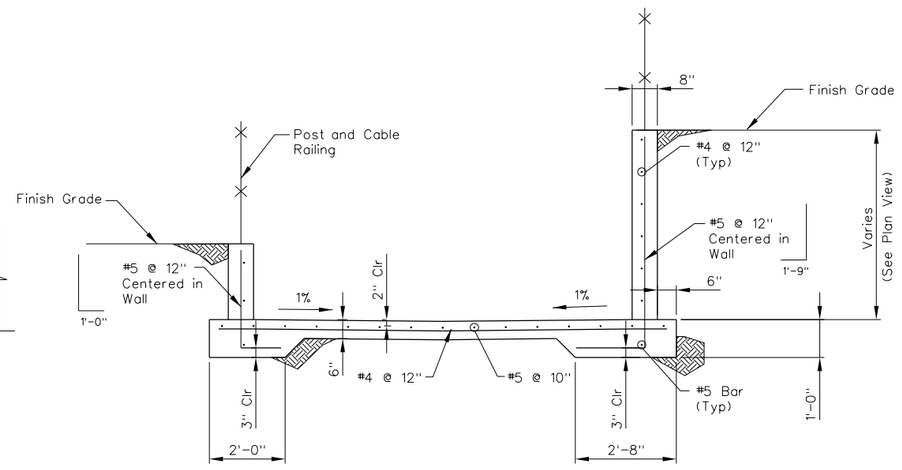

## SECTION C-C



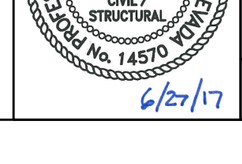

## ELEVATION B-B




## DETAIL "B"




## SECTION A-A



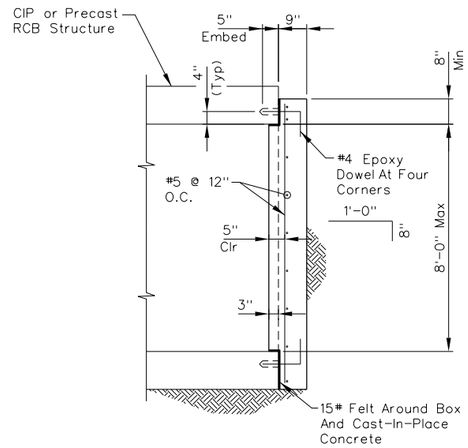

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

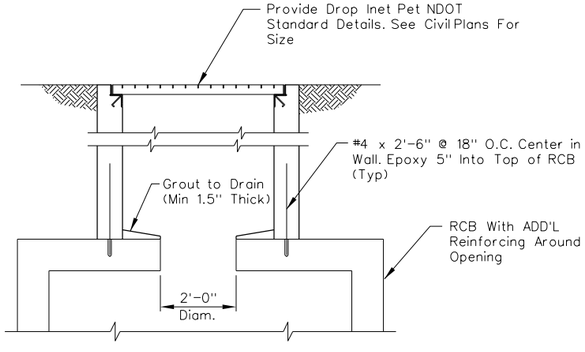
# OPEN CHANNEL RCB JUNCTION STRUCTURE

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DS102 |




2 — RCB PLUG DETAIL
SCALE:1/2" = 1'-0"




1 — TYPICAL DROP INLET OVER RCB
SCALE:1/2" = 1'-0"

PROFESSIONAL ENGINEER STATE OF NEVADA
ERIC G. GILES
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CIVIL / STRUCTURAL
No. 14570
6/27/17

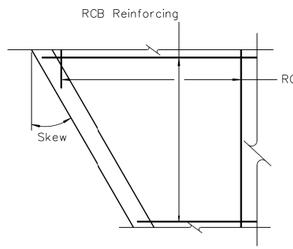
STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

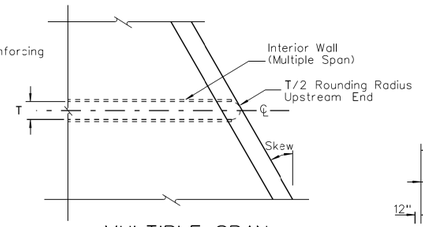
# STORM DRAIN DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

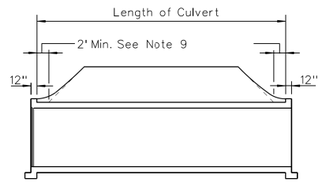
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DS103 |



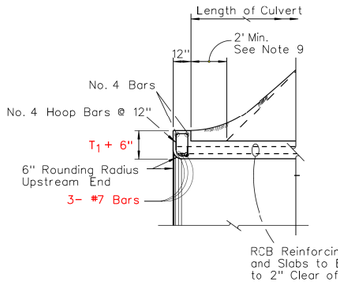

SINGLE SPAN
PLAN

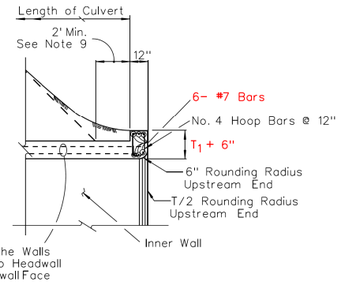



MULTIPLE SPAN
PLAN




ELEVATION

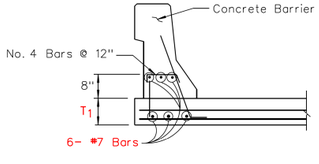



SINGLE SPAN MULTIPLE SPAN

ELEVATION

($T_1$ = Minimum 9")




PARAPET DETAILS

COPING REINFORCING INCLUDED IN THE HEADWALL QUANTITIES

($T_1$ = Minimum 9")

## NOTES:

1. DESIGN SPECIFICATIONS : "AASHTO LRFD Bridge Design Specifications 2012".

2. CONSTRUCTION SPECIFICATIONS: State of Nevada Department of Transportation "Standard Specifications for Road and Bridge Construction, 2014".

3. LIVE LOADS:
   HL-93 Design Truck (32.0 KIP Axle)
   HL-93 Design Tandem (Two 25.0 KIP Axles Spaced 4 feet Apart)
   (Live Load Impact Factor for Top Slab is 33% up to 2 feet of Cover)

   LATERAL LIVE LOAD PRESSURE:
   Equivalent to 2 feet of Earth Surcharge Applied Horizontally = 240 PSF

   (No surcharge Added to Headwalls Type I and II)

   DEAD LOADS: Soil Unit Weight = 120 PCF
   Min Lateral Earth Pressure = 30 PCF
   Max Lateral Earth Pressure = 60 PCF
   (Type I Headwalls Designed to 36 PCF)

4. CONCRETE: Class DA Modified (Major) F'C=4,500 PSI @ 28 Days. (Class D in Clark County)

5. REINFORCING STEEL: All reinforcing steel to be ASTM A615 grade 60 or A706. Dimension relating to bar spacing are center to center

6. FOUNDATION PRESSURE: The RCB culverts are designed to the following soil bearing pressures:

| COVER HEIGHTS | 10 ft | 20 ft |
|---|---|---|
| RCB HEIGHT | Ton/ft² | |
| 6 ft | 1.0 | 1.6 |
| 8 ft | 1.1 | 1.7 |
| 10 ft | 1.2 | 1.8 |
| 12 ft | 1.3 | 1.9 |
| 14 ft | 1.4 | 2.0 |

7. SPECIAL DESIGN: Culverts with conditions, loading, or sizes dissimilar to those given on these RCB culvert sheets may require a special design.

8. DESIGNATION: Box culverts are shown on plans as span times height times length (10' x 8' x 196' RCB).

9. ADDITIONAL LENGTH: Length of culvert shall be increased as follows: Add 2 feet to each end when cover at shoulder is 0 feet to 5 feet. Add an additional 1 foot to each end for each succeeding 5 feet of cover or portion thereof.

10. HEADWALLS: All RCB culverts shall have Type I headwalls unless otherwise noted on the plans.

11. QUANTITIES: Quantities do not include "d" bars, nor splices in bars, nor temperature bars for exposed top slab, nor concrete or reinforcement for parapets or paving ledges.

12. THREE OR MORE CELLS: For culverts with more than two cells, use dimensions and reinforcement for the "double box culvert" and adjust the quantities accordingly.

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

RCB CULVERTS
NOTES

| B-20.1.1 | (502,505) | Signed Original On File |
|---|---|---|
| ADOPTED 11/73 | REVISED 10/15 | CHIEF BRIDGE ENGR. |

B-1

PROFESSIONAL ENGINEER - STATE OF NEVADA
ERIC G. GILES
Exp. 08/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

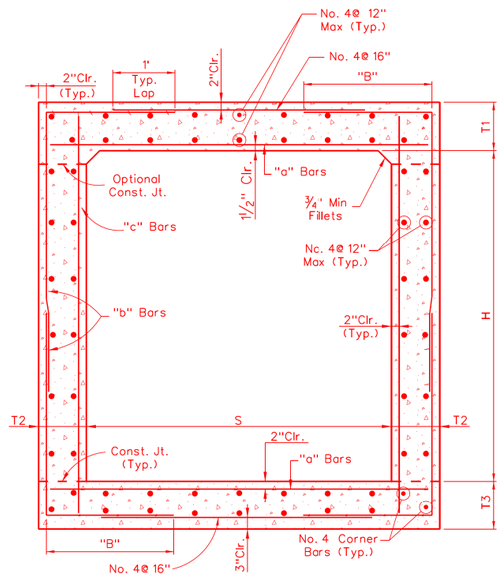
STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# STORM DRAIN DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD, LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DS104 |



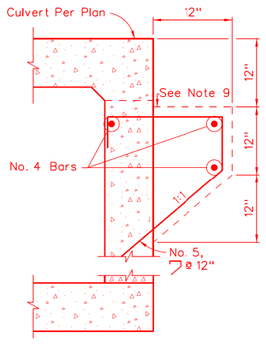

TYPICAL SECTION

## NOTES:

1. DESIGN SPECIFICATIONS: "AASHTO LRFD Bridge Design Specifications 2012"
2. CONSTRUCTION SPECIFICATIONS: "State of Nevada Department of Transportation Standard Specifications for Road and Bridge Construction 2014"
3. LIVE LOADS:
   HL-93 Design Truck (32.0 KIP Axle)
   HL-93 Design Tandem (Two 25.0 KIP Axles Spaced 4 Feet Apart)
   (Live Load Impact Factor for Top Slab is 33% up to 2 Feet of Cover)

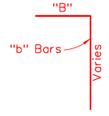
   LATERAL LIVE LOAD PRESSURE:
   Equivalent to 2 Feet of Earth Surcharge Applied Horizontally = 240 PSF

   DEAD LOADS:
   Soil Unit Weight = 120 PCF
   Min Lateral Earth Pressure = 30 PCF
   Max Lateral Earth Prssure = 60 PCF
4. CONCRETE: Class DA Modified (Major) F'C=4,500 PSI @ 28 Days. (Class D in Clark County)
5. REINFORCING STEEL: All reinforcing steel to be ASTM A615 grade 60 or A706. Dimension relating to bar spacing are center to center
6. DESIGNATION: Box culverts are shown on plans as span times height times length (10' x 8' x 196' RCB).
7. Where traffic loads will be placed direc:ly on the top surface of the culvert, (and/or up to 2 feet of fill), increase top slab thickness by ½ inch and cover for top reinforcement from 2 inches to 2½ inches. Provide epoxy coated reinforcement in top slab (except in Clark County). Decrease spacing of top slab bottom longitudinal bars (#4 @ 12) to 6 inch spacing. Use EA Modified Major concrete (Class E in Clark County) in lieu of Class DA. Adjust quantities accordingly.
8. Provide 2 foot wide Type 1 or Type 2 drain backfill wrapped in Class 1 or Class 2 non-woven geotextile along full height of each culvert exterior wall face.
9. Provide paving notch when top slab is exposed and when pavement is concrete. Adjust quantities accordingly.
10. For additional notes, see sheet B-20.1.1




PAVING NOTCH DETAIL

BENT BARS




SHEET 1 OF 2

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

RCB CULVERTS
SINGLE

| B-20.1.2 | (502,505) | Signed Original On File |
|---|---|---|
| ADOPTED 11/70 | REVISED 10/15 | CHIEF BRIDGE ENGR. |

PROFESSIONAL ENGINEER - STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# STORM DRAIN DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

B-2

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DS105 |

| | SPAN, "S" | FT. | 5 | | | | | | 6 | | | | | | | | 7 | | | | | | | | | | | | 8 | | | | | | | | | | 10 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HEIGHT, "H" | FT. | 3 | | 4 | | 5 | | 3 | | 4 | | 5 | | 6 | | 3 | | 4 | | 5 | | 6 | | 7 | | 4 | | 5 | | 6 | | 7 | | 8 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | |
| | MAXIMUM EARTH COVER | FT. | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 |
| CONC. | ROOF T1 | IN. | 9½ | 9½ | 9½ | 9½ | 9½ | 9½ | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10½ | 10½ | 10½ | 10½ | 10½ | 10½ | 10½ | 10½ | 10½ | 10½ | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| CONC. | WALLS T2 | IN. | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| CONC. | INVERT T3 | IN. | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10½ | 10½ | 10½ | 10½ | 10½ | 10½ | 10½ | 10½ | 10½ | 10½ | 12 | 13 | 12 | 13 | 12 | 13 | 12 | 13 | 12 | 13 | 12 | 13 |
| REINFORCEMENT | "a" BAR SIZE | | 4 | 5 | 4 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 5 | 6 | 5 | 6 | 5 | 6 | 5 | 6 | 5 | 7 | 5 | 7 | 5 | 7 | 5 | 7 | 5 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 7 |
| REINFORCEMENT | "a" SPACING | IN. | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| REINFORCEMENT | "a" LENGTH | ft-in | 6-0 | 6-0 | 6-0 | 6-0 | 6-0 | 6-0 | 7-0 | 7-0 | 7-0 | 7-0 | 7-0 | 7-0 | 7-0 | 7-0 | 8-0 | 8-0 | 8-0 | 8-0 | 8-0 | 8-0 | 8-0 | 8-0 | 8-0 | 8-0 | 9-0 | 9-0 | 9-0 | 9-0 | 9-0 | 9-0 | 9-0 | 9-0 | 9-0 | 9-0 | 11-4 | 11-4 | 11-4 | 11-4 | 11-4 | 11-4 | 11-4 | 11-4 | 11-4 | 11-4 | 11-4 | 11-4 |
| REINFORCEMENT | "b" BAR SIZE | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 4 | 5 | 4 | 5 | 4 | 6 | 4 | 6 | 6 | 6 | 5 | 6 | 5 | 6 | 5 | 6 | 5 | 6 | 5 | 6 | 5 | 7 | | |
| REINFORCEMENT | "b" SPACING | IN. | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | |
| REINFORCEMENT | "b" LENGTH | ft-in | 5-7 | 5-7 | 6-1 | 6-1 | 6-7 | 6-7 | 5-9 | 5-9 | 6-3 | 6-3 | 6-9 | 6-9 | 7-3 | 7-3 | 5-11 | 5-11 | 6-4 | 6-5 | 6-10 | 6-11 | 7-4 | 7-5 | 7-11 | 8-6 | 6-6 | 7-2 | 7-0 | 7-8 | 7-6 | 8-10 | 8-0 | 8-8 | 9-10 | 9-10 | 8-1 | 8-9 | 8-7 | 9-3 | 9-1 | 9-9 | 9-7 | 10-3 | 10-1 | 10-9 | 10-7 | 11-11 |
| REINFORCEMENT | "b" B | ft-in | 2-8 | 2-8 | 2-8 | 2-8 | 2-8 | 2-8 | 2-10 | 2-10 | 2-10 | 2-10 | 2-10 | 2-10 | 2-10 | 2-10 | 2-11 | 2-11 | 2-11 | 2-11 | 2-11 | 2-11 | 2-11 | 2-11 | 2-11 | 3-4 | 3-0 | 3-5 | 3-0 | 3-5 | 3-0 | 3-10 | 3-0 | 3-5 | 3-10 | 3-10 | 3-10 | 4-3 | 3-10 | 4-3 | 3-10 | 4-3 | 3-10 | 4-3 | 3-10 | 4-3 | 3-10 | 4-8 |
| REINFORCEMENT | "c" BAR SIZE | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 4 | 5 | 4 | 5 | 4 | 5 | 4 | 5 | 4 | 5 | 4 | 5 | | |
| REINFORCEMENT | "c" SPACING | IN. | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | | |
| REINFORCEMENT | "c" LENGTH | ft-in | 4-0 | 4-0 | 5-0 | 5-0 | 6-0 | 6-0 | 4-2 | 4-2 | 5-2 | 5-2 | 6-2 | 6-2 | 7-2 | 7-2 | 4-3 | 4-3 | 5-3 | 5-3 | 6-3 | 6-3 | 7-3 | 7-3 | 8-3 | 8-3 | 5-4 | 5-4 | 6-4 | 6-4 | 7-4 | 7-4 | 8-4 | 8-4 | 9-4 | 9-4 | 6-6 | 6-7 | 7-6 | 7-7 | 8-6 | 8-7 | 9-6 | 9-7 | 10-6 | 10-7 | 11-6 | 11-7 |
| REINFORCEMENT | #4@12" LENGTH | ft-in | 2-7 | 2-7 | 2-7 | 2-7 | 2-7 | 2-7 | 3-5 | 3-5 | 3-5 | 3-5 | 3-5 | 3-5 | 3-5 | 3-5 | 4-2 | 4-2 | 4-2 | 4-2 | 4-2 | 4-2 | 4-2 | 4-2 | 4-2 | 3-4 | 5-0 | 4-2 | 5-0 | 4-2 | 5-0 | 3-4 | 5-0 | 4-2 | 3-4 | 3-4 | 5-9 | 4-11 | 5-9 | 4-11 | 5-9 | 4-11 | 5-9 | 4-11 | 5-9 | 4-11 | 5-9 | 4-1 |
| REINFORCEMENT | #4@12" NUMBER* | | 40 | 40 | 44 | 44 | 48 | 48 | 44 | 44 | 48 | 48 | 52 | 52 | 56 | 56 | 48 | 48 | 52 | 52 | 56 | 56 | 60 | 60 | 64 | 64 | 56 | 56 | 60 | 60 | 64 | 64 | 68 | 68 | 72 | 72 | 68 | 68 | 72 | 72 | 76 | 76 | 80 | 80 | 84 | 84 | 88 | 88 |
| QUANT. | CONCRETE | CF/LF | 13.2 | 13.2 | 14.6 | 14.6 | 15.9 | 15.9 | 15.6 | 15.6 | 16.9 | 16.9 | 18.3 | 18.3 | 19.6 | 19.6 | 17.9 | 17.9 | 19.2 | 19.2 | 20.6 | 20.6 | 21.9 | 21.9 | 23.2 | 23.2 | 21.7 | 21.7 | 23.0 | 23.0 | 24.3 | 24.3 | 25.7 | 25.7 | 27.0 | 27.0 | 30.7 | 31.7 | 32.4 | 33.3 | 34.0 | 35.0 | 35.7 | 36.7 | 37.4 | 38.3 | 39.0 | 40.0 |
| QUANT. | REINFORCEMENT | LB/LF | 81 | 90 | 88 | 97 | 95 | 104 | 99 | 99 | 106 | 106 | 113 | 113 | 119 | 119 | 108 | 123 | 115 | 129 | 121 | 136 | 128 | 143 | 135 | 184 | 124 | 183 | 130 | 192 | 137 | 236 | 144 | 253 | 220 | 263 | 198 | 264 | 206 | 275 | 214 | 285 | 222 | 296 | 230 | 307 | 238 | 376 |

| | SPAN, "S" | FT. | 12 | | | | | | | | | | | | | | 14 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HEIGHT, "H" | FT. | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | 13 | | 14 | |
| | MAXIMUM EARTH COVER | FT. | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 |
| CONC. | ROOF T1 | IN. | 11 | 13 | 11 | 13 | 11 | 13 | 11 | 13 | 11 | 13 | 11 | 13 | 11 | 13 | 13 | 15 | 13 | 15 | 13 | 15 | 13 | 15 | 13 | 15 | 13 | 15 | 13 | 15 | 13 | 15 |
| CONC. | WALLS T2 | IN. | 10 | 12 | 10 | 12 | 10 | 12 | 10 | 12 | 10 | 12 | 10 | 12 | 10 | 12 | 12 | 13 | 12 | 13 | 12 | 13 | 12 | 13 | 12 | 13 | 12 | 13 | 12 | 13 | 12 | 14 |
| CONC. | INVERT T3 | IN. | 12 | 15 | 12 | 15 | 12 | 15 | 12 | 15 | 12 | 15 | 12 | 15 | 12 | 15 | 14 | 17 | 14 | 17 | 14 | 17 | 14 | 17 | 14 | 17 | 14 | 17 | 14 | 17 | 14 | 17 |
| REINFORCEMENT | "a" BAR SIZE | | 7 | 8 | 7 | 8 | 7 | 8 | 7 | 8 | 7 | 8 | 7 | 8 | 7 | 8 | 7 | 8 | 7 | 8 | 7 | 8 | 7 | 8 | 7 | 8 | 7 | 8 | 7 | 8 | 7 | 8 |
| REINFORCEMENT | "a" SPACING | IN. | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| REINFORCEMENT | "a" LENGTH | ft-in | 13-4 | 13-8 | 13-4 | 13-8 | 13-4 | 13-8 | 13-4 | 13-8 | 13-4 | 13-8 | 13-4 | 13-8 | 13-4 | 13-8 | 15-8 | 15-10 | 15-8 | 15-10 | 15-8 | 15-10 | 15-8 | 15-10 | 15-8 | 15-10 | 15-8 | 15-10 | 15-8 | 15-10 | 15-8 | 16-0 |
| REINFORCEMENT | "b" BAR SIZE | | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 6 | 7 | 7 | 8 |
| REINFORCEMENT | "b" SPACING | IN. | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| REINFORCEMENT | "b" LENGTH | ft-in | 9-5 | 10-5 | 9-11 | 10-11 | 10-5 | 11-5 | 10-11 | 11-11 | 11-5 | 12-5 | 11-11 | 12-11 | 12-5 | 13-5 | 10-6 | 11-5 | 11-0 | 11-11 | 11-6 | 12-5 | 12-0 | 12-11 | 12-6 | 13-5 | 13-0 | 13-11 | 13-6 | 14-5 | 14-7 | 16-1 |
| REINFORCEMENT | "b" B | ft-in | 4-5 | 5-0 | 4-5 | 5-0 | 4-5 | 5-0 | 4-5 | 5-0 | 4-5 | 5-0 | 4-5 | 5-0 | 4-5 | 5-0 | 4-9 | 5-4 | 4-9 | 5-4 | 4-9 | 5-4 | 4-9 | 5-4 | 4-9 | 5-4 | 4-9 | 5-4 | 4-9 | 5-4 | 5-3 | 6-1 |
| REINFORCEMENT | "c" BAR SIZE | | 4 | 5 | 4 | 5 | 4 | 5 | 4 | 5 | 4 | 5 | 4 | 5 | 5 | 6 | 4 | 5 | 4 | 6 | 4 | 6 | 4 | 6 | 4 | 6 | 4 | 6 | 5 | 6 | 6 | 7 |
| REINFORCEMENT | "c" SPACING | IN. | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| REINFORCEMENT | "c" LENGTH | ft-in | 7-6 | 7-11 | 8-6 | 8-11 | 9-6 | 9-11 | 10-6 | 10-11 | 11-6 | 11-11 | 12-6 | 12-10 | 13-6 | 13-11 | 8-10 | 9-3 | 9-10 | 10-3 | 10-10 | 11-3 | 11-10 | 12-3 | 12-10 | 13-3 | 13-10 | 14-3 | 14-10 | 15-3 | 15-10 | 16-3 |
| REINFORCEMENT | #4@12" LENGTH | ft-in | 6-6 | 5-8 | 6-6 | 5-8 | 6-6 | 5-8 | 6-6 | 5-8 | 6-6 | 5-8 | 6-6 | 5-8 | 6-6 | 5-8 | 8-1 | 7-3 | 8-1 | 7-3 | 8-1 | 7-3 | 8-1 | 7-3 | 8-1 | 7-3 | 8-1 | 7-3 | 8-1 | 7-3 | 7-3 | 5-10 |
| REINFORCEMENT | #4@12" NUMBER* | | 80 | 80 | 84 | 84 | 88 | 88 | 92 | 92 | 96 | 96 | 100 | 100 | 104 | 104 | 92 | 92 | 96 | 96 | 100 | 100 | 104 | 104 | 108 | 108 | 112 | 112 | 116 | 116 | 120 | 120 |
| QUANT. | CONCRETE | CF/LF | 36.2 | 44.7 | 37.9 | 46.7 | 39.5 | 48.7 | 41.2 | 50.7 | 42.9 | 52.7 | 44.5 | 54.7 | 46.2 | 56.7 | 50.0 | 58.3 | 52.0 | 60.4 | 54.0 | 62.6 | 56.0 | 64.8 | 58.0 | 66.9 | 60.0 | 69.1 | 62.0 | 71.3 | 64.0 | 76.2 |
| QUANT. | REINFORCEMENT | LB/LF | 295 | 394 | 305 | 407 | 315 | 420 | 325 | 433 | 335 | 446 | 345 | 459 | 365 | 485 | 338 | 446 | 348 | 468 | 358 | 482 | 368 | 496 | 378 | 510 | 388 | 524 | 409 | 538 | 504 | 668 |

* QUANTITY INCLUDES #4 CORNER BARS

B-3

SHEET 2 OF 2

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

RCB CULVERTS
SINGLE

| B-20.1.2.1 (502,505) | Signed Original On File |
|---|---|
| ADOPTED 11/70 / REVISED 10/15 | CHIEF BRIDGE ENGR. |

PROFESSIONAL ENGINEER - STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

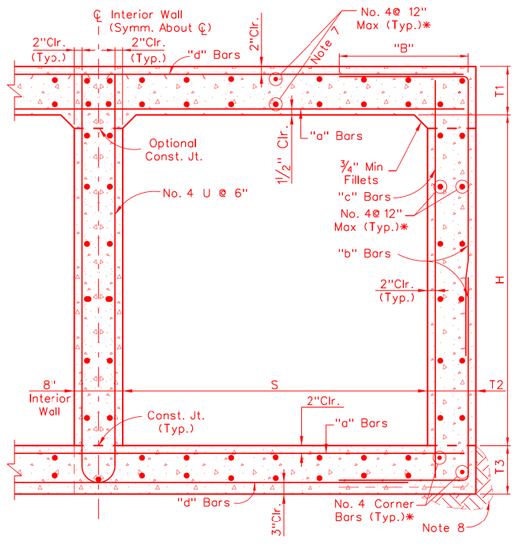
STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# STORM DRAIN DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DS106 |

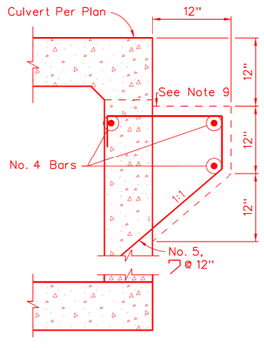



## NOTES:

1. DESIGN SPECIFICATIONS: "AASHTO LRFD Bridge Design Specifications 2012"
2. CONSTRUCTION SPECIFICATIONS: "State of Nevada Department of Transportation Standard Specifications for Road and Bridge Construction 2014"
3. LIVE LOADS:
   HL-93 Design Truck (32.0 KIP Axle)
   HL-93 Design Tandem (Two 25.0 KIP Axles Spaced 4 Feet Apart)
   (Live Load Impact Factor for Top Slab is 33% up to 2 Feet of Cover)

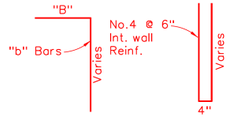
   LATERAL LIVE LOAD PRESSURE:
   Equivalent to 2 Feet of Earth Surcharge Applied Horizontally = 240 PSF

   DEAD LOADS:
   Soil Unit Weight = 120 PCF
   Min Lateral Earth Pressure = 30 PCF
   Max Lateral Earth Pressure = 60 PCF
4. CONCRETE: Class DA Modified (Major) F'C=4,500 PSI @ 28 Days. (Class D in Clark County)
5. REINFORCING STEEL: All reinforcing steel to be ASTM A615 grade 60 or A706. Dimension relating to bar spacing are center to center
6. DESIGNATION: Box culverts are shown on plans as span times height times length (10' x 8' x 196' RCB).
7. Where traffic loads will be placed directly on the top surface of the culvert, (and/or, up to 2 feet of fill), increase top slab thickness by ½ inch and cover for top reinforcement from 2 inches to 2½ inches. Provide epoxy coated reinforcement in top slab (except in Clark County). Decrease spacing of top slab bottom longitudinal bars (#4 @ 12) to 6 inch spacing. Use FA Modified Major concrete (Class E in Clark County) in lieu of Class DA. Adjust quantities accordingly.
8. Provide 2 foot wide Type 1 or Type 2 drain backfill wrapped in Class 1 or Class 2 non-woven geotextile along full height of each culvert exterior wall face.
9. Provide paving notch when top slab is exposed and when pavement is concrete. Adjust quantities accordingly.
10. For additional notes, see sheet B-20.1.1




PAVING NOTCH DETAIL

BENT BARS




SHEET 1 OF 2

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

RCB CULVERTS
DOUBLE

| B-20.1.3 (502) | Signed Original On File |
|---|---|
| ADOPTED 11/70 / REVISED 10/15 | CHIEF BRIDGE ENGR. |

PROFESSIONAL ENGINEER STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# STORM DRAIN DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

B-4

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DS107 |

| | | | FT. | 5 | | | | 6 | | | | | | | | 7 | | | | | | | | | | 8 | | | | | | | | | | 10 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HEIGHT, "H" | FT. | 3 | | 4 | | 5 | | 3 | | 4 | | 5 | | 6 | | 3 | | 4 | | 5 | | 6 | | 7 | | 4 | | 5 | | 6 | | 7 | | 8 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | |
| | | MAXIMUM EARTH COVER | FT. | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 |
| CONC | | ROOF T1 | IN. | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 11 | 10 | 11 | 10 | 11 | 10 | 11 | 10 | 11 | 10 | 13 | 10 | 13 | 10 | 13 | 10 | 13 | 10 | 13 | 11 | 15 | 11 | 15 | 11 | 15 | 11 | 15 | 11 | 15 |
| | | WALLS T2 | IN. | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 10 | 8 | 10 | 8 | 10 | 8 | 10 | 8 | 10 | 8 | 11 | 8 | 11 | 8 | 11 | 8 | 11 | 8 | 11 | 8 | 12 | 8 | 12 | 8 | 12 | 8 | 12 | 9 | 12 |
| | | INVERT T3 | IN. | 8 | 10 | 8 | 10 | 8 | 10 | 9½ | 10½ | 9½ | 10½ | 9½ | 10½ | 9½ | 10½ | 11 | 13 | 11 | 13 | 11 | 13 | 11 | 13 | 11 | 13 | 11 | 15 | 11 | 15 | 11 | 15 | 11 | 15 | 11 | 15 | 12 | 17 | 12 | 17 | 12 | 17 | 12 | 17 | 12 | 17 |
| REINFORCEMENT | "a" | BAR SIZE | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | | SPACING | IN. | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | | LENGTH | ft-in | 11-8 | 11-8 | 11-8 | 11-8 | 11-8 | 11-8 | 13-8 | 13-8 | 13-8 | 13-8 | 13-8 | 13-8 | 13-8 | 13-8 | 15-8 | 16-0 | 15-8 | 16-0 | 15-8 | 16-0 | 15-8 | 16-0 | 15-8 | 16-0 | 17-8 | 18-2 | 17-8 | 18-2 | 17-8 | 18-2 | 17-8 | 18-2 | 17-8 | 18-2 | 21-8 | 22-4 | 21-8 | 22-4 | 21-8 | 22-4 | 21-8 | 22-4 | 21-10 | 22-4 |
| | "b" | BAR SIZE | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | | SPACING | IN. | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | | LENGTH | ft-in | 5-9 | 5-10 | 6-3 | 6-4 | 6-9 | 6-10 | 5-10 | 5-10 | 6-4 | 6-4 | 6-10 | 6-10 | 7-4 | 6-8 | 5-3 | 5-6 | 5-9 | 6-0 | 6-3 | 6-6 | 6-9 | 7-0 | 7-3 | 7-6 | 5-9 | 6-3 | 6-3 | 6-9 | 6-9 | 7-3 | 7-3 | 8-5 | 7-9 | 8-11 | 6-11 | 7-8 | 7-5 | 8-2 | 7-11 | 8-8 | 8-5 | 9-2 | 8-11 | 9-8 | 9-6 | 10-2 |
| | | B | ft-in | 2-8 | 2-8 | 2-8 | 2-8 | 2-8 | 2-8 | 2-8 | 2-8 | 2-8 | 2-8 | 2-8 | 2-8 | 2-8 | 2-2 | 2-2 | 2-4 | 2-2 | 2-4 | 2-2 | 2-4 | 2-2 | 2-4 | 2-2 | 2-4 | 2-2 | 2-5 | 2-2 | 2-5 | 2-2 | 2-5 | 2-2 | 2-11 | 2-2 | 2-11 | 2-8 | 2-12 | 2-8 | 2-12 | 2-8 | 2-12 | 2-8 | 2-12 | 2-9 | 2-12 |
| | "c" | BAR SIZE | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | | SPACING | IN. | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| | | LENGTH | ft-in | 4-1 | 4-3 | 5-1 | 5-3 | 6-1 | 6-3 | 4-3 | 4-4 | 5-3 | 5-4 | 6-3 | 6-4 | 7-3 | 7-4 | 4-4 | 4-7 | 5-4 | 5-7 | 6-4 | 6-7 | 7-4 | 7-7 | 8-4 | 8-7 | 5-4 | 5-11 | 6-4 | 6-11 | 7-4 | 7-11 | 8-4 | 8-11 | 9-4 | 9-11 | 6-6 | 7-3 | 7-6 | 8-3 | 8-6 | 9-3 | 9-6 | 10-3 | 10-6 | 11-3 | 11-6 | 12-3 |
| | "d" | BAR SIZE | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 5 | 6 | 5 | 6 | 5 | 6 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | SPACING | IN. | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | | LENGTH | ft-in | 11-8 | 11-8 | 11-8 | 11-8 | 11-8 | 11-8 | 13-8 | 13-8 | 13-8 | 13-8 | 13-8 | 13-8 | 13-8 | 13-8 | 15-8 | 16-0 | 15-8 | 16-0 | 15-8 | 16-0 | 15-8 | 16-0 | 15-8 | 16-0 | 17-8 | 18-2 | 17-8 | 18-2 | 17-8 | 18-2 | 17-8 | 18-2 | 17-8 | 18-2 | 21-8 | 22-4 | 21-8 | 22-4 | 21-8 | 22-4 | 21-8 | 22-4 | 21-10 | 22-4 |
| | #5@ 6" | LENGTH | ft-in | 8-4 | 8-8 | 10-4 | 10-8 | 12-4 | 12-8 | 8-7 | 8-9 | 10-7 | 10-9 | 12-7 | 12-9 | 14-7 | 14-9 | 8-10 | 9-4 | 10-10 | 11-4 | 12-10 | 13-4 | 14-10 | 15-4 | 16-10 | 17-4 | 10-10 | 12-0 | 12-10 | 14-0 | 14-10 | 16-0 | 16-10 | 18-0 | 18-10 | 20-0 | 13-2 | 14-8 | 15-2 | 16-8 | 17-2 | 18-8 | 19-2 | 20-8 | 21-2 | 22-8 | 23-2 | 24-8 |
| | #4@ 12" | NUMBER* | | 70 | 70 | 76 | 76 | 82 | 82 | 78 | 78 | 84 | 84 | 90 | 90 | 96 | 96 | 86 | 86 | 92 | 92 | 98 | 98 | 104 | 104 | 110 | 110 | 100 | 100 | 106 | 106 | 112 | 112 | 118 | 118 | 124 | 124 | 122 | 122 | 128 | 128 | 134 | 134 | 140 | 140 | 146 | 146 | 152 | 152 |
| QUANT. | | CONCRETE | CF/LF | 24.0 | 26.0 | 26.0 | 28.0 | 28.0 | 30.0 | 28.8 | 29.9 | 30.8 | 31.9 | 32.8 | 33.9 | 34.8 | 35.9 | 34.0 | 39.7 | 36.0 | 42.0 | 38.0 | 44.3 | 40.0 | 46.7 | 42.0 | 49.0 | 39.5 | 53.2 | 41.5 | 55.7 | 43.5 | 58.2 | 45.5 | 60.7 | 47.5 | 63.2 | 52.2 | 73.8 | 54.2 | 76.4 | 56.2 | 79.1 | 58.2 | 81.8 | 60.2 | 84.4 | 64.2 | 87.1 |
| | | REINFORCEMENT | LB/LF | 167 | 168 | 177 | 178 | 187 | 188 | 187 | 212 | 197 | 223 | 207 | 233 | 217 | 248 | 234 | 244 | 244 | 255 | 255 | 266 | 266 | 276 | 276 | 287 | 299 | 282 | 309 | 293 | 320 | 303 | 331 | 343 | 342 | 355 | 438 | 456 | 451 | 469 | 464 | 482 | 477 | 495 | 490 | 508 | 506 | 520 |

| | | | FT. | 12 | | | | | | | | | | | | 14 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HEIGHT, "H" | FT. | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | 13 | | 14 | |
| | | MAXIMUM EARTH COVER | FT. | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 | 10 | 20 |
| CONC | | ROOF T1 | IN. | 12½ | 17½ | 12½ | 17½ | 12½ | 17½ | 12½ | 17½ | 12½ | 17½ | 12½ | 17½ | 12½ | 17½ | 13 | 19 | 13 | 19 | 13 | 19 | 13 | 19 | 13 | 19 | 13 | 19 | 13 | 19 | 13 | 19 |
| | | WALLS T2 | IN. | 9 | 14 | 9 | 14 | 9 | 14 | 9 | 14 | 9 | 14 | 9 | 14 | 10 | 14 | 10 | 16 | 10 | 16 | 10 | 16 | 10 | 16 | 10 | 16 | 10 | 16 | 10 | 16 | 11 | 16 |
| | | INVERT T3 | IN. | 13 | 19 | 13 | 19 | 13 | 19 | 13 | 19 | 13 | 19 | 13 | 19 | 13 | 19 | 15 | 21 | 15 | 21 | 15 | 21 | 15 | 21 | 15 | 21 | 15 | 21 | 15 | 21 | 15 | 21 |
| REINFORCEMENT | "a" | BAR SIZE | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | | SPACING | IN. | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | | LENGTH | ft-in | 25-10 | 26-8 | 25-10 | 26-8 | 25-10 | 26-8 | 25-10 | 26-8 | 25-10 | 26-8 | 25-10 | 26-8 | 25-10 | 26-8 | 26-0 | 26-8 | 30-0 | 31-0 | 30-0 | 31-0 | 30-0 | 31-0 | 30-0 | 31-0 | 30-0 | 31-0 | 30-0 | 31-0 | 30-2 | 31-0 |
| | "b" | BAR SIZE | | 5 | 6 | 5 | 6 | 5 | 6 | 5 | 6 | 5 | 6 | 6 | 6 | 6 | 6 | 5 | 6 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | | SPACING | IN. | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | | LENGTH | ft-in | 7-8 | 9-2 | 8-2 | 9-8 | 8-8 | 10-2 | 9-2 | 10-8 | 9-8 | 11-2 | 10-9 | 11-8 | 11-4 | 12-2 | 8-4 | 9-11 | 8-10 | 10-5 | 9-11 | 10-11 | 10-5 | 11-5 | 10-11 | 11-11 | 11-5 | 12-5 | 11-11 | 12-11 | 12-6 | 13-5 |
| | | B | ft-in | 2-9 | 3-7 | 2-9 | 3-7 | 2-9 | 3-7 | 2-9 | 3-7 | 2-9 | 3-7 | 3-2 | 3-7 | 3-3 | 3-7 | 2-10 | 3-9 | 2-10 | 3-9 | 3-3 | 3-9 | 3-3 | 3-9 | 3-3 | 3-9 | 3-3 | 3-9 | 3-3 | 3-9 | 3-4 | 3-9 |
| | "c" | BAR SIZE | | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 6 | 5 | 6 | 5 | 6 | 5 | 6 | 5 | 6 | 5 | 6 | 4 | 6 | 4 | 6 |
| | | SPACING | IN. | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 6 | 12 | 6 | 12 |
| | | LENGTH | ft-in | 7-9 | 8-8 | 8-9 | 9-8 | 9-9 | 10-8 | 10-9 | 11-8 | 11-9 | 12-8 | 12-9 | 13-8 | 13-9 | 14-8 | 8-11 | 9-11 | 9-11 | 10-11 | 10-11 | 11-11 | 11-11 | 12-11 | 12-11 | 13-11 | 13-11 | 14-11 | 14-11 | 15-11 | 15-11 | 16-11 |
| | "d" | BAR SIZE | | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 8 | 9 | 8 | 9 | 8 | 9 | 8 | 9 | 8 | 9 | 8 | 9 | 8 | 9 |
| | | SPACING | IN. | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | | LENGTH | ft-in | 25-10 | 26-8 | 25-10 | 26-8 | 25-10 | 26-8 | 25-10 | 26-8 | 25-10 | 26-8 | 25-10 | 26-8 | 26-0 | 26-8 | 30-0 | 31-0 | 30-0 | 31-0 | 30-0 | 31-0 | 30-0 | 31-0 | 30-0 | 31-0 | 30-8 | 31-0 | 30-0 | 31-0 | 30-2 | 31-0 |
| | #4@ 6" | LENGTH | ft-in | 15-7 | 17-5 | 17-7 | 19-5 | 19-7 | 21-5 | 21-7 | 23-5 | 23-7 | 25-5 | 25-7 | 27-5 | 27-7 | 29-5 | 18-0 | 20-0 | 20-0 | 22-0 | 22-0 | 24-0 | 24-0 | 26-0 | 26-0 | 28-0 | 28-0 | 30-0 | 30-0 | 32-0 | 32-0 | 34-0 |
| | #4@ 12" | NUMBER* | | 144 | 144 | 150 | 150 | 156 | 156 | 162 | 162 | 168 | 168 | 174 | 174 | 180 | 180 | 166 | 166 | 172 | 172 | 178 | 178 | 184 | 184 | 190 | 190 | 196 | 196 | 202 | 202 | 208 | 208 |
| QUANT. | | CONCRETE | CF/LF | 68.6 | 100.1 | 70.8 | 103.1 | 72.9 | 106.1 | 75.1 | 109.1 | 77.3 | 112.1 | 79.4 | 115.1 | 84.0 | 118.1 | 87.1 | 127.8 | 89.4 | 131.1 | 91.8 | 134.4 | 94.1 | 137.8 | 96.4 | 141.1 | 98.8 | 144.1 | 101.1 | 147.8 | 106.2 | 151.1 |
| | | REINFORCEMENT | LB/LF | 587 | 651 | 601 | 667 | 615 | 683 | 629 | 698 | 643 | 714 | 702 | 730 | 721 | 745 | 724 | 895 | 736 | 910 | 791 | 926 | 806 | 942 | 821 | 958 | 836 | 973 | 859 | 989 | 878 | 1005 |

* QUANTITY INCLUDES #4 CORNER BARS

B-5

SHEET 2 OF 2

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

RCB CULVERTS
DOUBLE

| B-20.1.3.1 (502) | Signed Original On File |
|---|---|
| ADOPTED 11/70 / REVISED 10/15 | CHIEF BRIDGE ENGR. |

PROFESSIONAL ENGINEER STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

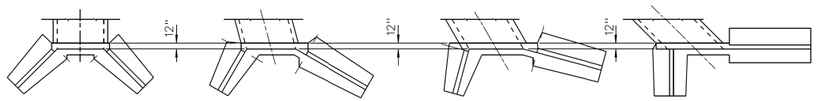
STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

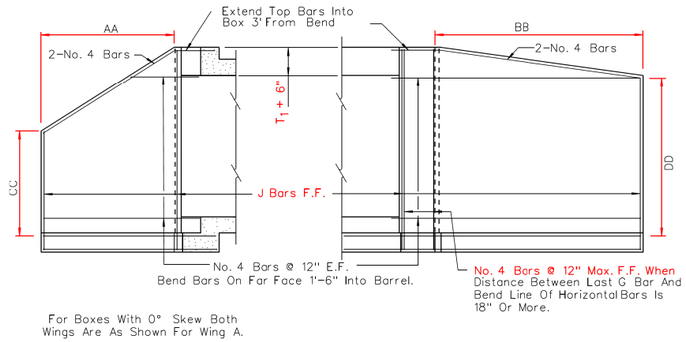
# STORM DRAIN DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DS108 |




0° SKEW 15° SKEW 30° SKEW 45° SKEW

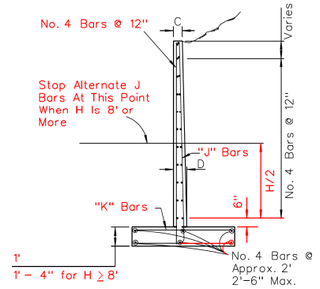



For Boxes With 0° Skew Both Wings Are As Shown For Wing A.

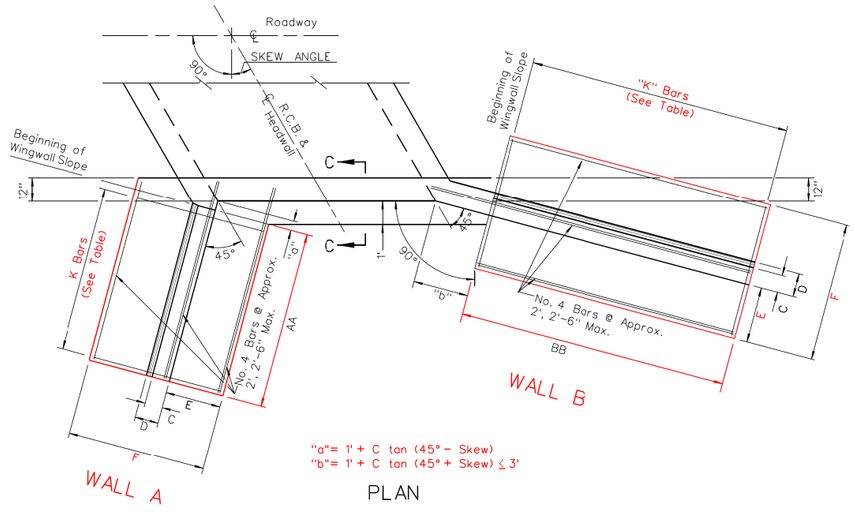
WALL A WALL B

NOTES:

1. For additional notes see sheet B-20.1.1.



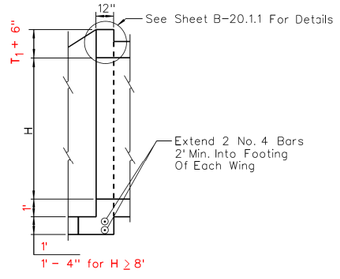

SECTION OF WALLS A AND B




"a"= 1' + C tan (45° - Skew)
"b"= 1' + C tan (45° + Skew) ≤ 3'

WALL A WALL B

PLAN




SECTION C-C
($T_1$ = Minimum 9")

SHEET 1 OF 2

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

RCB CULVERTS
TYPE I HEADWALLS

| B-20.1.4 | (502) | Signed Original On File |
|---|---|---|
| ADOPTED 11/70 | REVISED 10/15 | CHIEF BRIDGE ENGR. |

B-7

PROFESSIONAL ENGINEER STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# STORM DRAIN DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DS109 |

# TYPE I HEADWALL DIMENSIONS AND REINFORCING STEEL

| 0 Degree Skew | | | | | 15 Degree Skew | | | | 30 Degree Skew | | | | 45 Degree Skew | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H (Ft.) | AA (Ft. In.) | BB (Ft. In.) | CC (Ft. In.) | DD (Ft. In.) | AA (Ft. In.) | BB (Ft. In.) | CC (Ft. In.) | DD (Ft. In.) | AA (Ft. In.) | BB (Ft. In.) | CC (Ft. In.) | DD (Ft. In.) | AA (Ft. In.) | BB (Ft. In.) | CC (Ft. In.) | DD (Ft. In.)* |
| 3 | 6 3 | 6 3 | 3 2 | 3 2 | 5 9 | 7 3 | 3 0 | 3 7 | 5 3 | 9 0 | 2 10 | 4 3 | 5 3 | 12 6 | 2 10 | 5 4 |
| 4 | 7 9 | 7 9 | 3 8 | 3 8 | 7 0 | 9 0 | 3 5 | 4 2 | 6 6 | 11 3 | 3 4 | 4 11 | 6 3 | 15 3 | 3 3 | 6 4 |
| 5 | 9 3 | 9 3 | 4 3 | 4 3 | 8 3 | 10 9 | 3 11 | 4 10 | 7 9 | 13 6 | 3 9 | 5 9 | 7 9 | 18 3 | 3 8 | 7 5 |
| 6 | 10 9 | 10 9 | 4 10 | 4 10 | 9 9 | 12 9 | 4 5 | 5 6 | 9 3 | 15 9 | 4 3 | 6 7 | 9 0 | 21 6 | 4 2 | 8 7 |
| 7 | 12 3 | 12 3 | 5 4 | 5 4 | 11 0 | 14 3 | 4 11 | 6 1 | 10 6 | 18 0 | 4 8 | 7 4 | 10 3 | 24 6 | 4 7 | 9 7 |
| 8 | 13 9 | 13 9 | 5 10 | 5 10 | 12 3 | 16 0 | 5 4 | 6 8 | 11 6 | 20 0 | 5 1 | 8 1 | 11 3 | 27 3 | 5 0 | 10 7 |
| 9 | 15 0 | 15 0 | 6 4 | 6 4 | 13 6 | 17 9 | 5 10 | 7 3 | 12 9 | 22 0 | 5 6 | 8 9 | 12 6 | 30 0 | 5 5 | 11 7 |
| 10 | 16 6 | 16 6 | 6 10 | 6 10 | 14 9 | 19 3 | 6 3 | 7 10 | 14 0 | 24 0 | 5 11 | 9 6 | 13 9 | 33 0 | 5 10 | 12 7 |
| 11 | 18 0 | 18 0 | 7 4 | 7 4 | 16 0 | 21 0 | 6 8 | 8 5 | 15 3 | 26 3 | 6 4 | 10 3 | 14 9 | 35 9 | 6 3 | 13 7 |
| 12 | 19 3 | 19 3 | 7 10 | 7 10 | 17 6 | 22 9 | 7 2 | 9 0 | 16 3 | 28 3 | 6 9 | 11 0 | 16 0 | 38 6 | 6 8 | 14 7 |
| 13 | 20 9 | 20 9 | 8 4 | 8 4 | 18 9 | 24 3 | 7 7 | 9 7 | 17 6 | 30 3 | 7 2 | 11 9 | 17 3 | 41 3 | 7 1 | 15 7 |
| 14 | 22 3 | 22 3 | 8 10 | 8 10 | 20 0 | 26 0 | 8 1 | 10 2 | 18 9 | 32 6 | 7 8 | 12 5 | 18 6 | 44 3 | 7 6 | 16 7 |

*DD varies. DD = H + $T_1$ + 1'6"

($T_1$ = Minimum 9")

| | | | | | | | 0 Degree Skew | | 15 Degree Skew | | 30 Degree Skew | | 45 Degree Skew | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Wall A & B | | Wall B | | Wall A | | Wall B | | Wall A | |
| H (Ft.) | C (In.) | D (In.) | J (Size) | J (Spacing) | K (Size) | K (Spacing) | E (Ft. In.) | F (Ft. In.) | E (Ft. In.) | F (Ft. In.) | E (Ft. In.) | F (Ft. In.) | E (Ft. In.) | F (Ft. In.) | E (Ft. In.) | F (Ft. In.) |
| 3 | 8 | 10 | 5 | 12 | 5 | 12 | 1 0 | 3 3 | 1 0 | 3 3 | 1 0 | 3 3 | 1 0 | 3 6 | 1 0 | 3 6 |
| 4 | 8 | 10 | 5 | 12 | 5 | 12 | 1 0 | 3 6 | 1 0 | 3 6 | 1 0 | 3 6 | 1 3 | 3 9 | 1 3 | 4 0 |
| 5 | 8 | 12 | 5 | 12 | 5 | 12 | 1 3 | 3 9 | 1 3 | 3 9 | 1 3 | 3 9 | 1 3 | 4 3 | 1 6 | 4 9 |
| 6 | 8 | 12 | 5 | 6 | 5 | 6 | 1 3 | 4 0 | 1 3 | 4 0 | 1 3 | 4 0 | 1 6 | 4 9 | 1 9 | 5 3 |
| 7 | 10 | 14 | 5 | 6 | 5 | 6 | 1 6 | 4 6 | 1 6 | 4 6 | 1 6 | 4 6 | 1 9 | 5 3 | 2 3 | 6 0 |
| 8 | 10 | 14 | 5 | 6 | 5 | 6 | 1 9 | 5 0 | 1 9 | 5 0 | 1 9 | 5 0 | 2 3 | 6 0 | 2 6 | 6 6 |
| 9 | 10 | 16 | 6 | 6 | 5 | 6 | 2 0 | 5 6 | 2 0 | 5 6 | 2 0 | 5 6 | 2 6 | 6 6 | 2 9 | 7 0 |
| 10 | 10 | 16 | 6 | 6 | 6 | 6 | 2 3 | 6 0 | 2 3 | 6 0 | 2 3 | 6 0 | 2 9 | 7 0 | 3 3 | 7 9 |
| 11 | 12 | 18 | 6 | 6 | 6 | 6 | 2 6 | 6 6 | 2 6 | 6 6 | 2 6 | 6 6 | 3 0 | 7 6 | 3 6 | 8 3 |
| 12 | 12 | 18 | 7 | 6 | 6 | 6 | 2 9 | 7 0 | 2 9 | 7 0 | 3 0 | 7 3 | 3 3 | 7 9 | 4 0 | 9 0 |
| 13 | 12 | 20 | 7 | 6 | 7 | 6 | 3 0 | 7 6 | 3 0 | 7 6 | 3 3 | 7 9 | 3 6 | 8 3 | 4 3 | 9 6 |
| 14 | 12 | 20 | 7 | 6 | 7 | 6 | 3 3 | 8 0 | 3 3 | 8 0 | 3 6 | 8 3 | 4 0 | 9 0 | 4 6 | 10 3 |

B-8

SHEET 2 OF 2

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

RCB CULVERTS
TYPE I HEADWALLS

| B-20.1.4.1 (502) | Signed Original On File |
|---|---|
| ADOPTED 11/70 / REVISED 10/15 | CHIEF BRIDGE ENGR. |

PROFESSIONAL ENGINEER STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570

6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# STORM DRAIN DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DS110 |

NOTE:

Quantities shown are cubic yards of concrete and pounds of reinforcing for two headwalls at the inlet and outlet.

| Span | Height | Single Box | | | | | | | | Double Box | | | | | | | | Triple Box | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0 Skew | | 15 Skew | | 30 Skew | | 45 Skew | | 0 Skew | | 15 Skew | | 30 Skew | | 45 Skew | | 0 Skew | | 15 Skew | | 30 Skew | | 45 Skew | |
| | | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. |
| 5 | 3 | 8.90 | 839.7 | 9.34 | 882.9 | 10.56 | 959.6 | 13.32 | 1180.7 | 10.82 | 1084.9 | 11.33 | 1136.7 | 12.78 | 1242.7 | 16.04 | 1527.5 | 12.74 | 1269.3 | 13.32 | 1327.7 | 15.00 | 1455.6 | 18.76 | 1788.3 |
| | 4 | 11.44 | 1132.5 | 11.94 | 1120.0 | 13.65 | 1246.9 | 17.02 | 1458.1 | 13.36 | 1377.7 | 13.93 | 1373.9 | 15.87 | 1530.0 | 19.74 | 1804.8 | 15.29 | 1562.1 | 15.92 | 1564.8 | 18.09 | 1742.9 | 22.46 | 2065.6 |
| | 5 | 15.15 | 1379.4 | 15.75 | 1426.0 | 18.17 | 1611.5 | 22.98 | 1903.5 | 17.07 | 1624.6 | 17.74 | 1679.8 | 20.39 | 1894.6 | 25.70 | 2250.2 | 18.99 | 1809.0 | 19.73 | 1870.7 | 22.61 | 2107.6 | 28.42 | 2511.0 |
| 6 | 3 | 9.24 | 862.7 | 9.69 | 906.7 | 10.96 | 986.1 | 13.80 | 1213.2 | 11.50 | 1150.0 | 12.03 | 1204.1 | 13.57 | 1317.8 | 17.00 | 1619.5 | 13.76 | 1367.0 | 14.37 | 1428.7 | 16.18 | 1568.4 | 20.20 | 1926.3 |
| | 4 | 11.78 | 1155.5 | 12.29 | 1143.8 | 14.04 | 1273.4 | 17.50 | 1490.6 | 14.04 | 1442.8 | 14.63 | 1441.2 | 16.65 | 1605.1 | 20.70 | 1896.9 | 16.30 | 1659.7 | 16.98 | 1665.8 | 19.26 | 1855.7 | 23.90 | 2203.7 |
| | 5 | 15.49 | 1402.4 | 16.10 | 1449.7 | 18.56 | 1638.0 | 23.46 | 1936.0 | 17.75 | 1689.7 | 18.44 | 1747.2 | 21.17 | 1969.8 | 26.66 | 2342.3 | 20.01 | 1906.6 | 20.79 | 1971.8 | 23.78 | 2220.3 | 29.86 | 2649.1 |
| | 6 | 19.14 | 2318.8 | 20.19 | 2363.3 | 23.19 | 2608.4 | 29.47 | 3179.2 | 21.40 | 2606.1 | 22.53 | 2660.8 | 25.80 | 2940.2 | 32.67 | 3585.5 | 23.67 | 2823.1 | 24.87 | 2885.4 | 28.41 | 3190.7 | 35.87 | 3892.4 |
| 7 | 3 | 9.57 | 885.7 | 10.04 | 930.5 | 11.35 | 1012.6 | 14.28 | 1245.7 | 12.18 | 1215.1 | 12.73 | 1271.5 | 14.35 | 1393.0 | 17.96 | 1711.6 | 14.78 | 1464.6 | 15.42 | 1529.8 | 17.35 | 1681.1 | 21.64 | 2064.4 |
| | 4 | 12.12 | 1178.4 | 12.64 | 1167.6 | 14.43 | 1299.9 | 17.98 | 1523.0 | 14.72 | 1507.9 | 15.34 | 1508.6 | 17.44 | 1680.3 | 21.66 | 1988.9 | 17.32 | 1757.4 | 18.03 | 1766.9 | 20.44 | 1968.4 | 25.34 | 2341.8 |
| | 5 | 15.83 | 1425.3 | 16.45 | 1473.5 | 18.95 | 1664.5 | 23.94 | 1968.4 | 18.43 | 1754.8 | 19.15 | 1814.6 | 21.95 | 2044.9 | 27.62 | 2434.3 | 21.03 | 2004.3 | 21.84 | 2072.9 | 24.96 | 2333.0 | 31.30 | 2787.2 |
| | 6 | 19.48 | 2341.8 | 20.54 | 2387.1 | 23.58 | 2634.9 | 29.95 | 3211.7 | 22.08 | 2671.2 | 23.23 | 2728.1 | 26.58 | 3015.3 | 33.63 | 3677.6 | 24.68 | 2920.7 | 25.93 | 2986.5 | 29.59 | 3303.4 | 37.31 | 4030.4 |
| | 7 | 26.56 | 2864.3 | 27.73 | 2944.9 | 32.11 | 3315.4 | 41.01 | 3923.2 | 29.16 | 3193.8 | 30.43 | 3286.0 | 35.11 | 3695.8 | 44.68 | 4389.1 | 31.76 | 3443.3 | 33.12 | 3544.3 | 38.12 | 3983.9 | 48.36 | 4741.9 |
| 8 | 4 | 12.46 | 1201.4 | 13.00 | 1191.3 | 14.82 | 1326.4 | 18.46 | 1555.5 | 15.40 | 1573.0 | 16.04 | 1576.0 | 18.22 | 1755.4 | 22.62 | 2081.0 | 18.34 | 1855.0 | 19.08 | 1868.0 | 21.61 | 2081.1 | 26.78 | 2479.8 |
| | 5 | 16.17 | 1448.3 | 16.81 | 1497.3 | 19.34 | 1691.0 | 24.42 | 2000.9 | 19.11 | 1819.9 | 19.85 | 1881.9 | 22.74 | 2120.1 | 28.58 | 2526.4 | 22.05 | 2101.9 | 22.89 | 2173.9 | 26.13 | 2445.8 | 32.74 | 2925.3 |
| | 6 | 19.82 | 2364.7 | 20.89 | 2410.9 | 23.97 | 2661.4 | 30.43 | 3244.2 | 22.76 | 2736.3 | 23.94 | 2795.5 | 27.37 | 3090.5 | 34.59 | 3769.6 | 25.70 | 3018.3 | 26.98 | 3087.5 | 30.76 | 3416.2 | 38.75 | 4168.5 |
| | 7 | 26.89 | 2887.3 | 28.08 | 2968.7 | 32.50 | 3341.9 | 41.49 | 3955.7 | 29.83 | 3258.9 | 31.13 | 3353.4 | 35.90 | 3771.0 | 45.64 | 4481.1 | 32.77 | 3540.9 | 34.17 | 3645.4 | 39.29 | 4096.7 | 49.80 | 4880.0 |
| | 8 | 36.16 | 3337.1 | 37.58 | 3353.4 | 43.03 | 3733.2 | 54.93 | 4463.3 | 39.53 | 3708.7 | 41.07 | 3738.1 | 46.92 | 4162.2 | 59.69 | 4988.8 | 42.89 | 3990.7 | 44.56 | 4030.1 | 50.81 | 4487.9 | 64.45 | 5387.7 |
| 10 | 5 | 16.85 | 1494.2 | 17.51 | 1544.8 | 20.13 | 1744.0 | 25.38 | 2065.8 | 20.46 | 1950.0 | 21.25 | 2016.7 | 24.30 | 2270.4 | 30.50 | 2710.5 | 24.08 | 2297.2 | 25.00 | 2376.1 | 28.48 | 2671.2 | 35.62 | 3201.4 |
| | 6 | 20.50 | 2410.6 | 21.59 | 2458.4 | 24.75 | 2714.4 | 31.39 | 3309.1 | 24.12 | 2866.5 | 25.34 | 2930.3 | 28.93 | 3240.8 | 36.51 | 3953.7 | 27.74 | 3213.6 | 29.09 | 3289.7 | 33.11 | 3641.6 | 41.63 | 4444.7 |
| | 7 | 27.57 | 2933.2 | 28.79 | 3016.2 | 33.28 | 3394.9 | 42.45 | 4020.6 | 31.19 | 3389.0 | 32.53 | 3488.1 | 37.46 | 3921.3 | 47.56 | 4665.2 | 34.81 | 3736.2 | 36.28 | 3847.5 | 41.64 | 4322.1 | 52.68 | 5156.2 |
| | 8 | 36.93 | 3383.0 | 38.39 | 3400.9 | 43.93 | 3786.2 | 56.03 | 4528.2 | 41.08 | 3838.9 | 42.68 | 3872.8 | 48.71 | 4312.5 | 61.89 | 5172.9 | 45.23 | 4186.0 | 46.97 | 4232.2 | 53.50 | 4713.4 | 67.75 | 5663.8 |
| | 9 | 45.03 | 4617.0 | 47.40 | 4741.1 | 54.09 | 5157.4 | 69.38 | 6275.8 | 49.24 | 5081.4 | 51.76 | 5221.9 | 58.95 | 5693.7 | 75.34 | 6932.7 | 53.45 | 5434.0 | 56.12 | 5586.9 | 63.81 | 6100.8 | 81.29 | 7431.3 |
| | 10 | 52.66 | 5763.6 | 54.88 | 5747.6 | 62.98 | 6417.1 | 81.37 | 7804.1 | 56.87 | 6228.1 | 59.24 | 6228.4 | 67.84 | 6953.4 | 87.32 | 8460.9 | 61.08 | 6580.6 | 63.60 | 6593.4 | 72.70 | 7360.5 | 93.28 | 8959.5 |
| 12 | 6 | 21.18 | 2456.5 | 22.30 | 2505.9 | 25.54 | 2767.4 | 32.35 | 3374.0 | 25.47 | 2996.6 | 26.74 | 3065.1 | 30.50 | 3391.1 | 38.43 | 4137.8 | 29.77 | 3408.9 | 31.19 | 3491.8 | 35.46 | 3867.1 | 44.50 | 4720.8 |
| | 7 | 28.25 | 2979.1 | 29.49 | 3063.7 | 34.07 | 3448.0 | 43.40 | 4085.5 | 32.55 | 3519.2 | 33.94 | 3622.9 | 39.03 | 4071.6 | 49.48 | 4849.3 | 36.85 | 3931.4 | 38.39 | 4049.7 | 43.99 | 4547.6 | 55.56 | 5432.3 |
| | 8 | 37.71 | 3428.9 | 39.19 | 3448.4 | 44.82 | 3839.2 | 57.13 | 4593.2 | 42.64 | 3969.1 | 44.29 | 4007.6 | 50.51 | 4462.8 | 64.09 | 5357.0 | 47.56 | 4381.3 | 49.39 | 4434.4 | 56.19 | 4938.8 | 71.05 | 5940.0 |
| | 9 | 45.81 | 4662.9 | 48.20 | 4788.6 | 54.98 | 5210.4 | 70.48 | 6340.8 | 50.80 | 5211.6 | 53.37 | 5356.7 | 60.74 | 5844.0 | 77.53 | 7116.8 | 55.79 | 5629.3 | 58.53 | 5789.1 | 66.50 | 6326.3 | 84.59 | 7707.4 |
| | 10 | 53.43 | 5809.5 | 55.68 | 5795.1 | 63.88 | 6470.1 | 82.47 | 7869.0 | 58.42 | 6358.2 | 60.85 | 6363.2 | 69.63 | 7103.7 | 89.52 | 8645.0 | 63.41 | 6775.9 | 66.01 | 6795.6 | 75.39 | 7586.0 | 96.57 | 9235.7 |
| | 11 | 67.16 | 6695.8 | 69.90 | 6796.5 | 80.28 | 7416.0 | 103.13 | 8988.7 | 72.14 | 7244.5 | 75.07 | 7364.5 | 86.04 | 8049.6 | 110.18 | 9764.7 | 77.13 | 7662.2 | 80.23 | 7796.9 | 91.80 | 8531.9 | 117.24 | 10355.4 |
| | 12 | 76.04 | 8590.2 | 80.36 | 8856.8 | 91.21 | 9620.7 | 117.95 | 11808.1 | 81.02 | 9138.9 | 85.52 | 9424.9 | 96.97 | 10254.4 | 125.01 | 12584.1 | 86.01 | 9556.5 | 90.68 | 9857.3 | 102.73 | 10736.6 | 132.06 | 13174.8 |
| 14 | 7 | 28.93 | 3025.0 | 30.19 | 3111.3 | 34.85 | 3501.0 | 44.36 | 4150.4 | 33.91 | 3649.4 | 35.34 | 3757.7 | 40.60 | 4221.9 | 51.40 | 5033.4 | 38.88 | 4126.7 | 40.49 | 4251.8 | 46.34 | 4773.1 | 58.44 | 5708.5 |
| | 8 | 38.49 | 3474.8 | 40.00 | 3495.9 | 45.72 | 3892.2 | 58.22 | 4658.1 | 44.19 | 4099.2 | 45.90 | 4142.4 | 52.30 | 4613.2 | 66.29 | 5541.1 | 49.89 | 4576.5 | 51.80 | 4636.5 | 58.88 | 5164.3 | 74.35 | 6216.1 |
| | 9 | 46.59 | 4708.8 | 49.01 | 4836.1 | 55.88 | 5263.4 | 71.58 | 6405.7 | 52.35 | 5341.8 | 54.98 | 5491.5 | 62.54 | 5994.3 | 79.73 | 7300.9 | 58.12 | 5824.5 | 60.94 | 5991.2 | 69.19 | 6551.8 | 87.89 | 7983.6 |
| | 10 | 54.21 | 5855.4 | 56.49 | 5842.6 | 64.77 | 6523.1 | 83.57 | 7933.9 | 59.97 | 6488.4 | 62.46 | 6498.0 | 71.43 | 7254.1 | 91.72 | 8829.1 | 65.74 | 6971.1 | 68.42 | 6997.8 | 78.09 | 7811.5 | 99.87 | 9511.8 |
| | 11 | 67.93 | 6741.7 | 70.71 | 6844.0 | 81.18 | 7469.0 | 104.23 | 9053.6 | 73.70 | 7374.7 | 76.68 | 7499.3 | 87.83 | 8199.9 | 112.38 | 9948.8 | 79.46 | 7857.4 | 82.64 | 7999.1 | 94.49 | 8757.3 | 120.53 | 10631.5 |
| | 12 | 76.81 | 8636.1 | 81.16 | 8904.4 | 92.11 | 9673.7 | 119.05 | 11873.0 | 82.58 | 9269.1 | 87.13 | 9559.7 | 98.77 | 10404.7 | 127.20 | 12768.2 | 88.34 | 9751.8 | 93.10 | 10059.5 | 105.42 | 10962.1 | 135.36 | 13450.9 |
| | 13 | 90.57 | 10482.8 | 94.94 | 10638.8 | 108.37 | 11749.0 | 140.48 | 14253.9 | 96.33 | 11115.8 | 100.91 | 11294.2 | 115.02 | 12479.9 | 148.63 | 15149.1 | 102.10 | 11598.6 | 106.88 | 11793.9 | 121.68 | 13037.3 | 156.78 | 15831.8 |
| | 14 | 102.12 | 11942.1 | 106.89 | 12222.9 | 122.34 | 13456.7 | 158.77 | 16260.8 | 107.89 | 12575.1 | 112.86 | 12878.3 | 128.99 | 14187.6 | 166.92 | 17156.1 | 113.65 | 13057.8 | 118.82 | 13378.0 | 135.65 | 14745.0 | 175.08 | 17838.8 |

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

ESTIMATE OF QUANTITIES
TYPE I HEADWALLS

| B-20.1.5 | (502) | Signed Original On File |
|---|---|---|
| ADOPTED 11/70 | REVISED 10/15 | CHIEF BRIDGE ENGR. |

PROFESSIONAL ENGINEER STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570

6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

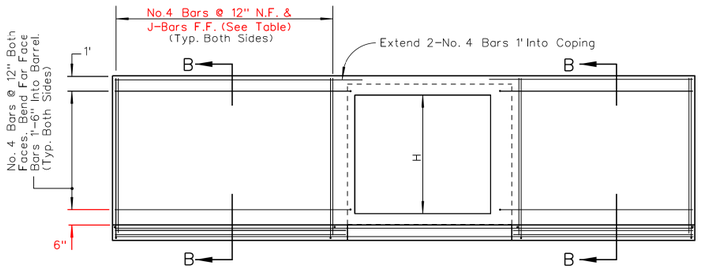
US95/KYLE CANYON RD INTERCHANGE

# STORM DRAIN DETAILS

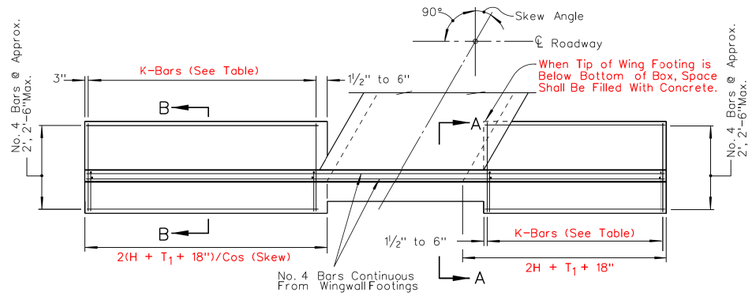
GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

B-9

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DS111 |

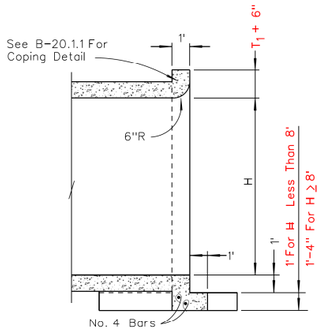



ELEVATION

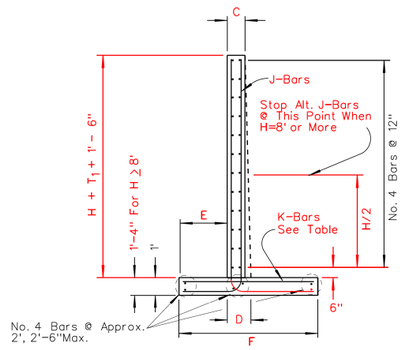



WALL B WALL A

PLAN




SECTION A-A
($T_1$ = Minimum 9")




SECTION B-B

## NOTES:

1. For additional notes see sheet B-20.1.1.
2. For quantities see sheet B-20.1.6.1

TABLE

| H = Height Feet | C = Inches | D = Inches | E = Feet Inches | F = Feet Inches | J = Size | J = Spacing | K = Size | K = Spacing |
|---|---|---|---|---|---|---|---|---|
| 3 | 12 | 12 | 1 | 3-6 | 5 | 12 | 5 | 12 |
| 4 | 12 | 12 | 1-3 | 4 | 5 | 12 | 5 | 12 |
| 5 | 12 | 12 | 1-6 | 4-9 | 5 | 12 | 5 | 12 |
| 6 | 12 | 12 | 1-9 | 5-3 | 5 | 6 | 5 | 6 |
| 7 | 12 | 14 | 2-3 | 6 | 5 | 6 | 5 | 6 |
| 8 | 12 | 14 | 2-6 | 6-6 | 5 | 6 | 5 | 6 |
| 9 | 12 | 16 | 2-9 | 7 | 6 | 6 | 5 | 6 |
| 10 | 12 | 16 | 3-3 | 7-9 | 6 | 6 | 6 | 6 |
| 11 | 12 | 18 | 3-6 | 8-3 | 6 | 6 | 6 | 6 |
| 12 | 12 | 18 | 4 | 9 | 7 | 6 | 6 | 6 |
| 13 | 12 | 20 | 4-3 | 9-6 | 7 | 6 | 7 | 6 |
| 14 | 12 | 20 | 4-6 | 10-3 | 7 | 6 | 7 | 6 |

SHEET 1 OF 2

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

RCB CULVERTS
TYPE II HEADWALLS

| B-20.1.6 | (502,505) | Signed Original On File |
|---|---|---|
| ADOPTED 11/70 | REVISED 10/15 | CHIEF BRIDGE ENGR. |

PROFESSIONAL ENGINEER STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# STORM DRAIN DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | DS112 |

NOTE:

Quantities shown are cubic yards of concrete and pounds of reinforcing for two headwalls at the inlet and outlet.

| Span | Height | Single Box | | | | | | | | Double Box | | | | | | | | Triple Box | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0 Skew | | 15 Skew | | 30 Skew | | 45 Skew | | 0 Skew | | 15 Skew | | 30 Skew | | 45 Skew | | 0 Skew | | 15 Skew | | 30 Skew | | 45 Skew | |
| | | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. | Conc. | Reinf. |
| 5 | 3 | 12.28 | 971.5 | 12.54 | 983.7 | 13.45 | 1058.2 | 15.42 | 1214.4 | 14.20 | 1216.6 | 14.53 | 1237.5 | 15.67 | 1341.3 | 18.14 | 1561.1 | 16.12 | 1401.1 | 16.52 | 1428.4 | 17.89 | 1554.2 | 20.86 | 1821.9 |
| | 4 | 17.33 | 1359.4 | 17.69 | 1374.3 | 18.91 | 1502.6 | 21.55 | 1690.2 | 19.26 | 1604.6 | 19.68 | 1628.2 | 21.13 | 1785.7 | 24.27 | 2037.0 | 21.18 | 1789.0 | 21.67 | 1819.1 | 23.35 | 1998.7 | 26.99 | 2297.8 |
| | 5 | 23.47 | 1822.1 | 23.94 | 1885.1 | 25.54 | 1991.1 | 29.00 | 2258.5 | 25.40 | 2067.3 | 25.93 | 2138.9 | 27.76 | 2274.2 | 31.72 | 2605.2 | 27.32 | 2251.7 | 27.92 | 2329.8 | 29.98 | 2487.1 | 34.44 | 2866.1 |
| 6 | 3 | 12.62 | 994.4 | 12.90 | 1007.4 | 13.84 | 1084.7 | 15.90 | 1246.8 | 14.88 | 1281.7 | 15.24 | 1304.9 | 16.46 | 1416.4 | 19.10 | 1653.2 | 17.14 | 1498.7 | 17.58 | 1529.5 | 19.07 | 1667.0 | 22.30 | 1960.0 |
| | 4 | 17.67 | 1382.4 | 18.05 | 1398.1 | 19.30 | 1529.1 | 22.03 | 1722.7 | 19.94 | 1669.7 | 20.39 | 1695.5 | 21.91 | 1860.9 | 25.23 | 2129.0 | 22.20 | 1886.6 | 22.73 | 1920.2 | 24.53 | 2111.4 | 28.43 | 2435.8 |
| | 5 | 23.81 | 1845.0 | 24.30 | 1908.9 | 25.93 | 2017.6 | 29.48 | 2291.0 | 26.07 | 2132.3 | 26.64 | 2206.3 | 28.54 | 2349.3 | 32.68 | 2697.3 | 28.34 | 2349.3 | 28.98 | 2430.9 | 31.15 | 2599.8 | 35.88 | 3004.1 |
| | 6 | 31.21 | 3276.9 | 31.82 | 3350.2 | 33.90 | 3596.8 | 38.43 | 4052.2 | 33.47 | 3564.2 | 34.16 | 3647.6 | 36.52 | 3928.5 | 41.63 | 4458.6 | 35.73 | 3781.1 | 36.51 | 3872.3 | 39.13 | 4179.1 | 44.83 | 4765.4 |
| 7 | 3 | 12.95 | 1017.4 | 13.25 | 1031.2 | 14.24 | 1111.2 | 16.38 | 1279.3 | 15.56 | 1346.8 | 15.94 | 1372.3 | 17.24 | 1491.6 | 20.06 | 1745.2 | 18.16 | 1596.3 | 18.63 | 1630.6 | 20.24 | 1779.7 | 23.74 | 2098.1 |
| | 4 | 18.01 | 1405.3 | 18.40 | 1421.9 | 19.69 | 1555.6 | 22.51 | 1755.2 | 20.61 | 1734.7 | 21.09 | 1762.9 | 22.70 | 1936.0 | 26.19 | 2221.1 | 23.22 | 1984.2 | 23.78 | 2021.2 | 25.70 | 2224.1 | 29.87 | 2573.9 |
| | 5 | 24.15 | 1868.0 | 24.65 | 1932.6 | 26.32 | 2044.1 | 29.96 | 2323.5 | 26.75 | 2197.4 | 27.34 | 2273.7 | 29.32 | 2424.5 | 33.64 | 2789.3 | 29.35 | 2446.9 | 30.03 | 2532.0 | 32.33 | 2712.6 | 37.32 | 3142.2 |
| | 6 | 31.55 | 3299.8 | 32.17 | 3374.0 | 34.30 | 3623.3 | 38.91 | 4084.7 | 34.15 | 3629.3 | 34.87 | 3715.0 | 37.30 | 4003.7 | 42.59 | 4550.6 | 36.75 | 3878.8 | 37.56 | 3973.3 | 40.30 | 4291.8 | 46.26 | 4903.5 |
| | 7 | 41.74 | 4287.7 | 42.55 | 4373.9 | 45.29 | 4665.0 | 51.25 | 5303.4 | 44.34 | 4617.1 | 45.24 | 4715.0 | 48.29 | 5045.4 | 54.93 | 5769.3 | 46.94 | 4866.6 | 47.94 | 4973.3 | 51.30 | 5333.5 | 58.60 | 6122.2 |
| 8 | 4 | 18.35 | 1428.3 | 18.75 | 1445.6 | 20.09 | 1582.1 | 22.99 | 1787.6 | 21.29 | 1799.8 | 21.79 | 1830.3 | 23.48 | 2011.2 | 27.15 | 2313.1 | 24.23 | 2081.9 | 24.84 | 2122.3 | 26.88 | 2336.9 | 31.31 | 2712.0 |
| | 5 | 24.49 | 1890.9 | 25.00 | 1956.4 | 26.71 | 2070.6 | 30.44 | 2355.9 | 27.43 | 2262.5 | 28.04 | 2341.1 | 30.11 | 2499.6 | 34.60 | 2881.4 | 30.37 | 2544.6 | 31.09 | 2633.1 | 33.50 | 2825.3 | 38.75 | 3280.3 |
| | 6 | 31.89 | 3322.8 | 32.53 | 3397.7 | 34.69 | 3649.8 | 39.39 | 4117.2 | 34.83 | 3694.3 | 35.57 | 3782.4 | 38.08 | 4078.9 | 43.55 | 4642.6 | 37.77 | 3976.4 | 38.61 | 4074.4 | 41.48 | 4404.5 | 47.70 | 5041.5 |
| | 7 | 42.08 | 4310.6 | 42.90 | 4397.7 | 45.68 | 4691.5 | 51.73 | 5335.9 | 45.02 | 4682.2 | 45.95 | 4782.3 | 49.08 | 5120.6 | 55.89 | 5861.4 | 47.96 | 4964.2 | 48.99 | 5074.3 | 52.47 | 5446.2 | 60.04 | 6260.2 |
| | 8 | 57.13 | 5029.9 | 58.23 | 5123.6 | 61.97 | 5476.9 | 70.11 | 6183.8 | 60.49 | 5401.4 | 61.72 | 5508.3 | 65.86 | 5905.9 | 74.87 | 6709.3 | 63.86 | 5683.5 | 65.21 | 5800.3 | 69.75 | 6231.6 | 79.63 | 7108.2 |
| 10 | 5 | 25.17 | 1936.9 | 25.70 | 2003.9 | 27.50 | 2123.6 | 31.40 | 2420.8 | 28.79 | 2392.7 | 29.45 | 2475.8 | 31.67 | 2649.9 | 36.52 | 3065.5 | 32.41 | 2739.8 | 33.19 | 2835.2 | 35.85 | 3050.8 | 41.63 | 3556.4 |
| | 6 | 32.57 | 3368.7 | 33.23 | 3445.2 | 35.47 | 3702.8 | 40.35 | 4182.1 | 36.18 | 3824.5 | 36.97 | 3917.2 | 39.65 | 4229.2 | 45.47 | 4826.7 | 39.80 | 4171.7 | 40.72 | 4276.6 | 43.83 | 4630.0 | 50.58 | 5317.7 |
| | 7 | 42.76 | 4356.5 | 43.60 | 4445.2 | 46.47 | 4744.5 | 52.69 | 5400.8 | 46.38 | 4812.4 | 47.35 | 4917.1 | 50.65 | 5270.9 | 57.80 | 6045.5 | 50.00 | 5159.5 | 51.10 | 5276.5 | 54.82 | 5671.7 | 62.92 | 6536.4 |
| | 8 | 57.90 | 5075.8 | 59.04 | 5171.1 | 62.87 | 5529.9 | 71.21 | 6248.7 | 62.05 | 5531.6 | 63.33 | 5643.0 | 67.66 | 6056.2 | 77.07 | 6893.4 | 66.19 | 5878.7 | 67.62 | 6002.4 | 72.45 | 6457.1 | 82.93 | 7384.3 |
| | 9 | 72.13 | 7054.6 | 73.52 | 7173.0 | 78.22 | 7633.8 | 88.44 | 8678.9 | 76.34 | 7519.0 | 77.88 | 7653.8 | 83.08 | 8170.1 | 94.39 | 9335.7 | 80.55 | 7871.6 | 82.24 | 8018.8 | 87.94 | 8577.2 | 100.35 | 9834.3 |
| | 10 | 85.93 | 8969.1 | 87.56 | 9174.6 | 93.10 | 9740.4 | 105.14 | 11034.9 | 90.14 | 9433.6 | 91.92 | 9655.4 | 97.96 | 10276.7 | 111.09 | 11691.8 | 94.35 | 9786.2 | 96.28 | 10020.4 | 102.82 | 10683.8 | 117.05 | 12190.4 |
| 12 | 6 | 33.24 | 3414.6 | 33.93 | 3492.8 | 36.26 | 3755.8 | 41.31 | 4247.0 | 37.54 | 3954.7 | 38.38 | 4051.9 | 41.22 | 4379.5 | 47.38 | 5010.8 | 41.84 | 4366.9 | 42.83 | 4478.7 | 46.18 | 4855.5 | 53.46 | 5593.8 |
| | 7 | 43.44 | 4402.4 | 44.31 | 4492.7 | 47.25 | 4797.5 | 53.65 | 5465.7 | 47.73 | 4942.5 | 48.76 | 5051.9 | 52.21 | 5421.2 | 59.72 | 6229.5 | 52.03 | 5354.8 | 53.20 | 5478.6 | 57.17 | 5897.2 | 65.80 | 6812.5 |
| | 8 | 58.68 | 5121.7 | 59.84 | 5218.6 | 63.77 | 5582.9 | 72.31 | 6313.7 | 63.60 | 5661.8 | 64.94 | 5777.8 | 69.45 | 6206.5 | 79.27 | 7077.5 | 68.53 | 6074.0 | 70.03 | 6204.6 | 75.14 | 6682.5 | 86.23 | 7660.5 |
| | 9 | 72.91 | 7100.5 | 74.32 | 7220.5 | 79.12 | 7686.8 | 89.54 | 8743.8 | 77.89 | 7649.2 | 79.49 | 7788.6 | 84.88 | 8320.4 | 96.59 | 9519.8 | 82.88 | 8066.9 | 84.65 | 8221.0 | 90.64 | 8802.6 | 103.64 | 10110.5 |
| | 10 | 86.70 | 9015.1 | 88.37 | 9222.1 | 94.00 | 9793.4 | 106.24 | 11099.8 | 91.69 | 9563.8 | 93.53 | 9790.2 | 99.76 | 10427.0 | 113.29 | 11875.9 | 96.68 | 9981.4 | 98.69 | 10222.6 | 105.52 | 10909.3 | 120.34 | 12466.5 |
| | 11 | 104.77 | 10624.6 | 106.75 | 10851.2 | 113.47 | 11552.2 | 128.07 | 12986.4 | 109.75 | 11173.3 | 111.91 | 11419.3 | 119.23 | 12185.8 | 135.12 | 13762.4 | 114.74 | 11591.0 | 117.08 | 11851.7 | 124.99 | 12668.0 | 142.18 | 14353.0 |
| | 12 | 121.70 | 14253.3 | 123.98 | 14537.9 | 131.73 | 15415.5 | 148.55 | 17429.9 | 126.68 | 14802.0 | 129.15 | 15106.0 | 137.48 | 16049.1 | 155.61 | 18205.9 | 131.67 | 15219.7 | 134.31 | 15538.4 | 143.24 | 16531.4 | 162.66 | 18796.6 |
| 14 | 7 | 44.12 | 4448.3 | 45.01 | 4540.2 | 48.03 | 4850.5 | 54.61 | 5530.6 | 49.09 | 5072.7 | 50.16 | 5186.7 | 53.78 | 5571.5 | 61.64 | 6413.6 | 54.07 | 5550.0 | 55.31 | 5680.8 | 59.52 | 6122.6 | 68.68 | 7088.7 |
| | 8 | 59.46 | 5167.6 | 60.65 | 5266.2 | 64.67 | 5635.9 | 73.41 | 6378.6 | 65.16 | 5792.0 | 66.55 | 5912.6 | 71.25 | 6356.9 | 81.47 | 7261.6 | 70.86 | 6269.3 | 72.45 | 6406.7 | 77.83 | 6908.0 | 89.53 | 7936.6 |
| | 9 | 73.68 | 7146.4 | 75.13 | 7268.0 | 80.02 | 7739.8 | 90.64 | 8808.7 | 79.45 | 7779.4 | 81.10 | 7923.4 | 86.67 | 8470.7 | 98.79 | 9703.9 | 85.21 | 8262.1 | 87.06 | 8423.1 | 93.33 | 9028.1 | 106.94 | 10386.6 |
| | 10 | 87.48 | 9061.0 | 89.17 | 9269.6 | 94.90 | 9846.4 | 107.34 | 11164.8 | 93.25 | 9694.0 | 95.14 | 9925.0 | 101.55 | 10577.3 | 115.49 | 12060.0 | 99.01 | 10176.7 | 101.11 | 10424.7 | 108.21 | 11134.7 | 123.64 | 12742.7 |
| | 11 | 105.54 | 10670.5 | 107.56 | 10898.7 | 114.37 | 11605.2 | 129.17 | 13051.3 | 111.31 | 11303.5 | 113.52 | 11554.0 | 121.02 | 12336.1 | 137.32 | 13946.5 | 117.07 | 11786.3 | 119.49 | 12053.8 | 127.68 | 12893.5 | 145.48 | 14629.2 |
| | 12 | 122.47 | 14299.2 | 124.79 | 14585.5 | 132.62 | 15468.5 | 149.65 | 17494.8 | 128.24 | 14932.2 | 130.76 | 15240.8 | 139.28 | 16199.4 | 157.80 | 18390.0 | 134.00 | 15414.9 | 136.72 | 15740.6 | 145.94 | 16756.8 | 165.96 | 19072.7 |
| | 13 | 144.90 | 17398.9 | 147.61 | 17725.7 | 156.79 | 18876.0 | 176.75 | 21303.0 | 150.66 | 18031.9 | 153.58 | 18381.0 | 163.45 | 19606.9 | 184.90 | 22198.2 | 156.43 | 18514.6 | 159.55 | 18880.8 | 170.11 | 20164.3 | 193.06 | 22880.9 |
| | 14 | 165.16 | 19761.4 | 168.23 | 20111.3 | 178.64 | 21342.9 | 201.25 | 24093.8 | 170.92 | 20394.4 | 174.20 | 20766.7 | 185.29 | 22073.8 | 209.40 | 24989.0 | 176.69 | 20877.1 | 180.17 | 21266.5 | 191.95 | 22631.2 | 217.56 | 25671.7 |

## QUANTITIES FOR ADDITIONAL CELLS

Concrete for two Type II headwalls for each additional cell (cu. yards) (Add the difference between the triple box and double box quantities for each additional box)

Reinforcing for two Type II headwalls for each additional cell (pounds) (Add the difference between the triple box and double box quantities for each additional box)

SHEET 2 OF 2

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

RCB CULVERTS
TYPE II HEADWALLS

| | |
|---|---|
| B-20.1.6.1 (502,505) | Signed Original On File |
| ADOPTED 11/70 / REVISED 10/15 | CHIEF BRIDGE ENGR. |

PROFESSIONAL ENGINEER STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# STORM DRAIN DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | HS101 |

# HYDRAULIC STRUCTURE LIST

| 610 0470 | 610 0190 | 610 0170 | 609 1410 | 609 1170 | 609 1160 | 609 1040 | 609 0400 | 608 0460 | 608 0230 | 608 0170 | 604 2505 | 604 0625 | 604 0205 | 603 1070 | 603 1050 | 603 1030 | 603 0880 | 603 0410 | 603 0290 | 603 0230 | 603 0170 | 506 0110 | 505 0100 | 502 0720 | 502 0710 | 207 0200 | 207 0130 | 207 0110 | 206 0110 | 203 0690 | 203 0160 | 202 1040 | 202 0530 | 202 0450 | 202 0285 | 202 0256 | DESCRIPTION | SHEET-NOTE STATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RIPRAP BEDDING,(CLASS 300) | RIPRAP (CLASS 300) | RIPRAP (CLASS 150) | ABANDON PIPE | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 2 | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 1 | STRUCTURAL STEEL GRATES | TYPE 4 MANHOLE | 12-INCH METAL END SECTION (DOWNDRAIN) | ANCHOR ASSEMBLY (12-INCH) | EMBANKMENT PROTECTOR, TYPE 5-2G | 42-INCH METAL END SECTION (SAFETY TYPE) | 42-INCH CORR. METAL PIPE (16 GAGE) | 12-INCH CORR. METAL PIPE (16 GAGE) | 30-INCH PRECAST END SECTION | 24-INCH PRECAST END SECTION | 18-INCH PRECAST END SECTION | 60-INCH X 38-INCH OVAL REINFORCED CONCRETE PIPE, CLASS HE III | 42-INCH REINFORCED CONCRETE PIPE, CLASS III | 30-INCH REINFORCED CONCRETE PIPE, CLASS III | 24-INCH REINFORCED CONCRETE PIPE, CLASS III | 18-INCH REINFORCED CONCRETE PIPE, CLASS III | STRUCTURAL STEEL | REINFORCING STEEL | CLASS A CONCRETE (MINOR) | CLASS A CONCRETE (MAJOR) | SAND BEDDING MATERIAL | BACKFILL | GRANULAR BACKFILL | STRUCTURE EXCAVATION | GEOTEXTILE (CLASS 1) | DRAINAGE EXCAVATION | REMOVAL OF DROP INLET | REMOVAL OF HEADWALL | REMOVE END SECTION | REMOVAL OF CULVERT PIPE | REMOVAL OF REINFORCED CONCRETE BOX CULVERT | | |
| CUYD | CUYD | CUYD | LINFT | EACH | EACH | POUND | EACH | EACH | EACH | EACH | EACH | LINFT | LINFT | EACH | EACH | EACH | LINFT | LINFT | LINFT | LINFT | LINFT | POUND | POUND | CUYD | CUYD | CUYD | CUYD | CUYD | CUYD | SQYD | CUYD | EACH | EACH | EACH | LINFT | LINFT | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | **NOTE: ALL LOCATIONS ARE APPROXIMATE AND MAY BE ADJUSTED BY THE ENGINEER** | |
| | | | | | | | | | | | | | | | | | | | | | | | 2620 | | 31.00 | | | 19.7 | | | 131.8 | | | | | | CONSTRUCT U-CHANNEL CONCRETE STRUCTURE | D101-1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | FROM "KR4" 45+10, 95.3' LT. | "KR4" 45+10 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KR4" 44+69, 52.8' LT. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEETS DP105 AND DS101) | |
| 13 | 39.2 | | | | | | | | | | | | | | | | | | | | | | 18954 | | 120.81 | 25.58 | 395.9 | 186.7 | 840.4 | 59 | 52.3 | | | | | | CONSTRUCT 5'x3'x222' RCB FROM "KR4" 44+69, 52.8' LT | D101-2 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (UIE=2775.00') TO "XP" 403+94, 3.0' RT. (LIE = 2772.48') | "KR4" 44+69 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONSTRUCT HEADWALL TYPE II | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CLASS 300 RIPRAP 30' LENGTH AT OUTLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP105) | |
| 53 | 159.94 | | | | | | | | | | | | | | | | | | | | | | 27147 | | 170.45 | 37.22 | 563.6 | 271.7 | 1210.3 | 240 | 213.3 | | | | | | CONSTRUCT 5'x3'x323' RCB FROM "KR4" 44+74, 50.3' LT | D101-3 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (UIE=2774.90') TO "KR1" 15+68, 49.1' RT. (LIE = 2770.75') | "KR4" 44+74 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONSTRUCT HEADWALL TYPE II | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CLASS 300 RIPRAP APRON AT OUTLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP105) | |
| | | | | | | 235 | | | | | | | | | | | | | | | | | 48 | 2.81 | | | | | | | | | | | | | CONSTRUCT TYPE 2A DROP INLET, 83.6' LT. WITH CONCRETE APRON | D101-4 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2782.15', INV ELEV= 2777.34', H= 4.81') | "XP" 404+94 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INTO 5x3' RCB | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEETS DP105 AND DS102) | |
| | | | | | | 220 | | | | | | | | | | | | | | | | 8 | 56 | 3.06 | | 0.95 | | 3.2 | 14.4 | | | | | | | | CONSTRUCT TYPE 2A DROP INLET WITH APRON, 84.2' LT. | D101-5 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2782.24', INV ELEV= 2777.65', H= 4.6') | "XP" 405+04 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 18" X 8.0' RCP FROM "XP" 405+04, 84.2' LT. (UIE= 2775.65') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "XP" 404+97, 84.5' LT. (LIE = 2774.88') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO 5'x3' RCB | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP107) | |
| | | | | | | 235 | | | | | | | | | | | | | | | | | 20 | 2.25 | | | | | | | | | | | | | CONSTRUCT TYPE 2A DROP INLET, 2.3' RT. WITH CONCRETE APRON, | D101-6 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2778.68', INV ELEV= 2776.18', H= 2.5') INTO 5'x3' RCB | "XP" 404+67 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP105 AND DS102) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 63 | | REMOVE 42" CMP | D101-7 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | "XP" 404+95 |
| | | | 61 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ABANDON 42" CMP | D101-8 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | "XP" 404+95 |

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | HS102 |

# HYDRAULIC STRUCTURE LIST

| 610 0470 | 610 0190 | 610 0170 | 609 1410 | 609 1170 | 609 1160 | 609 1040 | 609 0400 | 608 0460 | 608 0230 | 608 0170 | 604 2505 | 604 0625 | 604 0205 | 603 1070 | 603 1050 | 603 1030 | 603 0880 | 603 0410 | 603 0290 | 603 0230 | 603 0170 | 506 0110 | 505 0100 | 502 0720 | 502 0710 | 207 0200 | 207 0130 | 207 0110 | 206 0110 | 203 0690 | 203 0160 | 202 1040 | 202 0530 | 202 0450 | 202 0285 | 202 0256 | DESCRIPTION | SHEET-NOTE STATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RIPRAP BEDDING,(CLASS 300) | RIPRAP (CLASS 300) | RIPRAP (CLASS 150) | ABANDON PIPE | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 2 | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 1 | STRUCTURAL STEEL GRATES | TYPE 4 MANHOLE | 12-INCH METAL END SECTION (DOWNDRAIN) | ANCHOR ASSEMBLY (12-INCH) | EMBANKMENT PROTECTOR, TYPE 5-2G | 42-INCH METAL END SECTION (SAFETY TYPE) | 42-INCH CORR. METAL PIPE (16 GAGE) | 12-INCH CORR. METAL PIPE (16 GAGE) | 30-INCH PRECAST END SECTION | 24-INCH PRECAST END SECTION | 18-INCH PRECAST END SECTION | 60-INCH X 38-INCH OVAL REINFORCED CONCRETE PIPE, CLASS HE III | 42-INCH REINFORCED CONCRETE PIPE, CLASS III | 30-INCH REINFORCED CONCRETE PIPE, CLASS III | 24-INCH REINFORCED CONCRETE PIPE, CLASS III | 18-INCH REINFORCED CONCRETE PIPE, CLASS III | STRUCTURAL STEEL | REINFORCING STEEL | CLASS A CONCRETE (MINOR) | CLASS A CONCRETE (MAJOR) | SAND BEDDING MATERIAL | BACKFILL | GRANULAR BACKFILL | STRUCTURE EXCAVATION | GEOTEXTILE (CLASS 1) | DRAINAGE EXCAVATION | REMOVAL OF DROP INLET | REMOVAL OF HEADWALL | REMOVE END SECTION | REMOVAL OF CULVERT PIPE | REMOVAL OF REINFORCED CONCRETE BOX CULVERT | | |
| CUYD | CUYD | CUYD | LINFT | EACH | EACH | POUND | EACH | EACH | EACH | EACH | EACH | LINFT | LINFT | EACH | EACH | EACH | LINFT | LINFT | LINFT | LINFT | LINFT | POUND | POUND | CUYD | CUYD | CUYD | CUYD | CUYD | CUYD | SQYD | CUYD | EACH | EACH | EACH | LINFT | LINFT | | |
| | | | | | | | | | | | | | | | 1 | | | | | | 101 | | | | | 15.43 | | 55.2 | 56.4 | | | | | | | | | INSTALL 24" RCP END SECTION, 88.5' LT. | D101-9 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 24" X 101' RCP FROM "KR4" 45+90, 88.5' LT. (UIE= 2785.18') | "KR4" 45+90 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KR4" 44+90, 64.3' LT. (LIE = 2776.96'), | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO CONCRETE U-CHANNEL. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP107) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | 100.18 | | | | | 220 | | | | | | | | | | 1 | | | | | 91 | | 40 | 2.74 | | | | 35.9 | 56.9 | 150 | 133.6 | | | | | | CONSTRUCT TYPE 2A DROP INLET, 44.0' LT. WITH CONCRETE APRON | D101-10 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2779.53', INV ELEV= 2776.53', H= 3.00') | "KR1" 19+48 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 18" X 91' RCP FROM "KR1" 19+48, 44.0' LT. (UIE= 2776.53') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KR1" 19+48, 47.2' RT. (LIE = 2776.07') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 18" RCP END SECTION, RT. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CLASS 300 RIPRAP APRON AT OUTLET, 3.1 SS TRAPEZOIDAL B/W | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP107) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 167 | 625.48 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 751 | 792.3 | | | | | | CONSTRUCT CLASS 300 RIPRAP LINED FACE BERM 3 | D101-11 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | FROM "KR4" 54+23, 126.6' LT TO "KR4" 45+74, 82.4' LT | "KR4" 45+74 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP117) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 190 | 571.14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 857 | 761.5 | | | | | | CONSTRUCT CLASS 300 RIPRAP LINED DITCH 1 | D101-12 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | FROM "KR1" 26+73, 82.6' LT TO 19+92, 60.6' LT | "KR1" 19+92 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP121) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | 1 | 2 | 1 | | | | | | | | | | | | | | | | | | CONSTRUCT 5-2G EMBANKMENT PROTECTOR INLET, 76.3' RT. | D102-1 |
| | | | | | | | | | | | | | | | | | | | | | 17 | | | | | 2.02 | | 6.7 | 16.1 | | 22.2 | | | | | | (GRATE ELEV= 2792.94', INV ELEV= 2787.95', H= 4.99') | "XP" 412+42 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 18" X 17' RCP FROM "XP" 412+42, 76.3' RT. (UIE= 2787.95') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "XP" 412+24, 76.3' RT. (LIE= 2786.94') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT EXISTING 6' X 3' RCB | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP108) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 306 | | | | | | | | | | | | | | | 10 | | 60 | 1.29 | | 1.19 | | 3.9 | 7.0 | | | | | | | | CONSTRUCT TYPE 2 DROP INLET, 76.3' RT. | D102-2 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2793.13', INV ELEV= 2788.14', H= 4.99') | "XP" 412+52 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 18" X 10' RCP FROM "XP" 412+52, 76.3' RT. (UIE= 2788.14') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "XP" 412+42, 76.3' RT. (LIE= 2788.05') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 5-2G EMBANKMENT PROTECTOR | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP108) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 306 | | | | | | | | | | | | | | | 10 | | 60 | 1.29 | | 1.19 | | 3.9 | 6.4 | | | | | | | | CONSTRUCT TYPE 2 DROP INLET, 76.3' RT. | D102-3 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2793.30', INV ELEV= 2788.32', H= 4.98') | "XP" 412+62 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 18" X 10' RCP FROM "XP" 412+62, 76.3' RT. (UIE= 2788.32') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "XP" 412+52, 76.3' RT. (LIE= 2788.24') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 2 DROP INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP108) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 49 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ABANDON 24" CMP | D102-4 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | "XP" 412+49 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | HS103 |

# HYDRAULIC STRUCTURE LIST

| 610 0470 | 610 0190 | 610 0170 | 609 1410 | 609 1170 | 609 1160 | 609 1040 | 609 0400 | 608 0460 | 608 0230 | 608 0170 | 604 2505 | 604 0625 | 604 0205 | 603 1070 | 603 1050 | 603 1030 | 603 0880 | 603 0410 | 603 0290 | 603 0230 | 603 0170 | 506 0110 | 505 0100 | 502 0720 | 502 0710 | 207 0200 | 207 0130 | 207 0110 | 206 0110 | 203 0690 | 203 0160 | 202 1040 | 202 0530 | 202 0450 | 202 0285 | 202 0256 | DESCRIPTION | SHEET-NOTE STATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RIPRAP BEDDING,(CLASS 300) | RIPRAP (CLASS 300) | RIPRAP (CLASS 150) | ABANDON PIPE | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 2 | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 1 | STRUCTURAL STEEL GRATES | TYPE 4 MANHOLE | 12-INCH METAL END SECTION (DOWNDRAIN) | ANCHOR ASSEMBLY (12-INCH) | EMBANKMENT PROTECTOR, TYPE 5-2G | 42-INCH METAL END SECTION (SAFETY TYPE) | 42-INCH CORR. METAL PIPE (16 GAGE) | 12-INCH CORR. METAL PIPE (16 GAGE) | 30-INCH PRECAST END SECTION | 24-INCH PRECAST END SECTION | 18-INCH PRECAST END SECTION | 60-INCH X 38-INCH OVAL REINFORCED CONCRETE PIPE, CLASS HE III | 42-INCH REINFORCED CONCRETE PIPE, CLASS III | 30-INCH REINFORCED CONCRETE PIPE, CLASS III | 24-INCH REINFORCED CONCRETE PIPE, CLASS III | 18-INCH REINFORCED CONCRETE PIPE, CLASS III | STRUCTURAL STEEL | REINFORCING STEEL | CLASS A CONCRETE (MINOR) | CLASS A CONCRETE (MAJOR) | SAND BEDDING MATERIAL | BACKFILL | GRANULAR BACKFILL | STRUCTURE EXCAVATION | GEOTEXTILE (CLASS 1) | DRAINAGE EXCAVATION | REMOVAL OF DROP INLET | REMOVAL OF HEADWALL | REMOVE END SECTION | REMOVAL OF CULVERT PIPE | REMOVAL OF REINFORCED CONCRETE BOX CULVERT | | |
| CUYD | CUYD | CUYD | LINFT | EACH | EACH | POUND | EACH | EACH | EACH | EACH | EACH | LINFT | LINFT | EACH | EACH | EACH | LINFT | LINFT | LINFT | LINFT | LINFT | POUND | POUND | CUYD | CUYD | CUYD | CUYD | CUYD | CUYD | SQYD | CUYD | EACH | EACH | EACH | LINFT | LINFT | | |
| | | | | | | | | 1 | 2 | 1 | | | 20 | | | | | | | | | | | | | | | | | | | | | | | | | CONSTRUCT TYPE 5-2G EMBANKMENT PROTECTOR, 76.3' RT. | D102-5 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2804.97', INV ELEV= 2802.49', H= 2.48') | "XP" 418+13 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 12" X 20' CMP FROM "XP" 418+13, 76.5' LT. (UIE= 2802.41') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "XP" 418+13, 96.0' LT. (LIE= 2802.49') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CLASS 150 RIPRAP APRON AT OUTLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 211 | | | | | | | 8 | | | | | | | | | | 41 | 0.81 | | | | | | | | | | | | | CONSTRUCT TYPE 2 DROP INLET, 76.3' RT | D102-6 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2805.11', INV ELEV= 2802.62', H= 2.49') | "XP" 418+21 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 12" X 8' CMP FROM "XP" 418+21, 76.5' LT. (UIE= 2802.59') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "XP" 412+13, 76.5' RT. (LIE= 2802.49') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 5-2G EMBANKMENT PROTECTOR | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 72 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ABANDON 24" CMP | D102-7 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | "XP" 421+25 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 66.8 | 200.37 | | | | | 262 | | | | | | | | | 1 | | | | | | 108 | | 58 | 2.99 | | 16.5 | | 59.0 | 765.9 | 301 | 267.2 | | | | | | CONSTRUCT TYPE 2B DROP INLET, 44.0' LT. WITH CONCRETE APRON | D102-8 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2775.26', INV ELEV= 2772.25', H= 3.01') | "KR1" 23+00 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 24" X 108' RCP FROM "KR1" 23+00, 44.0' LT. (UIE= 2772.25') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | "KR1" 22+82, 62.0' RT. (LIE = 2772.00') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 24" RCP END SECTION RT. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CLASS 300 RIPRAP APRON AT OUTLET, 3:1 SS TRAPEZOIDAL B/W | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP108) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21.2 | 63.67 | | | | | | | | | | | | | | 1 | | | | | | 22 | | | | | 3.36 | | 12.0 | 15.3 | 96 | 84.9 | | | | | | INSTALL 24" RCP END SECTION, 65.5' LT. | D102-9 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 24" X 22' RCP FROM "KR1" 23+00, 44.0' LT. (LIE= 2772.35') | "KR1" 23+04 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KR1" 23+04, 65.5' LT. (UIE = 2778.22') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 2B DROP INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CLASS 300 RIPRAP APRON AT INLET TO EXISTING 6'x3' RCB | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | AT "KR1" 23+37, 145.1' LT. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP108) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1.67 | | | | | | | 1 | 2 | 1 | | | 22 | | | | | | | | | | | | | | | | | 3 | | | | | | | CONSTRUCT TYPE 5-2G EMBANKMENT PROTECTOR, 76.5' LT. | D102-10 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV.= 2800.51, INV ELEV 2798.51, H=2.0') | "XP" 415+63 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 12" X 41' CMP FROM "XP" 415+63, 76.5' LT. (UIE= 2798.51') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "XP" 415+28, 97.8' LT. (LIE= 2797.75') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CLASS 150 RIPRAP APRON AT OUTLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 75.8 | 284.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 341 | 360.2 | | | | | | CONSTRUCT CLASS 300 RIPRAP LINED BERM 2 | D102-11 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | FROM "KCE1" 13+42, 101.0' RT. TO "KR4A" 4+44, 138.4' LT. | "KCE1" 13+42 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP116) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 114.9 | 430.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 517 | 545.6 | | | | | | CONSTRUCT CLASS 300 RIPRAP LINED BERM 4 | D102-12 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | FROM "KCW1" 16+46, 61.5' LT. TO "KR3" 37+09, 78.6' LT. | "KCW1" 16+46 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP118) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | HS104 |

# HYDRAULIC STRUCTURE LIST

| 610 0470 | 610 0190 | 610 0170 | 609 1410 | 609 1170 | 609 1160 | 609 1040 | 609 0400 | 608 0460 | 608 0230 | 608 0170 | 604 2505 | 604 0625 | 604 0205 | 603 1070 | 603 1050 | 603 1030 | 603 0880 | 603 0410 | 603 0290 | 603 0230 | 603 0170 | 506 0110 | 505 0100 | 502 0720 | 502 0710 | 207 0200 | 207 0130 | 207 0110 | 206 0110 | 203 0690 | 203 0160 | 202 1040 | 202 0530 | 202 0450 | 202 0285 | 202 0256 | DESCRIPTION | SHEET-NOTE STATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RIPRAP BEDDING,(CLASS 300) | RIPRAP (CLASS 300) | RIPRAP (CLASS 150) | ABANDON PIPE | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 2 | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 1 | STRUCTURAL STEEL GRATES | TYPE 4 MANHOLE | 12-INCH METAL END SECTION (DOWNDRAIN) | ANCHOR ASSEMBLY (12-INCH) | EMBANKMENT PROTECTOR, TYPE 5-2G | 42-INCH METAL END SECTION (SAFETY TYPE) | 42-INCH CORR. METAL PIPE (16 GAGE) | 12-INCH CORR. METAL PIPE (16 GAGE) | 30-INCH PRECAST END SECTION | 24-INCH PRECAST END SECTION | 18-INCH PRECAST END SECTION | 60-INCH X 38-INCH OVAL REINFORCED CONCRETE PIPE, CLASS HE III | 42-INCH REINFORCED CONCRETE PIPE, CLASS III | 30-INCH REINFORCED CONCRETE PIPE, CLASS III | 24-INCH REINFORCED CONCRETE PIPE, CLASS III | 18-INCH REINFORCED CONCRETE PIPE, CLASS III | STRUCTURAL STEEL | REINFORCING STEEL | CLASS A CONCRETE (MINOR) | CLASS A CONCRETE (MAJOR) | SAND BEDDING MATERIAL | BACKFILL | GRANULAR BACKFILL | STRUCTURE EXCAVATION | GEOTEXTILE (CLASS 1) | DRAINAGE EXCAVATION | REMOVAL OF DROP INLET | REMOVAL OF HEADWALL | REMOVE END SECTION | REMOVAL OF CULVERT PIPE | REMOVAL OF REINFORCED CONCRETE BOX CULVERT | | |
| CUYD | CUYD | CUYD | LINFT | EACH | EACH | POUND | EACH | EACH | EACH | EACH | EACH | LINFT | LINFT | EACH | EACH | EACH | LINFT | LINFT | LINFT | LINFT | LINFT | POUND | POUND | CUYD | CUYD | CUYD | CUYD | CUYD | CUYD | SQYD | CUYD | EACH | EACH | EACH | LINFT | LINFT | | |
| 15.3 | 57.35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 69 | 72.6 | | | | | | CONSTRUCT CLASS 300 RIPRAP LINED BERM 7 | D102-13 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | FROM "KCE1" 18+09, 86.0' LT. TO "KCE1" 18+99, 68.2' LT. | "KCE1" 18+09 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP120) | |
| 80.2 | 300.79 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 361 | 381.0 | | | | | | CONSTRUCT CLASS 300 RIPRAP LINED BERM 5 | D102-14 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | FROM "KCE1" 21+22, 64.6' LT TO "KR2" 26+85, 69.0' LT | "KCE1" 21+22 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP119) | |
| | | | | | | | | | | | | | | | | | | | | | | | 244030 | | 1173.26 | 116.63 | 4975.0 | 966.2 | 9173.5 | | | | | | | | CONSTRUCT 13' X 8' X 520 RCB FROM "MOSM" 64+01 (UIE= 2773.45') | D102-15 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "MOSM" 69+21 (LIE= 2763.06') | "MOSM" 64+01 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | PLUG BOTH ENDS | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP104 AND DS102) | |
| | | | | | | | | | | | | | | | | | | | | | | | 20346 | | 206.11 | 25.11 | | 175.5 | 1531.0 | | 1521.7 | | | | | | CONSTRUCT 6' X 3' X 197' RCB FROM "KR3" 37+83, 42.4' LT. (UIE = 2803 | D103-1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "XP" 424+54, 2.4' LT. (LIE = 2800.18) | "KR3" 37+83 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONSTRUCT RCB HEADWALL TYPE I AT INLET. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP103) | |
| | | | | | | | | | | 67 | 200.21 | | | | | | | | | | | | 20389.90 | | 123.40 | 25.11 | | 175.5 | 1034.5 | 300 | 267.0 | | | | | | CONSTRUCT 6' X 3' X 191 RCB FROM "XP" 424+54, 2.4' LT. (UIE = 2800.1 | D103-2 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KR2" 29+68, 34.9' RT. (LIE = 2799.23) | "XP" 424+54 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONSTRUCT RCB HEADWALL TYPE I AT OUTLET. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CLASS 300 RIPRAP APRON AT OUTLET, 3:1 TRAPEZOIDAL B/W | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP103) | |
| | | | | | | | 235 | | | | | | | | | | | | | | | | 58 | 3.04 | | | | | | | | | | | | | | CONSTRUCT TYPE 2A DROP INLET, 43.9' RT. WITH CONCRETE APRON | D103-3 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2811.32') | "KR3" 37+82 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ON TO 6' X 3' RCB | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP103 AND DS102) | |
| | | | | | | | 235 | | | | | | | | | | | | | | | | 22 | 2.29 | | | | | | | | | | | | | | CONSTRUCT TYPE 2A DROP INLET, 3.1' RT. WITH CONCRETE APRON, | D103-4 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2806.91') | "XP" 424+51 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ON TO 6' X 3' RCB | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP103 AND DS102) | |
| | | | | | | | 235 | | | | | | | | | | | | | | | | 29 | 2.43 | | | | | | | | | | | | | | CONSTRUCT TYPE 2A DROP INLET, 40.8' LT. WITH CONCRETE APRON | D103-5 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2806.14') | "KR2" 29+97 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ON TO 6' X 3' RCB | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP103 AND DS102) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | 268 | | REMOVE 6' X 3' RCB | D103-6 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | REMOVE HEADWALL "KR3" 37+83, 4.5' LT. AND | "KR3" 37+83 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | "KR2" 29+99, 42.0' LT. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 20 | | REMOVE 24" RCP FROM "KR3" 37+62, 62.4' RT. | D103-7 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KR3" 37+81, 60.6' RT. | "KR3" 37+62 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | REMOVE RCP END SECTION | |

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | HS105 |

# HYDRAULIC STRUCTURE LIST

| 610 0470 | 610 0190 | 610 0170 | 609 1410 | 609 1170 | 609 1160 | 609 1040 | 609 0400 | 608 0460 | 608 0230 | 608 0170 | 604 2505 | 604 0625 | 604 0205 | 603 1070 | 603 1050 | 603 1030 | 603 0880 | 603 0410 | 603 0290 | 603 0230 | 603 0170 | 506 0110 | 505 0100 | 502 0720 | 502 0710 | 207 0200 | 207 0130 | 207 0110 | 206 0110 | 203 0690 | 203 0160 | 202 1040 | 202 0530 | 202 0450 | 202 0285 | 202 0256 | DESCRIPTION | SHEET-NOTE STATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RIPRAP BEDDING,(CLASS 300) | RIPRAP (CLASS 300) | RIPRAP (CLASS 150) | ABANDON PIPE | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 2 | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 1 | STRUCTURAL STEEL GRATES | TYPE 4 MANHOLE | 12-INCH METAL END SECTION (DOWNDRAIN) | ANCHOR ASSEMBLY (12-INCH) | EMBANKMENT PROTECTOR, TYPE 5-2G | 42-INCH METAL END SECTION (SAFETY TYPE) | 42-INCH CORR. METAL PIPE (16 GAGE) | 12-INCH CORR. METAL PIPE (16 GAGE) | 30-INCH PRECAST END SECTION | 24-INCH PRECAST END SECTION | 18-INCH PRECAST END SECTION | 60-INCH X 38-INCH OVAL REINFORCED CONCRETE PIPE, CLASS HE III | 42-INCH REINFORCED CONCRETE PIPE, CLASS III | 30-INCH REINFORCED CONCRETE PIPE, CLASS III | 24-INCH REINFORCED CONCRETE PIPE, CLASS III | 18-INCH REINFORCED CONCRETE PIPE, CLASS III | STRUCTURAL STEEL | REINFORCING STEEL | CLASS A CONCRETE (MINOR) | CLASS A CONCRETE (MAJOR) | SAND BEDDING MATERIAL | BACKFILL | GRANULAR BACKFILL | STRUCTURE EXCAVATION | GEOTEXTILE (CLASS 1) | DRAINAGE EXCAVATION | REMOVAL OF DROP INLET | REMOVAL OF HEADWALL | REMOVE END SECTION | REMOVAL OF CULVERT PIPE | REMOVAL OF REINFORCED CONCRETE BOX CULVERT | | |
| CUYD | CUYD | CUYD | LINFT | EACH | EACH | POUND | EACH | EACH | EACH | EACH | EACH | LINFT | LINFT | EACH | EACH | EACH | LINFT | LINFT | LINFT | LINFT | LINFT | POUND | POUND | CUYD | CUYD | CUYD | CUYD | CUYD | CUYD | SQYD | CUYD | EACH | EACH | EACH | LINFT | LINFT | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 43 | | REMOVE 24" CMP FROM "XP" 424+91, 4.3' RT. | D103-8 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "XP" 424+52, 22.5' RT. | "XP" 424+91 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | REMOVE CMP END SECTION | |
| 6 | 17.04 | | | | | | | | | | 1 | 17 | | | | | | | | | | | | | | 4.76 | | 19.4 | 29.4 | 26 | 287.0 | | | | | | | INSTALL 42" X 17' CMP FROM "XP" 430+18, 119.1' RT. (LIE= 2809.97') | D103-9 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "XP" 430+21, 102.1' RT. (UIE= 2810.50') | "XP" 430+18 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO EXISTING 42" CMP | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 42" CMP END SECTION, 119.1' RT. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CLASS 300 RIPRAP APRON AT OUTLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP108) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 300 | | | | | | 6 | | | | | | | | | | | | 90 | 3.56 | | 1.68 | | 6.9 | 10.6 | | | 1 | | | | | CONSTRUCT TYPE 2A DROP INLET, 3.7' RT. WITH CONCRETE APRON, | D103-10 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2818.25', INV ELEV= 2813.27', H= 4.98') | "XP" 430+40 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ONTO EXISTING 42" CMP. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | REMOVE EXISTING DROP INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 42" X 6' CMP FROM "XP" 430+40', 3.7' RT. (UIE= 2813.27') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "XP" 430+39', 9.7' RT. (LIE= 2813.09') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO EXISTING 42" CMP | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP108) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | 1 | 3 | | | | | | | | | | | | | | 0.84 | | 3.4 | 3.2 | | | | | | | | EXTEND EXISTING 42" CMP | D103-11 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 42" X 3' CMP FROM "XP" 430+63, 114.2' LT. (LIE= 2817.24') | "XP" 430+63 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "XP" 430+63, 116.8' LT. (UIE= 2817.32') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 42" CMP END SECTION, 116.8' LT. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP108) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 17.04 | | | | | | | | | | | | | 1 | | | | | | | | | | | | 11.25 | | 42.5 | 136.1 | 26 | 22.7 | | | | | | | INSTALL 30" RCP END SECTION, 89.0' RT. | D105-1 |
| | | | | | | | | | | | | | | | | | | | 59 | | | | | | | | | | | | | | | | | | | INSTALL 30" X 59' RCP FROM "KCE1" 10+24, 89.0' RT. (UIE= 2825.35') | "KCE1" 10+24 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCE1" 10+49, 40.5' RT. (LIE = 2808.23') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 1 MANHOLE CLASS 300 RIP RAP AT INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CLASS 300 RIPRAP APRON AT INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP101) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 1 | | | | | | | | | | | | | 212 | | | | | | | | 40.42 | | 152.8 | 545.9 | | | | | | | CONSTRUCT TYPE 1 MANHOLE, 40.5' RT. | D105-2 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (COVER ELEV=2816.05', INV ELEV=2808.13', H=7.92') | "KCE1" 10+49 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 30" X 212' RCP FROM "KCE1" 10+49, 40.5' RT. (UIE= 2808.13') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCE1" 12+53, 22.5' RT. (LIE = 2797.31') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 1 MANHOLE. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP101) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 1 | | | | | | | | | | | | | 95 | | | | | | | | 18.11 | | 68.5 | 162.5 | | | | | | | CONSTRUCT TYPE 1 MANHOLE, 22.5' RT. | D105-3 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (COVER ELEV=2803.70', INV ELEV=2797.21', H=6.49') | "KCE1" 12+53 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 30" X 95' RCP FROM "KCE1" 12+53, 22.5' RT. (UIE= 2797.21') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCE1" 13+42, 28.5' RT. (LIE = 2792.59') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 1 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP101) | |

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | HS106 |

# HYDRAULIC STRUCTURE LIST

| RIPRAP BEDDING,(CLASS 300) | RIPRAP (CLASS 300) | RIPRAP (CLASS 150) | ABANDON PIPE | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 2 | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 1 | STRUCTURAL STEEL GRATES | TYPE 4 MANHOLE | 12-INCH METAL END SECTION (DOWNDRAIN) | ANCHOR ASSEMBLY (12-INCH) | EMBANKMENT PROTECTOR, TYPE 5-2G | 42-INCH METAL END SECTION (SAFETY TYPE) | 42-INCH CORR. METAL PIPE (16 GAGE) | 12-INCH CORR. METAL PIPE (16 GAGE) | 30-INCH PRECAST END SECTION | 24-INCH PRECAST END SECTION | 18-INCH PRECAST END SECTION | 60-INCH X 38-INCH OVAL REINFORCED CONCRETE PIPE, CLASS HE III | 42-INCH REINFORCED CONCRETE PIPE, CLASS III | 30-INCH REINFORCED CONCRETE PIPE, CLASS III | 24-INCH REINFORCED CONCRETE PIPE, CLASS III | 18-INCH REINFORCED CONCRETE PIPE, CLASS III | STRUCTURAL STEEL | REINFORCING STEEL | CLASS A CONCRETE (MINOR) | CLASS A CONCRETE (MAJOR) | SAND BEDDING MATERIAL | BACKFILL | GRANULAR BACKFILL | STRUCTURE EXCAVATION | GEOTEXTILE (CLASS 1) | DRAINAGE EXCAVATION | REMOVAL OF DROP INLET | REMOVAL OF HEADWALL | REMOVE END SECTION | REMOVAL OF CULVERT PIPE | REMOVAL OF REINFORCED CONCRETE BOX CULVERT | DESCRIPTION | SHEET-NOTE STATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 610 0470 | 610 0190 | 610 0170 | 609 1410 | 609 1170 | 609 1160 | 609 1040 | 609 0400 | 608 0460 | 608 0230 | 608 0170 | 604 2505 | 604 0625 | 604 0205 | 603 1070 | 603 1050 | 603 1030 | 603 0880 | 603 0410 | 603 0290 | 603 0230 | 603 0170 | 506 0110 | 505 0100 | 502 0720 | 502 0710 | 207 0200 | 207 0130 | 207 0110 | 206 0110 | 203 0690 | 203 0160 | 202 1040 | 202 0530 | 202 0450 | 202 0285 | 202 0256 | | |
| CUYD | CUYD | CUYD | LINFT | EACH | EACH | POUND | EACH | EACH | EACH | EACH | EACH | LINFT | LINFT | EACH | EACH | EACH | LINFT | LINFT | LINFT | LINFT | LINFT | POUND | POUND | CUYD | CUYD | CUYD | CUYD | CUYD | CUYD | SQYD | CUYD | EACH | EACH | EACH | LINFT | LINFT | | |
| | | | | | | | | | | | | | | | | | | | | | 15 | 357 | 126 | 1.64 | | 1.79 | | 5.9 | 10.8 | | | | | | | | CONSTRUCT TYPE 11 DROP INLET (37.5' RT.) | D105-4 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2803.50', INV ELEV= 2798.96', L= 7', H= 4.54') | "KCE1" 12+50 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 18" X 15' RCP FROM "KCE1" 12+50, 37.5' RT. (UIE= 2798.96') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCE1" 12+53, 22.5' RT. (LIE = 2798.21') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 1 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP109) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 68 | 255.73 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 307 | 323.9 | | | | | | CONSTRUCT CLASS 300 RIPRAP LINED BERM 1 | D105-5 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | FROM "KCE1" 6+22, 103.5' RT TO "KCE1" 11+09, 91.4' RT | "KCE1" 6+22 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP116) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 357 | | | | | | | | | | | | | | | 9 | | 126 | 1.64 | | 1.07 | | 3.6 | 6.5 | | | | | | | | CONSTRUCT TYPE 11 DROP INLET (37.5' RT.) | D106-1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2798.78', INV ELEV= 2795.00', L= 7', H= 3.78') | "KCE1" 13+40 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 18" X 9' RCP FROM "KCE1" 13+40, 37.5' RT. (UIE= 2795.00') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCE1" 13+42, 28.5' RT. (LIE = 2793.59') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 1 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP109) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 1 | | | | | | | | | | | | | | | 215 | | | | | 21.93 | | 82.9 | 268.0 | | | | | | | | CONSTRUCT TYPE 1 MANHOLE, 28.5' RT. | D106-2 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (COVER ELEV=2798.99', INV ELEV= 2792.49', H= 6.50') | "KCE1" 13+42 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 30" X 215' RCP FROM "KCE1" 13+42, 28.5' RT. (UIE= 2792.49') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCE1" 15+42, 35.8' RT. (LIE = 2785.70') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 1 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP101) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 1 | | | | | | | | | | | | | | | 161 | | | | | 30.7 | | 116.0 | 371.8 | | | | | | | | CONSTRUCT TYPE 1 MANHOLE, 35.8' RT. | D106-3 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (COVER ELEV=2792.88', INV ELEV= 2785.60', H=7.2') | "KCE1" 15+42 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 30" X 162' RCP FROM "KCE1" 15+42, 35.8' RT. (UIE= 2785.60') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCW1" 21+68, 62.8' RT. (LIE = 2781.12') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 1 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP101) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 1 | | | | | | | | | | | | | | | 130 | | | | | 24.79 | | 93.7 | 293.1 | | | | | | | | CONSTRUCT TYPE 1 MANHOLE, 62.8' RT. | D106-4 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (COVER ELEV=2786.44', INV ELEV= 2781.02', H=5.42') | "KCW1" 21+68 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 30" X 130' RCP FROM "KCW1" 21+68, 62.8' RT. (UIE= 2781.02') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCW1" 22+78, 15.5' RT. (LIE = 2775.41') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 3 DROP INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP101) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 229 | | | | | | | | | | | | | | | 87 | | | 181 | 210 | 2.95 | | 16.59 | | 62.7 | 312.3 | | | | | | | | CONSTRUCT TYPE 3 DROP INLET, 15.5' RT. | D106-5 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2782.49', INV ELEV= 2775.31', H= 7.18') | "KCW1" 22+78 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 30" X 87' RCP FROM "KCW1" 22+78, 15.5' RT. (UIE= 2775.31') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCW1" 23+64, 41.5' RT. (LIE = 2769.36') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 2 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP101) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | HS107 |

# HYDRAULIC STRUCTURE LIST

| 610 0470 | 610 0190 | 610 0170 | 609 1410 | 609 1170 | 609 1160 | 609 1040 | 609 0400 | 608 0460 | 608 0230 | 608 0170 | 604 2505 | 604 0625 | 604 0205 | 603 1070 | 603 1050 | 603 1030 | 603 0880 | 603 0410 | 603 0290 | 603 0230 | 603 0170 | 506 0110 | 505 0100 | 502 0720 | 502 0710 | 207 0200 | 207 0130 | 207 0110 | 206 0110 | 203 0690 | 203 0160 | 202 1040 | 202 0530 | 202 0450 | 202 0285 | 202 0256 | DESCRIPTION | SHEET-NOTE STATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RIPRAP BEDDING,(CLASS 300) | RIPRAP (CLASS 300) | RIPRAP (CLASS 150) | ABANDON PIPE | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 2 | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 1 | STRUCTURAL STEEL GRATES | TYPE 4 MANHOLE | 12-INCH METAL END SECTION (DOWNDRAIN) | ANCHOR ASSEMBLY (12-INCH) | EMBANKMENT PROTECTOR, TYPE 5-2G | 42-INCH METAL END SECTION (SAFETY TYPE) | 42-INCH CORR. METAL PIPE (16 GAGE) | 12-INCH CORR. METAL PIPE (16 GAGE) | 30-INCH PRECAST END SECTION | 24-INCH PRECAST END SECTION | 18-INCH PRECAST END SECTION | 60-INCH X 38-INCH OVAL REINFORCED CONCRETE PIPE, CLASS HE III | 42-INCH REINFORCED CONCRETE PIPE, CLASS III | 30-INCH REINFORCED CONCRETE PIPE, CLASS III | 24-INCH REINFORCED CONCRETE PIPE, CLASS III | 18-INCH REINFORCED CONCRETE PIPE, CLASS III | STRUCTURAL STEEL | REINFORCING STEEL | CLASS A CONCRETE (MINOR) | CLASS A CONCRETE (MAJOR) | SAND BEDDING MATERIAL | BACKFILL | GRANULAR BACKFILL | STRUCTURE EXCAVATION | GEOTEXTILE (CLASS 1) | DRAINAGE EXCAVATION | REMOVAL OF DROP INLET | REMOVAL OF HEADWALL | REMOVE END SECTION | REMOVAL OF CULVERT PIPE | REMOVAL OF REINFORCED CONCRETE BOX CULVERT | | |
| CUYD | CUYD | CUYD | LINFT | EACH | EACH | POUND | EACH | EACH | EACH | EACH | EACH | LINFT | LINFT | EACH | EACH | EACH | LINFT | LINFT | LINFT | LINFT | LINFT | POUND | POUND | CUYD | CUYD | CUYD | CUYD | CUYD | CUYD | SQYD | CUYD | EACH | EACH | EACH | LINFT | LINFT | | |
| | | | | 1 | | | | | | | | | | | | | | 149 | | | | | | | | 40.68 | | 170.2 | 910.3 | | | | | | | | | CONSTRUCT TYPE 2 MANHOLE, 41.5' RT. | D106-6 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (COVER ELEV=2780.59', INV ELEV= 2769.26', H= 11.33') | "KCW1" 23+64 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 42" X 149' RCP FROM "KCW1" 23+64, 41.5' RT. (UIE= 2769.26') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCW1" 25+12, 28.5' RT. (LIE = 2768.50') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 2 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP101) | |
| | | | | 1 | | | | | | | | | | | | | | 203 | | | | | | | | 56.78 | | 231.9 | 785.6 | | | | | | | | | CONSTRUCT TYPE 2 MANHOLE, 28.5' RT. | D106-7 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (COVER ELEV=2777.92', INV ELEV= 2768.40', H=9.52') | "KCW1" 25+12 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 42" X 203' RCP FROM "KCW1" 25+12, 28.5' RT. (UIE= 2768.40') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCW1" 27+14, 39.2' RT. (LIE = 2767.43') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 2 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP101) | |
| | | | | 1 | | | | | | | | | | | | | | 117 | | | | | | | | 32.73 | | 133.7 | 396.7 | | | | | | | | | CONSTRUCT TYPE 2 MANHOLE, 39.2' RT. | D106-8 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (COVER ELEV=2773.74', INV ELEV= 2767.33', H=6.41') | "KCW1" 27+14 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 42" X 117' RCP FROM "KCW1" 27+14, 39.2' RT. (UIE= 2767.33') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCW1" 28+17, 54.2' RT. (LIE = 2765.18') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 2 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP101) | |
| | | | | 1 | | | | | | | | | | | | | | 105 | | | | | | | | 29.37 | | 119.2 | 555.8 | | | | | | | | | CONSTRUCT TYPE 2 MANHOLE, 54.2' RT. | D106-9 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (COVER ELEV=2774.54', INV ELEV= 2765.08', H=9.46') | "KCW1" 28+17 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 42" X 105' RCP FROM "KCW1" 28+17, 54.2' RT. (UIE= 2765.08') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCW1" 25+16, 28.0' RT. (LIE = 2764.65') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 2 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP102) | |
| | | | | 1 | | | | | | | | | | | | | | 276 | | | | | | | | 77.2 | | 315.4 | 876.5 | | | | | | | | | CONSTRUCT TYPE 2 MANHOLE, 28.0' RT. | D106-10 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (COVER ELEV=2774.15', INV ELEV= 2764.46', H= 9.69') | "KCE1" 25+16 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 42" X 276' RCP FROM "KCE1" 25+16, 28.0' RT. (UIE= 2764.46') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCE1" 27+87, 7.2' RT. (LIE = 2763.74') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 4 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP102) | |
| | | | | | | 357 | | | | | | | | | | | | | | | 20 | | 126 | 1.64 | | 2.38 | | 7.9 | 19.0 | | | | | | | | | CONSTRUCT TYPE 11 DROP INLET, 16.5' LT. | D106-11 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2793.08', INV ELEV= 2788.45', L= 7', H= 4.63') | "KR4A" 7+99 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 18" X 20' RCP FROM "KR4A" 7+99, 16.5' LT. (UIE= 2788.45') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KR4A" 7+79, 16.5' LT. (LIE = 2787.99') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 3 DROP INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP109) | |

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | HS108 |

# HYDRAULIC STRUCTURE LIST

| RIPRAP BEDDING,(CLASS 300) | RIPRAP (CLASS 300) | RIPRAP (CLASS 150) | ABANDON PIPE | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 2 | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 1 | STRUCTURAL STEEL GRATES | TYPE 4 MANHOLE | 12-INCH METAL END SECTION (DOWNDRAIN) | ANCHOR ASSEMBLY (12-INCH) | EMBANKMENT PROTECTOR, TYPE 5-2G | 42-INCH METAL END SECTION (SAFETY TYPE) | 42-INCH CORR. METAL PIPE (16 GAGE) | 12-INCH CORR. METAL PIPE (16 GAGE) | 30-INCH PRECAST END SECTION | 24-INCH PRECAST END SECTION | 18-INCH PRECAST END SECTION | 60-INCH X 38-INCH OVAL REINFORCED CONCRETE PIPE, CLASS HE III | 42-INCH REINFORCED CONCRETE PIPE, CLASS III | 30-INCH REINFORCED CONCRETE PIPE, CLASS III | 24-INCH REINFORCED CONCRETE PIPE, CLASS III | 18-INCH REINFORCED CONCRETE PIPE, CLASS III | STRUCTURAL STEEL | REINFORCING STEEL | CLASS A CONCRETE (MINOR) | CLASS A CONCRETE (MAJOR) | SAND BEDDING MATERIAL | BACKFILL | GRANULAR BACKFILL | STRUCTURE EXCAVATION | GEOTEXTILE (CLASS 1) | DRAINAGE EXCAVATION | REMOVAL OF DROP INLET | REMOVAL OF HEADWALL | REMOVE END SECTION | REMOVAL OF CULVERT PIPE | REMOVAL OF REINFORCED CONCRETE BOX CULVERT | DESCRIPTION | SHEET-NOTE STATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 610 0470 | 610 0190 | 610 0170 | 609 1410 | 609 1170 | 609 1160 | 609 1040 | 609 0400 | 608 0460 | 608 0230 | 608 0170 | 604 2505 | 604 0625 | 604 0205 | 603 1070 | 603 1050 | 603 1030 | 603 0880 | 603 0410 | 603 0290 | 603 0230 | 603 0170 | 506 0110 | 505 0100 | 502 0720 | 502 0710 | 207 0200 | 207 0130 | 207 0110 | 206 0110 | 203 0690 | 203 0160 | 202 1040 | 202 0530 | 202 0450 | 202 0285 | 202 0256 | | |
| CUYD | CUYD | CUYD | LINFT | EACH | EACH | POUND | EACH | EACH | EACH | EACH | EACH | LINFT | LINFT | EACH | EACH | EACH | LINFT | LINFT | LINFT | LINFT | LINFT | POUND | POUND | CUYD | CUYD | CUYD | CUYD | CUYD | CUYD | SQYD | CUYD | EACH | EACH | EACH | LINFT | LINFT | | |
| | | | | | | 229 | | | | | | | | | | | | | | | 27 | 181 | 110 | 1.64 | | 3.21 | | 10.7 | 30.4 | | | | | | | | | CONSTRUCT TYPE 3 DROP INLET, 16.5' LT. | D106-12 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2792.36', INV ELEV= 2787.89', L= 7', H= 4.47') | "KR4A" 7+79 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 18" X 27' RCP FROM "KR4A" 7+79, 16.5' LT. (UIE= 2787.89') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCE1" 15+42, 35.8' RT. (LIE = 2786.70') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 1 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP109) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 262 | | | | | | | | | | | | | | 66 | | | 82 | 3.43 | | 10.08 | | 36.0 | 79.7 | | | | | | | | | CONSTRUCT TYPE 2B DROP INLET, 23.7' LT. WITH CONCRETE APRON | D106-13 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2792.80', INV ELEV= 2787.28', H= 5.52') | "KCE1" 15+92 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 24" X 66' RCP FROM "KCE1" 15+92, 23.7' LT. (UIE= 2787.28') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCE1" 16+40, 21.3' RT. (LIE = 2785.10') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 3 DROP INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP110) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 229 | | | | | | | | | | | | | | 89 | | 181 | 139 | 1.96 | | 13.6 | | 48.6 | 94.5 | | | | | | | | | CONSTRUCT TYPE 3 DROP INLET, 21.3' RT. | D106-14 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2789.99', INV ELEV= 2785.00', H= 4.99') | "KCE1" 16+40 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 24" X 89' RCP FROM "KCE1" 16+40, 21.3' RT. (UIE= 2785.00') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCW1" 21+68, 62.8' RT. (LIE = 2781.62') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 1 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP110) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 6 | 16.85 | | | | | | 1 | | | | | 75 | | | | | 8.93 | | 29.6 | 99.1 | 25 | 22.5 | | | | | | | INSTALL 18" RCP END SECTION, 111.4' LT. | D106-15 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 18" X 75' RCP FROM "KR3A" 4+86, 111.4' LT. (UIE= 2811.67') | "KR3A" 4+86 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KR3A" 4+40, 42.9' LT. (LIE = 2784.95') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 2B DROP INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CLASS 300 RIPRAP APRON AT INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP106) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 262 | | | | | | | | | | | | | | 60 | | | 76 | 3.32 | | 9.17 | | 32.8 | 77.1 | | | | | | | | | CONSTRUCT TYPE 2B DROP INLET, 42.9' LT. WITH CONCRETE APRON | D106-16 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2789.86', INV ELEV = 2784.85', H= 5.01') | "KR3A" 4+40 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 24" X 60' RCP FROM "KR2A" 4+40, 42.9' LT. (UIE 2784.85') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KR2A" 3+99, 4.3' RT. (LIE= 2784.51') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 3 DROP INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP106) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 229 | | | | | | | | | | | | | | 120 | | 181 | 173 | 2.34 | | 18.33 | | 65.5 | 166.3 | | | | | | | | | CONSTRUCT TYPE 3 DROP INLET, 4.3' RT. | D106-17 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2790.88', INV ELEV= 2784.41', H= 6.47') | "KR3A" 3+99 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 24" X 120' RCP FROM "KR3A" 3+99, 4.3' RT. (UIE= 2784.41') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KC3" 30+90, 30.9' RT. (LIE = 2781.13') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 1 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP106) | |

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | HS109 |

# HYDRAULIC STRUCTURE LIST

| | | |

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | HS110 |

# HYDRAULIC STRUCTURE LIST

| RIPRAP BEDDING,(CLASS 300) | RIPRAP (CLASS 300) | RIPRAP (CLASS 150) | ABANDON PIPE | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 2 | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 1 | STRUCTURAL STEEL GRATES | TYPE 4 MANHOLE | 12-INCH METAL END SECTION (DOWNDRAIN) | ANCHOR ASSEMBLY (12-INCH) | EMBANKMENT PROTECTOR, TYPE 5-2G | 42-INCH METAL END SECTION (SAFETY TYPE) | 42-INCH CORR. METAL PIPE (16 GAGE) | 12-INCH CORR. METAL PIPE (16 GAGE) | 30-INCH PRECAST END SECTION | 24-INCH PRECAST END SECTION | 18-INCH PRECAST END SECTION | 60-INCH X 38-INCH OVAL REINFORCED CONCRETE PIPE, CLASS HE III | 42-INCH REINFORCED CONCRETE PIPE, CLASS III | 30-INCH REINFORCED CONCRETE PIPE, CLASS III | 24-INCH REINFORCED CONCRETE PIPE, CLASS III | 18-INCH REINFORCED CONCRETE PIPE, CLASS III | STRUCTURAL STEEL | REINFORCING STEEL | CLASS A CONCRETE (MINOR) | CLASS A CONCRETE (MAJOR) | SAND BEDDING MATERIAL | BACKFILL | GRANULAR BACKFILL | STRUCTURE EXCAVATION | GEOTEXTILE (CLASS 1) | DRAINAGE EXCAVATION | REMOVAL OF DROP INLET | REMOVAL OF HEADWALL | REMOVE END SECTION | REMOVAL OF CULVERT PIPE | REMOVAL OF REINFORCED CONCRETE BOX CULVERT | DESCRIPTION | SHEET-NOTE STATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 610 0470 | 610 0190 | 610 0170 | 609 1410 | 609 1170 | 609 1160 | 609 1040 | 609 0400 | 608 0460 | 608 0230 | 608 0170 | 604 2505 | 604 0625 | 604 0205 | 603 1070 | 603 1050 | 603 1030 | 603 0880 | 603 0410 | 603 0290 | 603 0230 | 603 0170 | 506 0110 | 505 0100 | 502 0720 | 502 0710 | 207 0200 | 207 0130 | 207 0110 | 206 0110 | 203 0690 | 203 0160 | 202 1040 | 202 0530 | 202 0450 | 202 0285 | 202 0256 | | |
| CUYD | CUYD | CUYD | LINFT | EACH | EACH | POUND | EACH | EACH | EACH | EACH | EACH | LINFT | LINFT | EACH | EACH | EACH | LINFT | LINFT | LINFT | LINFT | LINFT | POUND | POUND | CUYD | CUYD | CUYD | CUYD | CUYD | CUYD | SQYD | CUYD | EACH | EACH | EACH | LINFT | LINFT | | |
| | | | | | | | | | | | | | | | 1 | | | | | | 59 | | | | | | 702 | | 23.3 | 484.5 | | | | | | | | INSTALL 24" RCP END SECTION, 75.2' LT. | D106-24 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 24" X 59' RCP FROM "KCE1" 18+73, 75.2' LT. (UIE= 2801.66') | "KCE1" 18+73 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCE1" 18+70, 16.8' LT. (LIE = 2778.79') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 1 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CLASS 300 RIPRAP APRON AT INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP115) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.7 | 17.04 | | | | | | | | | | | | | | 1 | | | | | | 78 | | | | | | 11.92 | | 42.6 | 157.4 | 26 | 22.7 | | | | | | INSTALL 24" RCP END SECTION, 121.2' LT. | D106-25 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 24" X 78' RCP FROM "KR4A" 4+90, 121.2' LT. (UIE= 2806.47') | "KR4A" 4+90 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KR4A" 5+00, 44.0' LT. (LIE = 2772.95') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 2B DROP INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CLASS 300 RIPRAP APRON AT INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP110) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 262 | | | | | | | | | | | | | | | 158 | | | 83 | 3.46 | | 24.14 | | 86.3 | 271.1 | | | | | | | | CONSTRUCT TYPE 2B DROP INLET, 44.0' LT. WITH CONCRETE APRON | D106-26 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2778.47', INV ELEV= 2772.85', H= 5.62') | "KR4A" 5+00 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 24" X 158' RCP FROM "KR4A" 5+00, 44.0' LT. (UIE= 2772.85') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KR4" 55+71, 46.0' RT. (LIE = 2770.56') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 2B DROP INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP110) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 286 | | | | | | | | | | | | | | 140 | | | 77 | 3.54 | | 26.69 | | 100.9 | 1456.7 | | | | | | | | CONSTRUCT TYPE 2B DROP INLET, 46.0' RT. WITH CONCRETE APRON | D106-27 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2775.63', INV ELEV= 2770.46', H= 5.17') | "KR4" 55+71 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 30" X 140' RCP FROM "KR4" 55+71, 46.0' RT. (UIE= 2770.46') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCW1" 23+64, 41.5' RT. (LIE = 2769.76') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 2 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP110) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 17.04 | | | | | | | | | | | | | | | 1 | | | | | 58 | | | | | | 6.91 | | 22.9 | 148.4 | 36 | 22.7 | | | | | | INSTALL 18" RCP END SECTION, 69.3' LT. | D106-28 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 18" X 58' RCP FROM "KCE1" 20+08, 69.3' LT. (UIE= 2795.22') | "KCE1" 20+08 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCE1" 20+30, 16.5' LT. (LIE = 2775.99') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 1 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CLASS 300 RIPRAP APRON AT INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP111) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | 1 | | | | | | 114 | | | | | | 13.51 | | 45.0 | 171.4 | | | | | | | | CONSTRUCT TYPE 1 MANHOLE, 16.5' LT. | D106-29 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (COVER ELEV=2780.88', INV ELEV= 2775.89', H=4.99') | "KCE1" 20+30 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 18" X 114' RCP FROM "KCE1" 20+30, 16.5' LT. (UIE= 2775.89') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCW1" 25+12, 28.5' RT. (LIE = 2769.90') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 2 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP111) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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# HYDRAULIC STRUCTURE LIST

| RIPRAP BEDDING,(CLASS 300) | 610 0470 | CUYD |
|---|---|---|
| RIPRAP (CLASS 300) | 610 0190 | CUYD |
| RIPRAP (CLASS 150) | 610 0170 | CUYD |
| ABANDON PIPE | 609 1410 | LINFT |
| 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 2 | 609 1170 | EACH |
| 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 1 | 609 1160 | EACH |
| STRUCTURAL STEEL GRATES | 609 1040 | POUND |
| TYPE 4 MANHOLE | 609 0400 | EACH |
| 12-INCH METAL END SECTION (DOWNDRAIN) | 608 0460 | EACH |
| ANCHOR ASSEMBLY (12-INCH) | 608 0230 | EACH |
| EMBANKMENT PROTECTOR, TYPE 5-2G | 608 0170 | EACH |
| 42-INCH METAL END SECTION (SAFETY TYPE) | 604 2505 | EACH |
| 42-INCH CORR. METAL PIPE (16 GAGE) | 604 0625 | LINFT |
| 12-INCH CORR. METAL PIPE (16 GAGE) | 604 0205 | LINFT |
| 30-INCH PRECAST END SECTION | 603 1070 | EACH |
| 24-INCH PRECAST END SECTION | 603 1050 | EACH |
| 18-INCH PRECAST END SECTION | 603 1030 | EACH |
| 60-INCH X 38-INCH OVAL REINFORCED CONCRETE PIPE, CLASS HE III | 603 0880 | LINFT |
| 42-INCH REINFORCED CONCRETE PIPE, CLASS III | 603 0410 | LINFT |
| 30-INCH REINFORCED CONCRETE PIPE, CLASS III | 603 0290 | LINFT |
| 24-INCH REINFORCED CONCRETE PIPE, CLASS III | 603 0230 | LINFT |
| 18-INCH REINFORCED CONCRETE PIPE, CLASS III | 603 0170 | LINFT |
| STRUCTURAL STEEL | 506 0110 | POUND |
| REINFORCING STEEL | 505 0100 | POUND |
| CLASS A CONCRETE (MINOR) | 502 0720 | CUYD |
| CLASS A CONCRETE (MAJOR) | 502 0710 | CUYD |
| SAND BEDDING MATERIAL | 207 0200 | CUYD |
| BACKFILL | 207 0130 | CUYD |
| GRANULAR BACKFILL | 207 0110 | CUYD |
| STRUCTURE EXCAVATION | 206 0110 | CUYD |
| GEOTEXTILE (CLASS 1) | 203 0690 | SQYD |
| DRAINAGE EXCAVATION | 203 0160 | CUYD |
| REMOVAL OF DROP INLET | 202 1040 | EACH |
| REMOVAL OF HEADWALL | 202 0530 | EACH |
| REMOVE END SECTION | 202 0450 | EACH |
| REMOVAL OF CULVERT PIPE | 202 0285 | LINFT |
| REMOVAL OF REINFORCED CONCRETE BOX CULVERT | 202 0256 | LINFT |

| DESCRIPTION | SHEET-NOTE STATION |
|---|---|
| CONSTRUCT TYPE 2 DROP INLET, 24.5' LT. | D106-30 |
| (GRATE ELEV= 2776.02', INV ELEV= 2770.58', H= 5.44') | "KCW1" 26+97 |
| INSTALL 18" X 51' RCP FROM "KCW1" 26+97, 24.5' LT. (UIE= 2770.58') | |
| TO "KCW1" 27+00, 26.8' RT. (LIE = 2769.65') | |
| CONNECT TO TYPE 11 DROP INLET | |
| (SEE SHEET DP111) | |
| | |
| CONSTRUCT TYPE 11 DROP INLET, 26.8' RT | D106-31 |
| (GRATE ELEV= 2774.43', INV ELEV= 2769.55', L= 10', H= 4.88') | "KCW1" 27+00 |
| INSTALL 18" X 20' RCP FROM "KCW1" 27+00, 26.8' RT. (UIE= 2769.55') | |
| TO "KCW1" 27+14, 39.2' RT. (LIE = 2769.22') | |
| CONNECT TO TYPE 2 MANHOLE | |
| (SEE SHEET DP102) | |
| | |
| INSTALL 24" RCP END SECTION, 102.8' LT. | D106-32 |
| INSTALL 24" X 57' RCP FROM "KR2" 21+79, 102.8' LT. (UIE= 2789.86') | "KR2" 21+79 |
| TO "KR2" 21+85, 46.0' LT. (LIE = 2767.75') | |
| CONNECT TO TYPE 2A DROP INLET | |
| CLASS 300 RIPRAP APRON AT INLET | |
| (SEE SHEET DP112) | |
| | |
| CONSTRUCT TYPE 2A DROP INLET, 46.0' LT. WITH CONCRETE APRON | D106-33 |
| (GRATE ELEV= 2772.88', INV ELEV= 2767.65', H= 5.23') | "KR2" 21+85 |
| INSTALL 24" X 98' RCP FROM "KR2" 21+85, 46.0' LT. (UIE= 2767.65') | |
| TO "KCE1" 23+31, 50.0' LT. (LIE = 2766.97') | |
| CONNECT TO TYPE 2B DROP INLET | |
| (SEE SHEET DP112) | |
| | |
| CONSTRUCT TYPE 2B DROP INLET, 50.0' LT. WITH CONCRETE APRON | D106-34 |
| (GRATE ELEV= 2776.45', INV ELEV= 2766.97', H= 9.48') | "KCE1" 23+31 |
| INSTALL 24" X 73' RCP FROM "KCE1" 23+31, 50.0' LT. (UIE= 2766.97') | |
| TO "KCE1" 23+30, 22.5' RT. (LIE = 2766.60') | |
| CONNECT TO TYPE II DROP INLET | |
| (SEE SHEET DP112) | |
| | |
| CONSTRUCT TYPE II DROP INLET, 22.5' RT. | D106-35 |
| (GRATE ELEV= 2775.34', INV ELEV= 2766.50', H= 8.84') | "KCE1" 23+30 |
| INSTALL 30" X 58' RCP FROM "KCE1" 23+30, 22.5' RT. (UIE= 2766.50') | |
| TO "KCW1" 27+76, 19.0' RT. (LIE = 2766.05') | |
| CONNECT TO TYPE 11 DROP INLET | |
| (SEE SHEET DP112) | |

| RIPRAP BEDDING,(CLASS 300) | CUYD | | |

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# HYDRAULIC STRUCTURE LIST

| RIPRAP BEDDING,(CLASS 300) | RIPRAP (CLASS 300) | RIPRAP (CLASS 150) | ABANDON PIPE | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 2 | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 1 | STRUCTURAL STEEL GRATES | TYPE 4 MANHOLE | 12-INCH METAL END SECTION (DOWNDRAIN) | ANCHOR ASSEMBLY (12-INCH) | EMBANKMENT PROTECTOR, TYPE 5-2G | 42-INCH METAL END SECTION (SAFETY TYPE) | 42-INCH CORR. METAL PIPE (16 GAGE) | 12-INCH CORR. METAL PIPE (16 GAGE) | 30-INCH PRECAST END SECTION | 24-INCH PRECAST END SECTION | 18-INCH PRECAST END SECTION | 60-INCH X 38-INCH OVAL REINFORCED CONCRETE PIPE, CLASS HE III | 42-INCH REINFORCED CONCRETE PIPE, CLASS III | 30-INCH REINFORCED CONCRETE PIPE, CLASS III | 24-INCH REINFORCED CONCRETE PIPE, CLASS III | 18-INCH REINFORCED CONCRETE PIPE, CLASS III | STRUCTURAL STEEL | REINFORCING STEEL | CLASS A CONCRETE (MINOR) | CLASS A CONCRETE (MAJOR) | SAND BEDDING MATERIAL | BACKFILL | GRANULAR BACKFILL | STRUCTURE EXCAVATION | GEOTEXTILE (CLASS 1) | DRAINAGE EXCAVATION | REMOVAL OF DROP INLET | REMOVAL OF HEADWALL | REMOVE END SECTION | REMOVAL OF CULVERT PIPE | REMOVAL OF REINFORCED CONCRETE BOX CULVERT | DESCRIPTION | SHEET-NOTE STATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 610 0470 | 610 0190 | 610 0170 | 609 1410 | 609 1170 | 609 1160 | 609 1040 | 609 0400 | 608 0460 | 608 0230 | 608 0170 | 604 2505 | 604 0625 | 604 0205 | 603 1070 | 603 1050 | 603 1030 | 603 0880 | 603 0410 | 603 0290 | 603 0230 | 603 0170 | 506 0110 | 505 0100 | 502 0720 | 502 0710 | 207 0200 | 207 0130 | 207 0110 | 206 0110 | 203 0690 | 203 0160 | 202 1040 | 202 0530 | 202 0450 | 202 0285 | 202 0256 | | |
| CUYD | CUYD | CUYD | LINFT | EACH | EACH | POUND | EACH | EACH | EACH | EACH | EACH | LINFT | LINFT | EACH | EACH | EACH | LINFT | LINFT | LINFT | LINFT | LINFT | POUND | POUND | CUYD | CUYD | CUYD | CUYD | CUYD | CUYD | SQYD | CUYD | EACH | EACH | EACH | LINFT | LINFT | | |
| | | | | | | 426 | | | | | | | | | | | | 57 | | | | | 209 | 2.72 | | 10.87 | | 41.1 | 242.0 | | | | | | | | CONSTRUCT TYPE 11 DROP INLET (19.0' RT.) | D106-36 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2774.14', INV ELEV= 2765.95', L= 15', H= 8.19') | "KCW1" 27+76 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 30" X 57' RCP FROM "KCW1" 27+76,19.0' RT. (UIE= 2765.95') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCW1" 28+17, 54.2' RT. (LIE = 2765.28') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 2 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP102) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 239 | | | | | | | | | | | | | | | 115 | | 73 | 3.40 | | 13.69 | | 45.4 | 344.1 | | | | | | | | CONSTRUCT TYPE 2B DROP INLET, 52.5' RT. WITH CONCRETE APRON | D106-37 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2774.75', INV ELEV= 2768.46', H= 6.29') | "KR2A" 5+09 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 18" X 115' RCP FROM "KR2A" 5+09, 52.5' RT. (UIE= 2768.46') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCE1" 23+31, 50.0' LT. (LIE = 2767.07') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 2A DROP INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP112) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 229 | | | | | | | | | | | | | | | | | 63 | 181 | 124 | 1.79 | | 7.5 | | 24.8 | 91.8 | | | | | | | | CONSTRUCT TYPE 3 DROP INLET,15.3' RT. | D106-38 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2775.04', INV ELEV= 2769.87', H= 5.17') | "KCW1" 29+15 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 18" X 63' RCP FROM "KCW1" 29+15, 15.3' RT. (UIE= 2769.87') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCE1" 25+16, 28.0' RT. (LIE = 2766.46') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 2 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP113) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 239 | | | | | | | | | | | | | | | | | 137 | | 47 | 2.89 | | 16.31 | | 54.0 | 332.2 | | | | | | | | CONSTRUCT TYPE 2B DROP INLET, 45.6' LT. WITH CONCRETE APRON | D106-39 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2769.81', INV ELEV= 2766.08', H= 3.73') | "KR1" 25+62 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 18" X 137' RCP FROM "KR1" 25+62, 45.6' LT. (UIE= 2766.08') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KR1A" 2+16, 59.8' RT. (LIE = 2765.39') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 2B DROP INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP113) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 262 | | | | | | | | | | | | | | | 10 | | 88 | 3.53 | | 1.53 | | 5.5 | 19.7 | | | | | | | | CONSTRUCT TYPE 2B DROP INLET, 59.8' RT. WITH CONCRETE APRON | D106-40 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2771.25', INV ELEV= 2765.29', H= 5.96') | "KR1A" 2+16 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 24" X 10' RCP FROM "KR1A" 2+16, 59.8' RT. (UIE= 2765.29') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KR1A" 2+29, 62.6' RT. (LIE = 2765.24') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 2B DROP INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP113) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 262 | | | | | | | | | | | | | | | 96 | | 90 | 3.58 | | 14.67 | | 52.4 | 349.1 | | | | | | | | CONSTRUCT TYPE 2B DROP INLET, 62.6' RT. WITH CONCRETE APRON | D106-41 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2771.33', INV ELEV= 2765.14', H= 6.19') | "KR1A" 2+29 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 24" X 96' RCP FROM "KR1A" 2+29, 62.6' RT. (UIE= 2765.14') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCE1" 25+16, 28.0' RT. (LIE = 2764.66') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 2 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP113) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| NEVADA | NHP-STP-095-2(062) | CLARK | HS113 |

# HYDRAULIC STRUCTURE LIST

| RIPRAP BEDDING,(CLASS 300) | RIPRAP (CLASS 300) | RIPRAP (CLASS 150) | ABANDON PIPE | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 2 | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 1 | STRUCTURAL STEEL GRATES | TYPE 4 MANHOLE | 12-INCH METAL END SECTION (DOWNDRAIN) | ANCHOR ASSEMBLY (12-INCH) | EMBANKMENT PROTECTOR, TYPE 5-2G | 42-INCH METAL END SECTION (SAFETY TYPE) | 42-INCH CORR. METAL PIPE (16 GAGE) | 12-INCH CORR. METAL PIPE (16 GAGE) | 30-INCH PRECAST END SECTION | 24-INCH PRECAST END SECTION | 18-INCH PRECAST END SECTION | 60-INCH X 38-INCH OVAL REINFORCED CONCRETE PIPE, CLASS HE III | 42-INCH REINFORCED CONCRETE PIPE, CLASS III | 30-INCH REINFORCED CONCRETE PIPE, CLASS III | 24-INCH REINFORCED CONCRETE PIPE, CLASS III | 18-INCH REINFORCED CONCRETE PIPE, CLASS III | STRUCTURAL STEEL | REINFORCING STEEL | CLASS A CONCRETE (MINOR) | CLASS A CONCRETE (MAJOR) | SAND BEDDING MATERIAL | BACKFILL | GRANULAR BACKFILL | STRUCTURE EXCAVATION | GEOTEXTILE (CLASS 1) | DRAINAGE EXCAVATION | REMOVAL OF DROP INLET | REMOVAL OF HEADWALL | REMOVE END SECTION | REMOVAL OF CULVERT PIPE | REMOVAL OF REINFORCED CONCRETE BOX CULVERT | DESCRIPTION | SHEET-NOTE STATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 610 0470 | 610 0190 | 610 0170 | 609 1410 | 609 1170 | 609 1160 | 609 1040 | 609 0400 | 608 0460 | 608 0230 | 608 0170 | 604 2505 | 604 0625 | 604 0205 | 603 1070 | 603 1050 | 603 1030 | 603 0880 | 603 0410 | 603 0290 | 603 0230 | 603 0170 | 506 0110 | 505 0100 | 502 0720 | 502 0710 | 207 0200 | 207 0130 | 207 0110 | 206 0110 | 203 0690 | 203 0160 | 202 1040 | 202 0530 | 202 0450 | 202 0285 | 202 0256 | | |
| CUYD | CUYD | CUYD | LINFT | EACH | EACH | POUND | EACH | EACH | EACH | EACH | EACH | LINFT | LINFT | EACH | EACH | EACH | LINFT | LINFT | LINFT | LINFT | LINFT | POUND | POUND | CUYD | CUYD | CUYD | CUYD | CUYD | CUYD | SQYD | CUYD | EACH | EACH | EACH | LINFT | LINFT | | |
| 6 | 17.04 | | | | 1 | | | | | | | | | | 1 | | | | | 80 | | | | | | 12.22 | | 43.7 | 122.9 | 26 | 22.7 | | | | | | INSTALL 24" RCP END SECTION, 95.5' LT. | D106-42 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 24" X 80' RCP FROM "KCW1" 31+30, 95.5' LT. (UIE= 2773.49') | "KCW1" 31+30 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCW1" 31+70, 28.8' LT. (LIE = 2765.88') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 1 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CLASS 300 RIPRAP APRON AT INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP113) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 1 | | | | | | | | | | | | | | | 110 | | | | | | 16.8 | | 60.1 | 193.5 | | | | | | | | CONSTRUCT TYPE 1 MANHOLE, 28.8' LT. | D106-43 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (COVER ELEV=2771.81', INV ELEV=2765.78', H=6.03') | "KCW1" 31+70 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 24" X 110' RCP FROM "KCW1" 31+70, 28.8' LT. (UIE= 2765.78') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCE1" 27+87, 7.2' RT. (LIE = 2764.31') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 4 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP113) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | 131.67 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 158 | 166.8 | | | | | | CONSTRUCT CLASS 300 RIPRAP LINED BERM 6 | D106-44 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | FROM "KR2A" 3+28, 59.7' RT TO "KCW1" 31+48, 93.3' LT | "KR2A" 3+28 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP119) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 229 | | | | | | | | | | | | | | | | 181 | 113 | 1.70 | | 13.75 | | 49.2 | 142.5 | | | | | | | | CONSTRUCT TYPE 3 DROP INLET, 21.5' RT. | D106-45 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2785.94', INV ELEV= 2781.17', H= 4.77') | "KCE1" 17+76 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 18" X 90' RCP FROM "KCW1" 17+76, 21.5' RT. (UIE= 2781.17') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCE1" 22+78, 15.5' RT. (LIE = 2782.45') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 3 DROP INLET | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP111) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | 1 | | | | | | | | | | | 165 | | | | | | | | | 71.95 | | 314.5 | 386.5 | | | | | | | | CONSTRUCT TYPE 4 MANHOLE, 7.2' RT. | D107-1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (COVER ELEV=2769.26', INV ELEV=2763.64', H=5.62') | "KCE1" 27+87 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 60" X 38" x 165' HERCP FROM "KCE1" 27+87, 7.2' RT. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (UIE= 2763.64') TO "KCE1" 29+53, 6.0' RT. (LIE = 2763.19') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 4 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP102) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | 1 | | | | | | | | | | | 66 | | | | | | | | | 28.78 | | 125.8 | 154.6 | | | | | | | | CONSTRUCT TYPE 4 MANHOLE, 6.0' RT. | D107-2 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (COVER ELEV=2767.66', INV ELEV=2763.19', H=4.47') | "KCE1" 29+53 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 60" X 38" X 66' HERCP FROM "KCE1" 29+53, 6.0' RT. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (UIE= 2763.19') TO "SP3" 413+80, 38.0' LT. (LIE = 2762.99') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 4 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP102) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | 1 | | | | | | | | | | | 291 | | | | | | | | | 126.9 | | 554.7 | 681.6 | | | | | | | | CONSTRUCT TYPE 4 MANHOLE, 38.0' LT. | D107-3 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (COVER ELEV=2768.49', INV ELEV=2762.99', H=5.5') | "SP3" 413+80 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 60" X 38' X 291' HERCP FROM "SP3" 413+80, 38.0' LT. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (UIE= 2762.99') TO "SP3" 410+89, 38.0' LT. (LIE = 2762.12') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 4 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP102) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | HS114 |

# HYDRAULIC STRUCTURE LIST

| RIPRAP BEDDING,(CLASS 300) | RIPRAP (CLASS 300) | RIPRAP (CLASS 150) | ABANDON PIPE | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 2 | 48-INCH PRECAST REINFORCED CONCRETE MANHOLE, TYPE 1 | STRUCTURAL STEEL GRATES | TYPE 4 MANHOLE | 12-INCH METAL END SECTION (DOWNDRAIN) | ANCHOR ASSEMBLY (12-INCH) | EMBANKMENT PROTECTOR, TYPE 5-2G | 42-INCH METAL END SECTION (SAFETY TYPE) | 42-INCH CORR. METAL PIPE (16 GAGE) | 12-INCH CORR. METAL PIPE (16 GAGE) | 30-INCH PRECAST END SECTION | 24-INCH PRECAST END SECTION | 18-INCH PRECAST END SECTION | 60-INCH X 38-INCH OVAL REINFORCED CONCRETE PIPE, CLASS HE III | 42-INCH REINFORCED CONCRETE PIPE, CLASS III | 30-INCH REINFORCED CONCRETE PIPE, CLASS III | 24-INCH REINFORCED CONCRETE PIPE, CLASS III | 18-INCH REINFORCED CONCRETE PIPE, CLASS III | STRUCTURAL STEEL | REINFORCING STEEL | CLASS A CONCRETE (MINOR) | CLASS A CONCRETE (MAJOR) | SAND BEDDING MATERIAL | BACKFILL | GRANULAR BACKFILL | STRUCTURE EXCAVATION | GEOTEXTILE (CLASS 1) | DRAINAGE EXCAVATION | REMOVAL OF DROP INLET | REMOVAL OF HEADWALL | REMOVE END SECTION | REMOVAL OF CULVERT PIPE | REMOVAL OF REINFORCED CONCRETE BOX CULVERT | **DESCRIPTION** | **SHEET-NOTE STATION** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 610 0470 | 610 0190 | 610 0170 | 609 1410 | 609 1170 | 609 1160 | 609 1040 | 609 0400 | 608 0460 | 608 0230 | 608 0170 | 604 2505 | 604 0625 | 604 0205 | 603 1070 | 603 1050 | 603 1030 | 603 0880 | 603 0410 | 603 0290 | 603 0230 | 603 0170 | 506 0110 | 505 0100 | 502 0720 | 502 0710 | 207 0200 | 207 0130 | 207 0110 | 206 0110 | 203 0690 | 203 0160 | 202 1040 | 202 0530 | 202 0450 | 202 0285 | 202 0256 | | |
| CUYD | CUYD | CUYD | LINFT | EACH | EACH | POUND | EACH | EACH | EACH | EACH | EACH | LINFT | LINFT | EACH | EACH | EACH | LINFT | LINFT | LINFT | LINFT | LINFT | POUND | POUND | CUYD | CUYD | CUYD | CUYD | CUYD | CUYD | SQYD | CUYD | EACH | EACH | EACH | LINFT | LINFT | | |
| | | | | | | | 1 | | | | | | | | | | 85 | | | | | | | | | 37.07 | | 162.0 | 199.1 | | | | | | | | | CONSTRUCT TYPE 4 MANHOLE, 38.0' LT. | D107-4 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (COVER ELEV=2767.62', INV ELEV=2762.02', H=5.6') | "SP3" 410+89 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 60" X 38' X 85' HERCP FROM "SP3" 410+89, 38.0' LT. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (UIE= 2762.02') TO "SP3" 410+60, 41.7' RT. (LIE = 2761.77') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONSTRUCT CULVERT. HEADWALL RT. | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP102) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 426 | | | | | | | | | | | | | | 14 | | | 209 | 2.72 | | 2.14 | | 7.6 | 9.1 | | | | | | | | | CONSTRUCT TYPE 11 DROP INLET, 19.50' RT. | D107-5 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2767.41', INV ELEV= 2763.36', L= 15', H= 4.05') | "KCE1" 29+50 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 24" X 14' RCP FROM "KCE1" 29+50, 19.5' RT. (UIE= 2763.36') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCE1" 29+53, 6.0' RT. (LIE = 2763.29') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 4 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP115) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 357 | | | | | | | | | | | | | | | 72 | | 126 | 1.64 | | 8.57 | | 28.4 | 39.8 | | | | | | | | | CONSTRUCT TYPE 11 DROP INLET, 19.5' LT. | D107-6 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (GRATE ELEV= 2766.92', INV ELEV= 2763.65', L= 7', H= 3.27') | "KCW1" 34+00 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | INSTALL 18" X 72' RCP FROM "KCW1" 34+00, 19.5' LT. (UIE= 2763.65') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | TO "KCE1" 29+53, 6.0' RT. (LIE = 2763.29') | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | CONNECT TO TYPE 4 MANHOLE | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | (SEE SHEET DP115) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1039.18 | 3536.3 | 1.67 | 182 | 5 | 8 | 11424 | 4 | 3 | 6 | 3 | 2 | 26 | 50 | 1 | 7 | 3 | 607 | 907 | 1391 | 1399 | 1127 | 1805 | 337631 | 104.14 | 1825.03 | 2039.2 | 5934.5 | 6172.6 | 28751.4 | 4691.9 | 6515.9 | 1 | 2 | 2 | 126 | 268 | TOTAL | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **1040** | **3540** | **10** | **182** | **5** | **8** | **11424** | **4** | **3** | **6** | **3** | **2** | **26** | **50** | **1** | **7** | **3** | **607** | **908** | **1391** | **1400** | **1127** | **1810** | **337640** | **110** | **1830** | **2040** | **5940** | **6180** | **28760** | **4700** | **6520** | **1** | **2** | **2** | **126** | **268** | **USE TOTAL** | |

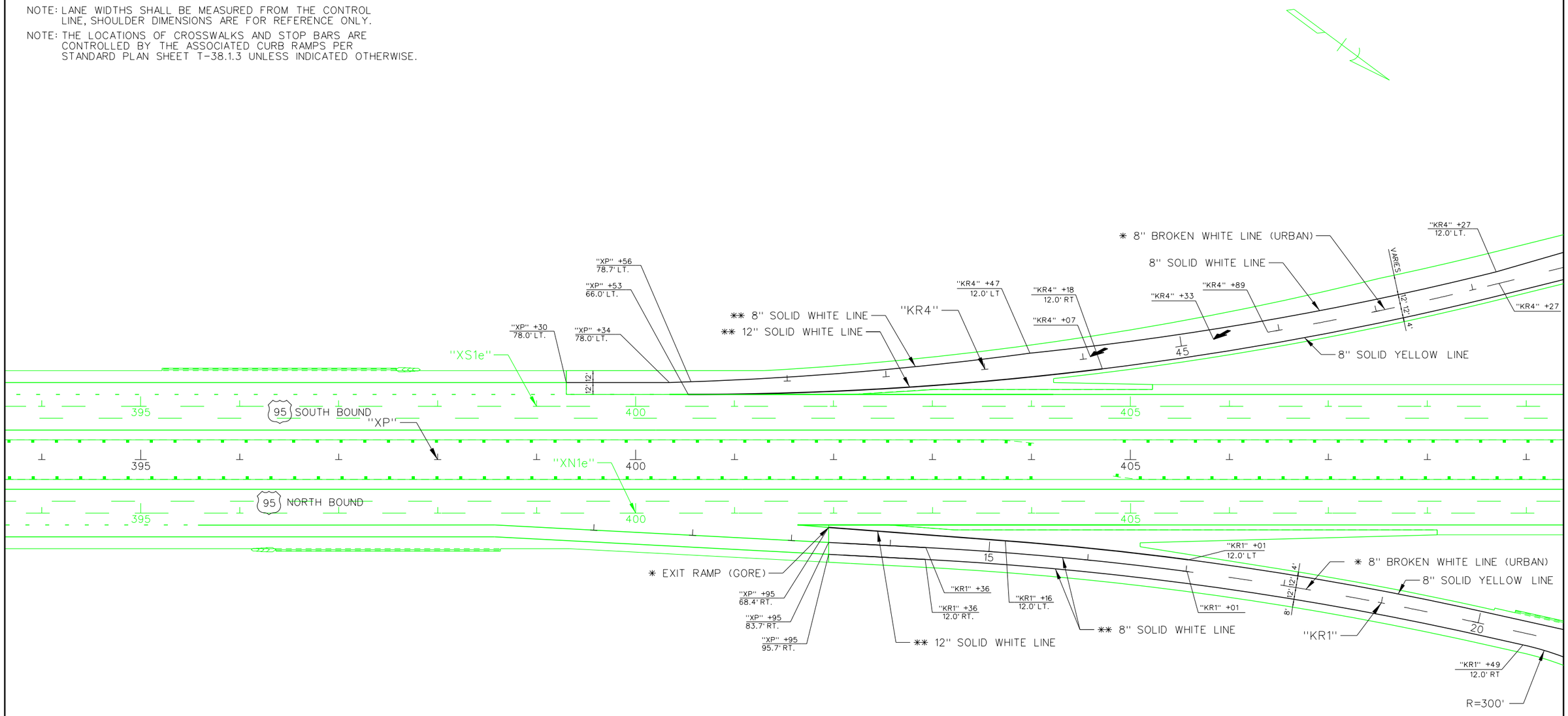
NOTE: ✳ RAISED PAVEMENT MARKERS (RPM's) SEE NDOT STANDARD PLAN T-37.1.1

NOTE: ✳✳ STRIPING INCLUDES RAISED PAVEMENT MARKERS (RPM's) SEE NDOT STANDARD PLAN T-37.1.1

NOTE: LANE WIDTHS SHALL BE MEASURED FROM THE CONTROL LINE, SHOULDER DIMENSIONS ARE FOR REFERENCE ONLY.

NOTE: THE LOCATIONS OF CROSSWALKS AND STOP BARS ARE CONTROLLED BY THE ASSOCIATED CURB RAMPS PER STANDARD PLAN SHEET T-38.1.3 UNLESS INDICATED OTHERWISE.

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | ST101 |




PROFESSIONAL ENGINEER — STATE OF NEVADA
JOHN R. TOBIN
Exp. 06/30/2018
CIVIL
No. 8150
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# PERMANENT STRIPING DETAILS


GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | ST102 |

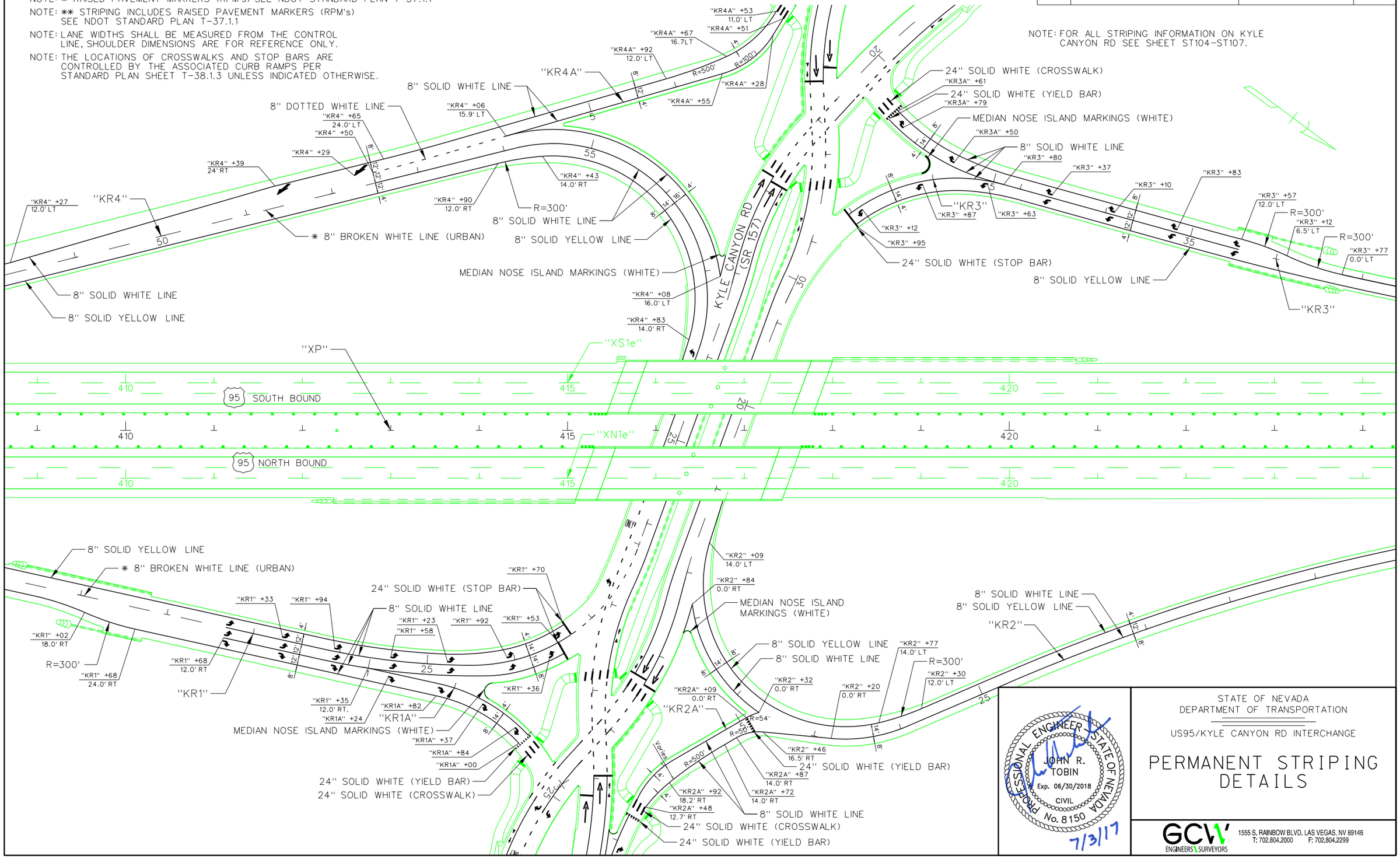
NOTE: * RAISED PAVEMENT MARKERS (RPM's) SEE NDOT STANDARD PLAN T-37.1.1

NOTE: ** STRIPING INCLUDES RAISED PAVEMENT MARKERS (RPM's) SEE NDOT STANDARD PLAN T-37.1.1

NOTE: LANE WIDTHS SHALL BE MEASURED FROM THE CONTROL LINE, SHOULDER DIMENSIONS ARE FOR REFERENCE ONLY.

NOTE: THE LOCATIONS OF CROSSWALKS AND STOP BARS ARE CONTROLLED BY THE ASSOCIATED CURB RAMPS PER STANDARD PLAN SHEET T-38.1.3 UNLESS INDICATED OTHERWISE.

NOTE: FOR ALL STRIPING INFORMATION ON KYLE CANYON RD SEE SHEET ST104-ST107.




PROFESSIONAL ENGINEER — STATE OF NEVADA
JOHN R. TOBIN
Exp. 06/30/2018
CIVIL
No. 8150
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# PERMANENT STRIPING DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

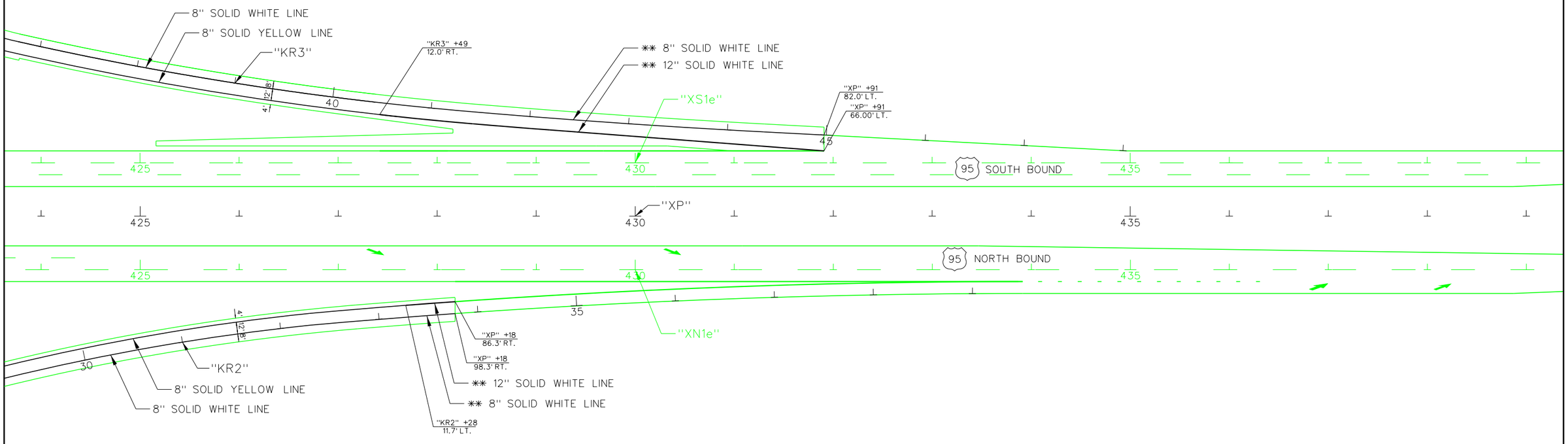
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | ST103 |

NOTE: * RAISED PAVEMENT MARKERS (RPM's) SEE NDOT STANDARD PLAN T-37.1.1

NOTE: ** STRIPING INCLUDES RAISED PAVEMENT MARKERS (RPM's) SEE NDOT STANDARD PLAN T-37.1.1

NOTE: LANE WIDTHS SHALL BE MEASURED FROM THE CONTROL LINE, SHOULDER DIMENSIONS ARE FOR REFERENCE ONLY.

NOTE: THE LOCATIONS OF CROSSWALKS AND STOP BARS ARE CONTROLLED BY THE ASSOCIATED CURB RAMPS PER STANDARD PLAN SHEET T-38.1.3 UNLESS INDICATED OTHERWISE.




PROFESSIONAL ENGINEER STATE OF NEVADA
JOHN R. TOBIN
Exp. 06/30/2018
CIVIL
No. 8150
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# PERMANENT STRIPING DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

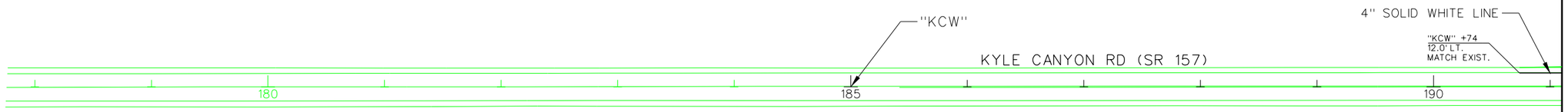
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | ST104 |

NOTE: * RAISED PAVEMENT MARKERS (RPM's) SEE NDOT STANDARD PLAN T-37.1.1

NOTE: ** STRIPING INCLUDES RAISED PAVEMENT MARKERS (RPM's) SEE NDOT STANDARD PLAN T-37.1.1

NOTE: LANE WIDTHS SHALL BE MEASURED FROM THE CONTROL LINE, SHOULDER DIMENSIONS ARE FOR REFERENCE ONLY.

NOTE: THE LOCATIONS OF CROSSWALKS AND STOP BARS ARE CONTROLLED BY THE ASSOCIATED CURB RAMPS PER STANDARD PLAN SHEET T-38.1.3 UNLESS INDICATED OTHERWISE.




PROFESSIONAL ENGINEER STATE OF NEVADA
JOHN R. TOBIN
Exp. 06/30/2018
CIVIL
No. 8150
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# PERMANENT STRIPING DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | ST105 |

NOTE: * RAISED PAVEMENT MARKERS (RPM's) SEE NDOT STANDARD PLAN T-37.1.1

NOTE: ** STRIPING INCLUDES RAISED PAVEMENT MARKERS (RPM's) SEE NDOT STANDARD PLAN T-37.1.1

NOTE: LANE WIDTHS SHALL BE MEASURED FROM THE CONTROL LINE, SHOULDER DIMENSIONS ARE FOR REFERENCE ONLY.

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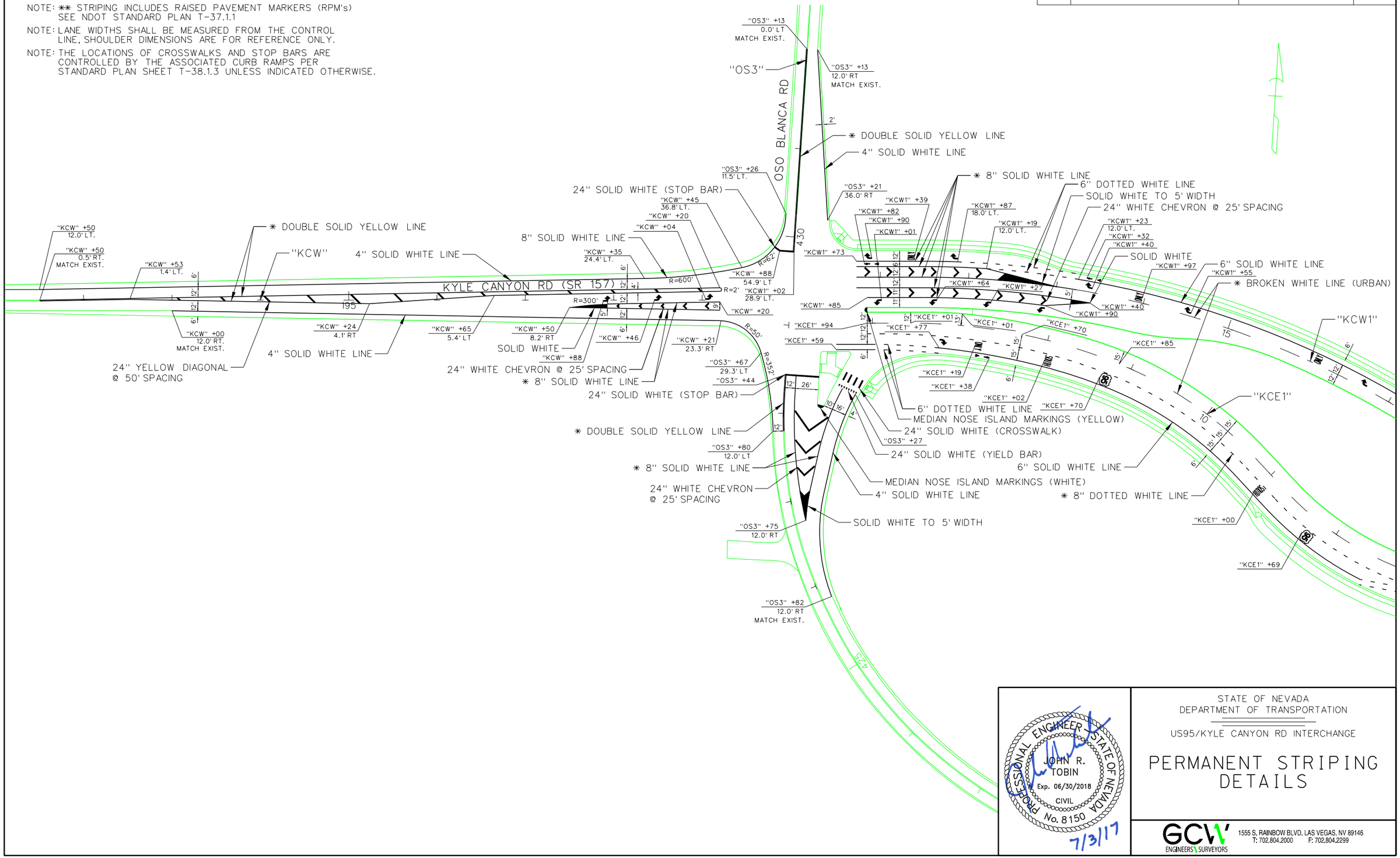


PROFESSIONAL ENGINEER STATE OF NEVADA
JOHN R. TOBIN
Exp. 06/30/2018
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No. 8150
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# PERMANENT STRIPING DETAILS


GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | ST106 |

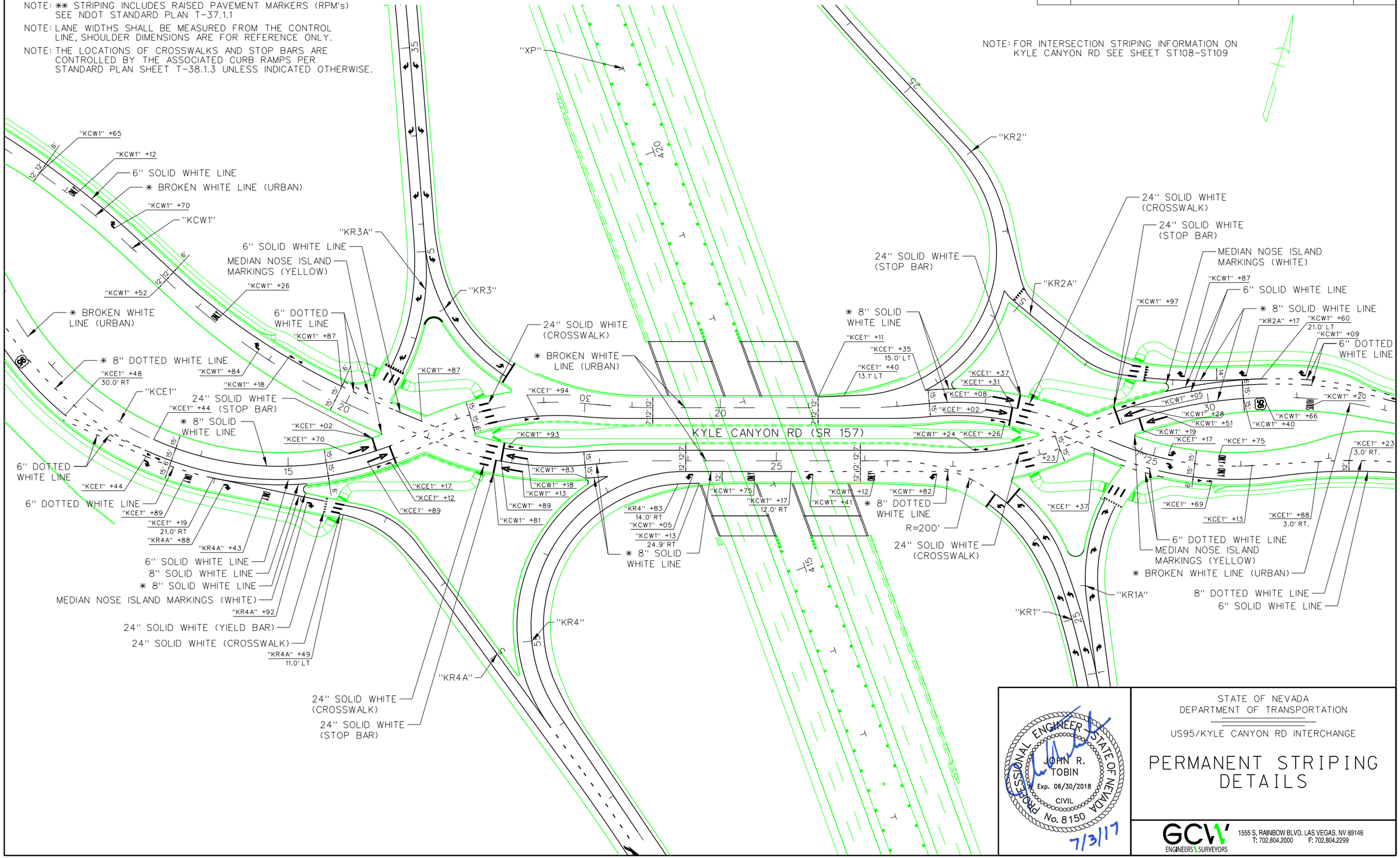
NOTE: * RAISED PAVEMENT MARKERS (RPM's) SEE NDOT STANDARD PLAN T-37.1.1

NOTE: ** STRIPING INCLUDES RAISED PAVEMENT MARKERS (RPM's) SEE NDOT STANDARD PLAN T-37.1.1

NOTE: LANE WIDTHS SHALL BE MEASURED FROM THE CONTROL LINE, SHOULDER DIMENSIONS ARE FOR REFERENCE ONLY.

NOTE: THE LOCATIONS OF CROSSWALKS AND STOP BARS ARE CONTROLLED BY THE ASSOCIATED CURB RAMPS PER STANDARD PLAN SHEET T-38.1.3 UNLESS INDICATED OTHERWISE.

NOTE: FOR INTERSECTION STRIPING INFORMATION ON KYLE CANYON RD SEE SHEET ST108-ST109




PROFESSIONAL ENGINEER STATE OF NEVADA
JOHN R. TOBIN
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No. 8150
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# PERMANENT STRIPING DETAILS


GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

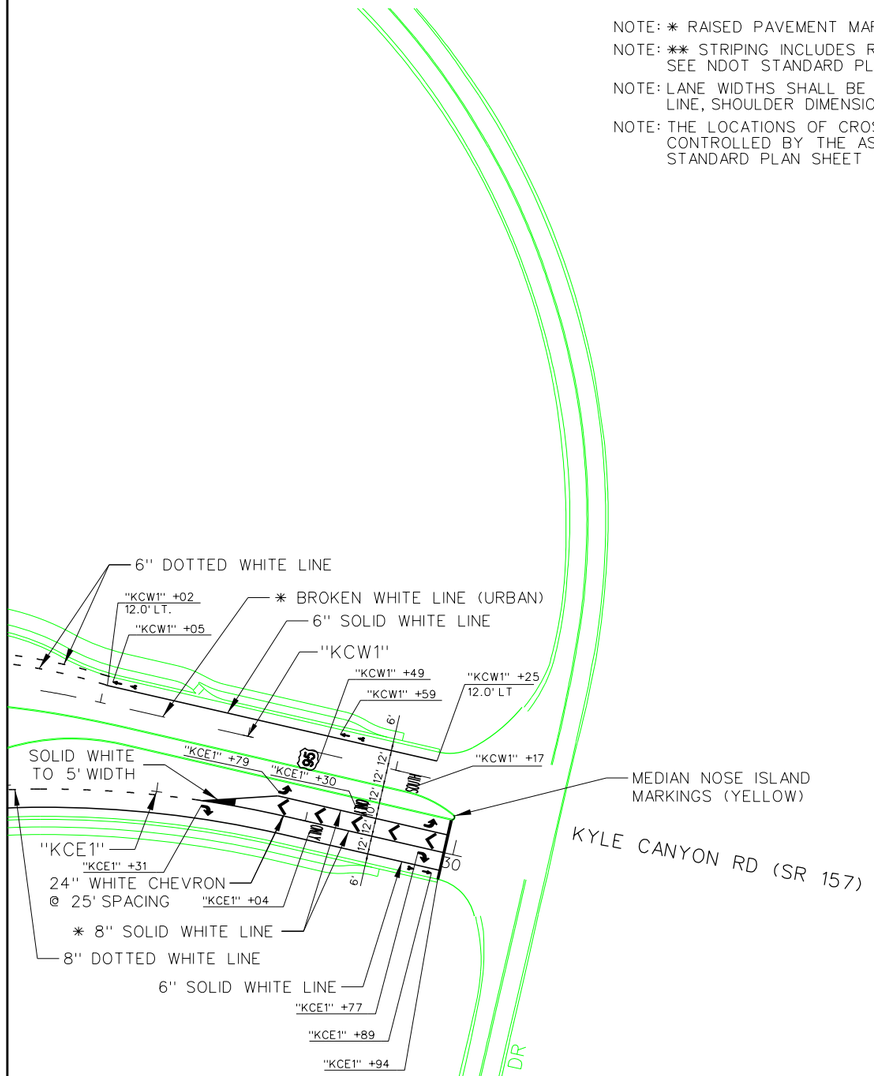
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | ST107 |

NOTE: * RAISED PAVEMENT MARKERS (RPM's) SEE NDOT STANDARD PLAN T-37.1.1

NOTE: ** STRIPING INCLUDES RAISED PAVEMENT MARKERS (RPM's) SEE NDOT STANDARD PLAN T-37.1.1

NOTE: LANE WIDTHS SHALL BE MEASURED FROM THE CONTROL LINE, SHOULDER DIMENSIONS ARE FOR REFERENCE ONLY.

NOTE: THE LOCATIONS OF CROSSWALKS AND STOP BARS ARE CONTROLLED BY THE ASSOCIATED CURB RAMPS PER STANDARD PLAN SHEET T-38.1.3 UNLESS INDICATED OTHERWISE.



PROFESSIONAL ENGINEER STATE OF NEVADA
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No. 8150
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# PERMANENT STRIPING DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | ST108 |

95 SOUTH BOUND

KYLE CANYON RD (SR 157)

ONLY

"KCW1" +87.34
15.00' LT.
"KCW1" +87.18
21.00' LT.

"KCW1" +86.98
15.00' LT.

"KCE1" +77.78
0.00
"KCW1" +14.27
15.00' LT.

R=785'
R=779'

"KCW1" +48.78
21.00' LT.
"KCW1" +54.88
15.00' LT.

6" DOTTED WHITE LINE

"KCW1" +42.46
15.00' LT.
"KCW1" +42.46
0.00

6" SOLID WHITE LINE

"KCW1" +68.05
0.00

* 8" SOLID WHITE LINE

"KCE1" +70

"KCE1" +89

"KCE1" +19.62
21.00' RT.

15'

20

"KCE1"

"KCE1" +29.50
0.00

R=350'

R=335'

"KCE1" +32.93
15.00' RT.

"KCE1" +46.75
0.00

"KCE1" +76.34
0.00

"KCE1" +46.39
15.00' RT.

R=475'

"KCE1" +88.34
13.22' RT.

"KCE1" +23.63
0.00

"KCW1" +70.07
15.00' LT.

6" SOLID WHITE LINE

R=335'

R=350'

R=335'

"KCW1" +82.88
15.00' LT.

R=475'

"KCW1" +24.83
13.22' LT.

"KCW1" +60.12
0.00

"KCW1" +83.24
0.00

"KCW1" +12.82
0.00

"KCW1"

"KCW1" +18

* 8" SOLID WHITE LINE

"KCW1" +13

"KCW1" +66.63
0.00

"KCE1" +77.78
15.00' RT.
"KCW1" +14.27
0.00

* DOTTED WHITE LINE (CAT TRACKS)

6" DOTTED WHITE LINE

NOTE: * RAISED PAVEMENT MARKERS (RPM's) SEE NDOT STANDARD PLAN T-37.1.1

NOTE: ** STRIPING INCLUDES RAISED PAVEMENT MARKERS (RPM's) SEE NDOT STANDARD PLAN T-37.1.1

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PROFESSIONAL ENGINEER STATE OF NEVADA
JOHN R. TOBIN
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STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# PERMANENT STRIPING DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | ST109 |

NOTE: * RAISED PAVEMENT MARKERS (RPM's) SEE NDOT STANDARD PLAN T-37.1.1

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FILL

FILL

* 8" SOLID WHITE LINE

"KCE1" +58.45
0.00

"KCE1" +05.74
0.00

"KCE1" +35.32
0.00

"KCE1" +93.73
13.22' RT.

"KCE1" +35.69
15.00' RT.

R=475'

R=335'

"KCE1" +52.57
0.00

"KCE1" +08

"KCE1" +02

"KCE1" +49.15
15.00' RT.

* DOTTED WHITE LINE (CAT TRACKS)

"KCE1" +04.30
0.00

"KCW1" +40.79
15.00' LT.

R=350'

R=335'

"KCE1" +31.21

KYLE CANYON RD (SR 157)

"KCW1" +30.22
13.22' LT.

"KCW1" +72.17
15.00' LT.

6" SOLID WHITE LINE

"KCW1" +70.60
0.00' LT.
15.00' LT.

"KCW1" +55.09
21.00' LT.

"KCW1" +28

"KCW1" +51

30

95

SOUTH

R=540'

R=525'

* 8" SOLID WHITE LINE

"KCE1" +54.01
0.00

6" SOLID WHITE LINE

* 8" SOLID WHITE LINE

"KCW1"

R=475'

R=335'

R=350'

"KCW1" +84.98
15.00' LT.

R=335'

R=350'

R=365' 25
R=371'

"KCE1" +35.31
15.00' RT.

6" DOTTED WHITE LINE

"KCE1" +68.60
15.00' RT.

"KCE1" +68.60
21.00' RT.

ONLY

ONLY

"KCE1"

"KCW1" +31.02
1.24' LT.

* 8" DOTTED WHITE LINE

"KCW1" +88.45
6.11' RT.

* DOTTED WHITE LINE (CAT TRACKS)

R=200'

"KCE1" +04.30
15.00' RT.

"KCW1" +16.80
0.29' RT.

"KCW1" +88.77
1.59' RT.

"KCE1" +16.53
15.00' RT.

"KCE1" +16.53
21.00' RT.

6" DOTTED WHITE LINE

95

NORTH BOUND

415

FILL

FILL

PROFESSIONAL ENGINEER — STATE OF NEVADA
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US95/KYLE CANYON RD INTERCHANGE

# PERMANENT STRIPING DETAILS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | T201 |

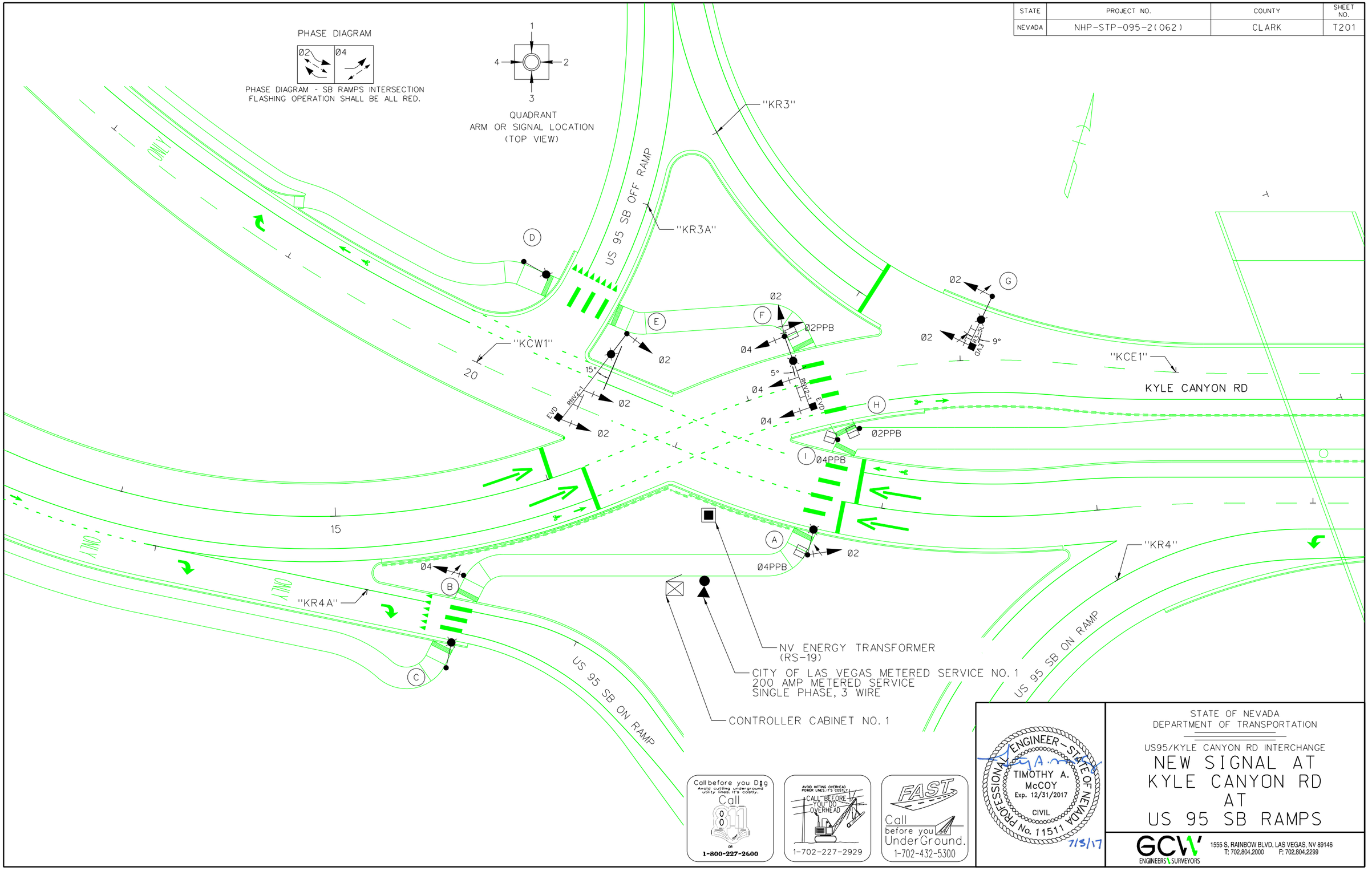
PHASE DIAGRAM




PHASE DIAGRAM - SB RAMPS INTERSECTION
FLASHING OPERATION SHALL BE ALL RED.




QUADRANT
ARM OR SIGNAL LOCATION
(TOP VIEW)




Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-227-2600

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY!
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

FAST
Call before you UnderGround.
1-702-432-5300

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# NEW SIGNAL AT KYLE CANYON RD AT US 95 SB RAMPS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | T202 |

## - LEGEND -

X/# - CONDUIT RUN DESIGNATION
A - SOUTHBOUND RAMPS
B - NORTHBOUND RAMPS
C - SOUTHBOUND UNDERPASS
D - NORTHBOUND UNDERPASS
E - OSO BLANCA RD
# - CONDUIT RUN

PHASE DIAGRAM




PHASE DIAGRAM - SB RAMPS INTERSECTION
FLASHING OPERATION SHALL BE ALL RED.

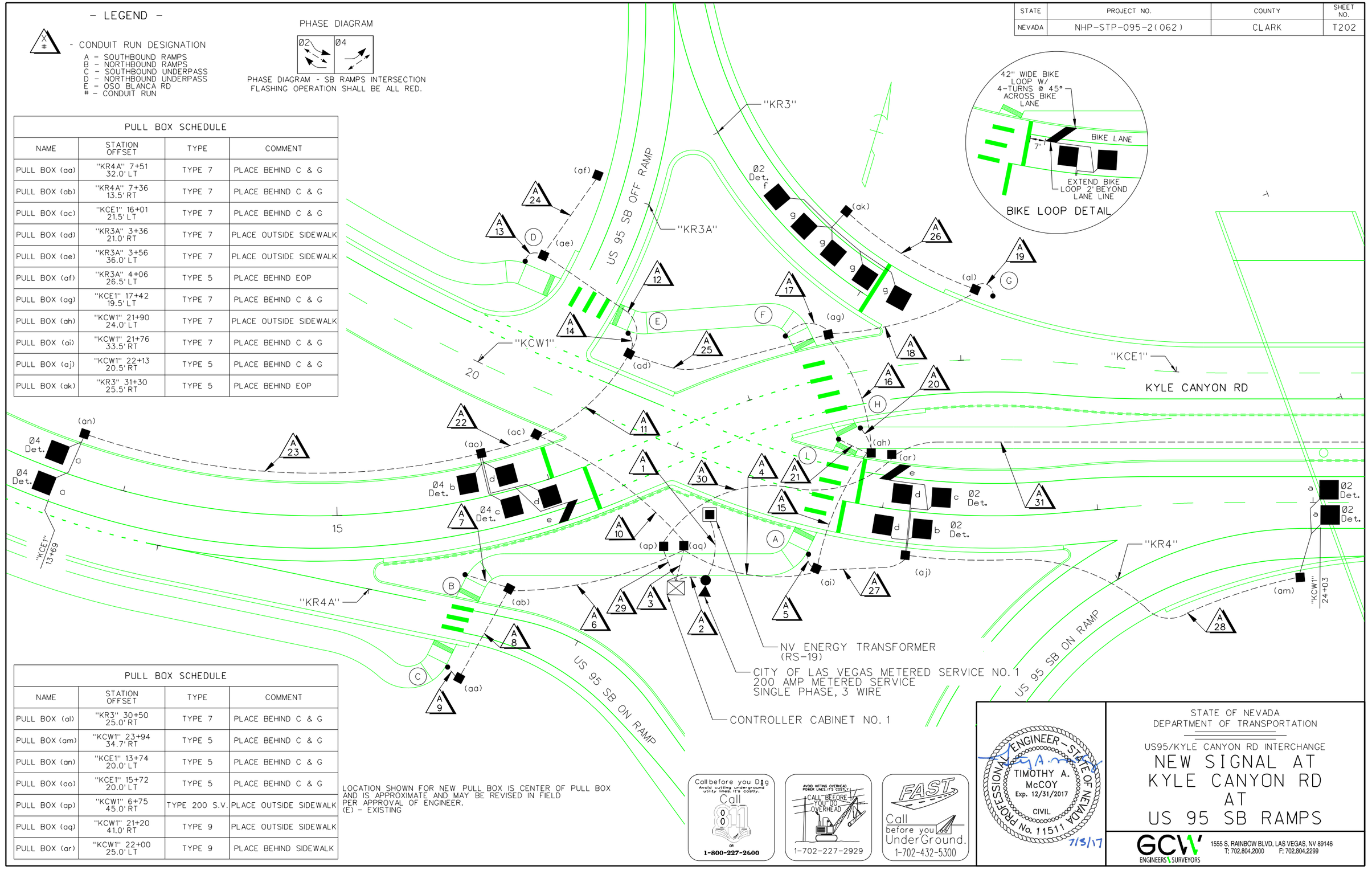
| PULL BOX SCHEDULE | | | |
|---|---|---|---|
| NAME | STATION OFFSET | TYPE | COMMENT |
| PULL BOX (aa) | "KR4A" 7+51 32.0' LT | TYPE 7 | PLACE BEHIND C & G |
| PULL BOX (ab) | "KR4A" 7+36 13.5' RT | TYPE 7 | PLACE BEHIND C & G |
| PULL BOX (ac) | "KCE1" 16+01 21.5' LT | TYPE 7 | PLACE BEHIND C & G |
| PULL BOX (ad) | "KR3A" 3+36 21.0' RT | TYPE 7 | PLACE OUTSIDE SIDEWALK |
| PULL BOX (ae) | "KR3A" 3+56 36.0' LT | TYPE 7 | PLACE OUTSIDE SIDEWALK |
| PULL BOX (af) | "KR3A" 4+06 26.5' LT | TYPE 5 | PLACE BEHIND EOP |
| PULL BOX (ag) | "KCE1" 17+42 19.5' LT | TYPE 7 | PLACE BEHIND C & G |
| PULL BOX (ah) | "KCW1" 21+90 24.0' LT | TYPE 7 | PLACE OUTSIDE SIDEWALK |
| PULL BOX (ai) | "KCW1" 21+76 33.5' RT | TYPE 7 | PLACE BEHIND C & G |
| PULL BOX (aj) | "KCW1" 22+13 20.5' RT | TYPE 5 | PLACE BEHIND C & G |
| PULL BOX (ak) | "KR3" 31+30 25.5' RT | TYPE 5 | PLACE BEHIND EOP |

| PULL BOX SCHEDULE | | | |
|---|---|---|---|
| NAME | STATION OFFSET | TYPE | COMMENT |
| PULL BOX (al) | "KR3" 30+50 25.0' RT | TYPE 7 | PLACE BEHIND C & G |
| PULL BOX (am) | "KCW1" 23+94 34.7' RT | TYPE 5 | PLACE BEHIND C & G |
| PULL BOX (an) | "KCE1" 13+74 20.0' LT | TYPE 5 | PLACE BEHIND C & G |
| PULL BOX (ao) | "KCE1" 15+72 20.0' LT | TYPE 5 | PLACE BEHIND C & G |
| PULL BOX (ap) | "KCW1" 6+75 45.0' RT | TYPE 200 S.V. | PLACE OUTSIDE SIDEWALK |
| PULL BOX (aq) | "KCW1" 21+20 41.0' RT | TYPE 9 | PLACE OUTSIDE SIDEWALK |
| PULL BOX (ar) | "KCW1" 22+00 25.0' LT | TYPE 9 | PLACE BEHIND SIDEWALK |

LOCATION SHOWN FOR NEW PULL BOX IS CENTER OF PULL BOX AND IS APPROXIMATE AND MAY BE REVISED IN FIELD PER APPROVAL OF ENGINEER.
(E) - EXISTING




BIKE LOOP DETAIL

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AVOID HITTING OVERHEAD POWER LINES, IT'S COSTLY!
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FAST
Call before you UnderGround.
1-702-432-5300

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# NEW SIGNAL AT KYLE CANYON RD AT US 95 SB RAMPS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | T203 |

## SIGNAL CONDUIT - CABLE SCHEDULE

| RUN NO. | FROM | TO | CONDUIT SIZE | CONDUIT LENGTH | SIGNAL CABLE | LOOP DETECTOR LEAD-IN CABLE | LIGHTING CIRCUIT | GROUND WIRE | E.V.D. | SERVICE | COMMENT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A 1 | NVE TRANSFORMER | SERVICE PEDESTAL | 3" | 30' | | | | | | #2/0 TRIPLEX | WIRE BY NVE (SEE NVE PLANS) |
| A 2 | SERVICE PEDESTAL | CONTROLLER CABINET | 3" | 15' | | | | (1) #8 | | (4) #4 | |
| A 3 | CONTROLLER CABINET | PULL BOX (aq) | 5(3") | 20' | (25) (25) (25) (25) (25) (25) (25) (25) | (6) (6) (6) (6) (6) | (12) #10 | (9) #8 | (3) (3) (3) | | |
| A 4 | PULL BOX (aq) | PULL BOX (ai) | (2)3" | 65' | (25) (25) (25) (25) (25) | (6) (6) (6) | (6) #10 | (5) #8 | (3) (3) | | |
| A 5 | PULL BOX (ai) | POLE A | 3" | 10' | (25) | | (2) #10 | (1) #8 | | | |
| A 6 | PULL BOX (aq) | PULL BOX (ab) | (2)3" | 85' | (25) | | (2) #10 | (2) #8 | | | |
| A 7 | PULL BOX (ab) | POLE B | 2" | 25' | (25) | | | (1) #8 | | | |
| A 8 | PULL BOX (ab) | PULL BOX (aa) | (2)3" | 50' | | | (2) #10 | (1) #8 | | | |
| A 9 | PULL BOX (aa) | POLE C | 3" | 10' | | | (2) #10 | (1) #8 | | | |
| A 10 | PULL BOX (aq) | PULL BOX (ac) | (2)3" | 90' | (25) | (6) (6) | (4) #10 | (2) #8 | (3) | | |
| A 11 | PULL BOX (ac) | PULL BOX (ad) | 2(3") | 60' | (25) | | (4) #10 | (2) #8 | (3) | | |
| A 12 | PULL BOX (ad) | PULL BOX (ae) | (2)3" | 60' | | | (2) #10 | (1) #8 | | | |
| A 13 | PULL BOX (ae) | POLE D | 3" | 10 | | | (2) #10 | (1) #8 | | | |
| A 14 | PULL BOX (ad) | POLE E | 3" | 10' | (25) | | (2) #10 | (1) #8 | (3) | | |
| A 15 | PULL BOX (ai) | PULL BOX (ah) | (2)3" | 60' | (25) (25) (25) (25) | (6) | (4) #10 | (4) #8 | (3) (3) | | |
| A 16 | PULL BOX (ah) | PULL BOX (ag) | (2)3" | 60' | (25) (25) | (6) | (4) #10 | (2) #8 | (3) (3) | | |
| A 17 | PULL BOX (ag) | POLE F | 3" | 20' | (25) | | (2) #10 | (1) #8 | (3) | | |

NOTE: PULL TAPE SHALL BE INSTALLED IN CONDUIT HAVING ONLY (1) #8 WIRE FOR FUTURE USE

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# KYLE CANYON RD AT US 95 SB RAMPS SIGNAL SCHEDULES

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | T204 |

## SIGNAL CONDUIT - CABLE SCHEDULE

| RUN NO. | FROM | TO | CONDUIT SIZE | CONDUIT LENGTH | SIGNAL CABLE | LOOP DETECTOR LEAD IN CABLE | LIGHTING CIRCUIT | GROUND WIRE | E.V.D. | SERVICE | COMMENT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A 18 | PULL BOX (ag) | PULL BOX (al) | (2)3" | 75' | (25) | (6) | (2) #10 | (1) #8 | (3) | | |
| A 19 | PULL BOX (al) | POLE G | 3" | 10' | (25) | | (2) #10 | (1) #8 | (3) | | |
| A 20 | PULL BOX (ah) | POLE H | 2" | 15' | (25) | | | (1) #8 | | | |
| A 21 | PULL BOX (ah) | POLE I | 2" | 20' | (25) | | | (1) #8 | | | |
| A 22 | PULL BOX (ac) | PULL BOX (ao) | 2" | 30' | | (6) (6) | | | | | |
| A 23 | PULL BOX (an) | PULL BOX (ao) | 2" | 190' | | (6) | | | | | |
| A 24 | PULL BOX (ae) | PULL BOX (af) | 2" | 45' | | | | (1) #8 | | | |
| A 25 | PULL BOX (ad) | PULL BOX (ag) | (2)3" | 100' | | | | (1) #8 | | | |
| A 26 | PULL BOX (ak) | PULL BOX (al) | 2" | 70' | | (6) | | | | | |
| A 27 | PULL BOX (ai) | PULL BOX (aj) | 2" | 45' | | (6) (6) | | | | | |
| A 28 | PULL BOX (aj) | PULL BOX (am) | 2" | 200' | | (6) | | | | | |
| A 29 | CONTROLLER CABINET | PULL BOX (ap) | 4" | 20' | | | | (1) #8 | | | |
| A 30 | PULL BOX (ap) | PULL BOX (ar) | 4" | 120' | | | | (1) #8 | | | |
| A 31 | PULL BOX (ar) | PULL BOX (bq) | 4" | 520' | | | | (1) #8 | | | |

NOTE: PULL TAPE SHALL BE INSTALLED IN CONDUIT HAVING ONLY (1) #8 WIRE FOR FUTURE USE

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
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7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# KYLE CANYON RD AT US 95 SB RAMPS SIGNAL SCHEDULES

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | T205 |

## SIGNAL POLE SCHEDULE

| POLE | STATION | TYPE | SIGNAL ARM | | LUM. ARM | | WATT TYPE | SIGNAL SIGN MAST ARM | SIGNALS VEHICLE | | | PED. SIGNALS | | PED. BUTTON | | VIDEO CABLE | E.V.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | QUAD. | LENGTH | QUAD. | LENGTH | | | TYPE | MOUNT | QUAD. | MOUNT | QUAD. | QUAD. | ARROW | | |
| Ⓐ | "KCW1" 21+71.45<br>27.67' RT | 35A | ----- | ----- | 1.5 | 15' | 72<br>LED | ----- | 1W3C | B-1 | 3.5 | WS-1 | 3.5 | 4.5 | LT. | ----- | ----- |
| Ⓑ | "KCE1" 15+53.66<br>33.50' RT | 1A | ----- | ----- | ----- | ----- | -----<br>----- | ----- | 1W3C | T-1 | P.T. | ----- | ----- | ----- | ----- | ----- | ----- |
| Ⓒ | "KR4A" 7+57.00<br>28.04' LT | 35A | ----- | ----- | 1.5 | 15' | 72<br>LED | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| Ⓓ | "KR3A" 3+48.55<br>42.31' LT | 35A | ----- | ----- | 2.5 | 15' | 72<br>LED | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| Ⓔ | "KCW1" 20+59.23<br>39.95' LT | 35A | 3.5 | 50' | 3.5 | 15' | 72<br>LED | RNV2-1 | (2)1W3C<br>1W3C | M-2<br>B-1 | M.A.<br>1.5 | ----- | ----- | ----- | ----- | ----- | ③ |
| Ⓕ | "KCE1" 17+23.72<br>23.62' LT | 35A | 2.5 | 35' | 2.5 | 15' | 72<br>LED | RNV2-1 | (2)1W3C<br>2W3C | M-2<br>B-2a | M.A.<br>4.5 | WS-1 | 4.5 | 1.5 | LT. | ----- | ③ |
| Ⓖ | "KR3" 30+39.58<br>24.46' LT | 35A | 3.5 | 25' | 3.5 | 15' | 72<br>LED | R3-5L | 1W3C<br>1W3C | M-2<br>B-1 | M.A.<br>1.5 | ----- | ----- | ----- | ----- | ----- | ③ |
| Ⓗ | "KCE1" 17+48.09<br>25.76' RT | 1B | ----- | ----- | ----- | ----- | -----<br>----- | ----- | ----- | ----- | ----- | WT-1 | P.T. | 3.5 | LT. | ----- | ----- |
| Ⓘ | "KCW1" 21+73.04<br>27.41' LT | 1B | ----- | ----- | ----- | ----- | -----<br>----- | ----- | ----- | ----- | ----- | WT-1 | P.T. | 2.5 | LT. | ----- | ----- |

P.T. - POST TOP
M.A. - MAST ARM
(E) - EXISTING

## SIGNAL HEAD SCHEDULE

| POLE | PHASE | ARROW ORIENT. | DISPLAY |
|---|---|---|---|
| A | Ø2 | UP/RT(45°) | RED/YELLOW/GREEN |
| B | Ø4 | UP/LT(45°) | RED/YELLOW/GREEN |
| E | Ø2 | UP | RED/YELLOW/GREEN |
| F | Ø4 | UP | RED/YELLOW/GREEN |
| | Ø2 | LT | RED/YELLOW/GREEN |
| G | Ø2 | UP/LT(45°) | RED/YELLOW/GREEN |

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# KYLE CANYON RD AT US 95 SB RAMPS SIGNAL SCHEDULES

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | T206 |

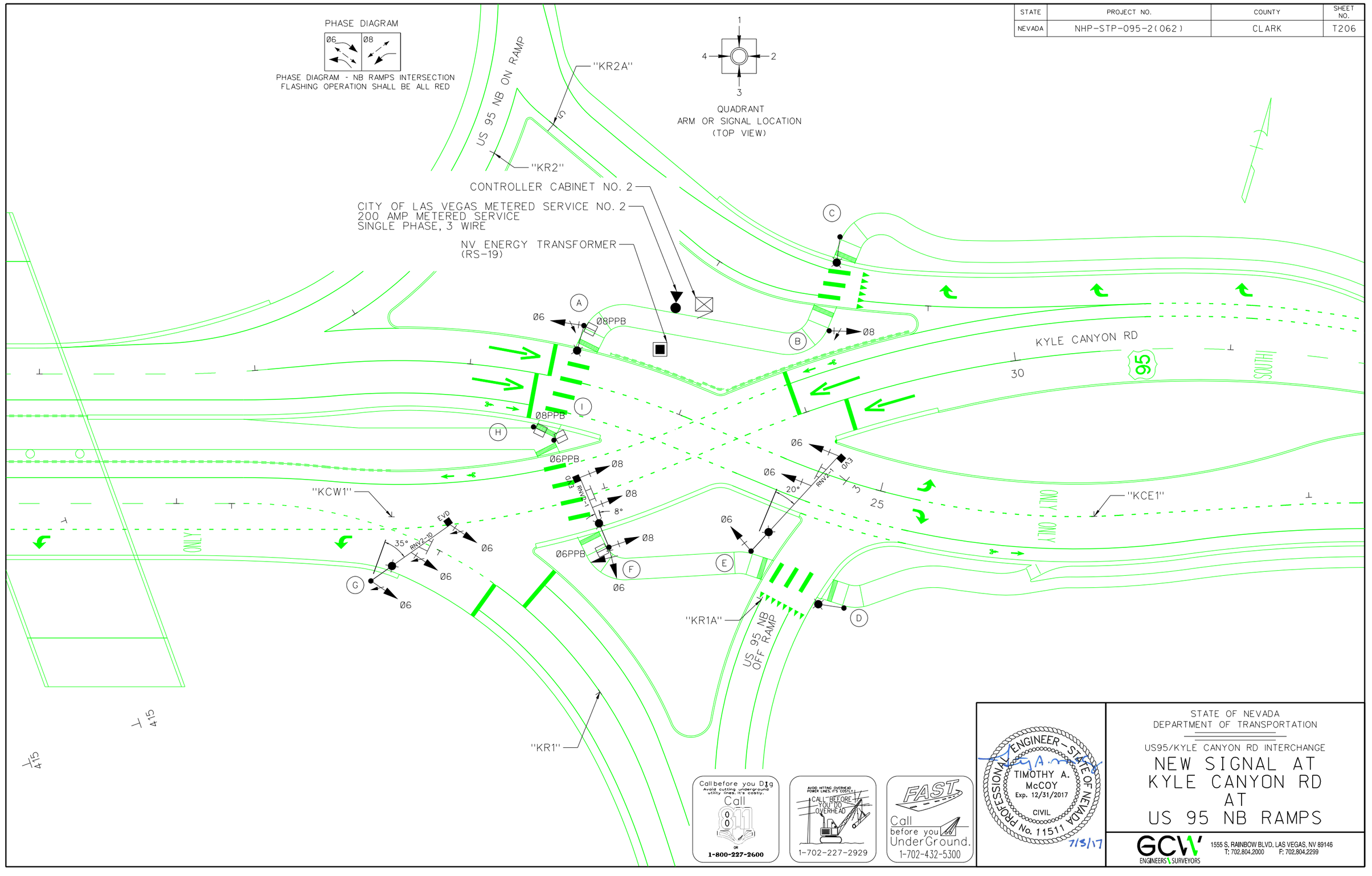
PHASE DIAGRAM




PHASE DIAGRAM - NB RAMPS INTERSECTION
FLASHING OPERATION SHALL BE ALL RED




QUADRANT
ARM OR SIGNAL LOCATION
(TOP VIEW)




Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811 OR 1-800-227-2600

AVOID HITING OVERHEAD POWER LINES. IT'S COSTLY!
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

FAST
Call before you UnderGround.
1-702-432-5300

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# NEW SIGNAL AT KYLE CANYON RD AT US 95 NB RAMPS

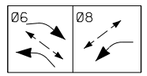
GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | T207 |

## - LEGEND -

X/# - CONDUIT RUN DESIGNATION
- A - SOUTHBOUND RAMPS
- B - NORTHBOUND RAMPS
- C - SOUTHBOUND UNDERPASS
- D - NORTHBOUND UNDERPASS
- E - OSO BLANCA RD
- # - CONDUIT RUN

PHASE DIAGRAM

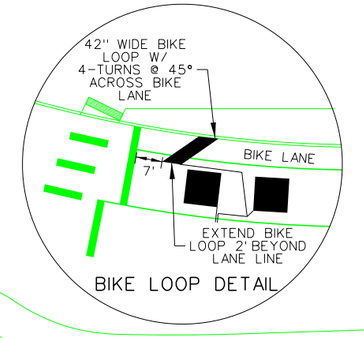



PHASE DIAGRAM - NB RAMPS INTERSECTION
FLASHING OPERATION SHALL BE ALL RED

| PULL BOX SCHEDULE | | | |
|---|---|---|---|
| NAME | STATION OFFSET | TYPE | COMMENT |
| PULL BOX (ba) | "KR1" 26+33 22.9' LT | TYPE 5 | PLACE BEHIND EOP |
| PULL BOX (bb) | "KR1" 27+14 24.0' LT | TYPE 7 | PLACE BEHIND C & G |
| PULL BOX (bc) | "KCW1" 27+62 24.5' LT | TYPE 7 | PLACE OUTSIDE SIDEWALK |
| PULL BOX (bd) | "KCE1" 21+06 19.5' LT | TYPE 5 | PLACE BEHIND C & G |
| PULL BOX (be) | "KCE1" 23+02 19.0' LT | TYPE 5 | PLACE BEHIND C & G |
| PULL BOX (bf) | "KCE1" 23+39 19.0' LT | TYPE 7 | PLACE BEHIND C & G |

| PULL BOX SCHEDULE | | | |
|---|---|---|---|
| NAME | STATION OFFSET | TYPE | COMMENT |
| PULL BOX (bg) | "KR2A" 3+64 9.0' LT | TYPE 7 | PLACE BEHIND C & G |
| PULL BOX (bh) | "KR2A" 3+51 31.0' RT | TYPE 7 | PLACE BEHIND C & G |
| PULL BOX (bi) | "KCW1" 29+32 21.0' RT | TYPE 5 | PLACE BEHIND C & G |
| PULL BOX (bj) | "KCW1" 31+45 17.5' RT | TYPE 5 | PLACE BEHIND CURB |
| PULL BOX (bk) | "KR1A" 3+23 20.5' LT | TYPE 7 | PLACE BEHIND CURB |
| PULL BOX (bl) | "KR1A" 3+08 28.0' RT | TYPE 7 | PLACE BEHIND EOP |
| PULL BOX (bm) | "KR1A" 2+65 27.0' RT | TYPE 5 | PLACE BEHIND EOP |
| PULL BOX (bn) | "KCW1" 27+79 25.0' RT | TYPE 7 | PLACE BEHIND C & G |
| PULL BOX (bo) | "KCE1" 23+98 33.0' LT | TYPE 9 | PLACE OUTSIDE SIDEWALK |
| PULL BOX (bp) | "KCE1" 24+06 35.0' LT | TYPE 200 S.V. | PLACE OUTSIDE SIDEWALK |
| PULL BOX (bq) | "KCE1" 22+88 27.0' RT | TYPE 9 | PLACE OUTSIDE SIDEWALK |

LOCATION SHOWN FOR NEW P.B. IS CENTER OF P.B. AND IS APPROXIMATE AND MAY BE REVISED IN FIELD PER APPROVAL OF ENGINEER.
(E) - EXISTING




BIKE LOOP DETAIL

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Avoid cutting underground utility lines. It's costly.
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PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# NEW SIGNAL AT KYLE CANYON RD AT US 95 NB RAMPS

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | T208 |

## SIGNAL CONDUIT - CABLE SCHEDULE

| RUN NO. | FROM | TO | CONDUIT SIZE | CONDUIT LENGTH | SIGNAL CABLE | LOOP DETECTOR LEAD IN CABLE | LIGHTING CIRCUIT | GROUND WIRE | E.V.D. | SERVICE | COMMENT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B 1 | NVE TRANSFORMER | SERVICE PEDESTAL | 3" | 20' | | | | | | #2/0 TRIPLEX | WIRE BY NVE (SEE NVE PLANS) |
| B 2 | SERVICE PEDESTAL | CONTROLLER CABINET | 3" | 15' | | | | (1) #8 | | (4) #4 | |
| B 3 | CONTROLLER CABINET | PULL BOX (bo) | 5(3") | 20' | 25 25 25 25 25 25 25 | 6 6 6 6 6 | (12) #10 | (9) #8 | 3 3 3 | | |
| B 4 | PULL BOX (ba) | PULL BOX (bf) | (2)3" | 70' | 25 25 25 25 25 | 6 6 6 | (6) #10 | (5) #8 | 3 3 | | |
| B 5 | PULL BOX (bf) | POLE A | 3" | 15' | 25 | | (2) #10 | (1) #8 | | | |
| B 6 | PULL BOX (bo) | PULL BOX (bg) | (2)3" | 45' | 25 | | (2) #10 | (2) #8 | | | |
| B 7 | PULL BOX (bg) | POLE B | 2" | 25' | 25 | | | (1) #8 | | | |
| B 8 | PULL BOX (bg) | PULL BOX (bh) | (2)3" | 45' | | | (2) #10 | (1) #8 | | | |
| B 9 | PULL BOX (bh) | POLE C | 3" | 10' | | | (2) #10 | (1) #8 | | | |
| B 10 | PULL BOX (bo) | PULL BOX (bi) | (2)3" | 100' | 25 | 6 6 | (4) #10 | (3) #8 | 3 | | |
| B 11 | PULL BOX (bi) | PULL BOX (bk) | (2)3" | 80' | 25 | | (4) #10 | (3) #8 | 3 | | |
| B 12 | PULL BOX (bk) | PULL BOX (bl) | (2)3" | 45' | | | (2) #10 | (1) #8 | | | |
| B 13 | PULL BOX (bl) | POLE D | 3" | 15' | | | (2) #10 | (1) #8 | | | |
| B 14 | PULL BOX (bk) | POLE E | 3" | 10' | 25 | | (2) #10 | (1) #8 | 3 | | |
| B 15 | NOT USED | | | | | | | | | | |
| B 16 | PULL BOX (bf) | PULL BOX (bc) | (2)3" | 65' | 25 25 25 25 | 6 | (4) #10 | (4) #8 | 3 3 | | |
| B 17 | PULL BOX (bc) | PULL BOX (bn) | (2)3" | 55' | 25 | | (2) #10 | (1) #8 | 3 | | |

NOTE: PULL TAPE SHALL BE INSTALLED IN CONDUIT HAVING ONLY (1) #8 WIRE FOR FUTURE USE

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# KYLE CANYON RD AT US 95 NB RAMPS SIGNAL SCHEDULES

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | T209 |

## SIGNAL CONDUIT - CABLE SCHEDULE

| RUN NO. | FROM | TO | CONDUIT SIZE | CONDUIT LENGTH | SIGNAL CABLE | LOOP DETECTOR LEAD IN CABLE | LIGHTING CIRCUIT | GROUND WIRE | E.V.D. | SERVICE | COMMENT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B 18 | PULL BOX (bn) | POLE F | 3" | 20' | (25) | | (2) #10 | (1) #8 | (3) | | |
| B 19 | PULL BOX (bc) | PULL BOX (bb) | (2)3" | 90' | (25) | (6) | (2) #10 | (1) #8 | (3) | | |
| B 20 | PULL BOX (bb) | POLE G | 3" | 15' | (25) | | (2) #10 | (1) #8 | (3) | | |
| B 21 | PULL BOX (bc) | POLE H | 2" | 10' | (25) | | | (1) #8 | | | |
| B 22 | PULL BOX (bc) | POLE I | 2" | 20' | (25) | | | (1) #8 | | | |
| B 23 | PULL BOX (bi) | PULL BOX (bj) | 2" | 210' | | (6) | | | | | |
| B 24 | PULL BOX (bl) | PULL BOX (bm) | 2" | 40' | | | | (1) #8 | | | |
| B 25 | PULL BOX (bk) | PULL BOX (bn) | (2)3" | 90' | | | | (1) #8 | | | |
| B 26 | PULL BOX (bb) | PULL BOX (ba) | 2" | 70' | | (6) | | | | | |
| B 27 | PULL BOX (bf) | PULL BOX (be) | 2" | 40' | | (6) (6) | | | | | |
| B 28 | PULL BOX (be) | PULL BOX (bd) | 2" | 200' | | (6) | | | | | |
| B 29 | CONTROLLER CABINET | PULL BOX (bp) | 4" | 20' | | | | (1) #8 | | | |
| B 30 | PULL BOX (bp) | PULL BOX (bq) | 4" | 150' | | | | (1) #8 | | | |

NOTE: PULL TAPE SHALL BE INSTALLED IN CONDUIT HAVING ONLY (1) #8 WIRE FOR FUTURE USE

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# KYLE CANYON RD AT US 95 NB RAMPS SIGNAL SCHEDULES

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | T210 |

## SIGNAL POLE SCHEDULE

| POLE | STATION | TYPE | SIGNAL ARM | | LUM. ARM | | WATT TYPE | SIGNAL SIGN MAST ARM | SIGNALS VEHICLE | | | PED. SIGNALS | | PED. BUTTON | | VIDEO CABLE | E.V.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | QUAD. | LENGTH | QUAD. | LENGTH | | | TYPE | MOUNT | QUAD. | MOUNT | QUAD. | QUAD. | ARROW | | |
| Ⓐ | "KCE1" 23+47.40 26.17' LT | 35A | ----- | ----- | 3.5 | 15' | 72 / LED | ----- | 1W3C | B-1 | 1 | WS-1 | 1.5 | 2.5 | LT. | ----- | ----- |
| Ⓑ | "KCW1" 29+21.13 32.55' LT | 1A | ----- | ----- | ----- | ----- | ----- / ----- | ----- | 1W3C | T-1 | P.T. | ----- | ----- | ----- | ----- | ----- | ----- |
| Ⓒ | "KR2A" 3+44.65 28.29' RT | 35A | ----- | ----- | 3.5 | 15' | 72 / LED | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| Ⓓ | "KR1A" 3+17.19 35.20' RT | 35A | ----- | ----- | 4 | 15' | 72 / LED | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| Ⓔ | "KCE1" 24+54.91 45.76' RT | 35A | 1.5 | 60' | 1.5 | 15' | 72 / LED | RNV2-1 | (2)1W3C 1W3C | M-2 B-1 | M.A. 3.5 | ----- | ----- | ----- | ----- | ----- | ③ |
| Ⓕ | "KCW1" 27+94.84 26.90' RT | 35A | 4.5 | 35' | 4.5 | 15' | 72 / LED | RNV2-1 | (2)1W3C 2W3C | M-2 B-2a | M.A. 2.5 | WS-1 | 2.5 | 3.5 | LT. | ----- | ③ |
| Ⓖ | "KR1" 26+91.41 29.92' RT | 35A | 1.5 | 45' | 1.5 | 15' | 72 / LED | RNV2-10 | (2)1W3C 1W3C | M-2 B-1 | M.A. 3.5 | ----- | ----- | ----- | ----- | ----- | ③ |
| Ⓗ | "KCE1" 23+34.43 24.66' RT | 1B | ----- | ----- | ----- | ----- | ----- / ----- | ----- | ----- | ----- | ----- | WT-1 | P.T. | 2.5 | RT. | ----- | ----- |
| Ⓘ | "KCW1" 27+82.01 27.41' LT | 1B | ----- | ----- | ----- | ----- | ----- / ----- | ----- | ----- | ----- | ----- | WT-1 | P.T. | 1.5 | RT. | ----- | ----- |

P.T. - POST TOP
M.A. - MAST ARM
(E) - EXISTING

## SIGNAL HEAD SCHEDULE

| POLE | PHASE | ARROW ORIENT. | DISPLAY |
|---|---|---|---|
| A | Ø6 | UP/RT(45°) | RED/YELLOW/GREEN |
| B | Ø8 | UP/LT(45°) | RED/YELLOW/GREEN |
| E | Ø6 | UP | RED/YELLOW/GREEN |
| F | Ø6 | LT | RED/YELLOW/GREEN |
| | Ø8 | UP | RED/YELLOW/GREEN |
| G | Ø6 | UP/LT(45°) | RED/YELLOW/GREEN |

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
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7/5/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

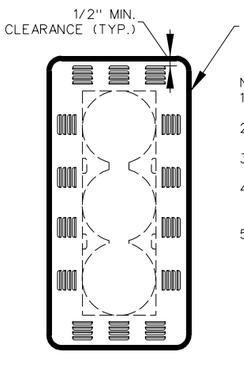
# KYLE CANYON RD AT US 95 NB RAMPS SIGNAL SCHEDULES

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | T211 |

| LOOP DETECTOR SCHEDULE | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SOUTHBOUND RAMPS | Ø2a | Ø2b | Ø2c | Ø2d | Ø2e | Ø2f | Ø2g | Ø4a | Ø4b | Ø4c | Ø4d | Ø4e | - | - | AMP CHANNEL |
| | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | – | – | PREFORMED |
| | 2 | 1 | 1 | 2 | 1 | 1 | 4 | 2 | 1 | 1 | 2 | 1 | – | – | TOTAL |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | – | – | LEAD IN CABLES |
| NORTHBOUND RAMPS | Ø6a | Ø6b | Ø6c | Ø6d | Ø6e | Ø6f | Ø6g | Ø6h | Ø6i | Ø8a | Ø8b | Ø8c | Ø8d | Ø8e | AMP CHANNEL |
| | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | YES | PREFORMED |
| | 2 | 1 | 1 | 2 | 1 | 1 | 4 | 1 | 4 | 2 | 1 | 1 | 2 | 1 | TOTAL |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | LEAD IN CABLES |

| IN POLE CONDUCTOR - CABLE SCHEDULE | | | | |
|---|---|---|---|---|
| INTERSECTION | No. 14 COND. | 25 COND. No. 14 | No. 10 COND. | 3 COND. No. 20 |
| SOUTHBOUND RAMPS | 560' | 70' | 540' | 170' |
| NORTHBOUND RAMPS | 680' | 70' | 540' | 200' |
| OSO BLANCA RD | – | – | 360' | – |
| TOTAL | 1240 | 140' | 1200' | 370' |




NOTES:
1. RETROREFLECTIVE SHEETING SHALL BE FLUORESCENT YELLOW, ASTM D4956-13 TYPE XI OR BETTER.
2. THE RETROREFLECTIVE SHEETING BORDER SHALL HAVE A MINIMUM OF 0.5" CLEARANCE FROM ALL LOUVERS.
3. NO RETROREFLECTIVE SHEETING SHALL BE PLACED OVER ANY LOUVERED AREA.
4. RETROREFLECTIVE SHEETING BORDER SHALL BE INSTALLED BY THE MANUFACTURER, AND MODIFICATIONS SHALL NOT BE MADE BY THE CONTRACTOR.
5. THE BACK PLATE WITH RETROREFLECTIVE SHEETING BORDER SHALL BE FROM THE SAME MANUFACTURER AS THE SIGNAL HEAD ASSEMBLY. THE COMPLETE HEAD ASSEMBLY, INCLUDING THE BACKPLATE, SHALL BE CAPABLE OF WITHSTANDING WINDS OF 90 MPH WITHOUT DAMAGE OR SEPARATION OF ANY PARTS FROM THE SIGNAL HEAD ASSEMBLY.

BACKPLATE WITH RETROREFLECTIVE SHEETING

PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# KYLE CANYON RD AT US 95 RAMPS SIGNAL SCHEDULES

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

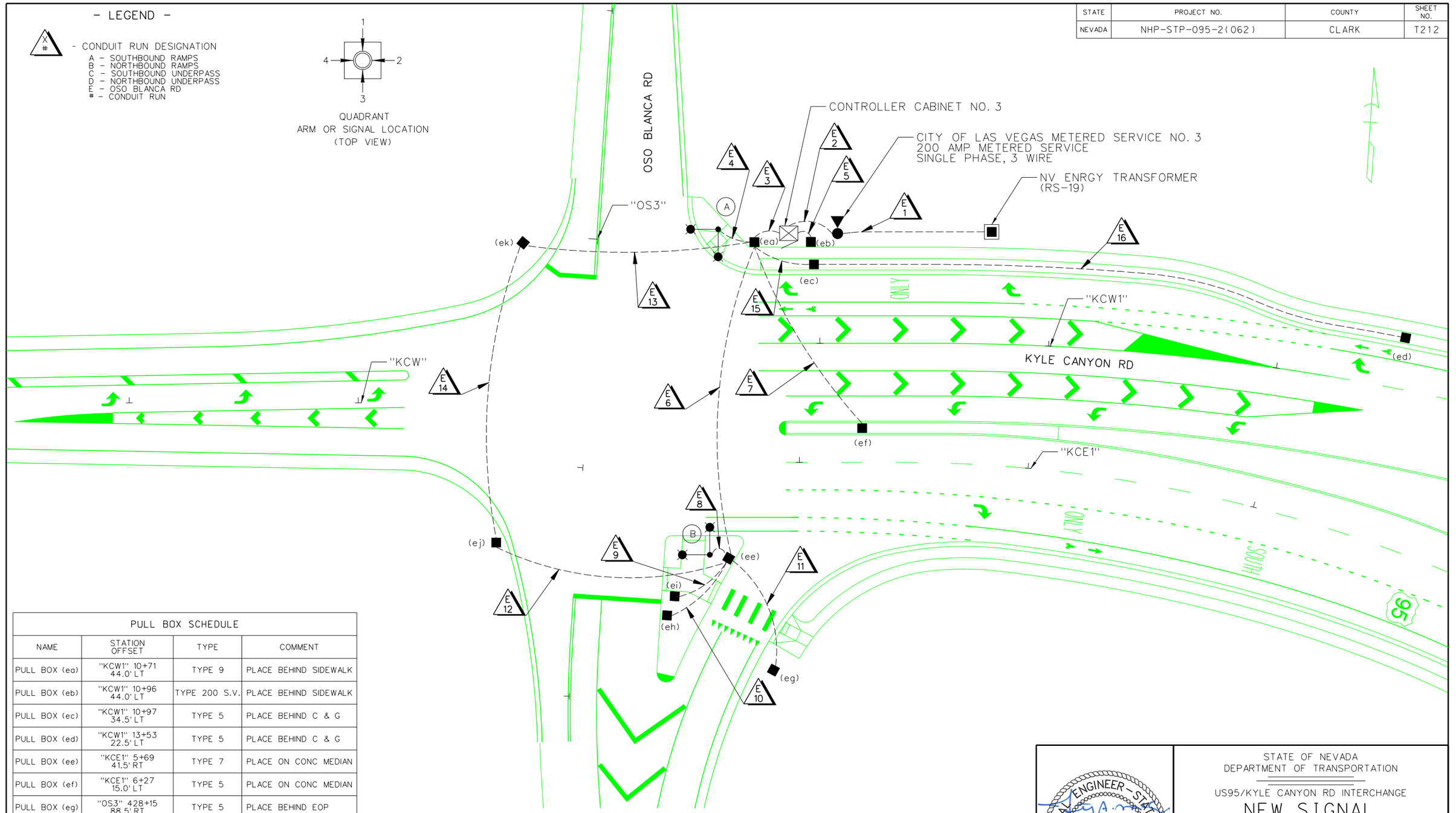
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | T212 |

- LEGEND -

X/# - CONDUIT RUN DESIGNATION
A - SOUTHBOUND RAMPS
B - NORTHBOUND RAMPS
C - SOUTHBOUND UNDERPASS
D - NORTHBOUND UNDERPASS
E - OSO BLANCA RD
# - CONDUIT RUN




QUADRANT
ARM OR SIGNAL LOCATION
(TOP VIEW)




| PULL BOX SCHEDULE | | | |
|---|---|---|---|
| NAME | STATION OFFSET | TYPE | COMMENT |
| PULL BOX (ea) | "KCW1" 10+71 44.0' LT | TYPE 9 | PLACE BEHIND SIDEWALK |
| PULL BOX (eb) | "KCW1" 10+96 44.0' LT | TYPE 200 S.V. | PLACE BEHIND SIDEWALK |
| PULL BOX (ec) | "KCW1" 10+97 34.5' LT | TYPE 5 | PLACE BEHIND C & G |
| PULL BOX (ed) | "KCW1" 13+53 22.5' LT | TYPE 5 | PLACE BEHIND C & G |
| PULL BOX (ee) | "KCE1" 5+69 41.5' RT | TYPE 7 | PLACE ON CONC MEDIAN |
| PULL BOX (ef) | "KCE1" 6+27 15.0' LT | TYPE 5 | PLACE ON CONC MEDIAN |
| PULL BOX (eg) | "OS3" 428+15 88.5' RT | TYPE 5 | PLACE BEHIND EOP |
| PULL BOX (eh) | "OS3" 428+38 41.0' RT | TYPE 5 | PLACE ON CONC MEDIAN |
| PULL BOX (ei) | "OS3" 428+46 43.5' RT | TYPE 5 | PLACE ON CONC MEDIAN |
| PULL BOX (ej) | "OS3" 428+65 35.5' LT | TYPE 7 | PLACE BEHIND EOP |
| PULL BOX (ek) | "OS3" 429+96 32.0' LT | TYPE 7 | PLACE BEHIND EOP |

LOCATION SHOWN FOR NEW PULL BOX IS CENTER OF PULL BOX AND IS APPROXIMATE AND MAY BE REVISED IN FIELD PER APPROVAL OF ENGINEER.
(E) - EXISTING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PROFESSIONAL ENGINEER - STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/5/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# NEW SIGNAL UNDERGROUNDS AT KYLE CANYON RD AT OSO BLANCA RD


GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | T213 |

## SIGNAL CONDUIT - CABLE SCHEDULE

| RUN NO. | FROM | TO | CONDUIT SIZE | CONDUIT LENGTH | SIGNAL CABLE | LOOP DETECTOR LEAD IN CABLE | LIGHTING CIRCUIT | GROUND WIRE | E.V.D. | SERVICE | COMMENT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| E 1 | NVE TRANSFORMER | SERVICE PEDESTAL | 3" | 70' | | | | (1) #8 | | #2/0 TRIPLEX | WIRE BY NVE (SEE NVE PLANS) |
| E 2 | SERVICE PEDESTAL | CONTROLLER CABINET | 3" | 20' | | | | (1) #8 | | (4) #4 | |
| E 3 | CONTROLLER CABINET | PULL BOX (ea) | (5)3" | 20' | | | (8) #10 | (2) #8 | | | |
| E 4 | PULL BOX (ea) | POLE A | 3" | 20' | | | (4) #10 | (1) #8 | | | |
| E 5 | CONTROLLER CABINET | PULL BOX (eb) | 4" | 10' | | | | (1) #8 | | | |
| E 6 | PULL BOX (ea) | PULL BOX (ee) | (3)3" | 140' | | | (4) #10 | (1) #8 | | | |
| E 7 | PULL BOX (ea) | PULL BOX (ef) | 3" | 100' | | | | (1) #8 | | | |
| E 8 | PULL BOX (ee) | POLE B | 3" | 10' | | | (4) #10 | (1) #8 | | | |
| E 9 | PULL BOX (ee) | PULL BOX (ei) | 2" | 30' | | | | (1) #8 | | | |
| E 10 | PULL BOX (ee) | PULL BOX (eh) | 2" | 40' | | | | (1) #8 | | | |
| E 11 | PULL BOX (ee) | PULL BOX (eg) | 3" | 60' | | | | (1) #8 | | | |
| E 12 | PULL BOX (ee) | PULL BOX (ej) | (2)3" | 110' | | | | (1) #8 | | | |
| E 13 | PULL BOX (ea) | PULL BOX (ek) | (3)3" | 100' | | | | (1) #8 | | | |
| E 14 | PULL BOX (ek) | PULL BOX (ej) | (2)3" | 140' | | | | (1) #8 | | | |
| E 15 | PULL BOX (ea) | PULL BOX (ec) | (2)3" | 30' | | | | (1) #8 | | | |
| E 16 | PULL BOX (ec) | PULL BOX (ed) | 2" | 260' | | | | (1) #8 | | | |

NOTE: PULL TAPE SHALL BE INSTALLED IN CONDUIT HAVING ONLY (1) #8 WIRE FOR FUTURE USE

## POLE SCHEDULE

| POLE | STATION | TYPE | SIGNAL ARM | | LUM. ARM | | WATT TYPE | NOTES |
|---|---|---|---|---|---|---|---|---|
| | | | QUAD. | LENGTH | QUAD. | LENGTH | | |
| (A) | "KCW1" 10+55.55 49.84' LT | 35A | ----- | ----- | 3, 4 | 15' | 2-72 LED | |
| (B) | "KCE1" 5+60.87 40.35' RT | 35A | ----- | ----- | 1, 4 | 15' | 2-72 LED | |

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## GENERAL NOTES:

1. ASCERTAIN THAT THE LOCATION OF ALL POLES AND PULL BOXES ARE NOT IN CONFLICT WITH THE EXISTING UTILITIES.

2. MEET THE "AMERICANS WITH DISABILITIES ACT" REQUIREMENTS FOR ALL POLE LOCATIONS AND PEDESTRIAN PUSH BUTTON PLACEMENTS.

3. RIGHT-OF-WAY SHOWN ON PLANS IS FOR REFERENCE ONLY.

4. ALL WORK SHALL CONFORM TO THE NEVADA DEPARTMENT OF TRANSPORTATION STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION, 2017 EDITION, AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2014 EDITION, UNLESS OTHERWISE SPECIFICED TO BE CITY OF LAS VEGAS. FOR CURRENT CITY OF LAS VEGAS TRAFFIC SIGNAL SPECIFICATIONS, CONTACT ERIC MEYER, EMEYER@LASVEGASNEVADA.GOV.

5. ALL WORK PERFORMED ON ANY TRAFFIC SIGNAL COMPONENT MUST BE UNDER THE DIRECT ON-SITE SUPERVISION OF AN IMSA CERTIFIED TECHNICIAN. THE LEVEL OF CERTIFICATION REQUIRED SHALL BE LEVEL II.

## SERVICE NOTES:

1. INSTALL THREE NEW PEDESTALS FOR UNDERGROUND ELECTRICAL SERVICE: CITY OF LAS VEGAS METERED SERVICE NO. 1, AT "KCW1" 21+33 +/-, 52.6' RT (SHEET T101), CITY OF LAS VEGAS METERED SERVICE NO. 2 AT "KCE1"23+82 +/-, 45.8' LT (SHEET T106), CITY OF LAS VEGAS METERED SERVICE NO. 3 AT "KCW1" 11+08 +/-, 48.0' LT (SHEET T112). ADJUST THE EXACT LOCATIONS IN THE FIELD AS DIRECTED BY THE ENGINEER. OBTAIN ALL ADDRESSES FIR BEW SERVICES FROM THE CITY OF LAS VEGASM DEPARTMENT OF PLANNING AND DEVELOPMENT, 33 RANCHO DRIVE, (702) 229-5408.

2. INSTALL A 200 AMP, 120/240 VOLT, SINGLE PHASE 3 WIRE NEW SERVICE PEDESTAL WITH A 200 AMP DOUBLE POLE MAIN BREAKER. MEET THE UTILITY COMPANY'S REQUIREMENTS FOR THE INSTALLATION. EQUIP THE SERVICE PEDESTAL WITH AN INTERNAL PHOTO ELECTRIC CELL AND BYPASS TEST SWITCH THAT WILL CONTROL THE LIGHTING. EQUIP THE SERVICE PEDESTAL WITH #2 AWG STRANDED COPPER CONDUCTOR TO GROUND PEDESTAL TO EARTH FOR COMPLIANCE WITH THE NEC. LINE SIDE OF METER TO BE WIRED WITH THREE #3/0 AWG THW. LOAD SIDE SHALL BE WIRED WITH FOUR #4 AWG THW (2 BLACK, 2 WHITE) AND ONE #8 AWG THW (GREEN). THE INSTALLATION OF THE PEDESTAL AND ANY OTHER MISCELLANEOUS HARDWARE TO BE PAID FOR UNDER THE BID ITEM 623 1620 "UNDERGROUND ELECTRICAL SERVICE", EACH. SUPPLY THE PEDESTAL WITH THE FOLLOWING GE CIRCUIT BREAKERS:
   - ONE (1) 200 AMP DOUBLE POLE CIRCUIT BREAKER (MAIN)
   - ONE (1) 40 AMP, 120 VOLT, SINGLE POLE BREAKER FOR INTERSECTION LIGHTING
   - TWO (2) DOUBLE POLE LIGHTING CONTACTORS WITH 120 VOLT COIL (GE #CR360L40202AAAZ OR APPROVED EQUAL)
   - ONE (1) 60 AMP, 120 VOLT, SINGLE POLE BREAKER FOR SIGNAL
   - ONE (1) 15 AMP, 120 VOLT, SINGLE POLE BREAKER FOR PHOTO CELL
   - TWO (2) 60 AMP, 120 VOLT 2-POLE CIRCUIT BREAKER FOR STREET LIGHTING
   - ONE (1) 120 VOLT ELECTRONIC PHOTO ELECTRIC CONTROLS (AREA LIGHTING RESEARCH, INC. PART #2190VP3 OR APPROVED EQUAL)

## CONTROLLER NOTES:

1. FURNISH AND INSTALL NEW TYPE R CONTROLLER CABINET FOR: CONTROLLER CABINET NO. 1 AT "KCE1" 16+35 +/-, 68.0' RT, CONTROLLER CABINET NO. 2 AT "KCW1" 23+93 +/-, 51.8' LT, CONTROLLER CABINET NO. 3 (SHELL ONLY) AT "KCW1" 10+86 +/-, 48.0' LT, UTILIZING BID ITEM 623 0955 "TRAFFIC ACTUATED CONTROLLER".

2. COORDINATE WITH CITY OF LAS VEGAS AND FAST TO PROGRAM ALL NEW CONTROLLERS AND MMU'S.

3. A MINIMUM OF 15 CONDUCTORS (TYPE 1A OR 1B POLES) OR 25 CONDUCTORS (MAST ARM POLES), IMSA MULTI-CONDUCTOR CABLES SHALL BE USED. SIGNAL CABLE SHALL BE #14 AWG SOLID (TYPICAL) CABLE AND SHALL CONFORM TO IMSA SPEC NO. 20-1.

4. TRAFFIC SIGNAL CABINET SHALL BE A TYPE VIII CABINET UNLESS OTHERWISE SPECIFIED IN THE PLANS. THIS IS COMMONLY REFERRED TO AS AN "R" CABINET. THE CABINET SHALL CONFORM TO THE CLARK COUNTY AREA UNIFORM STANDARD DRAWINGS AND SPECIFICATIONS AND THE CITY OF LAS VEGAS SPECIAL PROVISIONS. INSTALL CABINET NEAR THE R.O.W. LINE OR AS SHOWN ON THE DRAWINGS. THE TRAFFIC SIGNAL CONTROLLER CABINET, SHALL BE EQUIPPED WITH 16 LOAD BAY POSITIONS,SHALL BE A 48 DETECTOR CHANNEL R CABINET AND SHALL INCLUDE TWO (2) RACK-MOUNTED, 12 SLOT, LOOP DETECTION RACKS, WITH 2 DETECTOR LOOP CHANNELS PER SLOT FULLY WIRED SO THAT ALL CHANNELS ARE USABLE AND 4 CHANNEL SLOTS THAT CAN ACCOMMODATE VIDEO DETECTION CARDS. THE CABINET SHALL CONTAIN A 764 OPTICOM PHASE SELECTOR IN A 760 RACK, WITH A 768 AUXILIARY INTERFACE PANEL MOUNTED IN THE CABINET AND FULLY WIRED FOR GREEN SENSE CAPABILITIES.

5. THE CONTRACTOR SHALL SUPPLY A MALFUNCTION MANAGEMENT UNIT (MMU) FOR CONTROLLER CABINET NOS. 1 AND 2 TO THE CITY OF LAS VEGAS TRAFFIC SIGNAL REPAIR SHOP A MINIMUM OF FOURTEEN DAYS PRIOR TO SIGNAL TURN-ON OR PRIOR TO CONVERTING TO A NEW PHASING SCHEME, FOR TESTING AND PROGRAMMING PURPOSES. THE MMU SHALL BE A MODEL MMU-1600GE AS MANUFACTURED BY RENO A&E, OR APPROVED EQUAL. THE CONTRACTOR SHALL DELIVER THE MMU TO AND PICKUP THE CONTROLLER AT 2985 RONEMUS DRIVE. CONTRACTOR SHALL NOTIFY THE TRAFFIC SIGNAL REPAIR SHOP (229-6075) SEVEN DAYS PRIOR TO PICK UP. THE CITY, AT ITS DISCRETION, MAY PROVIDE A DIFFERENT MODEL MMU FOR INITIAL TURN-ON, IN WHICH CASE CITY PERSONNEL WILL SWAP THE MMU AFTER THE PROJECT IS ACCEPTED.

## POLE NOTES:

1. INSTALL STEEL POLE, TYPE 1A, ON ALL SIGNAL LIGHT POLES AS INDICATED ON THE PLANS. TO BE PAID FOR UNDER BID ITEM 623 0545 "STEEL POLE, TYPE 1A", EACH.

2. INSTALL SIGNAL LIGHT STEEL POLE, TYPE 35A, ON ALL SIGNAL LIGHT POLES AS INDICATED ON THE PLANS. TO BE PAID FOR UNDER BID ITEM 623 0645, "STEEL POLE, TYPE 35A", EACH.

3. INSTALL 120 VOLT, PHILIPS 72 WATT, RFM 72 W 32 LED OR EQUIVALENT ON ALL TYPE 35A SIGNAL POLES. TO BE PAID FOR UNDER BID ITEM 623 0268 "LUMINAIRE, TYPE B", EACH. EACH LUMINAIRE SHALL HAVE AN INDIVIDUAL 1000 WATT P.E. CONTROL. FOR LUMINAIRES THERE SHOULD BE TWO #4 AWG THW CONDUCTORS FROM THE SERVICE TO THE CABINET. IN THE CABINET, THE #4 AWG THW CONDUCTORS SHALL BRANCH OFF INTO #10 AWG THW CONDUCTORS INDIVIDUALLY FUSED WITH 10 AMP FUSES. THERE SHALL BE NO SPLICES BETWEEN THE CABINET AND THE LUMINAIRE FIXTURES.

PROFESSIONAL ENGINEER - STATE OF NEVADA
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STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

KYLE CANYON RD
SIGNAL NOTES

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
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| NEVADA | NHP-STP-095-2(062) | CLARK | T214 |

## POLE NOTES (CONT.):

4. ADJUST THE POLE LOCATIONS IN THE FIELD AS DIRECTED BY THE ENGINEER.

5. POLES A, B, C, D, E, F, H & I AT BOTH THE SB RAMPS AND NB RAMPS INTERSECTIONS SHALL BE POSITIONED AND CONSTRUCTED FOR PROPOSED OR FUTURE PROWAG-COMPLIANT PEDESTRIAN PUSH BUTTONS. GROUTED FOUNDATION CAPS SHALL BE FLUSH WITH SIDEWALK AS REQUIRED TO PROVIDE MAXIMUM HORIZONTAL REACH DISTANCE OF 10 INCHES.

6. SEAL ALL CONDUIT ENDS WITH A DUCT SEALING COMPOUND. USE NSI INDUSTRIES DUCT SEALING COMPOUND OR AN APPROVED EQUAL. (NO DIRECT PAYMENT)

7. ALL MAST ARMS TO BE HOT-DIP GALVANIZED BY THE MANUFACTURER THE MAST ARM IS TO BE FABRICATED WITH END TENON ONLY. THE END TENON SHALL BE FACTORY INSTALLED AND THE REMAINING TENONS SHALL BE FABRICATED IN THE FIELD AT THE LOCATION SHOWN ON THE PLANS OR AS DIRECTED BY THE TRAFFIC ENGINEER AND/OR HIS AUTHORIZED REPRESENTATIVE. ALL WELDING SHALL CONFORM TO AWS D 2.0, "SPECIFICATION FOR WELDED HIGHWAYS AND RAILWAY BRIDGES," AND TO ANY ADDITIONAL REQUIREMENTS OF SECTION 623 OF THE SPECIFICATIONS. ALL EXPOSED WELDS, SHALL BE PAINTED AS PROVIDED FOR REPAIRING DAMAGED GALVANIZED SURFACES. MULTI-SIDED STEEL TRAFFIC SIGNAL POLES SHALL NOT BE ACCEPTED.

8. MOUNT STANDARD TRAFFIC SIGNAL SIGNS AS PER THE PLANS. TO BE PAID FOR UNDER BID ITEM 623 2680 "TRAFFIC SIGNAL SIGNS", SQFT.

## PULLBOX NOTES:

1. PROVIDE TRAFFIC RATED PULL BOXES (HS20 RATED).

2. ADJUST PULL BOX LOCATIONS IN THE FIELD AS DIRECTED BY THE ENGINEER.

3. ALL METAL LIDS SHALL BE GROUNDED. INSTALL A STRANDED #4 (GREEN, 7-STRAND) THW2 OR XHHW-2 WIRE, 4 FEET IN LENGTH, FROM THE LID TO THE BONDING GROUND. FASTEN THE #4 CONDUCTOR TO THE LID BY CAD WELDING. ALL CONDUITS SHALL HAVE A MINIMUM OF 6-FOOT CLEARANCE FROM THE TOP OF THE CONDUIT TO THE LID. (NO DIRECT PAYMENT)

## SIGNAL HEAD NOTES:

1. ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL HAVE LIGHT EMITTING DIODE (LED) TYPE INDICATIONS, IN CONFORMANCE TO CITY OF LAS VEGAS SPECIAL PROVISIONS. ALL PEDESTRIAN SIGNAL FACES SHALL PROVIDE "WALKING PERSON", "HAND", AND "COUNTDOWN"MESSAGES AS PROVIDED BY DURALIGHT MODEL #JXM-400-VIEIL OR DIALIGHT MODEL #430-6479-001X, OR APPROVED EQUAL. THE "COUNTDOWN" MESSAGE SHALL NOT FLASH.

2. INSTALL "FULL CIRCLE" VISORS ON ALL NEW TRAFFIC SIGNAL HEADS WITH 4-INCH SLOT AT BOTTOM AND LOUVERED BACK PLATES WITH A 2-INCH RETROREFLECTIVE BORDER. ALL TRAFFIC SIGNAL HEAD BACK PLATES SHALL BE SECURED WITH WASHERS AND MEET CITY OF LAS VEGAS SPECIFICATIONS.

3. INSTALL TEMPORARY SIGNAL HEAD COVERS FOR EACH NEW SIGNAL HEAD ASSEMBLY. THE COVERS SHALL BE DURABLE, REUSABLE, BLACK NYLON COVERS THAT ARE MECHANICALLY FASTENED; FABRIC FASTENERS SUCH AS VELCRO ARE NOT ACCEPTABLE. THE COVERS SHALL HAVE "NOT IN SERVICE" PRINTED IN WHITE ON THE FRONT AND A MIDDLE MESH STRIP FOR VIEWING THE COLOR OF THE SIGNAL HEAD INDICATIONS DURING TESTING. THE INDIVIDUAL SIGNAL INDICATION THAT IS NOT IN USE DURING A TRAFFIC CONTROL STAGE SHALL BE DISCONNECTED IN ORDER TO PREVENT VISIBILITY OF THE UNUSED INDICATION WHEN THE ASSOCIATED PHASE IS ILLUMINATED. THE COVERS SHALL BE INSTALLED WHEN EACH SIGNAL HEAD IS INSTALLED AND THE CONTRACTOR SHALL MAINTAIN THE COVERINGS SO THAT NO TEARS OR RIPS APPEAR IN THE COVERS AT ALL TIMES UNTIL THE SIGNAL IS ENERGIZED AND IS ACCEPTED BY THE DEPARTMENT. COVERINGS THAT ARE RIPPED, TORN, SHREDDED, OR OTHERWISE ALLOWING ANY PORTION OF THE SIGNAL LENS TO BE SEEN BY THE PUBLIC SHALL BE IMMEDIATELY REPLACED.

4. ALL BRACKET MOUNTED SIGNAL HEADS SHALL MEET THE CITY OF LAS VEGAS REQUIREMENTS.

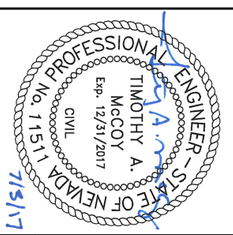
## EMERGENCY VEHICLE OPTICAL DETECTOR NOTES:

1. OPTICAL PREEMPTION UNITS WILL BE GLOBAL TRAFFIC TECHNOLOGIES (ENCODING CAPABLE), MODEL 764 OPTICOM PHASE SELECTOR INSTALLED IN A MODEL 760 RACK WITH A MODEL 768 AUXILIARY INTERFACE PANEL (AIP) MOUNTED IN THE CABINET AND FULLY WIRED FOR GREEN SENSE CAPABILITIES. OPTICAL SENSORS WILL BE MODEL 721 WITH ONE DETECTOR PER DIRECTION, UNLESS SHOWN OTHERWISE IN THE PLANS, AND WILL BE INTERFACED TO THE TRAFFIC SIGNAL CONTROLLER CABINET WITH M-138 CABLE. THE SOUTHBOUND OPTICOM DETECTOR SHALL BE WIRED TO INPUT PREEMPTS ON CHANNEL 1 IN THE PHASE SELECTOR, EASTBOUND ON CHANNEL 2, NORTHBOUND ON CHANNEL 3, AND WESTBOUND ON CHANNEL 4, UNLESS VARIATIONS ARE APPROVED BY THE TRAFFIC SIGNAL SUPERVISOR. WHEN 764 PHASE SELECTORS ARE ADDED TO A CABINET WITHOUT A 768 AIP, THE CONTRACTOR SHALL INSTALL AND WIRE A NEW 768 AIP.

2. INSTALL 3 CONDUCTOR NO. 20 CABLE FROM THE CONTROLLER TO THE OPTICAL DETECTORS. PROVIDE 3M MODEL 138 CABLE OR AN APPROVED EQUIVALENT. TO BE PAID FOR UNDER BID ITEM 623 2040 "3 CONDUCTOR NO. 20 CABLE", LINFT.

## PEDESTRIAN PUSH BUTTON NOTES:

1. PEDESTRIAN PUSH BUTTONS SHALL BE AUDIBLE TACTILE "POLARA NAVIGATOR" TYPE (2 WIRE SYSTEM) OR CAMPBELL COMPANY ADVANCED ACCESSIBLE PEDESTRIAN SYSTEM BUTTONS WITH AAPS APC (CONTROLLER) IN ACCORDANCE WITH CITY OF LAS VEGAS SPECIAL PROVISIONS AND SECTION 623 OF THE CCA USS. PUSH BUTTON SIGNS SHALL BE R10-3E PER MUTCD, 2009 EDITION, WITH FULL MOUNTING BRACKETS, AS MODIFIED BY THE MANUFACTURER TO FIT ON A 9"X12" SIGN, AND SHALL BE PORCELAIN-ENAMELED METAL. ALL PUSH BUTTONS TO BE MOUNTED 42" ABOVE SIDEWALK. THE MAXIMUM HORIZONTAL REACH DISTANCE IS TO BE 10". SIDEWALK RAMPS WILL BE ACCORDING TO U.S.D. NO. 235 (1-4) LATEST EDITION. WHEN AN EXISTING SIGNAL WITH EXISTING AUDIBLE-TACILE PUSH BUTTONS IS MODIFIED, THE CONTRACTOR SHALL VERIFY NEW PEDESTRIAN PUSH BUTTONS OR CABINET EQUIPMENT MATCHES THE MANUFACTURE AND MODEL OF ANY EXISTING EQUIPMENT SCHEDULED TO REMAIN, TO PROVIDE A FULLY FUNCTIONING SYSTEM. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL CABINET EQUIPMENT, INCLUDING THE PEDESTRIAN PUSH BUTTON CONTROL UNIT, INTERFACE PANEL AND ANY REQUIRED HARNESSES, TO PROVIDE A FULLY FUNCTIONING SYSTEM.

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STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

KYLE CANYON RD
SIGNAL NOTES

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | T215 |

# LOOP DETECTOR NOTES:

1. WHERE NEW LOOPS WILL BE OVERLAID WITH NEW PAVEMENT, LOOP DETECTORS SHALL BE PREFORMED LOOPS AS MANUFACTURED BY RENO A & E OR NEVER-FAIL LOOP SYSTEMS, AND ALL LOOPS SHALL BE INSTALLED IN THE ROADWAY PRIOR TO PLACEMENT OF THE FINAL PAVEMENT LIFT. WHERE NEW LOOPS ARE INSTALLED THAT ARE NOT OVERLAID WITH NEW PAVEMENT, LOOPS SHALL BE CABLE-IN-DUCT PER CITY OF LAS VEGAS SPECIAL PROVISIONS. LOOP LEAD-IN CABLE SHALL BE 6-PAIR 18 AWG MULTIPLE CONDUCTOR CABLE AS SPECIFIED IN CLV SPECIAL PROVISIONS. ALL WIRING HARNESSES, RACK POSITIONS, AND LOOP LEAD-IN CABLE SHALL BE CLEARLY MARKED AS TO THE APPROPRIATE PHASE AND LETTER DESIGNATION TO WHICH IT BELONGS AS SHOWN ON THE TRAFFIC SIGNAL PLANS. LOOPS SHALL BE LOCATED AS SHOWN ON THE TRAFFIC SIGNAL PLANS AND APPROVED BY THE CLV TRAFFIC ENGINEERING DIVISION PRIOR TO INSTALLATION. REFER TO THE CLV SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

2. INSTALL LOOP DETECTORS AS INDICATED ON THE PLANS. TO BE PAID FOR UNDER BID ITEM 623 2635 "LOOP DETECTOR (6-FOOT X 6-FOOT)(PREFORMED)", EACH.

3. LOCATE THE FRONT OF THE PRESENCE LOOPS TWO (2) FEET IN ADVANCE OF THE STOP LINE.

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KYLE CANYON RD
SIGNAL NOTES

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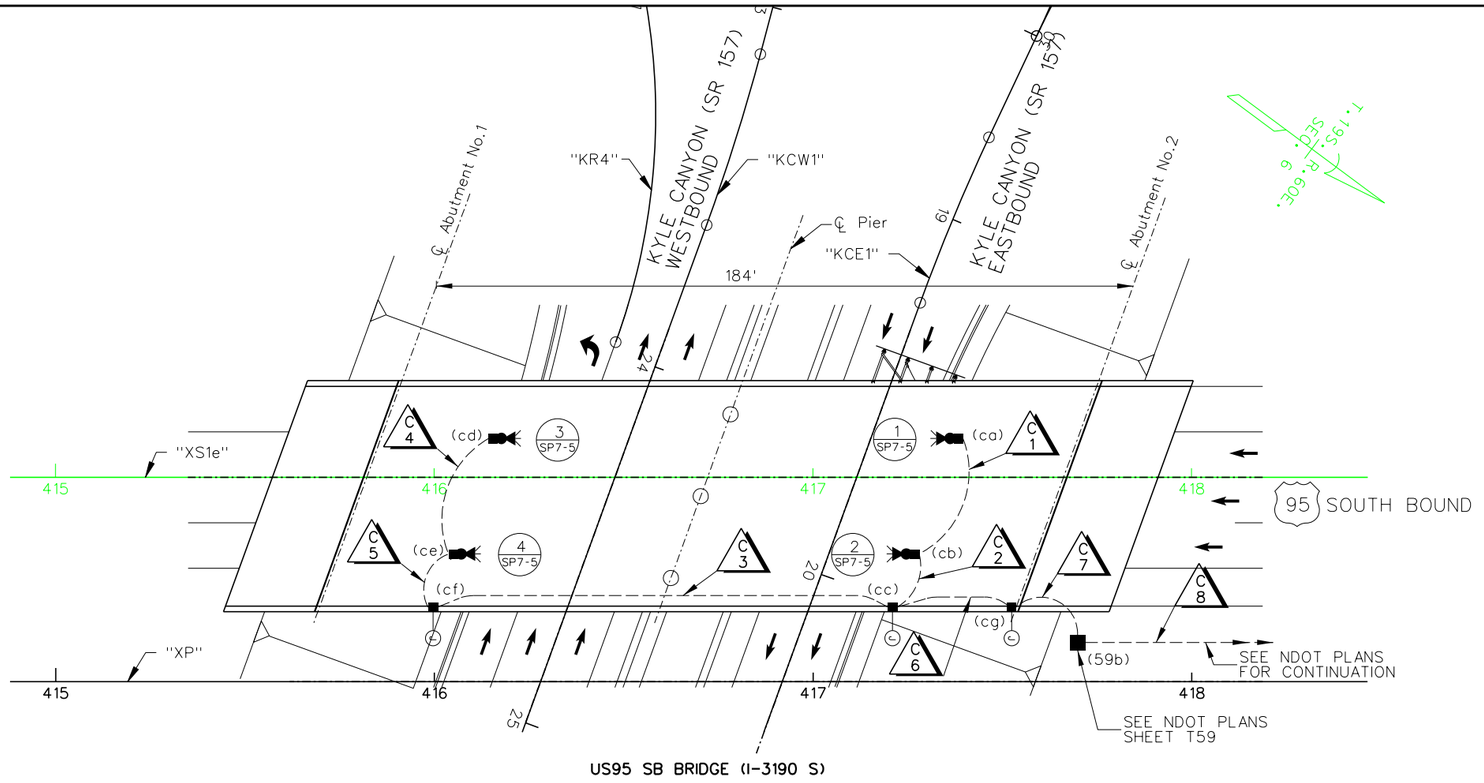


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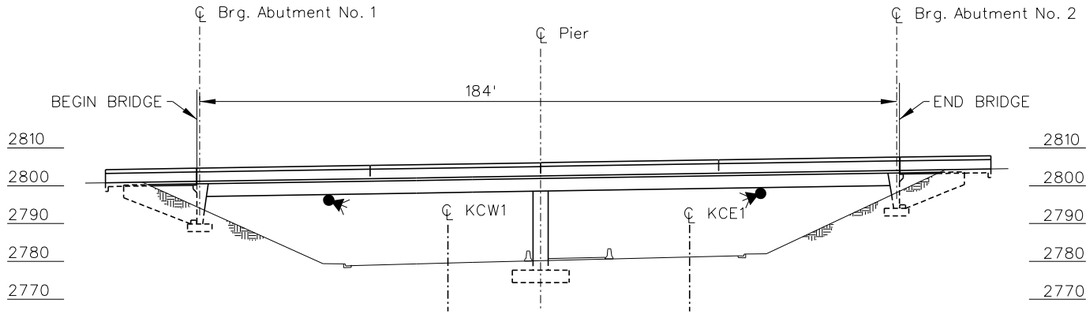


ELEVATION

## LEGEND

- CONDUIT
- UNDERPASS LUMINAIRE
- PULL BOX
- JUNCTION BOX
- (aa) - PULL BOX DESIGNATION
- # / E1 - UNDERPASS LUMINAIRE DESIGNATION
  - CIRCUIT
- X / # - CONDUIT RUN DESIGNATION

PROFESSIONAL ENGINEER STATE OF NEVADA
JOHN T. BROWN
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No. 16033
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# UNDERPASS LIGHTING PLAN
## KYLE CANYON AND US95 BRIDGES

I-3190 S

GCW ENGINEERS \ SURVEYORS
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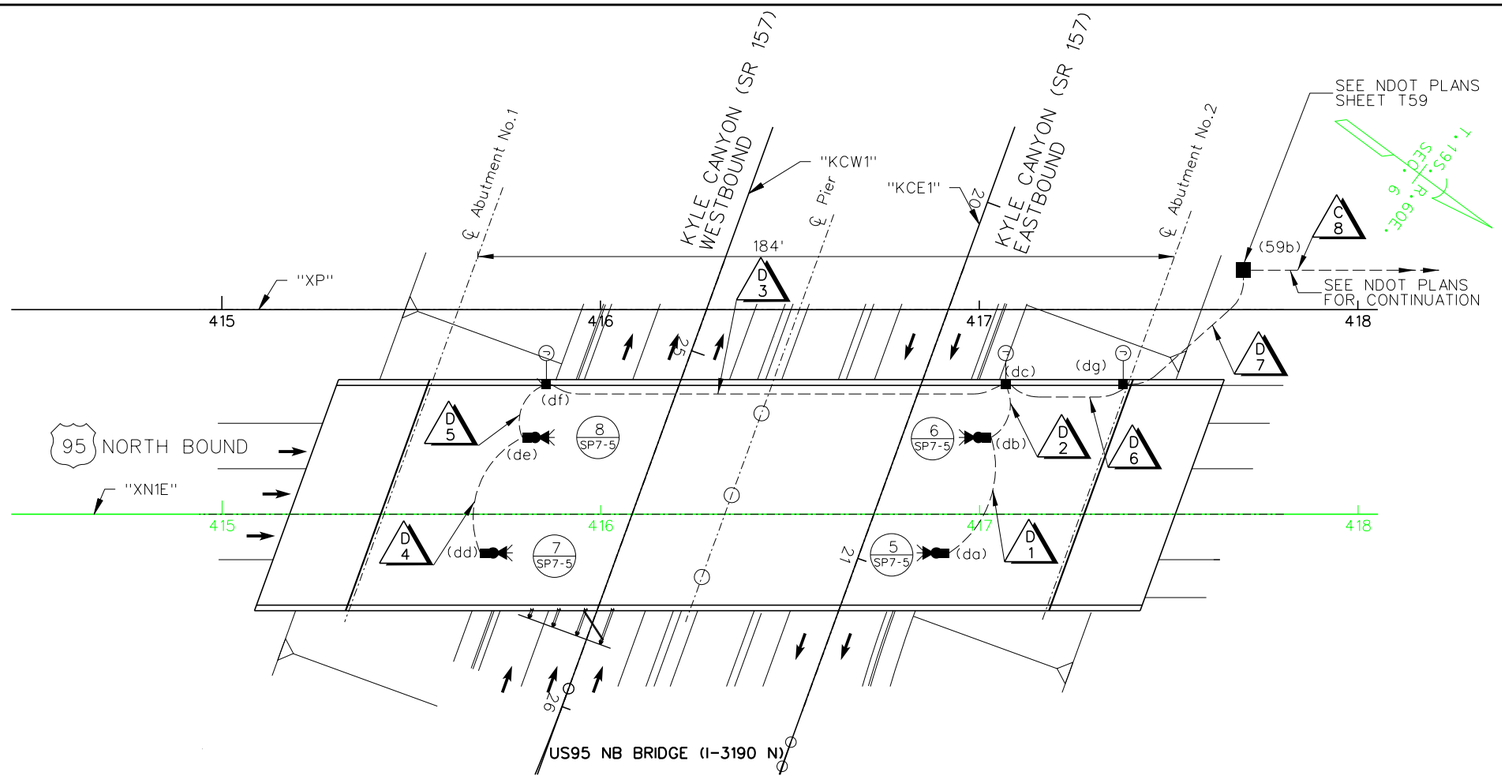
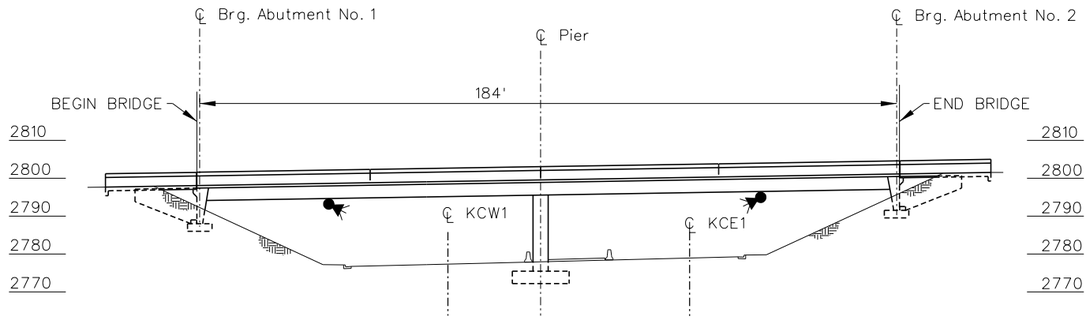



PLAN




ELEVATION

## LEGEND

- CONDUIT
- UNDERPASS LUMINAIRE
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STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# UNDERPASS LIGHTING PLAN
## KYLE CANYON AND US95 BRIDGES

I-3190 N

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | T219 |

## CONDUIT, CABLE AND CONDUCTOR SCHEDULE

| RUN NO. | FROM | TO | NO. OF CONDUIT | CONDUIT SIZE | CONDUIT LENGTH | CIRCUIT | | | | GROUND WIRE | SERVICE | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | | | |
| C1 | PULL BOX (ca) | PULL BOX (cb) | 1 | 1" | 40' | 3 #10 | – | – | – | 1 #6 | – | – |
| C2 | PULL BOX (cb) | PULL BOX (cc) | 1 | 1" | 20' | 3 #10 | – | – | – | 1 #6 | – | – |
| C3 | PULL BOX (cc) | PULL BOX (cf) | 1 | 1" | 120' | 3 #10 | – | – | – | 1 #6 | – | – |
| C4 | PULL BOX (cd) | PULL BOX (ce) | 1 | 1" | 40' | 3 #10 | – | – | – | 1 #6 | – | – |
| C5 | PULL BOX (ce) | PULL BOX (cf) | 1 | 1" | 20' | 3 #10 | – | – | – | 1 #6 | – | – |
| C6 | PULL BOX (cc) | PULL BOX (cg) | 1 | 1" | 35' | 3 #10 | – | – | – | 1 #6 | – | – |
| C7 | PULL BOX (cg) | PULL BOX (ch) | 1 | 1" | 20' | 3 #10 | – | – | – | 1 #6 | – | – |
| C8 | PULL BOX (59b) | SP7 | – | – | – | – | – | – | – | – | – | SEE CONDUIT NO. 6017, SHEET T59 |
| D1 | PULL BOX (da) | PULL BOX (db) | 1 | 1" | 40' | 3 #10 | – | – | – | 1 #6 | – | – |
| D2 | PULL BOX (db) | PULL BOX (dc) | 1 | 1" | 20' | 3 #10 | – | – | – | 1 #6 | – | – |
| D3 | PULL BOX (dc) | PULL BOX (df) | 1 | 1" | 120' | 3 #10 | – | – | – | 1 #6 | – | – |
| D4 | PULL BOX (dd) | PULL BOX (de) | 1 | 1" | 40' | 3 #10 | – | – | – | 1 #6 | – | – |
| D5 | PULL BOX (de) | PULL BOX (df) | 1 | 1" | 20' | 3 #10 | – | – | – | 1 #6 | – | – |
| D6 | PULL BOX (dc) | PULL BOX (dg) | 1 | 1" | 35' | 3 #10 | – | – | – | 1 #6 | – | – |
| D7 | PULL BOX (dg) | PULL BOX (ch) | 1 | 2" | 45' | 3 #10 | – | – | – | 1 #6 | – | – |

## PULL BOX SCHEDULE

| NAME | STATION | OFFSET | TYPE | INSTALLATION | NOTES |
|---|---|---|---|---|---|
| (ca) | "KCE1" 19+54 | 21.7' LT | JBOX | – | – |
| (cb) | "KCE1" 19+86 | 21.2' LT | JBOX | – | – |
| (cc) | "KCE1" 20+02 | 20.6' LT | TYPE 2 | – | – |
| (cd) | "KCW1" 24+32 | 33.7' RT | JBOX | – | – |
| (ce) | "KCW1" 24+65 | 33.2' RT | JBOX | – | – |
| (cf) | "KCW1" 24+80 | 33.4' RT | TYPE 2 | – | – |
| (cg) | "KCE1" 19+91 | 50.2' LT | TYPE 2 | – | – |
| (59b) | "XP" 417+53 | 4.0' RT | NO. 5 | – | SEE SHEET T66 |
| (da) | "KCE1" 20+92 | 19.0' LT | JBOX | – | – |
| (db) | "KCE1" 20+58 | 19.0' LT | JBOX | – | – |
| (dc) | "KCE1" 20+43 | 19.0' LT | TYPE 2 | – | – |
| (dd) | "KCW1" 25+69 | 31.0' RT | JBOX | – | – |
| (de) | "KCW1" 25+36 | 31.0' RT | JBOX | – | – |
| (df) | "KCW1" 25+21 | 31.0' RT | TYPE 2 | – | – |
| (dg) | "KCE1" 20+33 | 50.1' LT | TYPE 2 | – | – |
| (ch) | "KCE1" 19+94 | 69.7' LT | NO. 7 | – | – |

## UNDERPASS LIGHTING SCHEDULE

| NO. | STATION | OFFSET | CIRCUIT NO. | WATT | IES DIST | TYPE | VOLTS | NOTES |
|---|---|---|---|---|---|---|---|---|
| K1-1 | "KCE1" 19+55 | 19.7' LT | 1 | 150W | TYPE III | A | 240 | (LED EQUIVALENT) |
| K1-2 | "KCE1" 19+87 | 19.2' LT | 1 | 150W | TYPE III | A | 240 | (LED EQUIVALENT) |
| K1-3 | "KCW1" 24+32 | 31.7' RT | 1 | 150W | TYPE III | A | 240 | (LED EQUIVALENT) |
| K1-4 | "KCW1" 24+64 | 31.2' RT | 1 | 150W | TYPE III | A | 240 | (LED EQUIVALENT) |
| K1-5 | "KCE1" 20+92 | 19.0' LT | 1 | 150W | TYPE III | A | 240 | (LED EQUIVALENT) |
| K1-6 | "KCE1" 20+59 | 19.0' LT | 1 | 150W | TYPE III | A | 240 | (LED EQUIVALENT) |
| K1-7 | "KCW1" 25+68 | 31.0' RT | 1 | 150W | TYPE III | A | 240 | (LED EQUIVALENT) |
| K1-8 | "KCW1" 25+36 | 31.0' RT | 1 | 150W | TYPE III | A | 240 | (LED EQUIVALENT) |

PROFESSIONAL ENGINEER STATE OF NEVADA
JOHN T. BROWN
Exp. 12/31/2018
ELECTRICAL
No. 16033
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

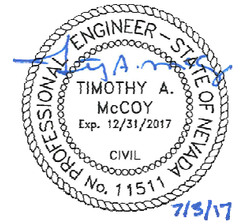
# LIGHTING SCHEDULE

I-3190 N & I-3190 S

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

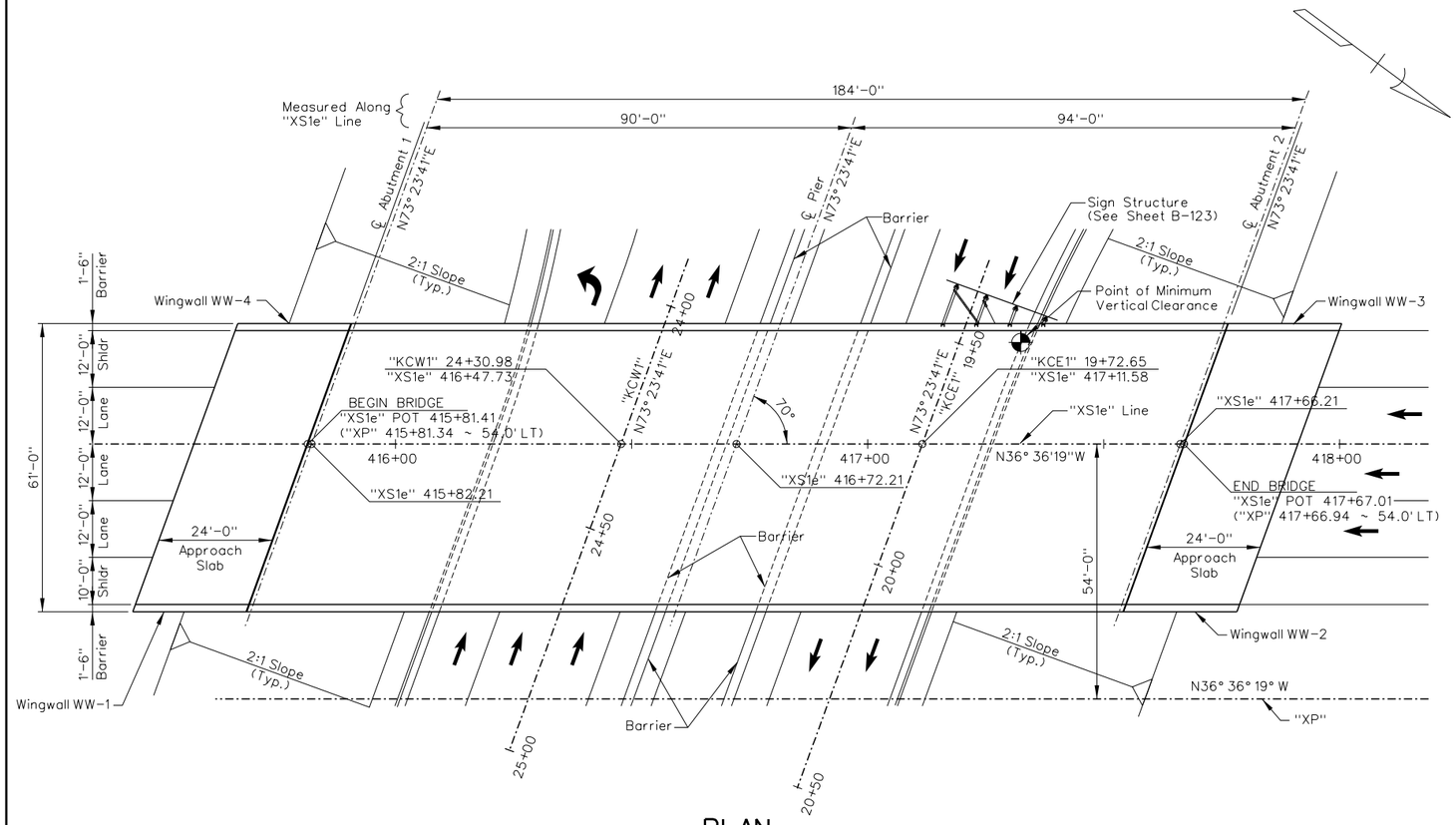
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | T220 |

# SIGNALS AND LIGHTING
# STRUCTURE LIST

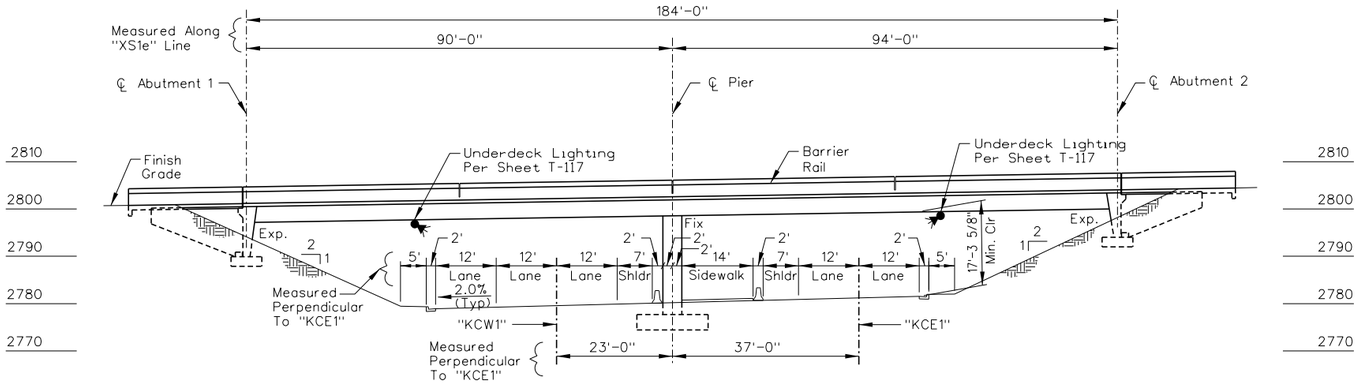



| | TRAFFIC SIGNAL SIGNS | LOOP DETECTOR (6-FOOT X 6-FOOT) (PREFORMED) | SIGNAL HEAD 1W3C, MAST ARM | SIGNAL HEAD 2W3C, BRACKET | SIGNAL HEAD 1W3C, BRACKET | SIGNAL HEAD 1W3C, POST TOP | 6 PAIR CONDUCTOR NO. 19 CABLE | 25 CONDUCTOR NO. 14 CABLE | 3 CONDUCTOR NO. 20 CABLE | NO. 14 CONDUCTOR | NO. 10 CONDUCTOR | NO. 8 CONDUCTOR | NO. 6 CONDUCTOR | NO. 4 CONDUCTOR | NO. 3/0 CONDUCTOR | 4-INCH CONDUIT | 3-INCH CONDUIT | 2-INCH CONDUIT | 1-INCH CONDUIT (METAL) | TRANSFORMER (75 KVA) | UNDERGROUND ELECTRICAL SERVICE | TYPE R CONTROLLER CABINET | TRAFFIC ACTUATED CONTROLLER | LOOP DETECTOR AMPLIFIER CHANNELS (NEW CABINET) | EMERGENCY VEHICLE OPTICAL DETECTOR SYSTEM | LOOP DETECTOR | PEDESTRIAN PUSH BUTTON WITH SIGN | PEDESTRIAN SIGNAL HEAD 1W | STEEL POLE, TYPE 35A | STEEL POLE, TYPE 1B | STEEL POLE, TYPE 1A | UNDERPASS LUMINAIRE, (TYPE A) | LUMINAIRE, TYPE B | JUNCTION BOX (B) | NO. 9 PULL BOX | NO. 7 PULL BOX | NO. 5 PULL BOX | ITS VAULT | DESCRIPTION | STATION TO STATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 623 2680 | 623 2635 | 623 2530 | 623 2475 | 623 2430 | 623 2390 | 623 2120 | 623 2090 | 623 2040 | 623 1995 | 623 1985 | 623 1980 | 623 1975 | 623 1970 | 623 1940 | 623 1830 | 623 1820 | 623 1805 | 623 1785 | 623 1736 | 623 1620 | 623 1025 | 623 0955 | 623 0825 | 623 0815 | 623 0775 | 623 0770 | 623 0735 | 623 0645 | 623 0555 | 623 0545 | 623 0345 | 623 0268 | 623 0255 | 623 0240 | 623 0235 | 623 0230 | 623 0201 | | |
| | SQFT | EACH | EACH | EACH | EACH | EACH | LINFT | LINFT | LINFT | LINFT | LINFT | LINFT | LINFT | LINFT | LINFT | LINFT | LINFT | LINFT | LINFT | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | **NOTE: ALL LOCATIONS ARE APPROXIMATE AND MAY BE ADJUSTED BY THE ENGINEER** | |
| | 22.5 | 17 | 5 | 1 | 3 | 1 | 1325 | 1545 | 980 | 560 | 3345 | 2810 | | 100 | 40 | 660 | 1625 | 640 | | 1 | 1 | 1 | 1 | 12 | 1 | 2 | 4 | 4 | 6 | 2 | 1 | | 6 | | 2 | 9 | 6 | 1 | TRAFFIC SIGNAL - KYLE CANYON AT SB RAMPS | |
| | 22.5 | 22 | 6 | 1 | 3 | 1 | 1335 | 1530 | 1010 | 680 | 3315 | 2450 | | 100 | 30 | 170 | 1590 | 615 | | 1 | 1 | 1 | 1 | 14 | 1 | 2 | 4 | 4 | 6 | 2 | 1 | | 6 | | 2 | 8 | 6 | 1 | TRAFFIC SIGNAL - KYLE CANYON AT NB RAMPS | |
| | | | | | | | | | | | 1320 | 1285 | | 120 | 80 | 10 | 1520 | 330 | | 1 | 1 | 1 | | | | | | | 2 | | | | 4 | | 1 | 4 | 6 | 1 | TRAFFIC SIGNAL UNDERGOUND - KYLE CANYON AT OSO BLANCA | |
| | | | | | | | | | | | 990 | | 330 | | | | | | 330 | | | | | | | | | | | | | 4 | | 7 | | 1 | | | UNDERDECK LIGHTING - SB US95 | |
| | | | | | | | | | | | 1065 | | 355 | | | | | 45 | 275 | | | | | | | | | | | | | 4 | | 7 | | | | | UNDERDECK LIGHTING - NB US95 | |
| | 45 | 39 | 11 | 2 | 6 | 2 | 2660 | 3075 | 1990 | 1240 | 10035 | 6545 | 685 | 320 | 150 | 840 | 4735 | 1630 | 605 | 3 | 3 | 3 | 2 | 26 | 2 | 4 | 8 | 8 | 14 | 4 | 2 | 8 | 16 | 14 | 5 | 22 | 18 | 3 | **TOTALS** | |
| | 45 | 39 | 11 | 2 | 6 | 2 | 3200 | 3690 | 2390 | 1490 | 12050 | 7860 | 830 | 390 | 180 | 1010 | 5690 | 1960 | 730 | 3 | 3 | 3 | 2 | 26 | 2 | 4 | 8 | 8 | 14 | 4 | 2 | 8 | 16 | 14 | 5 | 22 | 18 | 3 | **USE TOTALS*** | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | *USE TOTALS INCLUDES A 20% OVERRUN ON ALL CONDUIT, CONDUCTOR AND CABLE | |

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-100 |




PLAN




NOTE:
Existing Grade Is At Profile Line Of "XS1e"

ELEVATION

## DRAWING LIST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B-101 TYPICAL SECTION, GENERAL NOTES & QUANTITIES
B-102 BRIDGE FALSEWORK & EXCAVATION
B-103 GEOMETRICS
B-104 ABUTMENT FOOTINGS
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B-107 ABUTMENT SECTION & DETAILS
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B-115 GIRDER AND INTERMEDIATE DIAPHRAGM REINFORCEMENT
B-116 TOP SLAB REINFORCEMENT
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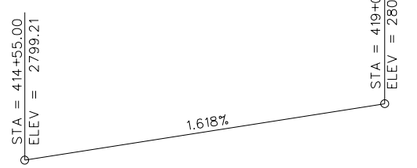
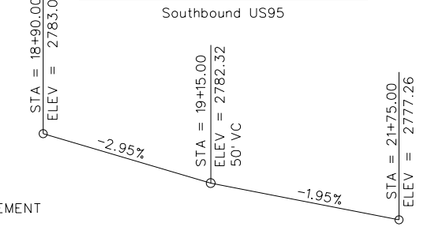
B-122 BRIDGE RAIL
B-123 SIGN STRUCTURE DETAILS
B-124 BAR BEND SCHEDULE
B-125 BAR BEND SCHEDULE
B-126 REBAR AND CONCRETE QUANTITIES
B-127 REBAR AND CONCRETE QUANTITIES

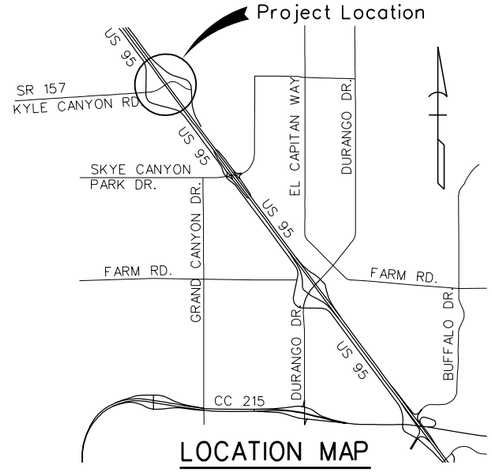

## PROFILE LINE "XS1e"

Southbound US95

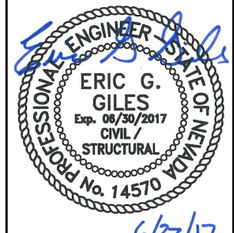



## PROFILE LINE "KCE1"

NOTE:
"KCW1" Is For Horizontal Layout Only. Under Bridge Vertical Curve Is Controlled By Profile Line "KCE1".




LOCATION MAP




STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE
SOUTHBOUND US 95 BRIDGE

# PLAN, ELEVATION AND PROFILES

I-3190 S


GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-101 |

# GENERAL NOTES:

1. Design Specifications: AASHTO "LRFD Bridge Design Specifications" 7th Edition, 2014 And "NDOT Structures Manual" Dated September 2008.

2. Construction Specifications: State of Nevada Department of Transportation "Standard Specifications for Road and Bridge Construction, 2014" except as noted below and in the Special Provisions for this Contract.

3. Dead Load: In accordance with Specifications with an allowance of 38 psf for future overlay surface, and 12 psf for "Lost Forms".

4. Live Load: AASHTO HL-93 Loading. Overload design based on California "Standard Permit Design Vehicles" (Maximum Overload P-13 Truck). Deck Design based on the Equivalent Strip Method with a 40.0-kip axle.

5. Seismic Load:
   Peak Ground Acceleration Coefficient (PGA) =0.15
   Short-Period Spectral Acceleration Coefficient (Ss) = 0.40
   Long-Period Spectral Acceleration Coefficient (S1) = 0.15
   Site Class = C
   Seismic Zone = 2

6. Design Temperatures: T min = 30°F
   T max = 100°F

7. Concrete: All concrete shall be Class A Modified (Major), Class D Modified (Major), and Class E Modified (Major). Class D may be substituted for Class A at no additional cost. Type V Cement shall be used for concrete in contact with soil. See Prestressing Notes and Concrete Classification Diagram for Ultimate Compressive Concrete Strength, and Placement Locations and Sequence. All Construction joints shall be intentionally roughened to 1/4" amplitude. Concrete Construction Joints designed as a "Permissible Joint" or as an "Optional Construction Joint" may be incorporated into the construction at the contractor's option. Joints shall be incorporated into the construction unless otherwise approved in writing by the Bridge Design Engineer unless otherwise noted. Maintain 2" Clear Concrete Cover for all reinforcing bars, Unless noted Otherwise.

8. Reinforcing Steel: All Reinforcing Steel shall be ASTM A706, Grade 60, Deformed. Dimensions relating to the bar spacing are center to center. Bending Dimensions are from out to out of the bars. Bar sizes Three (3) to Nine (9) are indicated by the first number in the mark size and Ten (10) or larger by the first two numbers. Sizes Four (4) and Five (5), when considered as bars to control temperature, shrinkage, and distribution stresses by the Engineer, may be adjusted upon concurrence and approval of the Engineer.

9. Camber: The Camber shall be as shown on the Plans.

10. Bridge Rail: Designed for TL-4

11. Foundations:

| ABUTMENT 1 AND ABUTMENT 2 | | |
|---|---|---|
| SPREAD FOOTINGS FOUNDED ON NATIVE SOIL | | |
| LIMIT STATE | PRESUMPTIVE BEARING RESISTANCE (ksf) NOMINAL $q_N$ | FACTORED $q_R$ |
| STRENGTH* | 24.0 | 10.8 |
| SERVICE (FOR MAX 1/2" SETTLEMENT) | 5.4 | 5.4 |

| PIER | | |
|---|---|---|
| SPREAD FOOTINGS FOUNDED ON NATIVE SOIL | | |
| LIMIT STATE | PRESUMPTIVE BEARING RESISTANCE (ksf) NOMINAL $q_N$ | FACTORED $q_R$ |
| STRENGTH* | 34.2 | 15.4 |
| SERVICE (FOR MAX 1/2" SETTLEMENT) | 5.2 | 5.2 |

*The Strength Limit Factored Bearing Resistance is equal to the Nominal Bearing Resistance multiplied by a Resistance Factor of 0.45.

Estimated Differential Settlement is equal to the Maximum Settlement.

From Geotechnical Exploration Report. By Klienfelder dated 05-23-2016. Project No. 20162633.

12. Construction Type Code: X281

13. Conduit: See Lighting Plans for location and quantities of Conduit for Utilities. Contractor to install Conduits for Utilities as shown on the Plans. All Conduit shall extend 3'-0" beyond the limits of the Approach Slabs.

14. Fine Surface Finish: Shall be applied to all Concrete Surfaces exposed to view (Except Top Surfaces of Deck Slab) to at least 1'-0" below Finished Grade.

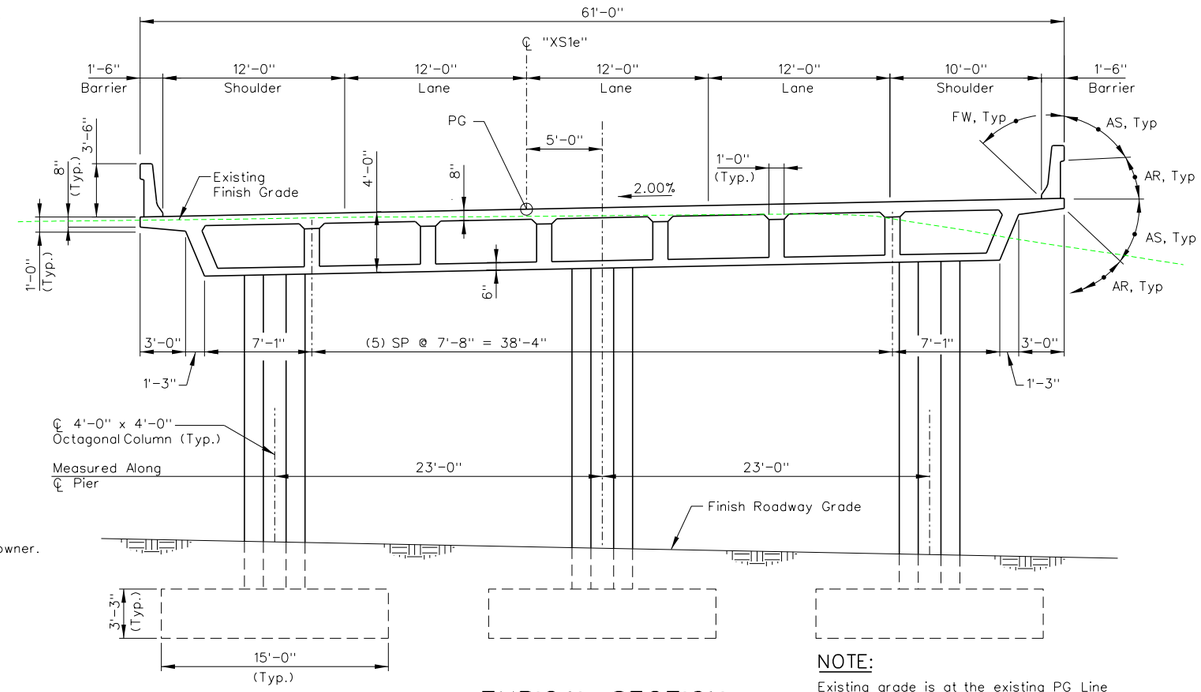
15. Where NDOT Standard Plans are referenced please see "Standard Plans for Road and Bridge Construction" 2010 Edition.

## BRIDGE SURFACE FINISH TABLE

| FINISH TYPE | COLOR | KEY |
|---|---|---|
| FINE SURFACE FINISH | RUST | AR |
| FINE SURFACE FINISH | SAND | AS |
| FINE SURFACE FINISH | WHITE | FW |

NOTES:

1. Verify colors with NDOT prior to application.
2. Wingwalls to have surface finish with color to be determined by owner.




## TYPICAL SECTION
(Looking Ahead On Station)

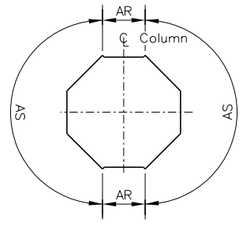
NOTE:
Existing grade is at the existing PG Line

## BRIDGE QUANTITIES:

| SPEC | ITEM DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|
| 2060110 | STRUCTURAL EXCAVATION | CY | 6650 |
| 2070110 | GRANULAR BACKFILL | CY | 1720 |
| 2120045 | PAINTING | SY | 1820 |
| 5020670 | GROOVE CONCRETE DECK SLAB | SY | 1495 |
| 5020920 | CLASS A CONCRETE (MODIFIED)(MAJOR) f'c = 4500psi | CY | 315 |
| 5020970 | CLASS D CONCRETE (MODIFIED)(MAJOR) f'c = 4500psi | CY | 397 |
| 5021000 | CLASS E CONCRETE (MODIFIED)(MAJOR) f'c = 4500psi | CY | 483 |
| 5021780 | STRIP SEAL EXPANSION JOINT (3-INCH MOVEMENT) | LF | 130 |
| 5021950 | BRIDGE DECK CURING COMPOUND | GALLON | 90 |
| 5030130 | PRESTRESSING - CAST-IN-PLACE CONCRETE | LUMP SUM | 1 |
| 5050100 | REINFORCING STEEL | POUND | 281500 |
| 5060110 | STRUCTURAL STEEL | POUND | 2240 |
| 5060470 | APPROACH SLAB RESTRAINER UNIT | EA | 66 |
| | | | |
| | | | |

## QUANTITY NOTE:

1. Bridge Quantities include Bridge, Approach Slab, and Concrete Bridge Rail from the beginning Approach Slab to the End Approach Slab.

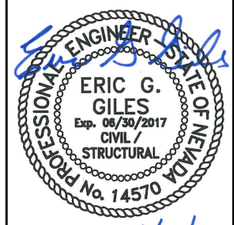



## COLUMN SURFACE FINISH DETAIL

## LAP SPLICE:

| BAR SIZE | MIN LAP |
|---|---|
| #4 | 1'-9" |
| #5 | 2'-2" |
| #6 | 2'-7" |
| #7 | 3'-3" |
| #8 | 4'-3" |
| #9 | 5'-1" |
| #10 | 6'-5" |
| #11 | 7'-10" |

NOTE: STAGGER ADJACENT LAP SPICES A MINIMUM OF 2'-0'




STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

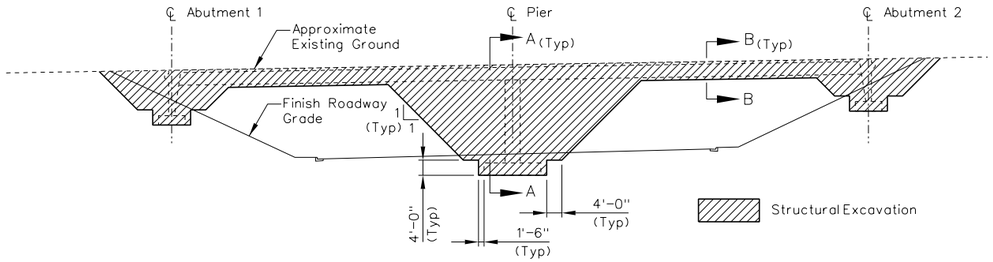
US95/KYLE CANYON RD INTERCHANGE
SOUTHBOUND US 95 BRIDGE

# TYPICAL SECTION, GENERAL NOTES AND QUANTITIES

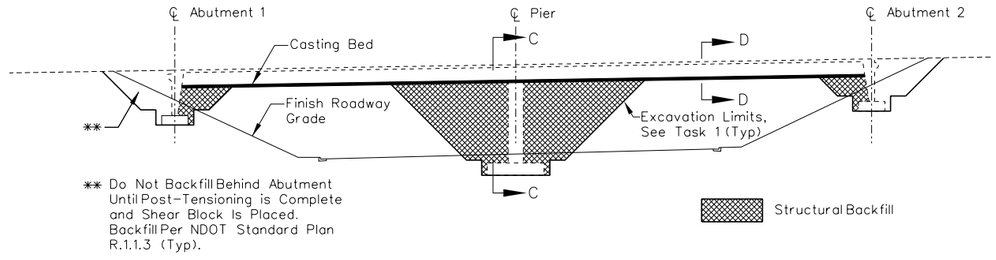
I-3190 S

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

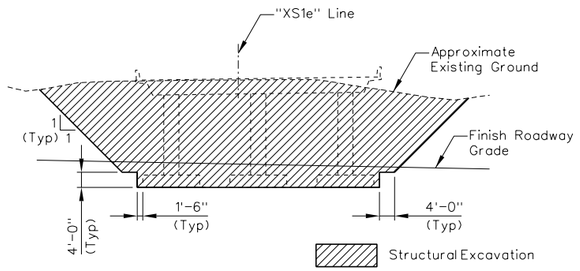
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-102 |



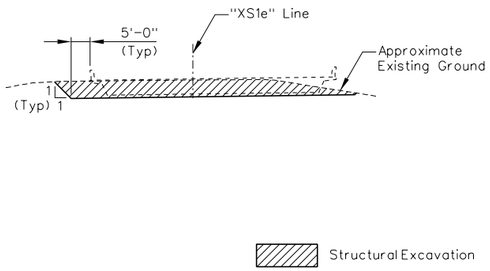

## PROPOSED CONSTRUCTION METHOD TASK 1



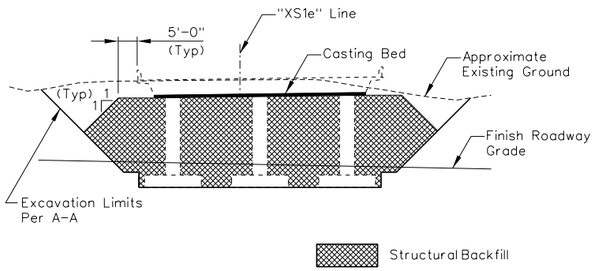

## PROPOSED CONSTRUCTION METHOD TASK 2




## A-A




## B-B

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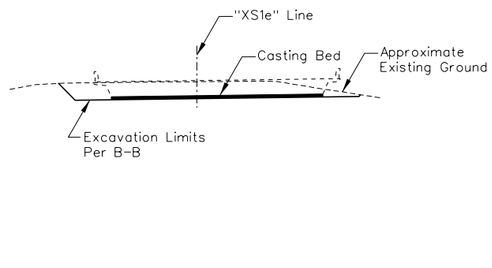


## D-D

### SEQUENCE OF CONSTRUCTION NOTES:

See Details On This Sheet For Additional Information.

TASK 1

- Excavate From Existing Ground Line To A Depth Below Girder Soffit To Allow For Construction Of Casting Bed. The Supporting Soil Shall Be Compacted Sufficiently To Avoid Settlement. Any Damage To The SuperStructure Due To Settlement Shall Be The Sole Responsibility Of The Contractor.
- Excavate For Construction Of Abutment And Pier Footings.
- Construct Abutment Footing, Pier Footings, And Columns.

TASK 2

- Backfill Around Abutment And Pier Footings And Columns Up To Bottom Of Casting Bed. The Supporting Soil Shall Be Compacted Sufficiently To Avoid Settlement. Any Damage To The Superstructure Due To Settlement Shall Be The Sole Responsibility Of The Contractor.
- Construct Suitable Casting Bed.
- Construct Bridge Superstructure.
- Remove soil in front of Abutment as specified on prestressing diagram sheet B-117
- Stress Bridge.

TASK 3

- Excavate Minimum 12'-0" Under Girders To Inspect The Box Girder. All Excavation Quantities Under The Bridge for Task 3 Shall Be Paid For Under The Pay Item: Roadway Excavation.

### NOTES:

1. Excavation And Fill Required For Construction Of The Specification Section 206 "Structure Excavation" Will Be Paid Under The Pay Item: Southbound US95 Over Kyle Canyon. All Other Excavations Will Be Paid Under The Pay Item: Roadway Excavation.
2. As An Alternative Method For Construction, At No Additional Cost, Excavate To The Bottom Of The Footing And Build The Superstructure On Falsework. Backfill The Footings To The Elevation Indicated On The Roadway Grading And Drainage Plans.
3. For Granular Backfill And Other Details Not Shown, See NDOT Standard Plan R-1.1.3.

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SOUTHBOUND US 95 BRIDGE

# BRIDGE FALSEWORK AND EXCAVATION

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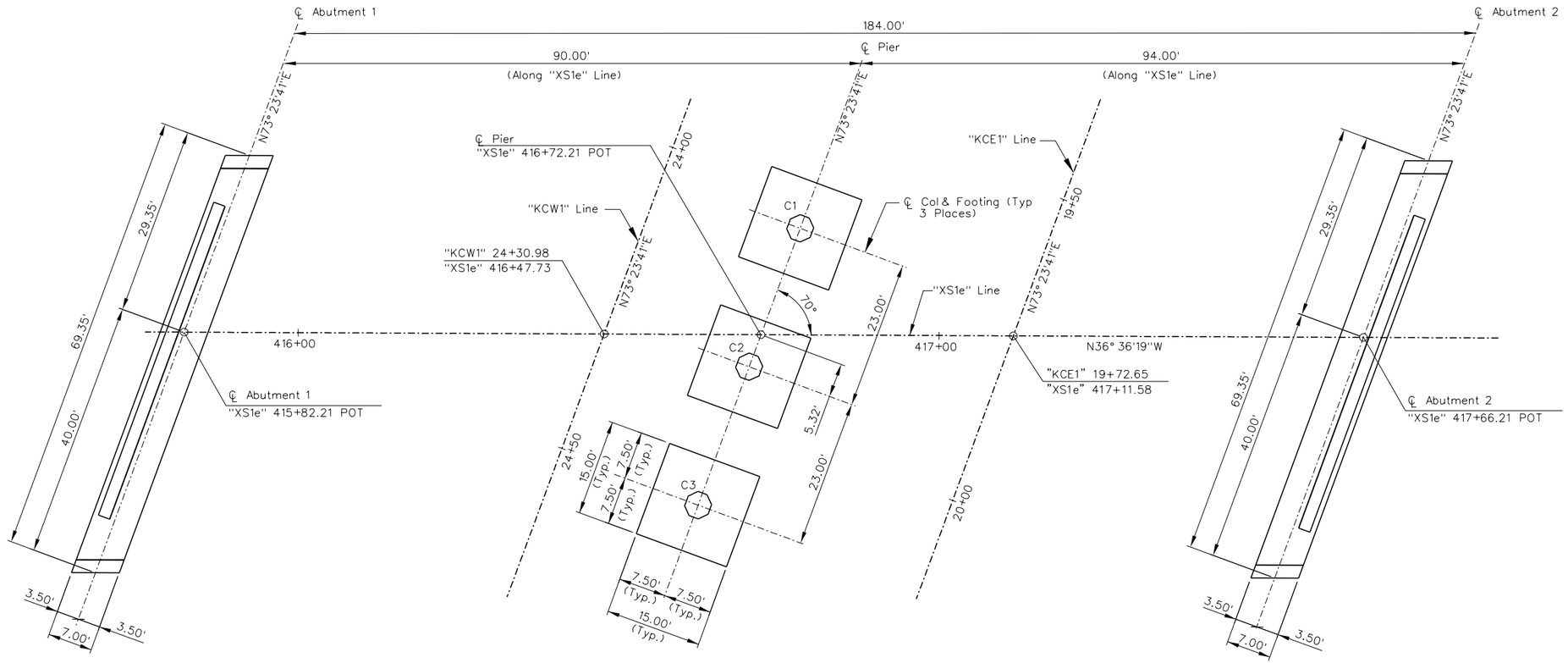
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-103 |




## GEOMETRIC PLAN

### FOUNDATION NOTES:

1. Footings Shall Be Excavated To Neat Lines And Scarified Six To Eight Inches, Moistened To Within Two Percent Of Optimum Moisture Content For Granular Soils And Up To Three Percent Above Optimum Content For Cohesive Soils And Compacted To At Least 95 Percent Per ASTM D-1557. Scarification And Recompaction Is Not Required Where Cemented Soils Are Encountered.
2. If Both Cemented And Non-Cemented Soils Are Encountered In Foundation Excavations For A Single Structure, Then The Foundations Should Either Be Extended To Bear Entirely On Cemented Soils In All Areas, Or The Cemented Soils Should Be Overexcavated So That A Minimum Of Twelve Inches Of Structural Embankment Fill May Be Placed Between The Bottom Of The Footing And The Cemented Soils In All Areas.
3. Although Not Anticipated, If Loose Or Soft Soils Are Encountered They Shall Be Removed In Areas Where Overexcavation Is Required. The Excavations For Loose Or Soft Soils Shall Extend Laterally A Distance Equal To The Depth Of The Excavation.
4. Areas Receiving Structural/Embankment Fill Due To Overexcavation Shall Be Constructed In 6 To 8 Inch Lifts And Moistened To Within Two Percent Of Optimum Moisture Content For Granular Soils And Up To Three Percent Above Optimum Content For Cohesive Soils And Compacted To At Least 95 Percent Per ASTM D-1157.
5. "CX" Indicates Column Number. See Sheet B-110 For Column Data.

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SOUTHBOUND US 95 BRIDGE

# GEOMETRICS

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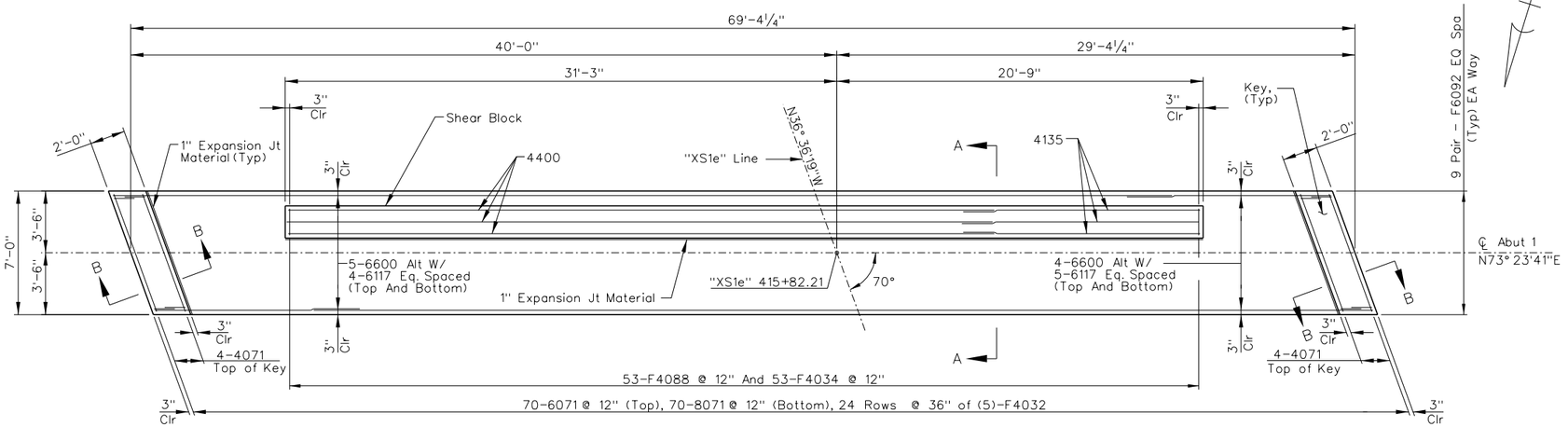
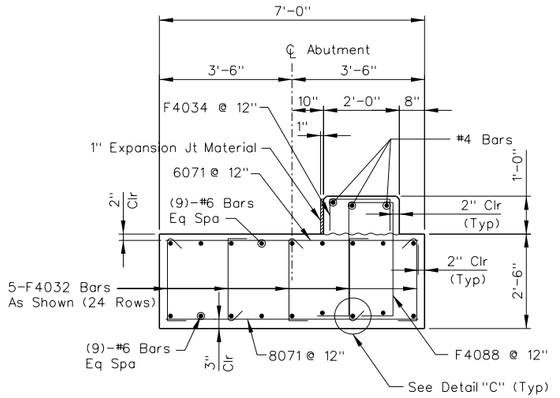
| NEVADA | NHP-STP-095-2(062) | CLARK | B-104 |

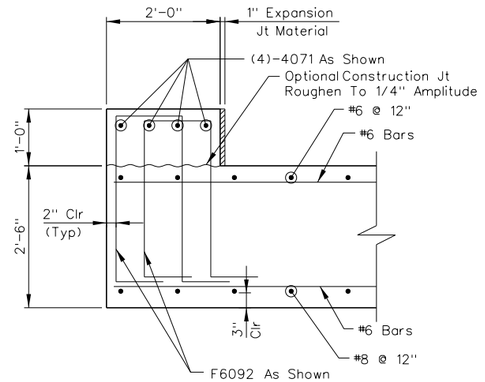



## FOOTING PLAN - ABUTMENT 1

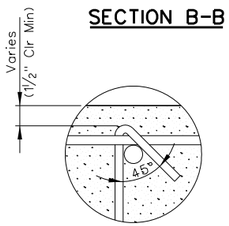
NOTE:
Do Not Place Shear Block Until After Post-Tensioning Has Been Completed



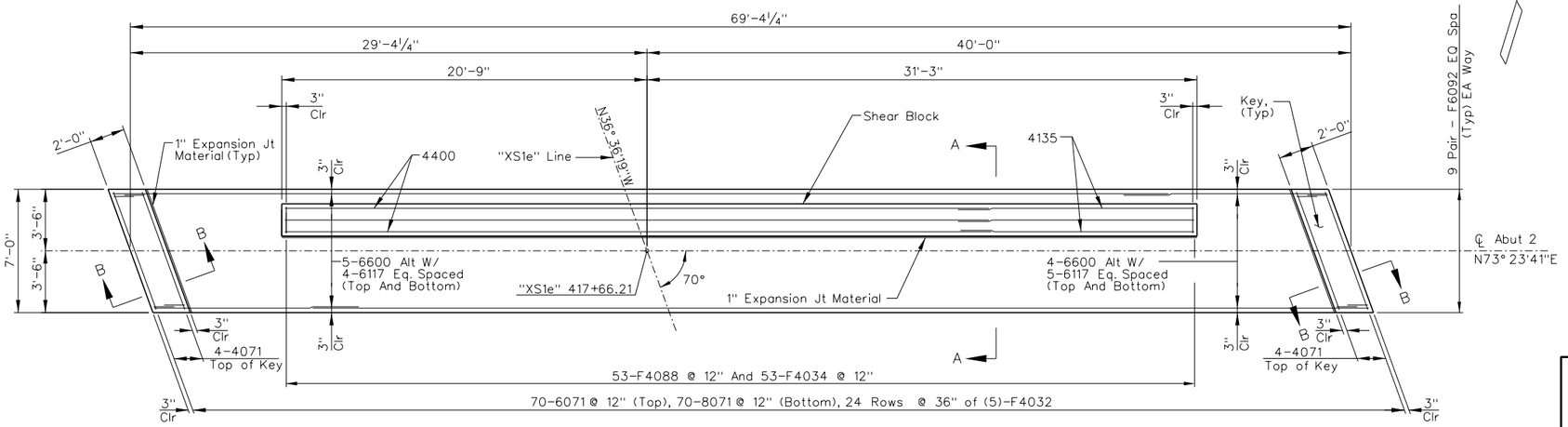

## SECTION A-A




## SECTION B-B




## DETAIL C




## FOOTING PLAN - ABUTMENT 2

NOTE:
Do Not Place Shear Block Until After Post-Tensioning Has Been Completed

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SOUTHBOUND US 95 BRIDGE

# ABUTMENT FOOTINGS

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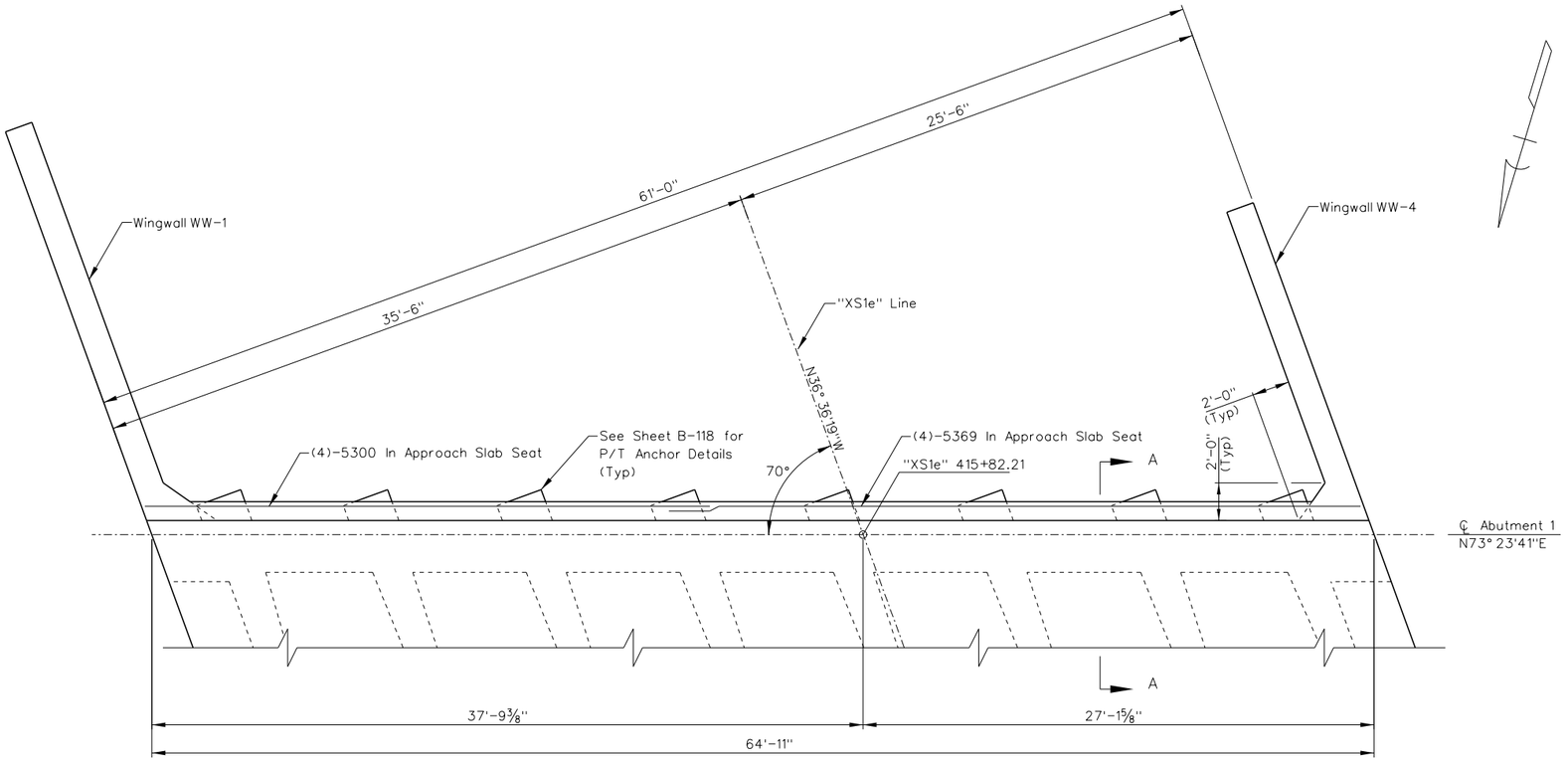
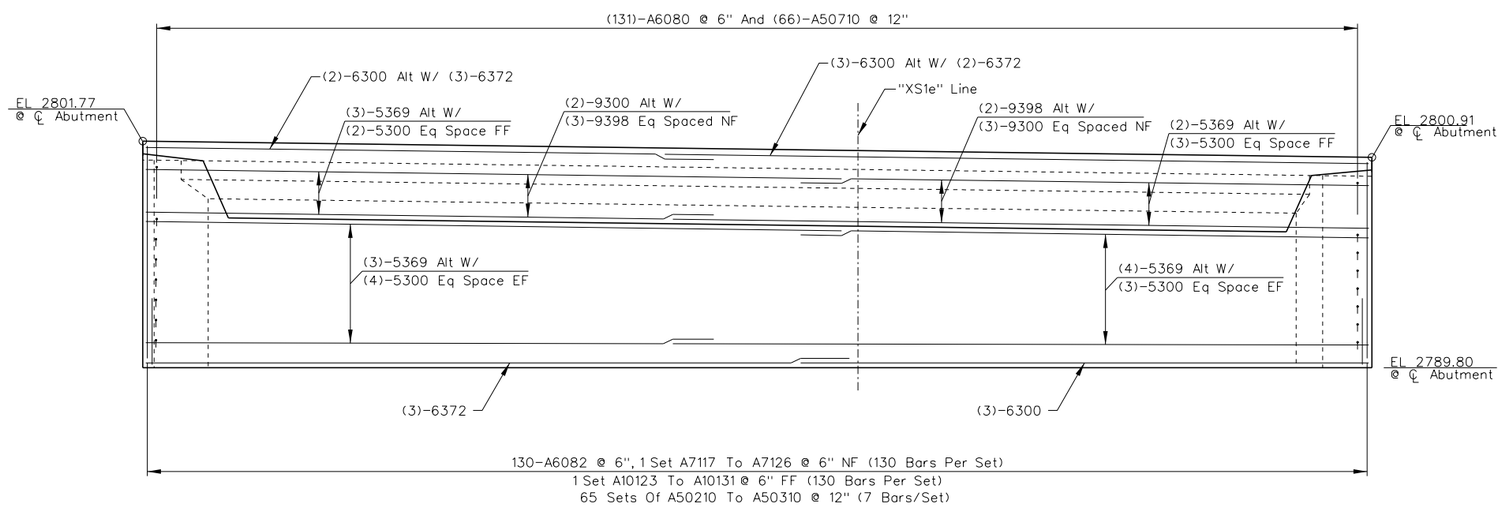
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-105 |




## PLAN - ABUTMENT 1




## ELEVATION - ABUTMENT 1

NOTES:

1. For Section A-A And Details See Sheet B-107.
2. See Sheets B-108 And B-109 For Wingwall Reinforcing That Is To Be Cast Into Abutments.
3. See Sheet B-120 For Expansion Joint Anchorage To Be Cast Into Abutments.
4. Deck And Girder Reinforcement Not Shown For Clarity.

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SOUTHBOUND US 95 BRIDGE

# ABUTMENT 1 PLAN AND ELEVATION

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|---|---|---|---|
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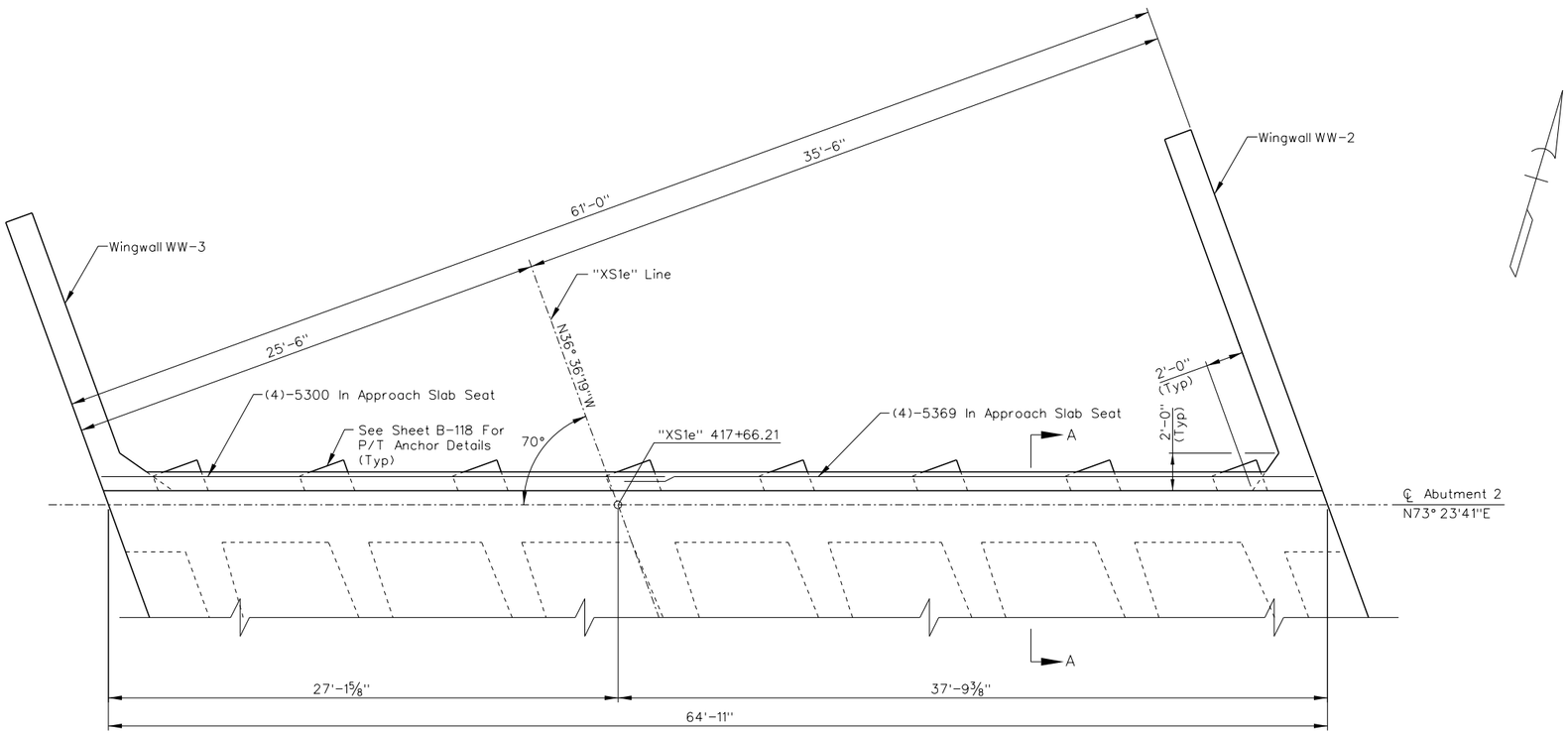
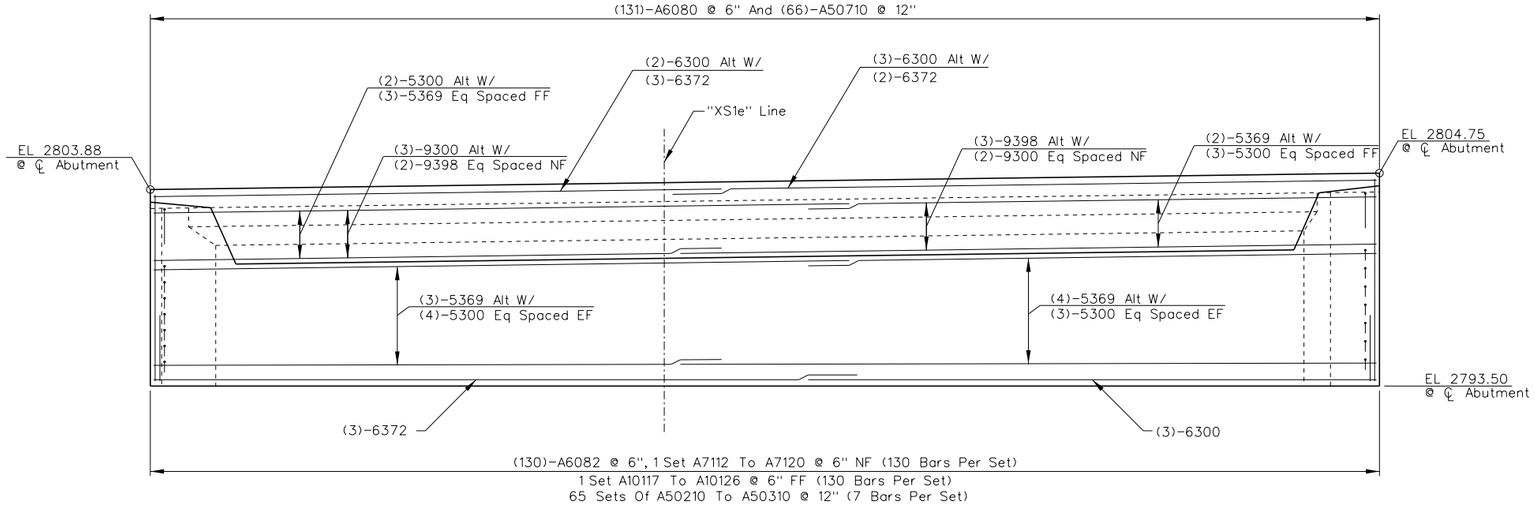



## PLAN - ABUTMENT 2




## ELEVATION - ABUTMENT 2

### NOTES

1. For Section A-A And Details See Sheet B-107.
2. See Sheets B-108 And B-109 For Wingwall Reinforcing That Is To Be Cast Into Abutments.
3. See Sheet B-120 For Expansion Joint Anchorage To Be Cast Into Abutments.
4. Deck And Girder Reinforcement Not Shown For Clarity.

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# ABUTMENT 2 PLAN AND ELEVATION

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|---|---|---|---|
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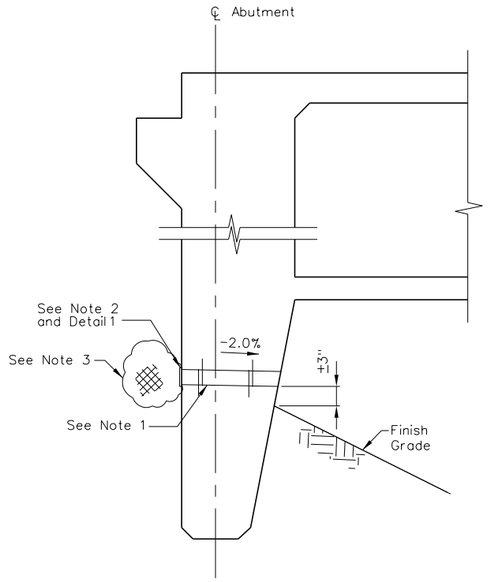
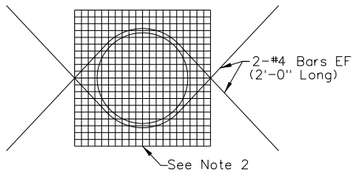


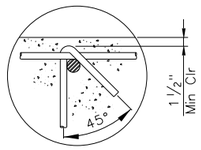

## ABUTMENT WEEPHOLE DETAIL

NOTES:

1. 4"ø Drains at 15'-0"± Center to Center located 3"± Above Finished Grade.
2. 6" Sq Aluminum or Galvanized Steel Wire Mesh Hardware Cloth (Min Wire Dia. 0.03").
3. 2 $ft^3$ of NDOT Type 1 or 2 Drain Backfill, Encapsulated in a Geotextile Fabric, Securely Tied. The Geotextile Fabric Must:
   a) Meet or Exceed AASHTO Test Method M288 Class 2 Strength requirements.
   b) Have an AOS no Greater than U.S. Sieve No. 40.
   c) Have a Permittivity of at Least 0.5 sec .
4. Cost of Weepholes Complete and in Place Shall be Considered Incidental to Construction, and No Direct Payment Will be Made Therefore.




## DETAIL 1

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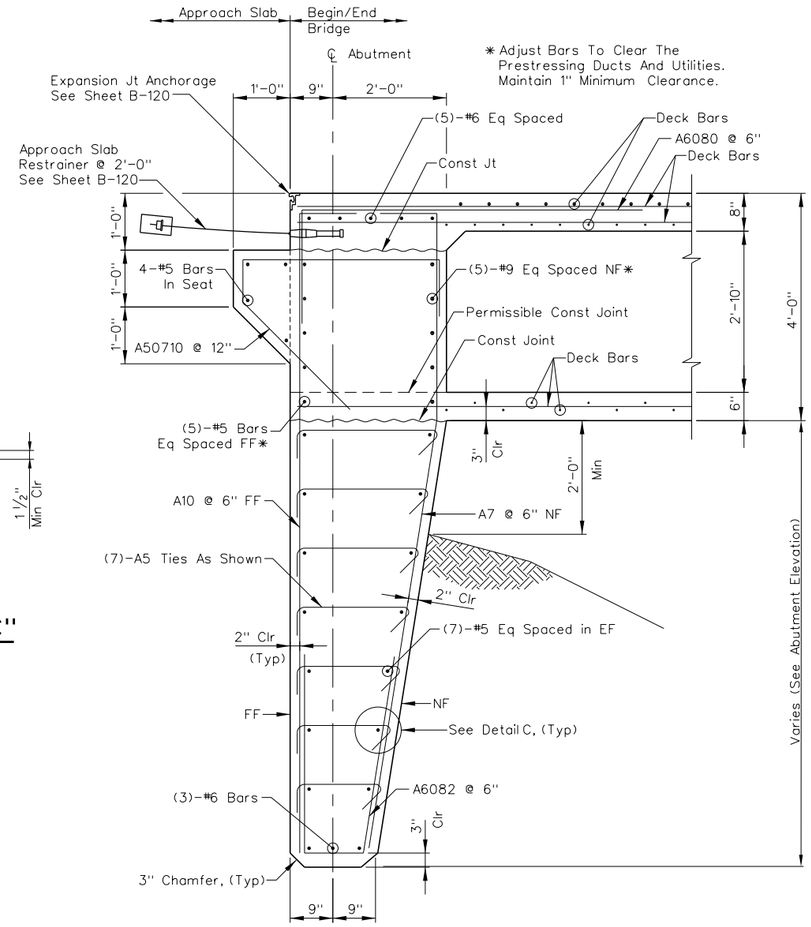
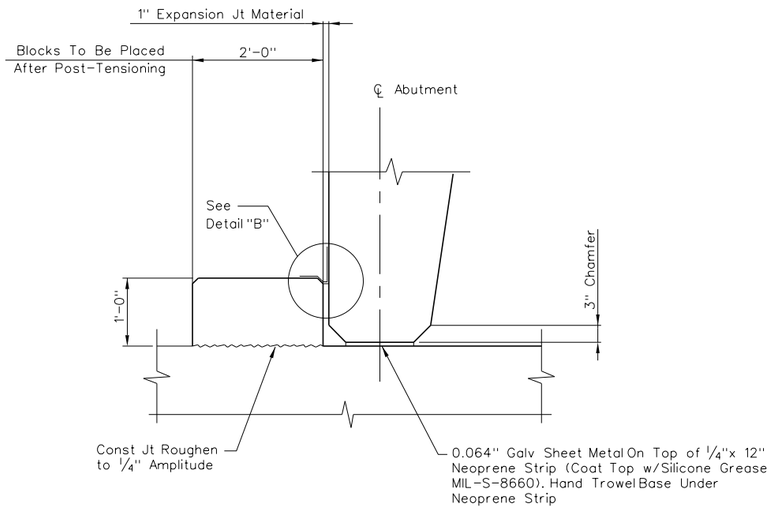



## SECTION A-A

NOTES:

1. For Abutment Plans And Elevations, See Sheets B-105 And B-106.
2. Bundle Vertical Abutment Stem Bars At Girder Web Locations As Required To Clear Prestressing Anchors.
3. Girder Reinforcing Not Shown For Clarity.

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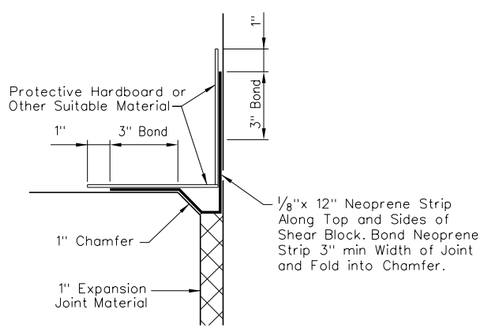


## DETAIL "B"

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SOUTHBOUND US 95 BRIDGE

# ABUTMENT SECTIONS AND DETAILS

I-3190 S

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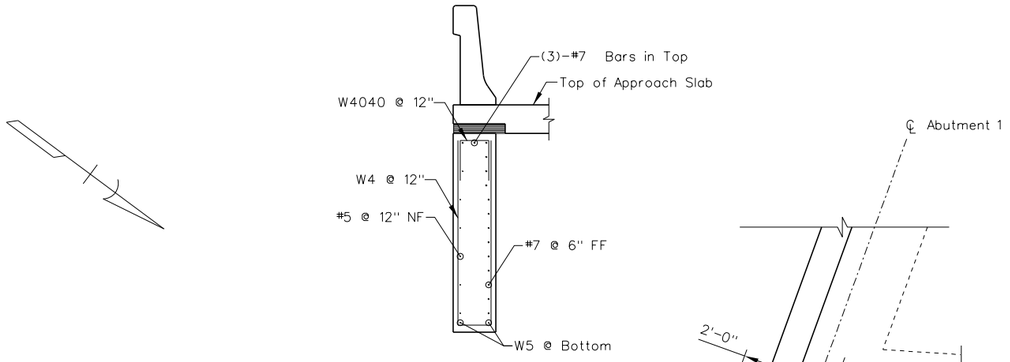
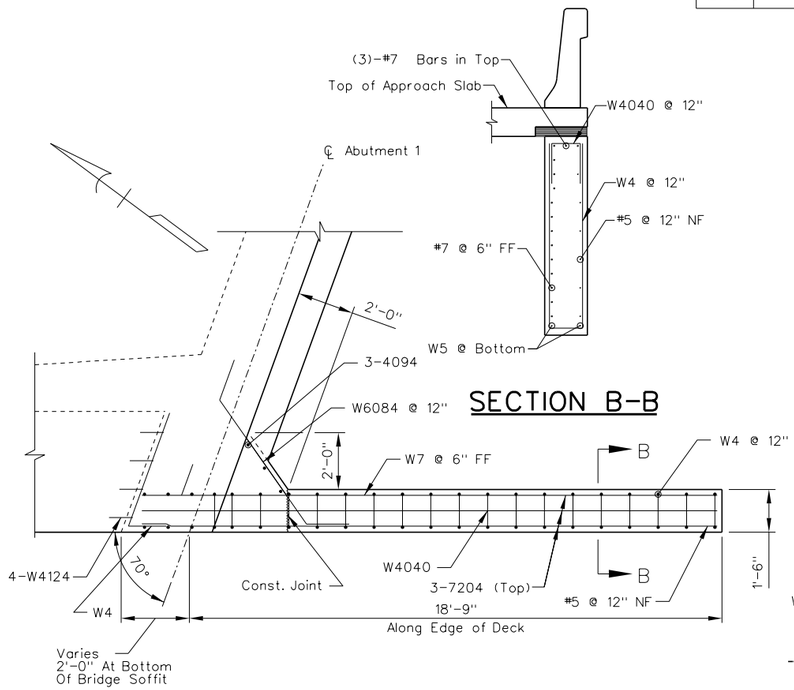
| NEVADA | NHP-STP-095-2(062) | CLARK | B-108 |



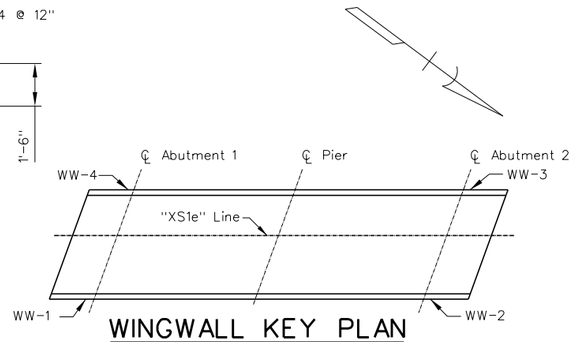

## SECTION A-A

## PLAN WW1



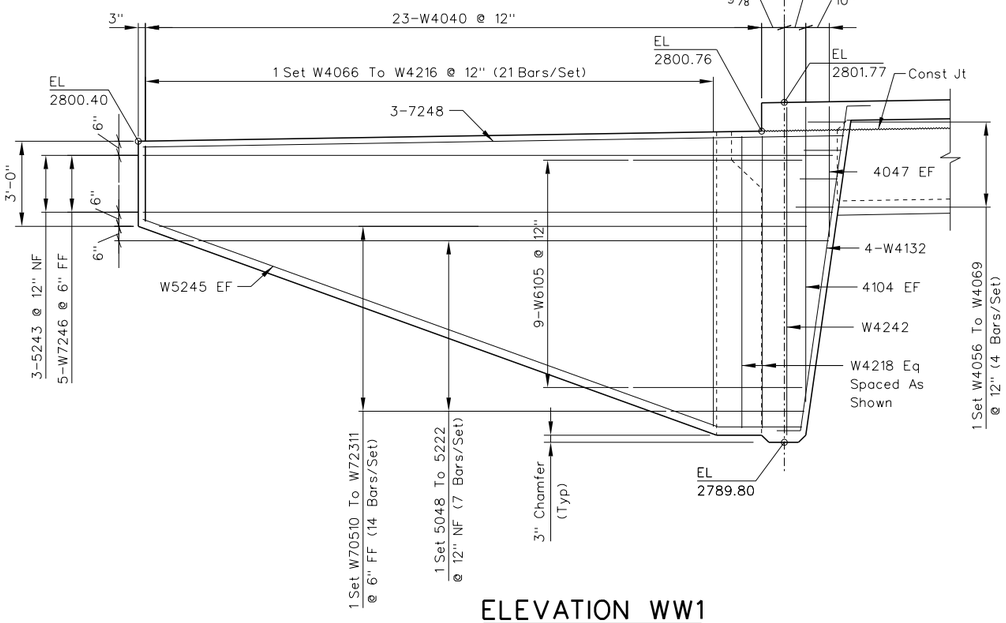

## SECTION B-B

## PLAN WW4

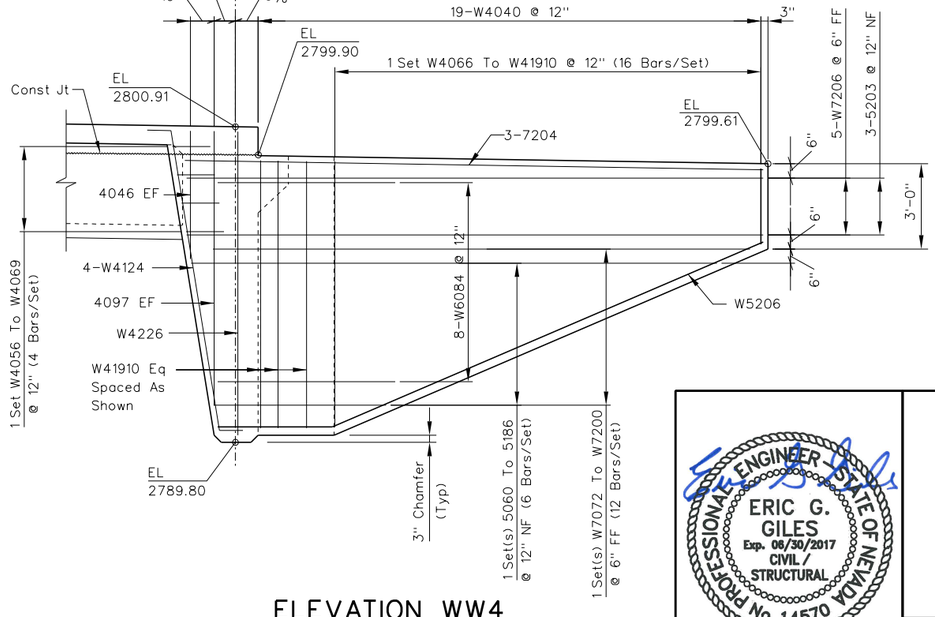



## WINGWALL KEY PLAN

NTS




## ELEVATION WW1




## ELEVATION WW4

NOTES:

1. Wingwall Shall Not Be Poured Until After Stressing Is Completed.
2. The Wingwall Reinforcing Extending Into The Abutment Stem Shall Be Placed Prior To The Abutment Stem Pour. Parts Of The Wingwalls Will Typically Be Poured In At Least Two Separate Pours With All Reinforcing Continuos Through Multiple Pours. Wingwall Reinforcing To Be Installed As Detailed. No Cutting And Splicing Or Drilling And Grouting Shall Be Permitted.
3. Backfill Inside And Outside Of Wingwall Simultaneously.

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# ABUTMENT 1 WINGWALLS

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|---|---|---|---|
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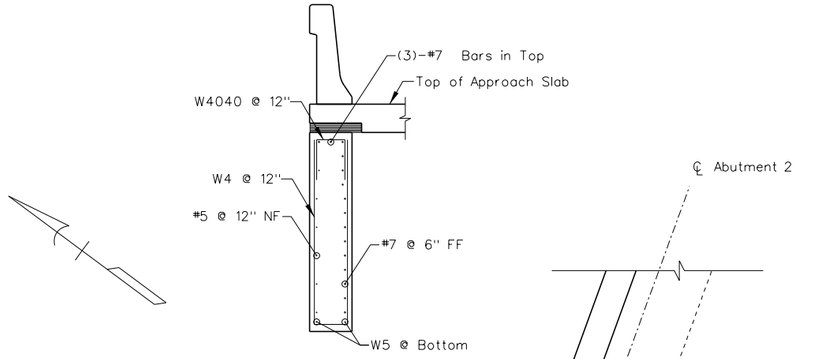
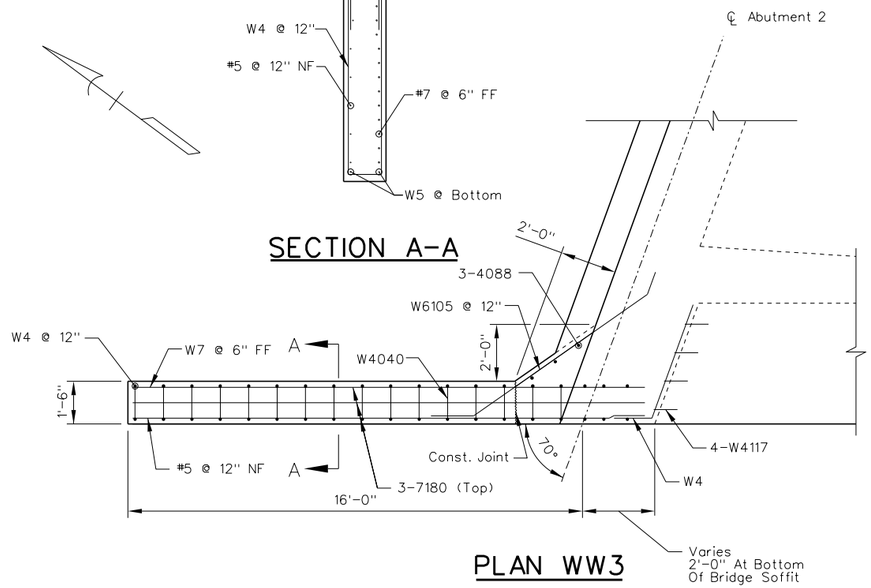
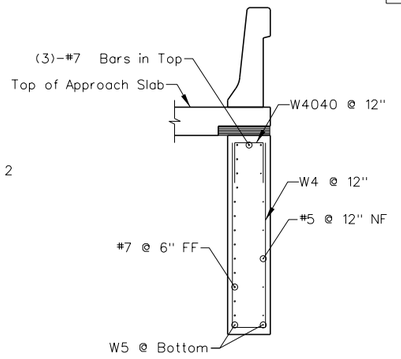


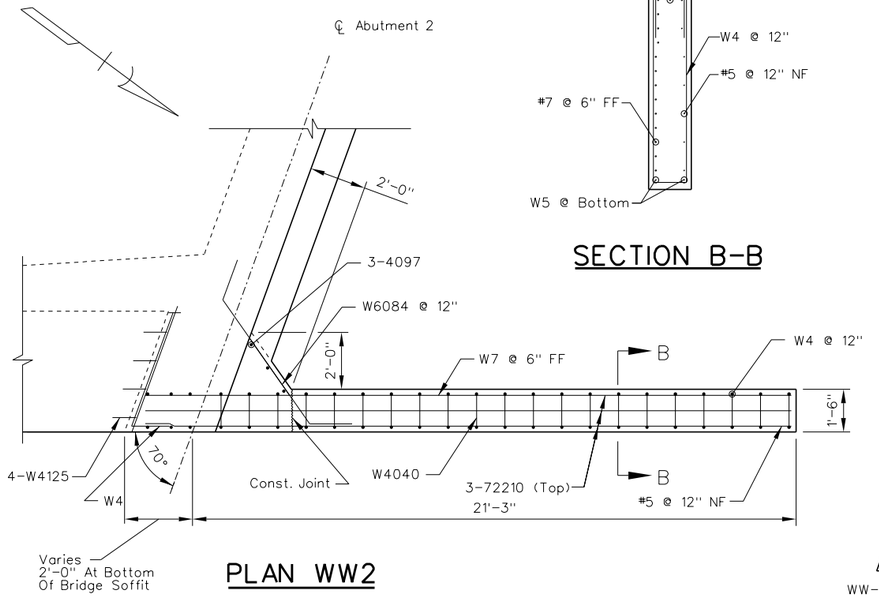

## SECTION A-A




## PLAN WW3



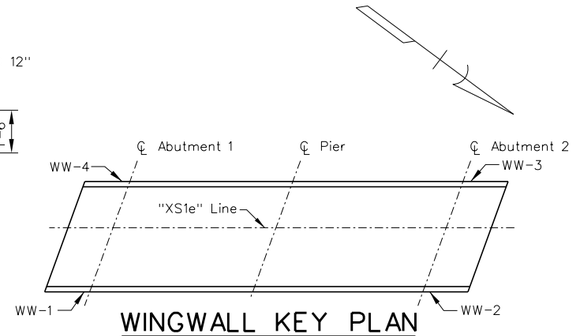

## SECTION B-B




## PLAN WW2

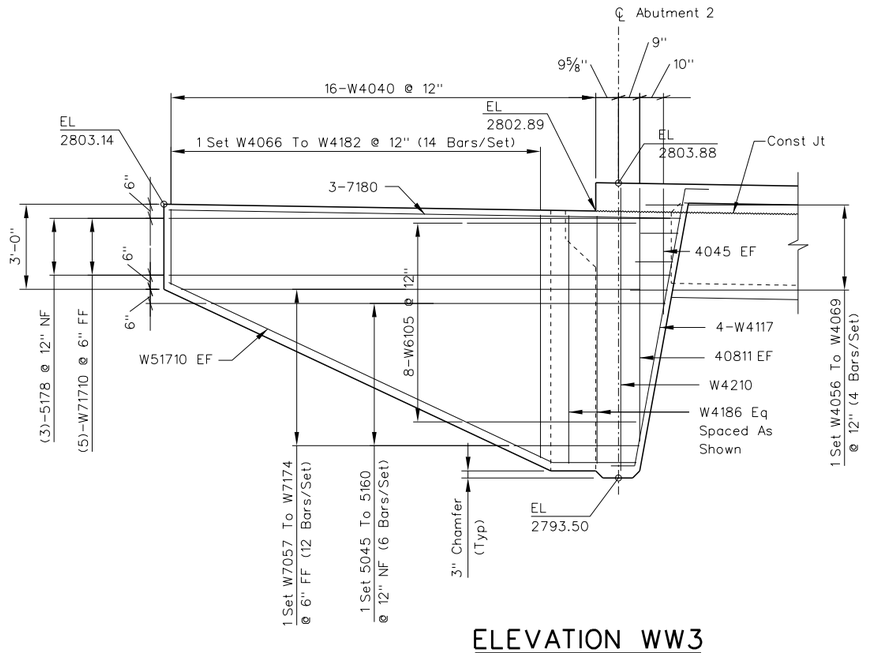
## NOTES:

1. Wingwall Shall Not Be Poured Until After Stressing Is Completed.
2. The Wingwall Reinforcing Extending Into The Abutment Stem Shall Be Placed Prior To The Abutment Stem Pour. Parts Of The Wingwalls Will Typically Be Poured In At Least Two Separate Pours With All Reinforcing Continuos Through Multiple Pours. Wingwall Reinforcing To Be Installed As Detailed. No Cutting And Splicing Or Drilling And Grouting Shall Be Permitted.
3. Backfill Inside And Outside Of Wingwall Simultaneously.

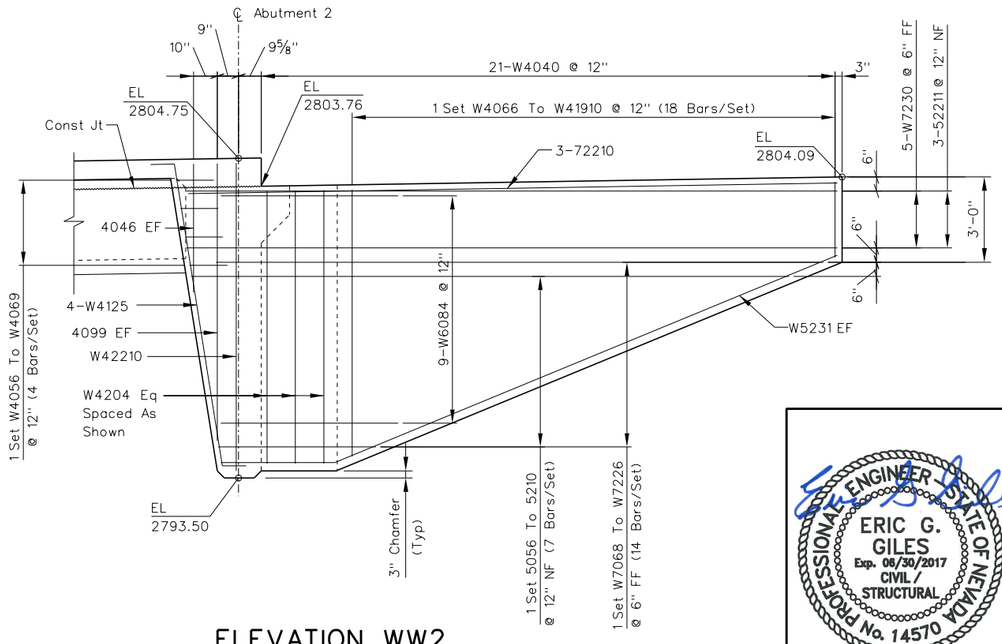



## WINGWALL KEY PLAN

NTS




## ELEVATION WW3




## ELEVATION WW2

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# ABUTMENT 2 WINGWALLS

I-3190 S

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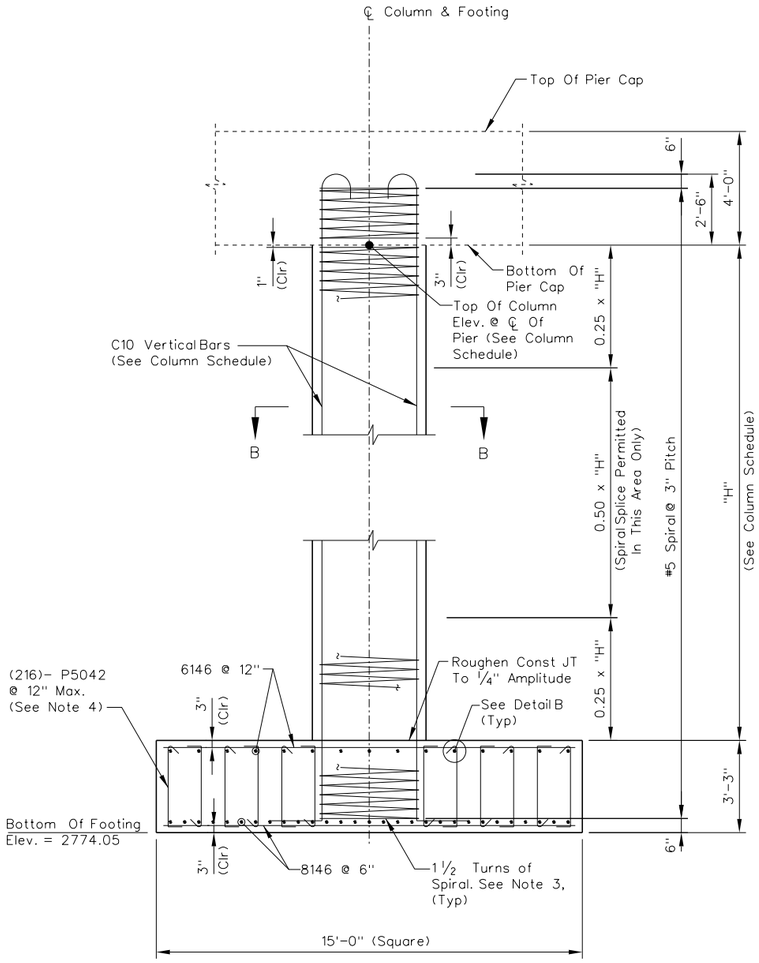
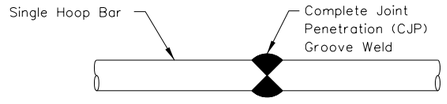
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

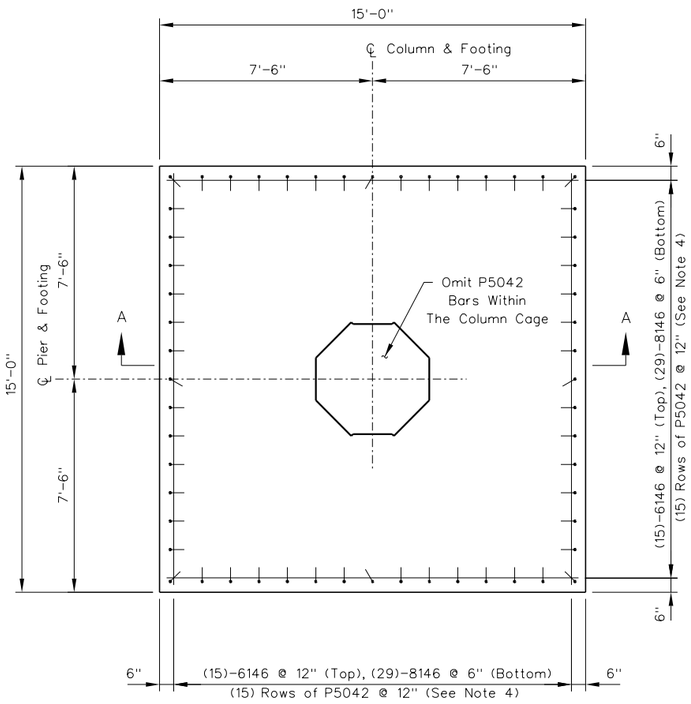
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-110 |



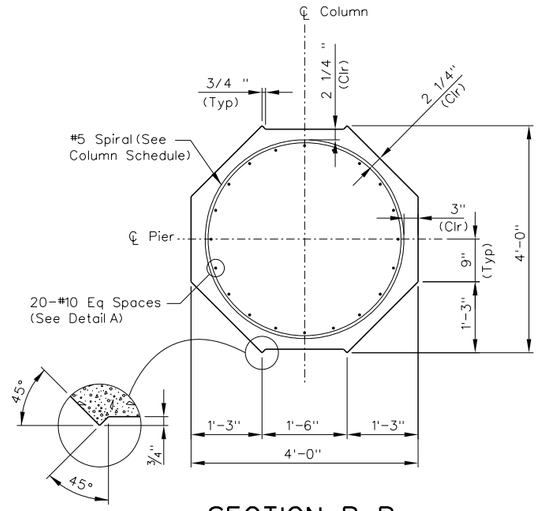

## SECTION A-A




## BUTT WELDED CONTINOUS HOOP




## TYPICAL FOOTING PLAN




## SECTION B-B

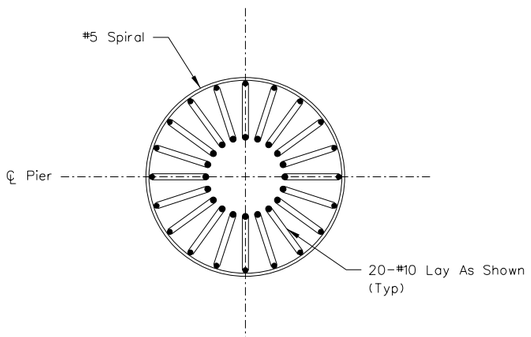
## NOTES:

1. Splices Are Not Allowed For Column Vertical Reinforcement.
2. Spiral may be discontinuous at top of Column to allow for placing Pier Cap Reinforcement. As an alternative to the Spiral Reinforcement shown above the Top of Column, the Contractor can use Butt Welded Hoops with Size and Spacing to match Spiral Reinforcing.
3. Provide 1 1/2 extra Turns at each end of the Spiral Reinforcing and at Permissible Spiral Breaks at Top of Column and at Top of Footing. Provide a minimum one extra turn for Lap Splices located elsewhere. Anchor each Spiral end and Splice with a 135 Degree Hook around Vertical Bar with a minimum 6" Tail.
4. Alternate 90 Degree and 135 Degree Hook around Top and Bottom of main footing Reinforcing. P5042 Bars are not required directly under Column.

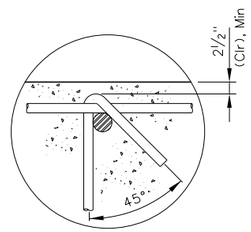
### COLUMN SCHEDULE

| COLUMN NUMBER | ELEVATION AT BOTTOM OF COLUMN | ELEVATION AT TOP OF COLUMN | COLUMN HEIGHT "H" | SPIRAL LENGTH* | VERTICAL BARS |
|---|---|---|---|---|---|
| C1 | 2777.30 | 2798.49 | 21.19' | 1197 | C10299 |
| C2 | 2777.30 | 2798.79 | 21.49' | 1211 | C10301 |
| C3 | 2777.30 | 2799.10 | 21.80' | 1224 | C10305 |

* Includes 1 1/2 Extra Turns Of Spiral At Each End Of Column And At Each End Of Permissible Break At Pier Cap. Length Is For 3'-6" O.D. Spiral, 3" Pitch & No Breaks Only Rounded Up To The Nearest Foot. Additional Length Required For Each Permissible Break.




## DETAIL A




## DETAIL B

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE
SOUTHBOUND US 95 BRIDGE

# PIER COLUMN AND FOOTING DETAILS

I-3190 S

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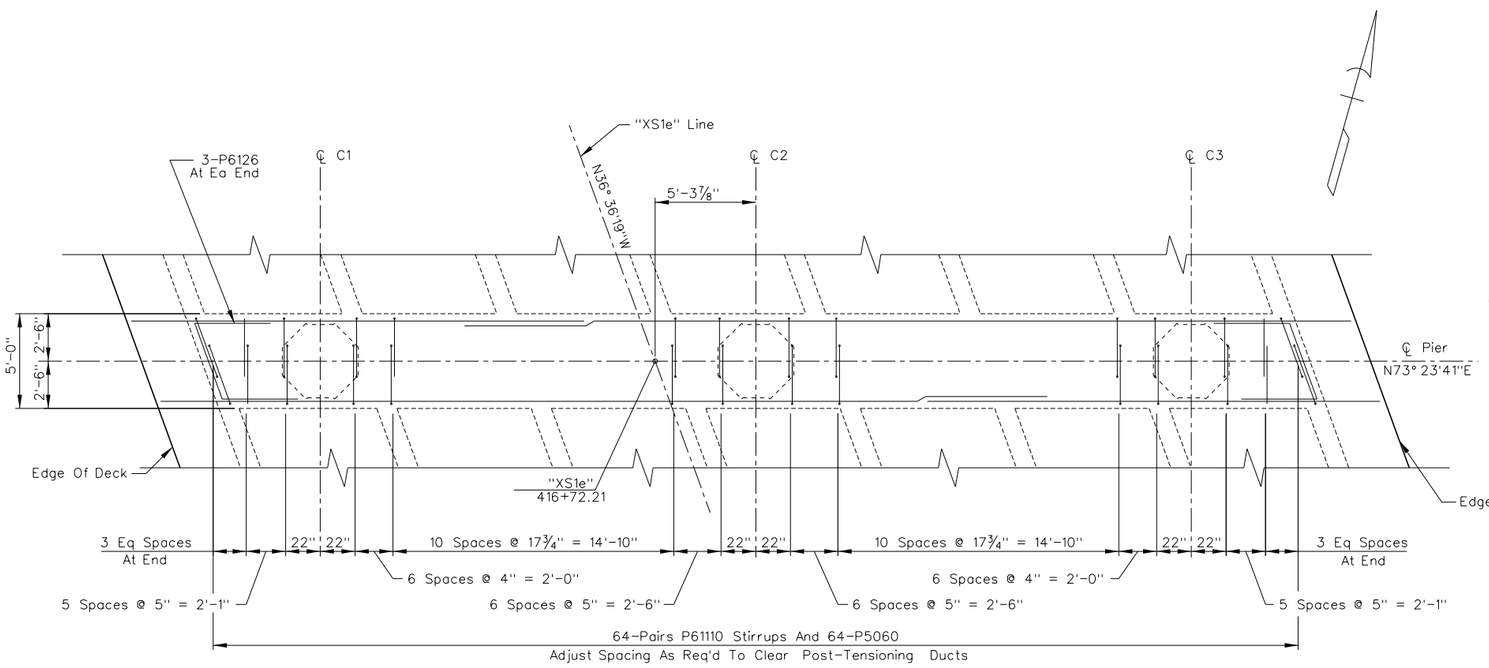
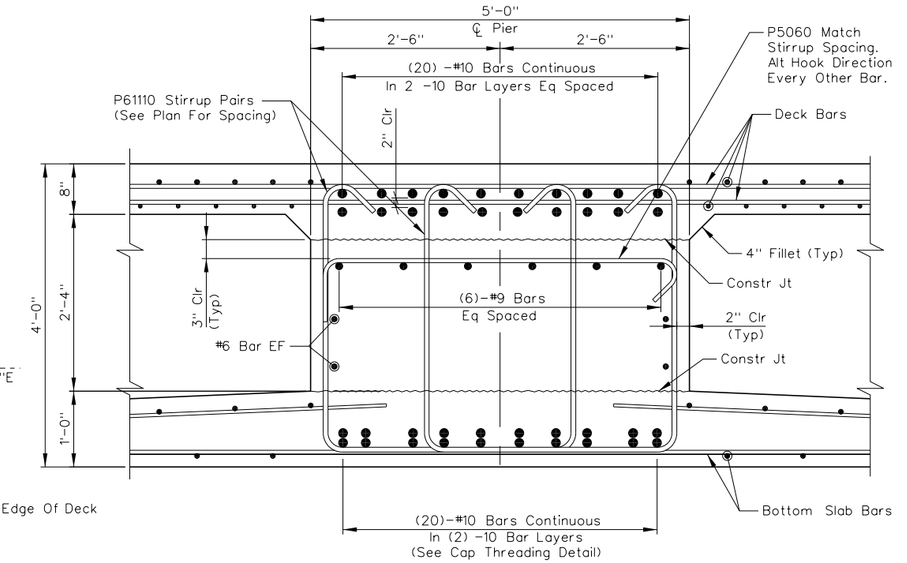
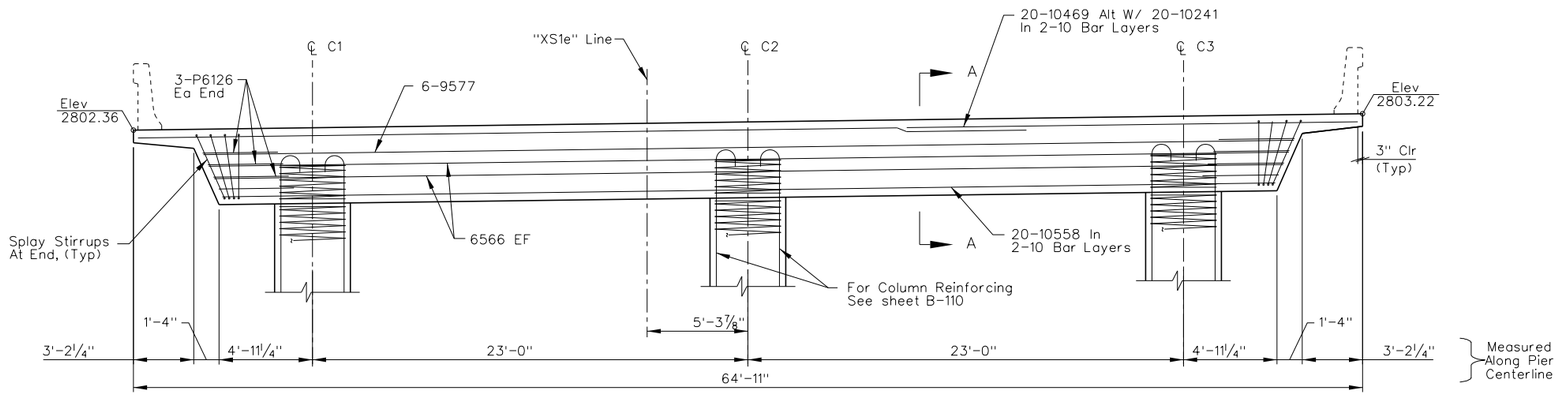
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-111 |




PLAN

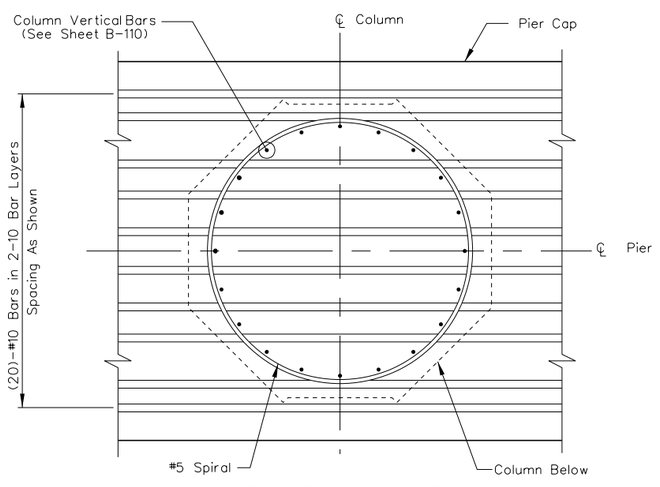



SECTION A-A




PIER ELEVATION

(Looking Ahead On Station)




CAP THREADING DETAIL

PROFESSIONAL ENGINEER STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE
SOUTHBOUND US 95 BRIDGE

# PIER CAP

I-3190 S

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1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
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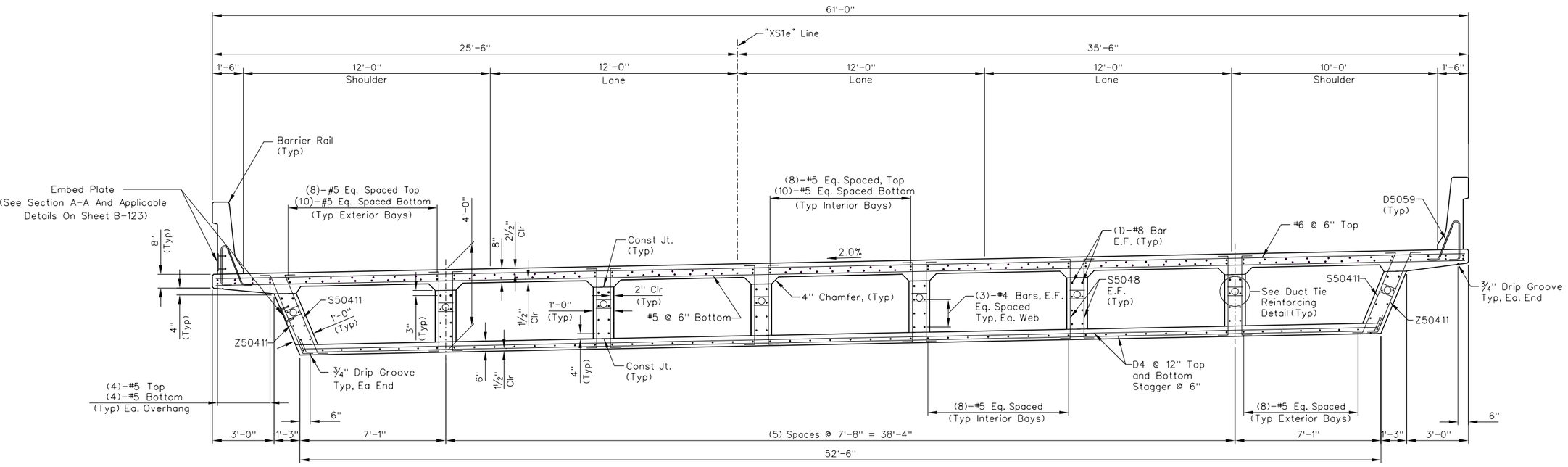
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-112 |




## NOTES

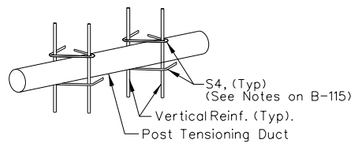
1. For Barrier Rail See Sheet B-122.
2. For Top Slab Reinforcing Plan See Sheet B-116.
3. For Bottom Slab Reinforcing Plan See Sheet B-113.

## LAP SPLICES:

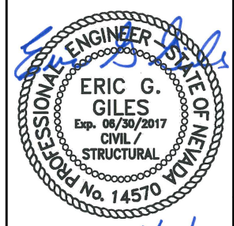
| BAR SIZE | MIN LAP |
|---|---|
| #4 | 1'-9" |
| #5 | 2'-2" |
| #6 | 2'-7" |
| #7 | 3'-3" |
| #8 | 4'-3" |
| #9 | 5'-1" |
| #10 | 6'-5" |
| #11 | 7'-10" |

Note: Stagger Adjacent Lap Splices a Minimum of 2'-0"

## DECK SECTION
(Looking Ahead On Station)




## DUCT TIE REINFORCING DETAIL

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SOUTHBOUND US 95 BRIDGE

# DECK SECTION

I-3190 S

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| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
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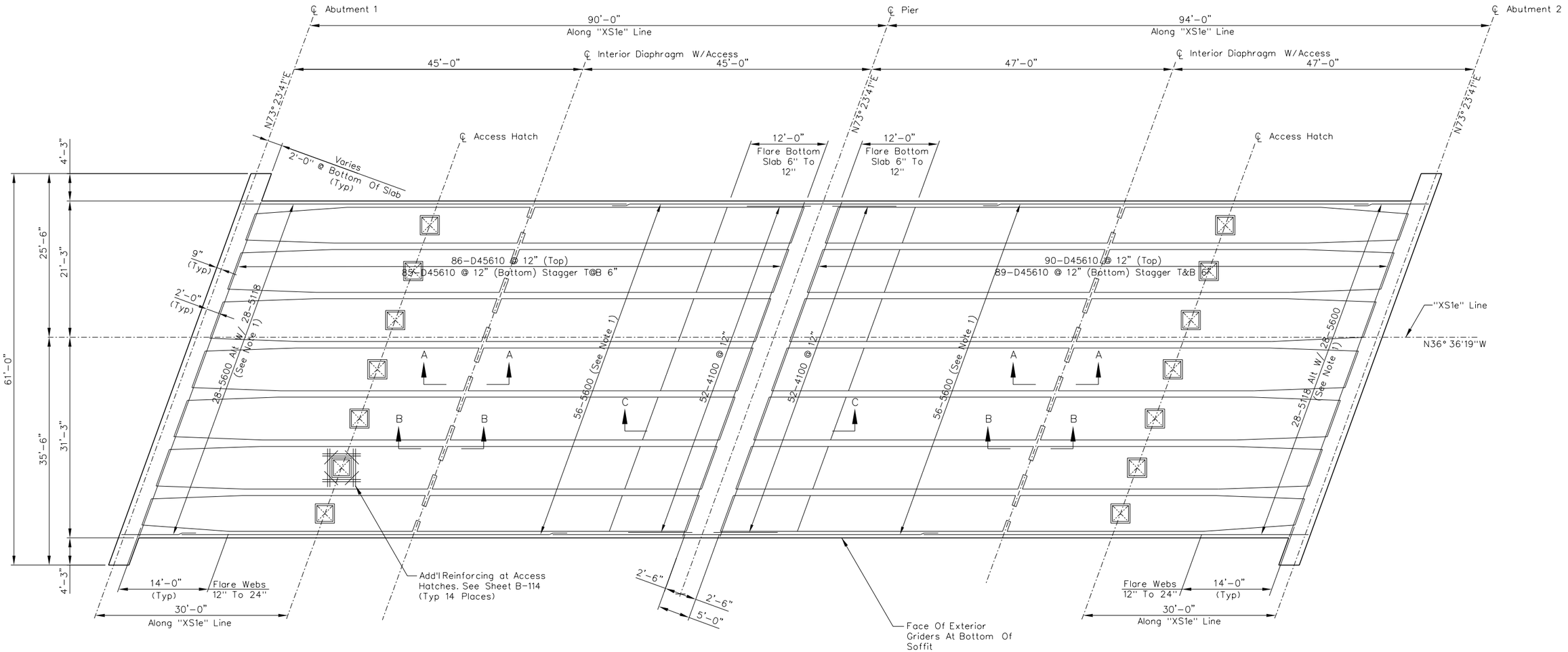



NOTES:

1. See Typical Section On Sheet B-112 For Bar Spacing
2. For Access Hatch Details And Sections A-A, B-B, And C-C, See Sheet B-114.

## BOTTOM SLAB REINFORCEMENT PLAN

PROFESSIONAL ENGINEER STATE OF NEVADA
ERIC G. GILES
Exp. 08/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

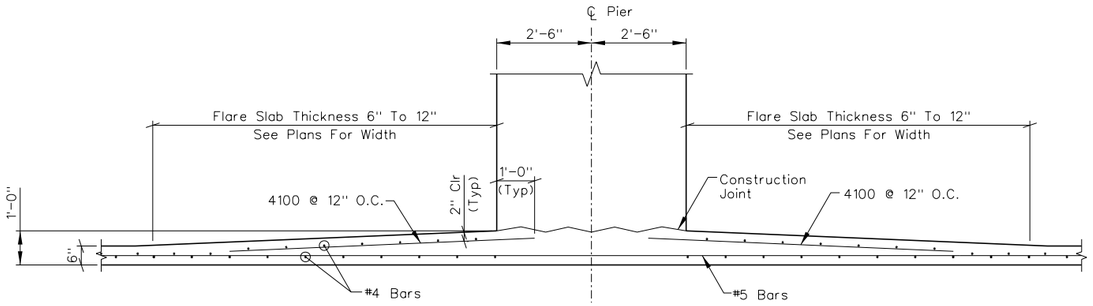
US95/KYLE CANYON RD INTERCHANGE
SOUTHBOUND US 95 BRIDGE

# BOTTOM SLAB REINFORCEMENT

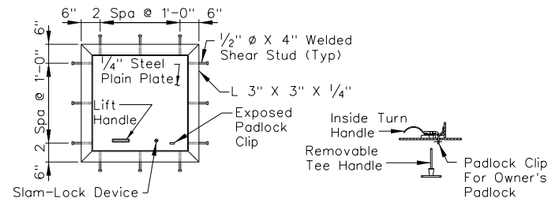
I-3190 S

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

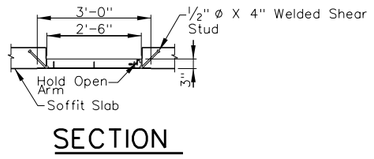
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-114 |




## SECTION C-C

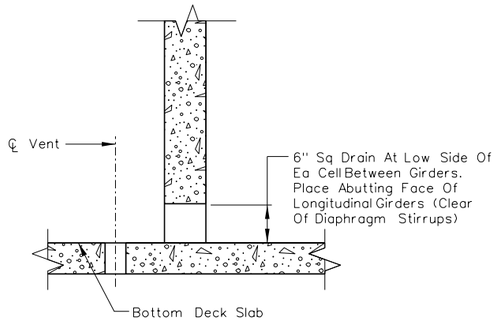



### PLAN

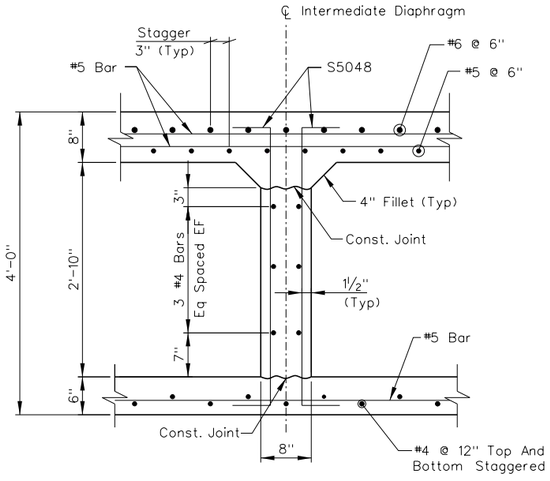



### SECTION

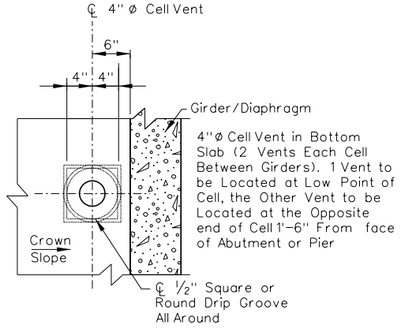
## ACCESS HATCH DETAILS



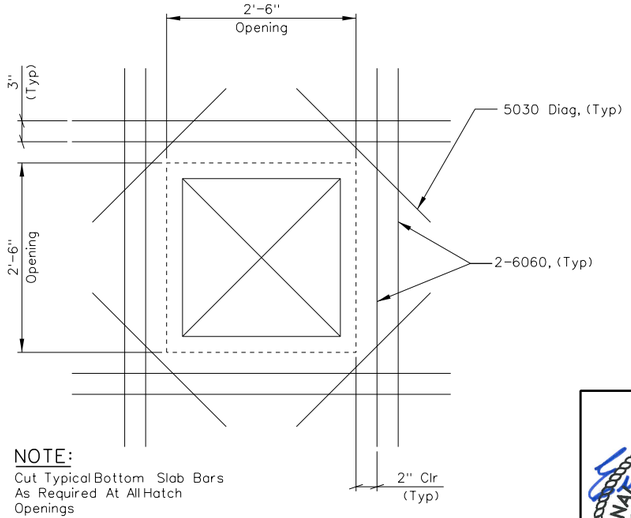

## SECTION B-B DIAPHRAGM VENT




## SECTION A-A




## CELL VENT




NOTE:
Cut Typical Bottom Slab Bars As Required At All Hatch Openings

## ADDITIONAL REINFORCEMENT

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ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE
SOUTHBOUND US 95 BRIDGE

# BOTTOM SLAB DETAILS

I-3190 S

GCW ENGINEERS \ SURVEYORS
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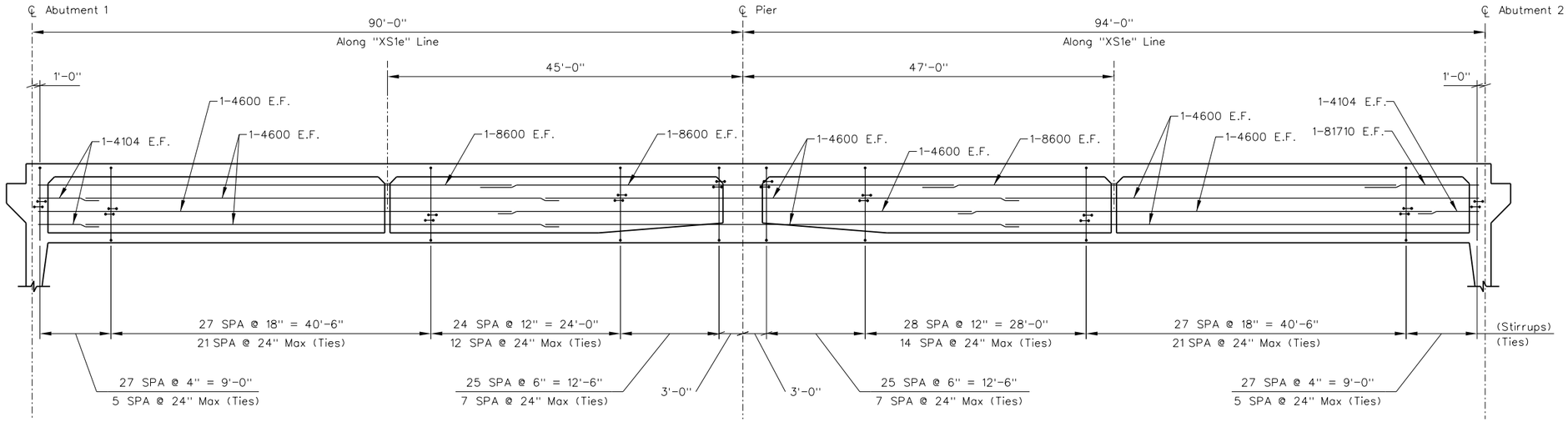
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-115 |




## NOTES:

1. Bar Reinforcement Interfering With The Prestressing Tendon Alignment Shall Be Adjusted As Directed By The Engineer.

2. Use Two Duct Ties Per Duct, 1 Above And 1 Below The Duct, Alternate Sides For 135° Hook. Quantities Indicated Are For A 1-Duct System, See Sheet B-112.

| BAR SIZE | MIN LAP |
|---|---|
| #4 | 1'-9" |
| #5 | 2'-2" |
| #6 | 2'-7" |
| #7 | 3'-3" |
| #8 | 4'-3" |
| #9 | 5'-1" |
| #10 | 6'-5" |
| #11 | 7'-10" |

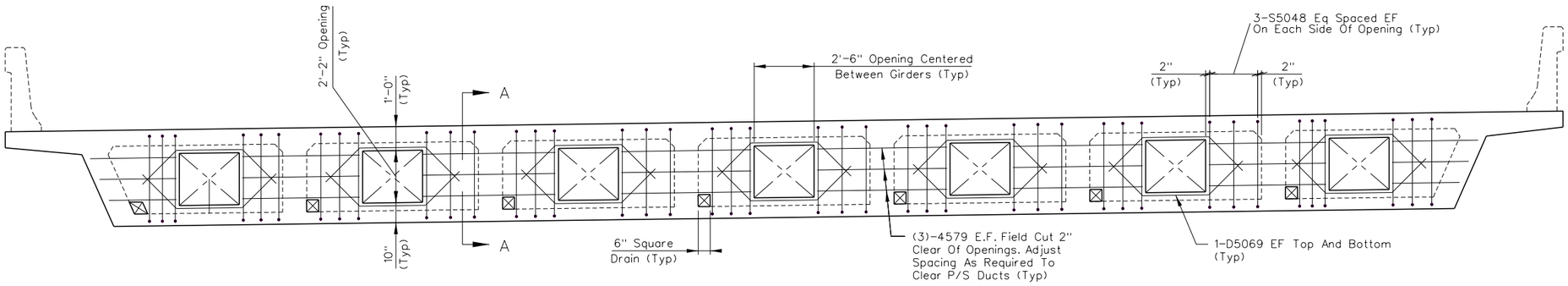
## STIRRUPS REQUIRED:

212-S5048 Each Face, Each Interior Girder (2544 Total)
212-S50411 Inside Face, Each Exterior Girder (424 Total)
212-Z50411 Outside Face, Each Exterior Girder (424 Total)

## DUCT TIES REQUIRED:

32 Set(s) S40111 To S40211 (8 Bars/Set), Flared Web Locations
1216-S40111, Typical Webs

## GIRDER REINFORCEMENT




## NOTE:

See Sheet B-114 For Section A-A

## STIRRUPS REQUIRED

42-S5048 EF (84 Per Diaphragm)

## INTERMEDIATE DIAPHRAGM REINFORCEMENT

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ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

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SOUTHBOUND US 95 BRIDGE

# GIRDER AND INTERMEDIATE DIAPHRAGM REINFORCEMENT

I-3190 S

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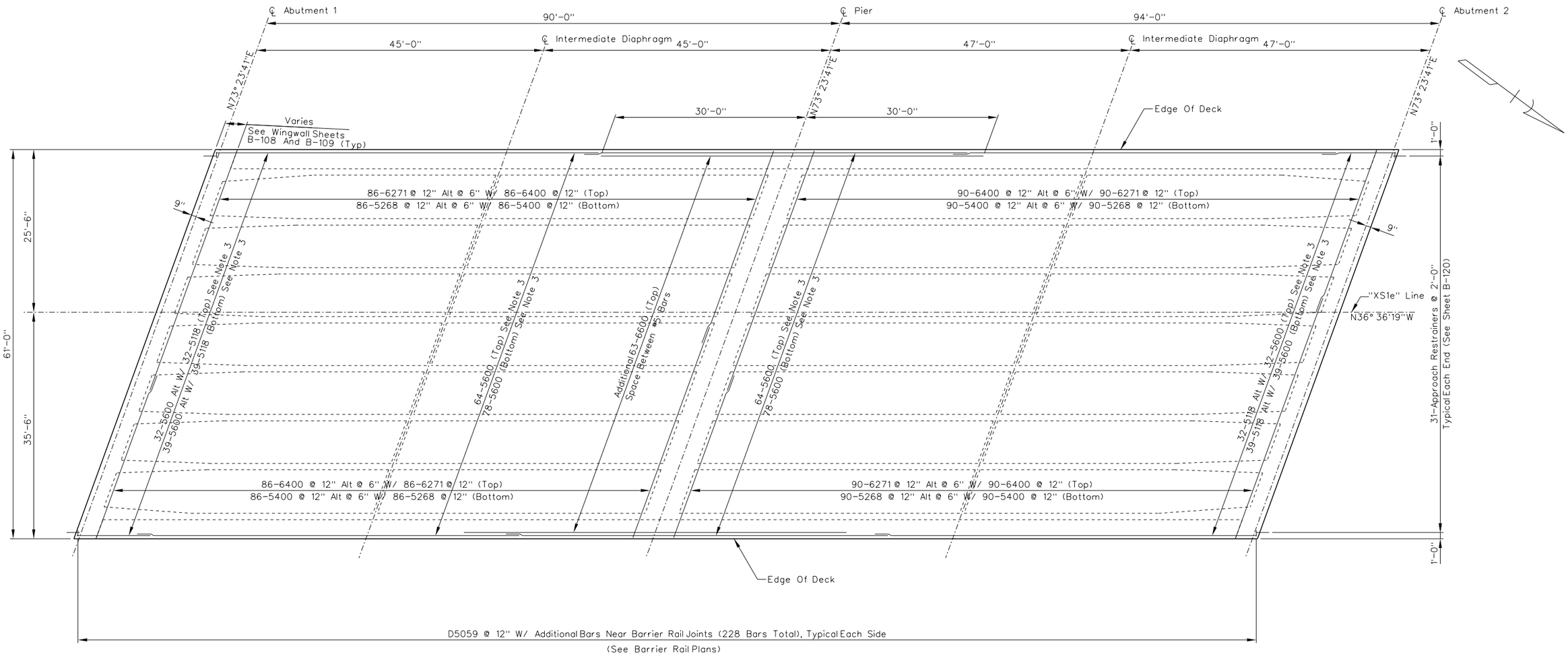
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-116 |




NOTES:

1. For Bottom Slab Reinforcement Layout, See Sheet B-113
2. For Barrier Rail Reinforcement To Be Cast Into Deck, See Sheet B-122
3. See Typical Section On Sheet B-112 For Bar Spacing
4. See Abutment And Pier cap Details on Sheets B-107 And B-111 For Add'l Reinforcing In Slab Not Shown.

## TOP SLAB REINFORCEMENT PLAN

PROFESSIONAL ENGINEER STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE
SOUTHBOUND US 95 BRIDGE

# TOP SLAB REINFORCEMENT

I-3190 S

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1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
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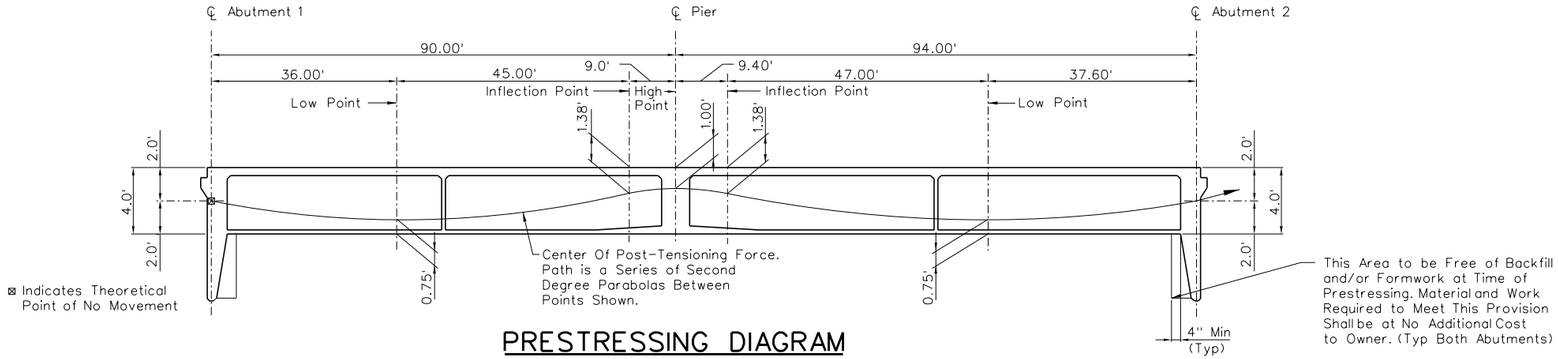
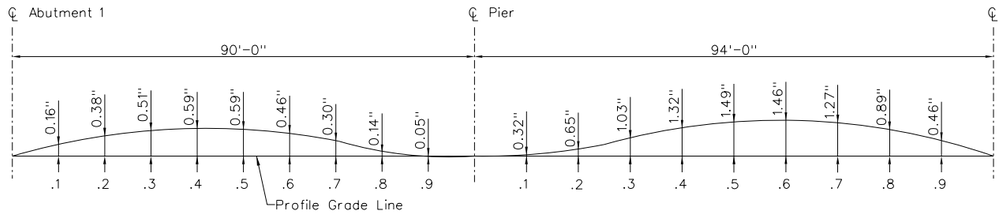
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-117 |




## PRESTRESSING DIAGRAM

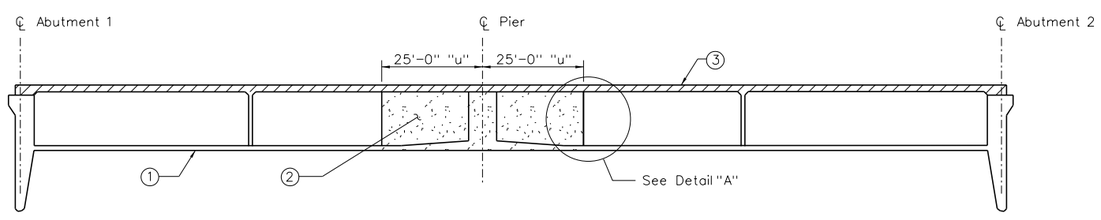



## CAMBER DIAGRAM

NOTES:

1. Camber Diagrams show dead load plus post-tensioned Camber including long-term effects of creep & shrinkage and should be modified by the amount of take up anticipated in the falsework.

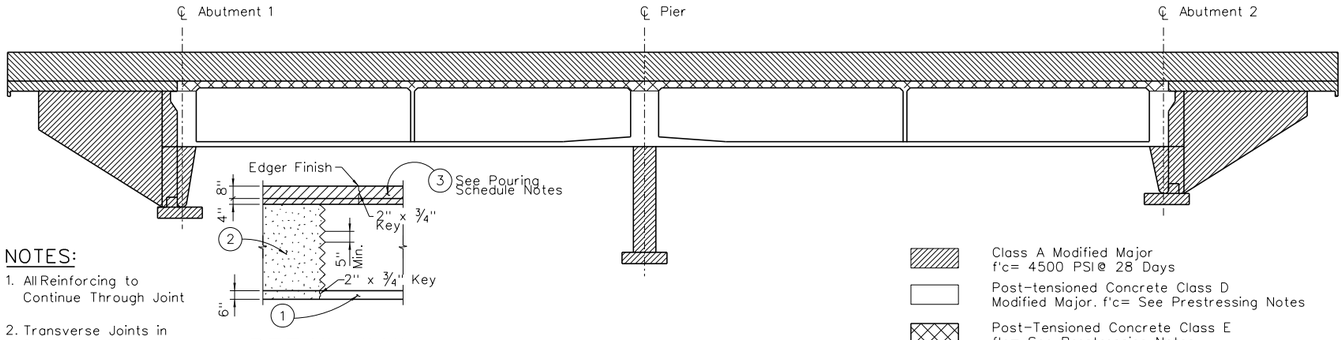
2. Elevations shown on the Superstructure are final grades and are to be adjusted by the values shown on the Camber Diagram.




## CONCRETE POURING SCHEDULE

### POURING SCHEDULE NOTES

1. ① And ② Indicate Sequence Of Placing Bottom Slab And Girder Web Concrete.
2. Bottom Slab Concrete May Be Placed Separately.
3. Top Slab Concrete ③ Shall Be Placed Separately. With Transverse Construction Joints As Desired, Except That There Shall Be No Construction Joints In Area "u".
4. Do Not Place Wingwalls Until Stressing Is Complete.
5. Do Not Place Bridge Rails Until Stressing Is Complete And The Falsework Is Released.




NOTES:

1. All Reinforcing to Continue Through Joint
2. Transverse Joints in Slab to be Parallel to Slab Reinforcing

## CONCRETE CLASSIFICATION SCHEDULE

### PRESTRESSING NOTES

1. Total Post-tensioning Forces And Concrete Strengths For This Structure Are:

   Pjack = 9,140 kips
   f'c = 4,500 psi@ 28 Days
   f'ci = 3,500 psi@ time of stressing

   Pjack Is The Jacking Force At The Jacking End. F'ci Is The Concrete Compressive Strength At The Time Of Post-tensioning. F'c Is The Ultimate Concrete Compressive Strength At 28 Days.

2. Design Is Based On U=0.25 And K=0.0002. Pjack Includes Friction Losses And Provisions For Loss Of Stress Due To Creep And Shrinkage Of Concrete, Relaxation And Elastic Shortening Of Steel, And Sequence Of Stressing. Losses Are As Follows: 32,000 Psi
3. Design Is Based On 0.5" Diam., 7 Wire, 270 Ksi Low-relaxation Prestressing Strand Jacked To 0.75 F's With An Equivalent Anchor Set Of ⅜".
4. Contractor To Submit Elongation And Jacking Calculations For The Intended Post-tensioning System.
5. The Total Prestressing Force Shall Be Distributed Symmetrically About The Centerline Of Each Girder. At No Time During The Stressing Operations Shall More Than 1/6 Of The Total Prestressing Force Be Applied Eccentrically About The Centerline Of Each Girder.
6. Metallic Enclosures To Be Galvanized Rigid Ducts.
7. Enclosures To Be Vented Through Slab Within 1 Foot Of The High Points Of The Cable Path.
8. During Stressing Operations, The Elongation Shall Be Continuously Compared With Gage Pressure To Check Against Duct Blockage And Excessive Friction.
9. Bar Reinforcement Interfering With The Prestressing Tendons Alignment Shall Be Adjusted As Directed By The Engineer.
10. One End Stressing Shall Be Performed From Abutment 2.
11. Prestressing Steel Modulus = 28,000 Ksi.
12. The Details Of The Reinforcing Steel Which Are Included For Payment In The Bid Item "Prestressing Cast-in-place Concrete", Including The Reinforcing Details Shown On The Standard Drawings, Shall Be Shown On The Contractor's Stressing Shop Drawings.
13. Refer To NDOT Standard Drawing B-28.1.1-(503) For Additional Prestressing Notes And Details.
14. The Contractor Shall Design And Provide Working Drawings And Design Calculations For The Local Anchorage Zone, Including Blockout Dimensions And All Recess Anchorage And Confining Reinforcement Steel To Prevent Splitting, Bursting, Or Blowout Of Strand (Tendon) Anchors. Details And Calculations Must Be Approved By The Engineer Of Record. Any Local Zone Confining Reinforcement Is An Addition To The Reinforcement Shown On NDOT Standard Plans B-28.1.1-(503). Shop Drawings And Calculations Shall Be Sealed By A Professional Engineer Licensed In The State Of Nevada.

PROFESSIONAL ENGINEER STATE OF NEVADA
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STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

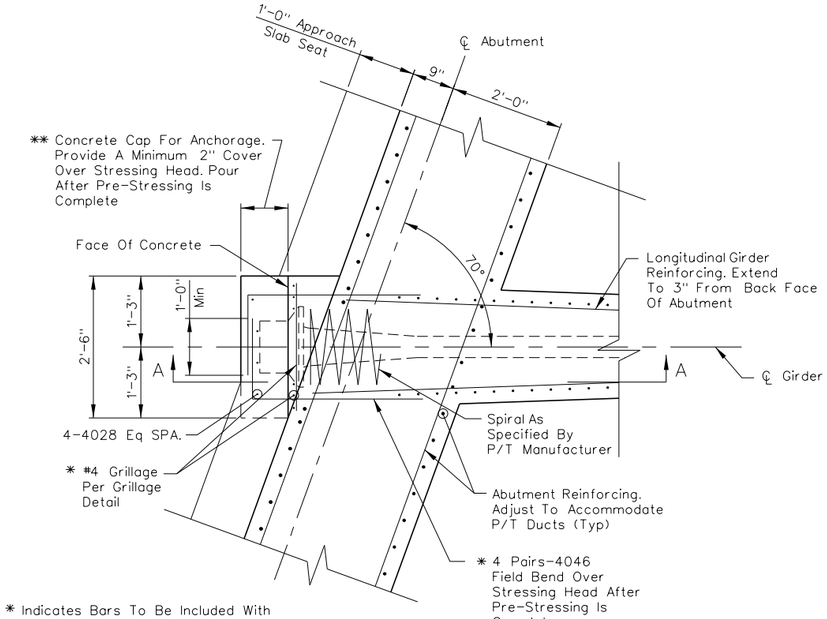
US95/KYLE CANYON RD INTERCHANGE
SOUTHBOUND US 95 BRIDGE

# PRESTRESSING, CAMBER AND CONCRETE PLACEMENT

I-3190 S

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-118 |



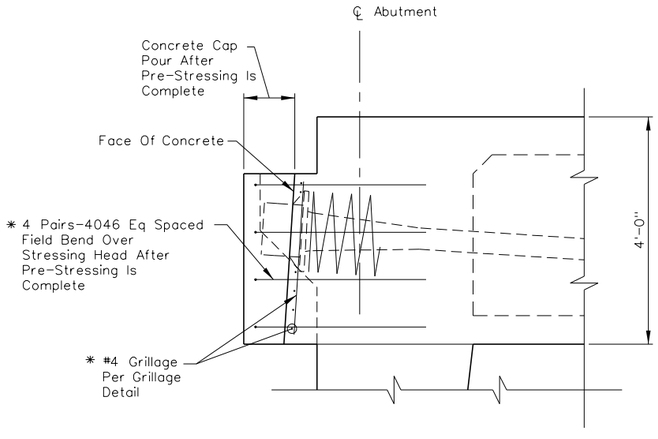

* Indicates Bars To Be Included With The Pre-Stressing Cast-In-Place Concrete And Supplied By The Contractor.

** Indicates Concrete To Be Included With The Pre-Stressing Cast-In-Place Concrete.

NOTE:

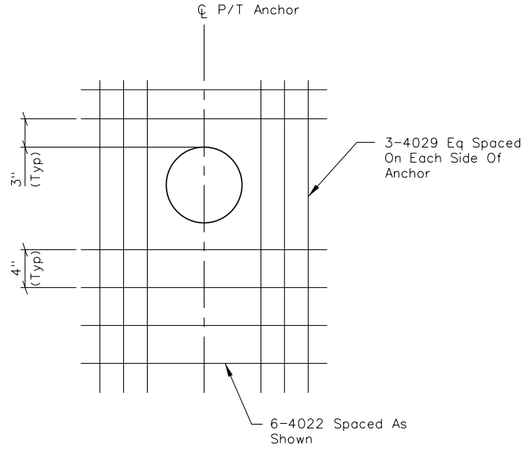
One P/T Duct shown. If Contractor uses two adjust accordingly

PLAN




SECTION A-A

## TYPICAL POST TENSIONED ANCHORAGE DETAIL




## GRILLAGE DETAIL

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6/27/17

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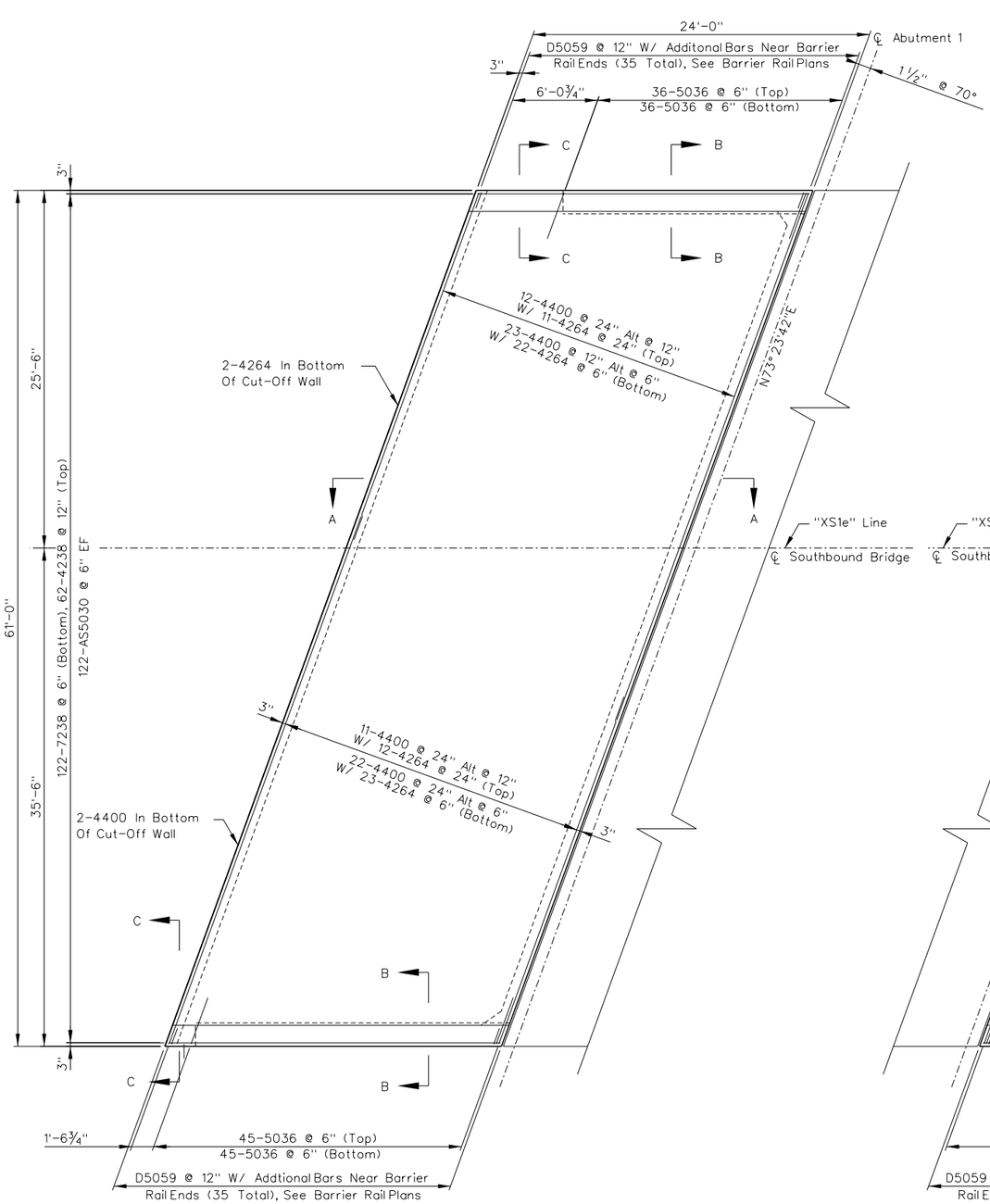
US95/KYLE CANYON RD INTERCHANGE
SOUTHBOUND US 95 BRIDGE

# ANCHORAGE ZONE DETAILS

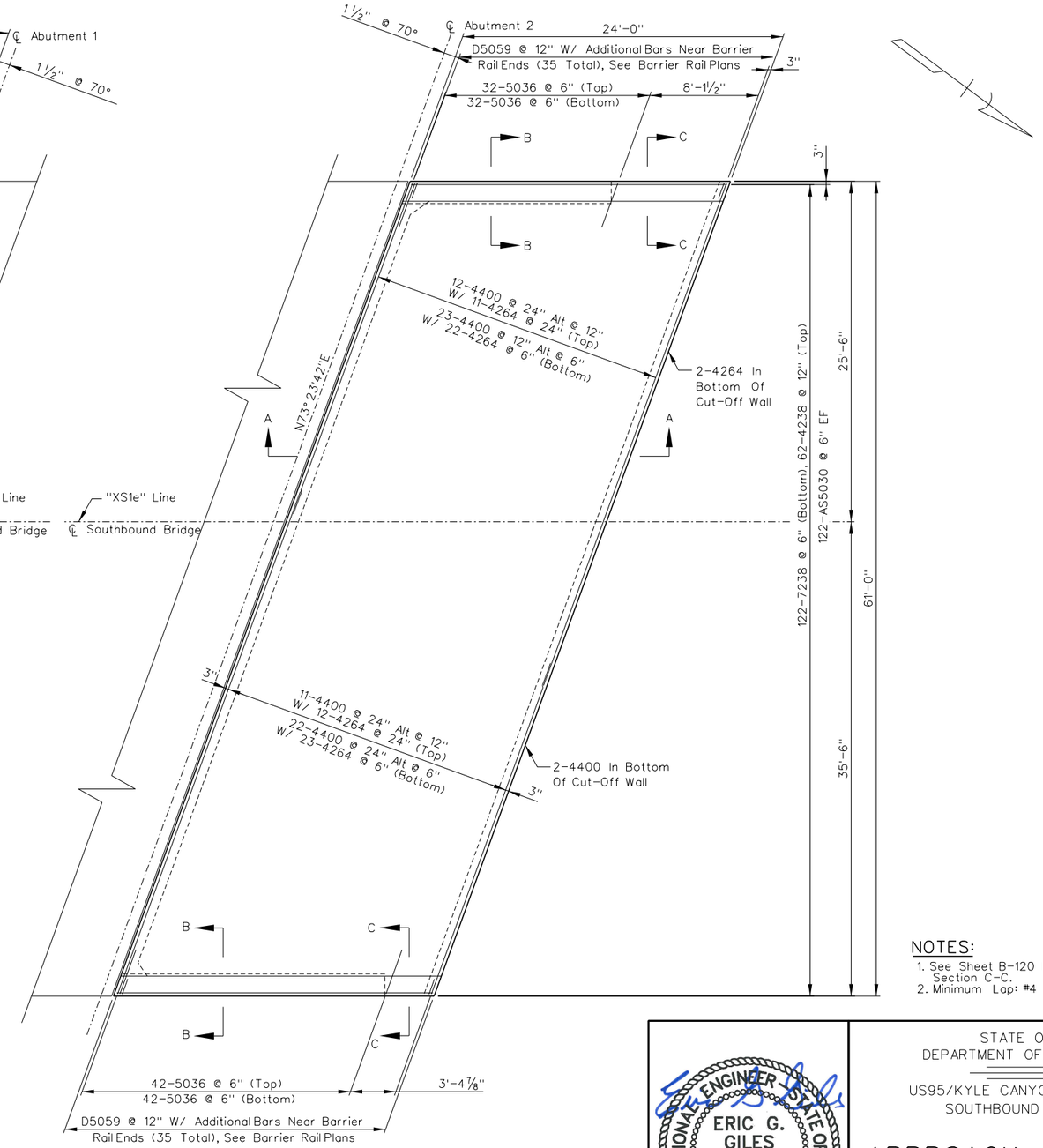
I-3190 S

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-119 |




APPROACH SLAB - ABUTMENT 1




APPROACH SLAB - ABUTMENT 2

NOTES:

1. See Sheet B-120 For Section A-A, B-B, and Section C-C.
2. Minimum Lap: #4 Bar to #4 bar = 1'-9"

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US95/KYLE CANYON RD INTERCHANGE
SOUTHBOUND US 95 BRIDGE

# APPROACH SLAB PLANS

I-3190 S

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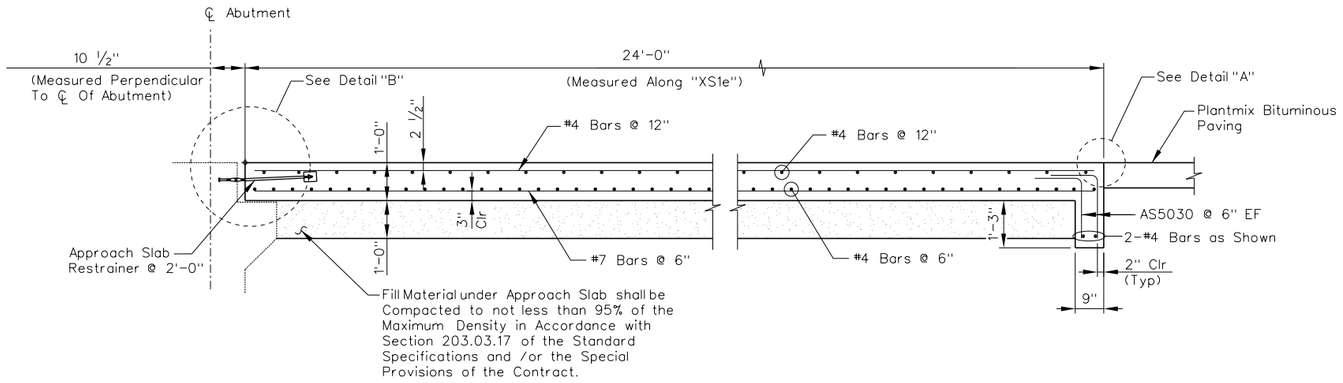
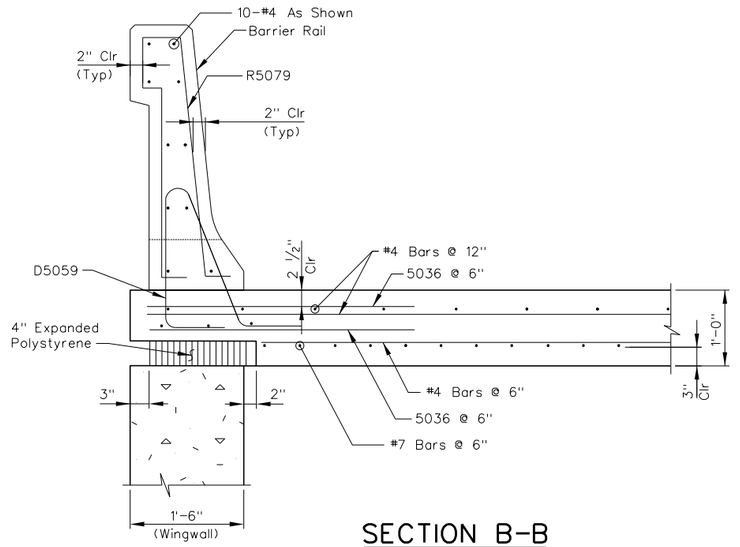
T: 702.804.2000 F: 702.804.2299

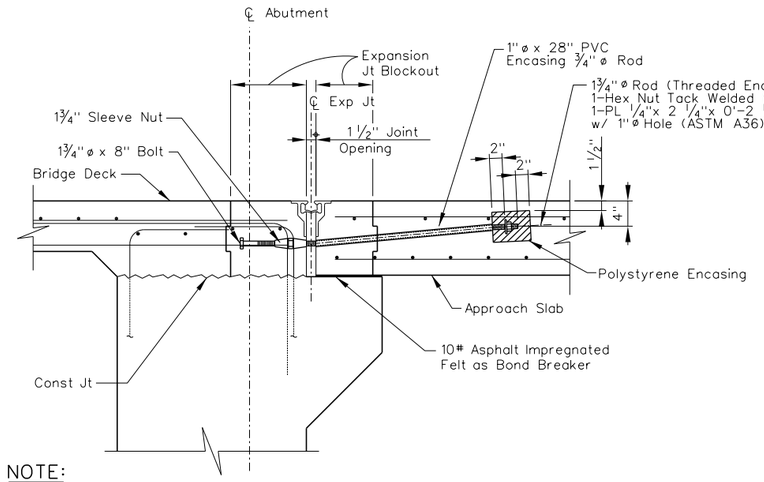
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-120 |




## SECTION A-A

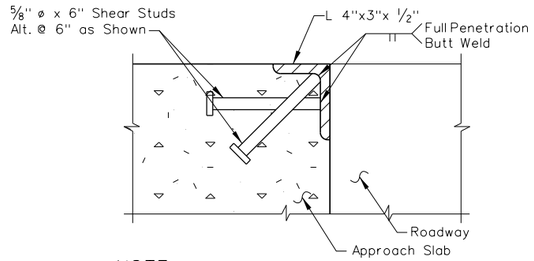



## SECTION B-B



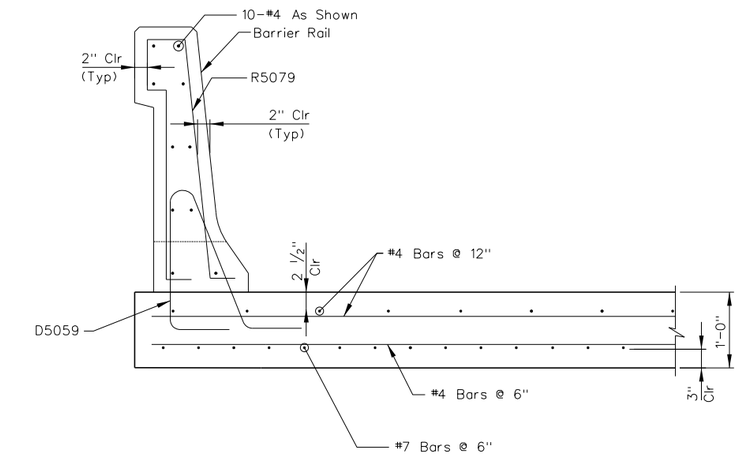

NOTE:
All Steel Components of the Restrainer Assembly shall be Galvanized.

## DETAIL "B"




NOTE:
Assembly Parts shall be Hot-Dip Galvanized. All Galvanizing damaged by Fabrication or Installation shall receive two coats of Zinc Enriched Paint (Galvonox or Equal). Assembly to extend Full Width or to the Face of Any Bridge or Barrier Rails. Full Penetration Butt Weld any Field Splices.

## DETAIL "A"




## SECTION C-C

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6/27/17

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US95/KYLE CANYON RD INTERCHANGE
SOUTHBOUND US 95 BRIDGE

# APPROACH SLAB DETAILS

I-3190 S

GCW ENGINEERS \ SURVEYORS
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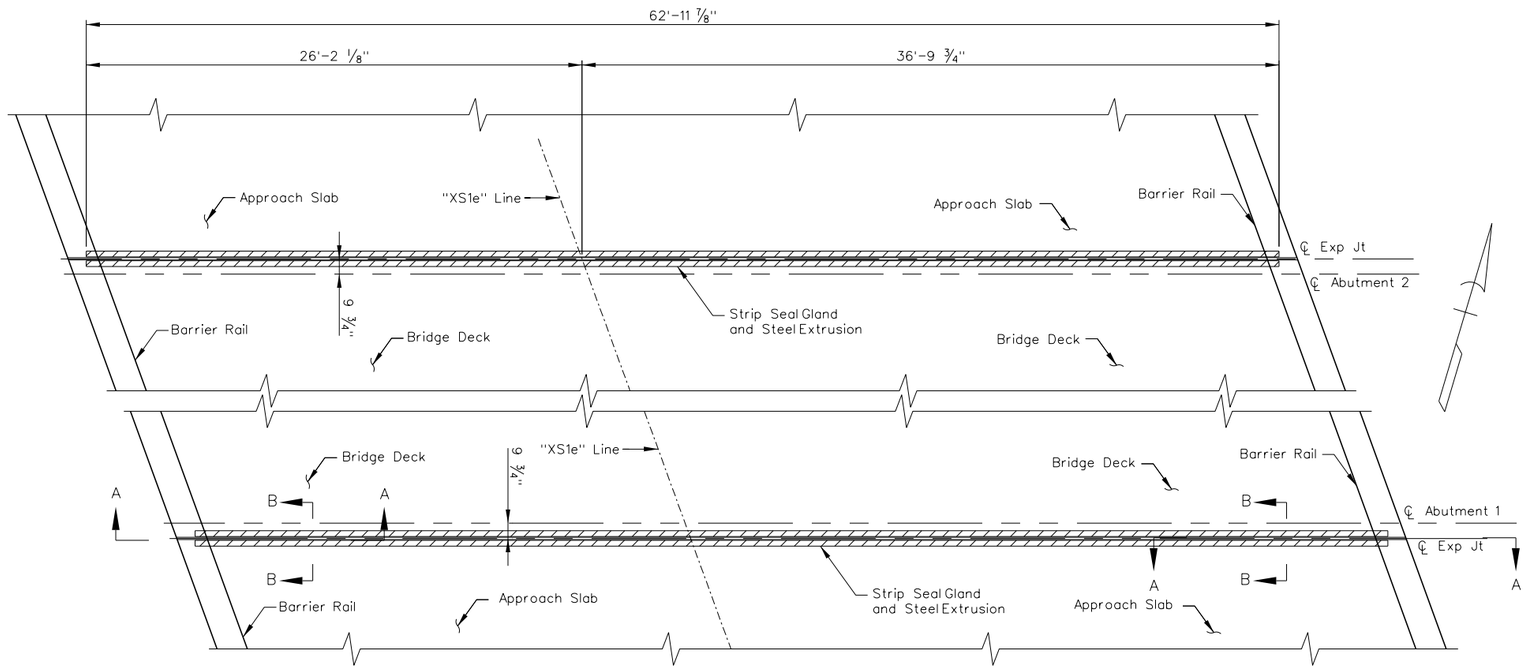
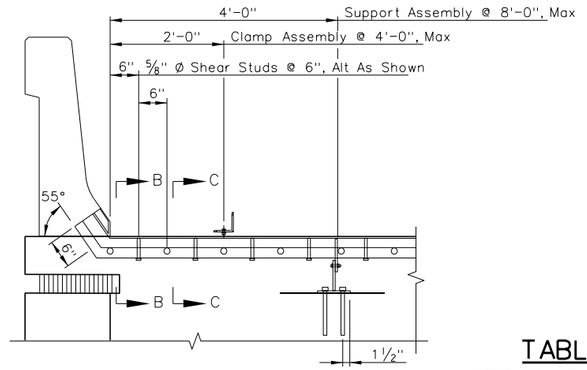
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-121 |




PLAN

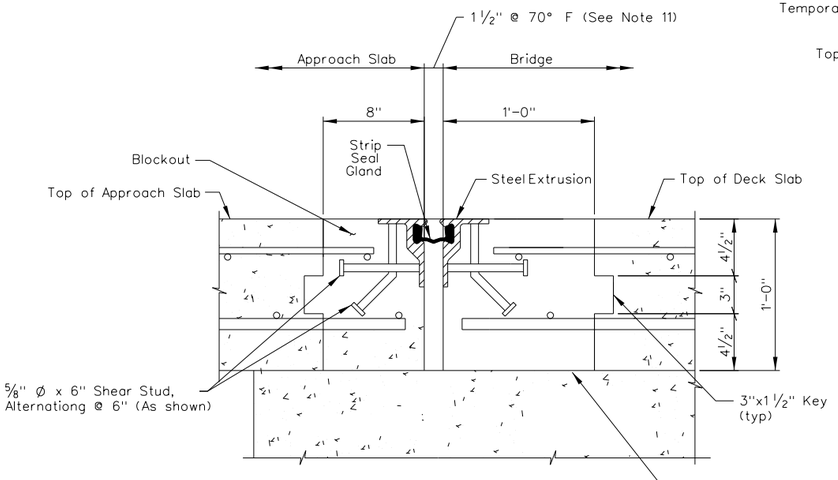



SECTION A-A

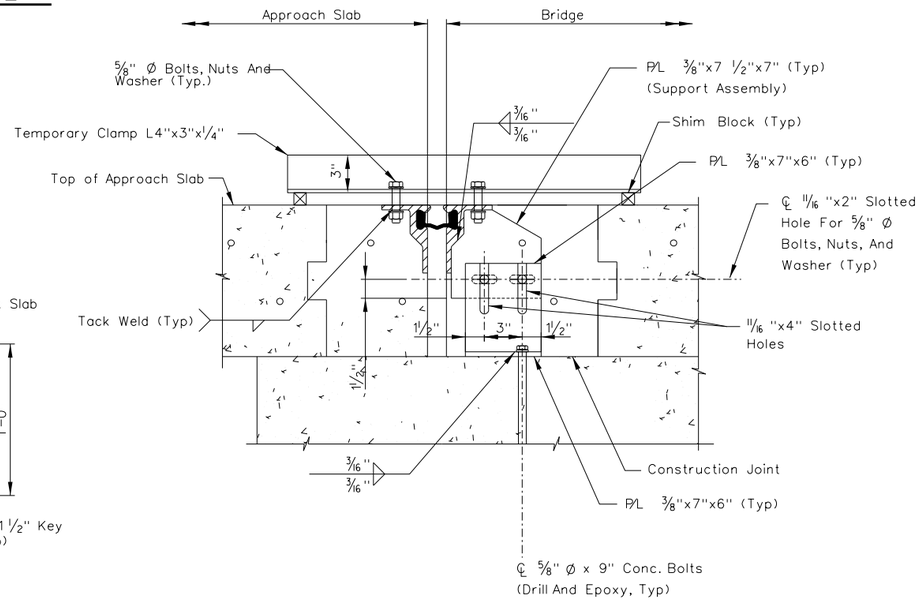
## TABLE A

STRIP SEAL EXPANSION JOINT

| TEMPERATURE | INSTALLATION GAP |
|---|---|
| 30° F | 1 13/16 " |
| 40° F | 1 3/4" |
| 55° F | 1 5/8" |
| 70° F | 1 1/2" |
| 85° F | 1 3/8" |
| 100° F | 1 1/4" |




SECTION B-B




SECTION C-C

## NOTES:

1. All Structural Steel Elements Including Strip Seal Extrusions, Cover Plates And Anchor Studs Shall Be AASHTO M270 Grade 36 (galvanized) Or Grade 50w.
2. Install The Strip Seal Assembly After The Deck Slab And Approach Slab Have Been Poured And Profile Grinding Has Been Completed. Make Final Adjustments Of The Joint Width And Elevations Before The Blockout Portion Of The Deck Slab And Approach Slab Are Poured.
3. Strip Seal Gland To Be Installed After The Blockout Concrete Has Reached 3000 Psi Strength. The Installation Procedure Shall Follow The Manufacturer's Instruction.
4. Full Penetration Butt Weld On All Anchor Studs.
5. The Joint Assembly May Be Manufactured In 20 Feet Minimum Lengths And Field Welded Utilizing Full Penetration Butt Weld.
6. The Strip Seal Gland Shall Be Installed As A Single Continuous Unit. No Field Splicing Shall Be Permitted.
7. The Strip Seal Assembly shall be Hot-Dip Galvanized. All Galvanizing damaged by Fabrication or Installation shall receive two coats of Zinc Enriched Paint (Galvonox or Equal).
8. Contractor Has The Option Of Submitting To The Engineer Alternative Joint Assembly Details, Installation And Construction Procedures For Approval.
9. After The Concrete Has Cured, The Temporary Clamps And The Threaded Bolts Can Be Removed And Fill The Holes With Grout.
10. Movement Rating (MR) = 3".
11. Increase Joint Width By 1/8" For Every 15 Degree Temperature Drop. Decrease Joint Width By 1/8" For Every 15 Degree Temperature Rise.

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US95/KYLE CANYON RD INTERCHANGE
SOUTHBOUND US 95 BRIDGE

# STRIP SEAL EXPANSION JOINT

I-3190 S

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T: 702.804.2000 F: 702.804.2299

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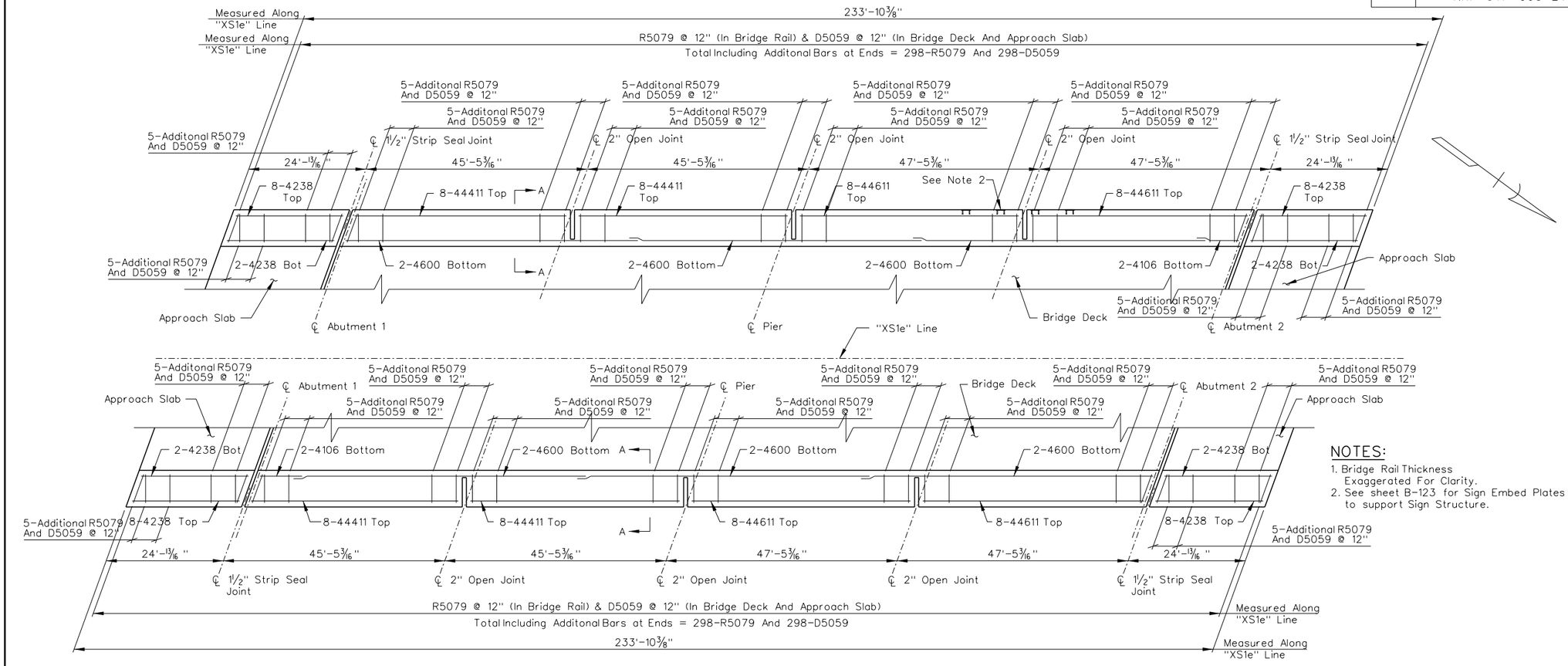
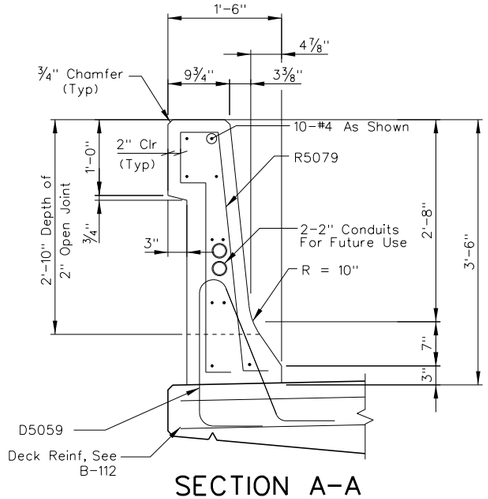
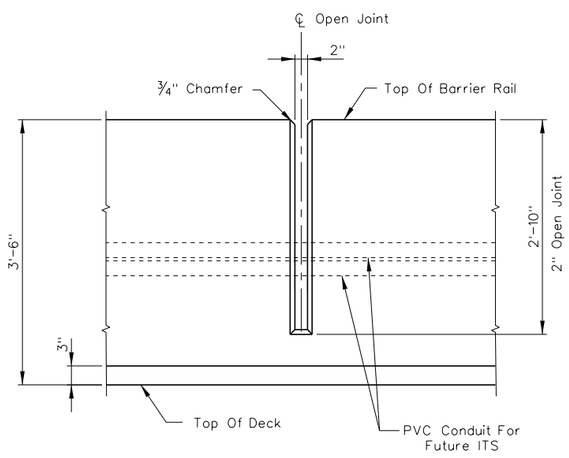
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-122 |



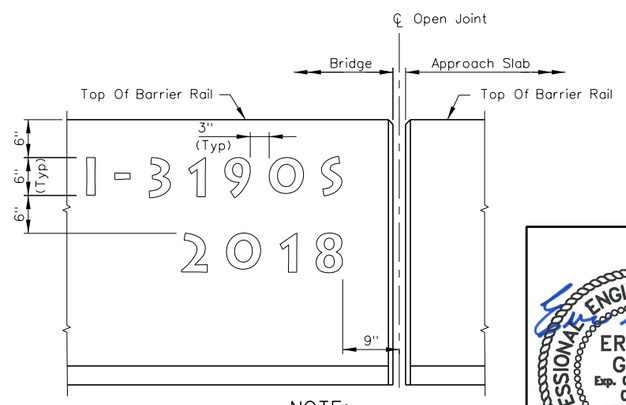

## BRIDGE RAIL PLAN




## SECTION A-A




## 2" OPEN JOINT DETAIL



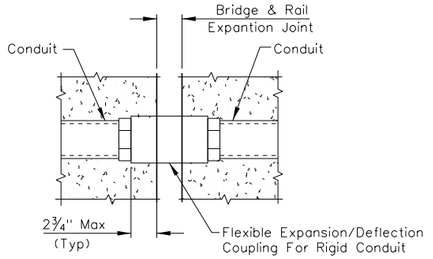

NOTE:
Lithos-Bold Font Recessed 1" into Concrete, Typ. Paint Black. Place on Traffic Side of Bridge Rail.

## DETAIL 1

| BAR SIZE | MIN LAP |
|---|---|
| #4 | 1'-9" |
| #5 | 2'-2" |
| #6 | 2'-7" |
| #7 | 3'-1" |
| #8 | 4'-3" |
| #9 | 5'-1" |
| #10 | 6'-5" |
| #11 | 7'-10" |

NOTE:
Stagger Adjacent Lap Splices A Minimum of 2'-0"

NOTES:
1. Bridge Rail Thickness Exaggerated For Clarity.
2. See sheet B-123 for Sign Embed Plates to support Sign Structure.




## CONDUIT EXPANSION JOINT DETAIL

PROFESSIONAL ENGINEER - STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE
SOUTHBOUND US 95 BRIDGE

# BRIDGE RAIL

I-3190 S

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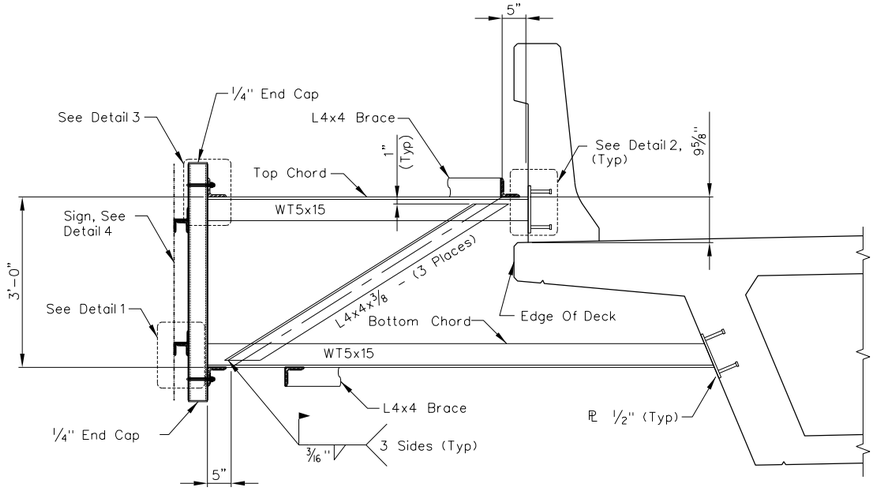
T: 702.804.2000 F: 702.804.2299

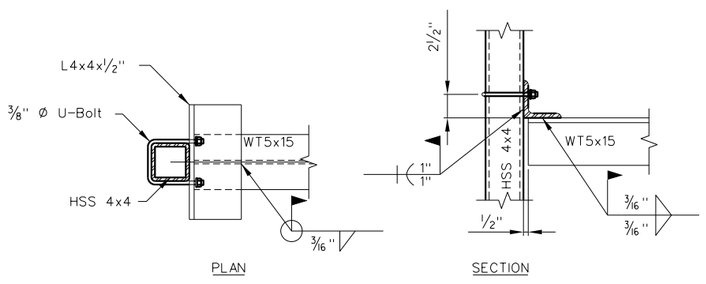
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-123 |

## GENERAL OVERHEAD SIGN NOTES

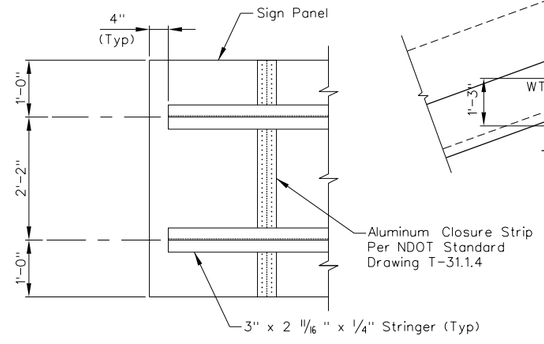
1. Sign to be placed level.
2. Place top and bottom chords level.
3. The Contractor shall verify all dependent dimensions in the field before ordering or fabrication of any material.
4. Galvanizing: All exposed metal parts shall be Hot-Dip Galvanized after fabrication and all galvanizing damaged by fabrication or installation shall receive two coats of Zinc Enriched Pain (Galvonox or equal).
5. Structural Steel: All wide flange steel shall conform to ASTM A992 (Fy = 50 ksi). All pipe steel shall conform to ASTM A53, type E or S, grade B (Fy = 35 ksi). All Hollow structural sections (HSS) shall conform to ASTM A500 grade B (Fy = 46 ksi). All other standard structural steel shapes, rolled sections, bars, and plates shall conform to ASTM A36 (Fy = 36 ksi).
6. Welding: Welding shall be by welders holding current valid certificates and having experience in the type of welds shown on the drawings and notes. All welds shall have a minimum tensile strength of 70 ksi, unless noted otherwise. All welding shall be in accordance with welding code AWS D1.5 and NDOT Specifications.




## SECTION A-A




## DETAIL 3

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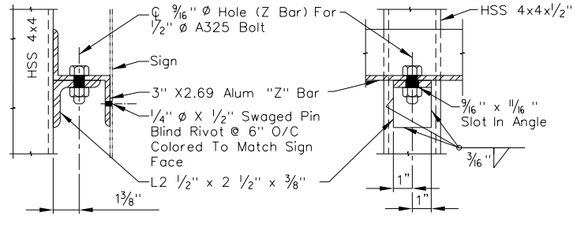
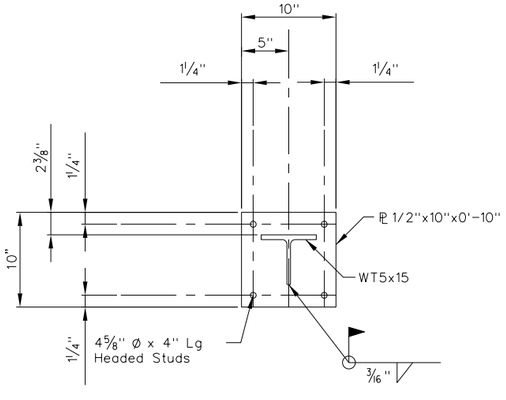
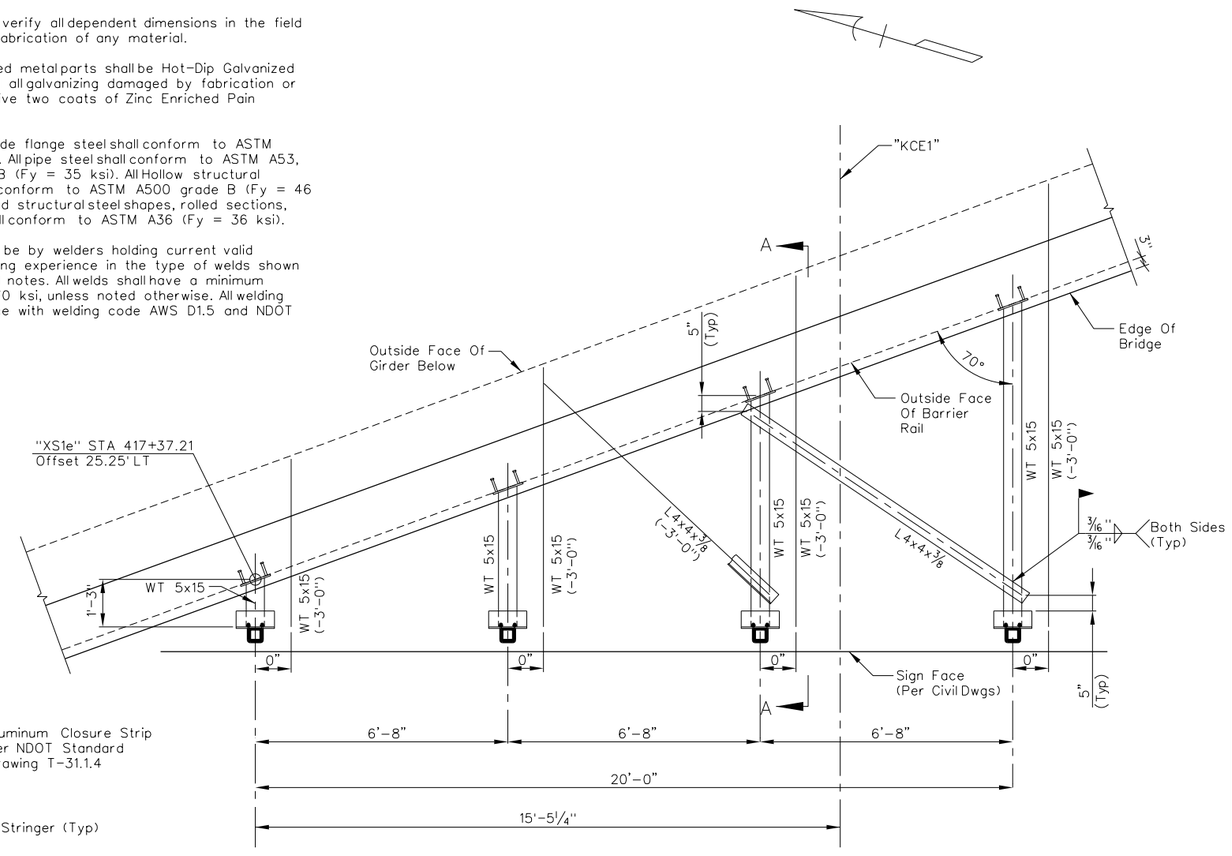


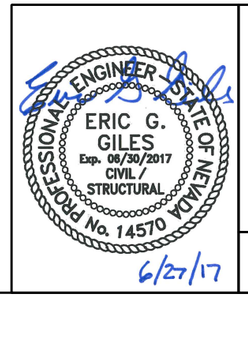

## DETAIL 1




## DETAIL 2




## PLAN - SIGN SUPPORT




STATE OF NEVADA
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US95/KYLE CANYON RD INTERCHANGE
SOUTHBOUND US 95 BRIDGE

# SIGN STRUCTURE DETAILS

I-3190 S

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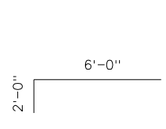
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-124 |

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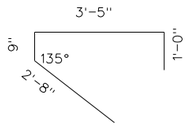


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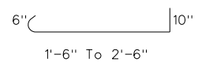
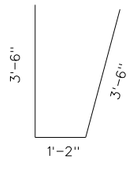



A50210 To A50310

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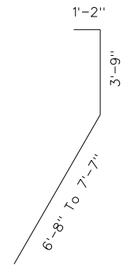
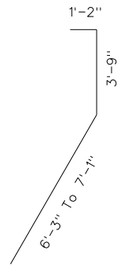
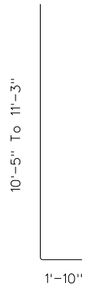



A7117 To A7126



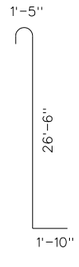

A7112 To A7120




A10123 To A10131

A10117 To A10126

C10301

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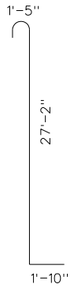
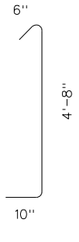
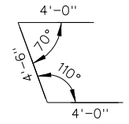



C10305

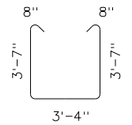



P5060

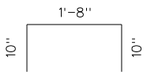
P5042




P6126




P61110

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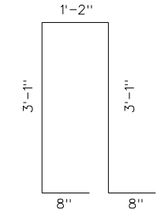


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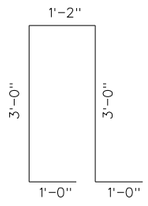


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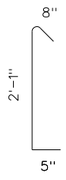


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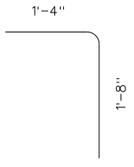
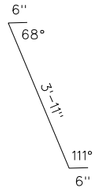
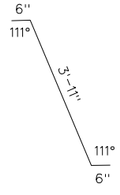



AS5030

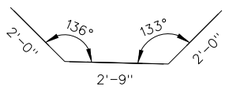



S50411

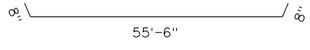
S5048



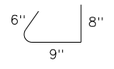

Z50411



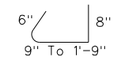

D5069



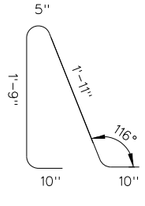

D45610



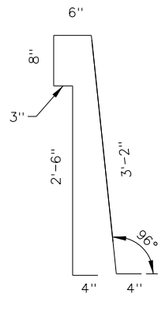

S40111



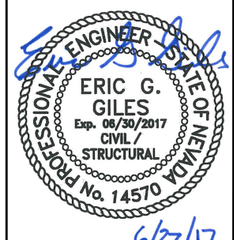

S40111 TO S40211




D5059




R5079




STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

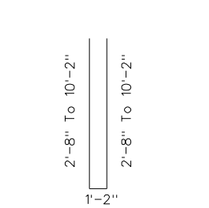
US95/KYLE CANYON RD INTERCHANGE
SOUTHBOUND US 95 BRIDGE

# BAR BEND SCHEDULE

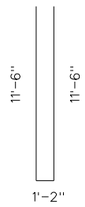
I-3190 S

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

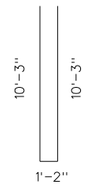
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-125 |




W4066 To W4216




W4242

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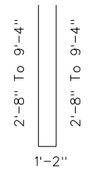
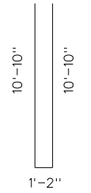
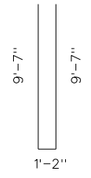



W4066 To W41910




W42210

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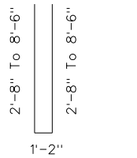
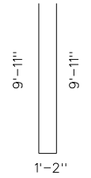
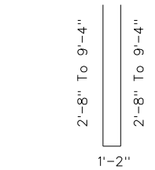



W4066 To W4182

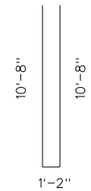



W4210

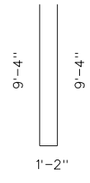
W4186



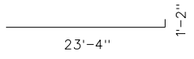

W4066 To W41910




W4226

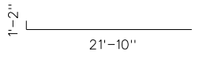



W41910

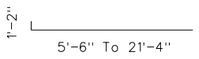



W7246

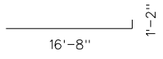
W70510 To W72311



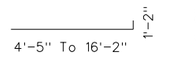

W7230



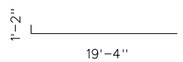

W7068 To W7226



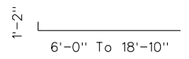

W71710




W7057 To W7174




W7206

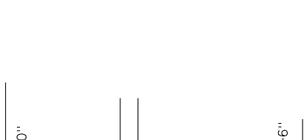



W7072 To W7200

W5245

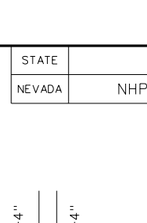
W5231

W51710

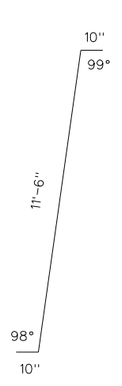



W5206

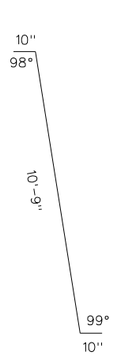
W4056 To W4069




W4056 To W4069




W4132

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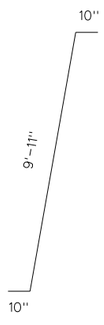
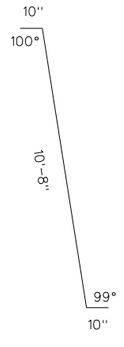
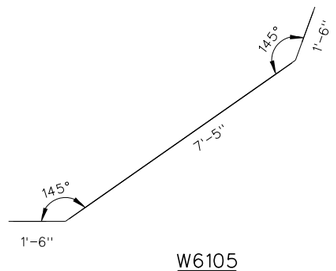


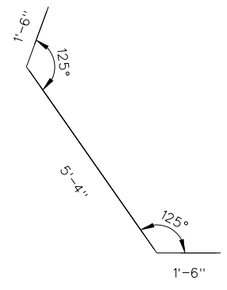

W4117



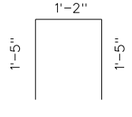

W4124



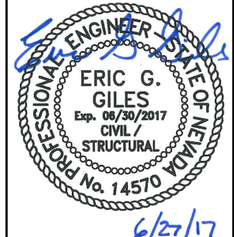

W6105




W6084




W4040




STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE
SOUTHBOUND US 95 BRIDGE

# BAR BEND SCHEDULE

I-3190 S

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-126 |

WINGWALL 1

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| 1-Set(s) W4056 | TO | W4069 | 4 Bar(s)/Set | 16 |
| 1-Set(s) W4066 | TO | W4216 | 21 Bar(s)/Set | 196 |
| 1-Set(s) W70510 | TO | W72311 | 14 Bar(s)/Set | 426 |
| 1-Set(s) 5048 | TO | 5222 | 7 Bar(s)/Set | 98 |
| W4040 | 4 | 04 0 | 23 | 61 |
| W4132 | 4 | 13 2 | 4 | 35 |
| W4218 | 4 | 21 8 | 2 | 29 |
| W4242 | 4 | 24 2 | 1 | 16 |
| W5245 | 5 | 24 5 | 2 | 51 |
| W6105 | 6 | 10 5 | 9 | 141 |
| W7246 | 7 | 24 6 | 5 | 250 |
| 4047 | 4 | 04 7 | 2 | 6 |
| 4104 | 4 | 10 4 | 2 | 14 |
| 4103 | 4 | 10 3 | 3 | 21 |
| 5243 | 5 | 24 3 | 3 | 76 |
| 7248 | 7 | 24 8 | 3 | 151 |

| | | |
|---|---|---|
| Reinforcing Steel | 1588 | LBS |
| Class A Concrete, Modified (Major) | 7.8 | CY |

WINGWALL 4

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| 1-Set(s) W4056 | TO | W4069 | 4 Bar(s)/Set | 16 |
| 1-Set(s) W4066 | TO | W41910 | 16 Bar(s)/Set | 141 |
| 1-Set(s) W7072 | TO | W7200 | 12 Bar(s)/Set | 333 |
| 1 Set(s) 5060 | TO | 5186 | 6 Bar(s)/Set | 77 |
| W4040 | 4 | 04 0 | 19 | 51 |
| W4124 | 4 | 12 4 | 4 | 33 |
| W41910 | 4 | 19 10 | 3 | 40 |
| W4226 | 4 | 22 6 | 1 | 15 |
| W5206 | 5 | 20 6 | 2 | 43 |
| W6084 | 6 | 08 4 | 8 | 100 |
| W7206 | 7 | 20 6 | 5 | 210 |
| 4046 | 4 | 04 6 | 2 | 6 |
| 4094 | 4 | 09 4 | 3 | 19 |
| 4097 | 4 | 09 7 | 2 | 13 |
| 5203 | 5 | 20 3 | 3 | 63 |
| 7204 | 7 | 20 4 | 3 | 125 |

| | | |
|---|---|---|
| Reinforcing Steel | 1283 | LBS |
| Class A Concrete, Modified (Major) | 5.5 | CY |

ABUTMENT 1 FOOTING

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| F4032 | 4 | 03 2 | 120 | 261 |
| F4034 | 4 | 03 4 | 53 | 118 |
| F4088 | 4 | 08 8 | 53 | 307 |
| F6092 | 6 | 09 2 | 36 | 496 |
| 4071 | 4 | 07 1 | 8 | 38 |
| 4135 | 4 | 13 5 | 3 | 27 |
| 4400 | 4 | 40 0 | 3 | 80 |
| 6071 | 6 | 07 1 | 70 | 745 |
| 6117 | 6 | 11 7 | 18 | 313 |
| 6600 | 6 | 60 0 | 18 | 1622 |
| 8071 | 8 | 07 1 | 70 | 1324 |

| | | |
|---|---|---|
| Reinforcing Steel | 5330 | LBS |
| Class A Concrete, Modified (Major) | 49.9 | CY |

COLUMNS

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| S51197 | 5 | 1197 0 | 1 | 1248 |
| S51211 | 5 | 1211 0 | 1 | 1263 |
| S51224 | 5 | 1224 0 | 1 | 1277 |
| C10299 | 10 | 29 9 | 20 | 2560 |
| C10301 | 10 | 30 1 | 20 | 2589 |
| C10305 | 10 | 30 5 | 20 | 2618 |

| | | |
|---|---|---|
| Reinforcing Steel | 11555 | LBS |
| Class A Concrete, Modified (Major) | 30.4 | CY |

WINGWALL 2

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| 1-Set(s) W4056 | TO | W4069 | 4 Bar(s)/Set | 16 |
| 1-Set(s) W4066 | TO | W41910 | 18 Bar(s)/Set | 158 |
| 1-Set(s) W7068 | TO | W7226 | 14 Bar(s)/Set | 340 |
| 1-Set(s) 5056 | TO | 5210 | 7 Bar(s)/Set | 97 |
| W4040 | 4 | 04 0 | 21 | 56 |
| W4125 | 4 | 12 5 | 4 | 33 |
| W4204 | 4 | 20 4 | 3 | 41 |
| W42210 | 4 | 22 10 | 1 | 15 |
| W5231 | 5 | 23 1 | 2 | 48 |
| W6084 | 6 | 08 6 | 9 | 113 |
| W7230 | 7 | 23 0 | 5 | 235 |
| 4046 | 4 | 04 6 | 2 | 6 |
| 4097 | 4 | 09 7 | 3 | 19 |
| 4099 | 4 | 09 9 | 2 | 13 |
| 52211 | 5 | 22 11 | 3 | 72 |
| 72210 | 7 | 22 10 | 3 | 140 |

| | | |
|---|---|---|
| Reinforcing Steel | 1402 | LBS |
| Class A Concrete, Modified (Major) | 6.5 | CY |

ABUTMENT 1

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| 65-Set(s) A50210 | TO | A50310 | 7 Bar(s)/Set | 1582 |
| 1-Set(s) A7117 | TO | A7126 | 130 Bar(s)/Set | 3200 |
| 1-Set(s) A10123 | TO | A10131 | 130 Bar(s)/Set | 7086 |
| A50710 | 5 | 07 10 | 66 | 539 |
| A6080 | 6 | 08 0 | 131 | 1574 |
| A6082 | 6 | 08 2 | 130 | 1595 |
| 5300 | 5 | 30 0 | 23 | 720 |
| 5369 | 5 | 36 9 | 23 | 882 |
| 6300 | 6 | 30 0 | 8 | 360 |
| 6372 | 6 | 37 2 | 8 | 447 |
| 9300 | 9 | 30 0 | 5 | 510 |
| 9398 | 9 | 39 8 | 5 | 674 |

| | | |
|---|---|---|
| Reinforcing Steel | 19168 | LBS |
| Class A Concrete, Modified (Major) | 38.5 | CY |
| Class D Concrete, Modified (Major) | 28.0 | CY |

ABUTMENT 2 FOOTING

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| F4032 | 4 | 03 2 | 120 | 261 |
| F4034 | 4 | 03 4 | 53 | 118 |
| F4088 | 4 | 08 8 | 53 | 307 |
| F6092 | 6 | 09 2 | 36 | 496 |
| 4071 | 4 | 07 1 | 8 | 38 |
| 4135 | 4 | 13 5 | 3 | 27 |
| 4400 | 4 | 40 0 | 3 | 80 |
| 6071 | 6 | 07 1 | 70 | 745 |
| 6117 | 6 | 11 7 | 18 | 313 |
| 6600 | 6 | 60 0 | 18 | 1622 |
| 8071 | 8 | 07 1 | 70 | 1324 |

| | | |
|---|---|---|
| Reinforcing Steel | 5330 | LBS |
| Class A Concrete, Modified (Major) | 49.9 | CY |

APPROACH SLABS

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| AS5030 | 5 | 03 0 | 488 | 1527 |
| D5059 | 5 | 05 9 | 140 | 840 |
| 4238 | 4 | 23 8 | 124 | 1960 |
| 4264 | 4 | 26 4 | 140 | 2463 |
| 4400 | 4 | 40 0 | 140 | 3741 |
| 5036 | 5 | 03 6 | 310 | 1132 |
| 7238 | 7 | 23 8 | 244 | 11803 |

| | | |
|---|---|---|
| Reinforcing Steel | 23466 | LBS |
| Class E Concrete, Modified (Major) | 113.0 | CY |

WINGWALL 3

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| 1-Set(s) W4056 | TO | W4069 | 4 Bar(s)/Set | 16 |
| 1-Set(s) W4066 | TO | W4182 | 14 Bar(s)/Set | 115 |
| 1-Set(s) W7057 | TO | W7174 | 12 Bar(s)/Set | 281 |
| 1-Set(s) 5045 | TO | 5160 | 6 Bar(s)/Set | 64 |
| W4040 | 4 | 04 0 | 16 | 43 |
| W4117 | 4 | 11 7 | 4 | 31 |
| W4186 | 4 | 18 6 | 2 | 25 |
| W4210 | 4 | 21 0 | 1 | 14 |
| W51710 | 5 | 17 10 | 2 | 37 |
| W6105 | 6 | 10 5 | 8 | 125 |
| W71710 | 7 | 17 10 | 5 | 182 |
| 4045 | 4 | 04 5 | 2 | 6 |
| 4088 | 4 | 08 8 | 3 | 17 |
| 40811 | 4 | 08 11 | 2 | 12 |
| 5178 | 5 | 17 8 | 3 | 55 |
| 7180 | 7 | 18 0 | 3 | 110 |

| | | |
|---|---|---|
| Reinforcing Steel | 1135 | LBS |
| Class A Concrete, Modified (Major) | 4.6 | CY |

ABUTMENT 2

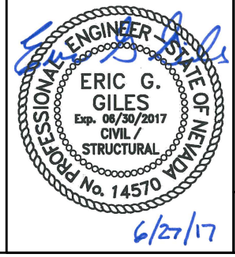
| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| 65-Set(s) A50210 | TO | A50310 | 7 Bar(s)/Set | 1582 |
| 1-Set(s) A7112 | TO | A7120 | 130 Bar(s)/Set | 3078 |
| 1-Set(s) A10117 | TO | A10126 | 130 Bar(s)/Set | 6736 |
| A50710 | 5 | 07 10 | 66 | 539 |
| A6080 | 6 | 08 0 | 131 | 1574 |
| A6082 | 6 | 08 2 | 130 | 1595 |
| 5300 | 5 | 30 0 | 23 | 720 |
| 5369 | 5 | 36 9 | 23 | 882 |
| 6300 | 6 | 30 0 | 8 | 360 |
| 6372 | 6 | 37 2 | 8 | 447 |
| 9300 | 9 | 30 0 | 5 | 510 |
| 9398 | 9 | 39 8 | 5 | 674 |

| | | |
|---|---|---|
| Reinforcing Steel | 18696 | LBS |
| Class A Concrete, Modified (Major) | 34.9 | CY |
| Class D Concrete, Modified (Major) | 28.0 | CY |

PIER FOOTINGS

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| P5042 | 5 | 04 2 | 648 | 2929 |
| 6146 | 6 | 14 6 | 90 | 1960 |
| 8146 | 8 | 14 6 | 174 | 6736 |

| | | |
|---|---|---|
| Reinforcing Steel | 11625 | LBS |
| Class A Concrete, Modified (Major) | 81.3 | CY |




STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE
SOUTHBOUND US 95 BRIDGE

# REBAR AND CONCRETE QUANTITIES

I-3190 S

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-127 |

SUPERSTRUCTURE

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| 32-Set(s) S40111 | TO | S40211 | 8 Bar(s)/Set | 413 |
| D45610 | 4 | 56 10 | 350 | 13288 |
| D5059 | 5 | 05 9 | 456 | 2735 |
| D5069 | 5 | 06 9 | 56 | 394 |
| P5060 | 5 | 06 0 | 64 | 401 |
| P61110 | 6 | 11 10 | 64 | 1138 |
| P6126 | 6 | 12 6 | 6 | 113 |
| S40111 | 4 | 01 11 | 1216 | 1557 |
| S5048 | 5 | 04 8 | 2712 | 13201 |
| S50411 | 5 | 04 11 | 424 | 2174 |
| Z50411 | 5 | 04 11 | 424 | 2174 |
| 4022 | 4 | 02 2 | 96 | 139 |
| 4028 | 4 | 02 8 | 64 | 114 |
| 4029 | 4 | 02 9 | 96 | 176 |
| 4046 | 4 | 04 6 | 64 | 192 |
| 4100 | 4 | 10 0 | 104 | 695 |
| 4104 | 4 | 10 4 | 48 | 331 |
| 4579 | 4 | 57 9 | 12 | 723 |
| 4600 | 4 | 60 0 | 144 | 5772 |
| 5030 | 5 | 03 0 | 56 | 175 |
| 5118 | 5 | 11 8 | 198 | 2409 |
| 5268 | 5 | 26 8 | 352 | 9790 |
| 5400 | 5 | 40 0 | 352 | 14685 |
| 5600 | 5 | 60 0 | 594 | 37172 |
| 6060 | 6 | 06 0 | 112 | 1009 |
| 6271 | 6 | 27 1 | 352 | 14319 |
| 6400 | 6 | 40 0 | 352 | 21148 |
| 6566 | 6 | 56 6 | 4 | 339 |
| 6600 | 6 | 60 0 | 63 | 5678 |
| 81710 | 8 | 17 10 | 16 | 762 |
| 8600 | 8 | 60 0 | 48 | 7690 |
| 9577 | 9 | 57 7 | 6 | 1175 |
| 10241 | 10 | 24 1 | 20 | 2073 |
| 10469 | 10 | 46 9 | 20 | 4023 |
| 10558 | 10 | 55 8 | 20 | 4791 |

| | | |
|---|---|---|
| Reinforcing Steel | 172968 | LBS |
| Class D Concrete, Modified (Major) | 341.0 | CY |
| Class E Concrete, Modified (Major) | 317.0 | CY |

BARRIER RAIL

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| R5079 | 5 | 07 9 | 596 | 4818 |
| 4106 | 4 | 10 6 | 4 | 28 |
| 4238 | 4 | 23 8 | 40 | 632 |
| 44411 | 4 | 44 11 | 32 | 960 |
| 44611 | 4 | 46 11 | 32 | 1003 |
| 4600 | 4 | 60 0 | 12 | 481 |

| | | |
|---|---|---|
| Reinforcing Steel | 7922 | LBS |
| Class E Concrete, Modified (Major) | 53.0 | CY |

PROFESSIONAL ENGINEER STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

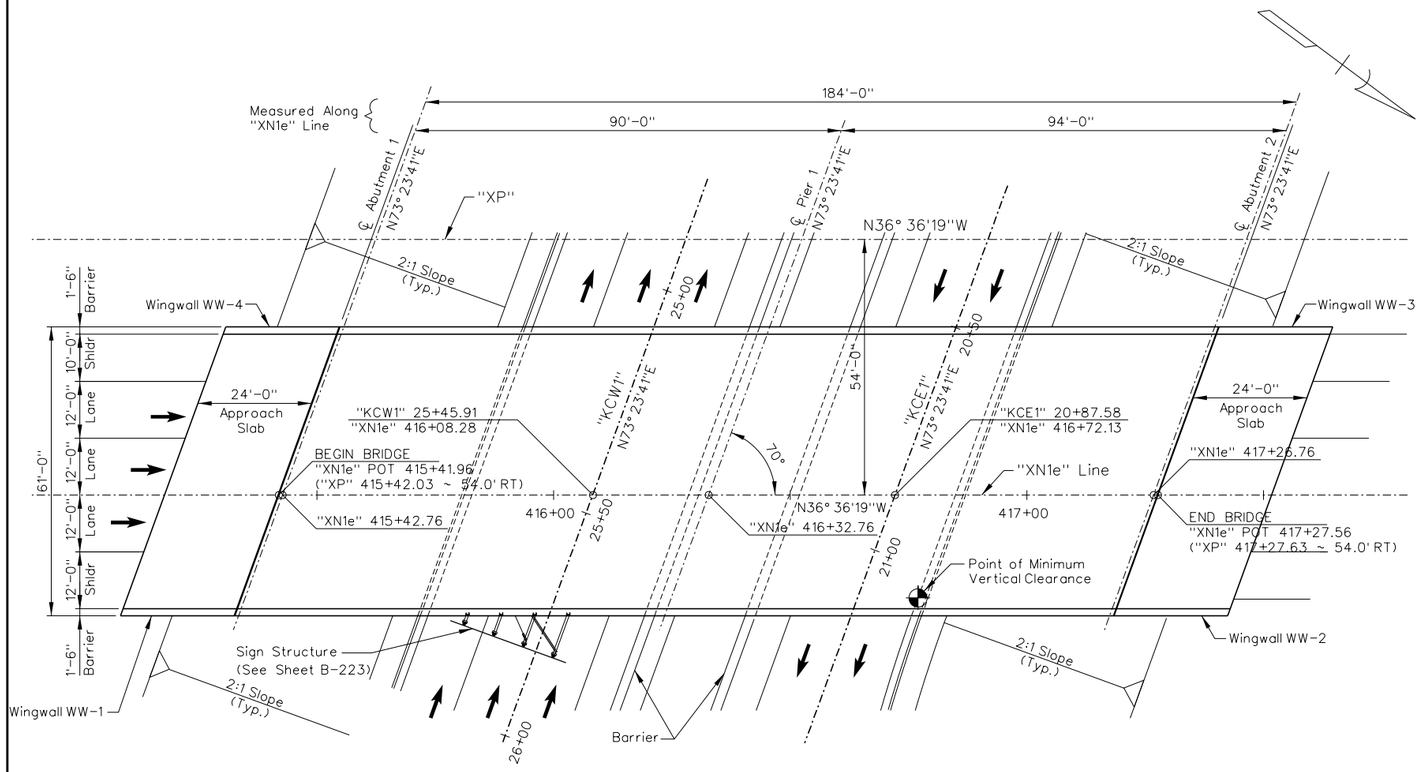
US95/KYLE CANYON RD INTERCHANGE
SOUTHBOUND US 95 BRIDGE

# REBAR AND CONCRETE QUANTITIES

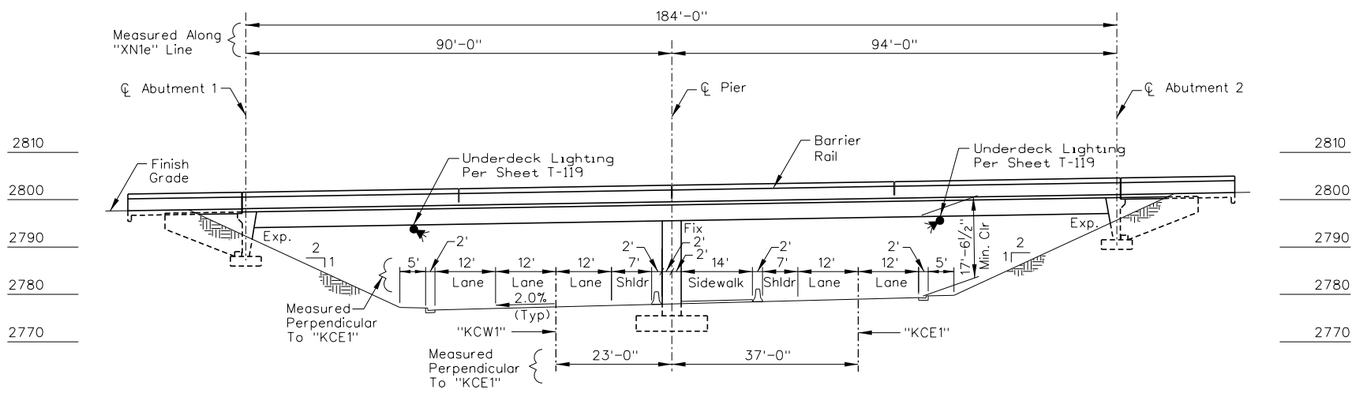
I-3190 S

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-200 |




PLAN

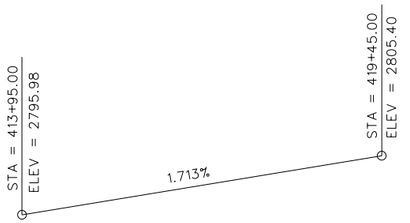



NOTE:
Existing Grade Is At Profile Line Of "XN1e"

ELEVATION

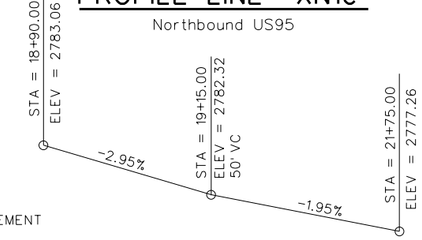
## DRAWING LIST


B-200 PLAN, ELEVATION, AND PROFILES
B-201 TYPICAL SECTION, GENERAL NOTES & QUANTITIES
B-202 BRIDGE FALSEWORK & EXCAVATION
B-203 GEOMETRICS
B-204 ABUTMENT FOOTINGS
B-205 ABUTMENT 1 PLAN & ELEVATION
B-206 ABUTMENT 2 PLAN & ELEVATION
B-207 ABUTMENT SECTION & DETAILS
B-208 ABUTMENT 1 WINGWALLS
B-209 ABUTMENT 2 WINGWALLS
B-210 PIER COLUMN AND FOOTING DETAILS
B-211 PIER CAP
B-212 DECK SECTION
B-213 BOTTOM SLAB REINFORCEMENT
B-214 BOTTOM SLAB DETAILS
B-215 GIRDER AND INTERMEDIATE DIAPHRAGM REINFORCEMENT
B-216 TOP SLAB REINFORCEMENT
B-217 PRESTRESSING, CAMBER & CONCRETE PLACEMENT
B-218 ANCHORAGE ZONE DETAILS
B-219 APPROACH SLAB PLANS
B-220 APPROACH SLAB DETAILS
B-221 STRIP SEAL EXPANSION JOINT
B-222 BRIDGE RAIL
B-223 SIGN STRUCTURE DETAILS
B-224 BAR BEND SCHEDULE
B-225 BAR BEND SCHEDULE
B-226 REBAR AND CONCRETE QUANTITIES
B-227 REBAR AND CONCRETE QUANTITIES

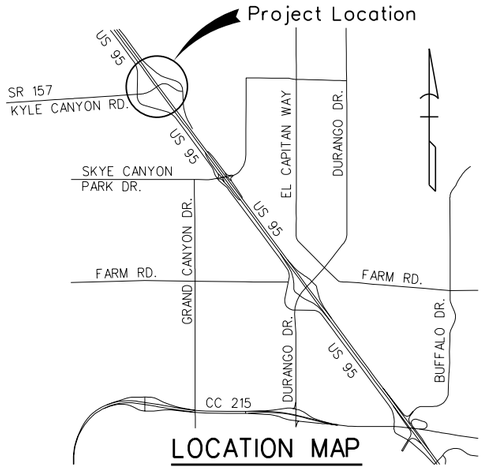

## PROFILE LINE "XN1e"

Northbound US95




## PROFILE LINE "KCE1"

NOTE:
"KCW1" Is For Horizontal Layout Only. Under Bridge Vertical Curve Is Controlled By Profile Line "KCE1"




LOCATION MAP

PROFESSIONAL ENGINEER - STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# PLAN, ELEVATION AND PROFILES

I-3190 N


GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-201 |

# GENERAL NOTES:

1. Design Specifications: AASHTO "LRFD Bridge Design Specifications" 7th Edition, 2014 And "NDOT Structures Manual" Dated September 2008.

2. Construction Specifications: State of Nevada Department of Transportation "Standard Specifications for Road and Bridge Construction, 2014" except as noted below and in the Special Provisions for this Contract.

3. Dead Load: In accordance with Specifications with an allowance of 38 psf for future overlay surface, and 12 psf for "Lost Forms".

4. Live Load: AASHTO HL-93 Loading. Overload design based on California "Standard Permit Design Vehicles" (Maximum Overload P-13 Truck). Deck Design based on the Equivalent Strip Method with a 40.0-kip axle.

5. Seismic Load:
   Peak Ground Acceleration Coefficient (PGA) =0.15
   Short-Period Spectral Acceleration Coefficient (Ss) = 0.40
   Long-Period Spectral Acceleration Coefficient (S1) = 0.15
   Site Class = C
   Seismic Zone = 2

6. Design Temperatures: T min = 30°F
   T max = 100°F

7. Concrete: All concrete shall be Class A Modified (Major), Class D Modified (Major), and Class E Modified (Major). Class D may be substituted for Class A at no additional cost. Type V Cement shall be used for concrete in contact with soil. See Prestressing Notes and Concrete Classification Diagram for Ultimate Compressive Concrete Strength, and Placement Locations and Sequence. All Construction joints shall be intentionally roughened to 1/4" amplitude. Concrete Construction Joints designed as a "Permissible Joint" or as an "Optional Construction Joint" may be incorporated into the construction at the contractor's option. Joints shall be incorporated into the construction unless otherwise approved in writing by the Bridge Design Engineer unless otherwise noted. Maintain 2" Clear Concrete Cover for all reinforcing bars, Unless noted Otherwise.

8. Reinforcing Steel: All Reinforcing Steel shall be ASTM A706, Grade 60, Deformed. Dimensions relating to the bar spacing are center to center. Bending Dimensions are from out to out of the bars. Bar sizes Three (3) to Nine (9) are indicated by the first number in the mark size and Ten (10) or larger by the first two numbers. Sizes Four (4) and Five (5), when considered as bars to control temperature, shrinkage, and distribution stresses by the Engineer, may be adjusted upon concurrence and approval of the Engineer.

9. Camber: The Camber shall be as shown on the Plans.

10. Bridge Rail: Designed for TL-4

11. Foundations:

| ABUTMENT 1 AND ABUTMENT 2 | | |
|---|---|---|
| SPREAD FOOTINGS FOUNDED ON NATIVE SOIL | | |
| LIMIT STATE | PRESUMPTIVE BEARING RESISTANCE (ksf) NOMINAL $q_N$ | FACTORED $q_R$ |
| STRENGTH* | 24.0 | 10.8 |
| SERVICE (FOR MAX 1/2" SETTLEMENT) | 5.4 | 5.4 |

| PIER | | |
|---|---|---|
| SPREAD FOOTINGS FOUNDED ON NATIVE SOIL | | |
| LIMIT STATE | PRESUMPTIVE BEARING RESISTANCE (ksf) NOMINAL $q_N$ | FACTORED $q_R$ |
| STRENGTH* | 34.2 | 15.4 |
| SERVICE (FOR MAX 1/2" SETTLEMENT) | 5.2 | 5.2 |

*The Strength Limit Factored Bearing Resistance is equal to the Nominal Bearing Resistance multiplied by a Resistance Factor of 0.45.

Estimated Differential Settlement is equal to the Maximum Settlement.

From Geotechnical Exploration Report. By Klienfelder dated 5-23-2016. Project No. 20162633.

12. Construction Type Code: X281

13. Conduit: See Lighting Plans for location and quantities of Conduit for Utilities. Contractor to install Conduits for Utilities as shown on the Plans. All Conduit shall extend 3'-0" beyond the limits of the Approach Slabs.

14. Fine Surface Finish: Shall be applied to all Concrete Surfaces exposed to view (Except Top Surfaces of Deck Slab) to at least 1'-0" below Finished Grade.

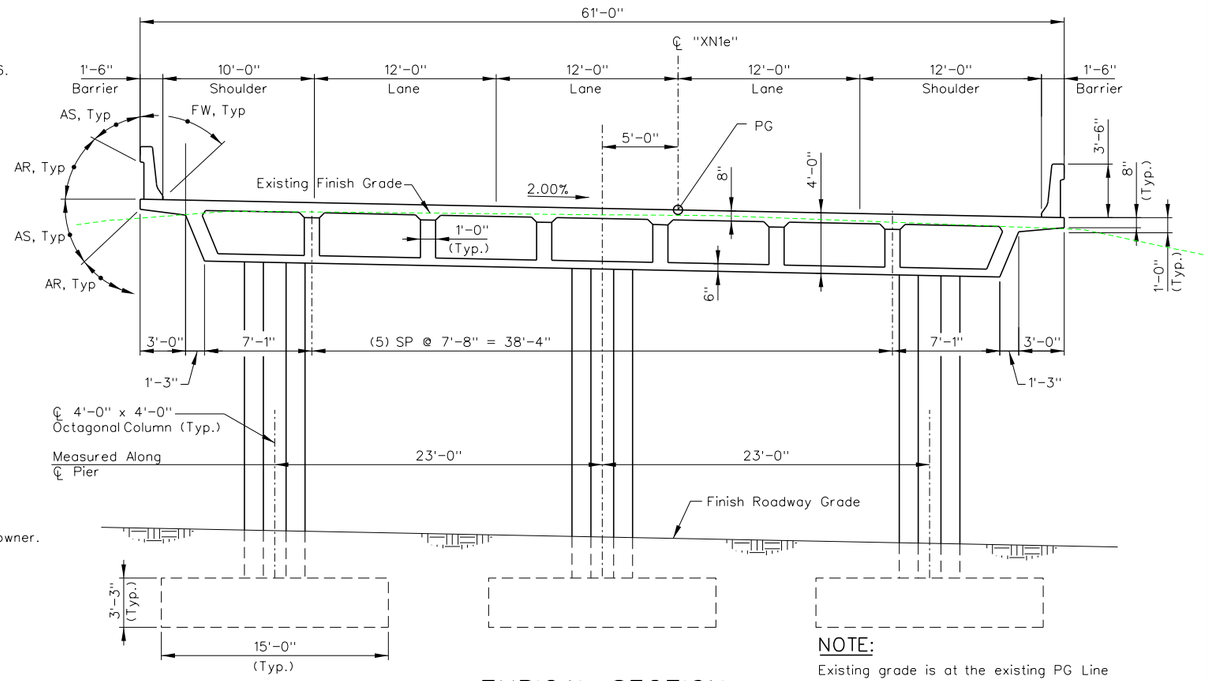
15. Where NDOT Standard Plans are referenced please see "Standard Plans for Road and Bridge Construction" 2010 Edition.

## BRIDGE SURFACE FINISH TABLE

| FINISH TYPE | COLOR | KEY |
|---|---|---|
| FINE SURFACE FINISH | RUST | AR |
| FINE SURFACE FINISH | SAND | AS |
| FINE SURFACE FINISH | WHITE | FW |

NOTES:

1. Verify colors with NDOT prior to application.
2. Wingwalls to have surface finish with color to be determined by owner.




NOTE:
Existing grade is at the existing PG Line

## TYPICAL SECTION
(Looking Ahead On Station)

## BRIDGE QUANTITIES:

| SPEC | ITEM DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|
| 2060110 | STRUCTURAL EXCAVATION | CY | 6650 |
| 2070110 | GRANULAR BACKFILL | CY | 1720 |
| 2120045 | PAINTING | SY | 1820 |
| 5020670 | GROOVE CONCRETE DECK SLAB | SY | 1495 |
| 5020920 | CLASS A CONCRETE (MODIFIED)(MAJOR) f'c = 4500psi | CY | 300 |
| 5020970 | CLASS D CONCRETE (MODIFIED)(MAJOR) f'c = 4500psi | CY | 397 |
| 5021000 | CLASS E CONCRETE (MODIFIED)(MAJOR) f'c = 4500psi | CY | 483 |
| 5021780 | STRIP SEAL EXPANSION JOINT (3-INCH MOVEMENT) | LF | 130 |
| 5021950 | BRIDGE DECK CURING COMPOUND | GALLON | 90 |
| 5030130 | PRESTRESSING - CAST-IN-PLACE CONCRETE | LUMP SUM | 1 |
| 5050100 | REINFORCING STEEL | POUND | 279700 |
| 5060110 | STRUCTURAL STEEL | POUND | 2240 |
| 5060470 | APPROACH SLAB RESTRAINER UNIT | EA | 66 |
| | | | |
| | | | |

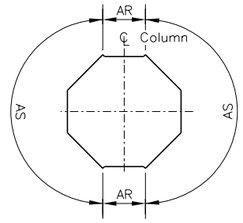
## QUANTITY NOTE:

1. Bridge Quantities include Bridge, Approach Slab, and Concrete Bridge Rail from the beginning Approach Slab to the End Approach Slab.

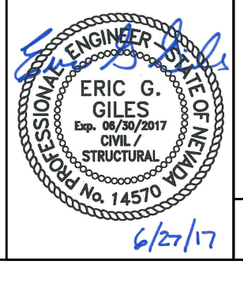
## LAP SPLICE:

| BAR SIZE | MIN LAP |
|---|---|
| #4 | 1'-9" |
| #5 | 2'-2" |
| #6 | 2'-7" |
| #7 | 3'-3" |
| #8 | 4'-3" |
| #9 | 5'-1" |
| #10 | 6'-5" |
| #11 | 7'-10" |

NOTE: STAGGER ADJACENT LAP SPICES A MINIMUM OF 2'-0'




## COLUMN SURFACE FINISH DETAIL




STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

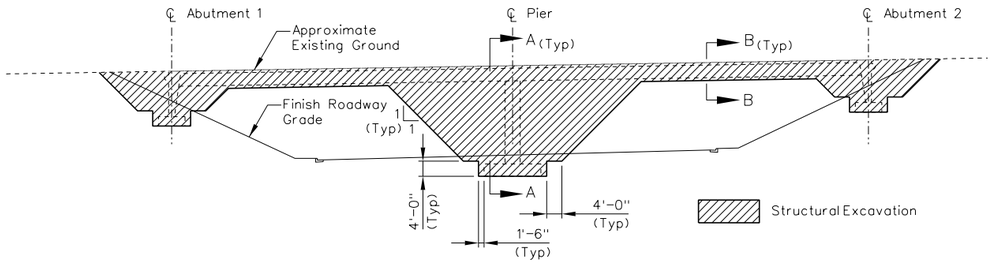
US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# TYPICAL SECTION, GENERAL NOTES AND QUANTITIES

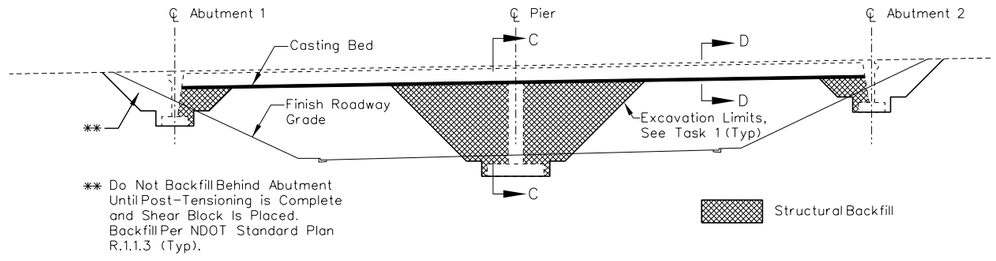
I-3190 N

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

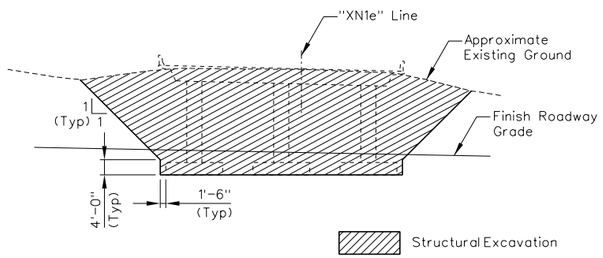
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-202 |



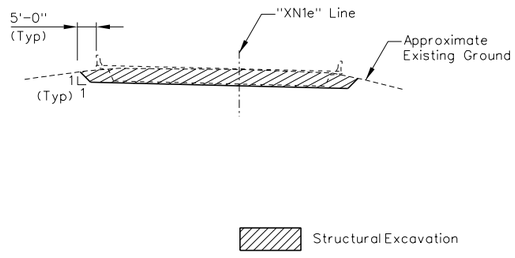

## PROPSOED CONSTRUCTION METHOD TASK 1



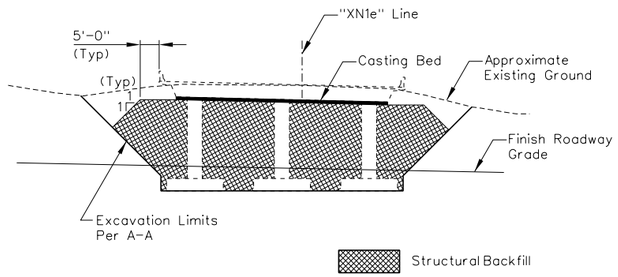

## PROPSOED CONSTRUCTION METHOD TASK 1



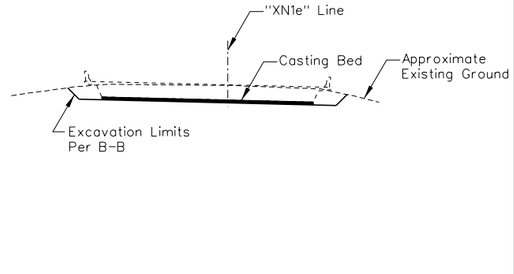

## A-A




## B-B




## C-C




## D-D

### SEQUENCE OF CONSTRUCTION NOTES:

See Details On This Sheet For Additional Information.

TASK 1

- Excavate From Existing Ground Line To A Depth Below Girder Soffit To Allow For Construction Of Casting Bed. The Supporting Soil Shall Be Compacted Sufficiently To Avoid Settlement. Any Damage To The SuperStructure Due To Settlement Shall Be The Sole Responsibility Of The Contractor.
- Excavate For Construction Of Abutment And Pier Footings.
- Construct Abutment Footing, Pier Footings, And Columns.

TASK 2

- Backfill Around Abutment And Pier Footings And Columns Up To Bottom Of Casting Bed. The Supporting Soil Shall Be Compacted Sufficiently To Avoid Settlement. Any Damage To The Superstructure Due To Settlement Shall Be The Sole Responsibility Of The Contractor.
- Construct Suitable Casting Bed.
- Construct Bridge Superstructure.
- Remove soil in front of Abutment as shown on prestressing diagram on sheet B-217
- Stress Bridge.

TASK 3

- Excavate Minimum 12'-0" Under Girders To Inspect The Box Girder. All Excavation Quantities Under The Bridge for Task 3 Shall Be Paid For Under The Pay Item: Roadway Excavation.

### NOTES:

1. Excavation And Fill Required For Construction Of The Specification Section 206 "Structure Excavation" Will Be Paid Under The Pay Item: Southbound US95 Over Kyle Canyon. All Other Excavations Will Be Paid Under The Pay Item: Roadway Excavation.
2. As An Alternative Method For Construction, At No Additional Cost, Excavate To The Bottom Of The Footing And Build The Superstructure On Falsework. Backfill The Footings To The Elevation Indicated On The Roadway Grading And Drainage Plans.
3. For Granular Backfill And Other Details Not Shown, See NDOT Standard Plan R-1.1.3.

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US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# BRIDGE FALSEWORK AND EXCAVATION

I-3190 N

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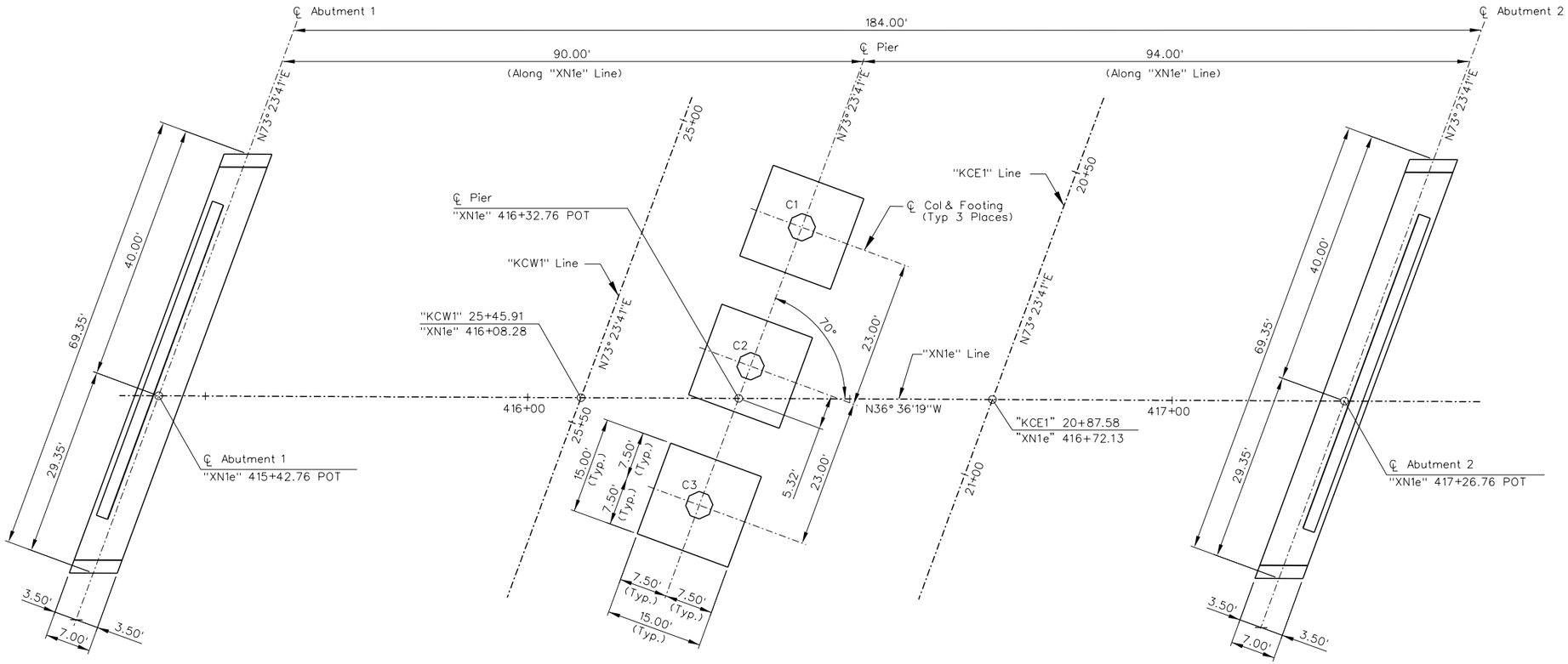
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-203 |




## GEOMETRIC PLAN

### FOUNDATION NOTES:

1. Footings Shall Be Excavated To Neat Lines And Scarified Six To Eight Inches, Moistened To Within Two Percent Of Optimum Moisture Content For Granular Soils And Up To Three Percent Above Optimum Content For Cohesive Soils And Compacted To At Least 95 Percent Per ASTM D-1557 Scarification And Recompaction Is Not Required Where Cemented Soils Are Encountered.
2. If Both Cemented And Non-Cemented Soils Are Encountered In Foundation Excavations For A Single Structure, Then The Foundations Should Either Be Extended To Bear Entirely On Cemented Soils In All Areas. Or The Cemented Soils Should Be Overexcavated So That A Minimum Of Twelve Inches Of Structural Embankment Fill May Be Placed Between The Bottom Of The Footing And The Cemented Soils In All Areas.
3. Although Not Anticipated, If Loose Or Soft Soils Are Encountered They Shall Be Removed In Areas Where Overexcavation Is Required. The Excavations For Loose Or Soft Soils Shall Extend Laterally A Distance Equal To The Depth Of The Excavation.
4. Areas Receiving Structural/Embankment Fill Due To Overexcavation Shall Be Constructed In 6 To 8 Inch Lifts And Moistened To Within Two Percent Of Optimum Moisture Content For Granular Soils And Up To Three Percent Above Optimum Content For Cohesive Soils And Compacted To At Least 95 Percent Per ASTM D-1157.
5. "CX" Indicates Column Number. See Sheet B-210 For Column Data.

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NORTHBOUND US 95 BRIDGE

# GEOMETRICS

I-3190 N

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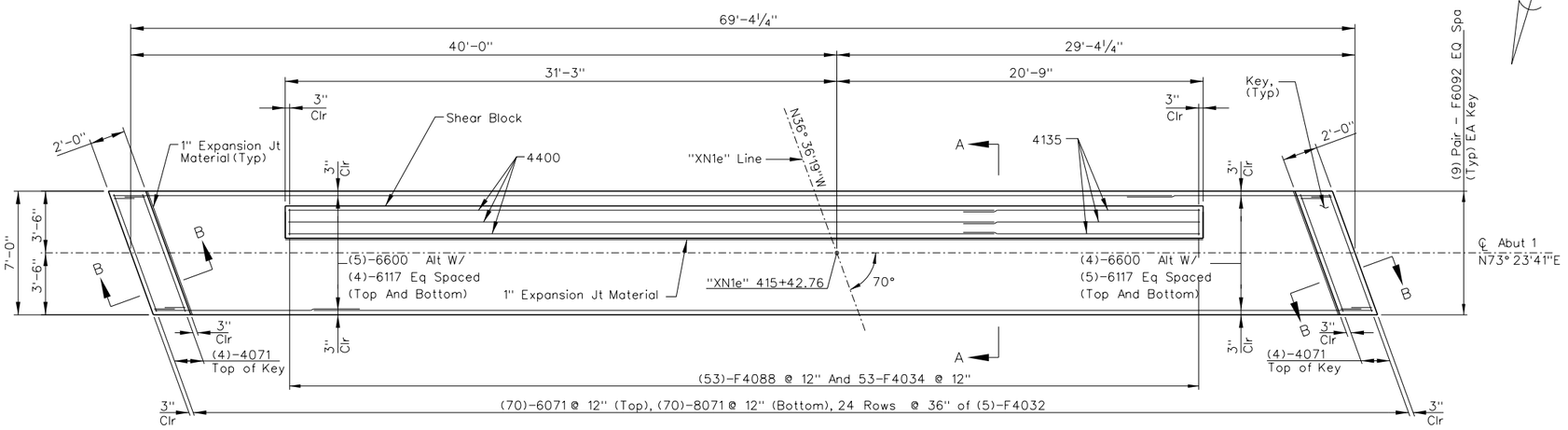
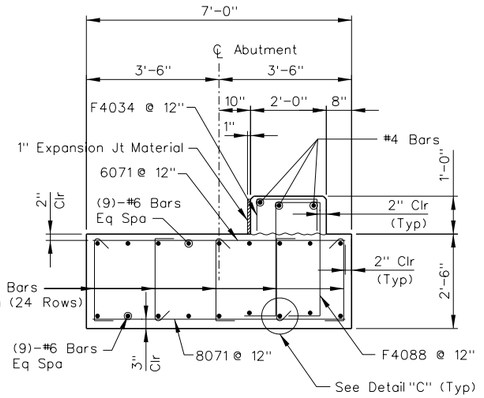
| NEVADA | NHP-STP-095-2(062) | CLARK | B-204 |

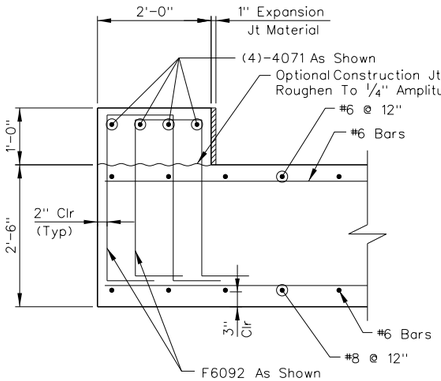



## FOOTING PLAN - ABUTMENT 1

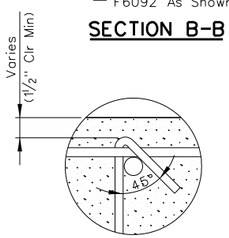
NOTE:
Do Not Place Shear Block Until After Post-Tensioning Has Been Completed



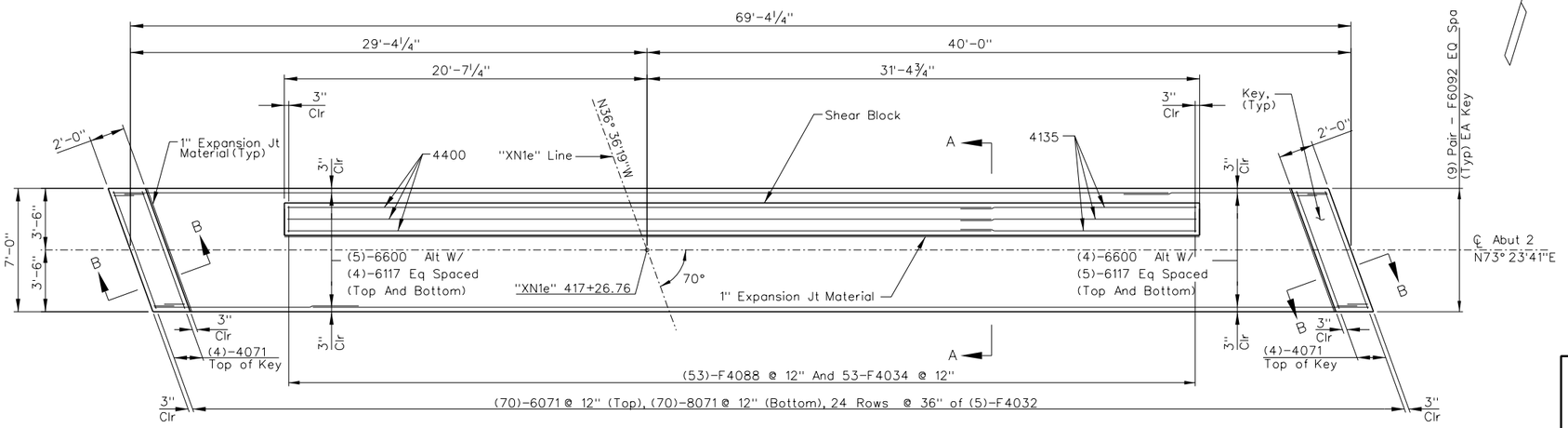

## SECTION A-A




## SECTION B-B




## DETAIL C




## FOOTING PLAN - ABUTMENT 2

NOTE:
Do Not Place Shear Block Until After Post-Tensioning Has Been Completed

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NORTHBOUND US 95 BRIDGE

# ABUTMENT FOOTINGS

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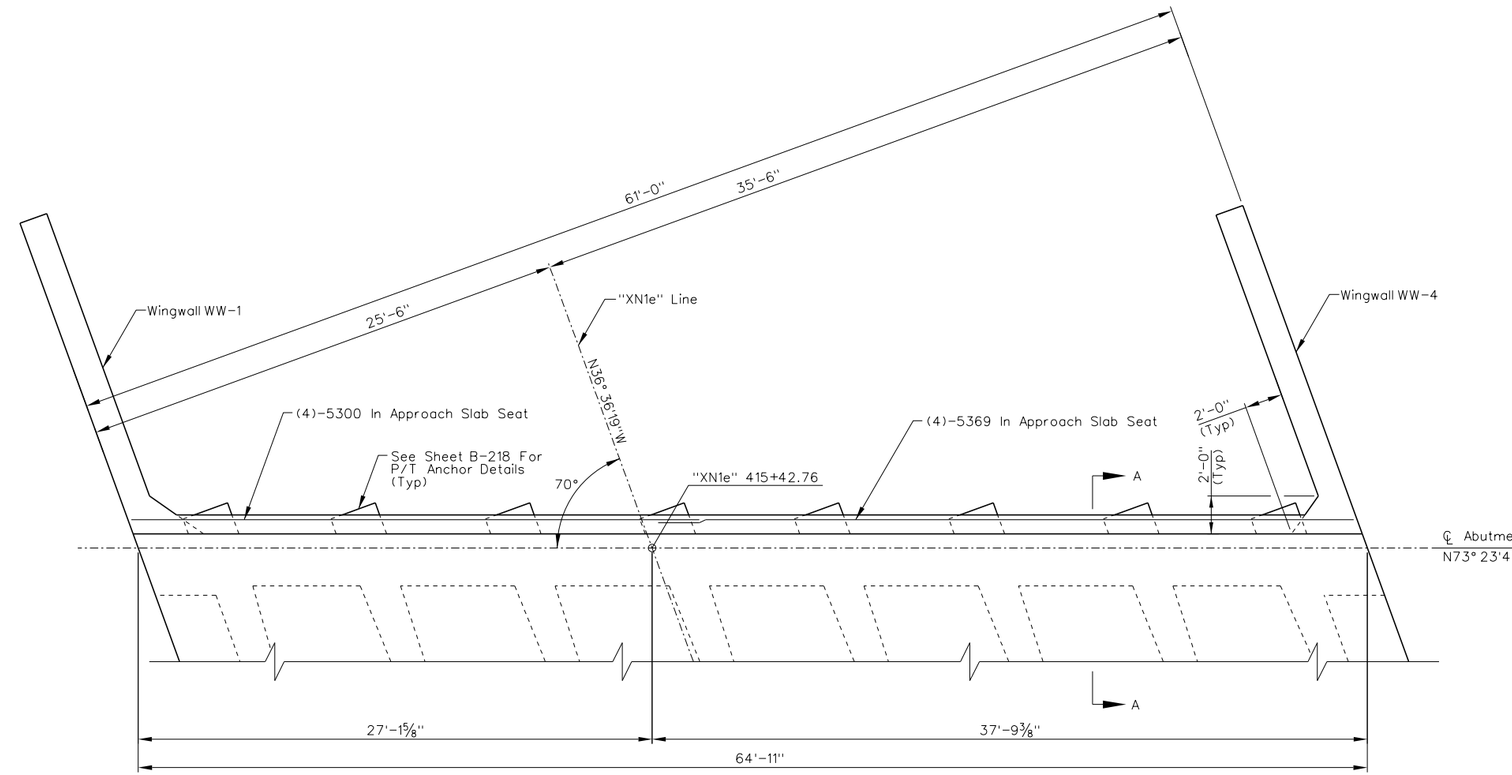
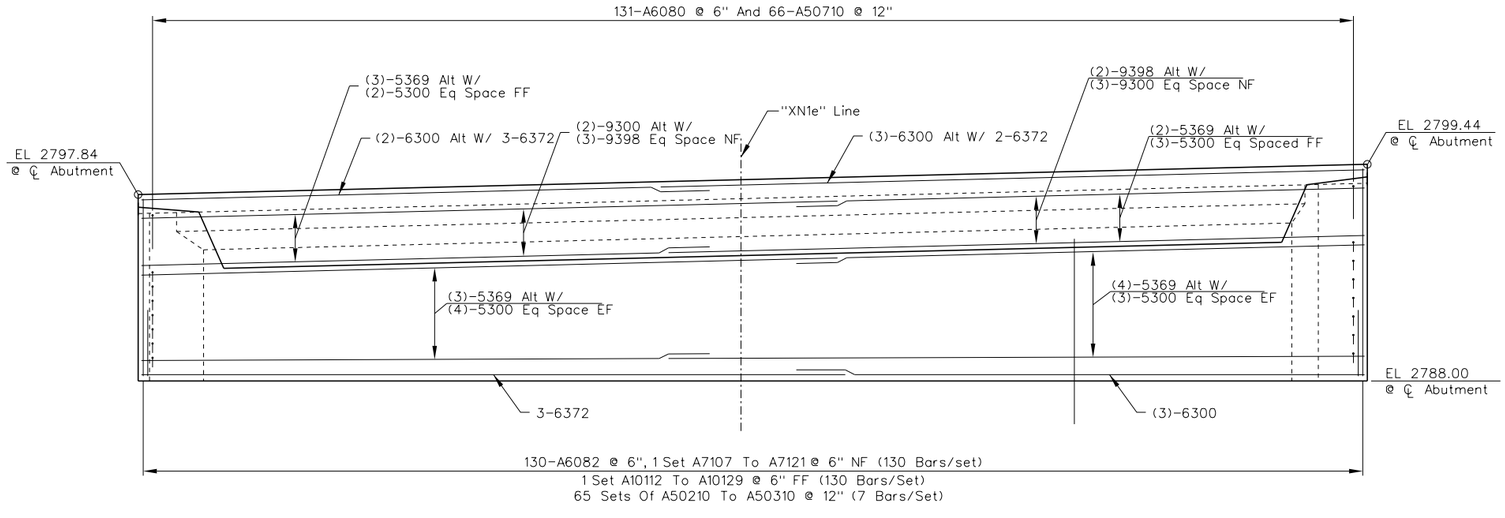
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-205 |




## PLAN - ABUTMENT 1




## ELEVATION - ABUTMENT 1

### NOTES:

1. For Section A-A And Details See Sheet B-207.
2. See Sheets B-208 And B-209 For Wingwall Reinforcing That Is To Be Cast Into Abutments.
3. See Sheet B-220 For Expansion Joint Anchorage To Be Cast Into Abutments.
4. Deck And Girder Reinforcement Not Shown For Clarity.

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NORTHBOUND US 95 BRIDGE

# ABUTMENT 1 PLAN AND ELEVATION

I-3190 N

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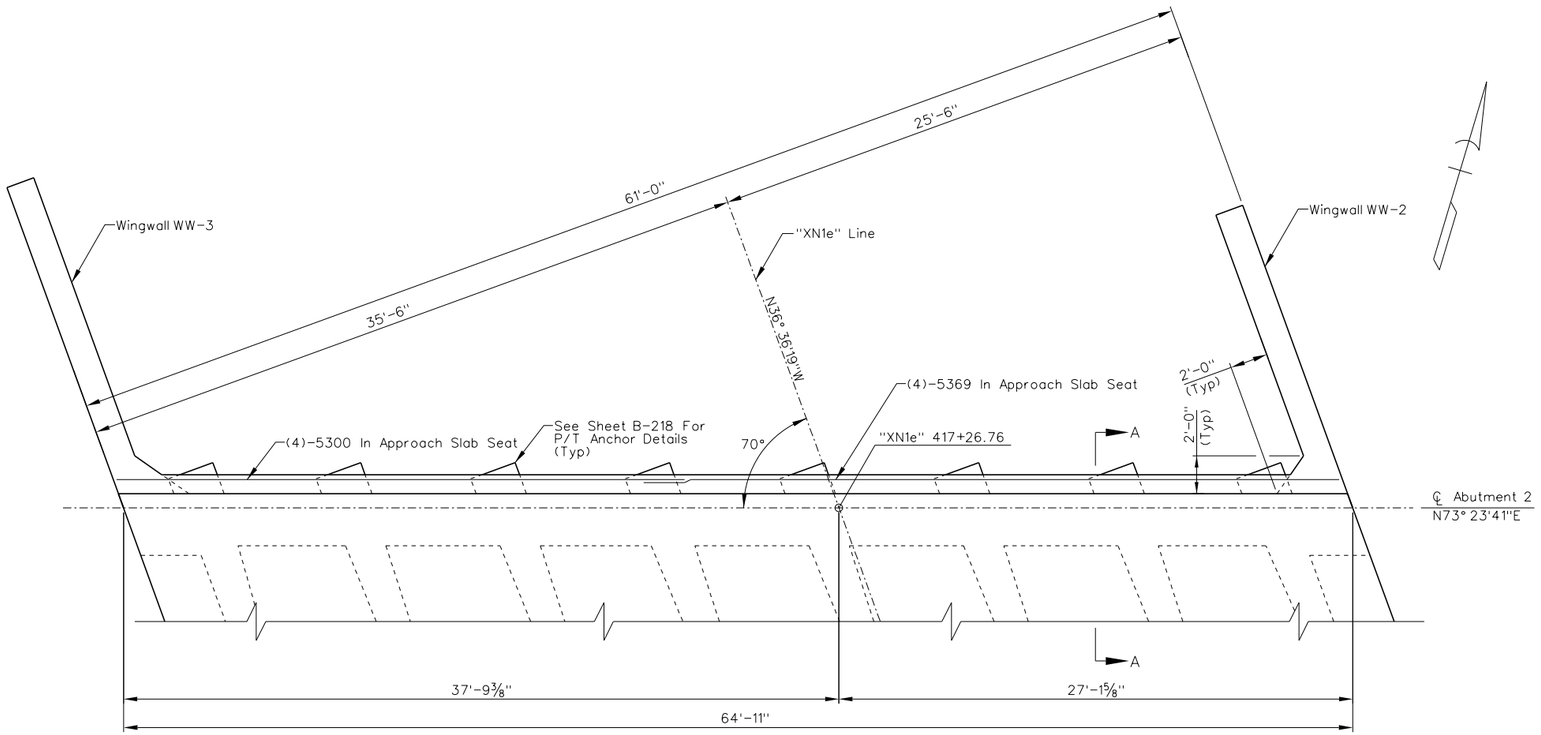
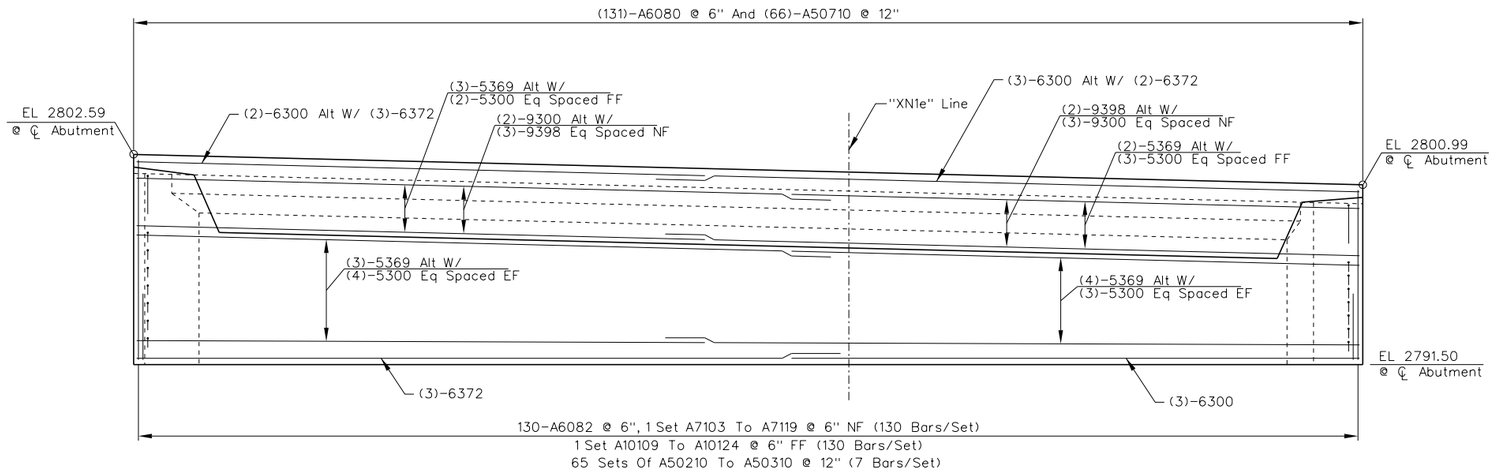
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-206 |




## PLAN - ABUTMENT 2




## ELEVATION - ABUTMENT 2

NOTES:

1. For Section A-A And Details See Sheet B-207.
2. See Sheets B-208 And B-209 For Wingwall Reinforcing That Is To Be Cast Into Abutments.
3. See Sheet B-220 For Expansion Joint Anchorage To Be Cast Into Abutments.
4. Deck And Girder Reinforcement Not Shown For Clarity.

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# ABUTMENT 2 PLAN AND ELEVATION

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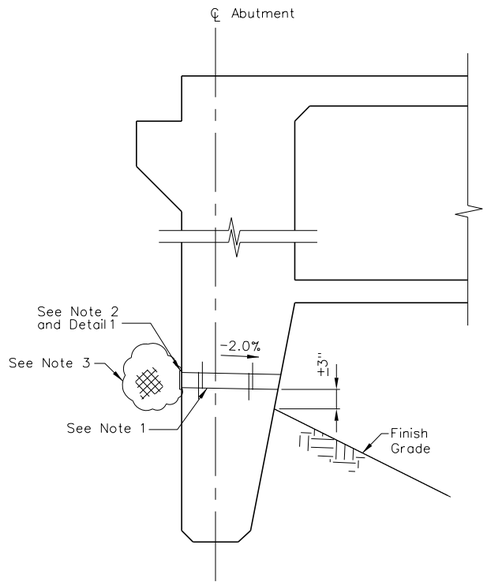
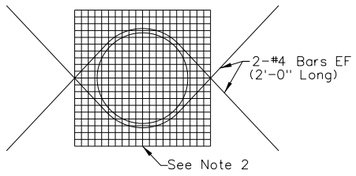
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-207 |



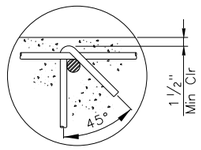

## ABUTMENT WEEPHOLE DETAIL

NOTES:

1. 4"ø Drains at 15'-0"± Center to Center located 3"± Above Finished Grade.
2. 6" Sq Aluminum or Galvanized Steel Wire Mesh Hardware Cloth (Min Wire Dia. 0.03").
3. 2 $ft^3$ of NDOT Type 1 or 2 Drain Backfill, Encapsulated in a Geotextile Fabric, Securely Tied. The Geotextile Fabric Must:
   a) Meet or Exceed AASHTO Test Method M288 Class 2 Strength requirements.
   b) Have an AOS no Greater than U.S. Sieve No. 40.
   c) Have a Permittivity of at Least 0.5 sec .
4. Cost of Weepholes Complete and in Place Shall be Considered Incidental to Construction, and No Direct Payment Will be Made Therefore.




## DETAIL 1

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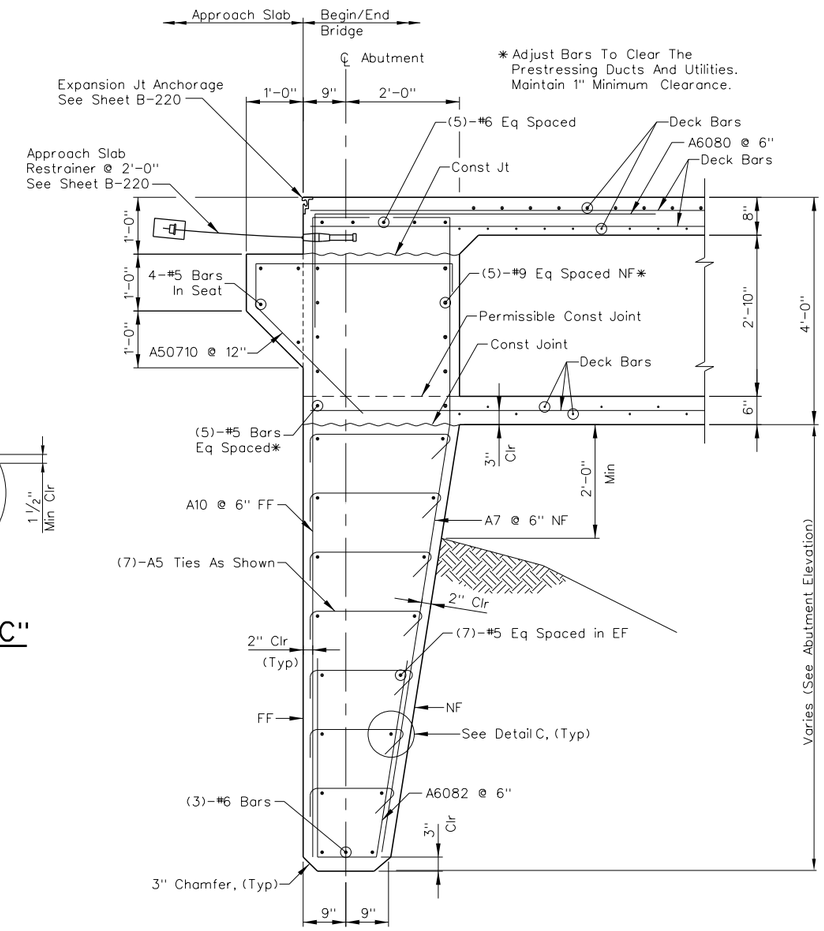
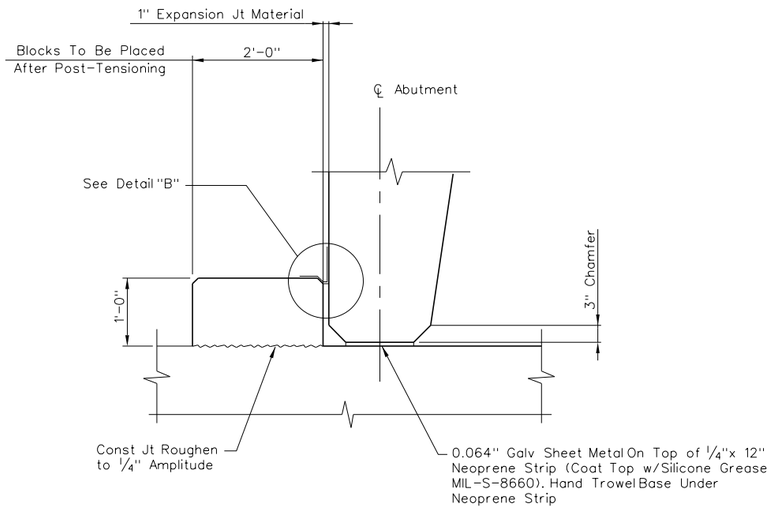


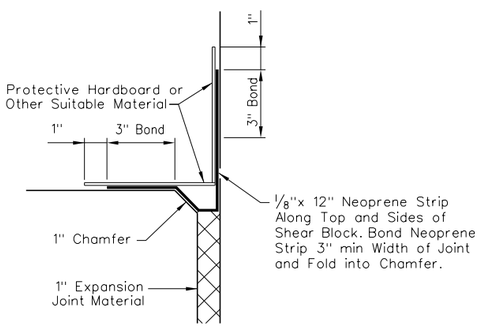

## SECTION A-A

NOTES:

1. For Abutment Plans And Elevations, See Sheets B-205 And B-206.
2. Bundle Vertical Abutment Stem Bars At Girder Web Locations As Required To Clear Prestressing Anchors.
3. Girder Reinforcing Not Shown For Clarity.




## ABUTMENT SEAT DETAIL

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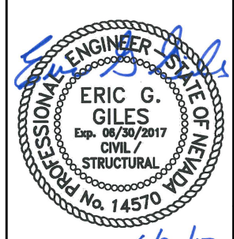


STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# ABUTMENT SECTIONS AND DETAILS

I-3190 N

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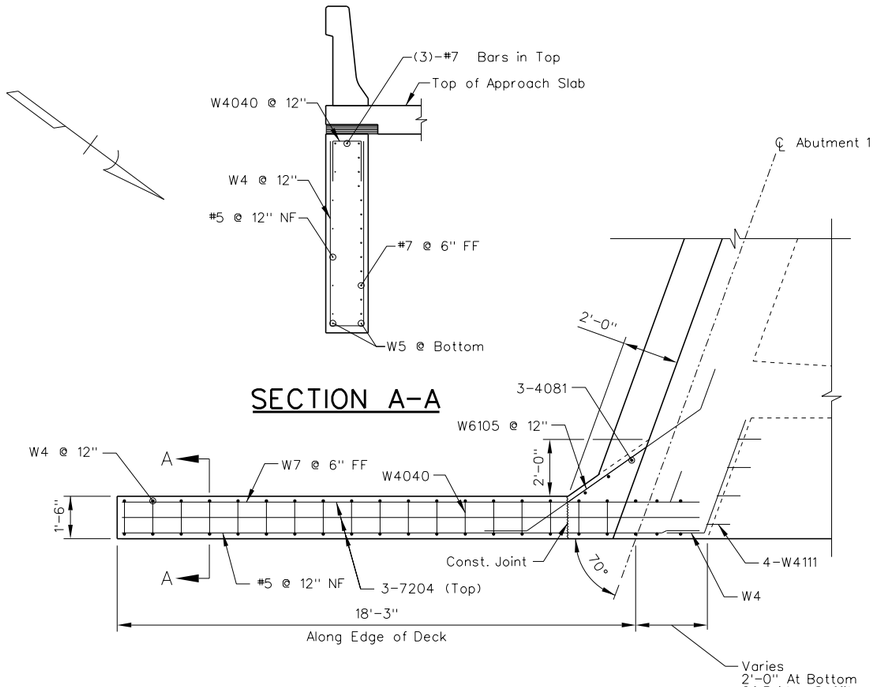
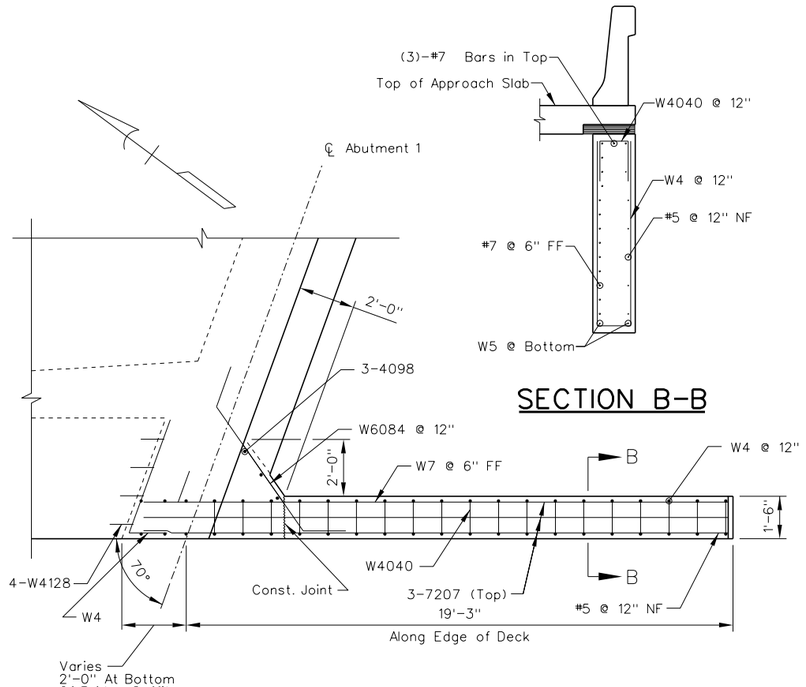
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-208 |




## SECTION A-A




## PLAN - WW1



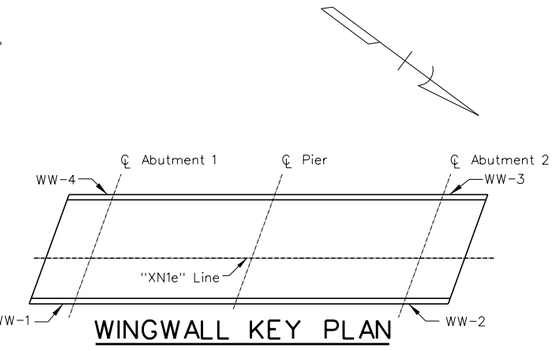

## SECTION B-B




## PLAN - WW4

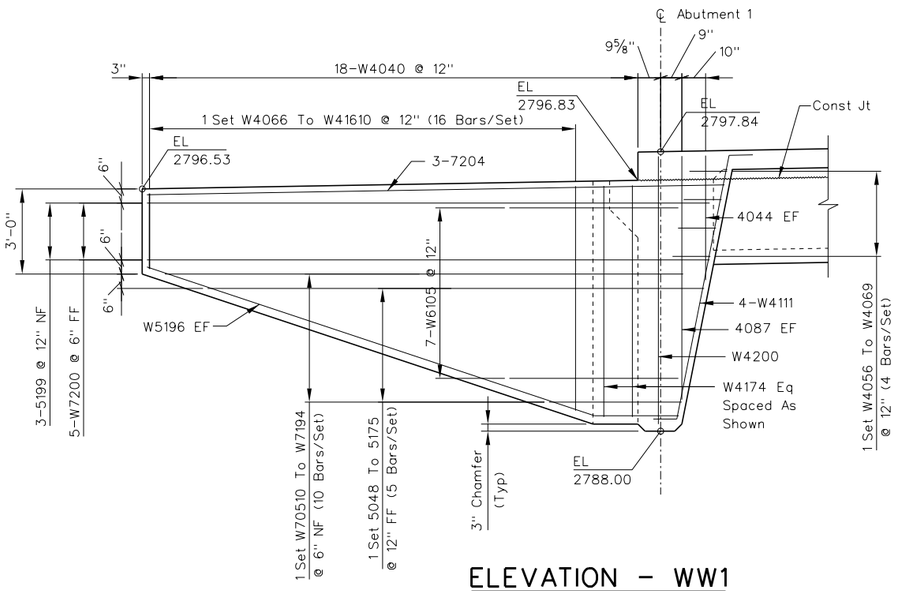
## NOTES:

1. Wingwall Shall Not Be Poured Until After Stressing Is Completed.
2. The Wingwall Reinforcing Extending Into The Abutment Stem Shall Be Placed Prior To The Abutment Stem Pour. Parts Of The Wingwalls Will Typically Be Poured In At Least Two Separate Pours With All Reinforcing Continuos Through Multiple Pours. Wingwall Reinforcing To Be Installed As Detailed. No Cutting And Splicing Or Drilling And Grouting Shall Be Permitted.
3. Backfill Inside And Outside Of Wingwall Simultaneously.

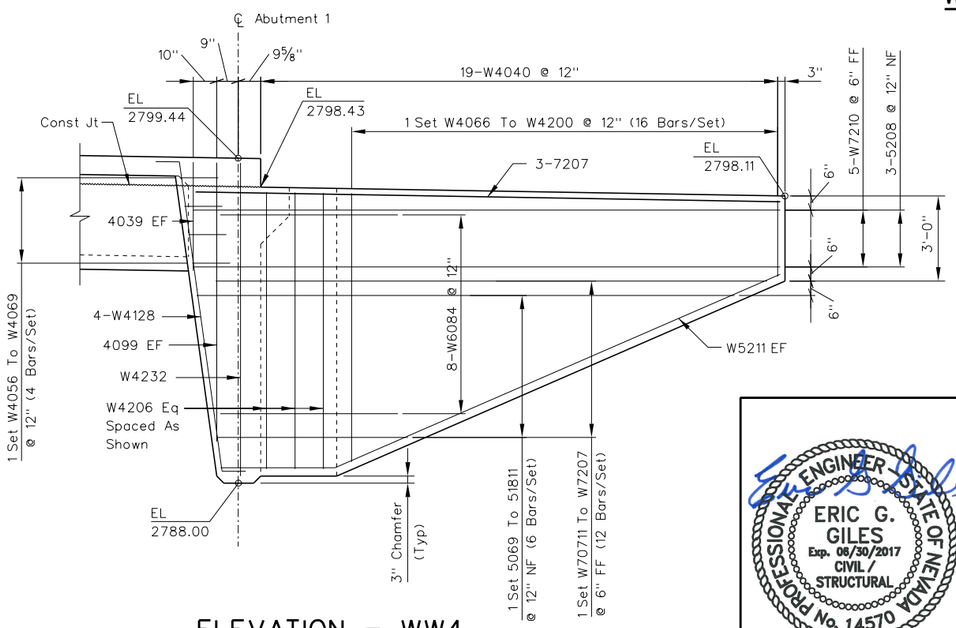



## WINGWALL KEY PLAN

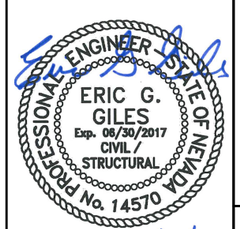
NTS




## ELEVATION - WW1




## ELEVATION - WW4




STATE OF NEVADA
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US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# ABUTMENT 1 WINGWALLS

I-3190 N

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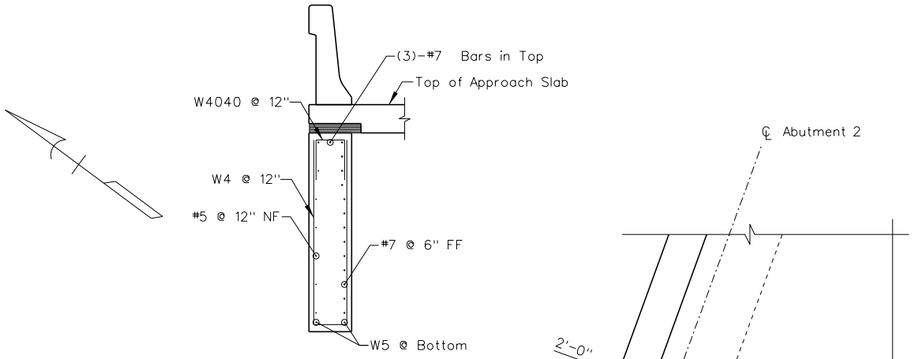
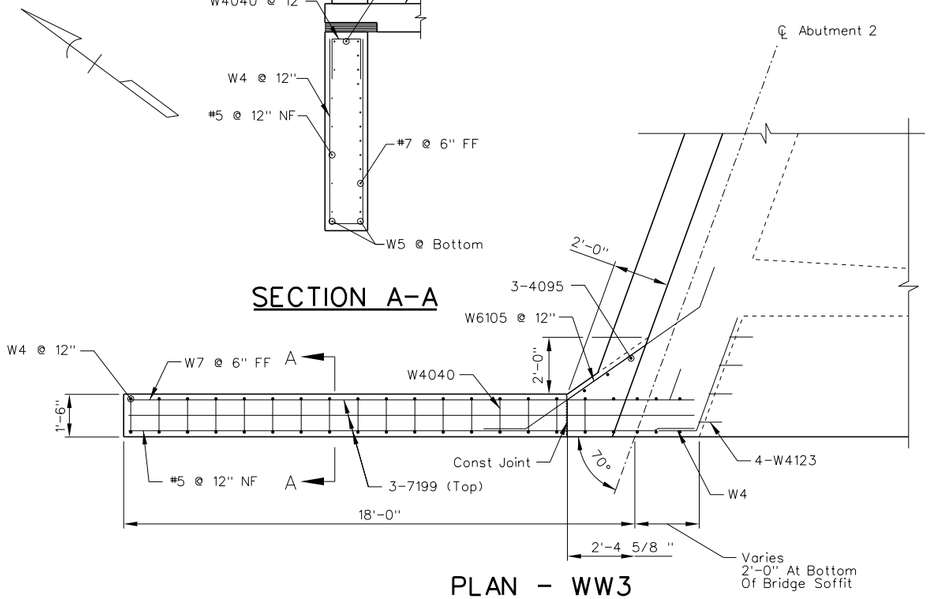
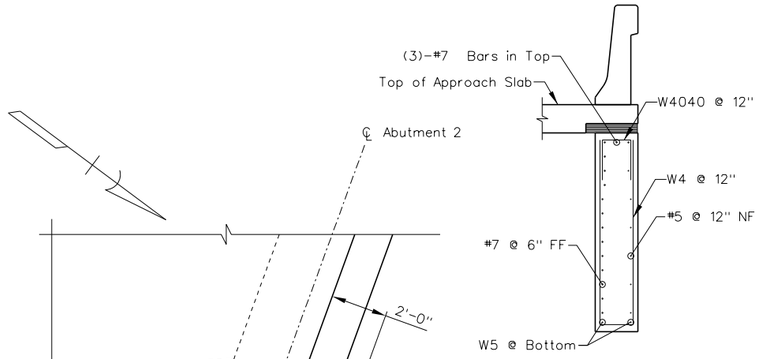
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-209 |



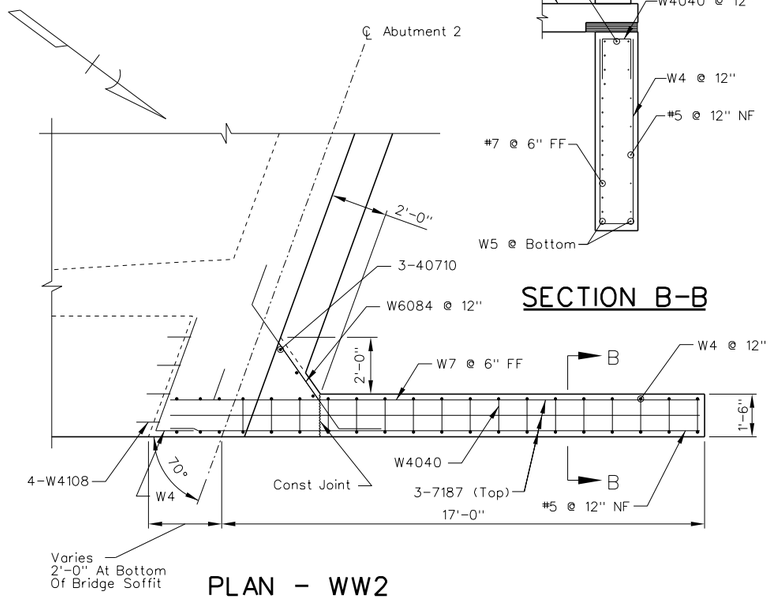

## SECTION A-A




## PLAN - WW3



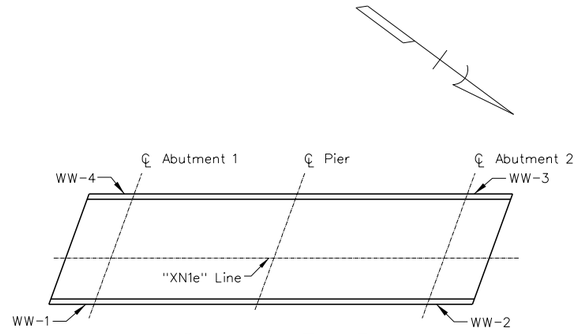

## SECTION B-B




## PLAN - WW2

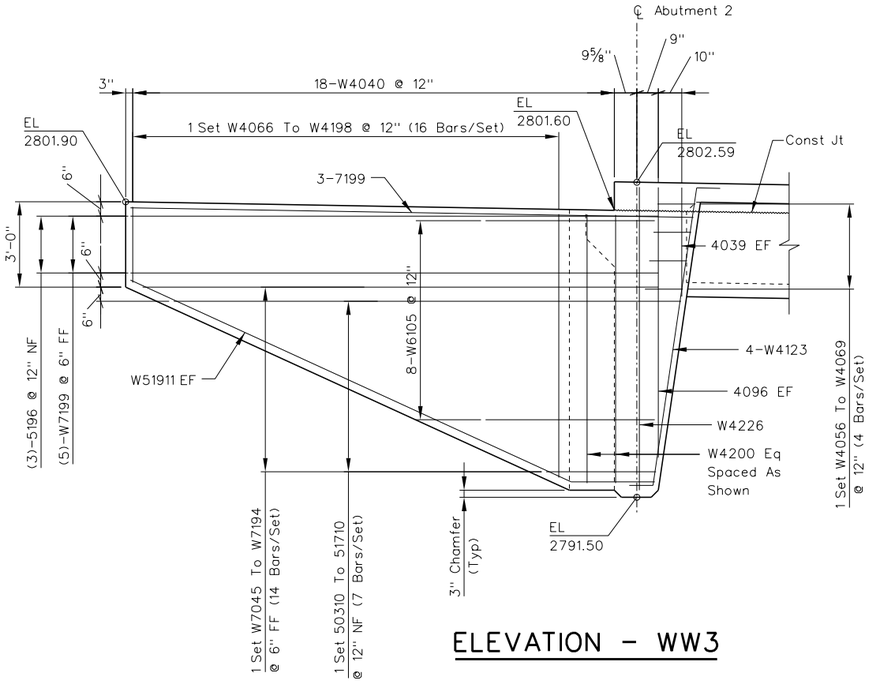
## NOTES:

1. Wingwall Shall Not Be Poured Until After Stressing Is Completed.
2. The Wingwall Reinforcing Extending Into The Abutment Stem Shall Be Placed Prior To The Abutment Stem Pour. Parts Of The Wingwalls Will Typically Be Poured In At Least Two Separate Pours With All Reinforcing Continuos Through Multiple Pours. Wingwall Reinforcing To Be Installed As Detailed. No Cutting And Splicing Or Drilling And Grouting Shall Be Permitted.
3. Backfill Inside And Outside Of Wingwall Simultaneously.

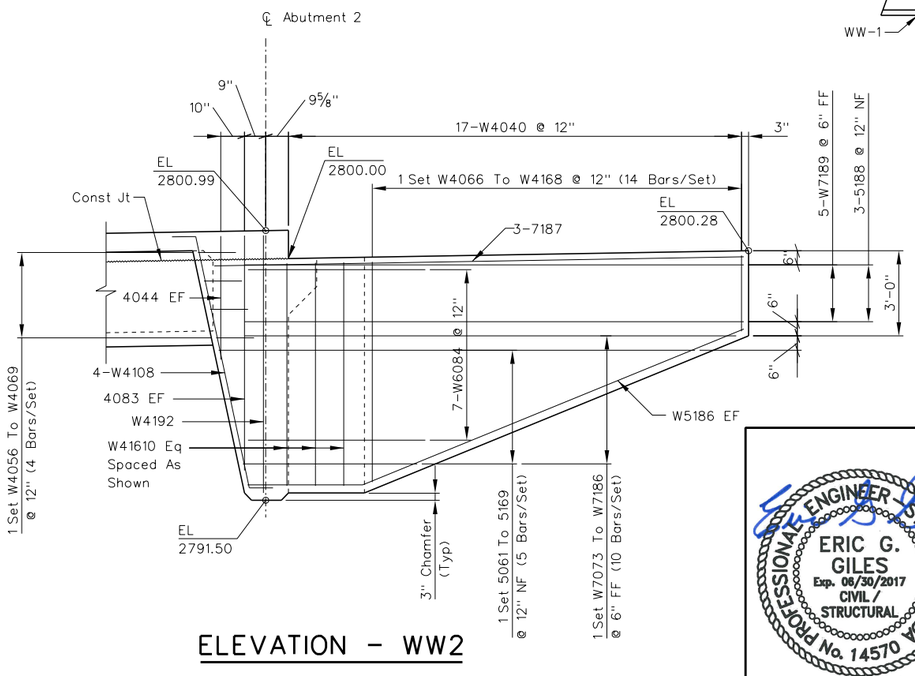



## WINGWALL KEY PLAN

NTS




## ELEVATION - WW3




## ELEVATION - WW2

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US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# ABUTMENT 2 WINGWALLS

I-3190 N

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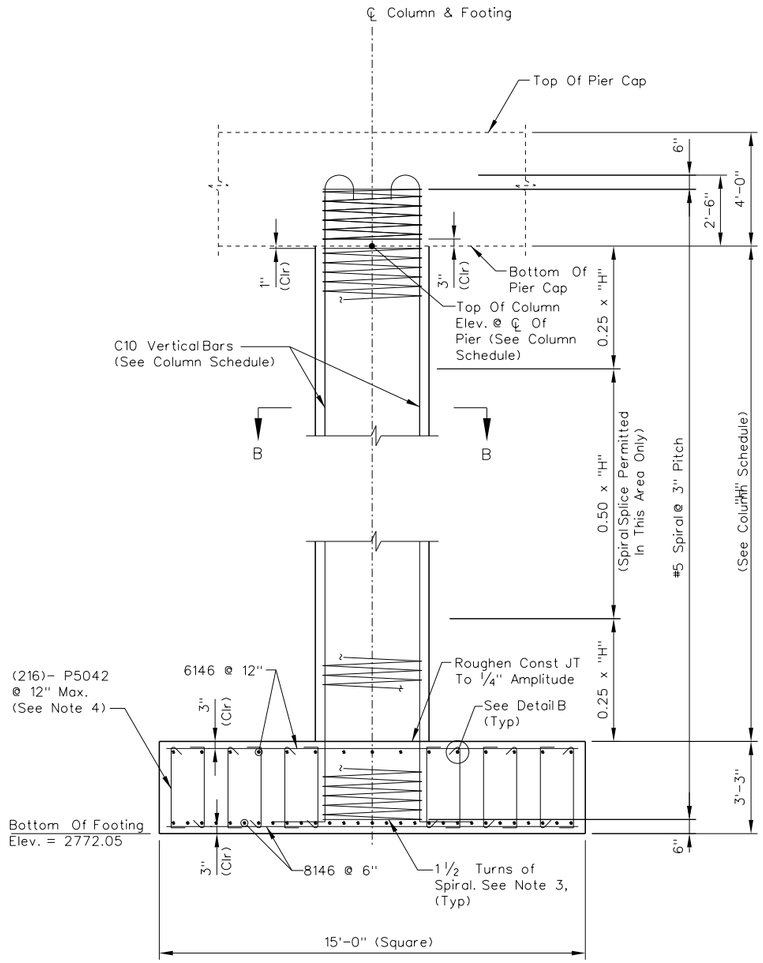
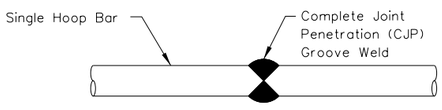
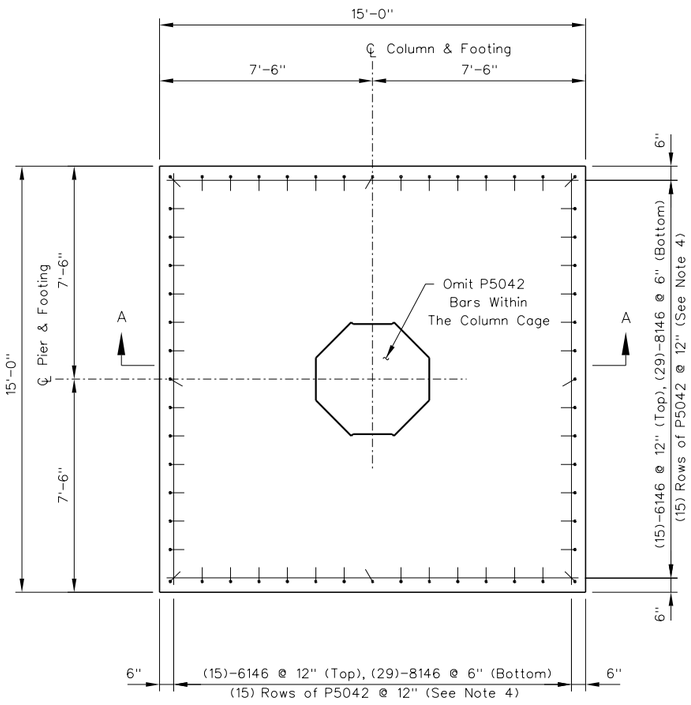
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-210 |



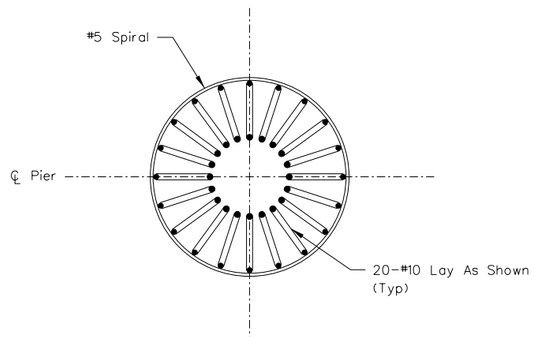

## SECTION A-A



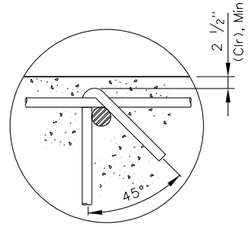

## BUTT WELDED CONTINOUS HOOP



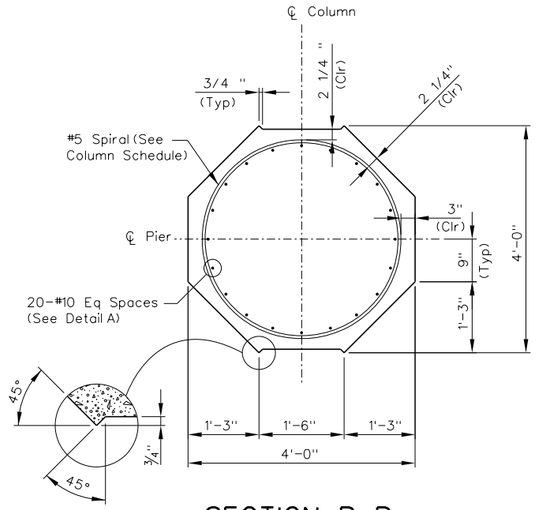

## TYPICAL FOOTING PLAN




## DETAIL A




## DETAIL B




## SECTION B-B

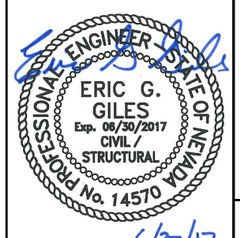
### NOTES:

1. Splices Are Not Allowed For Column Vertical Reinforcement.
2. Spiral may be discontinuous at top of Column to allow for placing Pier Cap Reinforcement. As an alternative to the Spiral Reinforcement shown above the Top of Column, the Contractor can use Butt Welded Hoops with Size and Spacing to match Spiral Reinforcing.
3. Provide 1 1/2 extra Turns at each end of the Spiral Reinforcing and at Permissible Spiral Breaks at Top of Column and at Top of Footing. Provide a minimum one extra turn for Lap Splices located elsewhere. Anchor each Spiral end and Splice with a 135 Degree Hook around Vertical Bar with a minimum 6" Tail.
4. Alternate 90 Degree and 135 Degree Hook around Top and Bottom of main footing Reinforcing. P5042 Bars are not required directly under Column.

### COLUMN SCHEDULE

| COLUMN NUMBER | ELEVATION AT BOTTOM OF COLUMN | ELEVATION AT TOP OF COLUMN | COLUMN HEIGHT "H" | SPIRAL LENGTH* | VERTICAL BARS |
|---|---|---|---|---|---|
| C1 | 2775.30 | 2796.75 | 21.45' | 1209 | C10301 |
| C2 | 2775.30 | 2796.18 | 20.88' | 1184 | C10296 |
| C3 | 2775.30 | 2795.62 | 20.32' | 1159 | C102811 |

* Includes 1 1/2 Extra Turns Of Spiral At Each End Of Column And At Each End Of Permissible Break At Pier Cap. Lenght Is For 3'-6" O.D. Spiral, 3" Pitch & No Breaks Only Rounded Up To The Nearest Foot. Additional Length Required For Each Permissible Break.




STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

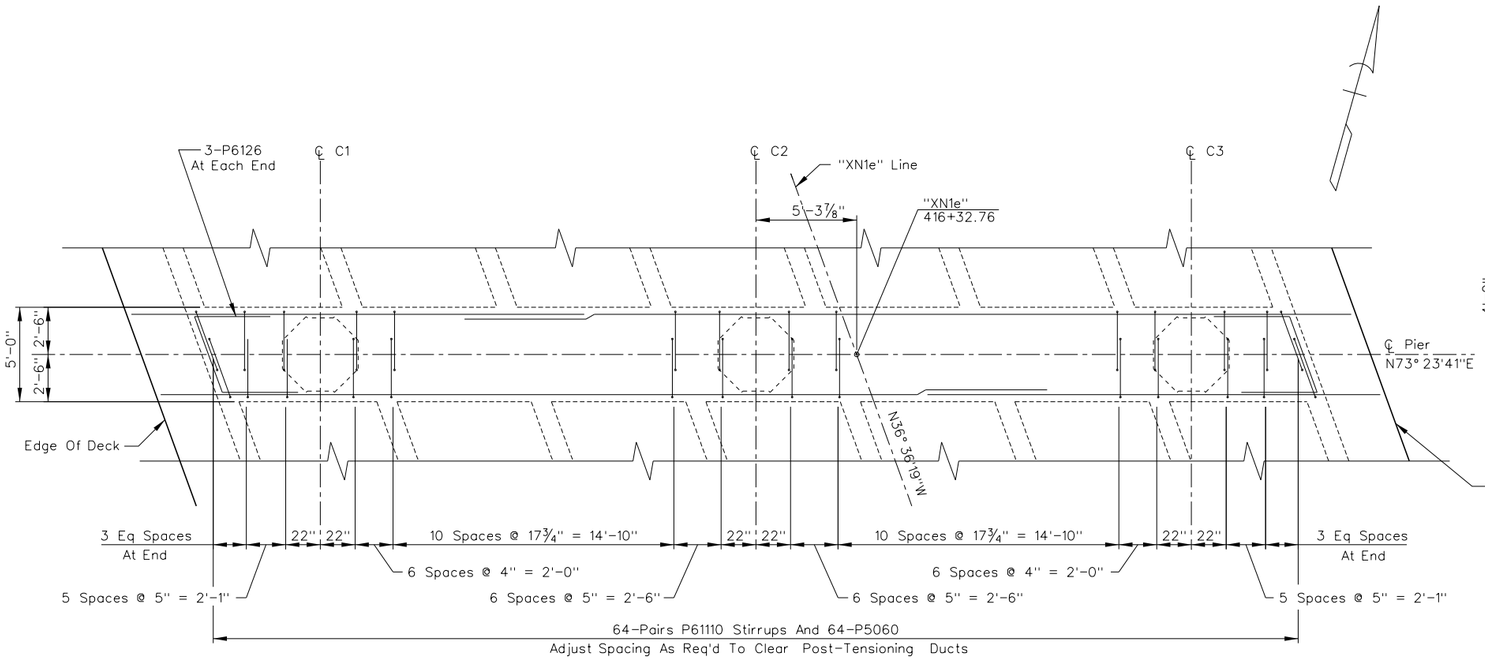
US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# PIER COLUMN AND FOOTING DETAILS

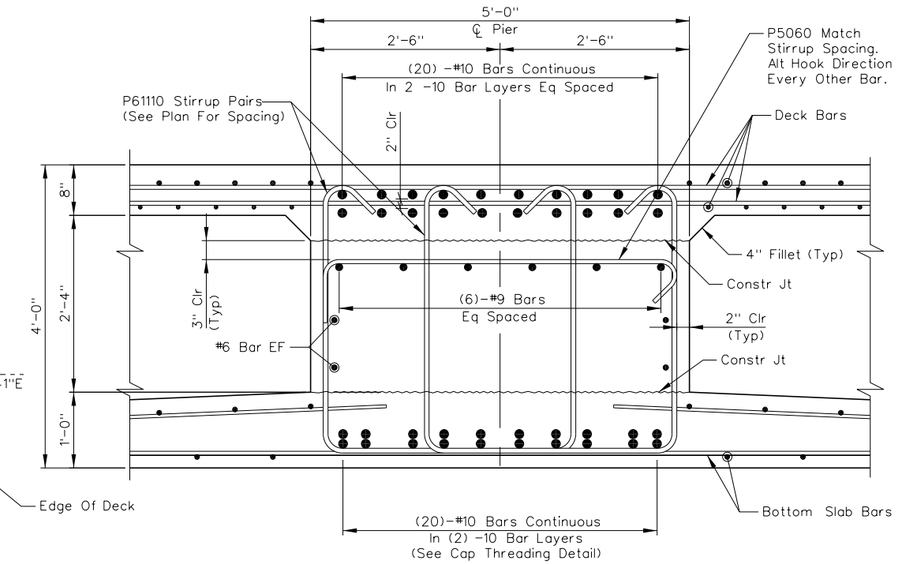
I-3190 N

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

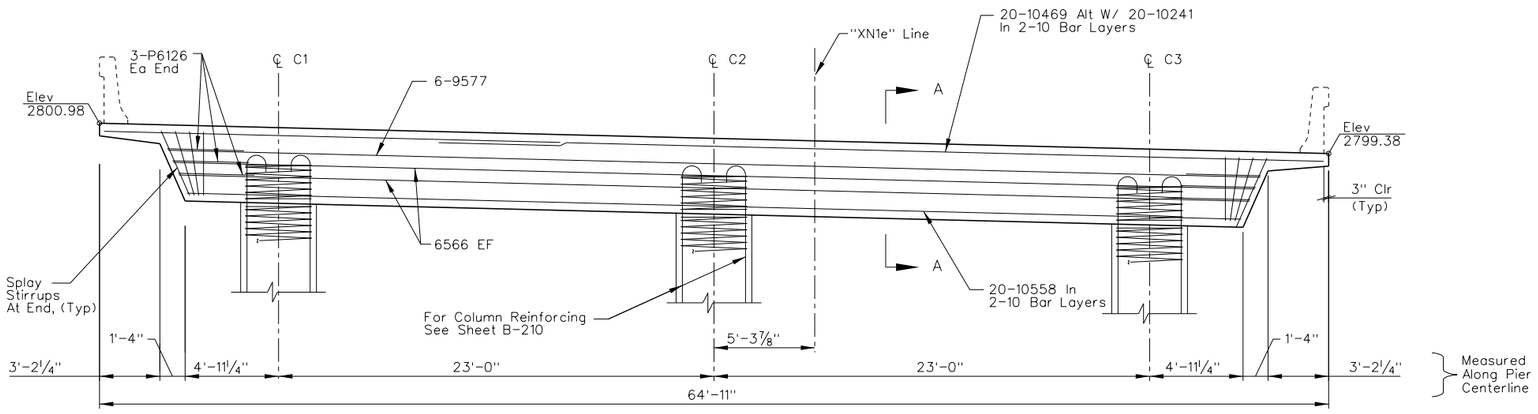
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-211 |



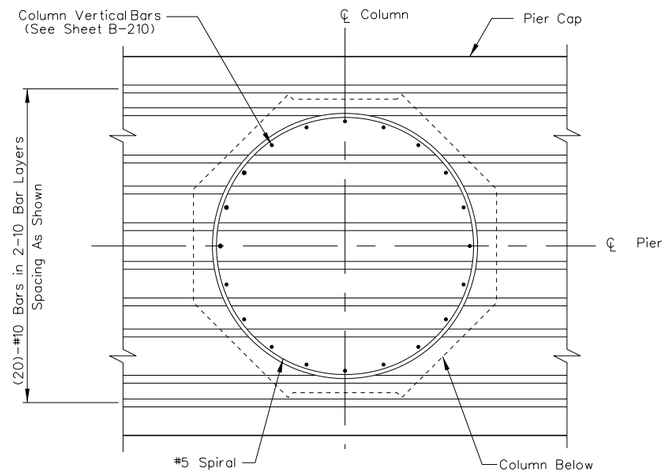

PLAN




SECTION A-A




PIER ELEVATION
(Looking Ahead On Station)




CAP THREADING DETAIL

PROFESSIONAL ENGINEER - STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

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DEPARTMENT OF TRANSPORTATION

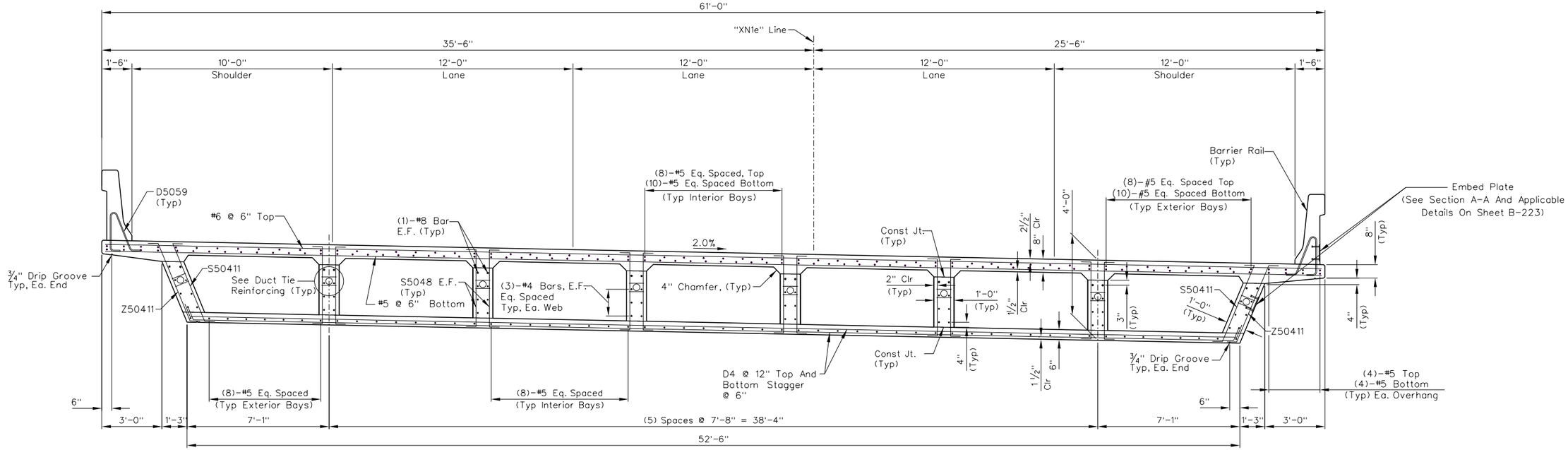
US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# PIER CAP

I-3190 N

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-212 |




## NOTES

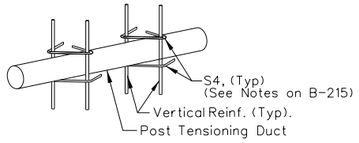
1. For Barrier Rail See Sheet B-222.
2. For Top Slab Reinforcing Plan See Sheet B-216.
3. For Bottom Slab Reinforcing Plan See Sheet B-213.

## LAP SPLICES:

| BAR SIZE | MIN LAP |
|---|---|
| #4 | 1'-9" |
| #5 | 2'-2" |
| #6 | 2'-7" |
| #7 | 3'-3" |
| #8 | 4'-3" |
| #9 | 5'-1" |
| #10 | 6'-5" |
| #11 | 7'-10" |

NOTE: STAGGER ADJACENT LAP SPLICES A MINIMUM OF 2'-0"

## DECK SECTION
(Looking Ahead On Station)




## DUCT TIE REINFORCING DETAIL

PROFESSIONAL ENGINEER STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

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US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# DECK SECTION

I-3190 N

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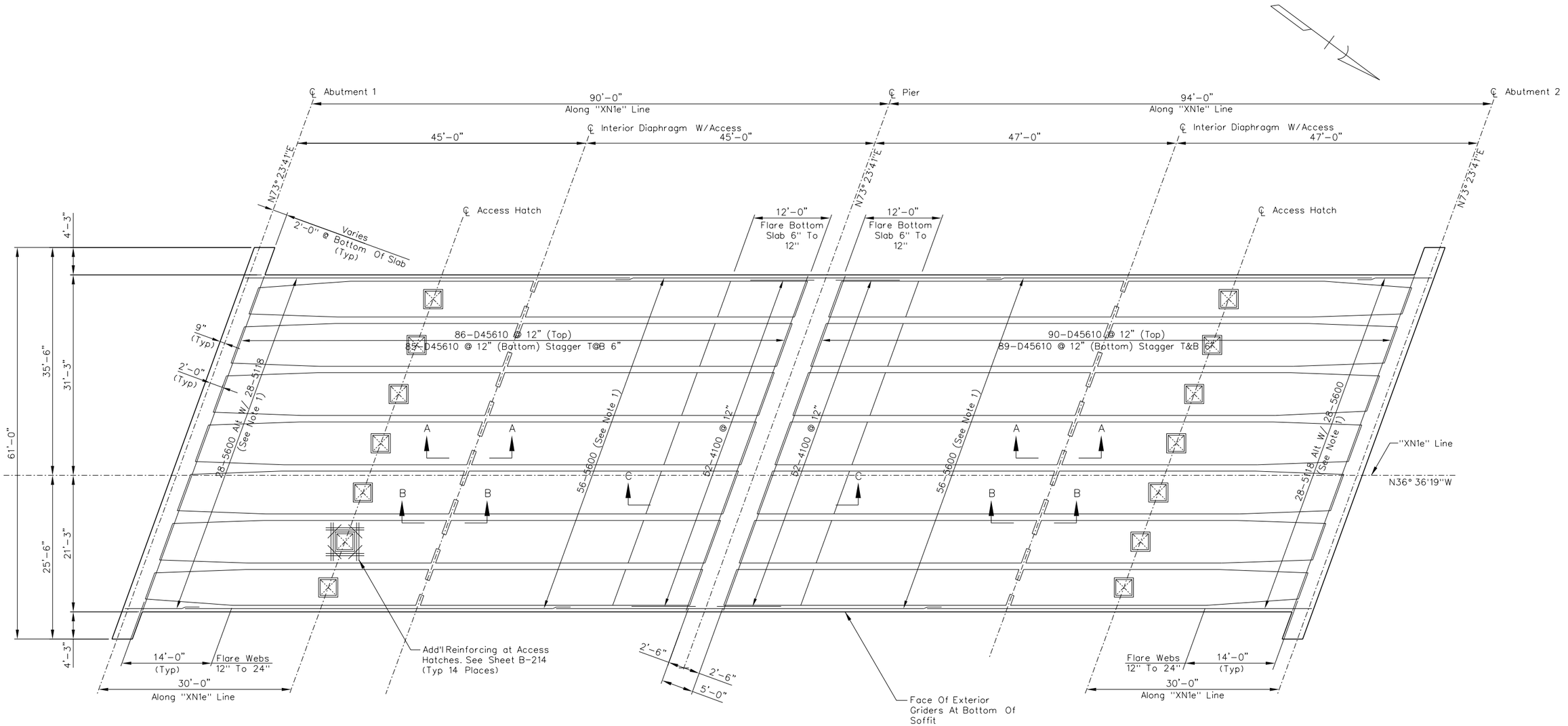
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-213 |




NOTES:

1. See Typical Section On Sheet B-212 For Bar Spacing
2. For Access Hatch Details And Sections A-A, B-B, And C-C, See Sheet B-214.

## BOTTOM SLAB REINFORCEMENT PLAN

PROFESSIONAL ENGINEER STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

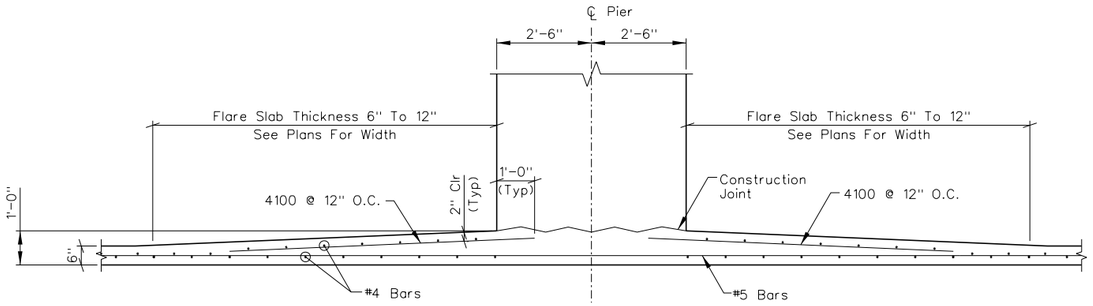
US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# BOTTOM SLAB REINFORCEMENT

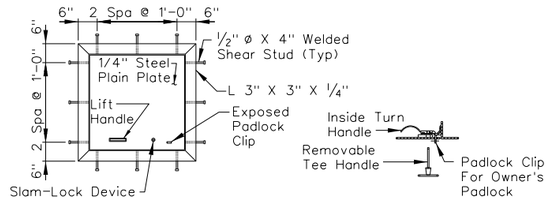
I-3190 N

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

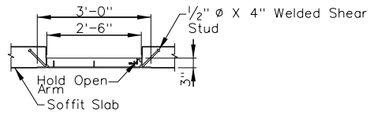
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-214 |




## SECTION C-C

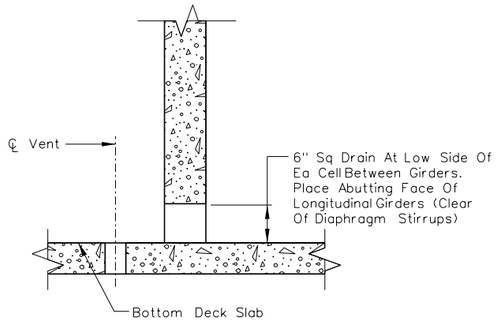



## PLAN

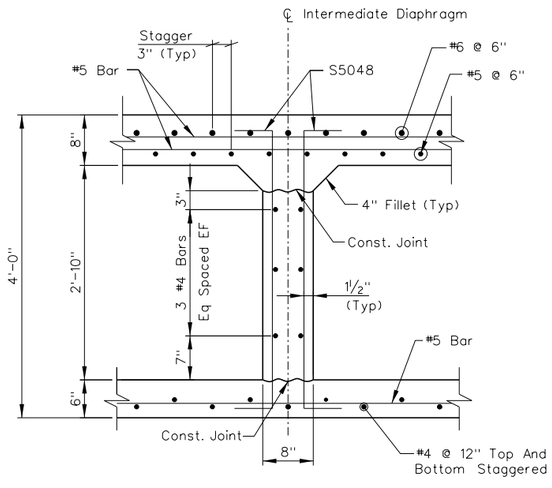



## SECTION

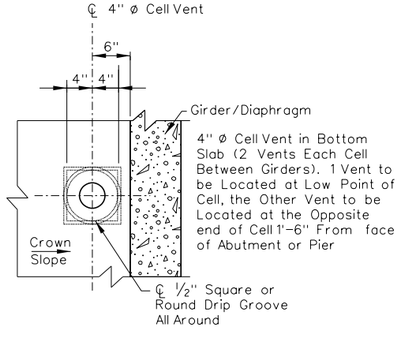
## ACCESS HATCH DETAILS



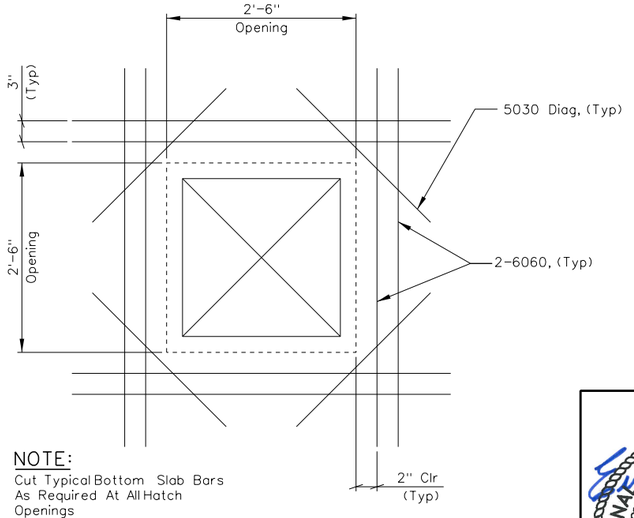

## SECTION B-B DIAPHRAGM VENT




## SECTION A-A

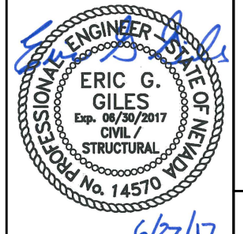



## CELL VENT




NOTE:
Cut Typical Bottom Slab Bars As Required At All Hatch Openings

## ADDITIONAL REINFORCEMENT




STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

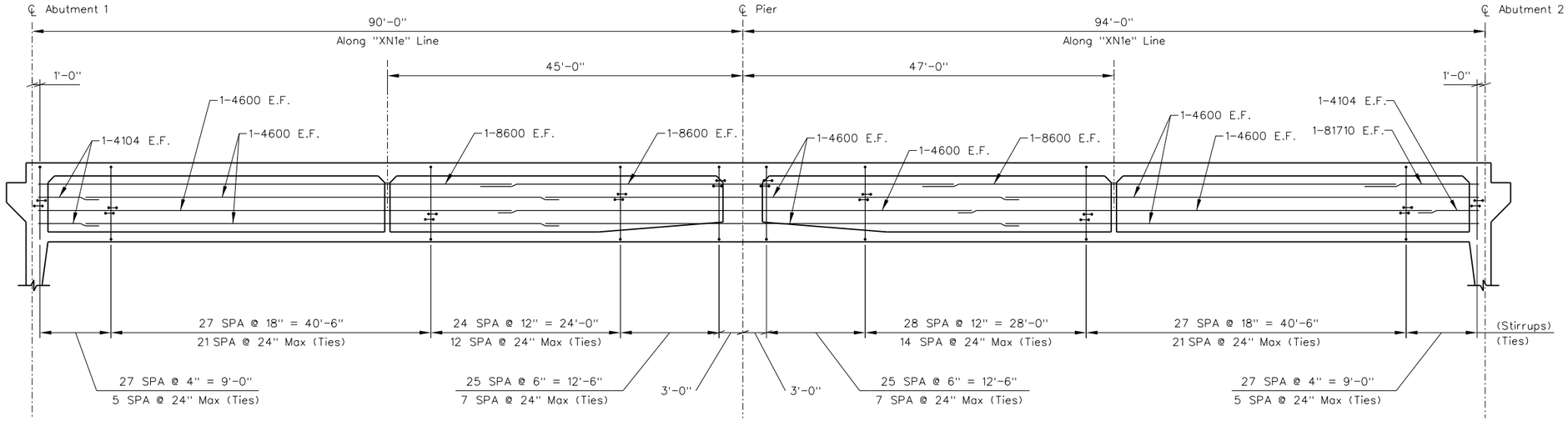
US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# BOTTOM SLAB DETAILS

I-3190 N

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-215 |




## NOTES:

1. Bar Reinforcement Interfering With The Prestressing Tendon Alignment Shall Be Adjusted As Directed By The Engineer.

2. Use Two Duct Ties Per Duct, 1 Above And 1 Below The Duct, Alternate Sides For 135° Hook. Quantities Indicated Are For A 1-Duct System, See Sheet B-212.

| BAR SIZE | MIN LAP |
|---|---|
| #4 | 1'-9" |
| #5 | 2'-2" |
| #6 | 2'-7" |
| #7 | 3'-3" |
| #8 | 4'-3" |
| #9 | 5'-1" |
| #10 | 6'-5" |
| #11 | 7'-10" |

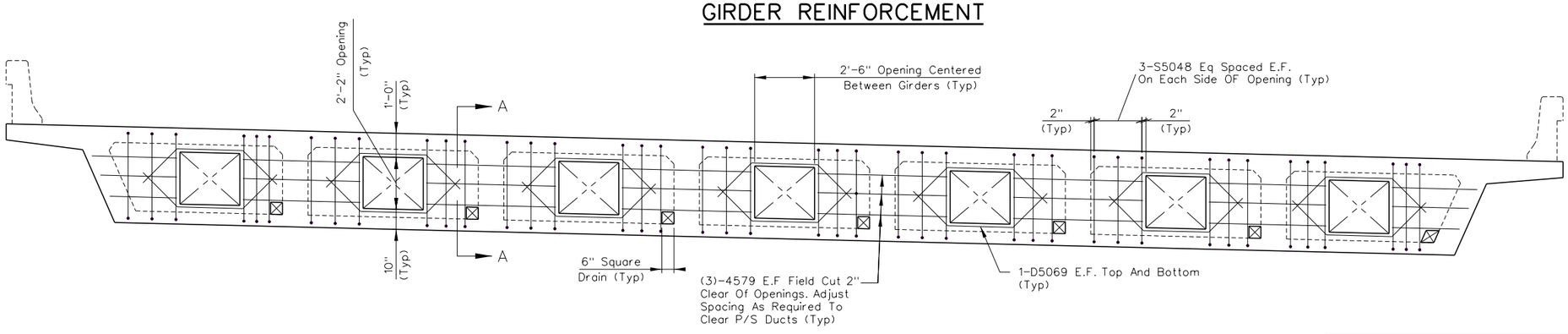
## STIRRUPS REQUIRED:

212-S5048 Each Face, Each Interior Girder (2544 Total)
212-S50411 Inside Face, Each Exterior Girder (424 Total)
212-Z50411 Outside Face, Each Exterior Girder (424 Total)

## DUCT TIES REQUIRED:

32-Set(s) S40111 To S40211 (8 Bars/Set), Flared Web Locations
1216-S40111, Typical Webs

## GIRDER REINFORCEMENT




## NOTE:

See Sheet B-214 For Section A-A

## STIRRUPS REQUIRED

42-S5048 EF (84 Per Diaphragm)

## INTERMEDIATE DIAPHRAGM REINFORCEMENT

PROFESSIONAL ENGINEER STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# GIRDER AND INTERMEDIATE DIAPHRAGM REINFORCEMENT

I-3190 N

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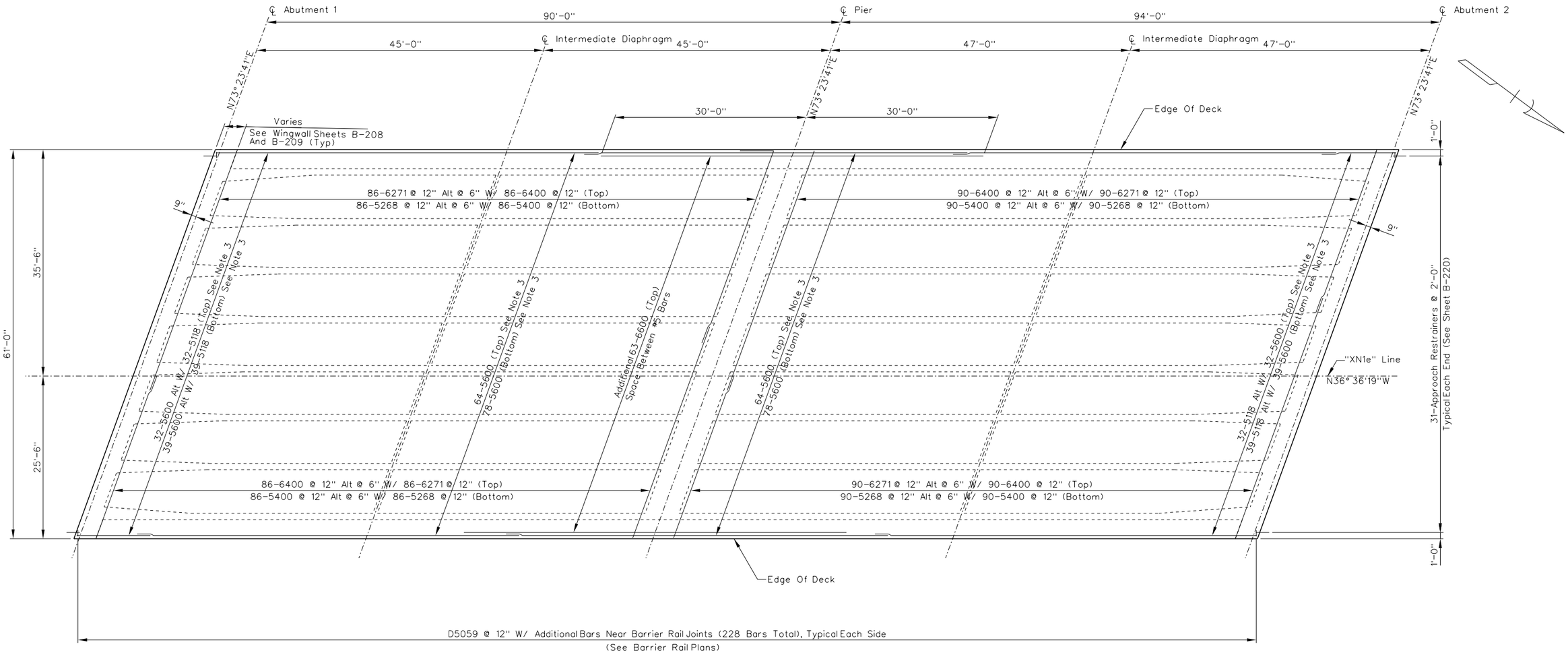
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-216 |




NOTES:

1. For Bottom Slab Reinforcement Layout, See Sheet B-213
2. For Barrier Rail Reinforcement To Be Cast Into Deck, See Sheet B-222
3. See Typical Section On Sheet B-212 For Bar Spacing
4. See Abutment And Pier cap Details on Sheets B-207 And B-211 For Add'l Reinforcing In Slab Not Shown.

## TOP SLAB REINFORCEMENT PLAN

PROFESSIONAL ENGINEER - STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

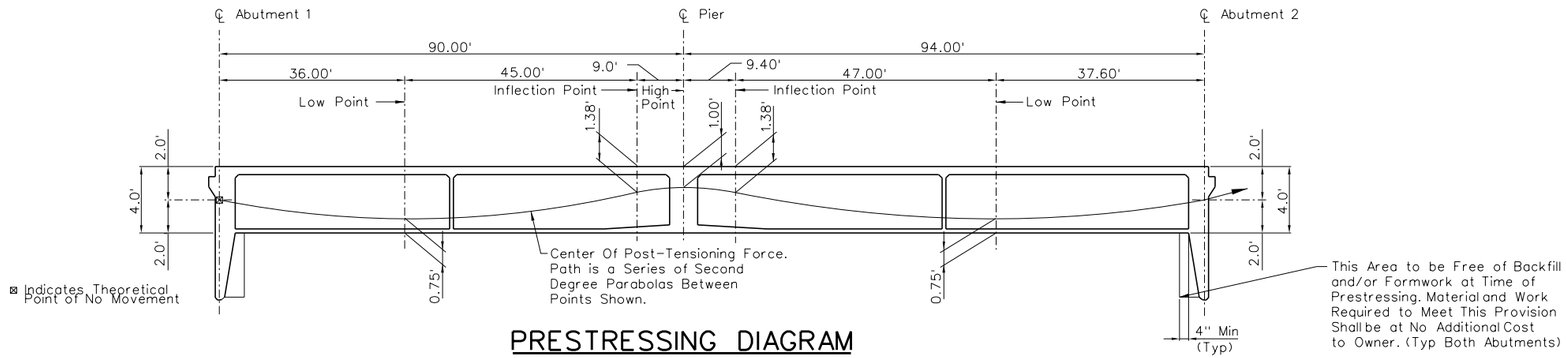
US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# TOP SLAB REINFORCEMENT

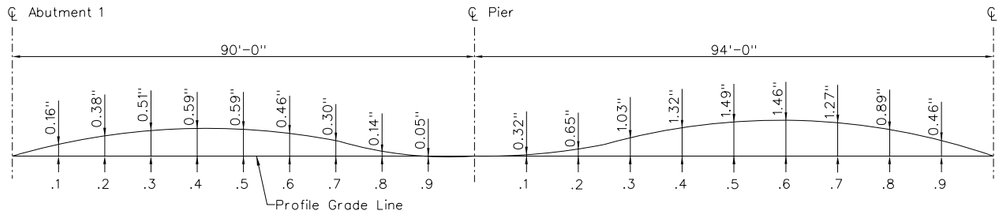
I-3190 N

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-217 |




## PRESTRESSING DIAGRAM

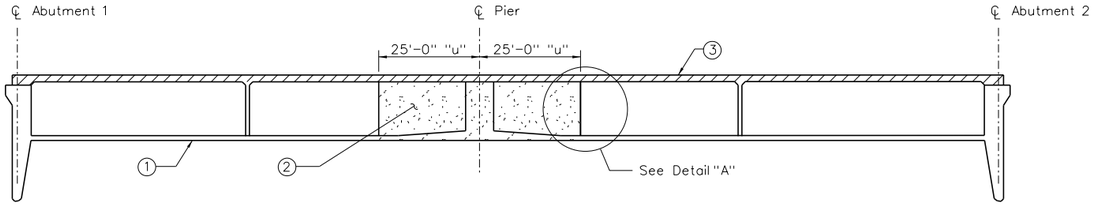



## CAMBER DIAGRAM

### NOTES:

1. Camber Diagrams show dead load plus post-tensioned Camber including long-term effects of creep & shrinkage and should be modified by the amount of take up anticipated in the falsework.

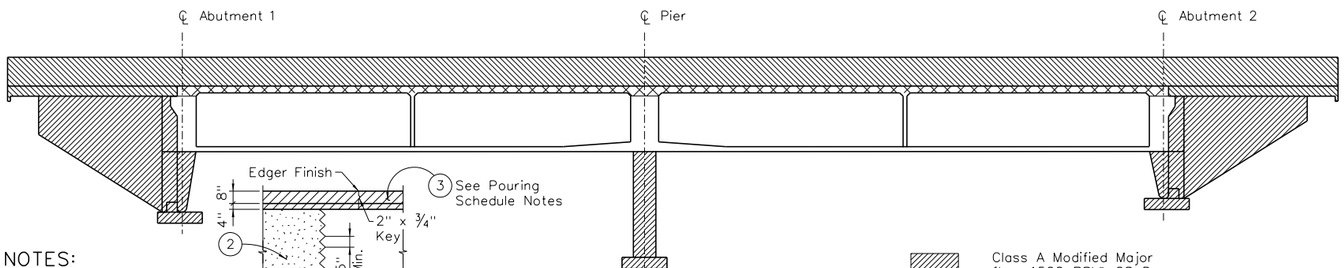
2. Elevations shown on the Superstructure are final grades and are to be adjusted by the values shown on the Camber Diagram.




## CONCRETE POURING SCHEDULE

### POURING SCHEDULE NOTES

1. ① And ② Indicate Sequence Of Placing Bottom Slab And Girder Web Concrete.
2. Bottom Slab Concrete May Be Placed Separately.
3. Top Slab Concrete ③ Shall Be Placed Separately. With Transverse Construction Joints As Desired, Except That There Shall Be No Construction Joints In Area "u".
4. Do Not Place Wingwalls Until Stressing Is Complete.
5. Do Not Place Bridge Rails Until Stressing Is Complete And The Falsework Is Released.




### NOTES:

1. All Reinforcing to Continue Through Joint
2. Transverse Joints in Slab to be Parallel to Slab Reinforcing

DETAIL "A"

Class A Modified Major
f'c= 4500 PSI@ 28 Days

Post-tensioned Concrete Class D
Modified Major. f'c= See Prestressing Notes

Post-Tensioned Concrete Class E
f'c= See Prestressing Notes

Class E Modified Major
f'c= 4500 PSI@ 28 Days (Modified Major)

## CONCRETE CLASSIFICATION SCHEDULE

## PRESTRESSING NOTES

1. Total Post-tensioning Forces And Concrete Strengths For This Structure Are:

   Pjack = 9,140 kips
   f'c = 4,500 psi@ 28 Days
   f'ci = 3,500 psi@ time of stressing

   Pjack Is The Jacking Force At The Jacking End. F'ci Is The Concrete Compressive Strength At The Time Of Post-tensioning. F'c Is The Ultimate Concrete Compressive Strength At 28 Days.

2. Design Is Based On U=0.25 And K=0.0002. Pjack Includes Friction Losses And Provisions For Loss Of Stress Due To Creep And Shrinkage Of Concrete, Relaxation And Elastic Shortening Of Steel, And Sequence Of Stressing. Losses Are As Follows: 32,000 Psi
3. Design Is Based On 0.5"*, 7 Wire, 270 Ksi Low-relaxation Prestressing Strand Jacked To 0.75 F's With An Equivalent Anchor Set Of ⅜".
4. Contractor To Submit Elongation And Jacking Calculations For The Intended Post-tensioning System.
5. The Total Prestressing Force Shall Be Distributed Symmetrically About The Centerline Of Each Girder. At No Time During The Stressing Operations Shall More Than 1/6 Of The Total Prestressing Force Be Applied Eccentrically About The Centerline Of Each Girder.
6. Metallic Enclosures To Be Galvanized Rigid Ducts.
7. Enclosures To Be Vented Through Slab Within 1 Foot Of The High Points Of The Cable Path.
8. During Stressing Operations, The Elongation Shall Be Continuously Compared With Gage Pressure To Check Against Duct Blockage And Excessive Friction.
9. Bar Reinforcement Interfering With The Prestressing Tendons Alignment Shall Be Adjusted As Directed By The Engineer.
10. One End Stressing Shall Be Performed From Abutment 2.
11. Prestressing Steel Modulus = 28,000 Ksi.
12. The Details Of The Reinforcing Steel Which Are Included For Payment In The Bid Item "prestressing Cast-in-place Concrete", Including The Reinforcing Details Shown On The Standard Drawings, Shall Be Shown On The Contractor's Stressing Shop Drawings.
13. Refer To NDOT Standard Drawing B-28.1.1-(503) For Additional Prestressing Notes And Details.
14. The Contractor Shall Design And Provide Working Drawings And Design Calculations For The Local Anchorage Zone, Including Blockout Dimensions And All Recess Anchorage And Confining Reinforcement Steel To Prevent Splitting, Bursting, Or Blowout Of Strand (Tendon) Anchors. Details And Calculations Must Be Approved By The Engineer Of Record. Any Local Zone Confining Reinforcement Is An Addition To The Reinforcement Shown On NDOT Standard Plans B-28.1.1-(503). Shop Drawings And Calculations Shall Be Sealed By A Professional Engineer Licensed In The State Of Nevada.

PROFESSIONAL ENGINEER STATE OF NEVADA
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6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

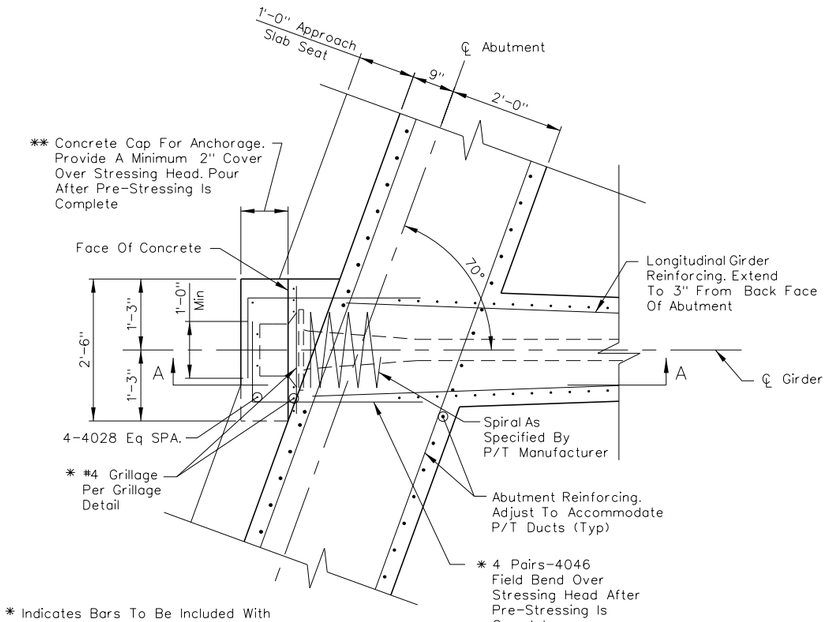
US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# PRESTRESSING, CAMBER AND CONCRETE PLACEMENT

I-3190 N

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-218 |



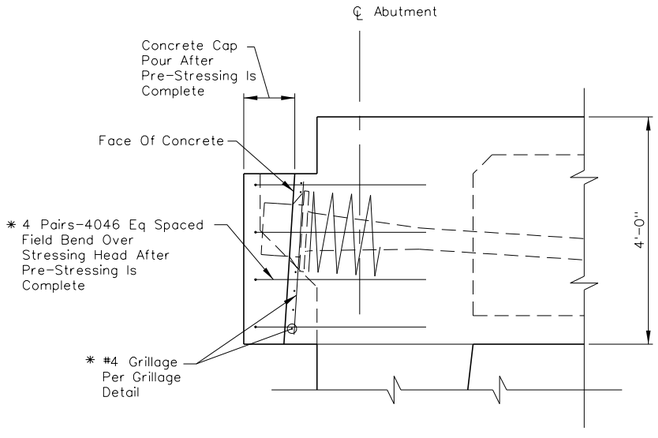

* Indicates Bars To Be Included With The Pre-Stressing Cast-In-Place Concrete And Supplied By The Contractor.

** Indicates Concrete To Be Included With The Pre-Stressing Cast-In-Place Concrete.

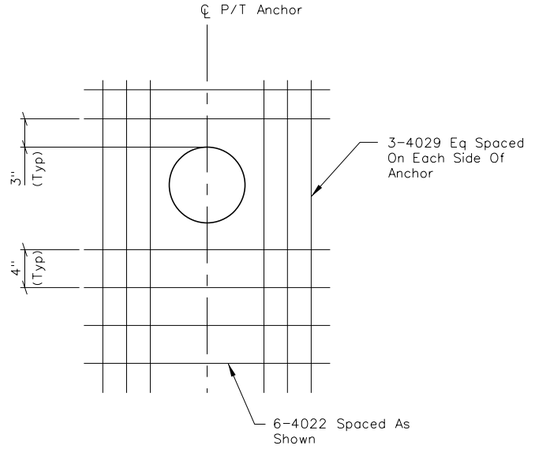
NOTE:

One P/T Duct shown. If Contractor uses two adjust accordingly

PLAN




SECTION A-A




## TYPICAL POST TENSIONED ANCHORAGE DETAIL

## GRILLAGE DETAIL

PROFESSIONAL ENGINEER - STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

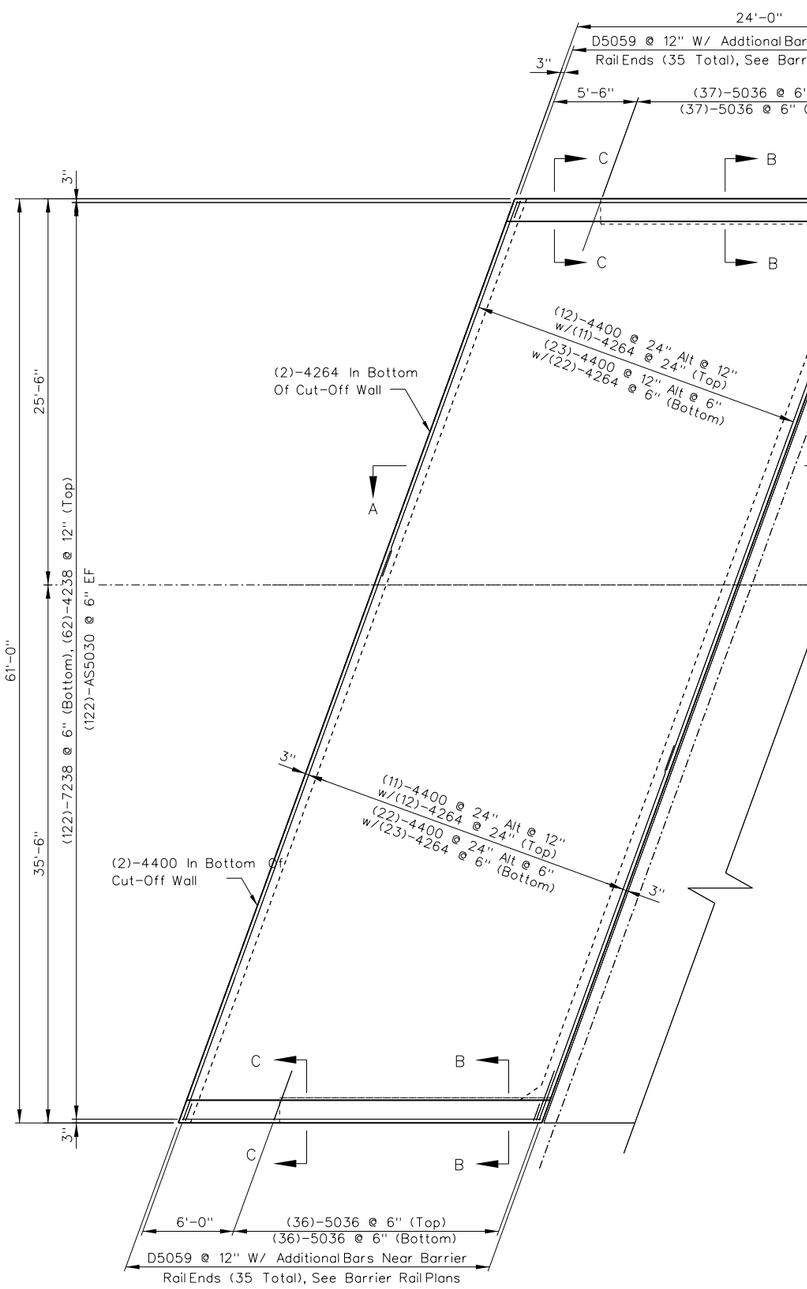
US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# ANCHORAGE ZONE DETAILS

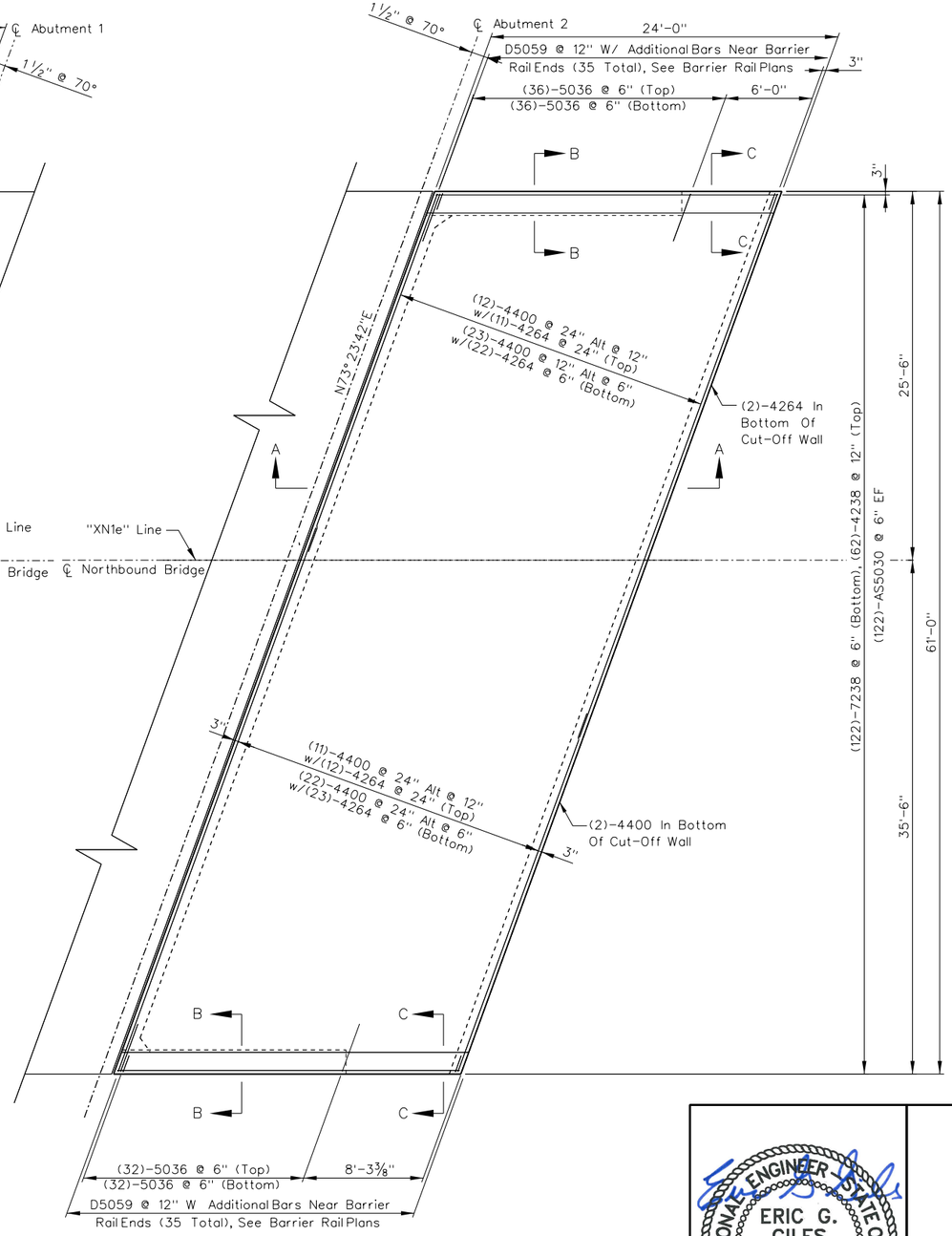
I-3190 N

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-219 |




APPROACH SLAB - ABUTMENT 1




APPROACH SLAB - ABUTMENT 2

NOTES:

1. See Sheet B-220 For Section A-A, B-B, and Section C-C.
2. Minimum Lap: #4 Bar to #4 Bar = 1'-9"

PROFESSIONAL ENGINEER STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
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No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

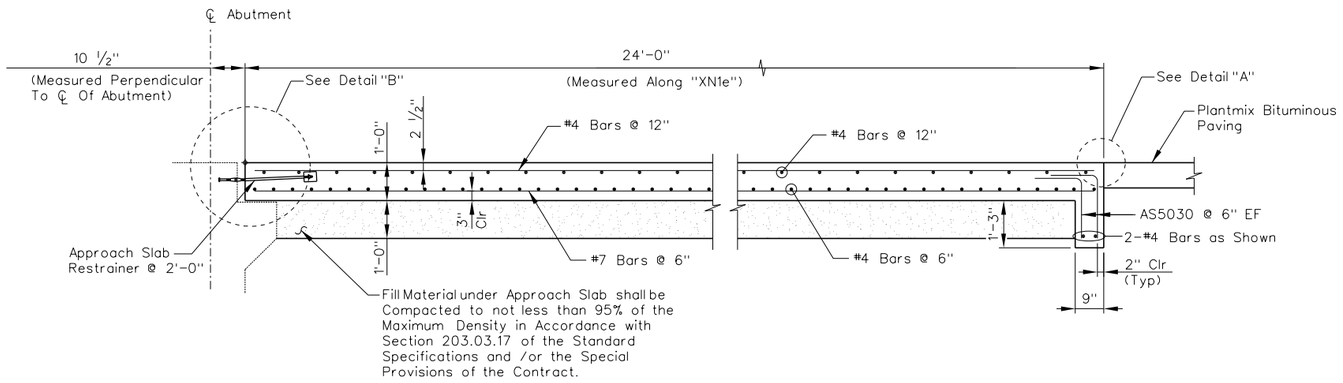
US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# APPROACH SLAB PLANS

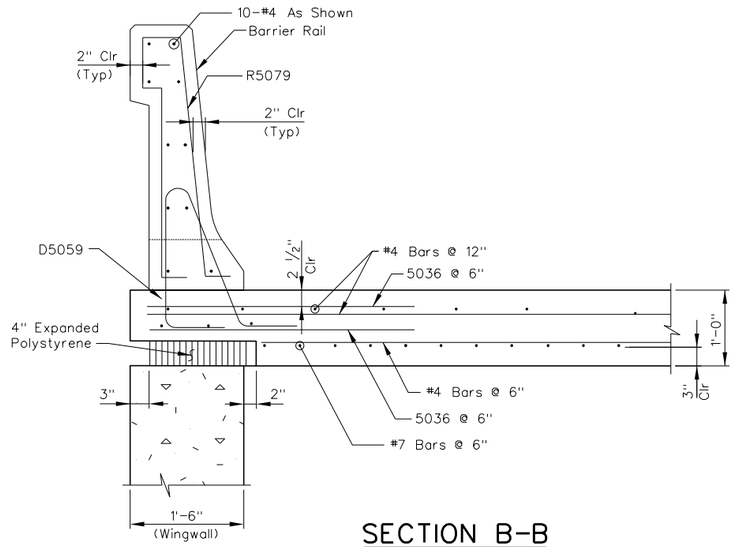
I-3190 N

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

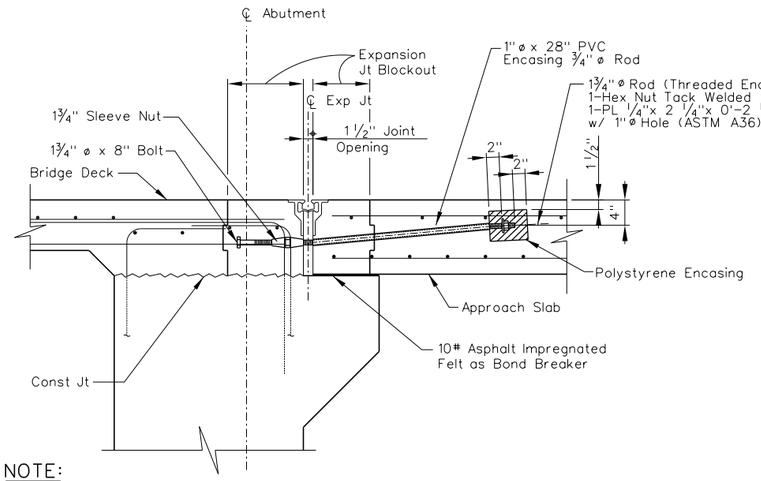
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-220 |




## SECTION A-A

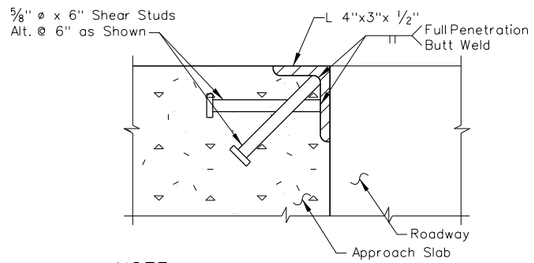



## SECTION B-B



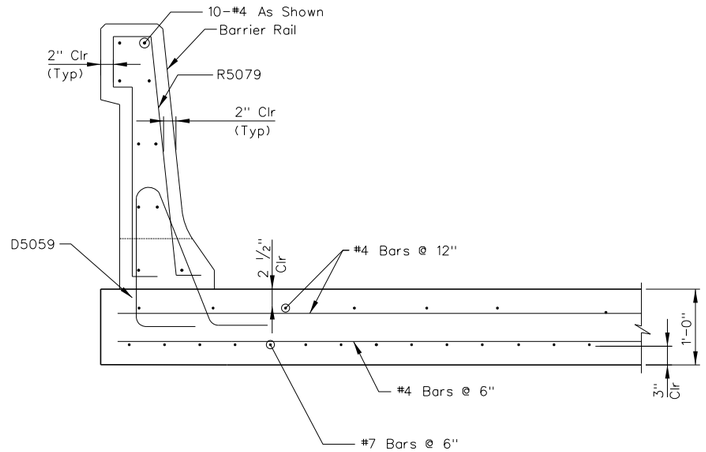

NOTE:
All Steel Components of the Restrainer Assembly shall be Galvanized.

## DETAIL "B"




NOTE:
Assembly Parts shall be Hot-Dip Galvanized. All Galvanizing damaged by Fabrication or Installation shall receive two coats of Zinc Enriched Paint (Galvonox or Equal). Assembly to extend Full Width or to the Face of Any Bridge or Barrier Rails. Full Penetration Butt Weld any Field Splices.

## DETAIL "A"




## SECTION C-C

PROFESSIONAL ENGINEER STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

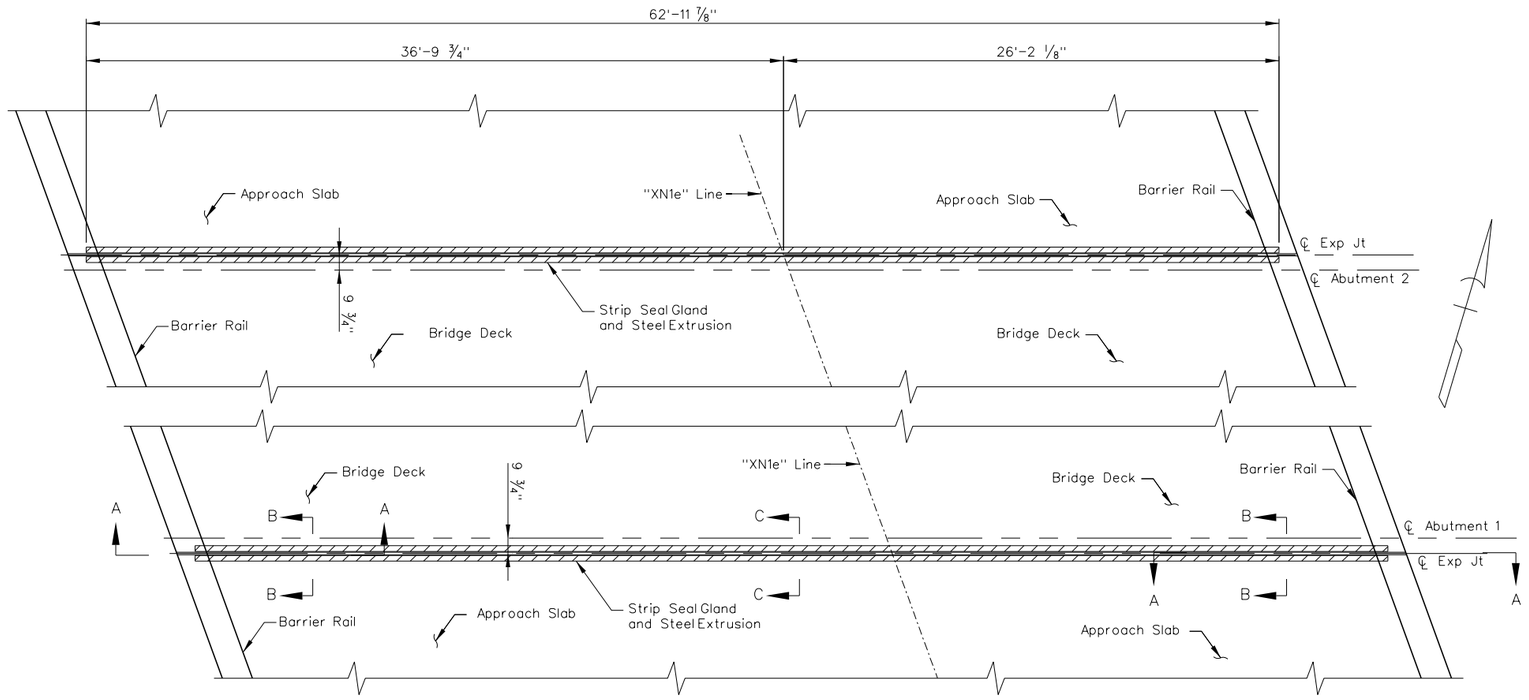
US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# APPROACH SLAB DETAILS

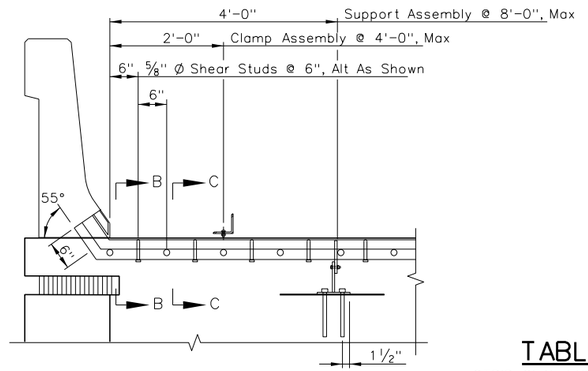
I-3190 N

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-221 |




PLAN




SECTION A-A

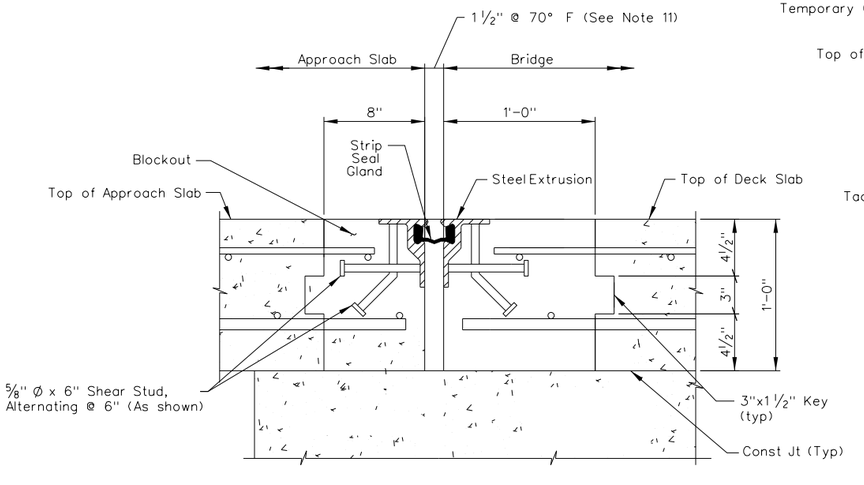
## TABLE A

STRIP SEAL EXPANSION JOINT

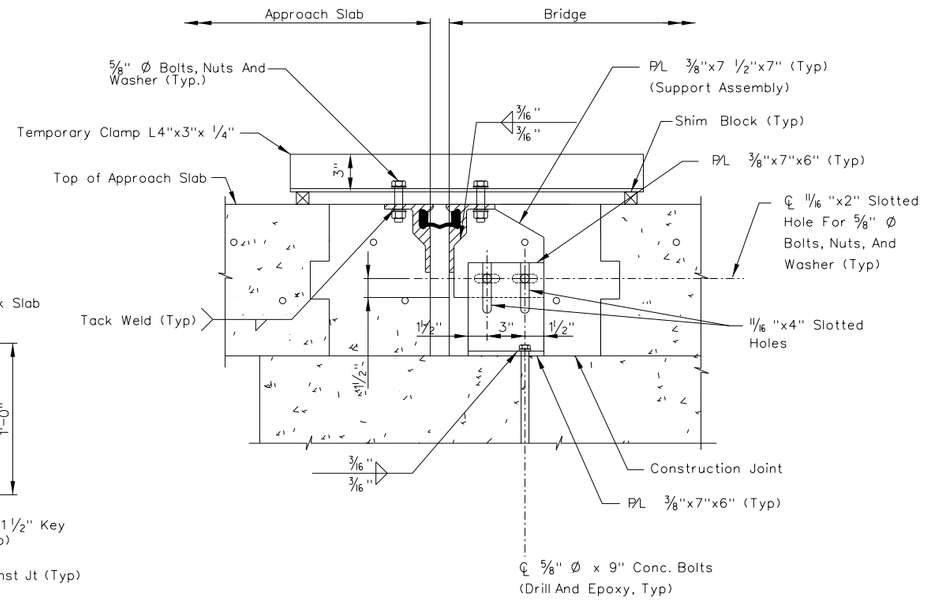
| TEMPERATURE | INSTALLATION GAP |
|---|---|
| 30° F | 1 13/16" |
| 40° F | 1 3/4" |
| 55° F | 1 5/8" |
| 70° F | 1 1/2" |
| 85° F | 1 3/8" |
| 100° F | 1 1/4" |

## NOTES:

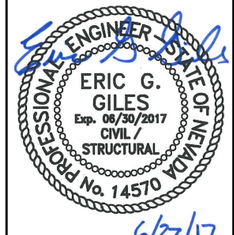
1. All Structural Steel Elements Including Strip Seal Extrusions, Cover Plates And Anchor Studs Shall Be AASHTO M270 Grade 36 (galvanized) Or Grade 50w.
2. Install The Strip Seal Assembly After The Deck Slab And Approach Slab Have Been Poured And Profile Grinding Has Been Completed. Make Final Adjustments Of The Joint Width And Elevations Before The Blockout Portion Of The Deck Slab And Approach Slab Are Poured.
3. Strip Seal Gland To Be Installed After The Blockout Concrete Has Reached 3000 Psi Strength. The Installation Procedure Shall Follow The Manufacturer's Instruction.
4. Full Penetration Butt Weld On All Anchor Studs.
5. The Joint Assembly May Be Manufactured In 20 Feet Minimum Lengths And Field Welded Utilizing Full Penetration Butt Weld.
6. The Strip Seal Gland Shall Be Installed As A Single Continuous Unit. No Field Splicing Shall Be Permitted.
7. The Strip Seal Assembly shall be Hot-Dip Galvanized. All Galvanizing damaged by Fabrication or Installation shall receive two coats of Zinc Enriched Paint (Galvonox or Equal).
8. Contractor Has The Option Of Submitting To The Engineer Alternative Joint Assembly Details, Installation And Construction Procedures For Approval.
9. After The Concrete Has Cured, The Temporary Clamps And The Threaded Bolts Can Be Removed And Fill The Holes With Grout.
10. Movement Rating (MR) = 3".
11. Increase Joint Width By 1/8" For Every 15 Degree Temperature Drop. Decrease Joint Width By 1/8" For Every 15 Degree Temperature Rise.




SECTION B-B




SECTION C-C




STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

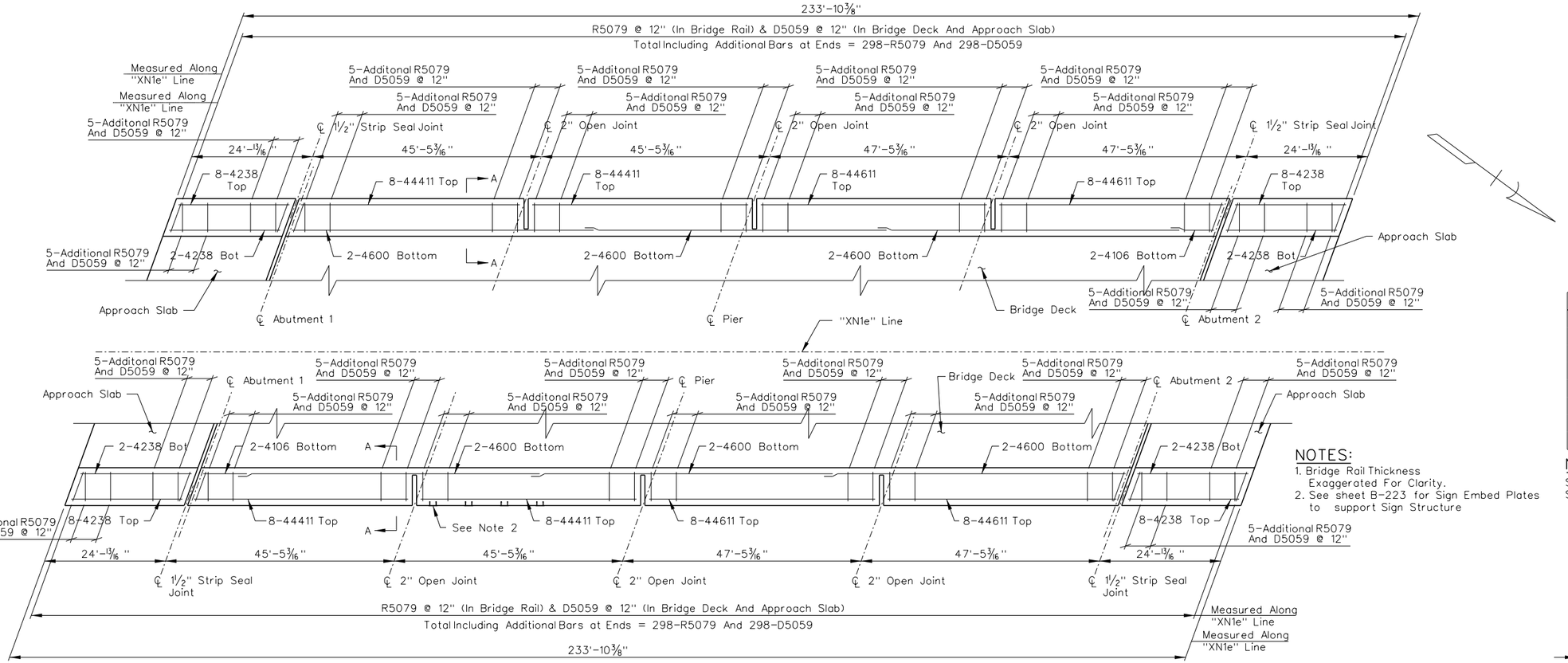
US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# STRIP SEAL EXPANSION JOINT

I-3190 N

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-222 |

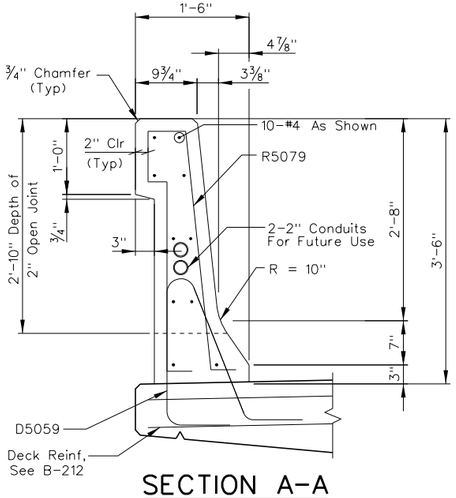



## BRIDGE RAIL PLAN

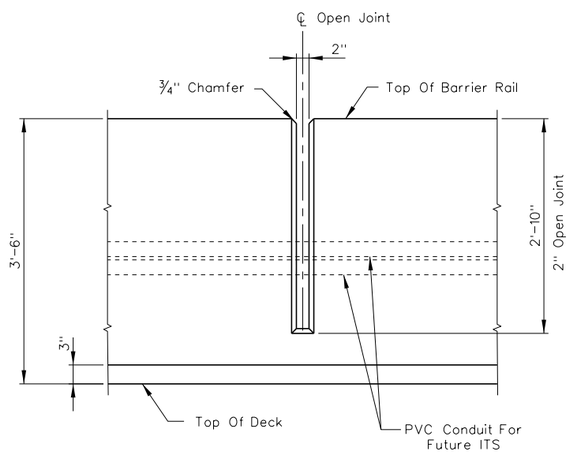
| BAR SIZE | MIN LAP |
|---|---|
| #4 | 1'-9" |
| #5 | 2'-2" |
| #6 | 2'-7" |
| #7 | 3'-1" |
| #8 | 4'-3" |
| #9 | 5'-1" |
| #10 | 6'-5" |
| #11 | 7'-10" |

NOTE:
Stagger Adjacent Lap Splices A Minimum of 2'-0"

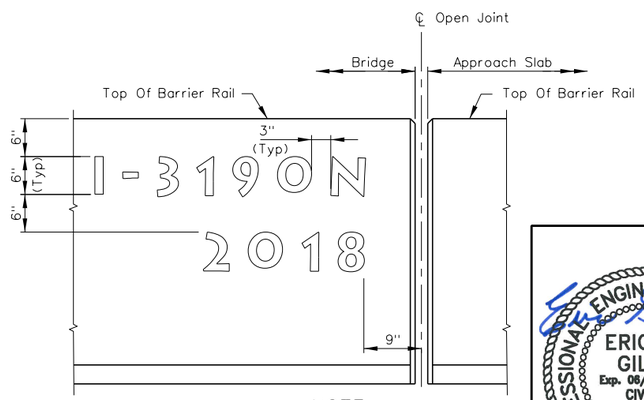
NOTES:
1. Bridge Rail Thickness Exaggerated For Clarity.
2. See sheet B-223 for Sign Embed Plates to support Sign Structure




## SECTION A-A

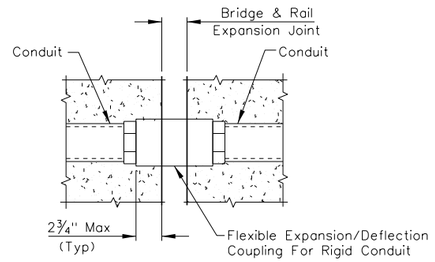



## 2" OPEN JOINT DETAIL

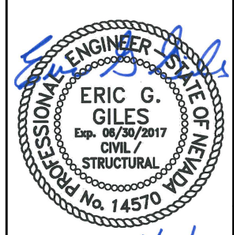



NOTE:
Lithos-Bold Font Recessed 1" into Concrete, Typ. Paint Black. Place on Traffic Side of Bridge Rail.

## DETAIL 1




## CONDUIT EXPANSION JOINT DETAIL




STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

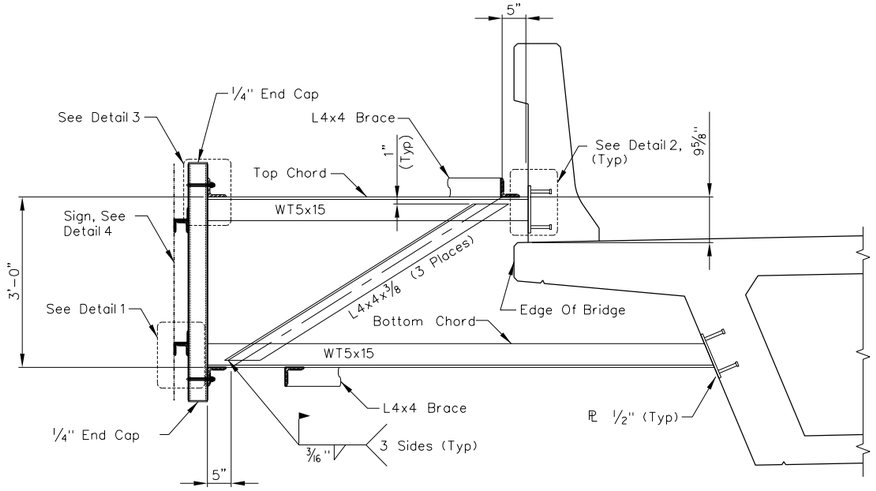
US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# BRIDGE RAIL

I-3190 N

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

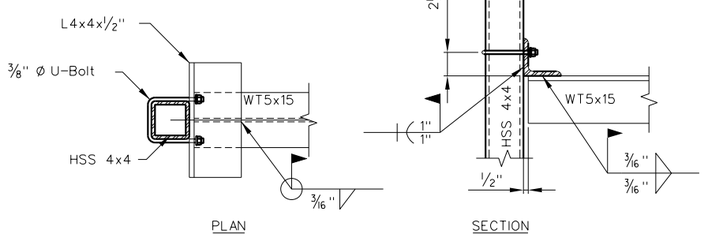
| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-223 |




## SECTION A-A

## GENERAL OVERHEAD SIGN NOTES

1. Sign to be placed level.
2. Place top and bottom chords level.
3. The Contractor shall verify all dependent dimensions in the field before ordering or fabrication of any material.
4. Galvanizing: All exposed metal parts shall be Hot-Dip Galvanized after fabrication and all galvanizing damaged by fabrication or installation shall receive two coats of Zinc Enriched Pain (Galvonox or equal).
5. Structural Steel: All wide flange steel shall conform to ASTM A992 (Fy = 50 ksi). All pipe steel shall conform to ASTM A53, type E or S, grade B (Fy = 35 ksi). All Hollow structural sections (HSS) shall conform to ASTM A500 grade B (Fy = 46 ksi). All other standard structural steel shapes, rolled sections, bars, and plates shall conform to ASTM A36 (Fy = 36 ksi).
6. Welding: Welding shall be by welders holding current valid certificates and having experience in the type of welds shown on the drawings and notes. All welds shall have a minimum tensile strength of 70 ksi, unless noted otherwise. All welding shall be in accordance with we4lding code AWS D1.5 and NDOT Specifications.

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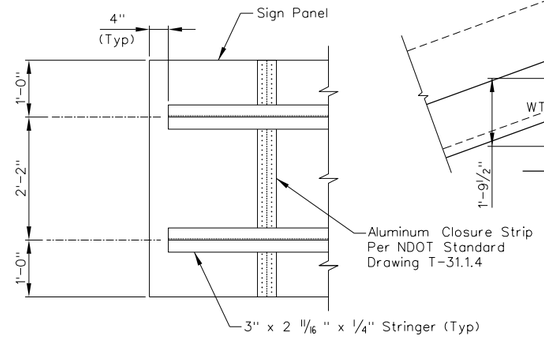


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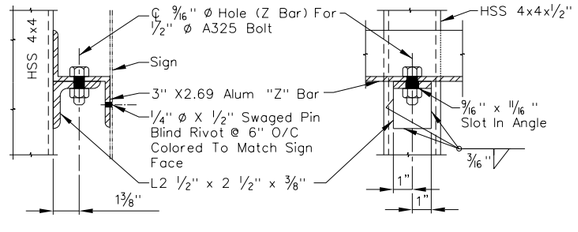
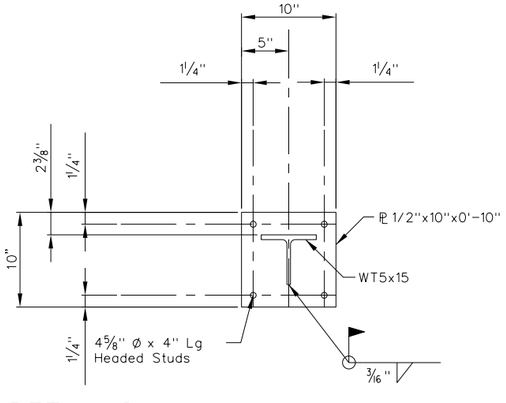



## DETAIL 1

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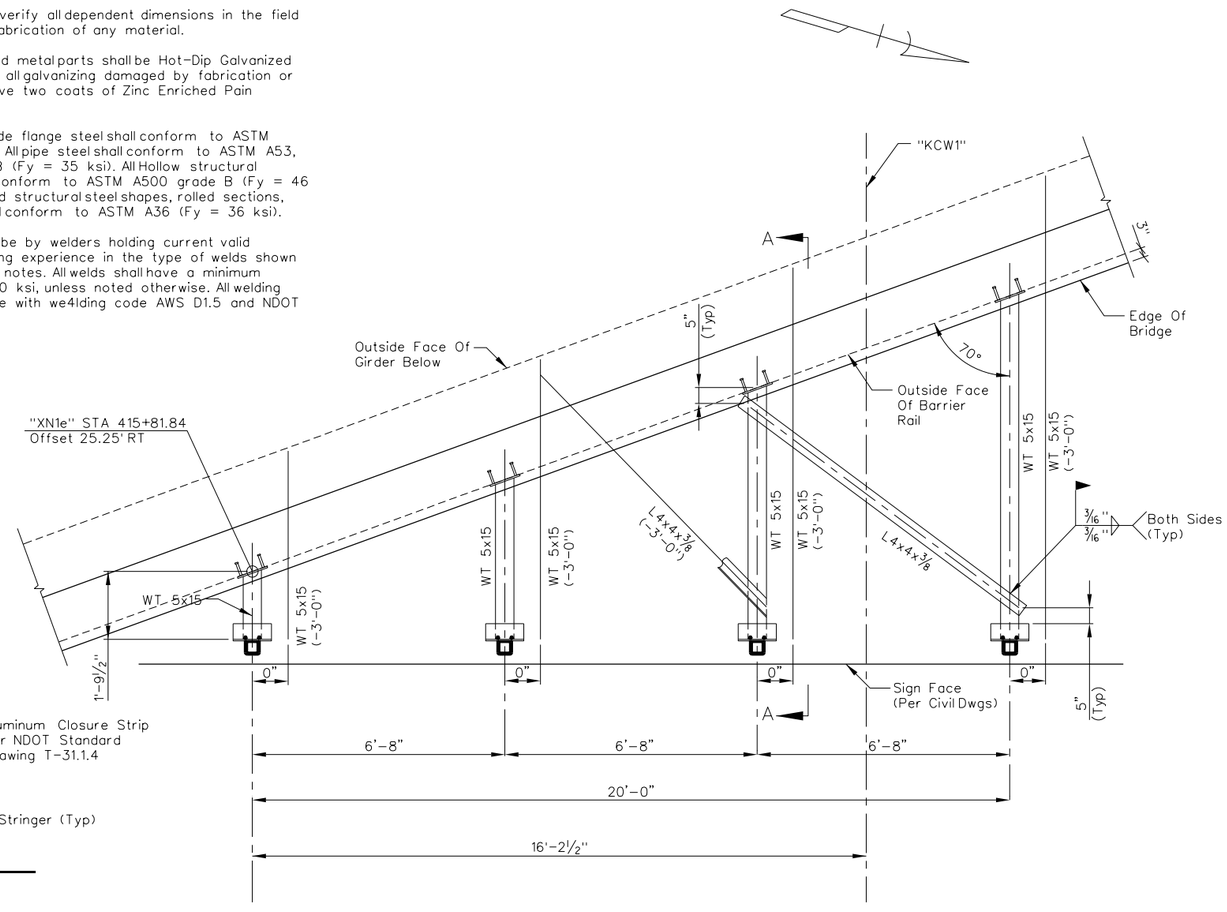
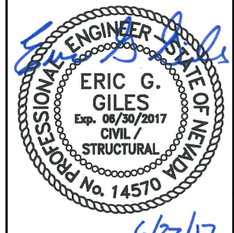



STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

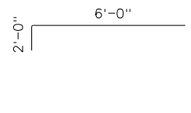
US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# SIGN STRUCTURE DETAILS

I-3190 N

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-224 |

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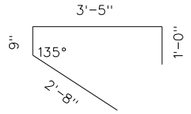


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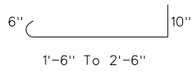


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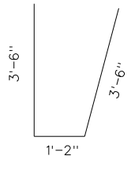


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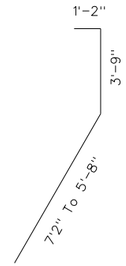
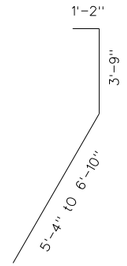
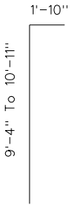


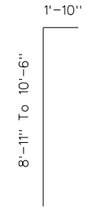

A7107 To A7121




A7103 To A7119

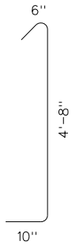



A10112 To A10129




A10109 To A10124

P5042

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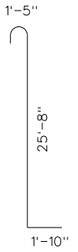
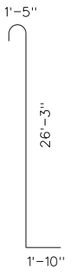



C102811

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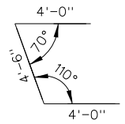


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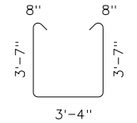


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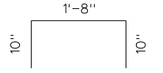


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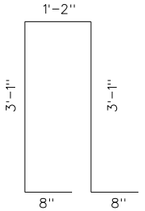


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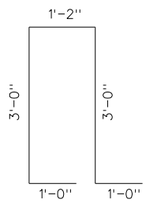


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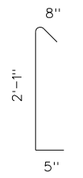


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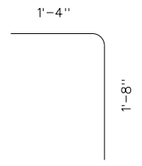


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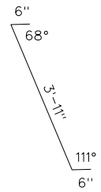


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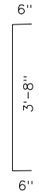


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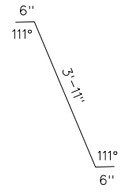


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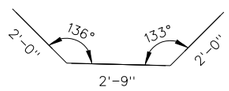


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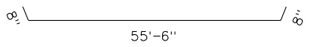
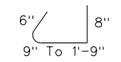
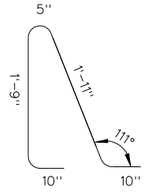



D45610

S4019




S4019 TO S4029

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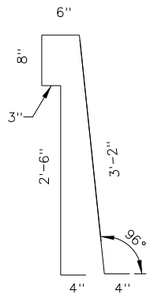


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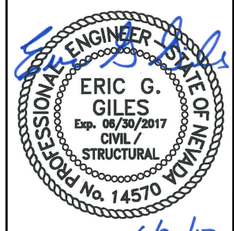



STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

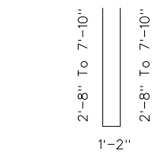
US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# BAR BEND SCHEDULE

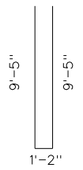
I-3190 N

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-225 |



W4066 To W41610



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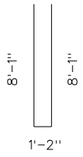

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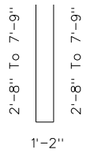

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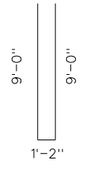

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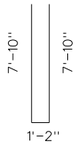

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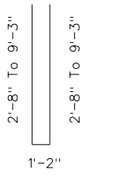
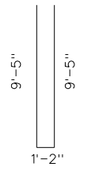


W4066 To W4198

W4226



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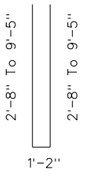

W4066 To W4200

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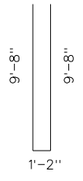

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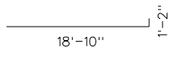

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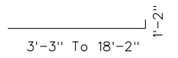

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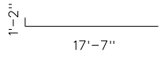

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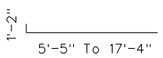
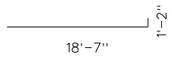


W7067 To W7186



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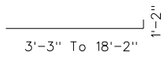
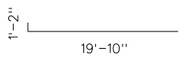


W7045 To W7194



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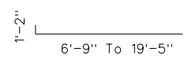
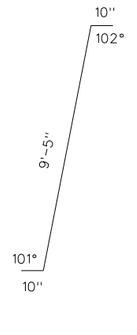
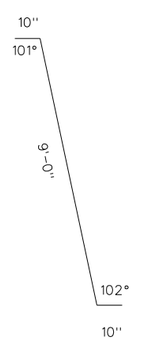
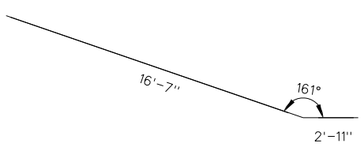


W70711 To W7207





W4111 W4108



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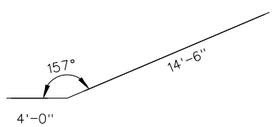

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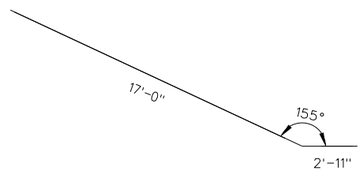

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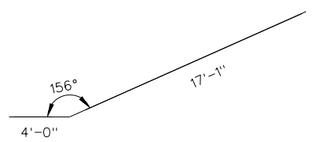

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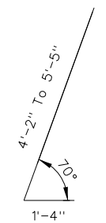
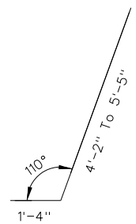
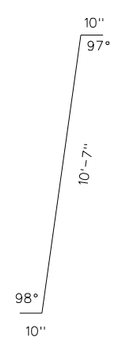


W4056 To W4069



W4056 To W4069



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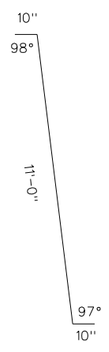

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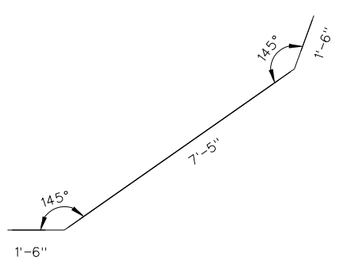
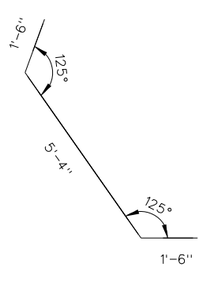
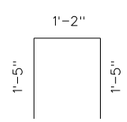


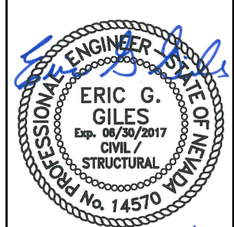
W6105



W6084



W4040




STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# BAR BEND SCHEDULE

I-3190 N

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-226 |

WINGWALL 1

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| 1-Set(s) W4056 | TO | W4069 | 4 Bar(s)/Set | 16 |
| 1-Set(s) W4066 | TO | W41610 | 16 Bar(s)/Set | 125 |
| 1-Set(s) W70510 | TO | W7194 | 10 Bar(s)/Set | 257 |
| 1-Set(s) 5048 | TO | 5175 | 5 Bar(s)/Set | 58 |
| W4040 | 4 | 04 0 | 18 | 48 |
| W4111 | 4 | 11 1 | 4 | 30 |
| W4174 | 4 | 17 4 | 2 | 23 |
| W4200 | 4 | 20 0 | 1 | 13 |
| W5196 | 5 | 19 6 | 2 | 41 |
| W6105 | 6 | 10 5 | 7 | 110 |
| W7200 | 7 | 20 0 | 5 | 204 |
| 4044 | 4 | 04 4 | 2 | 6 |
| 4081 | 4 | 08 1 | 3 | 16 |
| 4087 | 4 | 08 7 | 2 | 11 |
| 5199 | 5 | 19 9 | 3 | 62 |
| 7204 | 7 | 20 4 | 3 | 125 |

| | | |
|---|---|---|
| Reinforcing Steel | 1145 | LBS |
| Class A Concrete, Modified (Major) | 5.1 | CY |

WINGWALL 4

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| 1-Set(s) W4056 | TO | W4069 | 4 Bar(s)/Set | 16 |
| 1-Set(s) W4066 | TO | W4200 | 16 Bar(s)/Set | 142 |
| 1-Set(s) W70711 | TO | W7207 | 12 Bar(s)/Set | 350 |
| 1-Set(s) 5069 | TO | 51811 | 6 Bar(s)/Set | 80 |
| W4040 | 4 | 04 0 | 19 | 51 |
| W4128 | 4 | 12 8 | 4 | 34 |
| W4206 | 4 | 20 6 | 3 | 41 |
| W4232 | 4 | 23 2 | 1 | 15 |
| W5211 | 5 | 21 1 | 2 | 44 |
| W6084 | 6 | 08 4 | 8 | 100 |
| W7210 | 7 | 21 0 | 5 | 215 |
| 4039 | 4 | 03 9 | 2 | 5 |
| 4098 | 4 | 09 8 | 3 | 19 |
| 4099 | 4 | 09 9 | 2 | 13 |
| 5208 | 5 | 20 8 | 3 | 65 |
| 7204 | 7 | 20 4 | 3 | 125 |

| | | |
|---|---|---|
| Reinforcing Steel | 1317 | LBS |
| Class A Concrete, Modified (Major) | 5.8 | CY |

ABUTMENT 1 FOOTING

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| F4032 | 4 | 03 2 | 120 | 261 |
| F4034 | 4 | 03 4 | 53 | 118 |
| F4088 | 4 | 08 8 | 53 | 307 |
| F6092 | 6 | 09 2 | 36 | 496 |
| 4071 | 4 | 07 1 | 8 | 38 |
| 4135 | 4 | 13 5 | 3 | 27 |
| 4400 | 4 | 40 0 | 3 | 80 |
| 6071 | 6 | 07 1 | 70 | 745 |
| 6117 | 6 | 11 7 | 18 | 313 |
| 6600 | 6 | 60 0 | 18 | 1622 |
| 8071 | 8 | 07 1 | 70 | 1324 |

| | | |
|---|---|---|
| Reinforcing Steel | 5330 | LBS |
| Class A Concrete, Modified (Major) | 49.9 | CY |

COLUMNS

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| S51209 | 5 | 1209 0 | 1 | 1261 |
| S51184 | 5 | 1184 0 | 1 | 1235 |
| S51159 | 5 | 1159 0 | 1 | 1209 |
| C10301 | 10 | 30 1 | 20 | 2589 |
| C10296 | 10 | 29 6 | 20 | 2539 |
| C102811 | 10 | 28 11 | 20 | 2489 |

| | | |
|---|---|---|
| Reinforcing Steel | 11321 | LBS |
| Class A Concrete, Modified (Major) | 29.5 | CY |

WINGWALL 2

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| 1-Set(s) W4056 | TO | W4069 | 4 Bar(s)/Set | 16 |
| 1-Set(s) W4066 | TO | W4168 | 14 Bar(s)/Set | 108 |
| 1-Set(s) W7073 | TO | W7186 | 10 Bar(s)/Set | 263 |
| 1-Set(s) 5061 | TO | 5169 | 5 Bar(s)/Set | 60 |
| W4040 | 4 | 04 0 | 18 | 48 |
| W4108 | 4 | 10 8 | 4 | 29 |
| W41610 | 4 | 16 10 | 3 | 34 |
| W4192 | 4 | 19 2 | 1 | 13 |
| W5186 | 5 | 18 6 | 2 | 39 |
| W6084 | 6 | 8 4 | 7 | 88 |
| W7189 | 7 | 18 9 | 5 | 192 |
| 4044 | 4 | 04 4 | 2 | 6 |
| 40710 | 4 | 07 10 | 3 | 16 |
| 4083 | 4 | 08 3 | 2 | 11 |
| 5188 | 5 | 18 8 | 3 | 58 |
| 7187 | 7 | 18 7 | 3 | 114 |

| | | |
|---|---|---|
| Reinforcing Steel | 1093 | LBS |
| Class A Concrete, Modified (Major) | 4.3 | CY |

ABUTMENT 1

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| 65-Set(s) A50210 | TO | A50310 | 7 Bar(s)/Set | 1582 |
| 1-Set(s) A7107 | TO | A7121 | 130 Bar(s)/Set | 3011 |
| 1-Set(s) A10112 | TO | A10129 | 130 Bar(s)/Set | 6689 |
| A50710 | 5 | 07 10 | 66 | 539 |
| A6080 | 6 | 08 0 | 131 | 1574 |
| A6082 | 6 | 08 2 | 130 | 1595 |
| 5300 | 5 | 30 0 | 23 | 720 |
| 5369 | 5 | 36 9 | 23 | 882 |
| 6300 | 6 | 30 0 | 8 | 360 |
| 6372 | 6 | 37 2 | 8 | 447 |
| 9300 | 9 | 30 0 | 5 | 510 |
| 9398 | 9 | 39 8 | 5 | 674 |

| | | |
|---|---|---|
| Reinforcing Steel | 18583 | LBS |
| Class A Concrete, Modified (Major) | 34.0 | CY |
| Class D Concrete, Modified (Major) | 28.0 | CY |

ABUTMENT 2 FOOTING

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| F4032 | 4 | 03 2 | 120 | 261 |
| F4034 | 4 | 03 4 | 53 | 118 |
| F4088 | 4 | 08 8 | 53 | 307 |
| F6092 | 6 | 09 2 | 36 | 496 |
| 4071 | 4 | 07 1 | 8 | 38 |
| 4135 | 4 | 13 5 | 3 | 27 |
| 4400 | 4 | 40 0 | 3 | 80 |
| 6071 | 6 | 07 1 | 70 | 745 |
| 6117 | 6 | 11 7 | 18 | 313 |
| 6600 | 6 | 60 0 | 18 | 1622 |
| 8071 | 8 | 07 1 | 70 | 1324 |

| | | |
|---|---|---|
| Reinforcing Steel | 5330 | LBS |
| Class A Concrete, Modified (Major) | 49.9 | CY |

APPROACH SLAB

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| AS5030 | 5 | 03 0 | 488 | 1527 |
| D5059 | 5 | 05 9 | 140 | 840 |
| 4238 | 4 | 23 8 | 124 | 1960 |
| 4264 | 4 | 26 4 | 140 | 2463 |
| 4400 | 4 | 40 0 | 140 | 3741 |
| 5036 | 5 | 03 6 | 282 | 1029 |
| 7238 | 7 | 23 8 | 244 | 11803 |

| | | |
|---|---|---|
| Reinforcing Steel | 23363 | |
| Class E Concrete, Modified (Major) | 113.0 | CY |

WINGWALL 3

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| 1-Set(s) W4056 | TO | W4069 | 4 Bar(s)/Set | 16 |
| 1-Set(s) W4066 | TO | W4198 | 16 Bar(s)/Set | 140 |
| 1-Set(s) W7045 | TO | W7194 | 14 Bar(s)/Set | 340 |
| 1-Set(s) 50310 | TO | 51710 | 7 Bar(s)/Set | 79 |
| W4040 | 4 | 04 0 | 18 | 48 |
| W4123 | 4 | 12 3 | 4 | 33 |
| W4200 | 4 | 20 0 | 2 | 27 |
| W4226 | 4 | 22 6 | 1 | 15 |
| W51911 | 5 | 19 11 | 2 | 42 |
| W6105 | 6 | 10 5 | 8 | 125 |
| W7199 | 7 | 19 9 | 5 | 202 |
| 4039 | 4 | 03 9 | 2 | 6 |
| 4095 | 4 | 09 5 | 3 | 19 |
| 4096 | 4 | 09 6 | 2 | 13 |
| 5196 | 5 | 19 6 | 3 | 61 |
| 7199 | 7 | 19 9 | 3 | 121 |

| | | |
|---|---|---|
| Reinforcing Steel | 1286 | LBS |
| Class A Concrete, Modified (Major) | 5.6 | CY |

ABUTMENT 2

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| 65-Set(s) A50210 | TO | A50310 | 7 Bar(s)/Set | 1582 |
| 1-Set(s) A7103 | TO | A7119 | 130 Bar(s)/Set | 2923 |
| 1-Set(s) A10109 | TO | A10124 | 130 Bar(s)/Set | 6456 |
| A50710 | 5 | 07 10 | 66 | 539 |
| D6080 | 6 | 08 0 | 131 | 1574 |
| A6082 | 6 | 08 2 | 130 | 1595 |
| 5300 | 5 | 30 0 | 23 | 720 |
| 5369 | 5 | 36 9 | 23 | 882 |
| 6300 | 6 | 30 0 | 8 | 360 |
| 6372 | 6 | 37 2 | 8 | 447 |
| 9300 | 9 | 30 0 | 5 | 510 |
| 9398 | 9 | 39 8 | 5 | 674 |

| | | |
|---|---|---|
| Reinforcing Steel | 18262 | LBS |
| Class A Concrete, Modified (Major) | 33.0 | CY |
| Class D Concrete, Modified (Major) | 28.0 | CY |

PIER FOOTINGS

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| P5042 | 5 | 04 2 | 648 | 2929 |
| 6149 | 6 | 14 9 | 90 | 1960 |
| 8146 | 8 | 14 6 | 174 | 6736 |

| | | |
|---|---|---|
| Reinforcing Steel | 11625 | LBS |
| Class A Concrete, Modified (Major) | 81.3 | CY |

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# REBAR AND CONCRETE QUANTITIES

I-3190 N

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | B-227 |

SUPERSTRUCTURE

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| 32-Set(s) S40111 | TO | S40211 8 Bar(s)/Set | 413 | |
| D45610 | 4 | 56 10 | 350 | 13288 |
| D5059 | 5 | 05 9 | 456 | 2735 |
| D5069 | 5 | 06 9 | 56 | 394 |
| P5060 | 5 | 06 0 | 64 | 401 |
| P61110 | 6 | 11 10 | 64 | 1138 |
| P6126 | 6 | 12 6 | 6 | 113 |
| S40111 | 4 | 01 11 | 1216 | 1557 |
| S5048 | 5 | 04 8 | 2712 | 13201 |
| S50411 | 5 | 04 11 | 424 | 2174 |
| Z50411 | 5 | 04 11 | 424 | 2174 |
| 4022 | 4 | 02 2 | 96 | 139 |
| 4028 | 4 | 02 8 | 64 | 114 |
| 4029 | 4 | 02 9 | 96 | 176 |
| 4046 | 4 | 04 6 | 64 | 192 |
| 4100 | 4 | 10 0 | 104 | 695 |
| 4104 | 4 | 10 4 | 48 | 331 |
| 4579 | 4 | 57 9 | 12 | 723 |
| 4600 | 4 | 60 0 | 144 | 5772 |
| 5030 | 5 | 03 0 | 56 | 175 |
| 5118 | 5 | 11 8 | 198 | 2409 |
| 5268 | 5 | 26 8 | 352 | 9790 |
| 5400 | 5 | 40 0 | 352 | 14685 |
| 5600 | 5 | 60 0 | 594 | 37172 |
| 6060 | 6 | 06 0 | 112 | 1009 |
| 6271 | 6 | 27 1 | 352 | 14319 |
| 6400 | 6 | 40 0 | 352 | 21148 |
| 6566 | 6 | 56 6 | 4 | 339 |
| 6600 | 6 | 60 0 | 63 | 5678 |
| 81710 | 8 | 17 10 | 16 | 762 |
| 8600 | 8 | 60 0 | 48 | 7690 |
| 9577 | 9 | 57 7 | 6 | 1175 |
| 10241 | 10 | 24 1 | 20 | 2073 |
| 10469 | 10 | 46 9 | 20 | 4023 |
| 10558 | 10 | 55 8 | 20 | 4791 |

| | | |
|---|---|---|
| Reinforcing Steel | 172968 | LBS |
| Class D Concrete, Modified (Major) | 341.0 | CY |
| Class E Concrete, Modified (Major) | 317.0 | CY |

BARRIER RAIL

| Mark | Bar Size | Length | Number | Weight |
|---|---|---|---|---|
| R5079 | 5 | 07 9 | 596 | 4818 |
| 4106 | 4 | 10 6 | 4 | 28 |
| 4238 | 4 | 23 8 | 40 | 632 |
| 44411 | 4 | 44 11 | 32 | 960 |
| 44611 | 4 | 46 11 | 32 | 1003 |
| 4600 | 4 | 60 0 | 12 | 481 |

| | | |
|---|---|---|
| Reinforcing Steel | 7922 | LBS |
| Class E Concrete, Modified (Major) | 53.0 | CY |

PROFESSIONAL ENGINEER STATE OF NEVADA
ERIC G. GILES
Exp. 06/30/2017
CIVIL / STRUCTURAL
No. 14570
6/27/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

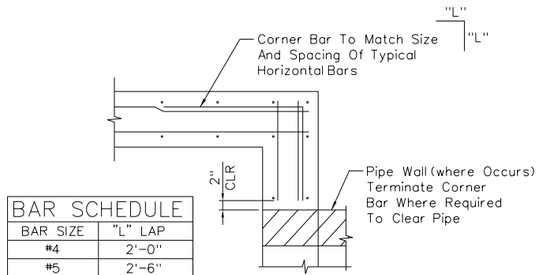
US95/KYLE CANYON RD INTERCHANGE
NORTHBOUND US 95 BRIDGE

# REBAR AND CONCRETE QUANTITIES

I-3190 N

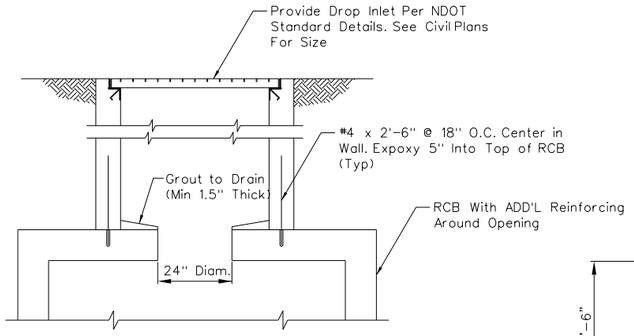
GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | BW101 |

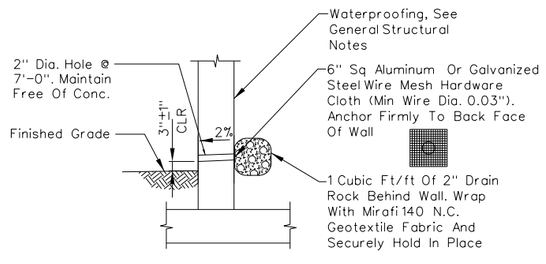



| BAR SCHEDULE | |
|---|---|
| BAR SIZE | "L" LAP |
| #4 | 2'-0" |
| #5 | 2'-6" |
| #6 | 3'-6" |
| #7 | 4'-6" |
| #8 | 5'-0" |

## 3 TYPICAL CORNER REINFORCING DETAIL
SCALE:NTS

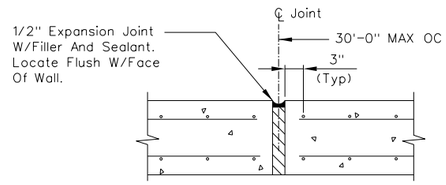



## 7 TYPICAL DROP INLET OVER RCB
SCALE:1/2" = 1'-0"



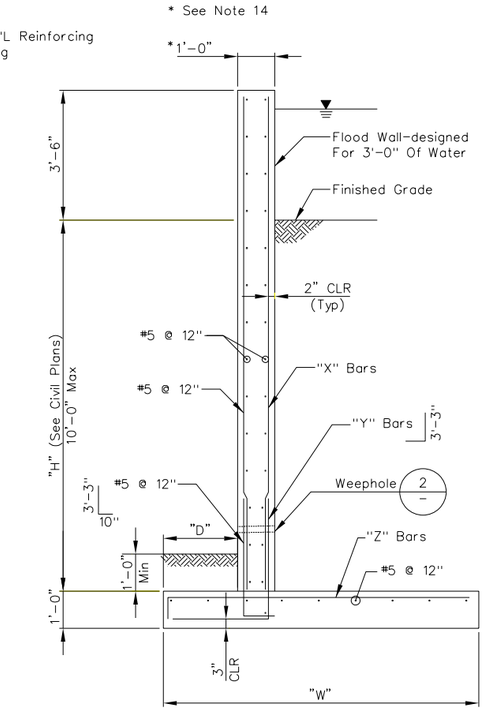

## 2 WEEPHOLE DETAIL
SCALE:NTS

| QUANTITIES | | | |
|---|---|---|---|
| SPEC | ITEM DESCRIPTION | UNIT | QUANTITY |
| 5050100 | REINFORCING STEEL | POUND | 15150 |
| 5020710 | CLASS A CONCRETE (MAJOR) | CY | 127 |



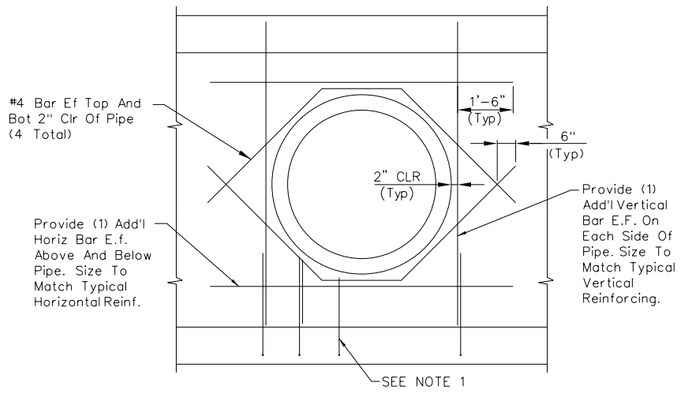

NOTES:
Do Not Continue Horizontal Reinforcing Through Joint

## 5 EXPANSION JOINT DETAIL
SCALE:NTS



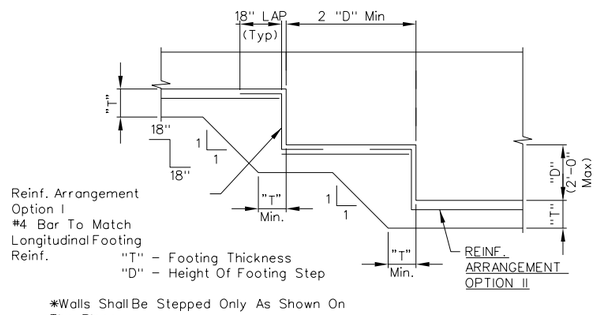

| DIMENSIONS | | | "X" | "Y" | "Z" |
|---|---|---|---|---|---|
| H | W | D | BARS | BARS | BARS |
| 2'-0" or less | 2'-9" | 9" | #5 @ 12" | #5 @ 12" | #4 @ 12" |
| 4'-0" or less | 3'-6" | 9" | #5 @ 12" | #5 @ 12" | #4 @ 12" |
| 6'-0" or less | 4'-9" | 9" | #5 @ 12" | #5 @ 12" | #5 @ 12" |
| 8'-0" or less | 6'-0" | 1'-0" | #5 @ 9" | #5 @ 9" | #5 @ 9" |
| 10'-0" or less | 7'-3" | 1'-0" | #5 @ 6" | #5 @ 6" | #5 @ 6" |

## 6 CONCRETE RETAINING WALL
SCALE:1/2"=1'-0"




NOTES:
1. Field Cut Typical Wall Reinforcing 2" Clr Of Pipe.
2. When Wall Is Less Than 9" Thick Reinforcing Does Not Need To Be Placed In Each Face As Stated Above.

## 1 TYPICAL PIPE PENETRATION DETAIL
SCALE:NTS

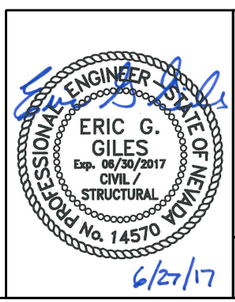



*Walls Shall Be Stepped Only As Shown On The Plans

## 4 STEPPED FOOTING DETAIL
SCALE:NTS

# GENERAL STRUCTURAL NOTES

1. Design Specifications: AASHTO LRFD Bridge Design Specifications, Seventh Edition, 2014.
2. Construction Specifications: NDOT Standard Plans for Road and Bridge Construction, 2010 Edition.
3. Existing Utilities: The Contractor Shall Be Responsible For Locating All Existing Utilities Within The Work Area, And Providing Protection For The Various Utilities Affected Prior To Proceeding With The Work.
4. Concrete: All Concrete Shall Be Class D Modified With A Minimum Ultimate Compressive Strength F'c = 4500psi At 28 Days And A Maximum Water/cement Ratio By Weight Of 0.45. Use Type V Cement Per Astm C-150.
5. Reinforcing Steel: All Reinforcing Steel Shall Be Astm A615 Grade 60. Dimensions Are From Out To Out Of Bars. Minimum Clearance To Reinforcing Steel Shall Be 3" Where Concrete Is Cast Against Soil And 2" Elsewhere, Unless Noted Otherwise. Hooks May Be Rotated Or Tilted As Necessary To Provide The Proper Clearances.
6. Bedding Material: Bedding Material Shall Be 6-inches Of Type II Aggregate Base Compacted To 95% Of The Maximum Dry Density. Exposed Native Soils In Bottoms Of Excavations Shall Be Scarified To A Depth Of 6-inches, Moisture-conditioned To Within 2% Of Optimum Moisture Content And Compacted To 95%.
7. Epoxy: Epoxy Shall Be Simpson Strong-Tie "Set-Xp Epoxy-Tie Adhesive" Per ICC Report ESR-2508 Or Approved Equal. Install In Accordance With Manufacturer Recommendations.
8. Provide Reinforcing At Wall Corners Per Typical Detail.
9. Backfill Shall Be Placed In Accordance With The Geotechnical Report.
10. Provide Weephole Per Typical Detail.
11. Inverts, Slopes, Bearings, Alignments, And Elevations Shown Are For "Reference Only". Information On Civil Drawings Shall Govern.
12. Contractor Shall Provide Slope Stabilization, Sheeting, Bracing, And/or Shoring As Required To Protect Existing Embankments, Structures, And Underground Items.
13. Refer To BW102 For Finish Grade, Top Of Footing, And Top Of Wall Elevations. Provide Footing Steps As Required Per Typical Detail.
14. If a Form Liner is Used The Thickness of the Wall Shall be Increased by The Thickness of the Form Liner. See Landscape Architectural Drawings for Wall Texture and Finish Requirements.



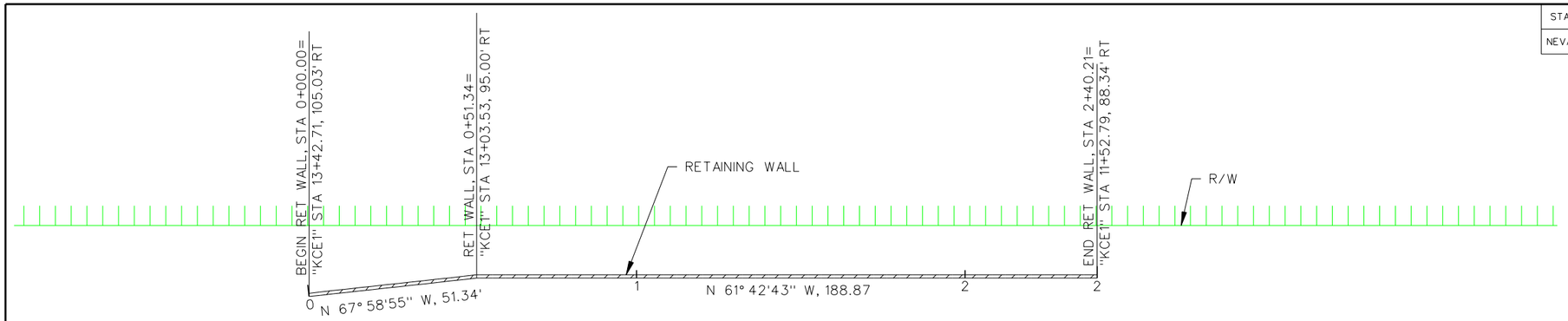

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

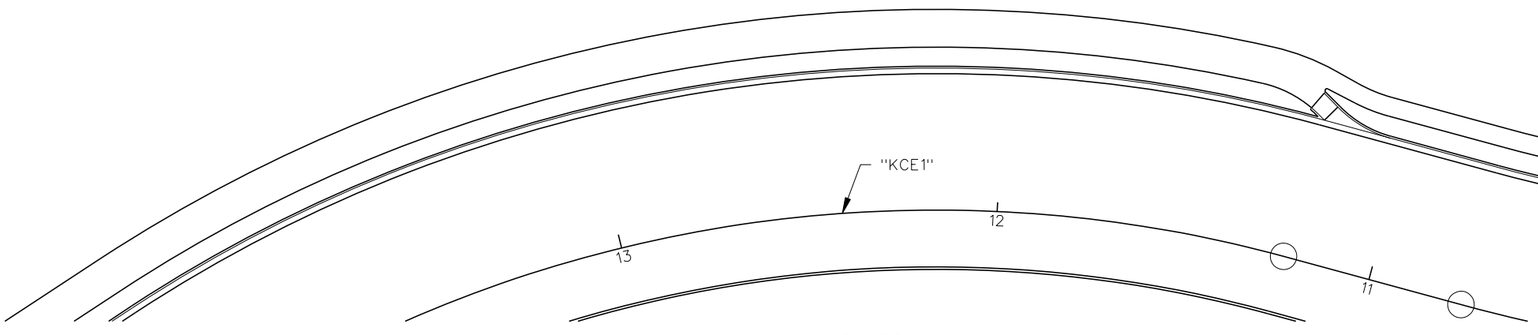
US95/KYLE CANYON RD INTERCHANGE

# RETAINING WALL DETAILS

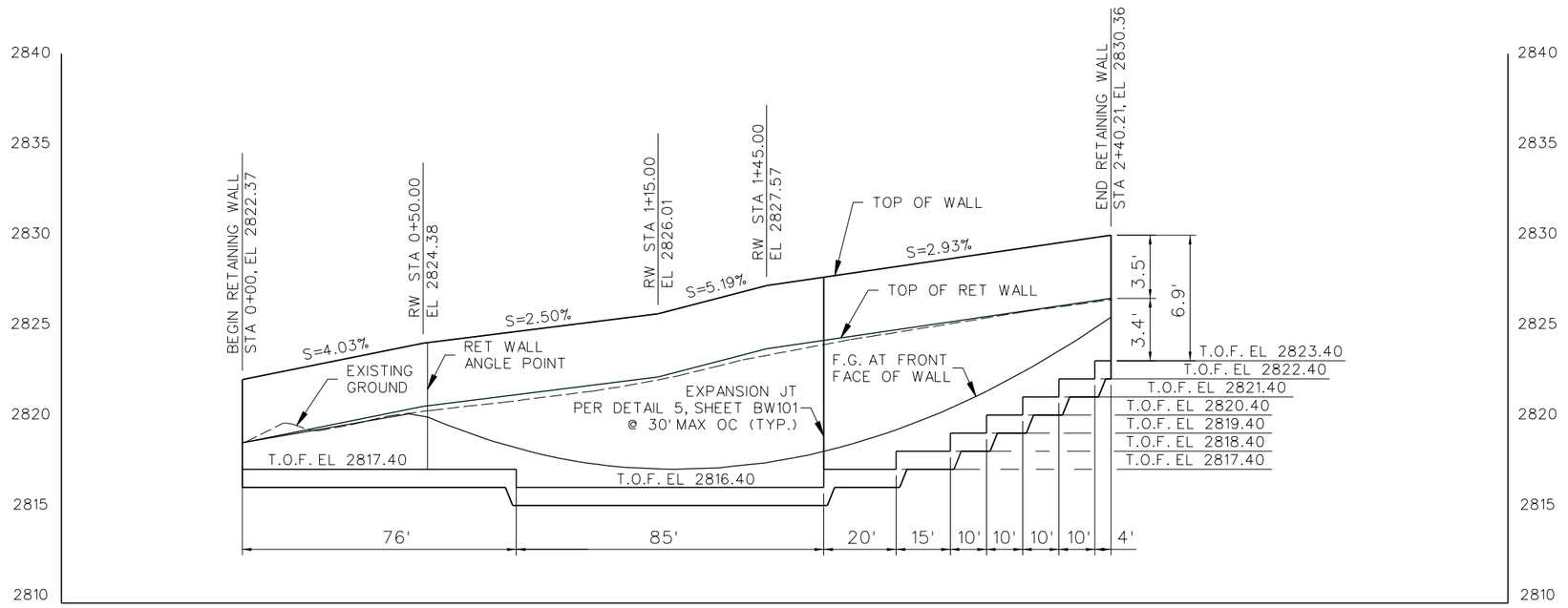
GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | BW102 |

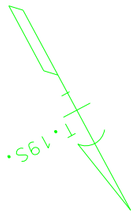



PLAN

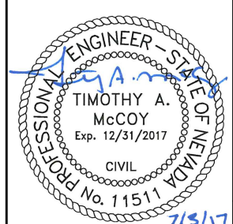



ELEVATION




NOTE:

1. SEE SHEET BW101 FOR GENERAL STRUCTURAL NOTES, RETAINING WALL TYPICAL SECTION, AND DETAILS.




STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# RETAINING WALL PLAN AND ELEVATION

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD. LAS VEGAS, NV 89146
T: 702.804.2000 F: 702.804.2299

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2 | CLARK | BL101 |

PLOTTED: 01/27/2016 10:44 AM BY: tmckenney

## SAMPLE/SAMPLER TYPE GRAPHICS

- BULK SAMPLE
- CALIFORNIA SAMPLER (3 in. (76.2 mm.) outer diameter)
- STANDARD PENETRATION SPLIT SPOON SAMPLER (2 in. (50.8 mm.) outer diameter and 1-3/8 in. (34.9 mm.) inner diameter)

## GROUND WATER GRAPHICS

- WATER LEVEL (level where first observed)
- WATER LEVEL (level after exploration completion)
- WATER LEVEL (additional levels after exploration)
- OBSERVED SEEPAGE

## NOTES

- The report and graphics key are an integral part of these logs. All data and interpretations in this log are subject to the explanations and limitations stated in the report.
- Lines separating strata on the logs represent approximate boundaries only. Actual transitions may be gradual or differ from those shown.
- No warranty is provided as to the continuity of soil or rock conditions between individual sample locations.
- Logs represent general soil or rock conditions observed at the point of exploration on the date indicated.
- In general, Unified Soil Classification System designations presented on the logs were based on visual classification in the field and were modified where appropriate based on gradation and index property testing.
- Fine grained soils that plot within the hatched area on the Plasticity Chart, and coarse grained soils with between 5% and 12% passing the No. 200 sieve require dual USCS symbols, ie., GW-GM, GP-GM, GW-GC, GP-GC, GC-GM, SW-SM, SP-SM, SW-SC, SP-SC, SC-SM.
- If sampler is not able to be driven at least 6 inches then 50/X indicates number of blows required to drive the identified sampler X inches with a 140 pound hammer falling 30 inches.

## UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487)

| | | | | | |
|---|---|---|---|---|---|
| COARSE GRAINED SOILS (More than half of material is larger than the #200 sieve) | GRAVELS (More than half of coarse fraction is larger than the #4 sieve) | CLEAN GRAVEL WITH <5% FINES | Cu≥4 and 1≤Cc≤3 | GW | WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES |
| | | | Cu<4 and/ or 1>Cc>3 | GP | POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES |
| | | GRAVELS WITH 5% TO 12% FINES | Cu≥4 and 1≤Cc≤3 | GW-GM | WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES |
| | | | | GW-GC | WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES |
| | | | Cu<4 and/ or 1>Cc>3 | GP-GM | POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES |
| | | | | GP-GC | POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES |
| | | GRAVELS WITH > 12% FINES | | GM | SILTY GRAVELS, GRAVEL-SILT-SAND MIXTURES |
| | | | | GC | CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES |
| | | | | GC-GM | CLAYEY GRAVELS, GRAVEL-SAND-CLAY-SILT MIXTURES |
| | SANDS (More than half of coarse fraction is smaller than the #4 sieve) | CLEAN SANDS WITH <5% FINES | Cu≥6 and 1≤Cc≤3 | SW | WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES |
| | | | Cu<6 and/ or 1>Cc>3 | SP | POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES |
| | | SANDS WITH 5% TO 12% FINES | Cu≥6 and 1≤Cc≤3 | SW-SM | WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES |
| | | | | SW-SC | WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES |
| | | | Cu<6 and/ or 1>Cc>3 | SP-SM | POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES |
| | | | | SP-SC | POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES |
| | | SANDS WITH > 12% FINES | | SM | SILTY SANDS, SAND-GRAVEL-SILT MIXTURES |
| | | | | SC | CLAYEY SANDS, SAND-GRAVEL-CLAY MIXTURES |
| | | | | SC-SM | CLAYEY SANDS, SAND-SILT-CLAY MIXTURES |
| FINE GRAINED SOILS (More than half of material is smaller than the #200 sieve) | | SILTS AND CLAYS (Liquid Limit less than 50) | | ML | INORGANIC SILTS AND VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, SILTS WITH SLIGHT PLASTICITY |
| | | | | CL | INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS |
| | | | | CL-ML | INORGANIC CLAYS-SILTS OF LOW PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS |
| | | | | OL | ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PLASTICITY |
| | | SILTS AND CLAYS (Liquid Limit greater than 50) | | MH | INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILT |
| | | | | CH | INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS |
| | | | | OH | ORGANIC CLAYS & ORGANIC SILTS OF MEDIUM-TO-HIGH PLASTICITY |

gINT FILE: PROJECTWISE: 20132633_Kyle Canyon GInt.gpj
gINT TEMPLATE: CKLF_STANDARD_GINT_LIBRARY_2016.GLB [GEO-LEGEND 1 (GRAPHICS KEY) WITH USCS]

| | |
|---|---|
| PROJECT NO.: | 20162633 |
| DRAWN BY: | CLW |
| CHECKED BY: | DJS |
| DATE: | 11/18/2015 |
| REVISED: | - |

GRAPHICS KEY

Kyle Canyon / US95 Interchange
Las Vegas, Clark County, Nevada

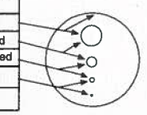
PLATE A-1a

KLEINFELDER - 6380 S Polaris Avenue | Las Vegas, NV 89118 | PH: 702.736.2936 | FAX: 702.361.9094 | www.kleinfelder.com

PLOTTED: 01/27/2016 10:45 AM BY: tmckenney

## GRAIN SIZE

| DESCRIPTION | | SIEVE SIZE | GRAIN SIZE | APPROXIMATE SIZE |
|---|---|---|---|---|
| Boulders | | >12 in. (304.8 mm.) | >12 in. (304.8 mm.) | Larger than basketball-sized |
| Cobbles | | 3 - 12 in. (76.2 - 304.8 mm.) | 3 - 12 in. (76.2 - 304.8 mm.) | Fist-sized to basketball-sized |
| Gravel | coarse | 3/4 -3 in. (19 - 76.2 mm.) | 3/4 -3 in. (19 - 76.2 mm.) | Thumb-sized to fist-sized |
| | fine | #4 - 3/4 in. (#4 - 19 mm.) | 0.19 - 0.75 in. (4.8 - 19 mm.) | Pea-sized to thumb-sized |
| Sand | coarse | #10 - #4 | 0.079 - 0.19 in. (2 - 4.9 mm.) | Rock salt-sized to pea-sized |
| | medium | #40 - #10 | 0.017 - 0.079 in. (0.43 - 2 mm.) | Sugar-sized to rock salt-sized |
| | fine | #200 - #40 | 0.0029 - 0.017 in. (0.07 - 0.43 mm.) | Flour-sized to sugar-sized |
| Fines | | Passing #200 | <0.0029 in. (<0.07 mm.) | Flour-sized and smaller |

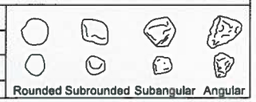


## Munsell Color

| NAME | ABBR |
|---|---|
| Red | R |
| Yellow Red | YR |
| Yellow | Y |
| Green Yellow | GY |
| Green | G |
| Blue Green | BG |
| Blue | B |
| Purple Blue | PB |
| Purple | P |
| Red Purple | RP |
| Black | N |

## ANGULARITY

| DESCRIPTION | CRITERIA |
|---|---|
| Angular | Particles have sharp edges and relatively plane sides with unpolished surfaces |
| Subangular | Particles are similar to angular description but have rounded edges |
| Subrounded | Particles have nearly plane sides but have well-rounded corners and edges |
| Rounded | Particles have smoothly curved sides and no edges |




## Particles Present

| Amount | Percentage |
|---|---|
| trace | <5 |
| few | 5-10 |
| little | 15-25 |
| some | 30-45 |
| and | 50 |
| mostly | 50-100 |

## PLASTICITY

| DESCRIPTION | LL | FIELD TEST |
|---|---|---|
| Non-plastic | NP | A 1/8-in. (3 mm.) thread cannot be rolled at any water content. |
| Low (L) | < 30 | The thread can barely be rolled and the lump or thread cannot be formed when drier than the plastic limit. |
| Medium (M) | 30 - 50 | The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump or thread crumbles when drier than the plastic limit |
| High (H) | > 50 | It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump or thread can be formed without crumbling when drier than the plastic limit |

## MOISTURE CONTENT

| DESCRIPTION | FIELD TEST |
|---|---|
| Dry | Absence of moisture, dusty, dry to the touch |
| Moist | Damp but no visible water |
| Wet | Visible free water, usually soil is below water table |

## REACTION WITH HYDROCHLORIC ACID

| DESCRIPTION | FIELD TEST |
|---|---|
| None | No visible reaction |
| Weak | Some reaction, with bubbles forming slowly |
| Strong | Violent reaction, with bubbles forming immediately |

## APPARENT / RELATIVE DENSITY - COARSE-GRAINED SOIL

| APPARENT DENSITY | SPT-N60 (# blows/ft) | MODIFIED CA SAMPLER (# blows/ft) | CALIFORNIA SAMPLER (# blows/ft) | RELATIVE DENSITY (%) |
|---|---|---|---|---|
| Very Loose | <4 | <4 | <5 | 0 - 15 |
| Loose | 4 - 10 | 5 - 12 | 5 - 15 | 15 - 35 |
| Medium Dense | 10 - 30 | 12 - 35 | 15 - 40 | 35 - 65 |
| Dense | 30 - 50 | 35 - 60 | 40 - 70 | 65 - 85 |
| Very Dense | >50 | >60 | >70 | 85 - 100 |

NOTE: AFTER TERZAGHI AND PECK, 1948

## CONSISTENCY - FINE-GRAINED SOIL

| CONSISTENCY | UNCONFINED COMPRESSIVE STRENGTH (qu)(psf) | CRITERIA |
|---|---|---|
| Very Soft | < 1000 | Thumb will penetrate soil more than 1 in. (25 mm.) |
| Soft | 1000 - 2000 | Thumb will penetrate soil about 1 in. (25 mm.) |
| Firm | 2000 - 4000 | Thumb will indent soil about 1/4-in. (6 mm.) |
| Hard | 4000 - 8000 | Thumb will not indent soil but readily indented with thumbnail |
| Very Hard | > 8000 | Thumbnail will not indent soil |

## STRUCTURE

| DESCRIPTION | CRITERIA |
|---|---|
| Stratified | Alternating layers of varying material or color with layers at least 1/4-in. thick, note thickness |
| Laminated | Alternating layers of varying material or color with the layer less than 1/4-in. thick, note thickness |
| Fissured | Breaks along definite planes of fracture with little resistance to fracturing |
| Slickensided | Fracture planes appear polished or glossy, sometimes striated |
| Blocky | Cohesive soil that can be broken down into small angular lumps which resist further breakdown |
| Lensed | Inclusion of small pockets of different soils, such as small lenses of sand scattered through a mass of clay; note thickness |
| Homogeneous | Same color and appearance throughout |

## CEMENTATION

| DESCRIPTION | FIELD TEST |
|---|---|
| Weakly | Crumbles or breaks with handling or slight finger pressure |
| Moderately | Crumbles or breaks with considerable finger pressure |
| Strongly | Will not crumble or break with finger pressure |

gINT FILE: PROJECTWISE: 20132633_Kyle Canyon GInt.gpj
gINT TEMPLATE: CKLF_STANDARD_GINT_LIBRARY_2016.GLB [GEO-LEGEND 2 (SOIL DESCRIPTION KEY)]

| | |
|---|---|
| PROJECT NO.: | 20162633 |
| DRAWN BY: | CLW |
| CHECKED BY: | DJS |
| DATE: | 11/18/2015 |
| REVISED: | - |

SOIL DESCRIPTION KEY

Kyle Canyon / US95 Interchange
Las Vegas, Clark County, Nevada

PLATE A-1b

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PROFESSIONAL ENGINEER STATE OF NEVADA
JONATHAN E. LEHMAN-SVOBODA
Exp: 12/31/17
CIVIL
No. 18670
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# BORING LOGS

KLEINFELDER
Bright People. Right Solutions.
6380 S POLARIS AVENUE LAS VEGAS, NV 89118
T: 702.736.2936 F: 702.361.9094

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2 | CLARK | BL102 |

PLOTTED: 12/07/2016 09:50 AM BY: mpalmer

Date Begin - End: 11/02/2015 | Drilling Company: Eagle Drilling | **BORING LOG B-1**

Logged By: J. Flannery | Drill Crew: Tom, Timothy

Hor.-Vert. Datum: Not Available | Drilling Equipment: Diedrich D-120 | Hammer Type - Drop: 140 lb. Auto - 30 in.

Plunge: -90 degrees | Drilling Method: Hollow Stem Auger

Weather: Clear, sunny | Exploration Diameter: 8.5 in. O.D.

FIELD EXPLORATION

Latitude: 36.32668° N
Longitude: -115.31519° W
Approximate Ground Surface Elevation (ft.): 2,831.00
Surface Condition: minimal vegetation

LABORATORY RESULTS

| Approximate Elevation (feet) | Depth (feet) | Graphical Log | Lithologic Description | Sample Type | Blow Counts(BC)= Uncorr. Blows/6 in. | Recovery (NR=No Recovery) | USCS Symbol | Water Content (%) | Dry Unit Wt. (pcf) | Passing #4 (%) | Passing #200 (%) | Liquid Limit | Plasticity Index (NP=NonPlastic) | Additional Tests/ Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2830 | 0 | | Silty Clayey GRAVEL with Sand (GC-GM): fine-grained, some coarse gravel, tan, light brown to gray, slightly moist, very dense, weakly cemented | | | | GC-GM | 1.9 | | 38 | 17 | 22 | 5 | Rig chatter |
| 2825 | 5 | | - moderately cemented, very dense below 5 feet | | BC=17 50/5" | 6" | | | | | | | | Reduced rig chatter below 6.5 feet |
| 2820 | 10 | | - moist below 10 feet | | BC=50/2" | 2" | | | | | | | | |
| 2815 | 15 | | | | | | | | | | | | | |
| 2810 | 20 | | | | | | | | | | | | | |
| 2805 | 25 | | | | | | | | | | | | | |
| 2800 | 30 | | | | | | | | | | | | | |

The boring was terminated at approximately 10 ft. below ground surface. The boring was backfilled with auger cuttings on November 02, 2015.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not encountered during drilling or after completion.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

| PROJECT NO.: 20162633 | BORING LOG B-1 | PLATE |
|---|---|---|
| DRAWN BY: CLW | Kyle Canyon / US95 Interchange<br>Las Vegas, Clark County, Nevada | A-2 |
| CHECKED BY: DJS | | |
| DATE: 11/18/2015 | | PAGE: 1 of 1 |
| REVISED: - | | |

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gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2016.GLB [KLF_BORING/TEST PIT SOIL LOG]

PLOTTED: 12/07/2016 09:51 AM BY: mpalmer

Date Begin - End: 11/03/2015 | Drilling Company: Eagle Drilling | **BORING LOG B-2**

Logged By: J. Flannery | Drill Crew: Tom, Timothy

Hor.-Vert. Datum: Not Available | Drilling Equipment: Diedrich D-120 | Hammer Type - Drop: 140 lb. Auto - 30 in.

Plunge: -90 degrees | Drilling Method: Hollow Stem Auger

Weather: Clear, sunny | Exploration Diameter: 8.5 in. O.D.

FIELD EXPLORATION

Latitude: 36.32592° N
Longitude: -115.31474° W
Approximate Ground Surface Elevation (ft.): 2,798.00
Surface Condition: vegetation

LABORATORY RESULTS

| Approximate Elevation (feet) | Depth (feet) | Graphical Log | Lithologic Description | Sample Type | Blow Counts(BC)= Uncorr. Blows/6 in. | Recovery (NR=No Recovery) | USCS Symbol | Water Content (%) | Dry Unit Wt. (pcf) | Passing #4 (%) | Passing #200 (%) | Liquid Limit | Plasticity Index (NP=NonPlastic) | Additional Tests/ Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2795 | 0 | | Silty Clayey GRAVEL with Sand (GC-GM): fine-grained, some coarse gravel, tan, light brown to gray, slightly moist, weakly cemented | | | | | | | | | | | Some chatter below 1 foot |
| 2790 | 5 | | Clayey SAND with Gravel (SC): fine-grained sand, fine to coarse-grained gravel, light tan to white, dry, very dense, weakly cemented | | BC=50/3" | 3" | | | | | | | | Increased chatter below 3.5 feet |
| 2785 | 10 | | - white below 10 feet | | BC=50/6" | 5" | SC | 1.1 | | 65 | 20 | 23 | 8 | |
| 2780 | 15 | | - decreased angular gravel, evidence of cementation | | BC=50/2" | | | | | | | | | |
| 2775 | 20 | | Silty Clayey GRAVEL with Sand (GC-GM): fine-grained, some coarse gravel, tan, light brown to gray, slightly moist, very dense, weakly cemented<br>- increased gravel, evidence of moderate cementation below 20 feet | | BC=50/2" | | | | | | | | | |
| 2770 | 25 | | - tan and white, increased coarse-grained sand below 25 feet | | BC=50/3" | 3" | | | | | | | | |
| 2765 | 30 | | - interlayered zones of gravel and silty sand below 30 feet | | BC=50/4" | 4" | | | | | | | | |

| PROJECT NO.: 20162633 | BORING LOG B-2 | PLATE |
|---|---|---|
| DRAWN BY: CLW | Kyle Canyon / US95 Interchange<br>Las Vegas, Clark County, Nevada | A-3 |
| CHECKED BY: DJS | | |
| DATE: 11/18/2015 | | PAGE: 1 of 2 |
| REVISED: - | | |

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gINT FILE: Kf_gint_master_2016
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2016.GLB [KLF_BORING/TEST PIT SOIL LOG]

PROFESSIONAL ENGINEER STATE OF NEVADA
JONATHAN E. LEHMAN-SVOBODA
Exp: 12/31/17
CIVIL
No. 18670
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# BORING LOGS

KLEINFELDER
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| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2 | CLARK | BL103 |

PLOTTED: 12/07/2016 09:51 AM BY: mpalmer

Date Begin - End: 11/03/2015 | Drilling Company: Eagle Drilling | **BORING LOG B-2**

Logged By: J. Flannery | Drill Crew: Tom, Timothy

Hor.-Vert. Datum: Not Available | Drilling Equipment: Diedrich D-120 | Hammer Type - Drop: 140 lb. Auto - 30 in.

Plunge: -90 degrees | Drilling Method: Hollow Stem Auger

Weather: Clear, sunny | Exploration Diameter: 8.5 in. O.D.

FIELD EXPLORATION | LABORATORY RESULTS

Latitude: 36.32592° N
Longitude: -115.31474° W
Approximate Ground Surface Elevation (ft.): 2,798.00
Surface Condition: vegetation

| Approximate Elevation (feet) | Depth (feet) | Graphical Log | Lithologic Description | Sample Type | Blow Counts(BC)= Uncor: Blows/6 in. | Recovery (NR=No Recovery) | USCS Symbol | Water Content (%) | Dry Unit Wt. (pcf) | Passing #4 (%) | Passing #200 (%) | Liquid Limit | Plasticity Index (NP=NonPlastic) | Additional Tests/ Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2760 | 40 | | Clayey SAND with Gravel (SC): fine-grained sand, fine to coarse-grained gravel, light tan to white, moist, very dense, weakly cemented | | BC=50/2" | 2" | | | | | | | | |
| | | | - increase coarse-grained sand, decreased gravel below 40 feet | | BC=50/2" | 1" | | | | | | | | |
| 2755 | 45 | | | | | | | | | | | | | |
| 2750 | 50 | | | | | | | | | | | | | |
| 2745 | 55 | | | | | | | | | | | | | |
| 2740 | 60 | | | | | | | | | | | | | |
| 2735 | 65 | | | | | | | | | | | | | |
| 2730 | | | | | | | | | | | | | | |

The boring was terminated at approximately 40 ft. below ground surface. The boring was backfilled with auger cuttings on November 03, 2015.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not encountered during drilling or after completion.
GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

| PROJECT NO.: 20162633 | BORING LOG B-2 | PLATE |
|---|---|---|
| DRAWN BY: CLW | Kyle Canyon / US95 Interchange<br>Las Vegas, Clark County, Nevada | A-4 |
| CHECKED BY: DJS | | |
| DATE: 11/18/2015 | | |
| REVISED: - | | PAGE: 2 of 2 |

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gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2016.GLB [KLF_BORING/TEST PIT SOIL LOG]

PLOTTED: 12/07/2016 09:51 AM BY: mpalmer

Date Begin - End: 11/03/2015 | Drilling Company: Eagle Drilling | **BORING LOG B-3**

Logged By: J. Flannery | Drill Crew: Tom, Timothy

Hor.-Vert. Datum: Not Available | Drilling Equipment: Diedrich D-120 | Hammer Type - Drop: 140 lb. Auto - 30 in.

Plunge: -90 degrees | Drilling Method: Hollow Stem Auger

Weather: Clear, sunny | Exploration Diameter: 8.5 in. O.D.

FIELD EXPLORATION | LABORATORY RESULTS

Latitude: 36.32593° N
Longitude: -115.31306° W
Approximate Ground Surface Elevation (ft.): 2,802.00
Surface Condition: vegetation

| Approximate Elevation (feet) | Depth (feet) | Graphical Log | Lithologic Description | Sample Type | Blow Counts(BC)= Uncor: Blows/6 in. | Recovery (NR=No Recovery) | USCS Symbol | Water Content (%) | Dry Unit Wt. (pcf) | Passing #4 (%) | Passing #200 (%) | Liquid Limit | Plasticity Index (NP=NonPlastic) | Additional Tests/ Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2800 | | | Silty GRAVEL with Sand (GM): fine-grained sand, fine to coarse-grained gravel, light tan, dry, dense, no to weak cementation | | | | GM | 0.7 | | 43 | 25 | NP | NP | R-Value = 78<br>Sol = 0.19%<br>SO4 = <0.01%<br>Chatter below 1 foot |
| | 5 | | - slightly moist, dense to very dense, evidence of weak cementation, less gravel below 5 feet | | BC=26<br>44<br>29 | 12" | | | | | | | | Grinding below 8 feet |
| 2795 | | | | | | | | | | | | | | |
| | 10 | | - increased sand, decreased gravel below 10 feet | | BC=50/3" | | | | | | | | | |
| 2790 | | | | | | | | | | | | | | |
| | 15 | | | | | | | | | | | | | |
| 2785 | | | | | | | | | | | | | | |
| | 20 | | | | | | | | | | | | | |
| 2780 | | | | | | | | | | | | | | |
| | 25 | | | | | | | | | | | | | |
| 2775 | | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | | |
| 2770 | | | | | | | | | | | | | | |

The boring was terminated at approximately 10.5 ft. below ground surface. The boring was backfilled with auger cuttings on November 03, 2015.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not encountered during drilling or after completion.
GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

| PROJECT NO.: 20162633 | BORING LOG B-3 | PLATE |
|---|---|---|
| DRAWN BY: CLW | Kyle Canyon / US95 Interchange<br>Las Vegas, Clark County, Nevada | A-5 |
| CHECKED BY: DJS | | |
| DATE: 11/18/2015 | | |
| REVISED: - | | PAGE: 1 of 1 |

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gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2016.GLB [KLF_BORING/TEST PIT SOIL LOG]

PROFESSIONAL ENGINEER STATE OF NEVADA
JONATHAN E. LEHMAN-SVOBODA
Exp: 12/31/17
CIVIL
No. 18670
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# BORING LOGS

KLEINFELDER
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6380 S POLARIS AVENUE LAS VEGAS, NV 89118
T: 702.736.2936 F: 702.361.9094

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2 | CLARK | BL104 |

PLOTTED: 12/07/2016 09:51 AM BY: mpalmer

Date Begin - End: 11/03/2015 | Drilling Company: Eagle Drilling | **BORING LOG B-4**

Logged By: J. Flannery | Drill Crew: Tom, Timothy

Hor.-Vert. Datum: Not Available | Drilling Equipment: Diedrich D-120 | Hammer Type - Drop: 140 lb. Auto - 30 in.

Plunge: -90 degrees | Drilling Method: Hollow Stem Auger

Weather: Clear, sunny | Exploration Diameter: 8.5 in. O.D.

FIELD EXPLORATION | LABORATORY RESULTS

Latitude: 36.32788° N
Longitude: -115.31284° W
Approximate Ground Surface Elevation (ft.): 2,795.00
Surface Condition: vegetation

| Approximate Elevation (feet) | Depth (feet) | Graphical Log | Lithologic Description | Sample Type | Blow Counts(BC)= Uncorr. Blows/6 in. | Recovery (NR=No Recovery) | USCS Symbol | Water Content (%) | Dry Unit Wt. (pcf) | Passing #4 (%) | Passing #200 (%) | Liquid Limit | Plasticity Index (NP=NonPlastic) | Additional Tests/ Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Silty SAND with Gravel (SM): fine-grained sand, fine to coarse-grained gravel, light tan, slightly moist, dense, no cementation | | | | | | | | | | | Chatter below 4 feet |
| 2790 | 5 | | Poorly graded SAND with Silt and Gravel (SP-SM): fine-grained sand, fine to coarse-grained gravel, light tan, slightly moist, very dense, no cementation | | BC=30<br>41<br>50/2" | 12" | | | | | | | | |
| 2785 | 10 | | - light tan to white, very dense, less gravel below 10 feet | | BC=50/5" | 5" | | | | | | | | |
| 2780 | 15 | | - white, evidence of weak cementation below 15 feet | | BC=50/2" | 2" | | | | | | | | Chatter and grinding below 16.5 feet |
| 2775 | 20 | | | | BC=50/4" | | | | | | | | | |
| 2770 | 25 | | | | | | | | | | | | | |
| 2765 | 30 | | | | | | | | | | | | | |

The boring was terminated at approximately 20 ft. below ground surface. The boring was backfilled with auger cuttings on November 03, 2015.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not encountered during drilling or after completion.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

| | | | |
|---|---|---|---|
| | PROJECT NO.: 20162633<br>DRAWN BY: CLW<br>CHECKED BY: DJS<br>DATE: 11/18/2015<br>REVISED: - | BORING LOG B-4<br>Kyle Canyon / US95 Interchange<br>Las Vegas, Clark County, Nevada | PLATE<br>A-6<br>PAGE: 1 of 1 |

gINT FILE: KE_gINT_master_2016
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PLOTTED: 12/07/2016 09:51 AM BY: mpalmer

Date Begin - End: 11/02/2015 | Drilling Company: Eagle Drilling | **BORING LOG B-5**

Logged By: J. Flannery | Drill Crew: Tom, Timothy

Hor.-Vert. Datum: Not Available | Drilling Equipment: Diedrich D-120 | Hammer Type - Drop: 140 lb. Auto - 30 in.

Plunge: -90 degrees | Drilling Method: Hollow Stem Auger

Weather: Clear, sunny | Exploration Diameter: 8.5 in. O.D.

FIELD EXPLORATION | LABORATORY RESULTS

Latitude: 36.32623° N
Longitude: -115.31194° W
Approximate Ground Surface Elevation (ft.): 2,793.00
Surface Condition: vegetation

| Approximate Elevation (feet) | Depth (feet) | Graphical Log | Lithologic Description | Sample Type | Blow Counts(BC)= Uncorr. Blows/6 in. | Recovery (NR=No Recovery) | USCS Symbol | Water Content (%) | Dry Unit Wt. (pcf) | Passing #4 (%) | Passing #200 (%) | Liquid Limit | Plasticity Index (NP=NonPlastic) | Additional Tests/ Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Silty SAND with Gravel (SM): fine-grained sand, fine to coarse-grained gravel, tan to white, moist, dense, no cementation | | | | | | | | | | | Mostly smooth drilling, some chatter below 1.5 feet |
| 2790 | 5 | | Poorly graded GRAVEL with Sand (GP-GM): fine-grained gravel, tan to white, moist, dense, several large gravel pieces (possible cobbles) | | BC=16<br>43<br>43 | 10" | | | | | | | | |
| 2785 | 10 | | Poorly graded SAND with Gravel (SP-SM): fine-grained gravel, tan to white, moist, very dense, some silty sand, reduced gravel size | | BC=32<br>50/3" | 6" | | | | | | | | Slower drilling below 12 feet |
| 2780 | 15 | | - white below 15 feet | | BC=50/2" | 2" | | | | | | | | |
| 2775 | | | Silty Clayey GRAVEL with Sand (GC-GM): fine-grained, some coarse gravel, tan, light brown to gray, slightly moist, very dense, weakly cemented | | | | | | | | | | | Smooth drilling below 16.5 feet |
| 2770 | 20 | | - fine-grained gravel, coarse grained sand below 20 feet | | BC=50/2" | 2" | | | | | | | | |
| 2765 | 25 | | | | BC=50/1" | 1" | | | | | | | | Abundant chattering below 23 feet |
| 2760 | 30 | | Silty SAND with Gravel (SM): fine to coarse-grained sand, fine-grained gravel, white to tan, moist, very dense | | BC=50/2" | 2" | | | | | | | | Grinding below 30 feet<br>Reduced grinding below 31.5 feet |

| | | | |
|---|---|---|---|
| | PROJECT NO.: 20162633<br>DRAWN BY: CLW<br>CHECKED BY: DJS<br>DATE: 11/18/2015<br>REVISED: - | BORING LOG B-5<br>Kyle Canyon / US95 Interchange<br>Las Vegas, Clark County, Nevada | PLATE<br>A-7<br>PAGE: 1 of 2 |

gINT FILE: KE_gINT_master_2016
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PROFESSIONAL ENGINEER STATE OF NEVADA
JONATHAN E. LEHMAN-SVOBODA
Exp: 12/31/17
CIVIL
No. 18670
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# BORING LOGS

KLEINFELDER
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T: 702.736.2936 F: 702.361.9094

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2 | CLARK | BL105 |

PLOTTED: 12/07/2016 09:51 AM BY: mpalmer

Date Begin - End: 11/02/2015 | Drilling Company: Eagle Drilling | **BORING LOG B-5**

Logged By: J. Flannery | Drill Crew: Tom, Timothy

Hor.-Vert. Datum: Not Available | Drilling Equipment: Diedrich D-120 | Hammer Type - Drop: 140 lb. Auto - 30 in.

Plunge: -90 degrees | Drilling Method: Hollow Stem Auger

Weather: Clear, sunny | Exploration Diameter: 8.5 in. O.D.

FIELD EXPLORATION | LABORATORY RESULTS

Latitude: 36.32623° N
Longitude: -115.31194° W
Approximate Ground Surface Elevation (ft.): 2,793.00
Surface Condition: vegetation

| Approximate Elevation (feet) | Depth (feet) | Graphical Log | Lithologic Description | Sample Type | Blow Counts/BC]= Uncorr. Blows/6 in. | Recovery (NR=No Recovery) | USCS Symbol | Water Content (%) | Dry Unit Wt. (pcf) | Passing #4 (%) | Passing #200 (%) | Liquid Limit | Plasticity Index (NP=NonPlastic) | Additional Tests/ Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2755 | 40 | | Silty SAND with Gravel (SM): fine to coarse-grained sand, fine-grained gravel, white to tan, moist, very dense<br>- increased fine-grained gravel, increased moisture below 35 feet | | BC=50/2" | 2" | | | | | | | | Chatter and grinding below 36 feet |
| | | | | | BC=50/1" | NR | | | | | | | | |
| 2750 | 45 | | - tan, increased moisture, weak cementation below 45 feet | | BC=50/3" | 2" | | | | | | | | Slow drilling below 47 feet |
| 2745 | 50 | | | | BC=50/2" | 1" | | | | | | | | Smooth drilling below 50 feet |
| 2740 | 55 | | Silty Clayey GRAVEL with Sand (GC-GM): fine-grained, some coarse gravel, tan, light brown to gray, slightly moist, very dense, weakly cemented<br>- increased gravel, evidence of weak cementation below 55 feet | | BC=50/3" | 1" | | | | | | | | |
| 2735 | 60 | | - increased coarse-grained sand, increased fine-grained gravel, evidence of weak cementation below 60 feet | | BC=50/3" | 1" | | | | | | | | |
| 2730 | 65 | | The boring was terminated at approximately 60.5 ft. below ground surface. The boring was backfilled with auger cuttings on November 02, 2015. | | | | | | | | | | | |

GROUNDWATER LEVEL INFORMATION:
Groundwater was not encountered during drilling or after completion.
GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

| | | | |
|---|---|---|---|
| PROJECT NO.: 20162633 | BORING LOG B-5 | | PLATE |
| DRAWN BY: CLW | | | A-8 |
| CHECKED BY: DJS | Kyle Canyon / US95 Interchange<br>Las Vegas, Clark County, Nevada | | |
| DATE: 11/18/2015 | | | |
| REVISED: - | | | PAGE: 2 of 2 |

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PLOTTED: 12/07/2016 09:52 AM BY: mpalmer

Date Begin - End: 10/30/2015 | Drilling Company: Eagle Drilling | **BORING LOG B-6**

Logged By: J. Flannery | Drill Crew: Tom, Timothy

Hor.-Vert. Datum: Not Available | Drilling Equipment: Diedrich D-120 | Hammer Type - Drop: 140 lb. Auto - 30 in.

Plunge: -90 degrees | Drilling Method: Hollow Stem Auger

Weather: Clear, windy | Exploration Diameter: 8.5 in. O.D.

FIELD EXPLORATION | LABORATORY RESULTS

Latitude: 36.32670° N
Longitude: -115.31114° W
Approximate Ground Surface Elevation (ft.): 2,794.00
Surface Condition: vegetation

| Approximate Elevation (feet) | Depth (feet) | Graphical Log | Lithologic Description | Sample Type | Blow Counts/BC]= Uncorr. Blows/6 in. | Recovery (NR=No Recovery) | USCS Symbol | Water Content (%) | Dry Unit Wt. (pcf) | Passing #4 (%) | Passing #200 (%) | Liquid Limit | Plasticity Index (NP=NonPlastic) | Additional Tests/ Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2790 | | | Silty SAND with Gravel (SM): fine-grained sand, fine to coarse-grained gravel, tan to white, dry, dense, weak cementation | | | | | | | | | | | |
| 2785 | 5 | | Poorly graded GRAVEL with Sand (GP-GM): fine-grained sand and gravel, white, slightly moist, dense to very dense | | BC=33<br>39<br>50 | 13" | | | | | | | | Mostly smooth drilling below 5 feet |
| 2780 | 10 | | | | BC=50/3" | 3" | | | | | | | | |
| 2775 | 15 | | - less gravel, evidence of weak cementation below 15 feet | | BC=50/5" | 4" | | | | | | | | Grinding below 16 feet |
| 2770 | 20 | | Silty SAND with Gravel (SM): fine-grained sand and gravel, white, slightly moist, very dense | | BC=50/2" | 2" | | | | | | | | |
| 2765 | 25 | | | | BC=50/2" | 2" | | | | | | | | Slow drilling and grinding below 23 feet |
| 2760 | 30 | | Poorly graded GRAVEL with Clay and Sand (GP-GC): fine-grained sand, fine to coarse-grained gravel, white, dry, very dense, weak cementation | | BC=38<br>50/5" | 8" | | | | | | | | |

| | | | |
|---|---|---|---|
| PROJECT NO.: 20162633 | BORING LOG B-6 | | PLATE |
| DRAWN BY: CLW | | | A-9 |
| CHECKED BY: DJS | Kyle Canyon / US95 Interchange<br>Las Vegas, Clark County, Nevada | | |
| DATE: 11/18/2015 | | | |
| REVISED: - | | | PAGE: 1 of 2 |

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PROFESSIONAL ENGINEER · STATE OF NEVADA
JONATHAN E. LEHMAN-SVOBODA
Exp: 12/31/17
CIVIL
No. 18670
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# BORING LOGS

KLEINFELDER Bright People. Right Solutions.
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T: 702.736.2936 F: 702.361.9094

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2 | CLARK | BL106 |

PLOTTED: 12/07/2016 09:52 AM BY: mpalmer

Date Begin - End: 10/30/2015 | Drilling Company: Eagle Drilling | BORING LOG B-6

Logged By: J. Flannery | Drill Crew: Tom, Timothy

Hor.-Vert. Datum: Not Available | Drilling Equipment: Diedrich D-120 | Hammer Type - Drop: 140 lb. Auto - 30 in.

Plunge: -90 degrees | Drilling Method: Hollow Stem Auger

Weather: Clear, windy | Exploration Diameter: 8.5 in. O.D.

FIELD EXPLORATION

Latitude: 36.32670° N
Longitude: -115.31114° W
Approximate Ground Surface Elevation (ft.): 2,794.00
Surface Condition: vegetation

| Approx. Elevation (feet) | Depth (feet) | Graphical Log | Lithologic Description | Sample Type | Blow Counts/BC= Uncorr. Blows/6 in. | Recovery (NR=No Recovery) | USCS Symbol | Water Content (%) | Dry Unit Wt. (pcf) | Passing #4 (%) | Passing #200 (%) | Liquid Limit | Plasticity Index (NP=Non Plastic) | Additional Tests/ Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2755 | 40 | | Poorly graded GRAVEL with Clay and Sand (GP-GC): fine-grained sand, fine to coarse-grained gravel, white, dry, very dense, weak cementation<br>- medium to coarse-grained gravel, white to tan, slightly moist, evidence of weak cementation below 35 feet | | BC=16<br>39<br>26 | 10" | GP-GC | 1.6 | | 49 | 11 | 22 | 6 | |
| | | | - fine-grained gravel, increased tan, less white, moist below 40 feet | | BC=50/4" | 4" | | | | | | | | Chirping/scraping, very slow drilling below 40 feet |
| 2750 | 45 | | | | | | | | | | | | | |
| 2745 | 50 | | | | | | | | | | | | | |
| 2740 | 55 | | | | | | | | | | | | | |
| 2735 | 60 | | | | | | | | | | | | | |
| 2730 | 65 | | | | | | | | | | | | | |
| 2725 | | | | | | | | | | | | | | |

The boring was terminated because of practical auger refusal (ϟ) at approximately 42 ft. below ground surface. The boring was backfilled with auger cuttings on October 30, 2015.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not encountered during drilling or after completion.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

| PROJECT NO.: 20162633 | BORING LOG B-6 | PLATE |
|---|---|---|
| DRAWN BY: CLW | Kyle Canyon / US95 Interchange<br>Las Vegas, Clark County, Nevada | A-10 |
| CHECKED BY: DJS | | |
| DATE: 11/18/2015 | | PAGE: 2 of 2 |
| REVISED: - | | |

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PLOTTED: 12/07/2016 09:52 AM BY: mpalmer

Date Begin - End: 11/06/2015 | Drilling Company: Eagle Drilling | BORING LOG B-7

Logged By: J. Flannery | Drill Crew: Tom, Timothy

Hor.-Vert. Datum: Not Available | Drilling Equipment: Diedrich D-120 | Hammer Type - Drop: 140 lb. Auto - 30 in.

Plunge: -90 degrees | Drilling Method: Hollow Stem Auger

Weather: Clear, windy | Exploration Diameter: 8.5 in. O.D.

FIELD EXPLORATION

Latitude: 36.32623° N
Longitude: -115.31113° W
Approximate Ground Surface Elevation (ft.): 2,671.00
Surface Condition: vegetation

| Approx. Elevation (feet) | Depth (feet) | Graphical Log | Lithologic Description | Sample Type | Blow Counts/BC= Uncorr. Blows/6 in. | Recovery (NR=No Recovery) | USCS Symbol | Water Content (%) | Dry Unit Wt. (pcf) | Passing #4 (%) | Passing #200 (%) | Liquid Limit | Plasticity Index (NP=Non Plastic) | Additional Tests/ Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2670 | | | Poorly graded GRAVEL with Silty Sand (GP-GM): fine-grained sand, fine to coarse-grained gravel, light tan to white, slightly moist, very dense, no cementation | | | | | | | | | | | Smooth drilling below 1 foot |
| 2665 | 5 | | - very dense, less gravel, some rock pieces below 5 feet | | BC=50/5" | 5" | | | | | | | | Chatter below 4 feet |
| | | | | | | | | | | | | | | Decreased chatter below 7 feet |
| 2660 | 10 | | - medium to coarse grained gravel, no rock pieces below 10 feet | | BC=22<br>50/2" | 4" | | | | | | | | |
| 2655 | 15 | | - evidence of weak cementation below 15 feet | | BC=50/5" | 4" | | | | | | | | Some chatter below 16.5 feet |
| | | | | | | | | | | | | | | Decreased chatter below 19 feet |
| 2650 | 20 | | | | BC=50/2" | NR | | | | | | | | Increased chatter below 20 feet |
| 2645 | 25 | | - increased cementation below 25 feet | | BC=22<br>50/1" | 4" | | | | | | | | Decreased chatter below 25 feet |
| 2640 | 30 | | - fine to coarse-grained sand below 30 feet | | BC=50/5" | 4" | | | | | | | | |

| PROJECT NO.: 20162633 | BORING LOG B-7 | PLATE |
|---|---|---|
| DRAWN BY: CLW | Kyle Canyon / US95 Interchange<br>Las Vegas, Clark County, Nevada | A-11 |
| CHECKED BY: DJS | | |
| DATE: 11/18/2015 | | PAGE: 1 of 3 |
| REVISED: - | | |

gINT FILE: Klf_gint_master_2016
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2016.GLB [KLF_BORING/TEST PIT SOIL LOG]



PROFESSIONAL ENGINEER STATE OF NEVADA
JONATHAN E. LEHMAN-SVOBODA
Exp: 12/31/17
CIVIL
No. 18670
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# BORING LOGS

KLEINFELDER
Bright People. Right Solutions.
6380 S POLARIS AVENUE LAS VEGAS, NV 89118
T: 702.736.2936 F: 702.361.9094

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2 | CLARK | BL107 |

PLOTTED: 12/07/2016 09:52 AM BY: mpalmer

Date Begin - End: 11/06/2015 | Drilling Company: Eagle Drilling | BORING LOG B-7

Logged By: J. Flannery | Drill Crew: Tom, Timothy

Hor.-Vert. Datum: Not Available | Drilling Equipment: Diedrich D-120 | Hammer Type - Drop: 140 lb. Auto - 30 in.

Plunge: -90 degrees | Drilling Method: Hollow Stem Auger

Weather: Clear, windy | Exploration Diameter: 8.5 in. O.D.

FIELD EXPLORATION | LABORATORY RESULTS

Latitude: 36.32623° N
Longitude: -115.31113° W
Approximate Ground Surface Elevation (ft.): 2,671.00
Surface Condition: vegetation

| Approximate Elevation (feet) | Depth (feet) | Graphical Log | Lithologic Description | Sample Type | Blow Counts(BC)= Uncorr. Blows/6 in. | Recovery (NR=No Recovery) | USCS Symbol | Water Content (%) | Dry Unit Wt. (pcf) | Passing #4 (%) | Passing #200 (%) | Liquid Limit | Plasticity Index (NP=NonPlastic) | Additional Tests/ Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2635 | 0 | | Silty Clayey GRAVEL with Sand (GC-GM): fine-grained, some coarse gravel, tan, light brown to gray, slightly moist, very dense, weakly cemented | | BC=50/2" | 2" | | | | | | | | |
| 2630 | 40 | | - increased gravel below 40 feet | | BC=50/4" | 2" | | | | | | | | |
| 2625 | 45 | | - increased gravel, less evidence of cementation below 45 feet | | BC=15 50/3" | 4" | | | | | | | | |
| 2620 | 50 | | - some rock pieces, possible boulder below 50 feet | | BC=50/5" | 5" | | | | | | | | Some chatter below 51 feet |
| 2615 | 55 | | Clayey SAND with Gravel (SC): fine-grained sand, some fine to coarse-grained gravel, light tan with white, moist, very dense, evidence of weak cementation | | | | | | | | | | | |
| 2610 | 60 | | - increased evidence of weak cementation below 60 feet | | BC=50/5" | 4" | SC | 2.7 | | 63 | 24 | 29 | 14 | Decreased chatter below 62 feet |
| 2605 | 65 | | | | | | | | | | | | | |

| PROJECT NO.: | 20162633 | BORING LOG B-7 | PLATE |
|---|---|---|---|
| DRAWN BY: | CLW | | |
| CHECKED BY: | DJS | Kyle Canyon / US95 Interchange<br>Las Vegas, Clark County, Nevada | A-12 |
| DATE: | 11/18/2015 | | |
| REVISED: | - | | PAGE: 2 of 3 |

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PLOTTED: 12/07/2016 09:52 AM BY: mpalmer

Date Begin - End: 11/06/2015 | Drilling Company: Eagle Drilling | BORING LOG B-7

Logged By: J. Flannery | Drill Crew: Tom, Timothy

Hor.-Vert. Datum: Not Available | Drilling Equipment: Diedrich D-120 | Hammer Type - Drop: 140 lb. Auto - 30 in.

Plunge: -90 degrees | Drilling Method: Hollow Stem Auger

Weather: Clear, windy | Exploration Diameter: 8.5 in. O.D.

FIELD EXPLORATION | LABORATORY RESULTS

Latitude: 36.32623° N
Longitude: -115.31113° W
Approximate Ground Surface Elevation (ft.): 2,671.00
Surface Condition: vegetation

| Approximate Elevation (feet) | Depth (feet) | Graphical Log | Lithologic Description | Sample Type | Blow Counts(BC)= Uncorr. Blows/6 in. | Recovery (NR=No Recovery) | USCS Symbol | Water Content (%) | Dry Unit Wt. (pcf) | Passing #4 (%) | Passing #200 (%) | Liquid Limit | Plasticity Index (NP=NonPlastic) | Additional Tests/ Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2600 | 0 | | Clayey SAND with Gravel (SC): fine-grained sand, some fine to coarse-grained gravel, light tan with white, moist, very dense, evidence of weak cementation - some coarse-grained sand, reduced gravel size below 70 feet | | BC=50/5" | | | | | | | | | |
| 2595 | 75 | | | | | | | | | | | | | |
| 2590 | 80 | | - less gravel, less coarse-grained sand below 80 feet | | BC=50/3" | 2" | | | | | | | | |
| 2585 | 85 | | | | | | | | | | | | | |
| 2580 | 90 | | - moist, weak cementation below 90 feet | | BC=50/5" | 5" | | | | | | | | |
| 2575 | 95 | | | | | | | | | | | | | Slower drilling below 93 feet |
| 2570 | 100 | | | | BC=50/5" | 3" | | | | | | | | |

The boring was terminated at approximately 100.5 ft. below ground surface. The boring was backfilled with auger cuttings on November 06, 2015.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not encountered during drilling or after completion.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

| PROJECT NO.: | 20162633 | BORING LOG B-7 | PLATE |
|---|---|---|---|
| DRAWN BY: | CLW | | |
| CHECKED BY: | DJS | Kyle Canyon / US95 Interchange<br>Las Vegas, Clark County, Nevada | A-13 |
| DATE: | 11/18/2015 | | |
| REVISED: | - | | PAGE: 3 of 3 |

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gINT FILE: Kll_gint_master_2016
gINT TEMPLATE: EKLF_STANDARD_GINT_LIBRARY_2016.GLB [KLF_BORING/TEST PIT SOIL LOG]

PROFESSIONAL ENGINEER - STATE OF NEVADA
JONATHAN E. LEHMAN-SVOBODA
Exp: 12/31/17
CIVIL
No. 18670
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# BORING LOGS

KLEINFELDER
Bright People. Right Solutions.
6380 S POLARIS AVENUE LAS VEGAS, NV 89118
T: 702.736.2936 F: 702.361.9094

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2 | CLARK | BL108 |

PLOTTED: 12/07/2016 09:52 AM BY: mpalmer

Date Begin - End: 11/02/2015 | Drilling Company: Eagle Drilling | BORING LOG B-8

Logged By: J. Flannery | Drill Crew: Tom, Timothy

Hor.-Vert. Datum: Not Available | Drilling Equipment: Diedrich D-120 | Hammer Type - Drop: 140 lb. Auto - 30 in.

Plunge: -90 degrees | Drilling Method: Hollow Stem Auger

Weather: Clear, sunny | Exploration Diameter: 8.5 in. O.D.

FIELD EXPLORATION | LABORATORY RESULTS

Latitude: 36.32879° N
Longitude: -115.31146° W
Approximate Ground Surface Elevation (ft.): 2,774.00
Surface Condition: vegetation

| Approximate Elevation (feet) | Depth (feet) | Graphical Log | Lithologic Description | Sample Type | Blow Counts(BC)= Uncorr. Blows/6 in. | Recovery (NR=No Recovery) | USCS Symbol | Water Content (%) | Dry Unit Wt. (pcf) | Passing #4 (%) | Passing #200 (%) | Liquid Limit | Plasticity Index (NP=NonPlastic) | Additional Tests/ Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2770 | 0 | | Silty SAND with Gravel (SM): fine-grained sand, fine to coarse-grained gravel, light tan to white, dry, very dense, no cementation | | | | | | | | | | | Fairly smooth drilling below 2 feet |
| | 5 | | - fine-grained gravel, less light tan, more white, slightly moist, some evidence of weak cementation below 5 feet | | BC=50/2" | 1" | | | | | | | | |
| 2765 | | | | | | | | | | | | | | Some grinding below 8.5 feet |
| | 10 | | - some large gravel that appear to be part of a larger rock, powdery below 10 feet | | BC=50/5" | 2" | | | | | | | | Louder grinding below 11 feet |
| 2760 | | | | | | | | | | | | | | Reduced grinding below 14 feet |
| | 15 | | - decreased gravel, some cementation below 15 feet | | BC=50/2" | 2" | | | | | | | | |
| 2755 | | | | | | | | | | | | | | Chatter below 17 feet |
| | 20 | | - decreased gravel, no cementation below 20 feet | | BC=50/1" | 1" | | | | | | | | |
| 2750 | | | | | | | | | | | | | | Slower drilling below 23.5 feet |
| | 25 | | - some coarse-grained sand, some evidence of weak cementation | | BC=50/2" | 2" | | | | | | | | Chatter between 26 and 27 feet |
| 2745 | | | | | | | | | | | | | | |
| | 30 | | | | BC=50/2" | 2" | | | | | | | | Chatter below 30 feet |
| 2740 | | | | | | | | | | | | | | Slower drilling, chatter below 33 feet |

gINT FILE: Klf_gint_master_2016
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2016.GLB [KLF_BORING/TEST PIT SOIL LOG]

| PROJECT NO.: 20162633 | BORING LOG B-8 | PLATE |
|---|---|---|
| DRAWN BY: CLW | | |
| CHECKED BY: DJS | Kyle Canyon / US95 Interchange<br>Las Vegas, Clark County, Nevada | A-14 |
| DATE: 11/18/2015 | | |
| REVISED: - | | PAGE: 1 of 2 |

KLEINFELDER - 6380 S Polaris Avenue | Las Vegas, NV 89118 | PH: 702.736.2936 | FAX: 702.361.9094 | www.kleinfelder.com

PLOTTED: 12/07/2016 09:52 AM BY: mpalmer

Date Begin - End: 11/02/2015 | Drilling Company: Eagle Drilling | BORING LOG B-8

Logged By: J. Flannery | Drill Crew: Tom, Timothy

Hor.-Vert. Datum: Not Available | Drilling Equipment: Diedrich D-120 | Hammer Type - Drop: 140 lb. Auto - 30 in.

Plunge: -90 degrees | Drilling Method: Hollow Stem Auger

Weather: Clear, sunny | Exploration Diameter: 8.5 in. O.D.

FIELD EXPLORATION | LABORATORY RESULTS

Latitude: 36.32879° N
Longitude: -115.31146° W
Approximate Ground Surface Elevation (ft.): 2,774.00
Surface Condition: vegetation

| Approximate Elevation (feet) | Depth (feet) | Graphical Log | Lithologic Description | Sample Type | Blow Counts(BC)= Uncorr. Blows/6 in. | Recovery (NR=No Recovery) | USCS Symbol | Water Content (%) | Dry Unit Wt. (pcf) | Passing #4 (%) | Passing #200 (%) | Liquid Limit | Plasticity Index (NP=NonPlastic) | Additional Tests/ Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2735 | 40 | | Poorly graded GRAVEL with Silt and Sand (GP-GM): fine-grained sand and gravel, white with tan, slightly moist, evidence of weak to moderate cementation | | BC=50/2" | 2" | | | | | | | | Decreased chatter below 37 feet |
| 2730 | 45 | | | | | | | | | | | | | |
| 2725 | 50 | | | | | | | | | | | | | |
| 2720 | 55 | | | | | | | | | | | | | |
| 2715 | 60 | | | | | | | | | | | | | |
| 2710 | 65 | | | | | | | | | | | | | |
| 2705 | | | | | | | | | | | | | | |

The boring was terminated at approximately 40 ft. below ground surface. The boring was backfilled with auger cuttings on November 02, 2015.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not encountered during drilling or after completion.
GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

gINT FILE: Klf_gint_master_2016
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2016.GLB [KLF_BORING/TEST PIT SOIL LOG]

| PROJECT NO.: 20162633 | BORING LOG B-8 | PLATE |
|---|---|---|
| DRAWN BY: CLW | | |
| CHECKED BY: DJS | Kyle Canyon / US95 Interchange<br>Las Vegas, Clark County, Nevada | A-15 |
| DATE: 11/18/2015 | | |
| REVISED: - | | PAGE: 2 of 2 |

KLEINFELDER - 6380 S Polaris Avenue | Las Vegas, NV 89118 | PH: 702.736.2936 | FAX: 702.361.9094 | www.kleinfelder.com

PROFESSIONAL ENGINEER STATE OF NEVADA
JONATHAN E. LEHMAN-SVOBODA
Exp: 12/31/17
CIVIL
No. 18670
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# BORING LOGS

KLEINFELDER
Bright People. Right Solutions.

6380 S POLARIS AVENUE LAS VEGAS, NV 89118
T: 702.736.2936 F: 702.361.9094

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2 | CLARK | BL109 |

PLOTTED: 12/07/2016 09:53 AM BY: mpalmer

Date Begin - End: 10/29/2015 | Drilling Company: Eagle Drilling | BORING LOG B-9

Logged By: J. Flannery | Drill Crew: Tom, Timothy

Hor.-Vert. Datum: Not Available | Drilling Equipment: Diedrich D-120 | Hammer Type - Drop: 140 lb. Auto - 30 in.

Plunge: -90 degrees | Drilling Method: Hollow Stem Auger

Weather: Clear, windy | Exploration Diameter: 8.5 in. O.D.

FIELD EXPLORATION | LABORATORY RESULTS

Latitude: 36.32617° N
Longitude: -115.31071° W
Approximate Ground Surface Elevation (ft.): 2,785.00
Surface Condition: vegetation

| Approximate Elevation (feet) | Depth (feet) | Graphical Log | Lithologic Description | Sample Type | Blow Counts(BC)= Uncorr. Blows/6 in. | Recovery (NR=No Recovery) | USCS Symbol | Water Content (%) | Dry Unit Wt. (pcf) | Passing #4 (%) | Passing #200 (%) | Liquid Limit | Plasticity Index (NP=NonPlastic) | Additional Tests/ Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2780 | 5 | | Poorly graded GRAVEL with Silty Sand (GP-GM): fine-grained sand, coarse-grained gravel, tan, dry, very dense, no cementation | | | | | | | | | | | |
| | | | - light tan to white, dense below 3 feet | | BC=29<br>47<br>49 | 12" | | | | | | | | |
| | | | - white, weakly cemented below 7 feet | | BC=50/3" | 3" | | | | | | | | Smooth drilling, some chatter below 5 feet |
| 2775 | 10 | | Poorly graded SAND with Silt and Gravel (SP-SM): fine-grained sand, coarse-grained gravel, light chalky white, slightly moist, very dense | | BC=50/5" | 5" | | | | | | | | |
| 2770 | 15 | | Poorly graded GRAVEL with Silt and Sand (GP-GM): fine-grained sand, coarse-grained gravel, tan, dry, very dense, no cementation | | BC=50/3" | 3" | | | | | | | | |
| 2765 | 20 | | - increased gravel below 20 feet | | BC=50/2" | 2" | | | | | | | | Increased chatter below 21 feet |
| 2760 | 25 | | - some cementation on the gravel below 25 feet | | BC=50/2" | 2" | | | | | | | | Reduced chatter below 27 feet |
| 2755 | 30 | | Poorly graded SAND with Silt and Gravel (SP-SM): fine-grained sand, coarse-grained gravel, light chalky white, slightly moist, very dense, some cementation on gravel | | BC=50/3" | 3" | | | | | | | | |

PROJECT NO.: 20162633 | DRAWN BY: CLW | CHECKED BY: DJS | DATE: 11/18/2015 | REVISED: -

BORING LOG B-9

Kyle Canyon / US95 Interchange
Las Vegas, Clark County, Nevada

PLATE A-16

PAGE: 1 of 2

gINT FILE: KE_gINT_master_2016
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2016.GLB [KLF_BORING/TEST PIT SOIL LOG]

KLEINFELDER - 6380 S Polaris Avenue | Las Vegas, NV 89118 | PH: 702.736.2936 | FAX: 702.361.9094 | www.kleinfelder.com

PLOTTED: 12/07/2016 09:53 AM BY: mpalmer

Date Begin - End: 10/29/2015 | Drilling Company: Eagle Drilling | BORING LOG B-9

Logged By: J. Flannery | Drill Crew: Tom, Timothy

Hor.-Vert. Datum: Not Available | Drilling Equipment: Diedrich D-120 | Hammer Type - Drop: 140 lb. Auto - 30 in.

Plunge: -90 degrees | Drilling Method: Hollow Stem Auger

Weather: Clear, windy | Exploration Diameter: 8.5 in. O.D.

FIELD EXPLORATION | LABORATORY RESULTS

Latitude: 36.32617° N
Longitude: -115.31071° W
Approximate Ground Surface Elevation (ft.): 2,785.00
Surface Condition: vegetation

| Approximate Elevation (feet) | Depth (feet) | Graphical Log | Lithologic Description | Sample Type | Blow Counts(BC)= Uncorr. Blows/6 in. | Recovery (NR=No Recovery) | USCS Symbol | Water Content (%) | Dry Unit Wt. (pcf) | Passing #4 (%) | Passing #200 (%) | Liquid Limit | Plasticity Index (NP=NonPlastic) | Additional Tests/ Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2745 | 40 | | Poorly graded GRAVEL with Silty Sand (GP-GM): fine-grained sand, coarse-grained gravel, light chalky white, slightly moist, very dense, evidence of weak cementation | | BC=50/2" | 2" | | | | | | | | |
| | | | | | BC=50/3" | 2" | | | | | | | | Increased chatter below 42.5 feet |
| 2740 | 45 | | Silty SAND with Gravel (SM): fine-grained sand, coarse-grained gravel, light chalky white, slightly moist, very dense, evidence of weak cementation | | BC=50/2" | 2" | | | | | | | | Decreased chatter below 47 feet |
| 2735 | 50 | | Silty, Clayey GRAVEL with Sand (GC-GM): fine-grained sand, fine to coarse-grained gravel, light tan to white, slightly moist, very dense, evidence of weak cementation | | BC=42<br>50/4" | 7" | GC-GM | 1.8 | | 56 | 20 | 20 | 6 | Slower drilling below 49 feet |
| 2730 | 55 | | | | BC=50/2" | 2" | | | | | | | | |
| 2725 | 60 | | The boring was terminated at approximately 60.5 ft. below ground surface. The boring was backfilled with auger cuttings on October 29, 2015. | | BC=50/3" | 3" | | | | | | | | |
| 2720 | 65 | | | | | | | | | | | | | |

GROUNDWATER LEVEL INFORMATION:
Groundwater was not encountered during drilling or after completion.

GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

PROJECT NO.: 20162633 | DRAWN BY: CLW | CHECKED BY: DJS | DATE: 11/18/2015 | REVISED: -

BORING LOG B-9

Kyle Canyon / US95 Interchange
Las Vegas, Clark County, Nevada

PLATE A-17

PAGE: 2 of 2

gINT FILE: KE_gINT_master_2016
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2016.GLB [KLF_BORING/TEST PIT SOIL LOG]

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PROFESSIONAL ENGINEER STATE OF NEVADA
JONATHAN E. LEHMAN-SVOBODA
Exp: 12/31/17
CIVIL
No. 18670
7/3/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

US95/KYLE CANYON RD INTERCHANGE

# BORING LOGS

KLEINFELDER
Bright People. Right Solutions.
6380 S POLARIS AVENUE LAS VEGAS, NV 89118
T: 702.736.2936 F: 702.361.9094

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2 | CLARK | BL110 |

PLOTTED: 12/07/2016 09:53 AM BY: mpalmer

Date Begin - End: 11/03/2015 | Drilling Company: Eagle Drilling | **BORING LOG B-10**

Logged By: J. Flannery | Drill Crew: Tom, Timothy

Hor.-Vert. Datum: Not Available | Drilling Equipment: Diedrich D-120 | Hammer Type - Drop: 140 lb. Auto - 30 in.

Plunge: -90 degrees | Drilling Method: Hollow Stem Auger

Weather: Clear, sunny | Exploration Diameter: 8.5 in. O.D.

FIELD EXPLORATION

Latitude: 36.32549° N
Longitude: -115.31063° W
Approximate Ground Surface Elevation (ft.): 2,777.00
Surface Condition: no vegetation

LABORATORY RESULTS

| Approximate Elevation (feet) | Depth (feet) | Graphical Log | Lithologic Description | Sample Type | Blow Counts/BC=Uncorr. Blows/6 in. | Recovery (NR=No Recovery) | USCS Symbol | Water Content (%) | Dry Unit Wt. (pcf) | Passing #4 (%) | Passing #200 (%) | Liquid Limit | Plasticity Index (NP=NonPlastic) | Additional Tests/ Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2775 | | | Silty SAND with Gravel (SM): fine-grained sand, fine to coarse-grained gravel, white, dry, dense, no cementation | | | | | | | | | | | Chatter below 1 foot |
| | 5 | | | | | | | | | | | | | Decreased chatter below 4 feet |
| 2770 | | | Poorly graded SAND with Silt and Gravel (SP-SM): fine to coarse-grained sand and gravel, white, slightly moist, very dense, no cementation | | BC=50/3" | 3" | | | | | | | | |
| | 10 | | | | | | | | | | | | | |
| 2765 | | | Poorly graded GRAVEL with Silt and Sand (GP-GM): fine to coarse-grained sand and gravel, light tan to white, slightly moist, very dense, no cementation | | BC=50/4" | 4" | | | | | | | | |
| | 15 | | | | | | | | | | | | | |
| 2760 | | | | | BC=50/2" | 2" | | | | | | | | Chatter below 17 feet |
| | 20 | | | | | | | | | | | | | |
| 2755 | | | | | BC=50/3" | 3" | | | | | | | | |
| | 25 | | | | | | | | | | | | | |
| 2750 | | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | | |
| 2745 | | | | | | | | | | | | | | |

The boring was terminated at approximately 20 ft. below ground surface. The boring was backfilled with auger cuttings on November 03, 2015.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not encountered during drilling or after completion.
GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

gINT FILE: KJ_gint_master_2016
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2016.GLB [KLF_BORING/TEST PIT SOIL LOG]

| PROJECT NO.: 20162633 | BORING LOG B-10 | PLATE |
|---|---|---|
| DRAWN BY: CLW | Kyle Canyon / US95 Interchange<br>Las Vegas, Clark County, Nevada | A-18 |
| CHECKED BY: DJS | | |
| DATE: 11/18/2015 | | PAGE: 1 of 1 |
| REVISED: - | | |

KLEINFELDER - 6380 S Polaris Avenue | Las Vegas, NV 89118 | PH: 702.736.2936 | FAX: 702.361.9094 | www.kleinfelder.com

PLOTTED: 12/07/2016 09:53 AM BY: mpalmer

Date Begin - End: 10/29/2015 | Drilling Company: Eagle Drilling | **BORING LOG B-11**

Logged By: J. Flannery | Drill Crew: Tom, Timothy, Daruis

Hor.-Vert. Datum: Not Available | Drilling Equipment: Diedrich D-120 | Hammer Type - Drop: 140 lb. Auto - 30 in.

Plunge: -90 degrees | Drilling Method: Hollow Stem Auger

Weather: Partly Cloudy, windy | Exploration Diameter: 8.5 in. O.D.

FIELD EXPLORATION

Latitude: 36.32616° N
Longitude: -115.31073° W
Approximate Ground Surface Elevation (ft.): 2,749.00
Surface Condition: vegetation

LABORATORY RESULTS

| Approximate Elevation (feet) | Depth (feet) | Graphical Log | Lithologic Description | Sample Type | Blow Counts/BC=Uncorr. Blows/6 in. | Recovery (NR=No Recovery) | USCS Symbol | Water Content (%) | Dry Unit Wt. (pcf) | Passing #4 (%) | Passing #200 (%) | Liquid Limit | Plasticity Index (NP=NonPlastic) | Additional Tests/ Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2745 | | | Silty GRAVEL with Sand (GM): fine to coarse-grained sand and gravel, tan to white, slightly moist, very dense, weak cementation | | | | GM | 1.4 | | 41 | 22 | NP | NP | R-Value = 73<br>Sol = 0.19%<br>SO4 = <0.01%<br>Chatter and grinding below 1 foot |
| | 5 | | | | | | | | | | | | | Decreased noise below 5 feet |
| 2740 | | | Poorly graded GRAVEL with Silt and Sand (GP-GM): fine to coarse-grained sand and gravel, white to light gray, slightly moist, very dense, weakly to moderately cemented | | BC=35<br>50/5" | | | | | | | | | Chatter and grinding below 7 feet |
| | 10 | | | | BC=50/3" | | | | | | | | | |
| 2735 | | | | | | | | | | | | | | |
| | 15 | | | | | | | | | | | | | |
| 2730 | | | | | | | | | | | | | | |
| | 20 | | | | | | | | | | | | | |
| 2725 | | | | | | | | | | | | | | |
| | 25 | | | | | | | | | | | | | |
| 2720 | | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | | |
| 2715 | | | | | | | | | | | | | | |

The boring was terminated at approximately 10.5 ft. below ground surface. The boring was backfilled with auger cuttings on October 29, 2015.

GROUNDWATER LEVEL INFORMATION:
Groundwater was not encountered during drilling or after completion.
GENERAL NOTES:
The exploration location and elevation are approximate and were estimated by Kleinfelder.

gINT FILE: KJ_gint_master_2016
gINT TEMPLATE: E:\KLF_STANDARD_GINT_LIBRARY_2016.GLB [KLF_BORING/TEST PIT SOIL LOG]

| PROJECT NO.: 20162633 | BORING LOG B-11 | PLATE |
|---|---|---|
| DRAWN BY: CLW | Kyle Canyon / US95 Interchange<br>Las Vegas, Clark County, Nevada | A-19 |
| CHECKED BY: DJS | | |
| DATE: 11/18/2015 | | PAGE: 1 of 1 |
| REVISED: - | | |

KLEINFELDER - 6380 S Polaris Avenue | Las Vegas, NV 89118 | PH: 702.736.2936 | FAX: 702.361.9094 | www.kleinfelder.com

PROFESSIONAL ENGINEER STATE OF NEVADA
JONATHAN E. LEHMAN-SVOBODA
Exp: 12/31/17
CIVIL
No. 18670
7/7/17

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

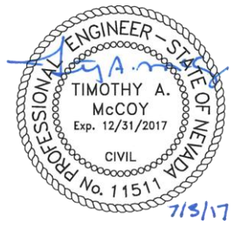
US95/KYLE CANYON RD INTERCHANGE

# BORING LOGS

KLEINFELDER
Bright People. Right Solutions.
6380 S POLARIS AVENUE LAS VEGAS, NV 89118
T: 702.736.2936 F: 702.361.9094

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | S101 |

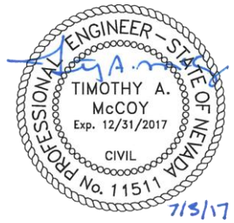
# ROADWAY STRUCTURE LIST




| DESCRIPTION | STATION TO STATION | 641 0140 IMPACT ATTENUATOR (65 MPH) EACH | 621 0100 PERPETUATE SURVEY MONUMENTS EACH | 613 1100 CLASS A CONCRETE SIDEWALK (4-INCH) SQYD | 613 0690 CLASS A CONCRETE CURB AND GUTTER (TYPE 5) LINFT | 613 0350 CLASS A CONCRETE GLUE DOWN CURB (TYPE A) LINFT | 613 0170 CLASS A CONCRETE CURB (TYPE 2) LINFT | 613 0130 DETECTABLE WARNINGS SQYD | 505 0100 REINFORCING STEEL POUND | 502 0730 CLASS A CONCRETE (ISLAND PAVING) CUYD | 502 0710 CLASS A CONCRETE (MAJOR) CUYD | 502 0170 CONCRETE BARRIER RAIL (TYPE FA) LINFT | 502 0160 CONCRETE BARRIER RAIL (TYPE A) LINFT | 402 0100 PLANTMIXING MISCELLANEOUS AREAS SQYD | 302 0130 TYPE 1 CLASS B AGGREGATE BASE TON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NOTE: ALL LOCATIONS ARE APPROXIMATE AND MAY BE ADJUSTED BY THE ENGINEER** | | | | | | | | | | | | | | | |
| PAVE MISC. AREA, 71.00' LT. | "XP" 404+22.37 | | | | | | | | | | | | | 66.67 | |
| | "XP" 405+22.37 | | | | | | | | | | | | | | |
| PAVE MISC. AREA, 71.00' RT. | "XP" 406+97.25 | | | | | | | | | | | | | 81.33 | |
| | "XP" 408+09.86 | | | | | | | | | | | | | | |
| INSTALL IMPACT ATTENUATOR, LT. | "KR1" 20+34.00 | 1 | | | | | | | | | | | | | |
| CONSTRUCT CONCRETE BARRIER RAIL (TYPE A), LT. | "KR1" 20+34.00 | | | | | | | | | | | | 144 | | |
| | "KR1" 21+78.00 | | | | | | | | | | | | | | |
| PAVE MISC. AREA, 8.00' LT. | "KR3" 31+88.60 | | | | | | | | | | | | | 25.89 | |
| | "KR3" 32+23.85 | | | | | | | | | | | | | | |
| CONSTRUCT CONCRETE BARRIER RAIL (TYPE A), LT. | "KR3" 35+50.00 | | | | | | | | | | | | 98 | | |
| | "KR3" 36+49.00 | | | | | | | | | | | | | | |
| CONSTRUCT CONCRETE BARRIER RAIL (TYPE A), RT. | "KR3" 35+50.00 | | | | | | | | | | | | 112 | | |
| | "KR3" 36+61.00 | | | | | | | | | | | | | | |
| INSTALL IMPACT ATTENUATOR, LT. | "KR3" 36+49.00 | 1 | | | | | | | | | | | | | |
| INSTALL IMPACT ATTENUATOR, RT. | "KR3" 36+61.00 | 1 | | | | | | | | | | | | | |
| INSTALL IMPACT ATTENUATOR, RT. | "KR1" 20+97.00 | 1 | | | | | | | | | | | | | |
| CONSTRUCT CONCRETE BARRIER RAIL (TYPE A), RT. | "KR1" 20+97.00 | | | | | | | | | | | | 81 | | |
| | "KR1" 21+78.00 | | | | | | | | | | | | | | |
| PAVE MISC. AREA, RT. | "KR1" 24+91.80 | | | | | | | | | | | | | 43.56 | |
| | "KR1" 25+71.92 | | | | | | | | | | | | | | |
| PAVE MISC. AREA, 71.00' LT. | "XP" 425+15.98 | | | | | | | | | | | | | 81.22 | |
| | "XP" 426+28.48 | | | | | | | | | | | | | | |
| PAVE MISC. AREA, 12.00' LT. | "KCW" 190+73.73 | | | | | | | | | | | | | 130.56 | |
| | "KCW" 192+60.02 | | | | | | | | | | | | | | |
| PAVE MISC. AREA, 12.00' LT. | "OS3" 431+65.47 | | | | | | | | | | | | | 25 | |
| | "OS3" 432+06.18 | | | | | | | | | | | | | | |
| PAVE MISC. AREA, 30.00' RT. | "KCW1" 10+40.04 | | | | | | | | | | | | | 28.33 | |
| | "KCW1" 10+74.20 | | | | | | | | | | | | | | |

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | S102 |

# ROADWAY STRUCTURE LIST




| 641 0140 | 621 0100 | 613 1100 | 613 0690 | 613 0350 | 613 0170 | 613 0130 | 505 0100 | 502 0730 | 502 0710 | 502 0170 | 502 0160 | 402 0100 | 302 0130 | DESCRIPTION | STATION TO STATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IMPACT ATTENUATOR (65 MPH) | PERPETUATE SURVEY MONUMENTS | CLASS A CONCRETE SIDEWALK (4-INCH) | CLASS A CONCRETE CURB AND GUTTER (TYPE 5) | CLASS A CONCRETE GLUE DOWN CURB (TYPE A) | CLASS A CONCRETE CURB (TYPE 2) | DETECTABLE WARNINGS | REINFORCING STEEL | CLASS A CONCRETE (ISLAND PAVING) | CLASS A CONCRETE (MAJOR) | CONCRETE BARRIER RAIL (TYPE FA) | CONCRETE BARRIER RAIL (TYPE A) | PLANTMIXING MISCELLANEOUS AREAS | TYPE 1 CLASS B AGGREGATE BASE | | |
| EACH | EACH | SQYD | LINFT | LINFT | LINFT | SQYD | POUND | CUYD | CUYD | LINFT | LINFT | SQYD | TON | | |
| | | 519.33 | | | | | | | | | | | 395 | CONSTRUCT 5.0' CONCRETE SIDEWALK, 40.00' RT. TO 29.23 LT. | "OS3" 430+21.14 |
| | | | | | | | | | | | | | | | "KCW1" 19+12.43 |
| | | | 1031 | | | | | | | | | | 127 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 39.50' RT. | "OS3" 430+21.14 |
| | | | | | | | | | | | | | | TO 23.50' LT. | "KR3A" 3+66.08 |
| | | | | | | 1.11 | | | | | | | | CONSTRUCT CONCRETE CURB RAMP (TYPE B), 41.15' LT. | "KCW1" 10+51.95 |
| | 1 | | | | | | | | | | | | | RECONSTRUCT NDOT MONUMENT TO GRADE, 38.17' LT. | "KCW1" 10+71.54 |
| | | | | | 965 | | | | | | | | 23 | CONSTRUCT CONCRETE CURB (TYPE 2), 34.00' RT. TO 15.00' RT. | "KCW1" 10+85.17 |
| | | | | | | | | | | | | | | | "KCW1" 20+50.23 |
| | | | | | | | | 9.62 | | | | | 5 | CONSTRUCT CONCRETE MEDIAN ISLAND PAVING, 38.00' RT. TO | "OS3" 428+11.87 |
| | | | | | | | | | | | | | | 36.50' RT. | "KCE1" 5+75.19 |
| | | | | 212 | | | | | | | | | | CONSTRUCT CONCRETE GLUE DOWN CURB (TYPE A), 38.00' RT. TO | "OS3" 428+11.87 |
| | | | | | | | | | | | | | | 36.50' RT. | "KCE1" 5+75.19 |
| | | | | | | 2.22 | | 1.91 | | | | | 4 | CONSTRUCT MEDIAN CROSSING (CUT THROUGH), 32.00' RT. | "KCE1" 5+54.06 |
| | | | | | | 2.22 | | 2.99 | | | | | 6 | CONSTRUCT MEDIAN CROSSING (CUT THROUGH), 38.00' RT. | "OS3" 428+53.87 |
| | | | | | | 2.22 | | | | | | | | CONSTRUCT MEDIAN CROSSING (CUT THROUGH), 61.73' RT. | "OS3" 428+48.66 |
| | | | | | | | | | | | | 31.56 | | PAVE. MISC. AREA, 12.00' RT. | "OS3" 425+62.77 |
| | | | | | | | | | | | | | | | "OS3" 426+20.55 |
| | | 293.44 | | | | | | | | | | | 229 | CONSTRUCT 5.0' CONCRETE SIDEWALK, 99.87' RT. TO 45.74' RT. | "OS3" 428+22.57 |
| | | | | | | | | | | | | | | | "KCE1" 11+23.60 |
| | | | 1000 | | | | | | | | | | 123 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 87.47' RT. | "OS3" 428+29.13 |
| | | | | | | | | | | | | | | TO 16.50' LT. | "KR4A" 7+49.37 |
| | | | | | 1016 | | | | | | | | 24 | CONSTRUCT CONCRETE CURB (TYPE 2), 12.00' LT. TO 15.00' LT. | "KCE1" 5+94.12 |
| | | | | | | | | | | | | | | | "KCE1" 16+13.19 |
| | | | | | | | | 7.21 | | | | | 7 | CONSTRUCT CONCRETE MEDIAN ISLAND PAVING, LT. | "KCE1" 5+91.79 |
| | | | | | | | | | | | | | | | "KCE1" 7+11.60 |
| | | | | | | 1.11 | | | | | | | | CONSTRUCT CONCRETE CURB RAMP (TYPE B), 91.17' RT. | "OS3" 428+36.21 |
| | | 545.89 | | | | | | | | | | | 274 | CONSTRUCT 10.0' CONCRETE SIDEWALK, 45.74' RT TO 17.00' LT | "KCE1" 11+23.60 |
| | | | | | | | | | | | | | | | "KR4A" 7+55.08 |

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | S103 |

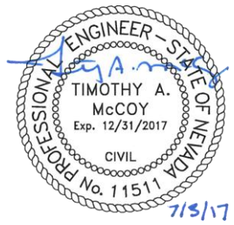
# ROADWAY STRUCTURE LIST

PROFESSIONAL ENGINEER – STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/3/17

| 641 0140 IMPACT ATTENUATOR (65 MPH) | 621 0100 PERPETUATE SURVEY MONUMENTS | 613 1100 CLASS A CONCRETE SIDEWALK (4-INCH) | 613 0690 CLASS A CONCRETE CURB AND GUTTER (TYPE 5) | 613 0350 CLASS A CONCRETE GLUE DOWN CURB (TYPE A) | 613 0170 CLASS A CONCRETE CURB (TYPE 2) | 613 0130 DETECTABLE WARNINGS | 505 0100 REINFORCING STEEL | 502 0730 CLASS A CONCRETE (ISLAND PAVING) | 502 0710 CLASS A CONCRETE (MAJOR) | 502 0170 CONCRETE BARRIER RAIL (TYPE FA) | 502 0160 CONCRETE BARRIER RAIL (TYPE A) | 402 0100 PLANTMIXING MISCELLANEOUS AREAS | 302 0130 TYPE 1 CLASS B AGGREGATE BASE | DESCRIPTION | STATION TO STATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EACH | EACH | SQYD | LINFT | LINFT | LINFT | SQYD | POUND | CUYD | CUYD | LINFT | LINFT | SQYD | TON | | |
| | | | | | | | 15150 | | 127.00 | | | | | CONSTRUCT CONCRETE RETAINING WALL, RT. | "KCE1" 11+52.79 |
| | | | | | | | | | | | | | | | "KCE1" 13+42.71 |
| | | 5.78 | | | | | | | | | | | 4 | CONSTRUCT SPECIAL BIKE RAMP, 37.50' RT. | "KCE" 11+17.34 |
| | | | | | | 2.22 | | | | | | | | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 5 | "KR3A" 3+44.17 |
| | | | | | | | | | | | | | | C&G), 23.85' LT. | |
| | | | | | | 2.22 | | | | | | | | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 5 | "KR3A" 3+47.91 |
| | | | | | | | | | | | | | | C&G), 5.50' RT. | |
| | | 108.11 | | | | | | | | | | | 23 | CONSTRUCT 10.0' CONCRETE SIDEWALK, 6.00' RT. TO 15.67' LT. | "KR3A" 3+52.88 |
| | | | | | | | | | | | | | | | "KCE1" 17+36.04 |
| | | | 272 | | | | | | | | | | 34 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 22.50' LT. | "KCW1" 20+89.72 |
| | | | | | | | | | | | | | | TO 9.50' LT. | "KR3" 30+83.76 |
| | | | | | 111.00 | | | | | | | | 3 | CONSTRUCT CONCRETE CURB (TYPE 2), 22.50' LT. TO 9.50' LT. | "KCW1" 20+89.72 |
| | | | | | | | | | | | | | | | "KR3" 30+83.76 |
| | | | 63.00 | | | | | | | | | | 8 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 22.50' RT. | "KCE1" 17+14.26 |
| | | | | | | | | | | | | | | | "KCE1" 17+81.37 |
| | | | | | | 2.22 | | | | | | | | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 2 | "KCE1" 17+31.27 |
| | | | | | | | | | | | | | | CURB), 15.00' LT. | |
| | | | | | | 2.22 | | | | | | | | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 5 | "KCE1" 17+40.26 |
| | | | | | | | | | | | | | | C&G), 22.50' RT. | |
| | | 825.56 | | | | | | | | | | | 174 | CONSTRUCT CONCRETE SIDEWALK, 23.00' RT. | "KCE1" 17+34.88 |
| | | | | | | | | | | | | | | | "KCE1" 23+47.19 |
| | | | | | | | | | | 339 | | | | CONSTRUCT CONCRETE BARRIER RAIL (TYPE FA), RT. | "KCE1" 17+81.37 |
| | | | | | | | | | | | | | | | "KCE1" 21+22.36 |
| | | | 420.00 | | | | | | | | | | 52 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 19.50' RT. | "KR3" 30+64.12 |
| | | | | | | | | | | | | | | TO 23.50' LT. | "KR2" 20+64.92 |
| | | | 239.00 | | | | | | | | | | 29 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 20.50' RT. | "KCE1" 21+22.36 |
| | | | | | | | | | | | | | | TO 22.50' RT. | "KCE1" 23+67.82 |
| | | | | | | | | | | | | 5.22 | | PAVE.MISC. AREA, 15.00' LT. | "KCE1" 22+51.16 |
| | | | | | | | | | | | | | | | "KCE1" 22+66.80 |
| | | | | | 588.00 | | | | | | | | 14 | CONSTRUCT CONCRETE CURB (TYPE 2), 15.00' LT. | "KCE1" 22+66.80 |
| | | | | | | | | | | | | | | | "KCE1" 22+66.80 |

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | S104 |

# ROADWAY STRUCTURE LIST




| 641 0140 | 621 0100 | 613 1100 | 613 0690 | 613 0350 | 613 0170 | 613 0130 | 505 0100 | 502 0730 | 502 0710 | 502 0170 | 502 0160 | 402 0100 | 302 0130 | DESCRIPTION | STATION TO STATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IMPACT ATTENUATOR (65 MPH) | PERPETUATE SURVEY MONUMENTS | CLASS A CONCRETE SIDEWALK (4-INCH) | CLASS A CONCRETE CURB AND GUTTER (TYPE 5) | CLASS A CONCRETE GLUE DOWN CURB (TYPE A) | CLASS A CONCRETE CURB (TYPE 2) | DETECTABLE WARNINGS | REINFORCING STEEL | CLASS A CONCRETE (ISLAND PAVING) | CLASS A CONCRETE (MAJOR) | CONCRETE BARRIER RAIL (TYPE FA) | CONCRETE BARRIER RAIL (TYPE A) | PLANTMIXING MISCELLANEOUS AREAS | TYPE 1 CLASS B AGGREGATE BASE | | |
| EACH | EACH | SQYD | LINFT | LINFT | LINFT | SQYD | POUND | CUYD | CUYD | LINFT | LINFT | SQYD | TON | | |
| | | | | | | 2.22 | | | | | | | | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 5 C&G), 22.50' RT. | "KCE1" 23+41.82 |
| | | | | | | 2.22 | | | | | | | | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 2 CURB), 15.00' LT. | "KCE1" 23+50.80 |
| | | 143.22 | | | | | | | | | | | 30 | CONSTRUCT 10.0' CONCRETE SIDEWALK, 15.67' LT. TO 4.67' LT. | "KCE1" 23+46.04<br>"KR2A" 3+42.25 |
| | | | 580.00 | | | | | | | | | | 71 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 23.50' RT. TO 19.50' LT. | "KR2A" 4+19.40<br>"KCW1" 34+25.25 |
| | | | | | | 2.22 | | | | | | | | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 2 CURB), 4.00' LT. | "KR2A" 3+47.21 |
| | | | | | | 2.22 | | | | | | | | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 5 C&G), 17.27' RT. | "KR2A" 3+41.34 |
| | | 404.00 | | | | | | | | | | | 203 | CONSTRUCT 10.0' CONCRETE SIDEWALK, 18.50' RT TO 27.57' LT | "KR2A" 3+46.34<br>"KCW1" 32+61.03 |
| | | | | | | | | | | | | 18.00 | | PAVE. MISC. AREA, 4.00' LT. | "KR2A" 2+64.42<br>"KR2A" 3+09.03 |
| | | | | | 529.00 | | | | | | | | 12 | CONSTRUCT CONCRETE CURB (TYPE 2), 16.50' RT. TO 22.00' LT. | "KCW1" 29+09.35<br>"KCE1" 29+93.90 |
| | | | 529.00 | | | | | | | | | | 65 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 23.50' RT. TO 19.50' RT. | "KR1A" 3+14.46<br>"KCE1" 29+93.90 |
| | | 108.11 | | | | | | | | | | | 56 | CONSTRUCT 10.0' CONCRETE SIDEWALK, 24.00' RT. TO 30.75' RT | "KR1A" 3+15.03<br>"KCE1" 25+72.76 |
| | | | | | | | | | | | 146.00 | | | CONSTRUCT CONCRETE BARRIER RAIL (TYPE A), LT. | "KCE1" 23+61.57<br>"KCW1" 29+55.09 |
| | | 5.67 | | | | | | | | | | | 4 | CONSTRUCT SPECIAL BIKE RAMP, 21.00' RT. | "KCE1" 25+81.25 |
| | | 209.67 | | | | | | | | | | | 173 | CONSTRUCT 5.0' CONCRETE SIDEWALK, 30.75' RT. TO 20.00' RT | "KCE1" 25+72.76<br>"KCE1" 29+54.80 |
| | | | | | | | | | | | | 25.89 | | PAVE. MISC. AREA, 4.00' RT. | "KR4A" 7+94.65<br>"KR4A" 8+47.38 |

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | S105 |

# ROADWAY STRUCTURE LIST

PROFESSIONAL ENGINEER – STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/3/17

| 641 0140 IMPACT ATTENUATOR (65 MPH) | 621 0100 PERPETUATE SURVEY MONUMENTS | 613 1100 CLASS A CONCRETE SIDEWALK (4-INCH) | 613 0690 CLASS A CONCRETE CURB AND GUTTER (TYPE 5) | 613 0350 CLASS A CONCRETE GLUE DOWN CURB (TYPE A) | 613 0170 CLASS A CONCRETE CURB (TYPE 2) | 613 0130 DETECTABLE WARNINGS | 505 0100 REINFORCING STEEL | 502 0730 CLASS A CONCRETE (ISLAND PAVING) | 502 0710 CLASS A CONCRETE (MAJOR) | 502 0170 CONCRETE BARRIER RAIL (TYPE FA) | 502 0160 CONCRETE BARRIER RAIL (TYPE A) | 402 0100 PLANTMIXING MISCELLANEOUS AREAS | 302 0130 TYPE 1 CLASS B AGGREGATE BASE | DESCRIPTION | STATION TO STATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EACH | EACH | SQYD | LINFT | LINFT | LINFT | SQYD | POUND | CUYD | CUYD | LINFT | LINFT | SQYD | TON | | |
| | | | | | 600.00 | | | | | | | | 14 | CONSTRUCT CONCRETE CURB (TYPE 2), 22.50' RT. TO 16.50' RT. | "KCE1" 15+19.62 |
| | | | | | | | | | | | | | | | "KCW1" 22+82.69 |
| | | | 325.00 | | | | | | | | | | 40 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 22.50' RT. | "KCE1" 15+19.62 |
| | | | | | | | | | | | | | | TO 16.50' RT. | "KCW1" 22+82.69 |
| | | | | | | 2.22 | | | | | | | | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 5 C&G), 16.50' LT. | "KR4A" 7+60.12 |
| | | | | | | 2.22 | | | | | | | | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 2 CURB), 4.00' RT. | "KR4A" 7+54.63 |
| | | 192.22 | | | | | | | | | | | 41 | CONSTRUCT 10.0' CONCRETE SIDEWALK, 4.67' RT. TO 17.00' RT. | "KR4A" 7+59.63 |
| | | | | | | | | | | | | | | | "KCW1" 21+72.85 |
| | | | | | 241.00 | | | | | | | | 6 | CONSTRUCT CONCRETE CURB (TYPE 2), 22.50' RT. TO 19.00' LT. | "KCE1" 17+14.26 |
| | | | | | | | | | | | | | | | "KCW1" 23+96.20 |
| | | | | | | 2.22 | | | | | | | | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 5 C&G), 16.50' RT. | "KCW1" 21+68.06 |
| | | | | | | 2.22 | | | | | | | | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 2 CURB), 21.00' LT. | "KCW1" 21+77.01 |
| | | | 375.00 | | | | | | | | | | 46 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 23.50' RT. | "KR4" 57+13.70 |
| | | | | | | | | | | | | | | TO 19.50' LT. | "KR4" 54+13.00 |
| | | | | | | | | | | 303 | | | | CONSTRUCT CONCRETE BARRIER RAIL (TYPE FA), LT. | "KCW1" 23+96.20 |
| | | | | | | | | | | | | | | | "KCW1" 26+99.45 |
| | | | | | 101.00 | | | | | | | | 2 | CONSTRUCT CONCRETE CURB (TYPE 2), 21.00' LT. TO 22.50' RT. | "KCW1" 26+99.45 |
| | | | | | | | | | | | | | | | "KCE1" 23+67.82 |
| | | | 129.00 | | | | | | | | | | 16 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 19.50' RT. | "KCW1" 27+63.98 |
| | | | | | | | | | | | | | | TO 22.50' RT. | "KCE1" 24+68.55 |
| | | | | | 237.00 | | | | | | | | 6 | CONSTRUCT CONCRETE CURB (TYPE 2), 19.50' RT. TO 22.50' RT. | "KCW1" 27+63.98 |
| | | | | | | | | | | | | | | | "KCE1" 24+68.55 |
| | | | | | | 2.22 | | | | | | | | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 2 CURB), 21.00' LT. | "KCW1" 27+78.04 |
| | | | | | | 2.22 | | | | | | | | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 5 C&G), 18.49' RT. | "KCW1" 27+87.41 |

| STATE | PROJECT NO. | COUNTY | SHEET NO. |
|---|---|---|---|
| NEVADA | NHP-STP-095-2(062) | CLARK | S106 |

# ROADWAY STRUCTURE LIST

PROFESSIONAL ENGINEER – STATE OF NEVADA
TIMOTHY A. McCOY
Exp. 12/31/2017
CIVIL
No. 11511
7/3/17

| 641 0140 | 621 0100 | 613 1100 | 613 0690 | 613 0350 | 613 0170 | 613 0130 | 505 0100 | 502 0730 | 502 0710 | 502 0170 | 502 0160 | 402 0100 | 302 0130 | DESCRIPTION | STATION TO STATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IMPACT ATTENUATOR (65 MPH) | PERPETUATE SURVEY MONUMENTS | CLASS A CONCRETE SIDEWALK (4-INCH) | CLASS A CONCRETE CURB AND GUTTER (TYPE 5) | CLASS A CONCRETE GLUE DOWN CURB (TYPE A) | CLASS A CONCRETE CURB (TYPE 2) | DETECTABLE WARNINGS | REINFORCING STEEL | CLASS A CONCRETE (ISLAND PAVING) | CLASS A CONCRETE (MAJOR) | CONCRETE BARRIER RAIL (TYPE FA) | CONCRETE BARRIER RAIL (TYPE A) | PLANTMIXING MISCELLANEOUS AREAS | TYPE 1 CLASS B AGGREGATE BASE | | |
| EACH | EACH | SQYD | LINFT | LINFT | LINFT | SQYD | POUND | CUYD | CUYD | LINFT | LINFT | SQYD | TON | | |
| | | 101.11 | | | | | | | | | | | 21 | CONSTRUCT 10.0' CONCRETE SIDEWALK, 19.20' RT. TO 4.67' LT. | "KCW1" 27+82.70 |
| | | | | | | | | | | | | | | | "KR1A" 3+08.06 |
| | | | | | | 2.22 | | | | | | | | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 2 CURB), 4.00' LT. | "KR1A" 3+13.22 |
| | | | | | | 2.22 | | | | | | | | CONSTRUCT CONCRETE CURB RAMP (SPECIAL TYPE B W/ TYPE 5 C&G), 23.50' RT. | "KR1A" 3+20.77 |
| | | | 49.00 | | | | | | | | | | 6 | CONSTRUCT CONCRETE CURB AND GUTTER (TYPE 5), 16.50' RT. | "KCW1" 29+09.35 |
| | | | | | | | | | | | | | | | "KCW1" 29+60.00 |
| | | | | | 482.00 | | | | | | | | 11 | CONSTRUCT CONCRETE CURB (TYPE 2), 16.50' RT. TO 20.22' RT. | "KCW1" 29+60.00 |
| | | | | | | | | | | | | | | | "KCW1" 34+44.12 |
| | | | | | | | | | | | 197.00 | | | CONSTRUCT CONCRETE BARRIER RAIL (TYPE A), RT. | "KCE1" 15+19.62 |
| | | | | | | | | | | | | | | | "KCW1" 21+61.13 |
| | | 5.56 | | | | | | | | | | | 4 | CONSTRUCT SPECIAL BIKE RAMP, 19.63' LT. | "KCW1" 19+03.98 |
| | | 116.00 | | | | | | | | | | | 61 | CONSTRUCT 10.0' CONCRETE SIDEWALK, 29.23' LT. TO 24.00' LT. | "KCW1" 19+12.43 |
| | | | | | | | | | | | | | | | "KR3A" 3+49.72 |
| | | 77.33 | | | | | | | | | | | 61 | CONSTRUCT 5.0' CONCRETE SIDEWALK, 27.57' LT. TO 20.00' LT. | "KCW1" 32+61.03 |
| | | | | | | | | | | | | | | | "KCW1" 34+00.00 |
| | | | | | | | | | | | | 78.89 | | PAVE. MISC. AREA, 18.00 LT. | "KCW1" 34+25.25 |
| | | | | | | | | | | | | | | | "KCW1" 34+74.10 |
| | | 5.67 | | | | | | | | | | | 4 | CONSTRUCT SPECIAL BIKE RAMP, 19.50' LT. | "KCW1" 32+67.04 |
| | | | | | | | | | | | | 20.67 | | PAVE. MISC. AREA, 18.00 LT. | "KCE1" 29+93.90 |
| | | | | | | | | | | | | | | | "KCE1" 30+24.79 |
| | | | | | | | | | | | | 108.78 | | PAVE. MISC. AREA | "SP3" 410+56.33 |
| | | | | | | | | | | | | | | | "SP3" 411+92.71 |
| 4 | 1 | 3666.67 | 5012.00 | 212.00 | 4870.00 | 44.40 | 15150.00 | 21.73 | 127.00 | 642.00 | 778.00 | 771.57 | 2511 | TOTAL | |
| 4 | 1 | 3670 | 5020 | 220 | 4870 | 50 | 15150 | 30 | 130 | 650 | 780 | 780 | 2520 | USE TOTAL | |

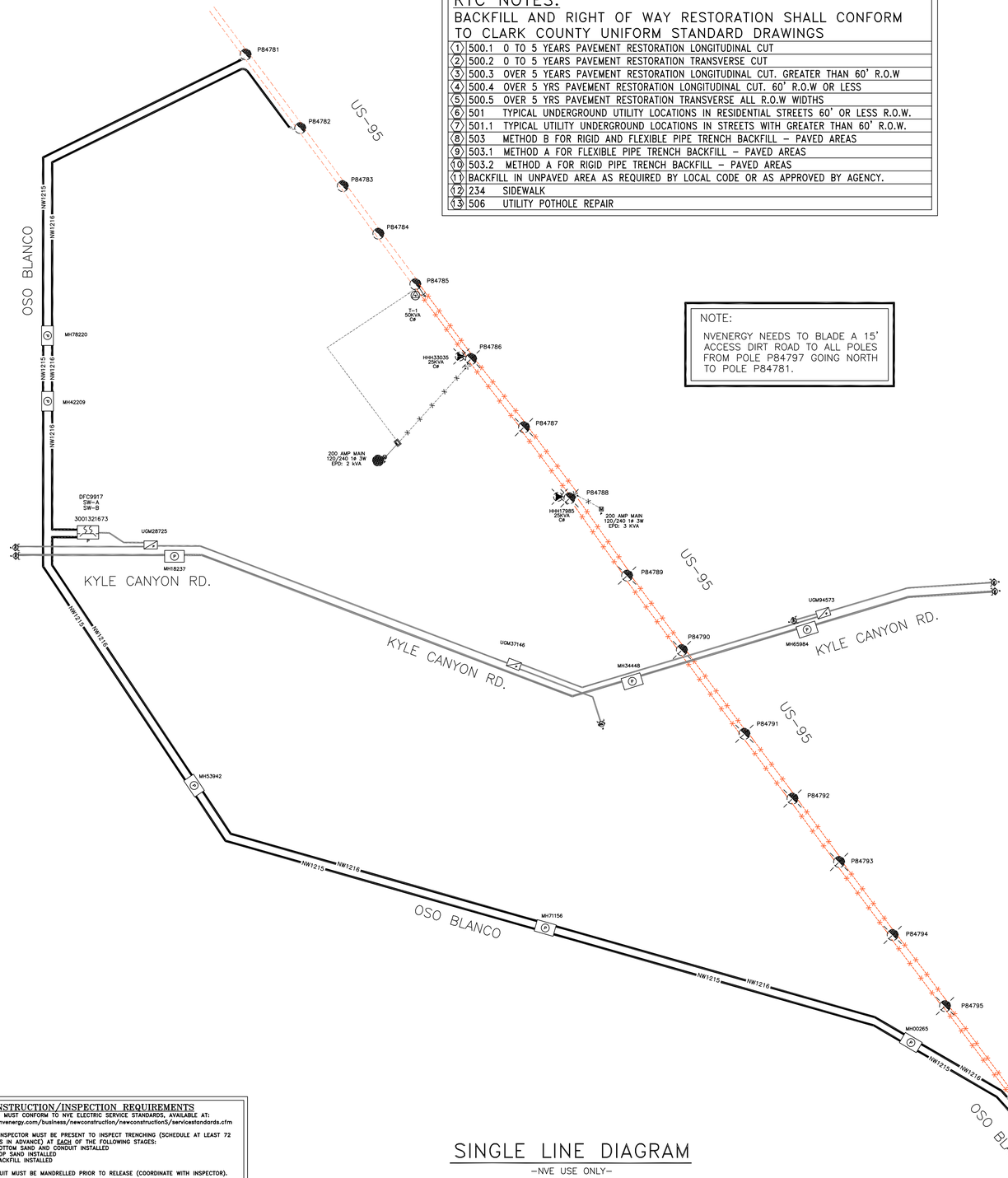
## RTC NOTES:

BACKFILL AND RIGHT OF WAY RESTORATION SHALL CONFORM TO CLARK COUNTY UNIFORM STANDARD DRAWINGS

| | | |
|---|---|---|
| (1) | 500.1 | 0 TO 5 YEARS PAVEMENT RESTORATION LONGITUDINAL CUT |
| (2) | 500.2 | 0 TO 5 YEARS PAVEMENT RESTORATION TRANSVERSE CUT |
| (3) | 500.3 | OVER 5 YEARS PAVEMENT RESTORATION LONGITUDINAL CUT. GREATER THAN 60' R.O.W |
| (4) | 500.4 | OVER 5 YRS PAVEMENT RESTORATION LONGITUDINAL CUT. 60' R.O.W OR LESS |
| (5) | 500.5 | OVER 5 YRS PAVEMENT RESTORATION TRANSVERSE ALL R.O.W WIDTHS |
| (6) | 501 | TYPICAL UNDERGROUND UTILITY LOCATIONS IN RESIDENTIAL STREETS 60' OR LESS R.O.W. |
| (7) | 501.1 | TYPICAL UTILITY UNDERGROUND LOCATIONS IN STREETS WITH GREATER THAN 60' R.O.W. |
| (8) | 503 | METHOD B FOR RIGID AND FLEXIBLE PIPE TRENCH BACKFILL – PAVED AREAS |
| (9) | 503.1 | METHOD A FOR FLEXIBLE PIPE TRENCH BACKFILL – PAVED AREAS |
| (10) | 503.2 | METHOD A FOR RIGID PIPE TRENCH BACKFILL – PAVED AREAS |
| (11) | | BACKFILL IN UNPAVED AREA AS REQUIRED BY LOCAL CODE OR AS APPROVED BY AGENCY. |
| (12) | 234 | SIDEWALK |
| (13) | 506 | UTILITY POTHOLE REPAIR |

NOTE:

NVENERGY NEEDS TO BLADE A 15' ACCESS DIRT ROAD TO ALL POLES FROM POLE P84797 GOING NORTH TO POLE P84781.




## SINGLE LINE DIAGRAM

–NVE USE ONLY–

### CONSTRUCTION/INSPECTION REQUIREMENTS

WORK MUST CONFORM TO NVE ELECTRIC SERVICE STANDARDS, AVAILABLE AT: www.nvenergy.com/business/newconstruction/newconstructionS/servicestandards.cfm

NVE INSPECTOR MUST BE PRESENT TO INSPECT TRENCHING (SCHEDULE AT LEAST 72 HOURS IN ADVANCE) AT EACH OF THE FOLLOWING STAGES:
1. BOTTOM SAND AND CONDUIT INSTALLED
2. TOP SAND INSTALLED
3. BACKFILL INSTALLED

CONDUIT MUST BE MANDRELLED PRIOR TO RELEASE (COORDINATE WITH INSPECTOR).

NVE STAND BY CREW IS REQUIRED WHEN WORKING AT AN ENERGIZED VAULT OR TRANSFORMER. CALL STAND BY NUMBER (SEE TITLE BLOCK) TO SCHEDULE.

NVE ELECTRICAL INSTALLATION WILL NOT BE SCHEDULED UNTIL AFTER THE NVE INSPECTOR HAS COMPLETED THE OFFICIAL RELEASE.

METER(S) WILL NOT BE SET UNTIL ALL OF THE FOLLOWING ARE COMPLETE:
- [INSTRUMENT-RATED ONLY] METERING EQUIPMENT HAS BEEN SUBMITTED TO NVE METERING ENGINEER AND APPROVED. (submittals_southern@nvenergy.com)
- APPLICATION FOR METER SET HAS BEEN SUBMITTED TO NVE'S NEW DEVELOPMENT CENTER. FORM AVAILABLE AT: www.nvenergy.com/brochures_arch/new_construction/meter_set.pdf
- THE LOCAL BUILDING AUTHORITY HAS INSPECTED AND APPROVED THE METERING EQUIPMENT.
- METERING EQUIPMENT IS ACCESSIBLE AND CLEARLY IDENTIFIED WITH PERMANENT MARKINGS. ADDRESSES, SUITE NUMBERS, AND STREET SIGNS ARE POSTED IN PERMANENT LOCATIONS (SEE RPI-6).

TRACK PROJECT STATUS ONLINE WITH NVE'S DEVELOPER DASHBOARD: www.nvenergy.com/business/newconstruction/newconstructionS/developerdashboard.cfm

### NV ENERGY SCHEDULING NOTE: DAY (LANE BLOCKS)

THIS PROJECT WAS ESTIMATED WITH THE ASSUMPTION THAT ALL THE WORK BEING PERFORMED ON THIS PROJECT BY NV ENERGY CREWS CAN BE DONE DURING THE DAYTIME AND WILL REQUIRE TRAFFIC CONTROL.

GOVERNMENT APPROVAL OF THESE DRAWINGS DOES NOT INDICATE APPROVAL OF TRAFFIC CONTROL. PLEASE REFER TO THE BARRICADE PLAN FOR APPROVED TRAFFIC CONTROL REQUIREMENTS.

*T,R,S:* 1960-06

*APN:*

### GENERAL NOTES:

ANY NOTES LOCATED IN DRAWING AREA TAKE PRECEDENCE OVER STANDARD NOTES.

ALL WORK SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH THE SPECIFICATIONS SET FORTH IN THE ELECTRIC SERVICE REQUIREMENTS HANDBOOK, AS CURRENTLY ADOPTED BY NVE. THE CONTRACTOR SHALL SECURE COPIES OF THE AFOREMENTIONED CONSTRUCTION SPECIFICATIONS ON HIS OR HER OWN BEHALF.

REFER TO A CURRENT NV ENERGY ELECTRIC SERVICE REQUIREMENTS HANDBOOK FOR FURTHER CLARIFICATION OF NVE STANDARDS.

THE APPLICANT SHALL INFORM THE INSPECTOR AT LEAST 48 HOURS BEFORE COMMENCING ANY ITEM OF CONSTRUCTION OR INSTALLATION OF MATERIAL TO ENABLE PROPER INSPECTION OF MATERIALS AND WORKMANSHIP. MAIN TRENCH WIRE PULLS TO BE SCHEDULED 72 HOURS IN ADVANCE OF INSTALLATION. APPLICANT'S PROJECT WILL NOT BE SCHEDULED UNTIL FINAL APPROVAL FROM NVE UNDERGROUND & ELECTRICAL INSPECTORS.

SYMBOLS ARE NOT TO SCALE AND DO NOT NECESSARILY REPRESENT ACTUAL LOCATIONS OF FACILITIES.

THIS DRAWING ILLUSTRATES DATA COLLECTED FROM VARIOUS SOURCES AND MAY NOT REPRESENT A SURVEY OF THE PREMISES.

APPLICANT SHALL FIELD DETERMINE POSITION AND DEPTH OF EXISTING UTILITY EQUIPMENT PRIOR TO COMMENCING CONSTRUCTION.

USE CAUTION PRIOR TO EXCAVATION. CHECK TO ENSURE ADDITIONAL DEPTH IS NOT REQUIRED TO ACCOMMODATE GAS AND/OR WATER FACILITIES AND DRAINAGE CHANNELS.

CALL NV ENERGY UNDERGROUND INSPECTORS 48 HOURS PRIOR TO START OF CONSTRUCTION FOR TRENCH INSPECTION BEFORE COVERING TRENCH.

ALL NVE CABLE TO BE INSTALLED BEHIND CURB, UNLESS OTHERWISE STATED.

APPLICANT IS RESPONSIBLE FOR STAKING OF PROPERTY CORNERS & ELEVATIONS.

ALL HANDHOLES AND PULLBOXES SHALL BE INSTALLED TO FINISHED GRADE OR 6" ABOVE IF GRADE IS NOT ESTABLISHED.

WHEN INSTALLING CONDUIT IN FIELD, USE APPROPRIATE BENDS TO COMPLETE THE INSTALLATION.

DEFLECTION OF CONDUIT BENDS AND CONDUIT NOT TO EXCEED NVE STANDARDS.

EXISTING CONDUIT INSTALLED BY PREVIOUS CONTRACTOR / DEVELOPER. NVE DOES NOT GUARANTEE LOCATION, LENGTH, OR ACCESSIBILITY OF STUB OUT. IF UTILIZING ANY PORTION OF EXISTING CONDUIT, IT MUST BE MANDRELLED PRIOR TO FINAL RELEASE.

PREVIOUSLY MANDRELLED CONDUIT WHICH HAS BEEN IN THE GROUND FOR OVER 6 MONTHS MUST BE RE-MANDRELLED PRIOR TO FINAL RELEASE.

WHEN NV ENERGY FACILITIES ARE TO BE REMOVED NV ENERGY WILL REMOVE ALL WIRES AND EQUIPMENT. NV ENERGY IS NOT RESPONSIBLE FOR THE REMOVAL OF CONDUIT RUNS OR SUBSTRUCTURES FROM THE PROPERTY.

NO COVERED PARKING IN FRONT OF EQUIPMENT.

ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA", LATEST ISSUE; THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA NEVADA", LATEST ISSUE; AND OTHER APPLICABLE APPROVED STANDARDS ISSUED BY THE CONTROLLING AGENCY; ALL LOCAL CITY CODES AND ORDINANCES APPLICABLE.

### CIVIL LINETYPE LEGEND

CENTERLINE
PROPERTY LINE/ROW
CURB
EDGE OF PAVEMENT
EDGE OF SIDEWALK
SEWER LINE
WATER LINE
COHW WATER LINE
LVVWD WATER LINE
SNWA WATER LINE
GAS LINE
TELEPHONE LINE
CABLE TV LINE
CABLE TV LINE
STORM DRAIN LINE
FIRE HYDRANT
SERVICE INDICATOR
SIGNAL LIGHT
STREET LIGHT

## FEEDER

EXIST. NEW REM

### NVE WORK AND SERVICES TO CONSIST OF:

- 1000 MCM TRIPLEX, 15 KV AL PRIMARY CABLE IN 6" PLASTIC CONDUIT.
- 1/0 TRIPLEX, 15 KV AL PRIMARY CABLE IN 4" PLASTIC CONDUIT (CONDUIT BY CONTRACTOR).
- 1/0, 15 KV AL PRIMARY CABLE IN 2" PLASTIC CONDUIT (CONDUIT BY CONTRACTOR).
- CONDUIT LOCATING DEVICE 18" ABOVE STUBOUT.
- 600 AMP THREE PHASE, 12.47 KV PRIMARY POLE RISER PER NVE U.G. STD. OEP-101.
- SWITCHES (FC-9, FC-10, FC-11, FC-12).
- 1200KVAR CAPACITOR BANK PER NVE U.G. STD. UC-101.
- TERMINATION OF ALL MODULES, MAKES, SPLICES AND FINAL CONNECTIONS.
- PULLING OF CONDUCTOR IS CALCULATED DIRECTIONALLY. CREWS ARE TO ADHERE TO DIRECTION OF PULL WHERE APPLICABLE.
- NVE TO COIL PRIMARY CABLE IN MANHOLE FOR FUTURE SPLICES, WHERE APPLICABLE.

INSTALL ONLY

- INSTALL NEW CABLE IN EXISTING VACANT CONDUIT.

EXIST. NEW REM

### APPLICANT TO FURNISH AND INSTALL:

- ALL TRENCHING & BACKFILL, MEETING APPLICABLE NVE STANDARD (RT-5, RT-7, OR RT-12).
- 6" PLASTIC CONDUIT, PER NVE U.G. STD. RC-1 AND RC-2.
- 6" RGS BENDS (90°, 45°) WITH 48" MIN. RADIUS, TAPED OR PVC COATED.
- AN APPROVED POLYSTER PULL TAPE OF 2500 LBS OF PULL STRENGTH FOR 6" CONDUIT SHALL BE INSTALLED IN EACH COMPLETE CONDUIT RUN.
- 4" PLASTIC CONDUIT, PER NVE U.G. STD. RC-1 AND RC-2.
- 4" PLASTIC CONDUIT BENDS (90°, 45°) WITH 36" MIN. RADIUS. (IF CONDUIT LENGTH IS UNDER 100')
- 4" RGS BENDS (90°, 45°) WITH 36" MINIMUM RADIUS, TAPED OR PVC COATED. (IF CONDUIT LENGTH IS OVER 100')
- 5' X 10'-6" X 7' MANHOLE, PER NVE U.G. STD. RS-94.
- 5' X 10'-6" X 7' MANHOLE FOR SWITCH, PER NVE U.G. STD. RS-98, RS-99, RS-100, OR RS-101.
- 3' X 7' X 4' PULLBOX PER NVE U.G. STD. RS-82.
- VEHICLE PROTECTIVE BARRIERS PER NVE U.G. STD. RS-6, WHERE APPLICABLE.
- COUPLING FOR 2", 4", OR 6" CONDUITS (AS APPLICABLE).

### NVE OVERHEAD SYMBOLS

EXIST. NEW

- SOLE USE WOOD POLE
- JOINT USE WOOD POLE
- SOLE USE STEEL POLE
- JOINT USE STEEL POLE
- GUY POLE.
- GUY
- TAP
- SWITCH
- FUSE
- DOUBLE DEAD END
- INSOLATOR
- CAPACITOR BANK
- REGULATOR
- RECLOSER
- FAULT INDICATOR
- SINGLE PHASE TRANSFORMER
- PAL LIGHT
- OH PRIMARY WIRE
- OH SECONDARY WIRE
- OH SERVICE WIRE

### CITY OF LAS VEGAS PERMIT REQUIRED*

CONTACT CLV LAND DEVELOPMENT (229-6371)
CLV CONSTRUCTION SERVICES MUST BE NOTIFIED 24 HOURS PRIOR TO COMMENCING CONSTRUCTION (229-6337)

HANSEN_____ DATE_____

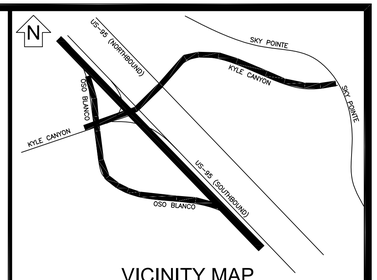
*NVE INSPECTOR MUST BE NOTIFIED BY FAX 48 HOURS PRIOR TO COMMENCING CONSTRUCTION & WILL VERIFY CITY PERMIT FOR WORK DONE IN STREETS OR SIDEWALK. FAX PERMIT TO:
LAS VEGAS NORTH (RYAN CENTER): 402-4354
LAS VEGAS SOUTH (BELTWAY CENTER): 402-6864

NOTE: ALL THE ABOVE GROUND UTILITY APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF CLV UNIFIED DEVELOPMENT CODE TITLE 19.06 AND 19.08

### APPROVED FOR CONSTRUCTION

THIS APPROVAL IS FOR WORK IN CLV R/W & EASEMENT ONLY. OBTAINING PERMISSIONS OR EASEMENTS FOR WORK SHOWN ON PRIVATE PROPERTY IS THE RESPONSIBILITY OF THE UTILITY.

APPROVAL DATE




VICINITY MAP

(NOT TO SCALE)

EVERY EFFORT HAS BEEN MADE TO IDENTIFY ALL NVE FACILITIES. THE CUSTOMER SHALL CONFIRM THE EXISTENCE AND LOCATION OF THESE FACILITIES.

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.

CALL 1-702-402-2929

Call before you Dig
Avoid cutting underground utility lines. It's costly.

CALL 811

OR
1-800-227-2600
AND CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-6000

### REVISIONS

| NO. | DESCRIPTION | DATE | G.A. |
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NON-STANDARD

### PROJECT PURPOSE:

TO REMOVE 10 POLES & INSTALL FEEDER TO RE-FEED O.H. LINES FOR NEW US-95 OVERPASS

### EXHIBIT 'A'

NVEnergy INFORMATION:
COORDINATOR: DON JACKSON
PHONE: 702-236-3259
DESIGNER: GERALD JOHNSON D.F. J.M.
DCA: N/A
INSPECTOR: 402-3008
STAND BY: 402-4114, 402-4117,402-4118
DISTRICT: LAS VEGAS NORTH

JPA INFORMATION:
JPA ADMIN PHONE: 244-7290 JPA#: P201213691

CUSTOMER INFORMATION:
APPLICANT: NDOT
ENGINEER: GC WALLACE
CONTACT: ERIK REED 702-385-6531
APPROVAL DATE: 12/23/2016

GOVERNMENT INFORMATION:
AGENCY: CITY OF LAS VEGAS
APPROVAL DATE: 12/23/2016

FOR EACH SERVICE POINT (POINT OF DELIVERY), ENERGY FOR EACH TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. ENERGY FOR ALL NON-TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. CONTACT NVE METER OPERATIONS FOR MULTIPLE RATE CLASS INSTALLATIONS.

NVEnergy

## NDOT-US95 PH. 2B (DURANGO TO KYLE CANYON)

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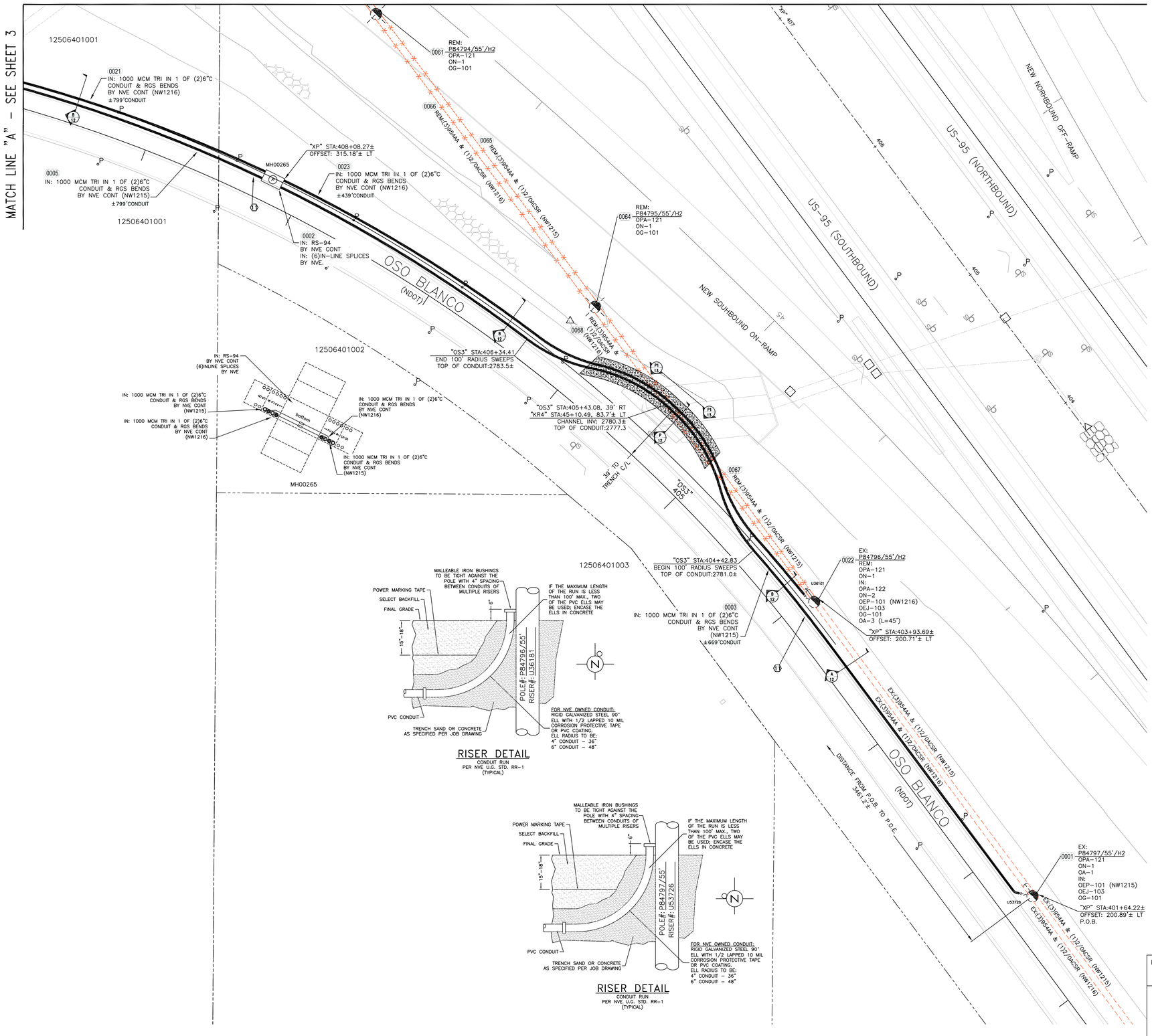
| PROJ. ID: 3001321673 | SCALE: 1" = 30' |
| SHEET # 1 OF 13 | DATE: 04/14/2016 |

q112559

6/29/2017 8:27 AM

*Sharing of this drawing and the information contained herein shall be only to individuals/parties who have entered into an agreement with Applicant for the completion of work associated with this specific project. Use for purposes other than this specific project requires the written consent of NV Energy.*

FOR REFERENCE ONLY

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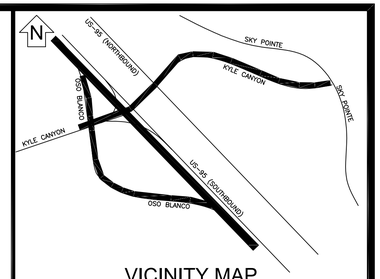
*T,R,S:* 1960-06

*APN:*




## VICINITY MAP

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AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.

CALL BEFORE YOU DO OVERHEAD

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OR 1-800-227-2600
AND CLARK COUNTY TRAFFIC OPERATIONS 1-702-455-6000

## REVISIONS

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NON-STANDARD

## PROJECT PURPOSE:

TO REMOVE 10 POLES & INSTALL FEEDER TO RE-FEED O.H. LINES FOR NEW US-95 OVERPASS

## EXHIBIT 'A'

NVEnergy INFORMATION:

COORDINATOR: DON JACKSON
PHONE: 702-236-3259
DESIGNER: GERALD JOHNSON D.F. J.M.
DCA: N/A
INSPECTOR: 402-3008
STAND BY: 402-4114, 402-4117,402-4118
DISTRICT: LAS VEGAS NORTH

JPA INFORMATION:

JPA ADMIN PHONE: 244-7290 JPA#: P201213691

CUSTOMER INFORMATION:

APPLICANT: NDOT
ENGINEER: GC WALLACE
CONTACT: ERIK REED 702-385-6531
APPROVAL DATE: 12/23/2016

GOVERNMENT INFORMATION:

AGENCY: CITY OF LAS VEGAS
APPROVAL DATE: 12/23/2016

FOR EACH SERVICE POINT (POINT OF DELIVERY), ENERGY FOR EACH TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. ENERGY FOR ALL NON-TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. CONTACT NVE METER OPERATIONS FOR MULTIPLE RATE CLASS INSTALLATIONS.

### CITY OF LAS VEGAS PERMIT REQUIRED*

CONTACT CLV LAND DEVELOPMENT (229-6371)
CLV CONSTRUCTION SERVICES MUST BE NOTIFIED 24 HOURS PRIOR TO COMMENCING CONSTRUCTION (229-6337)

HANSEN_____ DATE_____

*NVE INSPECTOR MUST BE NOTIFIED BY FAX 48 HOURS PRIOR TO COMMENCING CONSTRUCTION & WILL VERIFY CITY PERMIT FOR WORK DONE IN STREETS OR SIDEWALK.
FAX PERMIT TO:
LAS VEGAS NORTH (RYAN CENTER): 402-4354
LAS VEGAS SOUTH (BELTWAY CENTER): 402-6864

NOTE: ALL THE ABOVE GROUND UTILITY APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF CLV UNIFIED DEVELOPMENT CODE TITLE 19.06 AND 19.08

### APPROVED FOR CONSTRUCTION

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APPROVAL DATE

NVEnergy

# NDOT-US95 PH. 2B (DURANGO TO KYLE CANYON)

| PROJ. ID: 3001321673 | SCALE: 1" = 30' |
|---|---|
| SHEET # 2 OF 13 | DATE: 04/14/2016 |

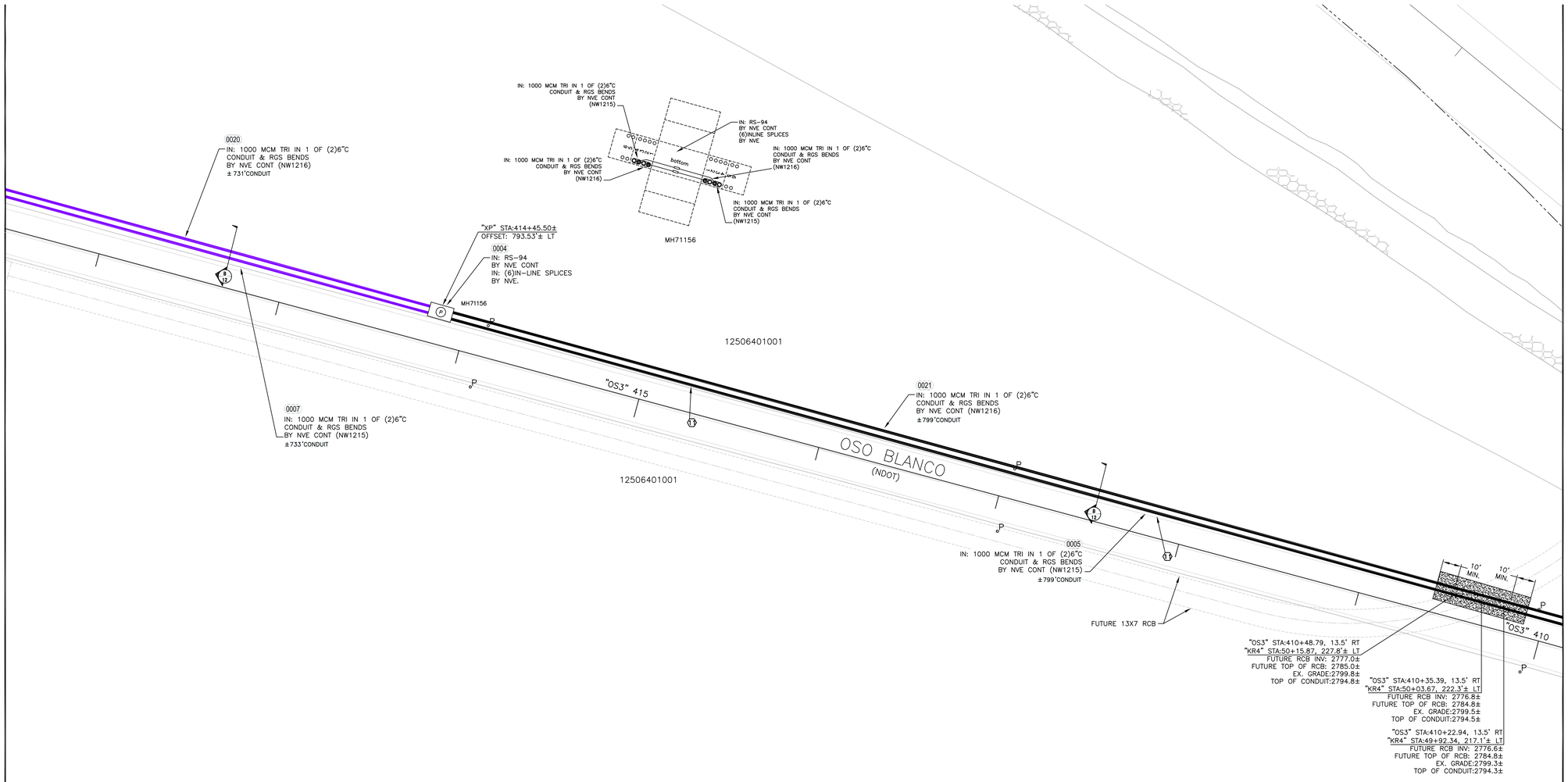
q12559

6/29/2017 8:30 AM

*Sharing of this drawing and the information contained herein shall be only to individuals/parties who have entered into an agreement with Applicant for the completion of work associated with this specific project. Use for purposes other than this specific project requires the written consent of NV Energy.*

FOR REFERENCE ONLY

MATCH LINE "B" – SEE SHEET 4




MATCH LINE "A" – SEE SHEET 2

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T,R,S: 1960-06

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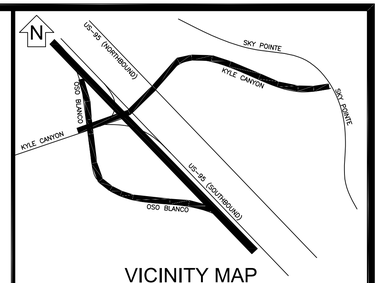


## VICINITY MAP

(NOT TO SCALE)

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AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.

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Call before you Dig
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OR
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1-702-455-6000

## REVISIONS

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NON-STANDARD

## PROJECT PURPOSE:

TO REMOVE 10 POLES & INSTALL FEEDER TO RE-FEED O.H. LINES FOR NEW US-95 OVERPASS

## EXHIBIT 'A'

NVEnergy INFORMATION:

COORDINATOR: DON JACKSON
PHONE: 702-236-3259
DESIGNER: GERALD JOHNSON D.F. J.M.
DCA: N/A
INSPECTOR: 402-3008
STAND BY: 402-4114, 402-4117,402-4118
DISTRICT: LAS VEGAS NORTH

JPA INFORMATION:

JPA ADMIN PHONE: 244-7290 JPA#: P201213691

CUSTOMER INFORMATION:

APPLICANT: NDOT
ENGINEER: GC WALLACE
CONTACT: ERIK REED 702-385-6531
APPROVAL DATE: 12/23/2016

GOVERNMENT INFORMATION:

AGENCY: CITY OF LAS VEGAS
APPROVAL DATE: 12/23/2016

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NVEnergy

# NDOT-US95 PH. 2B (DURANGO TO KYLE CANYON)

| PROJ. ID: 3001321673 | SCALE: 1" = 30' |
|---|---|
| SHEET # 3 OF 13 | DATE: 04/14/2016 |

CITY OF LAS VEGAS
PERMIT REQUIRED*

CONTACT CLV LAND DEVELOPMENT (229-6371)
CLV CONSTRUCTION SERVICES MUST BE NOTIFIED 24 HOURS PRIOR TO COMMENCING CONSTRUCTION (229-6337)

HANSEN_____ DATE_____

*NVE INSPECTOR MUST BE NOTIFIED BY FAX 48 HOURS PRIOR TO COMMENCING CONSTRUCTION & WILL VERIFY CITY PERMIT FOR WORK DONE IN STREETS OR SIDEWALK. FAX PERMIT TO:
LAS VEGAS NORTH (RYAN CENTER): 402-4354
LAS VEGAS SOUTH (BELTWAY CENTER): 402-6864

NOTE: ALL THE ABOVE GROUND UTILITY APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF CLV UNIFIED DEVELOPMENT CODE TITLE 19.06 AND 19.08

## APPROVED FOR CONSTRUCTION

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APPROVAL DATE

sj12559

6/29/2017 8:31 AM

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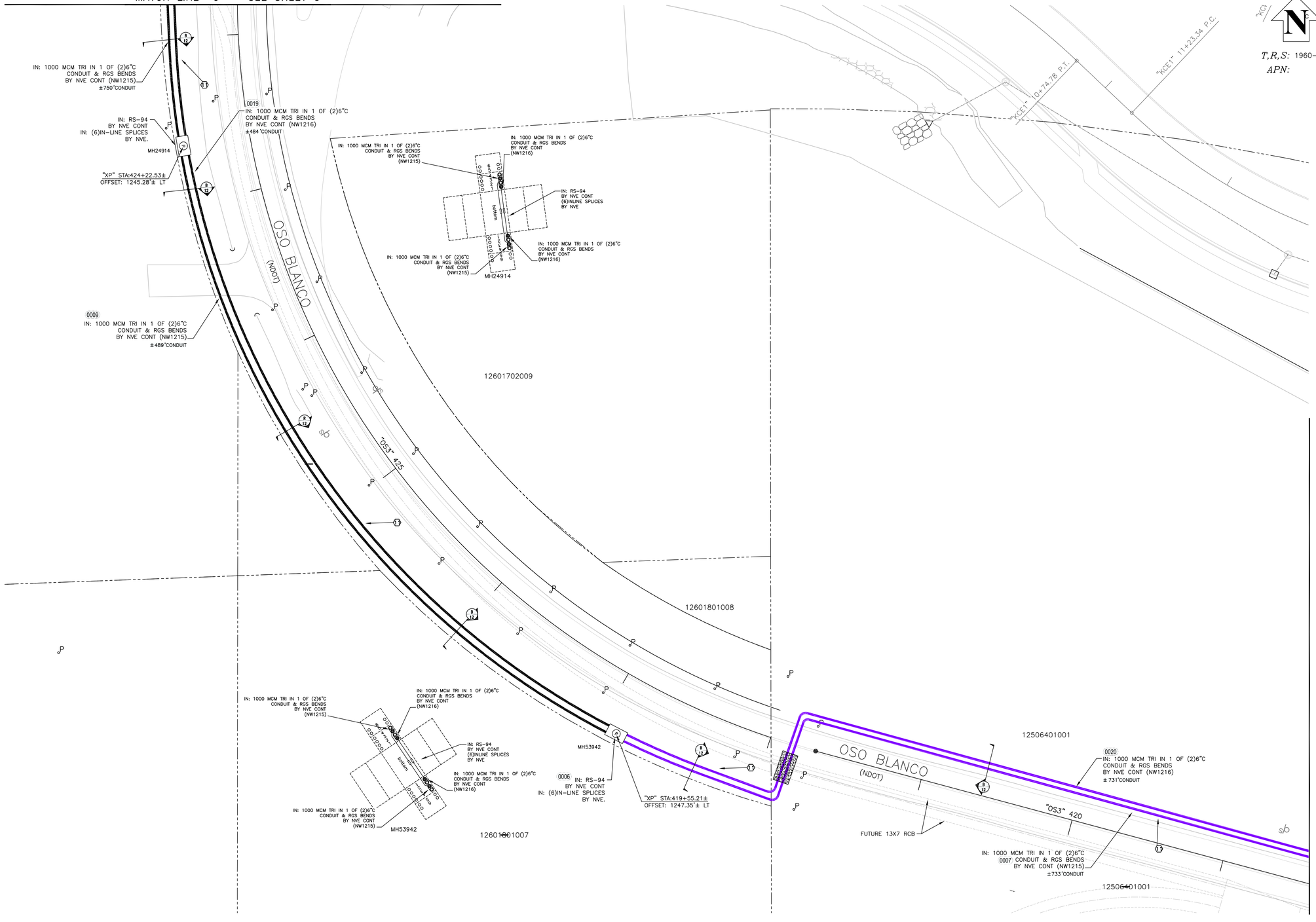
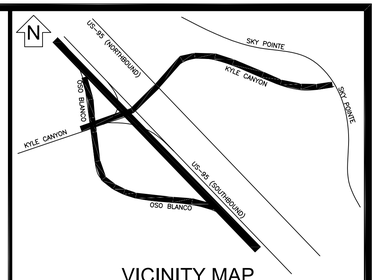
FOR REFERENCE ONLY

MATCH LINE "C" - SEE SHEET 5




MATCH LINE 'B' - SEE SHEET 3




## VICINITY MAP

(NOT TO SCALE)

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## REVISIONS

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NON-STANDARD

## PROJECT PURPOSE:

TO REMOVE 10 POLES & INSTALL FEEDER TO RE-FEED O.H. LINES FOR NEW US-95 OVERPASS

## EXHIBIT 'A'

NVEnergy INFORMATION:

COORDINATOR: DON JACKSON
PHONE: 702-236-3259
DESIGNER: GERALD JOHNSON D.F. J.M.
DCA: N/A
INSPECTOR: 402-3008
STAND BY: 402-4114, 402-4117,402-4118
DISTRICT: LAS VEGAS NORTH

JPA INFORMATION:

JPA ADMIN PHONE: 244-7290 JPA#: P201213691

CUSTOMER INFORMATION:

APPLICANT: NDOT
ENGINEER: GC WALLACE
CONTACT: ERIK REED 702-385-6531
APPROVAL DATE: 12/23/2016

GOVERNMENT INFORMATION:

AGENCY: CITY OF LAS VEGAS
APPROVAL DATE: 12/23/2016

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NVEnergy

NDOT-US95 PH. 2B
(DURANGO TO KYLE CANYON)

| PROJ. ID: 3001321673 | SCALE: 1" = 30' |
|---|---|
| SHEET # 4 OF 13 | DATE: 04/14/2016 |

CITY OF LAS VEGAS
PERMIT REQUIRED*

CONTACT CLV LAND DEVELOPMENT (229-6371)
CLV CONSTRUCTION SERVICES MUST BE NOTIFIED 24 HOURS PRIOR TO COMMENCING CONSTRUCTION (229-6337)

HANSEN_____ DATE_____

*NVE INSPECTOR MUST BE NOTIFIED BY FAX 48 HOURS PRIOR TO COMMENCING CONSTRUCTION & WILL VERIFY CITY PERMIT FOR WORK DONE IN STREETS OR SIDEWALK.
FAX PERMIT TO:
LAS VEGAS NORTH (RYAN CENTER): 402-4354
LAS VEGAS SOUTH (BELTWAY CENTER): 402-6864

NOTE: ALL THE ABOVE GROUND UTILITY APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF CLV UNIFIED DEVELOPMENT CODE TITLE 19.06 AND 19.08

## APPROVED FOR CONSTRUCTION

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APPROVAL DATE

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FOR REFERENCE ONLY

6/29/2017 8:31 AM gj12559

MATCH LINE "D" – SEE SHEET 6

0018
IN: 1000 MCM TRI IN 1 OF (2)6"C
CONDUIT & RGS BENDS
BY NVE CONT
(NW1216)
±472'CONDUIT

12601701008

OSO BLANCO (NDOT)

"OS3" STA:432+83.78
END 100' RADIUS SWEEPS
TOP OF CONDUIT:2838.0±

12601701008

"OS3" STA:432+13.68
BEGIN 100' RADIUS SWEEPS
TOP OF CONDUIT:2833.0±

IN: RS-99
BY NVE CONT

IN: 1000 MCM TRI IN 1 OF (2)6"C
CONDUIT & RGS BENDS
BY NVE CONT (NW1216)

IN: (1)4"C,
BY NVE CONT.
(NW1216)

bottom

IN: 1000 MCM TRI IN 1 OF (2)6"C
CONDUIT & RGS BENDS
BY NVE CONT
(NW1216)

DFC9917

54' TO
TRENCH C/L

"OS3" STA:431+97.68
END 100' RADIUS SWEEPS
TOP OF CONDUIT:2833.0±

0009
IN: 1000 MCM TRI IN 1 OF (2)6"C
CONDUIT & RGS BENDS
BY NVE CONT
(NW1215)
±750'CONDUIT

30' R/W

"OS3" STA:431+29.94
BEGIN 100' RADIUS SWEEPS
TOP OF CONDUIT:2837.0±

IN: RS-94
BY NVE CONT

bottom

IN: (5)6"C
CONDUIT & RGS BENDS
BY NVE CONT

IN: (5)6"C
CONDUIT & RGS BENDS
BY NVE CONT

MH18237

0008
IN: RS-99, BY NVE CONT.
(DETAIL ON SHEET 13)
IN: DFC-9, BY NVE

"XP" STA:425+74.13±
OFFSET: 961.66'± LT

DFC9917
SW-A
SW-B
3001321673

IN: (1)4"C 0075
CONDUIT & RGS BENDS
BY NVE CONT
±218'CONDUIT

IN: (1)4"C 0025
CONDUIT & PVC BENDS
BY NVE CONT
± 60'CONDUIT

IN: RS-82 0024
BY NVE CONT

UGM28725

"XP" STA:425+30.60±
OFFSET: 926.27'± LT

"KCW" 4+23.40

"XP" STA:426+47.21±
OFFSET: 1105.50'± LT

MH18237

0031
IN: RS-94
BY NVE CONT

"XP" STA:425+14.40±
OFFSET: 909.83'± LT

IN: (5)6"C 0032
CONDUIT & RGS BENDS
BY NVE CONT
± 241'CONDUIT

"KCW" 200+00.00 P.O.E.

NEW KYLE CANYON RD.
(NDOT)

"KCW1" 11+49.45 P.C.

IN: 1000 MCM TRI IN 1 OF (2)6"C
CONDUIT & RGS BENDS
BY NVE CONT (NW1216)

NEW KYLE CANYON RD.
(NDOT)

"KCW1" 15

0034 IN: (5)6"C
CONDUIT & RGS BENDS
BY NVE CONT
±897'CONDUIT

"KCE1" 6+43.31 P.C.

"KCE1" 8+85.29 P.C.C.

"KCE1" 10

"KCE1" 5+05.55 P.O.B.

"KCW" 10+00.00 P.O.B.

IN: 1000 MCM TRI IN 1 OF (2)6"C
CONDUIT & RGS BENDS
BY NVE CONT (NW1215)
±750'CONDUIT

MATCH LINE "C" – SEE SHEET 4

MATCH LINE "F" – SEE SHEET 9

PUL

T,R,S: 1960-06
APN:

## CONSTRUCTION/INSPECTION REQUIREMENTS

WORK MUST CONFORM TO NVE ELECTRIC SERVICE STANDARDS, AVAILABLE AT:
www.nvenergy.com/business/newconstruction/newconstruction5/servicestandards.cfm

NVE INSPECTOR MUST BE PRESENT TO INSPECT TRENCHING (SCHEDULE AT LEAST 72 HOURS IN ADVANCE) AT EACH OF THE FOLLOWING STAGES:
1. BOTTOM SAND AND CONDUIT INSTALLED
2. TOP SAND INSTALLED
3. BACKFILL INSTALLED

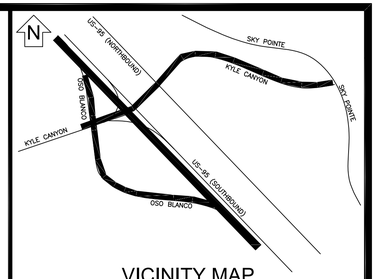
CONDUIT MUST BE MANDRELLED PRIOR TO RELEASE (COORDINATE WITH INSPECTOR).

NVE STAND BY CREW IS REQUIRED WHEN WORKING AT AN ENERGIZED VAULT OR TRANSFORMER. CALL STAND BY NUMBER (SEE TITLE BLOCK) TO SCHEDULE.

NVE ELECTRICAL INSTALLATION WILL NOT BE SCHEDULED UNTIL AFTER THE NVE INSPECTOR HAS COMPLETED THE OFFICIAL RELEASE.

METER(S) WILL NOT BE SET UNTIL ALL OF THE FOLLOWING ARE COMPLETE:
- (INSTRUMENT-RATED ONLY) METERING EQUIPMENT HAS BEEN SUBMITTED TO NVE METERING ENGINEER AND APPROVED. (submittals_southern@nvenergy.com)
- APPLICATION FOR METER SET HAS BEEN SUBMITTED TO NVE'S NEW DEVELOPMENT CENTER. FORM AVAILABLE AT: www.nvenergy.com/brochures_arch/new_construction/meter_set.pdf
- THE LOCAL BUILDING AUTHORITY HAS INSPECTED AND APPROVED THE METERING EQUIPMENT.
- METERING EQUIPMENT IS ACCESSIBLE AND CLEARLY IDENTIFIED WITH PERMANENT MARKINGS. ADDRESSES, SUITE NUMBERS, AND STREET SIGNS ARE POSTED IN PERMANENT LOCATIONS (SEE RPI-G).

TRACK PROJECT STATUS ONLINE WITH NVE'S DEVELOPER DASHBOARD:
www.nvenergy.com/business/newconstruction/newconstruction5/developerdashboard.cfm




VICINITY MAP
(NOT TO SCALE)

EVERY EFFORT HAS BEEN MADE TO IDENTIFY ALL NVE FACILITIES. THE CUSTOMER SHALL CONFIRM THE EXISTENCE AND LOCATION OF THESE FACILITIES.

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.

CALL 1-702-402-2929

Call before you Dig
Avoid cutting underground utility lines. It's costly.
CALL 811
OR
1-800-227-2600
AND CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-6000

## REVISIONS

| NO. | DESCRIPTION | DATE | G.A. |
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NON-STANDARD

## PROJECT PURPOSE:

TO REMOVE 10 POLES & INSTALL FEEDER TO RE-FEED O.H. LINES FOR NEW US-95 OVERPASS

## EXHIBIT 'A'

NVEnergy INFORMATION:
COORDINATOR: DON JACKSON
PHONE: 702-236-3259
DESIGNER: GERALD JOHNSON D.F. J.M.
DCA: N/A
INSPECTOR: 402-3008
STAND BY: 402-4114, 402-4117,402-4118
DISTRICT: LAS VEGAS NORTH

JPA INFORMATION:
JPA ADMIN PHONE: 244-7290 JPA#: P201213691

CUSTOMER INFORMATION:
APPLICANT: NDOT
ENGINEER: GC WALLACE
CONTACT: ERIK REED 702-385-6531
APPROVAL DATE: 12/23/2016

GOVERNMENT INFORMATION:
AGENCY: CITY OF LAS VEGAS
APPROVAL DATE: 12/23/2016

FOR EACH SERVICE POINT (POINT OF DELIVERY), ENERGY FOR EACH TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. ENERGY FOR ALL NON-TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. CONTACT NVE METER OPERATIONS FOR MULTIPLE RATE CLASS INSTALLATIONS.

NVEnergy

NDOT-US95 PH. 2B
(DURANGO TO KYLE CANYON)

| PROJ. ID: 3001321673 | SCALE: 1" = 30' |
|---|---|
| SHEET # 5 OF 13 | DATE: 04/14/2016 |

CITY OF LAS VEGAS
PERMIT REQUIRED*

CONTACT CLV LAND DEVELOPMENT (229-6371)
CLV CONSTRUCTION SERVICES MUST BE NOTIFIED 24 HOURS PRIOR TO COMMENCING CONSTRUCTION (229-6337)

HANSEN _____ DATE _____

*NVE INSPECTOR MUST BE NOTIFIED BY FAX 48 HOURS PRIOR TO COMMENCING CONSTRUCTION & WILL VERIFY CITY PERMIT FOR WORK DONE IN STREETS OR SIDEWALK.
FAX PERMIT TO:
LAS VEGAS NORTH (RYAN CENTER): 402-4354
LAS VEGAS SOUTH (BELTWAY CENTER): 402-6864

NOTE: ALL THE ABOVE GROUND UTILITY APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF CLV UNIFIED DEVELOPMENT CODE TITLE 19.06 AND 19.08

APPROVED FOR CONSTRUCTION

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APPROVAL _____ DATE

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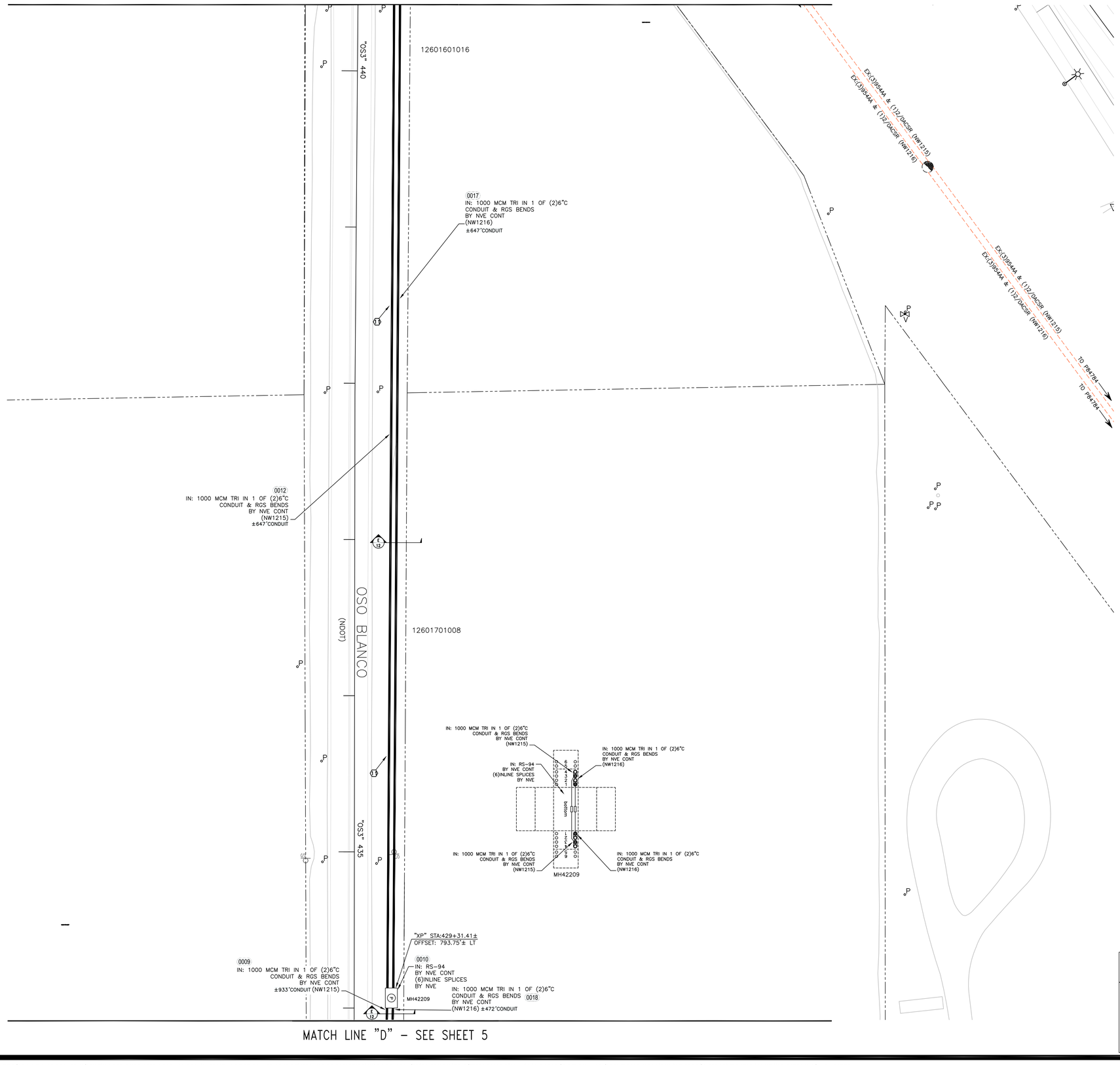
FOR REFERENCE ONLY

gj12559
6/29/2017 8:32 AM

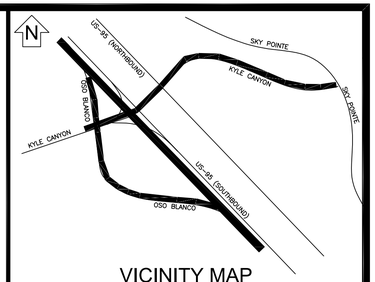
MATCH LINE "E" – SEE SHEET 7




MATCH LINE "D" – SEE SHEET 5

T,R,S: 1960–06

APN:




VICINITY MAP

(NOT TO SCALE)

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AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.

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Call before you Dig

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OR

1-800-227-2600

AND CLARK COUNTY TRAFFIC OPERATIONS

1-702-455-6000

## REVISIONS

| NO. | DESCRIPTION | DATE | G.A. |
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NON-STANDARD

## PROJECT PURPOSE:

TO REMOVE 10 POLES & INSTALL FEEDER TO RE-FEED O.H. LINES FOR NEW US-95 OVERPASS

## EXHIBIT 'A'

NVEnergy INFORMATION:

COORDINATOR: DON JACKSON
PHONE: 702-236-3259
DESIGNER: GERALD JOHNSON D.F. J.M.
DCA: N/A
INSPECTOR: 402-3008
STAND BY: 402-4114, 402-4117,402-4118
DISTRICT: LAS VEGAS NORTH

JPA INFORMATION:

JPA ADMIN PHONE: 244-7290 JPA#: P201213691

CUSTOMER INFORMATION:

APPLICANT: NDOT
ENGINEER: GC WALLACE
CONTACT: ERIK REED 702-385-6531
APPROVAL DATE: 12/23/2016

GOVERNMENT INFORMATION:

AGENCY: CITY OF LAS VEGAS
APPROVAL DATE: 12/23/2016

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CITY OF LAS VEGAS
PERMIT REQUIRED*

CONTACT CLV LAND DEVELOPMENT (229-6371)
CLV CONSTRUCTION SERVICES MUST BE NOTIFIED 24 HOURS PRIOR TO COMMENCING CONSTRUCTION (229-6337)

HANSEN_____ DATE_____

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## APPROVED FOR CONSTRUCTION

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APPROVAL DATE

NVEnergy

# NDOT-US95 PH. 2B (DURANGO TO KYLE CANYON)

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|---|---|
| PROJ. ID: 3001321673 | SCALE: 1" = 30' |
| SHEET # 6 OF 13 | DATE: 04/14/2016 |

gj12559

6/29/2017 8:32 AM

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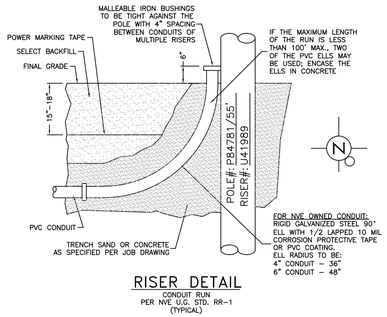
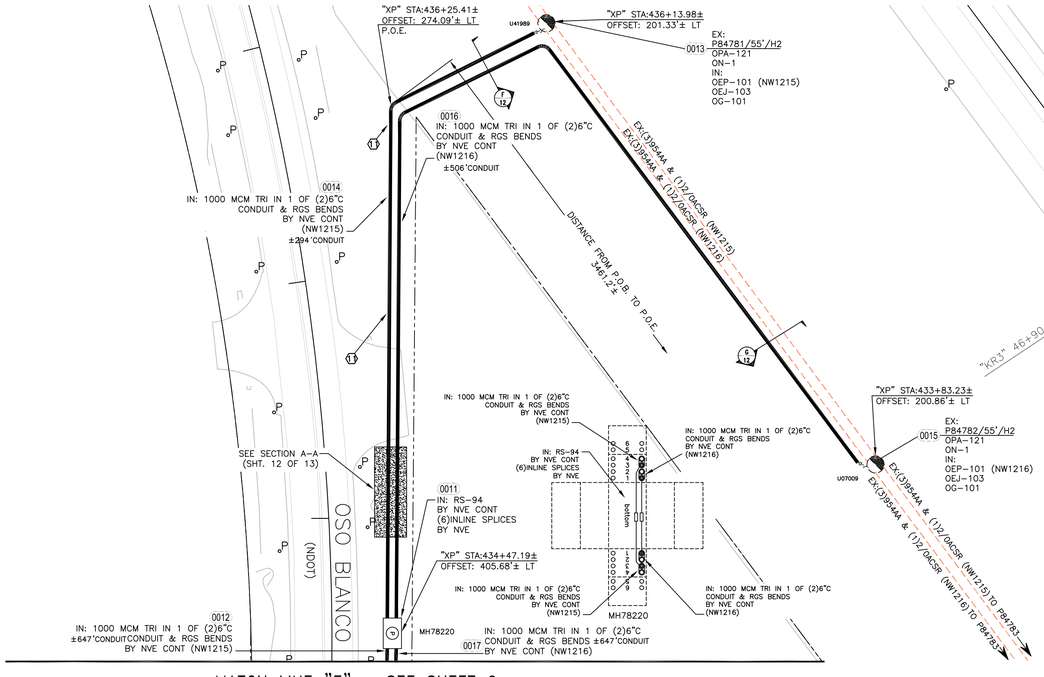
FOR REFERENCE ONLY

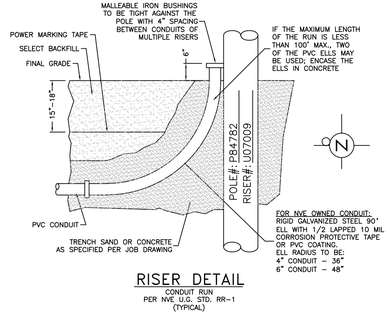



## RISER DETAIL

CONDUIT RUN
PER NVE U.G. STD. RR-1
(TYPICAL)



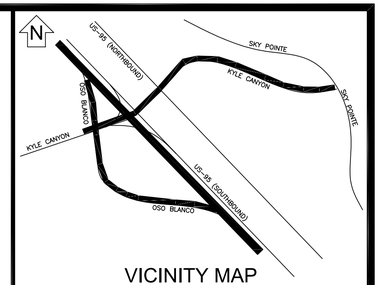

MATCH LINE "E" – SEE SHEET 6




## RISER DETAIL

CONDUIT RUN
PER NVE U.G. STD. RR-1
(TYPICAL)

T,R,S: 1960-06
APN:




## VICINITY MAP

(NOT TO SCALE)

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**CALL 811**

OR
1-800-227-2600
AND CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-6000

## REVISIONS

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NON-STANDARD

## PROJECT PURPOSE:

TO REMOVE 10 POLES & INSTALL FEEDER TO RE-FEED O.H. LINES FOR NEW US-95 OVERPASS

## EXHIBIT 'A'

NVEnergy INFORMATION:
COORDINATOR: DON JACKSON
PHONE: 702-236-3259
DESIGNER: GERALD JOHNSON D.F. J.M.
DCA: N/A
INSPECTOR: 402-3008
STAND BY: 402-4114, 402-4117,402-4118
DISTRICT: LAS VEGAS NORTH

JPA INFORMATION:
JPA ADMIN PHONE: 244-7290 JPA#: P201213691

CUSTOMER INFORMATION:
APPLICANT: NDOT
ENGINEER: GC WALLACE
CONTACT: ERIK REED 702-385-6531
APPROVAL DATE: 12/23/2016

GOVERNMENT INFORMATION:
AGENCY: CITY OF LAS VEGAS
APPROVAL DATE: 12/23/2016

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**CITY OF LAS VEGAS PERMIT REQUIRED***

CONTACT CLV LAND DEVELOPMENT (229-6371)
CLV CONSTRUCTION SERVICES MUST BE NOTIFIED 24 HOURS PRIOR TO COMMENCING CONSTRUCTION (229-6337)

HANSEN_____ DATE_____

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## APPROVED FOR CONSTRUCTION

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APPROVAL DATE

NVEnergy

# NDOT-US95 PH. 2B (DURANGO TO KYLE CANYON)

| PROJ. ID: 3001321673 | SCALE: 1" = 30' |
|---|---|
| SHEET # 7 OF 13 | DATE: 04/14/2016 |

q1r2559
6/29/2017 8:33 AM

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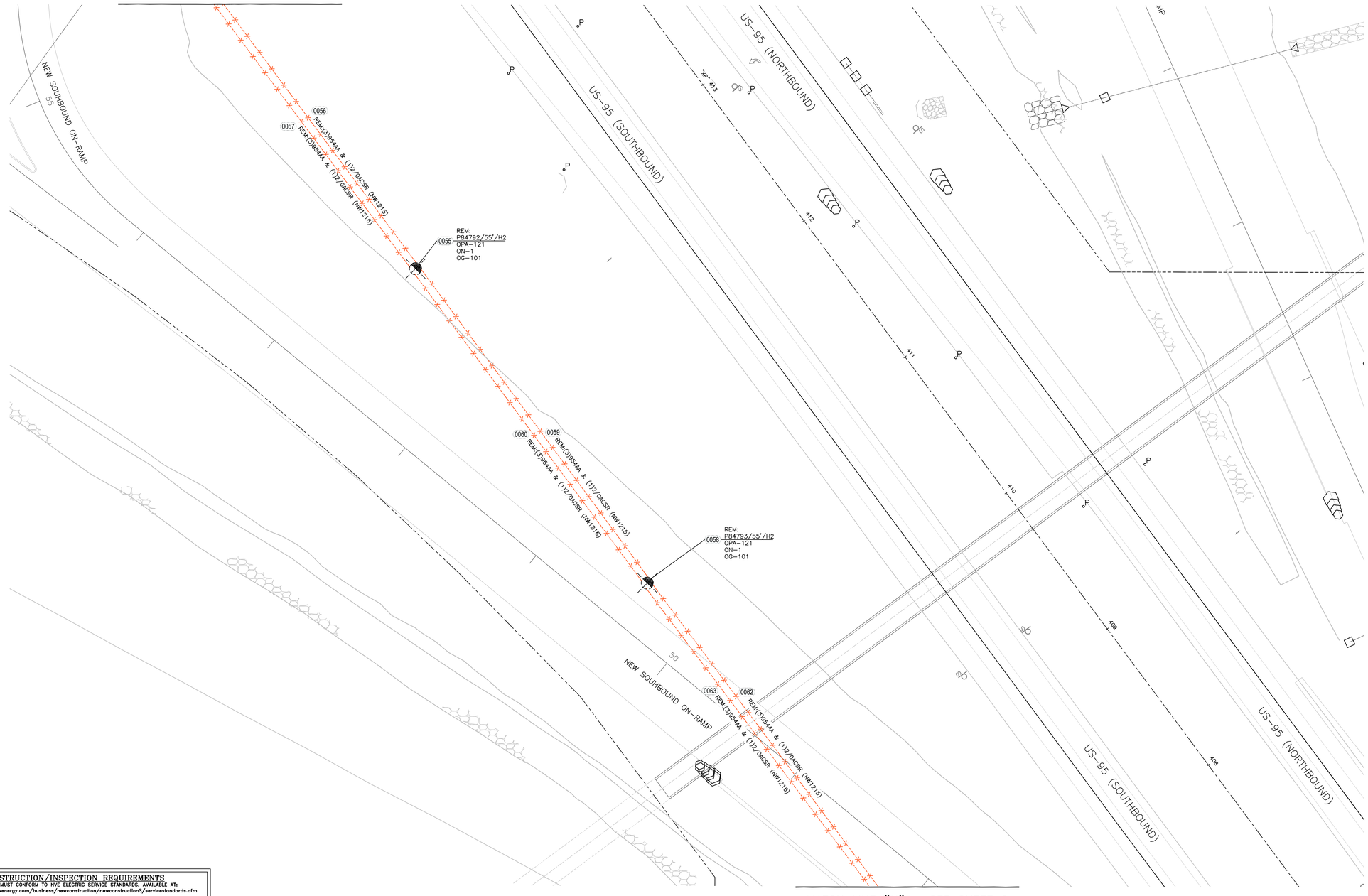
FOR REFERENCE ONLY




T,R,S: 1960–06

APN:

## CONSTRUCTION/INSPECTION REQUIREMENTS

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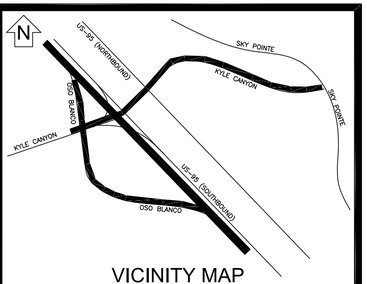
APPROVAL DATE




## VICINITY MAP

(NOT TO SCALE)

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## REVISIONS

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NON-STANDARD

## PROJECT PURPOSE:

TO REMOVE 10 POLES & INSTALL FEEDER TO RE-FEED O.H. LINES FOR NEW US-95 OVERPASS

## EXHIBIT 'A'

NVEnergy INFORMATION:
COORDINATOR: DON JACKSON
PHONE: 702-236-3259
DESIGNER: GERALD JOHNSON D.F. J.M.
DCA: N/A
INSPECTOR: 402-3008
STAND BY: 402-4114, 402-4117,402-4118
DISTRICT: LAS VEGAS NORTH

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ENGINEER: GC WALLACE
CONTACT: ERIK REED 702-385-6531
APPROVAL DATE: 12/23/2016

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AGENCY: CITY OF LAS VEGAS
APPROVAL DATE: 12/23/2016

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NVEnergy

# NDOT-US95 PH. 2B (DURANGO TO KYLE CANYON)

| PROJ. ID: 3001321673 | SCALE: 1" = 30' |
|---|---|
| SHEET # 8 OF 13 | DATE: 04/14/2016 |

gj12559

6/29/2017 8:33 AM

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FOR REFERENCE ONLY

MATCH LINE "K" - SEE SHEET 10

MATCH LINE "F" - SEE SHEET 5

MATCH LINE "J" - SEE SHEET 8

MATCH LINE "G" - SEE SHEET 11

N

T,R,S: 1960-06

APN:

OLD KYLE CANYON RD.

OLD ON-RAMP (NORTHBOUND)

US-95 (SOUTHBOUND)

US-95 (NORTHBOUND)

NEW KYLE CANYON RD. (NDOT)

NEW SOUHBOUND OFF-RAMP

NEW SOUHBOUND ON-RAMP

REM: CUST. OWNED SVC. BY CUST.

HHH17985 25KVA C#

200 AMP MAIN 120/240 1# 3W EPD: 3 KVA

0043 REM: PB4788/55'/H2 OPA-121 OG-101 OET-102 OEJ-101 ON-1

0047

0048

REM:(3)#4AA & (1)2/0ACSR (NW1215)

REM:(3)#4AA & (1)2/0ACSR (NW1216)

0046 REM: PB4789/55'/H2 OPA-121 ON-1 OG-101

0050

0051

REM:(3)#4AA & (1)2/0ACSR (NW1219)

REM:(3)#4AA & (1)2/0ACSR (NW1216)

"KCW1" 17+58.23 P.C.

"KCW1" 16+97.77 P.T.

"KCW1" 20

"KCW1" 25

"KCE1" 15

"KCE1" 20

"KCW1" STA:19+00.00 INV. OF 18" S.D.:2793.2± TOP OF CONDUIT:2795.0±

"KCW1" STA:19+77.99 INV. OF 18" S.D.:2789.0± TOP OF CONDUIT:2786.0±

"KCE1" STA:18+74.77 INV. OF 30" S.D.:2777.6± TOP OF CONDUIT:2776.1±

"KCE1" STA:20+33.12 INV. OF 18" S.D.:2775.5± TOP OF CONDUIT:2774.0±

0034 IN: (5)6"C CONDUIT & RGS BENDS BY NVE CONT ±897'CONDUIT

IN: (1)4"C 0027 CONDUIT & RGS BENDS BY NVE CONT ±766'CONDUIT

UGM37146

IN: RS-82 0026 BY NVE CONT

"XP" STA:419+34.06± OFFSET: 458.22'± LT

"XP" STA:418+26.00± OFFSET: 352.66'± LT

"XP" STA:417+52.79± OFFSET: 346.24'± LT

MH34448

IN: RS-94 0033 BY NVE CONT

IN: (1)4"C 0028 CONDUIT & RGS BENDS BY NVE CONT ±232'CONDUIT

IN: (1)4"C 0030 CONDUIT & RGS BENDS BY NVE CONT ±923'CONDUIT

IN: (5)6"C 0036 CONDUIT & RGS BENDS BY NVE C±756'CONDUIT

IN: (1)4"C 0030 CONDUIT & RGS BENDS BY NVE CONT ±927'CONDUIT

IN: (5)6"C 0036 CONDUIT & RGS BENDS BY NVE CONT ±756'CONDUIT

0053

0054

REM:(3)#4AA & (1)2/0ACSR (NW1215)

REM:(3)#4AA & (1)2/0ACSR (NW1216)

0052 REM: PB4791/55'/H2 OPA-121 ON-1 OG-101

IN: RS-94 BY NVE CONT

IN: (5)6"C CONDUIT & RGS BENDS BY NVE CONT

IN: (5)6"C CONDUIT & RGS BENDS BY NVE CONT

bottom

bottom

MH34448

## CONSTRUCTION/INSPECTION REQUIREMENTS

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1. BOTTOM SAND AND CONDUIT INSTALLED
2. TOP SAND INSTALLED
3. BACKFILL INSTALLED

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- METERING EQUIPMENT IS ACCESSIBLE AND CLEARLY IDENTIFIED WITH PERMANENT MARKINGS. ADDRESSES, SUITE NUMBERS, AND STREET SIGNS ARE POSTED IN PERMANENT LOCATIONS (SEE RPI-G).

TRACK PROJECT STATUS ONLINE WITH NVE'S DEVELOPER DASHBOARD: www.nvenergy.com/business/newconstruction/newconstruction5/developerdashboard.cfm

## CITY OF LAS VEGAS PERMIT REQUIRED*

CONTACT CLV LAND DEVELOPMENT (229-6371) CLV CONSTRUCTION SERVICES MUST BE NOTIFIED 24 HOURS PRIOR TO COMMENCING CONSTRUCTION (229-6337)

HANSEN_____ DATE_____

*NVE INSPECTOR MUST BE NOTIFIED BY FAX 48 HOURS PRIOR TO COMMENCING CONSTRUCTION & WILL VERIFY CITY PERMIT FOR WORK DONE IN STREETS OR SIDEWALK.
FAX PERMIT TO:
LAS VEGAS NORTH (RYAN CENTER): 402-4354
LAS VEGAS SOUTH (BELTWAY CENTER): 402-6864

NOTE: ALL THE ABOVE GROUND UTILITY APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF CLV UNIFIED DEVELOPMENT CODE TITLE 19.06 AND 19.08

## APPROVED FOR CONSTRUCTION

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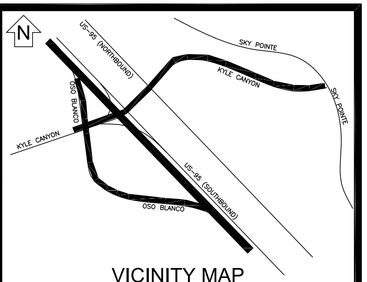
APPROVAL DATE

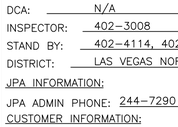



## VICINITY MAP

(NOT TO SCALE)

EVERY EFFORT HAS BEEN MADE TO IDENTIFY ALL NVE FACILITIES. THE CUSTOMER SHALL CONFIRM THE EXISTENCE AND LOCATION OF THESE FACILITIES.

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.




CALL 1-702-402-2929

Call before you Dig
Avoid cutting underground utility lines. It's costly.

CALL 811

OR
1-800-227-2600
AND CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-6000

## REVISIONS

| NO. | DESCRIPTION | DATE | G.A. |
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NON-STANDARD

## PROJECT PURPOSE:

TO REMOVE 10 POLES & INSTALL FEEDER TO RE-FEED O.H. LINES FOR NEW US-95 OVERPASS

## EXHIBIT 'A'

NVEnergy INFORMATION:

COORDINATOR: DON JACKSON
PHONE: 702-236-3259
DESIGNER: GERALD JOHNSON D.F. J.M.
DCA: N/A
INSPECTOR: 402-3008
STAND BY: 402-4114, 402-4117,402-4118
DISTRICT: LAS VEGAS NORTH

JPA INFORMATION:

JPA ADMIN PHONE: 244-7290 JPA#: P201213691

CUSTOMER INFORMATION:

APPLICANT: NDOT
ENGINEER: GC WALLACE
CONTACT: ERIK REED 702-385-6531
APPROVAL DATE: 12/23/2016

GOVERNMENT INFORMATION:

AGENCY: CITY OF LAS VEGAS
APPROVAL DATE: 12/23/2016

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NVEnergy

# NDOT-US95 PH. 2B (DURANGO TO KYLE CANYON)

| PROJ. ID: 3001321673 | SCALE: 1" = 30' |
|---|---|
| SHEET # 9 OF 13 | DATE: 04/14/2016 |

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6/29/2017 8:34 AM

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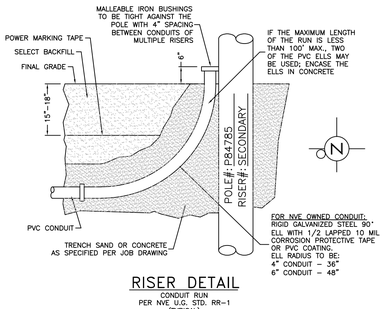
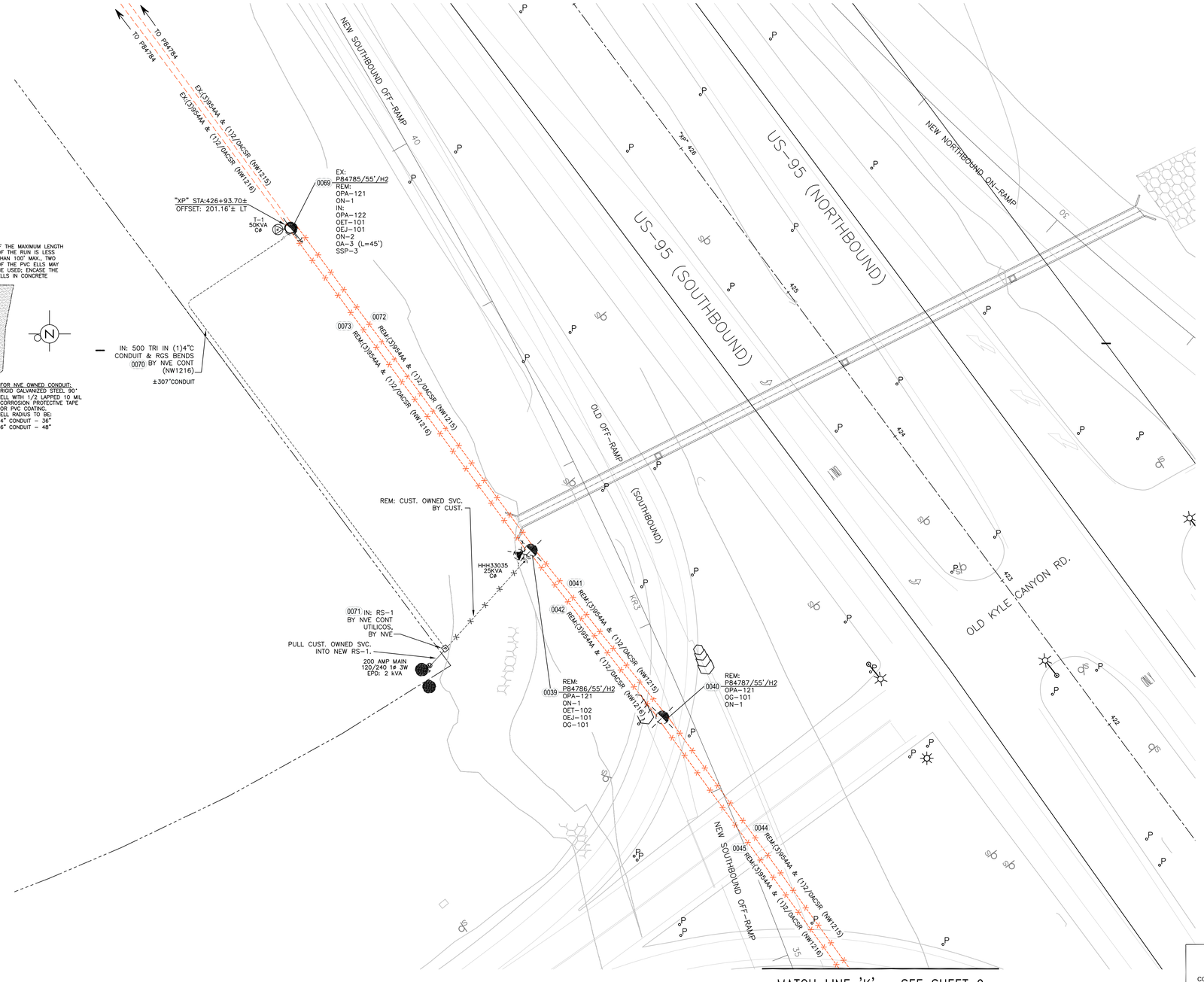


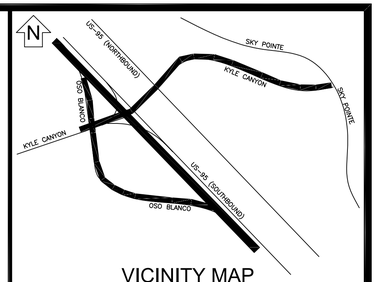

## RISER DETAIL

CONDUIT RUN
PER NVE U.G. STD. RR-1
(TYPICAL)




T,R,S: 1960-06

APN:

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## NON-STANDARD

## PROJECT PURPOSE:

TO REMOVE 10 POLES & INSTALL FEEDER TO RE-FEED O.H. LINES FOR NEW US-95 OVERPASS

## EXHIBIT 'A'

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DCA: N/A
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NVEnergy

## NDOT-US95 PH. 2B (DURANGO TO KYLE CANYON)

| PROJ. ID: 3001321673 | SCALE: 1" = 30' |
|---|---|
| SHEET # 10 OF 13 | DATE: 04/14/2016 |

q12559

6/29/2017 8:28 AM

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HANSEN_____ DATE_____

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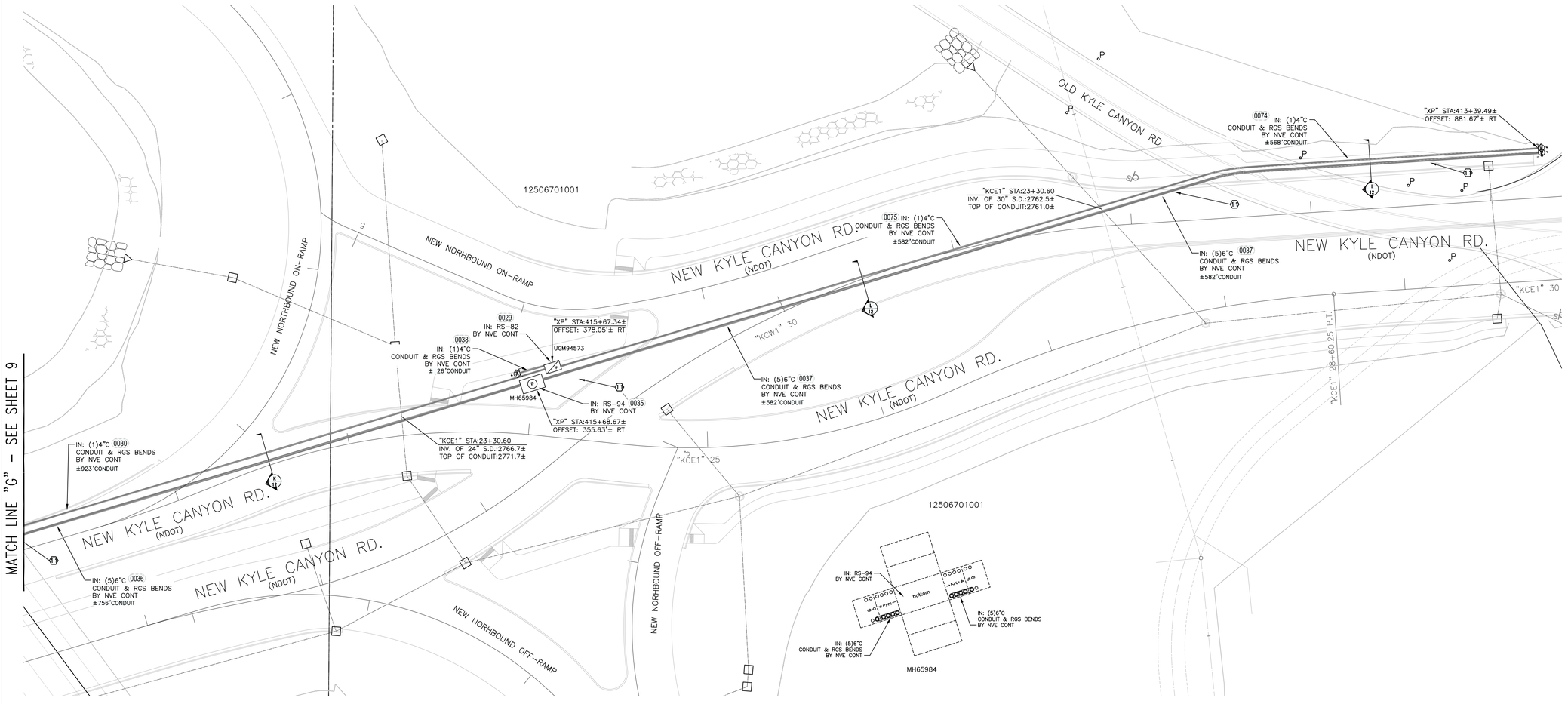
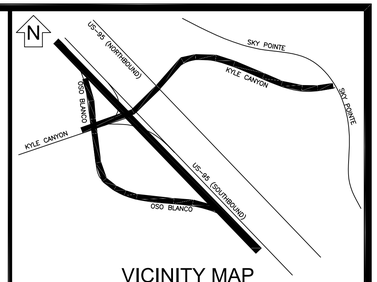



T,R,S: 1960-06

APN:

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NON-STANDARD

## PROJECT PURPOSE:

TO REMOVE 10 POLES & INSTALL FEEDER TO RE-FEED O.H. LINES FOR NEW US-95 OVERPASS

## EXHIBIT 'A'

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DCA: N/A
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NVEnergy

## NDOT-US95 PH. 2B (DURANGO TO KYLE CANYON)

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|---|---|
| PROJ. ID: 3001321673 | SCALE: 1" = 30' |
| SHEET # 11 OF 13 | DATE: 04/14/2016 |

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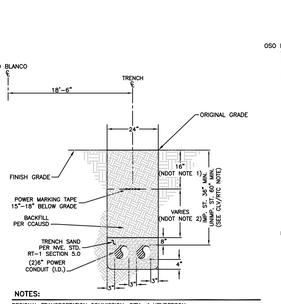


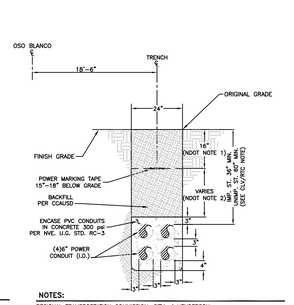

**NOTES:**

REGIONAL TRANSPORTATION COMMISSION, CITY of HENDERSON,
CITY of NORTH LAS VEGAS AND UNINCORPORATED CLARK COUNTY
REQUIREMENTS (SECTION 503, 503.1 & 503.2):
METHOD A/B FOR FLEXIBLE/RIGID PIPE TRENCH BACKFILL–PAVED AREAS
1. NO STONES OR LUMPS GREATER THAN 3" PERMITTED IN TRENCH 2' OR LESS IN WIDTH.
2. TRENCH WIDTH, BEDDING, SUBGRADE AND PIPE ZONE REQUIREMENTS FOR UTILITY INSTALLATIONS SHALL CONFORM TO THE RESPECTIVE ENTITY REQUIREMENTS.
3. CRUSHED ROCK MAY BE USED FOR PIPE BEDDING ONLY IF MATERIAL USE HAS BEEN SPECIFICALLY APPROVED BY THE GOVERNING AGENCY.
SEE STANDARD DRAWING NO. 505 FOR PIPE BEDDING METHODS.
4. LAS VEGAS VALLEY WATER DISTRICT REQUIRES PIPE BEDDING AND BACKFILL WITHIN THE PIPE ZONE TO BE OF THE SAME MATERIAL.
**CDB JURISDICTION:**
FOR ALL AREAS EXCEPT MVENERGY PIPE ZONE, THE TRENCH, BACKFILL AND AC REPLACEMENT SHALL BE PER CCAUSD.

**NDOT REQUIREMENTS (APPLICABLE WITHIN NDOT RIGHT-OF-WAY ONLY):**
1. 3/4 INCH OPEN–GRADE.
2. 4 INCH MINIMUM DENSE–GRADE OR MATCH EXISTING, WHICHEVER IS GREATER.
3. BASE AGGREGATE (AS PER NDOT SPECIFICATIONS; SECTION 704). A MINIMUM OF 16 INCHES TO BE LAID IN MAXIMUM 8 INCH LOOSE LIFTS. 95% COMPACTION REQUIRED.
4. BACKFILL WITH SELECT MATERIAL TO BOTTOM OF BASE AGGREGATE (AS PER NDOT SPECIFICATIONS; SECTION 207). 90% COMPACTION REQUIRED.
5. LIMITS OF PAVING TO BE DETERMINED BY THE INSPECTOR.

**NVE REQUIREMENTS:**
FOR ALL OTHER JURISDICTIONS REFER TO NVE STANDARDS.
BACKFILL REQUIREMENTS NVE, STD. RT–1.
TRENCH DEPTH REQUIREMENTS NVE, STD. RT–5.

## TRENCH DETAIL
2–4" CONDUITS
SECTION " A "



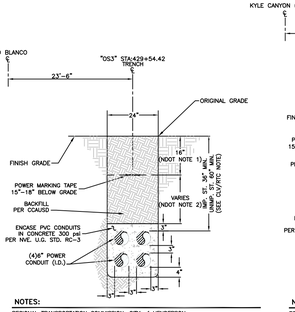

**NOTES:**

REGIONAL TRANSPORTATION COMMISSION, CITY of HENDERSON,
CITY of NORTH LAS VEGAS AND UNINCORPORATED CLARK COUNTY
REQUIREMENTS (SECTION 503, 503.1 & 503.2):
METHOD A/B FOR FLEXIBLE/RIGID PIPE TRENCH BACKFILL–PAVED AREAS
1. NO STONES OR LUMPS GREATER THAN 3" PERMITTED IN TRENCH 2' OR LESS IN WIDTH.
2. TRENCH WIDTH, BEDDING, SUBGRADE AND PIPE ZONE REQUIREMENTS FOR UTILITY INSTALLATIONS SHALL CONFORM TO THE RESPECTIVE ENTITY REQUIREMENTS.
3. CRUSHED ROCK MAY BE USED FOR PIPE BEDDING ONLY IF MATERIAL USE HAS BEEN SPECIFICALLY APPROVED BY THE GOVERNING AGENCY.
SEE STANDARD DRAWING NO. 505 FOR PIPE BEDDING METHODS.
4. LAS VEGAS VALLEY WATER DISTRICT REQUIRES PIPE BEDDING AND BACKFILL WITHIN THE PIPE ZONE TO BE OF THE SAME MATERIAL.
**CDB JURISDICTION:**
FOR ALL AREAS EXCEPT MVENERGY PIPE ZONE, THE TRENCH, BACKFILL AND AC REPLACEMENT SHALL BE PER CCAUSD.

**NDOT REQUIREMENTS (APPLICABLE WITHIN NDOT RIGHT-OF-WAY ONLY):**
1. 3/4 INCH OPEN–GRADE.
2. 4 INCH MINIMUM DENSE–GRADE OR MATCH EXISTING, WHICHEVER IS GREATER.
3. BASE AGGREGATE (AS PER NDOT SPECIFICATIONS; SECTION 704). A MINIMUM OF 16 INCHES TO BE LAID IN MAXIMUM 8 INCH LOOSE LIFTS. 95% COMPACTION REQUIRED.
4. BACKFILL WITH SELECT MATERIAL TO BOTTOM OF BASE AGGREGATE (AS PER NDOT SPECIFICATIONS; SECTION 207). 90% COMPACTION REQUIRED.
5. LIMITS OF PAVING TO BE DETERMINED BY THE INSPECTOR.

**NVE REQUIREMENTS:**
FOR ALL OTHER JURISDICTIONS REFER TO NVE STANDARDS.
BACKFILL REQUIREMENTS NVE, STD. RT–1.
TRENCH DEPTH REQUIREMENTS NVE, STD. RT–5.

## TRENCH DETAIL
4–6" CONDUITS
SECTION " B "

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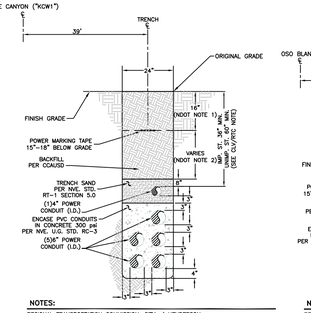
TRENCH DEPTH REQUIREMENTS NVE, STD. RT–5.

## TRENCH DETAIL
4–6" CONDUITS
SECTION " C "

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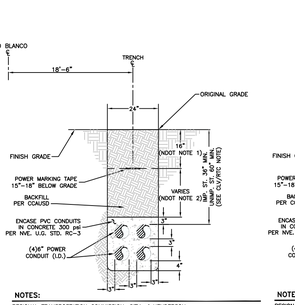
TRENCH DEPTH REQUIREMENTS NVE, STD. RT–5.

## TRENCH DETAIL
1–4" CONDUIT & 5–6" CONDUITS
SECTION " D "

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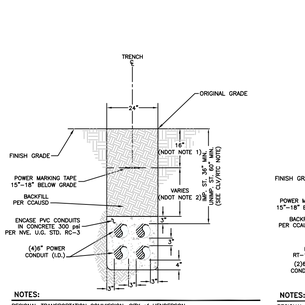
TRENCH DEPTH REQUIREMENTS NVE, STD. RT–5.

## TRENCH DETAIL
4–6" CONDUITS
SECTION " E "

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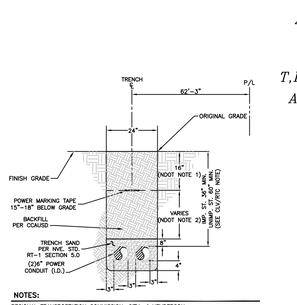
## TRENCH DETAIL
4–6" CONDUITS
SECTION " M "

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TRENCH DEPTH REQUIREMENTS NVE, STD. RT–5.

## TRENCH DETAIL
1–4" CONDUITS
SECTION " N "




**NOTES:**

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**NVE REQUIREMENTS:**
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BACKFILL REQUIREMENTS NVE, STD. RT–1.
TRENCH DEPTH REQUIREMENTS NVE, STD. RT–5.

## TRENCH DETAIL
4–6" CONDUITS
SECTION " P "




**NOTES:**

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## TRENCH DETAIL
4–6" CONDUITS
SECTION " R "




**NOTES:**

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TRENCH DEPTH REQUIREMENTS NVE, STD. RT–5.

## TRENCH DETAIL
4–6" CONDUITS
SECTION " S "




**NOTES:**

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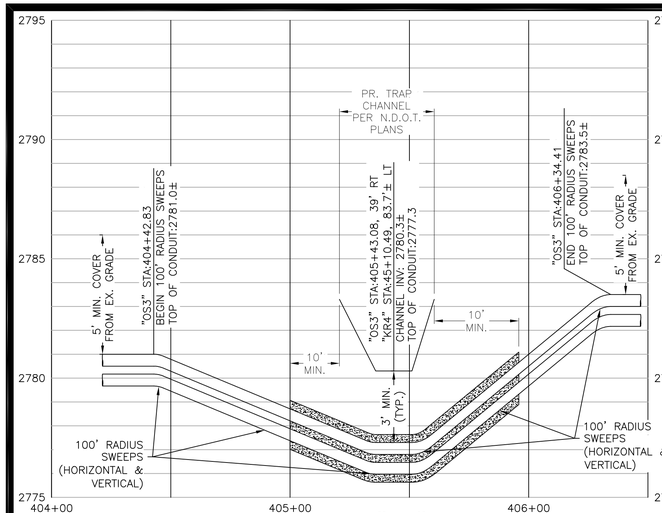
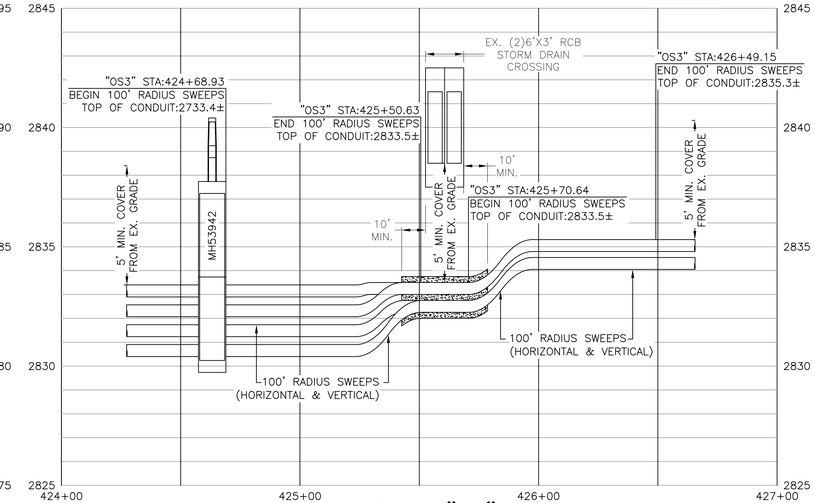
## TRENCH DETAIL
4–6" CONDUITS
SECTION " T "


KYLE CANYON "KCE1"
TRENCH
72'
ORIGINAL GRADE
24"
16" (NOT NOTE 1)
FINISH GRADE
POWER MARKING TAPE 15"-18" BELOW GRADE
BACKFILL PER CCAUSD
VARIES (NOT NOTE 2)
TRENCH SAND PER N



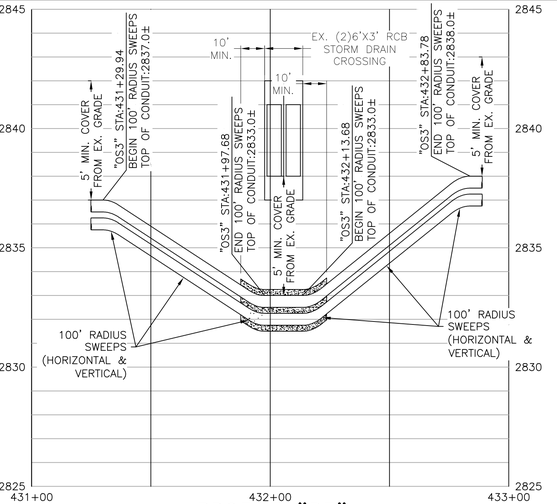

# PROFILE "P1"

OSO BLANCA ROAD – "OS3" – STA:404+00 TO 406+50
HORIZ. SCALE: 1" = 30' | VERT. SCALE: 1" = 3'




# PROFILE "P2"

OSO BLANCA ROAD – "OS3" – STA:424+00 TO 427+00
HORIZ. SCALE: 1" = 30' | VERT. SCALE: 1" = 3'




# PROFILE "P3"

OSO BLANCA ROAD – "OS3" – STA:431+00 TO 433+00
HORIZ. SCALE: 1" = 30' | VERT. SCALE: 1" = 3'

## CENTERLINE STATION TABLE

| # | STREET INTERSECTION | STA | HEADED |
|---|---|---|---|
| Ⓐ | OSO BLANCO ROAD | 429+02.31 | NORTH |
| | KYLE CANYON ROAD (KCE1) | 5+05.55 | EAST |
| Ⓑ | OSO BLANCO ROAD | 429+54.43 | NORTH |
| | KYLE CANYON ROAD (KCW1) | 10+00.00 | EAST |

## STATION TABLE

| MAXIMO STATION | CORNER | CENTER LINE STATION | SIDE | OFFSET CL TO BOC | OFFSET CL TO ROW | OFFSET CL TO CLOSEST FACE OF SUBSTRUCTURE | SUBSTRUCTURE INFORMATION |
|---|---|---|---|---|---|---|---|
| 0002 | EAST | 408+14.32 FIELD NOTES: | RT | N/A | N/A | 16.00' | RS–94 – 11.50' X 6.0' OPERATING NUMBER: MH00265 PAGE NUMBER: 2 |
| | WEST | 408+25.62 FIELD NOTES: | RT | N/A | N/A | 16.00' | EASEMENT NUMBER: FUTURE TYPICAL EASEMENT LAYOUT:FUTURE |
| 0004 | EAST | 416+09.01 FIELD NOTES: | RT | N/A | N/A | 16.00' | RS–94 – 11.50' X 6.0' OPERATING NUMBER: MH71156 PAGE NUMBER: 3 |
| | WEST | 416+20.51 FIELD NOTES: | RT | N/A | N/A | 16.00' | EASEMENT NUMBER: FUTURE TYPICAL EASEMENT LAYOUT:FUTURE |
| 0006 | SOUTH | 424+56.35 FIELD NOTES: | RT | N/A | 50.00' | 16.00' | RS–94 – 11.50' X 6.0' OPERATING NUMBER: MH53942 PAGE NUMBER: 4 |
| | NORTH | 424+68.23 FIELD NOTES: | RT | N/A | 50.00' | 16.00' | EASEMENT NUMBER: FUTURE TYPICAL EASEMENT LAYOUT:FUTURE |
| 0010 | SOUTH | 434+00.68 FIELD NOTES: | RT | N/A | 30.00' | 21.00' | RS–94 – 11.50' X 6.0' OPERATING NUMBER: MH42209 PAGE NUMBER: 6 |
| | NORTH | 434+12.18 FIELD NOTES: | RT | N/A | 30.00' | 21.00' | EASEMENT NUMBER: FUTURE TYPICAL EASEMENT LAYOUT:FUTURE |
| 0011 | SOUTH | 440+46.30 FIELD NOTES: | RT | N/A | 30.00' | 22.28' | RS–94 – 11.50' X 6.0' OPERATING NUMBER: MH78220 PAGE NUMBER: 7 |
| | NORTH | 440+57.80 FIELD NOTES: | RT | N/A | 30.00' | 22.42' | EASEMENT NUMBER: FUTURE TYPICAL EASEMENT LAYOUT:FUTURE |

## CENTERLINE STATION TABLE

| # | STREET INTERSECTION | STA | HEADED |
|---|---|---|---|
| Ⓐ | KYLE CANYON ROAD (KCE1) | 5+05.55 | EAST |
| | OSO BLANCO ROAD | 429+02.31 | NORTH |
| Ⓓ | KYLE CANYON ROAD (KCE1) | 30+48.81 | EAST |
| | SKY POINTE DRIVE | 10+00.00 | NORTH |

## STATION TABLE

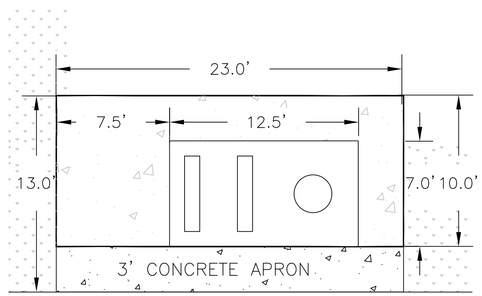
| MAXIMO STATION | CORNER | CENTER LINE STATION | SIDE | OFFSET CL TO BOC | OFFSET CL TO ROW | OFFSET CL TO CLOSEST FACE OF SUBSTRUCTURE | SUBSTRUCTURE INFORMATION |
|---|---|---|---|---|---|---|---|
| 0033 | WEST | 16+55.66 FIELD NOTES: | LT | 29.65' | N/A | 35.58' | RS–94 – 11.50' X 6.0' OPERATING NUMBER: MH34448 PAGE NUMBER: 9 |
| | EAST | 16+66.34 FIELD NOTES: | LT | 18.96' | N/A | 31.32' | EASEMENT NUMBER: FUTURE TYPICAL EASEMENT LAYOUT:FUTURE |
| 0035 | WEST | 23+95.79 FIELD NOTES: | LT | 15.67' | N/A | 23.26' | RS–94 – 11.50' X 6.0' OPERATING NUMBER: MH65984 PAGE NUMBER: 9 |
| | EAST | 24+05.80 FIELD NOTES: | LT | 15.67' | N/A | 27.68' | EASEMENT NUMBER: FUTURE TYPICAL EASEMENT LAYOUT:FUTURE |
| 0029 | WEST | 24+06.82 FIELD NOTES: | LT | 15.67' | N/A | 35.40' | RS–82 – 7.67' X 3.67' OPERATING NUMBER: UGM94573 PAGE NUMBER: 4 |
| | EAST | 24+13.87 FIELD NOTES: | LT | 15.88' | N/A | 38.42' | EASEMENT NUMBER: FUTURE TYPICAL EASEMENT LAYOUT:FUTURE |

## CENTERLINE STATION TABLE

| # | STREET INTERSECTION | STA | HEADED |
|---|---|---|---|
| Ⓑ | KYLE CANYON ROAD (KCW1) | 10+00.00 | EAST |
| | OSO BLANCO ROAD | 429+54.43 | NORTH |
| Ⓒ | KYLE CANYON ROAD (KCW1) | 34+98.13 | EAST |
| | SKY POINTE DRIVE | 10+46.00 | NORTH |

## STATION TABLE

| MAXIMO STATION | CORNER | CENTER LINE STATION | SIDE | OFFSET CL TO BOC | OFFSET CL TO ROW | OFFSET CL TO CLOSEST FACE OF SUBSTRUCTURE | SUBSTRUCTURE INFORMATION |
|---|---|---|---|---|---|---|---|
| 0008 | WEST | 11+01.62 FIELD NOTES: | LT | 32.00' | N/A | 42.00' | RS–97 – 12.50' X 7.0' OPERATING NUMBER: DFC9917 PAGE NUMBER: 5 |
| | EAST | 11+14.12 FIELD NOTES: | LT | 32.00' | N/A | 42.00' | EASEMENT NUMBER: FUTURE TYPICAL EASEMENT LAYOUT:FUTURE |
| 0025 | WEST | 11+56.02 FIELD NOTES: | LT | 32.00' | N/A | 39.50' | RS–82 – 7.67' X 3.67' OPERATING NUMBER: UGM PAGE NUMBER: 28725 |
| | EAST | 11+63.41 FIELD NOTES: | LT | 32.00' | N/A | 39.50' | EASEMENT NUMBER: FUTURE TYPICAL EASEMENT LAYOUT:FUTURE |
| 0031 | WEST | 11+75.86 FIELD NOTES: | LT | 32.00' | N/A | 34.00' | RS–94 – 11.50' X 6.0' OPERATING NUMBER: MH18237 PAGE NUMBER: 5 |
| | EAST | 11+87.00 FIELD NOTES: | LT | 32.00' | N/A | 34.00' | EASEMENT NUMBER: FUTURE TYPICAL EASEMENT LAYOUT:FUTURE |
| 0026 | WEST | 19+09.85 FIELD NOTES: | LT | 21.84' | N/A | 22.00' | RS–82 – 7.67' X 3.67' OPERATING NUMBER: UGM37146 PAGE NUMBER: 9 |
| | EAST | 19+17.80 FIELD NOTES: | LT | 21.72' | N/A | 22.00' | EASEMENT NUMBER: FUTURE TYPICAL EASEMENT LAYOUT:FUTURE |




# RS–99 PLACEMENT WITHOUT SIDEWALK

CONFORMS TO CLV SPECIFICATIONS

### CONSTRUCTION/INSPECTION REQUIREMENTS

WORK MUST CONFORM TO NVE ELECTRIC SERVICE STANDARDS, AVAILABLE AT: www.nvenergy.com/business/newconstruction/newconstruction5/servicestandards.cfm

NVE INSPECTOR MUST BE PRESENT TO INSPECT TRENCHING (SCHEDULE AT LEAST 72 HOURS IN ADVANCE) AT EACH OF THE FOLLOWING STAGES:
1. BOTTOM SAND AND CONDUIT INSTALLED
2. TOP SAND INSTALLED
3. BACKFILL INSTALLED

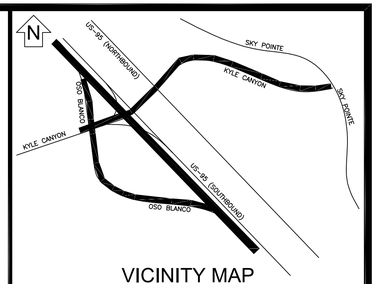
CONDUIT MUST BE MANDRELLED PRIOR TO RELEASE (COORDINATE WITH INSPECTOR).

NVE STAND BY CREW IS REQUIRED WHEN WORKING AT AN ENERGIZED VAULT OR TRANSFORMER. CALL STAND BY NUMBER (SEE TITLE BLOCK) TO SCHEDULE.

NVE ELECTRICAL INSTALLATION WILL NOT BE SCHEDULED UNTIL AFTER THE NVE INSPECTOR HAS COMPLETED THE OFFICIAL RELEASE.

METER(S) WILL NOT BE SET UNTIL ALL OF THE FOLLOWING ARE COMPLETE:
- [INSTRUMENT-RATED ONLY] METERING EQUIPMENT HAS BEEN SUBMITTED TO NVE METERING ENGINEER AND APPROVED. (submittals_southern@nvenergy.com)
- APPLICATION FOR METER SET HAS BEEN SUBMITTED TO NVE'S NEW DEVELOPMENT CENTER. FORM AVAILABLE AT: www.nvenergy.com/brochures_arch/new_construction/meter_set.pdf
- THE LOCAL BUILDING AUTHORITY HAS INSPECTED AND APPROVED THE METERING EQUIPMENT.
- METERING EQUIPMENT IS ACCESSIBLE AND CLEARLY IDENTIFIED WITH PERMANENT MARKINGS. ADDRESSES, SUITE NUMBERS, AND STREET SIGNS ARE POSTED IN PERMANENT LOCATIONS (SEE RPI-0).

TRACK PROJECT STATUS ONLINE WITH NVE'S DEVELOPER DASHBOARD: www.nvenergy.com/business/newconstruction/newconstruction5/developerdashboard.cfm

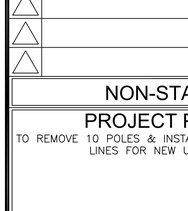



## VICINITY MAP

(NOT TO SCALE)

EVERY EFFORT HAS BEEN MADE TO IDENTIFY ALL NVE FACILITIES. THE CUSTOMER SHALL CONFIRM THE EXISTENCE AND LOCATION OF THESE FACILITIES.

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.




CALL 1-702-402-2929

Call before you Dig
Avoid cutting underground utility lines. It's costly.
CALL 811
OR
1-800-227-2600
AND CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-6000

## REVISIONS

| NO. | DESCRIPTION | DATE | G.A. |
|---|---|---|---|
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NON-STANDARD

## PROJECT PURPOSE:

TO REMOVE 10 POLES & INSTALL FEEDER TO RE-FEED O.H. LINES FOR NEW US-95 OVERPASS

## EXHIBIT 'A'

NVEnergy INFORMATION:
COORDINATOR: DON JACKSON
PHONE: 702-236-3259
DESIGNER: GERALD JOHNSON D.F. J.M.
DCA: N/A
INSPECTOR: 402-3008
STAND BY: 402-4114, 402-4117,402-4118
DISTRICT: LAS VEGAS NORTH

JPA INFORMATION:
JPA ADMIN PHONE: 244-7290 JPA#: P201213691

CUSTOMER INFORMATION:
APPLICANT: NDOT
ENGINEER: GC WALLACE
CONTACT: ERIK REED 702-385-6531
APPROVAL DATE: 12/23/2016

GOVERNMENT INFORMATION:
AGENCY: CITY OF LAS VEGAS
APPROVAL DATE: 12/23/2016

FOR EACH SERVICE POINT (POINT OF DELIVERY), ENERGY FOR EACH TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. ENERGY FOR ALL NON-TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. CONTACT NVE METER OPERATIONS FOR MULTIPLE RATE CLASS INSTALLATIONS.

NVEnergy

## CITY OF LAS VEGAS PERMIT REQUIRED*

CONTACT CLV LAND DEVELOPMENT (229-6371) CLV CONSTRUCTION SERVICES MUST BE NOTIFIED 24 HOURS PRIOR TO COMMENCING CONSTRUCTION (229-6337)

HANSEN_____ DATE_____

*NVE INSPECTOR MUST BE NOTIFIED BY FAX 48 HOURS PRIOR TO COMMENCING CONSTRUCTION & WILL VERIFY CITY PERMIT FOR WORK DONE IN STREETS OR SIDEWALK. FAX PERMIT TO:
LAS VEGAS NORTH (RYAN CENTER): 402-4354
LAS VEGAS SOUTH (BELTWAY CENTER): 402-6864

NOTE: ALL THE ABOVE GROUND UTILITY APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF CLV UNIFIED DEVELOPMENT CODE TITLE 19.06 AND 19.08

## APPROVED FOR CONSTRUCTION

THIS APPROVAL IS FOR WORK IN CLV R/W & EASEMENT ONLY. OBTAINING PERMISSIONS OR EASEMENTS FOR WORK SHOWN ON PRIVATE PROPERTY IS THE RESPONSIBILITY OF THE UTILITY.

APPROVAL DATE

# NDOT-US95 PH. 2B (DURANGO TO KYLE CANYON)

| PROJ. ID: 3001321673 | SCALE: 1" = 30' |
|---|---|
| SHEET # 13 OF 13 | DATE: 04/14/2016 |

q112559
6/29/2017 8:30 AM

Sharing of this drawing and the information contained herein shall be only to individuals/parties who have entered into an agreement with Applicant for the completion of work associated with this specific project. Use for purposes other than this specific project requires the written consent of NV Energy.

FOR REFERENCE ONLY

CONSTRUCTION OF THIS JOB
IS CONTINGENT UPON THE
COMPLETION OF WR# 3001321673

**NV ENERGY SCHEDULING NOTE: DAY (NO LANE BLOCKS)**

THIS PROJECT WAS ESTIMATED WITH THE ASSUMPTION THAT ALL THE WORK BEING PERFORMED ON THIS PROJECT BY NV ENERGY CREWS CAN BE DONE DURING THE DAYTIME WITH NO TRAFFIC CONTROL REQUIRED.

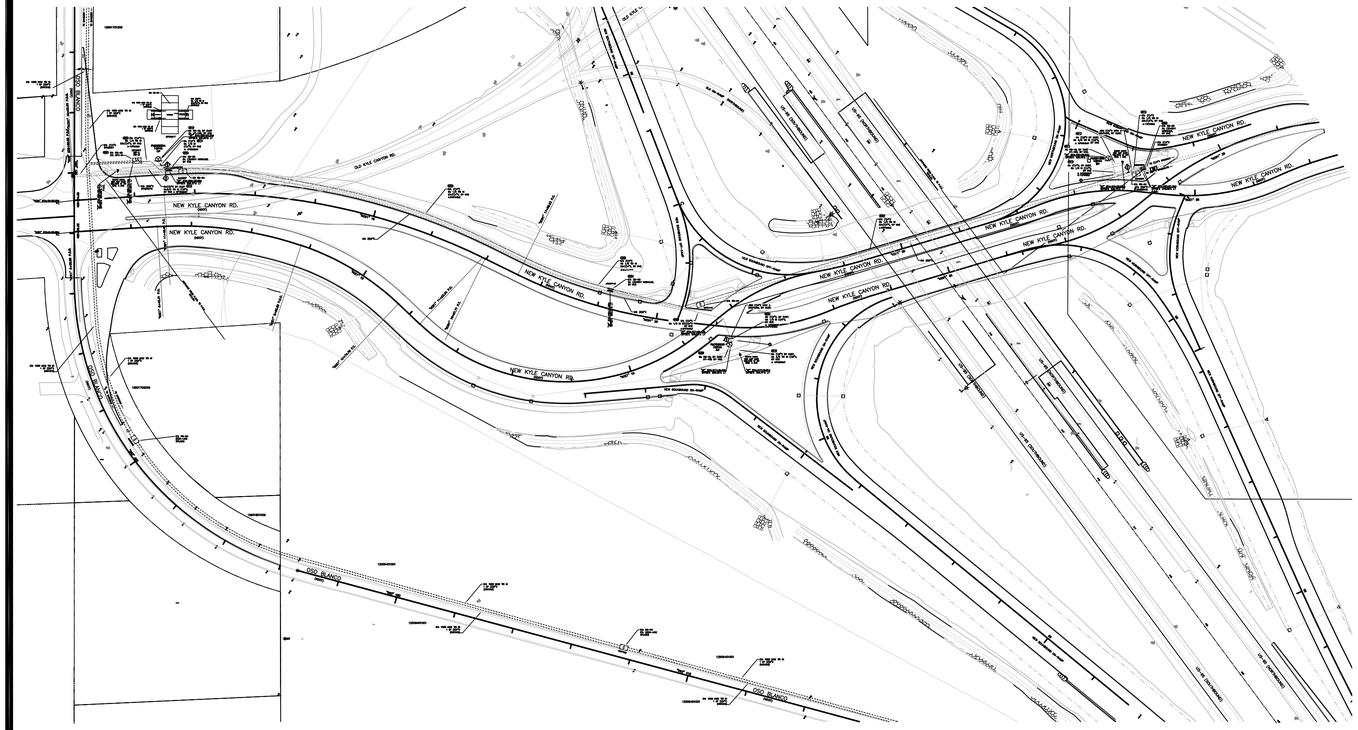
GOVERNMENT APPROVAL OF THESE DRAWINGS DOES NOT INDICATE APPROVAL OF TRAFFIC CONTROL. PLEASE REFER TO THE BARRICADE PLAN FOR APPROVED TRAFFIC CONTROL REQUIREMENTS.

**PURPOSE OF PROJECT:**
TO PROVIDE 120/240V 1 PH. SVC. TO (2)200A PANELS FOR ST. LT. & TRAFFIC LT. SERVICES FOR CLV

N

*T,R,S:* 1960-06

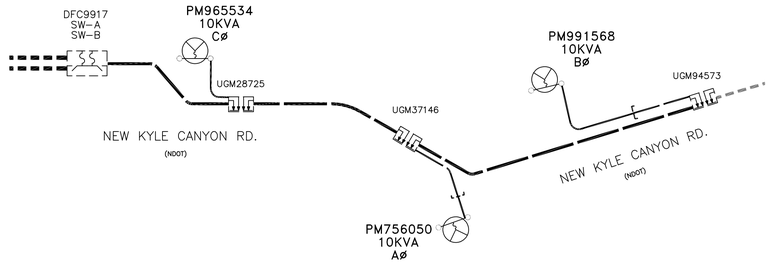
*APN:*




## OVERALL PROJECT

–NOT TO SCALE–

| SOURCE FC OR RISER | PH. | PROJECT CONNECTED LOAD (1ø) EX: KVA | ADDED KVA | TOTAL KVA | LOOP FC OR RISER |
|---|---|---|---|---|---|
| DFC9917 | A | 0 | 10 | 10 | ——— |
| UGM28725 | B | 0 | 10 | 10 | ——— |
| NW1216 | C | 0 | 10 | 10 | ——— |




## SINGLE LINE DIAGRAM

–NVE USE ONLY–

### CENTERLINE STATION TABLE

| # | STREET INTERSECTION | STA | HEADED |
|---|---|---|---|
| Ⓐ | "KCW1" KYLE CANYON | 10+00.00 | EAST |
| | "OS3" OSO BLANCO | 429+54.05 | NORTH |
| Ⓑ | "KCE1" KYLE CANYON | 5+05.55 | EAST |
| | "OS3" OSO BLANCO | 429+02.03 | NORTH |

### STATION TABLE

| MAXIMO STATION | CORNER | CENTER LINE STATION | SIDE | OFFSET CL TO BOC | OFFSET CL TO ROW | OFFSET CL TO CLOSEST FACE OF SUBSTRUCTURE | SUBSTRUCTURE INFORMATION |
|---|---|---|---|---|---|---|---|
| 0008 | WEST | "KCW1" 21+24.28 FIELD NOTES: | RT | 15'–5" | | 25'–1" | RS–19 – 4.25' X 4.75' |
| | | | | | | | OPERATING NUMBER: PM756050 |
| | | | | | | | PAGE NUMBER: 3 |
| | EAST | "KCW1" 21+27.92 FIELD NOTES: | RT | 15'–1" | | 23'–5" | EASEMENT NUMBER: FUTURE |
| | | | | | | | TYPICAL EASEMENT LAYOUT: FUTURE |
| 0011 | WEST | "KCE1" 23+56.38 FIELD NOTES: | LT | 17'–3" | | 48'–2" | RS–19 – 4.25' X 4.75' |
| | | | | | | | OPERATING NUMBER: PM991568 |
| | | | | | | | PAGE NUMBER: 3 |
| | EAST | "KCE1" 23+60.03 FIELD NOTES: | LT | 17'–3" | | 49'–0" | EASEMENT NUMBER: FUTURE |
| | | | | | | | TYPICAL EASEMENT LAYOUT: FUTURE |
| 0015 | WEST | "KCW1" 11+40.00 FIELD NOTES: | LT | 21'–3" | 0' | 54'–10" | RS–19 – 4.25' X 4.75' |
| | | | | | | | OPERATING NUMBER: PM965534 |
| | | | | | | | PAGE NUMBER: 2 |
| | EAST | "KCW1" 11+44.25 FIELD NOTES: | LT | 21'–3" | 0' | 54'–10" | EASEMENT NUMBER: FUTURE |
| | | | | | | | TYPICAL EASEMENT LAYOUT: FUTURE |

**GENERAL NOTES:**

ANY NOTES LOCATED IN DRAWING AREA TAKE PRECEDENCE OVER STANDARD NOTES.

ALL WORK SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH THE SPECIFICATIONS SET FORTH IN THE ELECTRIC SERVICE REQUIREMENTS HANDBOOK, AS CURRENTLY ADOPTED BY NVE. THE CONTRACTOR SHALL SECURE COPIES OF THE AFOREMENTIONED CONSTRUCTION SPECIFICATIONS ON HIS OR HER OWN BEHALF.

REFER TO A CURRENT NV ENERGY ELECTRIC SERVICE REQUIREMENTS HANDBOOK FOR FURTHER CLARIFICATION OF NVE STANDARDS.

THE APPLICANT SHALL INFORM THE INSPECTOR AT LEAST 48 HOURS BEFORE COMMENCING ANY ITEM OF CONSTRUCTION OR INSTALLATION OF MATERIAL TO ENABLE PROPER INSPECTION OF MATERIALS AND WORKMANSHIP. MAIN TRENCH WIRE PULLS TO BE SCHEDULED 72 HOURS IN ADVANCE OF INSTALLATION. APPLICANT'S PROJECT WILL NOT BE SCHEDULED UNTIL FINAL APPROVAL FROM NVE UNDERGROUND & ELECTRICAL INSPECTORS.

SYMBOLS ARE NOT TO SCALE AND DO NOT NECESSARILY REPRESENT ACTUAL LOCATIONS OF FACILITIES.

THIS DRAWING ILLUSTRATES DATA COLLECTED FROM VARIOUS SOURCES AND MAY NOT REPRESENT A SURVEY OF THE PREMISES.

APPLICANT SHALL FIELD DETERMINE POSITION AND DEPTH OF EXISTING UTILITY EQUIPMENT PRIOR TO COMMENCING CONSTRUCTION.

USE CAUTION PRIOR TO EXCAVATION. CHECK TO ENSURE ADDITIONAL DEPTH IS NOT REQUIRED TO ACCOMMODATE GAS AND/OR WATER FACILITIES AND DRAINAGE CHANNELS.

CALL NV ENERGY UNDERGROUND INSPECTORS 48 HOURS PRIOR TO START OF CONSTRUCTION FOR TRENCH INSPECTION BEFORE COVERING TRENCH.

ALL NVE CABLE TO BE INSTALLED BEHIND CURB, UNLESS OTHERWISE STATED.

APPLICANT IS RESPONSIBLE FOR STAKING OF PROPERTY CORNERS & ELEVATIONS.

ALL HANDHOLES AND PULLBOXES SHALL BE INSTALLED TO FINISHED GRADE OR 6" ABOVE IF GRADE IS NOT ESTABLISHED.

WHEN INSTALLING CONDUIT IN FIELD, USE APPROPRIATE BENDS TO COMPLETE THE INSTALATION.

DEFLECTION OF CONDUIT BENDS AND CONDUIT NOT TO EXCEED NVE STANDARDS.

EXISTING CONDUIT INSTALLED BY PREVIOUS CONTRACTOR / DEVELOPER. NVE DOES NOT GUARANTEE LOCATION, LENGTH, OR ACCESSIBILITY OF STUB OUT. IF UTILIZING ANY PORTION OF EXISTING CONDUIT, IT MUST BE MANDRELLED PRIOR TO FINAL RELEASE.

PREVIOUSLY MANDRELLED CONDUIT WHICH HAS BEEN IN THE GROUND FOR OVER 6 MONTHS MUST BE RE–MANDRELLED PRIOR TO FINAL RELEASE.

WHEN NV ENERGY FACILITIES ARE TO BE REMOVED NV ENERGY WILL REMOVE ALL WIRES AND EQUIPMENT. NV ENERGY IS NOT RESPONSIBLE FOR THE REMOVAL OF CONDUIT RUNS OR SUBSTRUCTURES FROM THE PROPERTY.

NO COVERED PARKING IN FRONT OF EQUIPMENT.

ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF–SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA", LATEST ISSUE; THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA NEVADA", LATEST ISSUE; AND OTHER APPLICABLE APPROVED STANDARDS ISSUED BY THE CONTROLLING AGENCY; ALL LOCAL CITY CODES AND ORDINANCES APPLICABLE.

**CIVIL LINETYPE LEGEND**

CENTERLINE
PROPERTY LINE/ROW
CURB
EDGE OF PAVEMENT
EDGE OF SIDEWALK
SEWER LINE
WATER LINE
COHW WATER LINE
LVVWD WATER LINE
SNWA WATER LINE
GAS LINE
TELEPHONE LINE
CABLE TV LINE
STORM DRAIN LINE
FIRE HYDRANT
SIGNAL LIGHT
SERVICE INDICATOR
STREET LIGHT

**COMMERCIAL WITH FEEDER**

EXIST. NEW REM.

**NVE WORK AND SERVICES TO CONSIST OF:**

1000 MCM TRIPLEX, 15 KV AL PRIMARY CABLE IN 6" PLASTIC CONDUIT.

1/0 TRIPLEX, 15 KV AL PRIMARY CABLE IN 4" PLASTIC CONDUIT (CONDUIT BY CONTRACTOR).

1/0, 15 KV AL PRIMARY CABLE IN 4" PLASTIC CONDUIT (CONDUIT BY CONTRACTOR).

CONDUIT LOCATING DEVICE 18" ABOVE STUBOUT.

SINGLE PHASE PRIMARY POLE RISER PER NVE U.G. STD. OEP–105.

THREE PHASE PRIMARY POLE RISER PER NVE U.G. STD. OEP–106.

600 AMP THREE PHASE, 12.47 KV PRIMARY POLE RISER PER NVE U.G. STD. OEP–101.

SECONDARY RISER PER NVE U.G. STD. SSP–2.

SWITCHES (FC–9, FC–10, FC–11, FC–12).

5' X 10'–6" X 7' MANHOLE, PER NVE U.G. STD. RS–94.

1200KVAR CAPACITOR BANK PER NVE U.G. STD. UC–101.

SINGLE PHASE COMMERCIAL PADMOUNTED TRANSFORMER WITH SIZE AS NOTED, 7200–120/240V, PER NVE U.G. STD. UT–105.

(2) SINGLE PHASE PADMOUNTED COMMERCIAL TRANSFORMERS WITH SIZE AS NOTED, 7200–120/240V, CONNECT OPEN WYE–OPEN DELTA FOR THREE PHASE 120–240V SERVICE, PER NVE U.G. STD. UT–107, WHERE APPLICABLE.

(3) SINGLE PHASE PADMOUNTED COMMERCIAL TRANSFORMERS WITH SIZE AS NOTED, 7200–120/240V, CONNECT CLOSED WYE–CLOSED DELTA FOR THREE PHASE 120–240V SERVICE, PER NVE U.G. STD. UT–109, WHERE APPLICABLE.

THREE PHASE COMMERCIAL PADMOUNTED TRANSFORMER WITH SIZE & VOLTAGE AS NOTED, PER NVE U.G. STD. UT–101, WHERE APPLICABLE.

TERMINATION OF ALL MODULES, MAKES, SPLICES AND FINAL CONNECTIONS.

NVE TO COIL PRIMARY CABLE IN PULLBOX FOR FUTURE SPLICES, WHERE APPLICABLE.

NVE TO CUT EXISTING CONDUIT AND TERMINATE PRIMARY CABLES ON THE LOAD BREAK MODULE, WHERE APPLICABLE.

SERVICE CABLE BY NVE UNLESS NOTED OTHERWISE.

INSTALL ONLY

INSTALL NEW CABLE IN EXISTING VACANT CONDUIT.

**APPLICANT TO FURNISH AND INSTALL:**

ALL TRENCHING & BACKFILL, MEETING APPLICABLE NVE STANDARD (RT–5, RT–7, OR RT–12).

6" PLASTIC CONDUIT, PER NVE U.G. STD. RC–1 AND RC–2.

6" RGS BENDS (90°, 45°) WITH 48" MIN. RADIUS, TAPED OR PVC COATED.

AN APPROVED POLYSTER PULL TAPE OF 2500 LBS OF PULL STRENGTH FOR 6" CONDUIT SHALL BE INSTALLED IN EACH COMPLETE CONDUIT RUN.

4" PLASTIC CONDUIT, PER NVE U.G. STD. RC–1 AND RC–2.

4" PLASTIC CONDUIT BENDS (90°, 45°) WITH 36" MIN. RADIUS. (IF CONDUIT LENGTH IS UNDER 100')

4" RGS BENDS (90°, 45°) WITH 36" MINIMUM RADIUS, TAPED OR PVC COATED. (IF CONDUIT LENGTH IS OVER 100')

COUPLING FOR 4" OR 6" CONDUITS (AS APPLICABLE).

ALL SERVICE CONDUIT – 4" MINIMUM DB60 PVC GRAY (RISER: RGS REQUIRED) WITH 5/32" POLYPROPYLENE PULL LINE WITH A MIN. BREAKING STRENGTH OF 2500 lbs.

2'–6" X 4' X 4' SPLICE PULLBOX PER NVE U.G. STD. RS–80.

3' X 7' X 4' PULLBOX PER NVE U.G. STD. RS–82.

PAD FOR (1) SINGLE PHASE COMMERCIAL TRANSFORMER, PER NVE U.G. STD. RS–19 AND RS–5.

PAD FOR (2) SINGLE PHASE COMMERCIAL TRANSFORMERS, PER NVE U.G. STD. RS–20 AND RS–5.

PAD FOR (3) SINGLE PHASE COMMERCIAL TRANSFORMERS, PER NVE U.G. STD. RS–21 AND RS–5.

PAD FOR (1) THREE PHASE COMMERCIAL TRANSFORMER, PER NVE U.G. STD. RS–35, RS–37, RS–40 OR RS–41, AND RS–5.

5' X 10'–6" X 7' MANHOLE FOR SWITCH, PER NVE U.G. STD. RS–98, RS–99, RS–100, OR RS–101.

VEHICLE PROTECTIVE BARRIERS PER NVE U.G. STD. RS–6, WHERE APPLICABLE.

**CONSTRUCTION/INSPECTION REQUIREMENTS**

WORK MUST CONFORM TO NVE ELECTRIC SERVICE STANDARDS, AVAILABLE AT: www.nvenergy.com/business/newconstruction/newconstruction5/serviceStandards.cfm

NVE INSPECTOR MUST BE PRESENT TO INSPECT TRENCHING (SCHEDULE AT LEAST 72 HOURS IN ADVANCE) AT EACH OF THE FOLLOWING STAGES:
1. BOTTOM SAND AND CONDUIT INSTALLED
2. TOP SAND INSTALLED
3. BACKFILL INSTALLED

CONDUIT MUST BE MANDRELLED PRIOR TO RELEASE (COORDINATE WITH INSPECTOR).

NVE STAND BY CREW IS REQUIRED WHEN WORKING AT AN ENERGIZED VAULT OR TRANSFORMER. CALL STAND BY NUMBER (SEE TITLE BLOCK) TO SCHEDULE.

NVE ELECTRICAL INSTALLATION WILL NOT BE SCHEDULED UNTIL AFTER THE NVE INSPECTOR HAS COMPLETED THE OFFICIAL RELEASE.

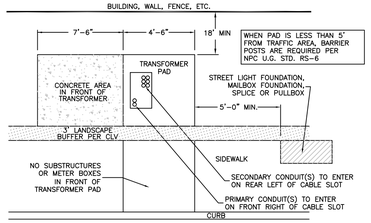
METER(S) WILL NOT BE SET UNTIL ALL OF THE FOLLOWING ARE COMPLETE:
- [INSTRUMENT–RATED ONLY] METERING EQUIPMENT HAS BEEN SUBMITTED TO NVE METERING ENGINEER AND APPROVED. (submittals_southern@nvenergy.com)
- APPLICATION FOR METER SET HAS BEEN SUBMITTED TO NVE'S NEW DEVELOPMENT CENTER. FORM AVAILABLE AT: www.nvenergy.com/brochures_arch/new_construction/meter_set.pdf
- THE LOCAL BUILDING AUTHORITY HAS INSPECTED AND APPROVED THE METERING EQUIPMENT.
- METERING EQUIPMENT IS ACCESSIBLE AND CLEARLY IDENTIFIED WITH PERMANENT MARKINGS. ADDRESSES, SUITE NUMBERS, AND STREET SIGNS ARE POSTED IN PERMANENT LOCATIONS (SEE RPI–G).

TRACK PROJECT STATUS ONLINE WITH NVE'S DEVELOPER DASHBOARD: www.nvenergy.com/business/newconstruction/newconstruction5/developerdashboard.cfm

**RTC NOTES:**

BACKFILL AND RIGHT OF WAY RESTORATION SHALL CONFORM TO CLARK COUNTY UNIFORM STANDARD DRAWINGS

| | | |
|---|---|---|
| 1 | 500.1 | 0 TO 5 YEARS PAVEMENT RESTORATION LONGITUDINAL CUT |
| 2 | 500.2 | 0 TO 5 YEARS PAVEMENT RESTORATION TRANSVERSE CUT |
| 3 | 500.3 | OVER 5 YEARS PAVEMENT RESTORATION LONGITUDINAL CUT, GREATER THAN 60' R.O.W |
| 4 | 500.4 | OVER 5 YRS PAVEMENT RESTORATION LONGITUDINAL CUT, 60' R.O.W OR LESS |
| 5 | 500.5 | OVER 5 YRS PAVEMENT RESTORATION TRANSVERSE ALL R.O.W WIDTHS |
| 6 | 501 | TYPICAL UNDERGROUND UTILITY LOCATIONS IN RESIDENTIAL STREETS 60' OR LESS R.O.W. |
| 7 | 501.1 | TYPICAL UTILITY UNDERGROUND LOCATIONS IN STREETS WITH GREATER THAN 60' R.O.W. |
| 8 | 503 | METHOD B FOR RIGID AND FLEXIBLE PIPE TRENCH BACKFILL – PAVED AREAS |
| 9 | 503.1 | METHOD A FOR FLEXIBLE PIPE TRENCH BACKFILL – PAVED AREAS |
| 10 | 503.2 | METHOD A FOR RIGID PIPE TRENCH BACKFILL – PAVED AREAS |
| 11 | | BACKFILL IN UNPAVED AREA AS REQUIRED BY LOCAL CODE OR AS APPROVED BY AGENCY. |
| 12 | 234 | SIDEWALK |
| 13 | 506 | UTILITY POTHOLE REPAIR |




**SINGLE–PHASE TRANSFORMER LOCATION DETAIL**

WITHIN CITY OF LAS VEGAS ONLY (ALONG STREETS THAT BORDER NON–RESIDENTIAL DEVELOPMENT)
NPC U.G. STD. RS–5 & RS–19
CLV MUNICIPAL CODE: TITLE 19.06 AND 19.08

**BUY AMERICA LAW AND BUY AMERICA REQUIREMENTS APPLY TO THIS PROJECT**

BUY AMERICA MATERIAL FOR NV ENERGY PERSONNEL TO INSTALL IS STAGED SEPARATELY FROM REGULAR STOCK ITEMS.

NV ENERGY PERSONNEL TO PULL BUY AMERICA MATERIAL ONLY FROM THE DESIGNATED NON–STOCK SUPPLY FOR THIS PROJECT.

NV ENERGY PERSONNEL AND NV ENERGY CONTRACTORS MUST COMPLY WITH BUY AMERICA LAW AND BUY AMERICA REQUIREMENTS.

NOTE: ALL THE ABOVE GROUND UTILITY APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF CLV UNIFIED DEVELOPMENT CODE TITLE 19.06 AND 19.08

**APPROVED FOR CONSTRUCTION**

THIS APPROVAL IS FOR WORK IN CLV R/W & EASEMENT ONLY. OBTAINING PERMISSIONS OR EASEMENTS FOR WORK SHOWN ON PRIVATE PROPERTY IS THE RESPONSIBILITY OF THE UTILITY.

APPROVAL DATE

**CITY OF LAS VEGAS PERMIT REQUIRED***

CONTACT CLV LAND DEVELOPMENT (229–6371)
CLV CONSTRUCTION SERVICES MUST BE NOTIFIED 24 HOURS PRIOR TO COMMENCING CONSTRUCTION (229–6537)

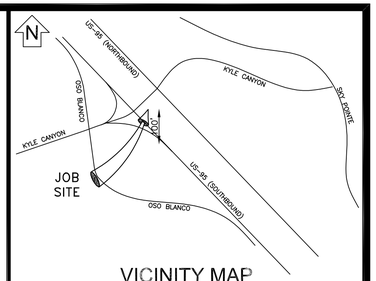
HANSEN_____ DATE_____

*NVE INSPECTOR MUST BE NOTIFIED BY FAX 48 HOURS PRIOR TO COMMENCING CONSTRUCTION & WILL VERIFY CITY PERMIT FOR WORK DONE IN STREETS OR SIDEWALK. FAX PERMIT TO:
LAS VEGAS NORTH (RYAN CENTER): 402–4354
LAS VEGAS SOUTH (BELTWAY CENTER): 402–5864

**CIVIL LINETYPE LEGEND**

| | PROPOSED | EXISTING |
|---|---|---|
| CENTERLINE | | |
| PROPERTY LINE/ROW | | |
| CURB | | |
| EDGE OF PAVEMENT | | |
| EDGE OF SIDEWALK | | |
| SEWER LINE * | 8"S | 8"S |
| WATER LINE * | 8"W | 8"W |
| GAS LINE * | 2"G | 2"G |
| TELEPHONE LINE * | TEL | TEL |
| CABLE TV LINE * | CATV | CATV |
| STORM DRAIN LINE * | 12"SD | 12"SD |
| FIRE HYDRANT | | |
| STREET LIGHT | | |
| STREET LIGHT SERVICE | | |

* LINETYPES UTILIZED WHERE CONFLICT OCCURS WITH NVE FACILITIES.




## VICINITY MAP

(NOT TO SCALE)

EVERY EFFORT HAS BEEN MADE TO IDENTIFY ALL NVE FACILITIES. THE CUSTOMER SHALL CONFIRM THE EXISTENCE AND LOCATION OF THESE FACILITIES.

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.

CALL 1-702-402-2929

Call before you Dig
Avoid cutting underground utility lines. It's costly.

CALL 811

OR
1-800-227-2600
AND CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-6000

## REVISIONS

| NO. | DESCRIPTION | DATE | G.A. |
|---|---|---|---|
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**BUY AMERICA**

TYPE OF EASEMENT:
- AERIAL
- STANDARD
- R/W–31
- UNDERGROUND
- AS BUILT UNDERGROUND
- R.O.E./R/W–5–COM
- 3rd PARTY
- UNDERGROUND BY EXHIBIT
- (N–DOT) PERMIT
- (BLM) PERMIT
- RAILROAD–UPRR–PERMIT
- SO. NEVADA WATER PERMIT
- NOT REQUIRED
- Misc. Info.

JPA NOTES:
TELCO CONTACT: N/A
PHONE NUMBER: N/A
DATE OF CONTACT:
_____ TO SET NEW POLES
_____ TO STAKE NEW POLES
_____ TO PROVIDE _____ POLES
____ ____ FT. CLASS ____
____ ____ FT. CLASS ____
____ ____ FT. CLASS ____
_____ TO DIG POLE HOLES
_____ TO REMOVE EX. POLES
N/A
JPA#: N/A

## EXHIBIT 'A'

NVE INFORMATION:
COORDINATOR: DON JACKSON
PHONE: 702–236–3259
DESIGNER: GERALD JOHNSON D.F. J.M.
DCA: N/A
INSPECTOR: 402–3008
STAND BY: 402–4114, 402–4117,402–4118
DISTRICT: LAS VEGAS NORTH

CUSTOMER INFORMATION:
APPLICANT: CITY OF LAS VEGAS
ENGINEER: GC WALLACE ENGINEERING
CONTACT: TIM MCCOY 702–804–2075
APPROVAL DATE: 09/29/2016

GOVERNMENT INFORMATION:
AGENCY: CITY OF LAS VEGAS
APPROVAL DATE: 09/29/2016

FOR EACH SERVICE POINT (POINT OF DELIVERY), ENERGY FOR EACH TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. ENERGY FOR ALL NON–TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. CONTACT NVE METER OPERATIONS FOR MULTIPLE RATE CLASS INSTALLATIONS.

NVEnergy

CLV–EA 73627(1) US–95 NE
PHASE 2B/5 (SERVICES)
KYLE CANYON AND US–95

| PROJ. ID: 3001455204 | SCALE: 1" = 30' |
|---|---|
| SHEET # 1 OF 3 | DATE: 08/13/2016 |

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Sharing of this drawing and the information contained herein shall be only to individuals/parties who have entered into an agreement with Applicant for the completion of work associated with this specific project. Use for purposes other than this specific project requires the written consent of NV Energy.

FOR REFERENCE ONLY

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NV ENERGY PERSONNEL AND NV ENERGY CONTRACTORS MUST COMPLY WITH BUY AMERICA LAW AND BUY AMERICA REQUIREMENTS.

*T,R,S:* 1960-06

*APN:*

12601701008

TO MH42209

TO MH42209

EX: 1000 MCM TRI IN 1 OF (2)6"C (NW1215)

30' R/W

OSO BLANCO (100')

"KCW" 200+00.00 P.O.E.

"KCW1" 10+00.00 P.O.B.

"OS3" 430+54.95

"KCW1" STA: 10+00.00± P.I.

"XP" STA: 425+80.37± OFFSET: 994.08'± LT P.O.E.

"XP" STA: 425+74.05± OFFSET: 961.66'± LT

EX: 1000 MCM TRI IN 1 OF (2)6"C (NW1216)

EX: RS-99

EX: (1)4"C IN: 1/0 TRI IN EX:(1)4"C, BY NVE (NW1216)

bottom

EX: 1000 MCM TRI IN 1 OF (2)6"C (NW1216)

DFC9917

0015 IN: RS-19, BY CUST IN: UT-105, BY NVE "XP" STA: 425+53.34± OFFSET: 931.64'± LT

0003 EX: (1)4"C IN: 1/0 TRI IN EX:(1)4"C, BY NVE ± 119'CABLE

EX: (1)4"C STUBOUT

0001 EX: RS-99 EX: DFC-9

DFC9917 SW-A SW-B

PM965534 10KVA C#

IN: (1)4"C 0014 IN: 1/0 IN (1)4"C, BY NVE ± 31'CONDUIT

0002 EX: RS-82 IN: (3)4WAY MODULES, BY NVE

JGM28725

MH18237 "XP" STA: 425+30.60± OFFSET: 926.27'± LT

EX RS-94

TRAFFIC SIGNAL 200 AMP MAIN 120/240 1Ø 3W EPD: 4 KVA

EX: (5)6"C STUBOUTS

IN: (1)3"C BY CUST 0016 IN: 2/0 TRI IN (1)3"C, BY NVE ± 87'CONDUIT

NEW KYLE CANYON RD. (NDOT)

"KCW1" 11+49.45 P.C.

"KCE1" STA: 5+05.55± P.I.

429+02.25

"KCE1" 5+05.55 P.O.B.

"KCE1" 6+43.31 P.C.

DISTANCE FROM P.O.B. TO P.O.E. 1013.02'±

"KCE1" 8+85.29 P.C.C.

"KCE1" 10+74.78 P.T.

"KCE1" 10

"KCW1" 15

"KCW1" 16+97.77 P.T.

"KCE1" 11+23.34 P.C.

"KCW1" 17+58.23 P.C.

0005 EX: (1)4"C IN: 1/0 TRI IN EX:(1)4"C, BY NVE ± 815'CABLE

EX: (5)6"C

OLD KYLE CANYON RD.

NEW KYLE CANYON RD. (NDOT)

EX: 1000 MCM TRI IN 1 OF (2)6"C (NW1215)

EX: 1000 MCM TRI IN 1 OF (2)6"C (NW1216)

OSO BLANCO (NDOT)

TO MH25942

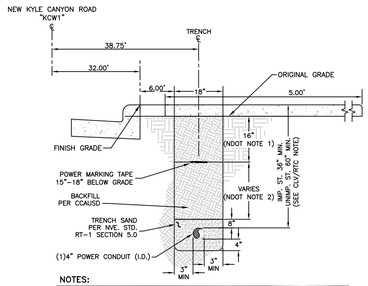
TO MH25942

12601702009

SEE SHEET 3

MATCH LINE 'A' - SEE SHEET 2

NEW KYLE CANYON ROAD "KCW1"




**NOTES:**

**CLV REQUIREMENTS (APPLICABLE WITHIN CITY OF LAS VEGAS LIMITS ONLY):**
IMPROVED AREA (IMP. ST.): (LOCATION OF TRENCH)
AREA WILL BE CONSIDERED IMPROVED IF IT MEETS ONE OR MORE OF THE FOLLOWING CRITERIA(S).
- EXISTING PERMANENT PAVEMENT WITH CURB & GUTTER AND/OR ADJACENT PERMANENT SIDEWALK.
- WITHIN AN IMPROVED TRAIL AREA.
- LIMITS OF CONSTRUCTION INSTALLED CONCURRENT WITH A PRIVATE OR PUBLIC PROJECT.

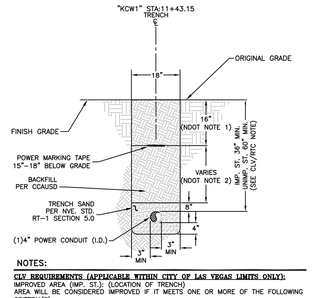
UNIMPROVED AREA (UNIMP. ST.): (LOCATION OF TRENCH)
ANY OTHER SCENARIO THAT FAILS TO MEET THE IMPROVED AREA CRITERIA(S) WILL BE CONSIDERED AN UNIMPROVED AREA.

**NDOT REQUIREMENTS (APPLICABLE WITHIN NDOT RIGHT-OF-WAY ONLY):**
1. BASE AGGREGATE (AS PER NDOT SPECIFICATIONS; SECTION 704): A MINIMUM OF 16 INCHES TO BE LAID IN MAXIMUM 8 INCH LOOSE LIFTS, 95% COMPACTION REQUIRED.
2. BACKFILL WITH SELECT MATERIAL TO BOTTOM OF BASE AGGREGATE (AS PER NDOT SPECIFICATIONS; SECTION 207). 90% COMPACTION REQUIRED.

**NVE REQUIREMENTS:**
FOR ALL OTHER JURISDICTIONS REFER TO NVE STANDARDS.
BACKFILL REQUIREMENTS NVE. STD. RT-1.
TRENCH DEPTH REQUIREMENTS NVE. STD. RT-5.

## TRENCH DETAIL
1-4" CONDUITS
SECTION " A "

"KCW1" STA:11+43.15




**NOTES:**

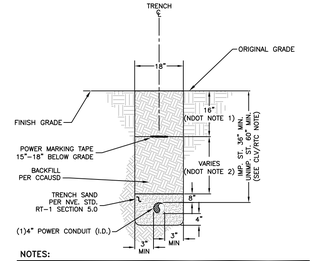
**CLV REQUIREMENTS (APPLICABLE WITHIN CITY OF LAS VEGAS LIMITS ONLY):**
IMPROVED AREA (IMP. ST.): (LOCATION OF TRENCH)
AREA WILL BE CONSIDERED IMPROVED IF IT MEETS ONE OR MORE OF THE FOLLOWING CRITERIA(S).
- EXISTING PERMANENT PAVEMENT WITH CURB & GUTTER AND/OR ADJACENT PERMANENT SIDEWALK.
- WITHIN AN IMPROVED TRAIL AREA.
- LIMITS OF CONSTRUCTION INSTALLED CONCURRENT WITH A PRIVATE OR PUBLIC PROJECT.

UNIMPROVED AREA (UNIMP. ST.): (LOCATION OF TRENCH)
ANY OTHER SCENARIO THAT FAILS TO MEET THE IMPROVED AREA CRITERIA(S) WILL BE CONSIDERED AN UNIMPROVED AREA.

**NDOT REQUIREMENTS (APPLICABLE WITHIN NDOT RIGHT-OF-WAY ONLY):**
1. 3/4 INCH OPEN-GRADE.
2. 4 INCH MINIMUM DENSE-GRADE OR MATCH EXISTING, WHICHEVER IS GREATER.
3. BASE AGGREGATE (AS PER NDOT SPECIFICATIONS; SECTION 704): A MINIMUM OF 16 INCHES TO BE LAID IN MAXIMUM 8 INCH LOOSE LIFTS, 95% COMPACTION REQUIRED.
4. BACKFILL WITH SELECT MATERIAL TO BOTTOM OF BASE AGGREGATE (AS PER NDOT SPECIFICATIONS; SECTION 207). 90% COMPACTION REQUIRED.
5. LIMITS OF PAVING TO BE DETERMINED BY THE INSPECTOR.

**NVE REQUIREMENTS:**
FOR ALL OTHER JURISDICTIONS REFER TO NVE STANDARDS.
BACKFILL REQUIREMENTS NVE. STD. RT-1.
TRENCH DEPTH REQUIREMENTS NVE. STD. RT-5.

## TRENCH DETAIL
1-4" CONDUITS
SECTION " B "




**NOTES:**

**REGIONAL TRANSPORTATION COMMISSION, CITY of HENDERSON, CITY of NORTH LAS VEGAS AND UNINCORPORATED CLARK COUNTY REQUIREMENTS (SECTION 503, 503.1 & 503.2):**
METHOD A/B FOR FLEXIBLE/RIGID PIPE TRENCH BACKFILL-PAVED AREAS
1. NO STONES OR LUMPS GREATER THAN 3" PERMITTED IN TRENCH 2' OR LESS IN WIDTH.
2. TRENCH WIDTH, BEDDING, SUBGRADE AND PIPE ZONE REQUIREMENTS FOR UTILITY INSTALLATIONS SHALL CONFORM TO THE RESPECTIVE ENTITY REQUIREMENTS.
3. CRUSHED ROCK MAY BE USED FOR PIPE BEDDING ONLY IF MATERIAL USE HAS BEEN SPECIFICALLY APPROVED BY THE GOVERNING AGENCY.
SEE STANDARD DRAWING NO. 505 FOR PIPE BEDDING METHODS.
4. LAS VEGAS VALLEY WATER DISTRICT REQUIRES PIPE BEDDING AND BACKFILL WITHIN THE PIPE ZONE TO BE OF THE SAME MATERIAL.
**COH JURISDICTION:**
FOR ALL AREAS EXCEPT NVENERGY PIPE ZONE, THE TRENCH, BACKFILL AND AC REPLACEMENT SHALL BE PER CCAUSD.

**NDOT REQUIREMENTS (APPLICABLE WITHIN NDOT RIGHT-OF-WAY ONLY):**
1. 3/4 INCH OPEN-GRADE.
2. 4 INCH MINIMUM DENSE-GRADE OR MATCH EXISTING, WHICHEVER IS GREATER.
3. BASE AGGREGATE (AS PER NDOT SPECIFICATIONS; SECTION 704). A MINIMUM OF 16 INCHES TO BE LAID IN MAXIMUM 8 INCH LOOSE LIFTS, 95% COMPACTION REQUIRED.
4. BACKFILL WITH SELECT MATERIAL TO BOTTOM OF BASE AGGREGATE (AS PER NDOT SPECIFICATIONS; SECTION 207). 90% COMPACTION REQUIRED.
5. LIMITS OF PAVING TO BE DETERMINED BY THE INSPECTOR.

**NVE REQUIREMENTS:**
FOR ALL OTHER JURISDICTIONS REFER TO NVE STANDARDS.
BACKFILL REQUIREMENTS NVE. STD. RT-1.
TRENCH DEPTH REQUIREMENTS NVE. STD. RT-5.

## TRENCH DETAIL
1-4" CONDUITS
SECTION " C "

| NO. | DESCRIPTION | DATE | G.A. |
|---|---|---|---|
| | REVISIONS | | |

BUY AMERICA

NVEnergy™

| | |
|---|---|
| COORDINATOR: | DON JACKSON |
| PHONE: | 702-236-3259 |
| DCA: | N/A |
| INSPECTOR: | 402-3008 |
| STAND BY: | 402-4114, 402-4117,402-4 |
| DESIGNER: | GERALD JOHNSON |

NVE INFO:

CLV-EA 73627(1) US-95 NE
PHASE 2B/5 (SERVICES)
KYLE CANYON AND US-95

| | |
|---|---|
| PROJ. ID: | 30014552O4 |
| SCALE: | 1" = 30' |
| DATE: | 08/13/2016 |
| SHEET #: | 2 OF 3 |

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FOR REFERENCE ONLY

MATCH LINE 'A' – SEE SHEET 2

OLD KYLE CANYON RD.

NEW SOUTHBOUND OFF-RAMP

OLD ON-RAMP (NORTHBOUND)

US-95 (SOUTHBOUND)

US-95 (NORTHBOUND)

"XP"

DISTANCE FROM P.O.B. TO P.O.E. 1011.0±

NEW NORTHBOUND ON-RAMP

NEW KYLE CANYON RD. (NDOT)

NEW NORHBOUND OFF-RAMP

NEW SOUHBOUND OFF-RAMP

NEW SOUHBOUND ON-RAMP

"KCE1" 15

"KCE1" 20

"KCW1" 20

"KCW1" 25

0005
EX: (1)4"C
IN: 1/0 TRI IN
EX:(1)4"C, BY NVE
± 815'CABLE

0004
EX: RS-82
IN: (3)4WAY MODULES, BY NVE

UGM37146

"XP" STA: 419+34.26±
OFFSET: 458.27± LT

EX: (5)6"C

EX: RS-94

MH34448

0009
EX: (1)4"C
IN: 1/0 IN EX:(1)4"C BY NVE
± 274'CABLE
"XP" STA: 417+84.43±
OFFSET: 335.66'± LT

JOIN (1)4"C WITH A COUPLING, BY CUST.

0009
IN: (1)4"C, BY CUST.
IN: 1/0 IN (1)4"C, BY NVE
± 19'CONDUIT
± 274'CABLE

PM756050
10KVA
AØ

0008
IN: RS-19, BY CUST
UT-105, BY NVE.

TRAFFIC SIGNAL
200 AMP MAIN
120/240 1Ø 3W
EPD: 4 KVA

0010
IN: (1)3"C BY CUST.
IN: 2/0 TRI IN (1)3"C,
BY NVE
± 45'CONDUIT

"XP" STA: 417+43.43±
OFFSET: 350.53'± LT

"XP" STA: 417+19.61±
OFFSET: 349.71'± LT

0007
EX: (1)4"C
IN: 1/0 TRI IN
EX:(1)4"C, BY NVE
± 970'CABLE

EX: (5)6"C

0012
EX: (1)4"C
IN: 1/0 TRI IN
EX:(1)4"C, BY NVE
± 112'CABLE

0006
EX: RS-82
IN: (3)4WAY MODULES, BY NVE

JOIN (1)4"C WITH A COUPLING, BY CUST.

0013
IN: (1)3"C BY CUST.
IN: 2/0 TRI IN (1)3"C,
± 33'CONDUIT BY NVE

EX: (1)4"C STUBOUT

0011
IN: RS-19, BY CUST
UT-105, BY NVE.
"XP" STA: 416+08.53±
OFFSET: 330.10'± LT

STREET LIGHTS
200 AMP MAIN
120/240 1Ø 3W
EPD: 1 KVA

PM991568
10KVA
BØ

0012
IN: (1)4"C, BY CUST.
IN: 1/0 IN (1)4"C, BY NVE
± 64'CONDUIT
± 112'CABLE

UGM94573

TO (1)4"C STUBOUT

TO (5)6"C STUBOUTS

MH65984

EX: RS-94
EX: (5)6"C STUBOUTS

"XP" STA: 415+98.88±
OFFSET: 349.73'± LT

"XP" STA: 415+67.34±
OFFSET: 378.05'± LT
P.O.B.

T,R,S: 1960-06

APN:

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NV ENERGY PERSONNEL AND NV ENERGY CONTRACTORS MUST COMPLY WITH BUY AMERICA LAW AND BUY AMERICA REQUIREMENTS.

| NO. | DESCRIPTION | DATE | G.A. |
|---|---|---|---|
| | REVISIONS | | |

BUY AMERICA

NVEnergy™

COORDINATOR: DON JACKSON
PHONE: 702-236-3259
DCA: N/A
INSPECTOR: 402-3008
STAND BY: 402-4114, 402-4117,402-4118
DESIGNER: GERALD JOHNSON

NVE INFO:

CLV-EA 73627(1) US-95 NE PHASE 2B/5 (SERVICES)

KYLE CANYON AND US-95

| PROJ. ID: |
|---|
| 3001455204 |
| SCALE: |
| 1" = 30' |
| DATE: |
| 08/13/2016 |
| SHEET #: |
| 3 OF 3 |

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