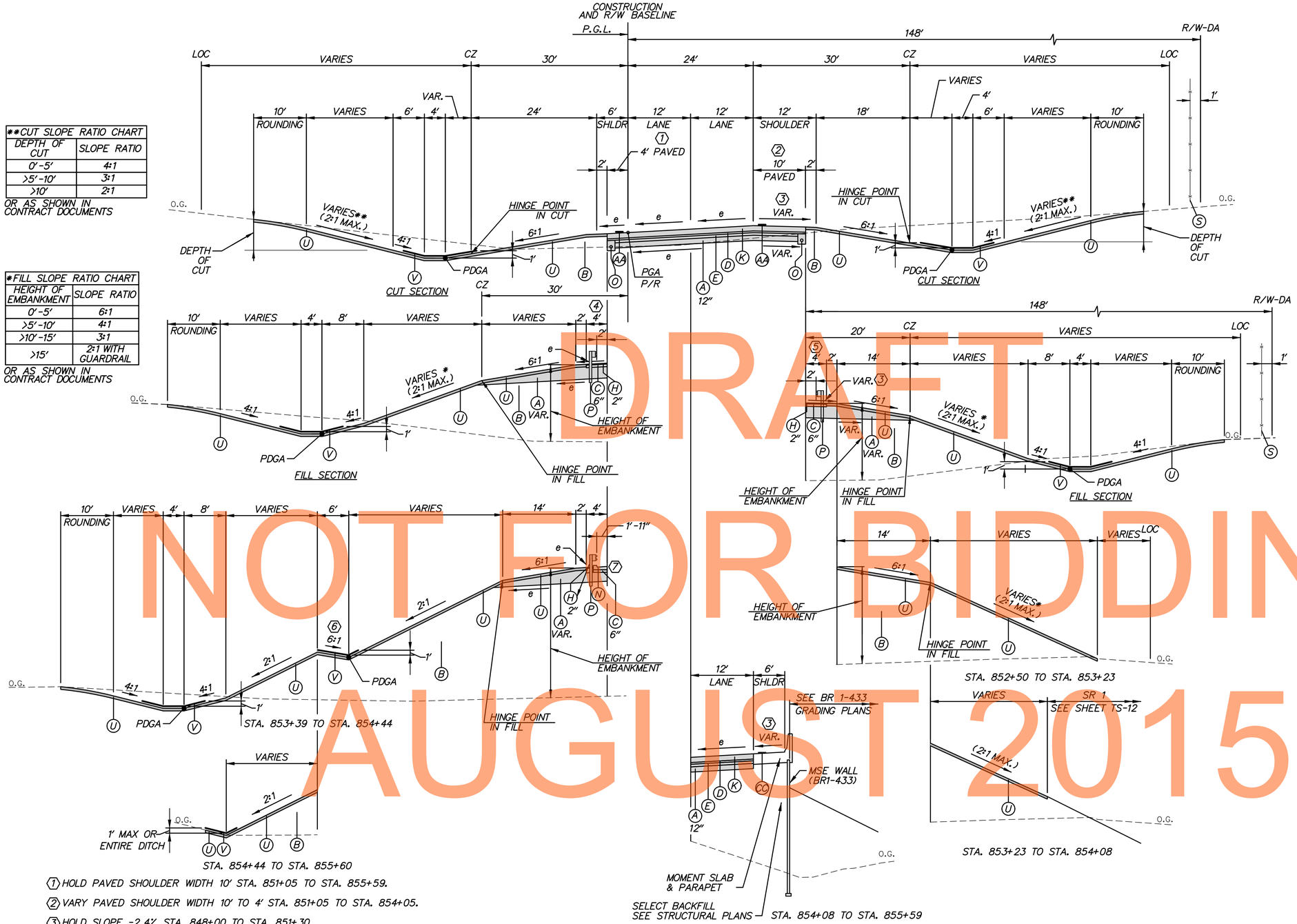
**CUT SLOPE RATIO CHART	
DEPTH OF CUT	SLOPE RATIO
0'-5'	4:1
>5'-10'	3:1
>10'	2:1

OR AS SHOWN IN CONTRACT DOCUMENTS

*FILL SLOPE RATIO CHART	
HEIGHT OF EMBANKMENT	SLOPE RATIO
0'-5'	6:1
>5'-10'	4:1
>10'-15'	3:1
>15'	2:1 WITH GUARDRAIL

OR AS SHOWN IN CONTRACT DOCUMENTS



US 301 NB RAMP SUPERELEVATED SECTION

STATION 848+00 TO STATION 855+59 ($e_{max.}$=5.6%)

STA. 855+59 TO STA. 862+78 - SEE BRIDGE PLANS

(1) HOLD PAVED SHOULDER WIDTH 10' STA. 851+05 TO STA. 855+59.

(2) VARY PAVED SHOULDER WIDTH 10' TO 4' STA. 851+05 TO STA. 854+05.

(3) HOLD SLOPE -2.4% STA. 848+00 TO STA. 851+30.
TRANSITION SLOPE -2.4% TO +5.6% STA. 851+30 TO STA. 854+52.
HOLD SLOPE +5.6% STA. 854+52 TO STA. 855+59.

(4) LIMITS OF GUARDRAIL: STA. 852+87 TO STA. 855+59.
MAINTENANCE PAVING WIDTH VARIES 2' TO 6.04' STA. 852+45 TO STA. 852+88.
MAINTENANCE PAVING WIDTH VARIES 6.04' TO 4' STA. 852+88 TO STA. 853+39.

(5) LIMITS OF GUARDRAIL: STA. 850+19 TO STA. 854+08.
MAINTENANCE PAVING WIDTH VARIES 2' TO 6.07' STA. 849+81 TO STA. 850+19.
MAINTENANCE PAVING WIDTH VARIES 6.07' TO 4' STA. 850+19 TO STA. 850+70.

(6) BENCH SLOPE VARIES -2:1 TO +6:1 STA. 853+40 TO STA. 853+90.

(7) LIMITS OF CURB: STA. 853+39 TO STA. 855+60.

LEGEND

- (A) ITEM 209001 - BORROW, TYPE A
- (B) ITEM 209006 - BORROW, TYPE F
- (C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
- (E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
- (G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
- (H) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- (I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
- (J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
- (K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
- (L) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
- (N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
- (O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
- (P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
- (R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
  ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
  ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
- (S) ITEM 727000 - RIGHT OF WAY FENCE
- (T) ITEM 705002 - P.C.C. SIDEWALK, 6"
- (U) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
- (V) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
  ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
- (W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
- (X) ITEM 760507 - PROFILE MILLING, HOT-MIX
- (Y) ITEM 712005 - RIPRAP, R-4
- (Z) ITEM 720629 - BIFURCATED CONCRETE MEDIAN BARRIER (MODIFIED)
- (AA) ITEM 760017 - RUMBLE STRIPS, CONCRETE
- (BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
- (CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
- (DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

TYPICAL SECTION NOTES:

1. THE MAXIMUM ALGEBRAIC DIFFERENCE ON THE HIGH SIDE BETWEEN THE TRAVELED WAY SLOPE AND THE ACCEL/DECEL LANES SHALL NOT EXCEED 4%. THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN THE TRAVELED WAY SLOPE AND THE SHOULDER SLOPE SHALL NOT EXCEED 8%.
2. SHOULDER SLOPE ON THE LOW SIDE SHALL BE THE SAME AS THE TRAVELED WAY SLOPE WHEN SUPERELEVATION IS GREATER THAN 4%.
3. P.G.L. - PROFILE GRADE LINE
   PGA - POINT OF GRADE APPLICATION
   PDGA - POINT OF DITCH GRADE APPLICATION
   P/R - POINT OF ROTATION
   O.G. - ORIGINAL GROUND
4. EXISTING SR 1 ROADWAY PAVEMENT SECTION
   12" PCC PAVEMENT
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
5. EXISTING SR 1 SHOULDER ADJACENT SECTION
   2" HOT MIX, HOT LAID BITUMINOUS CONCRETE PAVEMENT, TYPE C
   10"+/- BITUMINOUS CONCRETE BASE COURSE
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
6. FOR BENCHING OF EXISTING SLOPES WHERE PROPOSED WIDENING OCCURS, SEE BENCHING DETAIL, SHEET DT-01.
7. SEE GRADES AND GEOMETRICS SHEETS FOR SUPERELEVATED CROSS SLOPE TRANSITIONS.
8. SEE SHEET TS-20 FOR UNDERDRAIN DETAIL.
   SEE CONSTRUCTION PLANS FOR PLACEMENT LOCATIONS
9. THE MAXIMUM LIFTS FOR THE INDIVIDUAL PAVING MATERIALS ARE AS FOLLOWS:
   SUPERPAVE, TYPE C WMA - 2"
   SUPERPAVE, TYPE B WMA - 3", PLACE IN EQUAL LIFTS WHEN THICKNESS EXCEED 3"
   SUPERPAVE BIT. CONC. BASE COURSE - 4"
   GRADED AGGREGATE BASE COURSE - 8"
10. SEE SHEET DT-01 FOR RUMBLE STRIP LOCATIONS.
11. SEE SHEET DT-01 FOR SAFETY EDGE DETAILS. THESE DETAILS SHALL BEAPPLIED AT ALL INSTANCES WHERE THE EDGE OF

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

NOT TO SCALE

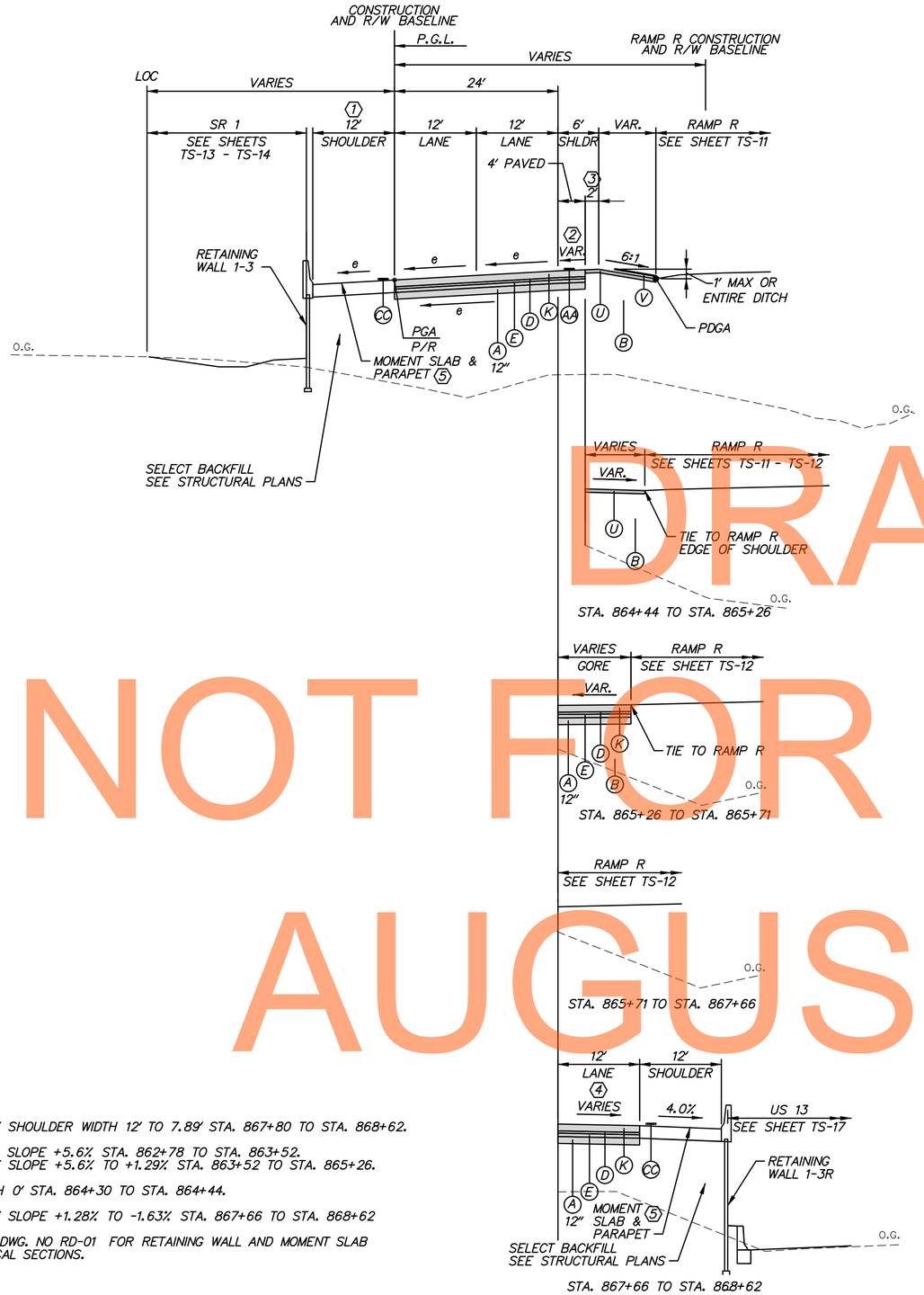
US 301 & SR 1 INTERCHANGE

CONTRACT	BRIDGE NO.
T200911302	DESIGNED BY: S.E.S.
COUNTY	CHECKED BY: B.R.T.
NEW CASTLE	

TYPICAL SECTIONS

TS-01

SHEET NO. 12
TOTAL SHTS. 491



1. VARY SHOULDER WIDTH 12' TO 7.89' STA. 867+80 TO STA. 868+62.
2. HOLD SLOPE +5.6% STA. 862+78 TO STA. 863+52.
   VARY SLOPE +5.6% TO +1.29% STA. 863+52 TO STA. 865+26.
3. WIDTH 0' STA. 864+30 TO STA. 864+44.
4. VARY SLOPE +1.28% TO -1.63% STA. 867+66 TO STA. 868+62
5. SEE DWG. NO RD-01 FOR RETAINING WALL AND MOMENT SLAB TYPICAL SECTIONS.

US 301 NB RAMP SUPERELEVATED SECTION

STATION 862+78 TO STATION 868+62 ($e_{max.}$=5.6%)

LEGEND

- (A) ITEM 209001 - BORROW, TYPE A
- (B) ITEM 209006 - BORROW, TYPE F
- (C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
- (E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
- (G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
- (H) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- (I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
- (J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
- (K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
- (L) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
- (N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
- (O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
- (P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
- (R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
  ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
  ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
- (S) ITEM 727000 - RIGHT OF WAY FENCE
- (T) ITEM 705002 - P.C.C. SIDEWALK, 6"
- (U) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
- (V) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
  ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
- (W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
- (X) ITEM 760507 - PROFILE MILLING, HOT-MIX
- (Y) ITEM 712005 - RIPRAP, R-4
- (Z) ITEM 720629 - BIFURCATED CONCRETE MEDIAN BARRIER (MODIFIED)
- (AA) ITEM 760017 - RUMBLE STRIPS, CONCRETE
- (BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
- (CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
- (DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

TYPICAL SECTION NOTES:

1. THE MAXIMUM ALGEBRAIC DIFFERENCE ON THE HIGH SIDE BETWEEN THE TRAVELED WAY SLOPE AND THE ACCEL/DECEL LANES SHALL NOT EXCEED 4%. THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN THE TRAVELED WAY SLOPE AND THE SHOULDER SLOPE SHALL NOT EXCEED 8%.
2. SHOULDER SLOPE ON THE LOW SIDE SHALL BE THE SAME AS THE TRAVELED WAY SLOPE WHEN SUPERELEVATION IS GREATER THAN 4%.
3. P.G.L. - PROFILE GRADE LINE
   PGA - POINT OF GRADE APPLICATION
   PDGA - POINT OF DITCH GRADE APPLICATION
   P/R - POINT OF ROTATION
   O.G. - ORIGINAL GROUND
4. EXISTING SR 1 ROADWAY PAVEMENT SECTION
   12" PCC PAVEMENT
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
5. EXISTING SR 1 SHOULDER ADJACENT SECTION
   2" HOT MIX, HOT LAID BITUMINOUS CONCRETE PAVEMENT, TYPE C
   10"+/- BITUMINOUS CONCRETE BASE COURSE
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
6. FOR BENCHING OF EXISTING SLOPES WHERE PROPOSED WIDENING OCCURS, SEE BENCHING DETAIL, SHEET DT-01.
7. SEE GRADES AND GEOMETRICS SHEETS FOR SUPERELEVATED CROSS SLOPE TRANSITIONS.
8. SEE SHEET TS-20 FOR UNDERDRAIN DETAIL.
   SEE CONSTRUCTION PLANS FOR PLACEMENT LOCATIONS
9. THE MAXIMUM LIFTS FOR THE INDIVIDUAL PAVING MATERIALS ARE AS FOLLOWS:
   SUPERPAVE, TYPE C WMA - 2"
   SUPERPAVE, TYPE B WMA - 3", PLACE IN EQUAL LIFTS WHEN THICKNESS EXCEED 3"
   SUPERPAVE BIT. CONC. BASE COURSE - 4"
   GRADED AGGREGATE BASE COURSE - 8"
10. SEE SHEET DT-01 FOR RUMBLE STRIP LOCATIONS.
11. SEE SHEET DT-01 FOR SAFETY EDGE DETAILS. THESE DETAILS SHALL BEAPPLIED AT ALL INSTANCES WHERE THE EDGE OF PROPOSED PAVEMENT MEETS THE 6" TOPSOIL.

TS-02

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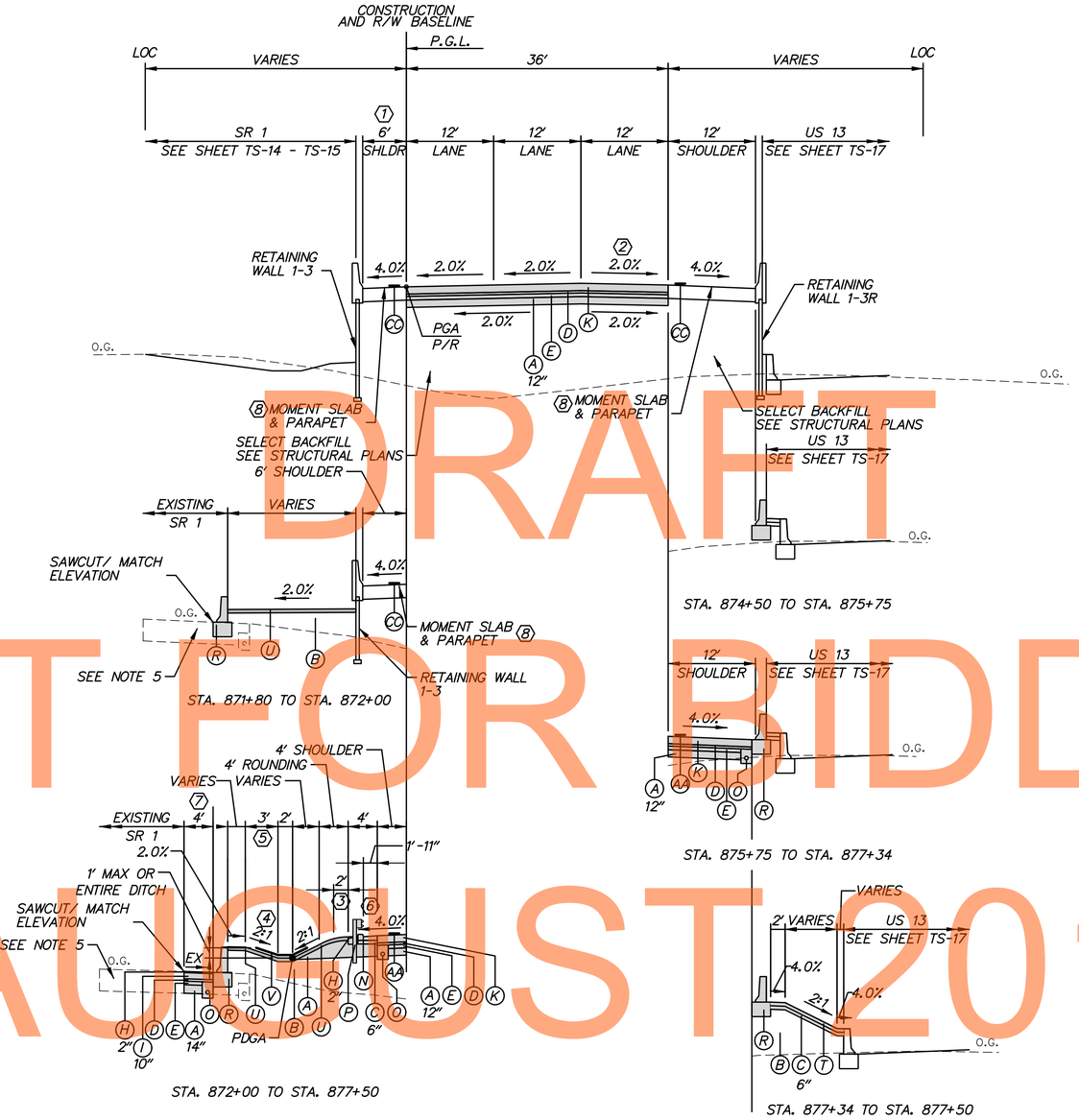

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AUGUST 2015

1. VARY SHOULDER WIDTH 7.89' TO 6' STA. 868+62 TO STA. 869+00
2. TRANSITION SLOPE -1.63% TO -2.0% STA. 868+62 TO STA. 868+74
3. VARY WIDTH 2' TO 6' STA. 873+50 TO STA. 874+00
   HOLD WIDTH 6' STA. 874+00 TO STA. 874+50
   VARY WIDTH 6' TO 2' STA. 874+50 TO STA. 875+00
4. TRANSITION SLOPE 4:1 TO 3:1 STA. 872+00 TO STA. 872+50
   TRANSITION SLOPE 3:1 TO 2:1 STA. 873+00 TO STA. 873+50
5. VARY WIDTH 3.33' TO 4.5' STA. 872+00 TO 872+50
   VARY WIDTH 4.5' TO 3' STA. 873+00 TO STA. 873+50
6. LIMITS OF CURB: STA. 872+00 TO STA. 872+21.
7. WIDTH 0' STA. 872+00 TO STA. 874+96.
8. SEE DWG. NO RD-01 FOR RETAINING WALL AND MOMENT SLAB TYPICAL SECTIONS

US 301 NB RAMP NORMAL SECTION

STATION 868+62 TO STATION 877+50 ($e_{max.}$=2.0%)

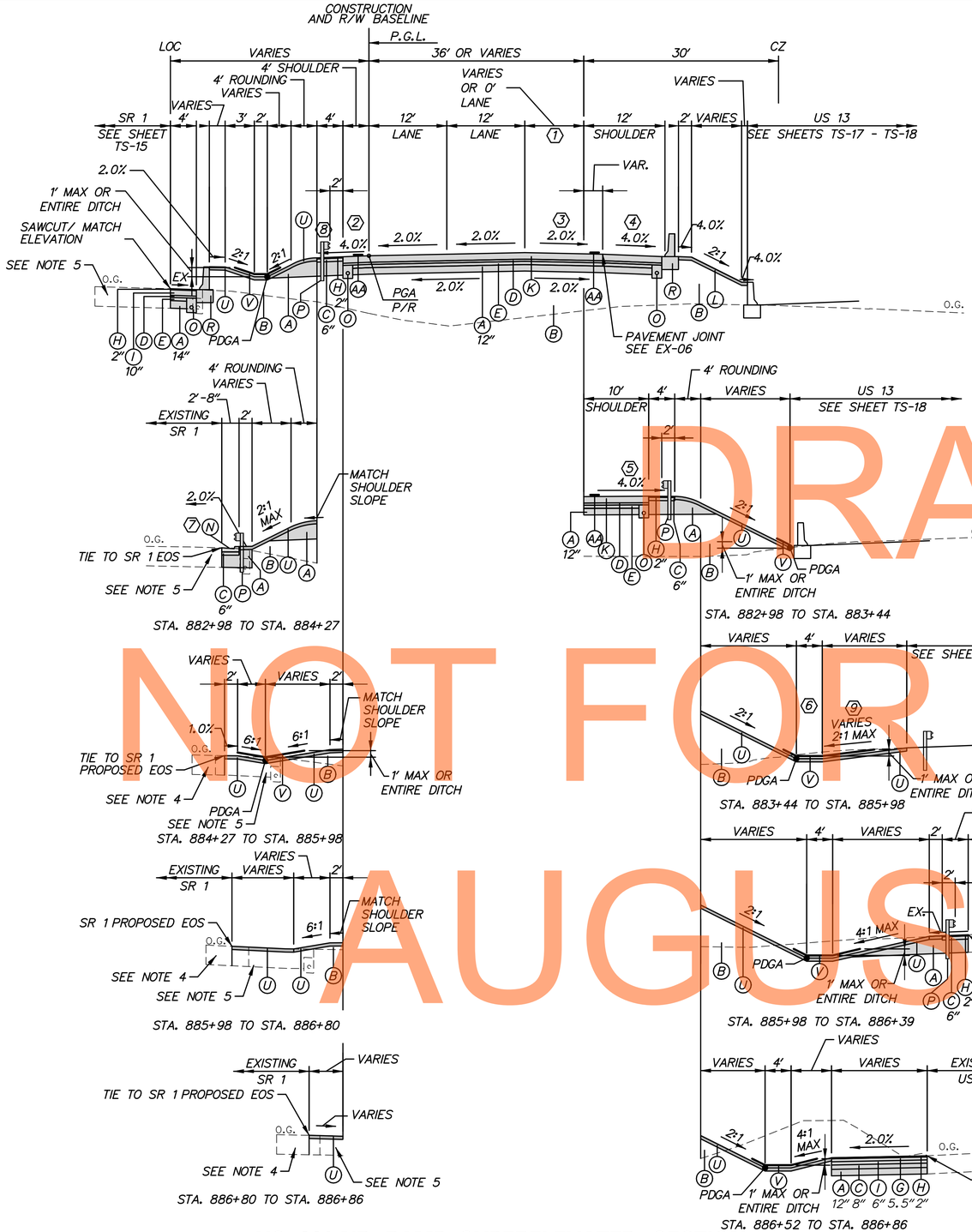
LEGEND

- (A) ITEM 209001 - BORROW, TYPE A
- (B) ITEM 209006 - BORROW, TYPE F
- (C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
- (E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
- (G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
- (H) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- (I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
- (J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
- (K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
- (L) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
- (N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
- (O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
- (P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
- (R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
  ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
  ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
- (S) ITEM 727000 - RIGHT OF WAY FENCE
- (T) ITEM 705002 - P.C.C. SIDEWALK, 6"
- (U) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
- (V) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
  ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
- (W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
- (X) ITEM 760507 - PROFILE MILLING, HOT-MIX
- (Y) ITEM 712005 - RIPRAP, R-4
- (Z) ITEM 720629 - BIFURCATED CONCRETE MEDIAN BARRIER (MODIFIED)
- (AA) ITEM 760017 - RUMBLE STRIPS, CONCRETE
- (BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
- (CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
- (DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

TYPICAL SECTION NOTES:

1. THE MAXIMUM ALGEBRAIC DIFFERENCE ON THE HIGH SIDE BETWEEN THE TRAVELED WAY SLOPE AND THE ACCEL/DECEL LANES SHALL NOT EXCEED 4%. THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN THE TRAVELED WAY SLOPE AND THE SHOULDER SLOPE SHALL NOT EXCEED 8%.
2. SHOULDER SLOPE ON THE LOW SIDE SHALL BE THE SAME AS THE TRAVELED WAY SLOPE WHEN SUPERELEVATION IS GREATER THAN 4%.
3. P.G.L. - PROFILE GRADE LINE
   PGA - POINT OF GRADE APPLICATION
   PDGA - POINT OF DITCH GRADE APPLICATION
   P/R - POINT OF ROTATION
   O.G. - ORIGINAL GROUND
4. EXISTING SR 1 ROADWAY PAVEMENT SECTION
   12" PCC PAVEMENT
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
5. EXISTING SR 1 SHOULDER ADJACENT SECTION
   2" HOT MIX, HOT LAID BITUMINOUS CONCRETE PAVEMENT, TYPE C
   10"+/- BITUMINOUS CONCRETE BASE COURSE
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
6. FOR BENCHING OF EXISTING SLOPES WHERE PROPOSED WIDENING OCCURS, SEE BENCHING DETAIL, SHEET DT-01.
7. SEE GRADES AND GEOMETRICS SHEETS FOR SUPERELEVATED CROSS SLOPE TRANSITIONS.
8. SEE SHEET TS-20 FOR UNDERDRAIN DETAIL.
   SEE CONSTRUCTION PLANS FOR PLACEMENT LOCATIONS
9. THE MAXIMUM LIFTS FOR THE INDIVIDUAL PAVING MATERIALS ARE AS FOLLOWS:
   SUPERPAVE, TYPE C WMA - 2"
   SUPERPAVE, TYPE B WMA - 3", PLACE IN EQUAL LIFTS WHEN THICKNESS EXCEED 3"
   SUPERPAVE BIT. CONC. BASE COURSE - 4"
   GRADED AGGREGATE BASE COURSE - 8"
10. SEE SHEET DT-01 FOR RUMBLE STRIP LOCATIONS.
11. SEE SHEET DT-01 FOR SAFETY EDGE DETAILS. THESE DETAILS SHALL BEAPPLIED AT ALL INSTANCES WHERE THE EDGE OF PROPOSED PAVEMENT MEETS THE 6" TOPSOIL.

TS-03



1. LANE WIDTH VARIES 12' TO 0' STA. 877+50 TO STA. 880+50.
   HOLD 0' WIDTH STA. 880+50 TO STA. 886+86.
2. TRANSITION SLOPE -4.0% TO -2.0% STA. 880+18 TO STA. 880+98.
   HOLD SLOPE -2.0% STA. 880+98 TO STA. 882+98.
   TRANSITION SLOPE -2.0% TO -4.0% STA. 882+98 TO STA. 883+77.
   TRANSITION SLOPE -4.0% TO +0.69% STA. 884+96 TO STA. 886+86.
3. TRANSITION SLOPE -2.0% TO +0.26% STA. 879+87 TO STA. 880+50.
4. TRANSITION SLOPE -4.0% TO -2.0% STA. 879+57 TO STA. 879+87.
   TRANSITION SLOPE -2.0% TO +2.0% STA. 879+97 TO STA. 880+98.
   HOLD +2.0% SLOPE STA. 880+98 TO STA. 882+98.
5. TRANSITION SLOPE +2.0% TO -4.0% STA. 882+98 TO STA. 885+38.
6. HOLD 0' WIDTH STA. 883+44 TO STA. 885+65.
   VARY WIDTH 0' TO 4' STA. 885+65 TO STA. 885+90.
7. CURB AND GUTTER LIMITS: STA. 882+94 TO STA. 884+14.
8. GUARDRAIL AND MAINTENANCE PAVEMENT LIMITS: STA. 882+94 TO STA. 884+20.
9. 4:1 MAX STA. 885+05 TO STA. 885+98.

LEGEND

- (A) ITEM 209001 - BORROW, TYPE A
- (B) ITEM 209006 - BORROW, TYPE F
- (C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
- (E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
- (G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
- (H) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- (I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
- (J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
- (K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
- (L) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
- (N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
- (O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
- (P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
- (R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
  ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
  ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
- (S) ITEM 727000 - RIGHT OF WAY FENCE
- (T) ITEM 705002 - P.C.C. SIDEWALK, 6"
- (U) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
- (V) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
  ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
- (W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
- (X) ITEM 760507 - PROFILE MILLING, HOT-MIX
- (Y) ITEM 712005 - RIPRAP, R-4
- (Z) ITEM 720629 - BIFURCATED CONCRETE MEDIAN BARRIER (MODIFIED)
- (AA) ITEM 760017 - RUMBLE STRIPS, CONCRETE
- (BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
- (CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
- (DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

TYPICAL SECTION NOTES:

1. THE MAXIMUM ALGEBRAIC DIFFERENCE ON THE HIGH SIDE BETWEEN THE TRAVELED WAY SLOPE AND THE ACCEL/DECEL LANES SHALL NOT EXCEED 4%. THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN THE TRAVELED WAY SLOPE AND THE SHOULDER SLOPE SHALL NOT EXCEED 8%.
2. SHOULDER SLOPE ON THE LOW SIDE SHALL BE THE SAME AS THE TRAVELED WAY SLOPE WHEN SUPERELEVATION IS GREATER THAN 4%.
3. P.G.L. - PROFILE GRADE LINE
   PGA - POINT OF GRADE APPLICATION
   PDGA - POINT OF DITCH GRADE APPLICATION
   P/R - POINT OF ROTATION
   O.G. - ORIGINAL GROUND
4. EXISTING SR 1 ROADWAY PAVEMENT SECTION
   12" PCC PAVEMENT
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
5. EXISTING SR 1 SHOULDER ADJACENT SECTION
   2" HOT MIX, HOT LAID BITUMINOUS CONCRETE PAVEMENT, TYPE C
   10"+/- BITUMINOUS CONCRETE BASE COURSE
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
6. FOR BENCHING OF EXISTING SLOPES WHERE PROPOSED WIDENING OCCURS, SEE BENCHING DETAIL, SHEET DT-01.
7. SEE GRADES AND GEOMETRICS SHEETS FOR SUPERELEVATED CROSS SLOPE TRANSITIONS.
8. SEE SHEET TS-20 FOR UNDERDRAIN DETAIL.
   SEE CONSTRUCTION PLANS FOR PLACEMENT LOCATIONS
9. THE MAXIMUM LIFTS FOR THE INDIVIDUAL PAVING MATERIALS ARE AS FOLLOWS:
   SUPERPAVE, TYPE C WMA - 2"
   SUPERPAVE, TYPE B WMA - 3", PLACE IN EQUAL LIFTS WHEN THICKNESS EXCEED 3"
   SUPERPAVE BIT. CONC. BASE COURSE - 4"
   GRADED AGGREGATE BASE COURSE - 8"
10. SEE SHEET DT-01 FOR RUMBLE STRIP LOCATIONS.
11. SEE SHEET DT-01 FOR SAFETY EDGE DETAILS. THESE DETAILS SHALL BEAPPLIED AT ALL INSTANCES WHERE THE EDGE OF PROPOSED PAVEMENT MEETS THE 6" TOPSOIL.

TS-04

US 301 NB RAMP SUPERELEVATED SECTION

STATION 877+50 TO STATION 886+86 ($e_{max.}$=2.0%)

STA. 880+98 TO STA. 882+98 - SEE BRIDGE PLANS

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AUGUST 2015

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 301 & SR 1 INTERCHANGE	CONTRACT T200911302 / COUNTY NEW CASTLE	BRIDGE NO. / DESIGNED BY: S.E.S. / CHECKED BY: B.R.T.	TYPICAL SECTIONS	SHEET NO. 15 / TOTAL SHTS. 491

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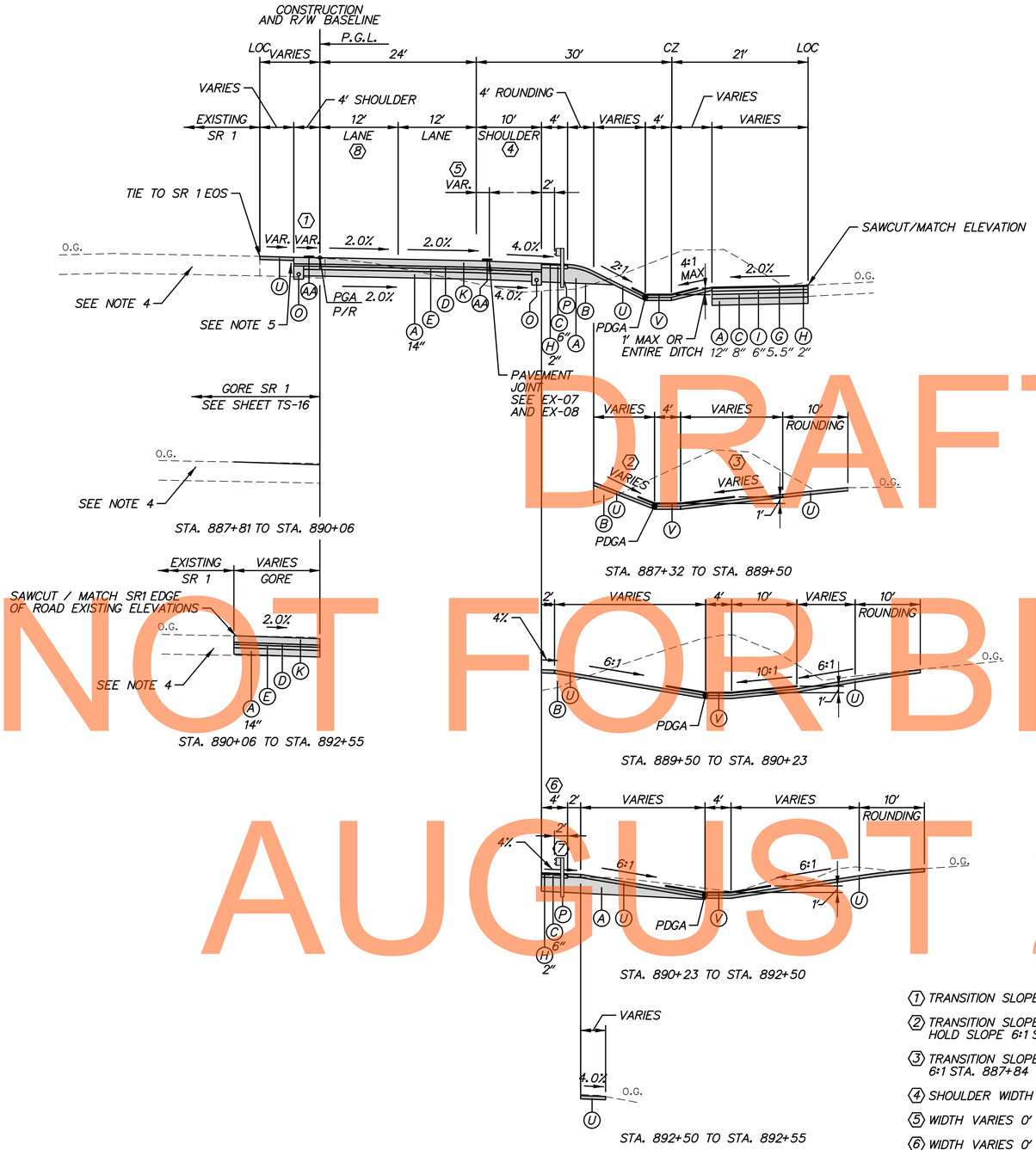

US 301 NB RAMP NORMAL SECTION
STATION 886+86 TO STATION 892+55

(1) TRANSITION SLOPE +0.69% TO +3.02% STA. 886+86 TO STA. 887+67.

(2) TRANSITION SLOPE 2:1 TO 6:1 STA. 887+32 TO STA. 887+84.
HOLD SLOPE 6:1 STA. 887+87 TO STA. 890+50.

(3) TRANSITION SLOPE 6.23% TO 6:1 STA. 887+32 TO STA. 887+84. SLOPE 6:1 STA. 887+84 TO STA. 889+50.

(4) SHOULDER WIDTH VARIES 10' TO 12' STA. 887+25 TO STA. 892+55.

(5) WIDTH VARIES 0' TO 2' STA. 887+25 TO STA. 892+55.

(6) WIDTH VARIES 0' TO 6.05' STA. 890+43 TO STA. 890+84.
WIDTH VARIES 6.05' TO 4' STA. 890+84 TO STA. 891+36.

(7) LIMITS OF GUARDRAIL: STA. 890+84 TO STA. 892+55.

(8) WIDTH VARIES 12' TO 14' STA. 887+25 TO STA. 892+55.

LEGEND

(A) ITEM 209001 - BORROW, TYPE A
(B) ITEM 209006 - BORROW, TYPE F
(C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
(D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
(E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
(G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
(H) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
(I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
(J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
(K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
(L) ITEM 732002 - TOPSOILING, 6" DEPTH
ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
(N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
(O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
(P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
(Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
(R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
(S) ITEM 727000 - RIGHT OF WAY FENCE
(T) ITEM 705002 - P.C.C. SIDEWALK, 6"
(U) ITEM 732002 - TOPSOILING, 6" DEPTH
ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
(V) ITEM 732002 - TOPSOILING, 6" DEPTH
ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
(W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
(X) ITEM 760507 - PROFILE MILLING, HOT-MIX
(Y) ITEM 712005 - RIPRAP, R-4
(Z) ITEM 720629 - BIFURCATED CONCRETE MEDIAN BARRIER (MODIFIED)
(AA) ITEM 760017 - RUMBLE STRIPS, CONCRETE
(BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
(CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
(DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

TYPICAL SECTION NOTES:

1. THE MAXIMUM ALGEBRAIC DIFFERENCE ON THE HIGH SIDE BETWEEN THE TRAVELED WAY SLOPE AND THE ACCEL/DECEL LANES SHALL NOT EXCEED 4%. THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN THE TRAVELED WAY SLOPE AND THE SHOULDER SLOPE SHALL NOT EXCEED 8%.
2. SHOULDER SLOPE ON THE LOW SIDE SHALL BE THE SAME AS THE TRAVELED WAY SLOPE WHEN SUPERELEVATION IS GREATER THAN 4%.
3. P.G.L. - PROFILE GRADE LINE
PGA - POINT OF GRADE APPLICATION
PDGA - POINT OF DITCH GRADE APPLICATION
P/R - POINT OF ROTATION
O.G. - ORIGINAL GROUND
4. EXISTING SR 1 ROADWAY PAVEMENT SECTION
12" PCC PAVEMENT
4" PERMEABLE ASPHALT TREATED BASE
6" SOIL CEMENT TREATED BASE
14" BORROW TYPE A
5. EXISTING SR 1 SHOULDER ADJACENT SECTION
2" HOT MIX, HOT LAID BITUMINOUS CONCRETE PAVEMENT, TYPE C
10"+/- BITUMINOUS CONCRETE BASE COURSE
4" PERMEABLE ASPHALT TREATED BASE
6" SOIL CEMENT TREATED BASE
14" BORROW TYPE A
6. FOR BENCHING OF EXISTING SLOPES WHERE PROPOSED WIDENING OCCURS, SEE BENCHING DETAIL, SHEET DT-01.
7. SEE GRADES AND GEOMETRICS SHEETS FOR SUPERELEVATED CROSS SLOPE TRANSITIONS.
8. SEE SHEET TS-20 FOR UNDERDRAIN DETAIL.
SEE CONSTRUCTION PLANS FOR PLACEMENT LOCATIONS
9. THE MAXIMUM LIFTS FOR THE INDIVIDUAL PAVING MATERIALS ARE AS FOLLOWS:
SUPERPAVE, TYPE C WMA - 2"
SUPERPAVE, TYPE B WMA - 3", PLACE IN EQUAL LIFTS WHEN THICKNESS EXCEED 3"
SUPERPAVE BIT. CONC. BASE COURSE - 4"
GRADED AGGREGATE BASE COURSE - 8"
10. SEE SHEET DT-01 FOR RUMBLE STRIP LOCATIONS.
11. SEE SHEET DT-01 FOR SAFETY EDGE DETAILS. THESE DETAILS SHALL BEAPPLIED AT ALL INSTANCES WHERE THE EDGE OF PROPOSED PAVEMENT MEETS THE 6" TOPSOIL.

TS-05

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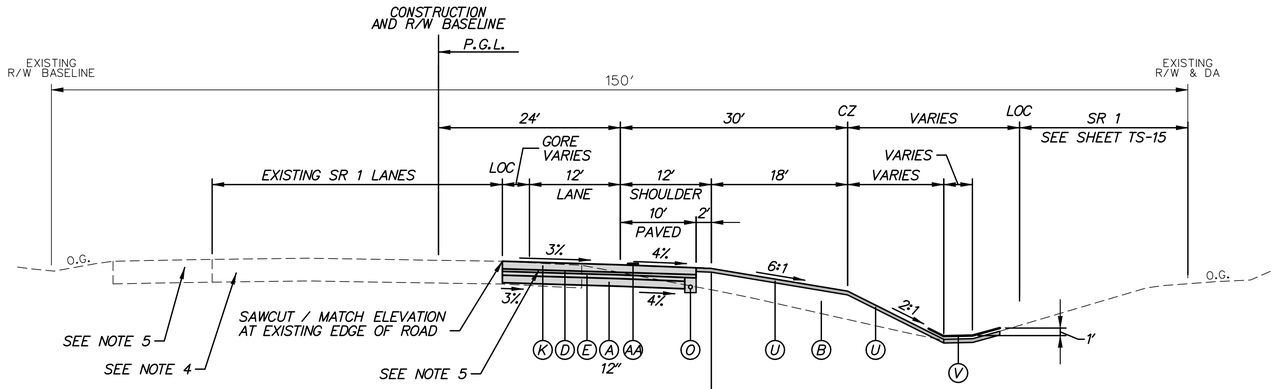
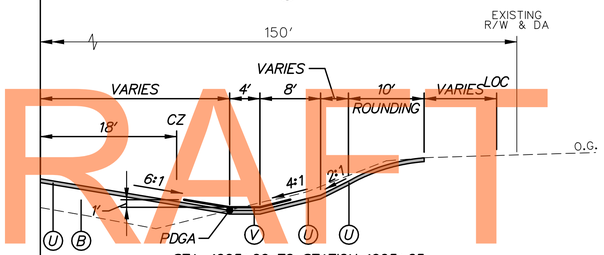
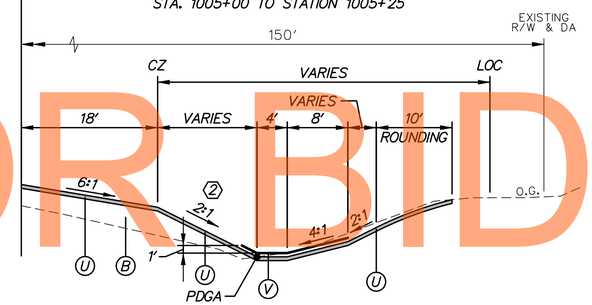




STA. 1005+00 TO STATION 1005+25

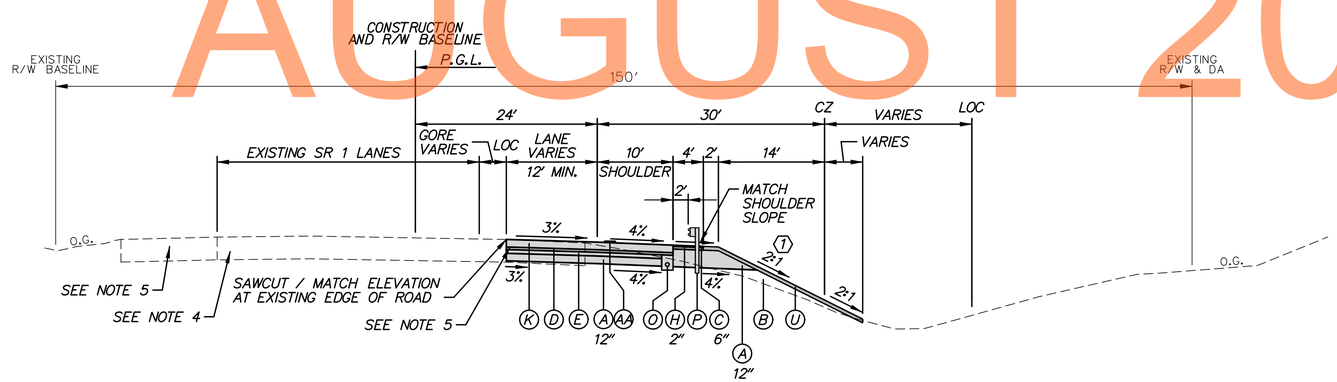


STA. 1002+96 TO STATION 1005+00

1 TRANSITION FROM 2:1 SLOPE AT STA. 1000+50 TO 6:1 SLOPE AT STA. 1000+70. HOLD 6:1 SLOPE FROM STA. 1000+70 TO STA. 1000+87.

2 TRANSITION FROM 2:1 SLOPE AT STA. 1004+80 TO 6:1 SLOPE AT STA. 1005+00.

RAMP Q (US 301 SB) NORMAL SECTION
STATION 1000+87 TO STATION 1005+25



RAMP Q (US 301 SB) NORMAL SECTION
STATION 1000+07 TO STATION 1000+87

LEGEND

- (A) ITEM 209001 - BORROW, TYPE A
- (B) ITEM 209006 - BORROW, TYPE F
- (C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
- (E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
- (G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
- (H) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- (I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
- (J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
- (K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
- (L) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
- (N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
- (O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
- (P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
- (R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
  ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
  ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
- (S) ITEM 727000 - RIGHT OF WAY FENCE
- (T) ITEM 705002 - P.C.C. SIDEWALK, 6"
- (U) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
- (V) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
  ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
- (W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
- (X) ITEM 760507 - PROFILE MILLING, HOT-MIX
- (Y) ITEM 712005 - RIPRAP, R-4
- (Z) ITEM 720629 - BIFURCATED CONCRETE MEDIAN BARRIER (MODIFIED)
- (AA) ITEM 760017 - RUMBLE STRIPS, CONCRETE
- (BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
- (CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
- (DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

TYPICAL SECTION NOTES:

1. THE MAXIMUM ALGEBRAIC DIFFERENCE ON THE HIGH SIDE BETWEEN THE TRAVELED WAY SLOPE AND THE ACCEL/DECEL LANES SHALL NOT EXCEED 4%. THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN THE TRAVELED WAY SLOPE AND THE SHOULDER SLOPE SHALL NOT EXCEED 8%.
2. SHOULDER SLOPE ON THE LOW SIDE SHALL BE THE SAME AS THE TRAVELED WAY SLOPE WHEN SUPERELEVATION IS GREATER THAN 4%.
3. P.G.L. - PROFILE GRADE LINE
   PGA - POINT OF GRADE APPLICATION
   PDGA - POINT OF DITCH GRADE APPLICATION
   P/R - POINT OF ROTATION
   O.G. - ORIGINAL GROUND
4. EXISTING SR 1 ROADWAY PAVEMENT SECTION
   12" PCC PAVEMENT
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
5. EXISTING SR 1 SHOULDER ADJACENT SECTION
   2" HOT MIX, HOT LAID BITUMINOUS CONCRETE PAVEMENT, TYPE C
   10"+/- BITUMINOUS CONCRETE BASE COURSE
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
6. FOR BENCHING OF EXISTING SLOPES WHERE PROPOSED WIDENING OCCURS, SEE BENCHING DETAIL, SHEET DT-01.
7. SEE GRADES AND GEOMETRICS SHEETS FOR SUPERELEVATED CROSS SLOPE TRANSITIONS.
8. SEE SHEET TS-20 FOR UNDERDRAIN DETAIL.
   SEE CONSTRUCTION PLANS FOR PLACEMENT LOCATIONS
9. THE MAXIMUM LIFTS FOR THE INDIVIDUAL PAVING MATERIALS ARE AS FOLLOWS:
   SUPERPAVE, TYPE C WMA - 2"
   SUPERPAVE, TYPE B WMA - 3", PLACE IN EQUAL LIFTS WHEN THICKNESS EXCEED 3"
   SUPERPAVE BIT. CONC. BASE COURSE - 4"
   GRADED AGGREGATE BASE COURSE - 8"
10. SEE SHEET DT-01 FOR RUMBLE STRIP LOCATIONS.
11. SEE SHEET DT-01 FOR SAFETY EDGE DETAILS. THESE DETAILS SHALL BEAPPLIED AT ALL INSTANCES WHERE THE EDGE OF PROPOSED PAVEMENT MEETS THE 6" TOPSOIL.

TS-06

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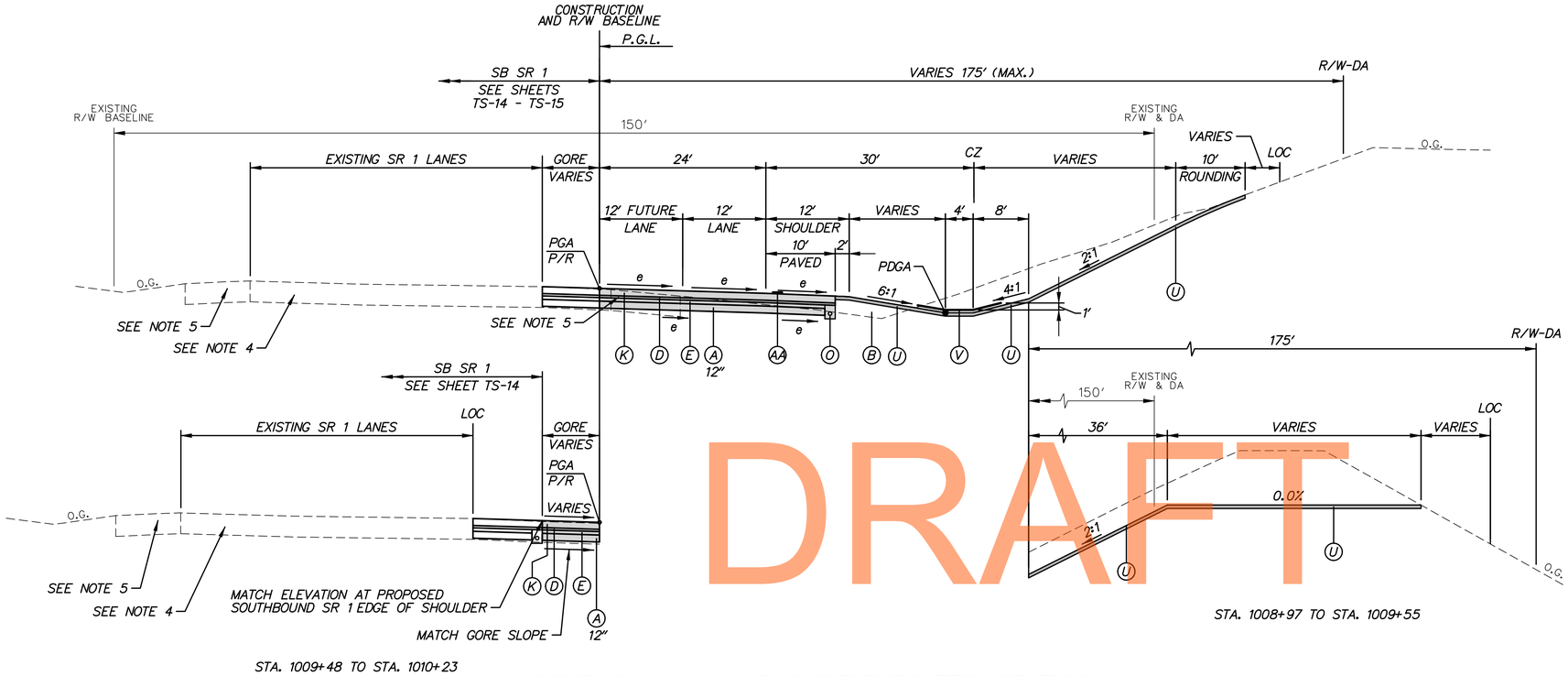
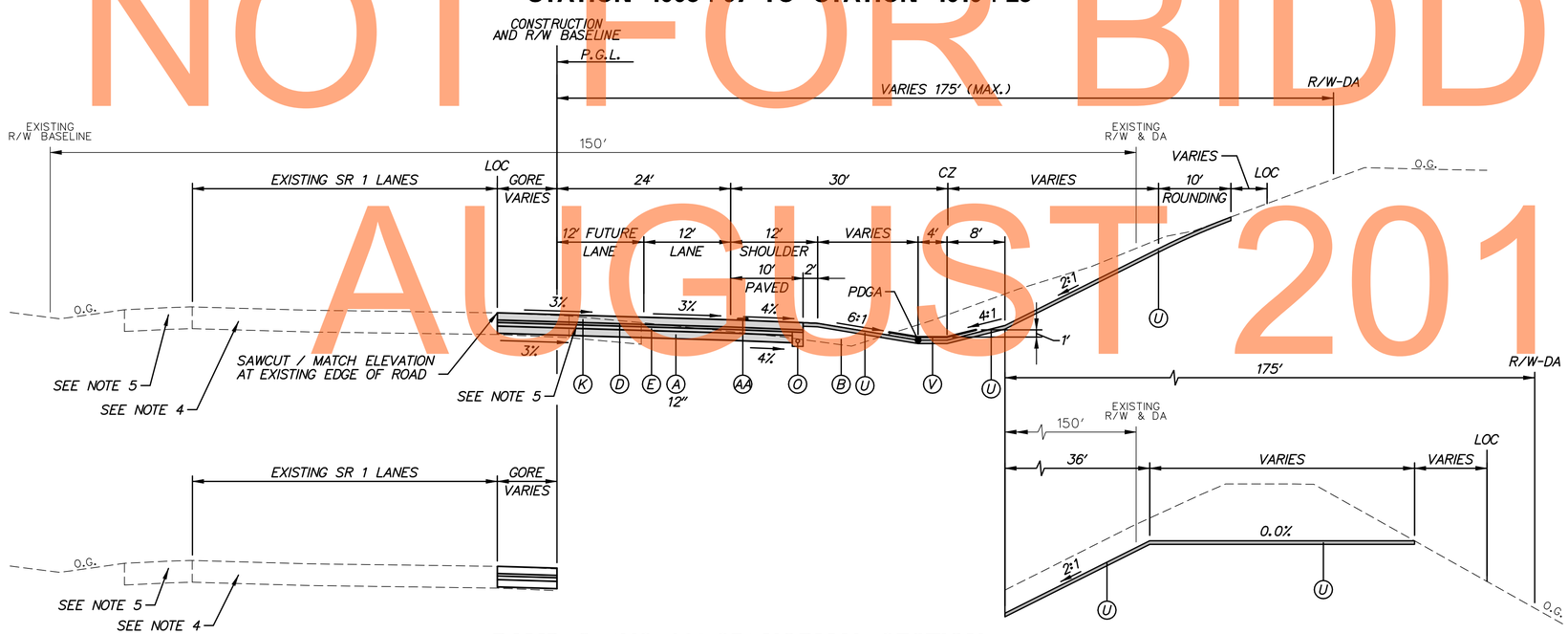


RAMP Q (US 301 SB) SUPERELEVATED SECTION
STATION 1008+97 TO STATION 1010+23



RAMP Q (US 301 SB) NORMAL SECTION
STATION 1005+25 TO STATION 1008+97

LEGEND

- (A) ITEM 209001 - BORROW, TYPE A
- (B) ITEM 209006 - BORROW, TYPE F
- (C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
- (E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
- (G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
- (H) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- (I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
- (J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
- (K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
- (L) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
- (N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
- (O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
- (P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
- (R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
  ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
  ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
- (S) ITEM 727000 - RIGHT OF WAY FENCE
- (T) ITEM 705002 - P.C.C. SIDEWALK, 6"
- (U) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
- (V) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
  ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
- (W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
- (X) ITEM 760507 - PROFILE MILLING, HOT-MIX
- (Y) ITEM 712005 - RIPRAP, R-4
- (Z) ITEM 720629 - BIFURCATED CONCRETE MEDIAN BARRIER (MODIFIED)
- (AA) ITEM 760017 - RUMBLE STRIPS, CONCRETE
- (BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
- (CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
- (DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

TYPICAL SECTION NOTES:

1. THE MAXIMUM ALGEBRAIC DIFFERENCE ON THE HIGH SIDE BETWEEN THE TRAVELED WAY SLOPE AND THE ACCEL/DECEL LANES SHALL NOT EXCEED 4%. THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN THE TRAVELED WAY SLOPE AND THE SHOULDER SLOPE SHALL NOT EXCEED 8%.
2. SHOULDER SLOPE ON THE LOW SIDE SHALL BE THE SAME AS THE TRAVELED WAY SLOPE WHEN SUPERELEVATION IS GREATER THAN 4%.
3. P.G.L. - PROFILE GRADE LINE
   PGA - POINT OF GRADE APPLICATION
   PDGA - POINT OF DITCH GRADE APPLICATION
   P/R - POINT OF ROTATION
   O.G. - ORIGINAL GROUND
4. EXISTING SR 1 ROADWAY PAVEMENT SECTION
   12" PCC PAVEMENT
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
5. EXISTING SR 1 SHOULDER ADJACENT SECTION
   2" HOT MIX, HOT LAID BITUMINOUS CONCRETE PAVEMENT, TYPE C
   10"+/- BITUMINOUS CONCRETE BASE COURSE
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
6. FOR BENCHING OF EXISTING SLOPES WHERE PROPOSED WIDENING OCCURS, SEE BENCHING DETAIL, SHEET DT-01.
7. SEE GRADES AND GEOMETRICS SHEETS FOR SUPERELEVATED CROSS SLOPE TRANSITIONS.
8. SEE SHEET TS-20 FOR UNDERDRAIN DETAIL.
   SEE CONSTRUCTION PLANS FOR PLACEMENT LOCATIONS
9. THE MAXIMUM LIFTS FOR THE INDIVIDUAL PAVING MATERIALS ARE AS FOLLOWS:
   SUPERPAVE, TYPE C WMA - 2"
   SUPERPAVE, TYPE B WMA - 3", PLACE IN EQUAL LIFTS WHEN THICKNESS EXCEED 3"
   SUPERPAVE BIT. CONC. BASE COURSE - 4"
   GRADED AGGREGATE BASE COURSE - 8"
10. SEE SHEET DT-01 FOR RUMBLE STRIP LOCATIONS.
11. SEE SHEET DT-01 FOR SAFETY EDGE DETAILS. THESE DETAILS SHALL BEAPPLIED AT ALL INSTANCES WHERE THE EDGE OF PROPOSED PAVEMENT MEETS THE 6" TOPSOIL.

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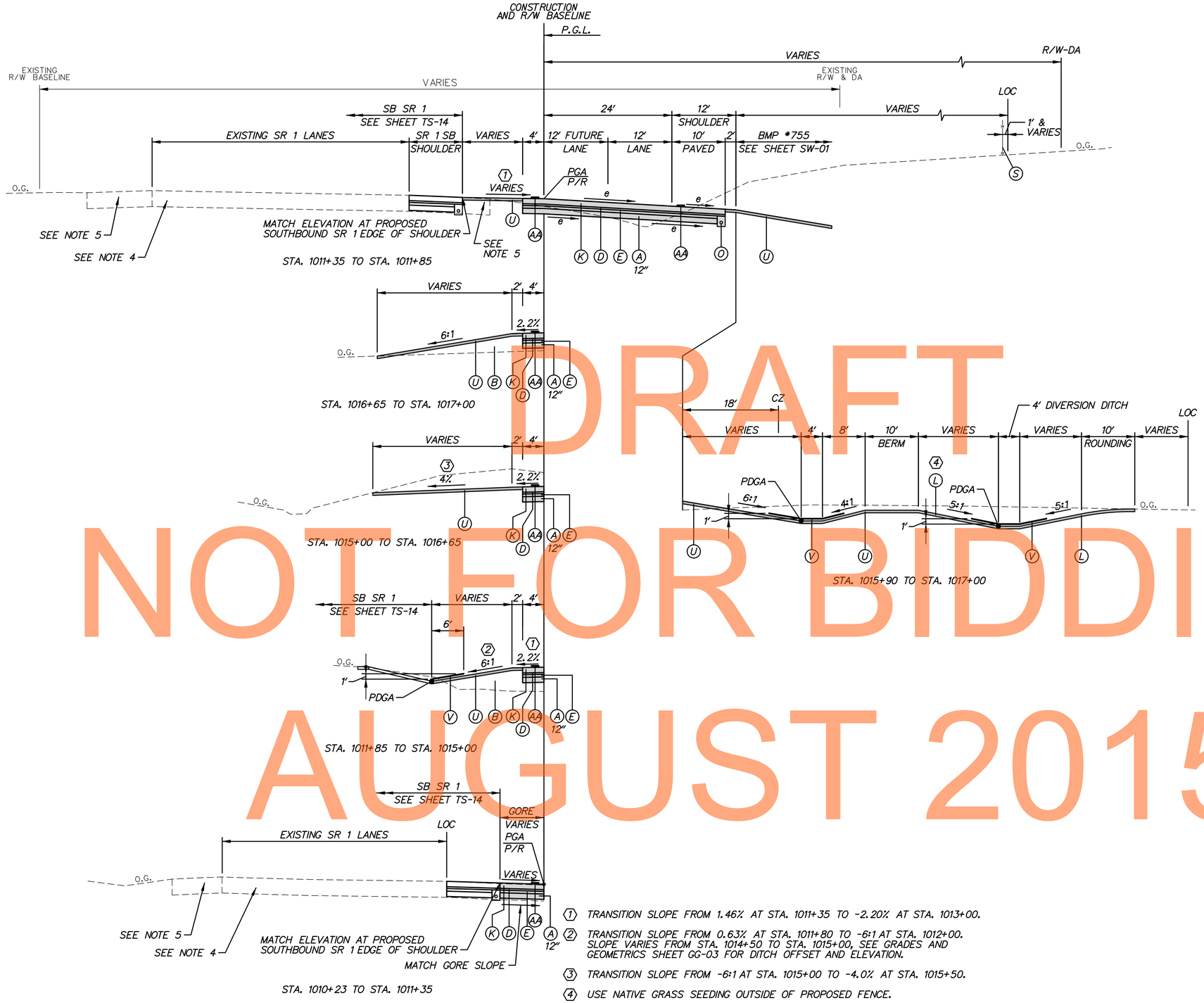

1. TRANSITION SLOPE FROM 1.46% AT STA. 1011+35 TO -2.20% AT STA. 1013+00.
2. TRANSITION SLOPE FROM 0.63% AT STA. 1011+80 TO -6:1 AT STA. 1012+00. SLOPE VARIES FROM STA. 1014+50 TO STA. 1015+00, SEE GRADES AND GEOMETRICS SHEET GG-03 FOR DITCH OFFSET AND ELEVATION.
3. TRANSITION SLOPE FROM -6:1 AT STA. 1015+00 TO -4.0% AT STA. 1015+50.
4. USE NATIVE GRASS SEEDING OUTSIDE OF PROPOSED FENCE.

RAMP Q (US 301 SB) SUPERELEVATED SECTION
STATION 1010+23 TO STATION 1017+00 (e_{max}=5.8%)

LEGEND

- (A) ITEM 209001 - BORROW, TYPE A
- (B) ITEM 209006 - BORROW, TYPE F
- (C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
- (E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
- (G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
- (H) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- (I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
- (J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
- (K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
- (L) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
- (N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
- (O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
- (P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
- (R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
  ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
  ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
- (S) ITEM 727000 - RIGHT OF WAY FENCE
- (T) ITEM 705002 - P.C.C. SIDEWALK, 6"
- (U) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
- (V) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
  ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
- (W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
- (X) ITEM 760507 - PROFILE MILLING, HOT-MIX
- (Y) ITEM 712005 - RIPRAP, R-4
- (Z) ITEM 720629 - BIFURCATED CONCRETE MEDIAN BARRIER (MODIFIED)
- (AA) ITEM 760017 - RUMBLE STRIPS, CONCRETE
- (BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
- (CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
- (DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

TYPICAL SECTION NOTES:

1. THE MAXIMUM ALGEBRAIC DIFFERENCE ON THE HIGH SIDE BETWEEN THE TRAVELED WAY SLOPE AND THE ACCEL/DECEL LANES SHALL NOT EXCEED 4%. THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN THE TRAVELED WAY SLOPE AND THE SHOULDER SLOPE SHALL NOT EXCEED 8%.
2. SHOULDER SLOPE ON THE LOW SIDE SHALL BE THE SAME AS THE TRAVELED WAY SLOPE WHEN SUPERELEVATION IS GREATER THAN 4%.
3. P.G.L. - PROFILE GRADE LINE
   PGA - POINT OF GRADE APPLICATION
   PDGA - POINT OF DITCH GRADE APPLICATION
   P/R - POINT OF ROTATION
   O.G. - ORIGINAL GROUND
4. EXISTING SR 1 ROADWAY PAVEMENT SECTION
   12" PCC PAVEMENT
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
5. EXISTING SR 1 SHOULDER ADJACENT SECTION
   2" HOT MIX, HOT LAID BITUMINOUS CONCRETE PAVEMENT, TYPE C
   10"+/- BITUMINOUS CONCRETE BASE COURSE
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
6. FOR BENCHING OF EXISTING SLOPES WHERE PROPOSED WIDENING OCCURS, SEE BENCHING DETAIL, SHEET DT-01.
7. SEE GRADES AND GEOMETRICS SHEETS FOR SUPERELEVATED CROSS SLOPE TRANSITIONS.
8. SEE SHEET TS-20 FOR UNDERDRAIN DETAIL.
   SEE CONSTRUCTION PLANS FOR PLACEMENT LOCATIONS
9. THE MAXIMUM LIFTS FOR THE INDIVIDUAL PAVING MATERIALS ARE AS FOLLOWS:
   SUPERPAVE, TYPE C WMA - 2"
   SUPERPAVE, TYPE B WMA - 3", PLACE IN EQUAL LIFTS WHEN THICKNESS EXCEED 3"
   SUPERPAVE BIT. CONC. BASE COURSE - 4"
   GRADED AGGREGATE BASE COURSE - 8"
10. SEE SHEET DT-01 FOR RUMBLE STRIP LOCATIONS.
11. SEE SHEET DT-01 FOR SAFETY EDGE DETAILS. THESE DETAILS SHALL BEAPPLIED AT ALL INSTANCES WHERE THE EDGE OF PROPOSED PAVEMENT MEETS THE 6" TOPSOIL.

TS-08

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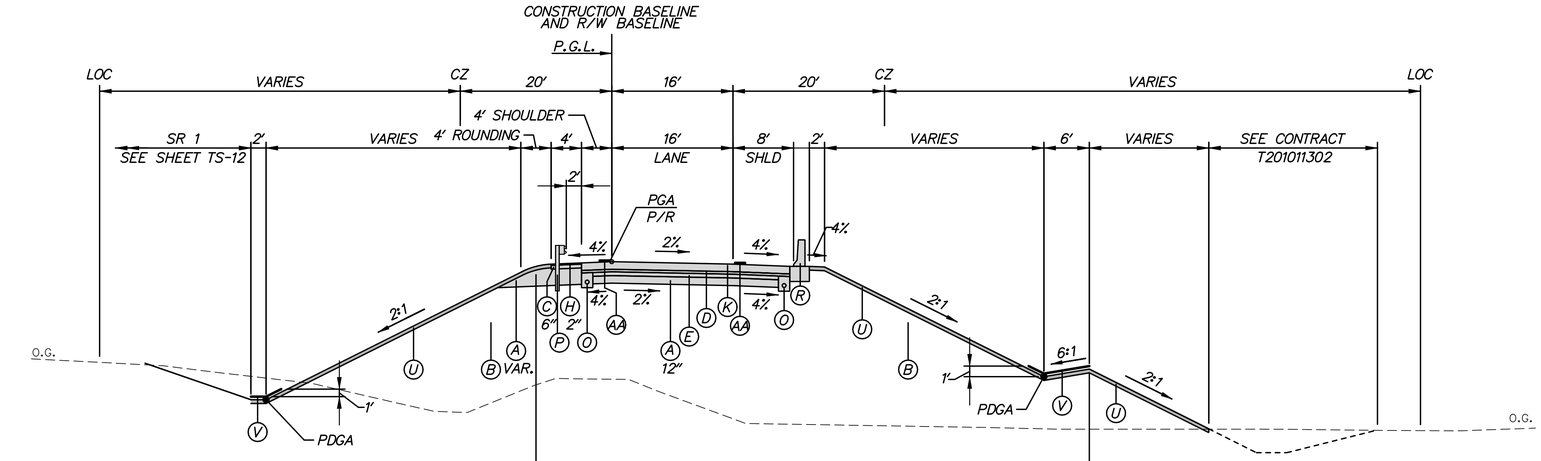
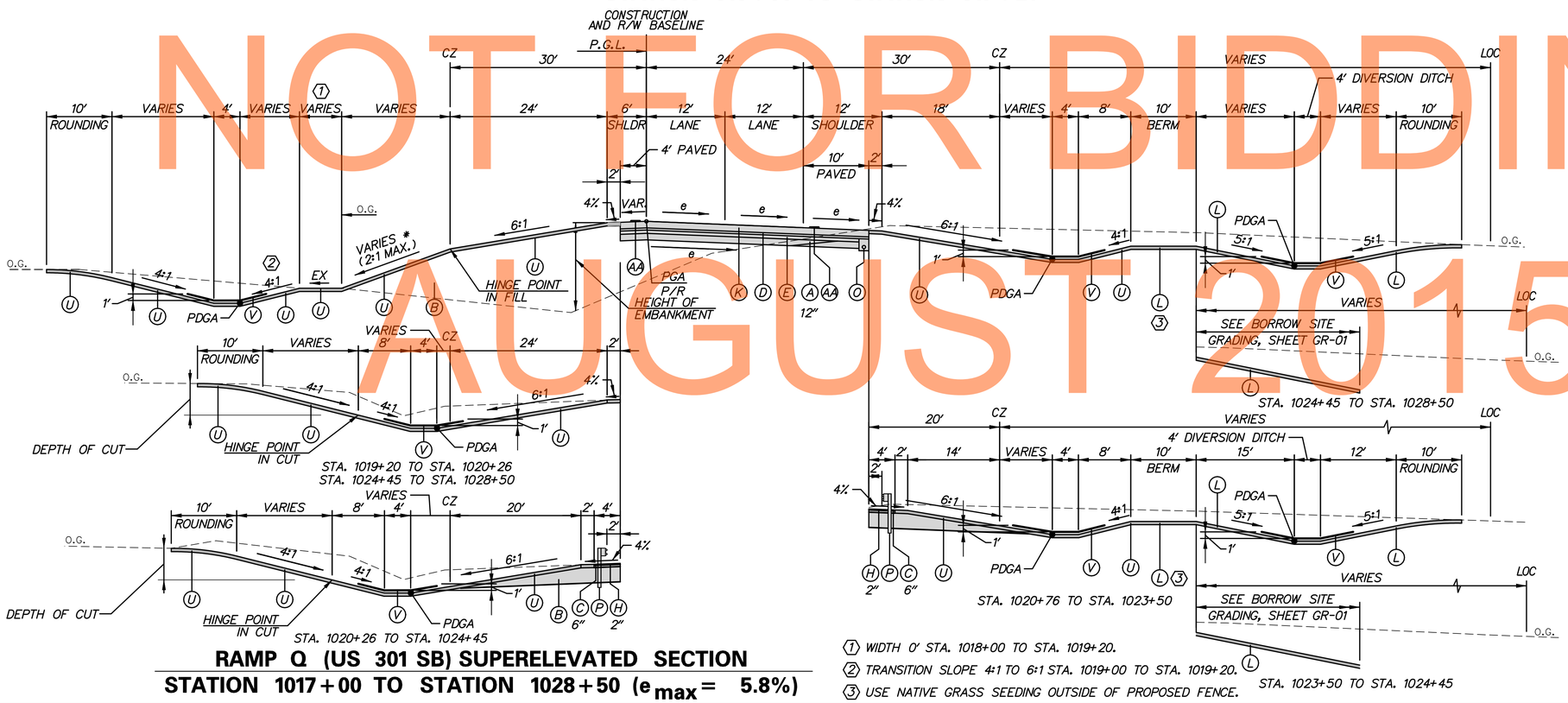


1 TRANSITION SLOPE 2:1 TO 6:1 STA. 316+55 TO STA. 317+00.

RAMP R NORMAL SECTION
STATION 316+00 TO STATION 317+21



RAMP Q (US 301 SB) SUPERELEVATED SECTION
STATION 1017+00 TO STATION 1028+50 (e_{max} = 5.8%)

1 WIDTH 0' STA. 1018+00 TO STA. 1019+20.
2 TRANSITION SLOPE 4:1 TO 6:1 STA. 1019+00 TO STA. 1019+20.
3 USE NATIVE GRASS SEEDING OUTSIDE OF PROPOSED FENCE.

LEGEND

- (A) ITEM 209001 - BORROW, TYPE A
- (B) ITEM 209006 - BORROW, TYPE F
- (C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
- (E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
- (G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
- (H) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- (I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
- (J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
- (K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
- (L) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
- (N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
- (O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
- (P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
- (R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
  ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
  ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
- (S) ITEM 727000 - RIGHT OF WAY FENCE
- (T) ITEM 705002 - P.C.C. SIDEWALK, 6"
- (U) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
- (V) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
  ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
- (W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
- (X) ITEM 760507 - PROFILE MILLING, HOT-MIX
- (Y) ITEM 712005 - RIPRAP, R-4
- (Z) ITEM 720629 - BIFURCATED CONCRETE MEDIAN BARRIER (MODIFIED)
- (AA) ITEM 760017 - RUMBLE STRIPS, CONCRETE
- (BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
- (CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
- (DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

TYPICAL SECTION NOTES:

1. THE MAXIMUM ALGEBRAIC DIFFERENCE ON THE HIGH SIDE BETWEEN THE TRAVELED WAY SLOPE AND THE ACCEL/DECEL LANES SHALL NOT EXCEED 4%. THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN THE TRAVELED WAY SLOPE AND THE SHOULDER SLOPE SHALL NOT EXCEED 8%.
2. SHOULDER SLOPE ON THE LOW SIDE SHALL BE THE SAME AS THE TRAVELED WAY SLOPE WHEN SUPERELEVATION IS GREATER THAN 4%.
3. P.G.L. - PROFILE GRADE LINE
   PGA - POINT OF GRADE APPLICATION
   PDGA - POINT OF DITCH GRADE APPLICATION
   P/R - POINT OF ROTATION
   O.G. - ORIGINAL GROUND
4. EXISTING SR 1 ROADWAY PAVEMENT SECTION
   12" PCC PAVEMENT
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
5. EXISTING SR 1 SHOULDER ADJACENT SECTION
   2" HOT MIX, HOT LAID BITUMINOUS CONCRETE PAVEMENT, TYPE C
   10"+/- BITUMINOUS CONCRETE BASE COURSE
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
6. FOR BENCHING OF EXISTING SLOPES WHERE PROPOSED WIDENING OCCURS, SEE BENCHING DETAIL, SHEET DT-01.
7. SEE GRADES AND GEOMETRICS SHEETS FOR SUPERELEVATED CROSS SLOPE TRANSITIONS.
8. SEE SHEET TS-20 FOR UNDERDRAIN DETAIL.
   SEE CONSTRUCTION PLANS FOR PLACEMENT LOCATIONS
9. THE MAXIMUM LIFTS FOR THE INDIVIDUAL PAVING MATERIALS ARE AS FOLLOWS:
   SUPERPAVE, TYPE C WMA - 2"
   SUPERPAVE, TYPE B WMA - 3", PLACE IN EQUAL LIFTS WHEN THICKNESS EXCEED 3"
   SUPERPAVE BIT. CONC. BASE COURSE - 4"
   GRADED AGGREGATE BASE COURSE - 8"
10. SEE SHEET DT-01 FOR RUMBLE STRIP LOCATIONS.
11. SEE SHEET DT-01 FOR SAFETY EDGE DETAILS. THESE DETAILS SHALL BEAPPLIED AT ALL INSTANCES WHERE THE EDGE OF PROPOSED PAVEMENT MEETS THE 6" TOPSOIL.

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AUGUST 2015

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

NOT TO SCALE

US 301 & SR 1 INTERCHANGE

CONTRACT	BRIDGE NO.
T200911302	DESIGNED BY: J.A.D.
COUNTY	CHECKED BY: B.R.T.
NEW CASTLE	

TYPICAL SECTIONS

TS-09

SHEET NO. 20
TOTAL SHTS. 491

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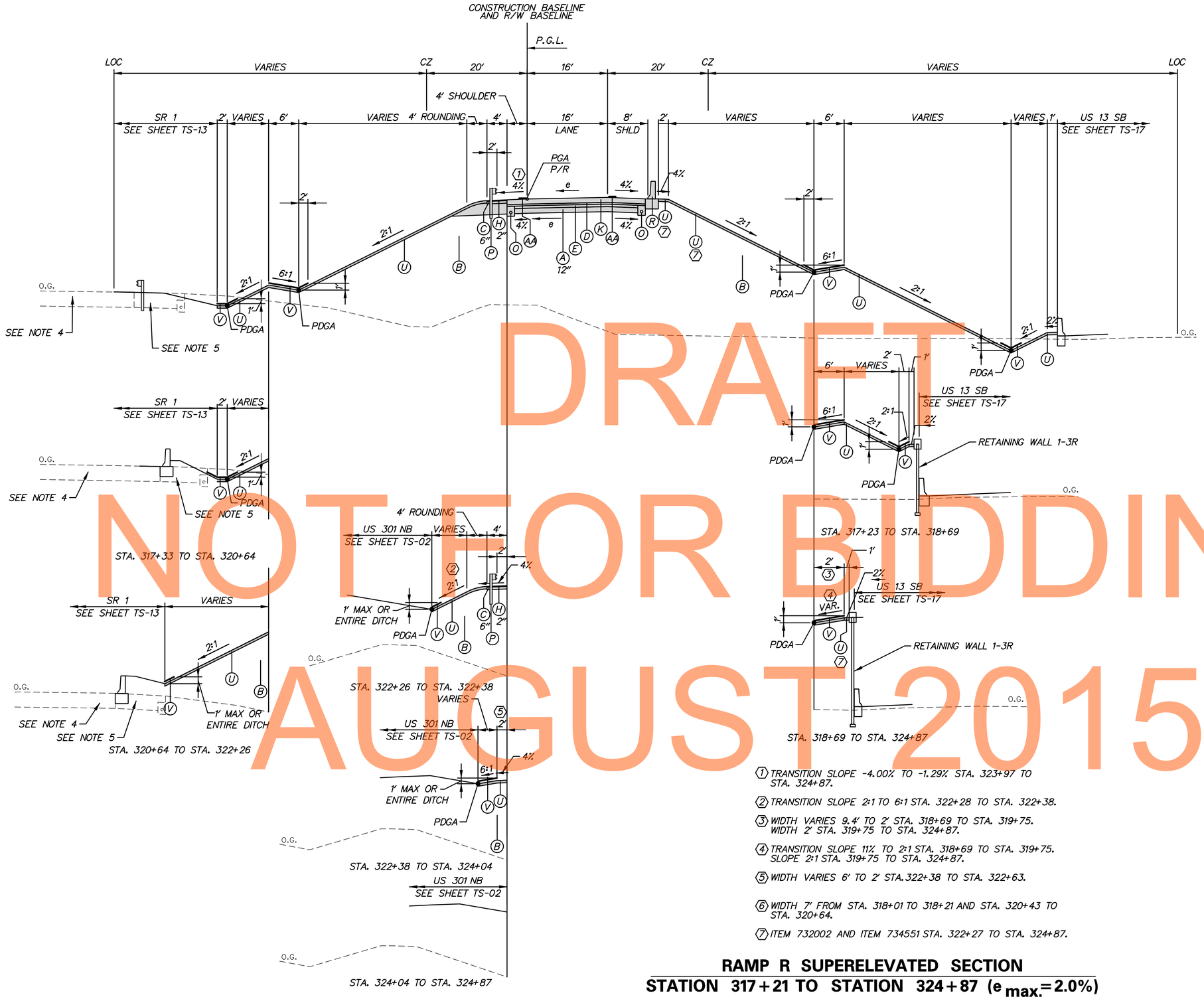

DRAFT
NOT FOR BIDDING
AUGUST 2015

LEGEND

- (A) ITEM 209001 - BORROW, TYPE A
- (B) ITEM 209006 - BORROW, TYPE F
- (C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
- (E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
- (G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
- (H) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- (I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
- (J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
- (K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
- (L) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
- (N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
- (O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
- (P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
- (R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
  ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
  ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
- (S) ITEM 727000 - RIGHT OF WAY FENCE
- (T) ITEM 705002 - P.C.C. SIDEWALK, 6"
- (U) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
- (V) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
  ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
- (W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
- (X) ITEM 760507 - PROFILE MILLING, HOT-MIX
- (Y) ITEM 712005 - RIPRAP, R-4
- (Z) ITEM 720629 - BIFURCATED CONCRETE MEDIAN BARRIER (MODIFIED)
- (AA) ITEM 760017 - RUMBLE STRIPS, CONCRETE
- (BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
- (CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
- (DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

TYPICAL SECTION NOTES:

1. THE MAXIMUM ALGEBRAIC DIFFERENCE ON THE HIGH SIDE BETWEEN THE TRAVELED WAY SLOPE AND THE ACCEL/DECEL LANES SHALL NOT EXCEED 4%. THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN THE TRAVELED WAY SLOPE AND THE SHOULDER SLOPE SHALL NOT EXCEED 8%.
2. SHOULDER SLOPE ON THE LOW SIDE SHALL BE THE SAME AS THE TRAVELED WAY SLOPE WHEN SUPERELEVATION IS GREATER THAN 4%.
3. P.G.L. - PROFILE GRADE LINE
   PGA - POINT OF GRADE APPLICATION
   PDGA - POINT OF DITCH GRADE APPLICATION
   P/R - POINT OF ROTATION
   O.G. - ORIGINAL GROUND
4. EXISTING SR 1 ROADWAY PAVEMENT SECTION
   12" PCC PAVEMENT
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
5. EXISTING SR 1 SHOULDER ADJACENT SECTION
   2" HOT MIX, HOT LAID BITUMINOUS CONCRETE PAVEMENT, TYPE C
   10" +/- BITUMINOUS CONCRETE BASE COURSE
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
6. FOR BENCHING OF EXISTING SLOPES WHERE PROPOSED WIDENING OCCURS, SEE BENCHING DETAIL, SHEET DT-01.
7. SEE GRADES AND GEOMETRICS SHEETS FOR SUPERELEVATED CROSS SLOPE TRANSITIONS.
8. SEE SHEET TS-20 FOR UNDERDRAIN DETAIL.
   SEE CONSTRUCTION PLANS FOR PLACEMENT LOCATIONS
9. THE MAXIMUM LIFTS FOR THE INDIVIDUAL PAVING MATERIALS ARE AS FOLLOWS:
   SUPERPAVE, TYPE C WMA - 2"
   SUPERPAVE, TYPE B WMA - 3", PLACE IN EQUAL LIFTS WHEN THICKNESS EXCEED 3"
   SUPERPAVE BIT. CONC. BASE COURSE - 4"
   GRADED AGGREGATE BASE COURSE - 8"
10. SEE SHEET DT-01 FOR RUMBLE STRIP LOCATIONS.
11. SEE SHEET DT-01 FOR SAFETY EDGE DETAILS. THESE DETAILS SHALL BEAPPLIED AT ALL INSTANCES WHERE THE EDGE OF PROPOSED PAVEMENT MEETS THE 6" TOPSOIL.

(1) TRANSITION SLOPE -4.00% TO -1.29% STA. 323+97 TO STA. 324+87.

(2) TRANSITION SLOPE 2:1 TO 6:1 STA. 322+28 TO STA. 322+38.

(3) WIDTH VARIES 9.4' TO 2' STA. 318+69 TO STA. 319+75.
WIDTH 2' STA. 319+75 TO STA. 324+87.

(4) TRANSITION SLOPE 11% TO 2:1 STA. 318+69 TO STA. 319+75.
SLOPE 2:1 STA. 319+75 TO STA. 324+87.

(5) WIDTH VARIES 6' TO 2' STA.322+38 TO STA. 322+63.

(6) WIDTH 7' FROM STA. 318+01 TO 318+21 AND STA. 320+43 TO STA. 320+64.

(7) ITEM 732002 AND ITEM 734551 STA. 322+27 TO STA. 324+87.

RAMP R SUPERELEVATED SECTION

STATION 317+21 TO STATION 324+87 ($e_{max.}$=2.0%)

TS-10

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 301 & SR 1 INTERCHANGE	CONTRACT T200911302 / COUNTY NEW CASTLE	BRIDGE NO. / DESIGNED BY: S.E.S. / CHECKED BY: B.R.T.	TYPICAL SECTIONS	SHEET NO. 21 / TOTAL SHTS. 491

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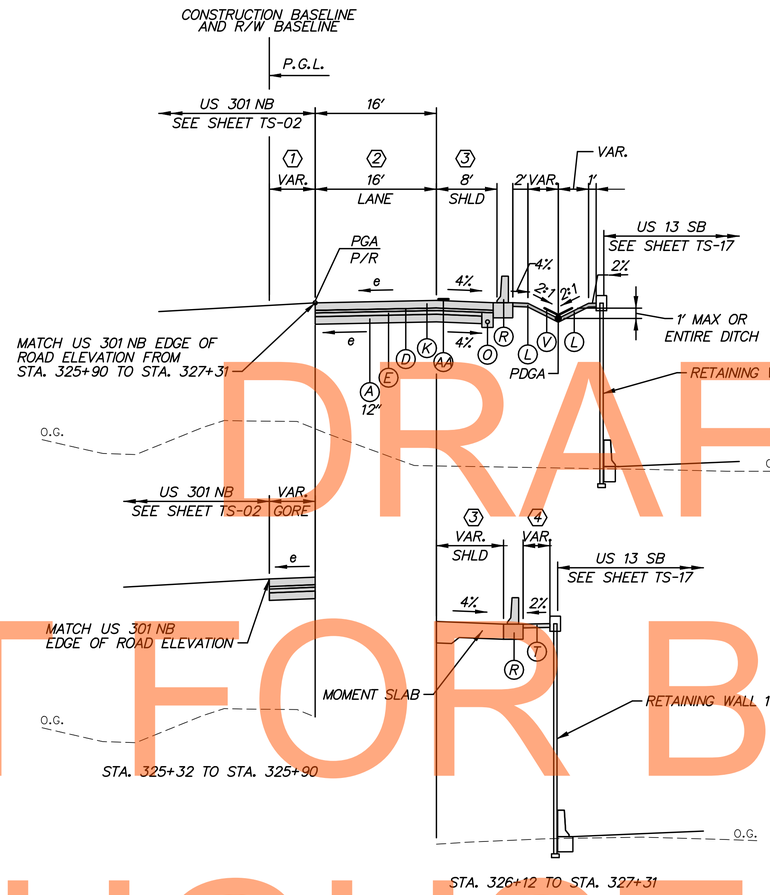

RAMP R SUPERELEVATED SECTION

STATION 324+87 TO STATION 327+31 ($e_{max.}$=2.0%)

(1) WIDTH 0' STA. 324+87 TO STA. 325+90.
WIDTH VARIES 0' TO 4' STA. 325+90 TO STA. 327+31.

(2) WIDTH VARIES 16' TO 12' STA. 325+90 TO STA. 327+31.

(3) WIDTH VARIES 8' TO 12' STA. 325+99 TO STA. 327+28.
WIDTH 12' STA. 325+28 TO STA. 327+31.

(4) WIDTH VARIES 4.90' TO 0' STA. 326+12 TO STA. 327+31.

LEGEND

- (A) ITEM 209001 - BORROW, TYPE A
- (B) ITEM 209006 - BORROW, TYPE F
- (C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
- (E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
- (G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
- (H) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- (I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
- (J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
- (K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
- (L) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
- (N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
- (O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
- (P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
- (R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
  ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
  ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
- (S) ITEM 727000 - RIGHT OF WAY FENCE
- (T) ITEM 705002 - P.C.C. SIDEWALK, 6"
- (U) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
- (V) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
  ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
- (W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
- (X) ITEM 760507 - PROFILE MILLING, HOT-MIX
- (Y) ITEM 712005 - RIPRAP, R-4
- (Z) ITEM 720629 - BIFURCATED CONCRETE MEDIAN BARRIER (MODIFIED)
- (AA) ITEM 760017 - RUMBLE STRIPS, CONCRETE
- (BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
- (CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
- (DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

TYPICAL SECTION NOTES:

1. THE MAXIMUM ALGEBRAIC DIFFERENCE ON THE HIGH SIDE BETWEEN THE TRAVELED WAY SLOPE AND THE ACCEL/DECEL LANES SHALL NOT EXCEED 4%. THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN THE TRAVELED WAY SLOPE AND THE SHOULDER SLOPE SHALL NOT EXCEED 8%.
2. SHOULDER SLOPE ON THE LOW SIDE SHALL BE THE SAME AS THE TRAVELED WAY SLOPE WHEN SUPERELEVATION IS GREATER THAN 4%.
3. P.G.L. - PROFILE GRADE LINE
   PGA - POINT OF GRADE APPLICATION
   PDGA - POINT OF DITCH GRADE APPLICATION
   P/R - POINT OF ROTATION
   O.G. - ORIGINAL GROUND
4. EXISTING SR 1 ROADWAY PAVEMENT SECTION
   12" PCC PAVEMENT
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
5. EXISTING SR 1 SHOULDER ADJACENT SECTION
   2" HOT MIX, HOT LAID BITUMINOUS CONCRETE PAVEMENT, TYPE C
   10"+/- BITUMINOUS CONCRETE BASE COURSE
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
6. FOR BENCHING OF EXISTING SLOPES WHERE PROPOSED WIDENING OCCURS, SEE BENCHING DETAIL, SHEET DT-01.
7. SEE GRADES AND GEOMETRICS SHEETS FOR SUPERELEVATED CROSS SLOPE TRANSITIONS.
8. SEE SHEET TS-20 FOR UNDERDRAIN DETAIL.
   SEE CONSTRUCTION PLANS FOR PLACEMENT LOCATIONS
9. THE MAXIMUM LIFTS FOR THE INDIVIDUAL PAVING MATERIALS ARE AS FOLLOWS:
   SUPERPAVE, TYPE C WMA - 2"
   SUPERPAVE, TYPE B WMA - 3", PLACE IN EQUAL LIFTS WHEN THICKNESS EXCEED 3"
   SUPERPAVE BIT. CONC. BASE COURSE - 4"
   GRADED AGGREGATE BASE COURSE - 8"
10. SEE SHEET DT-01 FOR RUMBLE STRIP LOCATIONS.
11. SEE SHEET DT-01 FOR SAFETY EDGE DETAILS. THESE DETAILS SHALL BEAPPLIED AT ALL INSTANCES WHERE THE EDGE OF PROPOSED PAVEMENT MEETS THE 6" TOPSOIL.

TS-11

DRAFT
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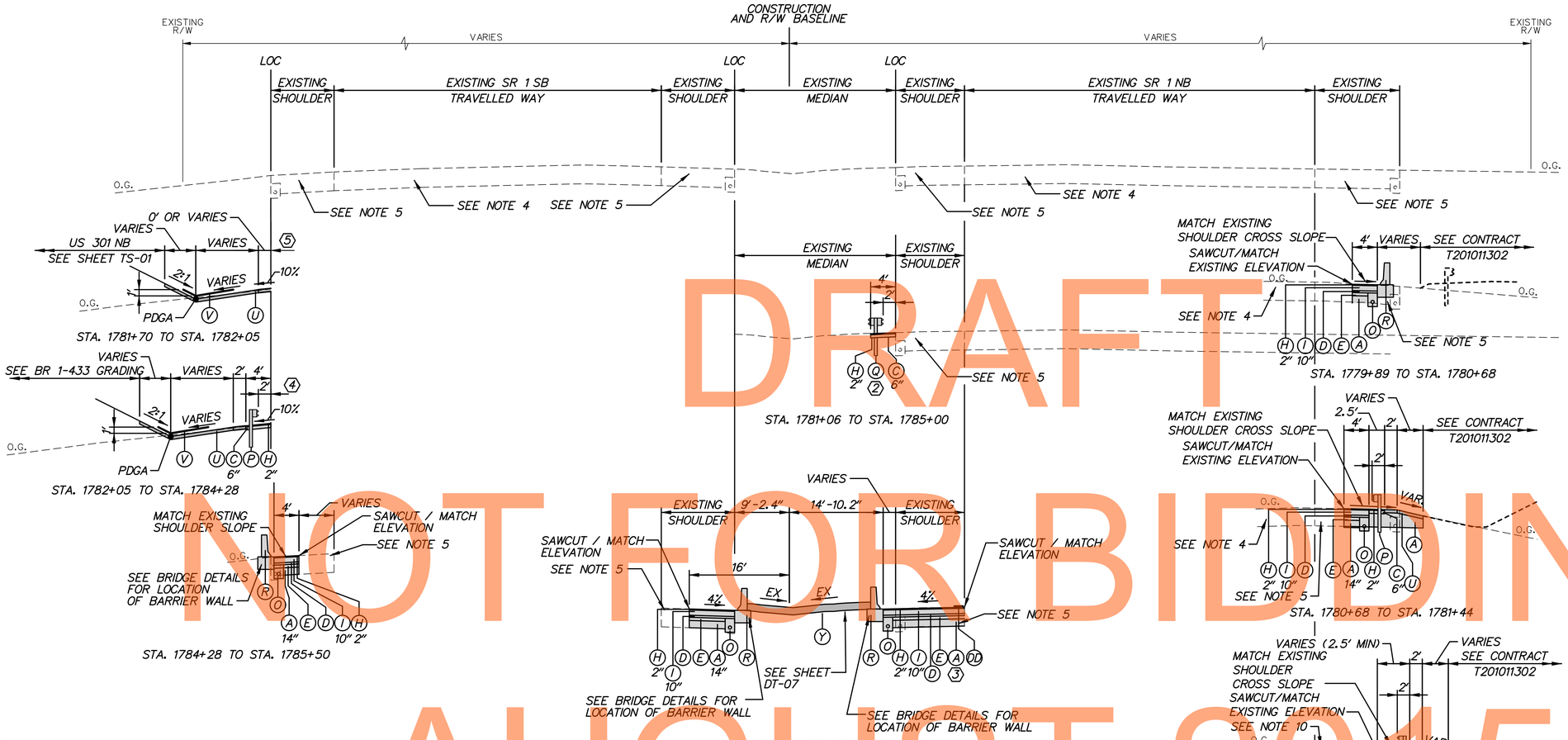
AUGUST 2015



SR 1 NORMAL SECTION

STATION 1779+89 TO STATION 1785+50

(1) DEPTH 10" STA. 1782+03 TO STA. 1783+94.

(2) GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1 STA. 1784+50 TO STA. 1785+00.

(3) BOTTOM SLOPE OF TYPE A SHALL MATCH ADJACENT ROADWAY SLOPE.

(4) WIDTH VARIES 2' TO 0' STA. 1783+86 TO STA. 1784+17. WIDTH 0' STA. 1784+17 TO STA. 1784+28.

(5) WIDTH 0' STA. 1781+70 TO STA. 1781+95. VARY WIDTH 0' TO 6' STA. 1781+95 TO STA. 1782+05.

LEGEND

- (A) ITEM 209001 - BORROW, TYPE A
- (B) ITEM 209006 - BORROW, TYPE F
- (C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
- (E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
- (G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
- (H) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- (I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
- (J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
- (K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
- (L) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
- (N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
- (O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
- (P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
- (R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
  ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
  ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
- (S) ITEM 727000 - RIGHT OF WAY FENCE
- (T) ITEM 705002 - P.C.C. SIDEWALK, 6"
- (U) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
- (V) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
  ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
- (W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
- (X) ITEM 760507 - PROFILE MILLING, HOT-MIX
- (Y) ITEM 712005 - RIPRAP, R-4
- (Z) ITEM 720629 - BIFURCATED CONCRETE MEDIAN BARRIER (MODIFIED)
- (AA) ITEM 760017 - RUMBLE STRIPS, CONCRETE
- (BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
- (CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
- (DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

TYPICAL SECTION NOTES:

1. THE MAXIMUM ALGEBRAIC DIFFERENCE ON THE HIGH SIDE BETWEEN THE TRAVELED WAY SLOPE AND THE ACCEL/DECEL LANES SHALL NOT EXCEED 4%. THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN THE TRAVELED WAY SLOPE AND THE SHOULDER SLOPE SHALL NOT EXCEED 8%.
2. SHOULDER SLOPE ON THE LOW SIDE SHALL BE THE SAME AS THE TRAVELED WAY SLOPE WHEN SUPERELEVATION IS GREATER THAN 4%.
3. P.G.L. - PROFILE GRADE LINE
   PGA - POINT OF GRADE APPLICATION
   PDGA - POINT OF DITCH GRADE APPLICATION
   P/R - POINT OF ROTATION
   O.G. - ORIGINAL GROUND
4. EXISTING SR 1 ROADWAY PAVEMENT SECTION
   12" PCC PAVEMENT
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
5. EXISTING SR 1 SHOULDER ADJACENT SECTION
   2" HOT MIX, HOT LAID BITUMINOUS CONCRETE PAVEMENT, TYPE C
   10"+/- BITUMINOUS CONCRETE BASE COURSE
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
6. FOR BENCHING OF EXISTING SLOPES WHERE PROPOSED WIDENING OCCURS, SEE BENCHING DETAIL, SHEET DT-01.
7. SEE GRADES AND GEOMETRICS SHEETS FOR SUPERELEVATED CROSS SLOPE TRANSITIONS.
8. SEE SHEET TS-20 FOR UNDERDRAIN DETAIL. SEE CONSTRUCTION PLANS FOR PLACEMENT LOCATIONS
9. THE MAXIMUM LIFTS FOR THE INDIVIDUAL PAVING MATERIALS ARE AS FOLLOWS:
   SUPERPAVE, TYPE C WMA - 2"
   SUPERPAVE, TYPE B WMA - 3", PLACE IN EQUAL LIFTS WHEN THICKNESS EXCEED 3"
   SUPERPAVE BIT. CONC. BASE COURSE - 4"
   GRADED AGGREGATE BASE COURSE - 8"
10. SEE SHEET DT-01 FOR RUMBLE STRIP LOCATIONS.
11. SEE SHEET DT-01 FOR SAFETY EDGE DETAILS. THESE DETAILS SHALL BEAPPLIED AT ALL INSTANCES WHERE THE EDGE OF PROPOSED PAVEMENT MEETS THE 6" TOPSOIL.

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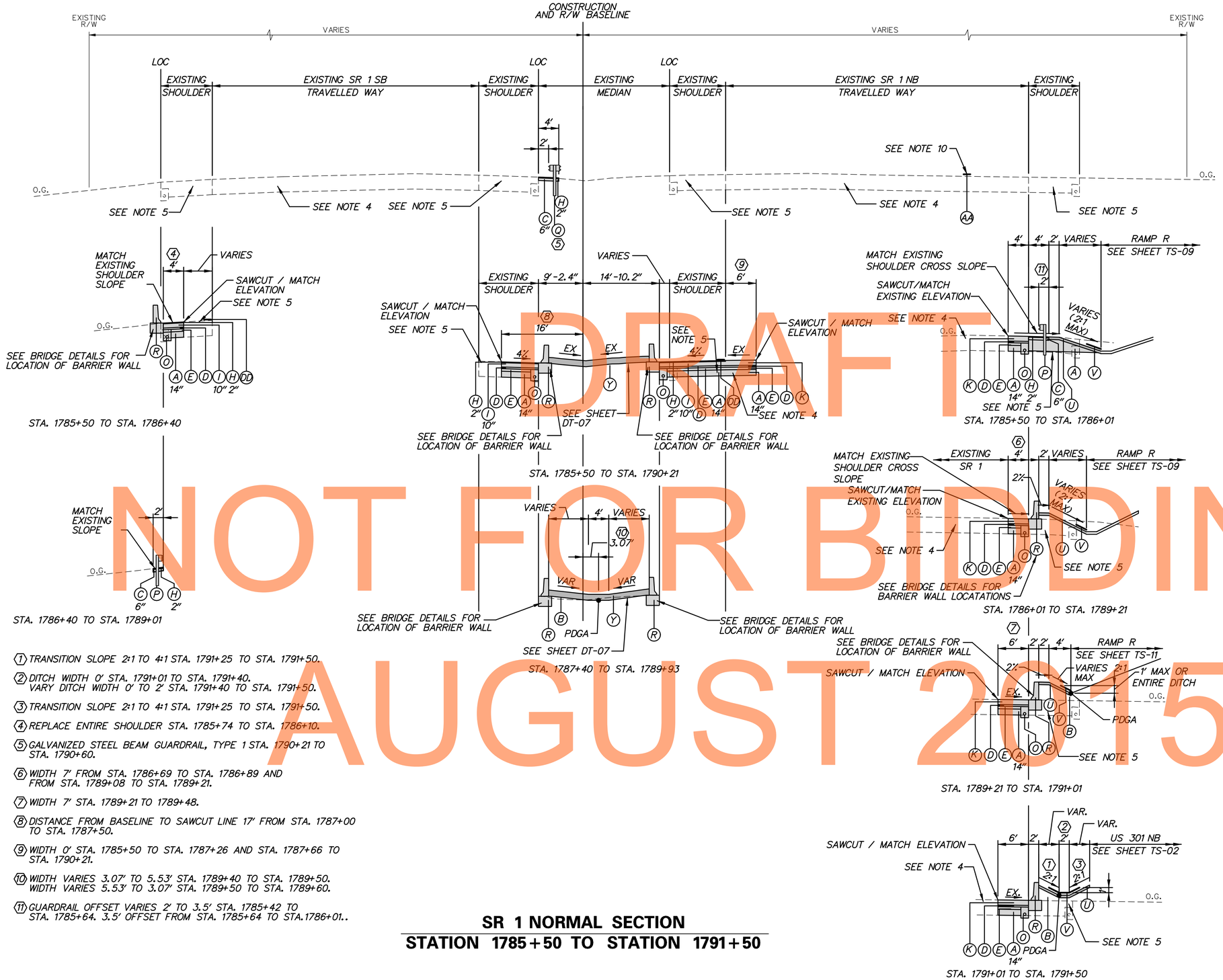
AUGUST 2015



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(1) TRANSITION SLOPE 2:1 TO 4:1 STA. 1791+25 TO STA. 1791+50.

(2) DITCH WIDTH 0' STA. 1791+01 TO STA. 1791+40.
VARY DITCH WIDTH 0' TO 2' STA. 1791+40 TO STA. 1791+50.

(3) TRANSITION SLOPE 2:1 TO 4:1 STA. 1791+25 TO STA. 1791+50.

(4) REPLACE ENTIRE SHOULDER STA. 1785+74 TO STA. 1786+10.

(5) GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1 STA. 1790+21 TO STA. 1790+60.

(6) WIDTH 7' FROM STA. 1786+69 TO STA. 1786+89 AND FROM STA. 1789+08 TO STA. 1789+21.

(7) WIDTH 7' STA. 1789+21 TO 1789+48.

(8) DISTANCE FROM BASELINE TO SAWCUT LINE 17' FROM STA. 1787+00 TO STA. 1787+50.

(9) WIDTH 0' STA. 1785+50 TO STA. 1787+26 AND STA. 1787+66 TO STA. 1790+21.

(10) WIDTH VARIES 3.07' TO 5.53' STA. 1789+40 TO STA. 1789+50.
WIDTH VARIES 5.53' TO 3.07' STA. 1789+50 TO STA. 1789+60.

(11) GUARDRAIL OFFSET VARIES 2' TO 3.5' STA. 1785+42 TO STA. 1785+64. 3.5' OFFSET FROM STA. 1785+64 TO STA.1786+01..

SR 1 NORMAL SECTION
STATION 1785+50 TO STATION 1791+50

LEGEND

- (A) ITEM 209001 - BORROW, TYPE A
- (B) ITEM 209006 - BORROW, TYPE F
- (C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
- (E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
- (G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
- (H) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- (I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
- (J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
- (K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
- (L) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
- (N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
- (O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
- (P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
- (R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
  ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
  ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
- (S) ITEM 727000 - RIGHT OF WAY FENCE
- (T) ITEM 705002 - P.C.C. SIDEWALK, 6"
- (U) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
- (V) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
  ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
- (W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
- (X) ITEM 760507 - PROFILE MILLING, HOT-MIX
- (Y) ITEM 712005 - RIPRAP, R-4
- (Z) ITEM 720629 - BIFURCATED CONCRETE MEDIAN BARRIER (MODIFIED)
- (AA) ITEM 760017 - RUMBLE STRIPS, CONCRETE
- (BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
- (CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
- (DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

TYPICAL SECTION NOTES:

1. THE MAXIMUM ALGEBRAIC DIFFERENCE ON THE HIGH SIDE BETWEEN THE TRAVELED WAY SLOPE AND THE ACCEL/DECEL LANES SHALL NOT EXCEED 4%. THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN THE TRAVELED WAY SLOPE AND THE SHOULDER SLOPE SHALL NOT EXCEED 8%.
2. SHOULDER SLOPE ON THE LOW SIDE SHALL BE THE SAME AS THE TRAVELED WAY SLOPE WHEN SUPERELEVATION IS GREATER THAN 4%.
3. P.G.L. - PROFILE GRADE LINE
   PGA - POINT OF GRADE APPLICATION
   PDGA - POINT OF DITCH GRADE APPLICATION
   P/R - POINT OF ROTATION
   O.G. - ORIGINAL GROUND
4. EXISTING SR 1 ROADWAY PAVEMENT SECTION
   12" PCC PAVEMENT
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
5. EXISTING SR 1 SHOULDER ADJACENT SECTION
   2" HOT MIX, HOT LAID BITUMINOUS CONCRETE PAVEMENT, TYPE C
   10"+/- BITUMINOUS CONCRETE BASE COURSE
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
6. FOR BENCHING OF EXISTING SLOPES WHERE PROPOSED WIDENING OCCURS, SEE BENCHING DETAIL, SHEET DT-01.
7. SEE GRADES AND GEOMETRICS SHEETS FOR SUPERELEVATED CROSS SLOPE TRANSITIONS.
8. SEE SHEET TS-20 FOR UNDERDRAIN DETAIL.
   SEE CONSTRUCTION PLANS FOR PLACEMENT LOCATIONS
9. THE MAXIMUM LIFTS FOR THE INDIVIDUAL PAVING MATERIALS ARE AS FOLLOWS:
   SUPERPAVE, TYPE C WMA - 2"
   SUPERPAVE, TYPE B WMA - 3", PLACE IN EQUAL LIFTS WHEN THICKNESS EXCEED 3"
   SUPERPAVE BIT. CONC. BASE COURSE - 4"
   GRADED AGGREGATE BASE COURSE - 8"
10. SEE SHEET DT-01 FOR RUMBLE STRIP LOCATIONS.
11. SEE SHEET DT-01 FOR SAFETY EDGE DETAILS. THESE DETAILS SHALL BEAPPLIED AT ALL INSTANCES WHERE THE EDGE OF PROPOSED PAVEMENT MEETS THE 6" TOPSOIL.

TS-13

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

NOT TO SCALE

US 301 & SR 1 INTERCHANGE

CONTRACT	BRIDGE NO.	TYPICAL SECTIONS	SHEET NO.
T200911302	DESIGNED BY: J.A.D.		24
COUNTY			TOTAL SHTS.
NEW CASTLE	CHECKED BY: B.R.T.		491

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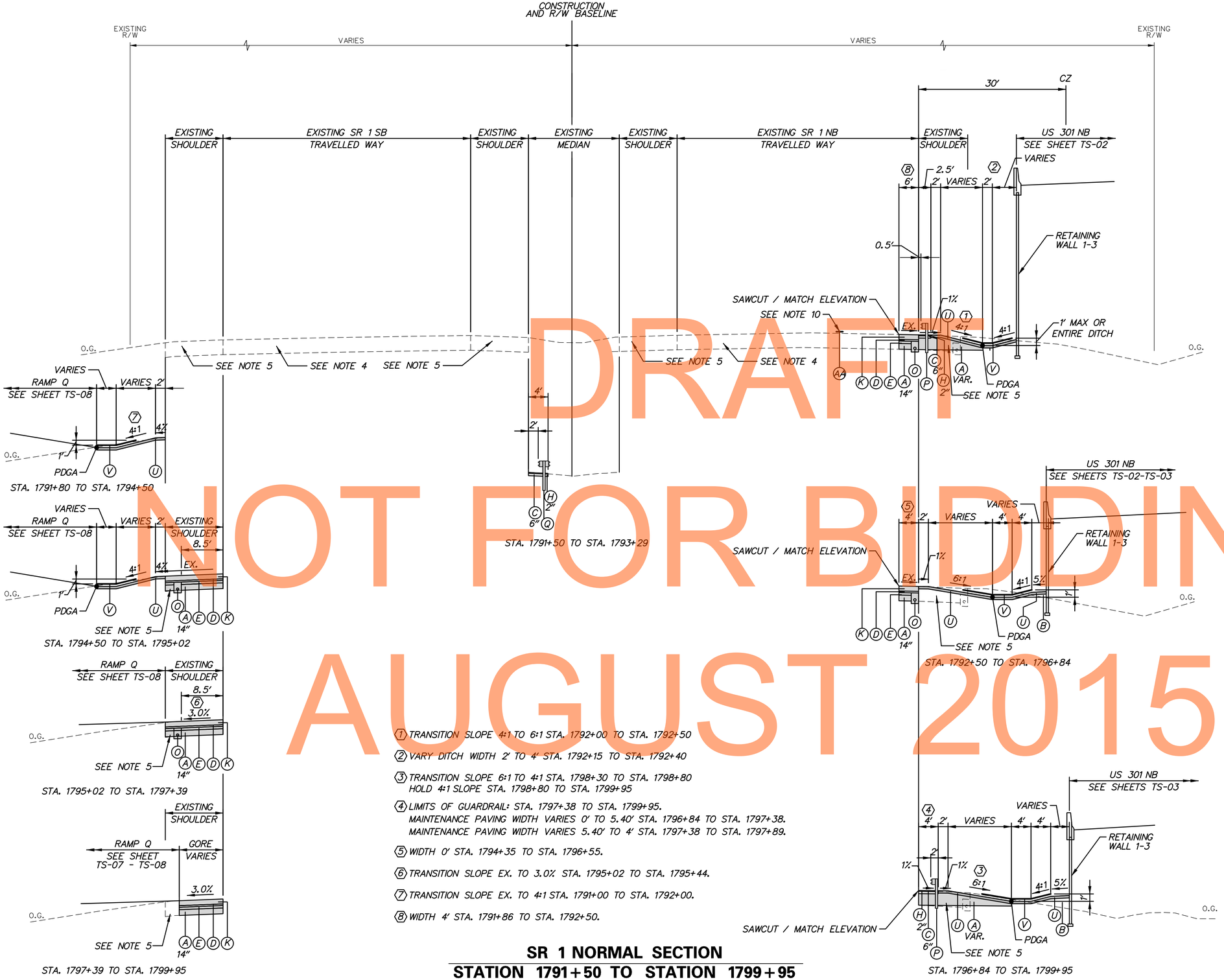

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1. TRANSITION SLOPE 4:1 TO 6:1 STA. 1792+00 TO STA. 1792+50
2. VARY DITCH WIDTH 2' TO 4' STA. 1792+15 TO STA. 1792+40
3. TRANSITION SLOPE 6:1 TO 4:1 STA. 1798+30 TO STA. 1798+80
   HOLD 4:1 SLOPE STA. 1798+80 TO STA. 1799+95
4. LIMITS OF GUARDRAIL: STA. 1797+38 TO STA. 1799+95.
   MAINTENANCE PAVING WIDTH VARIES 0' TO 5.40' STA. 1796+84 TO STA. 1797+38.
   MAINTENANCE PAVING WIDTH VARIES 5.40' TO 4' STA. 1797+38 TO STA. 1797+89.
5. WIDTH 0' STA. 1794+35 TO STA. 1796+55.
6. TRANSITION SLOPE EX. TO 3.0% STA. 1795+02 TO STA. 1795+44.
7. TRANSITION SLOPE EX. TO 4:1 STA. 1791+00 TO STA. 1792+00.
8. WIDTH 4' STA. 1791+86 TO STA. 1792+50.

SR 1 NORMAL SECTION
STATION 1791+50 TO STATION 1799+95

LEGEND

- (A) ITEM 209001 - BORROW, TYPE A
- (B) ITEM 209006 - BORROW, TYPE F
- (C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
- (E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
- (G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
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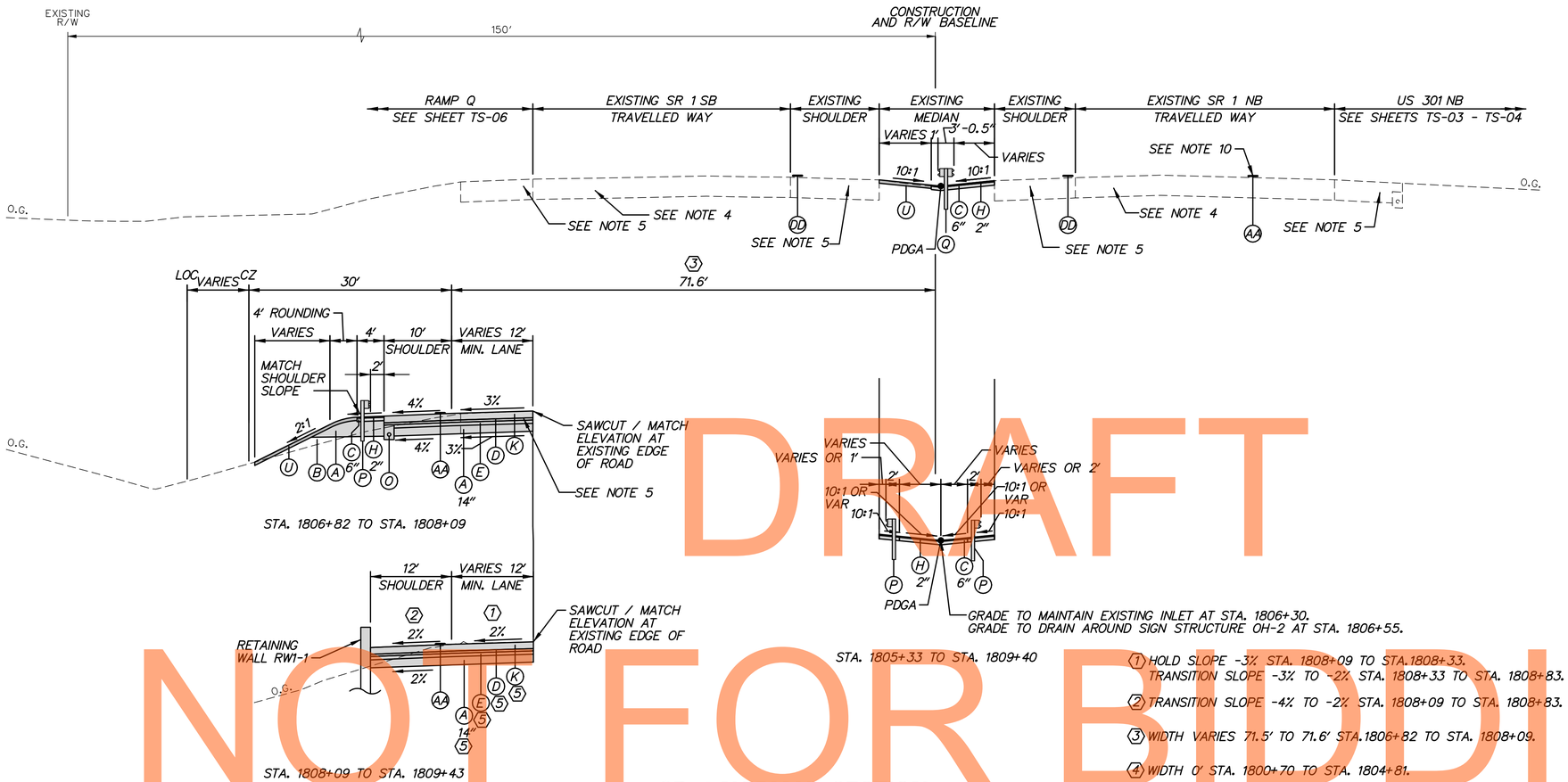
- (I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
- (J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
- (K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
- (L) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
- (N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
- (O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
- (P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
- (R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
  ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
  ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
- (S) ITEM 727000 - RIGHT OF WAY FENCE
- (T) ITEM 705002 - P.C.C. SIDEWALK, 6"
- (U) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
- (V) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
  ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
- (W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
- (X) ITEM 760507 - PROFILE MILLING, HOT-MIX
- (Y) ITEM 712005 - RIPRAP, R-4
- (Z) ITEM 720629 - BIFURCATED CONCRETE MEDIAN BARRIER (MODIFIED)
- (AA) ITEM 760017 - RUMBLE STRIPS, CONCRETE
- (BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
- (CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
- (DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

TYPICAL SECTION NOTES:

1. THE MAXIMUM ALGEBRAIC DIFFERENCE ON THE HIGH SIDE BETWEEN THE TRAVELED WAY SLOPE AND THE ACCEL/DECEL LANES SHALL NOT EXCEED 4%. THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN THE TRAVELED WAY SLOPE AND THE SHOULDER SLOPE SHALL NOT EXCEED 8%.
2. SHOULDER SLOPE ON THE LOW SIDE SHALL BE THE SAME AS THE TRAVELED WAY SLOPE WHEN SUPERELEVATION IS GREATER THAN 4%.
3. P.G.L. - PROFILE GRADE LINE
   PGA - POINT OF GRADE APPLICATION
   PDGA - POINT OF DITCH GRADE APPLICATION
   P/R - POINT OF ROTATION
   O.G. - ORIGINAL GROUND
4. EXISTING SR 1 ROADWAY PAVEMENT SECTION
   12" PCC PAVEMENT
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
5. EXISTING SR 1 SHOULDER ADJACENT SECTION
   2" HOT MIX, HOT LAID BITUMINOUS CONCRETE PAVEMENT, TYPE C
   10"+/- BITUMINOUS CONCRETE BASE COURSE
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
6. FOR BENCHING OF EXISTING SLOPES WHERE PROPOSED WIDENING OCCURS, SEE BENCHING DETAIL, SHEET DT-01.
7. SEE GRADES AND GEOMETRICS SHEETS FOR SUPERELEVATED CROSS SLOPE TRANSITIONS.
8. SEE SHEET TS-20 FOR UNDERDRAIN DETAIL.
   SEE CONSTRUCTION PLANS FOR PLACEMENT LOCATIONS
9. THE MAXIMUM LIFTS FOR THE INDIVIDUAL PAVING MATERIALS ARE AS FOLLOWS:
   SUPERPAVE, TYPE C WMA - 2"
   SUPERPAVE, TYPE B WMA - 3", PLACE IN EQUAL LIFTS WHEN THICKNESS EXCEED 3"
   SUPERPAVE BIT. CONC. BASE COURSE - 4"
   GRADED AGGREGATE BASE COURSE - 8"
10. SEE SHEET DT-01 FOR RUMBLE STRIP LOCATIONS.
11. SEE SHEET DT-01 FOR SAFETY EDGE DETAILS. THESE DETAILS SHALL BEAPPLIED AT ALL INSTANCES WHERE THE EDGE OF PROPOSED PAVEMENT MEETS THE 6" TOPSOIL.

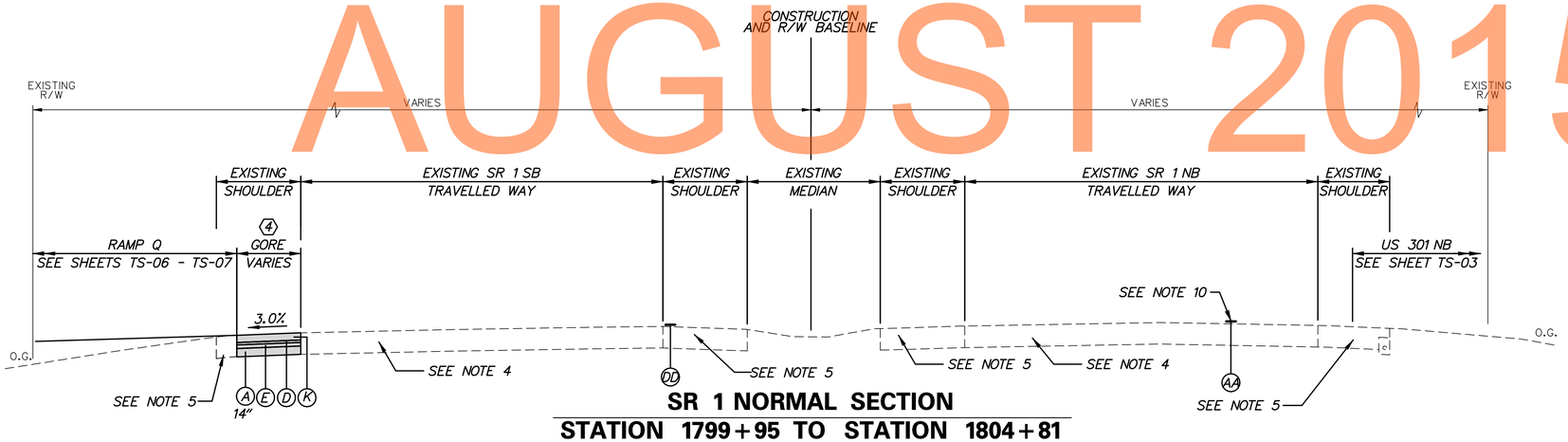
TS-14



1. HOLD SLOPE -3% STA. 1808+09 TO STA.1808+33. TRANSITION SLOPE -3% TO -2% STA. 1808+33 TO STA. 1808+83.
2. TRANSITION SLOPE -4% TO -2% STA. 1808+09 TO STA. 1808+83.
3. WIDTH VARIES 71.5' TO 71.6' STA.1806+82 TO STA. 1808+09.
4. WIDTH 0' STA. 1800+70 TO STA. 1804+81.
5. SEE TRANSITION SLAB SHEET DT-19 FOR PAVEMENT DEPTHS, STA. 1808+83 TO STA. 1809+43.

SR 1 NORMAL SECTION
STATION 1804+81 TO STATION 1809+43

STA. 1809+43 LT TO STA. 1811+02 LT - SEE BRIDGE PLANS



SR 1 NORMAL SECTION
STATION 1799+95 TO STATION 1804+81

LEGEND

- (A) ITEM 209001 - BORROW, TYPE A
- (B) ITEM 209006 - BORROW, TYPE F
- (C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
- (E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
- (G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
- (H) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- (I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
- (J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
- (K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
- (L) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
- (N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
- (O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
- (P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
- (R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
  ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
  ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
- (S) ITEM 727000 - RIGHT OF WAY FENCE
- (T) ITEM 705002 - P.C.C. SIDEWALK, 6"
- (U) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
- (V) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
  ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
- (W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
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- (BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
- (CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
- (DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

TYPICAL SECTION NOTES:

1. THE MAXIMUM ALGEBRAIC DIFFERENCE ON THE HIGH SIDE BETWEEN THE TRAVELED WAY SLOPE AND THE ACCEL/DECEL LANES SHALL NOT EXCEED 4%. THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN THE TRAVELED WAY SLOPE AND THE SHOULDER SLOPE SHALL NOT EXCEED 8%.
2. SHOULDER SLOPE ON THE LOW SIDE SHALL BE THE SAME AS THE TRAVELED WAY SLOPE WHEN SUPERELEVATION IS GREATER THAN 4%.
3. P.G.L. - PROFILE GRADE LINE
   PGA - POINT OF GRADE APPLICATION
   PDGA - POINT OF DITCH GRADE APPLICATION
   P/R - POINT OF ROTATION
   O.G. - ORIGINAL GROUND
4. EXISTING SR 1 ROADWAY PAVEMENT SECTION
   12" PCC PAVEMENT
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
5. EXISTING SR 1 SHOULDER ADJACENT SECTION
   2" HOT MIX, HOT LAID BITUMINOUS CONCRETE PAVEMENT, TYPE C
   10"+/- BITUMINOUS CONCRETE BASE COURSE
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
6. FOR BENCHING OF EXISTING SLOPES WHERE PROPOSED WIDENING OCCURS, SEE BENCHING DETAIL, SHEET DT-01.
7. SEE GRADES AND GEOMETRICS SHEETS FOR SUPERELEVATED CROSS SLOPE TRANSITIONS.
8. SEE SHEET TS-20 FOR UNDERDRAIN DETAIL.
   SEE CONSTRUCTION PLANS FOR PLACEMENT LOCATIONS
9. THE MAXIMUM LIFTS FOR THE INDIVIDUAL PAVING MATERIALS ARE AS FOLLOWS:
   SUPERPAVE, TYPE C WMA - 2"
   SUPERPAVE, TYPE B WMA - 3", PLACE IN EQUAL LIFTS WHEN THICKNESS EXCEED 3"
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   GRADED AGGREGATE BASE COURSE - 8"
10. SEE SHEET DT-01 FOR RUMBLE STRIP LOCATIONS.
11. SEE SHEET DT-01 FOR SAFETY EDGE DETAILS. THESE DETAILS SHALL BEAPPLIED AT ALL INSTANCES WHERE THE EDGE OF PROPOSED PAVEMENT MEETS THE 6" TOPSOIL.

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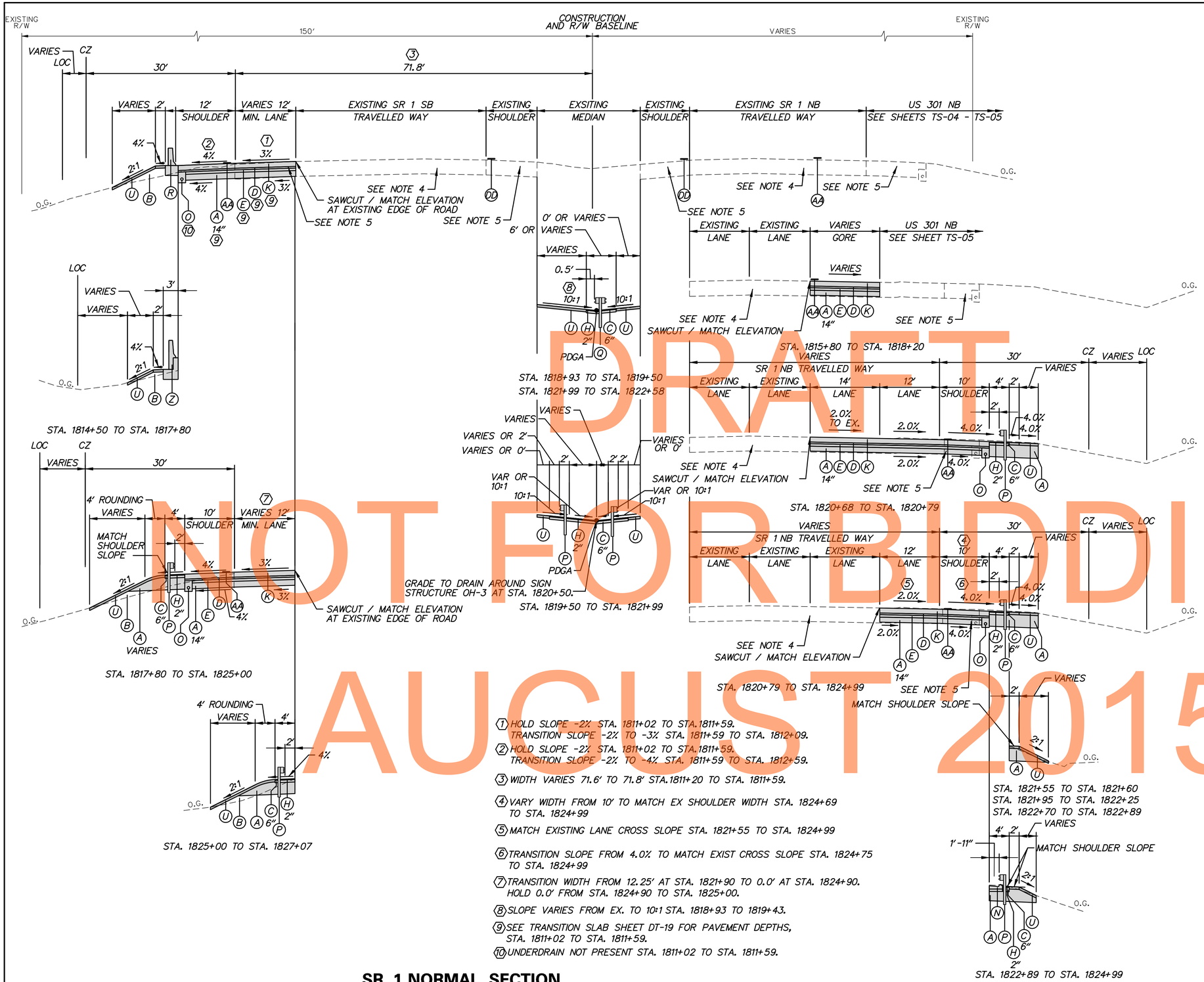

1. HOLD SLOPE -2% STA. 1811+02 TO STA. 1811+59. TRANSITION SLOPE -2% TO -3% STA. 1811+59 TO STA. 1812+09.
2. HOLD SLOPE -2% STA. 1811+02 TO STA. 1811+59. TRANSITION SLOPE -2% TO -4% STA. 1811+59 TO STA. 1812+59.
3. WIDTH VARIES 71.6' TO 71.8' STA. 1811+20 TO STA. 1811+59.
4. VARY WIDTH FROM 10' TO MATCH EX SHOULDER WIDTH STA. 1824+69 TO STA. 1824+99
5. MATCH EXISTING LANE CROSS SLOPE STA. 1821+55 TO STA. 1824+99
6. TRANSITION SLOPE FROM 4.0% TO MATCH EXIST CROSS SLOPE STA. 1824+75 TO STA. 1824+99
7. TRANSITION WIDTH FROM 12.25' AT STA. 1821+90 TO 0.0' AT STA. 1824+90. HOLD 0.0' FROM STA. 1824+90 TO STA. 1825+00.
8. SLOPE VARIES FROM EX. TO 10:1 STA. 1818+93 TO 1819+43.
9. SEE TRANSITION SLAB SHEET DT-19 FOR PAVEMENT DEPTHS, STA. 1811+02 TO STA. 1811+59.
10. UNDERDRAIN NOT PRESENT STA. 1811+02 TO STA. 1811+59.

SR 1 NORMAL SECTION
STATION 1811+02 TO STATION 1827+07

LEGEND

- (A) ITEM 209001 - BORROW, TYPE A
- (B) ITEM 209006 - BORROW, TYPE F
- (C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
- (E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
- (G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
- (H) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- (I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
- (J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
- (K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
- (L) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
- (N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
- (O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
- (P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
- (R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
  ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
  ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
- (S) ITEM 727000 - RIGHT OF WAY FENCE
- (T) ITEM 705002 - P.C.C. SIDEWALK, 6"
- (U) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
- (V) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
  ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
- (W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
- (X) ITEM 760507 - PROFILE MILLING, HOT-MIX
- (Y) ITEM 712005 - RIPRAP, R-4
- (Z) ITEM 720629 - BIFURCATED CONCRETE MEDIAN BARRIER (MODIFIED)
- (AA) ITEM 760017 - RUMBLE STRIPS, CONCRETE
- (BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
- (CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
- (DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

TYPICAL SECTION NOTES:

1. THE MAXIMUM ALGEBRAIC DIFFERENCE ON THE HIGH SIDE BETWEEN THE TRAVELED WAY SLOPE AND THE ACCEL/DECEL LANES SHALL NOT EXCEED 4%. THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN THE TRAVELED WAY SLOPE AND THE SHOULDER SLOPE SHALL NOT EXCEED 8%.
2. SHOULDER SLOPE ON THE LOW SIDE SHALL BE THE SAME AS THE TRAVELED WAY SLOPE WHEN SUPERELEVATION IS GREATER THAN 4%.
3. P.G.L. - PROFILE GRADE LINE
   PGA - POINT OF GRADE APPLICATION
   PDGA - POINT OF DITCH GRADE APPLICATION
   P/R - POINT OF ROTATION
   O.G. - ORIGINAL GROUND
4. EXISTING SR 1 ROADWAY PAVEMENT SECTION
   12" PCC PAVEMENT
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
5. EXISTING SR 1 SHOULDER ADJACENT SECTION
   2" HOT MIX, HOT LAID BITUMINOUS CONCRETE PAVEMENT, TYPE C
   10"+/- BITUMINOUS CONCRETE BASE COURSE
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
6. FOR BENCHING OF EXISTING SLOPES WHERE PROPOSED WIDENING OCCURS, SEE BENCHING DETAIL, SHEET DT-01.
7. SEE GRADES AND GEOMETRICS SHEETS FOR SUPERELEVATED CROSS SLOPE TRANSITIONS.
8. SEE SHEET TS-20 FOR UNDERDRAIN DETAIL. SEE CONSTRUCTION PLANS FOR PLACEMENT LOCATIONS
9. THE MAXIMUM LIFTS FOR THE INDIVIDUAL PAVING MATERIALS ARE AS FOLLOWS:
   SUPERPAVE, TYPE C WMA - 2"
   SUPERPAVE, TYPE B WMA - 3", PLACE IN EQUAL LIFTS WHEN THICKNESS EXCEED 3"
   SUPERPAVE BIT. CONC. BASE COURSE - 4"
   GRADED AGGREGATE BASE COURSE - 8"
10. SEE SHEET DT-01 FOR RUMBLE STRIP LOCATIONS.
11. SEE SHEET DT-01 FOR SAFETY EDGE DETAILS. THESE DETAILS SHALL BEAPPLIED AT ALL INSTANCES WHERE THE EDGE OF PROPOSED PAVEMENT MEETS THE 6" TOPSOIL.

DRAFT
NOT FOR BIDDING
AUGUST 2015

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 301 & SR 1 INTERCHANGE	CONTRACT T200911302	BRIDGE NO.	TYPICAL SECTIONS
				COUNTY NEW CASTLE	DESIGNED BY: J.A.D.	
					CHECKED BY: B.R.T.	

TS-16

SHEET NO. 27

TOTAL SHTS. 491

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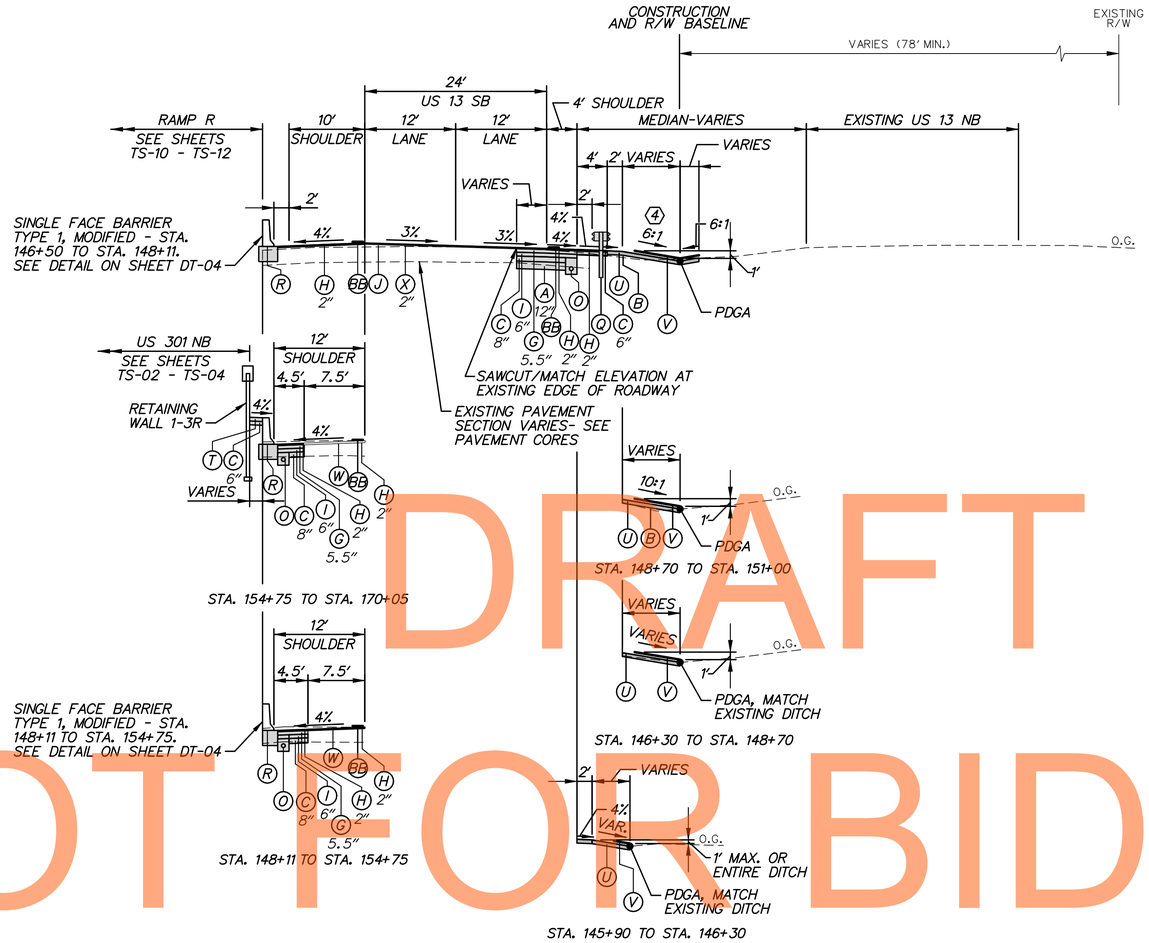
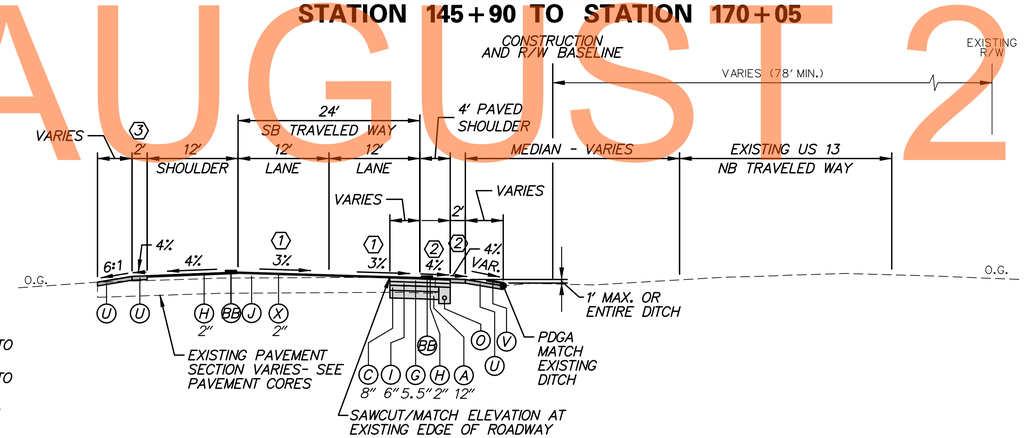


US 13 SB – NORMAL SECTION
STATION 145+90 TO STATION 170+05



US 13 SB – NORMAL SECTION
STATION 144+67 TO STATION 145+90

1. TRANSITION SLOPE FROM EXISTING TO 3% STA. 144+66.60 TO STA. 145+86.23.
2. TRANSITION SLOPE FROM EXISTING TO 4% STA. 144+66.60 TO STA. 145+26.59.
3. TRANSITION WIDTH FROM 0' TO 2' FROM STA. 144+66.60 TO STA. 144+85.00.
4. HOLD -10:1 SLOPE FROM STA. 151+00.00 TO STA. 151+65.00, TRANSITION SLOPE FROM -10:1 TO -6:1 STA. 151+65.00 TO STA. 151+85.00.

LEGEND

- (A) ITEM 209001 - BORROW, TYPE A
- (B) ITEM 209006 - BORROW, TYPE F
- (C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
- (E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
- (G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
- (H) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- (I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
- (J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
- (K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
- (L) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
- (N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
- (O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
- (P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
- (R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
  ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
  ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
- (S) ITEM 727000 - RIGHT OF WAY FENCE
- (T) ITEM 705002 - P.C.C. SIDEWALK, 6"
- (U) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
- (V) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
  ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
- (W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
- (X) ITEM 760507 - PROFILE MILLING, HOT-MIX
- (Y) ITEM 712005 - RIPRAP, R-4
- (Z) ITEM 720629 - BIFURCATED CONCRETE MEDIAN BARRIER (MODIFIED)
- (AA) ITEM 760017 - RUMBLE STRIPS, CONCRETE
- (BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
- (CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
- (DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

TYPICAL SECTION NOTES:

1. THE MAXIMUM ALGEBRAIC DIFFERENCE ON THE HIGH SIDE BETWEEN THE TRAVELED WAY SLOPE AND THE ACCEL/DECEL LANES SHALL NOT EXCEED 4%. THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN THE TRAVELED WAY SLOPE AND THE SHOULDER SLOPE SHALL NOT EXCEED 8%.
2. SHOULDER SLOPE ON THE LOW SIDE SHALL BE THE SAME AS THE TRAVELED WAY SLOPE WHEN SUPERELEVATION IS GREATER THAN 4%.
3. P.G.L. - PROFILE GRADE LINE
   PGA - POINT OF GRADE APPLICATION
   PDGA - POINT OF DITCH GRADE APPLICATION
   P/R - POINT OF ROTATION
   O.G. - ORIGINAL GROUND
4. EXISTING SR 1 ROADWAY PAVEMENT SECTION
   12" PCC PAVEMENT
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
5. EXISTING SR 1 SHOULDER ADJACENT SECTION
   2" HOT MIX, HOT LAID BITUMINOUS CONCRETE PAVEMENT, TYPE C
   10"+/- BITUMINOUS CONCRETE BASE COURSE
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
6. FOR BENCHING OF EXISTING SLOPES WHERE PROPOSED WIDENING OCCURS, SEE BENCHING DETAIL, SHEET DT-01.
7. SEE GRADES AND GEOMETRICS SHEETS FOR SUPERELEVATED CROSS SLOPE TRANSITIONS.
8. SEE SHEET TS-20 FOR UNDERDRAIN DETAIL.
   SEE CONSTRUCTION PLANS FOR PLACEMENT LOCATIONS
9. THE MAXIMUM LIFTS FOR THE INDIVIDUAL PAVING MATERIALS ARE AS FOLLOWS:
   SUPERPAVE, TYPE C WMA - 2"
   SUPERPAVE, TYPE B WMA - 3", PLACE IN EQUAL LIFTS WHEN THICKNESS EXCEED 3"
   SUPERPAVE BIT. CONC. BASE COURSE - 4"
   GRADED AGGREGATE BASE COURSE - 8"
10. SEE SHEET DT-01 FOR RUMBLE STRIP LOCATIONS.
11. SEE SHEET DT-01 FOR SAFETY EDGE DETAILS. THESE DETAILS SHALL BEAPPLIED AT ALL INSTANCES WHERE THE EDGE OF PROPOSED PAVEMENT MEETS THE 6" TOPSOIL.

TS-17

DRAFT
NOT FOR BIDDING
AUGUST 2015

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 301 & SR 1 INTERCHANGE	CONTRACT T200911302 / COUNTY NEW CASTLE	BRIDGE NO. / DESIGNED BY: J.A.D. / CHECKED BY: B.R.T.
TYPICAL SECTIONS	SHEET NO. 28 / TOTAL SHTS. 491				

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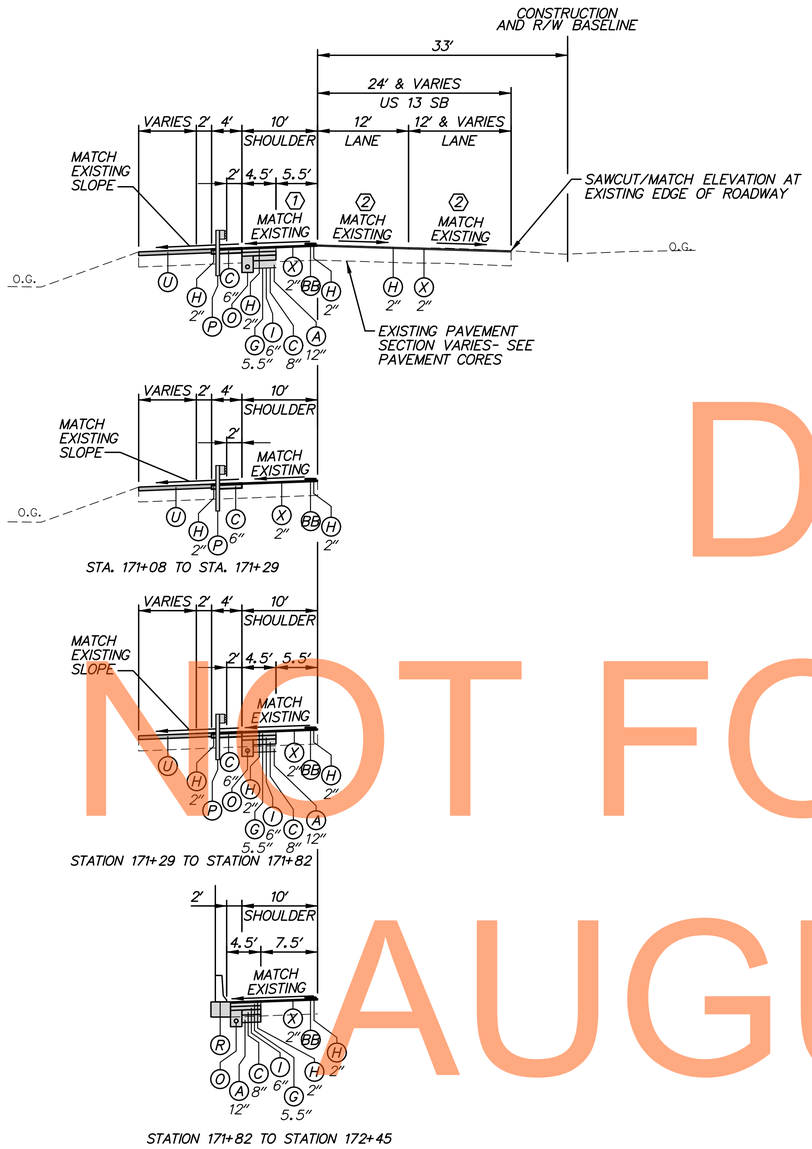
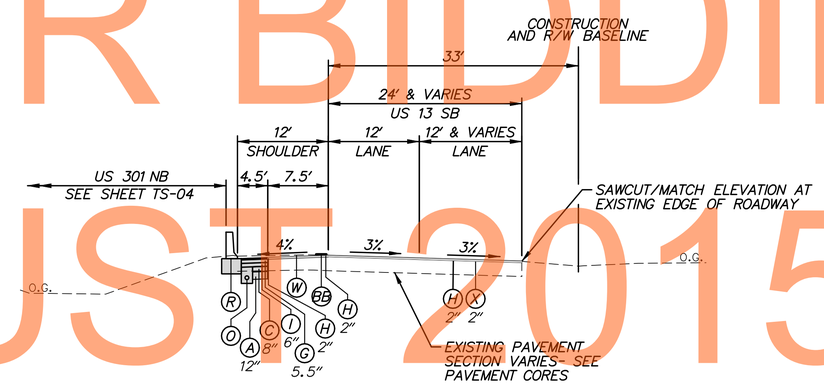


(1) TRANSITION SLOPE FROM -4% AT STA. 170+44 TO MATCH EXISTING SLOPE AT STA. 171+08

(2) TRANSITION SLOPE FROM 3% AT STA. 170+44 TO MATCH EXISTING SLOPE AT STA. 171+07

US 13 SB – NORMAL SECTION
STATION 170+44 TO STATION 172+45



US 13 SB – NORMAL SECTION
STATION 170+05 TO STATION 170+44

LEGEND

- (A) ITEM 209001 - BORROW, TYPE A
- (B) ITEM 209006 - BORROW, TYPE F
- (C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
- (E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
- (G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
- (H) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- (I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
- (J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
- (K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
- (L) ITEM 732002 - TOPSOILING, 6" DEPTH
ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
- (N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
- (O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
- (P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
- (R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
- (S) ITEM 727000 - RIGHT OF WAY FENCE
- (T) ITEM 705002 - P.C.C. SIDEWALK, 6"
- (U) ITEM 732002 - TOPSOILING, 6" DEPTH
ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
- (V) ITEM 732002 - TOPSOILING, 6" DEPTH
ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
- (W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
- (X) ITEM 760507 - PROFILE MILLING, HOT-MIX
- (Y) ITEM 712005 - RIPRAP, R-4
- (Z) ITEM 720629 - BIFURCATED CONCRETE MEDIAN BARRIER (MODIFIED)
- (AA) ITEM 760017 - RUMBLE STRIPS, CONCRETE
- (BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
- (CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
- (DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

TYPICAL SECTION NOTES:

1. THE MAXIMUM ALGEBRAIC DIFFERENCE ON THE HIGH SIDE BETWEEN THE TRAVELED WAY SLOPE AND THE ACCEL/DECEL LANES SHALL NOT EXCEED 4%. THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN THE TRAVELED WAY SLOPE AND THE SHOULDER SLOPE SHALL NOT EXCEED 8%.
2. SHOULDER SLOPE ON THE LOW SIDE SHALL BE THE SAME AS THE TRAVELED WAY SLOPE WHEN SUPERELEVATION IS GREATER THAN 4%.
3. P.G.L. - PROFILE GRADE LINE
PGA - POINT OF GRADE APPLICATION
PDGA - POINT OF DITCH GRADE APPLICATION
P/R - POINT OF ROTATION
O.G. - ORIGINAL GROUND
4. EXISTING SR 1 ROADWAY PAVEMENT SECTION
12" PCC PAVEMENT
4" PERMEABLE ASPHALT TREATED BASE
6" SOIL CEMENT TREATED BASE
14" BORROW TYPE A
5. EXISTING SR 1 SHOULDER ADJACENT SECTION
2" HOT MIX, HOT LAID BITUMINOUS CONCRETE PAVEMENT, TYPE C
10"+/- BITUMINOUS CONCRETE BASE COURSE
4" PERMEABLE ASPHALT TREATED BASE
6" SOIL CEMENT TREATED BASE
14" BORROW TYPE A
6. FOR BENCHING OF EXISTING SLOPES WHERE PROPOSED WIDENING OCCURS, SEE BENCHING DETAIL, SHEET DT-01.
7. SEE GRADES AND GEOMETRICS SHEETS FOR SUPERELEVATED CROSS SLOPE TRANSITIONS.
8. SEE SHEET TS-20 FOR UNDERDRAIN DETAIL.
SEE CONSTRUCTION PLANS FOR PLACEMENT LOCATIONS
9. THE MAXIMUM LIFTS FOR THE INDIVIDUAL PAVING MATERIALS ARE AS FOLLOWS:
SUPERPAVE, TYPE C WMA - 2"
SUPERPAVE, TYPE B WMA - 3", PLACE IN EQUAL LIFTS WHEN THICKNESS EXCEED 3"
SUPERPAVE BIT. CONC. BASE COURSE - 4"
GRADED AGGREGATE BASE COURSE - 8"
10. SEE SHEET DT-01 FOR RUMBLE STRIP LOCATIONS.
11. SEE SHEET DT-01 FOR SAFETY EDGE DETAILS. THESE DETAILS SHALL BEAPPLIED AT ALL INSTANCES WHERE THE EDGE OF PROPOSED PAVEMENT MEETS THE 6" TOPSOIL.

TS-18

DRAFT
NOT FOR BIDDING
AUGUST 2015

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	NOT TO SCALE	US 301 & SR 1 INTERCHANGE	CONTRACT T200911302	BRIDGE NO.	TYPICAL SECTIONS	SHEET NO. 29
				COUNTY NEW CASTLE	DESIGNED BY: J.A.D.		TOTAL SHTS. 491
					CHECKED BY: B.R.T.		

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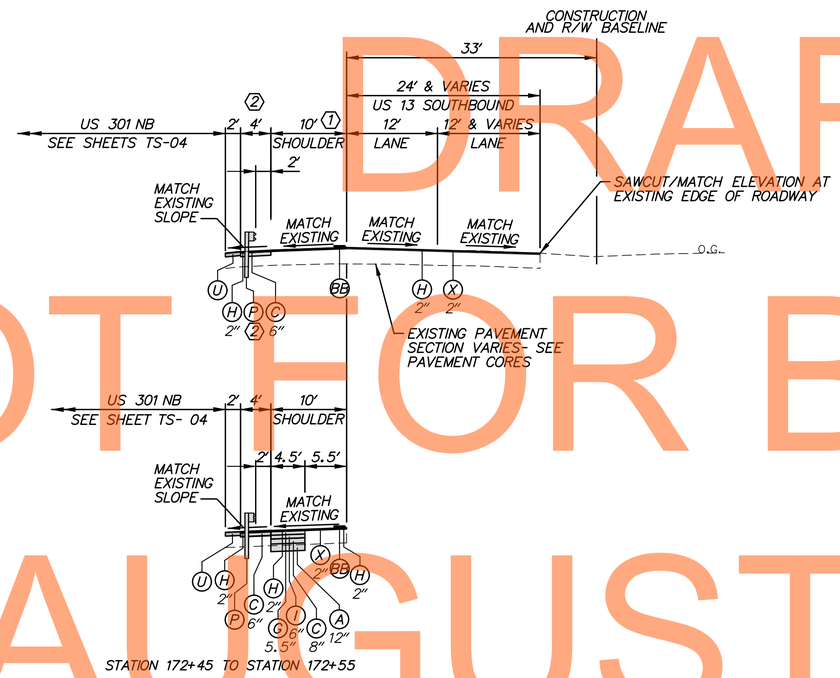


STATION 172+45 TO STATION 172+55

1 TRANSITION WIDTH FROM 10' AT STA. 173+49 TO 20' AT STA. 175+02

2 GUARDRAIL TERMINATES AT STA. 175+41. SEE US 301 NB SECTIONS FOR STA. 175+41 TO STA. 175+75

US 13 SB – NORMAL SECTION
STATION 172+45 TO STATION 175+75

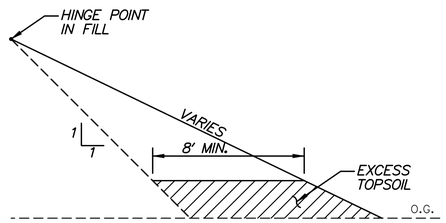
LEGEND

- (A) ITEM 209001 - BORROW, TYPE A
- (B) ITEM 209006 - BORROW, TYPE F
- (C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
- (E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
- (G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
- (H) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- (I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
- (J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
- (K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
- (L) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
- (N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
- (O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
- (P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
- (R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
  ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
  ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
- (S) ITEM 727000 - RIGHT OF WAY FENCE
- (T) ITEM 705002 - P.C.C. SIDEWALK, 6"
- (U) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
- (V) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
  ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
- (W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
- (X) ITEM 760507 - PROFILE MILLING, HOT-MIX
- (Y) ITEM 712005 - RIPRAP, R-4
- (Z) ITEM 720629 - BIFURCATED CONCRETE MEDIAN BARRIER (MODIFIED)
- (AA) ITEM 760017 - RUMBLE STRIPS, CONCRETE
- (BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
- (CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
- (DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

TYPICAL SECTION NOTES:

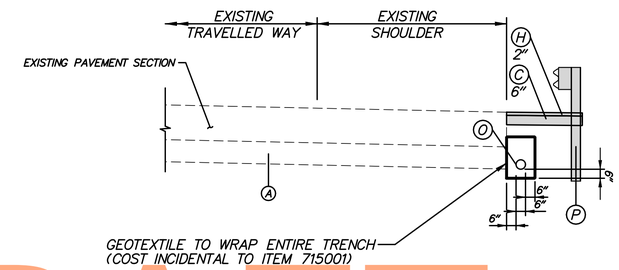
1. THE MAXIMUM ALGEBRAIC DIFFERENCE ON THE HIGH SIDE BETWEEN THE TRAVELED WAY SLOPE AND THE ACCEL/DECEL LANES SHALL NOT EXCEED 4%. THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN THE TRAVELED WAY SLOPE AND THE SHOULDER SLOPE SHALL NOT EXCEED 8%.
2. SHOULDER SLOPE ON THE LOW SIDE SHALL BE THE SAME AS THE TRAVELED WAY SLOPE WHEN SUPERELEVATION IS GREATER THAN 4%.
3. P.G.L. - PROFILE GRADE LINE
   PGA - POINT OF GRADE APPLICATION
   PDGA - POINT OF DITCH GRADE APPLICATION
   P/R - POINT OF ROTATION
   O.G. - ORIGINAL GROUND
4. EXISTING SR 1 ROADWAY PAVEMENT SECTION
   12" PCC PAVEMENT
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
5. EXISTING SR 1 SHOULDER ADJACENT SECTION
   2" HOT MIX, HOT LAID BITUMINOUS CONCRETE PAVEMENT, TYPE C
   10"+/- BITUMINOUS CONCRETE BASE COURSE
   4" PERMEABLE ASPHALT TREATED BASE
   6" SOIL CEMENT TREATED BASE
   14" BORROW TYPE A
6. FOR BENCHING OF EXISTING SLOPES WHERE PROPOSED WIDENING OCCURS, SEE BENCHING DETAIL, SHEET DT-01.
7. SEE GRADES AND GEOMETRICS SHEETS FOR SUPERELEVATED CROSS SLOPE TRANSITIONS.
8. SEE SHEET TS-20 FOR UNDERDRAIN DETAIL.
   SEE CONSTRUCTION PLANS FOR PLACEMENT LOCATIONS
9. THE MAXIMUM LIFTS FOR THE INDIVIDUAL PAVING MATERIALS ARE AS FOLLOWS:
   SUPERPAVE, TYPE C WMA - 2"
   SUPERPAVE, TYPE B WMA - 3", PLACE IN EQUAL LIFTS WHEN THICKNESS EXCEED 3"
   SUPERPAVE BIT. CONC. BASE COURSE - 4"
   GRADED AGGREGATE BASE COURSE - 8"
10. SEE SHEET DT-01 FOR RUMBLE STRIP LOCATIONS.
11. SEE SHEET DT-01 FOR SAFETY EDGE DETAILS. THESE DETAILS SHALL BEAPPLIED AT ALL INSTANCES WHERE THE EDGE OF PROPOSED PAVEMENT MEETS THE 6" TOPSOIL.

DRAFT
NOT FOR BIDDING
AUGUST 2015



NOTES:
1. EXCESS TOPSOIL SHALL BE PLACED IN LIFTS CONCURRENTLY WITH THE CONSTRUCTION OF THE REST OF THE EMBANKMENT AND SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH SECTION 202 OF THE STANDARD SPECIFICATIONS WITH ALL COSTS INCIDENTAL TO ITEM 202000.

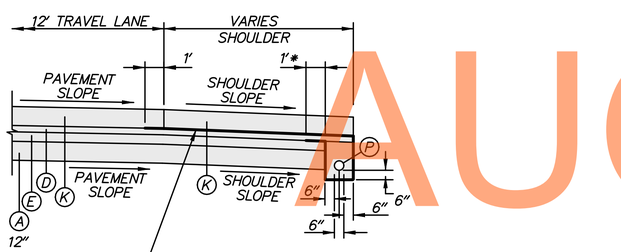
USE OF EXCESS TOPSOIL IN OUTER PORTIONS OF EMBANKMENT
NOT TO SCALE



EXISTING PAVEMENT WITH GUARDRAIL UNDERDRAIN DETAIL
NOT TO SCALE

LEGEND

- (A) ITEM 209001 - BORROW, TYPE A
- (B) ITEM 209006 - BORROW, TYPE F
- (C) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (D) ITEM 304501 - PERMEABLE TREATED BASE, 4"
- (E) ITEM 304502 - SOIL CEMENT BASE COURSE, 6"
- (G) ITEM 401813 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 70-22 (2 LIFTS)
- (H) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- (I) ITEM 401819 - WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22
- (J) ITEM 401824 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 WEDGE
- (K) ITEM 501006 - PORTLAND CEMENT CONCRETE PAVEMENT, 12"
- (L) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734551 - NATIVE GRASS SEEDING: NO MOW MIX
- (N) ITEM 701016 - PCC CURB AND GUTTER TYPE 1-4
- (O) ITEM 715001 - PERFORATED PIPE UNDERDRAINS, 6"
- (P) ITEM 720050 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (Q) ITEM 720052 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 3-31
- (R) ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1
  ITEM 720626 - CONCRETE SINGLE FACE BARRIER, TYPE 1 (MODIFIED)
  ITEM 720627 - CONCRETE SINGLE FACE BARRIER, TYPE 2
- (S) ITEM 727000 - RIGHT OF WAY FENCE
- (T) ITEM 705002 - P.C.C. SIDEWALK, 6"
- (U) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
- (V) ITEM 732002 - TOPSOILING, 6" DEPTH
  ITEM 734013 - PERMANENT GRASS SEEDING, DRY GROUND
  ITEM 735535 - SOIL RETENTION BLANKET MULCH, TYPE 5
- (W) ITEM 760003 - PAVEMENT MILLING, HOT-MIX, VARIABLE DEPTH
- (X) ITEM 760507 - PROFILE MILLING, HOT-MIX
- (Y) ITEM 712005 - RIPRAP, R-4
- (Z) ITEM 720629 - BIFURCATED CONCRETE MEDIAN BARRIER (MODIFIED)
- (AA) ITEM 760017 - RUMBLE STRIPS, CONCRETE
- (BB) ITEM 760012 - RUMBLE STRIPS, BIKE FRIENDLY, HOT-MIX
- (CC) ITEM 760015 - RUMBLE STRIPS, CONCRETE SHALLOW DEPTH
- (DD) ITEM 760016 - RUMBLE STRIPS, HOT-MIX

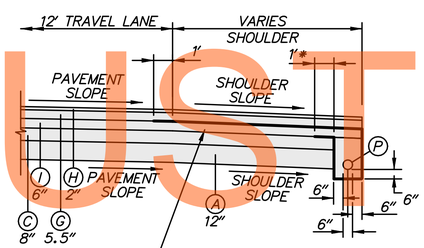


GEOTEXTILE CONTINUE TO 1'-0" UNDER TRAVELLED WAY PAVING (COST INCIDENTAL TO ITEM 715001)

NOTE: UNDERDRAIN INVERT ELEVATION SHALL BE SET AT THE EXTENDED SLOPE OF THE BOTTOM OF THE BORROW, TYPE A.

* WHEN UNDERDRAIN IS NOT PRESENT, DIMENSION IS 2'

PCC PAVEMENT UNDERDRAIN DETAIL
NOT TO SCALE

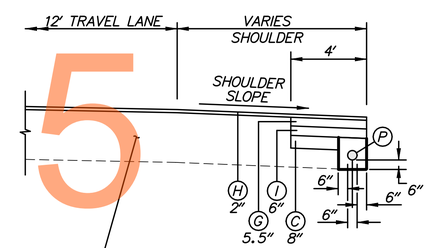


GEOTEXTILE CONTINUE TO 1'-0" UNDER TRAVELLED WAY PAVING (COST INCIDENTAL TO ITEM 715001)

NOTE: UNDERDRAIN INVERT ELEVATION SHALL BE SET AT THE EXTENDED SLOPE OF THE BOTTOM OF THE BORROW, TYPE A.

* WHEN UNDERDRAIN IS NOT PRESENT, DIMENSION IS 2'

WARM MIX ASPHALT PAVEMENT UNDERDRAIN DETAIL
NOT TO SCALE



EXISTING PAVEMENT SECTION

NOTE: TOP OF UNDERDRAIN ELEVATION SHALL BE SET AT THE EXTENDED SLOPE OF THE BOTTOM OF THE GRADED AGGREGATE BASE COURSE.

WARM MIX ASPHALT PAVEMENT WITHOUT BORROW TYPE A UNDERDRAIN DETAIL
NOT TO SCALE

DRAFT
NOT FOR BIDDING
AUGUST 2015