ORIGINAL TO GENERAL FILES

# DEPARTMENT OF TRANSPORTATION
# STATE OF GEORGIA

**INTERDEPARTMENT CORRESPONDENCE**

**FILE** P. I. No. 0003083, Carroll County
BR-0003-00(083)
CR 837/Sandy Flat Road over Big Indian Creek-
Bridge Replacement

**OFFICE** Preconstruction

**DATE** August 13, 2007

**FROM** for Genetha Rice-Singleton, Assistant Director of Preconstruction

**TO** SEE DISTRIBUTION

**SUBJECT** **APPROVED REVISED PROJECT CONCEPT REPORT**

Attached for your files is the approval for subject project.

Attachment

DISTRIBUTION:

Brian Summers
Glenn Bowman
Ken Thompson
Michael Henry
Keith Golden
Babs Abubakari
Angela Alexander
Paul Liles
Kent Sager
BOARD MEMBER

# DEPARTMENT OF TRANSPORTATION
# STATE OF GEORGIA

## INTERDEPARTMENTAL CORRESPONDENCE

**FILE:** **BR-0003-00(083),** Carroll County
**P.I. No. 0003083**

**OFFICE:** Atlanta, Georgia

**DATE:** July 17, 2007

**FROM:** Mohammed (Babs) Abubakari, P.E.,
State Consultant Design & Program Delivery Engineer

**TO:** Genetha Rice-Singleton, Assist. Director of Preconstruction

**SUBJECT:** Revised Project Concept Report

Attached is the original copy of the revised Concept Report for you further handling for approval in accordance with the Plan Development Process (PDP).

The proposed bridge replacement over Big Indian Creek has been revised to include a second overflow structure. The revised concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Program (RTP) and/or the State Transportation Improvement Program (STIP).

DATE 7/26/07

Matthew Fowler
for State Transportation Planning Administrator

Distribution:

Brian Summers - State Project Review Engineer
Glenn Bowman - State Environmental/Location Engineer
Keith Golden - State Traffic Safety and Design Engineer
Angela T. Alexander - State Transportation Planning Administrator
Jamie Simpson - State Transportation Financial Management Administrator
Kent Sager - District Six Engineer
Paul Liles - State Bridge Design Engineer

# REVISED PROJECT CONCEPT REPORT

**Need and Purpose:** Bridge project BR-0003-00 (083) will replace the structurally deficient bridge located on CR 837/Sandy Flat Road over Big Indian Creek. The bridge sufficiency rating is 36.3.

Sandy Flat Road is 22.4' wide with 6' shoulders. The bridge on Sandy Flat Road over Big Indian Creek is 23.8' wide, providing insufficient shoulder width on the bridge. The substructure has paint failure with overall surface corrosion. The deck is deteriorated and cracked.

This section of Sandy Flat Road is functionally classified as a rural local road. The bridge is not on a bike route and is on a designated school bus route. The posted speed limit along this section of Sandy Flat Road is 35 mph. The bridge is located 2.5 miles SW of Bowdon and was constructed in 1973.

**Project Location:** The proposed project is located in Carroll County on CR 837/Sandy Flat Road crossing over Big Indian Creek and is located 2.5 miles southwest of Bowden.. The projects begins at milepost 1.45 and ends at milepost 1.84. The proposed project length is 0.39 miles.

**Description of the approved concept:**
The aaproved concept proposes a new 320' x 30' concrete bridge crossing over Big Indian Creek at the existing bridge site. The roadway approaches will consist of two 12-ft lanes with 6-ft rural shoulders. Traffic will be maintained during construction utilizing an off-site detour.

**PDP Classification:** Major ( ) Minor (X)

Federal Oversight: Full Oversight ( ), Exempt (X), State Funded ( ), or Other ( )

**Functional Classification:** Local Rural Road

**US Route Number(s)**: N/A

**State Route Number(s):** N/A

**Traffic (ADT) as shown in the approved concept:**

Current Year (2007): 350 Design Year (2027): 550

**Proposed feature(s) to be revised:**

The proposed feature to be revised is the addition of a 90 foot long overflow bridge. This structure is required in order to comply with the hydraulic requirements at this location.

**Describe the feature(s) to be approved:**

A 90 foot long overflow bridge will be added.

**Updated traffic data (AADT):**

Base Year (2010): 500 Design Year (2030): 800

**Programmed Schedule:**

P.E.: 2002 R/W: LGPA Construction: ~~2009~~ 2010 JSep

VE study Required Yes ( ) No (X)

**Revised cost estimates:**

| | | |
|---|---|---|
| Construction (E & C) | $2,233,000 | |
| Right-of-Way | $ 211,000 | Acquired by LGPA and GDOT |
| Utilities | $ 13,000 | Adjusted by LGPA and GDOT |

**Is the project located in a Non-attainment area? ( ) Yes (X) No**

**Recommendation:** It is recommended that these changes be approved and that the project estimate be adjusted to reflect these changes.

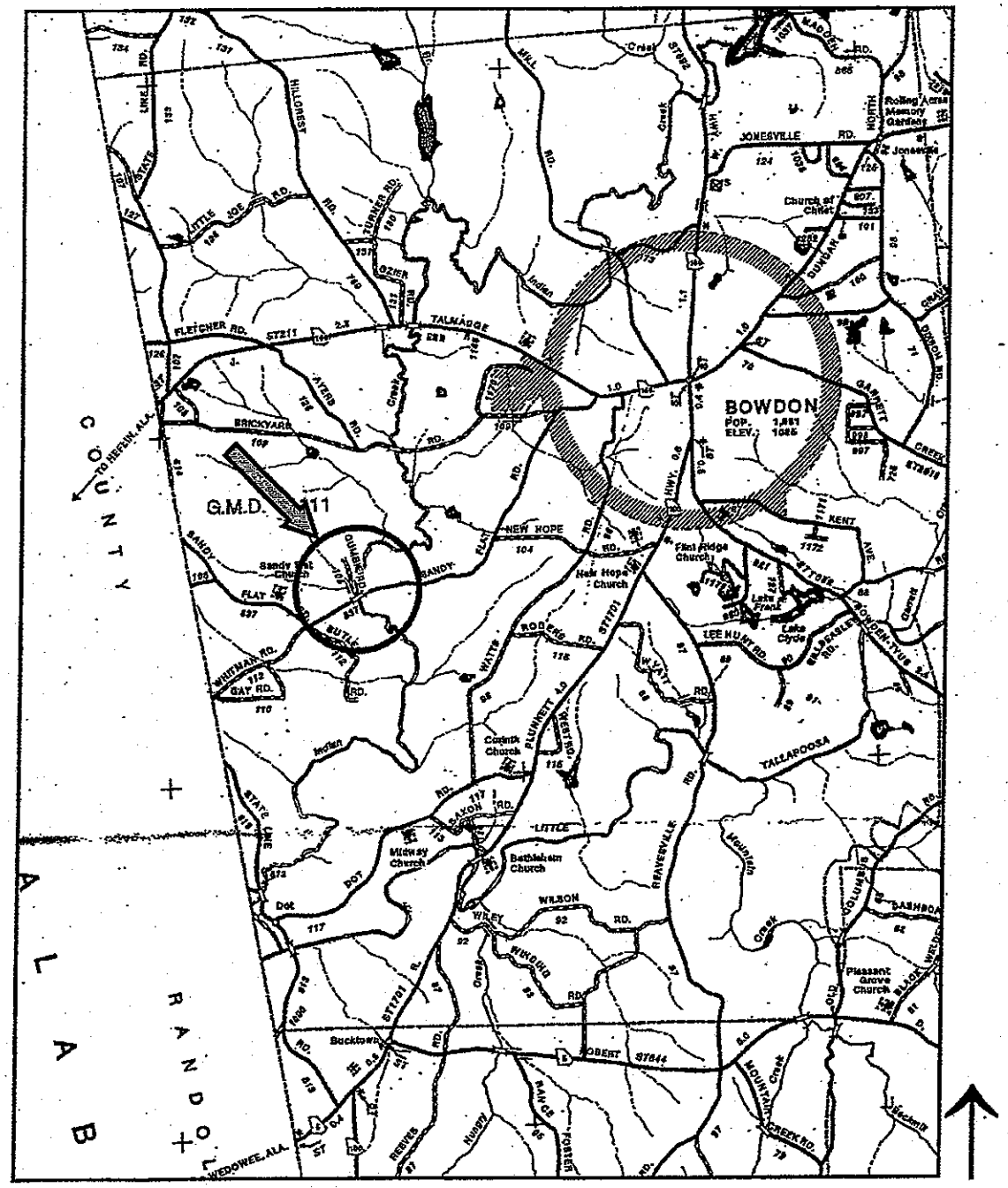
**Attachments:**
1. Sketch Map
2. Cost Estimate
3. Typical Sections

- **Exempt projects**

Concur: _____
Director of Preconstruction

Approve: _____
Chief Engineer

Project Number: BR-0003-00(083)
P.I. Number: 0003083
County: Carroll




Scale: 1 inch = 1 mile

North

## Location Map

**Project:** BR-0003-00(083) Carroll County **PI No.:** 0003083

**Description:** CR 837/Sandy Flat Rd. at Big Indian Creek 2.5 mi SW of Bowdon

# Estimate Report for file "45515 WO 7"

**Section Roadway**

| Item Number | Quantity | Units | Unit Price | Item Description | Cost |
|---|---|---|---|---|---|
| 150-1000 | 1 | LS | 20000.00 | TRAFFIC CONTROL - | 20000.00 |
| 153-1300 | 1 | EA | 79134.11 | FIELD ENGINEERS OFFICE TP 3 | 79134.11 |
| 205-0001 | 23835 | CY | 3.96 | UNCLASS EXCAV | 94386.60 |
| 310-5120 | 3307 | SY | 20.42 | GR AGGR BASE CRS, 12 INCH, INCL MATL | 67528.94 |
| 402-1811 | 112 | TN | 76.87 | RECYCLED ASPH CONC LEVELING, INCL BITUM MATL | 8609.44 |
| 402-1812 | 186 | TN | 60.91 | RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME | 11329.26 |
| 402-3110 | 346 | TN | 60.65 | RECYCLED ASPH CONC 9.5 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME | 20984.90 |
| 402-3121 | 1937 | TN | 64.06 | RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME | 124084.22 |
| 402-3190 | 248 | TN | 65.12 | RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2,INCL BITUM MATL & H LIME | 16149.76 |
| 413-1000 | 336 | GL | 1.89 | BITUM TACK COAT | 635.04 |
| 433-1000 | 320 | SY | 125.23 | REINF CONC APPROACH SLAB | 40073.60 |
| 441-0301 | 6 | EA | 1957.36 | CONC SPILLWAY, TP 1 | 11744.16 |
| 634-1200 | 30 | EA | 109.55 | RIGHT OF WAY MARKERS | 3286.50 |
| | | | | **Section Sub Total:** | **$497,946.53** |

**Section Drainage**

| Item Number | Quantity | Units | Unit Price | Item Description | Cost |
|---|---|---|---|---|---|
| 500-3200 | 1 | CY | 363.22 | CLASS B CONCRETE | 363.22 |
| 550-2240 | 148 | LF | 38.35 | SIDE DRAIN PIPE, 24 IN, H 1-10 | 5675.80 |
| 550-4124 | 4 | EA | 725.38 | FLARED END SECTION 24 IN, SIDE DRAIN | 2901.52 |
| 576-1018 | 126 | LF | 32.46 | SLOPE DRAIN PIPE, 18 IN | 4089.96 |
| 603-1224 | 66 | SY | 85.00 | STN GROUTED RIP RAP, 24 IN | 5610.00 |
| | | | | **Section Sub Total:** | **$18,640.50** |

**Section Erosion Control**

| Item Number | Quantity | Units | Unit Price | Item Description | Cost |
|---|---|---|---|---|---|
| 163-0232 | 3 | AC | 562.04 | TEMPORARY GRASSING | 1686.12 |
| 163-0240 | 61 | TN | 172.31 | MULCH | 10510.91 |
| 163-0300 | 2 | EA | 2821.82 | CONSTRUCTION EXIT | 5643.64 |
| 163-0503 | 3 | EA | 556.54 | CONSTRUCT AND REMOVE SILT CONTROL GATE, TP 3 | 1669.62 |
| 163-0521 | 44 | EA | 211.97 | CONSTRUCT AND REMOVE TEMPORARY DITCH CHECKS | 9326.68 |
| 163-0530 | 763 | LF | 3.73 | CONSTRUCT AND REMOVE BALED STRAW EROSION CHECK | 2845.99 |
| 165-0010 | 1579 | LF | 1.03 | MAINTENANCE OF TEMPORARY SILT FENCE, TP A | 1626.37 |
| 165-0030 | 993 | LF | 1.84 | MAINTENANCE OF TEMPORARY SILT FENCE, TP C | 1827.12 |
| 165-0040 | 44 | EA | 87.11 | MAINTENANCE OF EROSION CONTROL CHECKDAMS/DITCH CHECKS | 3832.84 |
| 165-0070 | 382 | LF | 2.36 | MAINTENANCE OF BALED STRAW EROSION CHECK | 901.52 |
| 165-0087 | 3 | EA | 167.51 | MAINTENANCE OF SILT CONTROL GATE, TP 3 | 502.53 |
| 165-0101 | 2 | EA | 617.94 | MAINTENANCE OF CONSTRUCTION EXIT | 1235.88 |
| 167-1000 | 2 | EA | 1291.40 | WATER QUALITY MONITORING AND SAMPLING | 2582.80 |
| 167-1500 | 18 | MO | 1069.02 | WATER QUALITY INSPECTIONS | 19242.36 |
| 170-1000 | 420 | LF | 13.25 | FLOATING SILT RETENTION BARRIER | 5565.00 |
| 171-0010 | 3157 | LF | 2.08 | TEMPORARY SILT FENCE, TYPE A | 6566.56 |
| 171-0030 | 1985 | LF | 3.96 | TEMPORARY SILT FENCE, TYPE C | 7860.60 |
| 603-2018 | 100 | SY | 51.71 | STN DUMPED RIP RAP, TP 1, 18 IN | 5171.00 |
| 603-7000 | 100 | SY | 4.95 | PLASTIC FILTER FABRIC | 495.00 |
| 700-6910 | 3 | AC | 909.95 | PERMANENT GRASSING | 2729.85 |
| 700-7000 | 11 | TN | 59.12 | AGRICULTURAL LIME | 650.32 |
| 700-7010 | 9 | GL | 19.30 | LIQUID LIME | 173.70 |
| 700-8000 | 3 | TN | 348.60 | FERTILIZER MIXED GRADE | 1045.80 |
| 700-8100 | 182 | LB | 2.10 | FERTILIZER NITROGEN CONTENT | 382.20 |

| | | | | | |
|---|---|---|---|---|---|
| 716-2000 | 448 | SY | 1.33 | EROSION CONTROL MATS, SLOPES | 595.84 |
| | | | | **Section Sub Total:** | **$94,670.25** |

**Section Signing & Marking**

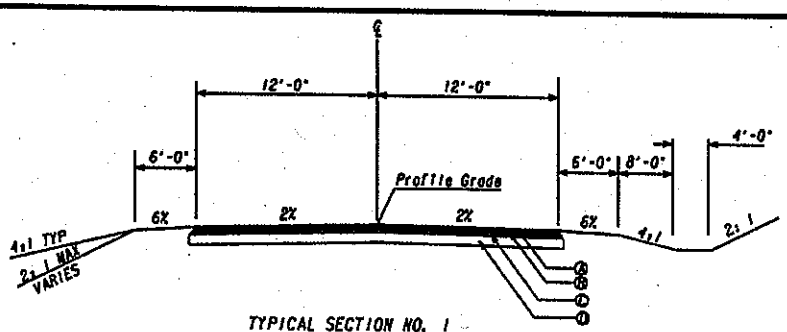
| Item Number | Quantity | Units | Unit Price | Item Description | Cost |
|---|---|---|---|---|---|
| 636-1020 | 20 | SF | 14.93 | HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 3 | 298.60 |
| 636-1031 | 49 | SF | 20.10 | HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING TP 6 | 984.90 |
| 636-2070 | 121 | LF | 8.29 | GALV STEEL POSTS, TP 7 | 1003.09 |
| 652-5451 | 5035 | LF | 0.23 | SOLID TRAFFIC STRIPE, 5 IN, WHITE | 1158.05 |
| 652-5452 | 5035 | LF | 0.23 | SOLID TRAFFIC STRIPE, 5 IN, YELLOW | 1158.05 |
| 652-5701 | 12 | LF | 3.00 | SOLID TRAF STRIPE, 24 IN, WHITE | 36.00 |
| 654-1001 | 0 | EA | 3.64 | RAISED PVMT MARKERS TP 1 | 0.00 |
| | | | | **Section Sub Total:** | **$4,638.69** |

**Section Bridge**

| Item Number | Quantity | Units | Unit Price | Item Description | Cost |
|---|---|---|---|---|---|
| 500-0100 | 1273 | SY | 4.24 | GROOVED CONCRETE | 5397.52 |
| 500-1006 | 497 | LS | 1114.41 | SUPERSTR CONCRETE, CL AA, BR NO - | 553861.77 |
| 500-2100 | 794 | LF | 55.18 | CONCRETE BARRIER | 43812.92 |
| 500-3002 | 131 | CY | 573.88 | CLASS AA CONCRETE | 75178.28 |
| 500-3101 | 37 | CY | 611.14 | CLASS A CONCRETE | 22612.18 |
| 507-9030 | 539 | LF | 200.71 | PSC BEAMS, AASHTO, BULB TEE, 54 IN, BR NO - | 108182.69 |
| 511-1000 | 22078 | LB | 0.96 | BAR REINF STEEL | 21194.88 |
| 511-3000 | 149204 | LS | 0.97 | SUPERSTR REINF STEEL, BR NO - | 144727.88 |
| 520-0353 | 28 | EA | 167.20 | H-PILE POINTS, HP 12 X 53 | 4681.60 |
| 520-1104 | 20 | LF | 44.48 | PILING IN PLACE, STEEL H, HP 10 X 42 | 889.60 |
| 520-1125 | 1112 | LF | 50.57 | PILING IN PLACE, STEEL H, HP 12 X 53 | 56233.84 |
| 520-4104 | 1 | EA | 195.16 | LOAD TEST, STEEL H, HP 10 X 42 | 195.16 |
| 520-4125 | 2 | EA | 0.49 | LOAD TEST, STEEL H, HP 12 X 53 | 0.98 |
| 520-5000 | 152 | LF | 306.86 | PILOT HOLES | 46642.72 |
| 524-0010 | 47 | LF | 907.48 | DRILLED CAISSON - | 42651.56 |
| 540-1101 | 1 | LS | 170342.31 | REMOVAL OF EXISTING BR, STA NO - | 170342.31 |
| 547-2012 | 128 | LF | 185.63 | PILE ENCASEMENT, 12 IN PILE | 23760.64 |
| 603-2024 | 1604 | SY | 53.08 | STN DUMPED RIP RAP, TP 1, 24 IN | 85140.32 |
| 603-7000 | 1604 | SY | 4.94 | PLASTIC FILTER FABRIC | 7923.76 |
| | | | | **Section Sub Total:** | **$1,413,430.61** |

**Total Estimated Cost: $2,029,326.58**

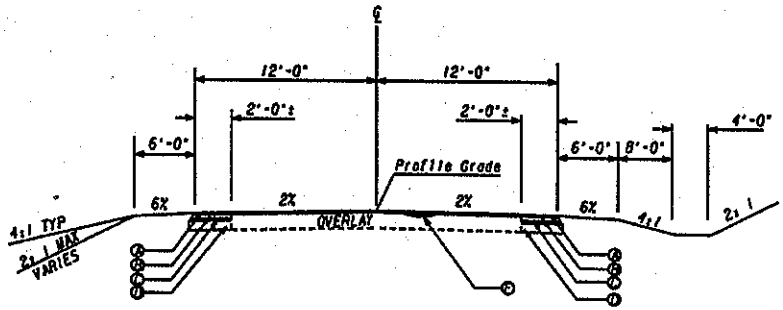
| | |
|---|---|
| **Subtotal Construction Cost** | **$2,029,326.58** |
| E&C Rate 10.0 % | $202,932.66 |
| Inflation Rate 0.0 % @ 0.0 Years | $0.00 |
| **Total Construction Cost** | **$2,232,259.24** |
| Right Of Way | $0.00 |
| ReImb. Utilities | $0.00 |
| **Grand Total Project Cost** | **$2,232,259.24** |




TYPICAL SECTION NO. 1
FULL DEPTH (TANGENT)

STA. 109+07.00 TO STA. 109+31.00

* NOT TO SCALE




TYPICAL SECTION NO. 2
OVERLAY (TANGENT)

STA. 101+90.00 TO STA. 102+05.00
STA. 121+98.00 TO STA. 122+50.00

* NOT TO SCALE

REQUIRED PAVEMENT

Ⓐ 135#/SY RECYCLED ASPH CONC 9.5 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME, MIX DESIGN LEVEL "A"

Ⓑ 220#/SY, RECYCLED ASPH CONC, 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME, MIX DESIGN LEVEL "A"

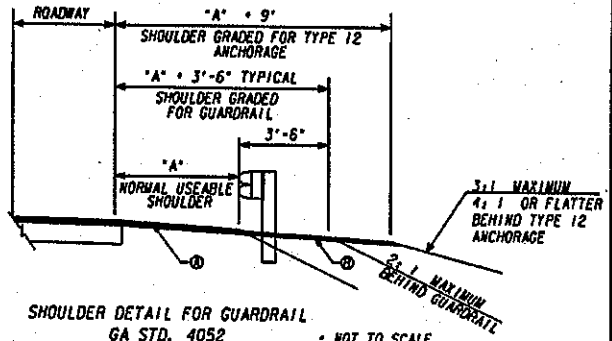
Ⓒ 770#/SY, RECYCLED ASPH CONC, 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME, MIX DESIGN LEVEL "A"

Ⓓ 12 IN GRADED AGGREGATE BASE, INCL MATL

Ⓔ RECYCLED ASPH CONC LEVELING 1", INCL BITUM

| SLOPE CONTROLS | | |
|---|---|---|
| SLOPE | CUT | FILL |
| 4:1 | 0-10 ft. | 0-10 ft. |
| 2:1 | OVER 10 ft. | OVER 10 ft. * |

* REQUIRES GUARDRAIL




SHOULDER DETAIL FOR GUARDRAIL
GA STD. 4052
(FOR CURRENT ADT UNDER 400)

* NOT TO SCALE

ALLOWABLE RANGES TABLE

FOR THIS PROJECT, CROSS SLOPES THAT ARE ADJUSTED TO "BEST FIT" EXISTING PAVEMENT SLOPES ARE SUBJECT TO THE FOLLOWING LIMITS:

A. NORMAL CROWN

| SECTION WITH GRADES 0.5% OR GREATER | SECTION WITH GRADES LESS THAN 0.5% |
|---|---|
| 1.5% - MINIMUM | 1.56% - MINIMUM |
| 2.08% - DESIRABLE | 2.08% - DESIRABLE |
| 2.50% - MAXIMUM | 3.00% - MAXIMUM |

B. SUPERELEVATION RATE

S.E. RATE SHOWN ON PLANS OR SE RATE EXISTING IN FIELD, WHICHEVER IS GREATER.

C. SUPERELEVATION TRANSITION LENGTH (LENGTH FROM FLAT POINT TO FULL SE)

| | RATE OF CHANGE | CORRESPONDING DIFFERENCE IN GRADE BETWEEN PIVOT POINT AND EDGE OF PAVEMENT |
|---|---|---|
| MINIMUM | 1:150 | 0.67% |
| DESIRABLE | 1:200 | 0.50% |
| MAXIMUM | 1:300 | 0.33% |

D. POSITIONING OF SUPERELEVATION TRANSITION LENGTH ON SIMPLE CURVES

50% OF TRANSITION INSIDE CURVE - MAXIMUM
33% OF TRANSITION INSIDE CURVE - DESIRABLE
20% OF TRANSITION INSIDE CURVE - MINIMUM

NOTE: CROWN WIPE-OUT SHALL BE AT THE SAME RATE AS THE SE TRANSITION.

E. SMOOTHING OF BREAKS IN EDGE PROFILE AT BEGIN AND END OF TRANSITION SHALL BE ACCOMPLISHED BY VERTICAL CURVE WITH A MINIMUM LENGTH EQUAL TO THE SPEED DESIGN DIVIDED BY 5.

EarthTech
A Tyco International Ltd. Company
1455 OLD ALABAMA ROAD, SUITE 170
ROSWELL, GEORGIA 30076
(770) 990-1400

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: CONSULTANT DESIGN

TYPICAL SECTIONS

CR 837 / SANDY FLAT ROAD
OVER BIG INDIAN CREEK

DRAWING NO. 5-01

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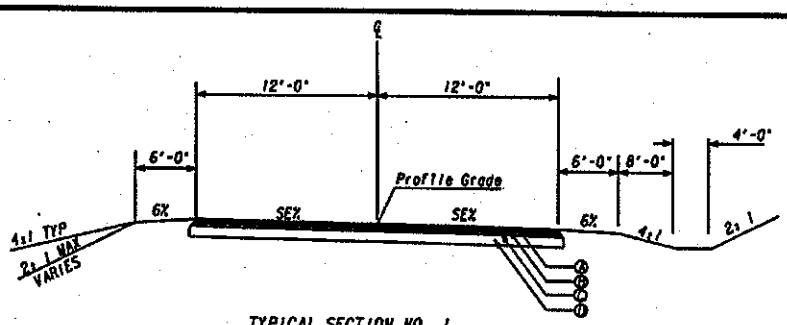
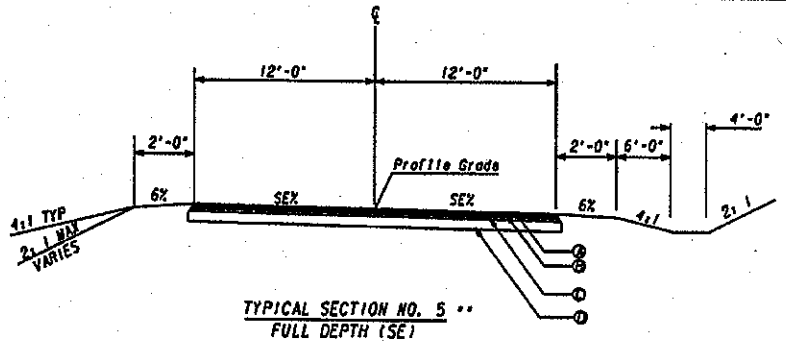



TYPICAL SECTION NO. 1
FULL DEPTH (SE)

STA. 107+90.00 TO STA. 109+07.00
STA. 113+10.00 TO STA. 114+65.00
STA. 116+15.00 TO STA. 121+20.00
NOTE - BRIDGE AND APPROACH SLAB
STA. 109+31 TO 113+10 & 114+65 TO 116+15

* NOT TO SCALE



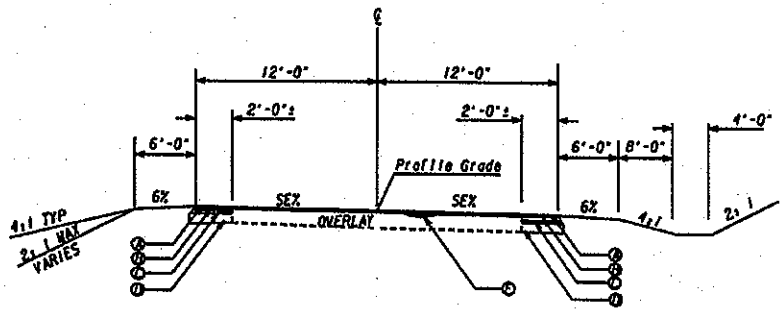

TYPICAL SECTION NO. 5 **
FULL DEPTH (SE)

STA. 47+00.00 TO STA. 50+00.00

* NOT TO SCALE

** NOTE: CONTRACTOR SHALL AVOID IMPACTS TO CREEK ON EAST SIDE OF CUMBIE ROAD.

** NOTE: PROPOSED SHOULDER BREAK POINT SHALL NOT EXTEND PAST EXISTING SHOULDER BREAK POINT




TYPICAL SECTION NO. 2
OVERLAY (SE)

STA. 102+05.00 TO STA. 107+90.00
STA. 121+20.00 TO STA. 121+98.00

* NOT TO SCALE

REQUIRED PAVEMENT

(A) 135#/SY RECYCLED ASPH CONC 9.5 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME, MIX DESIGN LEVEL "A"

(B) 220#/SY, RECYCLED ASPH CONC, 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME, MIX DESIGN LEVEL "A"

(C) 770#/SY, RECYCLED ASPH CONC, 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM & H LIME, MIX DESIGN LEVEL "A"

(D) 12 IN GRADED AGGREGATE BASE, INCL MATL

(E) RECYCLED ASPH CONC LEVELING 1", INCL BITUM

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REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: CONSULTANT DESIGN

**TYPICAL SECTIONS**

CR 837 / SANDY FLAT ROAD
OVER BIG INDIAN CREEK

DRAWING NO. 5-02

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