ORIGINAL TO GENERAL FILES

D.O.T. 66

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE P. I. No. 122090-, Rabun County
EDS-441(28)
US 441/SR 15 Improvements

OFFICE Preconstruction

DATE January 2, 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.

GRS/cj

Attachment

DISTRIBUTION:

Brian Summers
Harvey Keepler
Ken Thompson
Jamie Simpson
Michael Henry
Keith Golden
Joe Palladi (file copy)
Babs Abubakari
Russell McMurry
BOARD MEMBER

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

RECEIVED DEC 18 2006

INTERDEPARTMENT CORRESPONDENCE

FILE: EDS-441(28)
P.I. No.: 122090
Rabun County

OFFICE: Environment/Location

DATE: December 15, 2006

HDK/DRP

FROM: Harvey D. Keepler, State Environmental/Location Engineer

TO: Genetha Rice-Singleton, Assistant Director of Preconstruction

SUBJECT: **Revised Project Concept Report** – US 441/SR 15 Improvements, Rabun County

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

In order to accommodate bike lanes and minimize social impacts along US 441/SR 15, it is recommended to revise the typical sections and proposed right-of-way of EDS-441(28) in Rabun County. This portion of US 441/SR 15 is part of designated State Bicycle Route (SBR) 85. It is also recommended that any necessary design variances be requested during the design phase for a proposed context sensitive design through Dillard and a median opening at the existing US 441/SR 15 and Cross Street intersection. It is recommended that during the design phase the use of retaining walls be evaluated in major cut areas in Mountain City and Dillard.

The revised concept as presented herein and submitted for approval is consistent with that which is included in the ~~Regional Transportation Improvement Program (RTP) and/or the~~ State Transportation Improvement Program (STIP). CJC *

DATE: 12/18/06

Angela T Alexander /CJC
State Transportation Planning Administrator

HDK/DRP/dle

* RTP not applicable for Rabun County.

Attachments

Distribution:
Brian Summers, Project Review Engineer
Keith Golden, State Traffic Safety & Design Engineer
Angela T. Alexander, State Transportation Planning Administrator
Jamie Simpson, State Transportation Financial Management Administrator
Babs Abubakari, State Program Delivery & Consultant Design Engineer
Russell McMurry, Gainesville District Engineer
Paul Liles, State Bridge & Structural Design Engineer

REVISED PROJECT CONCEPT REPORT
EDS-441(28) – RABUN COUNTY

Need and Purpose: US 441 is the primary north-south corridor in northeast Georgia and it is a major tourist route through the Great Smokey and Blue Ridge Mountains. The proposed widening and construction of a median would reduce congestion and enhance the traffic flow, while improving the operational characteristics and safety along US 441.

Project location: Project EDS-441(28) would improve US 441/SR 15 in Rabun County. The project begins along US 441/SR 15 approximately at mile post 12.3 in the northern limit of Clayton. It continues northward along US 441/SR 15 through Mountain City and the City of Dillard. The project would end at the North Carolina state line approximately at mile post 19.7 of US 441/SR 15. The total length of the project is approximately 7.4 miles.

Description of the approved concept: Project EDS-441(28) in Rabun County is proposed to improve US 441/SR 15 from CS 500/Clayburn Road, just inside Clayton's northern limit, northward to the North Carolina state line. US 441/SR 15 is proposed as widening to four lanes with a 20-foot raised median throughout the limits of the project. US 441/SR 15 would be widened on the west side from the beginning of the project to approximately CR 39/Mountain City Road then transition to east widening to approximately File Street. Widening would then shift back to the west to avoid impacting Stekoa Creek east of US 441/SR 15 to approximately Cross Street. From there, this project would transition to east widening entering the southern limits of Mountain City to approximately Johnson Avenue. After Johnson Avenue, widening would become symmetrical to reduce impacts to eligible historic resources on both sides of US 441/SR 15 until approximately 0.5 miles north of CR 2/John Beck Dockins Road and transition to east widening to approximately CS 700/Betty White Cloud Street in the southern limits of Dillard. Widening would then transition to the west to avoid impacting the Sue B. Pennington eligible historic resource property before transitioning back to the east approximately just north of CR 6/Greenwood Road to avoid impacting the Lucy Speed eligible historic resource property. This project would continue widening US 441/SR 15 to the east until transitioning to the west approximately at SR 246/Highlands Road to the ending terminus at the North Carolina state line.

A rural 20-foot raised median typical section would be constructed from the beginning terminus of the project to Mountain City's southern limits and from approximately SR 246/Highlands Road to the North Carolina state line on proposed right-of-way varying between 135 feet and 380 feet. An urban 20-foot raised median typical section would be constructed between Mountain City's southern limits and SR 246/Highlands Road for minimization of social impacts as well as eligible historic resources on both sides of US 441/SR 15. The proposed urban right-of-way varies between 100 feet and 420 feet. The design speed is 45 mph throughout the project. The posted speed limit between Clayton and Mountain City is 55 mph with a vertical and horizontal alignment that is substandard for a 55 mph speed design. It is recommended that a design variance be requested during the design phase that would allow the 45 mph speed design throughout the project. The total length of the project is approximately 7.4 miles.

PDP Classification: Major/Construction widening
Federal Oversight: Full Oversight ( ), Exempt(**X**), State Funded( ), or Other ( )

Functional Classification: Rural and Urban Arterial

U. S. Route Number(s): 441 **State Route Number(s):** 15

Traffic (AADT) as shown in the approved concept:

Current Year: 2010 AADT: 13,500 – 19,000 Design Year: 2030 AADT: 21,700 – 30,400

Proposed features to be revised:

- **Typical Section:** To accommodate bike lanes throughout the project and avoid impacts to Dillard's shopping district, it is recommended that the typical section be revised.
- **Right-of-Way:** It is recommended that the right-of-way limits for this project also be revised to accommodate the revised typical sections.

Describe the revised feature(s) to be approved:

- **Typical Section:** The previously approved 20-foot raised median typical sections are recommended to be revised to accommodate bike lanes along US 441/SR 15 Georgia Designated Bike Route. The rural typical sections from the beginning terminus to Mountain City southern limit and from approximately SR 246/Highlands Road to the ending terminus will accommodate bicycle traffic within the 10-foot shoulders. The urban typical sections from Mountain City's southern city limit to approximately CR 220/Betty Creek Road and from approximately CR 6/Greenwood Road to SR 246/Highlands Road will have an additional four feet of pavement in each direction prior to the shoulder point to accommodate bike lanes (eight feet total additional pavement width). The existing 5-lane typical section at the beginning terminus would be extended slightly for business access before beginning the 20-foot raised median. The 20-foot raised median would taper into the existing 5-lane typical section just before the ending terminus at the North Carolina state line for continuity. The speed design remains as previously approved.

  The typical section approximately between CR 220/Betty Creek Road and CR 6/Greenwood Road is recommended to be revised to reduce impacts to businesses along US 441/SR 15. The typical section through this section proposes to reduce the 20-foot raised median to an 8-foot raised median with 12-foot outside lanes, 11-foot inside lanes, and include 10-foot sidewalks in the urban shoulders for multi-use by pedestrians and cyclist. It is recommended that a design variance be requested during the design phase for this proposed context sensitive design in Dillard. Approximately from CR 6/Greenwood Road to SR 246/Highlands Road, widening would also shift to the west to avoid impacting the parking areas of businesses along the east side of US 441/SR 15. The Lucy Speed eligible historic resource would be impacted without an adverse affect concurred upon by the State Historic Preservation Officer (SHPO). Improvements to US 441/SR 15 would then transition and continue from approximately SR 246/Highlands Road as previously approved.

- **Right-of-Way:** The proposed right-of-way would vary between 150 feet and 450 feet for the rural typical section and vary between 130 feet and 428 feet for the urban typical section. The proposed typical section through Dillard has a proposed right-of-way varying between 86 feet and 150 feet. Side road improvements have proposed right-of-way varying between 100 feet and 150 feet.

Other Features Revised: CR 1/Old Wolf Fork Road and CR 5/York House Road would be relocated northward on new location to provide a safer intersection with US 441/SR 15. CR 7/Kelly's Creek Road would be relocated slightly south to its original location and improved for a safer intersection with US 441/SR 15. Franklin Street is proposed to extend to CR 6/Greenwood Road to provide access to businesses along Franklin Street due to the recommended revised typical section along US 441/SR 15 in Dillard. CR 91/FT Black Circle is proposed for extension to River Valley Lane to provide a safer intersection. The bridge over Little Tennessee River would be widened and a new bridge would be constructed over Betty Creek.

Updated traffic data (AADT):

Current Year: N/A AADT: N/A Design Year: N/A AADT: N/A

Programmed/Schedule:

P.E. 2002 R/W: ~~2009~~ RRB EDS LY20 2011/LR/2009 Construction: LR

dall 12/20/06

Revised cost estimates:

1. Construction cost including E&C: $ 41,674,000
2. Right-of-way: $ 49,169,422
3. Utilities: $ 859,000

Is the project located in a Non-attainment area? .....Yes .....X.....No.

Recommendations:

- It is recommended that a design variance be requested during the design phase to provide a median opening at the existing Cross Street intersection with US 441/SR 15 to reduce residential impacts. The proposed concept relocates existing Cross Street slightly south to provide the 660 feet to the next proposed median opening at Playhouse Drive. The existing distance between Cross Street and Playhouse Drive is approximately 560 feet.

- It is also recommended during the design phase the use of retaining walls be evaluated in major cut areas. These wall studies are recommended between George Road and Cross Street along US 441/SR 15 in Mountain City and northwest of SR 246/Highlands Road outside of Dillard.

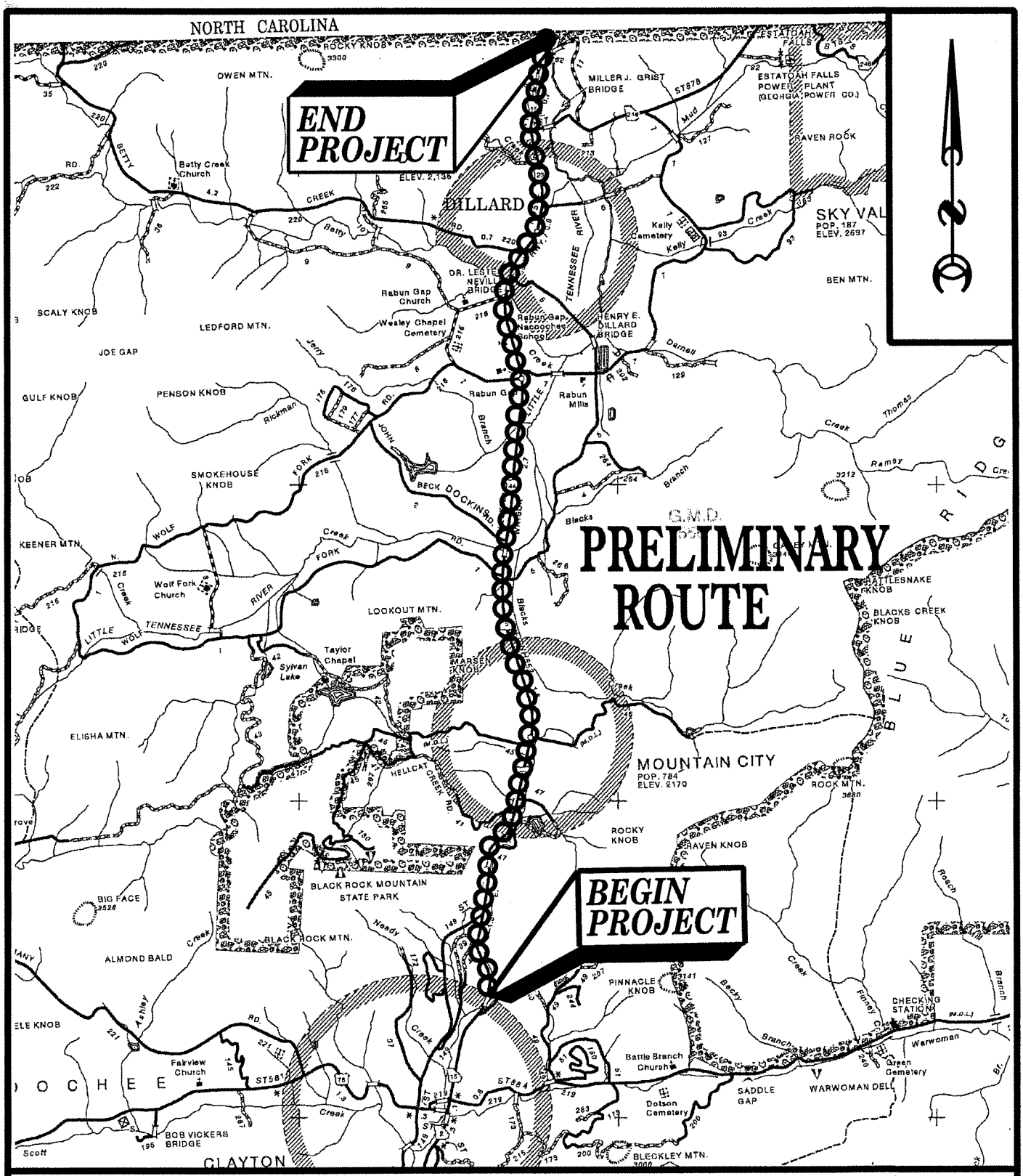
- It is recommended that the proposed revisions to this concept be approved for implementation.

Attachments:

1. Sketch Map,
2. Cost Estimate,
3. Typical Sections

Concur: _____
Director of Preconstruction

Approve: _____
Chief Engineer



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SCALE IN MILES

LOCATION

SOURCE: GENERAL HIGHWAY MAP, BIBB CO., GEORGIA
PREPARED BY THE GEORGIA DEPARTMENT OF TRANSPORTATION, 1986

EDS–441(28)
RABUN COUNTY

US 441 IMPROVEMENTS: FROM CLAYTON TO NORTH CAROLINA STATE LINE

P.I.# 122090

CONCEPT COST ESTIMATE

Office of Environment/Location

November 30, 2006 10:15 AM

County(s) Rabun

PI Number 122090 **Project Number** EDS-441(28)

Project Name US 441/SR 15 Improvements **Project Length** 7.4 **Miles**

Project Description

North of Clayton city limits to Georgia/North Carolina state line.

Existing Roadway

Varies between 2/3-lane & 5-lane rural/urban typical sections

Comments

Preliminary cost estimate for Revised Concept Report approval. Preliminary wall studies (approx. 3 walls) in major cut areas in Mountain City & Dillard: Add approx. $4,609,000 to Subtotal Construction Cost.

TRAFFIC:

Current Design Year	2010	**Daily Volume (AADT)**	19,000
Future Design Year	2030	**Daily Volume (AADT)**	30,400

[X] **Concept Estimate** [ ] **Feasibility Estimate**

Typical Section(s) Used in Estimate	Typical Section Length	
Rural Widening: 2 To 4-Lanes with 20 ft Raised Median Widen On One Side	2.40	**Miles**
Urban Widening: 2 To 4-Lanes with 20 ft Raised Median Widen On One Side	5.00	**Miles**
Rural New Location: 2-Lanes with 24 ft Pavement	2.20	**Miles**
		Miles
		Miles
		Miles

Prepared By Dylan Eagleton

MAJOR STRUCTURES

Note! All distances are in feet

Bridges: Stream Crossings & Grade Separations

NO	LOCATION	QTY	CROSSING TYPE	WIDTH	LENGTH	UNIT COST	TOTAL
1	Little Tennessee River	1	Stream-Widen	15.00	99.0	120.00	178,000
2	Betty Creek	1	Stream-New	102.50	135.0	85.00	1,176,000
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							

Bridge Culverts

NO	LOCATION	TYPE / W x H / FILL	LENGTH	UNIT COST	TOTAL
1	Mountain City	Single / 6 x 4 / 30	100.0	422.11	42,000
2	North of Dillard - State Line Rd.	Single / 5 x 4 / 10	40.0	371.18	15,000
3					
4					
5					
6					
7					
8					

Walls

NO	LOCATION	TYPE	HEIGHT	LENGTH	UNIT COST	TOTAL
1	Mountain City-File St.	MSE	7.0	1,250.0	65.00	569,000
2	Dillard-Piggly Wiggly	MSE	25.0	900.0	65.00	1,463,000
3						
4						
5						
6						

MAJOR STRUCTURES SUBTOTAL $ 3,443,000

Typical Section

Rural Widening: 2 To 4-Lanes with 20 ft Raised Median Widen On One Side

Typical Section Length 2.40 **Miles** **Right-of-Way Width** 200 **Feet**

GRADING AND DRAINAGE

	QUANTITY		UNIT COST	TOTAL
1. EARTHWORK				
a. Unclassified Excavation Soil	576,000	CY	8.25	4,752,000
b. Unclassified Excavation Rock	64,000	CY	35.00	2,240,000
c. Borrow Excavation		CY		
2. MINOR DRAINAGE	2.40	MI	119,182	286,000
GRADING AND DRAINAGE SUBTOTAL				$7,278,000

BASE AND PAVING

	THICKNESS and SPREAD RATE	QUANTITY		UNIT COST	TOTAL
1. GRADED AGGREGATE BASE	10"	26,354	TN	28.38	748,000
2. ASPHALT PAVING					
a. Asph Conc 9.5 mm Superpave	1 1/2" (165 LB/SY)	8,015	TN	100.25	804,000
b. Asph Conc 19 mm Superpave	3" (330 LB/SY)	8,663	TN	106.15	920,000
c. Asph Conc 25 mm Superpave	4" (440 LB/SY)	7,648	TN	94.35	722,000
d. Bituminous Tack Coat		6,471	GL	2.42	16,000
3. CONCRETE PAVING					
a. Curb and Gutter		23,650	LF	32.04	758,000
b. Miscellaneous		2.40	MI	17,005	41,000
4. OTHER PAVING					401,000
BASE AND PAVING SUBTOTAL					$4,410,000

LUMP ITEMS

	QUANTITY		UNIT COST	TOTAL
1. TRAFFIC CONTROL	2.40	MI	65,043	156,000
2. CLEARING AND GRUBBING	58.18	AC	6,000	349,000
3. EROSION CONTROL	2.40	MI	117,160	281,000
4. SIGNING & MARKING	2.40	MI	25,577	61,000
5. MISCELLANEOUS	2.40	MI	31,355	75,000
LUMP ITEM SUBTOTAL				$922,000

MISCELLANEOUS PROJECT ITEMS

	QUANTITY		UNIT COST	TOTAL
1. GUARDRAIL	15,600	LF	19.53	305,000
2. GUARDRAIL ANCHORS	48	EA	711.86	34,000
3. DETOURS		MI	327,097	
4. SPECIAL FEATURES				
Extra concrete sidewalk width through Dillard [5ft x 1972ft (both sides) x 4"]				46,393
MISCELLANEOUS SUBTOTAL				$385,000

Typical Section

Urban Widening: 2 To 4-Lanes with 20 ft Raised Median Widen On One Side

Typical Section Length 5.00 **Miles** **Right-of-Way Width** 130 **Feet**

GRADING AND DRAINAGE

	QUANTITY		UNIT COST	TOTAL
1. EARTHWORK				
a. Unclassified Excavation Soil	337,000	CY	8.25	2,780,000
b. Unclassified Excavation Rock	25,000	CY	35.00	875,000
c. Borrow Excavation		CY		
2. MINOR DRAINAGE	5.00	MI	543,291	1,304,000
GRADING AND DRAINAGE SUBTOTAL				$4,959,000

BASE AND PAVING

	THICKNESS and SPREAD RATE	QUANTITY		UNIT COST	TOTAL
1. GRADED AGGREGATE BASE	10"	43,464	TN	28.38	1,234,000
2. ASPHALT PAVING					
a. Asph Conc 9.5 mm Superpave	1 1/2" (165 LB/SY)	13,552	TN	100.25	1,359,000
b. Asph Conc 19 mm Superpave	3" (330 LB/SY)	11,755	TN	106.15	1,248,000
c. Asph Conc 25 mm Superpave	4" (440 LB/SY)	15,933	TN	94.35	1,503,000
d. Bituminous Tack Coat		10,970	GL	2.42	27,000
3. CONCRETE PAVING					
a. Curb and Gutter		80,736	LF	32.04	2,587,000
b. Miscellaneous		5.00	MI	56,997	285,000
4. OTHER PAVING					824,000
BASE AND PAVING SUBTOTAL					$9,067,000

LUMP ITEMS

	QUANTITY		UNIT COST	TOTAL
1. TRAFFIC CONTROL	5.00	MI	115,304	577,000
2. CLEARING AND GRUBBING	78.79	AC	6,000	473,000
3. EROSION CONTROL	5.00	MI	100,119	501,000
4. SIGNING & MARKING	5.00	MI	47,818	239,000
5. MISCELLANEOUS	5.00	MI	76,197	381,000
LUMP ITEM SUBTOTAL				$2,171,000

Typical Section

Rural New Location: 2-Lanes with 24 ft Pavement

Typical Section Length 2.20 **Miles** **Right-of-Way Width** 100 **Feet**

GRADING AND DRAINAGE

	QUANTITY		UNIT COST	TOTAL
1. EARTHWORK				
a. Unclassified Excavation Soil	171,000	CY	8.25	1,411,000
b. Unclassified Excavation Rock	19,000	CY	35.00	665,000
c. Borrow Excavation		CY		
2. MINOR DRAINAGE	2.20	MI	36,170	87,000
GRADING AND DRAINAGE SUBTOTAL				$2,163,000

BASE AND PAVING

	THICKNESS and SPREAD RATE	QUANTITY		UNIT COST	TOTAL
1. GRADED AGGREGATE BASE	10"	20,673	TN	28.38	587,000
2. ASPHALT PAVING					
a. Asph Conc 9.5 mm Superpave	1 1/2" (165 LB/SY)	2,981	TN	100.25	299,000
b. Asph Conc 19 mm Superpave	3" (330 LB/SY)	6,024	TN	106.15	639,000
c. Asph Conc 25 mm Superpave	4" (440 LB/SY)	7,011	TN	94.35	661,000
d. Bituminous Tack Coat		4,260	GL	2.42	10,000
3. CONCRETE PAVING					
a. Curb and Gutter			LF		
b. Miscellaneous		2.20	MI	17,255	38,000
4. OTHER PAVING					223,000
BASE AND PAVING SUBTOTAL					$2,457,000

LUMP ITEMS

	QUANTITY		UNIT COST	TOTAL
1. TRAFFIC CONTROL	2.20	MI	10,696	24,000
2. CLEARING AND GRUBBING	26.67	AC	6,000	160,000
3. EROSION CONTROL	2.20	MI	174,425	384,000
4. SIGNING & MARKING	2.20	MI	8,116	18,000
5. MISCELLANEOUS	2.20	MI	20,085	44,000
LUMP ITEM SUBTOTAL				$630,000

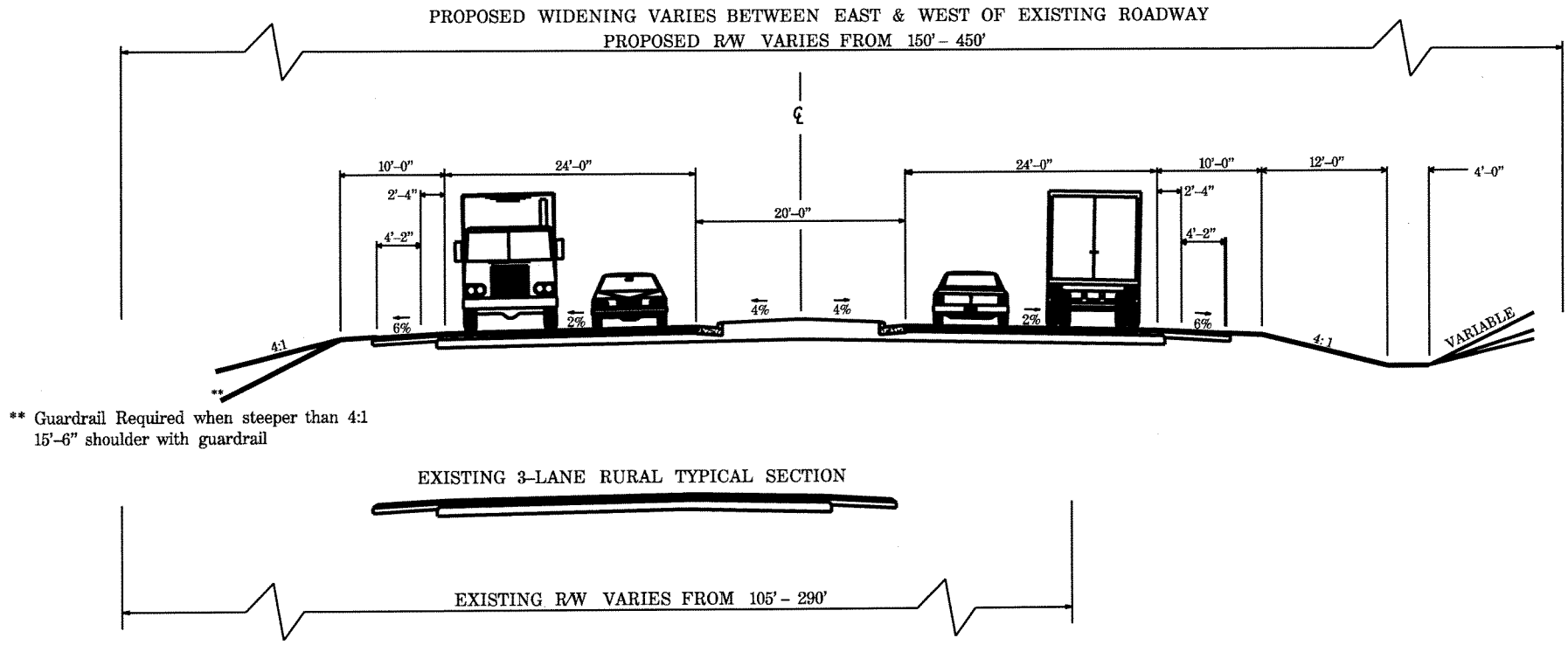
ESTIMATE SUMMARY

TYPICAL SECTION		COST (per mile)
1. Rural Widening: 2 To 4-Lanes with 20 ft Raised Median Widen On One Side	$	5,254,000
2. Urban Widening: 2 To 4-Lanes with 20 ft Raised Median Widen On One Side	$	3,239,000
3. Rural New Location: 2-Lanes with 24 ft Pavement	$	2,386,000

PROJECT COST

A. MAJOR STRUCTURES	**$**	**3,443,000**
B. GRADING AND DRAINAGE	**$**	**14,400,000**
C. BASE AND PAVING	**$**	**15,934,000**
D. LUMP ITEMS	**$**	**3,723,000**
E. MISCELLANEOUS	**$**	**385,000**
SUBTOTAL CONSTRUCTION COST	**$**	**37,885,000**
ENGINEERING & CONTINGENCIES (10%)	**$**	**3,789,000**
INFLATION ____ yr(s) @ ____ % per yr		
GRAND TOTAL CONSTRUCTION COST	**$**	**41,674,000**

TYPICAL SECTION
20–FOOT RAISED MEDIAN W/BIKE LANES RURAL SECTION
45 MPH SPEED DESIGN



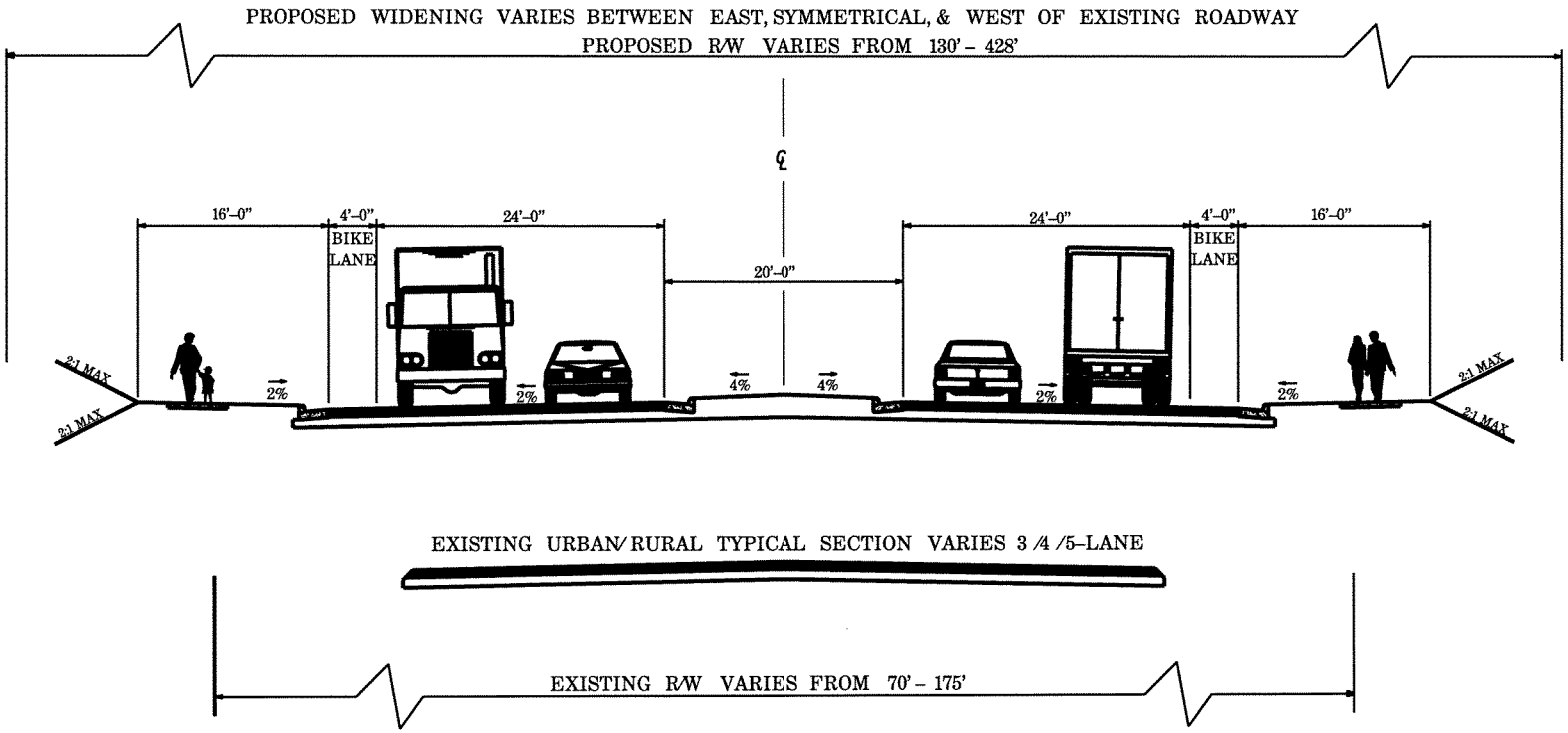
US 441/US 23/SR 15 IMPROVEMENT
EDS–441(28) RABUN CO.

FROM BEGINNING TERMINUS
TO SOUTHERN MOUNTAIN CITY LIMITS.

FROM SR 246/HIGHLANDS RD.
TO GEORGIA & NORTH CAROLINA STATE LINE.

NOT TO SCALE

TYPICAL SECTION
20–FOOT RAISED MEDIAN W/BIKE LANES URBAN SECTION
45 MPH SPEED DESIGN



US 441/US 23/SR 15 IMPROVEMENT
EDS–441(28) RABUN CO.

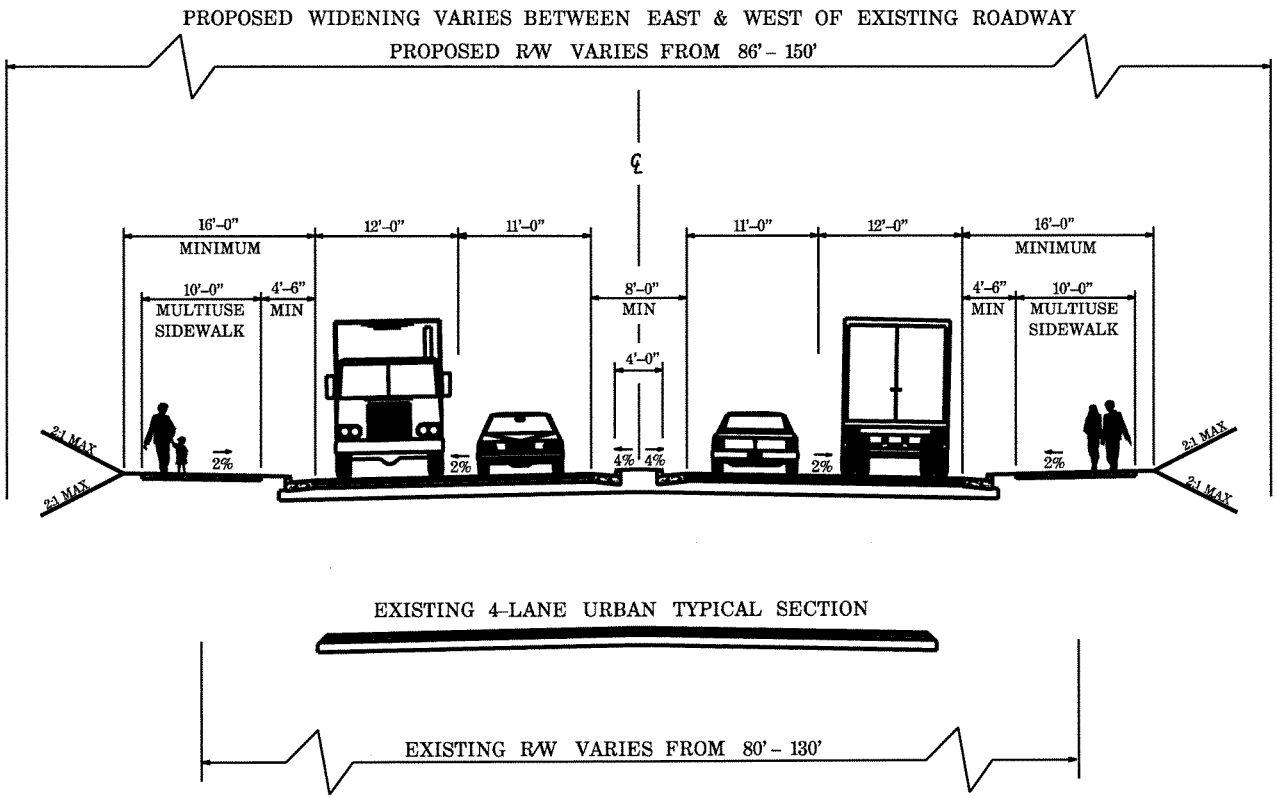
FROM THE SOUTHERN CITY LIMITS OF MOUNTAIN CITY TO
APPROX. CR 220/BETTY CREEK RD.

FROM APPROX. CR 6/GREENWOOD RD. TO SR 246/HIGHLANDS RD.

NOT TO SCALE

TYPICAL SECTION
8–FT RAISED MEDIAN URBAN SECTION
(12–FT OUTSIDE LANES & 11–FT INSIDE LANES)
45 MPH SPEED DESIGN

*****MULTIUSE SIDEWALKS FOR PEDESTRIANS & CYCLIST*****

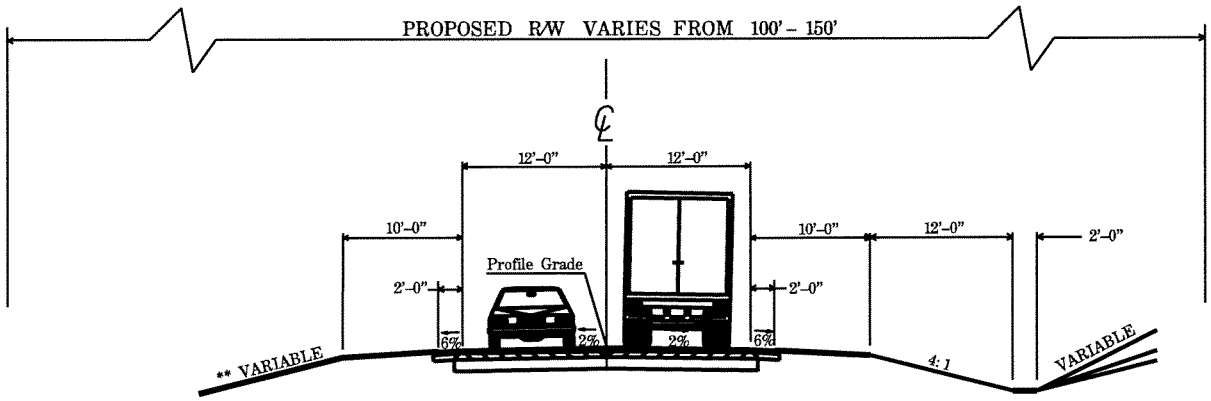


US 441/US 23/SR 15 IMPROVEMENT
EDS–441(28) RABUN CO.

APPROX. BETWEEN CR 220/BETTY CREEK RD. & CR 6/GREENWOOD RD.

NOT TO SCALE

TYPICAL SECTION
2–LANE RURAL SECTION
25–35 MPH SPEED DESIGN
(RELOCATION & TIE–INS)



** Guardrail Required when steeper than 4:1
15'–6" shoulder with guardrail

US 441/US 23/SR 15 IMPROVEMENT
EDS–441(28) RABUN CO.

RELOCATION & TIE–INS FOR:
CS 500/CLAYBURN RD., CR 39/MOUNTAIN CITY RD., GEORGE RD., CROSS ST.,
FILE ST., GREEN ACRES DR. EXTENSION TO GREEN ST.,
CR 1/OLD WOLF FORK RD., CR 5/YORK HOUSE RD., CR 7/KELLY'S CREEK RD.
FRANKLIN ST. EXTENSION TO CR 6/GREENWOOD RD., CAROLINA ST.,
CR 91/F.T. BLACK CIR. EXTENSION TO RIVER VALLEY LN.
CR 11/LAMB RD.

NOT TO SCALE