LEWIS COUNTY PUBLIC WORKS
ENGINEERING AND TRAFFIC INVESTIGATION REPORT

IN THE MATTER OF: Evaluation of the existing speed limit on a portion of Hwy 603 @ the Winlock, Washington city limits M.P. 13.10 to M.P. 13.42 after construction.

REASON FOR INVESTIGATION: Initiated by CRP-2144 and a change in scope granted by CRAB, and a letter of request by Lewis County Engineer, Tim Elsea.

COUNTY ROAD: Hwy 603 (93006) M.P. 13.10 to M.P. 13.42

TO: Tim Elsea and Road File.

FINDINGS:

a.) **Current Speed Limit :** [50 MPH]

b.) **Physical Features:** Hwy 603 is a Rural Major Collector in southern Lewis County north of the City of Winlock, Washington. The posted speed limit is fifty miles per hour (50 MPH). After the upcoming construction project is completed on Hwy 603, the horizontal curve located at milepost 13.21 will remain at a design speed of forty miles per hour (40 MPH), per AASHTO design standards and a deviation granted by CRAB. Shortly after this curve the road leads into the City of Winlock where the speed limit becomes twenty five miles per hour (25 MPH).

After the upcoming construction is completed the pavement width will be 34' with two 11' lanes 6' shoulders.
This portion of roadway accommodates approximately 12 county road approaches.

c.) **Accident Characteristics:** No accident data was compiled for this investigation since the road will be newly constructed and the agreement with CRAB to establish a thirty five miles per hour (35 MPH) speed zone.

d.) **Remarks / Recommendations:** With the Design Evaluation Report (attached) of newly constructed Hwy 603 project, along with the change of scope request by Tim Elsea (attached), the approval letter by the CRAB board (attached), and the reduction in speed to twenty five miles per hour (25 MPH) at Winlock city limits, it is my recommendation that the speed limit on said portion of Hwy 603 should be reduced from fifty miles per hour (50 MPH) to thirty five miles per hour (35 MPH) when construction of CRP-2144 is completed and signs are installed.

e.) Attachments:

a. Request for change of scope by Tim Elsea
b. Design Evaluation Report dated July 9, 2013
c. Approval letter from the County Road Administration Board (CRAB)

Tim Elsea P.E.
Lewis County Traffic Engineer

Lewis County Department of Public Works

Timothy R. Elsea, PE, Director / County Engineer
Rodney Lakey, PE, Assistant County Engineer

July 18, 2013

Randy Hart, P.E.
County Road Administration Board
2404 Chandler CT SW, Suite 240
Olympia, WA 98504-0913

Re: Request for change in Scope – Hwy 603, Project 2108-01

Dear Randy:

This letter is provided to request a change in scope for the previously CRAB approved Hwy 603 Project in Lewis County. This change in scope is proposed for the design speed of the horizontal curve located at milepost 13.21. The RAP Worksheet for this project shows this curve ball bank speed as 40 mph, with a proposed speed of 50 mph on the original RAP application worksheet. The curve is located in a section of the roadway adjacent to the City of Winlock where the speed limit changes from 50 mph to 25 mph. Additionally, City of Winlock Urban Growth Area extends beyond this curve and property development is more intense with tighter residential home spacing and more driveway approaches near the city limits. Property owners at the location of the curve in question have been very rigid and negotiations have come to an impasse for proposed property purchase. Given the dense residential development, major difficulties in right-of-way purchase and the proximity of the curve to a 25 mph speed zone, Lewis County proposes to reconstruct the curve at the existing alignment (40 mph), with no decrease in the proposed width of the overall project (50 mph design speed). Future speed posting through this curve would be 35 mph to provide a logical deceleration / acceleration zone coming into or leaving the City of Winlock.

Road Maintenance & Traffic
476 West Main St.
Chehalis, WA 98532
O 360.740.3380
F 360.740.2741
Erik Martin, PE, Manager

Administration, Engineering, Utilities & Real Estate Services
2025 NE Kresky Ave.
Chehalis, WA 98532
O 360.740.1123
F 360.740.1479

Solid Waste Services
Post Office Box 180
Centralia, WA 98531
O 360.740.1451
F 360.330.7805
Steve Skinnor, Manager

The change in scope would lower the RAP Worksheet score from 50.07 to 48.40, but does not affect project placement on the SW 07-09 Array. Given the difficulties concerning right of way purchase and the proximity of the curve to the City of Winlock and a reduced speed zone of 25 mph, the proposed change in scope would allow Lewis County to reconstruct the curve on the current alignment and avoid potential construction delays. The remainder of the project would be constructed as originally proposed.

Construction effort required to widen Hwy 603 to 34-ft will be similar for both horizontal alignment options. Keeping the existing 40 mph horizontal alignment (change in scope requested) would not require additional clearing & grubbing or imported structural fill material. Alternatively, constructing the originally submitted 50 mph horizontal curve over partial new ground would require removal and reclamation of the old road bed. Therefore, construction cost savings associated with this change in scope request are negligible. Right of way costs are not eligible for RATA reimbursement in the SW Region. The estimated total project cost is $2,480,000, with $1,355,000 (54.6%) funded by Lewis County. Given the negligible construction cost difference and significant overall project costs, Lewis County would request to retain the full RATA funding of $1,125,000 for this project.

If you have any questions concerning this request please contact me at (360)740-2697 or Tim.Elsea@lewiscountywa.gov.

Sincerely,

Tim Elsea, P.E.
Director/County Engineer

cc: CRP 2144 Project File

WASHINGTON STATE
County Road Administration Board
2404 Chandler Court SW Suite #240 Olympia, WA 98504-0913 www.crab.wa.gov
360/753-5989 FAX 360/586-0386

August 1, 2013

Tim Elsea, PE, Director
Lewis County Public Works
2025 NE Kresky Avenue
Chehalis, WA 98532-2626

Dear Tim,

The CRABoard, on August 1, 2013, approved your July 18, 2013 request for a scope change on your RAP funded Highway 603 (RAP # 2108-01) project. The scope change allows the county to retain the existing 40 MPH design speed on the curve located at milepost 13.21. A CRAB/County contract amendment to that effect is attached.

As there is a 45 calendar signing allowance, please have your commissioner sign all three unaltered originals of the amendment as soon as possible. Send all three signed originals to CRAB and we will return two of them to you after the CRAB Director adds his signature.

If you have any questions please feel free to call me at 360-350-6081.

Sincerely,

Randy Hart, Grant Programs Manager,
County Road Administration Board

Attached: revised Highway 603 CRAB/County contract

cc: Project file

STATE OF WASHINGTON - COUNTY ROAD ADMINISTRATION BOARD

RURAL ARTERIAL PROGRAM

PROJECT AGREEMENT FOR CONSTRUCTION PROPOSAL

AMENDMENT NO. 1

Submitting County: Lewis | Project Number: 2108-01 | Date Approved: 04/17/2008

Road Number(s)	Road Name(s)	BMP(s)	EMP(s)	Segment #
93006	HIGHWAY 603 - 2	11.700	13.420	1

This is Amendment No. 1 to the above described Project Agreement, between the County of Lewis, hereinafter the "County" and the State of Washington County Road Administration Board, hereinafter the "CRABoard."

WHEREAS, the COUNTY and CRABoard desire to amend the original Project Agreement to allow a change in project scope under the conditions described in WAC 136-165-030.

NOW, THEREFORE, pursuant to chapter 36.79 RCW and in consideration of the terms, conditions, covenants, and performance contained herein, or attached and incorporated and made a part hereof,

IT IS MUTUALLY AGREED AS FOLLOWS:

1. The following new language is added as section 7 to the Project Agreement:

Design Speed for the curve located at milepost 13.21 will remain unimproved at 40 MPH.

2. All other terms and conditions of the original Project Agreement shall remain in full force and effect except as modified by this Amendment No. 1.

IN WITNESS WHEREOF, the PARTIES hereto have executed this AMENDMENT No. 1 as of the PARTY's date last signed below.

COUNTY ROAD ADMINISTRATION BOARD:

By: _____

Date: _____

Lewis COUNTY:

By: _____

_____

_____

Date: _____

REQUEST FOR CHANGE IN SCOPE - RAP FUNDED PROJECT

COUNTY ROAD ADMINISTRATION BOARD -

(If requesting additonal RATA funds, increase request form must also be attached)

Insert Information in shaded areas.

>> Lewis County requests a change in scope to the RATA funded project listed below:

ROAD NAME: Hwy 603 RAP PROJ NO. 2108-01

BEGIN M.P. 11.70 END M.P. 13.42

RATA approved: 04/17/2008 Project RATA funds paid to the County: $ 99,555.46

Proposed milepost limits 11.70 to 13.42

>> The proposed scope change will revise the prospectus items and rating points as follows:

	Road conditions affected by Scope Change		Rating points affected by Scope Change	
	Prospectus:	Proposed	Original	Proposed
Project Length				
Design Speed				
Accident History				
Traffic Volume				
Roadway Width				
Lane / Pavement Width				
Shoulder Width				
Vertical Alignment / Grade				
Horizontal Alignment	50 mph	40 mph (1 curve)	50.07	48.40
Structural Section				

(Visual structural or surface condition points will be re-scored by CRABstaff)

Revised prospectus Worksheets and Vicinity Map are: X attached ____ to be sent to CRAB

>> The county requests this scope change because:

The curve is located in a section of the roadway adjacent to the City of Winlock where the speed limit changes from 50 mph to 25 mph. Additionally, City of Winlock Urban Growth Area extends beyond this curve and property development is more intense with tighter residential home spacing and more driveway approaches near the city limits. Property owners at the location of the curve in question have been very rigid and negotiations have come to an impasse for proposed property purchase. Given dense residential development, the major difficulties in right-of-way purchase and the proximity of the curve to a 25 mph speed zone, Lewis County proposes to reconstruct this horizontal curve at the existing alignment (40 mph), with no decrease in the proposed width of the overall project (50 mph design speed). Future speed posting through this curve area would be 35 mph to provide a logical deceleration / acceleration zone coming into or leaving the City of Winlock.

(attach additional sheets if necessary)

>> The scope changed project is or will be funded from the following secured or potential sources:

Name of funding source:	Amount:	Secured?
RATA	$ 1,125,000.00	Yes
County	$ 1,355,000.00	Yes

Total cost $ 2,480,000.00

>> Scope change request submitted by: [signature] Public Works Director or Engineer on: 7/17/13 date

http://www.crab.wa.gov/grants/SCOPE.xls

4/23/96

LEWIS COUNTY
Washington's First County
est. 1845

Lewis County Department of Public Works

Timothy R. Elsea, PE, Director / County Engineer
Rodney Lakey, PE, Assistant County Engineer

Design Evaluation Report
July 9, 2013

Agency:	**Lewis County Public Works**
Project Title:	**Highway 603 Stabilization Project**
Project No.:	**CRP 2144**

Lewis County was previously awarded RAP grant funding to complete corridor improvements on Highway 603 between mileposts 11.70 and 13.42. Planned corridor improvements include a structural cross-section of CSBC, CSTC and HMA, minor horizontal and vertical alignment improvements, increased width, and other safety improvements. The original RAP grant application included upgrading all curves to a 50 MPH design speed to meet AASHTO standards for level terrain. The design requires the acquisition of Right-of-Way at the MP 13.21 curve to meet the 50 MPH design speed horizontal standards.

Property owners at the location of the MP 13.21 curve in question have been very rigid and negotiations have come to an impasse for proposed right-of-way purchase. Given the dense residential development, major difficulties in right-of-way purchase and the proximity of the curve to a 25 mph speed zone entering the City of Winlock immediately south of this curve, Lewis County proposes to reconstruct the curve at the existing alignment (40 mph). All other proposed width, structural, and safety improvements will be constructed as proposed in the RAP grant application. Future speed posting through this curve would be 35 mph to provide a logical transitional speed zone coming into or leaving the City of Winlock.

In accordance with Chapter 42: City and County Design Standards in the WSDOT Local Agency Guidelines, this report documents and addresses Lewis County's evaluation of the curve at MP 13.21. The project, as originally proposed, involves approximately 20% vertical and horizontal alignment changes. Therefore, this project would be classified as a "3R" project in accordance with the definitions in 42.42 of the City and County Design Standards. The design matrix found in Table 1.1 of the City and County Design Standards for "3R" projects, requires the local agency to evaluate horizontal alignments to a Design Level A (AASHTO "A Policy on Geometric Design of Highways and Streets").

Road Maintenance & Traffic
476 West Main St.
Chehalis, WA 98532
360.740.3380
360.740.2741
Erik Martin, PE, Manager

Administration, Engineering, Utilities & Real Estate Services
2025 NE Kresky Ave.
Chehalis, WA 98532
360.740.1123
360.740.1479

Solid Waste Services
Post Office Box 180
Centralia, WA 98531
360.740.1451
360.330.7805
Steve Skinner, Manager

CURVE AT MP 13.21

Existing Geometric Conditions

The existing paved roadway width is 26' with 1' unpaved shoulders for a total roadway width of 28'. The Ball Bank speed for said curve is 40 MPH. This section of Hwy 603 supports an average daily traffic load of 1,160 vehicles per day.

Proposed Geometric Conditions

Widen and pave the roadway to 34' total width, two 11' lanes and 6' shoulders. Construct existing curve to a 40 MPH ASSHTO design standard. Provide guardrail and other safety devices as necessary.

Accident History

Two injury accidents have occurred at this curve location within the past last 10 years. The first accident was a collision with a fixed object (off the road) while exceeding the stated speed limit. The second, a collision with a vehicle entering from a driveway, a citation was issued for driving too fast for winter conditions. No other accidents have been reported in this area within the past 10 years.

Accident Projections with Proposed Conditions

No increases in accidents are projected as a result of the proposed 40 MPH design, since the existing curve currently ball banks at a 40 MPH curve. A reduction in accidents and severity would be expected due to the addition of shoulders and the reduction in speed limit.

Cost Comparison

The Construction cost difference would be negligible. There would be a slight reduction in clearing and grubbing, embankment, and structural fill. Right-of-Way costs would be eliminated for this curve because it will be constructed in the same alignment. The true saving will be avoiding escalating construction costs due to the delay for Right-of-Way acquisition/condemnation and the potential loss of RAP funding.

Discussion

The curve at MP 13.21 is located in the City of Winlock's Urban Growth Area. As such, future development is directed to occur within the vicinity of the curve at MP 13.21. There are five driveways in the vicinity of said curve. The density will increase as it further develops. A reduction of the speed limit to 35 MPH as a transition zone to the 25 MPH zone in the City of Winlock is further justified by the conflicts created by the approaches. The proposed 40 MPH design for the MP 13.21 curve would exceed the post construction speed limit.

The delays to this project, due to the resistance from the property owner for Right-of-Way acquisition, jeopardize the timely completion of this project as well as the RAP funding source. By constructing the MP 13.21 curve to a 40 MPH design, the need to acquire Right-of-Way in this area would be eliminated.

Therefore, after agency evaluation to ASSHTO standards, the MP 13.21 will be designed to a 40 MPH standard.

Certification: I have reviewed and approved this Design Evaluation Report and believe it to be in the best public interest.

7/30/13
Date

Tim Elsea, P.E., Lewis County Engineer