



November 18, 2013

DEC 03 2013

TO: J. Carpenter / M. Fleming
THRU: D. Whitehouse / B. White
FROM: W. Smith / K. Vaughn
SUBJECT: Contract 8127 - Snowshed to Keechelus Dam Phase 1C
State Project
Change Order No. 74 - "Wall 7 Vic. - Design Selected Alt."

Attached for your review is the HQ approved and executed Change Order No. 74 for this project.

Description of the Change: The constructability issues associated with Wall 7 have been well documented in previous change orders. This change order succeeds Change Order 67 "Wall 7 Alternative Design Analysis", which added the work of evaluating potential solutions and providing a recommended design alternative for the redesign in the vicinity of Wall 7. This change order adds the work of design engineering the selected alternative for the redesign of the Wall 7 vicinity of the project. This added design work is scheduled to occur this winter in order to allow necessary construction activities to begin in the spring. As the design progresses sufficiently, a subsequent change order will be developed to incorporate the associated construction activities into the contract.

Evolution of the Change: Since the late summer / fall of 2012, as the Contractor attempted to install soil nails for Wall 7, drastic overruns in grout quantities were encountered, as a result of unexpected voids in the subsurface material. These problems continued through the summer of 2013, in spite of several changes made in attempting to control grout loss. Compounding the problems with grout overruns, on Aug. 24th, and Sept. 10th, 2013, grout being pumped into the slope for horizontal soil nails, exited the embankment and found its way into Keechelus Lake resulting in the initiation of WSDOT's Environmental Compliance Assurance Process (ECAP).

On September 10, 2013, an internal WSDOT meeting was held, including the Project Office, SCR Const. Mgmt., Environmental Mgmt., HQ Const. Office, and the State Geotechnical Engineer. In this meeting, it was agreed that further attempts to continue construction of Wall 7 is not in the best interest of WSDOT or the Contractor. The next day, the Project Engineer sent the Contractor a letter directing them to stop all current and future work on Wall 7.

On September 11, 2013, WSDOT met with the Contractor, and agreed that work on Wall 7 will not continue, and that a change order will be written to task the Contractor with evaluating alternate solutions in the vicinity of Wall 7. On Oct. 16, 2013, Change Order 67 was executed, tasking the Contractor with providing recommendations for a new design in the Wall 7 vicinity. In the process of working with HQ Geotech, it was determined that current changes to the Geotechnical Design Manual, will enable the application of different wall design criteria from what was available in the original design. This resulted in new alternatives available for consideration that were not available in the original design. On Nov. 4, 2013, the Contractor provided WSDOT with a summary of the evaluation of alternatives and recommended proceeding with a realignment solution based on the new wall design criteria. On Nov. 6, and 7, 2013, respectively, SCR Construction and HQ Construction provided Approval to Proceed with this change order.

On Nov. 7, 2013, WSDOT sent the change order, which included identification of the selected alternative, to the Contractor for signature. This change order (C.O. 74) adds the work of engineering to design this solution.

Entitlement: Because this is added work, the Contractor is entitled to compensation for providing the engineering necessary to redesign this portion of the project, as requested by WSDOT.

Price: The effort needed to accomplish this work, and the resulting cost has been estimated based on the recommended alternative. The project office has performed an independent engineer's estimate of the level of effort required; the independent estimate confirms that the price provided by the Contractor is reasonable. This change order will compensate the Contractor, on a "Force Account" basis, for the time and materials necessary to complete the work.

Contract Time: There is no change to contract time associated with this change order. Please contact Will Smith, at (509) 577-1844, if you have any questions or comments.

WS: kv

Enclosures: Change Order # 74, Checklists

cc: SCR Const.

Change Order File

**WASHINGTON STATE
DEPARTMENT OF TRANSPORTATION
CHANGE ORDER**


DATE: 11/07/13
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CONTRACT NO: 008127 FEDERAL AID NO:
CONTRACT TITLE: I-90, SNOWSHED TO KEECHELUS DAM PHASE 1C - REPLACE
CHANGE ORDER NO: 74 WALL 7 VIC-DESIGN SELECTED ALT

PRIME CONTRACTOR: XXXXXXXXXX GUY F. ATKINSON CONSTRUCTION, LLC.
707 SOUTH GRADY WAY STE 500
RENTON WA 98057-3224

Ordered by Engineer under the terms of Section 1-04.4 of the Standard Specifications

Change proposed by Contractor

ENDORSED BY:  _____ CONTRACTOR Nov 12, 2013 _____ DATE	SURETY CONSENT: _____ ATTORNEY IN FACT _____ DATE
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ORIGINAL CONTRACT AMOUNT: 177,144,342.66
 CURRENT CONTRACT AMOUNT: 181,938,897.29
 ESTIMATED NET CHANGE THIS ORDER: 2,300,000.00
 ESTIMATED CONTRACT TOTAL AFTER CHANGE: 184,238,897.29

Approval Required: Region Olympia Service Center Local Agency



<input checked="" type="checkbox"/> APPROVAL RECOMMENDED <input type="checkbox"/> EXECUTED  PROJECT ENGINEER 11/21/13 DATE	EXECUTED:  STATE CONSTRUCTION ENGINEER 12/10/13 DATE
<input checked="" type="checkbox"/> APPROVAL RECOMMENDED <input type="checkbox"/> EXECUTED REGIONAL ADMIN:  BY: W. Brian White 11/26/13 DATE	OTHER APPROVAL WHEN REQUIRED SIGNATURE _____ DATE _____ REPRESENTING _____

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CHANGE ORDER**

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CHANGE ORDER NO: 74

All work, materials, and measurements to be in accordance with the provisions of the Standard Specifications and Special Provisions for the type of construction involved.

This contract is revised as follows:

DESCRIPTION:

This change order succeeds Change Order 67 "Wall 7 Alternative Design Analysis", which provided for the evaluation of alternatives and a recommended solution in the vicinity of Wall 7. This change order adds the work of design engineering the selected alternative for the redesign of the Wall 7 vicinity of the project, as shown in the original as-bid contract plans, which were replaced by the "All Addenda Incorporated with CRIP" plans.

This change order will be followed by subsequent change orders, which will delete that portion of the original work no longer needed, add the work needed for construction of the selected alternative, provide new pay items, and revision of existing pay items.

One new item is added as shown on page 4.

CONSTRUCTION REQUIREMENTS:

As directed by the Engineer, the Contractor shall provide the necessary redesign of the portion of the project between approximately Sta. LW 836+00 and Sta. LW 1400+00, as specified in the "Scope of Work", pages 5 thru 8 of this change order.

Contractor and Consultant "specialized service" (1-09.6 (4)) labor rates shall be provided to, and approved by the Engineer, prior to any work beginning.

MEASUREMENT AND PAYMENT:

Payment for the item "Wall 7 Vic. - Design Selected Alt." shall be in accordance with Std. Spec. Section 1-09.6, with the exception that a markup of 5% will be allowed to the design Consultant to cover the cost of billing, invoicing, and sub consultant administration. No additional reimbursement will be provided for these work activities.

Costs for the Contractor's Design Project Manager will be reimbursed; the Contractor shall provide a notarized monthly invoice certifying that the Design Project Managers hours, meet or exceed those listed on the invoice.

Payment for Contractor and Consultant "specialized services" shall be by invoice in accordance with the service rates approved by the Engineer. Each invoice provided for payment shall include a breakdown summary including the employees name, classification, pay rate, and work performed. Only direct costs will be eligible for reimbursement.

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Supporting backup documentation shall be provided with each invoice, and shall include timesheets and additional invoices for any other expenses for which compensation is being requested. Backup for all expenses shall include a break down, clearly supporting the amount of reimbursement being requested.

All travel related reimbursements shall be in accordance with WSDOT travel and per diem policies.

Exceeding the dollar amount of this change order will only be allowed with written approval of the Engineer.

CONTRACT TIME:

There is no change to contract time associated with this change order.

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CONTRACT NO: 008127				CHANGE ORDER NO: 74			
ITEM NO	GROUP NO	STD ITEM	ITEM DESCRIPTION	UNIT MEASURE	UNIT PRICE	EST QTY CHANGE	EST AMT CHANGE

1086	01		CO #74-WALL 7 VIC-DESIGN ALTERNATIVE	EST.	2,300,000.00	2,300,000.00	2,300,000.00
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2,300,000.00

***I-90 Snoqualmie Pass
C-8127 Snowshed to Keechelus Dam Phase 1C
Change Order #74 Wall 7 Vic. Design Selected Alt.
Scope of Work***

1. **PURPOSE** – The purpose of this document is to describe the scope of the selected alternative for the redesign in the vicinity of Wall 7, identify the roles and responsibilities of both WSDOT and the Contractor in the design of this alternative, the deliverables expected by WSDOT, and an agreed upon timeline for the deliverables to be completed.

2. **DESCRIPTION OF SELECTED ALTERNATIVE** – As a part of the "Wall 7 Alternative Design Analysis", the Contractor evaluated four alternatives, using WSDOT design standards. Of these alternatives, the "Lakeside Alignment" was selected as the alternative to move forward. The Lakeside Alignment includes a combination of geosynthetic wall along the lake (LE line). The geosynthetic wall will have a height of less than 30 feet, and is not required to be founded on bedrock. Reinforced rock cuts will be constructed on the hillside. This alternative eliminates Wall 7, Wall 23 and the Slide Curve Bridge. The general limits of the permanent elements of the "Lakeside Alignment" are between LW 8364 and LW 1400, although it needs to be noted that while these are the limits of the permanent work, other elements, such as MOT and temporary drainage, will extend outside these limits. For a comprehensive description of this alternative, see the "Wall 7 Redesign - Alternative Evaluation and Recommendation".

3. **SERVICES TO BE PROVIDED BY THE CONTRACTOR** – The Contractor shall provide the design engineering necessary to develop reports, supporting documents, contact plans, and specifications for the work described above, including the following:
 - a. **Level of Effort (LOE) Estimate and Deliverables Schedule:**
 - i. Summary spreadsheet listing services to be provided, along with corresponding individual job classifications, labor rates and hours necessary to complete the work described in this Scope.
 - ii. CPM schedule for this work, listing tasks with start and completion dates, milestones.

 - b. **Technical Memos and Reports:**
 - i. **Geometric Design Analysis**
 1. Analysis and recommendations on the horizontal and vertical aspects of the selected alignment.
 - ii. **Geotechnical Analysis Report**
 1. Description and summary of geotechnical investigation findings.
 2. Design assumptions for stability calculations and soil properties
 3. Design recommendations for all structures included in the selected alternative.
 4. Recommendations for constructability issues and concerns.

iii. Hydraulic Report

1. Drainage calculations and backup (Permanent and Temporary)
2. Hydraulics Report Supplement
3. Temporary Erosions Sediment Control (TESC) Plans
4. Geotechnical Design Services – Wall 7 Vic. Redesign
5. Hydraulic Report Addendum – Wall 7 Vic. Redesign
6. Drainage Operation and Maintenance Recommendations Memo
7. Narrative of Maintenance of Traffic (MOT) staging strategy.

c. Plan Sheets and Specifications:

- i. Full replacement set of plan sheets, replacing the current "All Addenda Incorporated with CRIP". All revised specifications will be included on plan sheets.
 1. A revised Summary of Quantities does not need to be included.
 2. Supplemental Q-Tabs and Structure notes will be included only for items which have changed.
 3. Plan sheets will be provided for all new or revised permanent walls.
- ii. Preliminary and Final Plan Sheet Review submittals will be packaged as follows:
 1. Geotechnical
 - a. Except for rock cuts and soil nail walls, which will be done by WSDOT.
 2. Roadway
 3. Maintenance of Traffic (MOT)
 4. Temp. Drainage
 5. Perm. Drainage
 6. Temp. Erosion & Sediment Control (TESC)
 7. Retaining Walls
 8. Misc. Structures

d. Additional Support to be Provided by the Contractor

- i. Shoring Plans and Temporary Wall Plans – These are to be provided as a Submittal; not to be included in the contract plans.
- ii. Construction Backup – Detailed quantity takeoffs for all new or revised quantities for payment.
- iii. Right of Way – Any exhibits needed to obtain additional right of way permits, as requested by the Engineer. (WSDOT will obtain all right of way permits.)
- iv. Environmental Permitting - Any exhibits needed to obtain or update necessary permits, as requested by the Engineer. (WSDOT will obtain any necessary environmental permits.)
- v. DDP and Project File – Support to WSDOT as requested by the Engineer.

ROLES, RESPONSIBILITIES, AND EXPECTATIONS

- e. All design criteria will be in accordance with the following:
 - i. WSDOT Design Manual (July 2013)
 - ii. WSDOT Geotechnical Design Manual (including updated Chapters 6 & 8, which are awaiting FHWA approval; which is expected in November 2013)
 - iii. Architectural Design will follow existing project requirements.
- f. The Contractor shall manage all sub-consultant agreements required for the completion of this change order.
- g. The Contractor shall monitor and manage activities within this scope, and inform WSDOT of any changes that affect the scope, schedule, or budget for this work. In the event that unforeseen elements are expected to cause a significant variance in the budget of this change order, the reasons for the variance will be submitted to WSDOT for review and approval prior to any changes or expenditures beyond the approved budget.
- h. The Contractor shall prepare a monthly progress report, and submit to WSDOT with the monthly invoice.
- i. The Engineer of Record (EOR) is the individual defined as being in responsible charge of the work. Responsible charge is defined as being personally responsible for the control and direction of engineering work within a professional engineer's scope of competence. The EOR shall be a Professional Engineer registered in the State of Washington. It is the responsibility of the EOR to sign and seal the appropriate documents. The EOR for this work will be the ~~Contractor, WSDOT, or WSDOT Consultants, depending upon the specific area of work.~~ **CONTRACTOR'S CONSULTANTS (JFF) 11/12/13**
- j. The WSDOT review periods for all deliverables will consist of one (1) preliminary review and one (1) final review. Each of these reviews will have a review period of two (2) weeks.

4. SERVICES TO BE PROVIDED BY WSDOT

- a. DDP and Project File – WSDOT will prepare the Supplement to the DDP and Project File.
- b. Plan Sheets (including specifications) for:
 - i. Rock Cuts and Soil Nail Wall – WSDOT, or WSDOT Consultants will be the Engineer of Record for all slope and soil nail wall design.
 - 1. In the event of conflict regarding any aspect of slope design, between WSDOT and what the Contractor's geotechnical consultant determines is appropriate, WSDOT will make the final determination.
 - ii. Illumination, Signing and ITS Plans and Details – WSDOT will make all revisions to Illumination, Signing and ITS plans and specifications, and will be the Engineer of Record.
- c. Provide all coordination necessary with property owners (agencies) to obtain the additional right of way (permits) necessary for construction of this work.
- d. Provide any necessary environmental permits (or revisions / updates) for the construction of this work.

- 5. DELIVERABLES** - The Contractor shall deliver to WSDOT, one hard copy and one electronic copy of each of the following deliverables, with the exception of Plan Sheets, which are described below:
- a. Preliminary and Final Technical Memos & Reports:
 - i. Geometric Design Analysis
 - ii. Geotechnical Report Supplement
 - iii. Hydraulics Report Supplement
 - iv. Final report submittals shall include the Contractor's written responses to WSDOT comments on the draft submittal.
 - b. Preliminary and Final supporting documents for deliverables requested by WSDOT such as:
 - i. Documents needed by WSDOT in preparation of the DDP and Project File.
 - ii. Environment Permitting maps and exhibits
 - iii. R/W maps and exhibits
 - c. Plan Sheets
 - i. Electronic – Provide a full replacement set of plan sheets, replacing the current "All Addenda Incorporated with CRIP" contract plans.
 - ii. Hard Copies – Provide hard copies of all plan sheets that have been revised.

6. SCHEDULE

- a. The Contractor shall begin work upon receipt of an executed copy of this change order; all work within this scope shall be completed by April 30, 2014.
- b. Within 30 days of execution of this change order, the work included in this Scope of Work shall be shown in the Project Schedule (a single activity bar is acceptable).
- c. Within 30 days of receipt of an executed copy of this change order, the Contractor shall submit a Quality Management Plan for the work included in this Scope of Work.
- d. Upon reaching 90% completion of this design work, the Contractor shall include the known construction activities associated with this change order work, into the Project Schedule.