



Contract Number 008818	Contract Title I-5/SR 16 Interchange – Construct HOV Connections	Federal Aid Number State
Change Order Number 001	Change Description Practical Dsgn Concept Savings	Date October 24, 2016
Region Olympic Region	Project Engineer Brenden Clarke <i>BC</i>	Phone Number 253-365-6700
Prime Contractor / Design-Builder Skanska USA Civil West California District Inc.		

- Ordered by Engineer under the terms of Section 1-04.4 of the Standard Specifications or the RFP
- Change proposed by Contractor / Design-Builder

Evolution & Description Of Change

This change order implements Practical Design Solutions that were developed during the Practical Design Workshop.

A Practical Design Workshop was held between WSDOT and Skanska to consider the cost reduction concepts that satisfy the Project’s purpose and needs. The Workshop was a combined effort where WSDOT and Skanska each brought Practical Design Concepts forward for consideration. Alternative Technical Concepts included in the Proposals of the two unsuccessful Design-Build teams were evaluated. In addition, the workshop team considered the Concepts developed by Skanska which may not have been “equal or better” to the Conceptual Plan. See Attachment A-1 for all approvals obtained regarding Design-Builder concepts developed during the ATC phase.

In addition, the workshop team reviewed concepts brought forward by WSDOT that were not fully developed nor implemented as part of the Conceptual Plan; the workshop team agreed on three Concepts below:

- Elimination of dowel bars in I-5 Mainline shoulders. Bryan Dias, Olympic Region Material Engineer, provided his approval of the change on September 20th 2016. And Jeff Uhlmeier, State Pavement Engineer, concurred with the revisions on September 29th 2016.
 - Reduction in HMA depth and addition in CSBC depth along I-5 Mainline. Bryan Dias, Olympic Region Materials Engineer, provided his approval of the change on September 21st, 2016.
 - Allow the installation of drainage crossing via an open cut crossing in lieu of trenchless method. Brenden Clarke of Fife PEO provided his approval of this change on.
- See Attachment A-2 for all approvals obtained regarding WSDOT’s concepts.

The workshop team reviewed all the concepts and collaborated to develop a list that worked well for the Skanska team.

On October 7th 2016, MaryLou Nebergall of HQ Construction provided approval of the contents of the Change Order; and Jon Deffenbacher of OR Construction provided concurrence of the contents of the Change Order.

On October 7th 2016 Brenden Clarke of Fife PEO provided concurrence of the contents of the Change Order and approval to proceed with the processing of the Change Order.

See Attachment A-3.

Distribution: Copy of Change Record & Change Order w/Backup - Project Engineer
 Copy of ONLY Change Order - Prime Contractor / Design-Builder
 Copy of Change Record & Change Order w/Backup - Region Construction Office
 Electronic Copy & Original of Change Record & Change Order w/Backup - State Construction Office

Change Record

Contract Number 008818	Contract Title I-5/SR 16 Interchange – Construct HOV Connections	Change Order Number 001
---------------------------	---	----------------------------

Basis Of Cost & Justification:

The workshop team collaboratively agreed that a total of 12 Concepts are worth pursuing. Skanska and WSDOT worked independently to approximate the savings caused by each Concept. Estimates were independently completed by the PEO and Design-Builder for each Concept during the negotiation process. WSDOT considered short-term and long-term risks applicable for each Concept as well as engineering costs related to implementing each particular Concept in order to obtain percentage savings splits. **See Attachment B** for an estimated savings of \$1,017,028.60.

In addition, the engineering cost to Skanska to develop each concept to the point that it could be included in this Change Order was estimated to be \$48,636. This value was subtracted out of the net savings.

This would equate to a net savings to the Contract of \$968,392.60.

Contract Time:

Contract Time is not affected as a result of this Change Order.

Prior Approvals:

HQ Approved, HQ executed change order.

<u>Approvals Obtained:</u>	<u>Change Approval</u>	<u>Approval to Proceed</u>
Project Engineer: Brenden Clarke	10/7/2016	
OR Construction: Jon Deffenbacher	10/7/2016	
HQ Construction: MaryLou Nebergall	10/7/2016	

List Attachments:

- Change Order No. 001 – Practical Dsgn Concept Savings
- Attachment A-1: Approvals Obtained during ATC Development Phase
- Attachment A-2: Approvals Obtained for WSDOT Concepts
- Attachment A-3: Change Order Content Approvals
- Attachment B: Independent Engineer’s Estimate
- Change Order Checklist

Distribution: Copy of Change Record & Change Order w/Backup - Project Engineer
 Copy of ONLY Change Order - Prime Contractor / Design-Builder
 Copy of Change Record & Change Order w/Backup - Region Construction Office
 Electronic Copy & Original of Change Record & Change Order w/Backup - State Construction Office

**WASHINGTON STATE
DEPARTMENT OF TRANSPORTATION
CHANGE ORDER**


DATE: 10/10/16
Page 1 of 7

CONTRACT NO: 008818 FEDERAL AID NO:
CONTRACT TITLE: DESIGN BUILD - I-5 / SR16 REALIGNMENT - HOV STRUCT
CHANGE ORDER NO: 1 PRACTICAL DSGN CONCEPT SAVINGS

PRIME CONTRACTOR: [REDACTED] SKANSKA USA CIVIL WEST CALIFORNIA
1995 AGUA MANSA RD
RIVERSIDE CA 92509-2405



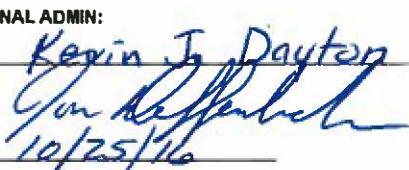
HQ Contr _____
Contract File _____
Contractor _____

- () Ordered by Engineer under the terms of Section 1-04.4 of the Standard Specifications
(x) Change proposed by Contractor

<p>ENDORSED BY:  <u>John Dodasch - J.P.</u> CONTRACTOR <u>10/10/16</u> DATE</p>	<p>SURETY CONSENT: ATTORNEY IN FACT DATE</p>
--	--

ORIGINAL CONTRACT AMOUNT: 121,575,000.00
CURRENT CONTRACT AMOUNT: 121,575,000.00
ESTIMATED NET CHANGE THIS ORDER: -968,392.60
ESTIMATED CONTRACT TOTAL AFTER CHANGE: 120,606,607.40

Approval Required: (x) Region (x) Olympia Service Center () Local Agency (x) PE

<p><input checked="" type="checkbox"/> APPROVAL RECOMMENDED () EXECUTED</p> <p> PROJECT ENGINEER <u>10/17/16</u> DATE</p>	<p>EXECUTED:  STATE CONSTRUCTION ENGINEER <u>10/25/2016</u> DATE</p>
<p><input checked="" type="checkbox"/> APPROVA RECOMMENDED () EXECUTED</p> <p>REGIONAL ADMIN: BY:  <u>10/25/16</u> DATE</p>	<p>OTHER APPROVAL WHEN REQUIRED</p> <p>SIGNATURE _____ DATE _____ REPRESENTING _____</p>

**WASHINGTON STATE
DEPARTMENT OF TRANSPORTATION
CHANGE ORDER**

DATE: 10/10/16
Page 1 of 7



CONTRACT NO: 008818 FEDERAL AID NO:
 CONTRACT TITLE: DESIGN BUILD - I-5 / SR16 REALIGNMENT - HOV STRUCT
 CHANGE ORDER NO: 1 PRACTICAL DSGN CONCEPT SAVINGS

PRIME CONTRACTOR: 951751673 SKANSKA USA CIVIL WEST CALIFORNIA
 1995 AGUA MANSA RD
 RIVERSIDE CA 92509-2405

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

Change proposed by Contractor

Zurich American Insurance Company/Fidelity and Deposit Company of Maryland, Liberty Mutual Insurance Company, Federal Insurance Company, The Continental Insurance Company, Berkshire Hathaway Specialty Insurance Company

ENDORSED BY:  CONTRACTOR DATE: 10/10/16	SURETY CONSENT:  ATTORNEY IN FACT C.K. Nakamura DATE: October 12, 2016
---	---

ORIGINAL CONTRACT AMOUNT: 121,575,000.00
 CURRENT CONTRACT AMOUNT: 121,575,000.00
 ESTIMATED NET CHANGE THIS ORDER: -968,392.60
 ESTIMATED CONTRACT TOTAL AFTER CHANGE: 120,606,607.40

Approval Required: Region Olympia Service Center Local Agency PE

<input type="checkbox"/> APPROVAL RECOMMENDED PROJECT ENGINEER DATE	<input type="checkbox"/> EXECUTED EXECUTED: STATE CONSTRUCTION ENGINEER DATE
<input type="checkbox"/> APPROVAL RECOMMENDED REGIONAL ADMIN: BY: DATE	<input type="checkbox"/> EXECUTED OTHER APPROVAL WHEN REQUIRED SIGNATURE DATE REPRESENTING

**WASHINGTON STATE
DEPARTMENT OF TRANSPORTATION
CHANGE ORDER**

DATE:10/10/16
Page 2 of 7

CONTRACT NO: 008818

CHANGE ORDER NO: 1

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:

This Change Order revises the Contract by implementing Practical Design Solutions that were developed during the Practical Design Workshop. The Design-Builder shall implement the Concepts included in this Change Order during final design and construction of the Project.

Documents are revised as follows:

The second bullet of Section 2-02.3(3) of the Standard Specifications is supplemented with the following:

"In addition, existing pavement may be left in place provided that a minimum cover of 2' is between the top of existing pavement elevation and bottom of the surfacing course."

Request For Proposal (RFP) Section 2.7.3.1.1, Page 2.7-2, Line 19 through Page 2.7-4 Line 11 are deleted and replaced with the following:

"On all ramps with PCCP, corrosion-resistant dowel bars shall be spaced on 1-foot centers. The first dowel bar shall be placed 1.0 foot from the panel lane edge and continue across the ramp lane. The number of dowel bars will vary based on ramp taper and width.

I-5 Mainline and HOV

The pavement depths of all new PCCP for all I-5 lanes and shoulders shall be as follows:

- 1.08 feet PCCP with corrosion resistant dowel bars, over
- 0.25 foot HMA Class 1/2inch, PG 64-22, over
- 0.45 foot CSBC.

The pavement depths of all Unbonded Overlay of PCCP for all I-5 lanes and shoulders shall be as follows:

- 1.0 foot PCCP overlay with corrosion resistant dowel bars, over
- 0.15 foot HMA Class 1/2-inch, PG 64-22 interlayer, over
- Existing PCCP.

The pavement depths of all widening adjacent to Unbonded Overlay of PCCP for all I-5 lanes and shoulders shall be as follows:

- 1.0 foot PCCP overlay with corrosion resistant dowel bars, over
- 0.15 foot HMA Class 1/2-inch, PG 64-22 interlayer, over
- 0.35* foot HMA Class 1/2-inch, PG 64-22, over
- Remaining existing pavement after removal to accommodate this proposed section.

*Removal and replacement of less than 0.35 feet of HMA may be allowed only if pavement cores verify that adequate existing asphalt thickness exists such

**WASHINGTON STATE
DEPARTMENT OF TRANSPORTATION
CHANGE ORDER**

DATE: 10/10/16
Page 3 of 7

CONTRACT NO: 008818

CHANGE ORDER NO: 1

that the competency of this layer can be verified.

Mainline dowel bar spacing shall be as follows; lane numbering begins with the right lane and increases to the left:

- Lane 1 (truck lane): 13 corrosion-resistant dowel bars per transverse joint. The first dowel bar shall be placed 1.0 foot from the panel lane edge spaced on 12-inch centers. The right panel (truck lane) shall be constructed 14 feet wide and striped at 12 feet see Standard Plan A-40.10-03).
- Lane 2: 11 corrosion-resistant dowel bars per transverse joint. The first dowel bar shall be placed 1.0 foot from the panel lane edge spaced on 12-inch centers (see Standard Plan A-40.10-03).
- Non-truck and HOV lanes (lanes 3, 4, and HOV): eight corrosion-resistant dowel bars per transfer joint, four in each wheel path. The first dowel bar shall be placed 1.0 foot from the panel lane edges spaced on 12-inch centers.
- No dowel bars shall be placed across the full shoulder width.

HOVSW Line

The pavement depths for these lanes and shoulders shall be as follows:

- 0.92 foot PCCP with corrosion resistant dowel bars; over
- 0.25 foot HMA Class 1/2-inch, PG 64-22; over
- 0.45 foot CSBC.

These depths apply from STA 26+58 to 33+40.

FWS and WEW Lines

The pavement depths for these lanes and shoulders shall be as follows:

- 1.08 foot PCCP with corrosion resistant dowel bars; over
- 0.25 foot HMA Class 1/2-inch, PG 64-22; over
- 0.45 foot CSBC.

CD and FNEW Lines

The pavement depths for these lanes and shoulders shall be as follows:

- 1.00 foot PCCP with corrosion resistant dowel bars; over
- 0.25 foot HMA Class 1/2-inch, PG 64-22; over
- 0.45 foot CSBC.

WN Line Ramp

A section of the right WN Line shoulder was paved with HMA near the existing I-5 bridge and retaining wall that will be removed as a part of this Project. This portion of HMA shoulder shall be removed and replaced with an 8-foot wide PCCP shoulder. The pavement depth for this shoulder shall be as follows:

- 0.95 foot PCCP with corrosion resistant dowel bars; over
- 0.25 foot HMA Class 1/2-inch, PG 64-22; over
- 0.30 foot CSBC.

The HMA widening outside of the left WN Line PCCP shoulder shall remain. Any damaged HMA shall be replaced and the gutter system maintained.

**WASHINGTON STATE
DEPARTMENT OF TRANSPORTATION
CHANGE ORDER**

DATE:10/10/16
Page 4 of 7

CONTRACT NO: 008818

CHANGE ORDER NO: 1

WE38 Line

The pavement depths for these lanes and shoulders shall be as follows:

- 0.85 foot HMA Class 1/2 -inch, PG 64-22, over
- 0.75 foot CSBC.

HOVSW, HOVNW, HOVWN, HOV16, and EWS Lines:

The pavement depths for these lanes and shoulders shall be as follows:

- 0.75 foot HMA Class 1/2-inch, PG 64-22, over
- 0.70 foot CSBC.

For the HOVSW Line, these depths apply from STA 33+40 to 43+02.

For the HOV16 Line, these depths apply to the section south of Bridge No. 16/SHOV.

RFP Section 2.13.4.1.14, Page 2.13-13, Lines 21 to 25 are deleted and replaced with the following:

"The Design-Builder shall not use steel finger expansion joints on new bridges. All expansion joints shall be watertight. Longitudinal expansion joints shall not be used on new bridges, except as specified for the HOVSW Line Bridge. The maximum skew for expansion joints on new bridges, in exception to the LN Line Bridge, shall be 30 degrees as measured with respect to a line perpendicular to the centerline of the bridge deck. The maximum skew for expansion joints on the LN Line Bridge shall be 30 degrees as measured with respect to a line perpendicular to the centerline of the bridge deck, unless special details addressing potential deck stress concentrations and cracking are utilized, in which case the maximum skew may be 45 degrees."

RFP Section 2.13.4.4.1, Page 2.13-16, Lines 20 through 22 are deleted and replaced with the following:

"Drain pipes shall be ductile iron pipe or fiberglass reinforced plastic pipe. Ductile iron pipe exterior surfaces shall be prime painted in the shop in accordance with Section 6-07 of the Standard Specifications and shall be field coated with intermediate, strip, and finish coats after installation. Fiberglass plastic pipe shall be pigment dyed by the pipe manufacturer. Fittings and accessories shall be pigmented to match the pipe."

RFP Section 2.16.4.3, Page 2.16-3, Lines 30-33 are deleted and replaced with the following:

"All light standards located within the High-Mast Type Luminaire Corridor(s) as shown on the Illumination Zone Plan shall use 50-foot mounting heights and High-Mast style luminaires. Luminaires installed along SR16 may be mounted at 40-feet, to match mounting height of adjacent existing equipment to be reused. All other light standards shall use 30-foot or 40-foot mounting heights and Cobra-Head style luminaires."

RFP Section 2.16.4.3, Page 2.16-4, Lines 1-5 are deleted and replaced with the following:

"Existing light standard foundations and poles along SR16 may be re-used if properly located and provided they have the necessary base type (slip or fixed). All other existing light standards scheduled for removal shall also

**WASHINGTON STATE
DEPARTMENT OF TRANSPORTATION
CHANGE ORDER**

DATE: 10/10/16
Page 5 of 7

CONTRACT NO: 008818

CHANGE ORDER NO: 1

include complete removal of the existing foundation, conduit sweeps, and all wiring. Existing conduit can be abandoned in place after removal of conductors and conduit elbows."

RFP Section 2.16.4.4, Page 2.16-6, Lines 29-35 are supplemented with the following:

"In addition, the Design-Builder shall install a new luminaire on eastbound SR16 within the limits west of the existing sign bridge and east of Cedar Street bridge in order to eliminate any shadow produced by the sign bridge, and stabilize the average illumination, uniformity and veiling luminance values."

RFP Section 2.19.3.3.17, Page 2.19-7, Lines 19-20 are removed and replaced with the following:

"Two cantilevers shall not be substituted for a sign bridge. A cantilever shall not be substituted for a sign bridge that is shown in the Conceptual Plans; except the overhead guide sign for the S. 38th street exit, located on the WEW Line, may be placed on a special design monotube cantilever structure."

RFP Section 2.22.3.3.4, Page 2.22-6, Lines 7 through 16 are deleted and replaced with the following:

"Temporary emergency pullouts shall be provided through all phases of the Project on segments where shoulder widths are less than 8 feet for sections longer than 2,000 feet in length, except during temporary lane shift(s) on the EWN16 Line. The minimum emergency pullout width shall be 14 feet from the edge line for a minimum of 150 feet in length, not including transitions. The approach transitions shall be made at 15:1 or greater. The departure transitions shall be made at 25:1 or greater. The emergency pullouts shall have a paved surface, and shall not be subject to ponding or other weather-related conditions that could render them ineffective. Emergency pullouts shall be located on the right side of the travel lanes. Advance signing shall be provided 0.25 mile in advance of the approach transition, and an R8-7 "Emergency Stopping Only" sign shall be installed adjacent to the emergency pullout."

RFP Section 2.22.4.5.1, Page 2.22-26, Lines 25 through 26 are deleted and replaced with the following:

6) Sawcuts and open trenches across roadways will be allowed to install drainage crossings along the CD line, provided a full concrete panel is replaced and dowel bars are installed to tie into adjacent panels. For all other Work, no saw cuts or open trenches across roadways will be allowed unless the roadway will be paved full width.

The Project Design Criteria of the HOVSW Line, included in the Document Appendix O8, is modified to include a Design Speed of 40 mph.

RFP Appendix T1, Page 4, Section 2.0 shall be removed and replaced with the following:

**WASHINGTON STATE
DEPARTMENT OF TRANSPORTATION
CHANGE ORDER**

DATE: 10/10/16
Page 6 of 7

CONTRACT NO: 008818

CHANGE ORDER NO: 1

Light Standards shall be limited to the following mounting heights (H1) depending on luminaire wattage:

250W HPS (or LED equivalent): 30 ft (Refer to Note 1)

400W HPS (or LED equivalent): 40 ft (Refer to Note 2)

750W HPS (or LED equivalent): 50 ft (Refer to Note 3)

- Note 1: May be increased to 40 ft in special circumstances
- Note 2: May be increased to 50 ft in special circumstances
- Note 3: May be reduced to 40 ft along SR16 from the western project limits to the beginning of the 'No Lighting Zone' at Sprague Ave. to match mounting height of adjacent existing equipment.

Light Standard Luminaire Arms shall only be of the following lengths:

Single Arms

- 12 ft (maximum for structure mounted)
- 16 ft

Double Arms

- 8 ft (maximum for structure mounted)
- 12 ft
- 16 ft

50 ft poles with double arms must be protected fixed base or cast in place barrier mount only in accordance with Note 3 of the Standard Plans J-28.10.

Permanent high mast lighting (mounting heights over 50 ft) is not approved for use in Olympic Region.

Measurement:

No specific unit of measurement will apply to the new lump sum item, "CO#001-Contract Value Reduction".

Payment:

"CO#001 - Contract Value Reduction", lump sum. This lump sum value of \$968,392.60 will be full compensation to WSDOT for the implementation of the Practical Design Solutions.

Upon endorsement of this Change Order and unless otherwise noted in the Contract, the Design-Builder shall be responsible for all costs and/or delays of any nature associated with the implementation of the Practical Design Concepts described herein.

**WASHINGTON STATE
DEPARTMENT OF TRANSPORTATION
CHANGE ORDER**

DATE: 10/10/16
Page 7 of 7

CONTRACT NO: 008818				CHANGE ORDER NO: 1			
ITEM NO	GROUP NO	STD ITEM	ITEM DESCRIPTION	UNIT MEASURE	UNIT PRICE	EST QTY CHANGE	EST AMT CHANGE

1001	01		CO#001 - CONTRACT VALUE REDUCTION - CREDIT ITEM L.S.		0.00	0.00	-968,392.60
------	----	--	--	--	------	------	-------------

-968,392.60

CHANGE ORDER-CHECKLIST

Cont. #: <u>008818</u> Cont. Title: <u>L5/SR 16 Interchange - Construct HOV Connections</u> C.O. #: <u>001</u> C.O. Title: <u>PRACTICAL DSGN CONCEPT SAVINGS</u>	If yes, State Construction Office Approval Required.
I. Executed by the State Construction Office	
1. Cost or credit equal to or exceeding \$500,000. *1, *3	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. Change in the contract documents beyond the scope, intent or termini of the original contract. *2	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3. Any proposed revision or deletion of work that affects the condition of award requirements. (Must be coded "CO" in CCIS, Includes changes to goal or commitment)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
4. Change in contract time greater than 30 working days, or a change in contract time not related to any change order. *1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
II. Executed at the Region (Per Delegation)	
5. Determination of impacts and/or overhead.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6. Change to Contract Provisions or Standard Plans.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7. Material or product substitution. (Excludes materials associated with Std. Specification Sections 6-07, 8-01, 8-02, 8-12, 8-18 & 8-20)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
8. Structural design change in the roadway section. (Requires concurrence from designer)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9. Determination of changed condition. (Section 1-04.7 of the Standard Specifications)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
10. Settlement of a claim. (Section 1-09.11(2) of the Standard Specifications)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
11. Repair of damage regarding "acts of God" or "acts of the public enemy or of government authorities". (Section 1-07.13 of the Standard Specification)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
12. Structural change to structures.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Approvals obtained:

Project Engineer: <u>Brenden Clarke</u>	Date: <u>10/07/2016</u>
Region: <u>Jon Deffenbacher</u>	Date: <u>10/07/2016</u>
State Construction Office: <u>Marylou Nebergall</u>	Date: <u>10/07/2016</u>
Other (Local Agency, FHWA, Surety, etc.): _____	Date: _____

To be completed by the Project Engineer :

CO Reason(s) (See "2008 Codes & Definitions" on State Construction Office web page): AB 01 IP AW DS

Change Order Prepared By: Joyce J Khoury Date: 10/10/2016

Is this project under full FHWA stewardship oversight (Project Of Division Interest)? *1 Yes No

To be completed by the Region :

Is the change eligible for Federal participation where applicable? Yes No

Change Order Reviewed By: Pam Clover Date: 10/24/2016

This form represents the minimum information required by the State Construction Office. If you wish to supplement this information, you may do so on a separate sheet of paper.