### Evolution & Description Of Change

Bridge 5-456E was designed with a twenty foot wide shoulders. The shoulder widths were used as conveyance for the storm water in addition to the break down traffic. The shoulders on the bridge had the capacity to contain the water until entering the storm sewer system off the ends of the bridge.

Through the implementation of practical solutions during design of the “Southbound HOV” project, the northbound bridge will carry the new southbound HOV lane in the final configuration. This configuration will make use of all available width on the northbound bridge including most of the shoulders width. With traffic taking up the shoulders, the storm water has to be put into a closed storm sewer. Two options were considered, not put the south bound traffic on the north bound bridge or add a storm sewer. The chosen solution is to add the storm sewer. Due to the amount of time for designing the storm sewer system and getting the plans to the Contractor prior to pouring the bridge deck, the additional work is split into three change orders. The storm sewers under the bridge are in this change order. The bridge drains and the storm sewer off the bridge were addressed separately.

The Engineer of Record could not have anticipated the addition of south bound traffic on the north bound bridge during the design of this project.

The Bridge and Structures Office provided new and revised plan sheets and specifications for the addition of storm sewer under bridge 5-456E.
## Change Record

<table>
<thead>
<tr>
<th>Contract Number</th>
<th>Contract Title</th>
<th>Change Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>008670</td>
<td>I-5 Portland Avenue to Port of Tacoma Road-Northbound HOV</td>
<td>201</td>
</tr>
</tbody>
</table>

### Basis of Cost & Justification:

The Engineer’s estimate of $1,001,907.53 (attachment C) is based on similar work performed on the I-5 SR16 Interchange East Bound Nalley Valley HOV project. The prices were calculated using force account methods as described in Section 1-09.6. The agreed price of $999,864.00 is justifiable when compared to the Engineer’s estimate.

The Project Engineer determined, in accordance with Section 1-04.4, that an equitable adjustment is warranted for the additional work to add storm sewer pipe under bridge 5-456E.

### Contract Time:

Contract time is not affected by this change to add storm sewer pipe under bridge 5-456E as it will not impact the critical path of the Contractor’s progress schedule.

### Prior Approvals:

Marco Foster, ASCE, and Dave Ziegler, ARCE, and Brenden Clarke, Project Engineer, approved the change on November 6, 2017 (attachment D).

### List Attachments:

- (A) Checklist
- (B) Change Order 201
- (C) Engineer’s Estimate
- (D) Approvals

### 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

Revised 7/15
WASHINGTON STATE  
DEPARTMENT OF TRANSPORTATION  
CHANGE ORDER  

DATE: 12/12/17  
Page 1 of 13

CONTRACT NO: 008670  
FEDERAL AID NO:  
CONTRACT TITLE: I-5, PORTLAND AVENUE TO PORT OF TACOMA ROAD - NORT  
CHANGE ORDER NO: 201  
5-456E STORM SEWER  

PRIME CONTRACTOR: SW0017141  
HAMILTON CONSTRUCTION CO.  
PO BOX 659  
SPRINGFIELD  
OR 97477-0121

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

ENDORSED BY:  

SURETY CONSENT:  

CONTRACTOR:  
12/13/17

DATE

ORIGINAL CONTRACT AMOUNT: 134,709,929.50  
CURRENT CONTRACT AMOUNT: 141,278,038.22  
ESTIMATED NET CHANGE THIS ORDER: 999,854.00  
ESTIMATED CONTRACT TOTAL AFTER CHANGE: 142,277,952.22

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

☐ APPROVAL RECOMMENDED  
☐ EXECUTED

PROJECT ENGINEER:  
12/20/17

DATE

EXECUTED:  

STATE CONSTRUCTION ENGINEER:  
1/16/18

DATE

☐ APPROVAL RECOMMENDED  
☐ EXECUTED

REGIONAL ADMIN:  
BY: John Wynands  
12/25/17

DATE

OTHER APPROVAL WHEN REQUIRED

SIGNATURE

DATE

REPRESENTING

CG02v04 (revised Feb 2005)
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:
The Work consists of modifying the wing wall on Pier 7 of bridge 5-456E as shown on page 4 of this change order modifying the crossbeams of Piers 5, 6, 8, and 9; and constructing storm sewer lines as shown on pages 5 through 13 of this change order and connecting to the drainage structure noted as DR5B-49. The work includes engineering, surveying, painting pipe, anchors, hangers, restraints, excavation and backfill, furnishing and installing storm sewer pipe and appurtenances. Plan sheet BG78 (935) is replaced with page 4 of this change order. Plan sheets BG172B (1028B) through BG172J (1028J) are added to the Contract with pages 5 through 13 of this change order.

MEASUREMENT:
No specific unit of measure will apply to the lump sum item for all work related to modifying the bridge piers and for all work related to furnishing and installing the storm sewer under bridge 5-456E to drainage structure noted as DR5B-49.

PAYMENT:
"CO-201, 5-456E Storm Sewer", lump sum.
The lump sum price for "CO-201, 5-456E Storm Sewer" shall be full pay for all work related to modifying the bridge piers and for all work related to furnishing and installing the storm sewer bridge 5-456E to drainage structure noted as DR5B-49 as described herein.

CONTRACT TIME:
Contract time for physical completion is not adjusted for the Work in this change order.
<table>
<thead>
<tr>
<th>ITEM NO</th>
<th>GROUP NO</th>
<th>STD ITEM</th>
<th>ITEM DESCRIPTION</th>
<th>UNIT MEASURE</th>
<th>UNIT PRICE</th>
<th>EST QTY CHANGE</th>
<th>EST AMT CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1093</td>
<td>02</td>
<td></td>
<td>CO-201, 5-456E STORM SEWER</td>
<td>L.S.</td>
<td>0.00</td>
<td>0.00</td>
<td>849,864.00</td>
</tr>
<tr>
<td>1093</td>
<td>10</td>
<td></td>
<td>CO-201, 5-456E STORM SEWER</td>
<td>L.S.</td>
<td>0.00</td>
<td>0.00</td>
<td>150,000.00</td>
</tr>
</tbody>
</table>

999,864.00

************
PLAN
CURTAIN WALL DETAIL

LEFT CURTAIN WALL SHOWN.
RIGHT CURTAIN WALL SIMILAR. SEE DETAIL D.

SECTION E
CROSSBEAM REINFORCING NOT SHOWN FOR CLARITY

SECTION F
CROSSBEAM REINFORCING NOT SHOWN FOR CLARITY

GIRDER STOP DETAIL
SEE "GIRDER STOP DETAIL" BR. SHT. both FOR ADDITIONAL INFORMATION.

SECTION G

SECTION H
1. CONJ. joint with roughened surface

PORTLAND AVENUE TO PORT OF TACOMA ROAD - NORTHBOUND HOV PLURALIP RIVER BRIDGE NO. 5456
PIER 7 DETAILS
ELEVATION - RUN #1

* NOT ALL DRAINS AND FITTINGS ARE SHOWN

* SLOPE IS MEASURED AS RISE OVER RUN ALONG STH STA.
ANCHOR DETAIL

TYPICAL PIPE RUN ELEVATION

SECTION @ TYPICAL HANGER

NOTES

1. CONCRETE INSERTS SHALL BE COPPER D-LINE 3031, P.AUERSTEIN P.S. 344, OR UNISTRUT P.S.255.

2. INSERT ANCHORS SHALL HAVE A MINIMUM SPACING BETWEEN 4" AND 30". INSERT ANCHORS SHALL BE STEEL-PLATED OR SHEAR-PLATED STEEL WITH A MINIMUM ZINC THICKNESS OF 40 Microns.

3. CHANNEL SEAMS SHALL BE COPPER D-LINE 302, P.AUERSTEIN P.S. 154, OR UNISTRUT P.S.500.
**LEDGER DETAIL**

- 1/8" H.S. BOLT
- 1/8" HOLE
- W/ NUT AND WASHERS
- MUST BE SHUV TOGETHER

**SECTION @ BRACED HANGER**

- L 3½ x 3½ x ¾ OR L 3½ x 3½ x ¾ BRACE
- MAY BE FIELD CUT AND DRILLED
- REPAIR GALLIZING WITH GALVANIZING REPAIR PAINT
- SEE LEDGER DETAIL

**STRUT DETAIL**

- L 3½ x 3½ x ¾ STRUT
- HEX HUT (TYP.)
- DRAW PIPE & 1/8" BOLT

**VIEW A**

- GALVANIZING AT FIELD WELDS SHALL BE REPAIRED WITH GALVANIZING REPAIR PAINT.

**VIEW B**

- SEE STRUT DETAIL
### Change Order Checklist

<table>
<thead>
<tr>
<th>Cont. #: 008670</th>
<th>Cont. Title: 1-5 Portland Avenue to Port of Tacoma Road-Northbound HOV</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.O. #: 201</td>
<td>C.O. Title: 5-456E Storm Sewer</td>
</tr>
</tbody>
</table>

#### I. Executed by the State Construction Office

1. Cost or credit equal to or exceeding $500,000. *1, *3
2. Change in the contract documents beyond the scope, intent or termini of the original contract. *2
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)
4. Change in contract time greater than 30 working days, or a change in contract time not related to any change order. *1

- [x] Yes  [ ] No
- [ ] Yes  [x] No
- [ ] Yes  [x] No
- [ ] Yes  [x] No

#### II. Executed at the Region (Per Delegation)

5. Determination of impacts or/and overhead.
7. Material or product substitution. (Excludes materials associated with Std. Specification Sections 5-07, 8-01, 8-02, 8-12, 8-18 & 8-20)
8. Structural design change in the roadway section. (Requires concurrence from designer)
9. Determination of changed condition. (*Section 1-04.7 of the Standard Specifications*)
10. Settlement of a claim. (*Section 1-09.11(2) of the Standard Specifications*)
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*)
12. Structural change to structures.

- [x] Yes  [ ] No
- [ ] Yes  [x] No
- [ ] Yes  [x] No
- [ ] Yes  [x] No
- [x] Yes  [ ] No

---

**Approvals obtained:**

<table>
<thead>
<tr>
<th>Project Engineer: Brendan Clarke</th>
<th>Date: 11/6/2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region: Dave Ziegler</td>
<td>Date: 11/6/2017</td>
</tr>
<tr>
<td>State Construction Office: Marco Foster</td>
<td>Date: 11/6/2017</td>
</tr>
<tr>
<td>Other (Local Agency, FHWA, Surety, etc.):</td>
<td>Date:</td>
</tr>
</tbody>
</table>

---

**To be completed by the Project Engineer:**

**CO Reason(s) (See "2008 Codes & Definitions" on State Construction Office web page):** AF...01...UC...DS...AW

Change Order Prepared By: Daniel Jones

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

**To be completed by the Region:**

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

Change Order Reviewed By: Terese Ogan

Date: 10/27/17

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*1 Change (Cost or Credit) greater than $200,000 or greater than 30 days on Projects Of Division Interest (PODI) requires FHWA approval. (see Construction Manual - Chapter 1-00.10, Chapter SS1-04.4, and State Construction Office web page)

*2 Per RCW 47.28.050, any change beyond $7,500 that is beyond the original scope shall go through the competitive bidding process.

*3 Engineering error changes over $500,000 requires reporting (See reporting instructions & template on State Construction Office web page)

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.

DOT Form 422-003

Revised 06/2016