

# Appendix D

## CRBA – Interfaces with Other Work Packages

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### 1.1. Summary

Between mid-January and early March of 2014, Kevin Bracy of David Evans and Associates implemented a collaborative interface management plan as part of his scheduling work to identify and plan for contract interface issues on the Columbia River Crossing First Phase Project. The focus of the work was on the design and construction interfaces between the Columbia River Bridges and Approaches (CRBA) Package and the adjacent Mainland Connector Bridge and Approaches (MC), Marine Drive Interchange Reconstruction (MD), Washington Transit (WT), Park-and-Ride Garages (PR), and Transit Systems (TS) Packages. Interface issues between contracts ranged in complexity and risk from CRBA providing transit design submittals at required milestone dates to the CRC Project for coordination with the Transit Systems Design Team, to a construction interface where CRBA would be completing a bridge abutment by a set date, so MC can then construct a portion of their project, before turning the bridge back over by a set date for CRBA to finish constructing the bridge.

It was assumed that without proper management of the CRC Project contract interfaces the risk of contractor construction claims for delays or additional compensation would increase.

### 1.2. Status of Work

On March 14, 2014, ODOT announced plans to close down the CRC First Phase Project and to archive and catalogue all work products. At that point the interface work to identify and plan for the interfaces was roughly half done. The southern and northern boundaries of the CRBA Package had been defined and work was beginning on identifying the next level of interface issues at the boundaries such as traffic control, utilities, roadway, and drainage.

Shown here is an outline of the documentation work that was completed for the interfaces:

#### **CRBA Interface Documentation:**

CRBA Interface documentation work completed has been catalogued into the CRBA Interface Documentation Folder. This folder contains this Interface Work Status Memo and seven sub-folders:

1. CRBA Interface Tracking Spreadsheet
2. Interface Exhibits

3. Schedule
4. Concept Staging Plans
5. Interface Meeting Agendas and Summary Notes
6. CRC Interface E-Mails
7. Old Misc Interface Docs

### **1 – CRBA Interface Tracking Spreadsheet:**

This folder contains the tracking spreadsheet that was used to identify and track the CRBA interface issues and also contains a sub-folder with old outdated spreadsheets.

The tracking spreadsheet was developed with column headers based on ODOT's 2008 Oregon Standard Specifications for Construction and row headers based on locations of the CRBA Package. The spreadsheet also contained worksheet tabs at the bottom of the sheet to capture interface issues on the MC, WT, and PR that were identified and could be worked on at a later date during the development of those Packages.

The spreadsheet is up to date with the interface work done thru March 7, 2014, with the status of each issue included.

### **2 – Interface Exhibits:**

This folder contains the exhibits used at the interface workshops to facilitate and plan for the interface issues and document decisions made. The majority of the work done in February of 2014 was to identify the southern package boundaries between CRBA and the MC and MD Packages. See these exhibits that graphically display the Package boundaries:

- InterfaceExhibits-HIeast.pdf
- InterfaceExhibits-HIwest.pdf
- InterfaceExhibits-MD.pdf
- InterfaceExhibits-SR14.pdf

Also contained in this folder are the CRC First Phase design exhibit and the CRC Primary Work Area Packages showing each of the Packages in the CRC First Phase Project which are very useful when discussing CRC Project interface issues.

### **3 – Schedule:**

This folder contains a PDF of the CRC Project Baseline Schedule with a data date of 2-28-24 printed 3-14-14 (in progress) and the Schedule Basis of Assumptions document with a couple select schedule exhibits highlighting interface dates and a folder for old schedule

documentation. Work was still in motion on the schedule to finalize it before the project was to be closed, but it was believed that there wouldn't be any further work on the interface activities.

Many of the interfaces identified in the tracking spreadsheet are included in the schedule. Activity predecessors and successors are included along with text in the activity name to identify it as an interface issue. Please see CRBA CONSTRUCTION INTERFACE TURNOVER DATES.pdf that highlights high level interface issues on the CRBA Package.

Interface scheduling work that was in motion as the CRC Project was shutting down was to coordinate the design activities between Transit Systems and CRBA and adjacent Packages (see TRANSIT SYSTEMS DESIGN INTERFACE 2-13-14.PDF). Work needed to be done to coordinate CRBA designs with the adjacent Packages.

#### **4 – Concept Staging Plans:**

This folder contains the Conceptual Staging Plans. These conceptual plans outline a feasible sequential approach to construction of the CRC First Phase project that in late February early March was just being brought into general alignment with the Master Schedule. Agency QC review of the Concept Staging Plans was not performed prior to CRC Project March 2014 closure as work was still in motion to update the plans with the current schedule. Work had just been completed to graphically display construction activities in the proper stages and phases to be in alignment with the schedule, but worked stopped midway thru updating the text in the notes to accurately describe the work.

#### **5 – Interface Meeting Agenda and Summary Notes:**

This folder contains the meeting agendas and summary notes from the CRBA Interface Workshops conducted in January and February of 2014. These would be very helpful to understand the complexity of the interface issues.

#### **6 – CRC Interface E-Mails:**

This folder contains Kevin Bracy's CRC Interface related e-mails.

#### **7 – Old Misc Interface Docs:**

This folder contains outdated versions and back-up documents for the interface work.

## **1.3. Known Issues/Gaps**

### **1.3.1 Outstanding Work**

Had the CRC Project had not been stopped on March 9, 2014, interface work would have continued to further define and plan for the CRBA contract interfaces with the adjacent packages. Once the scope and schedule for each interface was completed, text would be developed by the CRBA Request for Proposals Team to be included in the CRBA RFP document to plan and manage the interface issue. When development would have started on the other Packages, work would have been conducted on each of those Packages to manage the interfaces throughout the CRC Project.

## **1.4. History, Milestones, and Key Decisions**

### **1.4.1 Key design decisions made**

Key to the development of the interface work between CRBA and both the MC and MD Packages were the decisions to establish the southern boundary of CRBA at key structural points of four bridges and three roadway alignments. The work to define the northern boundary of CRBA with WT and PR in detail to understand the interface issues had not yet been completed before the shut-down.

Details of the CRBA's southern boundaries can be found in the Interface Exhibits folder and the Interface Meeting Agenda and Summary Notes folder.

## **1.5. Evaluation of Future Utility**

If development of the CRC Project First Phase Project was to start again it is recommended to first confirm the scope and schedule of the new project. If the project is similar to the March 2014 CRC First Phase Project divided into packages, then the boundaries could again be confirmed using the existing information in the CRBA Interface Documentation folder as a guide. After the scope of each package and schedule to deliver each package is understood, work would then be performed to coordinate the interfaces between the different contracts.

A feasible approach to re-starting the Interface Management work between packages on the CRC First Phase Project would be to first review the Conceptual Staging Plans and Schedule together to better understand how each of the packages might overlap. Once the interface points are understood, compare the identified interfaces to the ones currently shown in the Interface Tracking Spreadsheet and exhibits to identify and actively manage the interfaces.