MOWAT-AMERICAN, A JOINT VENTURE

SUBMITTAL

DATE: Tuesday, July 09, 2013

SUBMITTAL #: 585-037.01 REVISED

TO: Washington State Department of Transportation
9025 El Capitan Way
Everett, WA 98208

Attention: Bryan Dabbs

RE: SR 520 West Connection Bridge
WSDOT Contract # 8432
Federal Aid # BR-0520(051)

VIA: FAX / U.S. MAIL / COURIER / OVERNIGHT / **E-MAIL** / ON-SITE OFFICE

COPIES	BID ITEM	SPEC	DESCRIPTION	FOR
	18, 19, 20, 26	6-02	Concrete Containment Plan Rev01	Approval

Remarks: Please contact the undersigned with any questions
Thank you.

Signed *Nathan Lightner*

Nathan Lightner, Project Engineer
Mowat/American, A Joint Venture

cc:

APPROVED
AS NOTED
WASHINGTON STATE
DEPT. OF TRANSPORTATION
DATE 7/15/2013
BY for JOHN LITS
PROJECT ENGINEER

A COPY OF ECO-PAN'S PERMITS AND APPROVALS WILL NEED TO BE SUBMITTED TO WSDOT PRIOR TO CONCRETE / HIGH PH WASTE BEING REMOVED FROM THE JOB SITE.

SEE 2012 STANDARD SPECIFICATIONS 2-03.3(7)C

20210 142nd Ave NE, PO Box 1330, Woodinville, WA 98072
Phone: (425) 398-0205 Fax: (425) 398-0226

Concrete Containment and Disposal Plan

SR 520 West Connection Bridge
MP 1.96 to MP 2.33

WSDOT Contract Number 008432

Prepared by

WSDOT Prime Contractor: Mowat-American, a JV

WSDOT Prime Contractor, Project Manager:

Brock Lindsay

WSDOT Prime Contractor, Superintendents:

Ethan Turner (Bridge) and Rod Gowdy (Marine)

Date: July 9, 2013

MOWAT/AMERICAN, a JV, SHALL MAINTAIN A COMPLETE, UPDATED COPY OF THIS PLAN IN AN ACCESSIBLE LOCATION ON THE PROJECT SITE AT ALL TIMES.

WSDOT Project Chief Inspector: Bryan Dabbs
- Office Phone: (425) 225-8740
- Cell Phone: (206) 478-9696

** WSDOT Project Chief Inspector: Please forward electronic versions of WSDOT and Contractor updated versions of electronic Project Plans and final versions of Project schedules to TBD (TBD Name @wsdot.wa.gov) where a copy will be filed for future WSDOT site inspections.

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INTRODUCTION

This plan consists of measures that identify how fresh concrete, residue and slurry will be contained, collected and disposed by the Prime Contractor (Mowat-American, a JV) during concrete-related construction activities. This plan shall be updated throughout the Project, so that it reflects actual site conditions and practices. As operations change or new procedures are introduced throughout the project; WSDOT will be notified with a modified plan for containment. The Prime Contractor shall fully implement this Concrete Containment and Disposal (CCD) Plan, and keep an updated copy of it at the Project site.

No on-site construction activities that generate residue, slurry or fresh concrete may commence until WSDOT reviews and accepts this project-specific CCD Plan. The Prime Contractor will implement the stated containment, collection and disposal measures during the following concrete-related activities at the Project Site:

- Drilled Shaft construction
- Cast-in-place Column and Cross-Beam construction
- Bridge Diaphragm, Closure and Deck construction
- Existing Curb, Rail base and Railing demolition

CCD PLAN IMPLEMENTATION REQUIREMENTS

Containment measures will be in-place prior to the start of all concrete, grinding, drilling and/or saw-cutting operations at the Project Site. The Prime Contractor shall provide immediate slurry, residue and fresh concrete collection during all concrete-related operations.

Concrete, grinding, drilling and/or saw-cutting work will be discontinued if slurry, residue and/or fresh concrete recovery/collector devices have become inoperable or inadequate (as determined by the WSDOT Engineer). Fresh concrete, residue and slurry will not be allowed to drain across and onto the existing SR-520 bridge structure. No discharge of fresh concrete, slurry or residue to surface waters and wetlands will be allowed.

To the maximum extent practicable, storm water shall be kept separate from fresh or uncured concrete and concrete process water. Rain water that may come in contact with green concrete during cure will be planned for and allowed for collection in Baker Tanks or similar. The waters pH will be tested and treated with dry ice if it is outside the acceptable range of 6.5 -8.5 per the pH procedure plan. No on-site disposal of slurry, residue and/or fresh concrete and concrete water will be allowed.

Every new and specific placement or demo operation listed above for this project will undergo an initial Pre-con to describe the operation and unique containment needs specific to that operation. Attendees will include any subcontractors, project management and WSDOT personnel for the project.

RESPONSIBLE PERSONNEL

The designated Erosion & Sediment Control (ESC) Lead(s) for this Project will be responsible for ensuring compliance with all requirements stated in this Plan. The ESC Lead(s) is:

- Ethan Turner (ESC Lead, Primary)
  (206) 786-5227
  Ethan.turner@mowatco.com

- Nathan Lightner (ESC Lead, Alternate #1)
  (206) 743-4523
  Nathan.lightner@mowatco.com

PROJECT AND SITE INFORMATION

This Contract provides for the improvement of SR-520 in King County between MP 1.06 to MP 2.33, West Connection Bridge, by constructing a new pre-stressed concrete girder bridge alongside the existing SR-520. The construction site is on the North side and West-end of the SR-520 Bridge on Lake Washington.

DISCHARGE PREVENTION METHODS

The following methods to prevent discharge of slurry, residue and/or fresh concrete will be implemented (per each concrete-related activity listed on page 3):

- DRILLED SHAFT CONSTRUCTION
  - Wattles or another Engineer-approved containment device will be installed where the shaft casing meets the deck of the drill work platform to prevent slurry, mud, and new concrete from entering State Waters. Tarps will be deployed to cover and/or catch slurry material and prevent it from entering State Waters.
  - Portable containment pools will be placed under any hose joint during disconnection to catch residual concrete/slurry that may run out of the hose. Hose openings will not be allowed to lay flat on the deck. Open hose ends need to be propped up to prevent residual concrete/slurry spillage. Valves will be installed in the concrete hose/line to allow convenient shut-offs when not in use.
  - Designated Wash-Out areas for concrete-delivery equipment (trucks, pumps – Eco Pans or similar) **and tools must be "sealed" to prevent any** drainage of concrete, slurry and residuals to the State Waters.
  - Water-tight curbing **or "containment walls" will be installed** on work barges, work trestles, and walkways, and work platforms, and formwork soffit systems to prevent concrete, slurry, residuals and/or sediments from **entering State Waters. These "containment walls" shall be of sufficient** height, but not less than 10 inches in height, to effectively contain runoff water, slurry water and sediment water where applicable. Platforms will be prepped and cleaned between each move to prevent any events during transport.
  - Lidded or covered Eco pans and drums will be utilized for storage onsite.
  - Slurry and sediment loaded onto receiving barges will not be overfilled to the point where material overflows directly back to the lake. Barges will be staged as close to the work that will allow. Spin off containment box during soil excavation will be dumped regularly to prevent over filling. The foreman and operator will visually ensure that barges and containment boxes are not overfilled.

- Grout pumps will be staged in containment areas during use and cleaned up after use.
- Concrete line cleaning will be conducted by hand on the waste bin barges or other contained areas to minimize potential releases. Grout followed by water, and then a final sponge "rabbit" will be pushed through the concrete line to ensure removal of all concrete within the line for line maintenance and prevention of line failures after each pour.
- Grout pumps will be cleaned by scraping all accessible grout off reachable surfaces followed by lightly washing the remaining residue and materials into the Eco-pan or equivalent.
- Any grout ingredients and equipment and/or cement bags not to be used shall be covered up and/or put away in covered storage areas and will be removed from the lake as soon as they are no longer needed.
- The grout mix plant will be installed on a barge with water tight temporary curb of sufficient height to capture any potential spills or equivalent.
- Prior to shaft casings being cut off to their final elevation, they will be cleaned via vacuum and/or pumping to prevent slurry compound or fresh concrete from entering the waters of the state.

- COLUMN AND CROSS-BEAM CONSTRUCTION
  - Visual monitoring of the concrete forms and all concrete equipment for leaks during any concrete pour operation.
  - Where there is potential of concrete drips or spills, Eco-Pans (or similar containment) and bermed plastic sheeting will be deployed to catch. Tarps will be deployed to cover and/or catch slurry material and prevent it from entering State Waters.
  - Portable containment pools will be placed under any hose joint during disconnection to catch residual concrete/slurry that may run out of the hose. Hose openings will not be allowed to lay flat on the deck. Open hose ends need to be propped up to prevent residual concrete/slurry spillage. Valves or air cuffs will be used on the concrete hose/line to allow convenient shut-offs when not in use.
  - Designated Wash-Out areas for concrete-delivery equipment (trucks, pumps) will be taken off site for clean out. Pump trucks will clean out into concrete trucks and/or Eco-pans for disposal.
  - Water-tight curbing or "containment walls" will be installed on work barges, work trestles, and walkways, and work platforms, and formwork soffit systems to prevent concrete, slurry, residuals and/or sediments from entering State Waters. These "containment walls" shall be of sufficient height, but not less than 10 inches in height, to effectively contain runoff water, slurry water and sediment water.
  - Storage containers will be staged in areas of secondary containment or have lids to prevent overfilling or spillage.
  - Any grout ingredients and equipment and/or cement bags not to be used shall be covered up and/or put away in covered storage areas and will be removed from the lake as soon as they are no longer needed.
  - The grout mix plant will be installed on a barge with water tight temporary curb of sufficient height to capture any potential spills or equivalent.
  - Lidded or covered Eco pans and drums will be utilized for storage onsite.

- Concrete buckets will also have a secondary containment of a tarp or similar to catch any drips etc. accumulating during use; these items will be kept installed during work activities to prevent leakage or drips while in operation. Wash out of concrete placement aids will be done offsite or on a barge with additional concrete containment until next use.
- Concrete line cleaning will be conducted by hand on the waste bin barges or other contained areas to minimize potential releases. Grout followed by water, and then a final sponge "rabbit" will be pushed through the concrete line to ensure removal of all concrete within the line for line maintenance and prevention of line failures after each pour.
- Grout pumps will be cleaned by scraping all accessible grout off reachable surfaces followed by lightly washing the remaining residue and materials into the Eco-pan or equivalent.

- BRIDGE DIAPHRAGM, CLOSURE AND DECK CONSTRUCTION
  - Visual monitoring of the concrete forms and all concrete equipment for leaks during any concrete pour operation.
  - Where there is potential of concrete drips or spills, Eco-Pans (or similar containment) and bermed plastic sheeting will be deployed to catch. Tarps will be deployed to cover and/or catch slurry material and prevent it from entering State Waters.
  - Portable containment pools will be placed under any hose joint during disconnection to catch residual concrete/slurry that may run out of the hose. Hose openings will not be allowed to lay flat on the deck. Open hose ends need to be propped up to prevent residual concrete/slurry spillage. Valves and/or air-cuffs will be installed in the concrete hose/line to allow convenient shut-offs when not in use.
  - Designated Wash-Out areas for concrete-delivery equipment (trucks, pumps) and tools must be "sealed" to prevent any drainage of concrete, slurry and residuals to the State Waters.
  - Water-tight curbing or "containment walls" will be installed on work barges, work trestles, and walkways, and work platforms, and formwork soffit systems to prevent concrete, slurry, residuals and/or sediments from entering State Waters. These "containment walls" shall be of sufficient height, but not less than 10 inches in height, to effectively contain runoff water, slurry water and sediment water.
  - Storage containers will be staged in areas of secondary containment or lids to further contain leakage or prevent overfilling.
  - Any grout ingredients and equipment and/or cement bags not to be used shall be covered up and/or put away in covered storage areas and will be removed from the lake as soon as they are no longer needed.
  - The grout mix plant will be installed on a barge with water tight temporary curb of sufficient height to capture any potential spills or equivalent.
  - Lidded or covered Eco pans and drums will be utilized for storage onsite.
  - Concrete buckets will also have a secondary containment of a tarp or similar to a pan to catch any drips etc. accumulating during use; these items will be kept installed during work activities to prevent leakage or drips while in operation. Wash out of concrete placement aids will be

done offsite or on a barge with additional concrete containment until next use.

- Concrete line cleaning will be conducted by hand on the waste bin barges or other contained areas to minimize potential releases. Grout followed by water, and then a final sponge "rabbit" will be pushed through the concrete line to ensure removal of all concrete within the line for line maintenance and prevention of line failures after each pour.
- Grout pumps will be cleaned by scraping all accessible grout off reachable surfaces followed by lightly washing the remaining residue and materials into the Eco-pan or equivalent.

- EXISTING CURB, RAIL-BASE AND RAILING DEMOLITION
  - Dust and grinding residue generated during concrete demolition work will be sprayed down and the slurry water captured/vacuumed into water-tight storage containers.
  - Water use during saw-cutting and drilling work will be captured/vacuumed into water-tight storage containers.
  - Storage containers will be staged in areas lined (secondary containment) to further contain leakage.
  - Tarps will be deployed to cover and/or catch slurry material at the work area to prevent it from entering State Waters.
  - Lidded or covered Eco pans and drums will be utilized for storage onsite.
  - In the event incidental debris enters the waters of the State during demolition, it will be removed immediately as approved by the Engineer. A boat will be available on-site for retrieving debris from the water.

- GENERAL ITEMS
  - Concrete process water will be contained by water tight curbing or equivalent and pumped to covered water tight barge-mounted waste bins such as Baker tanks.
  - Process water pH will be checked and addressed if needed per the pH procedure plan to with the range of 6.5 - 8.5 inclusive.
  - Concrete forms will be sealed to the furthest extent possible utilizing caulking and/or expanding foam. Secondary containment will be accomplished via tarps, plastic sheeting or other as aforementioned.
  - Concrete pours will be tarped or covered with plastic sheeting to protect the concrete from adverse weather.
  - Concrete with less than 7 days of cure will be wrapped or tented with plastic to prevent rain water contact.
  - Slam valves or equivalent will be installed on all concrete pump lines for emergency cut-off capability.

OFF-SITE DISPOSAL METHOD

No on-site disposal of slurry, residue and/or fresh concrete and concrete water is allowed. Contained slurry, residue and/or fresh concrete and concrete water will be transferred into lidded or covered drums and Eco pans. Drums and Eco pans will be stored onsite onboard the floating equipment. Fully or partially loaded drums and Eco pans will be swapped out for empty ones offsite. Disposal of the contents will be

by Eco-pan of Washington @ 12573 SE Green Valley Rd, Auburn, WA 98092.

* PROVIDE COPIES OF PERMITS AND APPROVALS FOR ECO-PAN BEFORE WASTE IS HAULED OFFSITE.

CONTAINMENT AND DISPOSAL FAILURE CONTINGENCIES

The typical contingency to prevent a failure is to increase the amount or number of containment devices being used. For example: Regular monitoring of the "containment walls" on the work barge discovers that the "wall" is failing. Contingency will be to immediately replace the section of "wall" with the same device, or add a section of "wall" behind/outside for additional containment aid.

To further aid in spotting and recognizing potential failures; jobsite personnel will be required to incorporate environmental inspections with their required job safety walks. In addition environmental compliance will be incorporated into activities and operation planning through Job Hazard Analysis (JSA). Success in implementation of environmental controls will be held to foreman and job site superintendents during pre-planning which will develop specific methods to be used and discussed with all project team members at Pre-con meetings held onsite prior to new operations. At this time locations, staging of equipment involved in operation, BMP's and access with be discussed and pointed out to develop the methods of containment for the operation. Once project team agrees to the containment necessary a plan diagram will be generated if determined necessary for installation and or further approval.

In the event of failure of the concrete containment and disposal plan work operations will cease at the location of the failure and WSDOT will be allowed to access the cause of the problem. Appropriate steps will then be taken by the contractor(s) to correct the problem and prevent further containment and disposal failure.

In the event of a discharge of oil, fuel or chemicals into State waters, or onto land with potential for entry into State waters, the contractor(s) will begin containment and clean up efforts immediately and complete them as soon as possible. This work will take precedence over normal work. Contractor(s) cleanup activities will include estimation of amount of material spilled, estimation of how much material was recovered and proper disposal of any spilled material and used clean up materials. Visual monitoring for floating debris (trash, oil sheen, etc.) will be conducted and boats will be available during construction for debris retrieval.

EDUCATION AND ACKNOWLEDGEMENT

The Prime Contractor will provide written acknowledgement from required personnel and/or their subcontractors that they have read, understand, and will comply with the requirements of this Plan. The personnel and subcontractor acknowledgement section will be updated as needed throughout the life of the contract.

A project-specific orientation will be conducted for all employees and subcontractors. Emphasis will be place on proper initial reporting to project staff, discharge prevention, secondary containment, training on discharge recognition, prevention planning and techniques, and proper storage.

Near miss reporting will be used similar to that of safety hazards to help initiate and remind the importance of maintaining secondary containment and constant clean up after operations.

Mowat-American, a JV will continually educate all personnel and onsite subcontractor(s) through:

- Subcontractor Orientation
- Employee Orientation
- Weekly Safety/Environmental Meetings
- Reporting of lessons Learn/Near Miss
- Job Hazard Analysis (JSA) specific to individual operations

PLAN APPROVAL

This Concrete Containment and Disposal (CCD) Plan is supported by the executives, project manager and the superintendents of Mowat-American, a JV, having the authority to commit the necessary resources, including labor, equipment, and materials, to expeditiously control and remove any harmful quantity of fuel, petroleum product or hazardous materials spilled or released to the waters or land of the State of Washington.

_____ _____

Date

Brock Lindsay
Project Manager
Mowat-American, a JV

_____ _____

Date

Ethan Turner
Bridge Superintendent
Mowat-American, a JV

_____ _____

Date

Rod Gowdy
Marine Superintendent
Mowat-American, a JV

CONCRETE CONTAINMENT AND DISPOSAL PLAN ACKNOWLEDGEMENT FORM (TO BE SIGNED BY ALL PROJECT PERSONNEL)

This is to certify that I have read this Project CCD Plan and understand its contents. I have attended a Project orientation meeting discussing the elements of this CCD Plan and the safety and health hazards associated with concrete-related operations to be performed at this Project. Failure to comply with the requirements contained in this Plan may result in my removal from the Project.

PRINT NAME	SIGNATURE	DATE