

November 3, 2017

Re: DECC Seawall Rehabilitation Bid No. 17-0596 – Addendum #2
AMI Project # 161080

- The majority of the quantities on the bid form have been adjusted. Contractor shall refer to new Bid Form uploaded to Bid Express for additional information.
- Electrical General Question: The use of a NEMA 3R Stainless Steel open bottom enclosures will be acceptable instead of NEMA 4X as specified.
- Due to the tight funding schedule and completion deadline, no additional time will be provided for bidding.
- The concrete abutment for MN Slip Pedestrian Bridge is independent of the dock wall. The contractor shall provide additional protection and care to prevent any damage to the bridge foundation.
- Could you please advise when the project will be awarded?
 - City Council approval will be requested on November 20, 2017. If approved, a notice to proceed can be issued once the City receives and approves the contractor's signed contracts, payment and performance bonds, and insurance.
- Will any of the materials supplied for the project be exempt from Sales Tax?
 - Only the materials purchased directly by the city will be exempt.
- The partial demolition of the existing concrete cap & installation a new double channel wale in-lieu of attaching the new sheet pile to the concrete dock cap is currently not approved by the State Historic Preservation Office (SHPO). The contractor is to bid the project as shown in the construction documents. Value engineering could be performed after a contractor has been awarded the project but may not be allowed. Drawings C1.1 & C1.2 showed the cap to be removed but have been updated because the concrete cap will remain in place.
- The plans call for SPWEC240C for the bituminous mix. Can we use a SPWEB240C mix instead?
 - Yes, SPWEB240C is an approved equivalent mix.
- Can you please provide a detail or some clarity on the 8" wide curb? There is a key note 17 where it is called out, but that "17" is never shown anywhere on the plans.
 - This is no longer used. The updated plans and quantities on the bid form have been uploaded to Bid Express to reflect this change

- The contractor is responsible for providing additional coating material for repairs and touchups. The coating for repairs and touch-ups shall be same product as what was initially installed.
- The required material testing for the project will be coordinated through AMI Consulting Engineers. Additional information can obtain by contacting Chase Dewhirst at (715)718-2193 ext. 17 or chase.dewhirst@amiengineers.com.
- Under Section 033000 – Cast-In-Place Concrete, Section 3.9 Field Quality Control, are the Inspections and tests in subsections C. and D. to be performed by a testing agency (see Section 3.9.B) engaged by the Contractor or the agency engaged by the Owner referred to in 3.9.A?
 - The company performing the required testing shall be coordinated by the Engineer performing the construction Oversight, AMI Consulting Engineers.
- If only the Base Bid is selected, the existing curb, gutter and roadway shall be protected during the duration of the project. The existing sidewalk along the project limits/Harbor Drive will be removed but not reinstalled along the majority of Harbor Drive. The access platforms to the Irvin, the concrete walkways between station 8+50 to 12+08, Vista loading platforms, and the lower concrete Vista Loading platform are the concrete walkways to be reinstalled.
- The required civil concrete flatwork for Add Alt #1 include the reinstallation of the curb & gutter since it was removed for the installation of the bike path. The required concrete flatwork includes extending the concrete access platforms to the Irvin out to the newly installed bike path.
- The required civil concrete flatwork for Add Alt#2 include the reinstallation of the concrete sidewalks along Harbor Drive which were removed as part of the Base Bid.
- The existing concrete cap from station 0+00 to 6+02 is not to be removed. The existing cap is to be reused as shown in the structural plan set. Sheets C1.1 & 1.2 have been updated to reflect this.
- DECC personnel will be available to assist with relocation of the Irvin. DECC personnel will slack lines/chains but the contractor is responsible for physically moving the vessel as well as ensuring proper mooring and separation from new dock wall during construction.
- The contractor is responsible for collection of snow from the project limits and loading the snow in City owned haul trucks. The City will be responsible for hauling the snow from the project site.
- The contractor shall submit a Welding Procedure Specification (WPS) and welder certifications in accordance AWS D3.6 prior to any underwater structural welding.
- \$1,000 per calendar day liquidated damages will begin to occur on June 2, 2018 for base bid work. If alternates are selected, the City of Duluth / DECC will develop an agreed upon completion date for the alternates.

- Where will the owner be storing their purchases material onsite?
 - The material purchased by the City will be either stored at the DECC, Lot D (empty lot between Pier B Hotel & Compass Mineral/North American Salt Facility), or empty lots near the intersection of Garfield Ave & W. Railroad Street. The contractor to responsible for transporting the material from the storage area to the project site.
- Is there any information available for the Irvin regarding the camel design?
 - The City/DECC does not have any specific information regarding the vessel for the camel design but information is readily available thru multiple sources.
- Are there any restrictions on the Irvin Placement?
 - The expectation is that the Irvin will be located in MN Slip during the construction due to the deterioration of the existing dock wall. The vessel can be pushed to the opposite side of the slip as long as the existing structures on the other side are protected. However, the contractor shall provide adequate space for operation of the marina on the opposite side of MN Slip by May 1st, 2018. A bathymetric map of MN Slip has been provided to assist with the placement of the Irvin.
- The contractor is responsible for painting the specific items in the construction documents. The items to be painted include but is not limited to new steel rails, bollards, safety ladders, and MN Slip Pedestrian gate.
- Will the tie-rod and timber fender elevation be raised if water elevation stays high?
 - The final elevation of the tie-rods and timber fenders will be addressed at the time of construction. However, contractor is not expected to install tie-rods of components of the timber fenders below the waterline.
- Are the timber fender clips supposed to be coated after installation?
 - The fender clips can be coated prior to installation and touched-up after attachment to the dock wall or completed coated after installation. Any coating damaged due to welding on either face of the sheet pile shall be repaired according to the coating manufacturer's recommendations.
- Is a turbidity curtain required on the project?
 - A turbidity curtain will be required if the contractor performs an activity which results in suspended material in the water column outside the face of the new sheet pile dock wall.
- The quantity of Contaminated Material to be properly disposed of offsite (Bid Item# 1.48) has been updated to 4,000 CY to reflect the estimated quantity in the Response Action Plan (RAP).
- The City will provide additional materials beyond the minimum required to be installed by the contractor. The additional materials allow for any slight misalignment of the new dock wall. Any additional materials beyond the amount provide by the City (including coatings) shall be provided by the contractor at no additional cost to the City. Any excess materials purchased by the City shall be property of the City of Duluth. The quantity provided by the City and the quantity to be installed are broken down below:
 - Steel Sheet Pile:
 - a. Required Installation Amount = 1,218 lineal feet or 54,810 square feet
 - b. Amount Provided = 1,227 lineal feet or 55,215 square feet

- W14x120 Transfer Beam:
 - a. Required Installation Amount = 1,103 lineal feet
 - b. Amount Provided = 1,140 lineal feet
- HP10x42 Piling:
 - a. Required Installation Amount = 4,020 lineal feet
 - b. Amount Provided = 4,140 lineal feet
- 3/8" Thick Steel Dock Cap:
 - a. Required Installation Amount = 1,378 lineal feet
 - b. Amount Provided = 1,400 lineal feet
- An additional line item has been added to the bid form for common excavation (Bid Item#1.51). The bid item accounts for the contractor excavating to the elevation of the timber decking from station 0+00 to 9+85 and one foot below the tie-rod elevation of 603.1' from station 9+85 to 12+08. The sorting and disposal of miscellaneous debris encountered during the excavation shall be considered an incidental as part of the common excavation bid item. The removal and disposal of the existing timber decking shall be considered an incidental to Bid Item#1.12: "3/4" Vibro Compacted Crushed Stone."
- The removal of existing piles for the installation of vertical H-piles shall be considered an incidental cost to Bid Item#1.3: Steel H-Pile – Installation.
- The handling and disposal of contaminated materials shall be completed in accordance to the Response Action Plan (RAP) provide as a reference in the project specifications.
- Although preferred by the City, the contractor is not held to the Buy American Act.
- An additional line item (Bid Item# 1.52) has been added to the bid form to account for the geotextile fabric between the vibro compact 3/4" crushed stone & granular fill.
- The contractor is expected to remove all of the timber decking board of the existing relieving platform for the installation of the 3/4" vibro compacted crushed stone. The removal and disposal of the boards shall be considered an incidental to Bid Item# 1.12: 3/4" Vibro Compacted Crushed Stone.
- The contractor is responsible for clearing the driving lane prior to installation of the sheet pile dock wall. Clearing of the drive lane shall be considered an incidental cost include in Bid Item#1.1. This has been included as part of the required permits which are currently being obtain by AMI Consulting Engineers.
- Bid Item#A1.14: "Pedestrian Ramps" requires the contractor to furnish and install concrete in the specified areas. The required truncated dome (warning plates) are to be include in Bid Item# A1.16.
- Will the 8" wide curb required doweling into the existing concrete?
 - No
- Will a NPDES permit be required? Does C4.1 to C4.6 constitute the SWPPP for this project?
 - A NPDES permit will be required and C4.1 to C4.6 will constitute the SWPPP.

- The steel sheet pile provided by the City are 45 feet long. A maximum cut off height of one foot is allowed for a final installation length of 44 feet. See cut sections on S2.1 & S2.2 for additional information.
- If required by the contractor, lifting holes or holes for safety chains shall be the responsible of the contractor and shall be considered an incidental cost to Bid Item #1.1. If installed, the holes shall be located within the top one foot of the sheet pile.
- The contractor is responsible for furnishing and installing Headed Concrete Anchors (HCA's) on the backside of the sheet pile. These items as well as repairs to damaged coating caused by the welding process shall be considered incidental costs to Bid Item #1.1.
- Will the Contractor be allowed access to the ship to facilitate movement of the ship away from work area?
 - Access will be permitted to Contractor when accompanied by DECC personnel.
- Will transfer beams (W14x120) come with weep holes installed and connecting hardware for beam splices?
 - No, transfer beams (W14x120) will only include the steel member. Contractor shall provide weep holes and connecting hardware for beam splices.
- If the city of Duluth passes the discussed sales tax increase, will a change order be issued for the affect it will have on this contract?
 - A change order will not be issued if the City of Duluth passes the discussed sales tax increase.
- Is the bid item "Demolition 1 LS" to cover necessary removal of wood piling/decking/cribbing?
 - Bid Item #1.27 "Building Removal" is for the removal and disposal of the existing Vista Fleet Building. See "Pre-Demolition Hazardous Materials Survey – Vista Fleet Building" for additional information.
 - An additional line item (Bid Item #1.50) has been added to the Bid Form for the demolition of the existing dock wall. Bid Item #1.50 shall only account for the required demolition of the existing dock wall for the installation of the new sheet pile dock wall approximately between stations 7+30 to 9+72. The removal & disposal of the timber deck shall be including as an incidental in Bid Item#1.12 "3/4" Vibro Compacted Crushed Stone". See Bid Item breakdown for additional information.
- Is the concrete shown around the outfalls part of the "Concrete Fill" quantity or is it incidental to the outfalls?
 - The concrete shown around the outfalls is incidental to the outfalls.
- Are the Vista Building utilities fed from inside the DECC with shutoffs? City engineering was not sure on how they are fed and how to disconnect them.
 - Contractor shall coordinate with DECC and City Engineering concerning disconnecting utilities. It is currently understood that all utilities and shutoffs are fed from the DECC.

- The spec for bollards on sheet S0.0 lists two types of bollards, but says all bollards from station 0 to 6+70 shall be model S1547. It seems all bollards fall into that station range, so are all bollards just the model S1547 and there isn't any model 1352?
 - Correct. Bollards between STA 0+00 and 6+70 are model S1547. There are no additional bollards between STA 6+70 and STA 12+08.
- Can mobilization bid items be added for each alternate? There are scopes and trades of work that are only in some of the alternates.
 - Mobilization costs shall be included in the bid items for the respective scopes and trades in each alternate.
- Is there an overall site plan that visually depicts the base bid, alt 1, and alt 2 sidewalk areas?
 - No. The breakdown has been uploaded to bid items addresses the base bid, alt 1, and alt 2 areas in greater detail.
- Is guardrail part of this bid? If so what bid item should it be a part of?
 - Yes, Bid Item #1.11 is for steel guardrails.
- Referring to detail 1/S2.0 and the vibro compacted rock. There is a note "remove existing timbers for placement of 3/4" rock", do we need to remove all timber planking or just as required to achieve the rock placement?
 - All timber planking shall be removed and considered an incidental to the 3/4" crushed stone bid item.
- It would be very beneficial if it could be written into the coating bid that they need to provide a volume of their coating material to this contract for touch ups, as well as a touch up procedure. With the coating bid having the choice of 4 different products, we want to have the same product that ends up getting chosen for us to do touch ups.
 - General Contractor for construction shall use the exact same coating material for touchup work as used by the coating contractor for the coating of the steel sheet piling. Coating contractor is not required to provide a volume of their coating material to this contract. Contractor will be notified of coating material selected.
- Under what bid item is the Concrete Pavement (Roadway Concrete) to be paid? Drawing C1.1 – C1.3.
 - C1.1 – C1.3 are demolition plans and the Concrete Pavement (Roadway Concrete) removal work will fall under Add Alternate 1 – Bid Item A1.6.
- In lieu of saw-cutting or demoing slots in the existing concrete cap for the installation of tie-rods and anchors from station 0+00 – 6+02, can the contractor remove and dispose of the concrete cap in its entirety? Is this cost to be carried in bid items 1.4 and 1.5?
 - Contractor shall bid the Work between stations 0+00 to 6+02 as detailed in the construction documents. Value engineering proposals may be considered post-

bid. Reference Bid Item# 1.49 for linear feet of concrete core drilling for wall anchorage and Tie-rods.

- Our count for the 7/8" Tie Rod Wall Anchors is 67 each. Drawings indicate that they are to be 8'-4" +/- in length. This would represent a quantity of 559 LF. Bid quantity is 320 LF. Is the bid quantity correct?
 - Detail 2 on drawing S2.0 indicate that the 7/8" wall anchorage is spaced horizontally at 8'-4" +/- on center.
- Bid item 1.9 is for "Double Channel Wale (Two C12x30)". Bid quantity is 1,218 LF. The description would lead me to believe that it would be paid by the wall foot of wale installed. The bid quantity specified is closer to the total length of C12x30 required. I believe we are to install waler from Sta 6+30 – 12+08 for a total of 578 Wall feet. This would mean 1,156 LF of C12x30. Can you clarify if the bid item will be paid by the wall foot or by the LF of C12x30 material installed?
 - Bid quantity has been revised to reflect a double channel wale wall length of 616 LF. There will be no double channel wale between stations 0+00 and 6+02.
- The quantity of Bid Item#1.43: "Planter Box-Ret Walls & Stairs" have been updated and change to reflect cubic yards of concrete.
- There are 4 ramps with a note "see structural" on C2.2 & C2.3. There are footings, walls and flatwork. What line item or items do these fall under? Unit prices?
 - The retaining walls fall under Bid item #1.19 whole the concrete slab fall under Bid Item#1.41. See bid breakdown letter for additional information.
- All 3/4" vibro compacted crushed stone shall conform to MnDOT Standard Specification section 3137 and meet the gradation requirements of Coarse Aggregate Designation 2 according to table 3137-4. Aggregate type shall be class B.
- In the area of the work zone where cribbing is set back 18' from existing sheet pile wall and the use of a crane or excavator is prohibited within 30 feet of that edge, can we place our equipment into both lanes of Harbor Drive?
 1. Will Harbor Drive be allowed to be closed for the duration of sheeting installation?
 - a. Please reference drawing "G0.0 – Restricted Area Drawing" for equipment, material storage as well as lane closures.
 2. Do concrete pavement quantities need to be adjusted if equipment will be working in the southwest lane?
 - a. Contractor shall protect concrete surfaces throughout project duration. If equipment damages concrete street surfaces, then Contractor will be responsible for restoring concrete surfaces to pre-construction conditions.
 3. This might also affect pavement marking quantities.

- a. Contractor shall protect pavement markings throughout project duration. If equipment damages pavement markings, then Contractor will be responsible for restoring pavement markings to pre-construction conditions.

City of Duluth standard payment terms are net 30.

If you have any questions or comments, please contact City of Duluth purchasing at purchasing@dulthmn.gov.

Respectfully Submitted,



Chase Dewhirst, PE
Asst. Marine Engineering Manager

November 3, 2017

Re: DECC Seawall Rehabilitation Bid No. 17-0596 – Bid Form Breakdown

AMI Project # 161080

I. BASE BID – New Sheet Pile Seawall & Minimal Civil Development

- **Item # 1.1: Steel Sheet Pile Bulkhead – Installation**
 - i. Contractor is responsible for the installation & handling of PZC18 by 45'-0" long coated steel sheet pile (SSP) within the specified location & alignment tolerances. Incidentals include but is not limited to (1) transportation of SSP from storage location to the jobsite, (2) threading the SSP together, sheets will be delivered to the storage location as singles, (3) furnishing and install driving template, (4) trimming the top of the sheet pile, one foot maximum, (5) furnishing and installing headed concrete anchors (HCA's), (6) miscellaneous connectors & sheet alterations at wall bends & at either end of construction limits, (7) touch-up of damaged coating, (8) clearing of the driving lane, (9) installation of lifting and holes in tops of sheets, if required, and (10) furnishing submittals.
- **Item# 1.2: Transfer Beam over H- Piles – Installation**
 - i. Contractor is responsible for the installation & handling of W14x120 at the specified location. Incidental costs shall include but not limited to (1) transportation of steel beam from storage location to the jobsite, (2) trimming of beam to proper length, (3) furnishing and installing steel attachment plates & stiffeners, (4) attaching the beam to the vertical H-Pile, (5) installing weep holes at specified locations, (6) furnishing and installing plates and bolts at splice locations, and (7) furnishing all necessary submittals.
- **Item#1.3: Steel H-Piles – Installation**
 - i. Contractor is responsible for the installation & handling of HP10x42 within the specified location & alignment tolerances. Incidental costs shall include but not limited to (1) transportation of H-Pile from storage location to the jobsite, (2) trimming of H-pile to final length, if allowed, (3) assistance with performance of pile load tests, including splicing additional pile length, (4) demolition, removal, and disposal of existing structures that interfere with the installation of the pile, and (5) furnishing all necessary submittals.
- **Item#1.4: Tie-Rods (1-3/4" Diameter, 75 ksi)**
 - i. Contractor is responsible for furnishing & installing tie-rods at the specified location. Incidental costs shall include but not limited to (1) drilling holes through the sheet pile as necessary to install the tie-rod at the proper location and elevation as specified, (2) furnishing and installing all plate washers, (3) furnishing and installing attachment of tie-rod to wale, SSP, & transfer beam and (4) furnishing all submittals. (Coring thru existing structures as required is to be paid under item#1.48 "Concrete Core Drilling for Wall Anchorage & Tie-rods")

- Item#1.5: Wall Anchorage (7/8" Diameter, ASTM A193 B7)
 - i. Contractor is responsible for furnishing & installing wall anchorage at the specified location. Incidental costs shall include but not limited to (1) drilling holes through the sheet pile as necessary to install the tie-rod at the proper location and elevation as specified, (2) furnishing and installing HSS shims to maintain wall alignment, (3) furnishing and installing all plate washers, (4) chipping and grouting existing dock surface to provide level bearing surface, and (5) furnishing all submittals. (Coring thru existing structures as required is to be paid under item#1.48 "Concrete Core Drilling for Wall Anchorage & Tie-rods")
- Item#1.6: Helical Anchors (60 Kip Service Load)
 - i. Contractor is responsible for furnishing and installing helical anchors within the specified location and tolerances. Incidental costs shall include but not limited to (1) design of helical anchors & connecting hardware to meet load criteria at the specified factor of safeties, (2) calibration of installation equipment, (3) proof and performance testing according to the project specifications, (4) attachment of the helical anchor to transfer beam, and (5) furnishing all necessary submittals.
- Item#1.7: Helical Anchors (80 Kip Service Load)
 - i. Contractor is responsible for furnishing and installing helical anchors within the specified location and tolerances. Incidental costs shall include but not limited to (1) design of helical anchors & connecting hardware to meet load criteria at the specified factor of safeties, (2) calibration of installation equipment, (3) proof and performance testing according to the project specifications, (4) attachment of the helical anchor to transfer beam, and (5) furnishing all necessary submittals.
- Item# 1.8: 3/8" Bent Plate Steel Sheet Pile Cap – Installation
 - i. Contractor is responsible for the installation & handling of 3/8" thick dock cap at the specified location. Incidentals include but is not limited to (1) transportation of dock cap from storage location to the jobsite, (2) furnishing and install dock cap angle brackets, (3) fully welding and grinding smooth the seams of the dock cap at splice locations, and (4) furnishing submittals.
- Item# 1.9: Double Channel Wale – (2) C12x30
 - i. The contractor is responsible to supply and install the double channel wale. Incidental costs shall include but not limited to (1) trimming of channels to proper length, (2) installing steel plate and pipe spacers, (3) attaching the wale to the sheet pile by furnishing and installing bolts/threaded rods, (4) drilled holes in the sheet pile, (5) furnishing and installing all plate washers, (6) furnishing and installing plates and bolts at wale splice locations, (7) additional pre-tensioning testing & requirements and (8) furnishing all necessary submittals.
- Item# 1.10: W12x45 Corner Beams
 - i. The contractor is responsible to supply and install the corner beams. Incidental costs shall include but not limited to (1) trimming & coping of beams to proper length, (2) installing steel plate, (3) attaching the beam to the wale by furnishing and installing bolts, (4) drilled holes in the beam and wale, and (5) furnishing all necessary submittals.

- Item# 1.11: Steel Guardrails
 - i. The contractor is responsible to supply and install steel guardrails at the specified locations. Incidental costs shall include but not limited to (1) attachment of the railings to the dock cap, timber deck, or concrete by furnishing and installing bolts or welding, (2) determining layout and location of removable railing as specified in the plan set, (3) removal and reinstallation of gate near MN Slip Pedestrian Bridge after sand blasting & painting, (4) painting of each section of railing to match color of MN Slip Pedestrian Bridge and (5) furnishing all necessary submittals.
- Item# 1.12: ¾" Vibro Compacted Crushed Stone
 - i. The contractor is responsible to supply and install ¾" crushed stone at the specified locations. Incidental costs shall include but not limited to (1) compaction of the material utilizing vibratory equipment, (2) removal and disposal of timber decking of existing relieving platform to place material below the waterline, and (3) furnishing all necessary submittals.
- Item# 1.13: Granular Backfill
 - i. The contractor is responsible to supply and install granular backfill at the specified locations. Incidental costs shall include but not limited to (1) compaction of the material and (2) furnishing all necessary submittals.
- Item# 1.14: New Bollards & Foundations (Including HP14x73) – Sta 0+00 to 6+02
 - i. The contractor is responsible to supply the necessary materials, labor and equipment to install the bollards & foundations at the specified locations. Incidental costs shall include but not limited to (1) demolition & preparation of existing structures, (2) installation of H-Piles within location & alignment tolerances, (3) furnishing and installation of headed concrete anchors (HCA) on H-piles, (4) furnishing and installation of deformed bar anchors (DBA) on new sheet pile, (5) furnishing and installation of rebar, (6) furnishing and installation of bollard anchor rods, (7) furnishing and placement of concrete, (8) furnishing and installation of bollard, (9) furnishing and installation of bollard capacity stamp, (10) furnishing, mixing and placement of grout in cavity of new bollard, (11) furnishing, mixing and placement of epoxy in cavity created by the anchor bolts, (12) surface preparation and coating of bollards, and (13) furnishing all necessary submittals.
- Item# 1.15: New Bollards & Foundations (Including HP14x73) – Sta 6+02 to 12+08
 - i. The contractor is responsible to supply the necessary materials, labor and equipment to install the bollards & foundations at the specified locations. Incidental costs shall include but not limited to (1) installation of H-Piles within location & alignment tolerances, (2) furnishing and installation of headed concrete anchors (HCA) on H-piles, (3) furnishing and installation of deformed bar anchors (DBA) on new sheet pile, (4) furnishing and installation of rebar, (5) furnishing and installation of bollard anchor rods, (6) furnishing and placement of concrete, (7) furnishing and installation of bollard, (8) furnishing and installation of bollard capacity stamp (9) furnishing, mixing and placement of grout in cavity of new bollard, (10) furnishing, mixing and placement of epoxy in cavity created by the anchor

bolts, (11) surface preparation and coating of bollards, and (12) furnishing all necessary submittals.

- Item# 1.16: New Cleats (24")
 - i. The contractor is responsible to supply the necessary materials, labor and equipment to install new dock cleats at the specified locations. Incidental costs shall include but not limited to (1) furnishing and installing additional clips angles, stiffener plates, and dock cap reinforcement plate, (2) furnishing and installing dock cleats, and (3) furnishing all necessary submittals.
- Item# 1.17: Single Row Timber Rub Rail, Oak Grade 1 or Better (6"x12")
 - i. The contractor is responsible to supply the necessary materials, labor and equipment to install the new timber rub rails at the specified locations. Incidental costs shall include but not limited to (1) trimming the fenders to the proper length, (2) furnishing and installing fender clip angles, (3) 1-year warranty of materials if preferred moisture content requirements are not met, and (4) furnishing all necessary submittals.
- Item# 1.18: Single Row Timber Rub Rail, Oak Grade 1 or Better (12"x12")
 - i. The contractor is responsible to supply the necessary materials, labor and equipment to install the new timber rub rails at the specified locations. Incidental costs shall include but not limited to (1) trimming the fenders to the proper length, (2) furnishing and installing fender clip angles, (3) 1-year warranty of materials if preferred moisture content requirements are not met, and (4) furnishing all necessary submittals.
- Item#1.19: Concrete Retaining Walls
 - i. The contractor is responsible to supply the necessary materials, labor and equipment to install the concrete retaining walls around the Vista loading platform approximately between stations 6+66 to 8+09 & Vista loading Ramps – (4) total between station 8+50 & 11+75. Incidental costs shall include but not limited to (1) subgrade preparation, (2) furnishing and installing required rebar, (3) furnishing and installing concrete forms, (4) concrete finish and corner chamfers, (5) PVC pipe sleeves at tie-rod locations, and (6) furnishing all necessary submittals.
- Item#1.20: Concrete Fill
 - i. The contractor is responsible to supply the necessary materials, labor and equipment to install the concrete between new and existing dock walls between stations 0+00 & 6+02 . Incidental costs shall include but not limited to (1) furnishing and installing bulkhead at limits of concrete fill and (2) furnishing all necessary submittals.
- Item#1.21: Outfall Extensions
 - i. The contractor is responsible to supply the necessary materials, labor and equipment to install outfall extensions at the specified locations. Incidental costs shall include but not limited to (1) furnishing and installing steel angles and plates, (2) furnishing and installing steel couplers, (3) furnishing and installing concrete seal, and (4) furnishing all necessary submittals.

- Item#1.22: Safety Ladders
 - i. The contractor is responsible to supply the necessary materials, labor and equipment to install safety ladders at the specified locations. Incidental costs shall include but not limited to (1) removal or trimming of dock cap, (2) furnishing and installing steel plate at dock cap opening, (3) preparing and coating the safety ladders & sheet pile at ladder locations, and (4) furnishing all submittals.
- Item#1.41: Concrete Walk (4")
 - i. The contractor is responsible to supply the necessary materials, labor and equipment to install concrete walkways at the specified locations. The new concrete walkways to be included in this bid item are the following:
 1. (2) Access Platforms to Irvin near station 3+50 & 6+00. Removal and installation of new steel plate with HCA is called out as Bid Item#1.38 on the bid form,
 2. Vista Loading Platform slab between stations 6+66 to 8+09.
 3. Concrete slabs between the new dock wall, the existing curb, and stations 8+50 to 12+08
 4. Vista concrete loading ramps – (4) total, see Detail 1/S5.5
- Item# 1.47: Camel System Design, Installation and Removal
 - i. The contractor is responsible to supply the necessary materials, labor and equipment to install the camel system to provide adequate room between the existing dock wall and the Irvin. Incidental costs shall include but not limited to (1) design of the camel system, (2) mooring the SS William A. Irvin away from the existing dock wall to provide adequate room to install the camel system, (3) temporary extensions to the overhead power supply to the vessel, (4) paint repairs to the hull of the Irvin which may be damaged by the camel system, (5) disconnect and reconnection of Irvin to/from power, and (6) furnishing all necessary submittals.
- Item# 1.49: Concrete Core Drilling for Wall Anchorage & Tie-rods
 - i. The contractor is responsible to supply the necessary materials, labor and equipment to core drill thru the existing dock cap from station 0+00 to 6+02. Incidental costs shall include but not limited to (1) disposal of concrete and steel from the existing dock cap, (2) grout to fill up the core hole after the installation of the tie-rod or wall anchorage and (3) furnishing all necessary submittals.
- Item#1.51: Common Excavation
 - i. The contractor is responsible to supply necessary equipment and labor for excavation. Incidental costs shall include but not limited to (1) sorting of excavated material onsite for reuse or disposal offsite.

II. ADD ALT#1 – Curb & Gutter/Bike Path

- Item# A1.15: Concrete Walk (4")
 - i. The contractor is responsible to supply the necessary materials, labor and equipment to install concrete walkways at the specified locations. The new concrete walkways to be included in this bid item are the following:
 1. Extension of concrete access platforms to SS William A. Irvin near stations 3+50 & 6+00 to location of new curb & gutter.

III. ADD ALT#2 – Remaining Concrete Flatwork & Sidewalks

- Item# A2.1: Concrete Walk (4")
 - i. The contractor is responsible to supply the necessary materials, labor and equipment to install concrete walkways at the specified locations. The new concrete walkways to be included in this bid item are the following:
 - 1. Concrete sidewalks from approximately station 0+00 to 8+50
 - 2. Concrete sidewalks near the inner end of MN Slip & connection to sidewalk along Railroad Street.

If you have any questions or comments, please contact City of Duluth purchasing at purchasing@dulthmn.gov.

Respectfully Submitted,



Chase Dewhirst, PE
Asst. Marine Engineering Manager