

HERRON ISLAND FERRY TERMINAL DOLPHIN REPLACEMENT

ADDENDUM NUMBER 1

January 30, 2017

NOTE: FAILURE TO ACKNOWLEDGE RECEIPT OF THIS ADDENDUM ON THE BID FORM DOES NOT AFFECT THE BIDDER'S OBLIGATION FOR COMPLIANCE.

PROJECT MANUAL

Project Title	Please note, official project title is: HERRON ISLAND FERRY TERMINAL DOLPHIN REPLACEMENT
Bid Package Contents	"Plans and Specifications" in the table of contents should be noted as "C" rather than "B".
Bid Form	<p>Revise Article 6.03 on page 8 to read:</p> <p>Bidder agrees to complete the Work within 440 200 calendar days of receipt of the Notice to Proceed, in accordance with the terms of this bid package. This period of time shall be the basis of calculation of liquidated damages. Reduced time to completion shall be used as the basis of selecting between bids with similar prices, defined as those within 5% of each other.</p> <p>Add the following sentences to Bid Item Descriptions, Item 2: Demolish and Remove Dolphins, on page 5:</p> <p>Any surface or subsurface piles or other objects discovered in the project site that may pose an obstruction to new pile installation shall be reported to engineer immediately to determine appropriate action. If obstruction removal is required, the cost, effort and resources required to remove said obstruction will be negotiated by force account.</p> <p>Add the following sentence to Bid Item Descriptions, Item 3: Steel Pipe Piles, on page 5:</p> <p>If additional pile lengths are required to achieve required pile capacities, the cost for furnish and install of added pile length will be negotiated by force account.</p>

CONTRACT DRAWINGS

Sheet No. 9 – Dolphin Plan and Details	<p>Replace sheet 9 with Revision 1 sheet 9.</p> <p>Changes made to Typical Elevation to provide elevation tolerance for HDPE sleeves on fender piles.</p>
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ADDENDUM NUMBER 1

January 30, 2017

Sheet No. 10 – Dolphin Cap	Replace sheet 10 with Revision 1 sheet 10. Added weld notes to provide additional direction on required welds for assembly of dolphin cap.
Sheet No. 14 – Pile Details	Replace sheet 14 with Revision 1 sheet 14. Changed fender support plate welds to field weld installation to allow better tolerance for elevation of HDPE sleeves on fender piles.
Sheet No. 16 – General Notes	Replace sheet 16 with Revision 1 sheet 16. Added procedure for contractor to make limited requests for cancellation of occasional ferry runs to accommodate construction activities. Changed required minimum yield strength of steel pipe piles. Added provision for field applied spray metalizing as an additional approved method of coating repair.
FOR INFORMATION ONLY	
Engineer's Estimate:	The Engineer's Construction Cost Estimate is between \$1,300,000 and \$1,600,000.
Bid Due Date & Time:	There is no change to the Bid Due Date and Time. Bids Due: Wednesday, February 15, 2017 @ 2:00 PM
Bid Inquiry Summary:	Bid Inquiry Summary, dated January 30, 2017 is attached, for reference.
Pre-Bid Meeting Sign In:	Pre-Bid Meeting Sign In List, from January 24, 2017 is attached, for reference.
Plan Holders List:	Plan Holders List dated January 30, 2017 is attached, for reference.

END OF ADDENDUM NO. 1

HERRON ISLAND FERRY TERMINAL DOLPHIN REPLACEMENT

BID INQUIRIES / RESPONSES

January 30, 2017

THE FOLLOWING INFORMATION IS BEING PROVIDED TO BIDDERS, FOR REFERENCE ONLY.

BID INQUIRIES

Question	Response
Are there any known piles or other obstructions that would affect the ability to install the piles as shown, other than the dolphin piles scheduled to be removed as part of this contract? Are there any historical photos available?	<p>There are no records of previous existing piles in the area, other than the dolphin piles scheduled to be removed as part of this contract, nor historical photos exhibiting obstructions to pile driving in the area.</p> <p>It is the contractor's responsibility to conduct a dive inspection of the work area per sheet 17 of the Contract Drawings.</p>
Will there be a survey dive before the bid?	No.
Who will pay to remove "unknown" obstructions?	<p>Per sheet 17 of the Contract Drawings, Contractor is responsible to conduct a dive inspection in the work area to confirm area is clear for new pile driving. Contractor shall document any potential conflicts to pile driving and contact Engineer immediately with report.</p> <p>The cost to remove previously unknown obstructions, that need to be removed in order to allow installation of the new piles, would be negotiated by force account per Addendum No. 1.</p>
Is there going to be an upland contractor staging area available?	<p>If the contractor needs upland staging area space, an area of the existing parking lot at the mainland terminal can be set aside for contractor staging.</p> <p>Note that there can be extreme high tides on occasion that could flood the mainland parking area. Contractor has sole responsibility for security and protection of anything staged on site.</p>
It was noted that the pipe pile used in test pile probing program did not have a SPIN FIN tip. There was stated concern about drivability of SPIN FIN piles based on data from test pile program.	Only vertical piles (one in each dolphin) will have a SPIN FIN tip. Higher driving resistance is expected with SPIN FIN equipped piles, than smooth piles, as described in the Contract Drawings. Piles of this diameter, wall thickness and with SPIN FIN pile tip have been used successfully on other projects, with ultimate capacities in excess of those required on this project. Contractor shall perform their own analysis and evaluation for selection of appropriate hammers and equipment for all piles.

HERRON ISLAND FERRY TERMINAL DOLPHIN REPLACEMENT

BID INQUIRIES / RESPONSES

January 30, 2017

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BID INQUIRIES

Question	Response
It was noted that the pipe pile used in the test pile probing program exhibited 'tear-out' at the hammer jaw during the test pile program. There was stated concern about the ability to install the project piles with a similar vibratory hammer.	<p>It should also be noted that the test probe was driven and extracted several times over the course of the test pile program, so it can be assumed that 'tear-out' might be more likely to occur during the test pile program.</p> <p>It may be necessary to 'fresh-head' piles during installation to complete contract work. Contractor shall determine if additional pile length is needed and account for any additional length in their means and methods. No additional payment will be made for added pile length or splices due to contractor selected means and methods.</p>
If it is necessary to splice the piles, who is responsible for the cost? Who would provide the additional pile materials?	The Contractor is responsible to furnish and install the piles in the lengths specified in the pile schedule included in the Contract Drawings as part of their contract work. If additional pile lengths are required to achieve required pile capacities, the cost for furnish and install of added pile length will be negotiated by force account per Addendum No. 1.
Sequence of work – Will the ferry remain in operation during the project? How many dolphins can be worked on at the same time?	The ferry will continue to operate during construction. Refer to Contract Drawings sheet 16 under "Design Vessel". The interior dolphins are particularly important to the operation of the ferry and their demolition and construction must be carefully staged to ensure operational needs of the ferry.
Does this project require any specific small/disadvantaged business goals and/or "Buy America(n)" requirements for domestic materials?	Not specifically. However in the Supplementary Conditions, Article SC-19.06, the Contractor is encouraged to use SMW businesses when possible.
Who is handling the permitting?	HMC and PND are coordinating the permitting with the government agencies. The permits will be transferred to the selected contractor.

HERRON ISLAND FERRY TERMINAL DOLPHIN REPLACEMENT

BID INQUIRIES / RESPONSES

January 30, 2017

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BID INQUIRIES

Question	Response
Is night work allowed at either terminal? Are there any specific working hour restrictions, particularly related to pile driving?	Work is limited to daylight hours only. Specifically these working hours are limited to 8:00 am to 8:00 pm with consideration to any restrictions noted by Pierce County or Washington State. Refer to permits for other noise considerations for impact driving of the piles.
Will the work for Additive Alternate A be awarded at the same time as the Base Bid work?	The intent is to award the Additive Alternate A work at the same time as the Base Bid work.
What are the permitted in-water work windows?	The permitted in-water work window is limited to July 15 through February 15.
What are the control monuments for survey and locating construction activities?	Project layout is established by offsets from centerline of existing ramp and centerline of existing concrete piers. Survey drawings are included in the Contract Drawings, for reference.
Is monitoring for marine animals required for this project?	No.
Is a bubble curtain required?	Yes, bubble curtain sound attenuation is required for impact pile driving, per the permits.
Can spray metalizing be used for coating repair in the field?	Yes, field applied spray metalizing, per the project specifications, is acceptable provided all permit restrictions and technical specifications are met, per Addendum No. 1.
Where can the work barge be moored overnight?	Work barge may use the mainland ferry slip for overnight moorage, but the barge shall not interfere with the daily operations of the ferry. Work barge must be able to move out of slip at a moment's notice to accommodate any emergency ferry runs. It is preferable that work barge be moored off shore to avoid any potential impacts to ferry operations.

HERRON ISLAND FERRY TERMINAL DOLPHIN REPLACEMENT

BID INQUIRIES / RESPONSES

January 30, 2017

THE FOLLOWING INFORMATION IS BEING PROVIDED TO BIDDERS, FOR REFERENCE ONLY.

BID INQUIRIES

Question	Response
Is there any flexibility to cancel ferry crossings to accommodate construction operations?	On a limited basis, the Contractor may request occasional cancellation of ferry runs to assist in construction activities and/or safety. Any requests to cancel a regularly scheduled ferry run shall be made a minimum of two weeks in advance to provide appropriate notification to users. Request shall be made to the ferry captain and on-site owner representative for approval, per Addendum No. 1. See published ferry schedule (available on Herron Island website) for reference.
Is there a low tide limit of operation for the ferry?	The ferry does not run at tide levels lower than 1ft below lower low water (-1ft) elevation. These low tide ferry run cancellations offer another opportunity for construction activities without impacting ferry operations. In an emergency the ferry can run at a -3ft tide level.
What are the loading limits for the ferry?	Per the ferry captain, the on-boat limit is 72,000 lbs. however, the ramp limit is 40,000 lbs.
Are there specific requirements for the disposal of the existing piles?	Creosote treated timber piles shall be disposed of per current state, county and local requirements noted in the project manual and in an approved disposal site for the type of material disposed.
On sheet 14 of the Contract Drawings, the Fender Pile detail shows the fender support plates being shop welded. Can these plates be field installed to better control the bottom elevation of the HDPE sleeves given uncertainties in anticipated final drive depth?	These pieces will be furnished loose and field installed and welded after establishing final anticipated drive depth to achieve HDPE sleeve installation tolerances for bottom elevation, per Addendum No. 1.
Do all welders need to be WABO certified?	Per Pierce County building permit correspondence, "All onsite welding is to be performed by WABO certified welders."
What are the submittal requirements?	Preliminary list of required submittals is provided as part of Addendum No. 1.

HERRON ISLAND FERRY TERMINAL DOLPHIN REPLACEMENT

BID INQUIRIES / RESPONSES January 30, 2017

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BID INQUIRIES

Question	Response
Is there an eel grass survey?	No eel grass survey was required to acquire the permits and there is currently no defined area for eel grass. Note, the barge may not land or ground on the beach regardless of the presence of eel grass.
Pipe suppliers are reporting difficulty finding pipe materials meeting the specified minimum yield strength.	This minimum yield requirement has been changed to 52 ksi to respond to market availability. This change is part of Addendum No. 1.

1/30/17
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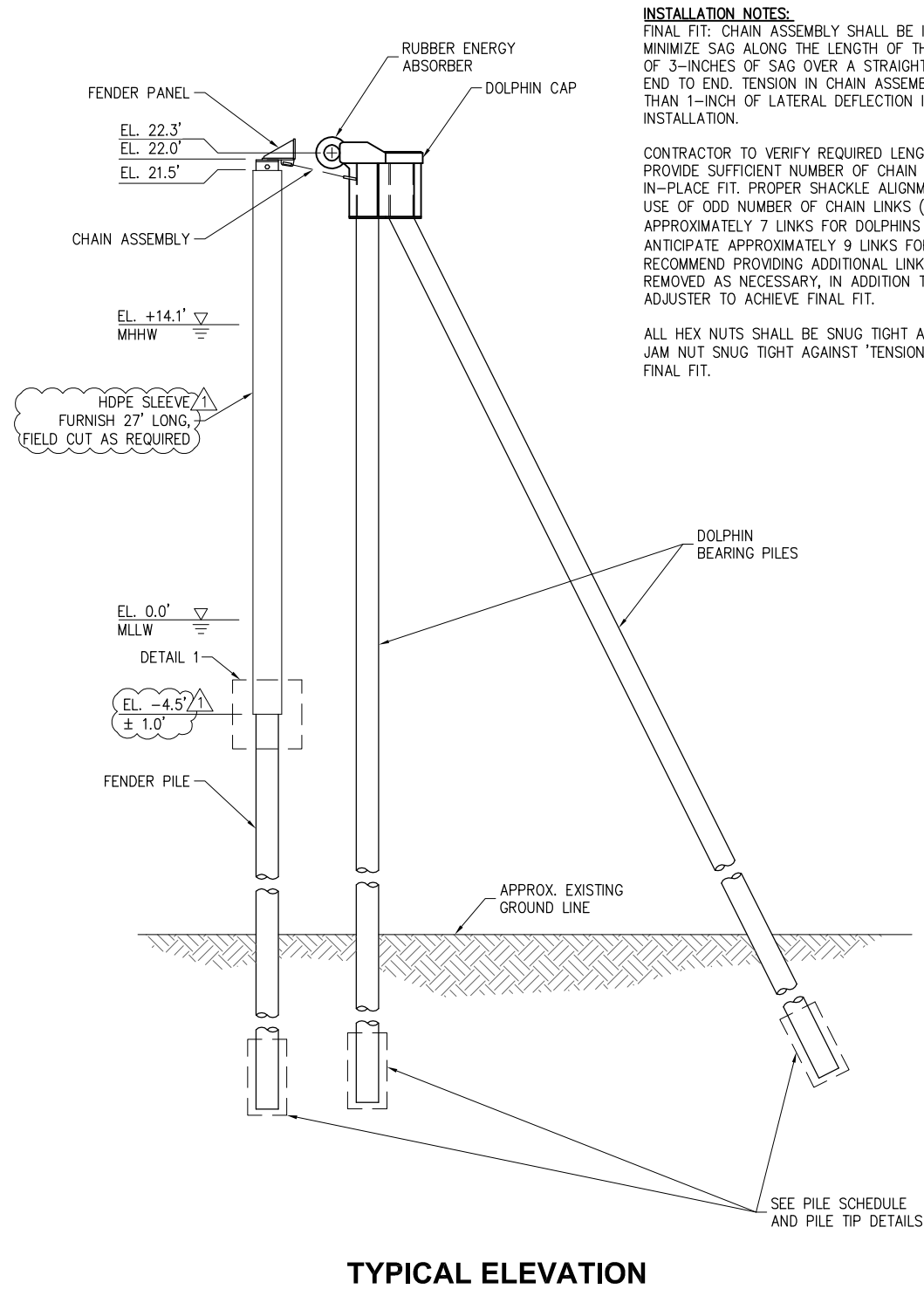


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REVISIONS		
1	1/30/17	ADDENDUM No.1
REV	DATE	DESCRIPTION

PROJECT: HERRON ISLAND FERRY DOLPHIN REPLACEMENT			
TITLE: DOLPHIN PLAN AND DETAILS			
DESIGNED BY: JDO	PROJECT NO: 154034.02	SHEET NO: 9 OF 17	
DRAWN BY: GRD	DATE: DECEMBER 2016		
CHECKED BY: TWB	SCALE: NOTED		

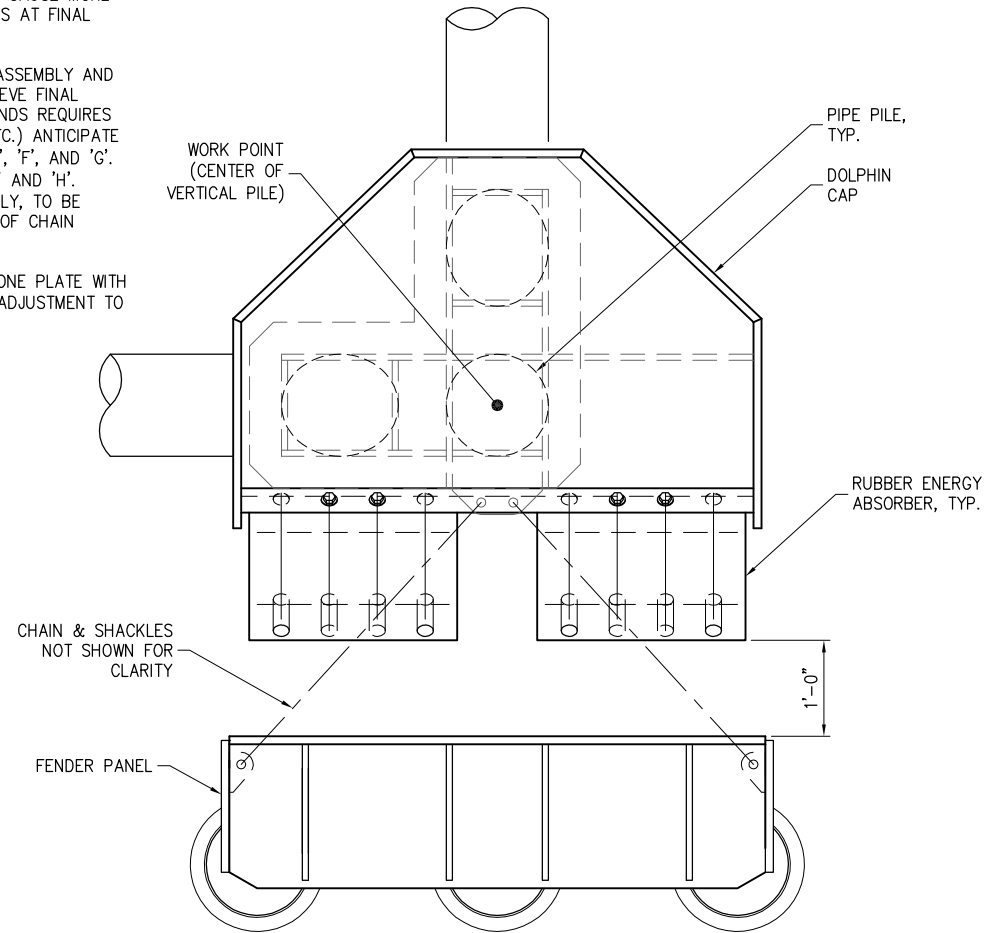


TYPICAL ELEVATION

INSTALLATION NOTES:
FINAL FIT: CHAIN ASSEMBLY SHALL BE INSTALLED AND ADJUSTED TO MINIMIZE SAG ALONG THE LENGTH OF THE ASSEMBLY TO A MAXIMUM OF 3-INCHES OF SAG OVER A STRAIGHT LINE MEASUREMENT FROM END TO END. TENSION IN CHAIN ASSEMBLY SHALL NOT CAUSE MORE THAN 1-INCH OF LATERAL DEFLECTION IN FENDER PILES AT FINAL INSTALLATION.

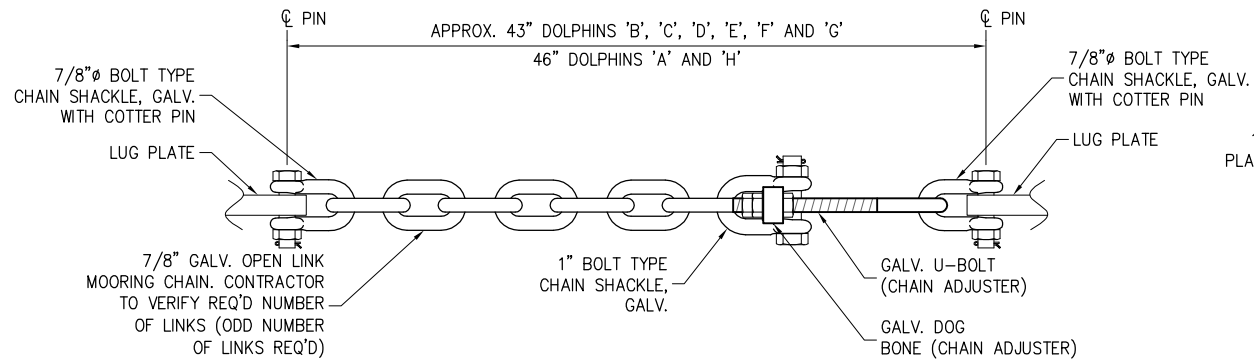
CONTRACTOR TO VERIFY REQUIRED LENGTH OF CHAIN ASSEMBLY AND PROVIDE SUFFICIENT NUMBER OF CHAIN LINKS TO ACHIEVE FINAL IN-PLACE FIT. PROPER SHACKLE ALIGNMENT AT LUG ENDS REQUIRES USE OF ODD NUMBER OF CHAIN LINKS (5, 7, 9, 11, ETC.) ANTICIPATE APPROXIMATELY 7 LINKS FOR DOLPHINS 'B', 'C', 'D', 'E', 'F', AND 'G'. ANTICIPATE APPROXIMATELY 9 LINKS FOR DOLPHINS 'A' AND 'H'. RECOMMEND PROVIDING ADDITIONAL LINKS PER ASSEMBLY, TO BE REMOVED AS NECESSARY, IN ADDITION TO TIGHTENING OF CHAIN ADJUSTER TO ACHIEVE FINAL FIT.

ALL HEX NUTS SHALL BE SNUG TIGHT AGAINST DOG BONE PLATE WITH JAM NUT SNUG TIGHT AGAINST 'TENSION' NUT, AFTER ADJUSTMENT TO FINAL FIT.



TYPICAL PLAN

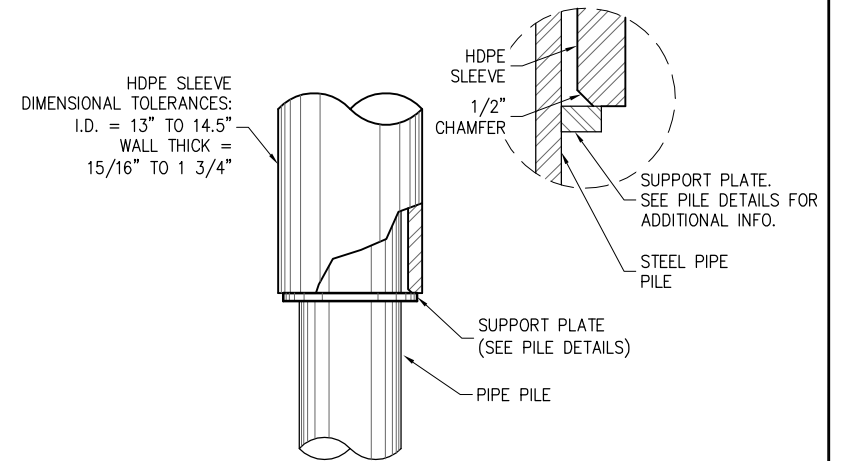
CAP STIFFENER, PILE CONFIGURATION, FENDER PANEL AND CHAIN ASSEMBLY LAYOUT VARIES BY DOLPHIN. SEE SITE PLANS AND DETAILS



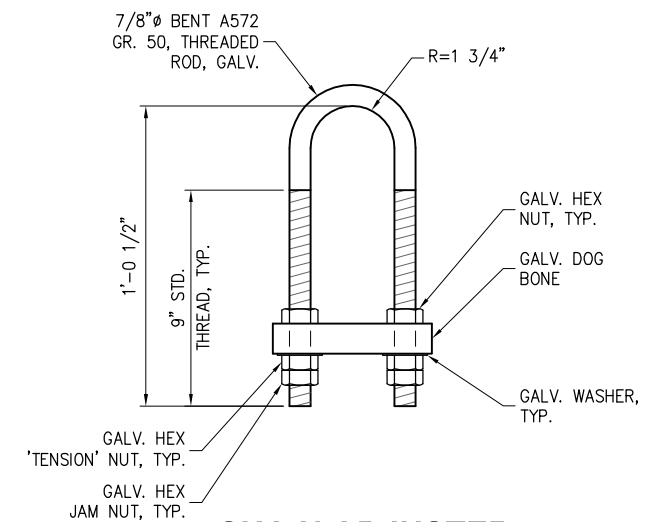
CHAIN ASSEMBLY

(2) REQUIRED EACH DOLPHIN, (16) TOTAL

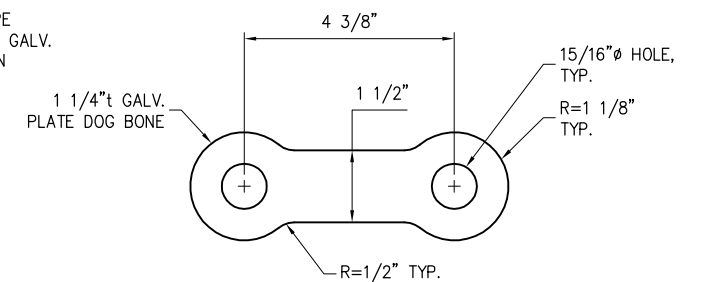
* ALL NUTS TO BE SNUG TIGHT AGAINST CHAIN ADJUSTER PLATE AFTER FINAL IN-PLACE FIT.



DETAIL 1

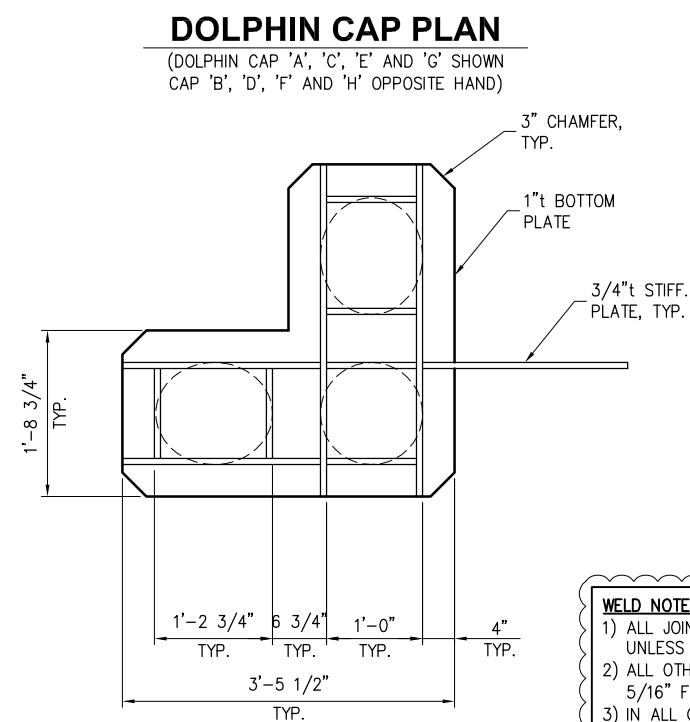
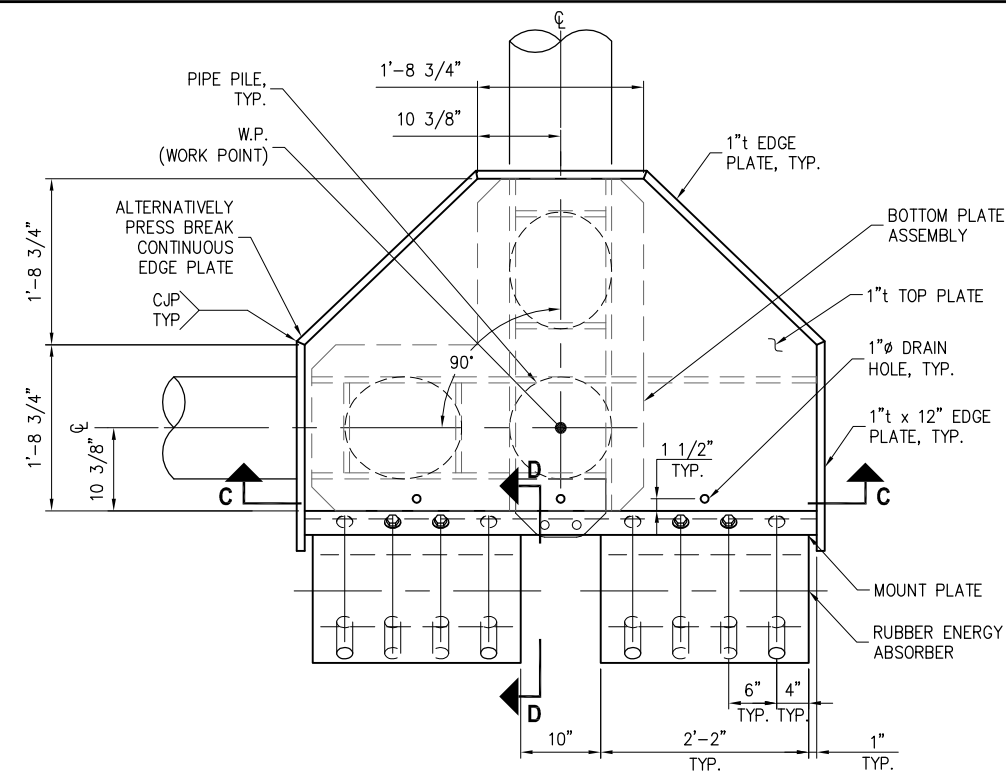


CHAIN ADJUSTER



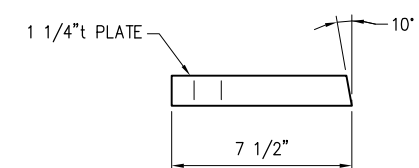
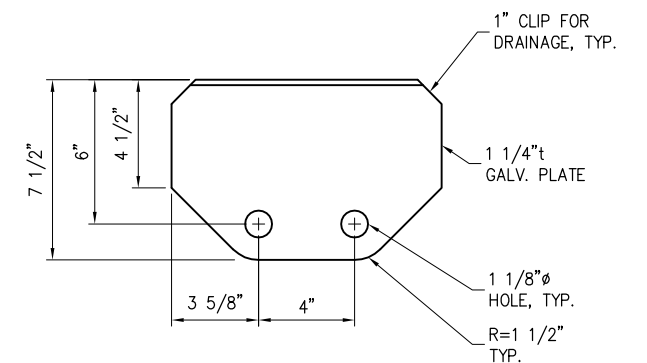
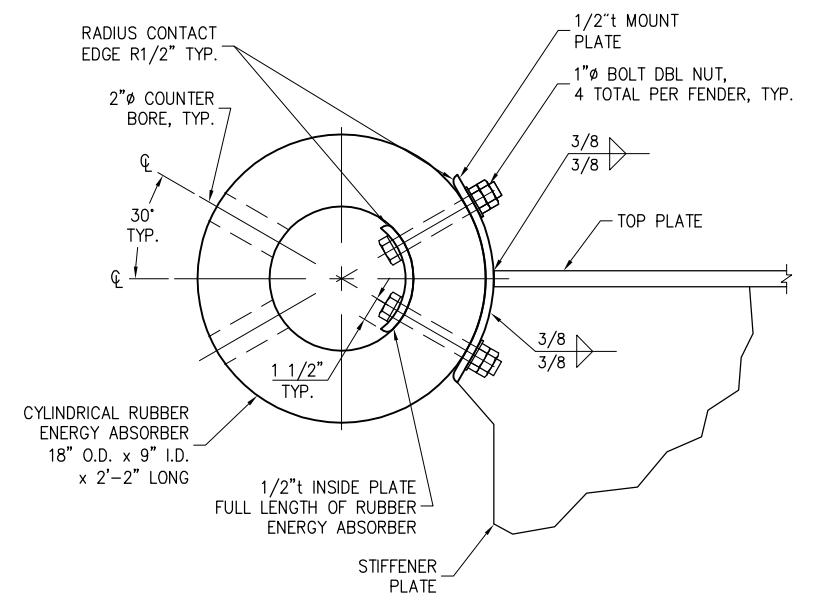
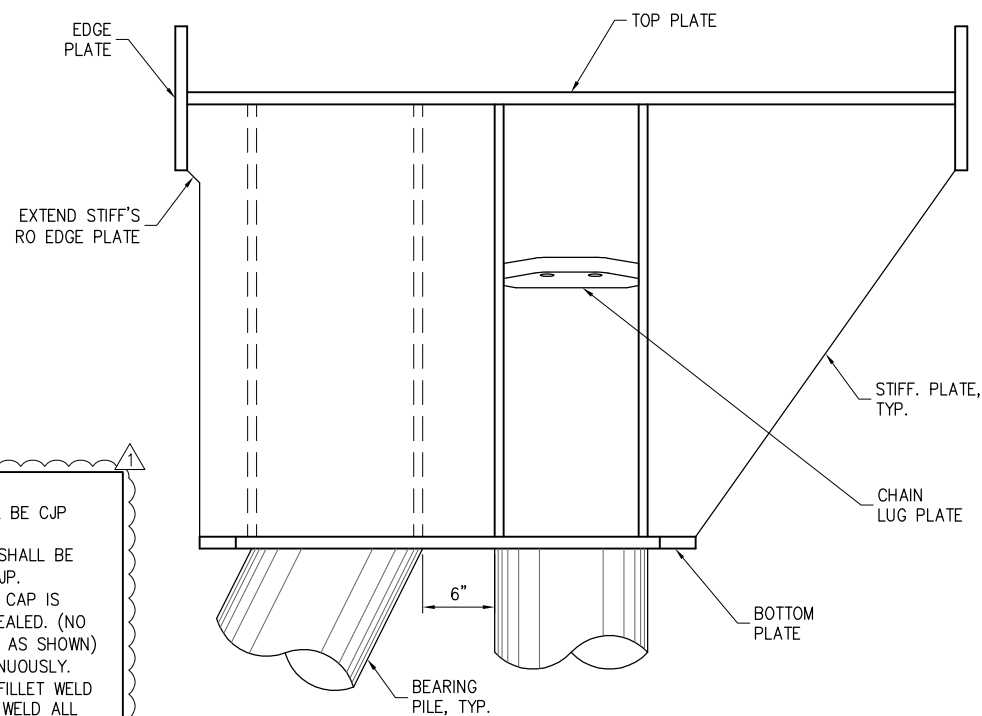
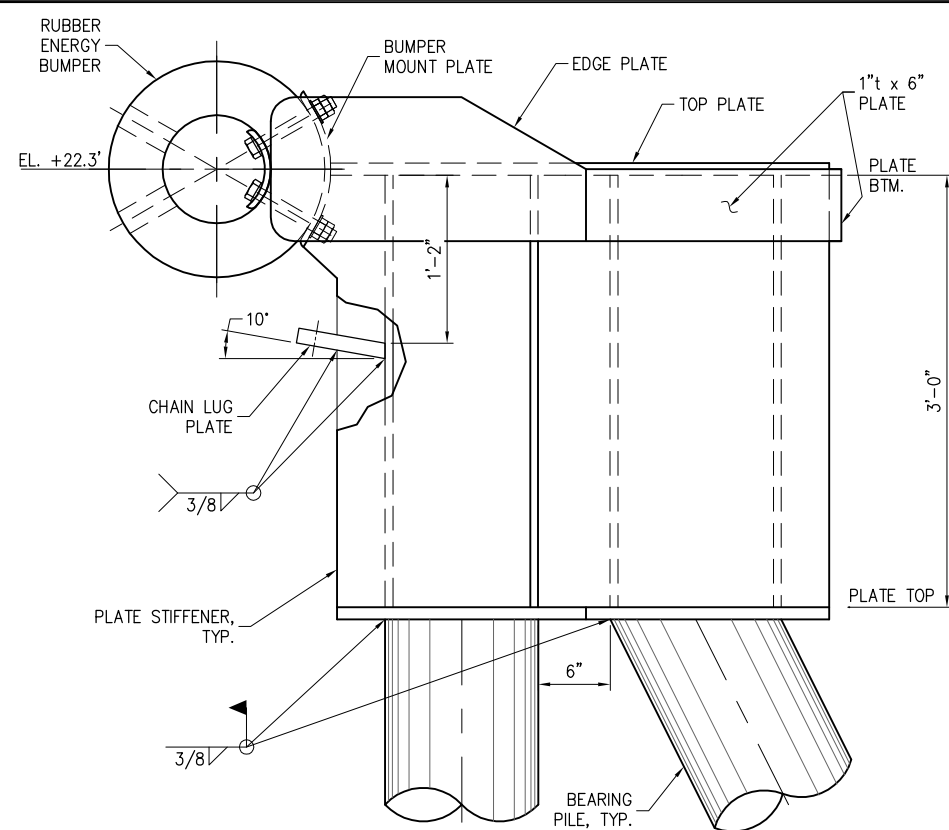
DOG BONE DETAIL

ISSUED FOR BID



WELD NOTES:

- 1) ALL JOINTS TO BOTTOM PLATE SHALL BE CJP UNLESS NOTED OTHERWISE.
- 2) ALL OTHER WELDS IN THE PILE CAP SHALL BE 5/16" FILLET BOTH SIDES OR 1/2" PJP.
- 3) IN ALL CASES THE EXTERIOR OF THE CAP IS WELDED. WELDS ARE TOTALLY SEALED. (NO RAT HOLES OR DRAIN HOLES EXCEPT AS SHOWN)
- 4) ALL JOINTS SHALL BE WELDED CONTINUOUSLY.
- 5) ALL OTHER JOINTS SHALL BE 5/16" FILLET WELD ALL AROUND, OR EQUIVALENT BEVEL WELD ALL AROUND, UNLESS OTHERWISE NOTED.



ISSUED FOR BID

HERRON ISLAND FERRY DOLPHIN REPLACEMENT

DOLPHIN CAP

DESIGNED BY:	JDO	PROJECT NO:	154034.02	SHEET NO: 10
DRAWN BY:	GRD	DATE:	DECEMBER 2016	
CHECKED BY:	TWB	SCALE:	NOTED	

CHECKED BY:	TWB	SCALE:	NOTED
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CHECKED BY:	TWB	SCALE:	NOTED
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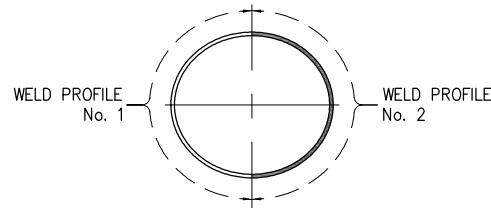
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1	1/30/17	ADDENDUM No.1
REV	DATE	DESCRIPTION

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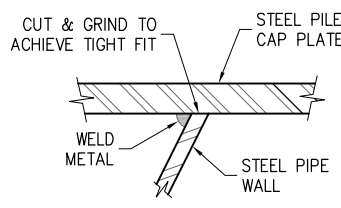
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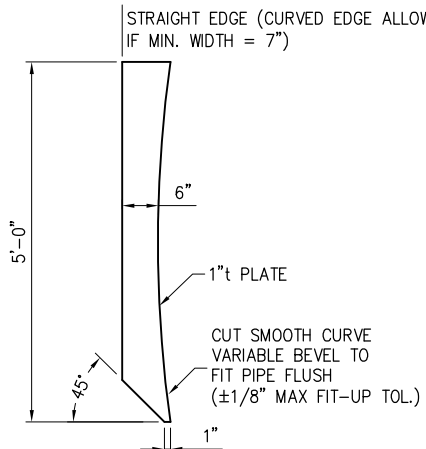
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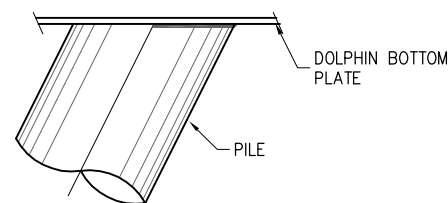
PLAN



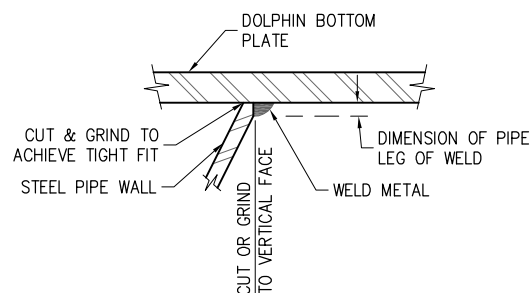
WELD PROFILE No. 1



SPIN FIN

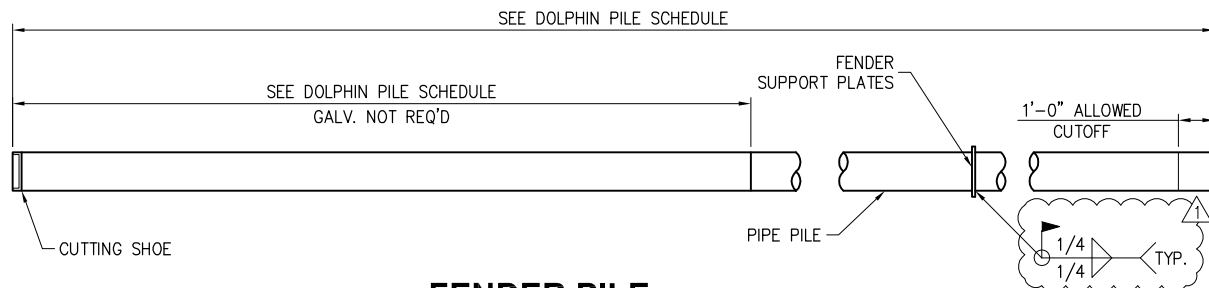


ELEVATION

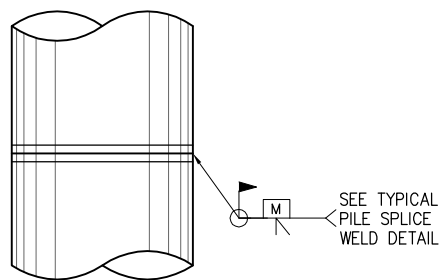


WELD PROFILE No. 2

DOLPHIN
BATTER PILE WELD

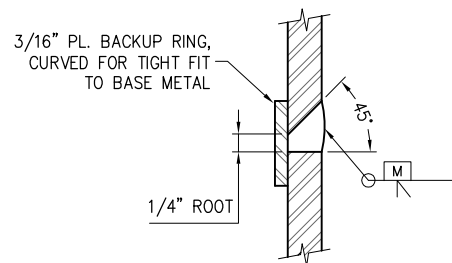


FENDER PILE

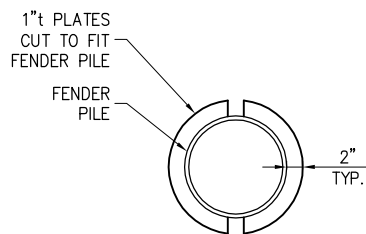


PILE SPLICE

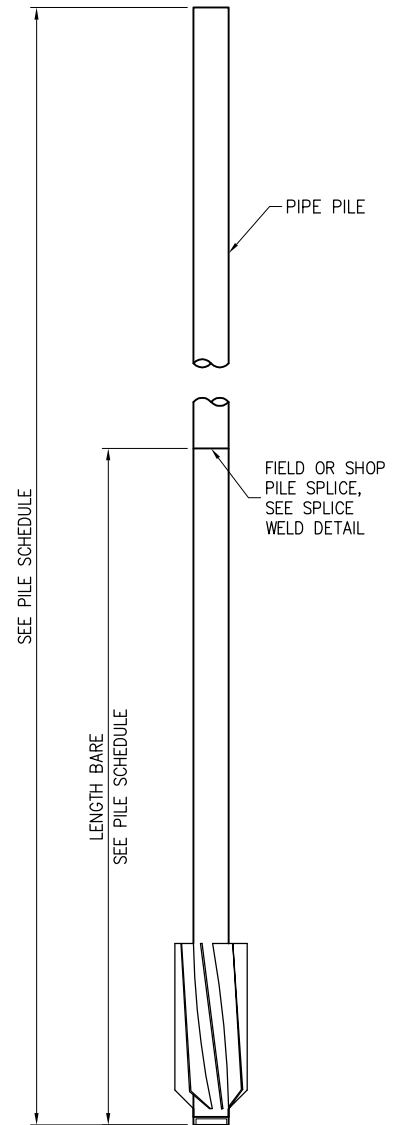
TYPICAL FOR ALL SHOP OR FIELD PIPE PILE SPLICES



TYPICAL
PILE SPLICE WELD

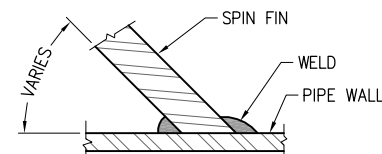


FENDER
SUPPORT PLATES

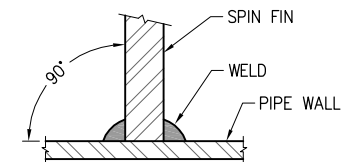


BEARING PILES

(SHOWN WITH SPIN FIN PILE TIP. REFER TO PILE SCHEDULE FOR REQUIREMENTS OF EACH PILE.)



PILE/FIN SECTION



PILE/FIN SECTION AT
CENTERLINE OF PLATE

ISSUED FOR BID



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REGISTERED TRADEMARK
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REVISIONS		
1	1/30/17	ADDENDUM No.1
REV	DATE	DESCRIPTION

PROJECT: HERRON ISLAND FERRY DOLPHIN REPLACEMENT		
TITLE: PILE DETAILS		
DESIGNED BY: JDO	PROJECT NO: 154034.02	SHEET NO:
DRAWN BY: GRD	DATE: DECEMBER 2016	14 OF 17
CHECKED BY: TWB	SCALE: NOTED	

GENERAL NOTES

DESIGN CRITERIA

APPLICABLE CODES

All local codes plus the following are part of these General Notes.

- AISC – American Institute of Steel Construction. Specification for Structural Steel Building, 14th Edition (AISC 360–10).
- ASCE – American Society of Civil Engineers. Minimum Design Loads for Buildings and Other Structures (ASCE 7–10).
- ASTM – American Society of Testing and Materials. Annual Book of Standards.
- AWS – American Welding Society. Structural Welding Code – Steel (AWS D1.1).
- ICC – International Code Council. International Building Code 2012 (IBC–12).
- PIANC – Permanent International Association of Navigation Congresses. Guidelines for the Design of Fender Systems.
- SSPC – Steel Structures Painting Council. Steel Structures Painting Manual.

DESIGN VESSEL

Name: MV Charlie Wells
Gross Tonnage: 99 long tons
Length (LOA): 72 feet
Beam: 40 feet
Operating Freeboard: 3 foot, min. to 5 foot, max.

Ferry service will continue to operate during construction. Contractor shall accommodate operations by staying clear of the ferry slip and shall demolish existing dolphins in a phased sequence to provide continuous ferry berthing at the slip. Only one dolphin at a time shall be removed and in a sequence as required to maintain service. Contractor shall develop a site specific safety plan for his crew and the ferry crew and passengers. This safety plan shall be submitted to the Owner for approval prior to mobilizing to the site.

On a limited basis, the Contractor may request occasional cancellation of ferry runs to assist in construction activities and/or safety. Any requests to cancel a regularly scheduled ferry run shall be made a minimum of two weeks in advance to provide appropriate notification to users. Request shall be made to the ferry captain and on–site owner’s representative for approval.

Ferry boat operators shall take special care in berthing during construction. Operator shall coordinate with Contractor and use dolphins still intact while work on adjacent dolphins is underway. Ferry boat will be used as a pile driving template for the new fender piles. Operator will assist Contractor by positioning and holding position of vessel during installation of fender piles. Ferry operator and crew shall follow the Contractor’s site specific safety plan.

ESTIMATED BERTHING ENERGIES AND APPROACH VELOCITIES

BERTHING TYPE	DAMAGE/WEAR ESTIMATE	ESTIMATED ENERGY	APPROACH VELOCITY
Typical	Normal Wear	5 foot–kips	0.9 knots
Moderate	Minor Fender Damage Possible	14 foot–kips	1.5 knots
Hard	Fender Damage Expected	27 foot–kips	2.1 knots
Very Hard	High Fender Damage Expected	~75 foot–kips+	3.6 knots

WIND LOAD

110 mph, 3 second gust, Exposure C, unless otherwise noted, Occupancy Category II Structure per IBC–12/ASCE 7–10.

TIDES

Elevation datum for this project is 0.00 ft, Mean Lower Low Water (MLLW). Tidal Data Plane – Allyn, Case Inlet, Mason County (from Washington Department of Ecology).

Highest Recorded Tide: Estimated (EHW): 17.50 ft
Mean Higher High Water (MHHW): 14.10 ft
Mean High Water (MHW): 13.20 ft
Mean Tide Level (MTL): 8.10 ft
Mean Sea Level (MSL, 1952): 7.58 ft
Mean Low Water (MLW): 3.00 ft
Mean Lower Low Water (MLLW): 0.00 ft
Lowest Recorded Tide: Estimated (ELW): –4.50 ft

CATHODIC PROTECTION

Cathodic protection provided by galvanizing of the steel components. After 10 years, structures should be inspected for corrosion and anodes added, as necessary.

MATERIALS AND CONSTRUCTION

PILES

Pipe material for fender piles and backing piles shall be ASTM A252, Grade 3, with minimum yield strength of 52 ksi. Chemistry of steel shall have a C.E. less than 0.45 per AWS.

STRUCTURAL STEEL

All miscellaneous steel plates and other shapes shall conform to ASTM A572, Grade 50, unless otherwise noted. Rectangular and round HSS shapes shall conform to ASTM A500 Grade B.

HARDWARE

All carbon steel shackles shall be new, forged, quenched and tempered hardware, shall be hot dip galvanized and shall be provided in the sizes called out in the drawings. Verify fit–up and compatibility of components. The pins on all shackles shall be alloy steel and have nut and cotter pin. Open link mooring chain shall be carbon steel, galvanized chain, in the size called out in the drawings. All chain, shackles, and other connecting hardware shall be new and accompanied with proof load documentation, as applicable.

All connecting bolts for steel to steel shall be ASTM A325 or A449. All other bolts shall be ASTM A307 with heavy hex nuts or as otherwise noted. Cut washers shall be 3/16–inch plate minimum. All nuts, bolts, washers, etc. shall be galvanized.

Stainless steel components shall be type 316, marine grade.

HDPE SLEEVES

High density polyethylene (HDPE) pipe sleeves shall meet the requirements of ASTM F714 and have the following dimensions:
Inside Diameter: Min. = 13 inch, Max. = 14–1/2inches
Wall Thickness: Min. = 15/16 inch, Max. = 1–3/4 inches

Contractor shall verify that the sleeve meets the above criteria and that the sleeve fits freely over the fender pile prior to shipment to the project site. Sleeve shall not be forced onto the pile. Any sleeve that has to be forced shall be rejected and replaced with a suitable sleeve at no additional cost to the Owner.

CYLINDRICAL RUBBER ENERGY ABSORBERS

Cylindrical rubber energy absorbers shall be comprised of elastomeric cylindrical rubber fender units as detailed in the plans. The overall dimensions of the fender units shall be as detailed in the plans within the following tolerances:

- Outside diameter: +/- 1/4 inch
- Inside diameter: +/- 1/4 inch
- Length: + 0 inch, – 1/4 inch

All edges shall be cut and finished smooth and even, without rough edges. All holes shall be cleanly bored with appropriate equipment and methods to ensure no damage to the rubber, including tearing, delamination, burning or any other permanent deformation or scaring of the material.

The fender units shall be capable of absorbing the design energy with a reaction at the designed deflection stated below (per foot of length of each fender unit), within a tolerance of +/- 10 percent:

- Reaction: 12.5 kips per foot of length
- Energy Absorption: 4.0 kip–foot per foot of length
- Deflection: 50 percent (9 inches)

The rubber for the fenders shall be natural or synthetic rubber or a mixture. The fenders shall be reinforced with carbon black and resistant to aging, seawater, abrasion and ultraviolet rays. The rubber shall be homogenous in quality and free from foreign materials, bubbles, injury, cracks and other harmful defects. A certified test report, showing compliance with the rubber properties shown, must be provided to the Engineer before the fenders are delivered to the site.

The performance of the fender is to be expressed by the value of the energy absorbed at the maximum value of the reaction load generated when the fender is compressed to its rated or maximum deflection.

In the performance test of the fender, compression is to be applied toward the top face of the fender unit. The compression speed shall follow current PIANC Fender Performance Testing guidelines and shall be recorded during testing. The fender unit is to be cycled for three times up to the designed deflection. Let the fender stand at rest for at least one hour. Then, a fourth deflection cycle shall determine the fender performance. For the performance test of the fender, the room temperature at the time of the test shall be recorded. The fender units shall achieve a performance with +/- 10 percent of the stated nominal design performance.

Performance tests must be conducted on at least four of the fender units and witnessed by an accredited 3rd party testing agency. Certificates must be provided before the fenders arrive on the jobsite confirming that the tests were run according to PIANC, Procedure to Determine and Report the Performance of Marine Fenders. The certificates must also confirm that the results of the tests meet the energy and reaction requirements called out in these specifications.

The rubber fenders shall be packaged sufficiently to prevent damage during shipment. Packing and delivery procedure must be included in the submittal package.

Fender mounting plates and internal plate washers that will be in contact with the rubber fender unit shall have eased and rounded edges to avoid causing damage to the fender unit when in service.

WELDING

All field and shop welding shall conform to AWS D1.1 Structural Welding Code – Steel, current edition.

Deposited filler metal shall meet Charpy Impact requirements of 20 foot–pounds at –20 degrees F and have chemistry similar to the base metal as approved by the Owner. Filler metals shall only be used in welding positions recommended by the manufacturer. Welding consumables shall be stored and the condition maintained per AWS Section 5.

Welding personnel shall be qualified per WABO to weld procedures and weld positions necessary for the joint details specified. All onsite welding shall be completed by WABO certified welders. All steel fabrication shop drawings shall reference the weld procedure specifications for each weld detailed. Weld procedure specifications shall be submitted with the shop drawings. Submittals verifying welder qualifications must be transmitted to the Owner for approval prior to any welding.

No welding through coatings shall be performed. Coatings within 2 inches of the weld root shall be removed prior to welding and repaired as discussed in Coating Repair.

All welds shall be visually inspected to comply with the visual inspection criteria for statically loaded non–tubular and tubular connections per AWS Section 6. Welds are subject to non–destructive testing using VT, RT, MT and UT methods, per AWS Section 5, as appropriate. Welding inspection shall be provided by WABO certified third party inspector.

Acceptable criteria shall be for non–cyclic loading. Welds failing shall be repaired at the Contractor’s expense, which will also include all costs for retesting, to achieve passing results.

Remove and repair all burrs and weld splatter after welding.

GALVANIZING

All structural steel, pile and hardware shall be galvanized per ASTM A123 or A153 after fabrication unless otherwise noted.

SPRAY METALIZING

Dolphin caps shall be spray metalized per the following specifications from the SSPC (Steel Structures Painting Council) – Steel Structures Painting Manual:

- SSPC CS–Guide No. 23 for Thermal Spray Metallic Coating
- SSPC–SP 12 for power washing, pre cleaning
- SSPC–SP 10/NACE No. 2 for blast cleaning, near white metal finish
- SSPA–PA 2 for coating thickness measurement
- SSPC–PA 1 for seal coating

Contractor shall submit a Quality Control Plan for preparation and application of metal coatings for all project components specified to be coated. Quality Control Plan shall address solvent cleaning, blasting, surface profile standards, stripe coat and primer coat application, finish coat applications, coating thickness measurement and documentation, adhesion pull test procedures, independent inspection and documentation, as well as handling and transport methods.

Prepare all surfaces to be spray metalized per SSPC CS–Guide 23, Current Edition. Surfaces to be spray metalized include dolphin caps. Prior to blast cleaning, surface imperfections such as sharp fins, sharp edges, weld spatter, etc. shall be removed from the surface. Blast clean the surfaces to be spray metalized to a near white metal finish in accordance with SSPC–SP 10/NACE No. 2. The steel substrate shall have a minimum angular profile depth of 2.5 mils.

Prior to application of the spray metalized coating, the steel substrate shall be heated to 250 degrees F to remove moisture from the steel. A minimum surface temperature shall be maintained during application of the spray metalized coating to prevent condensation of moisture on the substrate. Time between the completion of the final blasting and the completion of the thermal spraying should be no greater than six hours. If rust bloom, blistering or degraded coating appears at any time during the application of the coating system, repair the unsatisfactory portions per the specifications.

Following cleaning and preparation, spray metalize the dolphin caps with a pure zinc coating per the SSPC CS–Guide 23, Current Edition. The coating shall have a minimum dry film thickness of 12 mils. The coating thickness shall be measured per SSPC–PA 2 with the following modification: no single measurement, including those that create a spot measurement, shall be less than 70% of the minimum required dry film thickness. The specified coating thickness shall be applied in several crossing passes laying down approximately 3 to 4 mils for each pass. The deposited coating system shall be uniform without blisters, cracks, loose particles, or exposed steel as examined with 10x magnification. Thermal spraying in low temperature environments, less than 40 degrees F, shall comply with SSPC–CS 23 requirements

The Contractor shall perform a minimum of one portable tension–bond measurement on each dolphin cap. The Contractor shall also perform a bend test at the beginning of each work shift or crew change, consisting of:

- Use carbon steel coupons of approximate dimension 2 in. x 4 in. x 8 in. x 0.05 in. thick.
- Surface preparation according to the contract specifications.
- Bend coupons 180 degrees around a 0.5 in. diameter mandrel. Bend test passes if there is no cracking or only minor cracking with no spalling or lifting (by a knife blade) from the substrate. Bend test fails if the coating cracks with lifting (by a knife blade) from the substrate

Seal the spray metalized coating with Pro–Line 4800/4801 Prothane H.S. as manufactured by Sherwin Williams or approved equal. Sealant color shall be clear. The seal coat shall be applied to 2 to 3 mils dry film thickness per manufacturer’s recommendations and in conformance with SSPC–PA 1. The sealer should be applied as soon as possible after thermal spraying and preferably within eight hours.

COATING REPAIR

Damaged galvanizing, including that removed for welding, shall be repaired by stick galvanizing with zinc sticks to a minimum thickness of 12 mils per ASTM A780, followed with a layer of zinc rich paint. Alternatively, spray metalizing, per the specifications, can be used for field coating repairs.

EPOXY ANCHORS

All epoxy anchors shall be Hilti HIT–HY 200 max adhesive and installed per manufacturer’s recommendations, unless otherwise noted.

ISSUED FOR BID

HERRON ISLAND FERRY
DOLPHIN REPLACEMENT

GENERAL NOTES

DESIGNED BY: JDO PROJECT NO: 154034.02 SHEET NO:
DRAWN BY: GRD DATE: DECEMBER 2016
CHECKED BY: TWB SCALE: NOTED

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Herron Island Ferry Dolphin Replacement Preliminary Submittal List

- 1 Schedule
- 2 Contact List
- 3 Project Site Specific Safety Plan
- 4 Construction Sequence
- 5 Demolition and Disposal Plan
- 6 Pile Driving Plan and Equipment
- 7 Shop Drawings
 - 7.1 Steel Pipe Pile
 - 7.2 Dolphin and Fender Caps
 - 7.3 Cylindrical Rubber Energy Absorbers
 - 7.4 HDPE Pipe Sleeves
- 8 Material Certifications
 - 8.1 Pipe
 - 8.2 Structural Steel
 - 8.3 Hardware
- 9 Welder Certifications
- 10 Weld Procedure Specifications
- 11 Test Results
 - 11.1 Cylindrical Rubber Energy Absorbers
 - 11.2 Spray Metalizing Tests

Herron Island Ferry Terminal Dolphin Replacement Project
PreBid Meeting January 24, 2017

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Herron Island Ferry Dolphin Replacement

Pre-Bid Meeting January 24, 2017

Sign In List

[illegible]

**Herron Island Ferry Dolphin Replacement
Planholders List**

Jan 30, 2017

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