



March 3, 2026

Mr. Boaz McMahan
City of Astoria
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Subject: **CATHODIC PROTECTION SYSTEM
MAINTENANCE AND REPAIR
7TH – 11TH STEET BRIDGE SUPPORT PILES
ASTORIA, OREGON**

Dear Boaz:

Please consider this updated proposal that includes the cost to provide each rectifier ETL certified.

As noted previously, this estimated budget for cathodic protection (CP) upgrades for support piles associated with the 7th through 11th Street bridges. Testing completed by NCL in January 15-16, 2025, indicated the above noted locations are not receiving adequate CP. CP system upgrades are required to provide adequate corrosion protection to these structures. Please consider the following scope of work:

1. **7th Street Bridge:** The CP system at the 7th Street bridge location has been vandalized and damaged by floating debris. The copper cables used to electrically bond the piles together have been removed or are broken. NCL recommends using epoxy coated rebar welded from pile to pile to restore continuity as was completed at the 6th Street bridge.
2. **7th – 11th Street Bridges:** Testing indicates the anode sleds associated with each of the subject bridges are functional and produce CP current output. However, the anode sleds are not providing sufficient current to achieve adequate protection. Due to the unique environment around the bridges, installation of additional anodes is very difficult and cost prohibitive. NCL recommends installing a current controlled rectifier at each location mounted adjacent to the existing junction boxes. A short run of flexible conduit and additional CP wires will be routed to the junction boxes and spliced into the existing wiring. *Note, a dedicated AC circuit will need to be installed at each location by qualified electrician prior to NCL's arrival. To reduce costs for additional site visits, the electrician should also be onsite during NCL's installation work so that each rectifier can be energized and commissioned.*
3. NCL will have meetings with project stakeholders to review the scope of work and discuss any installation challenges.
4. Drawings and bill of materials will be provided to the City for approval prior to beginning any work.
5. We estimate up to 10 days on site for a NCL two-person team (at least one team member will be AMPP/NACE certified). *Note, this budget does not include delays outside of our control e.g. permitting, site access, weather, etc.*

Please consider the following:

Item	Quantity	Description	Rate	Ext. Rate
1	1 lot	Drawings/BOM: NCL will provide design drawings and a bill of materials through a two-step submittal process. Pricing includes	\$2,820.00	\$2,820.00

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		budget for meetings/phone calls during the design process.		
2	1 lot	CP Materials: Five new rectifiers and associated CP materials. Rebar and weld materials for 7 th St. Bridge. Pricing assumes materials will be delivered when NCL mobilizes to the worksite. Rectifiers to be ETL certified.	\$40,705.00	\$40,705.00
3	1 lot	CP Installation and Commissioning: NCL two-person team to mob/demob to site twice for the installation of five rectifiers, conduit routed to the existing junction boxes and perform splices into the existing CP system wiring. One rectifier will be installed at each of the bridges from 7 th – 11 th St. Install epoxy coated rebar at the 7 th St bridge for the purpose of electrical continuity. Upon completion of the installation the systems will be energized and tested. A written report will be provided detailing the results of the testing. We estimate up to 10 days for this effort.	\$35,024.00	\$35,024.00
4	1 lot	Post Installation Testing and Report: A minimum of 1 month after completion of installation NCL NACE Certified personnel to complete post installation testing and adjustment of CP system rectifiers. Budget includes 2 days onsite to allow for testing system at different tidal levels. A written report detailing the results of the inspection will be provided.	\$5,220.00	\$5,220.00

Total Estimated Budget

\$83,769.00

Terms: If additional days onsite are required NCL can accommodate at a rate of \$3,260. If additional mobilizations are required NCL can accommodate at a rate of \$2,762 per trip. Net 30 days on approved credit. Validity of proposal 60 days. NCL maintains \$5 Million professional liability insurance- higher limits are available at additional cost. Thank you for the opportunity to present this proposal. We look forward to your positive response.

Sincerely,



Philip Goodwin
 Technical Marketing

 Authorized by

 Date