



"The Concrete Restoration Specialists"



9-19-17
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250 41st Ave. Drive SW • Cedar Rapids, IA 52404 • Telephone (319) 364-5355 • Fax (319) 365-5316

Date: 9/8/2017
To: Kenny Schmitz
Building Services Director
Woodbury County Building Services Department

Project: Courthouse Basement Column Repairs

We are pleased to submit the following proposal to make needed structural concrete repairs to the above-mentioned structure. Should you have any questions regarding this proposal please don't hesitate to contact me directly.

CONSTRUCTION PROCEDURES

- Mobilize to site.
- Complete pre-job safety inspection and set up safety awareness plans for the site.
- Set up safe access to the repair areas.
- Complete specified concrete repairs
- Clean the project area, properly dispose of concrete rubble and other construction debris, and de-mobilize from site.

PROPOSED PRICING

Mobilization	\$ 1,380.00
Concrete Repairs (T&M)	\$ 17,631.00
Total	\$ 19,011.00

ALTERNATE: DAS and XP4 Anode installation \$ 2,650.00

QUALIFICATIONS, TERMS, & CONDITIONS

- Quote good for 30 days.
- Payment net 30 days.
- Garbage disposal for concrete rubble and regular garbage provided by others.
- Access to the work area during regular business hours Monday-Friday.
- All work completed using Vector Construction Inc. work force.
- All work to be completed during 10-hour shifts, Monday through Friday.
- All work will be invoiced at T&M rates provided.
- Parking and storage areas provided by owner.
- Should the scope of work change or additional work locations be identified; such work would be completed at T&M rates provided.
- Work on all areas to be completed with one mobilization with complete continuity of work. Any additional mobilizations will be invoiced separately at an agreed upon rate.

www.vector-construction.com

Winnipeg, MB • Saskatoon, SK, Spruce Grove, AB, Thunder Bay ON, Stoney Creek, ON, Fargo, ND, Cedar Rapids, IA, Tampa FL, Decatur, IL



VECTOR CONSTRUCTION INC.
Estimate of Work

CUSTOMER: Woodbury County	DATE: 9/8/2017
ADDRESS: Sioux City, IA	ORDER #:
WORK LOCATION: Courthouse Basement	PROJECT:
CONTACT: Kenny Schmitz	JOB NUMBER:

Mobilization	\$1,380.00
Labor	\$7,290.00
Equipment	\$2,250.00
Material	<u>\$4,922.50</u>
Subtotal	\$15,842.50
10% Mark-up	\$1,584.25
10% Overhead	<u>\$1,584.25</u>
Project Total	\$19,011.00

This represents a reasonable good faith estimate of the cost to perform the defined scope of work. Final invoice will represent actual time spent on site and material purchased. Factors beyond our control including delays in gaining access to work areas, process spills flooding work area, overtime hours if required to complete work, additional or larger patches repaired, etc would be reflected in the final invoice costs.



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- Pricing includes all labor, materials, and equipment necessary to complete the installation of the items bid only.
- Work areas are to be clear of other contractors and obstructions in to provide continuity of work for Vector.
- This repair is intended to improve the current situation. Vector is not providing an engineering analysis or design of the structure.
- Removal of fence and any necessary hoarding required to be provided by owner.

HEALTH, SAFETY, AND ENVIRONMENT

Vector's workplace health, safety and environmental protection policy initiatives demonstrate the integrity with which we embrace our ethical responsibilities. We strive to prevent workplace injury, property, and equipment damage and to control risks to our customers, the public and the environment. Vector's goal is to minimize the impact of construction on our environment.

Vector has recently completed and is certified in the SAFESTART program. SAFESTART is designed to improve the safety for all of our employees through motivation, participation and creating a positive shift in their safety culture at work and at home.

For additional information on our range of products and services for corrosion mitigation of concrete structures please visit our web site at www.vector-construction.com

If you have any questions or comments, please feel free to contact me at your convenience.

Sincerely,

VECTOR CONSTRUCTION INC.

A handwritten signature in blue ink that reads "Kyle Kuenstling".

Kyle Kuenstling
Division Manager
Mobile: 319-240-4725
Email: kylek@vector-construction.com

Acceptance of Vector Proposal by an authorized Woodbury County Signer:

Printed Name: Matthew Ung
Signature:
Title: Chairman Date: 9-19-17

www.vector-construction.com

Project: Column Repairs

Labor

Date	FOREMAN (1)			REPAIR TECHNICIAN (1)		
	Straight Hrs	Overtime Hrs	Travel	Straight Hrs	Overtime Hrs	Travel
Day 1	4	2	4	4	2	4
Day 2	8	2	0	8	2	0
Day 3	8	2	0	8	2	0
Day 4	8	2	0	8	2	0
Day 5	6	0	4	6	0	4
Total Hours	34	8	8	34	8	8
Rate	\$70.00	\$105.00	\$70.00	\$65.00	\$97.50	\$65.00
	\$2,380.00	\$840.00	\$560.00	\$2,210.00	\$780.00	\$520.00

Total Labor \$7,290.00

Equipment Rental

Date	Daily Rate
Day 1	1
Day 2	1
Day 3	1
Day 4	1
Day 5	1
Total Units	5
Rate	\$450.00

Total Equipment \$2,250.00

Material

	Room & Board	Repair Material	Forming Materials
Total Units	8	65	1
Rate	\$95.00	\$52.50	\$750.00
Total	\$760.00	\$3,412.50	\$750.00

Total Material \$4,922.50

**Prices listed do not reflect installation of
DAS and XP4 anodes.**



GALVANIC SYSTEMS

Vector® Galvanode® DAS Distributed Anode System for Corrosion Control and Cathodic Protection

Description

Galvanode DAS is a distributed anode system designed to provide corrosion control or cathodic protection to concrete decks, columns, beams and walls. Galvanode DAS anode units are distributed over concrete and masonry structures to provide global corrosion protection.

The quantity of zinc provided, the anode shape, electrical components and installation procedures are customized to meet specific project requirements. Individual Galvanode DAS anode units are typically square, rectangular, oval or circular in cross section and can be supplied in lengths of up to 7.5 ft (2.3 m). The system is quickly and easily installed to provide corrosion protection for a variety of applications. The system can be encased in new concrete, embedded in concrete overlays, encapsulated inside reinforced concrete jackets or used in conjunction with stay-in-place forms for column protection.

Applications

- Bridges, piers and wharves
- Power and industrial plant rehabilitation
- Concrete jacketing/section enlargement
- Galvanic jackets for columns
- Galvanic deck overlays
- Service life extension in severe service conditions
- Conventionally reinforced and prestressed/post-tensioned concrete

Features and Benefits

- **Proven technology** - supported by independent test program.
- **High capacity** - can provide more zinc and more current output than other galvanic anode systems.
- **Design flexibility** - anode design and spacing can be customized to meet project performance requirements and service life objectives.
- **Versatile** - can be used for both conventionally reinforced and prestressed or post-tensioned concrete.
- **User friendly** - installation is quick and easy, requiring no specialized equipment.
- **Low maintenance** - requires no external power source or system monitoring.
- **Measurable** - system performance can be easily monitored if required.
- **Embedded system** - provides more uniform performance, eliminates risk of vandalism.
- **Long lasting** - 10 to 40 year service life* reduces the need for future repairs.

*As with all galvanic protection systems, service life is dependent upon a number of factors including reinforcing steel density, concrete conductivity, chloride ion concentration, temperature, humidity and anode spacing.



Galvanic anode system on bridge pier prior to concrete placement

Level of Protection	Description	Galvanode DAS
Corrosion Prevention	Preventing new corrosion activity from initiating	•
Corrosion Control	Significantly reducing active corrosion	•
Cathodic Protection	Stopping active corrosion by applying on-going electrical current	•
Corrosion Passivation	Stopping active corrosion by changing the concrete environment around the steel	



Galvanic anode system on bridge deck prior placement of reinforced concrete overlay



Vector®

Galvanode® DAS

Galvanic protection shall be provided using Galvanode DAS anode units as manufactured by Vector Corrosion Technologies. The distributed galvanic anode units shall be alkali-activated with a pH greater than 14 and contain zinc evenly distributed along the length of the unit. Zinc shall be in compliance with ASTM B418 Type II. The zinc shall be formed around a steel core which is continuous along the length of the unit. The anode unit shall include FRP reinforcing to resist expansion, and shall not contain intentionally added constituents that are corrosive to reinforcing steel as per ACI 222R such as chlorides, bromides, or other halides. Unless otherwise specified, the anode unit shall be supplied with a pair of integral heat-treated, uncoated steel tie wires with loop ties to make connections to the reinforcing steel.

How It Works

When two dissimilar metals are coupled together in an electrolyte, the metal with the higher potential for corrosion (more electronegative) will corrode in preference to the more noble metal. In concrete applications, the Galvanode DAS zinc anode unit corrodes in favor of the reinforcing steel and produces an electrical current that mitigates corrosion activity.

Design Criteria

Galvanode DAS distributed anode system can be used for corrosion prevention, corrosion control or cathodic protection applications. Anode unit design and spacing are varied to meet project objectives. Anode spacing can vary from 6 in. (150 mm) to 30 in. (750 mm) on center depending upon project objectives, the severity of the service environment and expected service life of the anode components. For assistance with system design, please contact Vector Corrosion Technologies.

Typical Anode Unit Sizes*		
Anode Size	Zinc Weight	
	lb./ft.	kg/m
Small	0.25	0.37
Medium	0.60	0.89
Large	1.20	1.80

* Galvanode DAS anode unit size and lengths are customized to meet project requirements. Typical anode weights are listed above.

Installation Instructions

Galvanode DAS distributed anode systems are used for a wide range of applications. Specific application procedures can be developed on a project-by-project basis. For additional information, please contact Vector Corrosion Technologies.

Precautions

Galvanode DAS distributed anode system is not intended to address or repair structural damage. Where structural damage exists, consult a structural engineer. Do not allow Galvanode DAS anode units to be soaked prior to installation. For optimum performance, encasement concrete resistivity should be less than 15,000 ohm-cm. Concrete with significant amounts of polymer or silica fume may have higher resistivity. For applications where wetting will occur such as in tidal zone protection, use Galvanode DAS Marine anode units.

Packaging

Galvanode DAS Distributed Anode System	Custom-packaged based on project requirements. For additional information, contact Vector Corrosion Technologies.
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Storage

Store in dry conditions in the original unopened containers for up to one year from date of manufacture. System should be installed within one month of opening container. Take special precaution not to damage anode components during transportation or while handling. Avoid extremes of temperature and humidity.

Health and Safety

Contact with moisture can release alkalis which may be harmful to exposed skin. Anode components should be handled with suitable gloves and other personal protective equipment in accordance with standard procedures for handling cement and other alkaline materials. Additional safety information is included in the Material Safety Data Sheet.

Related Documents

A range of related documents are available including installation instructions, guideline specifications, project histories, applications, and MSDS. For more information, contact Vector Corrosion Technologies.

About Vector

Vector Corrosion Technologies takes pride in offering technically advanced, cost effective corrosion protection solutions to extend the service life and improve the durability of concrete and masonry structures around the world. Vector has earned numerous project awards and patents for product innovation and is committed to a safe, healthy and sustainable environment. For additional information or technical support, please contact any Vector office or our extensive network of international distributors.

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2017 Time and Material Rate Sheet



Vector Construction Inc.
Specialty Repair & Corrosion Services
250 41st Ave. Dr. Sw
Cedar Rapids, IA 52404
Phone (319) 364-5355
Website: www.vector-construction.com

Mobilization.....\$1,380.00

Labor:

	<u>Straight Time</u>	<u>Overtime</u>
Foreman	\$70.00 per hour	\$105.00 per hour
Concrete Repair Technician	\$65.00 per hour	\$ 97.50 per hour

Above rates for first 8 hours worked Monday – Friday. All hours in excess of 8 hours per weekday and all weekend work shall be completed at OT rates. Room and board will be charged at the rate of \$95.00 per day per man. Travel time to and from Cedar Rapids at ST rates.

Equipment:

Equipment required on this project will be supplied at the rate of **\$450.00** per day per crew. Equipment includes Vector trucks and vehicles, trailers, safety equipment, minor scaffolding, and hand tools including scarifiers, chipping hammers, demo saws, etc. Any non-standard rented equipment will be billed at the invoice rate plus overhead and mark-up (compressors, bobcats, large generators etc.).

Material:

All materials, if required, will be invoiced at cost with overhead and mark-up added as indicated.

Overhead and Mark-up:

An overhead allowance of 10% and a mark-up of 10% will be added to the subtotal of equipment, materials and subcontractors.

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Vector has a defined corporate safety policy and operates a drug and alcohol free workplace. All Vector employees are subject to pre-employment drug and alcohol screening, random testing during the duration of employment, and additional testing for reasonable cause, or after the occurrence or near miss occurrence of a workplace accident. All drug and alcohol testing of prospective and current employees of Vector is conducted by an independent testing company certified to perform drug and alcohol testing.

Vector has recently completed and is certified in the SAFESTART program. SAFESTART is designed to improve the safety for all of our employees through motivation, participation and creating a positive shift in their safety culture at work and at home.

For additional information on our range of products and services for corrosion mitigation of concrete structures please visit our web site at www.vectorgroup.com.

If you have any questions or comments, please feel free to contact me at your convenience.

Sincerely,

VECTOR CONSTRUCTION INC.
(319) 364-5355 Office