

BID OF _____

2019

PROPOSAL, CONTRACT, BOND AND SPECIFICATIONS

FOR

SOUTHWEST BIKEPATH CULVERT REPLACEMENT AT WAITE CIRCLE - 2019

CONTRACT NO. 8466

MUNIS NO. 12481

IN

MADISON, DANE COUNTY, WISCONSIN

AWARDED BY THE COMMON COUNCIL
MADISON, WISCONSIN ON _____

CITY ENGINEERING DIVISION
1600 EMIL STREET
MADISON, WISCONSIN 53713

<https://bidexpress.com/login>

**SOUTHWEST BIKEPATH CULVERT REPLACEMENT AT WAITE CIRCLE - 2019
CONTRACT NO. 8466**

INDEX

SECTION A: ADVERTISEMENT FOR BIDS AND INSTRUCTIONS TO BIDDERSA-1
SECTION B: PROPOSAL SECTIONB-1
SECTION C: SMALL BUSINESS ENTERPRISE C-1
SECTION D: SPECIAL PROVISIONS..... D-1
SECTION E: BIDDER’S ACKNOWLEDGEMENTE-1
SECTION F: BEST VALUE CONTRACTINGF-1
SECTION G: BID BOND G-1
SECTION H: AGREEMENT H-1
SECTION I: PAYMENT AND PERFORMANCE BONDI-1

Exhibits available in Bid Express:

Appendix A Bid Drawings

This Proposal, and Agreement have
been prepared by:

**CITY ENGINEERING DIVISION
CITY OF MADISON
MADISON, DANE COUNTY, WISCONSIN**



Robert F. Phillips, P.E., City Engineer

RFP: cb

SECTION A: ADVERTISEMENT FOR BIDS AND INSTRUCTIONS TO BIDDERS

REQUEST FOR BID FOR PUBLIC WORKS CONSTRUCTION CITY OF MADISON, WISCONSIN

A BEST VALUE CONTRACTING MUNICIPALITY

PROJECT NAME:	SOUTHWEST BIKEPATH CULVERT-REPLACEMENT AT WAITE CIRCLE - 2019
CONTRACT NO.:	8466
SBE GOAL	10%
BID BOND	5%
SBE PRE BID MEETING (1:00 P.M.)	AUGUST 30, 2019
PREQUALIFICATION APPLICATION DUE (2:00 P.M.)	AUGUST 29, 2019
BID SUBMISSION (2:00 P.M.)	SEPTEMBER 5, 2019
BID OPEN (2:30 P.M.)	SEPTEMBER 5, 2019
PUBLISHED IN WSJ	AUGUST 22 & 29, 2019

SBE PRE BID MEETING: Representatives of the Affirmative Action Department will be present to discuss the Small Business Enterprise requirements at 1600 Emil Street, Madison Wisconsin.

PREQUALIFICATION APPLICATION: Forms are available on our website, www.cityofmadison.com/business/pw/forms.cfm. If not currently prequalified in the categories listed in Section A, an amendment to your Prequalification will need to be submitted prior to the same due date. Postmark is not applicable.

BIDS TO BE SUBMITTED by hand to 1600 EMIL ST., MADISON, WI 53713 or online at www.bidexpress.com.

THE BID OPENING is at 1600 EMIL ST., MADISON, WI 53713.

STANDARD SPECIFICATIONS

The City of Madison's Standard Specifications for Public Works Construction - 2019 Edition, as supplemented and amended from time to time, forms a part of these contract documents as if attached hereto.

These standard specifications are available on the City of Madison Public Works website, www.cityofmadison.com/Business/PW/specs.cfm.

The Contractor shall review these Specifications prior to preparation of proposals for the work to be done under this contract, with specific attention to Article 102, "BIDDING REQUIREMENTS AND CONDITIONS" and Article 103, "AWARD AND EXECUTION OF THE CONTRACT." For the convenience of the bidder, below are highlights of three subsections of the specifications.

SECTION 102.1: PRE-QUALIFICATION OF BIDDERS

In accordance with Wisconsin State Statutes 66.0901 (2) and (3), all bidders must submit to the Board of Public Works proof of responsibility on forms furnished by the City. The City requires that all bidders be qualified on a biennial basis.

Bidders must present satisfactory evidence that they have been regularly engaged in the type of work specified herein and they are fully prepared with necessary capital, materials, machinery and supervisory personnel to conduct the work to be contracted for to the satisfaction of the City. All bidders must be pre-qualified by the Board of Public Works for the type of construction on which they are bidding prior to the opening of the bid.

In accordance with Section 39.02(9)(a)l. of the General Ordinances, all bidders shall submit in writing to the Affirmative Action Division Manager of the City of Madison, a Certificate of Compliance or an Affirmative Action Plan at the same time or prior to the submission of the proof of responsibility forms.

The bidder shall be disqualified if the bidder fails to or refuses to, prior to opening of the bid, submit a Certificate of compliance, Affirmative Action Plan or Affirmative Action Data Update, as applicable, as defined by Section 39.02 of the General Ordinances (entitled Affirmative Action) and as required by Section 102.11 of the Standard Specifications.

SECTION 102.4 PROPOSAL

No bid will be accepted that does not contain an adequate or reasonable price for each and every item named in the Schedule of Unit Prices.

A lump sum bid for the work in accordance with the plans and specifications is required. The lump sum bid must be the same as the total amounts bid for the various items and it shall be inserted in the space provided.

All papers bound with or attached to the proposal form are considered a part thereof and must not be detached or altered when the proposal is submitted. The plans, specifications and other documents designated in the proposal form will be considered a part of the proposal whether attached or not.

A proposal submitted by an individual shall be signed by the bidder or by a duly authorized agent. A proposal submitted by a partnership shall be signed by a member/partner or by a duly authorized agent thereof. A proposal submitted by a corporation shall be signed by an authorized officer or duly authorized registered agent of such corporation, and the proposal shall show the name of the State under the laws of which such corporation was chartered. The required signatures shall in all cases appear in the space provided thereof on the proposal.

Each proposal shall be placed, together with the proposal guaranty, in a sealed envelope, so marked as to indicate name of project, the contract number or option to which it applies, and the name and address of the Contractor or submitted electronically through Bid Express (www.bidexpress.com). Proposals will be accepted at the location, the time and the date designated in the advertisement. Proposals received after the time and date designated will be returned to the bidder unopened.

SECTION 102.5: BID DEPOSIT (PROPOSAL GUARANTY)

All bids, sealed or electronic, must be accompanied with a Bid Bond (City of Madison form) equal to at least 5% of the bid or a Certificate of Annual/Biennial Bid Bond or certified check, payable to the City Treasurer. Bid deposit of the successful bidders shall be returned within forty-eight (48) hours following execution of the contract and bond as required.

MINOR DISCREPENCIES

Bidder is responsible for submitting all forms necessary for the City to determine compliance with State and City bidding requirements. Notwithstanding any language to the contrary contained herein, the City may exercise its discretion to allow bidders to correct or supplement submissions after bid opening, if the minor discrepancy, bid irregularity or omission is insignificant and not one related to price, quality, quantity, time of completion or performance of the contract.

Bidders for this Contract(s) must be Pre-Qualified for at least one of the following type(s) of construction denoted by an

Building Demolition

- 101 Asbestos Removal
- 120 House Mover

- 110 Building Demolition

Street, Utility and Site Construction

- 201 Asphalt Paving
- 205 Blasting
- 210 Boring/Pipe Jacking
- 215 Concrete Paving
- 220 Con. Sidewalk/Curb & Gutter/Misc. Flat Work
- 221 Concrete Bases and Other Concrete Work
- 222 Concrete Removal
- 225 Dredging
- 230 Fencing
- 235 Fiber Optic Cable/Conduit Installation
- 240 Grading and Earthwork
- 241 Horizontal Saw Cutting of Sidewalk
- 242 Infrared Seamless Patching
- 245 Landscaping, Maintenance
- 246 Ecological Restoration
- 250 Landscaping, Site and Street
- 251 Parking Ramp Maintenance
- 252 Pavement Marking
- 255 Pavement Sealcoating and Crack Sealing
- 260 Petroleum Above/Below Ground Storage Tank Removal/Installation
- 262 Playground Installer

- 265 Retaining Walls, Precast Modular Units
- 270 Retaining Walls, Reinforced Concrete
- 275 Sanitary, Storm Sewer and Water Main Construction
- 276 Sawcutting
- 280 Sewer Lateral Drain Cleaning/Internal TV Insp.
- 285 Sewer Lining
- 290 Sewer Pipe Bursting
- 295 Soil Borings
- 300 Soil Nailing
- 305 Storm & Sanitary Sewer Laterals & Water Svc.
- 310 Street Construction
- 315 Street Lighting
- 318 Tennis Court Resurfacing
- 320 Traffic Signals
- 325 Traffic Signing & Marking
- 332 Tree pruning/removal
- 333 Tree, pesticide treatment of
- 335 Trucking
- 340 Utility Transmission Lines including Natural Gas, Electrical & Communications
- 399 Other _____

Bridge Construction

- 501 Bridge Construction and/or Repair

Building Construction

- 401 Floor Covering (including carpet, ceramic tile installation, rubber, VCT)
- 402 Building Automation Systems
- 403 Concrete
- 404 Doors and Windows
- 405 Electrical - Power, Lighting & Communications
- 410 Elevator - Lifts
- 412 Fire Suppression
- 413 Furnishings - Furniture and Window Treatments
- 415 General Building Construction, Equal or Less than \$250,000
- 420 General Building Construction, \$250,000 to \$1,500,000
- 425 General Building Construction, Over \$1,500,000
- 428 Glass and/or Glazing
- 429 Hazardous Material Removal
- 430 Heating, Ventilating and Air Conditioning (HVAC)
- 433 Insulation - Thermal
- 435 Masonry/Tuck pointing

- 437 Metals
- 440 Painting and Wallcovering
- 445 Plumbing
- 450 Pump Repair
- 455 Pump Systems
- 460 Roofing and Moisture Protection
- 464 Tower Crane Operator
- 461 Solar Photovoltaic/Hot Water Systems
- 465 Soil/Groundwater Remediation
- 466 Warning Sirens
- 470 Water Supply Elevated Tanks
- 475 Water Supply Wells
- 480 Wood, Plastics & Composites - Structural & Architectural
- 499 Other _____

State of Wisconsin Certifications

- 1 Class 5 Blaster - Blasting Operations and Activities 2500 feet and closer to inhabited buildings for quarries, open pits and road cuts.
- 2 Class 6 Blaster - Blasting Operations and Activities 2500 feet and closer to inhabited buildings for trenches, site excavations, basements, underwater demolition, underground excavations, or structures 15 feet or less in height.
- 3 Class 7 Blaster - Blasting Operations and Activities for structures greater than 15 ' in height, bridges, towers, and any of the objects or purposes listed as "Class 5 Blaster or Class 6 Blaster".
- 4 Petroleum Above/Below Ground Storage Tank Removal and Installation (Attach copies of State Certifications.)
- 5 Hazardous Material Removal (Contractor to be certified for asbestos and lead abatement per the Wisconsin Department of Health Services, Asbestos and Lead Section (A&LS).) See the following link for application: www.dhs.wisconsin.gov/Asbestos/Cert. State of Wisconsin Performance of Asbestos Abatement Certificate must be attached.
- 6 Certification number as a Certified Arborist or Certified Tree Worker as administered by the International Society of Arboriculture
- 7 Pesticide application (Certification for Commercial Applicator For Hire with the certification in the category of turf and landscape (3.0) and possess a current license issued by the DATCP)
- 8 State of Wisconsin Master Plumbers License.

SECTION B: PROPOSAL

Please refer to the
Bid Express Website
at <https://bidexpress.com>
look up contract number
and go to
Section B: Proposal Page

You can access all City of Madison bid solicitations for FREE at www.bidexpress.com

Click on the "Register for Free" button and follow the instructions to register your company and yourself. You will be asked for a payment subscription preference, since you may wish to bid online someday. Simply choose the method to pay on a 'per bid' basis. This requires no payment until / unless you actually bid online. You can also choose the monthly subscription plan at this time. You will, however, be asked to provide payment information. Remember, you can change your preference at anytime. You will then be able to complete your free registration and have full access to the site. Your free access does not require completion of the 'Digital ID' process, so you will have instant access for viewing and downloading. To be prepared in case you ever do wish to bid online, you may wish to establish your digital ID also, since you cannot bid without a Digital ID.

If you have any problems with the free registration process, you can call the bidexpress help team, toll free at 1-888-352-2439 (option 1, option1).

SECTION C: SMALL BUSINESS ENTERPRISE

Instructions to Bidders City of Madison SBE Program Information

2 Small Business Enterprise (SBE) Program Information

2.1 Policy and Goal

The City of Madison reaffirms its policy of nondiscrimination in the conduct of City business by maintaining a procurement process which remains open to all who have the potential and ability to sell goods and services to the City. It is the policy of the City of Madison to allow Small Business Enterprises (SBE) maximum feasible opportunity to participate in City of Madison contracting. The bidder acknowledges that its bid has been submitted in accordance with the SBE program and is for the public's protection and welfare.

Please refer to the "ADVERTISEMENT FOR BIDS" for the goal for the utilization of SBEs on this project. SBEs may participate as subcontractors, vendors and/or suppliers, which provide a commercially useful function. The dollar value for SBE suppliers or 'materials only' vendors shall be discounted to 60% for purposes of meeting SBE goals.

A bidder which achieves or exceeds the SBE goal will be in compliance with the SBE requirements of this project. In the event that the bidder is unable to achieve the SBE goal, the bidder must demonstrate that a good faith effort to do so was made. Failure to either achieve the goal or demonstrate a good faith effort to do so will be grounds for the bidder being deemed a non-responsible contractor ineligible for award of this contract.

A bidder may count towards its attainment of the SBE goal only those expenditures to SBEs that perform a commercially useful function. For purposes of evaluating a bidder's responsiveness to the attainment of the SBE goal, the contract participation by an SBE is based on the percentage of the total base bid proposed by the Contractor. The total base bid price is inclusive of all addenda.

Work performed by an SBE firm in a particular transaction can be counted toward the goal only if it involves a commercially useful function. That is, in light of industry practices and other relevant considerations, does the SBE firm have a necessary and useful role in the transaction, of a kind for which there is a market outside the context of the SBE Program, or is the firm's role a superfluous step added in an attempt to obtain credit towards goals? If, in the judgment of the Affirmative Action Division, the SBE firm will not perform a commercially useful function in the transaction, no credit towards goals will be awarded.

The question of whether a firm is performing a commercially useful function is completely separate from the question of whether the firm is an eligible SBE. A firm is eligible if it meets the definitional criteria and ownership and control requirements, as set forth in the City of Madison's SBE Program.

If the City of Madison determines that the SBE firm is performing a commercially useful function, then the City of Madison must then decide what that function is. If the commercially useful function is that of an SBE vendor / supplier that regularly transacts business with the respective product, then the City of Madison will count 60% of the value of the product supplied toward SBE goals.

To be counted, the SBE vendor / supplier must be engaged in selling the product in question to the public. This is important in distinguishing an SBE vendor / supplier, which has a regular trade with a variety of customers, from a firm which performs supplier-like functions on an ad hoc basis or for only one or two contractors with whom it has a special relationship.

A supplier of bulk goods may qualify as an eligible SBE vendor / supplier if it either maintains an inventory or owns or operates distribution equipment. With respect to the distribution equipment; e.g., a fleet of trucks, the term "operates" is intended to cover a situation in which the supplier leases the equipment on a regular basis for its entire business. It is not intended to cover a situation in which the firm simply provides drivers for trucks owned or leased by another party; e.g., a prime contractor, or leases such a party's trucks on an ad hoc basis for a specific job.

If the commercially useful function being performed is not that of a qualified SBE vendor / supplier, but rather that of delivery of products, obtaining bonding or insurance, procurement of personnel, acting as a broker or manufacturer's representative in the procurement of supplies, facilities, or materials, etc., only the fees or commissions will apply towards the goal.

For example, a business that simply transfers title of a product from manufacturer to ultimate purchaser; e. g., a sales representative who re-invoices a steel product from the steel company to the Contractor, or a firm that puts a product into a container for delivery would not be considered a qualified SBE vendor / supplier. The Contractor would not receive credit based on a percentage of the cost of the product for working with such firms.

Concerning the use of services that help the Contractor obtain needed supplies, personnel, materials or equipment to perform a contract: only the fee received by the service provider will be counted toward the goal. For example, use of a SBE sales representative or distributor for a steel company, if performing a commercially useful function at all, would entitle the Contractor receiving the steel to count only the fee paid to the representative or distributor toward the goal. This provision would also govern fees for professional and other services obtained expressly and solely to perform work relating to a specific contract.

Concerning transportation or delivery services: if an SBE trucking company picks up a product from a manufacturer or a qualified vendor / supplier and delivers the product to the Contractor, the commercially useful function it is performing is not that of a supplier, but simply that of a transporter of goods. Unless the trucking company is itself the manufacturer or a qualified vendor / supplier in the product, credit cannot be given based on a percentage of the cost of the product. Rather, credit would be allowed for the cost of the transportation service.

The City is aware that the rule's language does not explicitly mention every kind of business that may contribute work on this project. In administering these programs, the City would, on a case-by-case basis, determine the appropriate counting formula to apply in a particular situation.

2.2 Contract Compliance

Questions concerning the SBE Program shall be directed to the Contract Compliance Officer of the City of Madison Department of Civil Rights, Affirmative Action Division, 210 Martin Luther King, Jr. Blvd., Room 523, Madison, WI 53703; telephone (608) 266-4910.

2.3 Certification of SBE by City of Madison

The Affirmative Action Division maintains a directory of SBEs which are currently certified as such by the City of Madison. Contact the Contract Compliance Officer as indicated in Section 2.2 to receive a copy of the SBE Directory or you may access the SBE Directory online at www.cityofmadison.com/dcr/aaTBDDir.cfm.

All contractors, subcontractors, vendors and suppliers seeking SBE status must complete and submit the **Targeted Business Certification Application** to the City of Madison Affirmative Action Division by the time and date established for receipt of bids. A copy of the Targeted Business Certification Application is available by contacting the Contract Compliance Officer at the address and telephone indicated in Section 2.2 or you may access the Targeted Business Certification Application online at www.cityofmadison.com/dcr/aaTBDDir.cfm. Submittal of the Targeted Business Certification Application by the time specified does not guarantee that the applicant will be certified as a SBE eligible to be utilized towards meeting the SBE goal for this project.

2.4 Small Business Enterprise Compliance Report

2.4.1 Good Faith Efforts

Bidders shall take all necessary affirmative steps to assure that SBEs are utilized when possible and that the established SBE goal for this project is achieved. A contractor who self performs a portion of the work, and is pre-qualified to perform that category of work, may subcontract that portion of the work, but shall not be required to do so. When a bidder is unable to achieve the established SBE goal, the bidder must demonstrate that a good faith effort to do so was made. Such a good faith effort should include the following:

- 2.4.1.1 Attendance at the pre-bid meeting.
- 2.4.1.2 Using the City of Madison's directory of certified SBEs to identify SBEs from which to solicit bids.
- 2.4.1.3 Assuring that SBEs are solicited whenever they are potential sources.
- 2.4.1.4 Referring prospective SBEs to the City of Madison Affirmative Action Division for certification.
- 2.4.1.5 Dividing total project requirements into smaller tasks and/or quantities, where economically feasible, to permit maximum feasible SBE participation.
- 2.4.1.6 Establishing delivery schedules, where requirements permit, which will encourage participation by SBEs.
- 2.4.1.7 Providing SBEs with specific information regarding the work to be performed.
- 2.4.1.8 Contacting SBEs in advance of the deadline to allow such businesses sufficient time to prepare a bid.
- 2.4.1.9 Utilizing the bid of a qualified and competent SBE when the bid of such a business is deemed reasonable (i.e. 5% above the lowest bidder), although not necessarily low.
- 2.4.1.10 Contacting SBEs which submit a bid, to inquire about the details of the bid and confirm that the scope of the work was interpreted as intended.
- 2.4.1.11 Completion of Cover Page (page C-6), Summary Sheet (page C-7) and SBE Contact Reports (pages C-8 and C9) if applicable.

2.4.2 Reporting SBE Utilization and Good Faith Efforts

The Small Business Enterprise Compliance Report is to be submitted by the bidder with the bid: This report is due by the specified bid closing time and date. Bids submitted without a completed SBE Compliance Report as outlined below may be deemed non-responsible and the bidder ineligible for award of this contract. Notwithstanding any language to the contrary contained herein, the City may exercise its discretion to allow bidders to correct or supplement submissions after bid opening, if the minor discrepancy, bid irregularity or omission is insignificant and not one related to price, quality, quantity, time of completion, performance of the contract, or percentage of SBE utilization.

2.4.2.1 If the Bidder meets or exceeds the goal established for SBE utilization, the Small Business Enterprise Compliance Report shall consist of the following:

- 2.4.2.1.1 **Cover Page**, Page C-6; and
- 2.4.2.1.2 **Summary Sheet**, C-7.

2.4.2.2 If the bidder does not meet the goal established for SBE utilization, the Small Business Enterprise Compliance Report shall consist of the following:

- 2.4.2.2.1 **Cover Page**, Page C-6;
- 2.4.2.2.2 **Summary Sheet**, C-7; and
- 2.4.2.2.3 **SBE Contact Report**, C-8 and C-9. (A separate Contact Report must be completed for each applicable SBE which is not utilized.)

2.5 Appeal Procedure

A bidder which does not achieve the established goal and is found non-responsible for failure to demonstrate a good faith effort to achieve such goal and subsequently denied eligibility for award of contract may appeal that decision to the Small Business Enterprises Appeals Committee. All appeals shall be made in writing, and shall be delivered to and received by the City Engineer no later than 4:30 PM on the third business day following the bidder's receipt of the written notification of ineligibility by the Affirmative Action Division Manager. Postmark not acceptable. The notice of appeal shall state the basis for the appeal of the decision of the Affirmative Action Division Manager. The Appeal shall take place in accordance with Madison General Ordinance 33.54.

2.6 SBE Requirements After Award of the Contract

The successful bidder shall identify SBE subcontractors, suppliers and vendors on the subcontractor list in accordance with the specifications. The Contractor shall submit a detailed explanation of any variances between the listing of SBE subcontractors, vendors and/or suppliers on the subcontractor list and the Contractor's SBE Compliance Report for SBE participation.

No change in SBE subcontractors, vendors and/or suppliers from those SBEs indicated in the SBE Compliance Report will be allowed without prior approval from the Engineer and the Affirmative Action Division. The contractor shall submit in writing to the City of Madison Affirmative Action Division a request to change any SBE citing specific reasons which necessitate such a change. The Affirmative Action Division will use a general test of reasonableness in approving or rejecting the contractor's request for change. If the request is approved, the Contractor will make every effort to utilize another SBE if available.

The City will monitor the project to ensure that the actual percentage commitment to SBE firms is carried out.

2.7 SBE Definition and Eligibility Guidelines

A Small Business Enterprise is a business concern awarded certification by the City of Madison. For the purposes of this program a Small Business Enterprise is defined as:

- A. An independent business operated under a single management. The business may not be a subsidiary of any other business and the stock or ownership may not be held by any individual or any business operating in the same or a similar field. In determining whether an entity qualifies as a SBE, the City shall consider all factors relevant to being an independent business including, but not limited to, the date the business was established, adequacy of its resources for the work in which it proposes to involve itself, the degree to which financial, equipment leasing and other relationships exist with other ineligible firms in the same or similar lines of work. SBE owner(s) shall enjoy the customary incidents of ownership and shall share in the risks and profits commensurate with their enjoyment interests, as demonstrated by an examination of the substance rather than form or arrangements that may be reflected in its ownership documents.
- B. A business that has averaged no more than \$4.0 million in annual gross receipts over the prior three year period and the principal owner(s) do not have a personal net worth in excess of \$1.32 million.

Firm and/or individuals that submit fraudulent documents/testimony may be barred from doing business with the City and/or forfeit existing contracts.

SBE certification is valid for one (1) year unless revoked.

**SOUTHWEST BIKEPATH CULVERT REPLACEMENT AT WAITE CIRCLE - 2019
CONTRACT NO. 8466**

Small Business Enterprise Compliance Report

**This information may be submitted electronically through
Bid Express or submitted with bid in sealed envelope.**

Cover Sheet

Prime Bidder Information

Company: _____

Address: _____

Telephone Number: _____ Fax Number: _____

Contact Person/Title: _____

Prime Bidder Certification

I, _____, _____ of
Name Title

_____ certify that the information
Company

contained in this SBE Compliance Report is true and correct to the best of my knowledge and belief.

Witness' Signature

Bidder's Signature

Date

**SOUTHWEST BIKEPATH CULVERT REPLACEMENT AT WAITE CIRCLE - 2019
CONTRACT NO. 8466**

Small Business Enterprise Compliance Report

SBE Contact Report

Submit separate copy of this form for each SBE which you are not able to utilize towards meeting the SBE goal for this project. Attach separate sheets if necessary.

SBE Information

Company: _____

Address: _____

Telephone Number: _____

Contact Person/Title: _____

1. Outline below all efforts to solicit a bid from the above SBE. Include date, means of contact, who from your company made this contact and the result.

2. Describe the information provided to the aforementioned SBE regarding the scope of work for which he/she was to provide a bid.

Is this the same scope of work on which the subcontractor you intend to utilize based his/her bid?

Yes No

3. Did this SBE submit a bid? Yes No

4. Is the General Contractor pre-qualified to self-perform this category of work?

Yes No

5. If you responded "Yes" to Question 3, please check the items below which apply and provide the requested detail. If you responded "No" to Question 3, please skip ahead to item 6 below.

- The SBE listed above is unavailable for work on this project for the following reasons. Provide specific detail for this conclusion.

- The SBE listed above is unqualified for work on this project. Provide specific details for this conclusion.

- The SBE listed above provided a price that was unreasonable (i.e. more than 5% above the lowest bidder). Provide specific detail for this conclusion including the SBE's price and the price of the subcontractor you intend to utilize.

- A contract with the SBE listed above may constitute a breach of the bidder's collective bargaining agreements. Provide specific detail for this conclusion including, but not limited to, correspondence from the SBE indicating it will not sign a project labor agreement and/or correspondence from the applicable trade union indicating a project labor agreement will not be allowed at the time of project bidding.

- Other; please specify reason(s) other than listed above which made it impossible for you to utilize this SBE on this project.

6. Describe any other good faith efforts:

SECTION D: SPECIAL PROVISIONS

SOUTHWEST BIKEPATH CULVERT REPLACEMENT AT WAITE CIRCLE - 2019 CONTRACT NO. 8466

It is the intent of these Special Provisions to set forth the final contractual intent as to the matter involved and shall prevail over the Standard Specifications and plans whenever in conflict therewith. In order that comparisons between the Special Provisions can be readily made, the numbering system for the Special Provisions is equivalent to that of the Specifications.

Whenever in these Specifications the term "Standard Specifications" appears, it shall be taken to refer to the City of Madison Standard Specifications for Public Works Construction and Supplements thereto.

SECTION 102.11 BEST VALUE CONTRACTING

This Contract shall be considered a Best Value Contract if the Contractor's bid is equal to or greater than \$62,500 for a single trade contract; or equal to or greater than \$306,000 for a multi-trade contract pursuant to MGO 33.07(7).

ARTICLE 103 AWARD AND EXECUTION OF THE CONTRACT

The awarded Contractor shall completely execute the signing of all contract documents and submit them to City Engineering (1600 Emil St) prior to **12:00pm on Thursday, October 3, 2019**. Delays in turning in the required completed contract documents will not adjust the project completion date.

Payment and Performance Bonds shall be dated no sooner than Wednesday, October 2, 2019.

ARTICLE 104 SCOPE OF WORK

This work generally consists of installation of a new 10' Span x '6 Rise box culvert approximately 64-ft long with additional footage made up of end sections, south of the Waite Circle cul-de-sac within the Wisconsin Bureau of Rails & Harbors right of way. The work also consists of removal of the existing stone arch culvert and slip-lined pipe, sanitary sewer and structures, installation of approximately 280-ft of new sanitary sewer and structures, rough and finish grading of the site, and restoration of the site. The contract includes concrete path and steel pedestrian railing construction.

Work shall include but is not limited to clearing and grubbing; brushing; removal of existing arch culvert and slip-lined pipe, and sanitary sewer pipe and structures; grading and construction of embankments; installation of sanitary pipe and structures; installation of storm box culvert and end sections; conveyance of storm and sanitary flows; protection of utilities; installation of riprap; installation of base course; concrete paving; installation of steel railings; final grading of the site; and restoration.

The City of Madison will purchase the precast box culvert and precast end sections in a separate contract. Box culvert and end sections will be delivered to the Contractor's pre-determined location. Contractor shall install the box culvert and end section in accordance with manufacturer recommendations, these special provisions, and the Drawings. Shop drawings and installation procedures will be made available to the Contractor prior to start of construction. A copy of the Request for Bids issued by the City for the box culvert and precast end section is included in Appendix C.

The Contractor shall view the site prior to bidding to become familiar with the existing conditions. It will be the responsibility of the Contractor to work with the utilities located in the right of way to resolve conflicts during the construction process.

SECTION 104.4 INCREASED OR DECREASED QUANTITIES

The Contractor shall note that some bid item quantities may increase or decrease based on what is encountered in the field. If the actual field conditions vary from the plan quantity, no additional

compensation shall be given for increasing or decreasing quantities. Any overruns shall be paid for under the appropriate bid item(s) without any penalty or change to the bid price for the associated bid item. The Contractor shall not be reimbursed for any deletions to the contract. No change to the unit bid price will be allowed for changes to the quantities.

SECTION 105.12 COOPERATION BY THE CONTRACTOR

Several utilities are present along the Southwest Commuter Path, near the storm sewer box culvert and Madison Metropolitan Sewerage District sanitary sewer. The Contractor shall use extreme caution when excavating in this area, including performing utility line openings on all utilities for final location verification. The following utilities were identified prior to construction:

Madison Gas & Electric (MG&E) has a 12" welded steel high pressure (400 psi) gas main located roughly down the centerline of the Southwest Commuter Path. Gas main has a cathodic protection system that is not highlighted on the Drawings. Contact for MG&E is Shaun Endres (608-252-7373 SEndres@mge.com).

The City of Madison Traffic Engineering department has an electrical line located on the south edge of the Southwest Commuter Path. The contact for Madison Traffic Engineering is Mike Benzschawel (608)266-9031.

Metropolitan Unified Network has a fiber optic line located on the south edge of the Southwest Commuter Path. The contact for Metropolitan Unified Network is Dan Parenteau (608-262-9501, dan.parenteau@wisc.edu).

The Contractor shall allow access to utility companies and resolve any conflicts that may arise. It will be the responsibility of the Contractor to work with the utilities located within the project limits to resolve conflicts during the construction process.

The Contractor shall have a MG&E watch dog on site during all excavation activities that occur during potholing, within 3-feet of the 12-inch gas main, while supporting the gas main, and during backfill of the gas main trench.

The Contractor shall use care around all existing trees, plantings, fences, walls, driveways and other facilities that are indicated on the plans to remain. Damage to these items during construction shall be repaired or replaced at the Contractor's expense. No trees, other than those shown on the plan to be removed, shall be cut without the approval of the Engineer and the City Forester; the abutting property owners shall be notified in accordance with the City's Administrative Procedure Memorandum No. 6-2. All other standard tree protection specifications will be strictly enforced.

Contractor shall confine their operations to work areas indicated as construction limits on the plans. Contractor shall not trespass and may NOT access the site via any other means than those accesses indicated on the drawings. Any damage to private property caused by access shall be restored in kind by Contractor at Contractor's expense. The Contractor may ONLY store materials and stage equipment within the construction limits as indicated on the drawings.

Contractor is alerted that very little additional space is available within the project grading limits for material storage, staging, and other uses. Contractor may stage equipment and store materials in the southern most portion of the Waite Circle cul-de-sac, on the Southwest Commuter Path within the construction limits and in Chippewa Court within the designated construction limits (see Sections 107.7 and 107.8 below for information on Traffic Control and Street Closures in these areas). Any damage to this area by Contractor, including but not limited to the pavement, pavement marking, curb and gutter or sidewalk, or terrace areas, beyond that specifically shown on the plan for replacement, shall be restored in-kind, at Contractor's expense.

SECTION 105.13 ORDER OF COMPLETION

The Contractor shall phase construction operations to minimize the amount of disturbed channel. Where possible within the channel, the Contractor shall leave stumps in place until the Contractor is ready to complete final grading operations on the channel banks.

The Contractor is responsible for his/her construction staging and shall do so to minimize the impacts to the project site, to the bike path, to the traveling public, to the roadway rights-of-way, and to limit construction duration.

SECTION 107.6 DUST PROOFING

The Contractor shall take all necessary steps to control dust arising from operations connected with this contract. When ordered by the Engineer, the Contractor shall dust proof the construction area by using power sweepers and water. Dust proofing shall be incidental with operations connected with this project.

SECTION 107.7 MAINTENANCE OF TRAFFIC

When the contract provides for the maintenance of traffic over or along the street while undergoing improvements or reconstruction, the street shall be kept open to all traffic and the Contractor shall keep the portions of the street being used by public traffic in such condition that traffic will be reasonably and adequately accommodated. The Contractor shall provide and maintain in safe and adequate condition temporary approaches, crossings and intersections with roads and necessary driveways. The Contractor shall bear all the expense of maintaining traffic over the section of street undergoing improvement and the construction and maintenance of such approaches, crossings, intersections and other features as may be necessary without direct compensation except as to those features of such work which are a part of planned, completed construction work.

All signing and barricading shall conform to Part VI of the Federal Highways Administrations "Manual on Uniform Traffic Control Devices" (MUTCD), the State of Wisconsin Standard Facilities Development Manual (including Chapter 16 – Standard Detail Drawings) and the City of Madison Standards for sidewalk and bikeway closures.

The Contractor shall submit an acceptable Traffic Control Plan to the office of the City Traffic Engineer at the preconstruction meeting. The Traffic Control Plan shall include the detour plan, general signing plan, and dates of closures.

A bike path detour route shall be signed to use Midvale Blvd, Yuma Dr, Waban Hill and Council Crest for both directions of traffic along the path. The detour shall occur from the start of construction until the end of construction. The East parking lane on Midvale Boulevard between Yuma Drive and the Southwest Bike Path shall be protected with barrels.

Traffic Control shall be measured as a lump sum. Payment for the Traffic Control is full compensation for constructing, assembling, hauling, erecting, re-erecting, maintaining, restoring, and removing non-permanent traffic signs, drums, barricades, and similar control devices, for providing, placing, and maintaining work zone. Maintaining shall include replacing damaged or stolen traffic control devices. The traffic control plan may need to be altered as conditions change in the field or as unexpected conditions occur. This may include relocating existing traffic control or providing additional traffic control. The Contractor shall install and maintain any necessary modifications or additions to the traffic control, as directed by the City Traffic Engineer, at no cost to the City.

Electronic message boards or approved static signage shall be used to notify the path users of the closure. Signs shall be in place at least one week prior to the closure.

Type A warning lights shall be installed on all barricades used in the project per State of Wisconsin S.D.D. 15C2-4B. Contractor shall also place Type C warning lights on any barrels used to taper traffic or lane closures.

The Contractor is responsible for obtaining and installing temporary no parking signs to facilitate traffic control plan or as necessary to complete the work within the contract. The contractor shall contact John Villareal with the City of Madison Parking Utility (608-267-8756) at least 3 working days prior to needing the signs. Contractor shall post signs in accordance with the City of Madison Police Department Guidelines for temporary no parking restrictions for construction or special events. The guidelines can be found at the link listed below. This shall be considered incidental to the Traffic Control lump sum Bid Item.

www.cityofmadison.com/business/pw/documents/guidelines_temporarynoparkingrestrictions.pdf

Notify Tom Mohr, City Traffic Engineering, 608-267-8725, tmohr@cityofmadison.com at least one week prior to the start of work.

SECTION 107.13 TREE PROTECTION SPECIFICATIONS

The Contractor is advised to review Article 107.13 of the Standard Specifications for tree protection.

All trees shall be saved except those trees marked for removal on the plans. It is recognized that grading operations and root cutting of trees within the project limits may need to occur within 5 feet of trees in order to complete the work, but care must be taken in these areas. Roots shall be cut cleanly by using a saw, axe, lopping shears, chain saw, stump grinder, or other means which will produce a clean cut. Exposed roots shall be covered as soon as excavation is complete. The Contractor shall not rip or pull roots out towards the trunk of a tree while excavating with a backhoe. The use of a backhoe to cut roots is NOT acceptable. Grading within 5' of the trees within the construction area, if absolutely required, shall be minimized.

With regard to Article 107.13(f), pruning to accommodate construction equipment invading the tree crown may be done by the Contractor, with advance permission from the Construction Engineer. No pruning will be performed by City Forestry. All pruning shall be done according to ANSI A300 tree pruning specifications.

With regard to Article 107.13(g), no equipment or materials will be allowed to be parked on, or piled on, areas within five (5) feet of a tree as measured from the outside edge of the tree trunk or visible above ground portion of the root system. Construction traffic within 5 feet of a tree will be allowed only where necessary to complete grading operations, as described above, at the discretion of the Construction Engineer.

ARTICLE 108.2 PERMITS AND LICENSING

The following permits are required (and have been or will be applied for by the City) for this project:

- City of Madison Erosion Control and Stormwater Management Permit
- WDNR Sanitary Sewer Extension Permit
- Permit to Construct, Operate and Maintain Utility Facilities on Wisconsin Department of Transportation Railroad Property (Per Chapter Trans 29)

It shall be the responsibility of the Contractor to obtain the permits listed below, if required, and to pay all applicable charges and fees associated with these permits.

- Wisconsin DNR Dewatering
- MMSD Sewer Extension Permit

Contractor will be responsible for acquiring permits and paying for the permit fees from Madison Metropolitan Sewerage District (MMSD) for replacing 6' diameter Sewer Access Structures. The contractor shall follow all MMSD permit requirements with this proposed work to their facilities. The permitting contact from MMSD for these connections is Ray Schneider (608)347-3628, rays@madsewer.org. MMSD's permit fee for the work under this contract is \$1,125 and shall be paid by the Contractor.

All permit costs shall be considered incidental to Bid Item 10911 Mobilization for the Contract.

The Contractor shall meet the conditions of all permits and must keep a copy of each individual permit on site at all times throughout construction.

The Contractor shall meet the conditions of the permits including properly installing and maintaining the erosion control measures shown on the plans, specified in these Special Provisions, or as directed by the Construction Engineer or his designees. This work will be paid for under the appropriate bid items, or if appropriate items are not included in the contract, they shall be paid for as Extra Work.

The City's obtaining these permits is not intended to be exhaustive of all permits that may be required to be obtained by the Contractor for construction of this project. It shall be the responsibility of the Contractor to identify and obtain any other permits needed for construction.

SECTION 109.2 PROSECUTION OF WORK

The intent of these provisions is to ensure that work proceeds in an expedient manner, while providing the Contractor with the flexibility to adjust the schedule to meet weather conditions.

The Contractor shall begin work on **OCTOBER 28, 2019**. The total time of completion of this contract is **SEVENTY-FIVE (75) CALENDAR DAYS**.

Work shall begin only after the start work letter is received. If it is desirable to begin work before the above-mentioned date, the Contractor shall establish a mutually acceptable date with the City Engineer, and the agreed upon date must be determined prior to the preconstruction meeting. (Contact the Construction Engineer at 266-4089).

BID ITEM 10803 ROOT CUTTING

DESCRIPTION

Work under this item shall include all costs associated with root cutting as described in Section 107.13 Tree Protection Specifications.

METHOD OF MEASUREMENT

Root Cutting shall be measured per each individual tree designated for root cutting by the City.

BASIS OF PAYMENT

Root Cutting shall be measured as described above and shall be paid for at the contract unit price which shall be full compensation for all work, materials, tools, equipment, labor, and incidentals required to complete the work as set forth in the description.

SECTION 200 EARTHWORK AND MISCELLANEOUS CONSTRUCTION

BID ITEM 20207 SELECT FILL SAND

DESCRIPTION

Work under this item includes all equipment, materials, labor, and incidentals required to provide and install select fill sand at locations shown on Drawings and described in these Special Provisions. The sand shall meet the sizing requirements defined in Article 202.2(b) of the Standard Specifications. Select Fill Sand is required as backfill under the Southwest Bike path as detailed on the Drawings and as recommended in the Geotechnical Exploration Report.

If insufficient quantities of select fill sand are available at this site, or the available material from excavation is unacceptable, the Contractor shall import select fill sand from a suitable location. No additional compensation shall be paid for imported material; it is considered incidental to this Bid Item.

Compaction of material shall be per Article 202.3 of the Standard Specifications.

METHOD OF MEASUREMENT

Select Fill Sand shall be measured per Ton of material provided, transported, placed on site and acceptably compacted.

BASIS OF PAYMENT

Select Fill Sand shall be measured as described above and shall be paid for at the contract unit price which shall be considered full compensation for all work, materials, equipment, and incidentals necessary to source, transport, place and compact fill as defined in the plan set and these Special Provisions.

BID ITEM 20217 CLEAR STONE

DESCRIPTION

The work under this item shall consist of furnishing, placing, installing and compacting Clear Stone as a geotextile wrapped pipe foundation under newly installed sanitary sewer, box culvert, and wingwalls as detailed in the Drawings and shall include all materials, equipment, labor, and incidentals necessary to complete the work. Work shall be completed in accordance with Section 310 Open Graded Base of the State of Wisconsin Standard Specifications.

MATERIALS

The Contractor shall use crushed aggregate at a gradation conforming to Section 310 of the State of Wisconsin Standard Specifications for 3/4" Clear. Gradation outlined in Sections 202.2(d) and 401.1(b) shall be superseded by the gradation outlined in these special provisions.

Three (3) inch clear stone for bedding of 6' Rise X 10' Span Box Culvert shall be per the special provision for Bid Item 90010 and is incidental to that Bid Item.

CONSTRUCTION

All clear stone installed shall be burrito-wrapped with geotextile fabric from Section 202.2(g) and as detailed in the Drawings and within the Geotechnical Exploration Report provided in Appendix B. Overlap geotextile fabric 24-inches, minimum.

METHOD OF MEASUREMENT

Clear Stone shall be measured by the Ton acceptably completed.

BASIS OF PAYMENT

Clear Stone shall be measured as described above and shall be paid for at the contract unit price which shall be full compensation for all materials, equipment, labor, and incidentals required to complete the work as set forth in the description.

Geotextile fabric for the placement and wrapping of Clear Stone shall be paid under Bid Item 20233 Riprap Filter Fabric, Type HR.

BID ITEM 20221 TOPSOIL

DESCRIPTION

Work under this Bid Item includes all work, equipment, materials, and incidentals necessary to provide and place topsoil within the grading limits, as shown on the plan set.

The Contractor shall provide sufficient topsoil to place 4 inches of material on all disturbed surfaces outside of pavement and areas finished with riprap. Additional topsoil shall be provided for fill of Erosion Matting Class III, Type D. Existing topsoil at this site may be limited and bidders are encouraged to visit the site to estimate available quantities. The Contractor may salvage existing topsoil, so long as it meets the material specification as set forth in Article 202.2 (f).

All salvaged topsoil shall be stored in an appropriate manner, which includes storing the material in an upland area and surrounding the stockpile with silt fence or silt sock.

If insufficient quantities of topsoil are available at this site, or the available material is unacceptable, the Contractor shall import topsoil from a suitable location. No additional compensation shall be paid for imported material; it is considered incidental to this Bid Item.

In cut sections, if over-excavation is required to place adequate topsoil thickness, over-excavation shall be considered to be incidental to this Bid Item.

METHOD OF MEASUREMENT

Topsoil shall be paid per Square Yard of material placed in the field.

BASIS OF PAYMENT

Topsoil shall be measured as described above and shall be paid at the contract unit price, which shall be considered full compensation for all labor, equipment, materials, and incidentals necessary to provide, salvage, stockpile, and place sufficient quantities of acceptable topsoil material at this site.

No additional compensation shall be paid for imported topsoil materials; it is considered incidental to this Bid Item.

BID ITEM 20230 HEAVY RIPRAP – GLACIAL FIELD STONE

DESCRIPTION

Work under this item includes all equipment, materials, labor, and incidentals required to provide and install riprap glacial field stone as shown in the plan set and described in these Special Provisions. The stone shall meet the sizing requirements defined in Article 212.2 of the Standard Specifications and have an average stone size of 18 inches. Heavy Riprap – Glacial Field Stone will be used at the upstream side of the box culvert, as shown on the Drawings.

The material shall be comprised of rounded, durable, glacial till that has been sorted for size and is not susceptible to freeze-thaw degradation. Crushed, blasted, or “made” stone will not be permitted on site.

Prior to placement, the Contractor shall submit sourcing information to the City or Engineer. The Engineer, or their representative, may choose to evaluate the material at the source prior to acceptance.

Stone shall be placed in accordance with Article 212 of the Standard Specifications. The stone shall be underlain with Riprap Filter Fabric, Type HR, which shall be considered incidental to Bid Item 20233. The filter fabric shall be placed in a manner that prevents excess material from extending beyond the stone.

METHOD OF MEASUREMENT

Heavy Riprap – Glacial Field Stone shall be measured per Ton of material provided, transported, and placed on site.

BASIS OF PAYMENT

Heavy Riprap – Glacial Field Stone shall be measured as described above and shall be paid for at the contract unit price which shall be considered full compensation for all work, materials, equipment, and incidentals necessary to source, transport, and place stone as defined in the plan set and these Special Provisions.

Riprap Filter Fabric, Type HR shall be incidental to Bid Item 20233.

BID ITEM 20232 EXTRA HEAVY RIPRAP

DESCRIPTION

Work under this item includes all equipment, materials, labor, and incidentals required to provide and install glacial field stone as shown in the plan set and described in these Special Provisions. The stone shall meet the sizing requirements defined in Article 212.2 of the Standard Specifications and have an average stone size of 20 inches. Extra Heavy will be used at the downstream end of the box culvert, as shown on the Drawings.

The material shall be comprised of angular, durable, field or quarry stone that is sound, hard, dense, resistant to the action of air and water, and free of seams, cracks, or other structural defects. Use stone pieces with a length and width no more than twice the thickness.

Prior to placement, the Contractor shall submit sourcing information to the City or Engineer. The Engineer, or their representative, may choose to evaluate the material at the source prior to acceptance.

Stone shall be placed in accordance with Article 212 of the Standard Specifications. The stone shall be underlain with Riprap Filter Fabric, Type HR, which shall be considered incidental to Bid Item 20233. The filter fabric shall be placed in a manner that prevents excess material from extending beyond the stone.

METHOD OF MEASUREMENT

Extra Heavy Riprap shall be measured per Ton of material provided, transported, and placed on site.

BASIS OF PAYMENT

Extra Heavy Riprap shall be measured as described above and shall be paid for at the contract unit price which shall be considered full compensation for all work, materials, equipment, and incidentals necessary to source, transport, and place stone as defined in the plan set and these Special Provisions.

Riprap Filter Fabric, Type HR shall be incidental to Bid Item 20233.

BID ITEM 20311 REMOVE SEWER ACCESS STRUCTURE

DESCRIPTION

Work under this item includes all equipment, materials, labor, and incidentals required to remove and dispose of sanitary sewer access structures as shown in the plan set and described in these Special Provisions.

Structures to be removed vary in size, depth, location, type and complexity. The Contractor is encouraged to visit the site to see the location and type of sewer access structures.

METHOD OF MEASUREMENT

Remove Sewer Access Structure shall be measured per Each structure successfully and fully removed of and disposed of off-site regardless of size, material or depth.

BASIS OF PAYMENT

Remove Sewer Access Structure shall be measured as described above and shall be paid for at the contract unit price which shall be considered full compensation for all work, materials, equipment, and incidentals necessary to excavate, remove, demolish and dispose of off-site as defined in the plan set and these Special Provisions.

No additional compensation will be made for removal of sewer access structures that vary in size, depth and type than depicted on the Drawings.

BID ITEM 20404 CLEARING

DESCRIPTION

Work under this item includes all equipment, materials, labor, and incidentals required to cut and dispose of trees as shown in the plan set and described in these Special Provisions.

As modified from Article 204.1 of the Standard Specifications, Clearing shall constitute Work for all trees under six (6) inches in diameter, shrubs, brush, windfalls, logs and other vegetation within the project construction limits as outlined in the Drawings.

METHOD OF MEASUREMENT

Clearing shall be measured as a single Lump Sum for the completed Work.

BASIS OF PAYMENT

Clearing shall be measured as described above and shall be paid for at the contract sum price which shall be considered full compensation for all work, materials, equipment, and incidentals necessary to clear the site in accordance with Article 204.2 of the Standard Specifications.

Tree removal is incidental to Bid Item 90004 Remove Trees.

BID ITEM 20409 GRUBBING

DESCRIPTION

Work under this item includes all equipment, materials, labor, and incidentals required to remove and dispose of stumps, logs and other items as shown in the plan set and described in these Special Provisions.

As modified from Article 204.1 of the Standard Specifications, Grubbing shall constitute Work for all trees under six (6) inches in diameter, shrubs, brush, windfalls, logs and other vegetation within the project construction limits as outlined in the Drawings.

METHOD OF MEASUREMENT

Grubbing shall be measured as a single Lump Sum for the completed Work.

BASIS OF PAYMENT

Grubbing shall be measured as described above and shall be paid for at the contract sum price which shall be considered full compensation for all work, materials, equipment, and incidentals necessary to grub the site in accordance with Article 204.2 of the Standard Specifications.

Tree removal is incidental to Bid Item 90004 Remove Trees.

BID ITEM 21073 EROSION MATTING, CLASS II, TYPE C - ORGANIC

DESCRIPTION

As modified from Article 210 of the Standard Specifications, Erosion Matting, Class II, Type C shall include all equipment, materials, labor, and incidentals required to provide, store, and install Erosion Matting, Class II, Type C – Organic including metallic anchoring devices to hold erosion control matting in place.

MATERIALS

Erosion matting materials shall conform to Article 210.2 of the Standard Specifications. Metal anchoring devices shall be used in conjunction with Erosion Matting, Class II, Type C – Organic.

METHOD OF MEASUREMENT

Erosion Matting, Class II, Type C - Organic shall be measured by the Square Yard in place not including runoff in anchor trenches and overlap.

BASIS OF PAYMENT

Erosion Matting, Class II, Type C – Organic shall be measured as described above and shall be paid for at the contract unit price which shall be considered full compensation for all work, materials, equipment, and incidentals necessary to provide erosion matting of the type specified in accordance with Article 210.3 of the Standard Specifications.

Metal anchoring devices shall be considered incidental to this Bid Item.

BID ITEM 21084 EROSION MATTING, CLASS III, TYPE D

DESCRIPTION

Work under this item includes all equipment, materials, labor, and incidentals required to provide, store, and install Erosion Matting, Class III, Type D in accordance with Article 210 of the Standard Specifications and these Special Provisions.

As modified from Article 210.2(c) areas covered by Erosion Matting Class III, Type D shall then have Class II, Type C – Organic matting in lieu of Class I matting. Class II, Type C – Organic matting shall be installed with metal stakes. Cost of Class II, Type C – Organic matting and metal stakes shall be paid for under Bid Item 21073 Erosion Matting, Class II, Type C – Organic.

MATERIALS

Erosion matting materials shall conform to Article 210.2 of the Standard Specifications and as specified in the Wisconsin Department of Transportation Product Acceptability List (PAL).

Erosion matting shall be one of the following products by the following manufacturers:

1. Bonar Civil Products

- a. Enkamat R45
- 2. Propex
 - a. Pyramat 75

CONSTRUCTION

Construction methods shall conform to Article 210.3 of the Standard Specifications.

Erosion matting, Class III, Types D is Turf Reinforcement Mat (TRM) and shall be installed in accordance with manufacturer's recommendations.

METHOD OF MEASUREMENT

Erosion Matting, Class III, Type D shall be measured by the Square Yard in place not including runout in anchor trenches and overlap.

BASIS OF PAYMENT

Erosion Matting, Class III, Type D shall be measured as described above and shall be paid for at the contract unit price which shall be considered full compensation for all work, materials, equipment, and incidentals necessary to provide erosion matting of the type specified in accordance with Article 210.3 of the Standard Specifications.

SECTION 300: CONCRETE AND CONCRETE STRUCTURES

SECTION 301.10: CONCRETE WASTE MANAGEMENT

The Contractor shall be aware that all areas within the project site drain to Lake Wingra. Therefore, the Contractor shall be prepared to provide suitable wash containers for all concrete wastes.

SECTION 500: SEWERS AND SEWER STRUCTURES

BID ITEM 50202: TYPE II DEWATERING

DESCRIPTION

This item is intended to cover any and all dewatering required for installation of the box culvert, end sections, and sanitary sewer. Dewatering shall be in accordance with Article 502 of the Standard Specifications. Note that the Contractor shall be responsible for obtaining any permits required by DNR for this work, and for complying with such permits, including any reporting requirements.

The Contractor shall be responsible for designing a dewatering plan to fit his/her construction methods and for permitting said plan if required.

The Contractor shall be aware that any dewatering (including trench dewatering) shall be treated prior to discharge. The pumped water shall be treated to remove suspended solids. At a minimum, this treatment shall include running the pump water through a geotextile sediment bag, prior to discharge to the storm sewer. This geotextile sediment bag shall have a 0.040 mm apparent opening size (AOS). If, at the determination of the Engineer, this treatment process is not providing sufficient sediment removal the Contractor shall add a polymer to the sediment bag. These polymers shall comply with the WDOT standards for Polyacrylamide Soil Stabilizers and shall conform to the WDOT's Product Acceptability List (PAL) for Soil Stabilizers, Type B.

Polymer would be added to the sediment bag in amounts as recommended by the manufacturer based on the pump rates being experienced on the site.

If necessary, the Contractor shall obtain, from the Wisconsin Department of Natural Resources (WDNR), in accordance with Paragraph 144.025(2)(e), Wisconsin Statutes, permits for all groundwater control wells which singly or in aggregate produce 70 or more gallons per minute. All wells shall be drilled and sealed in accordance with requirements of the WDNR for installing and abandoning wells. The address for obtaining well permits is:

Wisconsin Department of Natural Resources
Private Water Supply Section
BOX 7921
Madison, Wisconsin 53707

The Contractor shall be solely responsible for choosing a method of groundwater control, which is compatible with the constraints defined. The Contractor shall be responsible for the adequacy of the groundwater control system and shall take all necessary measures to ensure that the groundwater control operation will not endanger or damage any existing adjacent utilities or structures.

The method or methods shall be designed, installed and operated in such a manner to provide satisfactory working conditions and to maintain the progress of work. The methods and systems shall be designed so as to avoid settlement or damage to adjacent property in accordance with the applicable legislative statutes and judicial decisions of the State of Wisconsin. All required pumping, drainage and disposal of groundwater shall be done without damage to adjacent property or structures, or to the operations of other contractors and without interference with the access rights of public or private parties.

See Bid Item 90007 Storm Control Plan and Implementation for requirements for controlling and maintaining storm flows during construction.

METHOD OF MEASUREMENT

Type II Dewatering shall be measured as a single Lump Sum for all dewatering necessary throughout construction.

BASIS OF PAYMENT

Type II Dewatering will be paid for at the contract sum price, which shall be full compensation for all work as provided in the description.

Removal of the dewatering equipment after construction shall be incidental to this Bid Item. No dewatering equipment will be allowed to remain in place after construction is complete.

Diversion of storm flows shall be incidental to Bid Item 90007 Storm Control Plan and Implementation.

BID ITEM 50703 6' DIAMETER SANITARY SAS

DESCRIPTION

Work under this item shall include all work, materials, equipment, and incidentals required to provide and install a 6' diameter sewer access structures in accordance with Article 507 of the City of Madison Standard Specifications for Public Works Construction, Latest Edition, and as detailed on the Drawings per the MMSD MH detail.

CONSTRUCTION

Contractor shall provide a precast concrete Sanitary Sewer Access Structure (6-Foot Diameter) meeting the requirements of Standard Detail Drawing 5.7.2, 5.7.15, and Article 507.3 of the City of Madison Standard Specifications for Public Works Construction – Latest Edition. No doghouse style

manholes will be approved for these structures. See Bid Item 90014 Saddled 6' Dia. Sanitary SAS for application of doghouse style manhole.

MMSD structures will require a MMSD casting at the Contractor's cost. MMSD will order the casting, but the Contractor will be responsible to reimburse MMSD.

The 6' diameter structures are MMSD owned structures. These structures will require a permit from MMSD which will include a permit fee that the contractor will be responsible to obtain. Contractor shall notify MMSD 5 days prior to installation of the manhole structure to arrange for inspection. The contact from MMSD for this connection is Ray Schneider (608)347-3628, rays@madsewer.org.

With these being MMSD manholes, contractor shall coordinate the date of installation with MMSD to avoid wet weather manhole installation. Jen Hurlebaus of MMSD 222-1201 Ext 248, jenH@madsewer.org is another contact from MMSD to coordinate with regarding this manhole installation regarding MMSD sewer capacity.

The precast manhole approvals will require approval from both City and MMSD staff. The City will forward the MMSD shop drawings for approval to MMSD staff.

MMSD sewer access structures shall be coated with a corrosion resistant coating after installation. See Bid Item 90015 for information on Corrosion Resistant Coatings.

METHOD OF MEASUREMENT

6' Dia. Sanitary SAS shall be measured by Each structure installation acceptably completed.

BASIS OF PAYMENT

6' Dia. Sanitary SAS shall be paid for at the contract unit price, which shall be full compensation for all work as outlined in the description.

Corrosion resistant coatings of sewer access structure interiors shall be incidental to Bid Item 90015 SAS Corrosion Resistant Coating.

BID ITEM 50797 EXTERNAL SEWER ACCESS STRUCTURE JOINT SEAL

DESCRIPTION

Work under this item shall include all work, materials, equipment, and incidentals required to provide and install External Sewer Access Structure Joint Seal in accordance with Article 507.3 of the City of Madison Standard Specifications for Public Works Construction, Latest Edition, except where modified within these special provisions.

METHOD OF MEASUREMENT

As modified from Article 507.4(g) of the City Standard Specifications, External Joint Seal shall be measured by Each structure installation acceptably completed. Measurement of individual joints wrapped will not be made.

BASIS OF PAYMENT

External Joint Seal shall be paid for at the contract price, which shall be full compensation for all work as outlined in the description.

BID ITEM 50801 UTILITY LINE OPENING (ULO)

DESCRIPTION

Work under this item includes all equipment, materials, labor, and incidentals required to expose and accurately locate the Madison Gas & Electric high-pressure gas main located under the Southwest Bike Path. Existing gas main has a cathodic protection system that shall not be damaged during excavation.

CONSTRUCTION

Utility line openings shall be performed in accordance to Article 508.1 of the Standard Specifications. Contractor shall perform Digger's Hotline call before any excavation activities occur.

Potholing shall occur to locate the Madison Gas & Electric 400 psi gas main located within the limits of the Southwest Bike Path. A MG&E watch dog shall be on site during potholing, excavation and locating activities. Approximate locations of Utility Line Openings have been shown on the Drawings. Coordinate ULO locations with MG&E watch dog. Contact Shaun Endres to coordinate excavation and watch dog activities at (608)252-7373 or SEndres@mge.com.

Expected depth to gas main is 3.5-feet.

METHOD OF MEASUREMENT

Utility Line Opening shall be measured by the Each for each Utility Line Opening performed.

BASIS OF PAYMENT

Utility Line Opening will be paid for at the contract unit price, which shall be full compensation for all work as provided in the description.

Watch dog services shall be provided by MG&E at no cost to the Contractor.

Restoration of the ULO excavations is incidental to other Bid Items.

BID ITEM 90001 RIGID FRAME INLET PROTECTION-COMPLETE

DESCRIPTION

Rigid Frame Inlet Protection-Complete is intended for construction use to minimize sediment from entering storm drainage systems and shall be installed at locations shown on the Drawings prior to construction or as directed by the Engineer. The installed inlet protection frame shall be installed with a dual fabric geotextile sediment bag.

Rigid Frame Inlet Protection-Complete shall follow ASTM D8057 and comply with WDNR Conservation Practice Standard 1060. All work shall be in accordance with Part II of the Standard Specifications.

MATERIALS

Rigid Frame Inlet Protection-Complete supplied shall be an ADS FleXstorm "Catch-it" system or an approved equal. The supplied protection system must have a corrosion resistant framing and a replaceable geotextile sediment bag.

- Framed inlet protection must meet the following specifications:
- 1. All *ASTM Standard D8057-17* requirements, including:
 - a. Bypass overflow that meets or exceeds inlet design flow
 - b. Frame and bag strong enough to handle full sediment load

- c. The frame shall include a curb back extension and extend to protect full width of catch basin (where applicable)
 - 2. No part of inlet protection projecting above the grate (e.g. bag fabric)
3. "Dual fabric" filter bag, with nonwoven bottom and woven top
- a. Geotextile bag depth shall be 22"

CONSTRUCTION METHODS

The Contractor shall verify sizes of inlets and catch basins within the project limits to select the appropriately sized Rigid Frame Inlet Protection. Install the Rigid Frame Inlet Protection in accordance with the manufacturer's instructions at the locations shown on the Drawings and as directed by the Engineer. Perform all maintenance activities as directed by the Engineer, which shall include cleaning of the geotextile sediment bag, replacement of geotextile sediment bag as necessary, and removal of Rigid Frame Inlet Protection at the completion of site restoration. Removal of Rigid Frame Inlet Protection shall occur following the completion of work and after stabilization of upstream areas. Rigid Frame Inlet Protection materials shall be the property of the contractor and shall be removed from the site accordingly.

METHOD OF MEASUREMENT

Rigid Frame Inlet Protection-Complete shall be measured by Each installed and in adherence of construction methods listed above.

BASIS OF PAYMENT

Rigid Frame Inlet Protection-Complete shall be measured as described above, paid at the contract unit price and shall be full payment for procurement, installation, maintenance, removal, and for all work, materials, labor, and incidentals required to complete the work.

BID ITEM 90002 REMOVE PEDESTRIAN RAILING

DESCRIPTION

Work under this item includes all equipment, materials, labor, and incidentals required to remove and dispose of the timber pedestrian railing, in its entirety, located on both side of the Southwest Bike Path within the construction limits as shown on the Drawings.

CONSTRUCTION

Removal of railings shall be in accordance with Article 203 of the Standard Specifications and as outlined in these Special Provisions. All materials resulting from the removal of railings shall become the property of the Contractor.

Remove timber pedestrian railings, posts, and bases by methods determined by the Contractor to prevent damage to any nearby utilities, conduits, trees or pavements not designated for removal. Cut railing into manageable sizes for removal from the site. Careful excavation around posts may be required to prevent damage to nearby gas mains, fiber optic cables and electrical lines. Do not damage light poles or bases during removal activities.

If excavating within 3-feet of the 12" welded steel high pressure gas main, contact Shaun Endres with MG&E at (608)252-7373 or SEndres@mge.com.

Coordinate removal of light poles on south side of Southwest Bike Path with the City of Madison Traffic Engineering Department. Contact Mike Benzschawel (608)266-9031 48 hours prior to disturbance of light poles.

METHOD OF MEASUREMENT

Remove Pedestrian Railing shall be measured by the Linear Foot removed and disposed of.

BASIS OF PAYMENT

Remove Pedestrian Railing shall be measured as described above, paid at the contract unit price and shall be full payment for all work, materials, labor, and incidentals required to complete the Work.

Protection of utilities, conduits, trees and pavement not designated for removal is incidental to the project. Any utilities, conduits, trees and pavements disturbed that are not designate for removal shall be replaced by the Contractor at no cost to the City.

Watch dog services shall be provided by MG&E at no cost to the Contractor.

BID ITEM 90003 REMOVE EXISTING STONE ARCH CULVERT

DESCRIPTION

Work under this item includes all equipment, materials, labor, and incidentals required to remove and dispose of the existing stone arch box culvert, 60-inch slip lined pipe, concrete base slab, concrete encased sanitary sewer pipe, and concrete headwalls from Sta 4+45 to Sta 5+35 (Existing Box Culvert Stationing) as detailed on the Drawings and as described within these Special Provisions.

CONSTRUCTION

Removal of existing stone arch culvert, 60-inch slip lined pipe, concrete base slab, concrete encased sanitary sewer pipe and concrete headwalls shall be in accordance with Article 203 of the Standard Specifications and as outlined in these Special Provisions. All materials resulting from the removal of existing stone arch culvert, 60-inch slip lined pipe, concrete base slab, concrete encased sanitary sewer pipe and concrete headwalls shall become the property of the Contractor.

Remove stone arch culvert and other associated items by methods determined by the Contractor to prevent damage to any nearby utilities, conduits, trees, pavements or other structures not designated for removal. Debris from culvert removal shall be removed from the site and shall not be used for slope or channel stabilization. Careful excavation around gas mains and other utilities may be required to prevent damage to underground and overhead utility lines.

Support and protection of gas main, conduits and other utilities over the box culvert is incidental to the project. Contractor shall limit the exposure of existing utilities to be supported by means of trenching systems, staging of construction or other means acceptable to the City and Engineer.

If excavating within 3-feet of the 12" welded steel gas main, contact Shaun Endres with MG&E at (608)252-7373 or SEndres@mge.com. Support of gas main shall be approved by MG&E watch dog.

Submit means and methods of utility support to Utility Owner for review and approval.

Coordinate removal of light poles on south side of Southwest Bike Path with the City of Madison Traffic Engineering Department. Contact Mike Benzschawel (608)266-9031 48 hours prior to disturbance of light poles.

METHOD OF MEASUREMENT

Remove Stone Arch Culvert shall be measured by a single Lump Sum for removals from Sta 4+45 to Sta 5+35 as shown on the Drawings.

BASIS OF PAYMENT

Remove Stone Arch Culvert shall be measured as described above which shall be full payment for all work, materials, labor, and incidentals required to complete the Work.

Removal of sanitary pipe from Sta 4+45 to Sta 5+35 is incidental to this Bid Item.

Removals for sewer access structures, trees, and pavements are incidental to other Bid Items.

Protection of utilities, conduits, trees, sheet pile wall and pavement not designated for removal is incidental to the project. Any utilities, conduits, trees, structures, and pavements disturbed that are not designate for removal shall be replaced by the Contractor at no cost to the City.

Watch dog services shall be provided by MG&E at no cost to the Contractor.

BID ITEM 90004 REMOVE TREES

DESCRIPTION

Work under this item includes all equipment, materials, labor, and incidentals required to remove and dispose of identified trees within the project area as detailed on the Drawings and as described within these Special Provisions. Tree removal shall only constitute trees with 6-inch diameter at breast height (DBH) or greater.

Trees, shrubs and brush under 6-inches to be removed within the project limits shall be incidental to Bid Items 20404 and 20409, Clearing and Grubbing, respectively.

CONSTRUCTION

Removal of trees shall be in accordance with Article 204.2 of the Standard Specifications and as outlined in these Special Provisions. All materials resulting from the removal of trees shall become the property of the Contractor and shall be removed from the site.

Root cutting of trees that are not designated for removal is not allowed. No root cutting shall take place on this project.

METHOD OF MEASUREMENT

Remove Trees shall be plan quantity for the Inch Diameter of trees to be removed as shown on the Drawings. Only trees 6-inches and greater DBH shall be considered for payment.

BASIS OF PAYMENT

Remove Trees shall be full payment for all work, materials, labor, and incidentals required to complete the Work.

Removing, Clearing and Grubbing of trees, shrubs, and brush under 6-inches are incidental to Bid Items 20404 and 20409.

BID ITEM 90005 REMOVE, SALVAGE, AND DISPOSE OF RIPRAP AND GROUTED RIPRAP

DESCRIPTION

The Contractor shall remove and dispose of the riprap and grouted riprap as needed at the locations shown on the Drawings. The limits of this work shall be as necessary to replace the sanitary sewer and culvert. The approximate limits of this work are shown on the Drawings, but additional work may be necessary as directed by the Engineer.

The Contractor will be required to salvage riprap that may be used as supplemental riprap downstream of the 36-inch storm sewer as shown on the Drawings. The Bid Item will be full compensation for all work necessary including any incidental items to remove, salvage, and dispose of riprap at locations shown on the Drawings.

METHOD OF MEASUREMENT

Remove, Salvage, and Dispose of Riprap and Grouted Riprap shall be measured by the Square Yard acceptably removed.

BASIS OF PAYMENT

Payment for this work, as measured above, shall be full compensation at the contract unit price for all work, materials, equipment, and incidentals required to complete the work.

BID ITEM 90006 HEAVY WASTEWATER CONTROL

DESCRIPTION

Work under this bid item shall include wastewater control (bypass pumping of the sewer being replaced) in the amount of 3100 gpm (4.5 MGD) maximum. Work shall be completed in accordance with Article 503.3 of the City of Madison Standard Specifications for Public Works Construction Latest Edition with the following additional requirements by Madison Metropolitan Sewerage District (MMSD).

SUBMITTALS

Contractor shall submit to the City detailed plans and descriptions outlining all provisions and precautions to be taken by the Contractor regarding the handling of existing sewage flows. This plan must be specific and complete, including such items as schedules, locations, elevations, capacities of equipment, materials and all other incidental items necessary and/or required to provide proper protection of the facilities, including protection of the access and bypass pumping locations from damage because of the discharging flows and compliance with the requirements specified in these Documents. No work shall begin until all provisions and requirements have been reviewed by the City and the Engineer.

Submit a Wastewater Control plan including, but not limited to, details of the following:

1. Pumping locations, construction staging and schedule of temporary conveyance of wastewater.
2. Sewer plugging methods and types of plugs.
3. Number, size, material, location and method of installation of suction piping.
4. Number, size, material, method of installation and location of installation of the discharge piping.
5. Bypass pump sizes, capacity, number of each size to be on-site, and power requirements.
6. Standby power generator size and location.
7. Downstream discharge plan.
8. Method of protecting discharge manholes or structures from erosion and damage during pumping.
9. Any temporary pipe supports, and anchoring required for conveyance piping.
10. Design plans for access to pumping locations.
11. Schedule for installation and maintenance of conveyance piping.
12. Plan indicating location of bypass pumping lines and pumping locations.

CONSTRUCTION

The Contractor shall provide for the continuous flow of sewage around the sections of sewer line designated for replacement. A bypass shall be installed by plugging the line at an existing upstream sewer access structure and pumping or directing the flow to a downstream sewer access structure. The pump(s) and bypass lines shall be of adequate capacity and size to handle the flow. Raw sewage shall be routed back to the sanitary sewerage system or hauled and disposed of as approved by MMSD.

Bypass pumping shall be limited to the regular hours of work as provided by MMSD unless necessitated by an emergency beyond the Contractor's control. A representative of the Contractor must be on-site at all times that bypass pumping is in operation.

If the Contractor elects to use bypass pumping as a means of sewerage control, the methods, equipment, type of hose, etc., shall be subject to approval by the Engineer. Hoses crossing streets, driveways, parking areas, etc., are to be ramped over to prevent damage to the pipes and hoses.

All pumping discharge pipe shall be tested and demonstrated to be leak-free. All discharge pipe shall be hydrostatically tested to 60 psi prior to being placed into service. Protection shall be provided for pipes crossing traffic lanes, driveways, bike lanes, sidewalks, parking areas, etc. Selection of pumping equipment, pipe size, pipe support, and appurtenances shall be the responsibility of the Contractor and subject to approval by the Engineer.

Bypass pumps shall be sized to handle the required peak flow capacities as discussed. Redundant pumps are required for all bypass pumping set ups. Pumps shall be continuous self-priming and capable of running dry unattended. The pumps shall be specifically designed for sewage, capable of passing 3-inch solids.

At each suction location, provide a float operated high water alarm at an elevation approved by the Engineer. High water float shall trip audio, visual, and telephone alarms. Telephone alarm shall call at least one phone number that will be answered 24 hours a day by a responsible person.

All pumps shall be started at least once per day to ensure proper operation and reliability. Any pump does not start or is found to be inoperable shall be serviced or replaced immediately.

Bypassing will not be permitted in the event of current or predicted wet weather. The Engineer reserves the right to determine when bypassing will or will not be allowable in wet weather

No spillage of wastewater to adjacent streets, lawns, etc., shall be tolerated. If any such spillage should occur, all construction operations shall cease, and cleanup shall commence immediately and be completed to the satisfaction of the Engineer prior to the resumption of any construction operations.

Contractor shall familiarize himself with the sanitary sewerage facilities and develop an adequate bypassing plan. A written Wastewater Control Plan shall be submitted to the Engineer and approved by MMSD prior to the start of Work.

MMSD's contact regarding wastewater control on MMSD facilities is Jen Hurlbaas 222-1201 Ext: 248 jenh@madsewer.org.

METHOD OF MEASUREMENT

Heavy Wastewater Control shall be measured by the Lump Sum acceptably completed.

BASIS OF PAYMENT

Heavy Wastewater Control measured as described, which will be paid at the contract sum price, which shall be full compensation for all materials, labor, equipment, and incidentals necessary to acceptably complete the work as set forth in the description.

BID ITEM 90007**STORM CONTROL PLAN AND IMPLEMENTATION****DESCRIPTION**

Work under this item shall include all labor, materials, and incidentals required to prepare a storm control plan and to implement the approved plan. The storm control plan shall include dry weather, wet weather and backwater flow control contingencies. The Contractor shall submit to the Engineer a plan, one (1) week prior to start of construction that details how storm flows will be managed and/or diverted during placement of the new sanitary sewer, box culvert, and associated grading and restoration. The City will review the plan and provide comments. Work shall not commence until there is an approved Storm Control Plan. At a minimum, the pre-construction cross-sectional area and conveyance capacity must be maintained throughout construction. The approved methodology shall be installed prior to any storm sewer work. Any work, materials, and incidentals necessary to repair and restore the site due to the Storm Control Plan and Implementation shall be considered incidental to this Bid Item.

If phasing will be required to properly control the storm flows on site during project construction, this shall be defined and detailed in the Storm Control Plan. The Contractor shall provide appropriate storm control measures during the entire duration of the project. Removal of all equipment and materials used for storm control shall be considered incidental to this Bid Item.

METHOD OF MEASUREMENT

Storm Control Plan and Implementation shall be measured as a single Lump Sum for the work completed to control storm flows during construction.

BASIS OF PAYMENT

Storm Control Plan and Implementation, as measured above, shall be paid at the contract sum price and be considered full compensation for all work, materials, and incidentals required to complete the work as described above.

BID ITEM 90008**CONSTRUCTION FENCE (PLASTIC)****DESCRIPTION**

Work under this item shall include all work, materials, labor and incidentals necessary for the Contractor to provide, install, maintain and remove construction fence from the project site as shown on the plans. Fencing may be used to delineate areas to limit public access and for tree protection, as shown in the Drawings or as directed in the field.

This fence shall be highly visible (orange), constructed of a plastic web, and able to withstand the expected amount of use it shall receive on a construction site. Relocation of fencing may be required as the work progresses. No extra payment shall be made for temporarily opening and re-closing the fence, or relocation of the fencing as needed to perform the work. Fencing shall be left in place until construction operations are complete.

Construction fencing shall be International Orange color, high-density polyethylene mesh conforming to the following:

- Mesh opening: 1 inch minimum to 3 inch maximum
- Height: 4 feet
- Ultimate tensile strength: Avg 3000 LB per 4' width (ASTM D638)

METHOD OF MEASUREMENT

Construction Fence (Plastic) shall be measured by the Linear Foot acceptably installed, maintained and removed.

BASIS OF PAYMENT

Construction Fence (Plastic) shall be measured as described above and shall be paid for at the contract unit price which shall be full compensation for all work, materials, labor, tools, equipment, disposal, and incidentals required to complete the work as set forth in the description.

BID ITEM 90009 CHAIN LINK FENCE

DESCRIPTION

Work under this item shall include all work, materials, labor and incidentals necessary for the Contractor to provide, install, maintain and remove 6-foot chain link fence from the project site as shown on the Drawings. Chain link fencing will be utilized for protection of the work area, construction materials and the traveling public. Chain link fence may also have gates as required for the Work. Contractor shall provide fencing and gates as required to protect materials, staging areas and limit access to the site by unauthorized individuals or vehicles.

Chain link fencing shall be installed to discourage access to critical areas of the construction site by the general public during the course of the project. Fencing shall be maintained throughout construction and adjusted or removed at the request of the Engineer.

Fence shall be 6-feet tall, constructed of woven wire, be provided with suitable bases for stability, and reinforced with sand bags to limit movement. Relocation of fencing may be required as the work progresses. No extra payment shall be made for temporarily opening and re-closing the fence, or relocation of the fencing as needed to perform the Work. Fencing shall be left in place until construction operations are complete.

Chain link fencing shall have metal fabric consisting of galvanized chain link material in accordance with ASTM A392, Class 2, 2-inch mesh 9-gage steel wire. Posts shall be in accordance with ASTM F1043 for Industrial Fence, Schedule 40, galvanized steel pipe, 2-inches diameter. Top, brace, bottom and intermediate rails shall be galvanized steel pipe, Schedule 40 in accordance with ASTM F1083.

METHOD OF MEASUREMENT

Chain Link Fence shall be measured by the Linear Foot installed. Additional quantity will not be measured for moving chain link fence.

BASIS OF PAYMENT

Chain Link Fence shall be measured as described above and shall be paid for at the contract unit price which shall be full compensation for all work, materials, labor, tools, equipment, disposal, and incidentals required to complete the work as set forth in the description.

BID ITEM 90010 INSTALL PRECAST REINFORCED CONCRETE BOX CULVERT - 6' RISE X 10' SPAN

DESCRIPTION

This item shall include all work and coordination necessary to install the 6'x10' box culvert as shown on the Drawings, and as detailed in these Special Provisions. This includes all joint material, bedding and backfill as described. Design, loadings, allowable stresses, etc. shall be determined using the American

Railway Engineering and Maintenance-of-Way Association (AREMA) Manual for Railway Engineering. The box shall be manufactured, provided and installed with the appropriate amount of reinforcing steel based on the depth of cover provided along the profile of the box. If the box steel is varied along the length of box installation, the Manufacturer and Contractor shall provide a plan to the Construction Engineer to assure that the appropriate box sections are installed in the appropriate locations along the box run.

All box culvert pipe **will be purchased by the City of Madison** and ordered for delivery from the vendors to the Contractor's pre-determined receiving location. The Contractor shall provide equipment and labor for off-loading, loading, and trucking as needed. Contractor is responsible for securing all deliveries and insuring the completeness of the order prior to installation. Contractor is required to inspect all deliveries received for damage and shall notify the Engineer when materials have been received and inspected. Inspection by the Contractor shall occur upon delivery. If materials are found to have been damaged upon delivery to Contractor, Contractor shall inform vendor and provide photographs of damage, and, if necessary, store the materials at the receiving location. If the materials are damaged after delivery to Contractor but before installation is complete, Contractor shall be responsible for securing replacement materials. The Contractor shall contact the Engineer within three (3) working days of receipt of the box culvert to confirm the materials match what was specified. Original packing slips from each shipment shall be provided to the Engineer.

This item includes all excavation required for installation of the box culvert and all necessary removal and disposal of excess trench excavation, off site at a location to be provided by the Contractor. Further, the work under this item includes stockpiling and reuse of excavation spoils for backfill of the trench if material is suitable for backfilling. See Drawings for locations where suitable backfill is allowed.

The Contractor shall be responsible for coordinating delivery of the box culvert sections, unloading and other incidentals associated with the installation.

The Contractor shall abide by the following guidelines when installing the box culverts:

- 1) One (1) foot of 3/4 inch clear stone shall then be placed and wrapped in geotextile fabric (paid under Bid Item 20140) as subgrade correction and stabilization. 3/4-inch clear stone for box culvert bedding is incidental to Bid Item 20217 Clear Stone. The one (1) foot layer of clear stone shall be wrapped with geotextile fabric entirely before installing bedding stone.
- 2) The subgrade for the boxes shall have filter fabric (paid under Bid Item 20233 Riprap Filter Fabric, Type HR) placed on all exposed subgrade areas prior to placement of the bedding stone for the boxes.
- 3) One (1) foot of three (3) inch clear stone shall then be placed on the geotextile as bedding stone. Three (3) inch clear stone for box culvert bedding is included in the price of box culvert installation.
- 4) Those portions of the box culvert under the pavement structure backfill shall be in accordance with SDD 5.2.1 & SDD 5.2.2. Provision and placement of backfill under the bike path is included in the price of Bid Item 20207 Select Fill Sand. See Drawings for typical section of embankment fill.
- 5) The joints between box culvert sections shall be externally sealed with a rubberized waterproof membrane and internally sealed with a trowelable mastic. Materials and construction methods for the membrane shall be in accordance with Sections 516.2 and 516.3 of the State of Wisconsin Standard Specifications for Highway and Structure Construction, Current Edition. Joint sealing with rubberized waterproof membrane and trowelable mastic shall be included in the price of this Bid Item.

METHOD OF MEASUREMENT

Precast Reinforced Concrete Box Culverts - 6' rise x 10' span shall be measured by the Linear Foot for box culvert installed.

BASIS OF PAYMENT

Precast Reinforced Concrete Box Culverts - 6' rise x 10' span, as measured above, shall be paid at the contract unit price and be considered full compensation for all work, materials, and incidentals required to complete the work as described above.

BID ITEM 90011 INSTALL PRECAST REINFORCED CONCRETE - 6' RISE X 10' SPAN END SECTIONS

DESCRIPTION

Work under this item shall include all work, equipment, materials, and incidentals necessary to install precast reinforced concrete box culvert end sections as provided by precast manufacturer and as shown on the Drawings. End sections may come as single precast piece or multiple precast pieces that require assembly. This item shall pertain to the installation and assembly of any precast pieces provided by the manufacturer via bolting, concrete collars, or as recommended by the precast manufacturer.

Precast reinforced concrete end sections **will be purchased by the City of Madison** and ordered for delivery from the vendors to the Contractor's pre-determined receiving location. The Contractor shall provide equipment and labor for off-loading, loading, and trucking as needed. Contractor is responsible for securing all deliveries and insuring the completeness of the order prior to installation. Contractor is required to inspect all deliveries received for damage and shall notify the Engineer when materials have been received and inspected. Inspection by the Contractor shall occur upon delivery. If materials are found to have been damaged upon delivery to Contractor, Contractor shall inform vendor and provide photographs of damage, and, if necessary, store the materials at the receiving location. If the materials are damaged after delivery to Contractor but before installation is complete, Contractor shall be responsible for securing replacement materials. The Contractor shall contact the Engineer within three (3) working days of receipt of the box culvert to confirm the materials match what was specified. Original packing slips from each shipment shall be provided to the Engineer.

This item includes all excavation required for installation of the precast reinforced concrete end sections and all necessary removal and disposal of excess trench excavation, off site at a location to be provided by the Contractor. Further, the work under this item includes stockpiling and reuse of excavation spoils for backfill of the trench if material is suitable for backfilling. See Drawings for locations where suitable backfill is allowed.

The Contractor shall be responsible for coordinating delivery of the precast end sections, unloading and other incidentals associated with the installation.

The Contractor shall abide by the following guidelines when installing the end sections:

- 1) One (1) foot of 3/4 inch clear stone shall then be placed and wrapped in geotextile fabric (paid under Bid Item 20233 Riprap Filter Fabric, Type HR) as subgrade correction and stabilization. 3/4-inch clear stone for box culvert bedding is incidental to Bid Item 20217 Clear Stone. The one (1) foot layer of clear stone shall be wrapped with geotextile fabric entirely before installing bedding stone.
- 2) The subgrade for the end sections shall have filter fabric (paid under Bid Item 20233 Riprap Filter Fabric, Type HR) placed on all exposed subgrade areas prior to placement of the bedding stone for the boxes.

- 3) One (1) foot of three (3) inch clear stone shall then be placed on the geotextile as bedding stone. Three (3) inch clear stone for end section bedding is included in the price of box culvert installation.
- 4) The joints between box culvert sections and end sections shall be externally sealed with a rubberized waterproof membrane and internally sealed with trowelable mastic. Materials and construction methods for the membrane shall be in accordance with Sections 516.2 and 516.3 of the State of Wisconsin Standard Specifications for Highway and Structure Construction, Current Edition. Joint sealing with rubberized waterproof membrane and trowelable mastic shall be included in the price of this Bid Item.

METHOD OF MEASUREMENT

Install Precast Reinforced Concrete 6' Rise x 10' Span End Sections shall be measured by Each unit satisfactorily installed in place.

BASIS OF PAYMENT

Install Precast Reinforced Concrete 6' Rise x 10' Span End Sections, as measured above, shall be paid at contract unit price and be considered full compensation for all work, equipment, materials and incidentals to complete the work as explained in the description above.

Excavation and clear stone bedding shall be installed as shown in S.D.D. 5.5.1 and shall be paid for under this Bid Item.

BID ITEM 90012 BOX CULVERT RESTRICTOR PLATE

DESCRIPTION

Work under this item shall include all equipment, materials, labor, and incidentals required to provide, install and fasten the steel restrictor plates to the new 6' X 10' reinforced precast concrete box culvert including angle iron supports, steel plates, structural support, anchors and all other items incidental to complete the work as shown on the Drawings.

MATERIALS

Steel materials for structural metals shall be as specified in Table A.

Table A - Steel Materials

Material	Specification
Standard steel S-shapes, channels, angles and plates	ASTM A36
Standard rolled steel wide-flange sections and WTs	ASTM A992
Pipe sections for posts	ASTM A53, Type E or S, Grade B
Round Hollow Structural Sections (HSS)	ASTM A500, Grade B (Fy=42 ksi)
Square and Rectangular Hollow Structural Sections (HSS)	ASTM A500, Grade B (Fy = 46 ksi)
Stainless steel bolts (used at stainless steel and aluminum framing unless noted otherwise)	ASTM F593, Type 316
Stainless steel nuts and washers (used at stainless steel and aluminum framing unless noted otherwise)	ASTM F594, Type 316

Table A - Steel Materials

Material	Specification
Steel bolts (used at galvanized and painted steel framing)	Galvanized ASTM A325 (Type 1), bearing type bolts fully tensioned
Carbon steel nuts and washers	Galvanized ASTM A563 nuts and galvanized ASTM F436 washers

Aluminum materials for structural metals shall be as specified in Table B.

Table B - Aluminum Materials

Material	Specification
Aluminum structural shapes	Alloy 6061-T6 per ASTM B308
Bolts	Use stainless steel bolts for aluminum framing (see Table A above)
Aluminum guardrail and handrail pipe	Alloy 6061-T6 or 6063-T6 per ASTM B241
Aluminum plates	Alloy 6061-T6 per ASTM B209

Anchor bolt holes in equipment support frames shall not exceed the bolt diameters by more than 1/4 inch. Minimum anchor bolt diameter shall be 1/2 inch. Anchor bolts shall be cast-in-place anchors unless post installed anchors are specified or shown on the Drawings. Substitution of post-installed anchors will not be permitted unless specifically requested by the Contractor and approved by the Engineer.

Anchor bolts shall be as specified in the following table:

Material	Specification
Stainless Steel Anchor Bolts	ASTM A193 or A320, Type 316
Stainless Steel Threaded Rods	ASTM F593, Type 316
Stainless Steel Nuts	ASTM A194 Heavy Hex Nuts, Type 316 ASTM F594 Heavy Hex Nuts at Adhesive Anchors, Type 316 [ASTM A194 Heavy Hex Nuts Grade 8S (Nitronic 60)]
Stainless Steel Washers	Type 316 to match bolt material
Carbon Steel Anchor Bolts	ASTM F1554, Grade 36, Hot Dip Galvanized
High-Strength Carbon Steel Anchor Bolts	ASTM F1554, Grade 55, Weldable per Supplementary Requirement S1, Hot Dip Galvanized
Carbon Steel Nuts and Washers	ASTM A563 and F844, Heavy Hex, Hot-Dip Galvanized
Concrete Adhesive Anchors	Hilti "HIT-RE 500v3", Simpson Strong-Tie "SET-XP", or approved equal, with Type 316 Stainless Steel threaded rods
Concrete Masonry Adhesive Anchors	Hilti "HIT-HY 70", Simpson Strong-Tie "SET-XP", or approved equal, with Type 316 Stainless Steel threaded rods
Concrete Masonry Expansion (wedge) Anchors*	Hilti "KWIK BOLT 3", or approved equal, Type 316 Stainless Steel
Concrete Expansion (wedge) Anchors *	Hilti "KWIK BOLT TZ", or approved equal, Type 316 Stainless Steel

**Post installed anchors shall always be an adhesive type anchor system except where noted otherwise or when Contractor makes a request for a specific application and Engineer approves.*

Anti-seizing lubricant for stainless steel threaded connections shall be formulated to resist washout and shall be manufactured by Bostik, Safe-T-Eze, or approved equal.

CONSTRUCTION

Erection of structural steel shall be in accordance with the applicable provisions of AISC Steel Construction Manual. Erection plan shall conform to AISC 303. Coordinate installation of anchor bolts and other connectors required for securing structural steel to in place work.

Employ a registered professional engineer or surveyor for accurate erection of the structural steel. Check elevations of concrete and locations of anchor bolts before erection proceeds and report discrepancies to the Owner's Representative. Placement tolerances shall be in accordance with AISC 303.

After final positioning of steel members, provide full bearing under base plates and bearing plates using non-shrink grout. Place non-shrink grout in accordance with the manufacturer's instructions.

Protect dissimilar metals from galvanic corrosion by means of pressure tapes, coatings or isolators. Protect aluminum in contact with concrete or grout with a heavy coat of bituminous paint.

Metalwork to be embedded in concrete shall be placed accurately and held in correct position while the concrete is placed. The surfaces of metalwork in contact with or embedded in concrete shall be thoroughly cleaned.

Structural steel completely encased in concrete shall not be galvanized or painted and shall have a clean surface for bonding to concrete. Metalwork which is bent, broken or otherwise damaged shall be repaired or replaced.

Welding shall be done by welders, welding operators, and tackers who have been qualified by tests as prescribed by AWS to perform the type of work required. The quality of welding shall conform to AWS Codes. Develop and submit the Welding Procedure Specifications (WPS) for all welding, including welding done using prequalified procedures. Provide continuous seal welds for plates or structural shapes that are exposed to or submerged in water or wastewater.

Bolted connections, unless noted otherwise, shall conform to AISC 360 and shall be bearing type connections with bolts fully tensioned unless connecting HSS shapes. Punch, sub-punch and ream, or drill bolt holes perpendicular to the surface of the member. Holes shall be punched 1/16 inch larger than the nominal size of the bolts, unless otherwise specified. Bolts, nuts, and washers shall be clean of dirt and rust and lubricated immediately prior to installation. No drifting of bolts or enlargement of holes will be allowed to correct misalignment. Holes shall not be cut or enlarged by burning. Mismatched holes shall be corrected with new material.

Anchor bolts shall be cast-in-place anchors unless post-installed anchors are specified or shown on the Drawings. Grouting of anchor bolts using plastic sleeves with non-shrink or epoxy grout, where specified. The threaded end of anchor bolts and all-thread rods shall be long enough to project through the entire depth of the nut and if too long, shall be cut off at ½-inch beyond top of nut and ground smooth.

Anchor bolts to be embedded in concrete shall be placed accurately and held in correct position using templates while the concrete is placed. After anchor bolts have been embedded, their threads shall be protected by grease and the nuts run on.

Note that adhesive anchors shall not be substituted for cast-in-place anchor bolts unless the adhesive anchors have been specified or shown on the Drawings, or approval has been obtained from the Engineer

that substitution of adhesive anchors is acceptable for the specific use and location. Use of adhesive anchors shall be subject to the following conditions:

1. Limit to locations where intermittent or continuous exposure to the following is extremely unlikely:
 - a. Acid concentrations higher than 10 percent
 - b. Chlorine gas
 - c. Machine or diesel oils
2. Limit to applications where exposure to the following is extremely unlikely:
 - a. Fire
 - b. Concrete or rod temperature above 120 degrees F
3. Overhead applications (such as pipe supports) shall not be allowed unless approved by the Engineer and installation is by an Installer specially certified for overhead applications.
4. Approval from Engineer for specific application and from supplier of equipment to be anchored, if applicable.
5. Anchor diameter and material shall be per Contract Documents or equipment manufacturer's specifications. Anchor shall be threaded or deformed the full length of embedment and shall be free of rust, scale, grease, and oils.
6. Embedment depth shall be as specified or as required by the equipment manufacturer.
7. Follow the anchor system manufacturer's installation instructions.
8. Holes shall have rough surfaces created by using a hammer drill with carbide bit. Core drilled holes are not allowed.
9. Holes shall be blown clean with oil-free compressed air and be free of dust or standing water prior to installation. Follow additional requirements of the adhesive manufacturer.
10. Concrete and air temperature shall be compatible with curing requirements of adhesives per adhesive manufacturer's instructions. Anchors shall not be placed in concrete when the temperature is below 25 degrees F.
11. Anchors shall be left undisturbed and unloaded for full adhesive curing period, which is based on temperature of the concrete.

METHOD OF MEASUREMENT

Box Culvert Restrictor Plate shall be measured by a single Lump Sum for the work completed to restrict the storm channel to the dimensions shown on the Drawings.

BASIS OF PAYMENT

Box Culvert Restrictor Plate shall be measured as described above which shall be full payment for all equipment, labor, materials, and incidentals required to furnish and install the box culvert restrictor plate, structural supports, and anchors as detailed in the Drawings.

BID ITEM 90013 ANTI-SEEP COLLAR

DESCRIPTION

Work under this item shall include all work, equipment, materials, and incidentals necessary to install a cast-in-place reinforced concrete anti-seep collar to prevent migration of water along the precast box culvert provided by precast manufacturer as shown on the Drawings.

MATERIALS

Concrete for anti-seep collars shall be per Article 301 of the City Standard Specifications and as shown on the Drawings.

Reinforcement for anti-seep collars shall be per Article 301.3 of the City Standard Specifications, Section 505.2 of the Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, and as shown on the Drawings.

Waterstop shall be hydrophilic in nature and shall be manufactured by DC International, Sika Corporation, or approved equal. Install per manufacturer's recommendations.

CONSTRUCTION

Install anti-seep collar half-way between precast box culvert joints. Anti-seep collar shall not be installed at a joint in the box culvert.

Form concrete in accordance with Article 301.6 of the City Standard Specifications. Remove forms after setting of concrete. Formwork shall not be left in place.

Pour, place and finish concrete in accordance with Article 301.5 of the City Standard Specifications. Protect concrete in accordance with Article 301.8 of the City Standard Specifications. Anti-seep collar shall be tight to precast box culvert all around. No gaps between anti-seep collar and precast box culvert will be allowed.

Minimum dimensions and reinforcement of cast-in-place concrete anti-seep collar shall be as shown on the Drawings and as directed by the Engineer.

METHOD OF MEASUREMENT

Anti-Seep Collar shall be measured by Each collar satisfactorily installed in place.

BASIS OF PAYMENT

Anti-Seep Collar, as measured above, shall be paid at contract unit price and shall be considered full compensation for all work, equipment, materials and incidentals to complete the work as explained in the description above.

BID ITEM 90014 SAS CORROSION RESISTANT COATING

DESCRIPTION

Work under this item shall include all equipment, materials, labor, and incidentals required to prepare the surface of the sanitary access structure and coat the newly installed sanitary access structures with the coating specified within these special provisions.

MATERIALS

Contractor shall supply coating system by one of the following manufacturers:

1. Raven Lining Systems.
 - a. 1024 North Lansing Avenue, Tulsa, OK 45106
 - b. www.ravenlining.com
2. Sauereisen.
 - a. 160 Gamma Drive, Pittsburg, PA 15238
 - b. www.sauereisen.com
3. Tnemec.
 - a. 6800 Corporate Drive, Kansas City, MO 64120
4. VersaFlex Incorporated.
5. Sherwin Williams Inc.
6. CCI Spectrum Inc.

7. OBIC, LLC.

The coating system shall be one of the following approved systems from the above manufacturers:

1. Raven Lining Systems:
 - a. Strong Seal High Performance Calcium Aluminate mortar.
 - b. Raven 405 Ultra High-build epoxy coating.
2. Sauereisen:
 - a. Filler Compound No. 209.
 - b. SewerGard No. 210S.
3. Tnemec Company, Inc.:
 - a. Series 218 Mortarclad resurfacer.
 - b. Series 435 Perma-Glaze.
4. VersaFlex System:
 - a. Versa Grout 200.
 - b. VF15 Primer.
 - c. FSS 50DM (Polyurea).
5. Sherwin Williams System:
 - a. Duraplate 2300.
 - b. Duraplate 5900.
6. CCI Spectrum Inc.:
 - a. Spectrashield Liner System – total 500 mils thickness
 - i. Moisture Barrier (modified polymer)
 - ii. Surfacer (polyurethane foam)
 - iii. Final Corrosion Barrier (silicone modified polyurea)
7. OBIC Liner System:
 - a. Polyurea Adhesion Coating.
 - b. Polymer Surface Layer – OBIC Guard 1306.
 - c. Final Polyurea Armor Layer – OBIC 1000.

CONSTRUCTION

Coatings shall not be applied unless surface and surrounding air temperatures are above 50 degrees F. Concrete surface temperature must be decreasing during time of application. Do not apply product in cold, foggy, damp, or rainy weather.

Application of linings in sewer access structures shall take place in the field after installation of structures is completed. Precast structures shall not be delivered to the site after being coated.

Provide dry heat and ventilation as needed to obtain the manufacturer's recommended drying conditions.

Start of work shall be construed as acceptance of surfaces and conditions by the applicator. Do not apply product to improperly prepared, wet, or damp surfaces. Do not apply product to surfaces that are subjected to direct sunlight or when air and surface temperatures are rising.

Correct deficiencies in the total film by applying additional coats and in accordance with manufacturer recommendations.

Surface preparation shall be per the manufacturer's recommendations. Contractor shall inspect the conditions of the surfaces to be coated and shall correct any unsatisfactory conditions that would affect proper performance. Perform preparation and cleaning procedures in accordance with manufacturer instructions to obtain clean, dry surface.

Application of product shall not be performed until all substrate preparation and testing is complete for the structure being coated. Spray apply the first coat only to areas that can be final coated within the manufacturer's recoat window. If the recoat window is exceeded, the surface shall be prepared according to the manufacturer's recommendations and recoated.

Contractor shall take the following steps for individual coating systems:

1. Raven System:
 - a. Fill bug holes and irregularities with Strong Seal.
 - b. Raven does not recommend using a primer.
 - c. Thoroughly wash the surfaces prior to application of the first coat and thoroughly wash the first coat surfaces prior to application of the second coat.
 - d. Spray apply two coats of 405 at minimum 100 mils total to concrete fillet, walls and ceilings.
 - e. Raven typically has a maximum 24-hour recoat window at 75 degrees F.
2. Sauereisen System:
 - a. Fill bug holes and irregularities with 209.
 - b. Sauereisen does not recommend a primer with 210S.
 - c. Spray apply one or two coats of 210S at a minimum 100 mils total to concrete fillet, walls and ceilings.
 - d. Comply with all manufacturer's temperature requirements for material and substrate.
3. Tnemec System:
 - a. Fill bug holes and irregularities with 218.
 - b. Spray apply one or two coats of 435 at a minimum 100 mils to concrete fillet, walls and ceilings.
4. VersaFlex System:
 - a. Fill bug holes and irregularities with Versa Grout 200.
 - b. Provide VF15 primer at 10 mils.
 - c. Spray apply one coat of FSS 50MD at 80 to 100 mils.
5. Sherwin Williams System:
 - a. Fill bug holes and irregularities with Duraplate 2300.
 - b. Spray apply one or two coats of Duraplate 5900 Plus at 100 mils.
6. CCI Spectrum System:
 - a. Apply moisture barrier at manufacturer recommended rate.
 - b. Apply surfacer foam at manufacturer recommended rate.
 - c. Apply final corrosion barrier at manufacturer recommended rate.
7. UBIC System:
 - a. Apply polyurea adhesion coat at manufacturer's recommended rate.
 - b. Apply polymer surface layer at manufacturer's recommended rate.
 - c. Apply final polyurea armor layer at manufacturer's recommended rate. Total system shall have a minimum 1/2-inch (500 mils) thickness.

Finish coats shall be applied at a minimum 30 square feet per gallon (50 mils) each coat. Spray apply the first coat only to areas that can be final coated within the manufacturer's recoat window. If the recoat window is exceeded, the surface shall be prepared according to the manufacturer's recommendations and recoated.

Protect adjacent surfaces including floors, equipment, or refinished materials by covering with drop cloths or other acceptable means. Maintain safe working conditions at all times - remove solvent-soaked rags and other flammables daily from the area or keep in airtight metal containers.

Immediately repair improperly prepared surfaces, misapplied materials, or inferior workmanship. Touch up or reapply product to surfaces which have been damaged.

Holiday Testing:

1. After the protective coating has set hard to touch, it shall be test with high-voltage holiday detection equipment. Surfaces shall first be dried; an induced holiday shall then be made on to the coated concrete surface and shall serve to determine the minimum/maximum voltage to be used to test the coating for holidays at that particular area. The spark tester shall be initially set at 100 volts per 1 mil of film thickness applied but may be adjusted as necessary to detect the induced holiday (refer to NACE RPO188-99).
2. All detected holidays shall be marked and repaired by abrading the coating surface with grit disk paper marked or other hand tooling method. After abrading and cleaning, additional protective

coating material can be hand applied to repair the area. All touchup/repair procedures shall follow the protective coating manufacturer's recommendations.

Clean surfaces for final acceptance.

METHOD OF MEASUREMENT

SAS Corrosion Resistant Coatings shall be measured by the Each acceptably installed and approved by the City or Engineer.

BASIS OF PAYMENT

SAS Corrosion Resistant Coating shall be measured as described above and shall be full compensation for surface preparation, furnishing and installing per manufacturer's recommended procedures, protection during curing, and all labor, tools, equipment and incidentals necessary to complete the work.

Costs of all specified tests shall be paid by the Contractor and are incidental the SAS Corrosion Resistant Coating Bid Item.

Costs for any retesting due to defective workmanship or materials shall be paid by the Contractor and are incidental to the SAS Corrosion Resistant Coating Bid Item.

BID ITEM 90015 TRENCH DAM

DESCRIPTION

Work under this item shall include all equipment, materials, labor, and incidentals required to construct and install trench dams to prevent preferential water channels along newly installed sanitary pipes as shown on the Drawings and as specified within these special provisions.

MATERIALS

Trench dams shall be composed of bentonite slurry. Bentonite shall be free flowing, high swelling, granular sodium bentonite. Bentonite shall be American Colloid Company, Volclay SG-40; Wyo-Ben, Envirogel-10; or approved equal. Bentonite shall have a free swell of at least 18 cc / 2 grams as measured by ASTM Standard Test Method D5890 and shall meet the following gradation:

Sieve Size	Percent Passing
10	100
20	60 - 100
200	0 - 20

CONSTRUCTION

Bentonite shall be applied to soil that is free of vegetation, trash, roots, frozen material, stones over three inches in diameter and other objectionable material. Bentonite shall be spread uniformly at the manufacturer's recommended application rate.

Bentonite shall be thoroughly mixed per manufacturer's recommendations. Minimum dimensions of finished trench dam shall be per the Drawings.

Compaction of bentonite trench dam material shall be 95 percent of maximum density as determined by Standard Proctor Test, ASTM D698 or as recommended by manufacturer. Lift thickness shall be 4 inches or thinner to achieve desired compaction.

METHOD OF MEASUREMENT

Trench Dams shall be measured by the Each acceptably installed per the Drawings and as approved by the City or Engineer.

BASIS OF PAYMENT

Trench Dams shall be measured as described above and shall be full compensation for furnishing and installing Trench Dams per the Drawings and all labor, tools, equipment and incidentals necessary to complete the work.

BID ITEM 90016 12-INCH SANITARY SEWER OUTSIDE DROP

DESCRIPTION

Work under this item shall include all work, materials, equipment, and incidentals required to provide and install 12-Inch Outside Drop in accordance with Article 507.3(d) and S.D.D. 5.7.2 of the City of Madison Standard Specifications for Public Works Construction Latest Edition. The pipe diameter used for the outside drop shall be 12-Inch diameter.

METHOD OF MEASUREMENT

12-Inch Outside Drop shall be measured by the length in Vertical Foot measured from the invert of the entry tee to the spring line of the sewer main.

BASIS OF PAYMENT

12-Inch Outside Drop shall be paid for at the contract unit price, which shall be full compensation for all work as outlined in the description.

BID ITEM 90017 CONCRETE ENCASUREMENT OF SANITARY SEWER

DESCRIPTION

Work under this item shall include all work, materials, equipment, and incidentals required to provide and install concrete encasement of 12-inch sanitary sewer pipe as shown on the Drawings. Concrete encasement is for the protection of the newly installed PVC sanitary sewer pipe and shall extend from Sta 224+90 to Sta 225+40 (proposed sewer alignment). Final encasement limits shall field fit and determine by the City and Engineer.

METHOD OF MEASUREMENT

Concrete Encasement of Sanitary Sewer shall be measured by the Linear Foot of concrete encasement acceptably installed.

BASIS OF PAYMENT

Concrete Encasement of Sanitary Sewer shall be paid for at the contract unit price, which shall be full compensation for all work as outlined in the description.

BID ITEM 90018 CONNECT TO EXISTING SANITARY SEWER

DESCRIPTION

Work under this item shall include all work, materials, equipment, and incidentals required to connect proposed sanitary sewers to existing sanitary sewers that are not located at existing or proposed structures. This item shall be for the connection of the sanitary sewer at Sta 224+90 including couplings, fittings, adhesives, excavation, backfill, compaction and all incidentals required to perform the work.

MATERIALS

Couplings shall be Fernco Strong Back, shielded couplings, or approved equal.

When existing pipe is the same size and material of the proposed pipe, Contractor shall utilize a fitting of the same material and size.

METHOD OF MEASUREMENT

Connect to Existing Sanitary Sewer shall be measured by Each connection made from the proposed sanitary sewer to the existing sanitary sewer.

BASIS OF PAYMENT

Connect to Existing Sanitary Sewer shall be paid for at the contract unit price, which shall be full compensation for all work as outlined in the description.

Connection of existing sanitary sewers to proposed sanitary sewers at structures shall be incidental to Bid Item 50791 Sanitary Sewer Tap.

BID ITEM 90019 BACKFILL OF EXISTING 12" GAS MAIN

DESCRIPTION

Work under this item shall include all work, materials, equipment, and incidentals required to provide material, backfill, and compact bedding and backfill material for 12" high-pressure gas main as shown on the Drawings and as specified herein.

Protection of cathodic protection of gas main is incidental to this Bid Item.

MATERIALS

Provide select fill sand in accordance with Bid Item 20207 Select Fill Sand or as directed by MG&E watch dog or Engineer.

CONSTRUCTION

Contractor shall bed, compact and backfill existing 12" high-pressure gas main per the recommendations of MG&E watch dog and as shown on the Drawings.

The Contractor shall take care not to expose more gas main than required, and therefore, shall not backfill more gas main than required. Protect cathodic protection system where ever encountered during excavation. Protection of cathodic protection system is incidental to this Bid Item.

Madison Gas & Electric contact is Shaun Endres (608-252-7373 SEndres@mge.com).

METHOD OF MEASUREMENT

Backfill of Existing 12" Gas Main shall be measured by the Linear Foot acceptably backfilled as approved by the MG&E watch dog and Engineer.

BASIS OF PAYMENT

Backfill of Existing 12" Gas Main shall be paid for at the contract unit price, which shall be full compensation for all work as outlined in the description.

BID ITEM 90020 3.5 INCH CONCRETE PAVEMENT

DESCRIPTION

Work under this item includes all equipment, materials, labor, and incidentals required to prepare aggregate surface, form, place, finish and protect concrete pavement as described in Article 404 the Standard Specifications and these Special Provisions.

As modified from Article 404 of the Standard Specifications and S.D.D 5.2.4, concrete for the Southwest Bike Path shall be laid in a single lift, 3.5-inches thick, as shown on the Drawings.

MATERIALS

Concrete shall conform to Sections 415.2 and 416.2 of the Wisconsin Department of Transportation Standard Specification for Highway and Structure Construction, latest Edition.

Concrete forms shall conform to Article 404.2 of the Standard Specifications.

CONSTRUCTION

Mix, place, and protect concrete for pavements in accordance with Section 415.3 and 416.3 of the Standard Specifications for Highway and Structure Construction of the State of Wisconsin Department of Transportation, Latest Edition.

Provide thermal protection for all pavements poured below 40 degrees F and as specified in Section 415.3.13.2 of the WisDOT Standard Specification for Highway and Structure Construction. Thermal protection of pavements is incidental to Bid Item 30131 Cold Weather Protection of Concrete Sidewalk & Drive (Polyethylene).

METHOD OF MEASUREMENT

3.5 Inch Concrete Pavement shall be measured by area in Square Feet acceptably installed and in adherence of construction methods listed above.

BASIS OF PAYMENT

3.5 Inch Concrete Pavement shall be measured as described above which shall be paid for at the contract unit price which shall be full compensation for preparing surface, furnishing, placing, finishing, protecting, and for all work, materials, labor, and incidentals required to complete the Work.

Protection of concrete during curing and removal of thermal protection after curing is incidental to Bid Item 30131 Cold Weather Protection of Concrete Sidewalk & Drive (Polyethylene).

BID ITEM 90021 RAILING (STEEL)

DESCRIPTION

This special provision describes fabricating, galvanizing, painting and installing railing in accordance with Sections 506, 513 and 517 of the WisDOT Standard Specifications and the plan details, as directed by the Engineer, and as hereinafter provided.

MATERIALS

All materials for railing shall be new stock, free from defects impairing strength, durability and appearance. Railing assemblies shall be galvanized and receive a two-coat coating system. Bubbles, blisters and flaking in the coating will be a basis for rejection.

Railing Components:

Base plates shall conform to ASTM A709 Grade 36

Steel Tubes shall conform to ASTM A500 or A501 Grade B

All welds shall be 3/16-inch fillet welds with E70XX electrodes unless otherwise noted.

Post based plates shall be flat with all surfaces smooth and free from warp and all edges smooth, straight and vertical. All plate cuts shall be machine or machine flame cut.

Fill bolt slot openings in post shims and base plate with non-staining gray, non-bituminous joint sealer.

Steel post shims may be used under posts where required for alignment.

Mounting hardware shall conform to ASTM 325.

Coating System:

Galvanizing

After fabrication, blast clean steel railing assemblies per SSPC-SP6 and galvanize according to ASTM A123. Vent holes shall be drilled in members as required to facilitate galvanizing and drainage. Location and size of vent holes are to be shown on the shop drawings. All burrs at component edges, corners and at holes shall be removed and sharp edges chamfered before galvanizing. Condition any thermal cut edges before blast cleaning by shallow grinding or other cleaning to remove any hardened surface layer. Remove all evident steel defects exposed in accordance to AASHTO M 160 prior to blast cleaning. Lumps, projections, globules, or heavy deposits of galvanizing, which will provide surface conditions that when painted, will produce unacceptable aesthetic and/or visual qualities, will not be permitted.

Two-Coat Paint System

After galvanizing, paint all exterior surfaces of steel railing assemblies and inside of rail elements at field erection and expansion joints as hereinafter provided. All galvanized surfaces to be painted shall be cleaned per SSPC-SP1 to remove chlorides, sulfates, zinc salts, oil, dirt, organic matter and other contaminants. The cleaned surface shall then be brush blast cleaned per SSPC-SP16 to create a slight angular surface profile per manufacturer's recommendation for adhesion of the tie coat. Blasting shall not fracture the galvanized finish or remove any dry film thickness. After cleaning, apply a tie coat from an approved coating system that is specifically intended to be used on a galvanized surface, per manufacturer's recommendations. The tie coat shall etch the galvanized rail and prepare the surface for the top coat. Apply a top coat per manufacturer's recommendations, matching the specified color shown on the plans. Use a preapproved top coat that is resistant to the effects of the sun and is suitable for a

marine environment. The tie and top coats should be of contrasting colors and come from the same manufacturer.

Ensure that the paint manufacturer reviews the process to be used for surface preparation and application of the paint coating system with the paint applicator. The review shall include a visit to the facility performing the work if requested by the paint manufacturer. Provide written confirmation, from the paint manufacturer to the engineer, that the review has taken place and that issues raised have been addressed before beginning coating work under the contract.

Use one of the qualified paint manufacturers and products given below. An equivalent system may be used with the written approval of the Engineer.

Manufacturer	Coat	Products	DryFilm Thickness (mils)	Minimum	Min. Time Between Coats (hrs)
Tneme 6800 Corporate Drive Kansas City, MO 64120 1-800-863-6321	Tie Top	F.C. Typoxy Series 27 Endura-Shield II Series 1074U	2.0 to 6.0		8
Carboline 2150 Schuetz Road St. Louis, MO 63146 314-644-1000	Tie Top	Carboguard 888 Carboxane 2000 Satin	3.0 to 4.0 2.0 to 4.0		8 NA
Wasser Corporation Suite B Auburn, WA 98001 253-850-2967	Tie Top	MC- Miozinc MC- Ferrox A 2.8	3.0 to 4.0 2.0 to 4.0		8 NA

Shop Drawings:

Submit shop drawings showing the details of railing construction. Show the railing height post spacing, rail location, weld sizes and locations and all dimensions necessary for the construction of the railing. Show location of shop rail splices, field erection joints and expansion joints. State the name of the paint manufacturer and the product name of the tie coat and top coat used along with the color. State the size and material type used for all components. Also show the size and location of any vent or drainage holes provided.

CONSTRUCTION

Delivery, Storage and Handling:

Deliver material to the site in an undamaged condition. Upon receipt at the job site, all materials shall be thoroughly inspected to ensure that no damage occurred during shipping or handling and conditions of materials is in conformance with these specifications. If coating is damaged, Contractor shall repair or replace railing assemblies to the approval of the Engineer at no additional cost to the Owner. Carefully store the material off the ground to ensure proper ventilation and drainage. Exercise care so as not to damage the coated surface during railing installation. No field welding, field cutting, or drilling will be permitted without the approval of the Engineer.

Touch-up and Repair:

For minor damage caused by shipping, handling or installation to coated surfaces, touch- up the surface in conformance with the manufacturer's recommendations. If damage is excessive, the railing assembly

shall be replaced at no additional cost to the Owner. The Contractor shall provide the Engineer with a copy of the manufacturer's recommended repair procedure and materials before repairing damaged coatings.

METHOD OF MEASUREMENT

Railing (Steel) will be measured by the Linear Foot along the centerline of the rail, completed and accepted.

BASIS OF PAYMENT

Railing (Steel) measured as described above will be paid for at the contract unit price per Linear Foot. Payment is full compensation for furnishing, fabricating, galvanizing, painting, delivering and installing the steel railings, including all equipment, tools, labor, mounting hardware and incidentals necessary to complete the work as specified.

Foundations for the pedestrian railing shall be paid for under Bid Item 90023 Concrete Foundation for Railing (Steel).

BID ITEM 90022 CONCRETE FOUNDATION FOR RAILING (STEEL)

DESCRIPTION

Work under this item shall include all work, materials, equipment, and incidentals required to layout, excavate for foundation, furnish, install and finish the concrete foundations required to mount the steel pedestrian guardrail as shown on the Drawings.

MATERIALS

Formwork for railing foundations shall be circular in nature and rigid enough to support earth pressures prior to pouring foundations. Contractor shall use Sonotubes, or equal, with minimum inside radius of 15-inches.

Concrete for foundations shall be Grade B concrete as specified in Section 501 of the latest edition of the Standard Specification for Highway and Structure Construction of the State of Wisconsin, Department of Transportation. Hand-mixing or on-site batching of concrete will not be accepted unless approved by the City or Engineer.

CONSTRUCTION

Mix, place and protect concrete for foundations as specified in Section 502.3.9 of the latest edition of the Standard Specifications for Highway and Structure Construction of the State of Wisconsin Department of Transportation.

Use circular formwork such as Sonotubes for the forming of steel railing foundations. Forms shall be minimum of 15-inches diameter and shall be laid out to line up with pre-fabricated pedestrian railing. Foundations shall extend 4-feet before finished grade. Off-set foundation placement to avoid temporary pavement construction of the Southwest Commuter Bike Path. Bike path and railing foundations shall not be integral and shall be constructed separately or with a bond-break.

METHOD OF MEASUREMENT

Concrete Foundation for Railing (Steel) shall be measured by the Each for each foundation acceptably installed.

BASIS OF PAYMENT

Concrete Foundation for Railing (Steel) shall be measured as described above, shall be paid at the contract unit price and shall be full compensation for excavation for foundation, forming, furnishing and installing concrete and finishing concrete; and for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

BID ITEM 90023 SUBGRADE PREPRATION

DESCRIPTION

Work under this item shall include all work, materials, equipment, and incidentals required to restore, correct, strengthen, or otherwise prepare the pavement foundation to a condition suitable for constructing and supporting a subbase, base or surface pavement.

CONSTRUCTION

Contractor shall prepare surface in accordance with Section 211 of the Standard Specifications for Highway and Structure Construction in the State of Wisconsin.

Subgrades shall be inspected and approved by the Engineering before final paving or placement of concrete pavement takes place.

METHOD OF MEASUREMENT

Subgrade Preparation shall be measured by the Square Yard acceptably prepared and approved by the City and Engineer.

BASIS OF PAYMENT

Subgrade Preparation shall be paid for at the contract unit price, which shall be full compensation for all work as outlined in the description.

BID ITEM 90024 FINISH GRADING

DESCRIPTION

Work under this item shall include all work, materials, equipment, and incidentals required to grade the project area to the grades depicted on the Drawings. This work shall also include finish grading as necessary for establishing the swale from approximately 496+25 to 498+60. Placement of on-site fill shall be included in this bid item. Excess material generated during the culvert installation or grading activities may be utilized as provided for by the Construction Engineer. Suitable material for fill shall consist of earth which is free from boulders, masonry or other unacceptable materials. Earth containing sod, organic matter or humus shall not be included in this classification.

CONSTRUCTION

Contractor shall grade surfaces to finish grades as shown on the Drawings with mechanical or non-mechanical means, where appropriate.

Site shall be grades to provide positive drainage or improve drainage patterns.

METHOD OF MEASUREMENT

Finish Grading shall be measured by the Square Yard acceptably graded and approved by the City and Engineer.

BASIS OF PAYMENT

Finish Grading shall be paid for at the contract unit price, which shall be full compensation for all work as outlined in the description.

BID ITEM 90025 SEEDING – WOODY UNDERSTORY SEED MIX

DESCRIPTION

Work under this Bid Item shall include all labor, equipment, and incidentals necessary to provide, store, and install Seeding – Woody Understory Seed Mix in the locations shown on the Construction Drawings. All work, including the addition of soil stabilizers, fertilizers, and the addition of the specified cover crop, shall be completed in accordance with Article 207 of the Standard Specifications. In conjunction with seeding, the site shall be stabilized with erosion matting as shown on Construction Drawings, which shall be paid separately under the appropriate Bid Item.

MATERIALS

The seed mix, as defined below, was provided by Agrecol in Madison, Wisconsin (608-223-3571). The Contractor may choose to use an alternate supplier but shall submit the seed mix and supplier contact information to the Engineer for approval.

GRASSES, SEDGES & RUSHES	COMMON NAME	OZ/ACRE	SEEDS/OZ	SEEDS/SF	% OF MIX
Andropogon gerardii	Big Bluestem	8	12000	2.2	2.00%
Bromus ciliatus	Fringed Brome	16	8000	2.94	2.70%
Calamagrostis canadensis	Blue Joint Grass	1	280000	6.43	5.90%
Carex brevior	Plains Oval Sedge	3	29000	2	1.80%
Carex sprengeii	Long-Beaked Sedge	2	17000	0.78	0.70%
Carex vulpinoidea	Brown Fox Sedge	1	110000	2.53	2.30%
Eleocharis acicularis	Needle Spike Rush	0.5	70000	0.8	0.70%
Elymus canadensis	Canada Wild Rye	16	6000	2.2	2.00%
Elymus riparius	River Bank Wild Rye	12	6000	1.65	1.50%
Elymus villosus	Silky Wild Rye	4	7000	0.64	0.60%
Elymus virginicus	Virginia Wild Rye	32	4200	3.09	2.80%
Glyceria striata	Fowl Manna Grass	2	110000	5.05	4.70%
Hystrix patula	Bottlebrush Grass	4.5	5000	0.52	0.50%
Panicum virgatum	Switchgrass	10	25000	5.74	5.30%
Poa palustris	Fowl Bluegrass	8	130000	23.88	22.00%
Schizachyrium scoparium	Little Bluestem	12	20000	5.51	5.10%
Spartina pectinata	Prairie Cordgrass	4	12000	1.1	1.00%
	GRASSES, SEDGES & RUSHES TOTAL	136		67.05	61.80%

WILDFLOWERS	COMMON NAME	OZ/ACRE	SEEDS/OZ	SEEDS/SF	% OF MIX
Anemone canadensis	Meadow Anemone	2	8000	0.37	0.30%
Astragalus canadensis	Canada Milk Vetch	3.5	15000	1.21	1.10%
Aster drummondii	Drummond's Aster	1.25	64000	1.84	1.70%
Coreopsis tripteris	Tall Coreopsis	1	16000	0.37	0.30%
Desmodium canadense	Canada Tick Trefoil	1	5500	0.13	0.10%
Echinacea purpurea	Purple Coneflower	12	7000	1.93	1.80%
Helenium autumnale	Sneezeweed	1	150000	3.44	3.20%
Helianthus grosseserratus	Sawtooth Sunflower	1.5	15000	0.52	0.50%
Helianthus strumosus	Pale-Leaved Sunflower	2	5500	0.25	0.20%
Monarda fistulosa	Wild Bergamot	1.5	100000	3.44	3.20%
Physostegia virginiana	Obedient Plant	1	17000	0.39	0.40%
Pycnanthemum virginianum	Mountain Mint	0.5	220000	2.53	2.30%
Rudbeckia subtomentosa	Sweet Black-Eyed Susan	2.5	65000	3.73	3.40%
Solidago graminifolia	Grass-Leaved Goldenrod	0.5	650000	7.46	6.90%
Veronicastrum virginicum	Culver's Root	0.75	800000	13.77	12.70%
WILDFLOWERS TOTAL		32		41.37	38.20%
SEED MIX TOTALS		168		108.42	100.00%

This seed mix shall be accompanied with a cover crop of 60 pounds per acre of Winter Wheat.

CONSTRUCTION

Construction shall be in accordance with Article 207 of the Standard Specifications, but at a rate of 10.5 pounds per acre.

In areas of Erosion Matting, Class III, Type D seed shall be installed in accordance with manufacturer's recommendations.

METHOD OF MEASUREMENT

Seeding – Woody Understory Seed Mix shall be measured by the Square Yard in accordance with Section 207.5 of the Standard Specifications.

BASIS OF PAYMENT

Seeding – Woody Understory Seed Mix shall be measured as described above and shall be paid for at the contract unit price which shall be full compensation for all work, materials, tools, equipment, labor, hauling, storage, and incidentals required to complete the work as set forth in the description and Article 207 of the Standard Specifications. Partial Payment requests shall be reviewed and authorized by the Engineer.

BID ITEM 90026 REMOVE CONCRETE HEADWALL

DESCRIPTION

Work under this item shall include all work, materials, equipment, and incidentals required to remove and dispose (to a location provided by the Contractor) the existing concrete headwall located at the end of the existing 30" RCP storm sewer.

METHOD OF MEASUREMENT

Remove Concrete Headwall shall be measured by the Lump Sum acceptably as approved by the Construction Engineer.

BASIS OF PAYMENT

Finish Grading shall be paid for at the contract unit price, which shall be full compensation for all equipment, tools, labor, and incidentals necessary to complete the work as specified.

BID ITEM 90027 RECONSTRUCT EXISTING TERRACE INLET

DESCRIPTION

Work under this item shall include all work, materials, equipment, and incidentals required to reconstruct the existing terrace inlet at the end of Waite Circle in conformance with Standard Detail Drawing 5.7.12C of the City of Madison Standard Specifications for Public Works Construction, Current Addition. It is expected that top of the inlet will need to be sawcut, doweled and repoured to meet the existing grades. The existing casting shall be salvaged and reused. If necessary, the Contractor shall sawcut along the existing pavement and curb to create a clean joint to salvage the pavement. Any work required to remove and reinstall concrete curb and gutter shall be considered incidental to this pay item. Additional pavement removal necessitated by this work shall be considered incidental to this pay item. The disturbed area around the inlet shall be restored with topsoil and sodding, which will be paid for under their respective bid items.

METHOD OF MEASUREMENT

Reconstruct Existing Terrace Inlet shall be measured by the Lump Sum acceptably as approved by the Construction Engineer.

BASIS OF PAYMENT

Reconstruct Existing Terrace Inlet shall be paid for at the contract unit price, which shall be full compensation for all materials, equipment, tools, labor, disposal costs, and incidentals necessary to complete the work as specified.



APPENDIX B

Construction • Geotechnical
Consulting Engineering/Testing

July 15, 2019
C19051-11

Ms. Caroline Burger, P.E.
City of Madison – Engineering Department
210 Martin Luther King, Jr. Boulevard, Room 115
Madison, WI 53710

Re: Geotechnical Exploration Report
Proposed Storm Sewer Box Culvert
Southwest Commuter Path
Waite Circle and Midvale Boulevard
Madison, Wisconsin

Dear Ms. Burger:

Construction • Geotechnical Consultants, Inc. (CGC) has completed the geotechnical exploration program for the project referenced above. The purpose of this exploration program was to evaluate the subsurface conditions within the proposed construction area and to provide geotechnical recommendations regarding storm sewer culvert design and construction. Recommendations regarding underground utility installation are also discussed. An electronic copy of this report is provided for your use, and a paper copy can be provided upon request.

PROJECT AND SITE DESCRIPTION

We understand that a new precast concrete box culvert will be installed to replace an existing steel storm sewer culvert which crosses below the Southwest Commuter Path east of Midvale Boulevard and south of Waite Circle. Although dimensions were not available at the time of this submittal, it is our understanding that the new culvert will have a rectangular opening and larger inside area than the existing circular steel culvert. The bottom of culvert elevations will remain near existing invert elevations at about EL 943.2 at the north end and 941.8 ft at the south end. We anticipate that path grades and embankment slopes will remain unchanged or be minimally altered following installation of the new culvert. Existing path grades at the culvert crossing are near EL 963 ft, which equates to approximately 20 ft of existing fill/backfill over the culvert. Although the path and underlying culvert will generally experience very light loads associated with pedestrian and bicycle traffic, occasional maintenance vehicles and infrequent emergency vehicles may also travel on the path.

In addition to the new box culvert installation, we understand that an existing MMSD sanitary sewer line running parallel to and beneath the existing culvert will be relocated. Specific details regarding the alignment of the new sanitary sewer line were also not available at the time of this report.



Ms. Caroline Burger
City of Madison
July 15, 2019
Page 2

SUBSURFACE CONDITIONS

Two Standard Penetration Test (SPT) soil borings were completed for this project to depths of 15 to 35 ft below existing site grades. Boring 1 was completed near the north end of the existing culvert. Boring 2 was accomplished along the pedestrian path and extended to a depth of 35 ft adjacent to the culvert. The borings were drilled by Badger State Drilling (under subcontract to CGC) on June 7, 2019 using an ATV-mounted D-50 drill-rig equipped with hollow-stem augers and an automatic SPT hammer. While the ground surface elevation at Boring 2 was surveyed by City of Madison personnel, the surface elevation at Boring 1 was estimated using a topographic site plan provided. Therefore, the elevation at Boring 1 should be considered approximate (± 1 ft). The boring locations are shown in plan on the Soil Boring Location Map attached in Appendix A.

The subsurface conditions at the boring locations varied somewhat, as Boring 2 was extended through the existing path and embankment fill. However, aside from the path pavement layers at Boring 2, a generalized profile includes the following strata, in descending order:

- About 5.5 to 22 ft of *fill*, generally comprised of medium stiff to very stiff clay with occasional pockets of more granular soils; over
- Loose to dense *sand*, generally containing significant silt and gravel contents, to the maximum depths explored. The upper portion of granular soils at Boring 2 were described as possible fill.

Groundwater was noted at depths of 6.5 to 22 ft below existing grades during and shortly after drilling, corresponding to approximate EL 941.5 ft. Groundwater levels should be expected to fluctuate with seasonal variations in precipitation, infiltration, evapotranspiration, as well as other factors. A more detailed description of the site soil and groundwater conditions is presented on the Soil Boring Logs attached in Appendix B.

DISCUSSION AND RECOMMENDATIONS

Subject to the limitations discussed below and based on the subsurface exploration, it is our opinion that the site appears generally suitable for box culvert replacement and support, as well as for utility relocation/replacement. *Please note that some undercutting/stabilization below the base of the box culvert will likely be required due to the presence of variable existing fill/backfill soils and looser natural sand soils. In addition, dewatering and subgrade stabilization will likely be required during culvert and utility installation due to the presence of apparent groundwater at or just below proposed structure elevations.* The following subsections provide our recommendations for box culvert foundation design/construction and utility installation. *Note that because preliminary plans were not available at the time of this report, should final culvert and/or utility elevations vary significantly from those assumed in this report, CGC should review and provide updated recommendations if required.*



Ms. Caroline Burger
City of Madison
July 15, 2019
Page 3

1. Box Culvert Design

A. General

Based on our understanding that the new culvert will be installed along the same general alignment as the existing culvert, the invert of the precast concrete box culvert will be between about EL 942 and 943 ft. Depending on final invert elevations and bottom slab thickness, excavations may encroach upon, or extend below the groundwater level observed in the borings. Because of this, *dewatering may be required so that bearing soils do not become disturbed during excavation and prior to culvert installation.* Note that groundwater levels are expected to be higher during the spring and summer (or after significant precipitation) than during winter. In addition, a plan to divert water from the upstream storm sewer line away from the excavation will likely be required during periods of precipitation.

Excavation slopes should be completed in accordance with OSHA slope guidelines. In addition, depending on the final bottom of culvert elevations, a dewatering system may be required to temporarily lower groundwater during construction. We recommend that the groundwater table be lowered at least 2 ft below the bottom of the planned excavation depths (e.g., bottom of culvert or undercut excavation) *in advance* of excavation. For excavations extending less than about 1 to 2 ft below the groundwater table, dewatering can likely be accomplished using sumps operating from filtered sumps. Where excavations extend more than 2 ft below the groundwater table, effective dewatering generally requires a series of deep wells or vacuum well point system. Since the clay and sand soils anticipated at the bottom of the excavation are expected to be difficult to dewater, we recommend including a minimum 12-in. thick layer of clear stone at the base of the excavation. The clear stone should be enveloped in a non-woven geotextile fabric (e.g., Mirafi 160N or equivalent) to prevent soil migration into the clear stone layer. Earth retention, storm sewer diversion and dewatering means and methods are the responsibility of the contractor.

The foundation analysis for the culvert was completed in general accordance with procedures in Chapter 36 of the WisDOT *LRFD Bridge Manual*, which is largely based upon and references procedures in the AASHTO *LRFD Bridge Manual (6th Addition)*.

Based on the profiles encountered in the Boring 1 and 2, as well as our understanding that the base of the culvert will bear between about EL 941 and 942 ft, exposed subgrades are generally expected to consist of existing clay or sand fill, or natural sand soils. In addition, based on the presence of a sanitary sewer below portions of the current culvert, existing trench backfill soils will also be encountered. Special subgrade preparation will be required to remove unsuitable existing fill or trench backfill, and potentially loose natural sand soils (discussed below) from below the culvert, to provide a subgrade suitable for support of the culvert.

Depending on final dimensions, because the replacement culvert will be constructed within the existing embankment in the same general location as the old, the weight of the new concrete, soil and pavement cover over (and around) the culvert will likely be less than the weight of the materials

Ms. Caroline Burger
City of Madison
July 15, 2019
Page 4

removed. Therefore, the subgrade soils will generally experience a minimal increase (or potential net decrease) in pressure, and bearing capacity and settlement below the culvert is generally not expected to be an issue. *However, based on the presence of marginal existing fill and backfill soils below anticipated culvert elevations, some undercutting/stabilization will likely be required.* Further details regarding bearing resistance and settlement estimates are discussed in the following sections.

General geotechnical recommendations for design and installation of the culvert include the following:

- The unit weight of soil placed above the culvert should be taken as 120 lb/cu ft (pcf), per WisDOT *Bridge Manual*, Chapter 36.
- Recommended parameters for calculating lateral earth pressures are as follow:
 - Coefficient of lateral earth pressure, $K_o = 0.5$ for *at-rest* conditions.
 - Angle of internal friction = 30° for granular backfill
 - Unit weight for a typical granular backfill would be the same as soil above the culvert, 120 pcf.
- To control infiltrating surface water following installation of the culvert, standard drainage provisions should be included, such as backfilling with reasonably free-draining (WisDOT Grade 1) granular backfill. *The existing embankment fill soils which will be removed during culvert installation are not considered suitable for re-use as culvert backfill.* Therefore, importing of suitable granular backfill soils, which is a typical specification for City projects, will be required.
- A minimum 12-in. thick layer of compacted 1-in. crushed clear stone is recommended below the base of the culvert to protect the subgrade from disturbance, aid in the dewatering effort and act as a working platform during construction, as previously discussed. The stone layer should be enveloped on the top, bottom and sides with non-woven geotextile fabric (e.g., Mirafi 160N or equivalent) to prevent migration of surrounding soil into the void spaces of the stone. The stone stabilization layer should be installed in small sections with the subgrade covered in fabric and stone shortly after the subgrades are exposed in order to reduce the potential for subgrade degradation from water.
- Appropriate scour protection should be provided to prevent undermining of the box culvert.

Ms. Caroline Burger
City of Madison
July 15, 2019
Page 5

B. Calculated Bearing Resistance

Based on the understanding that invert elevations will be similar to the existing culvert following placement of the recommended 12-in. stabilization layer or excavation below subgrade (EBS, described below) to remove unsuitable existing embankment fill or trench backfill, as well as soft/loose natural soils, where necessary, the culvert is expected to be founded on a thin layer of compacted coarse aggregate over suitable existing fill/backfill or natural sands, which should provide adequate bearing resistance.

Although the natural sand and existing granular embankment fill/backfill soils can potentially provide a higher factored bearing resistance, to account for potential variations in subgrade conditions during construction, and because the actual contact pressure of the culvert is anticipated to be relatively low, we recommend that a factored bearing resistance of **1,500 psf** be used for design. Note that this value is above the estimated increase in pressure below the culvert, as described above, so the Capacity to Demand Ratio (CDR) will exceed 1.0. The recommended bearing resistance is contingent on unsuitable existing fill/backfill or natural soils being removed as EBS, as well as the subgrade being effectively dewatered *in advance* of excavation (if required).

Although the existing embankment fill soils expected at the base of the culvert excavation generally appear to be fairly uniform and reasonably well compacted, pockets of unsuitable fill may potentially be encountered (e.g., softer clay in Boring 2). In addition, the quality of the existing sanitary sewer trench backfill soils below the culvert is unknown. Because on-site soils were likely used as backfill at the time of installation, both clay and sand may be encountered within the limits of the trench below the culvert. Because somewhat variable conditions are expected at the base of the culvert excavation, the quality and suitability of the soil exposed at subgrade elevations should be carefully evaluated for culvert support at the time of foundation excavation. We recommend that a CGC geotechnical engineer or a qualified construction inspector be present during culvert excavation to check whether suitable bearing conditions are exposed at the base of the culvert or EBS excavation, and to provide corrective measures, if necessary. Depending on the depth of the existing sanitary sewer below the existing storm sewer culvert, temporary earth retention (e.g., sheet piles or other forms of shoring) may be required during EBS.

The primary concern with clayey soils (natural and existing fill) is the tendency to soften, lose bearing capacity and increase settlement potential when saturated. The width of EBS, where required, should extend about 1 ft beyond the base of the culvert on each side. Where the thickness of unsuitable soil removed below the culvert exceeds the recommended minimum of 12 in. of clear stone described above, the soil should be removed as EBS and the subgrade restored with additional compacted clear stone (enveloped in geotextile) compacted with a large vibratory plate compactor (or hoe-pak) until no further deflection is evident. As an alternative to the clear stone layer, a 4 to 6-in. thick layer of “lean mix” concrete having a minimum 28-day compressive strength of 1000 psi can be used to protect the subgrade during culvert installation and wing wall construction, as well as to restore subgrade in areas where EBS is required. Similar to the fabric/clear stone alternative, lean mix should be applied to the subgrade shortly after being exposed to reduce the potential for

Ms. Caroline Burger
City of Madison
July 15, 2019
Page 6

subgrade disturbance. *In addition to the recommended minimum 12-in. stabilization layer, we recommend the project budget include a contingency for additional EBS/stabilization.*

C. Estimated Settlement

As noted previously, because the new culvert will be installed along the same general alignment and have a larger inside opening than the current culvert, minimal net increase in pressure is expected due to the weight of the new culvert and soil/pavement cover above it. Because of this, and provided the culvert subgrade is prepared as described in detail above, total settlement less than about 1 in. can be expected. Typically, differential settlement will be equal to about half of the total settlement, or less than about 0.5 in.

2. MMSD Sanitary Sewer Relocation/Installation

As noted previously, we understand that the sanitary sewer which extends beneath the path and existing culvert is to be relocated so as not to underlie the new culvert. Based on the available soil and groundwater information, it appears that relocation of the existing sanitary sewer line can generally proceed using traditional open cut methods. *Depending on final invert elevations; however, some dewatering will likely be required during utility installation. In addition, some undercutting/stabilization of existing non-engineered fill soils may potentially be required to provide adequate pipe support.* It is expected that excavation sidewalls will be sloped back for relatively shallow installations (i.e., less than 4 ft in depth) and that a trench shield and/or internal bracing will be used for deeper excavations. The following are our recommendations regarding trench excavation, dewatering, and backfilling:

- Dewatering: As discussed above, groundwater was encountered in each of the culvert borings and depending on final utility invert elevations, groundwater infiltration into the utility excavation will likely be encountered. From our experience, groundwater drawdowns of less than about 1 to 2 ft can typically be accomplished using submersible pumps in shallow sump pits. Groundwater drawdowns of more than about 1 to 2 ft typically require closely-spaced well points or deep wells. In areas of larger groundwater drawdowns where well point or deep wells are utilized, *supplemental dewatering* can occur using submersible pumps placed in the clear stone stabilization layer placed along the base of the excavation described below. Minor sidewall seepage from perched layers or infiltrating surface water accumulating at the base of utility excavations should be controlled and removed using pumps operating in shallow sump pits. Dewatering means and methods are the responsibility of the contractor.

Ms. Caroline Burger
City of Madison
July 15, 2019
Page 7

- **Excavation:** Where groundwater is encountered during utility installation, the soils at the base of the excavations may be wet and therefore susceptible to disturbance by construction activities. Therefore, we recommend including a clear stone bedding layer at the base of the excavation to stabilize saturated soils and also provide a drainage layer where submersible pumps can be installed for *supplemental dewatering*. Typical stabilization bedding layers consist of 1-in. clear stone that is thoroughly compacted into the subgrade. If the clear stone layer thickness exceeds 12 in., the stabilization layer should be enveloped in a non-woven geotextile fabric (e.g, Mirafi 160N, 600X or equivalents) prior to backfilling with granular soils.

Standard earth retention techniques such as excavation sloping and/or trench boxes should be completed in accordance with OSHA guidelines.

- **Backfilling** – Utility trench excavation backfilling may proceed using the following guidelines:
 - Clay and sand excavation spoils may be considered for backfilling the utility trench above the pipe and associated bedding material. However, to the extent practical, *we recommend that granular soils be used as backfill within pavement areas (e.g., below the path) as sand and gravel are relatively easy to place and compact in most weather conditions compared to clay/silt soils.* Granular soils with cobbles and boulders should not be used in direct contact with utility lines. On-site clay and silt soils can be used to backfill trenches in areas outside of pavement, provided moisture contents facilitate adequate compaction.
 - Backfill material should be placed in accordance with applicable City of Madison or MMSD requirements.

CONSTRUCTION CONSIDERATIONS

Due to variations in weather, construction methods and other factors, specific construction problems are difficult to predict. Soil related difficulties that could be encountered on the site are discussed below:

- Earthwork construction during the early spring or late fall could be complicated as a result of wet weather and freezing temperatures. During cold weather, exposed subgrades should be protected from freezing before and after pile cap construction. Fill should never be placed while frozen or on frozen ground.



Ms. Caroline Burger
City of Madison
July 15, 2019
Page 8

- Excavations extending greater than 4 ft in depth below the existing ground surface should be sloped in accordance with current OSHA standards.
- Based on observations made during the field exploration, groundwater should be anticipated during culvert and utility installations. Temporary cofferdams/storm sewer diversions and dewatering will be required such that culvert and utility installation can occur “in the dry,” as discussed in detail above. Additional seeping groundwater or infiltrating surface water accumulating at the base of the excavations should be controlled and removed using pumps operating from filtered sump pits. A layer of clear stone enveloped in a geotextile fabric should be placed below the base of the culvert and utility excavations to create a working platform and assist in dewatering efforts, as discussed above.

RECOMMENDED CONSTRUCTION MONITORING

The level of care exercised during culvert subgrade preparation will largely determine the quality of the foundation subgrades. To check that earthwork and foundation construction proceeds in accordance with our recommendations, qualified construction inspectors should monitor the following operations:

- Subgrade preparation;
- Fill/backfill placement and compaction; and
- Concrete and asphalt placement.

* * * * *



Ms. Caroline Burger
City of Madison
July 15, 2019
Page 9

We trust this report addresses your present needs. General limitations regarding the conclusions and opinions presented in this report are discussed in Appendix B. If you have any questions, please contact us.

Sincerely,

CGC, Inc.

A handwritten signature in black ink, appearing to read "Alex Bina".

Alex J. Bina, P.E.
Project Engineer

A handwritten signature in black ink, appearing to read "William W. Wuellner".

William W. Wuellner, P.E.
Senior Geotechnical Engineer

- Encl: Appendix A - Subsurface Exploration
Appendix B - Soil Boring Location Maps (2)
Logs of Test Boring (2)
Log of Test Boring-General Notes
Unified Soil Classification System
Appendix C - Document Qualifications

APPENDIX A
SUBSURFACE EXPLORATION

APPENDIX A

SUBSURFACE EXPLORATION

Two Standard Penetration Test (SPT) soil borings were completed for this project to depths of 15 to 35 ft below existing site grades. While Boring 1 was completed near the north end of the existing culvert, for accessibility reasons, Boring 2 was completed along the pedestrian path/adjacent the existing culvert and was extended to a depth of 35 ft. The borings were drilled by Badger State Drilling (under subcontract to CGC) on June 7, 2019 using an ATV-mounted D-50 drill-rig equipped with hollow-stem augers and an automatic SPT hammer. The borings were located in the field by CGC in coordination with City Personnel, and determined based on accessibility. While the ground surface elevation at Boring 2 was surveyed by City of Madison, CGC estimated the surface elevation at Boring 1 using a topographic site plan provided. Therefore, the elevation should be considered approximate (± 1 ft). The boring locations are shown in plan on the Soil Boring Location Map attached in Appendix A.

Soil samples were obtained at 2.5-foot intervals to a depth of 10 ft and at 5-foot intervals thereafter. The soils samples were obtained in general accordance with specifications for standard penetration testing, ASTM D 1586. The specific procedures used for drilling and sampling are described below:

1. Boring Procedures Between Samples

The boring is extended downward, between samples, by a hollow stem auger. Before encountering groundwater, the drilling method is switched to mud rotary and the hole is advanced with a roller bit.

2. Standard Penetration Test and Split-Barrel Sampling of Soils
(ASTM Designation: D 1586)


This method consists of driving a 2-in. outside diameter split barrel sampler using a 140-pound weight falling freely through a distance of 30 in. The sampler is first seated 6 inches into the material to be sampled and then driven 12 in. The number of blows required to drive the sampler the final 12 in. is recorded on the log of borings and known as the Standard Penetration Resistance. Recovered samples are first classified as to texture by the driller.

During the field exploration, the driller visually classified the soil and prepared a field log. Water level observations were made in each boring during and after drilling and are shown at the bottom of each boring log. *Field screening of the soil samples for possible environmental contaminants was not conducted by the drillers, as environmental site assessment activities were not part of CGC's work scope.* Upon completion of drilling, the borings were backfilled to satisfy WDNR requirements (including surface patching at B2), and soil samples delivered to our laboratory for classification and laboratory testing. The soils were visually classified using the Unified Soil Classification System. The final logs prepared by a geotechnical engineer and a description of the Unified Soil Classification System are presented in Appendix B.

APPENDIX B
SOIL BORING LOCATION MAPS (2)
LOGS OF TEST BORINGS (2)
LOG OF TEST BORING – GENERAL NOTES
UNIFIED SOIL CLASSIFICATION SYSTEM



Legend


 Denotes Boring Location



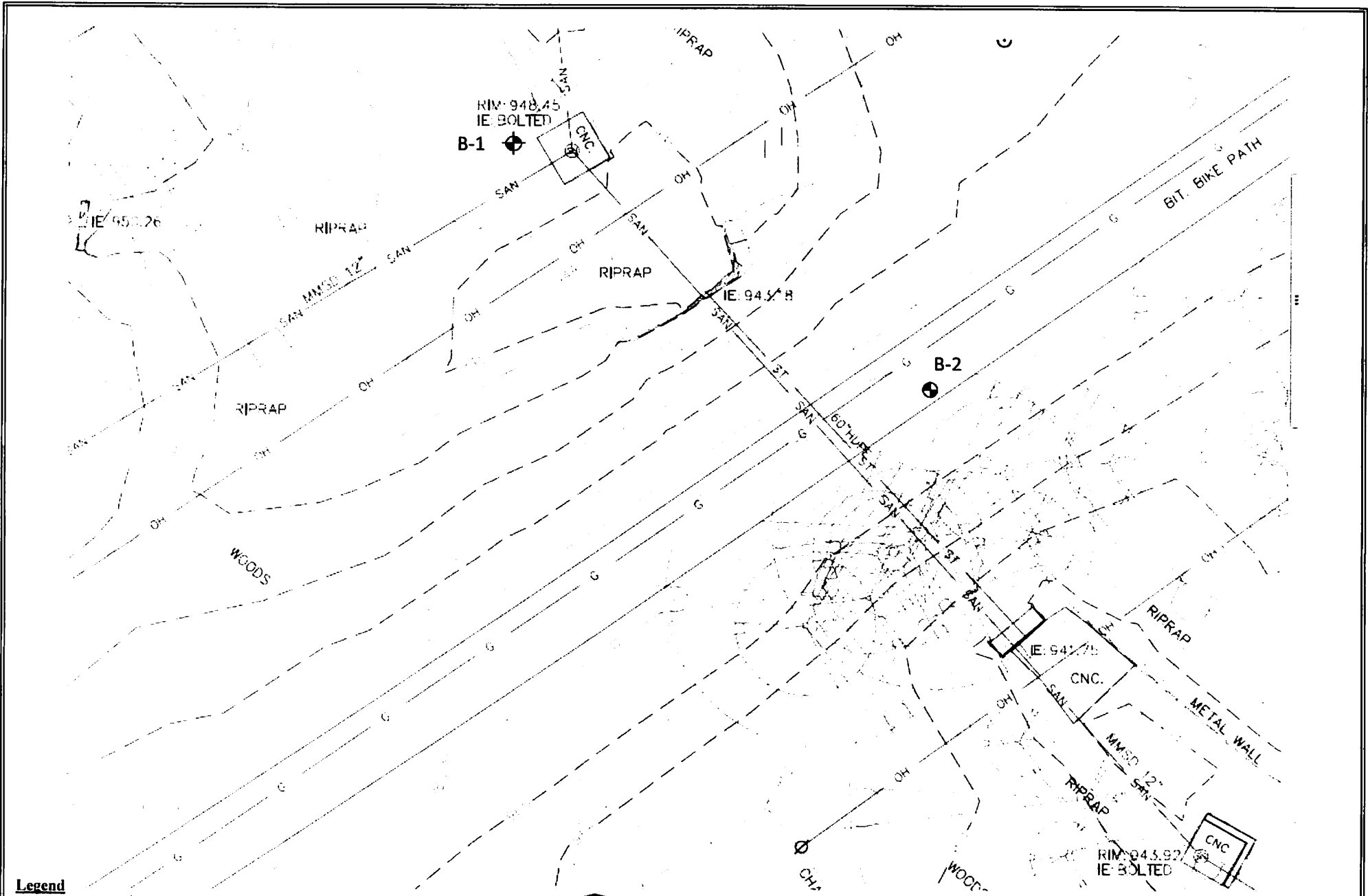
Notes

1. Boring locations are approximate
2. Soil Borings performed by Badger State Drilling in June 2019
3. Page 1 of 2

Scale: Reduced

Date: 6/2019	
Job No. C19051-11	

Soil Boring Location Map
SW Commuter Path Culvert
Madison, WI



Legend
 ⦿ Denotes Boring Location

- Notes**
1. Boring locations are approximate
 2. Soil Borings performed by Badger State Drilling in June 2019
 3. Page 2 of 2

Scale: Reduced

Date: 6/2019	
Job No.: C19051-11	

Soil Boring Location Map
SW Commuter Path Culvert
Madison, WI



LOG OF TEST BORING

Project SW Commuter Path Culvert
 Location Madison, WI

Boring No. 1
 Surface Elevation (ft) 948.00
 Job No. C19051-11
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES					
No.	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI	
1	10	M/W	12	0-12	FILL: Dark Brown Topsoil Mixed with Sand and Gravel to 0.75 ft Medium Dense Brown Clayey Fine to Medium Sand to 5.5 ft						
2	8	M/W	15	12-15							
3	16	W	16	15-16	Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel (SM)						
4	16	W	18	16-18							
5	24	W	24	18-24							
End Boring at 15 ft					Borehole backfilled with bentonite chips						
Borehole backfilled with bentonite chips											

WATER LEVEL OBSERVATIONS	GENERAL NOTES
While Drilling ∇ <u>6.5'</u> Upon Completion of Drilling _____ Time After Drilling _____ Depth to Water _____ Depth to Cave in _____ <u>11'</u>	Start <u>6/7/19</u> End <u>6/7/19</u> Driller <u>BSD</u> Chief <u>JF</u> Rig <u>D-50</u> Logger <u>KD</u> Editor <u>ESF</u> <u>ATV</u> Drill Method <u>2 1/4" HSA, Autohammer</u>
The stratification lines represent the approximate boundary between soil types and the transition may be gradual.	



LOG OF TEST BORING

Project SW Commuter Path Culvert
 Location Madison, WI

Boring No. 2
 Surface Elevation (ft) 963.50
 Job No. C19051-11
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
					3.5 in. Asphalt Pavement/6 in. Base Course					
1	4	M	15		FILL: Medium Dense Sand and Gravel with Silt and Clay to 3 ft					
2	12	M	10		Very Stiff Brown Clay to 5 ft	(2.25)				
3	4	M/W	7		Loose Brown Clayey Fine to Medium Sand with Some Gravel to 8 ft					
4	16	M	5		Stiff Brown Clay to 17 ft	(1.5)				
5	14	M	11			(1.75)				
6	18	M/W	7		Medium Stiff to Soft Sandy Brown Clay to 22 ft	(0.5)				
7	14	W	9		Loose to Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel (SM - Possible Fill)					
8	12	M/W	12							
9	12	W	39		Dense, Brown Fine to Medium SAND, Some Gravel, Little to Some Silt (SP-SM/SM)					
					End Boring at 35 ft					
					Borehole backfilled with bentonite chips and asphalt patch					

WATER LEVEL OBSERVATIONS

While Drilling 22.0' Upon Completion of Drilling _____
 Time After Drilling _____ **15 Min.**
 Depth to Water _____
 Depth to Cave in _____ **21'**

GENERAL NOTES

Start 6/7/19 End 6/7/19
 Driller BSD Chief JF Rig D-50
 Logger KD Editor ESF ATV
 Drill Method 2 1/4" HSA, Autohammer

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

LOG OF TEST BORING
General Notes

DESCRIPTIVE SOIL CLASSIFICATION

Grain Size Terminology

Soil Fraction	Particle Size	U.S. Standard Sieve Size
Boulders	Larger than 12"	Larger than 12"
Cobbles	3" to 12"	3" to 12"
Gravel: Coarse.....	¾" to 3"	¾" to 3"
Fine.....	4.76 mm to ¾"	#4 to ¾"
Sand: Coarse.....	2.00 mm to 4.76 mm.....	#10 to #4
Medium	0.42 to mm to 2.00 mm	#40 to #10
Fine	0.074 mm to 0.42 mm.....	#200 to #40
Silt.....	0.005 mm to 0.074 mm.....	Smaller than #200
Clay.....	Smaller than 0.005 mm.....	Smaller than #200

Plasticity characteristics differentiate between silt and clay.

General Terminology

Physical Characteristics
 Color, moisture, grain shape, fineness, etc.
Major Constituents
 Clay, silt, sand, gravel
Structure
 Laminated, varved, fibrous, stratified, cemented, fissured, etc.
Geologic Origin
 Glacial, alluvial, eolian, residual, etc.

Relative Density

Term	"N" Value
Very Loose.....	0 - 4
Loose.....	4 - 10
Medium Dense.....	10 - 30
Dense.....	30 - 50
Very Dense.....	Over 50

Relative Proportions Of Cohesionless Soils

Proportional Term	Defining Range by Percentage of Weight
Trace.....	0% - 5%
Little.....	5% - 12%
Some.....	12% - 35%
And	35% - 50%

Consistency

Term	q _a -tons/sq. ft
Very Soft.....	0.0 to 0.25
Soft.....	0.25 to 0.50
Medium.....	0.50 to 1.0
Stiff.....	1.0 to 2.0
Very Stiff.....	2.0 to 4.0
Hard.....	Over 4.0

Organic Content by Combustion Method

Soil Description	Loss on Ignition
Non Organic.....	Less than 4%
Organic Silt/Clay.....	4 - 12%
Sedimentary Peat.....	12% - 50%
Fibrous and Woody Peat...	More than 50%

Plasticity

Term	Plastic Index
None to Slight.....	0 - 4
Slight.....	5 - 7
Medium.....	8 - 22
High to Very High ..	Over 22

The penetration resistance, N, is the summation of the number of blows required to effect two successive 6" penetrations of the 2" split-barrel sampler. The sampler is driven with a 140 lb. weight falling 30" and is seated to a depth of 6" before commencing the standard penetration test.

SYMBOLS

Drilling and Sampling

- CS – Continuous Sampling
- RC – Rock Coring: Size AW, BW, NW, 2"W
- RQD – Rock Quality Designation
- RB – Rock Bit/Roller Bit
- FT – Fish Tail
- DC – Drove Casing
- C – Casing: Size 2 ½", NW, 4", HW
- CW – Clear Water
- DM – Drilling Mud
- HSA – Hollow Stem Auger
- FA – Flight Auger
- HA – Hand Auger
- COA – Clean-Out Auger
- SS - 2" Dia. Split-Barrel Sample
- 2ST – 2" Dia. Thin-Walled Tube Sample
- 3ST – 3" Dia. Thin-Walled Tube Sample
- PT – 3" Dia. Piston Tube Sample
- AS – Auger Sample
- WS – Wash Sample
- PTS – Peat Sample
- PS – Pitcher Sample
- NR – No Recovery
- S – Sounding
- PMT – Borehole Pressuremeter Test
- VS – Vane Shear Test
- WPT – Water Pressure Test

Laboratory Tests

- q_a – Penetrometer Reading, tons/sq ft
- q_u – Unconfined Strength, tons/sq ft
- W – Moisture Content, %
- LL – Liquid Limit, %
- PL – Plastic Limit, %
- SL – Shrinkage Limit, %
- LI – Loss on Ignition
- D – Dry Unit Weight, lbs/cu ft
- pH – Measure of Soil Alkalinity or Acidity
- FS – Free Swell, %

Water Level Measurement

- ▽ - Water Level at Time Shown
- NW – No Water Encountered
- WD – While Drilling
- BCR – Before Casing Removal
- ACR – After Casing Removal
- CW – Cave and Wet
- CM – Caved and Moist
















Note: Water level measurements shown on the boring logs represent conditions at the time indicated and may not reflect static levels, especially in cohesive soils.

CGC, Inc.

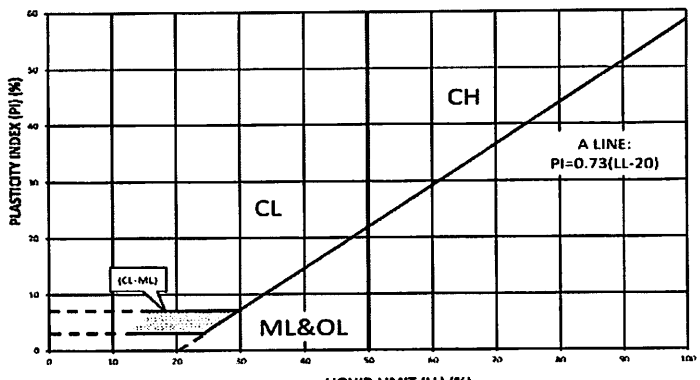
Madison - Milwaukee

Unified Soil Classification System

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size)		
Clean Gravels (Less than 5% fines)		
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size		GW Well-graded gravels, gravel-sand mixtures, little or no fines
		GP Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)	
		GM Silty gravels, gravel-sand-silt mixtures
		GC Clayey gravels, gravel-sand-clay mixtures
Clean Sands (Less than 5% fines)		
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size		SW Well-graded sands, gravelly sands, little or no fines
		SP Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)	
		SM Silty sands, sand-silt mixtures
		SC Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)		
SILTS AND CLAYS Liquid limit less than 50%		ML Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
		CL Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater		MH Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH Inorganic clays of high plasticity, fat clays
		OH Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		PT Peat and other highly organic soils

LABORATORY CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
GC	Atterberg limits above "A" line or P.I. greater than 7	
SW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
SP	Not meeting all gradation requirements for GW	
SM	Atterberg limits below "A" line or P.I. less than 4	Limits plotting in shaded zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
SC	Atterberg limits above "A" line with P.I. greater than 7	
Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows: Less than 5 percent GW, GP, SW, SP More than 12 percent GM, GC, SM, SC 5 to 12 percent Borderline cases requiring dual symbols		
PLASTICITY CHART 		

APPENDIX C
DOCUMENT QUALIFICATIONS

APPENDIX C DOCUMENT QUALIFICATIONS

I. GENERAL RECOMMENDATIONS/LIMITATIONS

CGC, Inc. should be provided the opportunity for a general review of the final design and specifications to confirm that earthwork and foundation requirements have been properly interpreted in the design and specifications. CGC should be retained to provide soil engineering services during excavation and subgrade preparation. This will allow us to observe that construction proceeds in compliance with the design concepts, specifications and recommendations, and also will allow design changes to be made in the event that subsurface conditions differ from those anticipated prior to the start of construction. CGC does not assume responsibility for compliance with the recommendations in this report unless we are retained to provide construction testing and observation services.

This report has been prepared in accordance with generally accepted soil and foundation engineering practices and no other warranties are expressed or implied. The opinions and recommendations submitted in this report are based on interpretation of the subsurface information revealed by the test borings indicated on the location plan. The report does not reflect potential variations in subsurface conditions between or beyond these borings. Therefore, variations in soil conditions can be expected between the boring locations and fluctuations of groundwater levels may occur with time. The nature and extent of the variations may not become evident until construction.

II. IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL ENGINEERING REPORT

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes. While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. *No one except you* should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one - not even you* - should apply the report for any purpose or project except the one originally contemplated.

READ THE FULL REPORT

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A GEOTECHNICAL ENGINEERING REPORT IS BASED ON A UNIQUE SET OF PROJECT-SPECIFIC FACTORS

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, *do not rely on a geotechnical engineering report* that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes - even minor ones - and request an assessment of their impact. *CGC cannot accept responsibility or liability for problems that occur because our reports do not consider developments of which we were not informed.*

SUBSURFACE CONDITIONS CAN CHANGE

A geotechnical engineering report is based on conditions that existed at the time the geotechnical engineer performed the study. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

MOST GEOTECHNICAL FINDINGS ARE PROFESSIONAL OPINION

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgement to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ - sometimes significantly - from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most

effective method of managing the risks associated with unanticipated conditions.

A REPORT'S RECOMMENDATIONS ARE NOT FINAL

Do not over-rely on the confirmation-dependent recommendations included in your report. *Those confirmation-dependent recommendations are not final*, because geotechnical engineers develop them principally from judgement and opinion. Geotechnical engineers can finalize their recommendations *only* by observing actual subsurface conditions revealed during construction. *CGC cannot assume responsibility or liability for the report's confirmation-dependent recommendations if we do not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

A GEOTECHNICAL ENGINEERING REPORT IS SUBJECT TO MISINTERPRETATION

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Constructors can also misinterpret a geotechnical engineering report. Confront that risk by having CGC participate in prebid and preconstruction conferences, and by providing geotechnical construction observation.

DO NOT REDRAW THE ENGINEER'S LOGS

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

GIVE CONSTRUCTORS A COMPLETE REPORT AND GUIDANCE

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure constructors have sufficient time* to perform additional study. Only then might you be in a position to give constructors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

READ RESPONSIBILITY PROVISIONS CLOSELY

Some clients, design professionals, and constructors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic

expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineer's responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

ENVIRONMENTAL CONCERNS ARE NOT COVERED

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

OBTAIN PROFESSIONAL ASSISTANCE TO DEAL WITH MOLD

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, many mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

RELY ON YOUR GEOTECHNICAL ENGINEER FOR ADDITIONAL ASSISTANCE

Membership in the Geotechnical Business Council (GBC) of Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with CGC, a member of GBC, for more information.

Modified and reprinted with permission from:

Geotechnical Business Council
of the Geoprofessional Business Association
8811 Colesville Road, Suite G 106
Silver Spring, MD 20910

SECTION E: BIDDERS ACKNOWLEDGEMENT

**SOUTHWEST BIKEPATH CULVERT REPLACEMENT AT WAITE CIRCLE - 2019
CONTRACT NO. 8466**

Bidder must state a Unit Price and Total Bid for each item. The Total Bid for each item must be the product of quantity, by Unit Price. The Grand Total must be the sum of the Total Bids for the various items. In case of multiplication errors or addition errors, the Grand Total with corrected multiplication and/or addition shall determine the Grand Total bid for each contract. The Unit Price and Total Bid must be entered numerically in the spaces provided. All words and numbers shall be written in ink.

1. The undersigned having familiarized himself/herself with the Contract documents, including Advertisement for Bids, Instructions to Bidders, Form of Proposal, City of Madison Standard Specifications for Public Works Construction - 2019 Edition thereto, Form of Agreement, Form of Bond, and Addenda issued and attached to the plans and specifications on file in the office of the City Engineer, hereby proposes to provide and furnish all the labor, materials, tools, and expendable equipment necessary to perform and complete in a workmanlike manner the specified construction on this project for the City of Madison; all in accordance with the plans and specifications as prepared by the City Engineer, including Addenda Nos. _____ through _____ to the Contract, at the prices for said work as contained in this proposal. (Electronic bids submittals shall acknowledge addendum under Section E and shall not acknowledge here)
2. If awarded the Contract, we will initiate action within seven (7) days after notification or in accordance with the date specified in the contract to begin work and will proceed with diligence to bring the project to full completion within the number of work days allowed in the Contract or by the calendar date stated in the Contract.
3. The undersigned Bidder or Contractor certifies that he/she is not a party to any contract, combination in form of trust or otherwise, or conspiracy in restraint of trade or commerce or any other violation of the anti-trust laws of the State of Wisconsin or of the United States, with respect to this bid or contract or otherwise.
4. I hereby certify that I have met the Bid Bond Requirements as specified in Section 102.5. *(IF BID BOND IS USED, IT SHALL BE SUBMITTED ON THE FORMS PROVIDED BY THE CITY. FAILURE TO DO SO MAY RESULT IN REJECTION OF THE BID).*
5. I hereby certify that all statements herein are made on behalf of _____ (name of corporation, partnership, or person submitting bid) a corporation organized and existing under the laws of the State of _____ a partnership consisting of _____; an individual trading as _____; of the City of _____ State of _____; that I have examined and carefully prepared this Proposal, from the plans and specifications and have checked the same in detail before submitting this Proposal; that I have fully authority to make such statements and submit this Proposal in (its, their) behalf; and that the said statements are true and correct.

SIGNATURE

TITLE, IF ANY

Sworn and subscribed to before me this _____ day of _____, 20_____.

(Notary Public or other officer authorized to administer oaths)
My Commission Expires _____
Bidders shall not add any conditions or qualifying statements to this Proposal.

SECTION F: BEST VALUE CONTRACTING

**SOUTHWEST BIKEPATH CULVERT REPLACEMENT AT WAITE CIRCLE - 2019
CONTRACT NO. 8466**

Best Value Contracting

1. The Contractor shall indicate the non-apprenticeable trades used on this contract.

2. Madison General Ordinance (M.G.O.), 33.07(7), does provide for some exemptions from the active apprentice requirement. Apprenticeable trades are those trades considered apprenticeable by the State of Wisconsin. Please check applicable box if you are seeking an exemption.

- Contractor has a total skilled workforce of four or less individuals in all apprenticeable trades combined.
- No available trade training program; The Contractor has been rejected by the only available trade training program, or there is no trade training program within 90 miles.
- Contractor is not using an apprentice due to having a journey worker on layoff status, provided the journey worker was employed by the contractor in the past six months.
- First-time Contractor on City of Madison Public Works contract requests a onetime exemption but intends to comply on all future contracts and is taking steps typical of a "good faith" effort.
- Contractor has been in business less than one year.
- Contractor doesn't have enough journeyman trade workers to qualify for a trade training program in that respective trade.
- An exemption is granted in accordance with a time period of a "Documented Depression" as defined by the State of Wisconsin.

3. The Contractor shall indicate on the following section which apprenticeable trades are to be used on this contract. Compliance with active apprenticeship, to the extent required by M.G.O. 33.07(7), shall be satisfied by documentation from an applicable trade training body; an apprenticeship contract with the Wisconsin Department of Workforce Development or a similar agency in another state; or the U.S Department of Labor. This documentation is required prior to the Contractor beginning work on the project site.

- The Contractor has reviewed the list and shall not use any apprenticeable trades on this project.

LIST APPRENTICABLE TRADES (check all that apply to your work to be performed on this contract)

- BRICKLAYER
- CARPENTER
- CEMENT MASON / CONCRETE FINISHER
- CEMENT MASON (HEAVY HIGHWAY)
- CONSTRUCTION CRAFT LABORER
- DATA COMMUNICATION INSTALLER
- ELECTRICIAN
- ENVIRONMENTAL SYSTEMS TECHNICIAN / HVAC SERVICE TECH/HVAC INSTALL / SERVICE
- GLAZIER
- HEAVY EQUIPMENT OPERATOR / OPERATING ENGINEER
- INSULATION WORKER (HEAT & FROST)
- IRON WORKER
- IRON WORKER (ASSEMBLER, METAL BLDGS)
- PAINTER & DECORATOR
- PLASTERER
- PLUMBER
- RESIDENTIAL ELECTRICIAN
- ROOFER & WATER PROOFER
- SHEET METAL WORKER
- SPRINKLER FITTER
- STEAMFITTER
- STEAMFITTER (REFRIGERATION)
- STEAMFITTER (SERVICE)
- TAPER & FINISHER
- TELECOMMUNICATIONS (VOICE, DATA & VIDEO) INSTALLER-TECHNICIAN
- TILE SETTER

SECTION G: BID BOND

KNOW ALL MEN BY THESE PRESENT, THAT Principal and Surety, as identified below, are held and firmly bound unto the City of Madison, (hereinafter referred to as the "Obligee"), in the sum of five per cent (5%) of the amount of the total bid or bids of the Principal herein accepted by the Obligee, for the payment of which the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

The conditions of this obligation are such that, whereas the Principal has submitted, to the City of Madison a certain bid, including the related alternate, and substitute bids attached hereto and hereby made a part hereof, to enter into a contract in writing for the construction of:

SOUTHWEST BIKEPATH CULVERT REPLACEMENT AT WAITE CIRCLE - 2019 CONTRACT NO. 8466

1. If said bid is rejected by the Obligee, then this obligation shall be void.
2. If said bid is accepted by the Obligee and the Principal shall execute and deliver a contract in the form specified by the Obligee (properly completed in accordance with said bid) and shall furnish a bond for his/her faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be void.

If said bid is accepted by the Obligee and the Principal shall fail to execute and deliver the contract and the performance and payment bond noted in 2. above executed by this Surety, or other Surety approved by the City of Madison, all within the time specified or any extension thereof, the Principal and Surety agree jointly and severally to forfeit to the Obligee as liquidated damages the sum mentioned above, it being understood that the liability of the Surety for any and all claims hereunder shall in no event exceed the sum of this obligation as stated, and it is further understood that the Principal and Surety reserve the right to recover from the Obligee that portion of the forfeited sum which exceed the actual liquidated damages incurred by the Obligee.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by an extension of the time within which the Obligee may accept such bid, and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, on the day and year set forth below.

Seal PRINCIPAL

Name of Principal

By

Date

Name and Title

Seal SURETY

Name of Surety

By

Date

Name and Title

This certifies that I have been duly licensed as an agent for the above company in Wisconsin under National Provider No. _____ for the year _____, and appointed as attorney in fact with authority to execute this bid bond and the payment and performance bond referred to above, which power of attorney has not been revoked.

Date

Agent Signature

Address

City, State and Zip Code

Telephone Number

NOTE TO SURETY & PRINCIPAL

The bid submitted which this bond guarantees shall be rejected if the following instrument is not attached to this bond:

Power of Attorney showing that the agent of Surety is currently authorized to execute bonds on behalf of the Surety, and in the amounts referenced above.

Certificate of Biennial Bid Bond

TIME PERIOD - VALID (FROM/TO)
NAME OF SURETY
NAME OF CONTRACTOR
CERTIFICATE HOLDER <p style="text-align: center;">City of Madison, Wisconsin</p>

This is to certify that a biennial bid bond issued by the above-named Surety is currently on file with the City of Madison.

This certificate is issued as a matter of information and conveys no rights upon the certificate holder and does not amend, extend or alter the coverage of the biennial bid bond.

Cancellation: Should the above policy be cancelled before the expiration date, the issuing Surety will give thirty (30) days written notice to the certificate holder indicated above.

Signature of Authorized Contractor Representative

Date

SECTION H: AGREEMENT

THIS AGREEMENT made this _____ day of _____ in the year Two Thousand and Nineteen between _____ hereinafter called the Contractor, and the City of Madison, Wisconsin, hereinafter called the City.

WHEREAS, the Common Council of the said City of Madison under the provisions of a resolution adopted _____, and by virtue of authority vested in the said Council, has awarded to the Contractor the work of performing certain construction.

NOW, THEREFORE, the Contractor and the City, for the consideration hereinafter named, agree as follows:

1. **Scope of Work.** The Contractor shall, perform the construction, execution and completion of the following listed complete work or improvement in full compliance with the Plans, Specifications, Standard Specifications, Supplemental Specifications, Special Provisions and contract; perform all items of work covered or stipulated in the proposal; perform all altered or extra work; and shall furnish, unless otherwise provided in the contract, all materials, implements, machinery, equipment, tools, supplies, transportation, and labor necessary to the prosecution and completion of the work or improvements:

SOUTHWEST BIKEPATH CULVERT REPLACEMENT AT WAITE CIRCLE - 2019 CONTRACT NO. 8466

2. **Completion Date/Contract Time.** Construction work must begin within seven (7) calendar days after the date appearing on mailed written notice to do so shall have been sent to the Contractor and shall be carried on at a rate so as to secure full completion SEE SPECIAL PROVISIONS, the rate of progress and the time of completion being essential conditions of this Agreement.
3. **Contract Price.** The City shall pay to the Contractor at the times, in the manner and on the conditions set forth in said specifications, the sum of _____ (\$_____) Dollars being the amount bid by such Contractor and which was awarded to him/her as provided by law.
4. **Affirmative Action.** In the performance of the services under this Agreement the Contractor agrees not to discriminate against any employee or applicant because of race, religion, marital status, age, color, sex, disability, national origin or ancestry, income level or source of income, arrest record or conviction record, less than honorable discharge, physical appearance, sexual orientation, gender identity, political beliefs, or student status. The Contractor further agrees not to discriminate against any subcontractor or person who offers to subcontract on this contract because of race, religion, color, age, disability, sex, sexual orientation, gender identity or national origin.

The Contractor agrees that within thirty (30) days after the effective date of this agreement, the Contractor will provide to the City Affirmative Action Division certain workforce utilization statistics, using a form to be furnished by the City.

If the contract is still in effect, or if the City enters into a new agreement with the Contractor, within one year after the date on which the form was required to be provided, the Contractor will provide updated workforce information using a second form, also to be furnished by the City. The second form will be submitted to the City Affirmative Action Division no later than one year after the date on which the first form was required to be provided.

The Contractor further agrees that, for at least twelve (12) months after the effective date of this contract, it will notify the City Affirmative Action Division of each of its job openings at facilities in Dane County for which applicants not already employees of the Contractor are to be considered. The notice will include a job description, classification, qualifications and application procedures

and deadlines. The Contractor agrees to interview and consider candidates referred by the Affirmative Action Division if the candidate meets the minimum qualification standards established by the Contractor, and if the referral is timely. A referral is timely if it is received by the Contractor on or before the date started in the notice.

Articles of Agreement
Article I

The Contractor shall take affirmative action in accordance with the provisions of this contract to insure that applicants are employed, and that employees are treated during employment without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national origin and that the employer shall provide harassment free work environment for the realization of the potential of each employee. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training including apprenticeship insofar as it is within the control of the Contractor. The Contractor agrees to post in conspicuous places available to employees and applicants notices to be provided by the City setting out the provisions of the nondiscrimination clauses in this contract.

Article II

The Contractor shall in all solicitations or advertisements for employees placed by or on behalf of the Contractors state that all qualified or qualifiable applicants will be employed without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national origin.

Article III

The Contractor shall send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding a notice to be provided by the City advising the labor union or worker's representative of the Contractor's equal employment opportunity and affirmative action commitments. Such notices shall be posted in conspicuous places available to employees and applicants for employment.

Article V

The Contractor agrees that it will comply with all provisions of the Affirmative Action Ordinance of the City of Madison, including the contract compliance requirements. The Contractor agrees to submit the model affirmative action plan for public works contractors in a form approved by the Affirmative Action Division Manager.

Article VI

The Contractor will maintain records as required by Section 39.02(9)(f) of the Madison General Ordinances and will provide the City Affirmative Action Division with access to such records and to persons who have relevant and necessary information, as provided in Section 39.02(9)(f). The City agrees to keep all such records confidential, except to the extent that public inspection is required by law.

Article VII

In the event of the Contractor's or subcontractor's failure to comply with the Equal Employment Opportunity and Affirmative Action Provisions of this contract or Section 39.03 and 39.02 of the Madison General Ordinances, it is agreed that the City at its option may do any or all of the following:

1. Cancel, terminate or suspend this Contract in whole or in part.

2. Declare the Contractor ineligible for further City contracts until the Affirmative Action requirements are met.
3. Recover on behalf of the City from the prime Contractor 0.5 percent of the contract award price for each week that such party fails or refuses to comply, in the nature of liquidated damages, but not to exceed a total of five percent (5%) of the contract price, or ten thousand dollars (\$10,000), whichever is less. Under public works contracts, if a subcontractor is in noncompliance, the City may recover liquidated damages from the prime Contractor in the manner described above. The preceding sentence shall not be construed to prohibit a prime Contractor from recovering the amount of such damage from the non-complying subcontractor.

Article VIII

The Contractor shall include the above provisions of this contract in every subcontract so that such provisions will be binding upon each subcontractor. The Contractor shall take such action with respect to any subcontractor as necessary to enforce such provisions, including sanctions provided for noncompliance.

Article IX

The Contractor shall allow the maximum feasible opportunity to small business enterprises to compete for any subcontracts entered into pursuant to this contract. (In federally funded contracts the terms "DBE, MBE and WBE" shall be substituted for the term "small business" in this Article.)

5. Substance Abuse Prevention Program Required. Prior to commencing work on the Contract, the Contractor, and any Subcontractor, shall have in place a written program for the prevention of substance abuse among its employees as required under Wis. Stat. Sec. 103.503.
6. **Contractor Hiring Practices.**

Ban the Box - Arrest and Criminal Background Checks. (Sec. 39.08, MGO)

This provision applies to all prime contractors on contracts entered into on or after January 1, 2016, and all subcontractors who are required to meet prequalification requirements under MGO 33.07(7)(l), MGO as of the first time they seek or renew pre-qualification status on or after January 1, 2016. The City will monitor compliance of subcontractors through the pre-qualification process.

- a. **Definitions.** For purposes of this section, "Arrest and Conviction Record" includes, but is not limited to, information indicating that a person has been questioned, apprehended, taken into custody or detention, held for investigation, arrested, charged with, indicted or tried for any felony, misdemeanor or other offense pursuant to any law enforcement or military authority.

"Conviction record" includes, but is not limited to, information indicating that a person has been convicted of a felony, misdemeanor or other offense, placed on probation, fined, imprisoned or paroled pursuant to any law enforcement or military authority.

"Background Check" means the process of checking an applicant's arrest and conviction record, through any means.

- b. **Requirements.** For the duration of this Contract, the Contractor shall:
 1. Remove from all job application forms any questions, check boxes, or other inquiries regarding an applicant's arrest and conviction record, as defined herein.

2. Refrain from asking an applicant in any manner about their arrest or conviction record until after conditional offer of employment is made to the applicant in question.
3. Refrain from conducting a formal or informal background check or making any other inquiry using any privately or publicly available means of obtaining the arrest or conviction record of an applicant until after a conditional offer of employment is made to the applicant in question.
4. Make information about this ordinance available to applicants and existing employees, and post notices in prominent locations at the workplace with information about the ordinance and complaint procedure using language provided by the City.
5. Comply with all other provisions of Sec. 39.08, MGO.

c. Exemptions: This section shall not apply when:

1. Hiring for a position where certain convictions or violations are a bar to employment in that position under applicable law, or
2. Hiring a position for which information about criminal or arrest record, or a background check is required by law to be performed at a time or in a manner that would otherwise be prohibited by this ordinance, including a licensed trade or profession where the licensing authority explicitly authorizes or requires the inquiry in question.

To be exempt, Contractor has the burden of demonstrating that there is an applicable law or regulation that requires the hiring practice in question, if so, the contractor is exempt from all of the requirements of this ordinance for the position(s) in question.

**SOUTHWEST BIKEPATH CULVERT REPLACEMENT AT WAITE CIRCLE - 2019
CONTRACT NO. 8466**

IN WITNESS WHEREOF, the Contractor has hereunto set his/her hand and seal and the City has caused this contract to be sealed with its corporate seal and to be executed by its Mayor and City Clerk on the dates written below.

Countersigned:

		Company Name	
_____	Date	_____	Date
Witness		President	
_____	Date	_____	Date
Witness		Secretary	

CITY OF MADISON, WISCONSIN

Provisions have been made to pay the liability that will accrue under this contract.

Approved as to form:

_____	Date	_____	Date
Finance Director		City Attorney	
_____	Date	_____	Date
Witness		Mayor	
_____	Date	_____	Date
Witness		City Clerk	

SECTION I: PAYMENT AND PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____
as principal, and _____
Company of _____ as surety, are held and firmly bound unto the City of
Madison, Wisconsin, in the sum of _____ (\$_____) Dollars, lawful money of the United
States, for the payment of which sum to the City of Madison, we hereby bind ourselves and our
respective executors and administrators firmly by these presents.

The condition of this Bond is such that if the above bounden shall on his/her part fully and faithfully
perform all of the terms of the Contract entered into between him/herself and the City of Madison for the
construction of:

**SOUTHWEST BIKEPATH CULVERT REPLACEMENT AT WAITE CIRCLE - 2019
CONTRACT NO. 8466**

in Madison, Wisconsin, and shall pay all claims for labor performed and material furnished in the
prosecution of said work, and save the City harmless from all claims for damages because of negligence
in the prosecution of said work, and shall save harmless the said City from all claims for compensation
(under Chapter 102, Wisconsin Statutes) of employees and employees of subcontractor, then this Bond is
to be void, otherwise of full force, virtue and effect.

Signed and sealed this _____ day of _____

Countersigned:

Company Name (Principal)

Witness

President Seal

Secretary

Approved as to form:

Surety Seal
 Salary Employee Commission

City Attorney

By _____
Attorney-in-Fact

This certifies that I have been duly licensed as an agent for the above company in Wisconsin under
National Producer Number _____ for the year _____, and appointed as attorney-in-fact
with authority to execute this payment and performance bond which power of attorney has not been
revoked.

Date

Agent Signature