

Contract Routing Form

printed on: 07/18/2023

ROUTING: Routine

Contract between: Speedway Sand & Gravel, Inc.  
and Dept. or Division: Engineering Division  
Name/Phone Number:

Project: Mendota Grassman Greenway Flood Mitigation and Restoration Design

Contract No.: 9439  
Enactment No.: RES-23-00481  
Dollar Amount: 4,436,527.13

File No.: 78411  
Enactment Date: 07/14/2023

(Please DATE before routing)

Signatures Required	Date Received	Date Signed
City Clerk	7-18-23	7-18-23
Director of Civil Rights	7-18-23	7-18-23 (TR)
Risk Manager	7-19-23	7-19-23 (M)
Finance Director	07-19-23	07-19-23
City Attorney	7/20/2023	7/20/23
Mayor	7/20/2023	7/25/23

Please return signed Contracts to the City Clerk's Office  
Room 103, City-County Building for filing.

Original + 2 Copies

07/18/2023 08:40:16 enjls - Jojo Obrien 266-9721



Legislation Details (With Text)

**File #:** 78411      **Version:** 1      **Name:** Awarding Public Works Contract No. 9439, Mendota Grassman Greenway Flood Mitigation and Restoration Design.

**Type:** Resolution      **Status:** Passed

**File created:** 6/14/2023      **In control:** Engineering Division

**On agenda:** 7/11/2023      **Final action:** 7/11/2023

**Enactment date:** 7/14/2023      **Enactment #:** RES-23-00481

**Title:** Awarding Public Works Contract No. 9439, Mendota Grassman Greenway Flood Mitigation and Restoration Design. (19th AD)

**Sponsors:** BOARD OF PUBLIC WORKS

**Indexes:**

**Code sections:**

**Attachments:** 1. 9439 bid opening tab.pdf, 2. 9439.pdf

Date	Ver.	Action By	Action	Result
7/11/2023	1	COMMON COUNCIL	Adopt	Pass
6/21/2023	1	BOARD OF PUBLIC WORKS	RECOMMEND TO COUNCIL TO ADOPT - REPORT OF OFFICER	Pass
6/15/2023	1	Engineering Division	Refer	

**Fiscal Note**

The proposed resolution authorizes awarding the contract for the Mendota Grassman Greenway Flood Mitigation and Restoration Design at a total estimated cost of \$4,791,450.00 including contingency. Funding for the project is available in Munis #12882, #12460, #14755, and #14787. No additional appropriation is required.

**Title**

Awarding Public Works Contract No. 9439, Mendota Grassman Greenway Flood Mitigation and Restoration Design. (19th AD)

**Body**

BE IT RESOLVED, that the following low bids for miscellaneous improvements be accepted and that the Mayor and City Clerk be and are hereby authorized and directed to enter into a contract with the low bidder contained herein, subject to the Contractor's compliance with Section 39.02 of the Madison General Ordinances concerning compliance with the Affirmative Action provisions **and subject to the Contractor's compliance with Section 33.07 of the Madison General Ordinances regarding Best Value Contracting:**

BE IT FURTHER RESOLVED, that the funds be encumbered to cover the cost of the projects contained herein.

See attached document (Contract No. 9439) for itemization of bids.

\$4,436,527.13  
FILE COPY

BID OF SPEEDWAY SAND & GRAVEL, INC.

2023

PROPOSAL, CONTRACT, BOND AND SPECIFICATIONS

FOR

MENDOTA GRASSMAN GREENWAY FLOOD MITIGATION AND RESTORATION  
DESIGN

CONTRACT NO. 9439

PROJECT NO. 12882

MUNIS NO. 12882

IN

MADISON, DANE COUNTY, WISCONSIN

AWARDED BY THE COMMON COUNCIL  
MADISON, WISCONSIN ON JULY 11, 2023

CITY ENGINEERING DIVISION  
1600 EMIL STREET  
MADISON, WISCONSIN 53713

<https://bidexpress.com/login>

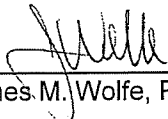
**MENDOTA GRASSMAN GREENWAY FLOOD MITIGATION AND RESTORATION  
DESIGN  
CONTRACT NO. 9439**

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This Proposal, and Agreement have  
been prepared by:

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

  
James M. Wolfe, P.E., City Engineer

JMW: JEO

## 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:	MENDOTA GRASSMAN GREENWAY FLOOD MITIGATION AND RESTORATION DESIGN
CONTRACT NO.:	9439
SBE GOAL	11%
BID BOND	5%
SBE PRE BID MEETING	See Pre Bid Meeting info below
PREQUALIFICATION APPLICATION DUE (2:00 P.M.)	5/18/23
BID SUBMISSION (2:00 P.M.)	5/25/23
BID OPEN (2:30 P.M.)	5/25/23
PUBLISHED IN WSJ	5/11/23 & 5/18/23

SBE PRE BID MEETING: Small Business Enterprise Pre-Bid Meetings are not being held in person at this time. Contractors can schedule one-on-one phone calls with Tracy Lomax in Affirmative Action to count towards good faith efforts. Tracy can be reached at (608) 267-8634 or by email, [tlomax@cityofmadison.com](mailto:tlomax@cityofmadison.com).

PREQUALIFICATION APPLICATION: Forms are available on our website, [www.cityofmadison.com/engineering/developers-contractors/contractors/how-to-get-prequalified](http://www.cityofmadison.com/engineering/developers-contractors/contractors/how-to-get-prequalified). 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](http://www.bidexpress.com).

Bids may be submitted on line through Bid Express or in person at 1600 Emil St. The bids will be posted on line after the bid opening. If you have any questions, please call Alane Boutelle at (608) 267-1197, or John Fahrney at (608) 266-9091.

#### STANDARD SPECIFICATIONS

The City of Madison's Standard Specifications for Public Works Construction - 2023 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/engineering/developers-contractors/standard-specifications](http://www.cityofmadison.com/engineering/developers-contractors/standard-specifications).

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](http://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 DISCREPANCIES

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  Hydro Excavating  
 243  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](http://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](http://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/civil-rights/contract-compliance/targeted-business-enterprise-programs/targeted-business-enterprise](http://www.cityofmadison.com/civil-rights/contract-compliance/targeted-business-enterprise-programs/targeted-business-enterprise).

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/civil-rights/contract-compliance/targeted-business-enterprise-programs/targeted-business-enterprise](http://www.cityofmadison.com/civil-rights/contract-compliance/targeted-business-enterprise-programs/targeted-business-enterprise). 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.

## **SECTION D: SPECIAL PROVISIONS**

### **MENDOTA GRASSMAN GREENWAY FLOOD MITIGATION AND RESTORATION DESIGN CONTRACT NO. 9439**

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 102.1      PREQUALIFICATION OF BIDDERS**

The bidder for this contract must be pre-qualified in at least one of several different categories due to the nature of work involved with this contract. The Subcontractor performing work under bid items 20703, 20901-20915, 90032-90034, 90042-90045 shall be prequalified in category 246 – Ecological Restoration.

#### **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 \$74,000 for a single trade contract; or equal to or greater than \$360,500 for a multi-trade contract pursuant to MGO 33.07(7).

#### **ARTICLE 104      SCOPE OF WORK**

This flood mitigation project consists of the following: installing dual large box culverts under Camelot Drive and a single large box culvert under University Avenue; regrading, lowering and realigning the greenway channel between Old Middleton Road and Lake Mendota; lining the low flow channel in the greenway with riprap; tree removals throughout the greenway; storm sewer, water main and sanitary main replacement and improvement to allow installation of larger storm water infrastructure; storm sewer replacement and improvement at various locations along the greenway; construction of a gravel maintenance path paralleling the channel; and construction of gravel SAS access roads at four locations along the greenway.

Work shall include, but is not limited to: clearing & grubbing, tree removal, channel excavation and riprap placement, base course, installation of box culvert crossings, installation of storm pipe and structures, installation of water main and appurtenances, installation of sanitary sewer main and structures, installation of field stone retaining wall, grading, road reconstruction, pavement marking and restoration including the removal of invasive species, seeding and planting operations, and maintenance of plantings.

#### **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 105.7      CONTRACT DOCUMENTS**

The Contractor shall submit the following documents prior to beginning work on any of the associated activities. Once approved by the Project Engineer, these submittals shall be considered contract

documents, to which the Contractor shall adhere. Additional submittal requirements are listed within Article descriptions or individual bid items.

- INVASIVE PLANT REMOVAL METHODS SUBMITTAL (BID ITEM 90033 & 90034)
- BRUSHING AND HERBICIDE SUBMITTAL (BID ITEM 90032-90034)

#### **SECTION 105.9      SURVEYS, POINTS, AND INSTRUCTION**

The Contractor shall be responsible for staking out the layout of all plantings, including shrubs, trees, plugs, seeding areas, as shown on plans with either spray paint or flags. The Contractor must notify the Project Engineer 48 hours prior to staking planting areas and plants. The Contractor shall give the Project Engineer at least ten (10) business days after staking to review plant locations prior to or planting.

The Contractor shall also be responsible for staking locations of shrubs and trees for review and approval by the Project Engineer.

Final approval for the staking locations shall be required by the Project Engineer prior to planting.

#### **SECTION 105.12      COOPERATION BY THE CONTRACTOR**

The City of Madison's Lake Mendota Drive reconstruction project will be continuing through 2024. A portion of the project from just east of the existing Camelot Drive culvert crossing east to Laurel Crest was substantially completed in 2022, with the exception of the surface pavement, the remaining portion of the project from Laurel Crest east thru Epworth Ct. will be completed in the summer of 2023. The Mendota Grassman Greenway project will require limited removal of Lake Mendota Drive project improvements including binder course of asphalt pavement, storm structures and pipe, and curb and gutter. The Lake Mendota Drive project surface pavement is scheduled to be placed before June 17, 2023. Phase 3 of the Mendota Drive project will occur between Spring Harbor and Epworth Court in 2024. The City is not aware of any other projects taking place in the vicinity of this project.

##### **Existing Items to Remain**

The Contractor shall use care around existing trees, plantings, walls, signs, utilities, traffic signals, street lights, pedestrian flashers and any other structures or amenities that are indicated on the plans to remain. The Contractor shall protect all items that are to remain and shall immediately clean off any residue from adjacent construction activities.

The Contractor shall use care around existing trees to remain and as shown on the plans as protected with construction fencing. No trees, other than those shown on the plan to be removed, shall be cut without the approval of the Project Engineer and the City Forester; the abutting property owners shall be notified in accordance with the City's Administrative Procedure Memorandum No. 6-2 prior to any removal. The Contractor shall not store materials or equipment within in 6 ft. of any existing tree that is to remain.

All curb and gutter, except as indicated on the plan set, shall be protected on University Avenue and Camelot Drive. Damaged curb and gutter shall be replaced by Contractor incidental to contract, at the Contractor's expense

##### **Access to Properties**

The Contractor shall maintain pedestrian access to all properties within the project limits and shall maintain vehicle access to all residential driveways within the project limits per the City of Madison Standard Specifications for Public Works Construction—latest edition. Temporary cross walks shall be used as needed to maintain safe access through the project, and these will be paid under Bid Item 10701 – Traffic Control.

##### **Greenway Access and Coordination**

Construction is located within the Mendota Grassman Greenway and at the University Avenue and Camelot Drive crossings. The Greenway sees periodic pedestrian foot traffic. The Contractor shall note that portions of the Greenway that are not under construction will be opened to the public during the project.

#### **Haul Route**

The City of Madison's Lake Mendota Drive reconstruction project from just east of the existing Camelot Drive culvert crossing east to Epworth Ct was substantially completed in 2022, with the exception of the surface pavement which is scheduled to be placed before June 17, 2023. The Contractor shall take care on newly constructed streets, and shall utilize the haul route down Lake Mendota Drive to Capital Ave whenever reasonable to decrease wear on Baker Ave.

#### **Greenway Construction Schedule**

The Contractor shall only disturb an area along the intermittent channel banks where grading, construction and restoration can occur within five (5) days and not remain exposed for a prolonged time period such that the area would be susceptible to erosion caused by rainfall events. In the channel between Camelot Drive and Lake Mendota, as well as the Blanchard SAS Access Road, grading, construction and restoration shall occur within three (3) days. An exposed area must be finish graded and restored (seeded and erosion control matted) prior to the disturbance of additional areas. Once an area is disturbed, the Contractor shall work in the area each day without breaks until it is stabilized. The Contractor shall submit to the Project Engineer a construction schedule and plan detailing the process and sequence of construction and restoration activities and how work will progress along the greenway to minimize erosion of disturbed areas.

#### **Coordination with Arborist**

The City of Madison is contracting with a certified arborist to complete the initial marking of trees for removal, and for the root cutting around No Root Cut (NRC) trees. The Contractor shall coordinate with the City-hired arborist and let them know 2 weeks prior to any tree removals. The Contractor shall verify the trees marked for removal and is responsible for removing the correct trees as shown on the plans. The Contractor shall bring any discrepancies to the attention of the Project Engineer. The Contractor shall also notify the arborist once tree removals have taken place, and a minimum of 2 weeks prior to grading so that the arborist can paint a circle around the NRC trees defining the areas where the Contractor needs to coordinate with the arborist for grading. The Contractor shall meet with the City-hired arborist in advance of grading within the defined radius of the NRC trees. The Contractor and arborist shall create a plan for how the grading shall be completed at each tree to allow for the arborist to cut roots of the NRC trees so as to protect the trees from damage. The City hired arborist will coordinate with the City Engineer on enforcement of any violations of the standard specifications.

#### **Coordination with Archaeologist**

The Contractor shall coordinate with the City's archaeological consultant to have archaeological monitoring in place prior to any ground disturbance activities within the boundaries of the project. If soils located underneath the non-local soils, crushed rock, gravel or fill are found to be undisturbed, archaeological monitoring should be continued during planned construction activities within these areas. There is a chance of finding human remains or archaeological materials during this project. If any human remains or archaeological materials are found or unusual soils encountered during the project, all ground disturbing construction activities must cease. The contractor shall consult with John Hodgson of Phase One Archaeology prior to continuing work. The contractor shall contact the City's archeological consultant, John Hodgson (608-334-1828 or phaseonearchaeology@gmail.com) **a minimum of 2 weeks prior to any excavation activities in this area** to coordinate schedule and any monitoring activities. Failure to provide adequate notice may result in delays as work may not proceed in designated areas until the Archaeologist is consulted. Delays resulting from inadequate notification will be considered as caused by the Contractor and no time extensions will be provided and any liquidated damages will be enforced, per the Standard Specifications and these special provisions.

#### **Coordination with Utilities**

This project will require close coordination with private utility companies. There are several existing utilities located within the project limits, mainly along University Avenue and Camelot Drive that are to



remain. Private utility companies will also need to relocate a number of facilities within the project limits. The Contractor will be responsible for coordination and providing workspace for any conflict resolution work that will need to be performed by the private utility companies. The Contractor shall coordinate with all utilities for any structure adjustments. Provide a minimum of 1 week notice to utilities prior to needing structure adjustments.

The following utility conflicts have been identified and require coordination as follows:

Madison Gas & Electric Co (MG&E) has overhead power lines north of University Avenue crossing the Greenway (STA 164+75). The power lines and other telecommunication lines on the power poles (see below) will be relocated prior to construction. The Contractor shall contact the utility minimum of 30 days prior to any work in the vicinity of the lines to obtain confirmation from the utility the lines have been relocated and guidance on any safety precautions or special requirements for protection of or maintenance of utility access to the power lines. Additional overhead lines crossing the greenway near STA 157+80 are not anticipated to conflict with construction activities. The contact for MG&E Electric is Mark Bohm at (608) 252-4730 or [MBohm@mge.com](mailto:MBohm@mge.com).

Madison Gas & Electric Co (MG&E) has 6-inch PE 60PSI gas facilities on University Avenue (STA 165+70) that will need to be protected and supported during construction. The Contractor shall contact the utility prior to exposing the gas line. The contact for MG&E Gas is Shaun Endres at 608-252-7224 or [sendres@mge.com](mailto:sendres@mge.com).

Madison Gas & Electric Co (MG&E) has 4-inch gas facilities north of Camelot Drive (STA 153+55) that were relocated during the City's Lake Mendota Drive reconstruction project in 2022. The contact for MG&E Gas is Katie Bloomer at 608-252-7287 or [kbloomer@mge.com](mailto:kbloomer@mge.com).

The Contractor shall note that street light electric lines on University Avenue (STA 165+35) and Camelot Drive (STA 153+47) that will need to be rerouted and maintained during construction. The contact for the City of Madison for the electric lines is Gretchen Aviles Pineiro at 608-266-4899 or [GAvilesPineiro@cityofmadison.com](mailto:GAvilesPineiro@cityofmadison.com).

Madison Metropolitan Sewerage District (MMSD) has facilities within the project area at Camelot Drive and just south of University Ave (STA 166+00), as well as along the greenway alignment. The Contractor shall contact MMSD five (5) days prior to conducting any work on sanitary sewers or structures. The engineering contact for MMSD is Jen Hurlebaus at 608-222-1201 Ext 248 or [JenH@madsewer.org](mailto:JenH@madsewer.org) and the field inspection contact for MMSD is Ray Schneider at 608- 347-3628 or [rays@madsewer.org](mailto:rays@madsewer.org).

Madison Water Utility (MWU) has facilities within the project area at Camelot Drive (STA 153+85) and University Avenue (STA 166+10). The Contractor shall contact MWU five (5) days prior to conducting any work on water mains, hydrants or valves and field locate and confirm depth of the existing water main at University Avenue. The contact for MWU is Jeff Belshaw at 608-206-3856 or [Jbelshaw@madisonwater.org](mailto:Jbelshaw@madisonwater.org).

ATT has telecommunication facilities on University Avenue (STA 164+95) that will be relocated prior to construction. The Contractor will need to protect and support any ATT facilities during construction. Additionally, ATT has overhead telecommunication facilities on MG&E power poles. These facilities will be relocated prior to construction when the power lines are relocated. The contact for ATT is Ryan Denewellis at 608-358-6285 or [rd1238@att.com](mailto:rd1238@att.com). Terra Technologies will relocate an ATT structure along the facilities prior to construction. The contact for Terra Technologies is Bob Wagner at 815-382-3605 or [bwegener@terratechllc.net](mailto:bwegener@terratechllc.net).

Site survey indicates a fiber optic facility on University Avenue (STA 165+10). Ownership has not been determined. It has been confirmed the facility is not owned by Lumen, Charter/Spectrum, AT&T, ATC or the City of Madison. This facility will need to be supported and protected during construction. If ownership cannot be determined this will be paid under Bid Item 90013.

Lumen has fiber optic facilities south of University Avenue (STA 166+15). The Contractor will need to coordinate with Lumen's contractor to protect and support any Lumen facilities during construction. The contacts for Lumen's contractor are John Toyra at 262-282-9999 or [itoyra@delucaandtobin.com](mailto:itoyra@delucaandtobin.com), or Ian Ray at 414-828-2346 or [ianr@delucaandtobin.com](mailto:ianr@delucaandtobin.com). The Lumen engineer is Jason Busse at 715-415-3214(m), 414-224-6713(o) or [Jason.Busse@lumen.com](mailto:Jason.Busse@lumen.com).

Charter has coaxial cable facilities on Camelot Drive (STA 153+45) that will be lowered as necessary prior to construction. The contact for Charter/Century Link is Johnathan Hall at 608-419-5462 or [johnathan.hall@charter.com](mailto:johnathan.hall@charter.com). Charter/Spectrum also has overhead facilities on MG&E overhead power lines north of University Avenue crossing the Greenway (STA 164+75) (see above). These facilities will be relocated under the culvert prior to construction.

ATC has overhead telecommunication facilities on MG&E overhead power lines north of the University Avenue crossing the greenway (STA 164+75) (see above), a fiber optic line in University Avenue (STA 165+08) and two electric transmission pipes in a concrete encasement (STA 165+05). These facilities will be relocated prior to construction. The contact for ATC fiber is Dan Cramer at 920-338-6561 (Office), 920-428-0208 (Mobile) or [dcramer@atcllc.com](mailto:dcramer@atcllc.com), and for ATC electric Lori Kolbow at 262-506-6886 or [lkolbow@atcllc.com](mailto:lkolbow@atcllc.com).

## **SECTION 107.1      PUBLIC CONVENIENCE AND SAFETY**

Access to the site and hauling shall be split between Baker Avenue and Capital Avenue via Lake Mendota Drive for portions downstream of University Avenue. When feasible the Contractor shall use Capital Avenue. Julia Street is the only access to the greenway for portions upstream (south) of University Avenue. Haul roads shall be maintained and repaired (per Bid Item 90028).

The project includes work adjacent to private properties owned by multiple residents and entities. The Contractor shall not disturb private property beyond the construction limits. Those limits shall be staked by a surveyor prior to beginning construction.

The Contractor is alerted that little additional space is available within the project right of way or easement lines for a construction trailer, material storage or other use. If the Contractor identifies public property near the site which could be used for such purposes, they shall obtain advance approval from the Construction Engineer to occupy or disturb such area. If approval is not granted, the Contractor shall be required to obtain other staging locations and shall not be provided additional compensation for this effort.

## **SECTION 107.13      TREE PROTECTION**

The Contractor shall review Section 107.13 of the Standard Specifications for tree protection. Note that Sections 107.13(b) Curb Excavation and Installation, 107.13(c) Sidewalk Excavation and Installation, are not applicable to this project. Other sections are applicable except as provided below.

All trees shall be saved except those trees marked for removal on the plans. Liquidated damages shall be charged for any trees removed other than those shown on the plan. The City hired arborist will coordinate with the City Engineer on enforcement of any violations. Each tree on site has been labeled with a metal identification tag containing a unique identifier. Because of the intent to save trees, there are trees to be saved that are inside the construction limits. It is recognized that grading operations and root cutting of these trees may need to occur within 5 feet of these trees in order to complete the work, but care must be taken in these areas. The Contractor shall coordinate with the City hired arborist for the arborist to perform root cutting of tree labeled No Root Cut (NRC). All other tree roots encountered 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 Section 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 Section 107.14(g), no equipment or materials will be allowed to be parked on, or piled on areas within 5 feet of a tree. 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.

Where noted on the plan set, trees shall be protected. The Contractor shall mark these trees, or place temporary fencing between the work area and tree. Construction Fencing (Plastic) shall be paid separately under Bid Item 21302.

#### **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 contract.

#### **SECTION 107.7      MAINTENANCE OF TRAFFIC**

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.

A traffic control plan is provided in the plan set. The traffic control plan is a schematic representation of the traffic control. It shall not be considered to scale. The Contractor shall not use the traffic control plan to represent quantity of drums. Drums shall be spaced per M.U.T.C.D. The Contractor shall maintain all lanes shown on the traffic control plan. Accomplish the construction sequence, including the associated traffic control as detailed in the traffic control section of the plans, and as described in this traffic article. Unless detailed in the plans, do not begin or continue any work that closes traffic lanes outside the allowed time periods specified in this article. Submit all traffic control change requests to the Construction Engineer at least seven (7) working days prior to an actual traffic control change. A request does not constitute approval.

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.

Traffic Control shall be measured as a single lump sum for Traffic Control at all locations. 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, including arrow boards, for providing, placing, and maintaining work zone. Maintaining shall include replacing damaged or stolen traffic control devices. Traffic control necessary to install temporary or permanent pavement markings shall be included in the Traffic Control Lump Sum Bid Item.

Tubular markers used to separate traffic in opposite directions shall be per WISDOT S.D.D. 15C-11. Tubular markers used to shift traffic and placed between traffic operating in the same direction shall be white in color with yellow reflective tape. Double yellow reflective pavement marking tape shall be used

whenever tubular markers are being used to separate travel lanes. Yellow four (4) inch reflective pavement marking tape shall be used whenever tubular markers are used to separate a travel lane from a work zone. If tubular markers are used, they shall be considered included with the traffic control lump sum item.

### **University Avenue**

Follow the traffic control plan. The phases must be implemented in a sequential order. Two-way traffic shall be maintained at all times with a lane of traffic in each direction at least 11 feet wide. A multi-use path shall be maintained at all times at least 8 feet wide.

### **Camelot Drive**

Follow the traffic control plan. The phases must be implemented in a sequential order. Two-way traffic shall be maintained at all times with a single lane of traffic serving both direction at least 11 feet wide. Use flag persons as necessary to safely maintain two-way traffic.

### **Bike Path**

The existing bike path between Baker Avenue and Hickory Hollow Road shall have portions closed during various stages of the University Avenue traffic control plan, but an 8-foot multi-use path shall be maintained throughout University Avenue box culvert construction as shown in the traffic control plan.

Construction equipment or materials shall not be stored in the roadway or street right-of-way that is open to traffic during non-working hours. Construction equipment and materials are not to be stored within the street right-of-way that is outside the project limits as shown on the approved plan.

The work areas shall be backfilled, plated, or protected by traffic control devices during non-working hours. If steel plates are used, the Contractor shall notify the City of Madison Streets Division, 266-4681, one working day prior to placement of the plates.

Contractor shall place portable changeable message boards at least one week in advance of the start of work, notifying the public of the start of construction impacting University Ave. One portable changeable message board will be required for each direction of traffic. Contractor shall locate the portable changeable message boards as directed by the Traffic Engineer. One portable changeable message board shall also be placed for each direction of travel on the bike path one week prior to the closure of the bike path.

Maintain sidewalk on one side of the street at all times and both sides whenever possible. When sidewalk must be closed for construction purposes, Contractor shall ensure that sidewalk on opposite side of the street is open. Sidewalk closures shall be signed at the crosswalks prior to the closure. Sidewalk access to all businesses shall remain open from at least one end of a block at all times. Sidewalks shall be fully open during non-working hours except where necessary to enable sidewalk to cure. Maintaining Sidewalk is considered incidental to the contract.

Contractor shall notify the City of Madison Police Department, Fire Department, Madison Metro, and Traffic Engineering 48 hours in advance of all switchovers of traffic lanes and closures of streets. Notifications must be given by 4:00 P.M. on Thursday for any such work to be done on the following Monday. Notify Madison Metro one week prior to traffic switches, street closures, and reopening the road to through traffic for bus routing. Madison Metro contact is Tim Sobota (608) 261-4289.

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 three (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.

[http://www.cityofmadison.com/business/pw/documents/guidelines\\_temporarynoparkingrestrictions.pdf](http://www.cityofmadison.com/business/pw/documents/guidelines_temporarynoparkingrestrictions.pdf)

Notify residents and businesses in writing at least two (2) days (48 hours) prior to restricting access to any driveway. Notify residents and businesses in writing at least three (3) days (72 hours) prior to closing any access to any driveway.

Provide emergency vehicles with adequate access to all properties along the project at all times.

Provide access for mail delivery to all properties.

The Contractor shall not remove traffic signs. For removal or replacement of traffic and parking signs, contact the City of Madison Traffic Engineering Field Operations, 1120 Sayle Street, 266-4767, 8:00 a.m. to 4:00 p.m., a minimum of two (2) working days in advance of when any existing signs need to be removed. This service is provided free of charge. If the Contractor removes the signs, the Contractor will be billed for the reinstallation of, and any damage to, the signing equipment. The Contractor shall notify The City of Madison Traffic Engineering Field Operations, 1120 Sayle Street, 266-4767 upon completion of final landscaping to have permanent signs reinstalled. The Contractor shall expect a minimum of seven (7) working days to have permanent signs reinstalled. The Contractor shall leave in place all necessary traffic control until given notice by the Construction Engineer that permanent signing is in place and temporary traffic control may be removed.

Contact Ali Heinritz, Traffic Engineering Division, [AHeinritz@cityofmadison.com](mailto:AHeinritz@cityofmadison.com), 608-267-1102, with any questions concerning these traffic control specifications.

## **ARTICLE 108.2**      **PERMITS**

The City of Madison has submitted the following permit applications:

- DNR Chapter 30 Waterway Individual Permit Numbers IP-SC-2022-13-03409 and IP-SC-2022-13-03410
- DNR NR-353 Wetland Conservation Activities General Permit Number GP-SC-2022-13-03731
- DNR Municipal Transportation General Wetland and Waterway Permit - Culverts
- DNR Water Resources Application for Project Permits (WRAPP) for Construction Activities
- USACE Individual Permit
- City of Madison Tree Removal Permit
- Sewer Extension Permit

A City of Madison Erosion Control permit has been applied for and weekly inspections will be completed by the Contractor. The Contractor shall also complete inspections following storm events, and this work will be paid for under the appropriate bid item. Copies of the permits will be provided.

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 (paid for in Bid Item 90010)
- City of Madison Tree Removal Permit (paid for in Mobilization)
- Permit to work in CTH ROW (paid for in Mobilization)
- Aquatic Plant Management Permit Application (paid for in Mobilization)
- MMSD Sewer Connection Permit (paid for in Mobilization)

A City of Madison Tree Removal Permit has been authorized. The Contractor shall fill out page 1 of the following permit—the Contractor shall be the license holder: <https://www.cityofmadison.com/clerk/documents/licensing/GeneralLicense.pdf>

The Contractor shall pay the \$50 fee to the City Clerk's office and submit the form prior to removing any trees. All permit costs for the City of Madison Tree Removal Permit shall be included in the Mobilization bid item for the contract

The Contractor shall apply for "Application for Permit to Work in CTH ROW" that can be found: <https://highway.countyofdane.com/permits>

The Contractor shall pay all applicable fees. Through the permitting process, Dane County Highway will review and approve their proposed means and methods. This will include, but is not limited to, roadway restoration and traffic control. All work related to the Permit to Work in CTH ROW and the permit cost shall be included in the Mobilization bid item for the contract.

The Contractor will be responsible for acquiring Madison Metropolitan Sewerage District (MMSD) permits and paying for the permit fees for connection to MMSD. 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 confirmed that 1 permit (total) will be required for all of the proposed work to the MMSD facilities on the project (\$1,600 total - 2023 rate). Permit and fees for this work is the responsibility of the Contractor and shall be included in the Mobilization bid item for the contract.

The Contractor shall meet the conditions of the permits by 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 contract bid items. If appropriate items are not included in the contract, they shall be considered Extra Work. A copy of the permit is available at the City of Madison, Engineering Division office.

With regard to Control of Invasive or Exotic Species, the Chapter 30 permit stipulates that any equipment or materials that may be in contact with invasive or exotic species must be decontaminated prior to and after work at the project site. It shall be the Contractor's responsibility to comply with decontamination requirements.

Copies of these permits will be provided to Contractor prior to start of construction. The Contractor must keep a copy of each individual permit on site at all times throughout construction.

The City's obtaining of 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 Contractor shall begin work after **DECEMBER 1, 2023**. All work shall be completed on or prior to **DECEMBER 31, 2025**. The culvert replacements at Camelot Drive and University Ave shall begin after **JANUARY 1, 2024**; once work begins on the University Ave., all work necessary to re-open University Ave. to all traffic, including surface pavement, shall be completed within **ONE HUNDRED SIXTY (160) CALENDAR DAYS**. All culvert work and street paving and restoration shall be completed by **OCTOBER 15, 2024**, provided that all work is completed per the standard specifications, including weather and/or temperature restrictions. All trees called for removal on the plans and/or previously marked in the field shall be removed between **DECEMBER 1, 2023** and **JANUARY 31, 2024** to minimize ground disturbance and wildlife impacts. Greenway grading and stabilization, except for work specifically related to the streets and culverts, shall be completed by **SEPTEMBER 15, 2024**. Greenway stabilization includes placing riprap, temporary seed and EC matting per the plans.

Dormant seeding and planting shall be completed in fall 2024 between September 15, 2024 and October 31, 2024. All plants must be installed at least six weeks before the ground freezes solid.

Plant maintenance incidental to bid items 20901 - 20914 shall continue until the end of the year 2 growing season and considered incidental to those bid items.

Work shall begin only after the start work letter is received. If it is desirable to begin work before or after 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. The Contractor shall notify the City a minimum of 6 weeks prior to the desired start work date.

The Contractor shall limit workdays to 7:00 a.m. to 7:00 p.m. Monday-Saturday within the roadway or greenway unless approved by the Engineer in writing.

City expects that all permits applied for by the City listed in Section 108.2 will be obtained prior to the named start date, apart from the Sewer Extension Permit. The City plans to apply for the Sewer Extension Permit in spring of 2023 and will have the permit prior to the sewer work occurring with the Camelot culvert reconstruction in 2024. The City anticipates that the USACE permit will be obtained by SEPTEMBER 31, 2023. The Contractor shall be aware that they cannot disturb wetlands until the City has obtained the USACE permit. If elements of work critical to the schedule are delayed beyond the agreed start date due solely to the City's failure to obtain the permits listed in Section 108.2, the Completion Date will be adjusted accordingly. However, such delays shall not be grounds for any compensation from the City or adjustment in unit prices unless they exceed 45 calendar days.

The City anticipates the Permanent Limited Easements (PLE) and Temporary Limited Easements (TLE) will be obtained prior to AUGUST 30, 2023. The Contractor may not complete work in the PLE or TLE areas prior to the City having final easements.

Any work that is not completed prior to the end of the year shall be left overwinter in a condition approved by the Project Engineer. All areas must be stabilized and channel and stormwater flow shall not be impeded. Once the Contractor starts grading a section they must work diligently to stabilize and restore the section before it will be impacted by a rain event. The Contractor shall not leave sections of the greenway un-stabilized for more than five (5) days. Once the Contractor disturbs a portion of greenway, the Contractor shall work daily in the area until it is stabilized. If a Contractor is unable to work daily in the area, the Contractor shall place interim stabilization at no additional cost to the City.

**SECTION 109.9: LIQUIDATED DAMAGES**

The fixed, agreed, and liquidated damages for failure to complete the greenway grading and stabilization by the specified date shall be assessed in the amount of **\$1,750** per calendar day.

The fixed, agreed, and liquidated damages for failure to complete all work within the specified timeframe or by the specified completion date for the University Ave. culvert and street restoration work shall be assessed in the amount of **\$1,500** per calendar day.

If all planned tree removals are not completed by the specified dated, the fixed, agreed, and liquidated damages will be assessed in the amount of **\$400** per calendar day.

If all required dormant seeding and plantings are not completed by the specified dated, the fixed, agreed, and liquidated damages will be assessed in the amount of **\$400** per calendar day.

The fixed, agreed, and liquidated damages for failure to complete the Camelot culvert and street restoration work by the specified completion date shall be assessed in the amount of **\$500** per calendar day.

In the event that work extends beyond multiple completion dates and/or timeframes, the Liquidated Damages shall be summed for each violation, but the total liquidated damages amount shall not exceed **\$2,650** per calendar day.

**SECTION 209.6: ACCEPTANCE AND GUARANTEE**

Plants shall be guaranteed for two (2) years from the date of installation. The certificate of completion will be released once Bid Item 90034 Year 2 Restoration Maintenance is complete.

## **BID ITEM 20101 – EXCAVATION CUT**

### **DESCRIPTION**

Work under this item shall include all labor, equipment, materials, and incidentals necessary to excavate to the grades as represented by the contours on the plan set, as shown on the cross sections, or as defined in these Special Provisions. The bid item excludes the stripping of topsoil, which is paid under Bid Item 20221.

Removal of existing residential landscaping features in the right-of-way and greenway at 1838 Camelot Drive, at 5814 Taychopera Road (STA 158+15), and at 1801 Camelot Drive (STA 159+00) are considered incidental to the Excavation Cut bid item.

Cut and Fill quantities were calculated using the average end area method. Unless there are significant changes (>10% volume change), the plan quantity shall be the final amount for payment. No expansion or shrinkage factors have been applied to the earthwork quantities.

• Total Cut:	<b>21,869 C.Y.</b>
○ Topsoil Removal ( <i>Paid Under Bid Item 20221</i> )	1,478 C.Y.
○ Unclassified Cut: ( <i>Includes channel, ditches, storm end sections, SAS Access Roads and Maintenance Path</i> )	9,660 C.Y.
○ Streets & Bike Path:	1,280 C.Y.
○ SAN & Storm Sewers:	787 C.Y.
○ University Ave and Camelot Dr Culverts:	8,200 C.Y.
○ Undercut ( <i>Includes SAS access roads, maintenance path, bike path and streets</i> )	464 C.Y.
• Total Fill	<b>3,679 C.Y.</b>
○ Site Grading:	1,064 C.Y.
○ Select Fill Placement: ( <i>Paid Under Bid Item 20204</i> )	1,200 C.Y.
○ Topsoil Placement: ( <i>Paid Under Bid Item 20221</i> )	1,415 C.Y.

Topsoil segregation, temporary stockpiling, and redistribution over disturbed areas, shall be paid under Bid Item 20221 – Topsoil.

Placement of on-site fill shall be included in this bid item with the exception of select fill for Camelot Drive and University Avenue box culverts which shall be paid under Bid Item 20204 – Select Fill. Salvaged excavated material can be reused for site grading if inspected and approved by the Construction Engineer for use as fill. All re-use cut material shall be clear of cobble, rocks, large debris, etc. Excess material generated during construction shall hauled off-site and disposed of by the Contractor at a site provided by the Contractor.

Total Cut volume above includes Undercut (Undistributed) volume potentially needed for areas with poor soils under SAS access roads, maintenance path and streets and bike path. Undercut volume was estimated at 25% of excavation cut required for the areas listed.

If there are substantial changes in the site grading, City crews shall survey the area and the difference in Excavation Cut over/under the existing terrain shall be calculated on an in-place basis by the Project Engineer.

All on-site stockpiles shall be enclosed with a silt fence paid under Bid Items 21022, Silt Fence – Complete. No material is permitted to be stockpiled in the wooded areas. The Contractor shall not store Excavation Cut on site, with the exception of topsoil, for periods longer than 1 day. The Contractor shall be mindful of predicted weather events and remove cut material accordingly. The entire project site serves as a floodplain, and unnecessary material shall not be stored on site.

### **METHOD OF MEASUREMENT**



Excavation Cut within the limits shown in the plan set, or as defined in these Special Provisions, shall be paid based on the "Plan Quantity" without measurement thereof. The plan quantity was computed using comparison of existing and proposed grading. No changes to this quantity shall be approved unless there are modifications to the plan that result in significant (>10%) increase or decrease in quantity.

#### **BASIS OF PAYMENT**

Excavation Cut shall be paid at the contract unit price for the work as described above, which shall be considered full compensation for all labor, materials, equipment, and incidentals necessary to complete this item of work.

#### **BID ITEM 20109 – FINISH GRADING**

##### **DESCRIPTION**

Finish Grading shall include all work within non-channel areas of the Greenway and on University Avenue and Camelot Drive terraces to restore the existing turf areas disturbed during construction.

Work on this item includes grading areas outside of grading limits that have been disturbed due to tree removal or other construction activity. The City realizes while disturbance shall be minimized outside the grading limits, the construction will result in ruts outside the grading limits. Work under this bid item shall include all labor, materials, equipment, and incidentals necessary to grade outside the channel. Care shall be taken to minimize disturbance and grading around saved trees.

The Contractor shall loosen the topmost 6 inches of dirt and level the area to be restored as shown in the plans. The Contractor shall notify Project Engineer once finish grading is complete and not conduct any restoration activities (seeding and erosion control matting) until finish grading is approved by Project Engineer. If the Contractor needs topsoil to complete any finish grading, that shall be considered incidental to this bid item.

##### **METHOD OF MEASUREMENT**

Finish Grading shall be measured as a Lump Sum.

##### **BASIS OF PAYMENT**

Finish Grading shall be measured as provided above and shall be paid at the contract unit price, which shall be considered full compensation for the work described above.

#### **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 within the grading limits on the construction plans excluding the portion of the maintenance path receiving tied concrete block mat, SAS access roads, riprapped portion of the channel and terraces along University Avenue and Camelot Drive. The Contractor shall provide sufficient topsoil to place 6 inches of material within street terraces along University Avenue and Camelot Drive. The Contractor shall place 1 inch of topsoil over the proposed maintenance path for the crushed aggregate and geoweb sections as shown on the plans. Topsoil does not need to be placed outside of the grading limits. 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).

The Contractor may reuse stripped topsoil from on site for restoration of disturbed areas as indicated on the plans or as directed by the Construction Engineer. All topsoil material must meet the requirements of the Standard Specifications, including topsoil that is reused from on site, and it shall be free of noxious/invasive weeds, stones, debris, and vegetable material, and free of excess peat, sand, or clay. Topsoil used in street terraces and backside of the sidewalk/path shall be shredded.

All salvaged topsoil shall be stored in an appropriate manner, which includes storing the material in an upland area and surrounding the stockpile with two (2) layers of silt fence.

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.

Any topsoil needed for Finish Grading shall be incidental to that bid item. No topsoil shall be placed in areas that receive Brushing.

#### **METHOD OF MEASUREMENT**

Topsoil will be measured by the square yard, acceptably placed.

#### **BASIS OF PAYMENT**

Topsoil will be paid at the contract price per square yard, which shall be full payment for segregating, stockpiling and preparing salvaged topsoil, furnishing additional topsoil from offsite if needed, placing, grading and raking finished surface, all materials, labor and incidentals necessary to complete the work as provided.

### **BID ITEM 20243 - LIGHT RIPRAP – GLACIAL FIELD STONE**

#### **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 be sized between 6 and 12 inches in diameter. The intent of the varied stone sizes is to create graded stone stabilization at outfalls. Therefore, material of various sizes within the sizing limits is encouraged.

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 Project Engineer or Construction Engineer. The Project Engineer, or their representative, may choose to evaluate the material at the source prior to acceptance.

Light riprap shall be placed to a depth of 1-foot, unless otherwise stated. The material shall not be underlain with filter fabric.

Min. Diameter	Median Diameter	Max. Diameter
6"	9"	12"

- Estimated Quantity: 1218 Tons
- No Filter Fabric

#### **METHOD OF MEASUREMENT**

Light Riprap – Glacial Field Stone shall be measured per Ton of material provided, transported, and placed on site. Tonnage shall be determined by truck tickets.

#### **BASIS OF PAYMENT**

Light 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.

#### **BID ITEM 20323– REMOVE CONCRETE SIDEWALK & DRIVE**

##### **DESCRIPTION**

This section describes removal of concrete sidewalk and drive per City of Madison Standard Specification 20302.

Removal of existing driveway 20 LF slot drain at 5814 Taychopera Road shall be considered incidental to the Remove Concrete Sidewalk and Drive bid item.

##### **METHOD OF MEASUREMENT**

Remove Concrete Sidewalk and Drive shall be measured by the square foot acceptably completed.

##### **BASIS OF PAYMENT**

Remove Concrete Sidewalk and Drive, measured as provided and paid at the contract unit price, shall be full compensation for all equipment, labor and incidentals necessary to complete the work as set forth in the description.

#### **BID ITEM 20314.1 – REMOVE PIPE - STORM**

##### **DESCRIPTION**

This section describes removal of storm sewer pipes and structures per City of Madison Standard Specification 20314

- 44 LF of 42-Inch RCP Storm Sewer at University Avenue

##### **METHOD OF MEASUREMENT**

Remove Pipe - Storm shall be measured by the linear foot acceptably completed.

##### **BASIS OF PAYMENT**

Remove Pipe - Storm, measured as provided and paid at the contract unit price, shall be full compensation for all equipment, labor and incidentals necessary to complete the work as set forth in the description.

## **BID ITEM 20314.2 – REMOVE PIPE - SANITARY**

### **DESCRIPTION**

This section describes removal of sanitary sewer pipes per City of Madison Standard Specification 20314.

- 13 LF of 8-Inch VP Sanitary Sewer at Camelot Drive

### **METHOD OF MEASUREMENT**

Remove Pipe - Sanitary shall be measured by the linear foot acceptably completed.

### **BASIS OF PAYMENT**

Remove Pipe - Sanitary, measured as provided and paid at the contract unit price, shall be full compensation for all equipment, labor and incidentals necessary to complete the work as set forth in the description.

## **BID ITEM 20401 - CLEARING (UNDISTRIBUTED)**

### **DESCRIPTION**

Work under this item shall include all labor, equipment, materials, and incidentals necessary to remove trees as directed in the field by the Project Engineer.

This bid item only applies to the removal of individual trees, greater than 4 inches in diameter, which are currently marked to save on the plans, but need to be removed as directed by the Project Engineer. Trees marked for removal on the plans, shall be cleared under Bid Item 20404.

Clearing shall be completed by sawing all trees and brush near the ground line. The stumps shall be grubbed or ground, in accordance with Bid Item 20406.

All wood, brush, stumps, fallen trees, and general woody debris shall become the property of the Contractor. It shall be the responsibility of the Contractor to remove all material from the site.

### **METHOD OF MEASUREMENT**

Clearing will be measured per Inch Diameter, as described in Article 204.3 of the Standard Specifications.

### **BASIS OF PAYMENT**

The contract unit price for Clearing shall be payment in full for furnishing all labor and equipment necessary to clear individual trees as shown on the plan set and as specified in this bid item and the Standard Specifications.

## **BID ITEM 20404 - CLEARING**

Work under this bid item shall include all work, equipment, and incidentals necessary to remove trees, brush, and fallen material as shown on the plans.

Clearing shall be done in accordance with Article 204 of the Standard Specifications as modified in these Special Provisions.

### **CONSTRUCTION METHODS**

## **TREES TO REMAIN**

The Contractor shall note that many trees within the project limits are to remain. These trees are individually identified on Sheets TR1-TR5. Each tree on site has been labeled with a metal identification tag containing a unique identifier. The City will hire an arborist in advance of the project to mark the trees for removal with orange or red paint. The Contractor shall provide the City hired arborist 2 weeks' notice prior to completing any tree removals. The Contractor shall verify that the trees have been properly marked for removal and complete a site walk with the Construction Engineer prior to removing any trees. The Contractor shall pay liquidated damages as described in the City Standard Specifications for any trees removed that were noted to remain on the plans. Trees shown on the plans to be protected require construction fencing and other measures to ensure that they are not damaged, in accordance with these Special Provisions under the item of Construction Fence (Plastic).

## **TREE REMOVAL**

Any tree or shrub not identified to remain, shall be cut and fully removed from the site. This also applies to any fallen material greater than 4 inches in diameter and 5 feet in length. The Contractor shall haul this material off site and dispose of it appropriately. In order to estimate the amount of work, the following estimate of inch diameter is provided based on a tree inventory that was completed in 2020, therefore the diameters have increased since the data was collected: 608 trees, totaling 6,507 inches DBH (Note: multi-stemmed trees are accounted for in DBH quantities, but not in tree numbers).

In order to prevent excess sediment from leaving the site, all erosion control shall be installed prior to completing the clearing. Excessive rutting from clearing will not be permitted. The Contractor shall use low-ground pressure equipment if completing tree removals on thawed soil.

## **PROTECTION OF TREES TO REMAIN**

Trees identified to remain shall be protected. Limbing and pruning may be permitted to facilitate tree removal. Prior to limbing trees to remain, the Contractor shall receive permission from the Project Engineer or Construction Engineer.

Any questions pertaining to tree removal or tree limbing shall be brought to the immediate attention of the Project Engineer.

## **BASIS OF PAYMENT**

Clearing 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 remove the trees and brush as described above, and remove all fallen trees. This bid item also includes hauling all materials off site and disposing of them properly.

## **METHOD OF MEASUREMENT**

Clearing will be measured as a Lump Sum as provided in the Standard Specifications.

## **BASIS OF PAYMENT**

Clearing, measured as provided above, will be paid at the contract price as a Lump Sum, which shall be full payment for all work to complete this item in accordance with the Standard Specifications.

## **BID ITEM 20406 - GRUBBING (UNDISTRIBUTED)**

### **DESCRIPTION**

Work under this bid item shall include all labor, equipment, materials, and incidentals necessary to grub trees as directed by the Construction Engineer in the field. All other stumps necessary to be grubbed within the construction limits, as indicated by the plans, shall be paid under Bid Item 20409.

This bid item only applies to the grubbing of individual trees, greater than 4 inches in diameter, that are currently noted to be saved, but need to be removed and grubbed as directed by the Construction Engineer.

Grubbing shall be completed in accordance with Article 204 of the Standard Specifications. Any fill required to backfill holes where stumps have been removed shall be considered incidental to this bid item. All stumps and woody debris generated during grubbing shall be removed from the site and properly disposed by the Contractor.

If stumps cannot be grubbed without damaging remaining trees, impacting adjacent features, or impacting subsurface utilities, the Contractor shall grind the stumps. Stumps shall be ground to approximately 1 inch below final grade. Grinding shall be considered incidental to this bid item.

Any black locust tree shall be treated with herbicide and left to sit for three (3) days prior to grubbing. The herbicide shall be the least toxic required to prevent regrowth.

### **METHOD OF MEASUREMENT**

Grubbing will be measured per Inch Diameter, as set forth in the Standard Specifications.

### **BASIS OF PAYMENT**

The contract unit price for Grubbing per Inch Diameter shall be payment in full for furnishing all labor, equipment, and incidentals necessary to fully excavate, grind, transport, and dispose of stumps as marked on the plan set.

## **BID ITEM 20409 - GRUBBING**

Work under this bid item shall include all work, equipment, and incidentals necessary to grub stumps or treat stumps.

### **STUMP MANAGEMENT**

Stumps within the grading limits shall be fully grubbed to accommodate earth moving. Material generated from grubbing shall be the responsibility of the Contractor. The Contractor shall haul this material off site and dispose of it appropriately.

Grubbing shall be completed in accordance with Article 204 of the Standard Specifications. Any fill required to backfill holes where stumps have been removed shall be considered incidental to this bid item. All stumps and woody debris generated during grubbing shall be removed from the site and properly disposed by the Contractor.

There are 23 black locust trees within the grading limits that shall be grubbed. The 23 black locust trees shall be treated with herbicide and left to sit for three (3) days prior to grubbing. The herbicide shall be the least toxic required to prevent regrowth.

If stumps cannot be grubbed without damaging remaining trees, impacting adjacent features, or impacting subsurface utilities, the Contractor shall grind the stumps. Stumps shall be ground to approximately 1 inch below final grade. Grinding shall be considered incidental to this bid item.

In order to estimate the amount of work, the following estimate of inch diameter is provided based on a tree inventory that was completed in 2020, therefore the diameters have increased since the data was collected: Estimated Quantity of Trees to be Grubbed: 385 trees, totaling 4,026 inches DBH.

Trees removed outside of the grading limits shall NOT be grubbed. The Contractor shall limit soil disturbance outside of the grading limits, and therefore shall not remove trees or brush in this area by pulling the vegetation. Tree and brush removal outside of the grading limits shall be completed by sawing each tree within 4 inches of the ground surface. The stumps shall be treated with herbicide. The Contractor shall use an herbicide appropriate for the application, and suitable for use near water. The Contractor shall submit proposed herbicides to the Project Engineer prior to use, but generally shall be the least toxic herbicide required to prevent regrowth. Herbicide shall be applied to the stumps on the same day on which cutting occurs. If necessary, the Contractor shall recut the stumps to provide a fresh surface for herbicide application.

In order to estimate the amount of work, the following estimate of inch diameter is provided based on a tree inventory that was completed in 2020, therefore the diameters have increased since the data was collected: Estimated Quantity of Stumps to be Treated with Herbicide: 223 trees, totaling 2,480.5 DBH.

#### **BASIS OF PAYMENT**

Grubbing 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 grub stumps within the grading limits, treat stumps outside the grading limits, and remove any material generated from this process.

#### **METHOD OF MEASUREMENT**

Grubbing will be measured as a Lump Sum in the Standard Specifications.

#### **BASIS OF PAYMENT**

Grubbing, measured as provided above, will be paid at the contract price as a Lump Sum, which shall be full payment for all work to complete this item in accordance with the Standard Specifications.

#### **BID ITEM 20703 – TEMPORARY SEEDING**

##### **DESCRIPTION**

This bid item shall be for all seeding within disturbed areas and brushed areas for immediate stabilization. This bid item shall only be used when final grading is completed in outside of the timeframe appropriate for native fall seeding as described in Article 207 of the Standard Specifications. Prior to application of seed, the Contractor shall verify with the Project Engineer whether to seed with temporary seed or native seed mix.

The Contractor shall use either Seed Oats or Regreen™ as temporary seeding at the manufacturer's specified rate, or as specified in Article 207.3 (b) of the Standard Specifications. Winter Wheat shall not be allowed for temporary seeding on this site.

In all areas besides the maintenance access paths, the Contractor shall **additionally** seed the following native species **along with** the cover crop:

<b>TEMPORARY SEEDING WITH COVER CROP</b>		
<b>Botanical Name</b>	<b>Common Name</b>	<b>OZ/Acres</b>
	Seed Oats or Regreen™	
Sorghastrum nutans	Indian Grass	8
Spartina pectinata	Cord Grass	1
Elymus virginicus	Virginia wild rye	16
Elymus riparius	Riverbank Wild Rye	2
Veronicastrum virginicum	Culver's Root	1
Pycnanthemum virginianum	Mountain Mint	2
Monarda fistulosa	Wild Bergamot	2
Helenium autumnale	Sneezeweed	2

These native species shall be seeded either before or after the cover crop, prior to installation of any erosion matting and at the same time as seeding for cover crop. Unlike the native seed mix that will be used in the fall, the native species listed above do not require winter conditions to be able to germinate.

#### **METHOD OF MEASUREMENT**

Temporary seeding shall be measured by the **installed** square yard quantity. Any increases or decreases in seeding shall be measured by the Contractor and verified by the Project Engineer.

#### **BASIS OF PAYMENT**

Temporary seeding 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, placement, and incidentals required to complete the work as set forth in the description.

#### **SECTION 209: TREES, SHRUBS, PERENNIALS AND GRASSES**

All planting as part of this contract shall be completed per Article 209 – Trees, Shrubs, Perennials and Grasses of the latest edition of the City of Madison Standard Specifications for Public Works Construction and as outlined in these Special Provisions.

All plantings shall be installed after sections of the greenway are complete. Planting windows shall be from September 15<sup>th</sup> until the end of October, at least six weeks before the ground freezes solid.

Care of plants and preparing ground for planting shall be incidental to bid items 20901-20923 as defined in Subsection 209.6(b) and shall continue until the end of the 2024 growing season.

The Contractor shall only mulch newly planted areas that are outside of the greenway side slopes.

If plants are being installed in areas that are receiving herbicide treatment, plants shall be planted after herbicide will no longer pose a threat to the survival of the proposed plant.

Plants shall be watered the day of installation. Watering the day of installation shall be incidental to this bid item. In addition to the waterings required in Subsection 209.4(g), additional waterings may be ordered by the Engineer at any time and shall be incidental to BID ITEMS 20901-20923. All plants shall be appropriately watered throughout the planting season to keep plants in a healthy growing condition regardless of drought condition. Watering during drought conditions are incidental to this contract. The volume of water shall be enough to soak the root zone. Care must be taken when watering not to wash away mulch and topsoil. Mulch and topsoil displaced must be replaced immediately by the Contractor. There is no existing water access available on site. The Contractor shall be required to supply water.



Drought Watering shall be paid separately under BID ITEM 20970, and shall only be paid when the U.S. Drought Monitor has classified the City of Madison as D-3 Drought Extreme as defined in Subsection 209.5(j).

Ostrich fern locations are not specifically identified on plans, the Contractor shall work with the Engineer to identify locations for plantings.

A monthly inspection of all landscape areas shall be completed by the Contractor. This is to assess work to be done and to locate problems which may have developed since the last inspection. The Contractor shall notify the Project Engineer 48 hours prior to inspection.

All trees and shrubs shall conform to the sizes specified below:

BOTANICAL NAME	COMMON NAME	SIZE	ROOT
<b>TREES</b>			
<i>Carya cordiformis</i>	Bitternut Hickory	1.5" Cal.	B&B or CONT
<i>Carya ovata</i>	Shagbark Hickory	1.5" Cal.	B&B or CONT
<i>Quercus alba</i>	White Oak	1.5" Cal.	B&B or CONT
<i>Quercus bicolor</i>	Swamp White Oak	1.5" Cal.	B&B or CONT
<i>Quercus macrocarpa</i>	Bur Oak	1.5" Cal.	B&B or CONT
<b>SHRUBS</b>			
<i>Aronia melanocarpa</i>	Black chokeberry	#3	CONT
<i>Chephalanthus occidentalis</i>	Buttonbush	#2	CONT
<i>Cornus sericea</i>	Red osier dogwood	#2	CONT
<i>Hamamelis virginina</i>	American witch-hazel	#2	CONT
<i>Rosa palustris</i>	Swamp rose	#3	CONT
<i>Sambucus candensis</i>	Elderberry	#2	CONT
<i>Spiraea alba</i>	White meadowsweet	#2	CONT
<i>Viburnum lentago</i>	Nannyberry viburnum	#3	CONT
<b>FERNS</b>			
<i>Matteuccia struthiopteris</i>	Ostrich Fern	#1	CONT

### **BID ITEM 20915 – CHANNEL PLUGS**

#### **DESCRIPTION**

This bid item shall include all necessary work, labor and incidentals required to procure plant plugs in accordance with the City of Madison Standard Specifications for Public Works Contract and as outlined in this bid item and Section 209 of this contract.

All plants shall be installed from approximately 2 ½"D x 2 ½"W x 4"H containers. Plants shall be placed 1.5' O.C.

Plants shall be installed in general areas defined on the plan. The Contractor shall be responsible for determining the exact location based on existing vegetation, removals, sun/shade and soil moisture.

Plants shall be installed so that the top (crowns) stems shall be set at grade. Mulch shall be applied around the immediate area around the plug. The Contractor shall install plugs by cutting through existing

erosion control matting. The Contractor shall not plant mulch around the plugs, but shall ensure their roots are fully covered with topsoil.

Recognizing that installation of forbs and grasses typically involves a lower survivability, the Contractor shall be responsible for ensuring that approximately 75% of the total number of installed forbs and grasses are flourishing by the end of the 2025 growing season.

<b>CHANNEL PLUGS</b>			
<b>BOTANICAL NAME</b>	<b>COMMON NAME</b>	<b>QUANTITY</b>	<b>UNIT</b>
Asclepias incarnata	Swamp Milkweed	86	EA
Calamagrostis canadensis	Canada blue joint grass	64	EA
Carex bebbii	Bebb's sedge	64	EA
Carex hystericina	Porcupine sedge	64	EA
Carex vulpinoidea	Brown fox sedge	64	EA
Helenium autumnale	Sneezeweed	86	EA
Iris versicolor	Northern blue flag iris	96	EA
Lobelia siphilitica	Blue lobelia	96	EA
<b>TOTAL</b>		<b>630</b>	<b>EA</b>

**METHOD OF MEASUREMENT**

Channel plugs shall be measured per each individual plant and have been measured based on the plan quantity. For purposes of developing this proposal, quantities do not account for specific site conditions. It is the Contractor's responsibility to install species at appropriate locations based on soil moisture, water depth, hours of sun, etc. Additionally, it is the Contractor's responsibility to notify the Project Engineer if plant species and quantities need to be adjusted based on site specific conditions and principles of ecological restoration.

**BASIS OF PAYMENT**

Channel plugs 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, placement, disposal and incidentals required to complete the work as set forth in the description.

**BID ITEM 20970 – TREES, SHRUBS, PERENNIALS AND GRASS DROUGHT WATERING**

**DESCRIPTION**

Work under this bid item shall include all work, materials, labor, and incidentals required to provide drought watering in accordance with Subsection 209.5(j) of the City of Madison Specifications for Public Works Construction for all plants. Drought watering shall only be paid in 2024 and 2025 for conditions defined in Subsection 209.5(j) of the Specifications.

**METHOD OF MEASUREMENT**

Drought Watering shall be measured by unit price for additional watering visits necessary to thoroughly soak the root zones of all plants in this contract at the site. The number of watering visits shall be defined such that one watering visit thoroughly waters all of the plants in this bid item, once.

**BASIS OF PAYMENT**

Drought Watering shall be paid for at the contract unit price each, which shall be full compensation for furnishing, transporting and watering plants; and for furnishing all labor, tools, equipment and incidentals necessary to complete the work. In order to receive payment for drought watering, the Contractor must submit proof of watering for each watering. This proof must including photos of the watering with the date and time that each watering occurred.

### **BID ITEM 21002 – EROSION CONTROL INSPECTION**

#### **DESCRIPTION**

Work under this bid item shall include all work, equipment, and incidentals necessary to complete weekly and post-rain event Erosion Control (EC) inspections per the City's standard specifications and outlined below. A post-rain reports shall negate the need for a routine, weekly inspection for the week that it rained. A rain event is classified as greater than 0.5" of rain in 24 hours. Due to the size and nature of the project, the Contractor shall document the stability of the site and effectiveness of the EC measures with photos, fill out the provided detailed checklist and upload the completed checklist and photos to the City's Licensing and Permitting online portal as part of the weekly inspection report.

The Contractor shall be responsible for tracking forecasted weather events and complete inspections as needed including any weekend rain events.

The Contractor shall fill out a checklist provided by the City that shall document the type of EC measure in each major portion of work and whether or not they need modification. See example checklist **ATTACHMENT C – EROSION CONTROL INSPECTION CHECKLIST**.

The Contractor shall fill out the checklist and add notes on the effectiveness of the EC measures, whether they need fixing, and if they've been fixed.

Photos shall be taken that show the effectiveness of the installed erosion control devices. The photos shall show the disturbed area, erosion control measure, and the downstream area in a single image wherever possible.

The Contractor shall be aware that this is a highly erodible site that is directly upstream of the lake and extra care shall be taken to assess and fix or bolster EC measures prior to rain events.

#### **METHOD OF MEASUREMENT**

Erosion Control Inspection shall be measured per Each inspection successfully completed.

#### **BASIS OF PAYMENT**

Erosion Control Inspection 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 take photos, fill out the spreadsheet, upload the spreadsheet and photos, and create an inspection record in the City's Licensing and Permitting online portal.

### **BID ITEM 21014 - CLEAR STONE BERM (DITCH CHECK)**

#### **DESCRIPTION**

Work under this bid item shall include all work, equipment, and incidentals necessary to install, maintain, and remove a Clear Stone Berm (Ditch Checks), as shown on the plans. The ditch checks shall be constructed per Article 210.1(c) of the Standard Specifications from Clear Stone, which shall be paid under Bid Item 20214.

The quantity of Clear Stone necessary to construct each Clear Stone Berm is estimated to be: 4 tons.

The ditch checks shown on the Erosion Control Plan are all possible ditch checks for the project. Depending on construction phasing and environmental conditions, not all ditch checks may be necessary. The Contractor shall install new ditch checks after grading of channel if necessary to capture sediment from upstream grading, depending on project phasing.

The Contractor shall maintain all ditch checks as part of this bid item. This shall include replacement in the event of failure.

#### **METHOD OF MEASUREMENT**

Clear Stone Berm (Ditch Check) shall be measured per Each unit constructed, maintained, and removed in the field. Materials used to construct the berm, including Clear Stone, shall be paid separately under the appropriate bid items.

#### **BASIS OF PAYMENT**

Clear Stone Berm (Ditch Check) 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 construct, maintain, and remove the ditch check. Disposal of all materials shall be at a location provided by the Contractor and shall be incidental to this bid item.

### **BID ITEM 21061 - EROSION MATTING, CLASS I, URBAN TYPE A**

#### **DESCRIPTION**

Work under this bid item shall include all work, materials, equipment and incidentals necessary to install Erosion Matting, Class I, Urban Type A, as shown on the plans per the manufacturer's specifications.

The Contractor shall install the topsoil and seed per the plans. The Erosion matting Class I, Urban Type A shall only be installed after fine grading has been verified by the Construction Inspector.

In undisturbed areas enclosed by the construction fencing called out on the plans for tree protection, Erosion Matting, Class I, Urban Type A may not be needed. These areas will be determined by the Project Engineer.

#### **METHOD OF MEASUREMENT**

Erosion Matting, Class I, Urban Type A shall be measured per Square Yard of matting acceptably installed, not including runout in anchor trenches or overlap.

#### **BASIS OF PAYMENT**

Erosion Matting, Class I, Urban Type A shall be measured as described above and shall be paid at the contract price, which shall be considered full compensation for all labor, equipment, materials and incidentals necessary to provide, store, and place in accordance with Article 210 of the Standard Specifications and supplier's recommendations.

### **BID ITEM 21302 - 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 for tree protection and at the direction of the

Construction Engineer or Project Engineer. Fencing will be used to delineate areas for tree protection, as shown in the plans or as directed in the field.

This fence shall be highly visible (orange or yellow), constructed of a plastic web, and able to withstand the expected amount of use it will receive on a construction site. The intent of this item is to delineate the area to which the Contractor shall confine his or her operations, to protect trees, and to prevent disturbance of areas by the public following seeding operations. Minor 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 minor relocation of the fencing as needed to perform the work.

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 3000lb per 4' width (ASTM D638)

#### **METHOD OF MEASUREMENT**

Temporary Construction Fencing shall be measured by the Linear Foot of fence installed, maintained, and removed.

#### **BASIS OF PAYMENT**

Temporary Construction Fencing 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 40101 – CRUSHED AGGREGATE BASE COURSE GRADATION NO. 1**

This bid item includes an estimated undistributed quantity of 523 tons. All work shall be completed per the plans and in accordance with the standard specifications. The quantity noted here is the estimated amount at the time of bidding, and will not be updated with any future plan revisions and is only provided to assist with the breakdown of the initial quantities.

#### **BID ITEM 40102 – CRUSHED AGGREGATE BASE COURSE GRADATION NO. 2 OR NO. 3**

Of the total estimated quantities for this item, an estimated 171 tons are of Gradation No. 3. All work shall be completed per the plans and in accordance with the standard specifications. The quantity noted here is the estimated amount at the time of bidding, and will not be updated with any future plan revisions and is only provided to assist with the breakdown of the initial quantities.

#### **ARTICLE 500            SEWER AND SEWER STRUCTURES GENERAL**

#### **STORM SEWER GENERAL**

Removal of existing pipes along the same alignment as proposed pipes and existing pipes exposed as part of proposed box culvert excavation shall be considered incidental to new pipe installation and not paid items. Removal of existing pipes along alignments different than proposed pipe alignments will be paid.

Reconnection of existing pipes at new or existing structures, or new pipes at new or existing structures, shall be considered to be part of the work required to construct the new structure or to construct the new sewer pipe and shall not be rewarded with additional compensation. However, if the structure being removed is larger than the new structure, thus requiring additional pipe, the new pipe shall be paid under the appropriate bid item and the connection of the old pipe to the new pipe shall be accomplished with a concrete collar.

Where a new structure is to be constructed at an existing pipe, it is expected that the Contractor shall saw cut the existing pipe in the required location to accommodate the placement of the new structure. If the Contractor, for his or her convenience, deems it more suitable to remove the existing pipe to a full joint, the additional pipe and concrete collar required to reconnect to the new structure shall be at the Contractor's responsibility and shall not be compensated.

Connection of new pipes to existing structure shall be accommodated with a Storm Sewer Tap – Bid Item 50792.

Precast structures are only allowed where field poured structures are not specifically called for, and no placement of orders for precast box culvert sections or structures are allowed until ULO's are completed and approval of the Project Engineer has been received.

### **SANITARY SEWER GENERAL**

This project consists of the installation of 176' of 8" City sewer main. Sanitary sewer pipe shall be PVC Sanitary Sewer Pipe (ASTM D3034 SDR-35, SDR-26) at the lengths and locations specified on the plan set and in accordance with the Standard Specifications.

This project consists of the installation of 228' of MMSD sewer main: 72' of 16" diameter AWWA C900 and 156' of 12" diameter sewer main (ASTM D2034 SDR-35) at the lengths and locations specified on the plan set and in accordance with the Standard Specifications.

All new City sanitary sewer access structures shall include the Neenah R-1550-0054 with the City of Madison casting detail (see S.D.D. 5.7.16 of the City of Madison Standard Specifications for Public Works Construction Latest edition). MMSD sewer access structures shall be built in conformance with SD-101 (Standard MMSD Manhole), SD 102v (Standard Monitoring Manhole), with SD-201 Standard Manhole Chimney) (See Sheet G1 and G2 of plan set). All new sewer main connections may be factory cored and shall be included in the structure. All existing lateral and main connections shall be field cored to accommodate existing conditions and shall be compensated under BID ITEM 50791 SANITARY SEWER TAP. All sewer main and/or laterals not slated for replacement that are damaged during the installation of a structure shall be replaced by the Contractor and shall be considered incidental to the project. All benches and flowlines shall have a smooth trowel finish.

It is advised that the Contractor visit the site prior to bidding to determine the type of trench protection that will be necessary for the sanitary sewer main installation.

The Contractor shall notify Ray Schneider (MMSD) at 608-347-3628 or [RAYS@MADSEWER.ORG](mailto:RAYS@MADSEWER.ORG) five (5) days prior to doing work on MMSD facilities. A direct connection permit will be required for proposed sanitary connections to MMSD sewer access structures. Permit and fees for this work is the responsibility of the Contractor. MMSD confirmed that 1 permit (total) will be required for all of the proposed work to the MMSD facilities on the Lake Mendota project (\$1,600 - 2023 rate).

MMSD will supply castings the adjustment rings for all work on MMSD manholes- proposed manholes and manholes being adjusted. Contact Ray Schneider 608-347-3628 or [RAYS@MADSEWER.ORG](mailto:RAYS@MADSEWER.ORG) to coordinate pickup of castings/ adjustment rings at the MMSD plant 1610 Moorland Road, Madison, WI 53713-3398.

### **BID ITEM 50361 – WASTEWATER CONTROL**

#### **DESCRIPTION**

Work under this bid item shall include wastewater control (bypass pumping of the sewer being replaced). Work shall be completed in accordance with Article 503.3 of the City of Madison Standard Specifications for Public Works Construction Latest Edition.

Three sanitary sewer bypass locations shall be required:

- 12-inch diameter sewer between proposed MMSD SAN SAS-22 and SAS-20 on Camelot Drive – Bypass flows up to 1,000 gpm are anticipated based on observed operating levels.
- 8-inch diameter sewer between proposed City SAN SAS-12 and MMSD SAS-11 on Camelot Drive
- 8-inch diameter sewer between existing City SAN SAS 3145-019 and SAS MH05-205 on University Avenue

#### **METHOD OF MEASUREMENT**

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

#### **BASIS OF PAYMENT**

Wastewater Control measured as described, which will be paid at the contract unit 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 50501.1 – PRECAST REINFORCED CONCRETE BOX CULVERT - B-13-0900**

#### **DESCRIPTION**

This section describes construction of 320' of 10' span X 4' rise Precast reinforced concrete box culvert on Camelot Drive at the lengths and locations specified on the plan set and in accordance with the Standard Specifications. Item shall include provision and installation of assigned WDOT structure name plate on wing wall 4. Culvert shall be undercut 1'-6" (paid under Bid Item 20101) and backfilled with 6" of select fill (paid under Bid Item 20204) over 1' of clear stone (incidental to this bid item) with WDOT Type HR Filter Fabric (incidental to this bid item). Excavation and bedding shall extend 3 feet beyond culvert outer walls as shown in Typical Section Thru Culvert on Sheet 2 of 4 of Structure B-13-0900. Type A Slurry backfill behind culvert walls shall be placed under the roadway and extend 3 feet beyond the back of curb on both sides as shown in Typical Section Thru Culvert on Sheet 2 of 4 of Structure B-13-0900 (paid under Bid Item 30141). Remaining length of culvert on either side of roadway shall be backfilled behind culvert walls with select fill (paid under Bid Item 20204). All culvert section joints shall be tied per City Standard Detail 5.4.6 Concrete Pipe Joint Ties which shall be considered incidental to this bid item.

#### **METHOD OF MEASUREMENT**

Precast Reinforced Concrete Box Culvert - B-13-0900 shall be measured by the linear foot acceptably completed.

#### **BASIS OF PAYMENT**

Precast Reinforced Concrete Box Culvert - B-13-0900, measured as provided and paid at the contract unit price, shall be full compensation for all equipment, labor and incidentals necessary to complete the work as set forth in the description.

### **BID ITEM 50501.2 – PRECAST REINFORCED CONCRETE BOX CULVERT - C-13-2088**

#### **DESCRIPTION**

This section describes construction of 164' of 12' span X 5' rise Precast reinforced concrete box culvert on University Avenue at the lengths and locations specified on the plan set and in accordance with the Standard Specifications. Item shall include provision and installation of assigned WDOT structure name plate on wing wall 1. Culvert shall be undercut 1'-6" (paid under Bid Item 20101) and backfilled with 6" of select fill (paid under Bid Item 20204) over 1' of clear stone (incidental to this bid item) with WDOT Type HR Filter Fabric (incidental to this bid item). Excavation and bedding shall extend 3 ft beyond culvert

outer walls as shown in Typical Section Thru Culvert on Sheet 2 of 3 of Structure C-13-2088. All culvert section joints shall be tied per City Standard Detail 5.4.6 Concrete Pipe Joint Ties which shall be considered incidental to this bid item.

#### **METHOD OF MEASUREMENT**

Precast Reinforced Concrete Box Culvert - C-13-2088 shall be measured by the linear foot acceptably completed.

#### **BASIS OF PAYMENT**

Precast Reinforced Concrete Box Culvert - C-13-2088, measured as provided and paid at the contract unit price, shall be full compensation for all equipment, labor and incidentals necessary to complete the work as set forth in the description.

### **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. Manhole joint seal shall be minimum of nine (9) inches wide. The seal shall consist of flexible rubberize seal conforming to ASTM C923 held in place with stainless steel compression bands or butyl adhesive tape conforming to ASTM C877 or heat shrink sleeve over visco-elastic adhesive sealant.

Acceptable products and manufacturers are the following:

1. Mac Wrap, Mar Mac Manufacturing Company, Inc.
2. NPC External Joint Seal, NPC, Inc.
3. EZ-Wrap, Press-Seal Gasket Corporation
4. Riser-Wrap, Pipeline Seal and Insulator

Alternate manufacturers and products not listed above are subject to pre-approval by the Project Engineer.

#### **METHOD OF MEASUREMENT**

External Sewer Access Structure Joint Seal shall be measured by each structure installation acceptably completed.

#### **BASIS OF PAYMENT**

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

### **SECTION 701      PROVISIONS FOR WATER INSTALLATION AND ABANDONMENT**

The project consists of furnishing and installing ductile iron water main and fittings on Camelot Drive and University Avenue. The proposed water main is being lowered to accommodate proposed box culvert crossings at each street.

The project also includes abandoning and removing existing water main. **Any required removal and disposal of existing main shall be incidental to the installation of new main.** Any broken curb stops, buried curb boxes or otherwise dysfunctional service components must be approved for adjustment, removal and/or replacement by the Water Utility inspector in advance of any work being performed.



Take all necessary precautions to protect newly installed main as well as the existing Madison Water Utility system and ensure its proper functioning during construction.

View the sites prior to bidding and become familiar with existing conditions and utilities.

**SECTION 702                    MATERIALS**

Furnish all materials, labor and equipment necessary to complete this project except the tapping sleeves, tapping valves and tapping valve boxes. Water Utility will furnish the tapping sleeves, tapping valves, tapping valve boxes, and the crew to perform the taps.

**All proposed water main, not just the carrier pipe, shall be US Pipe TR-Flex or equivalent.**

**SECTION 703                    CONSTRUCTION METHODS**

Perform all work in accordance with these provisions and the City of Madison Standard Specifications, current edition. Keep all valves accessible and functioning throughout the duration of the work or as directed otherwise by the Water Utility representative.

**WATER UTILITY GENERAL NOTES FOR SPECIFIC WORK:**

- |     |   |
|-----|---|
| WN1 | Offset existing lead up and raise and reinstall fire hydrant per SDD 7.22 |
| WN2 | Adjust two existing valve boxes.  |

**BID ITEM 90001 – STORMWATER CONTROL PLAN AND IMPLEMENTATION**

**DESCRIPTION**

Work under this item shall include all labor, materials, and incidentals required to prepare a stormwater control plan and to implement the approved plan. The stormwater control plan shall include dry weather, wet weather and backwater flow control contingencies and detail what erosion control measures or BMPs will be implemented to minimized sediment transport into the channel and down the channel to Lake Mendota. Specific measures are expected at each outlet of the two culvert crossings at Camelot Drive and University Avenue. The Contractor shall submit to the Project Engineer a plan that details how flows will be managed and/or diverted during placement of the new box culverts at University Avenue and Camelot Drive, and during associated grading and restoration. 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 Stormwater Control Plan and Implementation shall be considered incidental to this bid item.

The existing channel receives a large amount of water during rain events, including overland flow. The Contractor shall be prepared to manage storm flow and secure construction and grading, protect adjacent properties, and protect the new and existing structures and grading during rain events (see table below).

The Contractor will be required to manage the work area during construction to account for fluctuations in water flow and creek water levels as necessary to protect the Work and Contractor's equipment, material, and personnel, and according to all applicable laws and regulations.

The Contractor shall be aware that significant changes in flow and water level can occur in the project area at any given time. Contractor is responsible for any impacts that could result from changing water flow/level conditions.

Under existing conditions flow generated during a 2-in, 24-hr rainfall event spill out of the ripped channel upstream of University Avenue. Downstream of University Avenue flow generated during the 2-

year, 24-hr event spill out of the existing channel. The table below provides flows at the University Avenue and Camelot Drive culverts under existing conditions. It shall be the sole responsibility of Contractor to repair or reconstruct project components damaged by stream flow, and protect existing properties while the temporary stormwater control operations are going.

24-hr Rainfall Event	Rainfall Depth (inch)	University Avenue	Camelot Drive
		Flow (cfs)	Flow (cfs)
--	2.00	42	53
1-year	2.49	95	92
2-year	2.84	129	127
10-year	4.09	241	189*
25-year	5.01	321	191*
100-year	6.66	456	192*

\*Camelot Drive Overtops

The Contractor shall describe their methods in the Stormwater Control Implementation Plan for approval by the Project Engineer prior to construction. The Contractor shall be prepared to discuss their plan in detail at the pre-construction meeting.

Water levels and flow volumes shall be controlled in the work area by pumping or bypassing to an extent that the permanent works being performed are not adversely affected. Contractor shall provide energy dissipation measures where pumped or by-passed water re-enters the creek.

Flow diverted from the existing channel to perform construction and grading of proposed channel shall be discharged to the existing (or proposed) channel downstream of the area subject to active construction activity. Bypassed flow for University Avenue and Camelot Drive culvert crossing construction may be discharged to a temporary sediment basin excavated along the channel at or immediately downstream of the applicable culvert outlet or other approved measures.

The Contractor shall be solely responsible for means and methods, integrity of any cofferdams, pumps or dewatering methods, etc. including maintaining integrity of creek function and ensuring safety of public and workers. Any additional equipment, erosion control devices, stone, etc. required to manage storm events shall be included with this bid item.

The Contractor shall be responsible for re-grading, filling or otherwise removing interim drainage and water control features upon completion of that portion of the water control Work. The areas shall be permanently restored as shown on the drawings and as specified, or to existing conditions if work is done outside of the proposed grading areas.

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

The Stormwater Control and Implementation Plan shall include details of where the stormwater will go in the event of their system being overwhelmed. A back-up plan or system for controlling stormwater including type of system, equipment, power supply (if necessary), and how the system will be operated shall be included in this bid item.

Following the construction of the culverts, the Contractor shall install any necessary armoring, erosion control devices, stone etc to create a temporary connection to the existing channel if the adjacent channel has not been graded to the proposed grading in order to protect the new culverts and maintain a stable channel.

The Contractor shall be aware that any storm sewer dewatering, including trench dewatering or pumping of accumulated storm water, shall include treatment for sediment removal prior to discharge off-site. At a

minimum, this treatment shall include filtering the water via a sediment bag prior to discharge. The geotextile bag shall have a 0.040 mm apparent opening size (AOS). If, at the determination of the Construction Engineer, this treatment process in not providing sufficient sediment removal, the Contractor shall add 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.

The Contractor shall be aware that water levels on Lake Mendota fluctuate throughout the year and when levels are high, the downstream portions of the greenway are inundated under lake backwater. In wet years, the lake can be over the Target Summer Maximum elevations. The Contractor shall be prepared to manage all possible lake levels and complete construction per the plans, and this shall be considered part of the Stormwater Control Plan and Implementation.

#### **METHOD OF MEASUREMENT**

Stormwater Control Plan and Implementation shall be measured as a Lump Sum bid item.

#### **BASIS OF PAYMENT**

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

#### **DESCRIPTION**

Work under this item shall include all work, material and incidentals necessary to remove the existing culvert, header structure, and wingwalls at the University Avenue crossing. This item includes but is not limited to all required sawcutting of the existing structure, removal of material, stockpiling as needed, hauling away of reinforced concrete and disposal of the reinforced concrete. Contractor shall be responsible for determining a suitable off-site disposal location and paying all fees associated with disposal.

#### **CONSTRUCTION METHODS**

Construction shall follow Section 203.2 of the City of Madison Standard Specifications for Public Works Construction.

#### **METHOD OF MEASUREMENT**

Remove Existing Structure C-13-2044 shall be measured as a Lump Sum for removal of entire existing structure C-13-2044 including culvert, header structure, and wingwalls.

#### **BASIS OF PAYMENT**

Remove Existing Structure C-13-2044, measured as described above, shall be paid at the contract price and shall be considered full compensation for all work, materials and incidentals to complete the work as explained in the description above.

#### **BID ITEM 90002 – REMOVE EXISTING STRUCTURE C-13-2044**

#### **DESCRIPTION**

Work under this item shall include all work, material and incidentals necessary to remove the existing culvert and all end treatments at the University Avenue crossing. This item includes but is not limited to all required sawcutting of the existing structure, removal of material, stockpiling as needed, hauling away of reinforced concrete, metal pipes, and metal railing and disposal of the reinforced concrete, metal pipes,

and metal railing. Contractor shall be responsible for determining a suitable off-site disposal location and paying all fees associated with disposal.

#### **CONSTRUCTION METHODS**

Construction shall follow Section 203.2 of the City of Madison Standard Specifications for Public Works Construction.

#### **METHOD OF MEASUREMENT**

Remove Existing Structure C-13-2044 shall be measured as a Lump Sum for removal of the set of (2) pipes and all end treatments.

#### **BASIS OF PAYMENT**

Remove Existing Structure C-13-2044, measured as described above, will be paid at the contract price and shall be considered full compensation for all work, materials and incidentals to complete the work as explained in the description above.

### **BID ITEM 90003 – REMOVE EXISTING TWIN 48” PIPES (CAMELOT)**

#### **DESCRIPTION**

Work under this item shall include all work, material and incidentals necessary to remove the existing culvert and all end treatments at the Camelot Drive crossing. This item includes but is not limited to all required sawcutting of the existing structure, removal of material, stockpiling as needed, hauling away of reinforced concrete, metal pipes, and metal railing and disposal of the reinforced concrete, metal pipes, and metal railing. Contractor shall be responsible for determining a suitable off-site disposal location and paying all fees associated with disposal.

#### **CONSTRUCTION METHODS**

Construction shall follow Section 203.2 of the City of Madison Standard Specifications for Public Works Construction.

#### **METHOD OF MEASUREMENT**

Remove Existing Twin 48” Pipes (Camelot) shall be measured as a Lump Sum for removal of the set of (2) pipes and all end treatments.

#### **BASIS OF PAYMENT**

Remove Existing Twin 48” Pipes (Camelot), measured as described above, will be paid at the contract price and shall be considered full compensation for all work, materials and incidentals to complete the work as explained in the description above.

### **BID ITEM 90004 –TEMPORARY SHORING C-13-2088**

#### **DESCRIPTION**

Work under this item shall include all work, materials, and incidentals to install and remove or abandon temporary shoring as necessary to complete single cell reinforced concrete box culvert construction at the University Avenue crossing. Materials and construction methods shall be in accordance with Sections 511.2 and 511.3 of the current edition of the Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction. If the Contractor chooses to abandon the shoring in

place it must be removed a minimum of 4ft below existing grade and a final plan for abandonment shall be provided to the Project Engineer for approval.

#### **METHOD OF MEASUREMENT**

Temporary Shoring C-13-2088 is measured by the square foot acceptably completed, at locations the plans show, as the area of exposed face in the plane of the shoring from the ground line in front of the shoring to a maximum of one foot above the retained grade. Shoring used for staged construction in multiple configurations without removal and reinstallation will be measured once based on the configuration with the largest area of exposed face.

#### **BASIS OF PAYMENT**

Temporary Shoring C-13-2088 will be paid for at the contract unit price. Payment is full compensation for designing and providing shoring; for providing a signed and sealed copy of the design; for removal or additional work required to leave in place; and for backfilling.

#### **BID ITEM 90005 –TEMPORARY SHORING B-13-0900**

#### **DESCRIPTION**

Work under this item shall include all work, materials, and incidentals to install temporary shoring as necessary to complete dual-cell reinforced concrete box culvert construction at the Camelot Drive crossing. Materials and construction methods shall be in accordance with Sections 511.2 and 511.3 of the current edition of the Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction. If the Contractor chooses to abandon the shoring in place it must be removed a minimum of 4ft below existing grade and a final plan for abandonment shall be provided to the Project Engineer for approval.

#### **METHOD OF MEASUREMENT**

Temporary Shoring B-13-0900 is measured by the square foot acceptably completed, at locations the plans show, as the area of exposed face in the plane of the shoring from the ground line in front of the shoring to a maximum of one foot above the retained grade. Shoring used for staged construction in multiple configurations without removal and reinstallation will be measured once based on the configuration with the largest area of exposed face.

#### **BASIS OF PAYMENT**

Temporary Shoring B-13-0900 will be paid for at the contract unit price. Payment is full compensation for designing and providing shoring; for providing a signed and sealed copy of the design; for removal or additional work required to leave in place; and for backfilling.

#### **BID ITEM 90006 – CULVERT WINGWALL RAILINGS**

#### **DESCRIPTION**

Work under this item shall include all work, materials, and incidentals necessary to construct and install railings along culvert headwalls and wingwalls per the City of Madison's Standard Detail Drawing 5.5.3.

#### **METHOD OF MEASUREMENT**

Culvert Wingwall Railings shall be measured per linear foot acceptably completed.

#### **BASIS OF PAYMENT**

Culvert Wingwall Railings, as measured above, shall be paid at contract price, which shall be full compensation for all work, materials, labor, painting, tools, equipment, disposal, and incidentals required to complete the work as set forth in the description.

#### **BID ITEM 90007 – BOX CULVERT WINGWALLS, B-13-0900, INLET END**

##### **DESCRIPTION**

This work shall consist of furnishing and constructing the cast-in-place header, wingwalls, apron, cutoff wall, clear stone bedding, and all included reinforcement and adhesive anchor connections as shown on the plans. Each unit for the "Box Culvert Wingwall" item is quantified as the total of all elements necessary to construct the inlet end of the Camelot Drive box culverts in accordance with the details provided by the City of Madison for wings 1 and 4 and inlet apron.

##### **CONSTRUCTION METHODS**

Construction shall follow Section 505 of the City of Madison Standard Specifications for Public Works Construction.

##### **METHOD OF MEASUREMENT**

Box Culvert Wingwalls, B-13-0900, Inlet End shall be paid by each inlet end acceptably completed. The entire inlet structure shall constitute (1) EACH.

##### **BASIS OF PAYMENT**

Box Culvert Wingwalls, B-13-0900, Inlet End, measured as described above, will be paid at the contract price and shall be considered full compensation for all work, materials and incidentals to complete the work as explained in the description above.

#### **BID ITEM 90008 – ROOT CUTTING NON-NRC TREES**

##### **DESCRIPTION**

The Contractor is advised to review Article 107.13 of the Standard Specifications for tree protection. Note that Articles 107.13(a) Underground Utility Excavation & Installation, 107.13(b) Curb Excavation and Installation, and 107.13(c) Sidewalk Excavation and Installation are not applicable to this project except as noted below.

Work under this bid item shall include all work, materials, equipment and incidentals necessary to complete root cutting following this bid item.

The intent of this design is to prevent damage to trees that are not marked for removal within the greenway or adjacent private property. It is recognized that grading operations and root cutting of some trees will need to occur within the dripline of trees in order to complete work, and care must be taken in these areas.

For grading near trees **not** marked "NRC" (No Root Cutting) on the plans and in the field, the Contractor shall cut roots. Roots shall be cut cleanly by using a saw, ax, lopping shears, chain saw, stump grinder, or other means which will produce a clean cut—not jagged or ripped. Exposed roots shall be covered as soon as excavation and installation are complete. All roots over one (1) inch in diameter that are damaged shall be cleanly cut immediately back of the damaged section on the same day of the excavation. 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.

All provisions of Articles 107.13(d), 107.13(f) Bark Abrasions and Limb Damage, 107.13(g) Soil Compaction, 107.13(h) Contractor/Foreperson Acknowledgement, and 107.13(i) Cost Recovery and Liquidated Damages are applicable to this contract.

#### **METHOD OF MEASUREMENT**

Root Cutting shall be measured per Each tree that needs root cutting that is not marked NRC in the field.

#### **BASIS OF PAYMENT**

Root Cutting shall be measured as described above which shall be full compensation for all work, materials and incidentals to complete the work as described above regardless of the degree of difficulty per given location.

#### **BID ITEM 90009 – ROOT CUTTING NRC WITH ARBORIST**

##### **DESCRIPTION**

The Contractor is advised to review Article 107.13 of the Standard Specifications for tree protection. Note that Articles 107.13(a) Underground Utility Excavation & Installation, 107.13(b) Curb Excavation and Installation, and 107.13(c) Sidewalk Excavation and Installation are not applicable to this project except as noted below.

Work under this bid item shall include all work, materials, equipment and incidentals necessary to complete root cutting following this bid item.

The intent of this design is to prevent damage to trees that are not marked for removal within the greenway or adjacent private property. It is recognized that grading operations and root cutting of some trees will need to occur within 5-10 feet of trees in order to complete work, and care must be taken in these areas.

Trees marked as "NRC" (No Root Cutting) on the plans shall not have grading completed within an arborist-defined radius without a City-hired arborist on site. After the tree removals in advance of the grading, a City-hired arborist will paint a circle on the ground around the NRC trees and put tape around the trunk with a note showing the radius offset. Prior to completing grading around NRC trees the Contractors shall meet with the City-hired arborist to coordinate grading around the trees. The Contractor shall not grade within the NRC radius without the City hired arborist on site unless given permission from the arborist. The City-hired arborist shall cut the roots over one (1) inch diameter of the NRC trees where needed. The Contractor shall pay \$500 for each instance that they grade within the NRC radius offset without the City-hired arborist on-site, or without consent from the City-hired arborist. The Contractor shall pay \$500 for each NRC tree where the Contractor completes work that is contrary to the City-hired arborist official recommendations.

Roots shall be cut cleanly by using a saw, ax, lopping shears, chain saw, stump grinder, or other means which will produce a clean cut—not jagged or ripped. Exposed roots shall be covered as soon as excavation and installation are complete. All roots over one (1) inch in diameter that are damaged shall be cleanly cut immediately back of the damaged section on the same day of the excavation. 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.

All provisions of Articles 107.13(d), 107.13(f) Bark Abrasions and Limb Damage, 107.13(g) Soil Compaction, 107.13(h) Contractor/Foreperson Acknowledgement, and 107.13(i) Cost Recovery and Liquidated Damages are applicable to this contract.

## **METHOD OF MEASUREMENT**

Root Cutting shall be measured per Each tree that is marked with "NRC" in the field.

## **BASIS OF PAYMENT**

Root Cutting shall be measured as described above which shall be full compensation for all work, materials and incidentals to complete the work as described above regardless of the degree of difficulty per given location.

## **BID ITEM 90010 - GROUNDWATER CONTROL/SITE DEWATERING**

### **DESCRIPTION**

Work under this item shall include all work, materials, equipment, permitting and incidentals required to dewater the site during construction or to work with the water on-site in a manner that is acceptable to the Contractor, and allows the project to be constructed in accord with these plans and specifications.

No masonry shall be installed in water nor shall water be allowed to rise over masonry or concrete if there is danger of flotation or of setting up unequal pressures in the concrete until the concrete has set at least 24 hours and any danger of flotation has been removed.

The Contractor shall be responsible for designing a dewatering plan to fit his/her construction methods and for permitting said plan if that is required. The Contractor shall submit a dewatering plan for approval prior to beginning dewatering activities. The plan shall include proposed sediment control measures to be used during dewatering.

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 that is compatible with the constraints defined in this section. The Contractor shall be responsible for the adequacy of the groundwater control system and shall take all necessary measures to insure that the groundwater control operation will not endanger or damage any existing adjacent utility or structure.

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.

The Contractor shall maintain dewatering activities until channel grading and riprap placement is complete.

Borings are provided in Attachment A at the end of the Special Provisions to assist the Contractor in determining what methods are required to dewater the site.



**METHOD OF MEASUREMENT**

Groundwater Control/Site Dewatering shall be measured as a Lump Sum for all dewatering necessary throughout construction.

**BASIS OF PAYMENT**

Groundwater Control/Site Dewatering shall be paid for at the contract unit price, which shall be full compensation for all work as outlined in the description.

**BID ITEM 90011 – EROSION MATTING CLASS II, TYPE B - ORGANIC**

**DESCRIPTION**

Work under this bid item shall include all work, materials, equipment and incidentals necessary to install Erosion Matting, Class II, Type B- Organic, AEC Premier Coconut FibreNet erosion control matting with biodegradable thread, or approved equal, as shown on the plans per the manufacturer's specifications. The matting shall have a permissible shear stress of 2.0 lb/ft<sup>2</sup> and be biodegradable. Alternatives shall be submitted to the Project Engineer for approval prior to the installation.

The Contractor shall install the topsoil and seed per the plans. The Erosion matting Class II Type B- Organic shall only be installed after fine grading has been verified by the Construction Inspector.

**METHOD OF MEASUREMENT**

Erosion Matting, Class II, Type B – Organic shall be measured per Square Yard of matting acceptably installed, not including runout in anchor trenches or overlap.

**BASIS OF PAYMENT**

Erosion Matting, Class II, Type B -- Organic shall be measured as described above and shall be paid at the contract price, which shall be considered full compensation for all labor, equipment, materials and incidentals necessary to provide, store, and place in accordance with Article 210 of the Standard Specifications and supplier's recommendations.

**BID ITEM 90012 – MECHANICAL PLACEMENT OF HEAVY RIPRAP**

**DESCRIPTION**

Work under this bid item shall include all work, materials, equipment and incidentals necessary to place heavy glacial field stone riprap at a 2:1 slope along the north channel bank upstream of the Camelot box culverts inlets. Riprap may be dumped from bucket but shall be adjusted and augmented as necessary using mechanical means to meet 2:1 design slope, location and extents.

**METHOD OF MEASUREMENT**

Mechanical Placement - Heavy Riprap shall be measured as a Lump Sum for all mechanical placement of heavy riprap as shown on the plans.

**BASIS OF PAYMENT**

Mechanical Placement - Heavy Riprap shall be measured as described above and shall be paid at the contract price, which shall be considered full compensation for all labor, equipment, materials and incidentals necessary to place glacial field stone riprap such that design slope, location and extents are met.

### **BID ITEM 90013 – UTILITY SUPPORT AND PROTECTION**

#### **DESCRIPTION**

Work under this bid item shall include all work, materials, equipment and incidentals necessary to support and protect existing dry utilities in University Avenue.

Contractor shall backfill the exposed 6" gas line at STA 165+71 south of University Avenue with sand.

The Contractor shall provide to the Construction Engineer details and description of how existing utilities will be supported and protected during construction of the University Avenue box culvert.

#### **METHOD OF MEASUREMENT**

Utility Support and Protection shall be measured as a Lump Sum for all utility support and protection necessary throughout construction.

#### **BASIS OF PAYMENT**

Utility Support and Protection shall be measured as described above and shall be paid at the contract price, which shall be considered full compensation for all labor, equipment, materials and incidentals necessary to support and protect the existing dry utilities in University Avenue.

### **BID ITEM 90014 – DRIVEWAY SLOT DRAIN**

#### **DESCRIPTION**

Driveway Slot Drain at 5814 Taychopera Road shall be Neenah R-3500-A or approved equal and installed over 12" PVC SDR 26 outlet pipe per manufacturers specifications. Driveway Slot Drain shall be constructed in accordance with the City of Madison Standard Specifications for Public Works Construction, Article 507, and shall be installed per the plan and detail drawings. Providing and installation of slot drain casting and 12" diameter SDR-26 PVC pipe shall be included with this bid item.

#### **METHOD OF MEASUREMENT**

Driveway Slot Drain shall be measured by the linear foot acceptably completed.

#### **BASIS OF PAYMENT**

Driveway Slot Drain, measured as provided and paid at the contract unit price, shall be full compensation for all equipment, labor and incidentals necessary to complete the work as set forth in the description.

### **BID ITEM 90015 – SALVAGE AND REINSTALL BIKE PATH RAILING**

#### **DESCRIPTION**

Work under this bid item shall include all labor, equipment, materials and incidentals necessary to remove, salvage, protect, and reinstall in kind the existing bike path railing on University Ave. If the railing is damaged during removal or storage, it shall be replaced at no cost to the City.

The Contractor shall install the salvaged railing by bolting the railing into new 14" diameter concrete footings that match the depth of the existing footings. Re-pouring footings shall be included in this bid item. It is assumed the current footings are 4' deep. The Contractor shall reinstall the railing in a manner

that creates a new contiguous railing, and does not damage the portions of railing that are not removed for the project.

#### **METHOD OF MEASUREMENT**

Salvage and Reinstall Bike Path Railing shall be measured by linear foot, acceptably installed.

#### **BASIS OF PAYMENT**

Salvage and Reinstall Bike Path Railing shall be measured as described above and shall be paid for at the contract unit price, which shall be considered full compensation for removing, storing, and reinstalling the railing, including all equipment, tools, labor and incidentals necessary to complete the work as set forth in the description.

#### **BID ITEM 90016 – REMOVE & DISPOSE ASBESTOS PIPE**

##### **DESCRIPTION**

Work under this item shall include removing pipe encountered during construction and contents including abatement of asbestos material in accordance to the plans, the pertinent provisions of the standard specifications, and as hereinafter provided.

The Regulated Asbestos Containing Material (RACM) must be abated by a licensed abatement contractor. In accordance with NR447 and DHS159, ensure that DNR and DHS receives a completed Notification of Demolition and/or Renovation (DNR Form 4500-113 (r 4/11), or subsequent revision via U.S. mail, hand delivery, or using the online notification system at least 10 days prior to beginning any construction or demolition. Pay all associated fees. Provide a copy of the completed 4500-113 form and the abatement report to Lucas Jewell at (608) 354-6976 and DOT BTS-ESS attn: Hazardous Material Specialist PO Box 7965, Madison, WI 53707-7965. The contractor shall comply with all Department of Natural Resources and Department of Public Health licensing and regulations for removal and disposal of all asbestos material.

##### **METHOD OF MEASUREMENT**

Remove and Dispose Asbestos Pipe shall be measured by the linear foot measured along the centerline of the pipe, acceptably completed.

##### **BASIS OF PAYMENT**

Remove and Dispose Asbestos Pipe shall be measured as described above and shall be paid for at the contract price. Included with this bid item will be submitting of necessary forms; all excavation; removing concrete box/ piping identified during construction as having asbestos, removal of asbestos; proper disposal of all waste material; furnishing and placing backfill; compacting the backfill; and for furnishing all the labor, tools, equipment, and incidentals necessary to complete the contract work.

#### **BID ITEM 90017 – 6-FOOT DIA MMSD SANITARY ACCESS STRUCTURE - REPLACE CASTING & COVER & JOINT WRAP**

##### **DESCRIPTION**

Work under this item shall include all work, materials, and incidentals necessary to replace casting and cover of MMSD sanitary access structure MH05-208 near the channel off Julia Street at STA 172+86.92 on Sheet P19. Dowel/bolt down casting into structure top and bolt down cover. Castings with bolt down covers (R-1550 Bolted Gasket Lid and Frame (MMSD logo lid) shall be installed and cast into the surrounding concrete per MMSD SD-201 on sheet G2.

The Contractor shall notify Ray Schneider of MMSD at (608) 347-3628 or [rays@madsewer.org](mailto:rays@madsewer.org) five (5) days prior to adjusting sanitary access structures and casting elevations. Casting will be provided by

MMSD. Contact Ray Schneider [rays@madsewer.org](mailto:rays@madsewer.org), (608)347-3628 five (5) days prior to coordinate pickup of castings at MMSD 1610 Moorland Road, Madison, WI 53713-3398.

## **CONSTRUCTION METHODS**

### **Casting:**

During construction, any exposed joints between existing chimney sections including flat top joint shall be properly sealed and coated. Each access structure joint shall be sealed with an external rubber sleeve (9-inch min. width). The seal shall be made of a stretchable, self-shrinking, intra-curing halogenated based rubber with a minimum thickness of 30 mils. The back side of each unit shall be coated with a cross linked re-enforced butyl adhesive. The butyl adhesive shall be non-hardening sealant with a minimum thickness of 30 mils. The seal shall be designed to stretch around the joint and then overlapped creating a cross-link and fused bond between the rubber and butyl adhesive.

### **Joint Wrap:**

Expose the area to be sealed and clean the entire area around the joint with a wire brush and whisk broom. Remove any sharp protruding edges around the joint with an abrasive tool. When finished cleaning the entire area must be dry and free of any dirt.

Remove the first foot of paper backing from the mastic. Center and place the joint wrap around the joint. Continue to remove paper backing as you apply joint wrap to the entire structure. Joint wrap shall have securing straps and rated for long-term UV exposure, and be per note 9 of MMSD-101 on Sheet G1. Install straps per manufacturer's requirements.

Seal the overlapping area with a 6-inch minimum overlap. Be sure not to stretch material at the overlap area.

Cut excess material using a utility knife. Using a rubber mallet or hand roller, firmly flatten the joint wrap 360 degrees around the joint.

## **METHOD OF MEASUREMENT**

6-Foot Dia Sanitary Access Structure - Replace Casting and Joint Wrap will be measured by the number of MMSD access structures that have casting and cover replaced and joints wrapped, as required for work on this project.

## **BASIS OF PAYMENT**

6-Foot Dia Sanitary Access Structure - Replace Casting and Joint Wrap, measured as provided above, will be paid at the contract price per structure that has its casting and cover replaced and joints wrapped, which shall be full payment for all work to complete this item in accordance with the Standard Specifications.

## **BID ITEM 90018 – 7-INCH STAMPED & COLORED CONCRETE**

### **DESCRIPTION**

This work shall be in accordance with the requirements of Part 3 of the Standard Specifications, except as herein after amended.

A separate design mix shall be provided for all areas to receive integrally colored concrete. Integrally colored concrete mix(es) shall not contain fly ash. Consider admixture recommendations for concrete mix design, however, mix design must also conform to the standard specifications. Submit the concrete mix design to the Construction Engineer for review.

Contractor shall provide a 12"x12" sample of the colored concrete, which will be reviewed and approved by the City prior to final installation. Provide a minimum of three (3) days notice to the Construction Engineer in order to schedule review of the sample.

Excess concrete material from mockups can be used elsewhere per the Construction Engineer's approval if the mix design meets the standard requirements of the secondary use.

## **MATERIALS**

Integral-mix colored admixture shall conform to the requirements of ACI 303.1, ASTM C979, ASTM C494 and ASSHTO M194. Admixture shall be a single-component, colored, water-reducing, set-controlling admixture containing no calcium chloride with coloring agents that are lime-proof and ultra-violet resistant. The admixture shall be factory formulated and packaged in cubic yard dosage increments, not multiple additives and pigments added separately into the mix.

The Color shall either be BASF Natural Bark (MC5002) or an approved equal.

All surfaces shall be cured uniformly. The concrete shall never be covered with plastic sheeting.

Curing compound shall comply with ASTM C309 and be of same manufacturer as colored admixture, for use with integrally colored concrete. All placing, finishing, curing, joint sealing, and patching shall be in accordance with the admixture manufacturer's recommendations.

Imprinting Pattern: Use a 6" x 6" cobblestone pattern.

## **CONSTRUCTION**

Add color pigment to concrete mixture according to manufacturer's written instructions and to result in hardened concrete color consistent with approved samples.

Protect all adjoining areas of concrete prior to pouring colored concrete. Perform any finishing work as necessary to prepare the colored concrete for stamping as recommended by the pattern manufacturer.

Set stamp pattern in accordance to the manufacturer's specified methods. Check all depths of imprints by tool-to-tool surface leveling. Perform tooling and finishing as stamping tools are removed after imprinting. Eliminate all squeeze joints between stamping tools, if any, with hand tools prior to concrete setting.

Joint the concrete in accordance with the standard specifications amended as follows: Saw joints such that the saw joint follows the concrete recess.

Apply curing compound per manufacturer's recommended coverage rate and to meet curing requirements of the City of Madison Standard Specifications.

7" Stamped & Colored Concrete shall match the visual appearance of the approved reference samples. Replace any not conforming to the reference samples at the Contractor expense.

## **METHOD OF MEASUREMENT**

7" Stamped & Colored Concrete shall be measured by the square foot installed and accepted.

## **BASIS OF PAYMENT**

7" Stamped & Colored Concrete, measured as stated above, is full compensation for providing all materials, including concrete, joint fillers, joint sealers, and expansion joints; for excavating and preparing the foundation; backfilling and disposing of surplus material; for placing, finishing, protecting, and curing; and restoring the work site.

## **BID ITEM 90019 – 7-INCH REINFORCED CONCRETE SIDEWALK**

### **DESCRIPTION**

Reinforced Concrete Sidewalk shall be constructed in accordance with the City of Madison Standard Specifications for Public Works Construction, Article 301, and shall be installed per the plan and detail drawings. This item includes the steel reinforcement as indicated on the detail drawings. The Reinforced Concrete Sidewalk shall be tied to the adjacent concrete pavement, and the tie bars are included with the concrete pavement item of work. All rebar shall be epoxy coated.

### **METHOD OF MEASUREMENT**

Reinforced Concrete Sidewalk shall be measured by the square foot installed and accepted.

### **BASIS OF PAYMENT**

Reinforced Concrete Sidewalk, measured as provided and paid at the contract unit price, shall be full compensation for all material, formwork, finishing, equipment, labor and incidentals necessary to complete the work as set forth in the description.

## **BID ITEM 90020 – TYPE A 24-INCH REINFORCED CONCRETE CURB & GUTTER**

### **DESCRIPTION**

Type A 24-Inch Reinforced Concrete Curb & Gutter shall be constructed in accordance with the standard specifications and shall be installed per the plan and detail drawings. This item includes the steel reinforcement as indicated on the detail drawings. The Type A 24-Inch Reinforced Concrete Curb & Gutter shall be tied to the adjacent concrete pavement, and the tie bars are included with the concrete pavement item of work. All rebar shall be epoxy coated.

### **METHOD OF MEASUREMENT**

Type A 24-Inch Reinforced Concrete Curb & Gutter shall be measured by the linear foot acceptably completed, along the flow line.

### **BASIS OF PAYMENT**

Type A 24-Inch Reinforced Concrete Curb & Gutter, measured as provided and paid at the contract unit price, shall be full compensation for all material, formwork, finishing, equipment, labor and incidentals necessary to complete the work as set forth in the description.

## **BID ITEM 90021 – TEMPORARY PAVEMENT**

### **DESCRIPTION**

This work shall include all work, materials, labor and incidentals necessary to construct a temporary pavement which shall consist of HMA pavement at thicknesses specified on plans, placed on gradation no. 2 crushed aggregate base course at thicknesses specified on plans.

Temporary pavement shall be placed at the locations indicated on the traffic plans or as directed by the Construction Engineer to meet the requirements of the Maintenance of Traffic Specifications. This item is intended to be used in locations where a traffic crossover of a median or temporary traffic lanes, or temporary multi-use paths are required. The Contractor shall remove miscellaneous structures as necessary, which may include curb and gutter, portions of driveways, etc. Removal of items shall be paid under the appropriate bid items.

The area to be placed with temporary pavement shall be excavated to the appropriate depth, which is included with this item of work. The Contractor shall then place the appropriate thickness of base course material per the standard specifications, and then place the pavement material to the required thickness as noted previously.

All materials, preparation and placement shall be in accordance with Part IV of the Standard Specifications. The Contractor shall place the temporary pavement such that it is even with the adjacent paved surfaces and will be suitable for use for a driving surface or for pedestrian use.

The outside edge of the pavement material shall be finished such that it conveys stormwater in manner similar to the existing curb and gutter. The edge of the temporary pavement shall provide a flowline that matches into the flowline of the existing curb and gutter that is being matched into, and the temporary pavement shall drain appropriate to existing inlets or drain and match into the downstream curb and gutter. The edge of the pavement shall be a minimum of 3" above the temporary flowline except where openings are required for driveways.

Removal of the temporary pavement is included with this bid item.

#### **METHOD OF MEASUREMENT**

Temporary Pavement shall be measured by the square yard acceptably installed.

#### **BASIS OF PAYMENT**

Temporary Pavement shall be measured as described above shall be full payment for all work, materials and incidentals required to complete the work in accordance with the description

#### **BID ITEM 90022 –SAS ACCESS PAD**

##### **DESCRIPTION**

20-foot x 10-foot SAS Access Pad shall be constructed in accordance with the City of Madison Standard Specifications for Public Works Construction, Article 301, and shall be installed per the plan and detail on sheet TS2, with 7-inch reinforced concrete over 7-inch gradation No. 2 crushed aggregate base course. The SAS Access Pad is located on the south side of University Avenue at STA 165+73. Reinforced concrete and steel reinforcement shall be paid under this bid item, excavation cut paid under bid item 20101, gradation No.2 crushed aggregate base course paid under bid item 40102 and Riprap filter fabric, Type HR under bid item 20256.

This item includes the steel reinforcement. The SAS Access Pad shall be tied to the adjacent concrete pavement, and the tie bars are included with the concrete pavement item of work. All rebar shall be epoxy coated.

##### **METHOD OF MEASUREMENT**

SAS Access Pad shall be measured as a Lump Sum for all utility support and protection necessary throughout construction.

##### **BASIS OF PAYMENT**

SAS Access Pad, measured as provided and paid at the contract unit price, shall be full compensation for all material, formwork, finishing, equipment, labor and incidentals necessary to complete the work as set forth in the description.

#### **BID ITEM 90023 – ADJUST HYDRANT**

##### **DESCRIPTION**

Work under this item shall include all work, materials, and incidentals necessary to adjust Madison Water Utility hydrant at STA 166+07 on University Avenue on Sheet P33 from its existing elevation to the proposed finished grade elevation.

The Contractor shall notify Jeff Belshaw of MWU at 608-206-3856 or [Jbelshaw@madisonwater.org](mailto:Jbelshaw@madisonwater.org) five (5) days prior to adjusting hydrants and valves.

### **CONSTRUCTION METHODS**

The hydrant shall be raised to meet proposed finished grade by adjusting hydrant lead up and reinstalling hydrant per SDD 7.22

### **METHOD OF MEASUREMENT**

Adjust Hydrant will be measured by the number of hydrants acceptably adjusted as required for work on this project.

### **BASIS OF PAYMENT**

Adjust Hydrant, measured as provided above, will be paid at the contract price per hydrant adjusted, which shall be full payment for all work to complete this item in accordance with the Standard Specifications.

### **BID ITEM 90024 – TIED CONCRETE BLOCK MAT**

#### **DESCRIPTION**

Tied Concrete Block Mats with a 10oz non-woven geotextile underlayment cast and adhered to the back of the blocks. Tied Concrete Block Mats shall be used for load support along portions of the Maintenance Path.

This work shall consist of furnishing and placing the Flexamat 10NW or similar approved tied concrete block erosion control mat system in accordance with this specification and conforming with the alignments, grades, design, and dimensions shown on the plans.

#### **MATERIALS**

Flexamat is manufactured from individual concrete blocks tied together with high strength knitted polypropylene bi-axial geogrid. Each block is tapered, beveled and interlocked and includes connections that prevent lateral displacement of the blocks within the mats when they are lifted for placement.

Tied Concrete Block Mats with 10oz non-woven underlayment shall be Flexamat-10NW manufactured by Motz Enterprises, Inc., or approved equal.

**Blocks.** Furnish blocks manufactured with concrete conforming to the cement requirements of ASTM C150 and to the aggregate requirements of ASTM C33. Furnish blocks that have a minimum weight of 3 lbs. per block and placed no further than 2 in. apart. Material shall have a weight per square foot not exceeding 10 lbs. Blocks shall have a 2.25" profile, a flat-top pyramid shape, and a coarse finish without protrusions. Concrete shall have a minimum compressive strength requirement of Table 1 and certified by a third party.



**Table 1**  
**Concrete Compressive Strength Requirements**

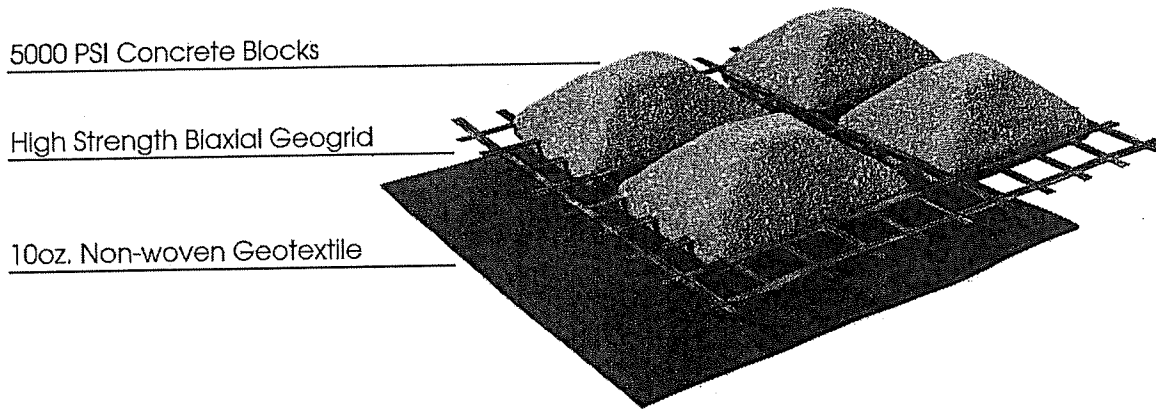
<b>Age</b>	<b>Required Compressive Strength psi</b>
7 - Day	5000 psi
14 - Day	6000 psi
28 - Day	6900 psi

**Polypropylene Bi-Axial Geogrid.** The interlocking geogrid shall be an open knitted fabric composed of high tenacity, multifilament polypropylene yarns knitted and coated in tension with an acrylic based coating which is designed to resist degradation in environments with exposure to water and low pH (4 pH) and high pH (>9 pH). When combined with the revetment mat, this will yield a high tenacity, low elongating, and continuous filament polypropylene geogrid that is embedded within the base of the concrete blocks. Ensure the geogrid meets the requirements of Table 2.

**Table 2**  
**Polypropylene Bi-Axial Geogrid**

<b>Property</b>	<b>Unit</b>	<b>Test</b>	<b>Requirement</b>
Mass/Unit Area	oz/yd <sup>2</sup>	ASTM D5261	6.5 oz/yd <sup>2</sup>
Aperture Size	English units	Measured	1.4x 1.4 inch
Ultimate Wide Width Tensile Strength (MD x CMD)	lb/ft	ASTM D6637	2,055 lb/ft
Elongation at Ultimate Tensile Strength (MD x CMD)	%	ASTM D6637	6%
Wide Width Tensile Strength @ 2% (MD x CMD)	lb/ft	ASTM D6637	822 lb/ft
Wide Width Tensile Strength @ 5% (MD x CMD)	lb/ft	ASTM D6637	1,640 lb/ft
Tensile Modulus @ 2% (MD x CMD)	lb/ft	ASTM D6637	41,100 lb/ft
Tensile Modulus @ 5% (MD x CMD)	lb/ft	ASTM D6637	32,800 lb/ft

**Geotextile Underlayment.** Mats shall have a 10oz non-woven geotextile cast onto the back of the blocks, adhering to the back of each concrete block. Puncturing holes through the 10oz non-woven geotextile to hog ring or tie through other means to the Tied Concrete Mat is unacceptable. The 10oz non-woven geotextile shall not be installed separately or loosely under the Tied Concrete Block Mat. Each block shall be cast to and adhered to the 10oz. non-woven geotextile consisting of the following properties:



Property	Test Method	English	Metric
Weight - Typical	ASTM D-5261	10 oz/sy	339 g/sm
Tensile Strength	ASTM D-4632	250 lbs	1,112 N
Elongation @ Break	ASTM D-4632	50%	50%
Mullen Burst*	ASTM D-3786*	500 psi	3,447 kPa
Puncture Strength*	ASTM D-4833*	155 lbs	690 N
CBR Puncture	ASTM D-6241	700 lbs	3,115 N
Trapezoidal Tear	ASTM D-4533	100 lbs	444 N
Apparent Opening Size	ASTM D-4751	100 US Sieve	0.150 mm
Permittivity	ASTM D-4491	1.20 Sec-1	1.20 Sec-1
Water Flow Rate	ASTM D-4491	80 g/min/sf	3,251 l/min/sm
UV Resistance @ 500 Hours	ASTM D-4355	70%	70%

**Geogrid and 10oz Non-Woven Geotextile Extensions.** Mats shall have an 8" extension of the polypropylene bi-axial geogrid and an 8" extension of the 10oz. non-woven geotextile extending along the long length of one edge of the mat. The geogrid and underlayment extension are an overlap for the subsequent mat to be installed over.

Cover the TCBM or otherwise protect it during long periods of storage to protect against degradation of the backing material as recommended by the manufacturer. TCBM will be rolled for shipment and are packaged with lifting straps.

All mats to be inspected upon delivery. Assure that all units are sound and free of defects that would interfere with the proper placing of the unit or impair the strength or permanence of the construction.

Chipping or missing concrete resulting in a weight loss exceeding 15% of the average weight of a concrete unit is grounds for rejection by the Engineer. Replace, repair or patch the damaged areas per the manufacturer's recommendations.

**PERFORMANCE**

Full-Scale laboratory testing performed by an independent 3<sup>rd</sup> party testing facility with associated engineered calculations certifying the hydraulic capacity of the Erosion Control Mat meets the following requirements:

Test	Tested Value	Bed Slope	Soil Classification	Limiting Value
ASTM 6460	Shear Stress	30%	Sandy Loam (USDA)	24lb./ft <sup>2</sup>
ASTM 6460	Velocity	20%	Loam (USDA)	30 ft./sec

**ALTERNATIVE PRODUCTS**

Such products must be pre-approved in writing by the Engineer prior to bid date. Alternative product packages must be submitted to the Engineer a minimum of seven (7) days prior to bid date. Submittal packages for alternate products must include, as a minimum, the following:

Alternative Product Properties – Product must be comprised of materials as detailed in Section 2, including both in composition, underlayment layers and performance requirements.

Full-Scale laboratory testing performed by an independent 3<sup>rd</sup> party testing facility with associated engineered calculations certifying the hydraulic capacity of the proposed Tied-Concrete Block Erosion Control Mat meets the performance requirements listed in Section 3 of this specification.

A list of 15 comparable projects in terms of project size, application and material dimensions in the United States, where the results of the specific alternative material's use can be verified and reviewed for system integrity and sustained after a minimum of 10 years of service life.

**EQUIPMENT**

Provide the proper equipment to place the mat that will not damage the mat material or disturb the subgrade.

**CONSTRUCTION**

Prior to installing Flexamat 10-NW, prepare the subgrade as detailed in the plans. All subgrade surfaces to be smooth and free of all protrusions or debris of any kind that would result in an individual block being raised more than 3/4 in. above the adjoining blocks

Ensure the prepared subgrade provides a smooth, firm, and unyielding foundation for the mats.

Install mats to the line and grade shown on the plans and per the manufacturer's guidelines. The manufacturer or authorized representative will provide technical assistance during the slope preparation and installation of the concrete block mats as needed.

Provide a minimum 18 in. deep mat embedment toe trench at all edges.

When needed, provide fastening or anchoring as recommended by the manufacturer or Engineer for the site conditions.

**MEASUREMENT**

This Item will be measured by the square footage used, complete in place.

## **PAYMENT**

The work performed, and materials furnished in accordance with this Item and measured as provided above will be paid for at the unit contract price for Tied Concrete Block Mat. This price is full compensation for loading and transporting, placing concrete block mats; excavation and disposal; furnishing bedding; and equipment, labor, materials, tools, and incidentals.

## **BID ITEM 90025.1 – GEOCELL 6-INCH DEPTH** **BID ITEM 90025.2 – GEOCELL 3-INCH DEPTH**

## **DESCRIPTION**

A geocell system shall be used for load support along portions of the Maintenance Path. Cell depth is 6-inch or 3-inch per plan. All geocell systems shall be covered with 1-inch of topsoil (paid under Bid Item 20221), seeded with native path rush (paid under Bid Item 90035) and have Class 1 Urban Type A Erosion Control mat installed (paid under Bid Item 21061).

This work shall consist of furnishing and placing the Presto Geoweb® geocell system or similar approved geocell system in accordance with this specification and conforming with the alignments, grades, design, and dimensions shown on the plans.

This Section includes providing all material, labor, tools and equipment for installation of the Geoweb® geocell system as shown in the Contract Documents and as specified in this Section.

### **1.1 REFERENCES**

- A. American Association of State Highway and Transportation Officials (AASHTO)
  - 1. AASHTO M 218 - Steel Sheet, Zinc-Coated (Galvanized) for Corrugated Steel Pipe.
  - 2. AASHTO M 288 - Geotextile Specification for Highway Applications
- B. American Society of Testing and Materials (ASTM)
  - 1. ASTM D 1505 - Density of Plastics by the Density-Gradient Technique.
  - 2. ASTM D 1603 - Standard Test for Carbon Black in Olefin Plastics
  - 3. ASTM D 1693 - Environmental Stress-Cracking of Ethylene Plastics.
  - 4. ASTM D 5199 - Measuring Nominal Thickness of Geotextiles and Geomembranes.
  - 5. ASTM D 5885 – Standard Test Method for Oxidative Induction Time of Polyolefin Geosynthetics by High-Pressure Differential Scanning Calorimetry.
  - 6. ASTM E 41 - Terminology Relating to Conditioning.
- C. US Army Corps of Engineers (USACE)
  - 1. Technical Report GL-86-19, Appendix A.

### **1.2 SUBMITTALS**

- A. Submit Manufacturer's shop drawings in accordance with Section 0130000, including Manufacturer's product data, samples and section layout.
- B. Design Calculations and Drawings. Provide a complete set of design calculations including a description of the analysis performed to determine load support requirements.
  - 1. The calculations shall be submitted at the time of bid.
  - 2. The calculation method shall be based on computer software developed through research and testing at an accredited laboratory. Manufacturer shall provide compliance at time of bid.
  - 3. Minimum overall design factor of safety shall be 1.4.

4. At a minimum; include design conditions, load support calculations, calculated factors of safety and friction angles.
  5. If required, provide a description of the recommended geotextile separation layer and include in the calculations.
  6. If required, provide calculations for the recommended anchorage system.
  7. The calculations shall be in Microsoft Excel converted to Adobe PDF format.
  8. Cross section and plan view drawings shall be in AutoCAD converted to Adobe PDF format.
- C. Manufacturer's Certificate of Analysis: Manufacturer shall supply certificate of analysis containing the following test results for the Geoweb® geocell material used for project: Base Resin Lot Number(s), Resin Density per ASTM-1505, Production Lot Number(s), Material Thickness, Short Term Seam Peel Strength, and percentage of Carbon Black.
  - D. No material will be considered as an equivalent to the geocell material specified herein unless it meets all requirements of this specification, without exception. Manufacturers seeking to supply equivalent material must submit records, data, independent test results, samples, certifications, and documentation deemed necessary by the Engineer to prove equivalency. The Engineer shall approve or disapprove other Manufacturers materials in accordance with the General Conditions after submission and review of provided information. All substitute materials submitted shall be subject to independent lab testing at the Contractor's expense.

### 1.3 QUALITY ASSURANCE AND CONTROL

- A. The Geoweb® geocell material shall be provided from a single Manufacturer for the entire project.
- B. The Manufacturer's Quality management system shall be certified and in accordance with ISO 9001:2015 and CE certification. Substitute materials submitted shall provide a certification that the manufacturing process is part of an ISO program. Certification is required specifically stating that their testing facility is certified and in accordance with ISO. An ISO certification for the substitute material will not be acceptable unless it is proven it pertains specifically to the geocell manufacturing operations.
- C. The Manufacturer shall provide certification of compliance to all applicable testing procedures and related specifications upon the customer's written request. Request for certification shall be submitted no later than the date of order placement. The Manufacturer shall have a minimum of 20 years experience producing Geoweb® geocell material.

### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in Manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and Manufacturer.
- B. The materials shall be stored in accordance with Manufacturer's instructions. The materials shall be protected from damage and out of direct sunlight.
- C. The materials shall be delivered, unloaded and installed in a manner to prevent damage.

### 1.5 WARRANTY

- A. The Manufacturer shall warrant each Geoweb® geocell section that it ships to be free from defects in materials and workmanship at the time of manufacture. The Manufacturer's exclusive liability under this warranty or otherwise will be to furnish without charge to the original f.o.b. point a replacement for any section which proves to be defective under normal use and service during the 10-year period which begins on the date of shipment. The Manufacturer reserves the right to inspect any allegedly defective section in order to verify the defect and ascertain its cause.
- B. This warranty shall not cover defects attributable to causes or occurrences beyond the Manufacturer's control and unrelated to the manufacturing process, including, but not limited

to, abuse, misuse, mishandling, neglect, improper storage, improper installation, improper alteration or improper application.

- C. In no event shall the Manufacturer be liable for any special, indirect, incidental or consequential damages for the breach of any express or implied warranty or for any other reason, including negligence, in connection with the Geoweb® geocell system.

## MATERIALS

### 1.6 ACCEPTABLE MANUFACTURER

- A. Presto Geosystems, PO Box 2399, Appleton, Wisconsin 54912 2399.  
Toll Free (800) 548 3424. Phone (920) 738 1328. Fax (920) 738 1222.  
E Mail info@prestogeo.com. Website www.prestogeo.com.

### 1.7 GEOWEB® GEOCELL SYSTEM

- A. Manufacturing Certification
  - 1. The manufacturer shall have earned a certificate of registration, which demonstrates that its quality-management system for its Geoweb® geocell system is currently registered to the ISO 9001:2015 and CE quality standards.
- B. Base Materials
  - 1. Polyethylene Stabilized with Carbon Black
    - a) Density shall be 58.4 to 60.2 lbs/ft<sup>3</sup> (0.935 to 0.965 g/cm<sup>3</sup>) in accordance with ASTM D 1505.
    - b) Environmental Stress Crack Resistance (ESCR) shall be 5000 hours in accordance with ASTM D 1693.
    - c) Ultra-Violet light stabilization with carbon black.
    - d) Carbon Black content shall be 1.5 to 2 percent by weight, through addition of a carrier with certified carbon black content, in accordance with ASTM D 1603.
    - e) Carbon black shall be homogeneously distributed throughout material, in accordance with ASTM D 5596.
    - f) The manufacturer shall have an in-place quality control to prevent irregularities in strip material.
- C. Cell Properties
  - 1. Individual cells shall be uniform in shape and size when expanded.
  - 2. Individual cell dimensions (nominal) shall be plus or minus 10%.
  - 3. GW30V-Cell
    - a) Length shall be 11.3 inches (287 mm).
    - b) Width shall be 12.6 inches (320 mm).
    - c) Nominal area shall be 71.3 in<sup>2</sup> (460 cm<sup>2</sup>) plus or minus 1%.
    - d) Nominal cell depth shall be 6 inches (150 mm) or 3 inches (76 mm)
- D. Strip Properties and Assembly
  - 1. Perforated Textured Strip/Cell
    - a) Strip sheet thickness shall be 50 mils (1.27 mm), minus 5 percent, plus 10 percent in accordance with ASTM D 5199. Determine thickness flat, before surface disruption.
    - b) Polyethylene strips shall be textured surface with a multitude of rhomboidal (diamond shape) indentations.
    - c) Textured sheet thickness shall be 60 mils, plus or minus 6 mils (1.52 mm plus or minus 0.15 mm).

- d) Indentation surface density shall be 140 to 200 per in<sup>2</sup> (22 to 31 per cm<sup>2</sup>).
- e) Perforated with horizontal rows of 0.4 inch (10 mm) diameter holes.
- f) Perforations within each row shall be 0.75 inches (19 mm) on-center.
- g) Horizontal rows shall be staggered and separated 0.50 inches (12 mm) relative to hole centers.
- h) Edge of strip to nearest edge of perforation shall be a minimum of 0.3 inches (8 mm).
- i) Centerline of spot weld to nearest edge of perforation shall be a minimum of 0.7 inches (18 mm).
- j) A slot with a dimension of 3/8 inch x 1-3/8 inch (10 mm x 35 mm) is standard in the center of the non-perforated areas and at the center of each weld.

#### E. Assembly of Cell Sections

1. Fabricate using strips of sheet polyethylene each with a length of 142 inches (3.61 m) and a width equal to cell depth.
2. Connect strips using full depth ultrasonic spot-welds aligned perpendicular to longitudinal axis of strip.
3. Ultrasonic weld melt-pool width shall be 1.0 inch (25 mm) maximum.
4. Weld spacing for GW30V-cell sections shall be 17.5 inches plus or minus 0.10 inch (445 mm plus or minus 2.5 mm).

#### F. Cell Seam Strength Tests

1. Minimum seam strengths are required by design and shall be reported in test results. Materials submitted with average or typical values will not be accepted. Written certification of minimum strengths must be supplied to the Engineer at the time of submittals.
2. Short-Term Seam Peel-Strength Test
  - a) Cell seam strength shall be uniform over full depth of cell.
  - b) Minimum seam peel strength shall be 480 lbf (2,130 N) for 6 inch (150 mm) depth.
3. Long-Term Seam Peel-Strength Test
  - a) Conditions: Minimum of seven (7) days in a temperature-controlled environment that undergoes change on a 1 hour cycle from room temperature to 130 degrees F (54 degrees C).
  - b) Room temperature shall be in accordance with ASTM E41.
  - c) Test samples shall consist of two, 4 inch (100 mm) wide strips welded together.
  - d) Test sample consisting of 2 carbon black stabilized strips shall support a 160 pound (72.5 kg) load for test period.

### 1.8 INTEGRAL COMPONENTS

#### A. ATRA® Stake Clip

1. The ATRA® Stake Clip is a molded, high-strength polyethylene device available in standard (0.5 inch) and metric (10-12 mm) versions.
2. ATRA® Stake Clips are installed as an end cap on standard (0.5 inch) and metric (10-12 mm) steel reinforcing rods to form ATRA® Anchors.

#### B. ATRA® Key

1. ATRA® Keys shall be constructed of polyethylene and provide a high strength connection with minimum pull-through of 275 lbs (125 kg).
2. ATRA® Keys shall be used to connect Geoweb® panels together at each interleaf and end to end connection.

3. Metal staples and zip ties are not an acceptable panel connection method.

#### 1.9 STAKE ANCHORAGE

##### A. ATRA® Anchors

1. ATRA® Anchors shall consist of standard (0.5 inch) or metric (10-12 mm) steel reinforcing rod with an ATRA® Stake Clip attached as an end cap.
2. ATRA® Anchors shall be assembled by inserting the ATRA® Stake Clip onto the reinforcing rod so that the end is flush with the top of the ATRA® Stake Clip. Prior to attaching the ATRA® Stake Clip, the reinforcing rod shall be beveled and free from all burrs.
3. Stake length shall be as shown in the Contract Documents.

##### B. ATRA® Driver and ATRA® Gad

1. The ATRA® driver shall be Hilti, Model TE-1000 electric impact hammer.
2. The ATRA® gad shall be constructed of heat-treated alloy steel shaft and aluminum head. The head shall fit directly over the arms of the ATRA® Anchors or ATRA® Speed Stakes.
3. The ATRA® driver increases installation rates by driving anchors faster while decreasing worker fatigue.

#### 1.10 INFILL MATERIALS

- A. Infill material shall be crushed aggregate with a maximum particle size of 1/3 of the cell wall height. If drainage is desired, the fines content shall be limited to less than 10%.
- B. Infill material shall be free of any foreign material.
- C. Clays, silts and organics are not acceptable infill material.
- D. Infill material shall be free flowing and not frozen when placed in the Geoweb® panels.

#### 1.11 ADDITIONAL COMPONENTS

##### A. Geotextile

1. The geotextile separation layer shall be non-woven as specified in the Contract Documents.

### CONSTRUCTION

#### 1.12 EXAMINATION

- A. Verify site conditions are as indicated on the drawings. Notify the Engineer if site conditions are not acceptable. Do not begin preparation or installation until unacceptable conditions have been corrected.
- B. Verify layout of structure is as indicated on the drawings. Notify the Engineer if layout of structure is not acceptable. Do not begin preparation or installation until unacceptable conditions have been corrected.

#### 1.13 INSTALLATION OF LOAD SUPPORT SYSTEMS

- A. Prepare subgrade and install the Geoweb® load support system in accordance with Manufacturer's instructions.

##### B. Subgrade Preparation

1. Excavate and shape foundation soils as indicated on the drawings.
2. Ensure foundation soil meets minimum strength requirements through proof rolling or other conventional method as approved by the Engineer. If unacceptable foundation soils are encountered, excavate and replace with suitable quality material as directed by the Engineer.



3. Install geotextile separation layer on prepared surfaces ensuring required overlaps are maintained and outer edges of the geotextile are buried in accordance with the Manufacturer's recommendations.
- C. Geoweb® Section Placement and Connection
1. Place Geoweb® sections and verify all sections are expanded uniformly to required dimensions and that outer cells of each section are correctly aligned. Interleaf or overlap edges of adjacent sections. Ensure upper surfaces of adjoining Geoweb® sections are flush at joint and adjoining cells are fully aligned at the cell wall slot.
  2. Connect the Geoweb® sections with ATRA® Keys at each interleaf and end to end connection. Insert the ATRA® Key through the cell wall slot before inserting through the adjacent cell. Turn the ATRA® Key 90 degrees to lock the panels together.
- D. Anchorage with ATRA® Anchors
1. Position collapsed Geoweb® sections into place and partially drive ATRA® Anchors in the outer edge cells and expand sections into place. Partially drive ATRA® Anchors in the perimeter cells to keep sections fully expanded.
  2. With Geoweb® sections fully expanded, drive ATRA® Anchors so the arm of the anchor engages with the top of the Geoweb® cell wall.
  3. Anchorage pattern and stake length shall be as indicated on the Contract Documents.
- E. Crushed Aggregate Infill Placement - For 6-inch depth only
1. Place the specified infill with suitable material handling equipment.
  2. Infill material shall be free-flowing and not frozen when placed in the Geoweb® sections.
  3. Overfill cells with infill material. Limit the drop height of infill material to avoid damage or displacement of the cell wall.
  4. Level surface approximately 2 inches (50 mm) above cell walls. Maintain a 2 inch wear surface over the Geoweb® sections to prevent damage to the cell walls.
  5. Compact infill to a minimum of 95 percent Standard Proctor.
- Shape compacted surface to required elevation as indicated on the drawings.

## **MEASUREMENT**

Geocell 6-inch Depth and Geocell 3-inch Depth will be measured by the square foot, as shown on the plans, complete in place.

## **BASIS OF PAYMENT**

The work performed and materials furnished in accordance with this Item and measured as provided under Estimated Quantity will be paid for at the unit price bid for Geocell 6-inch Depth and Geocell 3-inch Depth. This price is full compensation for loading and transporting, placing geoweb; excavation and disposal; and equipment, labor, materials, tools, and incidentals.

## **BID ITEM 90026 – SPLIT RAIL FENCE**

### **DESCRIPTION**

Work under this item shall include all work, materials, labor and incidentals necessary for the Contractor to provide and install a split rail fence at 1840 Baker Avenue along back lot line to replace removed existing fence as shown in the plans.

This fence shall be constructed to match existing removed split rail fence, and of like materials.

### **METHOD OF MEASUREMENT**

Split Rail Fence shall be measured by the Linear Foot of fence acceptably installed as required for work on this project.

#### **BASIS OF PAYMENT**

Split Rail 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 90027 - TRASH SEGREGATION AND DISPOSAL**

##### **DESCRIPTION**

Work on this item includes collecting, segregating, and properly disposing of any non-organic material in the greenway, Permanent Limited Easement or Temporary Limited Easement. The greenway currently has trash including general litter, barbed wire fencing, concrete pads, broken cement blocks, treated lumber, etc.

The Contractor shall sort and dispose of the trash in compliance with City of Madison recycling and disposal guidelines.

##### **METHOD OF MEASUREMENT**

Segregation and Disposal of Trash shall be measured per Cubic Yard of trash removed from the project area. Cubic Yards of material shall be mutually agreed upon by the Contractor and Construction Engineer.

##### **BASIS OF PAYMENT**

Segregation and Disposal of Trash shall be measured as provided above and shall be paid at the contract unit price, which shall be considered full compensation for the work described above.

#### **BID ITEM 90028 – MAINTENANCE AND REPAIR OF HAUL ROADS**

##### **DESCRIPTION**

This section describes maintaining, repairing, and restoring public roads, streets, drainage facilities, and other components to its pre-haul condition, as required by the City Construction Engineer, that are used for hauling by Contractor, subcontractor, or supplier to support work for a City contract. Public roads and streets required to be restored under this bid item are limited to local streets not already designated by the City as truck routes but will be necessary to haul between the project site and a designated truck route. From now on in this spec, these streets will be called haul roads.

The Contractor's obligation under this bid item does not authorize the use of haul roads for transporting loads exceeding statutory size and weight limitations.

##### **MATERIALS**

Furnish materials at least equal in quality and serviceability to those existing in the road before its use as a haul road. The Construction Engineer will determine the quantity, quality, and acceptability of materials.

##### **CONSTRUCTION**

###### **General**

The Contractor shall provide before and after videos to the Construction Engineer. The Construction Engineer will determine the type and quality of maintenance and repair required, including the quality of materials used.

**Maintenance**

The Construction Engineer has the authority to order maintenance and repair work on haul roads, including dust abatement, at any time during hauling operations to ensure service to other users of the road. The Contractor may stabilize, reinforce, or strengthen existing facilities before hauling to prevent or minimize damage; and may condition the surface and perform repairs during hauling operations.

**Restoration**

Upon termination of hauling operations and before final acceptance, restore haul roads, including drainage facilities and other components, to the equivalent of pre-hauling conditions. Patching shall be done in accordance with the City of Madison standard patching criteria.

The final repair of a haul road is subject to the Construction Engineer's approval.

**METHOD OF MEASUREMENT**

Maintenance and Repair of Haul Roads will be measured by the Square Yard acceptably patched, measured only if the condition of the haul road after work is complete is better than or equal to the condition before work began, as determined by the Construction Engineer.

**BASIS OF PAYMENT**

Payment for the Maintenance and Repair of Haul Roads bid items is full compensation for providing, hauling, and placing required materials; and for other costs incurred by the Contractor to prevent or minimize damage to the haul roads.

**BID ITEM 90029.1 – WATER MAIN APPURTENANCES – 8 INCH BENDS**

**DESCRIPTION**

Furnish and install water appurtenances as shown in the plans and as hereinafter provided.

- Five 8-Inch D.I. 45° Bends

**MATERIALS**

**Applicable Specifications**

Provide water system materials that are in conformance to the current City of Madison Standard Specifications.

**Shop Drawings**

Prior to incorporating any materials or products into the work, submit to the Engineer product literature and catalog cuts of the materials to be supplied. Submit information in sufficient detail to readily determine if these materials are in conformance with the specifications.

**CONSTRUCTION**

**Applicable Specifications**

Perform all water system construction in conformance to the City of Madison Standard Specifications and the Standard Specifications for Sewer and Water Construction in Wisconsin.

**Water Main and Service Appurtenances**

All bends must be completely wrapped or covered and properly secured with 6 mil thick polyethylene. Polyethylene shall be taped at intervals sufficient to prevent soil from contacting pipe.

Block all bends and fittings thoroughly with concrete as shown in the City of Madison Standard Specifications.

#### **METHOD OF MEASUREMENT**

Water Main Appurtenances – 8-Inch Bends will be measured by the number of bends acceptably installed as required for work on this project.

#### **BASIS FOR PAYMENT**

Water Main Appurtenances – 8-Inch Bends, measured as provided above, will be paid at the contract price per bend installed, which shall be full payment for all work to complete this item in accordance with the Standard Specifications.

### **BID ITEM 90029.2 – WATER MAIN APPURTENANCES – 10 INCH BENDS**

#### **DESCRIPTION**

Furnish and install water appurtenances as shown in the plans and as hereinafter provided.

- Four 10-Inch D.I. 45° Bends

#### **MATERIALS**

##### **Applicable Specifications**

Provide water system materials that are in conformance to the current City of Madison Standard Specifications.

##### **Shop Drawings**

Prior to incorporating any materials or products into the work, submit to the Engineer product literature and catalog cuts of the materials to be supplied. Submit information in sufficient detail to readily determine if these materials are in conformance with the specifications.

#### **CONSTRUCTION**

##### **Applicable Specifications**

Perform all water system construction in conformance to the City of Madison Standard Specifications and the Standard Specifications for Sewer and Water Construction in Wisconsin.

##### **Water Main and Service Appurtenances**

All bends must be completely wrapped or covered and properly secured with 6 mil thick polyethylene. Polyethylene shall be taped at intervals sufficient to prevent soil from contacting pipe.

Block all bends and fittings thoroughly with concrete as shown in the City of Madison Standard Specifications.

#### **METHOD OF MEASUREMENT**

Water Main Appurtenances – 10-Inch Bends will be measured by the number of bends acceptably installed as required for work on this project.

#### **BASIS FOR PAYMENT**

Water Main Appurtenances – 10-Inch Bends, measured as provided above, will be paid at the contract price per bend installed, which shall be full payment for all work to complete this item in accordance with the Standard Specifications.

## **BID ITEM 90030 – 16-INCH DIAMETER PVC PRESSURE SANITARY SEWER PIPE**

### **DESCRIPTION**

Work under this bid item shall include the installation of 16-Inch Diameter PVC Pressure Sanitary Sewer Pipe in accordance with Article 503 of the City of Madison Standard Specifications for Public Works Construction- Latest Edition.

Provide sewer pipe and fittings consisting of solid-wall Poly (Vinyl Chloride) (PVC) and shall conforming to the requirements of the Specification for Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings, AWWA C900 Class 150, DR-18.

Provide fittings conforming to the requirements of the American National Standard for Ductile- Iron and Gray-Iron fittings 16-inch for Water and other liquids, ASA A21.10 (AWWA C110).

Provide integral bell joints with elastomeric gaskets, or couplings with elastomeric gaskets or solvent cement made as recommended by the manufacturer.

### **METHOD OF MEASUREMENT**

16-Inch Diameter PVC Pressure Sanitary Sewer Pipe shall be measured by the lineal foot acceptably completed in accordance with Article 503.4 of the City of Madison Standard Specifications for Public Works Construction- Latest Edition (measured center of sewer access structure to center of sewer access structure along the centerline of the installed pipe, include wye fittings)

### **BASIS OF PAYMENT**

16-Inch Diameter PVC Pressure Sanitary Sewer Pipe shall be measured as described above and shall be paid for at the contract price which shall be full compensation for all work, materials, labor and incidentals required to complete the work as set forth in the description.

## **BID ITEM 90031 - REINFORCED DITCH CHECK**

### **DESCRIPTION**

Work under this item shall include all work, materials, equipment, and incidentals required to install a reinforced ditch check at the downstream end of the channel, as shown on the plans.

The quantities estimated are:

- Light Riprap-Glacial Fieldstone: 2 tons
- 3" Clear Stone (Gradation 1 Crushed Aggregate Base Course): 2 tons

The Light Riprap and Clear Stone shall be paid under the appropriate bid items. The Light Riprap – Glacial Field Stone may be reused. Reused stone shall be paid once for provision.

### **METHOD OF MEASUREMENT**

Reinforced Ditch Check shall be measured as a Lump Sum for a reinforced ditch check that is successfully built, maintained, and removed.

### **BASIS OF PAYMENT**

Reinforced Ditch Check shall be paid at the contract unit price, which shall be considered full compensation for all work as provided in the description.

## **BID ITEM 90032 – BRUSHING**

### **DESCRIPTION**

Work under this bid item shall include all labor, materials, equipment, and incidentals necessary to remove small invasive trees, shrubs and herbaceous plants and select native plants within all areas identified for brushing in this contract. This work shall include the removal of all woody and invasive plants listed in Attachment B, non-native plants, as well as aggressive native plants including mulberry (*Morus* spp.), basswood (*Tilia americana*), elm (*Ulmus* spp.), black cherry (*Prunus serotina*), chokecherry (*Prunus virginiana*) boxelder (*Acer negundo*), and cottonwood (*Populus deltoides*), including trees smaller than 3 inches cal. and non-native perennials, grasses and shrubs and vines. The Contractor shall assume that most woody resprouts are unwanted and should be controlled, including native trees that may be desirable in their mature form. Exceptions may be volunteers of the following native species:

- *Quercus* spp.
- *Carya* spp.
- *Sambucus canadensis* or *Sambucus racemosa*
- *Cornus sericea*
- *Cornus alternifolia*

All brushing shall be completed prior to planting and seeding. The Contractor shall be responsible for identifying invasive and non-native species within the brushing limits. All cutting and clearing debris shall become property of the Contractor and shall be removed from the project site at no additional cost to the City.

This bid item includes removing select existing vegetation as shown on plans outside of the grading limits for brushing. These areas are marked on the plans as "BRUSHING."

This bid item does not include removal of existing trees greater than 4" cal. These shall be bid separately under BID ITEM 20404.

Exposed roots and stumps after brushing shall be immediately treated with herbicide as appropriate to prevent regrowth. The herbicide shall be the least toxic required to prevent regrowth. The Contractor shall select an herbicide that will not prevent growth or germination of future seeding and planting operations. Herbicide chemistry and the potential for exposure (i.e. application method) shall be considered as part of the herbicide selection process. Herbicides containing Triclopyr, or Glyphosphate, or similar chemicals are recommended. Herbicides containing Picloram will not be approved. Initial treatment of vegetation after brushing shall be included in this bid item.

All herbicides shall be applied by a licensed applicator and in accordance with the manufacturer's instructions. The Contractor shall submit to the Project Engineer a Brushing and Herbicide Submittal for approval prior to any brushing activities. The submittal shall include:

- Proposed herbicides and their individual applications, i.e. which herbicides will be used on which plants
- Material Data Safety Sheets for each herbicide
- Proposed application methods and timing
- Qualifications of personnel as highlighted in the section below

All herbicide application shall be in strict accordance with the City of Madison Pesticide policy, available at <https://www.cityofmadison.com/parks/about/documents/pesticidepolicy2004.pdf>. The Contractor shall adhere to this policy and the notification requirements contained in the policy, and shall promptly report to the Project Engineer all dates of application, type of herbicide used, and amount applied.

All brushing activities shall be completed in a manner that prevents damage to adjacent vegetation. Mowing with a Forestry mower to remove brush shall be allowed.

All cut trees and clearing debris shall become property of the Contractor and shall be removed from the project site at no additional cost to the City.

Areas that receive brushing shall have temp seeding and final seeding as indicated on restoration plan. No topsoil shall be placed in areas that receive brushing only. Seeding will be paid for under the appropriate seed bid items.

#### **METHOD OF MEASUREMENT**

Brushing shall be measured as a Lump Sum.

#### **BASIS OF PAYMENT**

Brushing 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, placement, disposal and incidentals required to complete the work as set forth in the description.

#### **BID ITEM 90033 – YEAR 1 RESTORATION MAINTENANCE**

This bid item includes treatment of invasive or nuisance plant growth throughout the entire site including disturbed areas, areas within the brushing limits, and all recently planted or seeded areas during the first year growing season after tree removals, after initial brushing has been completed.

The Contractor shall employ personnel capable of identifying invasive plants and removing the plant as appropriate for that specific species.

This work shall include the removal of all invasive plants listed in Attachment B, non-native plants, as well as aggressive native plants including mulberry (*Morus* spp.), basswood (*Tilia americana*), elm (*Ulmus* spp.), black cherry (*Prunus serotina*), chokecherry (*Prunus virginiana*) boxelder (*Acer negundo*), and cottonwood (*Populus deltoides*), including trees smaller than 3 inches cal. and non-native perennials, grasses and shrubs and vines. The Contractor shall assume that most woody resprouts are unwanted and should be controlled including native trees that may be desirable in their mature form. Exceptions may be volunteers of the following native species:

- *Quercus* spp.
- *Carya* spp.
- *Sambucus canadensis* or *Sambucus racemose*
- *Cornus sericea*
- *Cornus alternifolia*

This contract shall include at least five site visits to treat all invasive vegetation from April – September, unless otherwise approved by the Project Engineer.

During each treatment the Contractor shall use a combination of the following, listed below in the order of the preferred method by the City of Madison:

- Mowing (for annual invasive plants that can be managed by removing the seeds produced that season).
- Hand pulling (for individual small patches of invasive plants that do not spread more aggressively after hand pulling - i.e. hand pulling is not allowed for Japanese Knotweed which spreads rhizomatically and would become more aggressive if hand pulled).
- Prescribed Burning – for locations where burning would be an effective treatment. Exact locations to be burned shall be determined upon contract award.

- Spot herbicide application by “painting” treated stumps, or the “glove of death method” which requires placing a chemical resistant glove over one hand, putting a cotton glove over that, and then spraying herbicide on the cotton glove and hand wiping the undesirable plant.
- Spray herbicide with backpack and pump sprayers, selectively spraying undesirable species.

The herbicide shall be the least toxic required to prevent regrowth. The Contractor shall select an herbicide that will not prevent growth or germination of future seeding and planting operations. Herbicide chemistry and the potential for exposure (i.e. application method) shall be considered as part of the herbicide selection process. Herbicides containing Triclopyr, or Glyphosphate, or similar chemicals are recommended. Herbicides containing Picloram will not be approved. The Contractor shall select herbicides that are appropriate for both wood and herbacious regrowth. All herbicides shall be applied by a licensed applicator and in accordance with the manufacturer's instructions. **The Contractor shall include all proposed herbicides and methodologies in the Brushing and Herbicide Submittal as described in this bid item.**

All herbicides shall be applied by a licensed applicator and in accordance with the manufacturer's instructions. The Contractor shall submit to the Project Engineer a Brushing and Herbicide Submittal for approval prior to any brushing activities. The submittal shall include:

- Proposed herbicides and their individual applications, i.e. which herbicides will be used on which plants
- Material Data Safety Sheets for each herbicide
- Proposed application methods and timing
- Qualifications of personnel

All herbicide application shall be in strict accordance with the City of Madison Pesticide policy, available at <https://www.cityofmadison.com/parks/about/documents/pesticidepolicy2004.pdf>. The Contractor shall adhere to this policy and the notification requirements contained in the policy, and shall promptly report to the Project Engineer all dates of application, type of herbicide used, and amount applied.

All herbicide application shall be completed in a manner that prevents damage to adjacent vegetation. The Contractor shall adhere to the following:

- All cutting and clearing debris shall become property of the Contractor and shall be removed from the project site at no additional cost to the City.
- The Contractor shall remove trash that has accumulated on site at each treatment and shall dispose at no additional compensation.
- The Contractor shall be responsible for replacing any native species at the direction of the Project Engineer that have died as a result of herbicide overspray which can include trees, shrubs, and forbs.
- All herbicide application signage must be clearly visible.
- The Contractor shall be required to use aquatic herbicide as necessary for all areas required by the Wisconsin Department of Natural Resources and to obtain all required permits necessary for application of aquatic herbicide.
  - The Contractor shall submit to the Project Engineer an herbicide submittal for approval prior to any invasive removal activities. The submittal shall include:
    - Proposed herbicides and their individual applications, i.e. which herbicides will be used on which plants
    - Material Data Safety Sheets for each herbicide
    - Proposed application methods and timing
    - Qualifications of personnel as highlighted in the section below
- All Japanese or Bohemian knotweed shall be treated with Polaris AC®, Milestone® or Perspective® herbicide per product instructions. Other products for removing Japanese knotweed must be approved by the Project Engineer prior to application. If Japanese or Bohemian knotweed is found on site, the Contractor shall submit, as part of the Invasive Plant Removal Methods Submittal, a thorough description of how knotweed will be controlled. Treatment plans



for Japanese or Bohemian knotweed shall be in accordance with accepted knotweed control methods which may include combinations of cutting stalks, foliar or injection herbicide applications, but *must* include at a minimum the appropriate use of herbicide.

Prior to removing invasive plants, the Contractor shall submit the proposed method for removals for approval from the Project Engineer.

#### **METHOD OF MEASUREMENT**

Year 1 Restoration Maintenance shall be measured by lump sum.

#### **BASIS OF PAYMENT**

Year 1 Restoration Maintenance 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, placement, disposal and incidentals required to complete the work as set forth in the description.

#### **BID ITEM 90034 – YEAR 2 RESTORATION MAINTENANCE**

##### **DESCRIPTION**

Work under this bid item shall include all labor, materials, equipment, and incidentals necessary to treat invasive or nuisance plant regrowth throughout the entire site including disturbed areas, areas within the brushing limits, and all recently planted or seeded areas during the second growing season after trees are removed.

The Contractor shall employ personnel capable of identifying invasive plants and removing the plant as appropriate for that specific species.

This work shall include the removal of all invasive plants listed in Attachment B, non-native plants, as well as aggressive native plants including mulberry (*Morus* spp.), basswood (*Tilia americana*), elm (*Ulmus* spp.), black cherry (*Prunus serotina*), chokecherry (*Prunus virginiana*) boxelder (*Acer negundo*), and cottonwood (*Populus deltoides*), including trees smaller than 3 inches cal. and non-native perennials, grasses and shrubs and vines. The Contractor shall assume that most woody resprouts are unwanted and should be controlled including native trees that may be desirable in their mature form. Exceptions may be volunteers of the following native species:

- *Quercus* spp.
- *Carya* spp.
- *Sambucus canadensis* or *Sambucus racemose*
- *Cornus sericea*
- *Cornus alternifolia*

This contract shall include at least five site visits to treat all invasive vegetation from April – September, unless otherwise approved by the Project Engineer.

During each treatment the Contractor shall use a combination of the following, listed below in the order of the preferred method by the City of Madison:

- Mowing (for annual invasive plants that can be managed by removing the seeds produced that season).
- Hand pulling (for individual small patches of invasive plants that do not spread more aggressively after hand pulling - i.e. hand pulling is not allowed for Japanese Knotweed which spreads rhizomatically and would become more aggressive if hand pulled).
- Prescribed Burning – for locations where burning would be an effective treatment. Exact locations to be burned shall be determined upon contract award.

- Spot herbicide application by "painting" treated stumps, or the "glove of death method" which requires placing a chemical resistant glove over one hand, putting a cotton glove over that, and then spraying herbicide on the cotton glove and hand wiping the undesirable plant.
- Spray herbicide with backpack and pump sprayers, selectively spraying undesirable species.

The herbicide shall be the least toxic required to prevent regrowth. The Contractor shall select an herbicide that will not prevent growth or germination of future seeding and planting operations. Herbicide chemistry and the potential for exposure (i.e. application method) shall be considered as part of the herbicide selection process. Herbicides containing Triclopyr, or Glyphosphate, or similar chemicals are recommended. Herbicides containing Picloram will not be approved. The Contractor shall select herbicides that are appropriate for both wood and herbaceous regrowth. All herbicides shall be applied by a licensed applicator and in accordance with the manufacturer's instructions. **The Contractor shall include all proposed herbicides and methodologies in the Brushing and Herbicide Submittal as described in this bid item.**

All herbicides shall be applied by a licensed applicator and in accordance with the manufacturer's instructions. The Contractor shall submit to the Project Engineer a Brushing and Herbicide Submittal for approval prior to any brushing activities. The submittal shall include:

- Proposed herbicides and their individual applications, i.e. which herbicides will be used on which plants
- Material Data Safety Sheets for each herbicide
- Proposed application methods and timing
- Qualifications of personnel

All herbicide application shall be in strict accordance with the City of Madison Pesticide policy, available at <https://www.cityofmadison.com/parks/about/documents/pesticidepolicy2004.pdf>. The Contractor shall adhere to this policy and the notification requirements contained in the policy, and shall promptly report to the Project Engineer all dates of application, type of herbicide used, and amount applied.

All herbicide application shall be completed in a manner that prevents damage to adjacent vegetation. The Contractor shall adhere to the following:

- All cutting and clearing debris shall become property of the Contractor and shall be removed from the project site at no additional cost to the City.
- The Contractor shall remove trash that has accumulated on site at each treatment and shall dispose at no additional compensation.
- The Contractor shall be responsible for replacing any native species at the direction of the Project Engineer that have died as a result of herbicide overspray which can include trees, shrubs, and forbs.
- All herbicide application signage must be clearly visible.
- The Contractor shall be required to use aquatic herbicide as necessary for all areas required by the Wisconsin Department of Natural Resources and to obtain all required permits necessary for application of aquatic herbicide.
  - The Contractor shall submit to the Project Engineer an herbicide submittal for approval prior to any invasive removal activities. The submittal shall include:
    - Proposed herbicides and their individual applications, i.e. which herbicides will be used on which plants
    - Material Data Safety Sheets for each herbicide
    - Proposed application methods and timing
    - Qualifications of personnel as highlighted in the section below

All Japanese or Bohemian knotweed shall be treated with Polaris AC®, Milestone® or Perspective® herbicide per product instructions. Other products for removing Japanese knotweed must be approved by the Project Engineer prior to application. If Japanese or Bohemian knotweed is found on site, the Contractor shall submit, as part of the Invasive Plant Removal Methods Submittal, a thorough description of how knotweed will be controlled. Treatment plans for Japanese or Bohemian knotweed shall be in

accordance with accepted knotweed control methods which may include combinations of cutting stalks, foliar or injection herbicide applications, but *must* include at a minimum the appropriate use of herbicide. Prior to removing invasive plants, the Contractor shall submit the proposed method for removals for approval from the Project Engineer

#### **METHOD OF MEASUREMENT**

Year 2 Restoration Maintenance shall be measured as a Lump Sum.

#### **BASIS OF PAYMENT**

Year 2 Restoration Maintenance 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, placement, disposal and incidentals required to complete the work as set forth in the description.

#### **BID ITEM 90035– NATIVE PATH RUSH**

##### **DESCRIPTION**

Work under this bid item shall include all work, materials, labor, equipment and incidentals necessary to provide and place native path rush, *Juncus tenuis*, seed as defined in these special provisions and the City of Madison Standard Specifications for Public Works Construction. Native Path Rush shall be applied over the gravel sections of maintenance access path as shown on the plans. Native Path Rush shall not be applied over the Tied Concrete Block Mat portions of the maintenance access path, nor on the SAS access roads. Acceptable timing for seeding Native Path Rush shall be "Fall Seeding," "Frost Seeding," or "Snow Seeding," as specified in Article 207.3 "Native Seeding" of the standard specifications. Prior to application of seed, the Contractor shall verify with the Project Engineer whether to seed with temporary seed or native path rush.

Seed at the rate of 1 lb/acre.

##### **METHOD OF MEASUREMENT**

Native Path Rush shall be measured by the plan square yard quantity. Any increases or decreases in seeding shall be measured by the Contractor and verified by the Project Engineer.

##### **BASIS OF PAYMENT**

Native Path Rush 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, placement, and incidentals required to complete the work as set forth in the description.

#### **BID ITEM 90036 – INSTALL CASING FOR 16-INCH DIAMETER SANITARY SEWER CARRIER PIPE** **BID ITEM 90037 – INSTALL CASING FOR 8-INCH DIAMETER SANITARY SEWER CARRIER PIPE**

##### **DESCRIPTION**

###### **A. General**

Work under this item shall include the installation and material cost to install casing pipe with carrier pipe in the locations called for on the plans. The casing pipe must be sized by the contractor in order for the inner sanitary sewer lateral to properly fit within the casing pipe. All costs for furnishing and installing the steel casing pipe, casing spacers, access and receiving pits, and all work necessary to push the casing pipe shall be included. Necessary work and materials to adequately secure the pits with full cover or security fencing shall be incidental to this bid item. The 16-inch and 8-inch diameter sanitary sewer carrier being installed with the casing will be paid separately under Bid Item 90030 16-Inch Diameter PVC

Pressure Sanitary Sewer Pipe and Bid Item 50301 8-Inch PVC Sanitary Sewer Pipe.

Included in this item is the excavation and backfilling of the receiving pits. Disposal of the excess material shall be by the Contractor off site at a location to be determined by the Contractor. Backfilled material shall meet City of Madison Standard Specifications for Public Works Construction - Latest Edition.

The Contractor is informed that the casing pipe specified shall be at a minimum of 30-inch diameter for the 8-inch carrier pipe and 24-inch diameter for the 16-inch diameter carrier pipe or as large as deemed necessary by the contractor to successfully complete the work in accordance with the construction plans.

The sanitary sewer main inside the casing shall be 8-inch diameter ASTM D3034 SDR 26 or 16-inch diameter ASTM AWWA C900 pipe.

### **TEMPORARY WORKSPACE AND ACCESS**

Workspace and access furnished by Owner are defined on the contract drawings. Contractor may acquire additional workspace and access only with Owner approval. The expense of acquiring additional workspace shall be borne by Contractor.

### **B. Materials**

Provide all materials necessary to install the casing for the 16-inch and 8-inch diameter carrier pipe in accordance with the requirements above. Provide a casing pipe in accordance with the following:

- ASTM specification A139 Grade B or AWWA specification C200
- Outside diameter as specified by the Contractor
- Not coated or cathodically protected, no hydrostatic testing required
- 0.4375 inch minimum thickness for 24-inch diameter casing, 0.50 inch for 30-inch diameter casing (See chart on Sheet G1 for casing thickness requirements)
- Specified minimum yield strength, SMYS, of at least 35,000 psi
- New and unused pipe
- Straight and round pipe
- Beveled ends for butt welding

The Contractor shall submit the following to the Engineer for approval prior to ordering of materials and the start of construction:

- Certificate of compliance for the steel casing pipe
- Materials for sand of pea gravel
- Materials for casing spacers and distances between spacers
- Materials and methods for bulkheading the casing ends

### **C. Construction Methods**

Contractor will be allowed to use wood blocking and/or pipe spaces to suspend the pipe in casing pipe to obtain the proper design slope. Both will be considered acceptable installation methods. The design slope will be verified by a City surveyor and if the slope is back-pitched or nor at an acceptable slope, the Construction Engineer will require the pipe be adjusted.

**Blocking Method:**

Prior to installing pipe in the casing, a set of **four** wood blocks shall be strapped to **both** ends of the pipe **five feet (5')** from **each end**. The blocks shall be set so that the pipe does not touch the casing. Pipe joints shall be made outside of the casing. Sand or Pea gravel shall be washed or blown into the casing to the spring line of the pipe to provide bedding under the pipe.

**Pipe Spacers Method:**

Non-Centered stainless Steel spacers (PSI S8GN-2 [http://www.pipelinesseal.com/pdf\\_lit/csem&bg.pdf](http://www.pipelinesseal.com/pdf_lit/csem&bg.pdf) or approved equivalent) shall be installed in the casing pipe at varying to the new sewer main to set the sewer main to the desired slope. Spacers shall be installed in accordance with the manufacturer's specifications with maximum spacing of 8'.

The untrenched construction shall be performed by dry auger boring and jacking. Water jacking for excavation of the soil is not allowed. The use of water to facilitate removal of spoil is permitted. The untrenched construction shall extend beneath the railroad tracks to the limits shown on the plan set.

For the casing installation, the bore hole diameter shall be essentially the same as the outside diameter of the pipe. In soft, unstable soil, the auger shall be inside the casing, but no undersized, so as not to create a void between the casing and the soil. If voids should develop or if the bore hole diameter is greater than the outside diameter of the pipe by more than approximately 1 inch, the voids shall be pressure grouted.

Connection of adjacent lengths of steel pipe shall be done by continuous, circumferential, field butt welding in accordance with AWWA C206. The connection shall result in a straight and true casing with a watertight seal.

The conduit pipe shall be installed on line and grade through the casing pipe. Install approved casing spacers at the approved distances. Fill the annular space between the casing and carrier pipe with the approved material (sand or pea gravel).

Take care to ensure that developed thrust pressures do not disturb existing utilities in or around the bore pit area. Any damage to utilities- public or private will be the responsibility of the contractor to repair.

The Contractor shall excavate the trench at the location shown on the contract drawings. The Contractor shall provide any required sheeting, shoring, or bracing which is required to provide safe working conditions.

Removal of water shall be in accordance with Bid Item 90010 – Groundwater Control/Site Dewatering of the Special Provisions as they apply to the work.

After the excavation is opened, the placing of the pipe shall follow immediately to avoid unnecessarily disturbing the stability of the embankment or roadbed.

Installation shall be carried out with the proper equipment and procedure such that the carrier pipe and the casing pipe can be installed to the grades specified without disturbance to the adjacent earth.

The trench shall be of adequate length to provide room for the installation of the casing pipe. The trench be sufficiently wide to allow ample working space on each side of the casing pipe. The depth of the trench shall be such that the invert of the pipe and kept dry at all times.

Any section of casing pipe showing signs of damage shall be removed and replaced, or repaired to the satisfaction of the Engineer.

**METHOD OF MEASUREMENT**

Install Casing for 16-Inch Diameter Sanitary Sewer Carrier Pipe, 8-Inch Diameter Carrier Pipe shall be

measured by the lineal foot for successful installation of a casing pipe as described above which shall include all materials, equipment, labor, and incidentals necessary to complete the work.

## **BASIS OF PAYMENT**

Install Casing for 16-Inch Diameter Sanitary Sewer Carrier Pipe, 8-Inch Diameter Carrier Pipe shall be measured as described above and shall be paid for at the contract price which shall be full compensation for all work, materials, labor and incidentals required to complete the work as set forth in the description. The carrier pipe will be paid for under Bid Item 90030 16-Inch PVC Pressure Sanitary Sewer Pipe and Bid Item 50301 8-Inch PVC Sanitary Sewer Pipe.

## **BID ITEM 90038 – 6-FOOT DIAMETER MMSD SAS**

### **DESCRIPTION**

Work under this bid item shall include the installation of 6-Foot Diameter MMSD SAS as shown on the plans. Work shall include all necessary work, materials, excavation, preparation, sawcutting and removal of existing pipe and connection of pipes necessary to construct structures called out as 6-foot diameter sanitary MMSD SAS.

The 6-Foot Diameter MMSD SAS (Manhole) shall be constructed in accordance with MMSD standard detail drawing SD-101 Standard Typical Manhole (Sheet G1 of Plan Set) with a 6-foot diameter precast structure, chimney frame and cover (R-1550 Standard Gasket Lid and Frame with MMSD logo lid) installed in accordance with SD-201 (Sheet G2 of Plan Set). New MMSD SAS shall have Joint Wrap installed in accordance MMSD specifications.

### **Castings:**

Castings (R-1550 Standard Gasket Lid and Frame with MMSD logo lid) will be provided by MMSD. Contact Ray Schneider [rays@madsewer.org](mailto:rays@madsewer.org), (608)347-3628 five (5) days prior to coordinate pickup of castings at MMSD 1610 Moorland Road, Madison, WI 53713-3398.

### **Joint Wrap:**

Each MMSD access structure joint shall be sealed with an external rubber sleeve (9-inch min. width) Infi-Shield Gator Wrap as manufactured by Sealing Systems Inc., Cretex Wrap by Cretex, ConWrap by ConSeal, Mac Wrap by Mar Mac or approved equal. The seal shall be made of a stretchable, self-shrinking, intra-curing halogenated based rubber with a minimum thickness of 30 mils. The back side of each unit shall be coated with a cross linked re-enforced butyl adhesive. The butyl adhesive shall be non-hardening sealant with a minimum thickness of 30 mils. The seal shall be designed to stretch around the joint and then overlapped creating a cross-link and fused bond between the rubber and butyl adhesive.

Contractor shall contact MMSD [rays@madsewer.org](mailto:rays@madsewer.org), (608)347-3628 five (5) days prior to the installation of manholes for permitting and schedule inspection.

### **Shop Drawings**

Contractor shall submit shop drawings for approval on MMSD structures to Ray Schneider [rays@madsewer.org](mailto:rays@madsewer.org), (608)347-3628 prior to delivery to the job site.

## **METHOD OF MEASUREMENT**

6-Foot Diameter MMSD SAS shall be measured by each complete unit acceptably completed.

## **BASIS OF PAYMENT**

6-Foot Diameter MMSD SAS shall be measured as described above and shall be paid for at the contract price which shall be full compensation for all work, materials, labor and incidentals required to complete

the work as set forth in the description.

### **BID ITEM 90039 – 6-FOOT DIAMETER MMSD FLOW MONITORING SAS**

#### **DESCRIPTION**

Work under this bid item shall include the installation of 6-Foot Diameter MMSD Flow Monitoring SAS as shown on the plans. Work shall include all necessary work, materials, excavation, preparation, sawcutting and removal of existing pipe and connection of pipes necessary to construct structures called out as 6' diameter sanitary MMSD SAS.

The 6-foot Diameter MMSD SAS (Manhole) shall be constructed in accordance with MMSD standard detail drawing SD-102 Standard Monitoring Manhole (Sheet G1 of Plan Set) with a 6' diameter precast structure, chimney frame and cover (R-1550 Standard Gasket Lid and Frame with MMSD logo lid) installed in accordance with SD-201 (Sheet G2 of Plan Set). New MMSD SAS shall have Joint Wrap installed in accordance MMSD specifications.

#### **Castings:**

Casting will be provided by MMSD. Contact Ray Schneider [rays@madsewer.org](mailto:rays@madsewer.org), (608)347-3628 five (5) days prior to coordinate pickup of castings at MMSD 1610 Moorland Road, Madison, WI 53713-3398.

#### **Joint Wrap:**

Each MMSD access structure joint shall be sealed with an external rubber sleeve (9-inch min. width) Infi-Shield Gator Wrap as manufactured by Sealing Systems Inc., Cretex Wrap by Cretex, ConWrap by ConSeal, Mac Wrap by Mar Mac or approved equal. The seal shall be made of a stretchable, self-shrinking, intra-curing halogenated based rubber with a minimum thickness of 30 mils. The back side of each unit shall be coated with a cross linked re-enforced butyl adhesive. The butyl adhesive shall be non-hardening sealant with a minimum thickness of 30 mils. The seal shall be designed to stretch around the joint and then overlapped creating a cross-link and fused bond between the rubber and butyl adhesive.

Contractor shall contact MMSD [rays@madsewer.org](mailto:rays@madsewer.org), (608)347-3628 five (5) days prior to the installation of manholes for permitting and schedule inspection.

#### **Shop Drawings**

Contractor shall submit shop drawings for approval on MMSD structures to Ray Schneider [rays@madsewer.org](mailto:rays@madsewer.org), (608)347-3628 five (5) days prior to delivery to the job site.

#### **METHOD OF MEASUREMENT**

6-foot Diameter MMSD Flow Monitoring SAS shall be measured by each complete unit acceptably completed.

#### **BASIS OF PAYMENT**

6-foot Diameter MMSD Flow Monitoring SAS shall be measured as described above and shall be paid for at the contract price which shall be full compensation for all work, materials, labor and incidentals required to complete the work as set forth in the description.

### **BID ITEM 90040 – REMOVE RCP APRON ENDWALLS**

#### **DESCRIPTION**

This section describes removal and off-site disposal of storm apron endwalls.

- 42-Inch RCP Apron Endwall at University Avenue
- 18-Inch RCP Apron Endwall at Blanchard Street
- 15-Inch RCP Apron Endwall at STA 163+18 along channel alignment

## **METHOD OF MEASUREMENT**

Removal Apron Endwalls shall be measured by each completed unit acceptably completed

## **BASIS OF PAYMENT**

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

## **BID ITEM 90041 – ADJUST MMSD STRUCTURE SPECIAL**

### **DESCRIPTION**

Work under this item shall include all work, materials, and incidentals necessary to adjust MMSD sanitary access structures MH05-202A at STA 600+10 in the Unnamed ROW SAS access path on Sheet PP23 and MH05-205 at STA 166+05 in University Avenue on Sheet P33 from their existing elevation to the proposed finished grade elevation. The final configuration of the structures will be constructed in accordance with MMSD standard detail drawing SD-101 Standard Typical Manhole (Sheet G1 of Plan Set) with matching existing diameter of the precast structure, chimney frame and cover (R-1550 Standard Gasket Lid and Frame with MMSD logo lid) installed in accordance with SD-201 (Sheet G2 of Plan Set). Contractor shall field verify all structure measurements and provide shop drawings to MMSD showing all proposed adjustments prior to ordering any barrel sections. Anticipated adjustments are listed below.

- MH05-202A – Remove existing 8-inches of rings, add 12-inch barrel section with 1-inch rings and 9-inch casting.
- MH05-205 – Remove existing rings, add 24-inch barrel section, 1-inch rings and 9-inch casting.

The Contractor shall notify Ray Schneider of MMSD at (608) 347-3628 or [rays@madsewer.org](mailto:rays@madsewer.org) five (5) days prior to adjusting sanitary access structures and casting elevations.

### **CONSTRUCTION METHODS**

The required casting elevations shall not be achieved by saw cutting the existing barrel section. Rather, whole barrel sections shall be removed and replaced with new height appropriate barrel sections to keep final total adjusting ring height between 3" and 9". New barrel sections shall contain earhole style pickholes or use superficial lifting hooks rather than penetrate through concrete, see sheet G2 MMSD SD-201 note 14. Joints between barrel sections and barrel section to top deck shall receive sealant and external joint wrap per sheet G2 MMSD SD-201 note 9.

Existing adjusting rings shall be discarded. Care shall be taken to minimize adjusting ring height and total adjusting ring height must be between 3" and 9". The casting shall reach the proposed final elevation. Castings with standard covers (R-1550 Standard Gasket Lid and Frame (MMSD logo lid)) shall be installed MMSD SD-201 on Sheet G2. Anchor standard casting to adjusting rings or directly to top deck. During construction, any external joints between existing chimney sections and new chimney sections shall be properly sealed and coated.

Removing and replacement of existing top decks/cones, barrel sections, adjustment rings, and castings shall be in accordance SD-101 (Standard MMSD Manhole), SD 102 (Standard Monitoring Manhole), with SD-201 Standard Manhole Chimney (See Sheet G1 and G2 of plan set). New barrel sections, installation



of steps, and new top decks shall also be in accordance with referenced sections.

**Castings:**

Castings(R-1550 Standard Gasket Lid and Frame with MMSD logo lid) will be provided by MMSD contact: Ray Schneider [rays@madsewer.org](mailto:rays@madsewer.org), (608)347-3628 five (5) days prior to coordinate pickup of castings at MMSD 1610 Moorland Road, Madison, WI 53713-3398.

**Joint Wrap:**

Each MMSD access structure joint shall be sealed with an external rubber sleeve (9-inch min. width) Infi-Shield Gator Wrap as manufactured by Sealing Systems Inc., Cretex Wrap by Cretex, ConWrap by ConSeal, Mac Wrap by Mar Mac or approved equal. The seal shall be made of a stretchable, self-shrinking, intra-curing halogenated based rubber with a minimum thickness of 30 mils. The back side of each unit shall be coated with a cross linked re-enforced butyl adhesive. The butyl adhesive shall be non-hardening sealant with a minimum thickness of 30 mils. The seal shall be designed to stretch around the joint and then overlapped creating a cross-link and fused bond between the rubber and butyl adhesive.

**METHOD OF MEASUREMENT**

Adjust MMSD Structure Special shall be measured by each complete unit acceptably completed.

**BASIS OF PAYMENT**

Adjust MMSD Structure Special shall be measured as described above and shall be paid for at the contract price which shall be full compensation for all work, materials, labor and incidentals required to complete the work as set forth in the description.

**BID ITEM 90042– WET AGGRESSIVE SEED MIX**

**DESCRIPTION**

Work under this bid item shall include all work, materials, labor, equipment and incidentals necessary to provide and place wet mesic seed as defined in these special provisions and the City of Madison Standard Specifications for Public Works Construction. Dormant native seeding shall occur between October 15, and January 31 to allow for stratification, see Article 207 of the standard specification for seeding information. Prior to application of seed, the Contractor shall verify with the Project Engineer whether to seed with temporary seed or native seed mix.

Wet aggressive seed shall be custom mixed or a modified pre-designed mix from an approved native seed supplier.

Seed at the rate identified below. Submit additions or substitutions and final mix to Project Engineer for approval. The Project Engineer shall inspect and approve the seed prior to placement.

Seed shall be native ecotypes. No improved varieties are allowed. Seed source shall be native ecotypes from Southeast Minnesota, Eastern Iowa, Southern Wisconsin, or Northern Illinois.

Proposed substitutions shall be submitted one week prior to bid due date.

The native mix shall be as listed below.

<b>WET AGGRESSIVE SEED MIX</b>		
<b>Botanical Name</b>	<b>Scientific Name</b>	<b>OZ/Acres</b>
Dark green bulrush	Scirpus atrovirens	32
Virginia wild rye	Elymus virginicus	32

**METHOD OF MEASUREMENT**

Wet Aggressive Seed Mix shall be measured by the **plan** square yard quantity. Any increases or decreases in seeding shall be measured by the Contractor and verified by the Project Engineer.

**BASIS OF PAYMENT**

Wet Mesic Seeding 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, placement, and incidentals required to complete the work as set forth in the description.

**BID ITEM 90043– MESIC AGGRESSIVE SEED MIX**

**DESCRIPTION**

Work under this bid item shall include all work, materials, labor, equipment and incidentals necessary to provide and place wet mesic seed as defined in these special provisions and the City of Madison Standard Specifications for Public Works Construction. Dormant native seeding shall occur between October 15, and January 31 to allow for stratification, see Article 207 of the standard specification for seeding information. Prior to application of seed, the Contractor shall verify with the Project Engineer whether to seed with temporary seed or native seed mix.

Mesic aggressive seed shall be custom mixed from an approved native seed supplier.

Seed at the rate recommended by the manufacturer. Submit additions or substitutions and final mix to Project Engineer for approval. The Project Engineer shall inspect and approve the seed prior to placement.

Seed shall be native ecotypes. No improved varieties are allowed. Seed source shall be native ecotypes from Southeast Minnesota, Eastern Iowa, Southern Wisconsin, or Northern Illinois.

<b>MESIC AGGRESSIVE SEED MIX</b>					
<b>GRASSES, SEDGES, &amp; RUSHES</b>					
<b>Botanical Name</b>	<b>Common Name</b>	<b>OZ/Acre</b>	<b>Total OZ</b>	<b>SEEDS/OZ</b>	<b>SEEDS/SF</b>
Andropogon gerardii	Big Bluestem	16	16.00	12000	4.41
Bouteloua curtipendula	Side Oats Grama	48	48.00	12500	13.77
Carex vulpinoidea	Brown Fox Sedge	3	3.00	110000	7.58
Poa palustris	Fowl Bluegrass	8	8.00	130000	23.88
Elymus virginicus	Virginia Wild Rye	16	16.00	4200	1.54
Bromus ciliatus	Fringed Brome	16	16.00	8000	2.94
Sorghastrum nutans	Indian Grass	8	8.00	12500	2.30
Scirpus atrovirens	Dark-Green Bulrush	2	2.00	450000	20.66
Glyceria striata	Fowl Manna Grass	0.5	0.50	110000	1.26
<b>GRASSES, SEDGES &amp; RUSHES TOTAL</b>		<b>117.50</b>	<b>117.50</b>		<b>78.33</b>
<b>WILDFLOWERS</b>					
Heliopsis helianthoides	Early Sunflower	8	8.00	6500	1.19
Achillea millefolium	Native Yarrow	2	2.00	180000	8.26
Agastache scrophulariaefolia	Purple Giant Hyssop	1	1.00	30000	0.69
Allium cernuum	Nodding Onion	3	3.00	8500	0.59

Cassia hebecarpa	Wild Senna	12	12.00	1400	0.39
Monarda fistulosa	Wild Bergamot	2	2.00	100000	4.59
Napaea dioica	Glade Mallow	8	8.00	2100	0.39
Oenothera biennis	Common Evening Primrose	4	4.00	75000	6.89
Helenium autumnale	Sneezeweed	1	1.00	150000	3.44
Echinacea purpurea	Purple Coneflower	5	5.00	7000	0.80
Rudbeckia hirta	Black-Eyed Susan	6	6.00	130000	17.91
Solidago ohioensis	Ohio Goldenrod	3	3.00	140000	9.64
Vernonia fasciculata	Ironweed	1	1.00	35000	0.80
Verbena hastata	Blue Vervain	4	4.00	100000	9.18
Asclepias incarnata	Marsh (Red) Milkweed	1	1.00	5500	0.13
Liatris spicata	Marsh Blazing Star	3	3.00	20000	1.38
Eupatorium perfoliatum	Boneset	0.3	0.30	200000	1.38
Hypericum pyramidatum	Great St. John's Wort	2	2.00	200000	9.18
Lobelia siphilitica	Great Blue Lobelia	0.3	0.30	500000	3.44
<b>WILDFLOWERS TOTAL</b>		<b>66.60</b>			<b>80.27</b>
<b>SEED MIX TOTALS</b>		<b>184.10</b>			<b>158.60</b>

For Contractor's information, a custom seed mix meeting these specifications is available from Agrecol, LLC.

#### **METHOD OF MEASUREMENT**

Mesic Aggressive Seed Mix shall be measured by the **plan** square yard quantity. Any increases or decreases in seeding shall be measured by the Contractor and verified by the Project Engineer.

#### **BASIS OF PAYMENT**

Mesic Aggressive 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, placement, and incidentals required to complete the work as set forth in the description.

#### **BID ITEM 90044- WOODLAND SEED MIX**

##### **DESCRIPTION**

Work under this bid item shall include all work, materials, labor, equipment and incidentals necessary to provide and place wet mesic seed as defined in these special provisions and the City of Madison Standard Specifications for Public Works Construction. Dormant native seeding shall occur between October 15, and January 31 to allow for stratification, see Article 207 of the standard specification for seeding information. Prior to application of seed, the Contractor shall verify with the Project Engineer whether to seed with temporary seed or native seed mix.

Woodland Seed Mix shall be custom mixed from an approved native seed supplier.

Seed at the rate recommended by the manufacturer. The Project Engineer shall inspect and approve the seed prior to placement.

Seed shall be native ecotypes. No improved varieties are allowed. Seed source shall be native ecotypes from Southeast Minnesota, Eastern Iowa, Southern Wisconsin, or Northern Illinois.

Proposed substitutions shall be submitted one week prior to bid due date.

The native mix shall be as listed below.

<b>WOODLAND SEED MIX</b>		
<b>Botanical Name</b>	<b>Common Name</b>	<b>OZ/Acres</b>
Caulophyllum thalictroides	Blue cohosh	12
Geranium maculatum	Wild geranium	1
Solidago ulmifolia	Elm-leaved goldenrod	1
Elymus virginicus	Virginia wild rye	32
Hystrix patula	Bottlebrush grass	16
Carex blanda	Common wood sedge	2

**METHOD OF MEASUREMENT**

Woodland Seed Mix shall be measured by the plan square yard quantity. Any increases or decreases in seeding shall be measured by the Contractor and verified by the Project Engineer.

**BASIS OF PAYMENT**

Woodland 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, placement, and incidentals required to complete the work as set forth in the description.

**BID ITEM 90045– MESIC SUNNY SEED MIX**

**DESCRIPTION**

Work under this bid item shall include all work, materials, labor, equipment and incidentals necessary to provide and place wet mesic seed as defined in these special provisions and the City of Madison Standard Specifications for Public Works Construction. Dormant native seeding shall occur between October 15, and January 31 to allow for stratification, see Article 207 of the standard specification for seeding information. Prior to application of seed, the Contractor shall verify with the Project Engineer whether to seed with temporary seed or native seed mix.

Mesic Sunny Seed Mix shall be any seed mix from the City of Madison Standard Specifications for "Infiltration Basin Side Slopes and Tallgrass Prairie Seed Mix" section 207.2 (a) 3.

Seed at the rate recommended by the manufacturer. Submit additions or substitutions and final mix to Project Engineer for approval. The Project Engineer shall inspect and approve the seed prior to placement.

Seed shall be native ecotypes. No improved varieties are allowed. Seed source shall be native ecotypes from Southeast Minnesota, Eastern Iowa, Southern Wisconsin, or Northern Illinois.

**METHOD OF MEASUREMENT**

Mesic Sunny Seed Mix shall be measured by the plan square yard quantity. Any increases or decreases in seeding shall be measured by the Contractor and verified by the Project Engineer.

**BASIS OF PAYMENT**

Mesic Sunny 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, placement, and incidentals required to complete the work as set forth in the description.

**BID ITEM 90046 – TEMPORARY RRFB**

**DESCRIPTION**

The Contractor shall create a temporary, pedestrian-activated Rectangular Rapid Flashing Beacon (RRFB) flashers to cross University Ave during stages 3 and 4 for the Traffic Control Plan in the locations shown on the plan. The Contractor shall develop an RRFB system plan and send to the Ali Heinritz for approval at [AHeinritz@cityofmadison.com](mailto:AHeinritz@cityofmadison.com), 608-267-1102, at least 2 weeks prior to beginning stage 3 of the traffic control plan.

The Contractor shall:

- Furnish, install, maintain, and remove wood poles.
- Furnish, install, and adjust solar powered RRFB signs/flashers.
  - o Use back to back mounted signs/RRFB on all 3 wood poles (two in terrace, one in median).
- Furnish and install all mounting hardware.

The RRFB shall use radio communication and will need a battery and radio "housing" temporarily. Included in the RRFB system plan, the Contractor shall clearly note where the radio will be housed.

The Contractor shall have the manufacturer preset the RRFB flash time to 33 seconds.

When the project is complete, the Contractor shall remove the wood poles, and the City shall take ownership of the RRFB equipment. The Contractor shall deliver the RRFB equipment (light bar, buttons, controller, solar panel, batteries, communication devices, and signs) to the Traffic Engineering Shop located at 1120 Sayle Street.

**METHOD OF MEASUREMENT**

The City will measure Temporary RRFB as a Lump Sum, completed in accordance with the contract and accepted, acceptably completed.

**BASIS OF PAYMENT**

Payment is full compensation for submitting a RRFB system plan, furnishing and installing, and uninstalling the RRFB including wire and all necessary mounting hardware and appurtenances, testing, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

**ATTACHMENT A – CGC GEOTECHNICAL REPORT**

**ATTACHMENT B – SPECIES LIST**

**ATTACHMENT C – EROSION CONTROL INSPECTION CHECKLIST**

**END OF SPECIAL PROVISIONS**



Construction • Geotechnical  
Consulting Engineering/Testing

August 20, 2021  
C21051-10

Ms. Joanna OBrien  
City of Madison – Engineering Department  
210 Martin Luther King, Jr. Boulevard, Room 115  
Madison, WI 53710

Re: Geotechnical Exploration Report - Updated  
Proposed Storm Sewer Box Culvert  
Mendota-Grassman Greenway  
Madison, Wisconsin

Dear Ms. OBrien:

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/construction and roadway reconstruction. An initial report dated August 20, 2021, was issued prior to the request for additional borings at University Avenue and support structures to address existing underlying utility protection. This report should be considered comprehensive and the initial report can be set aside. 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 new precast concrete box culverts will be installed to replace existing steel and concrete culverts which cross below Camelot Drive just northwest of Baker Avenue, and below University Avenue between Baker Avenue and Hickory Hollow Drive. The box culverts will allow stormwater to travel beneath the roads and along an existing drainage/greenway towards Lake Mendota to the northeast.

Preliminary plans provided to CGC indicate that the Camelot Drive culvert will be 188 ft long and consist of dual (side by side) rectangular culverts each with an inside opening of 10 ft wide by 4 ft tall. The base of culvert elevations will be near EL 850 ft and 851 ft at the east and west ends of the culvert, respectively, which is about 6 ft below the pavement surface near the center of the road near EL 857 ft. The base of the culverts will be between about 3 to 4 ft below existing site grades outside of the roadway. The sides and bottoms of the structures will be approximately 12 in. thick.

The University Avenue culvert will be 140 ft long and consist of dual rectangular culverts each with an inside opening of 9 ft wide by 6 ft tall. The base of culvert elevations will be near EL 862.8 ft and 863.1 ft at the north and south ends of the pipe, respectively, which is about 19 ft below the pavement surface near the center of the road near EL 882 ft. The base of the culvert will be between about 3 to 4 ft below existing site grades outside of the roadway. The sides and bottoms of the structures will be approximately 12 in. thick.

Preliminary plans show that roadway grades will remain unchanged or be minimally altered following installation of the new culverts and the pavement will be replaced in-kind.

## SUBSURFACE CONDITIONS

A total of four Standard Penetration Test (SPT) soil borings were completed for this project. Borings 1 and 2 were completed along Camelot Drive to a depth of 25 ft, at which point auger refusal occurred on possible bedrock or cobbles/boulders. Borings 3 and 4 were completed along University Avenue to depths of 42 to 43.8 ft, at which point drill-string advancement was very slow under high down-pressure (i.e. "practical refusal" occurred on apparent bedrock). The borings were drilled by Badger State Drilling (under subcontract to CGC) on July 21 (Borings 1 and 2) and October 8 and 10 (Borings 3 and 4), 2021 using a truck-mounted, rotary drill-rig equipped with hollow-stem augers, mud-rotary tools and an automatic SPT hammer. The borings were located in the field by CGC and ground surface elevations at the boring locations were estimated using preliminary plans provided, which contain 1-ft contour lines. Therefore, the elevations should be considered approximate ( $\pm 1$  ft). The boring locations are shown in plan on the Soil Boring Location Map attached in Appendix B.

The subsurface conditions at the boring locations were similar and a generalized profile includes the following strata, in descending order:

- About 11 to 12 in. of *pavement layers*, including 4 in. of *asphalt* over 7 to 8 in. of *base course*, or 8 in. of *topsoil fill* at Boring 3; underlain by
- About 5 to 17 ft of existing roadway embankment *fill*, comprised of mixture of medium stiff to stiff clay and granular soils; over
- Loose to very dense *silt* and *sand* having variable gravel contents, and extending to auger refusal on possible bedrock, or potentially cobbles/boulders within the granular deposits at a depth of about 25 to 44 ft below existing site grades. Scattered soft to stiff *lean clay* seams were encountered within the silt and sand deposits at Borings 3 and 4.

Groundwater was encountered in the Camelot Drive borings at depths of about 8.5 ft below current site grades during drilling, corresponding to an approximate groundwater elevation of 849.5 ft. Water level readings approximately 30 minutes and 3 hrs after the completion of drilling at B-2 and B-1, respectively, showed that groundwater levels rose to a depth of 6 ft, or approximately EL 852 ft. At University Avenue, groundwater levels were encountered at 12 to 14 ft below current site grades, corresponding to an approximate elevation of 867 and 869 ft at Borings 3 and 4, respectively. Longer-term water level readings were obscured due to the use of drilling fluid.

Groundwater levels on these sites are generally expected to be influenced by the water level in nearby Lake Mendota, as well as due to seasonal variations in precipitation (e.g., flow through the



greenway). For reference, on the days the soil borings were conducted, the water level in Lake Mendota was recorded at about EL 850.01 ft (July 21, 2021) and 850.05 (October 10, 2021), according to the Dane County Land & Water Resources Department *Lake Levels & Information* online platform. 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. *Note that dewatering and subgrade stabilization will likely be required during culvert installation due to the presence of groundwater at or just below proposed structure elevations.* In addition, due to the presence of existing utilities which will remain below the planned culvert crossings, special culvert support considerations will be required. The following subsections provide our recommendations for box culvert and storm sewer foundation design/construction and pavement reconstruction.

### 1. Box Culvert Design

#### A. General

Based on bottom of culvert elevations and the groundwater conditions encountered in the borings, *dewatering should be anticipated such that bearing soils do not become disturbed during excavation or structure installation.* In addition, a plan to divert water from the upstream side of the crossings away from the excavation will also likely be necessary during and after periods of precipitation.

We recommend that groundwater levels be lowered at least 2 ft below the bottom of the planned excavation depths (e.g., bottom of stabilization layer 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 pumps 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 a vacuum well-point system. Dewatering means and methods are the responsibility of the contractor.

The medium dense silt and clayey soils anticipated at the bottom of the excavations are expected to be difficult to dewater and can be susceptible to disturbance due to typical construction activity. We therefore recommend including a minimum 12-in. thick layer of compacted clear stone at the base of the excavation to help protect the subgrade from disturbance and create a working platform. Shallow sump-pumps can also be placed in the clear stone to provide supplemental dewatering, if needed. 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.

The foundation analysis for the culverts 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*.



Because the replacement structures will largely be constructed within the existing embankments, the weight of the new concrete structure and soil/pavement cover over (and around) will be less than the weight of the removed embankment fill materials. Therefore, the subgrade soils will generally experience a minimal increase (potential net decrease) in pressure and bearing capacity thus settlement below the structures is generally not expected to be an issue. Further details regarding bearing resistance and settlement estimates are discussed in the following sections.

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

- The unit weight of soil placed above the culverts 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,  $K_0 = 0.5$  for *at-rest* conditions.
  - Angle of internal friction =  $30^\circ$  for granular backfill
- Unit weight for a typical granular backfill would be the same as soil above the structure, 120 pcf.
- To control infiltrating surface water following installation of the culverts, standard drainage provisions should be included, such as backfilling with reasonably free-draining (similar to WisDOT Grade 1) granular backfill. The existing embankment fill soils which will be removed are not considered suitable for re-use as backfill. Therefore, importing of suitable granular backfill soils, which is a typical requirement for City projects, will be necessary.
- A minimum 12-in. thick layer of compacted 1-in. crushed clear stone is recommended below the base of the structures to protect the subgrade from disturbance, aid in dewatering efforts and act as a working platform during construction as previously discussed. The stone layer should be compacted and 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 degradation from water.
- Appropriate scour protection should be provided to prevent undermining of the box culvert.

## **B. Calculated Bearing Resistance - Conventional Structure Support**

While the medium dense natural silt and loose to medium dense natural sands expected at the base of the stabilization layer can 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 2,000 psf be used for design. Note that this value is above the estimated increase in pressure below the new structures, as described above, so the Capacity to Demand Ratio (CDR) will exceed 1.0. The recommended bearing resistance is contingent on unsuitable existing fill and softer natural clay soils being removed as Excavation Below Subgrade (EBS), as well as the subgrade being effectively dewatered *in advance* of excavation (if required).

Although generally similar soil conditions were observed in the soil borings, some variability in subgrade conditions should be expected. Therefore, the quality and suitability of the soil exposed at storm sewer 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 present at the base of the culvert or EBS excavation, and to provide corrective measures, if necessary. Based on the borings and proposed bottom of culvert elevations, EBS of 1 to 2 ft of existing fill may be required in the vicinity of Boring 1, and removal of 1 to 2 ft of soft to very soft clay may be required in the vicinity of Borings 3 and 4.

The primary concern with silt and clay soils is their tendency to soften/loosen, lose bearing capacity and increase the potential for settlement when saturated. The width of EBS, where required, should extend about 1 ft beyond the base of the structure on each side. Where the thickness of unsuitable soil removed (where required) 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 clear stone (enveloped in geotextile) compacted with a large vibratory plate compactor (or hoe-pak) until no 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, 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 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 structures will be installed within the existing roadway embankment and because the existing grades outside of the road are also higher than proposed bottom of culvert elevations, minimal net increase in pressure is expected due to the weight of the new structures and soil/pavement cover above it. Because of this, and provided the subgrade is prepared as described in detail above, total settlement less than about 1 in. is expected where culverts



bear directly on soil (or stabilization layer over soil). Typically, differential settlement will be equal to about half of the total settlement, or less than about 0.5 in.

#### **D. Special Considerations – Culvert Support Over Existing Utility Crossing**

It is our understanding that Madison Metropolitan Sewerage District (MMSD) has identified four sanitary sewer and storm sewer crossings which will be located below the new culvert crossings. Although we expect that the net increase in stress applied by the new structures will be minimal, we understand that there is concern regarding stress induced upon, and settlement of the existing utilities which will remain in-place below the new structures. Therefore, in order to limit (or eliminate) potential negative impacts of the new culverts, we are providing additional foundation support recommendations for portions of the proposed structures which cross above the existing utilities.

It is our opinion that helical piers or micropiles could be considered for support of the culverts at existing utility crossings. Helical piers and micropiles are deep foundation systems designed to transfer loads vertically to bear within deeper soils or bedrock. In this case, the deep foundation systems would be utilized in combination with a structural, cast-in-place concrete pier/pile cap or slab installed over the utility and below the pre-cast culvert in order to transfer the loads to greater depths while bypassing the existing utilities. The following subsections provide specific recommendations regarding helical piers and micropile design and installation. While driven piles could also be considered, helical piers and micropiles are typically more economically favorable. In addition, smaller equipment (e.g., excavator or skidsteer) compared to pile driving equipment is generally required, which also may be favorable for these projects. Driven piles are not further discussed in this report, but we can provide additional details, if desired.

##### *I. Helical Piers*

Helical pier capacity will vary depending on the number and size of helices, depth of installation and bearing stratum. In general, we anticipate that helical piers will develop adequate capacity within the medium dense to very dense natural granular soils underlying each of the sites. Somewhat variable depths should be expected in order to develop target capacities, with actual installation depth dependent on required capacity and helix configuration.

The installation torque is correlated with capacity, although static load tests can also be completed to confirm the ultimate and allowable capacities. A minimum factor of safety of 2.0 to 3.0 is generally used for helical pier design. If a factor of safety of 2.0 is used to determine the allowable helical pier capacity, we recommend that at least three static load tests be performed to confirm the helical pier design satisfies the project requirements. The static load tests should be performed on piers installed to similar installation depths and torques as production piers. Additionally, the torque of each pier should be monitored during installation to document that each pier is torqued to the minimum torque established by the static load tests or empirical correlations to ultimate capacity. If static load tests are not performed, we recommend using a minimum factor of safety of 2.5 to 3.0 in determining the allowable capacity, and the installation torque of each pier should be monitored, which is empirically

correlated to the ultimate capacity.

*Since helical piers are proprietary, the helical pier capacities should be considered approximate, and the helical pier installer should determine the appropriate helices configuration and depth necessary to satisfy project requirements. Soil stratigraphy and properties should be expected to vary across the site, as shown in the borings, which will affect helical pier installation depths to achieve given capacity. Actual design depths should be determined by an independent analysis using specific helix configurations proposed on the project.*

Other helical pier considerations include the following:

- *Prospective helical pier contractors should be aware of the presence of cobbles and boulders within the deeper, predominantly dense natural sand strata, that may impact helical pier installation.* The helical pier installer should have provisions to deal with the presence of potential obstructions. If obstructions are encountered, removing obstructions with an excavator would be one method to deal with the obstructions. Using smaller diameter helix configuration may also be necessary to assist in the installation process, but may require deeper piers to develop capacity.
- The loose silt and softer clay soils have relatively low lateral capacity. As such, round helical pier shafts, which have higher resistance to buckling, are recommended over square shafts. A buckling analysis should be completed to check that the pier shaft has adequate buckling resistance.

## II. Micropiles

Micropiles are a drilled foundation system that can be advanced into soil (or bedrock) through the use of different drilling techniques. Micropile diameters typically range from about 5 to 9 in., and the upper part of the borehole is usually cased, with the bottom part of the hole not cased. After drilling, a high-strength threaded steel bar is placed in the borehole and grouted in-place. Grout placement can occur under pressure to improve the bond strength between the grout and formation, which is recommended in the deeper granular soils or bedrock where capacity is likely to be developed. End bearing of micropiles should be neglected.

Other items that should be considered in the micropile design:

- The minimum spacing between micropiles should be the larger of 30 in. or three micropile diameters.
- Appropriate corrosion protection should be provided since this application is considered a permanent installation.



**2. Pavement Reconstruction**

**A. General**

In our opinion, the mixed clayey to sandy fill materials encountered beneath the base course may prove generally satisfactory for proposed roadway support beyond the limits of culvert construction and associated backfill. Where areas of softer clays are encountered (such as where pocket penetrometer values are near 1 tsf or less), they may need to be undercut/removed and replaced with granular fill or additional base course. Furthermore, significant construction traffic could destabilize the existing materials and increase the potential for undercuts. Granular materials should be thoroughly compacted and evaluated for stability before the placement of additional fill and/or base course. Pockets of excessively organic soil should also be removed. Standard earthwork-related techniques that should be used during roadway construction include:

- Proof-rolling of the exposed subgrades;
- Undercutting and/or stabilization in soft areas; and
- Compaction control of fill/backfill materials.

**B. Pavement Design**

Clays will control the pavement design, as we anticipate that the pavement subgrades will generally consist of fill materials containing clay. The following *generalized* parameters should be used to develop the design pavement section:

AASHTO classification	A-6
Frost group index	F-3
Design group index	14
Soil support value	3.9
Subgrade modulus, k (pci)	125
Estimated percent shrinkage	20 - 30
Estimated CBR value	2-5

Assuming University Avenue is considered a local business/arterial street, we estimate it could receive between 51 to 275 ESALs (18,000 pound Equivalent Single Axle Loads). A typical pavement design per WisDOT Standard Specifications should meet MT (E-3) requirements. Thicker pavements could be necessary pending traffic counts. If Camelot Drive experiences traffic volumes of up to 3000 cars and 100 trucks per day per design lane, a typical pavement design per WisDOT Standard Specifications should meet LT (E-1) requirements.

**C. Compaction Requirements**

Regarding backfilling along and above the proposed box culverts, we anticipate that imported sands will be necessary which is a typical requirement for City projects. On-site sands could be considered

for reuse as backfill but they should be separated from clay soils and selectively stockpiled. We recommend that at least a level of 95% compaction be achieved within backfill material placed within the final 3 feet below finished subgrades (including undercut backfill - if any), with 90% compaction required at depths greater than 3 feet. The specified levels of compaction are based on modified Proctor methods (ASTM D1557). In addition, the backfill material should be placed and compacted in accordance with our Recommended Compacted Fill Specifications presented in Appendix C.

## 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 during construction. Fill/backfill should never be placed while frozen or on frozen ground.
- 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 installation. Temporary cofferdams/storm sewer diversions and dewatering will be required so that culvert 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, as discussed above, and also to assist in dewatering efforts.

## 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 proceed in accordance with our recommendations, qualified construction inspectors should monitor the following operations:

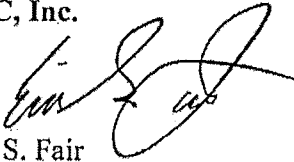
- Subgrade preparation;
- Placement of compacted fill/backfill; and
- Concrete and asphalt placement.

\* \* \* \* \*

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.



Eric S. Fair  
Senior Staff Engineer/Geologist



Alex J. Bina, P.E.  
Consulting Professional

- Encl: Appendix A - Subsurface Exploration  
Appendix B - Soil Boring Location Maps (2)  
Logs of Test Borings (4)  
Log of Test Boring-General Notes  
Unified Soil Classification System  
Appendix C - Recommended Compacted Fill Specifications  
Appendix D - Document Qualifications

**APPENDIX A**  
**SUBSURFACE EXPLORATION**



## APPENDIX A

### SUBSURFACE EXPLORATION

A total of four Standard Penetration Test (SPT) soil borings were completed for this project. Borings 1 and 2 were completed along Camelot Drive to a depth of 25 ft, at which point auger refusal occurred on possible bedrock or cobbles/boulders. Borings 3 and 4 were completed along University Avenue to depths of 42 to 43.8 ft, at which point practical refusal occurred on apparent bedrock. The borings were drilled by Badger State Drilling (under subcontract to CGC) on July 21 (Borings 1 and 2) and October 8 and 10 (Borings 3 and 4), 2021 using a truck-mounted rotary drill-rig equipped with hollow-stem augers, mud-rotary tools and an automatic SPT hammer. The borings were located in the field by CGC and ground surface elevations at the boring locations were estimated using preliminary plans provided, which contain 1-ft contour lines. Therefore, the elevations should be considered approximate ( $\pm 1$  ft).

Standard penetration test (SPT) soil samples were obtained at 2.5-foot intervals to approximate invert elevations and then continuously for 15 feet as requested. Sampling beyond 15 feet below invert elevations occurred at 5-foot intervals. The soil 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 to the next sample interval by a hollow-stem auger or rotary-bit string to the maximum depth explored.

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

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

During the field exploration, the driller visually classified the soil and prepared a field log. Water level observations were made in the boring during and shortly after drilling which are shown at the bottom of the individual boring logs. Upon completion of drilling, the borings were backfilled to satisfy WDNR regulations and the soil samples delivered to our laboratory for visual classification. The soils were classified by CGC using the Unified Soil Classification System. The final logs prepared by the 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 (4)  
LOG OF TEST BORING-GENERAL NOTES  
UNIFIED SOIL CLASSIFICATION SYSTEM**



Lake Mendota


Baker Avenue

Camelot Drive

B-1

B-2

**Legend**

 Denotes Boring Location

**Notes**

1. Soil Borings performed by Badger State Drilling in July 2021
2. Boring locations are approximate

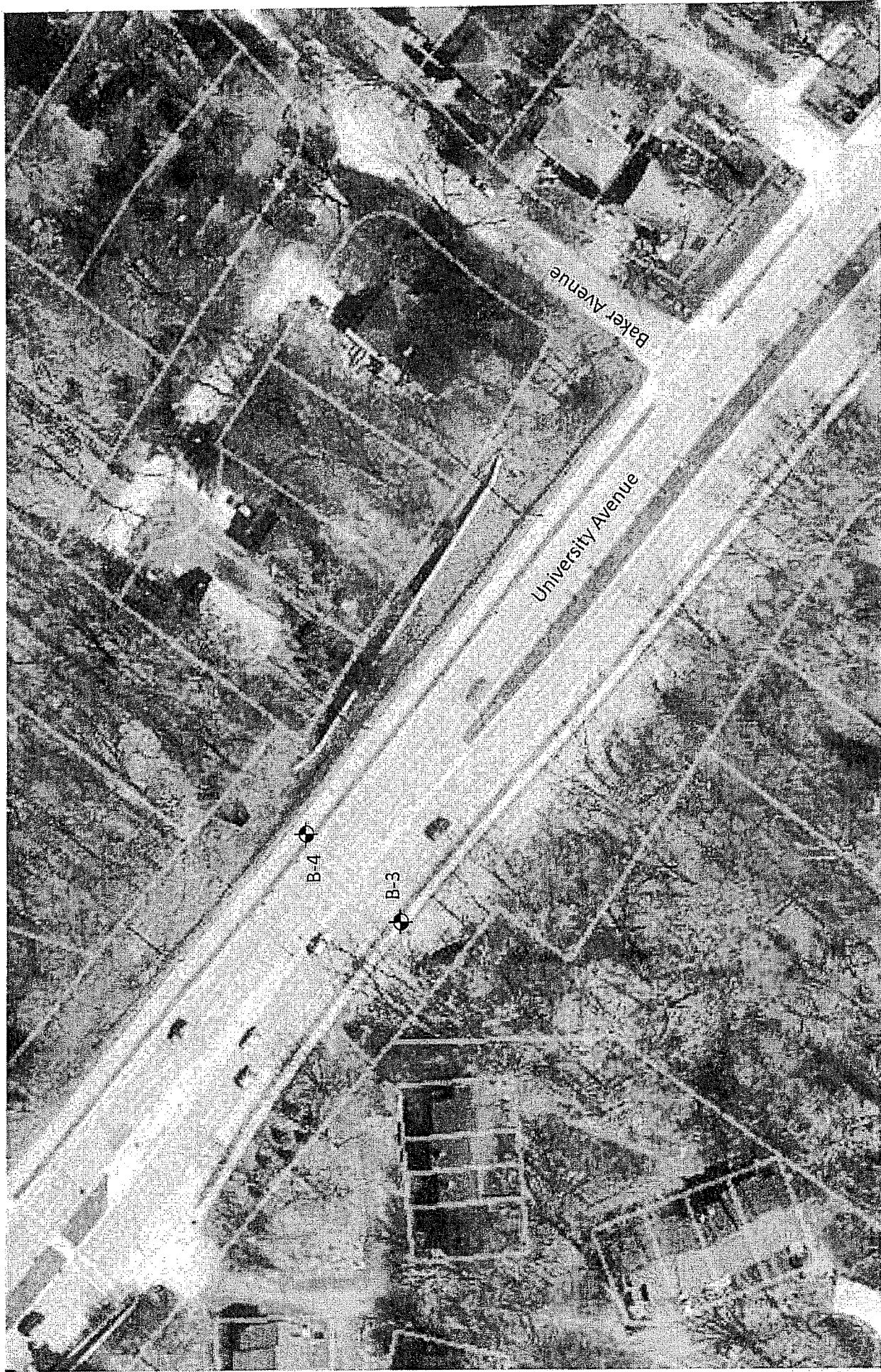


Scale: Reduced

Date:	7/2021
Job No.	C21051-10



Soil Boring Location Map  
 Mendota-Grassman Greenway  
 Camelot Drive  
 Madison, WI



**Legend**

☉ Denotes Boring Location

**Notes**

1. Soil Borings performed by Badger State Drilling in October 2021
2. Boring locations are approximate



Scale: Reduced

Date:  
10/2021

Job No.  
C21051-10

CGC, Inc.

Soil Boring Location Map  
Mendota-Grassman Greenway  
University Avenue  
Madison, WI



# LOG OF TEST BORING

Project Mendota-Grassman Greenway  
 Location Madison, WI

Boring No. 1  
 Surface Elevation (ft) 858±  
 Job No. C21051-10  
 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
					4 in. Asphalt Pavement/8 in. Base Course					
1	18	M	11		FILL: Medium Dense Brown and Dark Brown Sand with Clay to 3'					
2	18	M	4		Soft to Medium Stiff Bluish-Gray Sandy Clay to 5'					
				5	Medium Dense Sand with Gravel to 8'	(0.5)				
3	18	M/W	27							
4	18	W	20		Medium Dense, Brown Sandy SILT, Trace to Little Gravel and Clay (ML)					
5	20	W	21							
6	24	W	41		Dense to Very Dense, Brown Silty Fine SAND, Some Gravel, Trace Clay (SM)					
7	20	W	58/ 10"							
8	10	W	8		Loose, Light Brown Fine SAND, Some Silt, Trace Gravel (SM)					
9	24	W	18		Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
10	24	W	19							
11	15	W	49							
12	0	-	50/2"		Presumed Bedrock (Hard Drilling)					
				25	End Boring at 25 ft Due to Auger Refusal on Presumed Bedrock/Possible Boulder					
					Borehole backfilled with bentonite chips and asphalt patch					
				30						

## WATER LEVEL OBSERVATIONS

While Drilling 8.5' Upon Completion of Drilling 6'  
 Time After Drilling \_\_\_\_\_ 3 Hour  
 Depth to Water \_\_\_\_\_ 6'  
 Depth to Cave in \_\_\_\_\_ 8'

## GENERAL NOTES

Start 7/21/21 End 7/21/21  
 Driller BSD Chief MC Rig CME-55  
 Logger GB Editor ESF  
 Drill Method 2.25" HSA; Autohammer

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



# LOG OF TEST BORING

Project Mendota-Grassman Greenway  
 Location Madison, WI

Boring No. 2  
 Surface Elevation (ft) 858±  
 Job No. C21051-10  
 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
					4 in. Asphalt Pavement/7.5 in. Base Course					
1	10	M	8		FILL: Stiff Dark Brown to Black Sandy Clay with Gravel to 3.5'	(1.25)				
2	18	M/W	16		Medium Dense Brown Sand with Gravel and Silt to 5.5'					
3	18	M	29		Medium Dense, Brown Sandy SILT, Trace to Little Gravel and Clay (ML)					
4	18	W	14							
5	20	W	17							
6	24	W	4		Loose to Very Loose, Brown Silty Fine SAND, Some Gravel, Trace Clay (SM)					
7	24	W	5							
8	24	W	29		Medium Dense, Light Brown Fine SAND, Some Silt and Gravel (SM)					
9	24	W	32		Dense, Light Brown Fine to Medium SAND, Some Gravel, Trace Silt (SP)					
10	24	W	32		Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
11	1	M	50/4"		Very Dense, Brown to Gray GRAVEL, Trace to Little Sand, Scattered Cobbles (GP)					
12	0	-	50/1"		Presumed Bedrock (Hard Drilling)					
					End Boring at 25 ft Auger Refusal on Presumed Bedrock/Possible Boulder					
					Borehole backfilled with bentonite chips and asphalt patch					

## WATER LEVEL OBSERVATIONS

While Drilling ∇ 8.5' Upon Completion of Drilling 6'  
 Time After Drilling \_\_\_\_\_ 30 Min.  
 Depth to Water \_\_\_\_\_ 6' ∇  
 Depth to Cave in \_\_\_\_\_ 12'

## GENERAL NOTES

Start 7/21/21 End 7/21/21  
 Driller BSD Chief MC Rig CME-55  
 Logger GB Editor ESF  
 Drill Method 2.25" HSA; Autohammer

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



# LOG OF TEST BORING

Project Mendota-Grassman Greenway  
University Avenue  
 Location Madison, WI

Boring No. 3  
 Surface Elevation (ft) 881±  
 Job No. C21051-10  
 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)		q <sub>u</sub> (qa) (tsf)	W	LL	PL	LI
1	18	M	14		8 in. TOPSOIL					
2	14	M	4	5	FILL: Medium Dense Brown Sand with Silt and Gravel to 3'					
3	18	W	7		Loose to Very Loose Light Brown Sand with Silt to 8'					
4	16	M	5	10	Soft Brown Clay with Sand to 10'	(0.3)				
5	18	M	15		Medium Dense Brown Sand with Silt to 13'					
6	18	W	15	15	Medium Dense, Light Brown Sandy SILT (ML - Possible Fill)					
7	18	W	7		Loose, Dark Brown SILT, Some Sand, Trace Clay and Organics (ML)					
8	18	M	4	20	Soft, Bluish-Gray Lean CLAY, Trace to Little Sand (CL - Sandy Near 20')	(0.4)				
9	14	W	23		Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel (SM)					
10	12	W	24		Scattered Thin (<1/2-in.) Clay Seams Beginning Near 25'					
11	18	W	18	25	Becoming Loose Near 29'					
12	16	W	15		Medium Dense, Light Brown Fine to Coarse SAND, Trace Silt and Gravel (SP)					
13	14	W	7	30	Medium Dense, Brown Fine to Coarse SAND and GRAVEL, Some Silt (SM/GM)					
14	16	W	12		Medium Stiff to Soft, Gray Sandy Lean CLAY, Trace Gravel and Organics (CL)	(0.75) (0.4)				
15	16	W	27		Very Dense, Gray Fine to Medium SAND, Some Silt and Gravel (SM)					
16	10	M	7	35	Firm Drilling Beginning at 42'					
17	18	W	56	40	Apparent Bedrock Hard Drilling Beginning at 43'					
18	1	W	50/3"	45	End of Boring at 43.75 ft Due to Refusal on Apparent Bedrock					
				50	Backfilled with Bentonite Slurry and Chips					

WATER LEVEL OBSERVATIONS					GENERAL NOTES				
While Drilling	∇ 14.0'	Upon Completion of Drilling			Start	10/8/21	End	10/8/21	
Time After Drilling					Driller	BSD	Chief	MC	Rig CME-55
Depth to Water					Logger	KD	Editor	ESF	
Depth to Cave in					Drill Method	2.25" HSA; to 10', 3 7/8"			
<small>The stratification lines represent the approximate boundary between soil types and the transition may be gradual.</small>					<b>RB w/Mud to 43.75'; Autohammer</b>				



# LOG OF TEST BORING

Project Mendota-Grassman Greenway  
University Avenue  
 Location Madison, WI

Boring No. 4  
 Surface Elevation (ft) 881±  
 Job No. C21051-10  
 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
					4 in. Asphalt Pavement/7 in. Base Course					
1	4	M	13		FILL: Medium Dense Dark Brown and Brown Sand with Silt, Gravel and Clay to 5'					
2	14	M	25							
3	18	M	9		Loose Brown and Light Brown Sandy Silt and Silty Sand to 16.5'					
4	8	M	7							
5	8	W	15		Medium Dense Light Brown Sand with Silt to 17.5'					
6	14	W	14							
7	18	W	7							
8	12	W	4		Soft to Very Soft, Dark Gray Lean CLAY, Some Sand, Trace Organics (CL)	(0.25)				
9	10	W	8		Loose, Gray Fine to Medium SAND, Some Silt and Gravel, Trace Clay (SM)					
10	12	W	6							
11	14	W	15		Very Soft, Gray Lean CLAY, Trace to Little Sand (CL)	(0.2)				
12	16	W	17		Medium Dense, Brown and Gray Fine to Medium SAND, Some Silt and Gravel, Trace to Little Clay (SM)					
13	16	W	18							
14	6	W	19							
15	4	W	46		Dense to Medium Dense, Brown Fine to Coarse SAND, Some Silt and Gravel (SM)					
16	16	W	24							
17	0	W	30		Firm Drilling Beginning at 40'					
					Apparent Bedrock Hard Drilling Beginning at 40.5'					
					End Boring at 42 ft Due to Refusal on Apparent Bedrock					
					Backfilled with bentonite slurry, chips and asphalt patch					

### WATER LEVEL OBSERVATIONS

While Drilling  12.0' Upon Completion of Drilling \_\_\_\_\_  
 Time After Drilling \_\_\_\_\_  
 Depth to Water \_\_\_\_\_  
 Depth to Cave in \_\_\_\_\_

### GENERAL NOTES

Start 10/12/21 End 10/12/21  
 Driller BSD Chief MC Rig CME-55  
 Logger KD Editor ESF  
 Drill Method 2.25" HSA; to 10', 3 7/8"  
RB w/Mud to 42'; 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 <sub>a</sub> -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<sub>a</sub> – Penetrometer Reading, tons/sq ft
- q<sub>u</sub> – 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
<b>Gravels with fines (More than 12% fines)</b>		
	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
<b>Sands with fines (More than 12% fines)</b>		
	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.)

<b>SILTS AND CLAYS</b> 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
<b>SILTS AND CLAYS</b> 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
<b>HIGHLY ORGANIC SOILS</b>		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

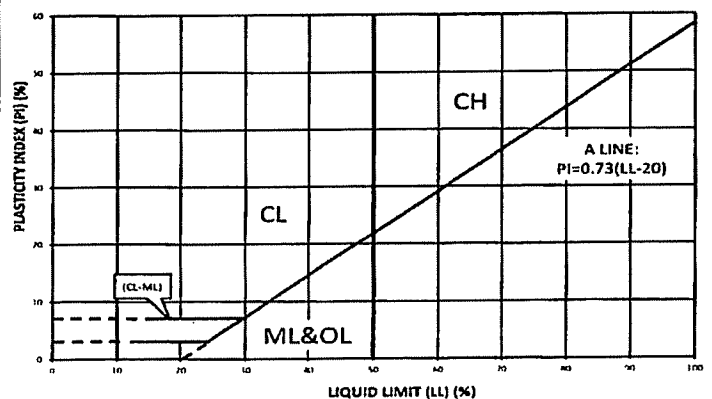
Limits plotting in shaded zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols

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**

**RECOMMENDED COMPACTED FILL SPECIFICATIONS**

## APPENDIX C

### CGC, INC.

## RECOMMENDED COMPACTED FILL SPECIFICATIONS

### General Fill Materials

Proposed fill shall contain no vegetation, roots, topsoil, peat, ash, wood or any other non-soil material which by decomposition might cause settlement. Also, fill shall never be placed while frozen or on frozen surfaces. Rock, stone or broken concrete greater than 6 in. in the largest dimension shall not be placed within 10 ft of the building area. Fill used greater than 10 ft beyond the building limits shall not contain rock, boulders or concrete pieces greater than a 2 sq ft area and shall not be placed within the final 2 ft of finish subgrade or in designated utility construction areas. Fill containing rock, boulders or concrete pieces should include sufficient finer material to fill voids among the larger fragments.

### Special Fill Materials

In certain cases, special fill materials may be required for specific purposes, such as stabilizing subgrades, backfilling undercut excavations or filling behind retaining walls. For reference, WisDOT gradation specifications for various types of granular fill are attached in Table 1.

### Placement Method

The approved fill shall be placed, spread and leveled in layers generally not exceeding 10 in. in thickness before compaction. The fill shall be placed at moisture content capable of achieving the desired compaction level. For clay soils or granular soils containing an appreciable amount of cohesive fines, moisture conditioning will likely be required.

It is the Contractor's responsibility to provide all necessary compaction equipment and other grading equipment that may be required to attain the specified compaction. Hand-guided vibratory or tamping compactors will be required whenever fill is placed adjacent to walls, footings, columns or in confined areas.

### Compaction Specifications

Maximum dry density and optimum moisture content of the fill soil shall be determined in accordance with modified Proctor methods (ASTM D1557). The recommended field compaction as a percentage of the maximum dry density is shown in Table 2. Note that these compaction guidelines would generally not apply to coarse gravel/stone fill. Instead, a method specification would apply (e.g., compact in thin lifts with a vibratory compactor until no further consolidation is evident).

### Testing Procedures

Representative samples of proposed fill shall be submitted to CGC, Inc. for optimum moisture-maximum density determination (ASTM D1557) prior to the start of fill placement. The sample size should be approximately 50 lb.

CGC, Inc. shall be retained to perform field density tests to determine the level of compaction being achieved in the fill. The tests shall generally be conducted on each lift at the beginning of fill placement and at a frequency mutually agreed upon by the project team for the remainder of the project.

**Table 1  
Gradation of Special Fill Materials**

Material	WisDOT Section 311	WisDOT Section 312	WisDOT Section 305			WisDOT Section 209		WisDOT Section 210
	Breaker Run	Select Crushed Material	3-in. Dense Graded Base	1 1/4-in. Dense Graded Base	3/4-in. Dense Graded Base	Grade 1 Granular Backfill	Grade 2 Granular Backfill	Structure Backfill
Sieve Size	Percent Passing by Weight .							
6 in.	100							
5 in.		90-100						
3 in.			90-100					100
1 1/2 in.		20-50	60-85					
1 1/4 in.				95-100				
1 in.					100			
3/4 in.			40-65	70-93	95-100			
3/8 in.				42-80	50-90			
No. 4			15-40	25-63	35-70	100 (2)	100 (2)	25-100
No. 10		0-10	10-30	16-48	15-55			
No. 40			5-20	8-28	10-35	75 (2)		
No. 100						15 (2)	30 (2)	
No. 200			2-12	2-12	5-15	8 (2)	15 (2)	15 (2)

**Notes:**

1. Reference: Wisconsin Department of Transportation *Standard Specifications for Highway and Structure Construction*.
2. Percentage applies to the material passing the No. 4 sieve, not the entire sample.
3. Per WisDOT specifications, both breaker run and select crushed material can include concrete that is 'substantially free of steel, building materials and other deleterious material'.

**Table 2  
Compaction Guidelines**

Area	Percent Compaction (1)	
	Clay/Silt	Sand/Gravel
<b>Within 10 ft of building lines</b>		
Footing bearing soils	93 - 95	95
Under floors, steps and walks		
- Lightly loaded floor slab	90	90
- Heavily loaded floor slab and thicker fill zones	92	95
<b>Beyond 10 ft of building lines</b>		
Under walks and pavements		
- Less than 2 ft below subgrade	92	95
- Greater than 2 ft below subgrade	90	90
Landscaping	85	90

**Notes:**

1. Based on Modified Proctor Dry Density (ASTM D 1557)

**APPENDIX D**  
**DOCUMENT QUALIFICATIONS**

# APPENDIX D

## DOCUMENT QUALIFICATIONS

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### I. GENERAL RECOMMENDATIONS/LIMITATIONS

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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

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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.

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



**ATTACHMENT B**

Botanical Name	Common Name
<i>Abutilon theophrasti</i>	Velvet Leaf
<i>Acer negundo</i>	Boxelder
<i>Acer platanoides</i>	Norway Maple
<i>Acer saccharinum</i>	Silver Maple
<i>Acer tartaricum</i>	Amur Maple
<i>Achyranthes japonica</i>	Japanese Chaff Flower
<i>Aegopodium podagraria</i>	Goutweed
<i>Ageratina altissima</i>	White snakeroot
<i>Akebia quinata</i>	Chocolate vine
<i>Ailanthus altissima</i>	Tree of Heaven
<i>Alliaria petiolata</i>	Garlic Mustard
<i>Alnus glutinosa</i>	Black/ European Alder
<i>Ambrosia artemisiifolia</i>	Common Ragweed
<i>Ambrosia trifida</i>	Giant Ragweed
<i>Ampelopsis brevipedunculata</i>	Porcelain berry
<i>Anthriscus sylvestris</i>	Wild Chervil
<i>Arctium minus</i>	Common Burdock
<i>Artemesia absinthium</i>	Wormwood
<i>Arundo donax</i>	Giant Reed
<i>Berberis</i> spp.	Barberry
<i>Berberis thunbergii</i>	Japanese Barberry
<i>Butomus umbellatus</i>	Flowering Rush
<i>Bunias orientalis</i>	Hill Mustard
<i>Campanula rapunculoides</i>	Bellflower
<i>Caragana arborescens</i>	Siberian Peashrub
<i>Cardamine impatiens</i>	Narrow Leaf Bittercress
<i>Carduus acanthoides</i>	Plumeless Thistle
<i>Carduus nutans</i>	Musk Thistle
<i>Celastrus orbiculatus</i>	Oriental Bittersweet
<i>Celastrus loeseneri</i>	Asian Bittersweet
<i>Centaurea biebersteinii</i>	Spotted Knapweed
<i>Centaurea diffusa</i>	Diffuse Knapweed
<i>Centaurea jacea</i>	Brown Knapweed
<i>Centaurea nigra</i>	Black Knapweed
<i>Centaurea nigrescens</i>	Tyrol Knapweed
<i>Centaurea repens</i>	Russian Knapweed
<i>Centaurea solstitialis</i>	Yellow star-thistle
<i>Chelidonium majus</i>	Celandine Poppy
<i>Chenopodium album</i>	Lamb's Quarters
<i>Circaea lutetiana</i>	Enchanter's Nightshade
<i>Cirsium arvense</i>	Canada Thistle
<i>Cirsium palustre</i>	Marsh Thistle
<i>Cirsium vulgare</i>	Bull Thistle
<i>Conium maculatum</i>	Poison Hemlock
<i>Convallaria majalis</i>	Lily-of-the-Valley
<i>Convolvulus arvensis</i>	Field Bindweed
<i>Convolvulus sepium</i>	Hedge Bindweed
<i>Cornus racemosa</i>	Grey dogwood
<i>Coronilla varia</i>	Crown Vetch
<i>Cynoglossum officinale</i>	Hound's Tongue
<i>Cytisus scoparius</i>	Scotch Broom
<i>Daucus carota</i>	Queen Anne's Lace
<i>Digitalis lanata</i>	Gregian Foxglove
<i>Dioscorea oppositifolia</i>	Chinese yam
<i>Dipsacus fullonum</i>	Teasel

Botanical Name	Common Name
<i>Dipsacus</i> spp.	Teasel
<i>Dipsacus laciniatus</i>	Cutleaf Teasel
<i>Elaeagnus angustifolia</i>	Russian Olive
<i>Elaeagnus umbellata</i>	Autumn Olive
<i>Elytrigia repens</i>	Quack Grass
<i>Epilobium hirsutum</i>	Hairy Willow Herb
<i>Epipactis helleborine</i>	Broad Leaved Helleborine
<i>Euonymus alatus</i>	Burning Bush
<i>Euphorbia cyparissias</i>	Cypress Spurge
<i>Euphorbia esula</i>	Leafy Spurge
<i>Fallopia japonica</i> ( <i>Polygonum cuspidatum</i> )	Japanese Knotweed
<i>Fallopia x bohemica</i>	Bohemian Knotweed
<i>Filipendula ulmaria</i>	Queen of the Meadow
<i>Galeopsis tetrahit</i>	Hempnettle
<i>Galium mollugo</i>	White Bedstraw
<i>Geum canadense</i>	White Avens
<i>Glechoma hederacea</i>	Creeping Charlie
<i>Glyceria maxima</i>	Tall or Reed Manna Grass
<i>Hackelia virginiana</i>	Stickseed
<i>Hedera helix</i>	English Ivy
<i>Hemerocallis fulva</i>	Daylily
<i>Heracleum mantegazzianum</i>	Giant Hogweed
<i>Hesperis matronalis</i>	Dame's Rocket
<i>Humulus japonicus</i>	Japanese Hops
<i>Impatiens glandulifera</i>	Policeman's Helmet
<i>Impatiens balfourii</i>	Balfour's Touch-Me-Not
<i>Iris pseudacorus</i>	Yellow Flag Iris
<i>Juglans nigra</i>	Black Walnut
<i>Knautia arvensis</i>	Field Scabious
<i>Lactuca canadensis</i>	Wild Lettuce
<i>Lactuca serriola</i>	Prickly Lettuce
<i>Lamiastrum galeobdolon</i>	Yellow Archangel
<i>Lamium</i> spp.	Deadnettle
<i>Leonurus cardiaca</i>	Motherwort
<i>Lepidium latifolium</i>	Perennial Pepperweed
<i>Lespedeza cuneata</i>	Chinese Lespedeza
<i>Leymus arenarius</i>	Lyme or Sand Ryegrass
<i>Ligustrum obtusifolium</i>	Border Privet
<i>Ligustrum vulgare</i>	Common Privet
<i>Linaria dalmatica</i>	Dalmation Toadflax
<i>Lonicera</i> spp.	Honeysuckle
<i>Lotus corniculatus</i>	Birdsfoot Trefoil
<i>Lysimachia nummularia</i>	Moneywort
<i>Lysimachia vulgaris</i>	Garden Yellow Loosestrife
<i>Lythrum salicaria</i>	Purple loosestrife
<i>Lythrum virgatum</i>	Wand Loosestrife
<i>Mellilotus</i> sp.	Sweet Clover
<i>Microstegium vimineum</i>	Japanese Stilt Grass
<i>Morus alba</i>	White Mulberry
<i>Myosotis sylvatica</i>	Woodland Forget-Me-Not
<i>Nasturtium officinale</i>	Watercress
<i>Oplismenus hirtellus</i> ssp. <i>undulatifolius</i>	Wavy Leaf Basket Grass
<i>Poa pratensis</i>	Kentucky Bluegrass
<i>Parthenocissus quinquefolia</i>	Virginia Creeper
<i>Pastinaca sativa</i>	Wild Parsnip
<i>Paulownia tomentosa</i>	Princess Tree

Botanical Name	Common Name
<i>Petasites hybridus</i>	Butterfly Dock
<i>Phalaris arundinacea</i>	Reed Canary Grass
<i>Phellodendron amurense</i>	Amur Cork Tree
<i>Phragmites australis</i>	Common Reed
<i>Phytolacca acinosa</i>	Himalayan Pokeweed
<i>Phytolacca americana</i>	American Pokeweed
<i>Pimpinella saxifraga</i>	Burnet Saxifrage
<i>Polygonum perfoliatum</i>	Mile-a-minute Vine
<i>Polygonum sachalinense</i>	Giant Knotweed
<i>Populus alba</i>	White Poplar
<i>Populus deltoides</i>	Eastern Cottonwood
<i>Populus grandidentata</i>	Big-tooth aspen
<i>Populus tremuloides</i>	Quaking Aspen
<i>Pueraria lobata</i>	Kudzu
<i>Quercus acutissima</i>	Sawtooth Oak
<i>Ranunculus ficaria</i>	Fig Buttercup
<i>Rhamnus cathartica</i>	Common Buckthorn
<i>Rhamnus frangula</i>	Glossy Buckthorn
<i>Ribes</i> spp.	Gooseberry
<i>Robinia hispida</i>	Rose Acacia
<i>Robinia pseudoacacia</i>	Black Locust
<i>Rosa multiflora</i>	Multiflora Rose
<i>Rubus armeniacus</i>	Himalayan blackberry
<i>Rubus phoenicolasius</i>	Wineberry
<i>Rubus</i> spp.	Raspberries
<i>Rumex crispus</i>	Curly Dock
<i>Salix interior</i>	Sandbar Willow
<i>Setaria</i> spp.	Foxtail Grasses
<i>Solanum dulcamara</i>	Deadly Nightshade
<i>Solidago canadensis</i>	Canada Goldenrod
<i>Solidago sempervirens</i>	Seaside Goldenrod
<i>Sonchus</i> spp.	Sow Thistle
<i>Sorbaria sorbifolia</i>	False Spirea
<i>Sorghum halepense</i>	Johnsongrass
<i>Symphyotrichum subulatum</i>	Annual Saltmarsh Aster
<i>Taeniatherum caput-medusae</i>	Medusahead
<i>Tanacetum vulgare</i>	Tansy
<i>Torilis arvensis</i>	Spreading hedgeparsley
<i>Torilis japonica</i>	Hedge Parsley
<i>Toxicodendron radicans</i>	Poison Ivy
<i>Tussilago farfara</i>	Coltsfoot
<i>Typha</i> spp.	Cattails
<i>Ulmus pumila</i>	Siberian Elm
<i>Urtica dioica</i>	Stinging Nettle
<i>Valeriana officinalis</i>	Garden Heliotripe
<i>Verbascum thapsus</i>	Mullein
<i>Viburnum opulus</i>	European Cranberry Bush
<i>Vinca minor</i>	Vinca
<i>Vincetoxicum nigrum</i>	Black Swallow-wort
<i>Vincetoxicum rossicum</i>	European Swallow-wort
<i>Vitis</i> spp.	Wild Grape
<i>Wisteria floribunda/sinensis</i>	Japanese/Chinese wisteria
<i>Zanthoxylum americanum</i>	Prickly Ash

# EROSION CONTROL INSPECTION CHECKLIST—Mendota Grassman Gwy

Inspector Name:	Inspection Date:	Weather:
Reason for inspection: Weekly $\geq 0.5$ in. rain in 24 hours		

## Greenway, Lake Mendota to Camelot

Modifications Required:	YES	NO	N/A	Modifications Required:	YES	NO	N/A
Silt Fence				Erosion Mat			
Ditch Checks				Temporary Seeding			
Construction Entrance				Permanent Seeding			
Street Sweeping				Silt Curtain			
Inlet Protection				Reinforced Ditch Check			
Other:				Other:			

**Note:** BMPs checked yes must complete "Description and Location of Issue" table

## Greenway, Camelot to University

Modifications Required:	YES	NO	N/A	Modifications Required:	YES	NO	N/A
Silt Fence				Erosion Mat			
Ditch Checks				Temporary Seeding			
Construction Entrance				Permanent Seeding			
Street Sweeping				Other:			
Inlet Protection				Other:			

**Note:** BMPs checked yes must complete "Description and Location of Issue" table

## Greenway, University to Old Middleton

Modifications Required:	YES	NO	N/A	Modifications Required:	YES	NO	N/A
Silt Fence				Erosion Mat			
Ditch Checks				Temporary Seeding			
Construction Entrance				Permanent Seeding			
Street Sweeping				Other:			
Inlet Protection				Other:			

**Note:** BMPs checked yes must complete "Description and Location of Issue" table

## Culvert-University Ave

Modifications Required:	YES	NO	N/A	Modifications Required:	YES	NO	N/A
Silt Fence				Bypass Pumping Operation			
Ditch Checks				Erosion Mat			
Silt Sock				Temporary Seeding			
Riprap				Permanent Seeding			
Culvert Pipe Checks				Temporary Diversion Channel			
Inlet Protection				Temporary Settling Trap/Basin			
Tracking Pads				Dewatering Operation			
Other:				Other:			
Other:				Other:			

**Note:** BMPs checked yes must complete "Description and Location of Issue" table





Department of Public Works  
**Engineering Division**  
 James M. Wolfe, P.E., City Engineer  
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**Assistant City Engineer**  
 Bryan Cooper, AIA  
 Gregory T. Fries, P.E.  
 Chris Petykowski, P.E.

**Deputy Division Manager**  
 Kathleen M. Cryan

**Principal Engineer 2**  
 John S. Fahmey, P.E.  
 Janet Schmidt, P.E.

**Principal Engineer 1**  
 Mark D. Moder, P.E.  
 Andrew J. Zwiieg, P.E.

**Financial Manager**  
 Steven B. Danner-Rivers

May 16, 2023

**NOTICE OF ADDENDUM  
 ADDENDUM 1  
 CONTRACT NO. 9439  
 MENDOTA GRASSMAN GREENWAY FLOOD MITIGATION AND RESTORATION DESIGN**

Revise and amend the contract document(s) for the above project as stated in this addendum, otherwise, the original document shall remain in effect.

**PAGE A-1, SECTION A: ADVERTISEMENT FOR BIDS AND INSTRUCTIONS TO BIDDERS:**

EDITS TO TABLE ON SHEET A-1  
 REMOVE AND REPLACE TABLE WITH:

PROJECT NAME:	MENDOTA GRASSMAN GREENWAY FLOOD MITIGATION AND RESTORATION DESIGN
CONTRACT NO.:	9439
SBE GOAL	11%
BID BOND	5%
SBE PRE BID MEETING	See Pre Bid Meeting info below
PREQUALIFICATION APPLICATION DUE (2:00 P.M.)	6/1/23
BID SUBMISSION (2:00 P.M.)	6/8/23
BID OPEN (2:30 P.M.)	6/8/23
PUBLISHED IN WSJ	5/18/23 & 5/25/23 & 6/1/23

**SPECIAL PROVISIONS:**

**REMOVE AND REPLACE PARAGRAPH UNDER THE HEADING COORDINATION WITH ARCHAEOLOGIST IN SECTION 105.12 COOPERATION BY THE CONTRACTOR WITH THE FOLLOWING:**

The Contractor shall coordinate with the City's archaeological consultant to have archaeological monitoring in place prior to any ground disturbance activities within the boundaries of the project. If soils located underneath the non-local soils, crushed rock, gravel or fill are found to be undisturbed, archaeological monitoring should be continued during planned construction activities within these areas. There is a chance of finding human remains or archaeological materials during this project. If any human remains or archaeological materials are found or unusual soils encountered during the project, all ground disturbing construction activities shall cease. The contractor shall consult with the City's archaeological consultant prior to continuing work. The contractor shall contact the City's archeological consultant a minimum of 2 weeks prior to any excavation activities in this area to coordinate schedule and any monitoring activities. Failure to provide adequate notice may result in

delays as work may not proceed in designated areas until the Archaeologist is consulted. Delays resulting from inadequate notification will be considered as caused by the Contractor and no time extensions will be provided and any liquidated damages will be enforced, per the Standard Specifications and these special provisions.

**REMOVE AND REPLACE THE SECOND PARAGRAPH UNDER BID ITEM 20221 – TOPSOIL WITH THE FOLLOWING:**

The Contractor shall provide sufficient topsoil to place 4 inches of material within the grading limits on the construction plans excluding the portion of the maintenance path receiving tied concrete block mat, SAS access roads, riprapped portion of the channel and terraces along University Avenue. The Contractor shall provide sufficient topsoil to place 6 inches of material within street terraces along University Avenue. The Contractor shall place 1 inch of topsoil over the proposed maintenance path for the crushed aggregate and geoweb sections as shown on the plans. Topsoil does not need to be placed outside of the grading limits. 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).

**PLANS:**

Title Sheet: Added Approved Date: March 21, 2023

G3: Removed proprietary names

TS2: Changed name of Proposed Maintenance Path Section to bid item name "Tied Concrete Block"

TS4: Modified terrace topsoil depth to 6" on University Ave

PP24, PP26: Updated notes on maintenance path for proper bid name, "Tied Concrete Block"

R1-R9: Changed Terrace Seed hatching

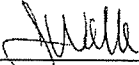
Please acknowledge this addendum on page E1 of the contract documents and/or in Section E: Bidder's Acknowledgement on Bid Express.

Electronic version of these documents can be found on the Bid Express web site at:

<http://www.bidexpress.com>

If you are unable to download plan revisions associated with the addendum, please contact the Engineering office at 608-266-4751 receive the material by another route.

Sincerely,

  
\_\_\_\_\_  
James M. Wolfe, P.E., City Engineer

JMW:jeo

SECTION E: BIDDERS ACKNOWLEDGEMENT

MENDOTA GRASSMAN GREENWAY FLOOD MITIGATION AND RESTORATION DESIGN CONTRACT NO. 9439

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 - 2023 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. 1 through 2 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 Speedway Sand & Gravel (name of corporation, partnership, or person submitting bid) a corporation organized and existing under the laws of the State of WI 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.

Dustin Beth SIGNATURE

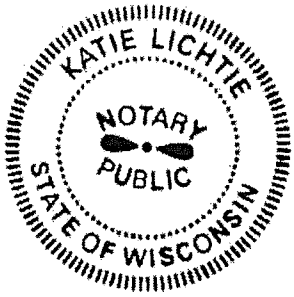
VP TITLE, IF ANY

Sworn and subscribed to before me this 8th day of June, 2023.

[Signature] (Notary Public or other officer authorized to administer oaths)

My Commission Expires 01-00-27

Bidders shall not add any conditions or qualifying statements to this Proposal.





Contract 9439 – Speedway Sand & Gravel, Inc.

#### Section F: Best Value Contracting (BVC)

This section is a required document for the bid to be considered complete. There are two methods for completing the Best Value Contracting (BVC) form. Method one: The form can be filled out online and submitted to this site to be included with your electronic bid. Method two: The form can be downloaded from the site and submitted by hand to the City of Madison.

Please check the box in the Upload section if submitting the report by hand.

Method of Submittal for BVC (click in box below to choose) \*

I will submit Bid Express fillable online form (BVC).

#### 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 and FROST)
- IRON WORKER
- IRON WORKER (ASSEMBLER, METAL BLDGS)
- PAINTER and DECORATOR
- PLASTERER
- PLUMBER
- RESIDENTIAL ELECTRICIAN
- ROOFER and WATER PROOFER
- SHEET METAL WORKER
- SPRINKLER FITTER
- STEAMFITTER
- STEAMFITTER (REFRIGERATION)
- STEAMFITTER (SERVICE)
- TAPER and FINISHER
- TELECOMMUNICATIONS (VOICE, DATA and VIDEO) INSTALLER-TECHNICIAN
- TILE SETTER

MENDOTA GRASSMAN GREENWAY FLOOD MITIGATION AND RESTORATION  
DESIGN  
CONTRACT NO. 9439

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: Speedway Sand & Gravel, Inc.  
Address: 8500 Greenway Blvd, Ste. 202 Middleton, WI 53562  
Telephone Number: 608-836-1071 Fax Number: 608-836-7485  
Contact Person/Title: Jeff Borth / Office Assistant

Prime Bidder Certification


I, Jeffrey Borth Office Assistant of  
Name Title  
Speedway Sand & Gravel 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

6/8/23

Date

  
Bidder's Signature

**MENDOTA GRASSMAN GREENWAY FLOOD MITIGATION AND RESTORATION  
DESIGN  
CONTRACT NO. 9439**

**Small Business Enterprise Compliance Report**

**Summary Sheet**

SBE Subcontractors Who Are NOT Suppliers

Name(s) of SBEs Utilized	Type of Work	% of Total Bid Amount
Red Arrow Electric	Electrical	0.70 %
Schlobohm Trucking	Dump Truck Hauling	6.0 %
		%
		%
		%
		%
		%
		%
		%
		%
		%
		%
		%
		%
		%
		%
		%
		%
		%
		%
		%
<b>Subtotal SBE who are NOT suppliers:</b>		<u>6.70 %</u>

SBE Subcontractors Who Are Suppliers

Name(s) of SBEs Utilized	Type of Work	% of Total Bid Amount
		%
		%
		%
		%
		%
		%
		%
		%
		%
<b>Subtotal Contractors who are suppliers:</b>	<u>        </u> % x 0.6 = <u>        </u>	% (discounted to 60%)
<b>Total Percentage of SBE Utilization:</b>	<u>        </u> %	6.70 %.

**MENDOTA GRASSMAN GREENWAY FLOOD MITIGATION AND RESTORATION DESIGN**

CONTRACT NO. 9439

DATE: 6/8/23

**Speedway Sand & Gravel,  
Inc.**

Item	Quantity	Price	Extension
<b>Section B: Proposal Page</b>			
10701 - TRAFFIC CONTROL - LUMP SUM	1.00	\$185,705.00	\$185,705.00
10720 - TRAFFIC CONTROL SIGN - PORTABLE ARROW BOARD - DAYS	320.00	\$19.00	\$6,080.00
10721 - TRAFFIC CONTROL SIGN - PORTABLE CHANGEABLE MESSAGE - DAYS	28.00	\$55.00	\$1,540.00
10911 - MOBILIZATION - LUMP SUM	1.00	\$443,000.00	\$443,000.00
20101 - EXCAVATION CUT - C.Y.	21869.00	\$27.92	\$610,582.48
20109 - FINISH GRADING - LUMP SUM	1.00	\$7,950.00	\$7,950.00
20204 - SELECT FILL - TON	2080.00	\$3.50	\$7,280.00
20221 - TOPSOIL - S.Y.	12750.00	\$13.27	\$169,192.50
20243 - LIGHT RIPRAP - GLACIAL FIELD STONE - TON	1218.00	\$71.75	\$87,391.50
20251 - HEAVY RIPRAP - GLACIAL FIELD STONE - TON	321.00	\$71.75	\$23,031.75
20256 - RIPRAP FILTER FABRIC, TYPE HR - S.Y.	5936.00	\$3.58	\$21,250.88
20301 - SAWCUT CONCRETE PAVEMENT, FULL DEPTH - L.F.	47.00	\$9.00	\$423.00
20303 - SAWCUT ASPHALT PAVEMENT - L.F.	255.00	\$3.00	\$765.00
20311 - REMOVE SEWER ACCESS STRUCTURE - EACH	3.00	\$987.00	\$2,961.00
20313 - REMOVE INLET - EACH	5.00	\$678.00	\$3,390.00
20314.1 - REMOVE PIPE - STORM - L.F.	44.00	\$49.00	\$2,156.00
20314.2 - REMOVE PIPE - SANITARY - L.F.	13.00	\$49.00	\$637.00
20322 - REMOVE CONCRETE CURB & GUTTER - L.F.	1710.00	\$4.60	\$7,866.00
20323 - REMOVE CONCRETE SIDEWALK & DRIVE - S.F.	2827.00	\$3.00	\$8,481.00
20326 - REMOVE FENCE - L.F.	121.00	\$12.00	\$1,452.00
20336 - PIPE PLUGS - EACH	2.00	\$470.00	\$940.00
20401 - CLEARING (UNDISTRIBUTED) - I.D.	600.00	\$23.29	\$13,974.00
20404 - CLEARING - LUMP SUM	1.00	\$80,247.61	\$80,247.61
20406 - GRUBBING (UNDISTRIBUTED) - I.D.	600.00	\$4.04	\$2,424.00
20409 - GRUBBING - LUMP SUM	1.00	\$23,030.79	\$23,030.79
20701 - TERRACE SEEDING - S.Y.	125.00	\$5.00	\$625.00
20703 - TEMPORARY SEEDING - S.Y.	22465.00	\$0.40	\$8,986.00
20901 - CARYA CORDIFORMIS - EACH	13.00	\$540.00	\$7,020.00
20902 - CARYA OVATA - EACH	7.00	\$630.00	\$4,410.00
20903 - QUERCUS ALBA - EACH	10.00	\$515.00	\$5,150.00
20904 - QUERCUS BICOLOR - EACH	14.00	\$485.00	\$6,790.00
20905 - QUERCUS MACROCARPA - EACH	10.00	\$515.00	\$5,150.00
20906 - ARONIA MELANOCARPA - EACH	4.00	\$165.00	\$660.00
20907 - CEPHALANATUS OCCIDENTALIS - EACH	41.00	\$90.00	\$3,690.00
20908 - CORNUS SERICEA - EACH	27.00	\$95.00	\$2,565.00
20909 - HAMAMELIS VIRGINIANA - EACH	3.00	\$190.00	\$570.00
20910 - ROSA PALUSTRIS - EACH	21.00	\$100.00	\$2,100.00
20911 - SAMBUCUS CANADENSIS - EACH	11.00	\$100.00	\$1,100.00
20912 - SPIREA ALBA - EACH	53.00	\$75.00	\$3,975.00
20913 - STAPHLEA TRIFOLIA - EACH	11.00	\$90.00	\$990.00
20914 - VIBURNUM LENTAGO - EACH	16.00	\$90.00	\$1,440.00
20915 - CHANNEL PLUGS - EACH	630.00	\$4.00	\$2,520.00
20923 - MATTEUCCIA STRUTHIOPTERIS - EACH	20.00	\$65.00	\$1,300.00
20970 - TREES, SHRUBS, PERENNIALS AND GRASS DROUGHT WATERING - EACH	3.00	\$4,050.00	\$12,150.00
21002 - EROSION CONTROL INSPECTION - EACH	60.00	\$375.00	\$22,500.00

**MENDOTA GRASSMAN GREENWAY FLOOD MITIGATION AND RESTORATION DESIGN**

CONTRACT NO. 9439

DATE: 6/8/23

**Speedway Sand & Gravel,  
Inc.**

Item	Quantity	Price	Extension
21011 - CONSTRUCTION ENTRANCE - EACH	7.00	\$333.00	\$2,331.00
21013 - STREET SWEEPING - LUMP SUM	1.00	\$10,350.00	\$10,350.00
21014 - CLEAR STONE BERM (DITCH CHECK) - EACH	30.00	\$250.00	\$7,500.00
21021 - SILT FENCE - COMPLETE - L.F.	1700.00	\$4.00	\$6,800.00
21024 - SILT SOCK (12 INCH) - COMPLETE - L.F.	475.00	\$8.20	\$3,895.00
21041 - INLET PROTECTION, TYPE D - COMPLETE - EACH	15.00	\$444.00	\$6,660.00
21061 - EROSION MATTING, CLASS I, URBAN TYPE A - S.Y.	14800.00	\$1.80	\$26,640.00
21062 - EROSION MATTING, CLASS I, URBAN TYPE B - S.Y.	1045.00	\$2.35	\$2,455.75
21094 - SILT CURTAIN - COMPLETE - L.F.	250.00	\$65.00	\$16,250.00
21302 - CONSTRUCTION FENCE (PLASTIC) - L.F.	1930.00	\$3.25	\$6,272.50
30141 - TYPE A SLURRY - C.Y.	64.00	\$135.00	\$8,640.00
30201 - TYPE "A" CONCRETE CURB & GUTTER - L.F.	294.00	\$51.15	\$15,038.10
30207 - TYPE "H" CONCRETE CURB & GUTTER - L.F.	1599.00	\$40.15	\$64,199.85
30301 - 5 INCH CONCRETE SIDEWALK - S.F.	1395.00	\$10.30	\$14,368.50
30302 - 7 INCH CONCRETE SIDEWALK & DRIVE - S.F.	655.00	\$11.25	\$7,368.75
30330 - PROFILE SAWCUT - L.F.	360.00	\$20.00	\$7,200.00
30340 - CURB RAMP DETECTABLE WARNING FIELDS - S.F.	90.00	\$64.00	\$5,760.00
30451 - BOULDER RETAINING WALL - S.F.	110.00	\$33.00	\$3,630.00
40101 - CRUSHED AGGREGATE BASE COURSE, GRADATION NO. 1 - TON	941.00	\$22.55	\$21,219.55
40102 - CRUSHED AGGREGATE BASE COURSE, GRADATION NO. 2 OR NO. 3 - TON	2329.00	\$19.55	\$45,531.95
40202 - HMA PAVEMENT 4 LT 58-28 S - TON	70.88	\$195.00	\$13,821.60
40210 - HMA PAVEMENT 3 HT 58-28 H - TON	118.80	\$215.00	\$25,542.00
40211 - HMA PAVEMENT 4 HT 58-28 H - TON	84.86	\$240.00	\$20,366.40
40218 - TACK COAT - GAL	43.00	\$3.00	\$129.00
40251 - ASPHALT MATERIAL FOR CURB FRONT FILL - L.F.	18.00	\$105.00	\$1,890.00
50103 - RECONSTRUCT BENCH AND FLOWLINES - EACH	2.00	\$1,985.00	\$3,970.00
50301 - 8 INCH PVC SANITARY SEWER PIPE - L.F.	176.00	\$269.80	\$47,484.80
50303 - 12 INCH PVC SANITARY SEWER PIPE - L.F.	156.00	\$278.60	\$43,461.60
50361 - WASTEWATER CONTROL - LUMP SUM	1.00	\$24,955.00	\$24,955.00
50401 - 12 INCH TYPE I RCP STORM SEWER PIPE - L.F.	107.00	\$143.35	\$15,338.45
50402 - 15 INCH TYPE I RCP STORM SEWER PIPE - L.F.	50.00	\$143.15	\$7,157.50
50403 - 18 INCH TYPE I RCP STORM SEWER PIPE - L.F.	16.00	\$149.00	\$2,384.00
50405 - 24 INCH TYPE I RCP STORM SEWER PIPE - L.F.	65.00	\$169.85	\$11,040.25
50410 - 42 INCH TYPE I RCP STORM SEWER PIPE - L.F.	58.00	\$312.90	\$18,148.20
50440 - 6 INCH TYPE III STORM SEWER PIPE - L.F.	15.00	\$132.45	\$1,986.75
50461 - 12 INCH RCP AE - EACH	2.00	\$825.00	\$1,650.00
50462 - 15 INCH RCP AE - EACH	3.00	\$945.00	\$2,835.00
50469 - 42 INCH RCP AE - EACH	1.00	\$2,860.00	\$2,860.00
50499 - CONCRETE COLLAR - EACH	1.00	\$2,944.00	\$2,944.00
50501.1 - PRECAST REINFORCED CONCRETE BOX CULVERT - B-13-0900 - L.F.	320.00	\$1,455.50	\$465,760.00
50501.2 - PRECAST REINFORCED CONCRETE BOX CULVERT - C-13-2088 - L.F.	164.00	\$2,352.00	\$385,728.00
50511 - BOX CULVERT WINGWALLS - EACH	3.00	\$38,470.00	\$115,410.00
50601 - 12 INCH RCP AE GATE - EACH	2.00	\$630.00	\$1,260.00
50602 - 15 INCH RCP AE GATE - EACH	3.00	\$685.00	\$2,055.00

**MENDOTA GRASSMAN GREENWAY FLOOD MITIGATION AND RESTORATION DESIGN**

CONTRACT NO. 9439

DATE: 6/8/23

**Speedway Sand & Gravel,  
Inc.**

Item	Quantity	Price	Extension
50609 - 42 INCH RCP AE GATE - EACH	1.00	\$1,780.00	\$1,780.00
50701 - 4' DIA. SANITARY SAS - EACH	1.00	\$7,553.00	\$7,553.00
50723 - 3'X3' STORM SAS - EACH	2.00	\$8,300.00	\$16,600.00
50741 - TYPE "H" INLET - EACH	9.00	\$4,708.00	\$42,372.00
50771 - INTERNAL CHIMNEY SEAL - EACH	1.00	\$295.00	\$295.00
50791 - SANITARY SEWER TAP - EACH	5.00	\$1,560.00	\$7,800.00
50792 - STORM SEWER TAP - EACH	4.00	\$1,410.00	\$5,640.00
50797 - EXTERNAL SEWER ACCESS STRUCTURE JOINT SEAL - EACH	1.00	\$555.55	\$555.55
50801 - UTILITY LINE OPENINGS (ULO) - EACH	1.00	\$2,480.00	\$2,480.00
60800 - PAVEMENT MARKING EPOXY, LINE, 4-INCH - L.F.	1600.00	\$2.00	\$3,200.00
60803 - PAVEMENT MARKING EPOXY, LINE, 8-INCH - L.F.	100.00	\$3.50	\$350.00
60823 - PAVEMENT MARKING EPOXY, SYMBOL, BIKE LANE - EACH	2.00	\$175.00	\$350.00
60824 - PAVEMENT MARKING EPOXY, SYMBOL, BIKE STRAIGHT ARROW - EACH	2.00	\$175.00	\$350.00
60829 - PAVEMENT MARKING EPOXY, SYMBOL, LEFT ARROW - EACH	1.00	\$250.00	\$250.00
60834 - PAVEMENT MARKING EPOXY, WORD, ONLY - EACH	1.00	\$300.00	\$300.00
60880 - PAVEMENT MARKING REMOVAL, 4-INCH - L.F.	1210.00	\$0.66	\$798.60
60882 - PAVEMENT MARKING REMOVAL, 8-INCH - L.F.	100.00	\$1.25	\$125.00
60887 - PAVEMENT MARKING REMOVAL, SYMBOL, ARROW - EACH	1.00	\$50.00	\$50.00
60888 - PAVEMENT MARKING REMOVAL, SYMBOL, WORD - EACH	1.00	\$100.00	\$100.00
60889 - PAVEMENT MARKING REMOVAL, SYMBOL, BIKE LANE - EACH	2.00	\$100.00	\$200.00
60891 - PAVEMENT MARKING REMOVAL, , SYMBOL, BIKE ARROW - EACH	2.00	\$30.00	\$60.00
60940 - TEMPORARY PAVEMENT MARKING TAPE, REMOVABLE, REFLECTIVE, LINE, 4-INCH - L.F.	5920.00	\$1.00	\$5,920.00
60941 - TEMPORARY PAVEMENT MARKING TAPE, REMOVABLE, REFLECTIVE, DOUBLE LINE, 4-INCH - L.F.	1110.00	\$2.00	\$2,220.00
60942 - TEMPORARY PAVEMENT MARKING TAPE, REMOVABLE, REFLECTIVE, LINE, 6-INCH - L.F.	125.00	\$2.00	\$250.00
60943 - TEMPORARY PAVEMENT MARKING TAPE, REMOVABLE, REFLECTIVE, LINE, 8-INCH - L.F.	175.00	\$2.00	\$350.00
60944 - TEMPORARY PAVEMENT MARKING TAPE, REMOVABLE, REFLECTIVE, LINE, 12-INCH - L.F.	190.00	\$3.00	\$570.00
60953 - TEMPORARY PAVEMENT MARKING TAPE, REMOVABLE, REFLECTIVE, SYMBOL, LEFT ARROW - EACH	2.00	\$30.00	\$60.00
70003 - FURNISH AND INSTALL 8 INCH PIPE & FITTINGS - L.F.	60.00	\$284.20	\$17,052.00
70004 - FURNISH AND INSTALL 10 INCH PIPE & FITTINGS - L.F.	25.00	\$303.85	\$7,596.25
70080 - CUT-IN OR CONNECT TO EXISTING WATER SYSTEM - EACH	4.00	\$6,548.00	\$26,192.00
70104 - ADJUST WATER VALVE BOX - EACH	2.00	\$750.00	\$1,500.00
90001 - STORMWATER CONTROL PLAN AND IMPLEMENTATION - LUMP SUM	1.00	\$12,000.00	\$12,000.00
90002 - REMOVE EXISTING STRUCTURE C-13-2044 - LUMP SUM	1.00	\$59,820.00	\$59,820.00
90003 - REMOVE EXISTING TWIN 48" PIPES (CAMELOT) - LUMP SUM	1.00	\$12,750.00	\$12,750.00
90004 - TEMPORARY SHORING - C-13-2088 - S.F.	2600.00	\$65.00	\$169,000.00
90005 - TEMPORARY SHORING - B-13-0900 - S.F.	225.00	\$35.00	\$7,875.00
90006 - CULVERT WINGWALL RAILINGS - L.F.	188.00	\$273.75	\$51,465.00

**MENDOTA GRASSMAN GREENWAY FLOOD MITIGATION AND RESTORATION DESIGN**

CONTRACT NO. 9439

DATE: 6/8/23

**Speedway Sand & Gravel,  
Inc.**

Item	Quantity	Price	Extension
90007 - BOX CULVERT WINGWALLS, B-13-0900, INLET END - EACH	1.00	\$57,900.00	\$57,900.00
90008 - ROOT CUTTING NON-NRC TREES - EACH	20.00	\$1.00	\$20.00
90009 - ROOT CUTTING NRC WITH ARBORIST - EACH	33.00	\$125.00	\$4,125.00
90010 - GROUNDWATER CONTROL/SITE DEWATERING - LUMP SUM	1.00	\$11,000.00	\$11,000.00
90011 - EROSION MATTING, CLASS II, TYPE B - ORGANIC - S.Y.	6620.00	\$3.10	\$20,522.00
90012 - MECHANICAL PLACEMENT OF HEAVY RIPRAP - LUMP SUM	1.00	\$8,000.00	\$8,000.00
90013 - UTILITY SUPPORT AND PROTECTION - LUMP SUM	1.00	\$6,200.00	\$6,200.00
90014 - DRIVEWAY SLOT DRAIN - L.F.	20.00	\$233.00	\$4,660.00
90015 - SALVAGE AND REINSTALL BIKE PATH RAILING - L.F.	102.00	\$153.00	\$15,606.00
90016 - REMOVE & DISPOSE ABESTOS PIPE - L.F.	185.00	\$92.00	\$17,020.00
90017 - 6-FOOT' DIA MMSD SANITARY ACCESS STRUCTURE - REPLACE CASTING & COVER & JOINT WRAP - EACH	1.00	\$3,960.00	\$3,960.00
90018 - 7-INCH STAMPED & COLORED CONCRETE - S.F.	762.00	\$19.05	\$14,516.10
90019 - 7-INCH REINFORCED CONCRETE SIDEWALK - S.F.	365.00	\$13.50	\$4,927.50
90020 - TYPE A REINFORCED CONCRETE CURB & GUTTER - L.F.	73.00	\$46.50	\$3,394.50
90021 - TEMPORARY PAVEMENT - S.Y.	1270.00	\$53.30	\$67,691.00
90022 - SAS ACCESS PAD - LUMP SUM	1.00	\$2,704.00	\$2,704.00
90023 - ADJUST HYDRANT - EACH	1.00	\$6,582.00	\$6,582.00
90024 - TIED CONCRETE BLOCK MAT - S.F.	3043.00	\$11.40	\$34,690.20
90025.1 - GEOCELL 6-INCH DEPTH - S.F.	7667.00	\$5.06	\$38,795.02
90025.2 - GEOCELL 3-INCH DEPTH - S.F.	1503.00	\$4.65	\$6,988.95
90026 - SPLIT RAIL FENCE - L.F.	65.00	\$40.00	\$2,600.00
90027 - TRASH SEGREGATION AND DISPOSAL (UNDISTRIBUTED) - C.Y.	10.00	\$100.00	\$1,000.00
90028 - MAINTENANCE AND REPAIR OF HAUL ROADS - S.Y.	2500.00	\$25.00	\$62,500.00
90029.1 - WATER APPURTENANCES - 8 INCH BENDS - EACH	5.00	\$727.00	\$3,635.00
90029.2 - WATER APPURTENANCES - 10 INCH BENDS - EACH	4.00	\$904.00	\$3,616.00
90030 - 16-INCH DIAMETER PVC PRESSURE SANITARY SEWER PIPE - L.F.	72.00	\$379.45	\$27,320.40
90031 - REINFOCED DITCH CHECK - LUMP SUM	1.00	\$1,320.00	\$1,320.00
90032 - BRUSHING - LUMP SUM	1.00	\$16,100.00	\$16,100.00
90033 - YEAR 1 RESTORATION MAINTENANCE - LUMP SUM	1.00	\$13,425.00	\$13,425.00
90034 - YEAR 2 RESTORATION MAINTENANCE - LUMP SUM	1.00	\$11,410.00	\$11,410.00
90035 - NATIVE PATH RUSH - S.Y.	1856.00	\$0.75	\$1,392.00
90036 - INSTALL CASING FOR 16-INCH DIAMETER SANITARY CARRIER PIPE - L.F.	60.00	\$443.30	\$26,598.00
90037 - INSTALL CASING FOR 8-INCH DIAMETER SANITARY CARRIER PIPE - L.F.	40.00	\$395.50	\$15,820.00
90038 - 6-FOOT DIAMETER MMSD SAS - EACH	4.00	\$19,362.00	\$77,448.00
90039 - 6-FOOT DIAMETER MMSD FLOW MONITORING SAS - EACH	1.00	\$19,862.00	\$19,862.00
90040 - REMOVE RCP APRON ENDWALLS - EACH	3.00	\$433.25	\$1,299.75
90041 - ADJUST MMSD SANITARY ACCESS SPECIAL - EACH	2.00	\$3,430.00	\$6,860.00
90042 - WET AGGRESSIVE SEED MIX - S.Y.	2730.00	\$0.50	\$1,365.00
90043 - MESIC AGGRESSIVE SEED MIX - S.Y.	8100.00	\$0.50	\$4,050.00
90044 - WOODLAND SEED MIX - S.Y.	3711.00	\$0.80	\$2,968.80
90045 - MESIC SUNNY MIX - S.Y.	5166.00	\$0.75	\$3,874.50
90046 - TEMPORARY RRFB - EACH	6.00	\$5,200.00	\$31,200.00
168 Items	Totals		\$4,436,527.13





Department of Public Works  
**Engineering Division**  
Robert F. Phillips, P.E., City Engineer  
City-County Building, Room 115  
210 Martin Luther King, Jr. Boulevard  
Madison, Wisconsin 53703  
Phone: (608) 266-4751  
Fax: (608) 264-9275  
[engineering@cityofmadison.com](mailto:engineering@cityofmadison.com)  
[www.cityofmadison.com/engineering](http://www.cityofmadison.com/engineering)

**Deputy City Engineer**  
Gregory T. Fries, P.E.

**Deputy Division Manager**  
Kathleen M. Cryan

**Principal Engineer 2**  
Christopher J. Petykowski, P.E.  
John S. Fahrney, P.E.

**Principal Engineer 1**  
Christina M. Bachmann, P.E.  
Mark D. Moder, P.E.  
Janet Schmidt, P.E.  
James M. Wolfe, P.E.

**Facilities & Sustainability**  
Bryan Cooper, Principal Architect

**Mapping Section Manager**  
Eric T. Pederson, P.S.

**Financial Manager**  
Steven B. Danner-Rivers

## BIENNIAL BID BOND

Speedway Sand & Gravel, Inc.

(a corporation of the State of Wisconsin)  
(individual), (partnership), (hereinafter referred to as the "Principal") and  
Fidelity and Deposit Company of Maryland

a corporation of the State of Maryland (hereinafter referred to as the "Surety") and licensed to do business in the State of Wisconsin, are held and firmly bound unto the City of Madison, Wisconsin (hereinafter referred to as the "City"), in the sum equal to the individual proposal guaranty amounts of the total bid or bids of the Principal herein accepted by the City, for the payment of which the Principal and the Surety hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

The condition of this obligation is that the Principal has submitted to the City certain bids for projects from the time period of February 1, 2022 through January 31, 2024.

If the Principal is awarded the contract(s) by the City and, within the time and manner required by law after the prescribed forms are presented for its signature, the Principal enters into (a) written contract(s) in accordance with the bid(s), and files with the City its bond(s) guaranteeing faithful performance and payment for all labor and materials, as required by law, or if the City rejects all bids for the work described, then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

In the event the Principal shall fail to execute and deliver the contract(s) or the performance and payment bond(s), all within the time specified or any extension thereof, the Principal and Surety agree jointly and severally to pay to the City within ten (10) calendar days of written demand a total equal to the sum of the individual proposal guaranty amounts of the total bid(s) as liquidated damages.

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

This bond may be terminated by the Surety upon giving thirty (30) days written notice to the City of its intent to terminate this bond and to be released and discharged therefrom, but such termination shall not operate to relieve or discharge the Surety from any liability already accrued or which shall accrue before the expiration of such thirty (30) day period.

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.

**PRINCIPAL**

Speedway Sand & Gravel, Inc.  
COMPANY NAME AFFIX SEAL

Dec 15, 2021  
DATE

By: Jarvis Ryan  
SIGNATURE AND TITLE Corp Sec.

**SURETY**

Fidelity and Deposit Company of Maryland  
COMPANY NAME AFFIX SEAL

December 15, 2021  
DATE

By: Nicole Stillings  
SIGNATURE AND TITLE  
Nicole Stillings, Attorney-in-Fact

This certifies that I have been duly licensed as an agent for the Surety in Wisconsin under National Provider No. 6966174 for the year 2020 and appointed as attorney in fact with authority to execute this bid bond, which power of attorney has not been revoked.

December 15, 2021  
DATE

Nicole Stillings  
AGENT SIGNATURE

1600 Aspen Commons, Suite 990  
ADDRESS

Middleton, WI 53562  
CITY, STATE AND ZIP CODE

608-242-2551  
TELEPHONE NUMBER

Note to Surety and Principal: Any bid submitted which this bond guarantees may be rejected if the Power of Attorney form showing that the Agent of Surety is currently authorized to execute bonds on behalf of Surety is not attached to this bond.

**ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND  
POWER OF ATTORNEY**

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Illinois, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Illinois (herein collectively called the "Companies"), by **Robert D. Murray, Vice President**, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **R. W. FRANK, Brian J. OESTREICH, Melinda C. BLODGETT, Nathan WEAVER, Joshua R. LOFTIS, R.C. BOWMAN, Ted JORGENSEN, Nicole STILLINGS and C. WHITE**, of Minneapolis, Minnesota, its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings**, and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York, the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND, this 18th day of November, A.D. 2021.



**ATTEST:**  
ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: *Robert D. Murray*  
Vice President

By: *Dawn E. Brown*  
Secretary

State of Maryland  
County of Baltimore

On this 18th day of November, A.D. 2021, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **Robert D. Murray, Vice President and Dawn E. Brown, Secretary** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, depose and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.



Constance A. Dunn, Notary Public  
My Commission Expires: July 9, 2023

**EXTRACT FROM BY-LAWS OF THE COMPANIES**

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify or revoke any such appointment or authority at any time."

**CERTIFICATE**

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 15th \_ day of December, 2021.



*MJ Pethick*

By: Mary Jean Pethick  
Vice President

**TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT A COMPLETE DESCRIPTION OF THE CLAIM INCLUDING THE PRINCIPAL ON THE BOND, THE BOND NUMBER, AND YOUR CONTACT INFORMATION TO:**

Zurich Surety Claims  
1299 Zurich Way  
Schaumburg, IL 60196-1056  
[www.reportsfclaims@zurichna.com](mailto:www.reportsfclaims@zurichna.com)  
800-626-4577

Authenticity of this bond can be confirmed at [bondvalidator.zurichna.com](http://bondvalidator.zurichna.com) or 410-559-8790

## CERTIFICATE OF BIENNIAL BID BOND

TIME PERIOD- VALID (FROM/TO) February 1, 2022 - January 31, 2024
NAME OF SURETY Fidelity and Deposit Company of Maryland
NAME OF CONTRACTOR Speedway Sand & Gravel, Inc.
CERTIFICATE HOLDER City of Madison, Wisconsin

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

February 1, 2022  
\_\_\_\_\_  
DATE

## SECTION H: AGREEMENT

THIS AGREEMENT made this 12<sup>th</sup> day of July in the year Two Thousand and Twenty-Three between **SPEEDWAY SAND & GRAVEL/INC.** 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 **JULY 11, 2023** 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:

### MENDOTA GRASSMAN GREENWAY FLOOD MITIGATION AND RESTORATION DESIGN CONTRACT NO. 9439

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 **FOUR MILLION FOUR HUNDRED THIRTY-SIX THOUSAND FIVE HUNDRED TWENTY-SEVEN AND 13/100 (\$4,436,527.13)** 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)(I), 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.

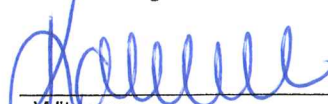
To be exempt, Contractor has the burden of demonstrating that there is an applicable law or regulation that requires the hiring practice in question, if so, the contractor is exempt from all of the requirements of this ordinance for the position(s) in question.

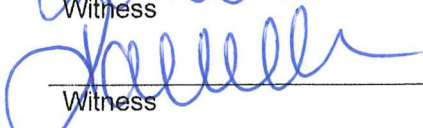
**MENDOTA GRASSMAN GREENWAY FLOOD MITIGATION AND RESTORATION  
DESIGN  
CONTRACT NO. 9439**

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:

**SPEEDWAY SAND & GRAVEL, INC.**

 07/12/2023  
Witness Date

 07/12/2023  
Witness Date

Company Name

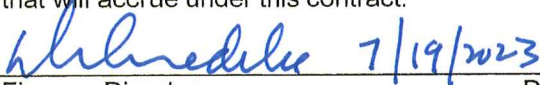
 07/12/2023  
President Date

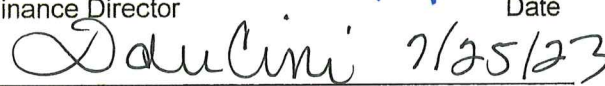
 07/12/2023  
Secretary Date

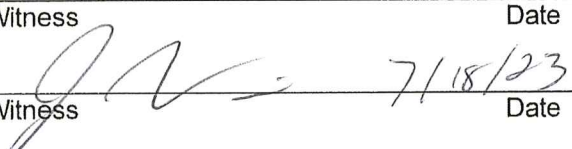
CITY OF MADISON, WISCONSIN


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


Approved as to form:


 7/19/2023  
Finance Director Date

 7/25/23  
Witness Date

 7/18/23  
Witness Date

 7/20/23  
City Attorney Date

 7/25/23  
Mayor Date

 7.18.23  
City Clerk Date

**SECTION I: PAYMENT AND PERFORMANCE BOND**

LET ALL KNOW BY THESE DOCUMENTS PRESENTED, that we **SPEEDWAY SAND & GRAVEL, INC.** as principal, and Fidelity and Deposit Company of Maryland Company of Schaumburg, IL as surety, are held and firmly bound unto the City of Madison, Wisconsin, in the sum of **FOUR MILLION FOUR HUNDRED THIRTY-SIX THOUSAND FIVE HUNDRED TWENTY-SEVEN AND 13/100 (\$4,436,527.13)** 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.

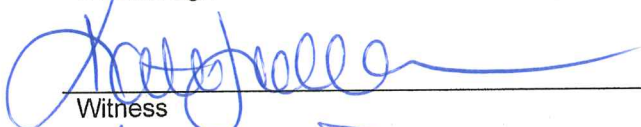
The condition of this Bond is such that if the above bounden shall on his/her part fully and faithfully perform all of the terms of the Contract entered into between him/herself and the City of Madison for the construction of:

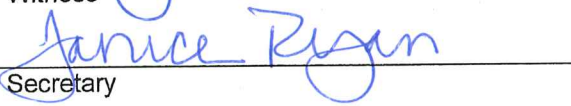
**MENDOTA GRASSMAN GREENWAY FLOOD MITIGATION AND RESTORATION DESIGN  
CONTRACT NO. 9439**

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 12th day of July, 2023

Countersigned:

  
Witness

  
Secretary

Approved as to form:

  
City Attorney

**SPEEDWAY SAND & GRAVEL, INC.**  
Company Name (Principal)

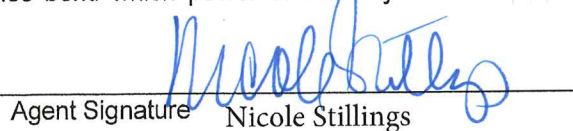
  
President Seal

Fidelity and Deposit Company of Maryland  
Surety Seal  
 Salary Employee  Commission

By   
Attorney-in-Fact Nicole Stillings

This certifies that I have been duly licensed as an agent for the above company in Wisconsin under National Producer Number 6966174 for the year 2023, and appointed as attorney-in-fact with authority to execute this payment and performance bond which power of attorney has not been revoked.

July 12, 2023  
Date

  
Agent Signature Nicole Stillings

**ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND  
POWER OF ATTORNEY**

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Illinois, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Illinois (herein collectively called the "Companies"), by **Robert D. Murray, Vice President**, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **R. W. FRANK, Brian J. OESTREICH, Melinda C. BLODGETT, Nathan WEAVER, Joshua R. LOFTIS, R.C. BOWMAN, Ted JORGENSEN, Nicole STILLINGS and C. WHITE, of Minneapolis, Minnesota**, its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings**, and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 18th day of November, A.D. 2021.



**ATTEST:**  
ZURICH AMERICAN INSURANCE COMPANY  
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY  
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: *Robert D. Murray*  
Vice President

By: *Dawn E. Brown*  
Secretary

**State of Maryland  
County of Baltimore**

On this 18th day of November, A.D. 2021, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **Robert D. Murray, Vice President and Dawn E. Brown, Secretary** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, depose and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.



Constance A. Dunn, Notary Public  
My Commission Expires: July 9, 2023

**Authenticity of this bond can be confirmed at [bondvalidator.zurichna.com](http://bondvalidator.zurichna.com) or 410-559-8790**

**EXTRACT FROM BY-LAWS OF THE COMPANIES**

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify or revoke any such appointment or authority at any time."

**CERTIFICATE**

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 12th day of July, 2023.



*MJ Pethick*

By: Mary Jean Pethick  
Vice President

**TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT A COMPLETE DESCRIPTION OF THE CLAIM INCLUDING THE PRINCIPAL ON THE BOND, THE BOND NUMBER, AND YOUR CONTACT INFORMATION TO:**

Zurich Surety Claims  
1299 Zurich Way  
Schaumburg, IL 60196-1056  
[www.reportsfclaims@zurichna.com](mailto:www.reportsfclaims@zurichna.com)  
800-626-4577

**Authenticity of this bond can be confirmed at [bondvalidator.zurichna.com](http://bondvalidator.zurichna.com) or 410-559-8790**