

RFB NO. 317026



CONSTRUCTION DOCUMENTS PROJECT MANUAL

DANE COUNTY DEPARTMENT OF PUBLIC WORKS,
HIGHWAY AND TRANSPORTATION

PUBLIC WORKS ENGINEERING DIVISION
1919 ALLIANT ENERGY CENTER WAY
MADISON, WISCONSIN 53713

REQUEST FOR BIDS NO. 317026 CAPITAL CITY TRAIL REPAIR–CULVERT REPLACEMENT CAPITAL CITY TRAIL 5607 LONGFORD TERRACE FITCHBURG, WISCONSIN

Due Date / Time: **TUESDAY, AUGUST 29, 2017 / 2:00 P.M.**

Location: **PUBLIC WORKS OFFICE**

Performance / Payment Bond: **100% OF CONTRACT AMOUNT**

Bid Deposit: **5% OF BID AMOUNT**

FOR INFORMATION ON THIS REQUEST FOR BIDS, PLEASE CONTACT:

RYAN SHORE, CPESC - PROJECT MANAGER
TELEPHONE NO.: 608/266-4475
FAX NO.: 608/267-1533
E-MAIL: SHORE@COUNTYOFDANE.COM

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LEGAL NOTICE

INVITATION TO BID

Dane County Public Works, Highway & Transportation Dept., 1919 Alliant Energy Center Way, Madison, WI 53713, will receive sealed Bids until:

2:00 P.M., TUESDAY, AUGUST 29, 2017

REQUEST FOR BIDS NO. 317026

CAPITAL CITY TRAIL REPAIR – CULVERT REPLACEMENT

CAPITAL CITY TRAIL

5607 LONGFORD TERRACE

FITCHBURG, WISCONSIN

Dane County is inviting Bids for construction services for the Capital City Trail Repair Project Culvert Replacement. This project will include replacement of an existing culvert and associated trail repair. Only firms with capabilities, experience & expertise with similar projects should obtain this Request for Bids document & submit Bids.

Request for Bids document may be obtained after **2:00 p.m. on August 8, 2017** by downloading it from bids-pwht.countyofdane.com. Please call Ryan Shore, Project Manager, at 608/266-4475, or our office at 608/266-4018, for any questions or additional information.

All Bidders must be a registered vendor with Dane County & pay an annual registration fee & must be pre-qualified as a Best Value Contractor before award of Contract. Complete Vendor Registration Form at danepurchasing.com/Account/Login? or obtain one by calling 608/266-4131. Complete Pre-qualification Application for Contractors at countyofdane.com/pwht/BVC_Application.aspx or obtain one by calling 608/266-4029.

A pre-bid site tour will be held August 17, 2017 at 1p.m. at 5607 Longford Terrace, City of Fitchburg. Bidders are strongly encouraged to attend this tour.

PUBLISH: AUGUST 8 & AUGUST 15, 2017 - WISCONSIN STATE JOURNAL
AUGUST 8 & AUGUST 15, 2017 - THE DAILY REPORTER



DANE COUNTY DEPARTMENT of PUBLIC WORKS, HIGHWAY and TRANSPORTATION

County Executive
Joseph T. Parisi

1919 Alliant Energy Center Way ♦ Madison, Wisconsin 53713
Phone: (608) 266-4018 ♦ FAX: (608) 267-1533

Commissioner / Director
Gerald J. Mandli

BEST VALUE CONTRACTING APPLICATION

CONTRACTORS / LICENSURE APPLICANTS

The Dane County Department of Public Works requires all contractors to be pre-qualified as a best value contractor with the County prior to being awarded a contract. In addition, the County pre-qualifies potential contractors and sub-contractors who wish to work on County contracts. Subcontractors must become pre-qualified ten (10) days prior to commencing work under any Dane County Public Works Contract. Potential subcontractors are urged to become pre-qualified as early as possible. This document shall be completed, properly executed, along with the necessary attachments and additional information that the County requires for the protection and welfare of the public in the performance of a County contract.

Contractors or subcontractors of any tier who attain pre-qualification status will retain that status for a period of two (2) years from the date of qualification. Contractors shall notify the Dane County Department of Public Works, Highway & Transportation within fifteen (15) days of any changes to its business or operations that are relevant to the pre-qualification application. Failure to do so could result in suspension, revocation of the contractor's pre-qualification, debarment from County contracts for up to three (3) years and / or other sanctions available under the law.

No contracts will be awarded for construction work performed on Dane County projects unless the contractor is currently approved as a Wisconsin Trade Trainer or has applied for approval as an Apprenticeship Trade Trainer to the Wisconsin Department of Workforce Development and agrees to an acceptable apprenticeship program. If you are not currently approved as a Wisconsin Trade Trainer, or have not applied for approval as an Apprenticeship Trade Trainer, please contact the Department of Workforce Development - Bureau of Apprenticeship Standards at 608/266-3133 or visit their web site at: dwd.wisconsin.gov/apprenticeship/.

EXEMPTIONS

- Contractors who employ less than five (5) apprenticeable trade workers are not required to pre-qualify.
- Contractors performing work that does not apply to an apprenticeable trade, as outlined in Appendix A.
- The contractor / subcontractor provides sufficient documentation to demonstrate one or more of the following:
 - apprentices are not available in a specific geographic area;
 - the applicable apprenticeship program is unsuitable or unavailable; or
 - there is a documented depression of the local construction market which prevents compliance.

SEC.	PROOF OF RESPONSIBILITY	CHECK IF APPLICABLE
1	Does your firm possess all technical qualifications and resources, including equipment, personnel and financial resources, necessary to perform the work required for any project or obtain the same through the use of responsible, pre-qualified subcontractors?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
2	Will your firm possess all valid, effective licenses, registrations or certificates required by federal, state, county, or local law, which are necessary for the type of work to be performed including, but not limited to, those for any type of trade work or specialty work?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
3	Will your firm meet all bonding requirements as required by applicable law or contract specifications?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
4	Will your firm meet all insurance requirements as required by applicable law or specifications, including general liability insurance, workers compensation insurance and unemployment insurance requirements?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
5	Will your firm maintain a substance abuse policy for employees hired for public works contracts that comply with Wis. Stats. Sec. 103.503?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
6	Does your firm acknowledge that it must pay all craft employees on public works projects the wage rates and benefits required under Section 66.0903 of the Wisconsin Statutes?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
7	Will your firm fully abide by the equal opportunity and affirmative action requirements of all applicable laws, including County ordinances?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
8	In the past three (3) years, has your firm had control or has another corporation, partnership or other business entity operating in the construction industry controlled it? If so, please attach a statement explaining the nature of the firm relationship?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
9	In the past three (3) years, has your firm had any type of business, contracting or trade license, certification or registration revoked or suspended?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
10	In the past three (3) years, has your firm been debarred by any federal, state or local government agency?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
11	In the past three (3) years, has your firm defaulted or failed to complete any contract?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
12	In the past three (3) years, has your firm committed a willful violation of federal, state or local government safety laws as determined by a final decision of a court or government agency authority.	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
13	In the past three (3) years, has your firm been in violation of any law relating to your contracting business where the penalty for such violation resulted in the imposition of a penalty greater than \$10,000?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
14	Is your firm Executive Order 108 precertified with the State of Wisconsin?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
15	Is your firm an active Wisconsin Trade Trainer as determined by the Wisconsin Bureau of Apprenticeship Standards?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
16	Is your firm exempt from being pre-qualified with Dane County?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach reason for exemption.
17	Does your firm acknowledge that in doing work under any County Public Works Contract, it will be required to use as subcontractors only those contractors that are also pre-qualified with the County or become so ten days prior to commencing work?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
18	Contractor has been in business less than one year?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
19	Is your firm a first time Contractor requesting a one time exemption, but, intend to comply on all future contracts and are taking steps typical of a "good faith" effort?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
20	Not applicable. My firm does not intend to work on Best Value Contracts. Note: Best Value Contracting is required to bid on most Public Works Contracts (if unclear, please call Jan Neitzel Knox 608-266-4029).	Yes: <input type="checkbox"/> No: <input type="checkbox"/>

SIGNATURE SECTION

Your firm's Officer, or the individual who would sign a bid and / or contract documents must sign this document.

I do hereby certify that all statements herein contained are true and correct to the best of my knowledge:

Signature

Date

Printed or Typed Name and Title

NAME AND ADDRESS OF CONTRACTOR	
Name of Firm:	
Address:	
City, State, Zip:	
Telephone Number:	
Fax Number:	
E-mail Address:	

REMEMBER!

Return all to forms and attachments, or questions to:

JAN NEITZEL KNOX
EMAIL: NEITZEL-KNOX@COUNTYOFDANE.COM
OFFICE: (608)266-4029, FAX: (608)267-1533

**DANE COUNTY DEPARTMENT OF PUBLIC WORKS,
HIGHWAY & TRANSPORTATION
1919 ALLIANT ENERGY CENTER WAY
MADISON, WI 53713**

APPENDIX A

APPRENTICEABLE TRADES

Bricklayer
Carpenter
Cement Mason (Concrete Finisher)
Cement Mason (Heavy Highway)
Construction Craft Laborer
Data Communications Installer
Electrician
Elevator Mechanic / Technician
Environmental Systems Technician / HVAC Service Technician / HVAC Install & Service
Glazier
Heavy Equipment Operator / Operating Engineer
Insulation Worker (Heat & Frost)
Iron Worker (Assembler, Metal Buildings)
Painter / Decorator
Plasterer
Plumber
Roofer / Waterproofer
Sheet Metal Worker
Sprinkler Fitter
Steamfitter (Service & Refrigeration)
Taper & Finisher
Telecommunications (Voice, Data & Video) Installer / Technician
Tile Setter

INSTRUCTIONS TO BIDDERS

Capital City Trail Repair-Culvert Replacement
Capital City Trail
5607 Longford Terrace
Fitchburg, Wisconsin

1. SECURING DOCUMENTS

- A. Construction Documents may be obtained at bids-pwht.countyofdane.com.
- B. Bidder is responsible to check Public Works website regularly for Addenda.

2. BID REQUIREMENTS

- A. Bidder shall submit lump sum bid for providing all labor, equipment, tools and materials necessary to perform all Work described in Construction Documents. Only firms with capabilities, experience and expertise with similar projects should submit Bids.
- B. Envelope containing Bid shall be clearly marked as for this project (note title at top of page). Bids shall be delivered to:

Dane County Department of Public Works, Highway & Transportation
1919 Alliant Energy Center Way
Madison, Wisconsin 53713

- C. One (1) Bid Form shall be submitted with your Bid. Bid Form is provided with Construction Documents; no other form or letter shall be accepted.
- D. Wisconsin Statute 77.54 (9m) allows building materials that become part of local unit government facilities to be exempt from sales & use tax. Vendors & materials suppliers may not charge Bidders sales & use tax on these purchases. This does not include highways, streets or roads.
- E. Bidders shall not add any conditions, escalator clauses or qualifying statements to Bid Form.
- F. Erasures or other changes to Bid must be explained or noted, and shall be accompanied by initials of bidder.
- G. Legally authorized official of bidder's organization shall sign Bids.
- H. Bidder's organization shall submit completed Fair Labor Practices Certification Form, included in these Construction Documents.
- I. Bid Bond shall be made payable to Dane County in amount of five percent (5%) of bid amount. Bid Bond shall be either certified check or bid bond issued by surety licensed to conduct business in the State of Wisconsin. Successful bidder's Bid Bond shall be retained until Contract is signed and required Performance / Payment Bond is submitted. Bids shall be binding on bidder for sixty (60) calendar days after Bid Due Date. Bid Bond must be submitted with Bid.
- J. Successful bidder shall furnish and pay for Performance / Payment Bond as called for in Conditions of Contract.

3. INQUIRIES

- A. Written inquiries regarding intent of Construction Documents should be directed to:

Ryan Shore, Public Works Project Manager
Dane County Department of Public Works, Highway & Transportation
1919 Alliant Energy Center Way, Madison, Wisconsin 53713
Fax: 608/267-1533
Email: shore@countyofdane.com

- B. Bidders shall bring questions, discrepancies, omissions, conflicts or doubt as to meaning of any part of Construction Documents to attention of Department of Public Works, Highway & Transportation at least ten (10) business days before due date for Bids. Prompt clarification of intent of Construction Documents shall be made available to bidders in form of Addendum. Bidder shall acknowledge all Addenda on Bid Form.
- C. Failure to request clarification of interpretation of Construction Documents shall not relieve bidders of their responsibilities to perform Work.

4. EXAMINATION OF SITE

- D. A bidders facility tour will be held on August 17, 2017 at 1:00 p.m. at 5607 Longford Terrace, Fitchburg, WI. This tour will go until approximately 2:00 p.m. Bidders are strongly encouraged to attend this tour, however attendance is optional.

5. ALTERNATES

- A. Not used.

6. WITHDRAWAL OF BIDS

- A. Any bidder may withdraw their Bid any time prior to Bid Due Date. Withdrawn Bids shall be returned unopened.

7. BID DUE DATE

- A. See Legal Notice (advertisement).

8. COMMENCEMENT AND COMPLETION OF WORK

- A. Work shall commence by October 16, 2017.
- B. Work shall be completed by November 10, 2017.

9. RESERVATION

- A. Dane County reserves the right to reject any or all Bids, to waive any informalities in the Bid, and to accept any Bid which shall be in the best interest of Dane County.

Name of Bidding Firm: _____

BID FORM

BID NO. 317026

**PROJECT: CAPITAL CITY TRAIL REPAIR
CAPITAL CITY TRAIL**

**TO: DANE COUNTY DEPARTMENT OF PUBLIC WORKS, HIGHWAY &
TRANSPORTATION PROJECT MANAGER
1919 ALLIANT ENERGY CENTER WAY
MADISON, WISCONSIN 53713**

**NOTE: WISCONSIN STATUTE 77.54 (9M) ALLOWS FOR NO SALES & USE TAX ON
THE PURCHASE OF MATERIALS FOR COUNTY PUBLIC WORKS PROJECTS.**

BASE BID - LUMP SUM:

This project will include removal and replacement of an existing culvert with associated trail repair. The undersigned, having examined the site where the Work is to be executed and having become familiar with local conditions affecting the cost of the Work and having carefully examined the Drawings and Specifications, all other Construction Documents and Addenda thereto prepared by Dane County Department of Public Works, Highway & Transportation hereby agrees to provide all labor, materials, equipment and services necessary for the complete and satisfactory execution of the entire Work, as specified in the Construction Documents, for the Base Bid stipulated sum of:

_____ and _____ /100 Dollars
Written Price

\$ _____
Numeric Price

Receipt of the following addenda and inclusion of their provisions in this Bid is hereby acknowledged:

Addendum No(s). _____ through _____

Dated _____

Dane County Parks Department must have this project completed by November 10, 2017. Assuming this Work can be started by October 16, 2017, what dates can you commence and complete this job?

Commencement Date: _____ Completion Date: _____
(final, not substantial)

I hereby certify that all statements herein are made on behalf of:

(Name of Corporation, Partnership or Person submitting Bid)

Select one of the following:

1. A corporation organized and existing under the laws of the State of _____, or
2. A partnership consisting of _____, or
3. A person conducting business as _____;

Of the City, Village, or Town of _____ of the State of _____.

I have examined and carefully prepared this Bid from the associated Construction Documents and have checked the same in detail before submitting this Bid; that I have full authority to make such statements and submit this Bid in (its) (their) (my) behalf; and that the said statements are true and correct. In signing this Bid, we also certify that we have not, either directly or indirectly, entered into any agreement or participated in any collusion or otherwise taken any action in restraint of free competition; that no attempt has been made to induce any other person or firm to submit or not to submit a Bid; that this Bid has been independently arrived at without collusion with any other bidder, competitor, or potential competitor; that this Bid has not been knowingly disclosed prior to the Bids Due Date to another bidder or competitor; that the above statement is accurate under penalty of perjury.

The undersigned further agrees to honor the Base Bid and the Alternate Bid(s) for sixty (60) calendar days from date of Award of Contract.

SIGNATURE: _____
(Bid is invalid without signature)

Print Name: _____ Date: _____

Title: _____

Address: _____

Telephone No.: _____ Fax No.: _____

Email Address: _____

Contact Person: _____

THIS PAGE IS FOR BIDDERS' REFERENCE AND NEED NOT BE SUBMITTED WITH BID FORM.

BID CHECK LIST:

These items **must** be included with Bid:

- Bid Form Bid Bond Fair Labor Practices Certification
 Project Experience / Reference Summary

BIDDERS SHOULD BE AWARE OF THE FOLLOWING:

DANE COUNTY VENDOR REGISTRATION PROGRAM

Any person bidding on any County contract must be registered with the Dane County Purchasing Division & pay an annual registration fee. A contract will not be awarded to an unregistered vendor. Obtain a *Vendor Registration Form* by calling 608/266-4131 or complete a new form or renewal online at:

www.danepurchasing.com/registration

DANE COUNTY BEST VALUE CONTRACTING PRE-QUALIFICATION

Contractors must be pre-qualified as a Best Value Contractor with the Dane County Public Works Engineering Division before the award of contract. Obtain a *Best Value Contracting Application* by calling 608/266-4018 or complete one online at:

www.countyofdane.com/pwht/BVC_Application.aspx

EQUAL BENEFITS REQUIREMENT

By submitting a Bid, the contractor acknowledges that a condition of this contract is to provide equal benefits as required by Dane County Code of Ordinances Chapter 25.016. Contractor shall provide equal benefits as required by that Ordinance to all required employees during the term of the contract. Equal Benefits Compliance Payment Certification shall be submitted with final pay request. For more information:

www.danepurchasing.com/partner_benefit.aspx

FAIR LABOR PRACTICES CERTIFICATION

The undersigned, for and on behalf of the BIDDER, APPLICANT or PROPOSER named herein, certifies as follows:

- A. That he or she is an officer or duly authorized agent of the above-referenced BIDDER, APPLICANT or PROPOSER, which has submitted a bid, application or proposal for a contract or agreement with the county of Dane.

- B. That BIDDER, APPLICANT or PROPOSER has (check one):

_____ not been found by the National Labor Relations Board (“NLRB”) or the Wisconsin Employment Relations Commission (“WERC”) to have violated any statute or regulation regarding labor standards or relations in the seven years prior to the signature date of this Certification.

_____ been found by the National Labor Relations Board (“NLRB”) or the Wisconsin Employment Relations Commission (“WERC”) to have violated any statute or regulation regarding labor standards or relations in the seven years prior to the signature date of this Certification.

Officer or Authorized Agent Signature	Date
Printed or Typed Name and Title	
Printed or Typed Business Name	

NOTE: You can find information regarding the violations described above at: www.nlr.gov and werc.wi.gov.

For reference, Dane County Ordinance 25.11(28)(a) is as follows:
(28) BIDDER RESPONSIBILITY. (a) Any bid, application or proposal for any contract with the county, including public works contracts regulated under chapter 40, shall include a certification indicating whether the bidder has been found by the National Labor Relations Board (NLRB) or the Wisconsin Employment Relations Committee (WERC) to have violated any statute or regulation regarding labor standards or relations within the last seven years. The purchasing manager shall investigate any such finding and make a recommendation to the committee, which shall determine whether the conduct resulting in the finding affects the bidder’s responsibility to perform the contract.

If you indicated that the NLRB or WERC have found you to have such a violation, you must include copies of any relevant information regarding such violation with your proposal, bid or application.

Include this completed Certification with your bid, application or proposal.

COUNTY OF DANE

PUBLIC WORKS CONSTRUCTION CONTRACT

Contract No. _____ Bid No. 317026

Authority: 2017 RES - _____

THIS CONTRACT, made and entered into as of the date by which authorized representatives of both parties have affixed their signatures, by and between the County of Dane (hereafter referred to as "COUNTY") and _____ (hereafter, "CONTRACTOR"), and

WITNESSETH:

WHEREAS, COUNTY, whose address is c/o Assistant Public Works Director, 1919 Alliant Energy Center Way, Madison, WI 53713, desires to have CONTRACTOR provide Capital City Trail Repair-Culvert Replacement including Alternate Bid[s] X, Y & Z (if applicable) ("the Project"); and

WHEREAS, CONTRACTOR, whose address is _____ is able and willing to construct the Project, in accordance with the Construction Documents;

NOW, THEREFORE, in consideration of the above premises and the mutual covenants of the parties hereinafter set forth, the receipt and sufficiency of which is acknowledged by each party for itself, COUNTY and CONTRACTOR do agree as follows:

1. CONTRACTOR agrees to construct, for the price of \$ _____ the Project and at the CONTRACTOR'S own proper cost and expense to furnish all materials, supplies, machinery, equipment, tools, superintendence labor, insurance, and other accessories and services necessary to complete the Project in accordance with the conditions and prices stated in the Bid Form, Conditions of Contract, the drawings which include all maps, plats, plans, and other drawings and printed or written explanatory matter thereof, and the specifications therefore as prepared by General Engineering Company (hereinafter referred to as "the Architect / Engineer"), and as enumerated in the Project Manual Table of Contents, all of which are made a part hereof and collectively evidence and constitute the Contract.
2. COUNTY agrees to pay the CONTRACTOR in current funds for the performance of the Contract subject to additions and deductions, as provided in the General Conditions of Contract,, and to make payments on account thereof as provided in Article entitled, "Payments to Contractor" of the Conditions of Contract.
3. During the term of this Contract, CONTRACTOR agrees to take affirmative action to ensure equal employment opportunities. The CONTRACTOR agrees in accordance with Wisconsin Statute 111.321 and Chapter 19 of the Dane County Code of Ordinances not to discriminate on the basis of age, race, ethnicity, religion, color, gender, disability, marital status, sexual orientation, national origin, cultural differences, ancestry, physical appearance, arrest record or conviction record, military participation or membership in the national guard, state defense force or any other reserve component of the military forces of the United States, or political beliefs. Such equal opportunity shall include, but not be limited to, the following: employment,

upgrading, demotion, transfer, recruitment, advertising, layoff, termination, training, rates of pay, and any other form of compensation. CONTRACTOR agrees to post in conspicuous places, available to all employees and applicants for employment, notices setting forth the provisions of this paragraph.

4. CONTRACTOR shall file an Affirmative Action Plan with the Dane County Contract Compliance Officer in accord with Chapter 19 of the Dane County Code of Ordinances. CONTRACTOR must file such plan within fifteen (15) business days of the effective date of this Contract. During the term of this Contract CONTRACTOR shall also provide copies of all announcements of employment opportunities to COUNTY'S Contract Compliance Office, and shall report annually the number of persons, by race, ethnicity, gender, and disability status, which apply for employment and, similarly classified, the number hired and number rejected.

5. During the term of this Contract, all solicitations for employment placed on CONTRACTOR'S behalf shall include a statement to the effect that CONTRACTOR is an "Equal Opportunity Employer".

6. CONTRACTOR agrees to comply with provisions of Chapter 25.016 of the Dane County Code of Ordinances, which pertains to domestic partnership benefits.

7. CONTRACTOR agrees to furnish all information and reports required by COUNTY'S Contract Compliance Officer as the same relate to affirmative action and nondiscrimination, which may include any books, records, or accounts deemed appropriate to determine compliance with Chapter 19, Dane County Code of Ordinances, and the provisions of this Contract.

8. CONTRACTOR agrees that all persons employed by CONTRACTOR or any subcontractor shall be paid no less than the minimum wage established under Chapter 40, Subchapter II, Dane County Code of Ordinances. CONTRACTOR agrees to abide by and comply with the provisions of Chapter 40, Subchapter II of the Dane County Code of Ordinances, and said Subchapter is fully incorporated herein by reference.

9. This Contract is intended to be a Contract solely between the parties hereto and for their benefit only. No part of this Contract shall be construed to add to, supplement, amend, abridge or repeal existing rights, benefits or privileges of any third party or parties including, but not limited to, employees of either of the parties.

10. The entire agreement of the parties is contained herein and this Contract supersedes any and all oral agreements and negotiations between the parties relating to the subject matter hereof. The parties expressly agree that the express terms of this Contract shall not be amended in any fashion except in writing, executed by both parties.

11. CONTRACTOR must be pre-qualified as a Best Value Contractor with Dane County Public Works Engineering Division before award of Contract. Subcontractors must be pre-qualified ten (10) business days prior to commencing Work under this Contract.

IN WITNESS WHEREOF, COUNTY and CONTRACTOR, by their respective authorized agents, have caused this Contract and its Schedules to be executed, effective as of the date by which all parties hereto have affixed their respective signatures, as indicated below.

* * * * *

FOR CONTRACTOR:

Signature Date

Printed or Typed Name and Title

Signature Date

Printed or Typed Name and Title

NOTE: If CONTRACTOR is a corporation, Secretary should attest. In accordance with IRS Regulations, unincorporated entities are required to provide either their Social Security or Employer Number in order to receive payment for services rendered.

* * * * *

This Contract is not valid or effectual for any purpose until approved by the appropriate authority designated below, and no work is authorized until the CONTRACTOR has been given notice to proceed by COUNTY'S Assistant Public Works Director.

FOR COUNTY:

Joseph T. Parisi, County Executive Date

Scott McDonell, County Clerk Date

AIA[®] Document A310[™] – 2010

Bid Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

BOND AMOUNT:

PROJECT:

(Name, location or address, and Project number, if any)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this _____ day of _____

_____	<i>(Contractor as Principal)</i>	_____	<i>(Seal)</i>
<i>(Witness)</i>	_____	_____	<i>(Title)</i>
	<i>(Surety)</i>	_____	<i>(Seal)</i>
<i>(Witness)</i>	_____	_____	<i>(Title)</i>

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

AIA[®] Document A312[™] – 2010

Performance Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

CONSTRUCTION CONTRACT

Date:

Amount:

Description:

(Name and location)

BOND

Date:

(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: None See Section 16

CONTRACTOR AS PRINCIPAL

Company: _____
(Corporate Seal)

SURETY

Company: _____
(Corporate Seal)

Signature: _____

Name _____
and Title: _____

(Any additional signatures appear on the last page of this Performance Bond.)

Signature: _____

Name _____
and Title: _____

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 **Balance of the Contract Price.** The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 **Construction Contract.** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 **Contractor Default.** Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

Sample

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

SURETY

Company: _____

(Corporate Seal)

Company: _____

(Corporate Seal)

Signature: _____
Name and Title: _____
Address _____

Signature: _____
Name and Title: _____
Address _____

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.



AIA® Document A312™ – 2010

Payment Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

CONSTRUCTION CONTRACT

Date:

Amount:

Description:

(Name and location)

BOND

Date:

(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: None See Section 18

CONTRACTOR AS PRINCIPAL

Company: *(Corporate Seal)*

SURETY

Company: *(Corporate Seal)*

Signature: _____

Name _____
and Title: _____

Signature: _____

Name _____
and Title: _____

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:**OWNER'S REPRESENTATIVE:**

(Architect, Engineer or other party:)

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____

(Corporate Seal)

SURETY

Company: _____

(Corporate Seal)

Signature: _____

Name and Title: _____

Address _____

Signature: _____

Name and Title: _____

Address _____

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

EQUAL BENEFITS COMPLIANCE PAYMENT CERTIFICATION FORM

PURPOSE

25.016(8) of the Dane County Ordinance requires that each contractor receiving payment for contracted services must certify that he or she has complied fully with the requirements of Chapter 25.016 "Equal Benefits Requirement" of the Dane County Ordinances. Such certification must be submitted prior to the final payment on the contract.

This form should be included with a copy of the final contract invoice forwarded to your contract representative at Dane County.

CERTIFICATION

I, _____ certify that
Printed or Typed Name and Title

Printed or Typed Name of Contractor

has complied fully with the requirements of Chapter 25.016 of the Dane County Ordinances "Equal Benefits Requirements".

Signed _____

Date _____

For questions on this form, please contact Chuck Hicklin at 608-266-4109 or your contract representative at Dane County.

CONDITIONS OF CONTRACT

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1. BIDS AND QUOTATIONS

- A. **Addressing of Bids.** Bids shall be addressed to attention of Public Works Engineering Division and received at Dane County Department of Public Works, Highway & Transportation, 1919 Alliant Energy Center Way, Madison, WI 53713, on or before local time and date specified herein for Bid Due Date. Seal all bids in envelopes and clearly mark front with bid number and reference to specified contents of bid. All uses of term “County” in Construction Documents shall mean Dane County.
- B. **Only One Copy Required.** Unless otherwise specified, only one copy of bid or quotation on prescribed Bid Form will be required.
- C. **Additional Data with Bid.** Bidder may submit, on firm’s letterhead only, additional data and information deemed advantageous to County. County shall hold optional consideration of such data and information.
- D. **More than One Bid.** Bidders desiring to submit more than one bid may do so provided such additional bid or bids are properly submitted on Dane County Department of Public Works, Highway & Transportation’s Bid Form. Obtain extra sets of Construction Documents from Dane County Department of Public Works, Highway & Transportation. All uses of term “Department” in Construction Documents shall mean Department of Public Works, Highway & Transportation, which is Dane County government unit.
- E. **Withdrawal or Late Bids.** County will not accept formal bids, amendments thereto, or requests for withdrawal of bid or any part thereof, after time of Bid Due Date.
- F. **Preparation and Submission.** All written bids, unless otherwise provided for, must be submitted on and in accordance with forms provided by County properly signed in ink. Bids not signed by hand are not accepted. Bidders must register in advance with Purchasing Division.
- G. **Products by Name.** Intention of Specifications of products by name is to be descriptive of quality, workmanship, finish, function and approximate characteristics desired; intention is not necessarily restriction. Consideration of products substitution for those named is possible, provided substitute offered is, in opinion of Dane County Public Works Project

Manager, equal or superior in quality, workmanship, finish, function and approximate characteristics to that specified in Project Manual Specifications listed herein.

- H. **Visitation of Sites.** Bidder shall visit site(s) that will receive intended work or installation, and in so doing, be held responsible for job deemed satisfactory by County after completion of the Work or installation. No additional compensation shall be allowed for any condition of which bidder could have been informed.
- I. **Completeness.** Supply all information required by Construction Documents to constitute regular bid. This shall include:
 - 1. Completed Bid Form.
 - 2. Completed Fair Labor Practices Certification.
 - 3. Completed Bid Bond.
- J. **Bids Binding Sixty (60) Calendar Days.** Unless otherwise specified all formal bids submitted shall be binding for sixty (60) calendar days following Bid Due Date.
- K. **Conditional Bids.** Qualified bids are subject to complete rejection, or partial rejection.
- L. **All or Part.** Bids or quotations may be considered and award made for all or any part of total quantities as specified in Construction Documents.
- M. **Errors.** Unit bid price shall govern when extending total prices has errors. Carelessness in quoting prices or in preparation of bid otherwise, will not relieve bidder. Explain all erasures in bids and include signature of bidder.
- N. **Regulation by State Statutes.** Bidding and letting of contracts are subject to provisions of Wisconsin Statutes 59.52(29) and 66.0901 and all subsequent sections and amendments thereof.
- O. **Bidders Present.** Bid Due Date is time fixed for opening of formal bids. Bids' contents will be made public for information of bidders and others properly interested, who may be present either in person or by representative. Bidders are encouraged to attend all openings, and to offer constructive suggestions for improvements to bid format or ways in which County can realize greater savings.
- P. **Taxes.** Contractor shall pay applicable State and local sales taxes.

2. GUARANTEE AND BOND

- A. **Bid Bond / Guarantee.** Bid Bond shall accompany Bids, which shall be either flat sum or percentage figure as shown on Project Manual Cover. This Bid Bond shall serve as warrant that successful bidder will fulfill terms of bid within time limit as indicated in bid after notice of award by Dane County. Bid Bond may be certified bank check (note: uncertified checks will not be acceptable), cashier's check or United State money order payable to Treasurer of Dane County; or on Bid Bond with corporate surety authorized to do business in State of Wisconsin and warranty of attorney to confess judgment thereon attached thereto. County will return negotiable Bid Bonds to unsuccessful bidders after awarding of bid. County shall return check held from Contractor after satisfactory completion of Contract or after receipt by County of Performance Bond from Contractor, if one is required. Surety Bid Bonds will not be returned unless specifically requested by individual bidders.

- B. **Guarantor Liability.** When guarantee is required, failure of bidder to furnish acceptable Performance Bond (Article 2.C.) within twenty (20) business days after receipt of notice of award shall render guarantor liable to County. Bids covered by certified check or bond such security shall become absolute property of County and shall be deposited with County Treasurer for benefit of County as liquidated damages. County shall forthwith proceed to collect on Bid Bond.
- C. **Performance / Payment Bond.** When required, file guarantee that successful bidder will faithfully perform obligations of bid as accepted. Such guarantee must be bond complying with Wisconsin Statute 779.14 with corporate surety authorized to do business in this State, and that Contractor or subcontractors will be responsible for all claims for injuries to persons or damages to property or premises arising out of or in connection with their operations prior to acceptance of finished work or supplies, and that they will promptly make payments to all persons supplying them with labor or materials in execution of the Work provided for in Contract; guarantee to indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from all costs, damages and expenses growing out of or by reason of successful bidder's failure to comply and perform the Work and complete Contract in accordance with Construction Documents; attach thereto a warrant of attorney authorizing confession of judgment thereon for benefit of County.

3. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by Contractor or subcontractor, sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.
- B. Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by Contractor to illustrate materials or equipment for some portion of the Work.
- C. Samples are physical examples that illustrate materials, equipment or workmanship and establish standards to compare the Work.
- D. Shop Drawings, Product Data, Samples and similar submittals are not Construction Documents. Purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required how Contractor proposes to conform to information given and design concept expressed in Construction Documents.
- E. Contractor shall review, approve and submit to Public Works Project Manager Shop Drawings, Product Data, Samples and similar submittals required by Construction Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in activities of County or of separate contractors. Submittals made by Contractor not required by Construction Documents, may be returned without action.
- F. Contractor shall perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples or similar submittals until Public Works Project Manager has approved respective submittal. Such Work shall be in accordance with approved submittals.
- G. By approving and submitting, Shop Drawings, Product Data, Samples and similar submittals, Contractor represents that Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked

and coordinated information contained within such submittals with requirements of the Work and of Construction Documents.

- H. Contractor shall not be relieved of responsibility for deviations from requirements of Construction Documents by Public Works Project Manager's approval of Shop Drawings, Product Data, Samples and similar submittals unless Contractor has specifically informed Public Works Project Manager in writing of such deviation at time of submittal and Public Works Project Manager has given written approval to specific deviation. Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Sample or similar submittals by Public Works Project Manager's approval thereof.
- I. Contractor shall in writing direct specific attention to revised and / or resubmitted Shop Drawings, Product Data, Samples or similar submittals that were not requested by Architect / Engineer or Public Works Project Manager on previous submittals.
- J. Unless specified otherwise, Contractor shall submit three (3) copies of all Shop Drawings, Product Data, Samples or similar submittals for each submission, until receiving final approval. After final approval, provide five (5) additional copies for distribution and such other copies as may be required.

4. AWARDS

- A. **Lowest Responsible Bidder.** Award will be to lowest responsible bidder conforming to Construction Documents or on most advantageous bid to County.
- B. **Other Considerations.** Quantities involved, time of delivery, purpose for which required, competency of bidder, ability to render satisfactory service and past performance will be considered in determining responsibility.
- C. **Rejection of Bids.** County reserves right to reject any or all bids or quotations in whole or in part and to award by items, parts of items, or by any aggregate group of items specified. County also reserves right to waive technical defects when in its judgment best interests of County thereby will be served.
- D. **Notice of Acceptance.** Sufficient notification of acceptance of bid will be written notice of award to bidder in form of Purchase Order or similar, mailed or delivered to address shown on Bid Form.
- E. **Tie Bids.** If two or more bidders submit identical bids, decision of County to make award to one or more of such bidders shall be final. Cash discount will be taken into consideration in determining award. Also, see Article 7.A. IDENTICAL BIDDING, Antitrust Laws.
- F. **Qualifying Bidders.** Prior to solicitation and / or awarding of bid, County may require submission by bidder of complete financial statement and questionnaire describing bidder's financial ability and experience in performance of similar work. Refer to Instructions to Bidders.
- G. **Disqualification.** Awards will not be made to any person, firm or company in default of Contract with County, or to any bidder having as its sales agent or representative or as member of firm, any individual previously in default or guilty of misrepresentation.
- H. **Bid Results.** Bidders may secure information pertaining to results of bids by visiting Public Works' website, bids-pwht.countyofdane.com.

5. CONTRACT PROVISIONS

- A. **Acceptance Constitutes Contract.** Written acceptance by Public Works Project Manager of proposal for services shall constitute Contract, which shall bind bidder to perform the Work as detailed in Construction Documents, for bid amount and in accordance with all conditions of said accepted bid. Formal Contract containing all provisions of Contract signed by both parties shall be used when required by Public Works Project Manager.
- B. **Local Restrictions and Permits.** All work shall be done according to applicable laws, ordinances and codes. Contractor shall procure and pay for all required permits for permanent or temporary work.
- C. **Payment of Invoices.** Payment may be made only after inspection and acceptance by using agency and approval by Dane County Public Works Project Manager, and, where required by ordinances, approval by Dane County Board of Supervisors. If materials or equipment were delivered, constructed, erected, installed or tested on site, payment shall be made based on ninety-five percent (95%) of value of all the Work performed up to fifty percent (50%) of scheduled values less total of previous payments. Authorized extra work will be included in progress payments. Payment of balances will be made only after approval and final acceptance by County in consideration and elimination of possibilities of imperfect work, faulty materials or equipment, liens that have been filed, or if evidence indicates possible filing of claims.
- D. **Contract Alterations.** No alterations or variables in terms of contract shall be valid or binding upon County unless made in writing and signed by Purchasing Agent or authorized agent.
- E. **Assignments.** No contract may be assigned, sublet or transferred without written consent of Public Works Project Manager.
- F. **Cancellations.** Contract may be canceled or voided by Public Works Project Manager upon non-performance or violation of contract provisions, and award made to next low bidder or articles specified may be purchased on open market. In either event, defaulting contractor (or their surety) shall be liable to Dane County for costs to County in excess of defaulting contractor's contract prices.
- G. **Right of Department to Terminate Contract.**
1. In event that Contractor or any subcontractors violate any provisions of this Contract, County may serve written notice upon Contractor and Surety of its intention to terminate Contract. Such notice to contain reasons for such intention to terminate Contract, and unless within ten (10) business days after serving of such notice upon Contractor, such violation or delay shall cease and satisfactory arrangement or correction be made, Contract shall, upon expiration of said ten (10) business days, cease and terminate.
 2. In event of any such termination, County shall immediately serve notice thereof upon Surety and Contractor, and Surety shall have right to take over and perform Contract subject to County's approval. However, if Surety does not commence performance thereof within ten (10) business days from date of mailing to such Surety of notice of termination, County may take over the Work and prosecute same to completion by Contract or by force account for account and at expense of Contractor. Contractor and Surety shall be liable to County for any excess cost occasioned County thereby, and in such event County may take possession of and utilize in completing the Work, such

equipment, materials and / or supplies as may be on site of the Work and therefore necessary.

- H. **Non-Liability.** Contractor shall not be liable in damages for delay in shipment or failure to deliver when such delay or failure is result of fire, flood, strike, transporting carrier, act of God, act of government, act of alien enemy or by any other circumstances which, in Public Works Project Manager's opinion, is beyond control of Contractor. Under such circumstances, however, Public Works Project Manager may in discretion, cancel Contract.
- I. **Quality Assurance.** Inspection of equipment, materials and / or supplies shall be made by or at direction of County or Agency to which goods are delivered, and any articles supplied that are defective, or fails in any way to meet Specifications or other requirements of Contract, will be rejected. Public Works Project Manager shall direct all required laboratory tests. Decision of Public Works Project Manager on acceptance shall be final.
- J. **Time for Completion.** Contractor agrees that the Work shall be prosecuted regularly and diligently and complete entire project as stated in Construction Documents.
- K. **Changes in the Work.**
1. Except in cases of emergency, no changes in the Work covered by approved Construction Documents shall be made without having prior written approval of Department. Charges or credits for work covered by approved change shall be determined by one of these methods:
 - a) Unit bid prices previously approved.
 - b) Agreed lump sum based on actual cost of:
 - 1) Labor, including foremen, and all fringe benefits that are associated with their wages;
 - 2) Materials entering permanently into the Work;
 - 3) Ownership or rental cost of construction plant and equipment during time of use on extra work;
 - 4) Power and consumable supplies for operation of construction or power equipment;
 - 5) Workmen's Compensation Insurance, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance;
 - 6) Social Security, pension and unemployment contributions;
 - 7) To cost under K.1.b), there shall be added fixed fee to be agreed upon, but not to exceed fifteen percent (15%) of actual cost of the Work performed with their own labor force; fee shall be compensation to cover cost of supervision, overhead, bond, profit and any other general expense;
 - 8) On that portion of work under K.1.b) done under subcontract, Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit and any other general expense; and
 - 9) Contractor shall keep and present in such form as directed, correct amount of cost together with such supporting vouchers as may be required by Department.
 - c) Cost-Plus Work, with not-to-exceed dollar limit, based on actual cost of:
 - 1) Labor, including foremen, and all fringe benefits that are associated with their wages;
 - 2) Materials entering permanently into the Work;
 - 3) Ownership or rental cost of construction plant and equipment during time of use on extra work. (Rental cost cannot exceed fifty percent (50%) replacement value of rented equipment);
 - 4) Power and consumable supplies for operation of construction or power equipment;

- 5) Workmen's Compensation, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance;
 - 6) Social Security, pension and unemployment contributions;
 - 7) To cost under K.1.c) there shall be added fixed fee to be agreed upon, but not to exceed fifteen percent (15%) of actual cost of the Work performed with their own labor force; fee shall be compensation to cover cost of supervision, overhead, bond, profit, and any other general expense;
 - 8) On that portion of work under K.1.c) done under subcontract, Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit, and any other general expense; and
 - 9) Contractor shall keep and present in such form as directed, correct amount of cost together with such supporting vouchers as may be required by Department.
2. If Contractor claims that by any instructions given by Architect / Engineer, Department, by drawings or otherwise, regarding performance of the Work or furnishing of material under Contract, involves extra cost, Contractor shall give Department written notice thereof within two weeks after receipt of such instructions and in any event before proceeding to execute work, unless delay in executing work would endanger life or property.
 3. No claim for extra work or cost shall be allowed unless same was done in pursuance of written order of Architect / Engineer and approved by Department, as previously mentioned, and claim presented with payment request submitted after changed or extra work is completed.
 4. Negotiation of cost for change in the Work shall not be cause for Contractor to delay prosecution of the Work if Contractor has been authorized in writing by Public Works Project Manager to proceed.

L. Payments to Contractor.

1. County will make partial payments to Contractor for value, proportionate to amount of Contract, of all labor and material incorporated in the Work during preceding calendar month upon receipt of approved Application and Certificate of Payment from Architect / Engineer and approval of Department.
2. Contractor shall submit to Architect / Engineer Application and Certificate of Payment. Architect / Engineer will review and approve this before sending it to Public Works Project Manager. Evidence may be required, and supplied on demand, that supports request and Contractor's right to payment claimed.
3. Request for payment for preparatory work and materials delivered and suitably stored at site to be incorporated into the Work at some future period, will be given due consideration. Requests involving materials stored off site, may be rejected; however, if deemed essential for reasons of job progress, protection, or other sufficient cause, requests will be considered conditional upon submission by Contractor of bills of sale and such other procedures as will adequately protect County's interest such as storage in bonded warehouse with adequate coverage. If there is any error in payment, Contractor is obligated to notify Department immediately, but no longer than ten (10) business days from receipt of payment.
4. Payments by County will be due within forty-five (45) business days after receipt by Department of certified request.

5. Five percent (5%) of each request for certification will be retained until final completion and acceptance of all the Work covered by Contract. However, anytime after fifty percent (50%) of the Work has been furnished and installed at site, remaining payments will be made in full if Architect / Engineer and Public Works Project Manager find that progress of the Work corresponds with construction progress schedule. If Architect / Engineer and Public Works Project Manager find that progress of the Work does not correspond with construction progress schedule, up to ten percent (10%) of each request for payment may be retained for the Work completed.
6. All material and work covered by partial payments made shall become sole property of County. This provision shall not be construed as relieving Contractor from sole responsibility for care and protection of materials and work upon which payments have been made or restoration of any damaged work, or as waiver of right of County to require fulfillment of all of terms of Contract.
7. Final payment will be made within sixty (60) calendar days after final completion of the Work, and will constitute acceptance thereof. Submit Equal Benefits Compliance Payment Certification with final pay request. Payment may be denied if Certification is not included.
8. On completion and acceptance of each separate division of Contract, on which stated price is separated in Contract, payment may be made in full, including retained percentages thereon, less authorized deductions.
9. Every contractor engaged in performance of any contract for Department of Public Works, Highway & Transportation shall submit to this Department, as requested and with final application for payment for work under said contract, affidavit(s) as required to prove that all debts and claims against this Work are paid in full or otherwise satisfied, and give final evidence of release of all liens against the Work and County. If Wisconsin Prevailing Wage Rate Determination is required for this Work, use "Prime Contractor Affidavit of Compliance With Prevailing Wage Rate Determination" and "Agent or Subcontractor Affidavit of Compliance With Prevailing Wage Rate Determination" (if applicable). If Wisconsin Prevailing Wage Rate Determination is not required for this Work, use "Dane County, Wisconsin Contractor Wage Affidavit". Forms of such affidavits are included in Supplementary Conditions.

M. Withholding of Payments.

1. County, after having served written notice on said Contractor, may either pay directly any unpaid bills of which Department has written notice, or withhold from Contractor's unpaid compensation, sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged. Then payment to Contractor shall be resumed in accordance with terms of this Contract, but in no event shall these provisions be construed to impose any obligations upon County to either Contractor or Contractor's Surety.
2. In paying any unpaid bills of Contractor, County shall be deemed Agent of Contractor, and any payment so made by County, shall be considered as payment made under Contract by County to Contractor and County shall not be liable to Contractor for any such payment made in good faith.
3. Contractor shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from all claims growing out of lawful demands of subcontractors, laborers, workmen, mechanics, material men,

and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in performance of this Contract.

4. At Department's request, Contractor shall furnish satisfactory evidence that all obligations of nature designated above have been paid, discharged or waived.

N. Acceptance of Final Payment as Release.

1. Making of final payment shall constitute waiver of all claims by County except those arising from:
 - a) Unsettled lien;
 - b) Faulty or defective work appearing after substantial completion;
 - c) Failure of the Work to comply with requirements of Construction Documents; or
 - d) Terms of any special guarantees required by Construction Documents.
2. Acceptance of final payment shall constitute waiver of all claims by Contractor.

O. Lien Waivers. Contractor warrants that title to all work covered by application for Payment will pass to County no later than time of payment. Contractor further warrants that upon submittal of Application for Payment all work for which Certificates for Payment have been previously issued and payments received from County shall, to best of Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of Contractor, subcontractor, material suppliers, or other persons or entities making claim by reason of having provide labor, materials and equipment related to the Work.

P. Use and Occupancy Prior to Acceptance. Contractor agrees to use and occupancy of portion or unit of project before formal acceptance by Department, provided Department:

1. Secures written consent of Contractor; except when in opinion of Department's Public Works Project Manager, Contractor is chargeable with unwarranted delay in final cleanup of punch list items or other Contract requirements;
2. Secures endorsement from insurance carrier and consent of Surety permitting occupancy of building or use of project during remaining period of construction, or, secures consent of Surety;
3. Assumes all costs and maintenance of heat, electricity and water; and
4. Accepts all work completed within that portion or unit of project to be occupied, at time of occupancy.

Q. Correction of Work.

1. All work, all materials whether incorporated in the Work or not, and all processes of manufacture shall at all times and places be subject to inspection of Architect / Engineer and Public Works Project Manager who shall be judge of quality and suitability of work, materials, and processes of manufacture for purposes for which they are used. Should they fail to meet Architect / Engineer's and Public Works Project Manager's approval they shall be reconstructed, made good, replaced or corrected, as case may be, by Contractor at Contractor's expense. Rejected material shall immediately be removed from site.
2. If Contractor defaults or neglects to carry out the Work in accordance with Construction Documents or fails to perform any provision of Contract, Department may, after ten (10) business days written notice to Contractor and without prejudice to any other remedy County may have, make good such deficiencies. In such case, appropriate Change Order shall be issued deducting from payments then or thereafter due Contractor cost of correcting such deficiencies, including cost of Architect / Engineer's additional services made necessary by such default, neglect or failure.

6. GENERAL GUARANTEE

- A. Neither final certificate of payment nor any provision in Construction Documents nor partial or entire occupancy of premises by County shall constitute acceptance of work not done in accordance with Construction Documents or relieve Contractor of liability in respect to any expressed warranties or responsibility for faulty materials or workmanship.
 - 1. In no event shall making of any payment required by Contract constitute or be construed as waiver by County of any breach of covenants of Contract or waiver of any default of Contractor and making of any such payment by County while any such default or breach shall exist shall in no way impair or prejudice right of County with respect to recovery of damages or other remedy as result of such breach or default.
- B. Contractor shall remedy and make good all defective workmanship and materials and pay for any damage to other work resulting therefrom, which appear within period of one year from date of substantial completion, providing such defects are not clearly due to abuse or misuse by County. Department will give notice of observed defects with reasonable promptness.
- C. Guarantee on work executed after certified date of substantial completion will begin on date when such work is inspected and approved by Architect / Engineer and Public Works Project Manager.
- D. Where guarantees or warranties are required in sections of Construction Documents for periods in excess of one year, such longer terms shall apply; however, Contractor's Performance / Payment Bond shall not apply to any guarantee or warranty period in excess of one year.

7. IDENTICAL BIDDING

- A. **Antitrust Laws.** All identical bids submitted to County because of advertised procurement for materials, supplies, equipment or services exceeding \$1,000,000.00 in total amount shall be reported to Attorney Generals of the United States and State of Wisconsin for possible violation and enforcement of antitrust laws.

8. BINDING CONTRACTS

- A. **Contract Commitment.** Any contracts resulting from this bid shall be binding on successful bidder(s) to its conclusion and on its assigns, heirs, executors, administrators or successors.

9. AFFIRMATIVE ACTION PROVISION AND MINORITY / WOMEN / DISADVANTAGED BUSINESS ENTERPRISES

- A. **Affirmative Action Provisions.** During term of its Contract, Contractor agrees not to discriminate on basis of race, religion, color, sex, handicap, age, sexual preference, marital status, physical appearance, or national origin against any person, whether recipient of services (actual or potential), employee, or applicant for employment. Such equal opportunity shall include, but not be limited to following: employment, upgrading, demotion, transfer, recruitment, advertising, layoff, termination, training, rates of pay, and any other form of compensation or level of service(s). Contractor agrees to post in conspicuous places, available to all employees, service recipients and applicants for this paragraph. Listing of prohibited bases for discrimination shall not be construed to amend in any fashion state or

federal law setting forth additional bases and exceptions shall be permitted only to extent allowable in state or federal law.

- B. Contractor is subject to this paragraph only if Contractor has ten (10) or more employees and receives \$10,000.00 or more in annual aggregate contracts with County. Contractor shall file Affirmative Action Plan with Dane County Contract Compliance Officer in accord with Chapter 19 of Dane County Code of Ordinances. Contractor must file such plan within fifteen (15) business days of effective date of this Contract and failure to do so by that date shall constitute grounds for immediate termination of Contract. During term of this Contract, Contractor shall also provide copies of all announcements of employment opportunities to County's Contract Compliance Office, and shall report annually number of persons, by race, sex and handicap status, which apply for employment and, similarly classified, number hired and number rejected.
- C. Contact Dane County Contract Compliance Officer at Dane County Contract Compliance Office, 210 Martin Luther King, Jr. Blvd., Room 421, Madison, WI 53703, 608/266-4114.
- D. In all solicitations for employment placed on Contractor's behalf during term of this Contract, Contractor shall include statement to effect that Contractor is "Equal Opportunity Employer."
- E. Contractor agrees to furnish all information and reports required by County's Contract Compliance Officer as same relate to affirmative action and nondiscrimination, which may include any books, records, or accounts deemed appropriate to determine compliance with Chapter 19, Dane County Code of Ordinances, and provision of this Contract.
- F. **Minority / Women / Disadvantaged / Emerging Small Business Enterprises.** Chapter 19.508 of Dane County Code of Ordinances is official policy of Dane County to utilize Minority Business Enterprises (MBEs), Women Business Enterprises (WBEs), Disadvantaged Business Enterprises (DBEs) and Emerging Small Business Enterprises (ESBEs) fully.
- G. Contractor may utilize MBEs / WBEs / DBEs / ESBEs as subcontractors or suppliers. List of subcontractors will be required of low bidder as stated in this Contract. List shall indicate which subcontractors or suppliers are MBEs / WBEs / DBEs / ESBEs and what percentage of subcontract is awarded, shown as percentage of total dollar amount of bid.

10. COMPLIANCE WITH FAIR LABOR STANDARDS

- A. During term of this Contract, Contractor shall report to County Contract Compliance Officer, within ten (10) business days, any allegations to, or findings by National Labor Relations Board (NLRB) or Wisconsin Employment Relations Commission (WERC) that Contractor has violated statute or regulation regarding labor standards or relations. If investigation by Contract Compliance Officer results in final determination that matter adversely affects Contractor's responsibilities under this Contract, and which recommends termination, suspension or cancellation of this Contract, County may take such action.
- B. Contractor may appeal any adverse finding by Contract Compliance Officer as set forth in Dane County Ordinance 25.015(11)(c) through (e).
- C. Contractor shall post this statement in prominent place visible to employees: "As condition of receiving and maintaining contract with Dane County, this employer shall comply with federal, state and all other applicable laws prohibiting retaliation or union organizing."

11. DOMESTIC PARTNERSHIP BENEFITS

- A. Contractor agrees to provide same economic benefits to all of its employees with domestic partners as it does to employees with spouses, or cash equivalent if such benefit cannot reasonably be provided. Contractor agrees to make available for County inspection Contractor's payroll records relating to employees providing services on or under this Contract or subcontract. If any payroll records of Contractor contain any false, misleading or fraudulent information, or if Contractor fails to comply with provisions of Chapter 25.016, Dane County Ordinances, contract compliance officer may withhold payments on Contract; terminate, cancel or suspend Contract in whole or in part; or, after due process hearing, deny Contractor right to participate in bidding on future County contracts for period of one year after first violation is found and for period of three years after second or subsequent violation is found.

12. INSURANCE REQUIREMENTS

- A. Contractor shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from and against all claims, damages, losses and expenses including attorneys' fees arising out of or resulting from performance of the Work, provided that any such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including loss of use resulting there from, and is caused in whole or in part by any act or omission of Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a part indemnified hereunder.
- B. In any and all claims against Dane County, its boards, commissions, agencies, officers, employees and representatives or by any employee of Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, indemnification obligation under this Contract shall not be limited in any way by any limitation on amount or type of damages, compensation or benefits payable by or for Contractor or any subcontractor under worker's compensation acts, disability benefits or other employee benefit acts.
- C. Obligations of Contractor under this Contract shall not extend to liability of Architect / Engineer, its agents or employees arising out of (1) preparation or approval of maps, drawings, opinion, reports, surveys, change orders, designs or specifications; or (2) giving of or failure to give directions or instruction by Architect / Engineer, its agents or employees provided such giving or failure to give is primary cause of injury or damage.
- D. County shall not be liable to Contractor for damages or delays resulting from work by third parties or by injunctions or other restraining orders obtained by third parties.
- E. **Contractor Carried Insurance.** In order to protect itself and County, Contractor shall not commence work under this Contract until obtaining all required insurance and County has approved such insurance. Contractor shall not allow any subcontractor to commence work on subcontract until insurance required of subcontractor has been so obtained and approved.
1. **Worker's Compensation Insurance**
Contractor shall procure and shall maintain during life of this Contract, Worker's Compensation Insurance as required by statute for all of its employees engaged in work at site of project under this Contract and, in case of such work sublet, Contractor shall require subcontractor similarly to provide Worker's Compensation Insurance for all of

latter's employees to be engaged in such work unless such employees are covered by protection afforded by Contractor's Worker's Compensation Insurance.

2. Contractor's Public Liability and Property Damage Insurance

Contractor shall procure and maintain during life of this Contract, Contractor's Public Liability Insurance and Contractor's Property Damage Insurance in amount not less than \$1,000,000.00 per occurrence for bodily injury and death, and Contractor's Property Damage Insurance in amount not less than \$1,000,000.00 and shall be primary with Dane County as "Additional Insured".

3. Auto Liability Insurance

Contractor shall procure and maintain during life of this Contract, Comprehensive Automobile Liability Insurance covering owned, non-owned and hired automobiles for limits of not less than \$1,000,000.00 and shall be primary with Dane County as "Additional Insured".

F. Contractor either (1) shall require each subcontractors to procure and to maintain during life of subcontract, subcontractor's Public Liability Property Damage Insurance, and Comprehensive Automobile Liability Insurance of type and in same amount specified in preceding paragraphs; or (2) insure that activities of subcontractors in their own policy.


G. Contractor shall furnish County with certificates showing type, amount, class of operations covered, effective dates and dates of expiration of policies. Such certificates shall also contain substantially this statement: "Insurance covered by this certificate will not be canceled or materially altered, except after ten (10) business days written notice has been received by County."

H. **Builder's Risk.** County shall provide Builder's Risk insurance coverage for its insurable interests in construction or renovation projects with completed value of \$500,000 or less. Therefore, if project completed value is more than \$500,000, Contractor shall obtain and maintain in force, at its own expense, Builder's Risk Insurance on all risks for amount equal to full completed value of covered structure or replacement value of alterations or additions. Any deductible shall not exceed \$25,000 for each loss. Policy shall include occupancy clause and list Dane County as loss payee.

SUPPLEMENTARY CONDITIONS

1. APPLICATION & CERTIFICATE FOR PAYMENT

- A. Every contractor engaged in performance of any contract for Department of Public Works, Highway & Transportation shall submit partial and final Application & Certificate for Payment for work under said contract. Form shall provide similar information as shown on AIA G702™ and G703™ forms (samples shown below). Forms shall be submitted to Public Works Project Manager for approval.


AIA Document G702™ – 1992

Application and Certificate for Payment

TO OWNER:	PROJECT:	APPLICATION NO:	Distribution to:
		PERIOD TO:	OWNER <input type="checkbox"/>
		CONTRACT FOR:	ARCHITECT <input type="checkbox"/>
FROM CONTRACTOR:	VIA ARCHITECT:	CONTRACT DATE:	CONTRACTOR <input type="checkbox"/>
		PROJECT NOS:	FIELD <input type="checkbox"/>
			OTHER <input type="checkbox"/>

CONTRACTOR'S APPLICATION FOR PAYMENT
 Application is made for payment, as shown below, in connection with the Contract.
 AIA Document G703™, Continuation Sheet, is attached.

1. ORIGINAL CONTRACT SUM \$

2. NET CHANGE BY CHANGE ORDERS \$

3. CONTRACT SUM TO DATE (Line 1 + 2) \$

4. TOTAL COMPLETED & STORED TO DATE (Column G on G703) \$

5. RETAINAGE:

a. % of Completed Work
(Column D + E on G703) \$

b. % of Stored Material
(Column F on G703) \$

Total Retainage (Lines 5a + 5b, or Total in Column I of G703) \$

6. TOTAL EARNED LESS RETAINAGE \$
(Line 4 minus Line 5 Total)

7. LESS PREVIOUS CERTIFICATES FOR PAYMENT \$
(Line 6 from prior Certificate)

8. CURRENT PAYMENT DUE \$

9. BALANCE TO FINISH, INCLUDING RETAINAGE \$
(Line 3 minus Line 6)

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR: _____ Date: _____

By: _____ State of: _____

County of: _____

Subscribed and sworn to before me this _____ day of _____

Notary Public: _____

My commission expires: _____

CHANGE ORDER SUMMARY

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	\$	\$
Total approved this month	\$	\$
TOTAL	\$	\$
NET CHANGES by Change Order	\$	\$

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED \$

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT: _____ Date: _____

By: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.
 AIA Document G702™ – 1992. Copyright © 1993, 1995, 1971, 1976, 1983 and 1992 by The American Institute of Architects. All rights reserved. **WARNING:** This AIA™ Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA™ Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. Purchasers are permitted to reproduce ten (10) copies of this document when completed. To report copyright violations of AIA Contract Documents, e-mail The American Institute of Architects' legal counsel, copyright@aia.org.

Continuation Sheet

AIA Document G703™-1992, Application and Certificate for Payment, or G732™-2009, Application and Certificate for Payment, Construction Manager as Adviser Edition, containing Contractor's signed certification is attached. In tabulations below, amounts are in US dollars. Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO:
APPLICATION DATE:
PERIOD TO:
ARCHITECT'S PROJECT NO.:

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		F MATERIALS PRESENTLY STORED (Not in D or E)	G TOTAL COMPLETED AND STORED TO DATE (D+E+F)	H BALANCE TO FINISH (C-G)	I RETAINAGE (if variable rate)
			FROM PREVIOUS APPLICATION (D-E)	THIS PERIOD				
GRAND TOTAL								

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.
AIA Document G703™ – 1992, Copyright © 1963, 1965, 1966, 1967, 1970, 1978, 1983 and 1992 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. Purchasers are permitted to reproduce ten (10) copies of this document when completed. To report copyright violations of AIA Contract Documents, e-mail The American Institute of Architects' legal counsel, copyright@aia.org. ©2010/04

2. CONTRACTOR WAGE AFFIDAVIT

- A. Every contractor engaged in performance of any contract for Department of Public Works, Highway & Transportation shall submit to this Department, as requested and with final application for payment for work under said contract, affidavit in form as hereinafter set forth in this section. Affidavit affirms that all persons employed by contractor or by any of contractor's subcontractors on such contract have been paid no less than minimum wages established under Dane County Ordinances, Chapter 40, Subchapter II (Minimum Wage Ordinance) and in effect at date of execution of contract, that full payment of wages earned has been made, and that no rebates either directly or indirectly have been made. Form of such affidavit is included in this section.
- B. Form should be included with a copy of the final contract invoice forwarded to your contract representative at Dane County.

SECTION 01 00 00
BASIC REQUIREMENTS

PART 1 GENERAL

1.1 SECTION SUMMARY

- A. Section Includes:
1. Section Summary
 2. Summary of the Work
 3. Contractor Use of Premises
 4. Applications for Payment
 5. Change Procedures
 6. Alternates
 7. Coordination
 8. Cutting and Patching
 9. Conferences
 10. Progress Meetings
 11. Submittal Procedures
 12. Proposed Products List
 13. Shop Drawings
 14. Product Data
 15. Samples
 16. Manufacturers' Instructions
 17. Manufacturers' Certificates
 18. Quality Assurance / Quality Control of Installation
 19. References
 20. Interior Enclosures
 21. Protection of Installed Work
 22. Parking
 23. Staging Areas
 24. Occupancy During Construction and Conduct of Work
 25. Protection
 26. Progress Cleaning
 27. Products
 28. Transportation, Handling, Storage and Protection
 29. Product Options
 30. Substitutions
 31. Starting Systems
 32. Demonstration and Instructions
 33. Contract Closeout Procedures
 34. Final Cleaning
 35. As-Built and Record Drawings and Specifications

1.2 SUMMARY OF THE WORK

- A. Project Description: This project will include the replacement of an existing culvert and associated trail repair. Perform the Work as specified and detailed in Construction Documents package.
- B. Work by Owner: Not applicable.
- C. Permits: Prior to commencement of the Work, Contractor to secure any and all necessary permits for completion of the Work and facility occupancy. County to provide WDNR Chapter 30 permit and erosion control permit(s) as required.
- D. Diggers Hotline:
 - 1. It is General Contractor's responsibility to contact Diggers Hotline to have all utility locations marked prior to excavation and planning an excavation in a timely manner so as not to delay the Work.
 - 2. Diggers Hotline shall also be used to obtain information on safe working clearances from overhead lines.
 - 3. Completely comply with all requirements of each affected utility company.
 - 4. It is General Contractor's responsibility to contact & hire private utility locating services if necessary.

1.3 CONTRACTOR USE OF PREMISES

- A. Limit use of premises to allow work by others and work by Owner.

1.4 APPLICATIONS FOR PAYMENT

- A. Submit one (1) original copies with "wet" signatures of each application on AIA G702™ and G703™ forms or approved contractors invoice form.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Payment Period: Monthly.
- D. Submit Applications for Payment to Public Works Project Manager for approval & processing for payment.

1.5 CHANGE PROCEDURES

- A. Change Order Forms: Dane County Contract Change Order, Form 014-32-20 (latest issue).
- B. Contractor's costs for Products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from contingency allowance.

1.6 ALTERNATES

- A. Alternates quoted on Bid Form shall be reviewed and accepted or rejected at Owner's option.
- B. Coordinate related work and modify surrounding work as required.
- C. Schedule of Alternates: there are no alternates proposed for this project.

1.7 COORDINATION

- A. Coordinate scheduling, submittals, and work of various sections of Specifications to assure efficient and orderly sequence of installation of interdependent construction elements.
- B. Verify utility requirement characteristics of operating equipment are compatible with building utilities.
- C. Coordinate space requirements and installation of mechanical and electrical work that are indicated diagrammatically on Drawings.
- D. Contractor shall provide Public Works Project Engineer with work plan that ensures the Work will be completed within required time of completion.
- E. Public Works Project Manager may choose to photograph or videotape site or workers as the Work progresses.

1.8 CUTTING AND PATCHING

- A. Employ a skilled and experienced installer to perform cutting and patching new work; restore work with new Products.
- B. Submit written request in advance of cutting or altering structural or building enclosure elements.
- C. Fit work tight to adjacent elements. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- D. Refinish surfaces to match adjacent finishes.

1.9 CONFERENCES

- A. There will be pre-bid conference for this project; see Instructions to Bidders.
- B. Owner will schedule a pre-construction conference after Award of Contract for all affected parties.
- C. Contractor shall submit Construction Schedule at pre-construction meeting.

- D. When required in individual Specification section, convene a pre-installation conference at project site prior to commencing work of Section.

1.10 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at minimum of one (1) per week with Public Works Project Manager.
- B. Preside at meetings, record minutes, and distribute copies within two (2) business days to those affected by decisions made.
- C. Attendance at progress meetings by General Contractor, subcontractors, or their authorized representative, is mandatory.
- D. Contractors shall give verbal reports of progress on the Work, discuss schedule for upcoming period and present all conflicts, discrepancies or other difficulties for resolution.
- E. Day & time of progress meetings to be determined at pre-construction meeting.

1.11 SUBMITTAL PROCEDURES

- A. Submittal form to identify Project, Contractor, Subcontractor or supplier; and pertinent Construction Documents references.
- B. Apply Contractor's stamp, signed or initialed, certifying that review, verification of Products required, field dimensions, adjacent construction work, and coordination of information is in accordance with requirements of the Work and Construction Documents.
- C. Identify variations from Construction Documents and Product or system limitations that may be detrimental to successful performance of completing the Work.
- D. Revise and resubmit submittals as required; identify all changes made since previous submittal.

1.12 PROPOSED PRODUCTS LIST

- A. Within fifteen (15) business days after date of Award of Contract, submit complete list of major Products proposed for use, with name of manufacturer, trade name, and model number of each Product.

1.13 SHOP DRAWINGS

- A. Submit number of copies that Contractor requires, plus three (3) copies that shall be retained by Public Works Project Manager.

1.14 PRODUCT DATA

- A. Submit number of copies that Contractor requires, plus two (2) copies that shall be retained by Public Works Project Manager.
- B. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturer's standard data to provide information unique to this Project.

1.15 SAMPLES

- A. Submit samples to illustrate functional and aesthetic characteristics of Product.
- B. Submit samples of finishes from full range of manufacturers' standard colors, textures, and patterns for Public Works Project Manager's selection.

1.16 MANUFACTURERS' INSTRUCTIONS

- A. When specified in individual Specification sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.

1.17 MANUFACTURERS' CERTIFICATES

- A. When specified in individual Specification sections, submit manufacturers' certificate to Public Works Project Manager for review, in quantities specified for Product Data.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

1.18 QUALITY ASSURANCE / QUALITY CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply fully with manufacturers' instructions.
- C. Comply with specified standards as minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

1.19 REFERENCES

- A. Conform to reference standard by date of issue current as of date for receiving bids.
- B. Should specified reference standard conflict with Construction Documents, request clarification from Public Works Project Manager before proceeding.

1.20 INTERIOR ENCLOSURES

- A. Provide temporary partitions as required to separate work areas from Owner occupied areas, to prevent distribution of dust and moisture into Owner occupied areas, and to prevent damage to existing materials and equipment.

1.21 PROTECTION OF INSTALLED WORK

- A. Protect installed work and provide special protection where specified in individual Specification sections.

1.22 PARKING

- A. Arrange for temporary parking areas to accommodate construction personnel. Parking shall be available at the Work site.
- B. All contractors and their employees shall cooperate with General Contractor and others in parking of vehicles to avoid interference with normal operations and construction activities.
- C. Do not obstruct existing service drives and parking lots with equipment, materials and / or vehicles. Keep accessible for Owner's use at all times.

1.23 STAGING AREAS

- A. Coordinate staging areas with Public Works Project Manager prior to starting the Work.
- B. On-site space for use as staging areas and storage of materials is limited and will be apportioned among various Contractors as their needs dictate with due regard for storage requirements of each Contractor. Each Contractor shall be responsible for safety of equipment and materials that are stored on site.

1.24 OCCUPANCY DURING CONSTRUCTION AND CONDUCT OF WORK

- A. Smoking is prohibited on Dane County property.
- B. Owner reserves right at any time to dismiss from premises any Contractor or construction personnel that do not uphold requirements of this Section.
- C. Owner shall not be held liable for any lost time, wages, or impacts to construction schedule by any Contractor or construction personnel dismissed for failure to uphold requirements of this Section.
- D. Work may be performed between the hours of 7:00 am to 7:00pm, Monday through Saturday.

- E. .New work in extension of existing work shall correspond in all respects with that to which it connects or similar existing work unless otherwise indicated or specified.
 - 1. Existing work shall be cut, altered, removed or replaced as necessary for performance of Contract obligations.
 - 2. Work remaining in place, damaged or defaced by reason of work done under this Contract shall be restored equal to its condition at time of Award of Contract.
 - 3. If removal of work exposes discolored or unfinished surfaces or work out of alignment, such surfaces shall be refinished or materials replaced as necessary to make continuous work uniform and harmonious.
- F. Contractor is responsible for providing & maintaining temporary toilet facilities.

1.25 PROTECTION

- A. Contractor shall protect from damage / injury all trees, shrubs, hedges, plantings, grass, mechanical, electrical & plumbing equipment, walks and driveways and pay for any damage to same resulting from insufficient or improper protection.
- B. Contractor shall provide and maintain barricades & signage to prohibit public access to construction site.
- C. Contractor shall be responsible for traffic control and to submit a traffic control plan to the Architect / Engineer for approval if contractor deems lane closure is necessary.
- D. Contractor shall provide and maintain guard lights at all barricades, railings, obstructions in streets, roads or sidewalks and at all trenches adjacent to public walks or roads.

1.26 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.

1.27 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work, but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components specifically identified for reuse.
- B. Do not use materials and equipment removed from existing premises, except as specifically identified or allowed by Construction Documents.

1.28 TRANSPORTATION, HANDLING, STORAGE AND PROTECTION

- A. Transport, handle, store and protect Products in accordance with manufacturer's instructions.

1.29 PRODUCT OPTIONS

- A. Where definite material is specified, it is not intentional to discriminate against "equal" product made by another manufacturer. Intention is to set definite standard of material quality. Should bidder choose to bid materials other than those specified, bidder shall submit said materials specifications to Public Works Project Manager for approval at least seven (7) business days prior to Bid Due Date.
- B. Products and materials that are not specified, but have been approved for use by Public Works Project Manager shall be identified in addenda to all bidding contractors.
- C. Requests for material or product substitutions submitted after Bid Due Date may be considered. Owner reserves right to approve or reject substitutions based on Specification requirements and intended use.

1.30 SUBSTITUTIONS

- A. Public Works Project Manager shall consider requests for Substitutions only within fifteen (15) calendar days after date of Public Works Construction Contract.
- B. Document each request with complete data substantiating compliance of proposed Substitution with Construction Documents.
- C. Submit three (3) copies of requests for Substitution for consideration. Limit each request to one (1) proposed Substitution.
- D. Substitutions shall not change contract price established at Bid Due Date.

1.31 CONTRACT CLOSEOUT PROCEDURES

- A. Submit written certification that Construction Documents have been reviewed, the Work has been inspected, and the Work is complete in accordance with Construction Documents and ready for Public Works Project Manager's inspection.
- B. Submit final Application for Payment identifying total adjusted Contract Sum / Price, previous payments, and amount remaining due.

1.32 FINAL CLEANING

- A. Execute final cleaning prior to final inspection.
- B. Clean interior and exterior surfaces exposed to view.
- C. Remove waste and surplus materials, rubbish, and construction facilities from site.

1.33 AS-BUILT AND RECORD DRAWINGS AND SPECIFICATIONS

- A. Contractor-produced Drawings and Specifications shall remain property of Contractor whether Project for which they are made is executed or not. Contractor shall furnish

Architect / Engineer with original marked up redlines of Construction Documents' drawings and specifications that shall include all Addendums, Change Orders, Construction Bulletins, on-site changes, field corrections, etc. These are project As-Built Drawings & Specifications.

- B. Architect / Engineer shall update original Construction Documents to include all Addendums & any other changes including those provided by Contractor in As-Built Drawings & Specifications. These updates are project Record Drawings & Specifications.
- C. Architect / Engineer shall furnish Public Works Project Manager with Record Drawings as detailed in Professional Services Agreement.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 71 33

RESTORATION

PART 1 - GENERAL

1.01 Section Includes

- A. Restoration of site following construction.
- B. Items to be restored include, but are not limited to, the following:
 - 1. Asphalt, concrete or gravel roadways
 - 2. Spur trails
 - 3. Driveways
 - 4. Sidewalks and curb & gutter
 - 5. Fences and retaining walls
 - 6. Lawns, grassed areas, trees and shrubbery
 - 7. Culverts and ditches
 - 8. Property corners and survey monuments
- C. Specific items of restoration may be noted on the drawings or included elsewhere in the specifications.

1.02 Quality

- A. Restoration, when completed, shall equal or surpass the conditions existing before construction.
- B. When specifications are included for specific items of restoration, the work shall be performed in accordance with the applicable specification.

PART 2 - PRODUCTS

2.01 Materials

- A. Materials shall be in accordance with specifications when the restoration item is covered by a specification. This includes such items as paving and concrete work.
- B. When there is no specification to cover a particular restoration item, materials used shall be the same as the existing or similar if existing material is unavailable.

PART 3 - EXECUTION

3.01 Roadways

- A. Roadways shall be restored in kind unless otherwise specified.
- B. Pavement
 - 1. Unless noted on the drawings or otherwise specified, the Contractor is required to restore only the pavement removed or damaged during construction.
 - 2. The edges of all asphalt and concrete pavements shall be saw-cut to produce a clean, straight, vertical edge for abutting new pavement.
 - 3. Unless otherwise specified, depth of pavement shall equal that existing prior to construction.
- C. Shoulders
 - 1. Unless otherwise noted, the following conditions shall govern shoulders:
 - a. In residential areas where turf is maintained to the edge of the pavement, the shoulders shall be topsoiled and seeded.
 - b. In rural areas or in residential areas where turf is not maintained to the edge of the pavement, gravel shoulders shall be constructed. Unless otherwise noted, gravel shoulders shall have a minimum compacted thickness of 4" and width of 4 feet.

3.02 Driveways

- A. Driveways shall be restored in kind to the width of the existing drive.

- B. Minimum material thickness shall be as follows:
 - 1. Concrete: 6" with 3" compacted gravel.
 - 2. Gravel: 6" compacted thickness.
 - 3. Asphalt:
 - Residential – 2" with 6" compacted gravel.
 - Commercial – 3" with 8" compacted gravel.

3.03 Spur Trails

- A. Spur trails shall be restored in kind to the original width, thickness, and material.

3.04 Sidewalks and Curb & Gutter

- A. Sidewalk
 - 1. Replace to original width.
 - 2. Thickness:
 - a. Standard: 4"
 - b. At drives: 6"
- B. Curb & Gutter
 - 1. Replace to original grade and cross section.

3.05 Fences and Retaining Walls

- A. Repair any damage and replace at original location.

3.06 Lawns, Grassed Areas, Trees and Shrubbery

- A. Lawns and Grassed Areas
 - 1. Restore in accordance with Section 32 92 19.
- B. Trees
 - 1. Replace trees damaged or destroyed which are located outside of easements or rights-of-ways.
- C. Shrubbery
 - 1. Remove and replant whenever possible.
 - 2. Replace damaged or destroyed shrubbery located outside of easements or right-of-ways.

3.07 Culverts and Ditches

- A. All existing culverts shall be reopened and natural drainage restored. Restore culverts broken or damaged during construction to their original condition, size, and location. The Contractor shall notify Engineer of any previously damaged culverts prior to construction activities or as soon as the damaged condition is known.
- B. Restore all drainage ditches destroyed, damaged or otherwise modified during construction. Ditches so reconstructed shall be built in their original locations and cross section or as otherwise shown on the Drawings.

3.08 Property Corners & Survey Monuments

- A. Restore and/or replace all survey monuments and property corners destroyed, damaged, or disturbed during construction. All work under this section must be completed by a Registered Land Surveyor and must be completed in accordance with applicable state and/or local statutes, codes, and guidelines.

END OF SECTION

SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT, DISPOSAL & RECYCLING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Summary
 - 2. Waste Management Goals
 - 3. Construction and / or Demolition Waste Management
 - 4. Waste Management Plan
 - 5. Reuse
 - 6. Recycling
 - 7. Materials Sorting and Storage On Site
 - 8. Lists of Recycling Facilities Processors and Haulers
 - 9. Waste Management Plan Form

- B. Related Sections:
 - 1. Section 01 00 00 - Basic Requirements

1.2 WASTE MANAGEMENT GOALS

- A. Dane County requires that as many waste materials as possible produced as result of this project be salvaged, reused or recycled in order to minimize impact of construction waste on landfills and to minimize expenditure of energy and cost in fabricating new materials. Additional information may be found in Dane County Green Building Policy, Resolution 299, 1999-2000.

1.3 CONSTRUCTION AND / OR DEMOLITION WASTE MANAGEMENT

- A. All construction and demolition waste suitable for recycling may go to Dane County Construction & Demolition Recycling Facility located at 7102 US Hwy 12, Madison, located across from Yahara Hills Golf Course. This facility can receive mixed loads of construction and demolition waste. For complete list of acceptable materials see www.countyofdane.com/pwht/recycle/CD_Recycle.aspx.
- B. Dane County Landfill, also at 7102 US Hwy 12, Madison, must receive all other waste from this project. www.countyofdane.com/pwht/recycle/landfill.aspx.

1.4 WASTE MANAGEMENT PLAN

- A. Contractor shall develop Waste Management Plan (WMP) for this project. Dane County's Special Projects & Materials Manager may be contacted with questions. Outlined in RECYCLING section of this specification are examples of materials that can be recycled or reused as well as recommendations for waste sorting methods.

B. Contractor shall complete WMP and include cost of recycling / reuse in Bid. WMP will be submitted to Public Works Project Manager within fifteen (15) business days of Bid Due date. Copy of blank WMP form is in this Section. Submittal shall include cover letter and WMP form with:

1. Information on:
 - a. Types of waste materials produced as result of work performed on site;
 - b. Estimated quantities of waste produced;
 - c. Identification of materials with potential to be recycled or reused;
 - d. How materials will be recycled or reused;
 - e. On-site storage and separation requirements (on site containers);
 - f. Transportation methods; and
 - g. Destinations.

1.5 REUSE

A. Contractors and subcontractors are encouraged to reuse as many waste materials as possible. Salvage should be investigated for materials not reusable on site.

1.6 RECYCLING

A. These materials may be recycled at Dane County Construction & Demolition Recycling Facility:

1. Wood.
2. Wood Pallets.
3. PVC Plastic (pipe, siding, etc.).
4. Asphalt & Concrete.
5. Bricks & Masonry.
6. Cardboard.
7. Metal.

B. These materials can be recycled elsewhere in Dane County area:

1. Fluorescent Lamps.
2. Barrels & Drums.

C. All materials must be recycled at WDNR permitted waste processing facilities that adhere to all State Statutes.

1.7 MATERIALS SORTING AND STORAGE ON SITE

A. Contractor shall provide separate containers for recyclable materials. Number of containers will be dependent upon project and site conditions.

B. Contractor shall provide on-site locations for subcontractors supplied recycling containers to help facilitate recycling.

C. Mixed loads of recycled materials are allowed only per instructions at www.countyofdane.com/pwht/recycle/CD_Recycle.aspx.

1.8 LISTS OF RECYCLING FACILITIES PROCESSORS AND HAULERS

- A. Refer to www.countyofdane.com/pwht/recycle/CD_Recycle.aspx for information on Dane County Construction & Demolition Recycling Facility.
- B. Web site www.countyofdane.com/pwht/recycle/categories.aspx lists current information for Dane County Recycling Markets. Contractors can also contact Allison Hackner at 608/266-4990, or local city, village, town recycling staff listed at site www.countyofdane.com/pwht/recycle/contacts.aspx. Statewide listings of recycling / reuse markets are available from UW Extension at <https://www.uwgb.edu/shwec/>.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

WASTE MANAGEMENT PLAN FORM



Contractor Name: _____

Address: _____

Phone No.: _____ Recycling Coordinator: _____

MATERIAL	ESTIMATED QUANTITY	DISPOSAL METHOD (CHECK ONE)		RECYCLING / REUSE COMPANY OR DISPOSAL SITE
Salvaged & reused building materials	_____ cu. yds. _____ tons	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Wood	_____ cu. yds. _____ tons	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Wood Pallets	_____ units	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
PVC Plastic	_____ cu. ft. _____ lbs.	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Asphalt & Concrete	_____ cu. ft. _____ lbs.	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Bricks & Masonry	_____ cu. ft. _____ lbs.	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Cardboard	_____ cu. ft. _____ lbs.	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Metals	_____ cu. yds. _____ tons	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Fluorescent Lamps	_____ cu. ft. _____ lbs.	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Barrels & Drums	_____ units	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Glass	_____ cu. yds. _____ tons	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Other	_____	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Other	_____	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Other	_____	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____
Other	_____	_____ Recycled _____ Landfilled	_____ Reused _____ Other	Name: _____

SECTION 31 13 00

TREE REMOVAL

PART 1 - GENERAL

1.01 Section Includes

- A. Removal of trees and stumps.

1.02 Related Sections

- A. Section 31 22 00 - Site Preparation and Earthwork.

1.03 Public Utilities

- A. Contact utility companies for location of underground facilities.
- B. Contact utility companies prior to removing trees when overhead lines may be affected by the Work.

PART 2 - PRODUCTS

2.01 Materials

- A. Signs, Barricades, and Fencing: Contractor's option.

PART 3 - EXECUTION

3.01 Tree Removal

- A. Provide signs, barricades, and fencing as necessary to protect pedestrian and vehicular traffic.
- B. Remove trees indicated on the Drawings to be removed or as directed by the Engineer.

3.02 Stump Removal

- A. Remove stumps by excavation or chipping machine.
- B. Remove stumps to a minimum depth of two feet below subgrade when located below proposed improvements and one foot below finish grade within turf areas.
- C. Backfill in accordance with Section 31 22 00.

3.03 Disposal

- A. Remove all logs, branches, stumps, chips and other debris from the site.

3.04 Measurement

- A. When payment is by the inch diameter, the diameter will be measured 4.5 feet above the ground. The diameter will be 1/3 of the tree circumference.

END OF SECTION

SECTION 31 22 00

SITE PREPARATION AND EARTHWORK

PART 1 - GENERAL

1.01 Section Includes

- A. Clearing site of debris, grass, trees and other plant life in preparation for construction.
- B. Protection of existing structures, trees or vegetation to remain.
- C. Stripping of topsoil from areas to be incorporated into the work.
- D. Excavation, filling and compaction for site grading and paved surface subgrade preparation.

1.02 References

- A. ASTM D 1557 - Standard Test Methods Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
- B. ASTM D2487 - Classification of Soils for Engineering Purposes.
- C. ASTM D2922 - Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- D. ASTM D3017 - Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.03 Submittals

- A. Submit compaction test reports.

PART 2 - PRODUCTS

2.01 Materials

- A. Common Fill: On-site or off-site natural soil free from organic matter, debris, vegetation, stones larger than 6" and frozen material and classified in ASTM D2487 as follows:
 - GW - Well-graded gravels, gravel-sand mixtures, little or no fines.
 - GP - Poorly-graded gravels, gravel-sand mixtures, little or no fines.
 - GM - Silty gravels, gravel-sand-silt mixtures.
 - GC - Clayey gravels, gravel-sand-clay mixtures.
 - SW - Well-graded sands, gravelly sands, little or no fines.
 - SP - Poorly-graded sands, gravelly sands, little or no fines.
 - SM - Silty sands, sand-silt mixture.
 - SC - Clayey sands, sand-clay mixtures.
 - 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.

- B. Breaker Run: Crushed stone meeting the following gradation:

5-Inch Breaker Run	
Sieve Size	% Passing by Weight
5 inch	90 - 100
1-1/2 inch	20 - 50
No. 10	0 - 10

3-Inch Breaker Run	
Sieve Size	% Passing by Weight
3 inch	90 - 100
1-1/2 inch	60 - 85
3/4 inch	40 - 65
No. 4	15 - 40
No. 10	10 - 30
No. 40	5 - 20
No. 200	2 - 12

- C. Geotextile: A geotextile fabric woven from polyester or polypropylene. The geotextile shall be insect, rodent, mildew, rot, and UV resistant. The geotextile shall have the following minimum requirements:

Geotextile Properties		
Property	Test Method	Requirement*
Grab Tensile Strength, lbs.	ASTM D4632	200
Elongation, %	ASTM D4632	15
Puncture, lbs.	ASTM D4833	120
Trapezoidal Tear, lbs.	ASTM D4533	80

*Minimum average roll value

Mirafi 500X, TenCate Geosynthetics; 80EX, Thrace-LINQ, Inc; Soiltex ST205N, Geo-Synthetics, Inc. or equal.

PART 3 - EXECUTION

3.01 Protection

- A. Locate and identify existing utilities that are to remain and protect them from damage.
- B. Protect trees, plants, structures, site improvements and features designated to remain.
- C. Protect bench marks, property corners and other survey monuments from damage or displacement.

3.02 Clearing

- A. Clear area within the clearing limits shown on the Drawings. If no clearing limits are shown, clear five feet outside of the grading limits, but not beyond project property boundaries.
- B. Remove trees, saplings, shrubs, bushes, vines and undergrowth within the clearing limits to the height above ground as follows:
 1. Trees over six inch diameter; six inches.
 2. Trees, shrubs and bushes under six inch diameter; three inches.
 3. Vines and undergrowth; two inches.

3.03 Grubbing

- A. Remove all stumps, main root balls and root systems to the minimum depths indicated:
 1. Beneath footings: 18 inches.
 2. Beneath paved roads, parking areas and walks: 24 inches below sub-grade.
 3. Beneath turf: 12 inches.
 4. In fill areas: 12 inches.

3.04 Topsoil Excavation

- A. Cut heavy growths of grass from areas to be stripped.
- B. Strip topsoil from all areas to be excavated, regraded or landscaped to a depth that prevents the intermingling of the topsoil with the subsoil.
- C. Topsoil is defined as surficial soil containing organic matter that sustains plant life.

- D. Stockpile the stripped topsoil on the site for reuse. If stockpile location is not shown on the Drawings, coordinate the location with the Engineer.
- E. Provide erosion protection for all stockpiled topsoil.

3.05 Pavement Removal

- A. Remove existing pavement and dispose of off-site. Removal of pavement will be considered incidental to the work unless indicated otherwise.
- B. Provide a straight, clean, vertical saw cut joint between pavement being removed and pavement to remain. Use power saw for cutting. Steel disk cutters mounted on power shovel bucket are not acceptable.

3.06 Lines and Grade

- A. Streets
 1. Construct the finish subgrade to the line, grade, and cross section as shown on the Drawings.
 2. The Engineer will provide grade stakes at a minimum distance of 50 feet along the centerline. Provide Engineer with a minimum of 48 hours notice of the need for grade stakes.
 3. Contractor may use slope meters or GPS type controls on machines for grade control. However, the contractor is responsible for verifying the finish grade elevations with a level at a minimum of every 50 feet along the centerline.
- B. Site Grading
 1. Construct the finish subgrade to contours shown on the Drawings.
 2. The Engineer will provide grade stakes as appropriate for the Work.
 3. Contractor may use slope meters or GPS type controls on machines for grade control. However, the contractor is responsible for verifying the finish grade elevations.

3.07 Grading and Subgrade Preparation

- A. Cut and fill to the required grades and cross section and contours.
- B. Scarify surface of cut areas and compact to the degree required for subsequent backfill.
- C. Place fill material in continuous layers not exceeding 8" compacted thickness.
- D. For proposed streets and parking lots, roll the surface with a steel drum roller to provide a relatively impervious surface where additional filling or excavation is necessary or placement of base course will be delayed.
- E. Maintain surface drainage during construction.
- F. Remove excess material from site. If borrow is needed, provide material meeting requirements of 2.01 for common fill.
- G. Grading contractor shall grade roads and other surfaces to be paved to rough subgrade elevation prior to installation of utilities. After utility installation, the grading contractor shall grade to finish subgrade elevation.
- H. Prior to placement of topsoil, areas that have been compacted by construction traffic shall be scarified to a minimum depth of 12 inches using a chisel plow or ripper arms on a dozer. Scarifying shall be performed along the contour.

3.08 Compaction

- A. Adjust moisture content of fill material to accomplish the required degree of compaction.
- B. Use a sheepsfoot roller for cohesive soils and a smooth drum vibratory roller for granular soils.
- C. Compact to the percent of maximum dry density as listed below in accordance with ASTM D1557.

Compaction Requirements		
Area	Cohesive Soils	Granular Soils
Beneath Turf	85%	85%
Beneath Walks & Curbs	90%	95%
Beneath Paving	90%	95%
Building Pad Area	90%	95%
Storm Water/Treatment Pond Berms	90%	95%

3.09 Proof Rolling

- A. Proof roll the finished pavement subgrade in the presence of the Engineer. Provide 24-hour notice to the Engineer as to when the proof-rolling will be performed.
- B. Prior to proof rolling, the entire roadway subgrade shall have a relatively smooth surface, suitable for observing soil reaction during proof rolling.
- C. Provide a loaded tri-axle dump truck with a minimum gross weight of 30 tons.
- D. Proof rolling shall be accomplished in a series of traverses parallel to the centerline of the street or parking area. The truck shall traverse the length of the street or parking area once for each 12 feet of width. Additional passes may be directed by the Engineer.
- E. Soft areas, yielding areas, cracked areas, or areas where rolling or wave action is observed shall be considered indicative of unsatisfactory subgrade. Such areas shall be undercut, replaced with suitable fill material, and recompacted.
- F. Once the subgrade has been proof rolled and approved, protect the soils from becoming saturated, frozen, or adversely affected.

3.10 Subgrade Stabilization

- A. If ordered by the Engineer or if indicated in the Contract Documents, subgrade material that cannot be adequately compacted shall be removed and replaced with breaker run material and/or geotextile.
- B. The depth of the undercut, breaker run size, and/or geotextile requirement will be at the discretion of the Engineer.
- C. Unless otherwise indicated within the contract documents, subgrade stabilization with breaker run material will be paid for by the in-place cubic yard including excavation, furnishing and placement of breaker run material, and disposal of undercut material.

3.11 Geotextile Placement

- A. Clear area of sharp objects, stumps, and large stones that would puncture geotextile.
- B. Roll geotextile onto the subgrade by hand in the longitudinal direction. Overlap adjacent strips two feet.
- C. Back-dump aggregate onto the geotextile beginning at a point just before the fabric and on firm soil. No vehicular traffic will be allowed directly on the geotextile. Spread the aggregate with a bulldozer. The first lift shall be as thick as possible to prevent over-stressing of the subgrade.
- D. Take care during aggregate placement to prevent damage to the geotextile. Repair damages or tears by placing a piece of geotextile over the damaged area. Overlap the repair piece onto the undamaged area a minimum of three feet.
- E. Compaction: Perform initial compaction with bulldozers while spreading. Perform final compaction with a vibratory compactor, first without vibration for several passes, followed with vibration. Do not grade down ruts; fill with additional aggregate and compact.

3.12 Tolerances

- A. Top Surface of Road Subgrade:
 - 1. Rough Grade: Plus or minus 0.25 ft.
 - 2. Finish Subgrade: Plus or minus 0.05 ft.
- B. Top Surface of General Grading: Plus or minus 0.1 ft.

3.13 Field Quality Control

- A. Field inspection will be performed by an authorized representative of the Owner.
- B. Contractor is responsible for meeting the compaction requirements. The Contractor shall hire and pay for an independent testing firm to perform compaction tests to confirm the in-place density.
- C. For general grading, perform one test per 9,000 square yards or part thereof of fill placed per lift. In addition, perform one test per building lot where fill is placed. For streets perform one test per 1,000 square yards or part thereof of fill placed per lift. Engineer or Owner's Representative will direct location of tests.
- D. Additional tests may be required if compaction requirements are not being met. The cost of these additional tests are the responsibility of the Contractor.
- E. Determination of moisture content shall be in accordance with ASTM D3017. Determination of density shall be in accordance with ASTM D2922.

3.14 Disposal

- A. Dispose of all plant material off-site at a location meeting state landfill requirements.
- B. Burning at the site will not be permitted.
- C. Dispose of excess soil materials or unsuitable material off-site unless on-site disposal is indicated, or approved by Owner.

END OF SECTION

SECTION 31 23 00

STRUCTURAL EXCAVATION, BACKFILL, AND COMPACTION

PART 1 - GENERAL

1.01 Section Includes

- A. Excavation for structures.
- B. Backfill and compaction for structures.

1.02 References

- A. ASTM D 1557 - Standard Test Methods Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
- B. ASTM D2487 - Classification of Soils for Engineering Purposes.
- C. ASTM D2922 - Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- D. ASTM D3017 - Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.03 Submittals

- A. None.

PART 2 - PRODUCTS

2.01 Materials

- A. Structural Fill: On-site or off-site natural soil free from organic matter, debris, vegetation, stones larger than 6" and frozen material and described in ASTM D2487 as follows:

- GW - Well-graded gravels, gravel-sand mixtures, little or no fines.
- GP - Poorly-graded gravels, gravel-sand mixtures, little or no fines.
- GM - Silty gravels, gravel-sand-silt mixtures.
- GC - Clayey gravels, gravel-sand-clay mixtures.
- SW - Well-graded sands, gravelly sands, little or no fines.
- SP - Poorly-graded sands, gravelly sands, little or no fines.
- SM - Silty sands, sand-silt mixture.
- SC - Clayey sands, sand-clay mixtures.

- B. Common Fill: Same as structural fill plus soils classified in ASTM D2487 as follows:

- 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.

- C. Sand: Clean, granular material meeting the following gradation:

Sieve Size	Percent Passing by Weight
3/8 Inch	100
No. 4	90 - 100
No. 16	45 - 80
No. 50	10 - 30
No. 100	2 - 10
No. 200	0 - 5

PART 3 - EXECUTION

3.01 Preparation

- A. Identify required lines, elevations and grades.
- B. Protect benchmarks, property corners and grade stakes.
- C. Locate and identify utilities that are to remain and protect them from damage.
- D. Protect plant life, turf, fences, structures and other site improvements from damage.

3.02 Excavation

- A. Excavate structure area to line and grade. Do not excavate below indicated depth except to remove unsuitable material.
- B. Dispose of unsuitable material. Stockpile suitable material for reuse as backfill.
- C. Scarify surface of excavated areas and compact to the degree required for subsequent backfill.
- D. Excavation walls more than five feet in depth shall be shored or cut back to a stable slope. Meet requirements of Department of Labor, Occupational Safety and Health Administration (OSHA).
- E. Provide necessary equipment to remove water from excavation.

3.03 Backfilling and Compaction

- A. Place fill in continuous layers not exceeding 8" compacted thickness.
- B. Maintain optimum moisture content of fill material to accomplish the required degree of compaction.
- C. Do not place frozen material and do not place fill on frozen ground.
- D. Backfill interior and exterior of walls simultaneously.
- E. Do not backfill against walls prior to completion of curing period.
- F. Provide fill material as indicated in the schedule.
- G. Compact to the percent of maximum dry density as listed in the schedule in accordance with ASTM D1557.
- H. Schedule

Area	Fill Material	Percent Compaction
Beneath Floor Slabs		
Top 6 Inches	Sand	95
Below 6 Inches	Structural Fill	95
Foundation Walls		
Interior	Structural Fill	92
Exterior	Structural Fill	92
Walks & Pavement	Structural Fill	95
Beyond 10 Ft. from Structure	Common Fill	85

3.04 Tolerances

- A. Under Paved Areas: Plus or minus 0.1 ft.
- B. Under Slabs-On-Grade: Plus or minus 0.1 ft.
- C. Under Turf: Plus or minus 0.2 ft.

3.05 Field Quality Control

- A. Field inspection will be performed by an authorized representative of the Owner.
- B. Contractor is responsible for meeting the compaction requirements. The Contractor shall hire an independent testing firm to perform compaction tests to confirm the in-place density.
- C. Determination of moisture content shall be in accordance with ASTM D3017. Determination of density shall be in accordance with ASTM D2922.

END OF SECTION

SECTION 31 23 19

DEWATERING

PART 1 - GENERAL

1.01 Section Includes

- A. Provide dewatering for trenching.
- B. Provide dewatering for structural excavation.

PART 2 - PRODUCTS

2.01 Equipment and Materials

- A. Provide all dewatering pumps, wells, well points, discharge pipe and pumping equipment necessary for dewatering.
- B. Provide power for equipment.

PART 3 - EXECUTION

3.01 Codes and Permits

- A. Dewatering equipment shall be installed, operated and abandoned in accordance with local and state codes.
- B. If the dewatering quantity is 70 GPM or greater, the Contractor shall obtain a dewatering well permit from the DNR.

Wisconsin Department of Natural Resources
Bureau of Drinking Water and Groundwater
P.O. Box 7921
Madison, WI 53707-7921
608-266-0821
<http://dnr.wi.gov/topic/DrinkingWater/>

3.02 Water Levels

- A. Water levels shall be maintained at a level below the bottom of all trenches and excavation.
- B. Water levels shall be maintained below the level of concrete for the following periods:
 - 1. Until concrete has been in place for 14 days or until test cylinders show a strength of 3000 psi.
 - 2. Until high-early-strength concrete has been in place 6 days or until test cylinders show a strength of 3000 psi.
- C. If water levels rise uniformly on both sides of a wall, the water level will be allowed to rise before the concrete has attained its strength.

3.03 Disposal of Water

- A. Water shall be disposed of in a suitable manner without damage to adjacent property or utilities.
- B. When routing water onto private property, permission shall be obtained from the Owner.

3.04 Flooding of Structure

- A. Pumps, motors, electrical equipment and other equipment shall be kept dry until the work is accepted by the Owner.
- B. If, at any time prior to acceptance, the pumps, motors, electrical equipment and other vulnerable

equipment is submerged, the Contractor shall have them checked out by a manufacturer's representative at the Contractor's cost. All damage shall be repaired or the equipment replaced at the Contractor's cost. A letter from the manufacturer's representative stating the equipment is in "like new" condition shall be sent to the Engineer for all repaired equipment.

END OF SECTION

SECTION 31 23 23

FLOWABLE FILL

PART 1 - GENERAL

1.01 Section Includes

- A. Furnishing and placement of low strength material (flowable fill) for trench backfill and the filling of pipes or abandoned structures.

1.02 References

- A. ASTM C33 - Concrete Aggregates.
- B. ASTM C150 - Portland Cement.
- C. ASTM C260 - Air Entraining Admixtures for Concrete.
- D. ASTM C618 - Coal Fly Ash and Raw or Calcinated Natural Pozzolan for Use as a Mineral Admixture in Portland Cement.
- E. NR 538 - Wisconsin Administrative Code, Beneficial Use of Industrial Byproducts.

PART 2 – PRODUCTS

2.01 Materials

- A. Portland Cement: ASTM C150, Type I.
- B. Sand: ASTM C33 or spent foundry sand. Foundry sand shall have been categorized in accordance with NR 538.
- C. Fly Ash: ASTM Class C or F. Fly ash shall have been categorized in accordance with NR 538.
- D. Air Entrainment: ASTM C260.

2.02 Mix Design

- A. Design mix using Portland cement, sand, fly ash and water to provide the 28-day strength as indicated. Provide minimum air content of 6 percent. Provide sufficient fines to promote cohesion and reduce segregation for air contents higher than 6 percent.
- B. Trench Backfill: 50 psi to 100 psi 28-day strength.
- C. Pipe Fill: 30 psi to 50 psi 28-day strength.
- D. Structure Fill: 50 psi to 100 psi 28-day strength.

PART 3 – EXECUTION

3.01 Placing

- A. Discharge from mixer by any reasonable means into the space to be filled. Material shall be discharged within 2-1/2 hours of initial mixing.
- B. Place material uniformly.
- C. Secure pipes to be backfilled to prevent floating during placement.
- D. When filling pipes, provide means to check that entire pipe volume has been filled.
- E. Protect from freezing for a minimum of 24 hours.

END OF SECTION

SECTION 31 23 33

UTILITY EXCAVATION, BACKFILLING AND COMPACTION

PART 1 – GENERAL

1.01 Section Includes

- A. Excavation of trenches for below grade piping and conduit.
- B. Backfilling and compaction.

1.02 References

- A. ASTM C136 - Method for Sieve Analysis of Fine and Coarse Aggregate.
- B. ASTM D1557 - Standard Test Methods Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m^{3- C. ASTM D2487 - Classification of Soils for Engineering Purposes.}

1.03 Submittals

- A. Submit 50 lb. sample of off-site backfill materials.
- B. Submit gradation of select granular backfill.

PART 2 – PRODUCTS

2.01 Materials

- A. Crushed Stone: Hard, durable particles of crushed stone or gravel substantially free from shale or lumps of clay or loam meeting the following gradation:

Crushed Stone Gradation	
Sieve Size	% Passing By Weight
2 Inch	100
1-1/2 Inch	90 - 100
1 Inch	35 - 70
3/4 Inch	0 - 15
1/2 Inch	0 - 5

- B. Trench Backfill: Natural soils, free of organic matter, trash, deleterious materials, stones larger than eight inches and frozen material and classified in ASTM D2487 as follows:

GW - Well-graded gravels, gravel-sand mixtures, little or no fines.
GP - Poorly-graded gravels, gravel-sand mixtures, little or no fines.
GM - Silty gravels, gravel-sand-silt mixtures.
GC - Clayey gravels, gravel-sand-clay mixtures.
SW - Well-graded sands, gravelly sands, little or no fines.
SP - Poorly-graded sands, gravelly sands, little or no fines.
SM - Silty sands, sand-silt mixture.
SC - Clayey sands, sand-clay mixtures.
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.

Soils classified in ASTM D2487 as follows are not acceptable:

OL - Organic silts and organic silty clays of low plasticity.
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.
 Pt - Peat and other highly organic soils.

- C. Select Granular Backfill: Durable particles ranging from fine to coarse in a substantially uniform combination. Sufficient fine material shall be present to fill all the voids of the coarse material. Some fine clay or loam particles are desirable, but they shall not be present in the form of lumps. Granular backfill shall conform to the following gradation:

Granular Backfill Gradation	
Sieve Size	% Passing By Weight
3 Inch	100
2 Inch	95 - 100
No. 4	35 - 60
Finer than No. 200	5 - 15

- D. Bedding: See individual specification sections.

PART 3 – EXECUTION

3.01 Examination

- A. Verify fill materials to be used are acceptable.

3.02 Preparation

- A. Identify required lines, levels, contours, and datum.
- B. Maintain and protect existing utilities remaining which pass through work area.
- C. Protect plant life, lawns, and other features remaining as a portion of the final landscaping.
- D. Protect benchmarks and existing features from excavation equipment and vehicular traffic.
- E. Protect above and below grade utilities which are to remain.
- F. Strip topsoil and stockpile on-site for reuse.
- G. When excavating across or within existing pavement, saw cut in neat, straight, vertical lines.

3.03 Minor Trench Water

- A. Do not allow water to accumulate in the trench.
- B. Provide all equipment needed to accomplish the Work. Unless indicated otherwise, no additional compensation will be made for removing trench water.
- C. No additional compensation will be made for crushed stone used for trench drainage.
- D. Dispose of water in a suitable manner, and in accordance with regulations of the Wisconsin Department of Natural Resources, without damage to property.

3.04 Excavation

- A. Excavate subsoil to required depth and grade.
- B. Cut trenches sufficiently wide to enable installation of the utilities and allow inspection. Normal trench width below the top of the pipe shall be the nominal pipe diameter plus 24 inches.
- C. Do not undercut trench walls.
- D. Trench walls more than five feet in depth shall be shored, cut back to stable slope or provided with equivalent means of protection in accordance with the applicable rules of the Department of Labor, Occupational Safety and Health Administration (OSHA). Provide a ladder for trench exit in trenches

over four feet deep.

- E. Excess excavation below the required level shall be backfilled with crushed stone at the Contractor's expense.
- F. If the trench bottom is unstable due to soil material or groundwater conditions, an additional 3 inches shall be excavated and backfilled with crushed stone as specified in Part 2. There will be no extra payment for the additional excavation and stone. If it is necessary to excavate to a greater depth to provide a stable trench, the Contractor will be paid for the additional excavation and stone, if the extra excavation was ordered by the Engineer or approved by the Engineer prior to the work being performed.
- G. Remove ledge rock, boulders or large stones to provide a minimum clearance of 6 inches between the pipe and the rock. See Section on Rock Excavation, if included.
- H. Not more than 100 feet of trench shall be open ahead or behind the pipe laying. Additional trenching will not be allowed if earlier trenches have not been backfilled or if the trench surfaces are unsatisfactory.
- I. Utility contractor is responsible for the disposition of excess material resulting from the utility construction. Stockpile excess excavated material in areas designated on the Drawings. If stockpile areas are not designated on the Drawings, dispose of the material offsite.

3.05 Backfilling

- A. Backfill trenches with excavated material meeting the requirements for backfill specified in Part 2 above. Use select granular backfill only when indicated on the Drawings or elsewhere in the Project Manual.
- B. Backfill trenches to the rough subgrade elevation, plus or minus 0.25 ft.
- C. Place material in continuous layers not exceeding 8 inches compacted thickness. Compact each layer to the percent of maximum dry density as listed below in accordance with ASTM D1557.
- D. Compaction Requirements: Meet the following compaction requirements:

Compaction Requirements		
Area	Cohesive Soil	Granular Soil
Beneath Turf	85%	85%
Beneath Structures	90%	95%
Beneath Paving	90%	95%

- E. Maintain moisture content of backfill materials to attain required compaction density.

3.06 Restoration

- A. Remove excess excavation immediately after completion of backfilling.
- B. If site restoration is required, commence immediately after backfilling is completed.
- C. Maintain roadways in a driveable condition, acceptable to the Engineer, prior to pavement restoration.

3.07 Field Quality Control

- A. Field inspection will be performed by an authorized representative of the Owner.
- B. Contractor is responsible for meeting the compaction requirements. The Contractor shall hire an independent testing firm to perform compaction tests to confirm the in-place density.
- C. Testing Requirements: Four tests at various depths per 400 feet of trench. Engineer or Owner's Representative will direct the location of the tests.
- D. Additional tests may be required if compaction requirements are not being met. The cost of these

additional tests are the responsibility of the Contractor.

- E. Determination of moisture content shall be in accordance with ASTM D3017. Determination of density shall be in accordance with ASTM D2922.

END OF SECTION

SECTION 31 25 00

CONSTRUCTION SITE EROSION CONTROL

PART 1 - GENERAL

1.01 Section Includes

- A. Furnishing, installing, maintaining, and removing erosion and sediment control facilities and measures.
- B. The contractor is responsible for providing all erosion control facilities and measures necessary to control erosion and sedimentation at the work site. These facilities and measures may or may not be shown on the Drawings and their absence on the Drawings does not alleviate the contractor from providing them. Any measures and facilities shown on the Drawings are the minimum actions required.

1.02 References

- A. WDNR Technical Standards - See DNR website @ <http://dnr.state.wi.us/org/water/wm/nps/stormwater/techstds.htm>.
- B. Wisconsin Department of Transportation, Erosion Control, Product Acceptability Lists for Multi-Modal Applications PAL, Current Edition.

1.03 General

- A. Requirements of WDNR Technical Standards shall be followed at all times.
- B. Use surface water and erosion control facilities and measures throughout the duration of the construction activity to control the movement of surface water and to reduce the potential for erosion. Maintain the facilities and measures until permanent vegetation is established.
- C. Eroded soil material shall not be allowed to leave the construction site or to enter a waterway, lake, or wetland.
- D. The Contractor shall be responsible for furnishing, installing, and maintaining the erosion control facilities, and in general, shall use construction practices that minimize erosion.
- E. Eroded material that has left the construction site shall be collected and returned to the site by the Contractor.
- F. Prevent construction site tracking with graveled roads, access drives, and parking areas of sufficient width and length to prevent sediment from being tracked onto public and private roadways. Any sediment reaching a public or private road shall be removed by street cleaning (not flushing) before the end of each workday.

1.04 Sequencing and Scheduling

- A. Construct and stabilize erosion control measures for diversions or outlets prior to any grading or disturbance of the construction site.
- B. Install filter fabric and straw bale fences and barriers prior to disturbing the area.
- C. Turf areas that have been completed to finish grade shall be stabilized with permanent seeding within seven days. Turf areas where activity has ceased and that will remain exposed for more than 20 days before activity resumes and soil stockpiles shall be stabilized with temporary seeding or soil stabilizer.
- D. Other erosion control measures shall be in place prior to disturbance of the construction site, as applicable.

PART 2 - PRODUCTS

2.01 Silt Fence

- A. Fabric shall be a woven or nonwoven polyester, polypropylene, stabilized nylon, or polyethylene geotextile with the following minimum properties:

Property	Test Method	Requirement*
Grab tensile strength, lbs min. Machine direction Cross direction	ASTM D4632	120 100
Max. Apparent opening size, US Sieve	ASTM D 4751	No. 30
Permittivity, sec ⁻¹ , min.	ASTM D4491	0.05
Min. UV stability at 500 Hrs, %	ASTM D4355	70%

* Minimum or maximum average roll values.

2.02 Straw Bales

- A. Straw or hay bales in good condition with nominal dimensions of 14"W x 18"H x 30"L.
- B. Stakes: Wood stakes with minimum nominal dimension of 2" x 2" x 30".

2.03 Sediment Logs

- A. Wood excelsior log wrapped in biodegradable fabric or mesh and listed in the Erosion Control Product Acceptability Lists.
- B. Stakes: Wood stakes with minimum nominal dimension of 1" x 1" x 24".

2.04 Temporary Seed

- A. Areas needing protection during periods when permanent seeding is not applied shall be seeded with annual species for temporary protection. Provide species as follows:

Species	% Purity
Oats	98
Cereal Rye	97
Winter Wheat	95
Annual Ryegrass	97

- B. Provide oats for spring and summer. Provide cereal rye, winter wheat, or annual ryegrass for fall seeding.

2.05 Erosion Mat

- A. All erosion mat products shall be of the class and type indicated and shall be chosen from the Erosion Control Product Acceptability Lists.
- B. Class I: A short-term duration (six months or greater), light duty, organic mat. Netting shall be non-organic, photodegradable or biodegradable netting. The weight of the netting shall not exceed 15% of the total blanket weight. The netting shall be sufficiently bonded to the parent material to prevent separation for the life of the product.
 1. Type A: A netted product for use on slopes 2.5 to 1 or flatter with a minimum product permissible shear stress of 50 Pa (1.0 lbs/ft²). Not to be used in channels.
 2. Type B: A double netted product for use on slopes 2 to 1 or flatter or in channels with a minimum product permissible shear stress of 70 PA (1.5 lbs/ft²).
- C. Class II: A long-term duration (3 years or greater), organic mat. The weight of the netting shall not exceed 15% of the total blanket weight. The netting shall be bonded sufficiently to the parent material to prevent separation of the net from the parent material for the life of the product.
 1. Type A: Jute fiber only to be used for reinforcing sod.
 2. Type B: For use on slopes 2:1 or flatter, or in channels with a minimum product permissible shear stress of 95 Pa (2.0 lbs/ft²). Non-organic, photodegradable, or biodegradable netting allowed.

3. Type C: For use on slopes 2:1 or flatter, or in channels with a minimum product permissible shear stress of 95 Pa (2.0 lbs/ft²). Only 100% organic fibers allowed. Woven mats are allowed with a maximum opening of ½ inch. Use in environmentally sensitive areas that have a high probability of entrapping animals in the plastic netting.

D. Staples: U-shaped No. 11 gauge or greater wire with a span width of one to two inches and a length of not less than 6 inches for firm soil and 12 inches for loose soil.

2.06 Soil Stabilizer

A. Soil stabilizer shall be a polyacrylamide (PAM) and calcium solution intended to reduce the erodibility of bare soils. The product shall achieve an 80% reduction in soil loss induced by a two inch per hour rainfall simulator.

B. PAM mixtures shall be environmentally benign, harmless to fish, aquatic organisms, wildlife, and plants. Only anionic PAM will be permitted.

C. Anionic PAM, in pure form shall have no more than 0.05% free acrylic monomer by weight, as established by the Food and Drug Administration and the Environmental Protection Agency. The anionic PAM in pure form shall not exceed 200 pounds per batch.

D. The product provided shall be listed in the WisDOT PAL for Type B Soil Stabilizer.

2.07 Inlet Protection

A. Type A: Use around field inlets until permanent stabilization methods have been established. Use on pavement inlets prior to installation of curb and gutter or pavement.

B. Type B: Use on inlets without curb head after casting and grate are in place.

C. Type C: Use on street inlets with curb head.

D. Type D: Use in areas where other typed of inlet protection are incompatible with roadway and traffic conditions causing possible safety hazards when ponding occurs at inlet.

E. Geotextile: Type FF meeting the requirements of the latest edition of WisDOT PAL.

PART 3 - EXECUTION

3.01 Installation of Diversions

A. Temporary diversions shall be designed and installed in accordance with WDNR Conservation Practice Standard, Construction Site Diversion (1066).

3.02 Installation of Silt Fence and Straw Bale Barriers

A. Install straw bale barriers and sediment logs in accordance with the Drawings and WDNR Conservation Practice Standard, Sediment Bale Barrier (1055).

B. Install silt fence in accordance with the Drawings and WDNR Conservation Practice Standard, Silt Fence (1056).

C. Silt fence and straw bale barriers shall be placed on the contour to the extent practicable. Place fences parallel to the slope with the ends of the fence turned upslope a distance of one to two feet. The parallel spacing shall not exceed the maximum slope lengths as indicated in the following Table:

Fence and Barrier Spacing	
Slope	Spacing
<2%	100'
2 - 5%	75'
5 - 10%	50'
10 - 33%	25'
>33%	20'

3.03 Temporary Seeding

- A. Provide a seedbed of loose soil to a minimum depth of 2 inches.
- B. Apply seed evenly at the rate shown in the following table. Rake or drag to cover the seed to a depth of 1/4 inch.

Species	Lbs./Acre
Oats	131
Cereal Rye	131
Winter Wheat	131
Annual Ryegrass	80

3.04 Erosion Mat Installation

- A. Remove stones, clods, sticks, or other foreign material that would damage the mat or interfere with the mat bearing completely on the surface.
- B. Install erosion mat in accordance with the manufacturer’s recommendations.
- C. After seeding has been completed, roll blankets out parallel to the direction of water flow, with the netting on top. Spread the blankets without stretching, making sure the fibers are in contact with the soil. Overlap adjacent strips in accordance with the manufacturer’s recommendations. Overlap strip ends a minimum of 10 inches with the upgrade strip on top. Bury the upgrade end of each strip in a vertical trench at least 6 inches deep.
- D. Staple the mat strips in accordance with the manufacturer’s recommendations. Staple longitudinal overlaps and outer edges at maximum intervals of 3 feet. Staple strip ends at maximum intervals of 16 inches. Place staples throughout the mat at maximum 3-foot intervals. Insert staples flush with the ground surface.

3.05 Soil Stabilizer

- A. The manufacturer shall provide detailed written instructions on the storage, mixing, and application procedures.
- B. The soil stabilizer may be applied by spraying or by dry spreading.
- C. Application Rates: Apply at the rate recommended by the manufacturer.
- D. Do not apply within 30 feet of body of water (i.e. lake, river, stormwater pond).

3.06 Ditch Erosion Control

- A. The following erosion control measures are minimum requirements for all ditches. The Drawings may include more specific measures.

Ditch Erosion Control		
Slope Range	Method	Bale Checks
0 - 1%	Seed and mulch	None
1% - 4%	Seed and mulch with erosion mat	1% - 2%; Every 200' 2% - 4%; Every 100'
4% - 6%	Staked sod	Every 75'
>6%	Staked sod and/or riprap as specified by Engineer on Drawings	Every 75' for sod

- B. Stone Ditch Checks: Unless otherwise indicated on the Drawings, install stone ditch checks at intervals of one ditch check for every two feet of drop in channel grade.

3.07 Installation of Sod in Ditches

- A. Lay sod so that joints of abutting ends of strips are not continuous. Lay each strip snugly against previously laid strips.
- B. Roll or firmly tamp sod to press the sod into the underlying soil.
- C. Turn the upper edges of the strips into the soil.
- D. Stake strips along the longitudinal axis at 18-inch intervals and near the top edge of the strip. Provide wood lath or similar stakes, 12 inches long. Leave top of stake approximately 1/2 inch above sod surface.

3.08 Installation of Other Facilities

- A. Inlet protection barriers, channel stabilization, grassed waterways, rock lined waterways, sediments traps, sediment basins, and other forms of erosion control measures shall be designed and installed in accordance with *WDNR Technical Standards*.

3.09 Maintenance

- A. Inspect diversions within 24 hours after each rainfall or daily during periods of prolonged rainfall, until the vegetative cover is stabilized. Make necessary repairs immediately.
- B. Inspect filter fabric fences and barriers within 24 hours after each rainfall or daily during periods of prolonged rainfall. Necessary repairs or replacement shall be made immediately. Remove sediment deposits when deposits reach one-half the height of the fence. Follow manufacturer's recommendations for replacing fabric due to weathering.
- C. Inspect straw bale fences and barriers within 24 hours after each rainfall or daily during periods of prolonged rainfall. Necessary repairs or replacement shall be made immediately. Remove sediment deposits when deposits reach one-third the height of the bales. Replace bales after three months.
- D. Inspect all seeding, sod, mulches, mats and nets within 24 hours after each rainfall or daily during periods of prolonged rainfall. Additional mulch, netting or matting shall be applied immediately when necessary to maintain suitable coverage. Make inspections until vegetative cover is established. Water seeding and sod when necessary to promote establishment.
- E. All other soil erosion control measures should be inspected and repaired immediately, if required, within 24 hours after storm event or daily during periods of prolonged rainfall.

3.10 Removal

- A. After final vegetation is established, remove bales, silt fences, ditch checks, diversions, and other erosion control facilities. Restore areas disturbed by the removals.

3.11 Monitoring for WPDES Permit

- A. Unless indicated otherwise within the Contract Documents, the Contractor shall be responsible for the monitoring requirements of the WPDES permit for storm water discharges associated with construction activities.
- B. Erosion and sediment controls shall be routinely inspected at least every seven days, and within 24 hours after a precipitation event of 0.5 inches or greater. Weekly written reports of all inspections shall be maintained and submitted to the Engineer. The reports shall contain the following information:
 - 1. Date, time, and exact place of inspection.
 - 2. Name(s) of individual(s) performing inspection.
 - 3. An assessment of the condition of erosion and sediment controls.
 - 4. A description of any erosion and sediment control implementation and maintenance performed.
 - 5. A description of the sites present phase of construction.
- C. The Engineer will provide the Contractor with the appropriate DNR form (see section 00 62 30) to use for the inspections.

END OF SECTION

SECTION 31 37 16

RIPRAP

PART I - GENERAL

1.01 Section Includes

- A. Furnishing and placing of stone riprap.
- B. Geotextile.

1.02 References

- A. ASTM D4632 - Test Method for Grab Breaking Load and Elongation of Geotextiles.
- B. ASTM D4751 - Test Method for Determining Apparent Opening Size of a Geotextile.
- C. ASTM D4833 - Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products.
- D. State of Wisconsin Standard Specifications for Highway and Structure Construction, Current Edition (WisDOT).

1.03 Submittals

- A. Submit gradation for each riprap size to be used for the Work.

PART 2 - PRODUCTS

2.01 Materials

- A. Riprap: Durable field stone or quarry stone, sound, hard and free from seams or cracks. Stones shall be generally round or cubiform in shape with a weight of approximately 165 lbs/cf. Slabby or elongated pieces having a width or thickness less than one-third the length shall not exceed ten percent of the total. The riprap shall conform to the following gradations:

Gradation - Diameter in Inches				
Class	D _{Max}	D ₅₀	D _{Min}	WIDOT Equiv. Riprap
1	6	3	2	- - -
2	12	6	3	Light
3	18	9	5	Heavy
4	24	12	7	Extra Heavy

- B. Geotextile: A nonwoven fabric consisting of polypropylene, polyethylene, or polyamide. Fabric shall be resistant to insects, rodents, mildew and rot, and protected from UV degradation. Fabric shall meet the following minimum values:

Geotextile Requirements			
Property	Test Method	Requirements*	
		Riprap Class 1 & 2	Riprap Class 3 & 4
Grab tensile strength, lbs. min.	ASTM D4632	205	300
Elongation, percent min.	ASTM D4632	50	50
Puncture strength, lbs	ASTM D4833	500	800
Max. Apparent opening size, US Sieve	ASTM D 4751	No. 80	No. 100

*Typical or average values

PART 3 - EXECUTION

3.01 Geotextile Placement

- A. Provide geotextile as required for the class of riprap to be installed.
- B. Remove stones or sharp objects from the subgrade that could damage the geotextile.
- C. Unroll geotextile directly on the prepared surface.
- D. Overlap adjacent sides and ends a minimum of two feet.
- E. Toe-in geotextile at top and bottom of slope.

3.02 Riprap Placement

- A. Use riprap class indicated on Drawings.
- B. Place riprap from bottom to top.
- C. Provide a uniform distribution of the various size stones to produce a well-keyed mass.
- D. Place to the depth indicated on the Drawings.
- E. Do not drop stones from a height greater than one foot.

END OF SECTION

SECTION 32 11 23

CRUSHED AGGREGATE BASE COURSE

PART 1 - GENERAL

1.01 Section Includes

- A. Furnishing and placing crushed aggregate base course as a foundation for asphaltic concrete pavement or Portland cement concrete pavement.

1.02 References

- A. ASTM C136 - Sieve Analysis of Fine and Coarse Aggregate.
- B. ASTM D1557 - Standard Test Methods Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
- C. Wisconsin Department of Transportation, Standard Specifications for Highway and Structure Construction, Current Edition (WisDOT).

1.03 Submittals

- A. Submit aggregate gradation; ASTM C136.
- B. Submit truck weight slips. Include as a minimum, truck number, date, time, gross weight, tare weight and net weight.

PART 2 - PRODUCTS

2.01 Crushed Aggregate

- A. Meet material requirements of WisDOT.
- B. Gradation
1. Except for reclaimed asphaltic pavement, conform to the gradations listed in the following table:

Sieve Size	Percentage Passing By Weight		
	3-Inch Base	1 1/4-Inch Base	3/4-Inch Base
3-Inch	90 - 100	---	---
1 1/2-Inch	60 - 85	---	---
1 1/4-Inch	---	95 - 100	---
1-Inch	---	---	100
3/4-Inch	40 - 65	70 - 93	95 - 100
3/8-Inch	---	42 - 80	50 - 90
No. 4	15 - 40	25 - 63	35 - 70
No. 10	10 - 30	16 - 48	15 - 55
No. 40	5 - 20	8 - 28	10 - 35
No. 200	2 - 12	2 - 12 ^{a, c}	5 - 15 ^b

- a. Limited to a maximum of 8 percent in base course placed between new and old pavement.
 - b. 8 - 15 percent passing when base is \geq 50% crushed gravel.
 - c. 4 - 10 percent passing when base is \geq 50% crushed gravel.
2. Use 1 1/4-Inch Base in top 4 or more inches of base. Use 3-Inch Base or 1 1/4-Inch Base in the lower base layers.
 3. Use 3/4-Inch Base in the top 3 inches of unpaved portion of the shoulder. Also, if using 3-Inch Base in the lower base layers, use 3/4-Inch Base in the top 3 inches of the shoulder foreslopes. Use 3/4-Inch Base or 1 1/4-Inch Base elsewhere in shoulders.

2.02 Reclaimed Asphaltic Pavement

- A. If Contract Documents allow reclaimed asphaltic pavement, the material shall conform to the following:
 - 100 percent passing a 1 1/4-inch sieve.
 - 75 percent or less passing a No. 4 sieve.
 - Asphalt content between 3 and 6.5 percent.

PART 3 - EXECUTION

3.01 Preparation

- A. Check subgrade for conformity with grade and cross section.
- B. Remove depressions and ruts that may have been caused after subgrade completion.
- C. Proof-roll subgrade prior to placing aggregate with a loaded tandem-axle dump truck under the observance of the Engineer. Subgrade shall not rut or displace significantly under the weight of the loaded truck. Soft or unstable areas that cannot be improved by additional compaction shall be undercut, replaced with suitable fill material, and recompacted.

3.02 Lines and Grade

- A. Construct the base course to the line, grade and cross section as shown on the Drawings or as directed by the Engineer.
- B. For streets without curb and gutter, the Engineer will provide grade stakes at a minimum distance of 50 feet along the centerline. For streets with curb and gutter, the Engineer will stake the curb and gutter and will provide centerline cuts and fills from the curb stakes. Provide Engineer with a minimum of 48 hours notice of the need for grade stakes.
- C. Contractor may use slope meters or GPS type controls on machines for grade control. However, the contractor is responsible for verifying the finish grade elevations with a level at a minimum of every 50 feet along the centerline.

3.03 Equipment

- A. The weight, type, capacity and method of operation of all hauling and spreading equipment shall be appropriate for the work and shall not damage the subgrade or previously laid base course. Spreading equipment shall be designed and operated to spread the material in uniform layers without significant segregation.
- B. Motor graders used for mixing and shaping shall have weight, rigidity and design suitable for the work.
- C. Compaction equipment shall be of the rolling type, vibratory type or combination thereof. Tamping rollers shall exert a weight of not less than 150 pounds per square inch of tamping surface on each tamping foot in a transverse row. Pneumatic-tire rollers or other equipment shall have a weight of not less than 150 pounds per linear inch of overall rolling width.

3.04 Placing Base Course

- A. Place material in a manner to minimize segregation and to facilitate spreading in a uniform layer.
- B. Place material in maximum 6-inch thick compacted layers. If material is placed in more than one layer, each layer shall be approximately the same thickness.
- C. Compact each layer to 95 percent of the maximum dry density in accordance with ASTM D1557. If material is deficient in moisture content for readily attaining the required density, moisten the material as necessary.
- D. All material placed on the subgrade or previous layer shall be spread, shaped and compacted on the same day.

3.05 Tolerances

- A. Smoothness: Maximum variation of 3/8 inch when measured with a 10-foot straight edge.
- B. Compacted Thickness: Plus or minus 1/4 inch.

3.06 Proof Rolling

- A. Proof roll the completed base course with a loaded tri-axle dump truck with a minimum gross weight of 30 tons. The surface shall not rut, displace, or roll under the weight of the loaded truck. Soft or unstable areas that cannot be improved by additional compaction shall be replaced and recompacted. Proof rolling shall be done in the presence of the Engineer.

3.07 Field Quality Control

- A. Contractor is responsible for meeting the compaction requirements. The Engineer or authorized representative of the owner has the option to require the Contractor to hire an independent testing firm, at the Contractor's expense, to perform compaction tests to confirm the in-place density.
- B. Field inspection will be performed by the Engineer or an authorized representative of the Owner.
- C. Determination of moisture content shall be in accordance with ASTM D3017. Determination of density shall be in accordance with ASTM D2922.
- D. If tests indicate the work does not meet the specified requirements, remove and replace the work.

END OF SECTION

SECTION 32 12 16

ASPHALTIC CONCRETE PAVEMENT

PART 1 - GENERAL

1.01 Section Includes

- A. Construction of a one or two course asphaltic concrete pavement to the thickness and cross-section indicated on the Drawings or in the written Bid Documents.
- B. Provide the mix indicated on the Drawings or in the written Bid Documents.

1.02 References

- A. State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, Current Edition (WisDOT).

1.03 Submittals

- A. Preconstruction Submittals
 - 1. Submit mix design, meeting all necessary criteria for all mixtures to be used on the project. Conduct the mix design in accordance with WisDOT 460.
- B. Construction Submittals:
 - 1. Submit density testing records.
 - 2. Submit truck weight slips.

1.04 Quality Assurance

- A. Qualifications of Asphalt Producer: Use only materials which are furnished by a bulk asphalt concrete producer regularly engaged in the production of hot-mix, hot-laid asphalt concrete.
- B. Qualifications of Testing Agency: Use only recognized commercial-testing laboratory experienced in testing asphalt concrete materials.

1.05 Job Conditions

- A. Weather Limitations
 - 1. Asphalt concrete surface course material shall not be placed during the calendar period between November 1st and April 15th except with written approval of Engineer of a cold weather paving plan provided by the Contractor.
 - 2. Asphalt concrete material shall not be placed when air temperature is less than 36⁰F as measured 3 feet above the ground in the shade and away from the effects of artificial heat.
 - 3. Asphalt concrete materials shall not be placed on frozen or excessively wet base course or when it is raining.
- B. Traffic Control
 - 1. Maintain vehicular and pedestrian traffic during paving operations as required for other construction activities.
 - 2. Provide flagmen, barricades, warning signs and lights as needed to provide for safety and movement of traffic.

PART 2 - PRODUCTS

2.01 Asphaltic Mixture Design

- A. Conduct the asphaltic mixture design in accordance with WisDOT Table 460-2. Mixture requirements are as follows:

Mixture Type	LT	MT
ESALs x 10 ⁶ (20 yr design life)	< 2	2 to < 8
LA Wear (AASHTO T 96)		
100 revolutions (max % loss)	13	13
500 revolutions (max % loss)	50	45
Soundness (AASHTO T 104) (sodium sulfate, max % loss)	12	12
Freeze/Thaw (AASHTO T 103) (specified counties, max % loss)	18	18
Fractured Faces (ASTM D5821) (one face/2 face, % by count)	65 / ___	75 / 60
Thin or elongated (ASTM D4791) (max % by weight)	5 (5:1 ratio)	5 (5:1 ratio)
Fine Aggregate Angularity (AASHTO T 304, Method A, min)	40	43
Sand Equivalency (AASHTO T 176, min)	40	40
Gyratory Compaction		
Gyrations for N _{ini}	6	7
Gyrations for N _{des}	40	75
Gyrations for N _{max}	60	115
Air Voids, %V _a	4.0 ⁽⁶⁾	4.0 ⁽⁶⁾
% G _{mm} @ N _{des}	96.0	96.0
% G _{mm} @ N _{ini}	≤91.5 ⁽¹⁾	≤89.0 ⁽¹⁾
% G _{mm} @ N _{max}	≤98.0	≤98.0
Dust to Binder Ratio ⁽²⁾ (% passing 0.075/P _{be})	0.6 - 1.2	0.6 - 1.2
Voids filled with Binder (VFB or VFA, %)	60 - 80 (4, 5)	65 - 75 (3, 4)
Tensile Strength Ratio - TSR (ASTM D4867)		
no antistripping agent	0.75	0.75
with antistripping agent	0.80	0.80
Draindown at Production Temperature (%)	-----	-----

- (1) The percent maximum density at initial compaction is only a guideline.
(2) For a gradation that passes below the boundaries of the caution zone (ref. AASHTO MP3), the dust to binder ratio limits are 0.6 - 1.6.
(3) For 9.5 mm and 12.5 mm nominal maximum size mixtures, the specified VFB range is 70 - 76%.
(4) For 25.0 mm nominal maximum size mixtures, the specified VFB lower limit is 67%.
(5) For 37.5 mm nominal maximum size mixtures, the specified VFB lower limit is 67%.
(6) Shall conform to current WisDOT ASP 6, 460.2.1, which includes the regression of air voids from 4.0% to 3.0% with asphalt cement.

2.02 Aggregate

- A. Provide aggregate conforming to WisDOT Table 460-1. Aggregates shall consist of hard durable particles and shall not contain more than a combined total of one percent, by mass, of lumps of clay, loam, shale, soft particles, organic matter, adherent coatings, and other deleterious matter. The composite aggregates shall conform to the requirements of the Mixture Requirements Table and the Aggregate Gradation Table.

Aggregate Gradation Percent Passing By Weight				
Sieve Size	25.0 mm (#2)	19.0 mm (#3)	12.5 mm (#4)	9.5 mm (#5)
37.5 mm	100	---	---	---
25.0 mm	90 - 100	100	---	---
19.0 mm	90 max	90 - 100	100	---
12.5 mm	---	90 max	90 - 100	100
9.5 mm	---	---	90 max	90 - 100
4.75 mm	---	---	---	90 max
2.36 mm	19 - 45	23 - 49	28 - 58	20 - 65
75 um	1 - 7	2 - 8	2 - 10	2 - 10
% Min VMA	12.0	13.0	14.0	15.0

- B. Unless otherwise designated in the contract, the nominal size of aggregate used in the mixture shall conform to the following:

Pavement Thickness	Aggregate Size	
	Binder	Surface
3"	12.5 mm	9.5 mm
3 1/2"	12.5 mm	12.5 mm
4"	19.0 mm	12.5 mm
4 1/2"	19.0 mm	12.5 mm
5"	19.0 mm	12.5 mm

2.03 Asphalt Cement

- A. PG 58-28 S or H.
 B. Tack Coat: Emulsified asphalt - Grade SS-1; WisDOT 455.2.5

2.04 Recycled Asphaltic Materials

- A. Recycled Asphalt Shingles can be used as follows: 5-7% binder, 2% surface. WisDOT 460.2.5

2.05 Recovered Asphaltic Binders

- A. WisDOT 460.2.6

PART 3 - EXECUTION

3.01 Lines and Grade

- A. Lines and grade shall be as shown on the drawings or as given by the Engineer.
 B. When curb & gutter is in place, the Contractor shall use the curb & gutter for line and grade. For streets without curb and gutter, the Engineer will provide grade stakes at a minimum distance of 50 feet along the centerline. Provide the Engineer with a minimum 48 hours' notice of the need for grade stakes.
 C. Parking lots will be staked as required.

3.02 Surface Preparation

- A. Proof Roll
 1. Proof-roll prepared base surface using heavy rubber-tired roller or loaded tandem-axle dump truck under the observance of the Engineer. Aggregate surface shall not rut or displace significantly under the weight of the equipment. Soft or unstable areas that cannot be improved by additional compaction shall be undercut, replace with suitable fill material, and recompact.
 2. Do not begin paving until necessary corrections are made.

- B. Loose and Foreign Material
 1. Remove loose and foreign materials from compacted base or old surface course immediately before paving.
 2. Use power brooms or blowers and hand brooming as required.
- C. Tack Coat (WisDOT 455.3.2.1)
 1. Dilute material with equal parts of water and apply to contact surfaces of previously constructed asphalt concrete or Portland cement concrete and similar surfaces.
 2. Apply at a rate of 0.05-0.07 gallons per square yard of surface with a power distributor.
 3. Apply only when air temperature is 36° F or higher.
 4. Apply tack coat by brush to contact surfaces of curbs, gutters, manholes and other structures projecting into or abutting asphalt concrete pavement.
 5. Apply tack coat between all layers. This work shall be incidental to the asphalt paving.
- D. Existing Pavement Correction
 1. Fill potholes, sags and depressions.
 2. Material may be placed by hand.

3.03 Frame Adjustments

- A. Prior to paving, set frames of subsurface structures to final grade. Covers shall be one-half inch below surface of adjacent pavement with the tops of manholes the same slope as the surrounding pavement.

3.04 Preparing the Mixture

- A. Comply with applicable sections of WisDOT 450 for material storage, control, mixing and for plant equipment and operation.

3.05 Equipment

- A. Provide size and quantity of equipment to complete the work specified within the project time schedule.
- B. Paving shall be placed with a self-propelled spreading and finishing machine that spreads the hot-asphalt concrete mixture without tearing, shoving or gouging the surface and that controls pavement edges to true lines without use of stationary forms.
- C. Rolling equipment shall be self-propelled steel-wheel rollers of the three-wheel, tandem or three-axle tandem type. Three-wheel and tandem rollers shall be rated at not less than 8 tons. Three-axle tandem rollers shall be rated at not less than 12 tons.

3.06 Placing the Mix

- A. Do not place asphaltic mixture when the air temperature approximately three feet above grade, in shade, and away from artificial heat source is less than 36° F.
- B. Place asphalt concrete mixture on prepared surface, spread and strike off using paving machine.
- C. Spread mixture at a temperature between 250° F and 350° F.
- D. Inaccessible and small areas may be placed by hand.
- E. Place each course at thickness so that when compacted, it will conform to the indicated grade cross section, finish thickness and density specified.

F. Compacted Thickness of Individual Layers:

Pavement Thickness	Layer Thickness	
	Binder	Surface
3"	1 1/2"	1 1/2"
3 1/2"	1 3/4"	1 3/4"
4"	2 1/4"	1 3/4"
4 1/2"	2 3/4"	1 3/4"
5"	3"	2"

- G. Paver Placing
 1. Unless otherwise directed, begin placing along centerline of areas to be paved on crowned section and at high side of sections on one-way slope and in direction of traffic flow.
 2. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips.
 3. Complete binder course for a section before placing surface course.
- H. Hand Placing
 1. Spread, tamp and finish mixture using hand tools in areas where machine spreading is not possible.
 2. Place mixture at a rate that will ensure handling and compaction before mixture becomes cooler than acceptable working temperature.
- I. Joints
 1. Carefully make joints between old and new pavements or successive day's work to ensure a continuous bond between adjoining work.
 2. Clean contact surfaces free of sand, dirt or other objectionable material, and apply tack coat.
 3. Cut back edge of previously placed course to expose an even, vertical surface for full course thickness.

3.07 Compacting the Mix

- A. While the mixture is still hot, compact thoroughly and uniformly by rolling. Provide sufficient number of rollers to obtain the required density and accomplish the rolling.
- B. Begin rolling operations as soon after placing as the mixture will bear weight of roller without excessive displacement.
- C. Do not permit heavy equipment, including rollers, to stand on finished surface before it has thoroughly cooled or set.
- D. Compact mixture with hot hand tampers or vibrating plate compactors in areas inaccessible to rollers.
- E. Start rolling longitudinally at extreme lower side of sections and proceed toward center of pavement. Roll to slightly different lengths on alternate roller runs.
- F. Do not roll centers of sections first.
- G. Breakdown Rolling
 1. Accomplish breakdown or initial rolling immediately following rolling of transverse and longitudinal joints and outside edge.
 2. Check crown grade and smoothness after breakdown rolling.
 3. Repair displaced areas by loosening at once with lutes or rakes and filling, if required, with hot loose material before continuing rolling.
- H. Second Rolling
 1. Follow breakdown rolling as soon as possible while mixture is hot and in condition for compaction.
 2. Continue second rolling until mixture has been thoroughly compacted.
- I. Finish Rolling
 1. Perform finish rolling while mixture is still warm enough for removal of roller marks.
 2. Continue rolling until roller marks are eliminated and course has attained specified density.

3.08 Pavement Density

- A. Pavements shall be built with the Maximum Density Method, WisDOT 460.3.3, unless otherwise specified.
- B. Ordinary Compaction: Compact leveling, wedging, patching layers, driveways, and other non-traffic areas to the degree that no further appreciable consolidation is evidenced under the action of the compaction equipment. Comply with WIDOT 450.3.2.6.

- C. Maximum Density Method: All courses or layers thereof of plant mixed asphaltic mixtures for which the Maximum Density Method is used shall be compacted to a density not less than the percentage shown in the Table of Maximum Required Density, WisDOT Table 460-3, for the applicable mixture and course.

3.09 Pavement Density Determination

A. General

1. Density testing shall be performed by an independent testing firm, hired by the contractor or by a trained and qualified employee of the Contractor if approved by the Engineer. Densities may be determined on the basis of cored/sawed holes or nuclear methods.
2. Density determination will be made as soon as practical after placement and compaction and prior to placement of subsequent layers. Do not re-roll compacted mixtures represented by samples or tests having deficient densities. Do not operate below the specified maximum density on a continuing basis. Stop production until the source of the problem is determined and corrected.
3. A lot shall represent 1500 lineal feet of mixture, or the quantity placed in one day if less than 1500 lineal feet, for each density requirement. Densities of binder and surface course mixtures shall be determined on the basis of nuclear methods. Random testing locations will be established by the Engineer.

- B. Tests: Five random tests will be taken on each lot. The lot density shall be the average of all samples taken.

- C. Compact all layers to the percent of the target maximum density as shown in the following table.

Minimum Required Density ⁽¹⁾		
Location	Layer	% of Target Maximum Density
		Mixture Type
		LT and MT
Traffic Lanes ⁽²⁾	Lower	93.0 ⁽³⁾
	Upper	93.0
Shoulders and Appurtenances	Lower	91.0
	Upper	92.0

- (1) The table values are for average lot density. If any individual test result falls more than 3% below the minimum required target maximum density, the engineer may investigate the acceptability of that material.
- (2) Includes parking lanes as determined by engineer.
- (3) Minimum reduced by 2% when the first lift of lower layer constructed on crushed aggregate or recycled base courses.

- D. Density Deficiency: When the density of a lot of compacted binder or surface course is less than the specified minimum, payment will be adjusted in accordance with the following table:

Adjusted Payment Schedule	
Percent Lot Density Below Specified Minimum	Percent of Contract Price
From 0.5 to 1.0 inclusive	98
From 1.1 to 1.5 inclusive	95
From 1.6 to 2.0 inclusive	91
From 2.1 to 2.5 inclusive	85
From 2.6 to 3.0 inclusive	70
More than 3.0	*

- * The lot shall be removed and replaced with a mixture at the specified density and, when acceptably replaced, will be paid for at the contract price; or the engineer may permit the unacceptable material to remain in place with a 50 percent reduction in payment.

3.10 Surface and Thickness Requirements

A. Surface Requirements

1. Provide final surface of uniform texture conforming to required grade and cross-section.

2. Test finished surface of each asphalt concrete course for smoothness using a 10-foot straightedge applied parallel to and at right angles to centerline of paved area.
 3. Check surface areas at intervals directed by Engineer.
 - a. Binder course: 1/4 inch in 10 feet.
 - b. Surface course: 1/4 inch in 10 feet.
- B. Thickness Requirements
1. If the Engineer believes that the thickness of the compacted base or surface course is not at the specified thickness, the Contractor may be required to obtain 4-inch diameter samples to verify the thickness. The samples shall be obtained by sawing or coring and all sample holes shall be repaired with fresh mix and compacted.
 2. If the thickness is not as specified it will be the Engineer's option to adjust the contract price, require an overlay, or require some other remedial action.

3.11 Patching

- A. Remove and replace defective areas.
1. Cut out and fill with fresh hot-asphalt concrete.
 2. Compact by rolling to specified density and surface smoothness.
 3. Remove deficient areas for full depth of course.
 4. Cut sides perpendicular and parallel to direction of traffic with edges vertical.
 5. Apply tack coat to exposed surfaces before placing new asphalt concrete mixture.

3.12 Cleaning and Protection

- A. After final rolling, do not permit vehicular traffic on asphalt concrete pavement until it has cooled and hardened and, in no case, sooner than 6 hours.
- B. Provide barricades and warning devices as required to protect pavement and the general public.

END OF SECTION

SECTION 32 92 19

SOIL PREPARATION AND SEEDING

PART 1 - GENERAL

1.01 Section Includes

- A. Preparation of subsoil.
- B. Placing topsoil.
- C. Fertilizer.
- D. Seeding.
- E. Mulching.

1.02 Quality Assurance

- A. Comply with requirements of state regulations regarding grass seed and fertilizer.
- B. Fertilizer
 - 1. Each container shall be plainly marked with the analysis of the contents showing the minimum percentages of total nitrogen, available phosphorous and soluble potash. Containers or packages shall be new and unopened.
 - 2. When furnished in bulk, each shipment shall be accompanied by an invoice indicating minimum percentages of the contents listed above.
- C. Seed
 - 1. Provide seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging and location of packaging. Containers or packages shall be new and unopened.
 - 2. Seed shall not be used later than one year later than the test date appearing on the label.
 - 3. Sampling and testing of seed for purity, germination and weed seed content shall be in accordance with "Rules for Testing Seed" published by the Association of Official Seed Analysts.

1.03 Submittals

- A. Submit composition of fertilizer and seed mixture.
- B. Submit, upon request, manufacturer's certification that materials meet specification requirements.
- C. Submit, upon request, results of seed purity and germination tests.
- D. Submit topsoil test results for all topsoil borrow.

PART 2 - PRODUCTS

2.01 Topsoil

- A. Provide reclaimed topsoil from the site unless the contract documents require topsoil borrow.
- B. Reclaimed Topsoil: Topsoil stripped from the site consisting of loam, sandy loam, silt loam, or silty-clay loam, or clay loam, humus-bearing soil, adapted to sustaining plant life. The soil shall be free of subsoil, foreign matter, plant material, objects larger than one inch in any dimension, and toxic or other substances harmful to plant growth.
- C. Topsoil Borrow: Topsoil from offsite consisting of natural loam, sandy loam, silt loam, or silty-clay loam, or clay loam, humus-bearing soil, adapted to sustaining plant life. The soil shall be free of subsoil, foreign matter, plant material, objects larger than one inch in any dimension, and toxic or other substances harmful to plant growth. The soil shall have a pH range of 5.5 to 8.0 and a maximum soluble salt level of 500 PPM. Topsoil originating from agricultural fields shall be free of

residual herbicide and other contaminants.

2.02 Fertilizer

- A. Standard commercial fertilizer with the following available nutrients by weight:
 1. Nitrogen - not less than 10%.
 2. Phosphoric Acid - not less than 10%
 3. Potash - not less than 10%

2.03 Seed

- A. Seed mixtures shall be Olds Seeds or equal of grass species and varieties, proportions by weight, and minimum percentages of purity and germination as indicated in the following schedule.

Species	Purity Min. %	Germination Min. %	Quick-2-Gro	Survivor	Boulevard	Wear-n-Tear
Kentucky Bluegrass	98	85	25	15		50
Creeping Red Fescue	97	85	25	30	25	10
Turf Type Tall Fescue	98	85		40	25	
Fine Fescue	97	85				
Dawson Red Fescue	97	85				
Perennial Ryegrass	97	85	25	15	25	40
Annual Ryegrass	97	90	25			
Alkaligrass	98	85			25	

Unless otherwise provided in the Contract Documents, the selection of seed mixtures shall be as follows:

1. Quick-2-Gro: Use for general seeding within new subdivisions.
2. Survivor: Use for seeding lawns where soils are light and sandy.
3. Wear-n-Tear: Use for seeding lawns where soils are loam or clay.
4. Boulevard: Use for boulevard areas behind curb to sidewalk or ROW, from shoulder to ROW on rural section roads, and street or parking lot islands.

2.04 Mulch Materials

- A. Hay: Straw or hay in air-dry condition substantially free from noxious weed seeds or objectionable foreign matter.
- B. Paper Fiber: Mulch consisting of recycled newsprint fibers, wetting agent, deforming agent and green dye with a dry moisture content of 9 to 15 percent.
- C. Wood Cellulose: Wood cellulose fibers manufactured from virgin wood fibers that form a blotter-like ground cover that readily absorbs water and allows infiltration to the underlying soil. Moisture content shall not exceed 15 percent at the time of delivery. The mulch shall be dyed green and shall have the property of becoming dispersed and suspended when agitated in water.
- D. Erosion Control Revegetative Mat: A light duty, organic, non-netted mat with a minimum thickness of 3/8 inch and biodegradable yarn or glue on 12 inch maximum centers in the longitudinal direction. The mat shall be capable of withstanding moderate foot traffic without tearing or puncturing. Acceptable products are those listed in the Wisconsin Department of Transportation, Erosion Control Product Acceptability Lists for Class I, Type Urban mats. Anchoring devices shall be biodegradable, non-splintering and shall last for at least two months and shall substantially degrade in four months.

2.05 Tackifiers

- A. Latex-Base: A latex emulsion polymer with a composition by weight of 48 percent styrene, 50 percent butadiene and 2 percent additive; 42 to 46 percent solids; and a pH of 8.5 to 10.
- B. Guar Gum: Guar gum tackifiers consisting of a minimum of 95 percent Guar gum by weight with the remaining consisting of dispersing and cross-linking additives.

- C. Other: Water soluble natural vegetable gums or guar gums blended with gelling and hardening agents or a water soluble blend of hydrophilic polymers, viscosifiers, sticking aids and other gums.

PART 3 - EXECUTION

3.01 Inspection

- A. Examine area to receive soil preparation to ensure subsoil is ready for finish grading.
- B. Do not proceed with soil preparation until unsatisfactory conditions are corrected.

3.02 Preparation of Subsoil

- A. Eliminate uneven areas or low spots. Make changes in gradual and blend slopes into level areas.
- B. Do not prepare or place frozen soils or soils with excessive moisture.
- C. Remove weeds, roots, trash, debris, concrete, asphalt, crushed aggregate, and any stones larger than two inches in any dimension.
- D. Scarify subsoil to a depth of three inches.

3.03 Placing of Topsoil

- A. Spread topsoil evenly to a compacted depth of four inches.
- B. Place during dry weather.
- C. Grade to eliminate rough or low areas and to ensure positive drainage. Grading shall be approved by the Engineer.
- D. Remove stones and other objects larger than one inch in any dimension.

3.04 Fertilizing

- A. Apply fertilizer at a rate of seven pounds per 1000 square feet.
- B. Apply fertilizer uniformly, incorporating it into the soil by light disking or harrowing.
- C. Apply fertilizer prior to seeding.

3.05 Seeding

- A. Do not sow seed on frozen soil or when wind exceeds 5 MPH.
- B. Do not use wet seed or seed that is moldy or otherwise damaged in transit or storage.
- C. Seeding Dates:
 1. Spring/Summer: April 1 to August 14.
 2. Fall: August 15 to October 1.

- D. Application Rate:

Application Rate	
Mixture	Lbs/1000 Sq. Ft.
Quick-2-Gro	5 - 6
Survivor	5 - 6
Wear-n-Tear	4 - 5
Boulevard	5 - 6

- E. Broadcasting

1. Sow seed evenly with a spreader or seeding machine.
2. Do not broadcast or drop seed when wind velocity exceeds 5 MPH.
3. Broadcast one half of seed.
4. Broadcast remaining half of seed at right angles to first seed pattern.

5. Cover seed to a depth of 1/4" by raking, dragging or cultipacting.
 6. Roll seeded area with roller weighing a maximum of 150 pounds per foot of roller width.
 7. Water seeded area with fine spray, if required, to promote growth.
- F. Drilling
1. Drill seed following elevation contours.
 2. Seed to uniform depth.
 3. Roll seeded area with roller weighing a maximum of 150 pounds per foot of roller width.
 4. Water seeded area with fine spray, if required, to promote growth.

3.06 Mulching

- A. Place mulch on same day that the area is seeded.
- B. Do not place straw or hay mulch or sprayed-on mulches during periods of high wind.
- C. Mulch type and method is the Contractor's option unless a specific type or method is indicated on the Drawings or in the Contract Documents.
- D. Hay/Straw Mulch
1. Method 1 - Spread straw or hay treated with a tackifier over the area using a blowing machine. Spread the material uniformly to a depth of 1/2 to 1 inch using 1 1/2 to 3 tons of material per acre. The amount of tackifier used shall be in accordance with the manufacturer's recommendations.
 2. Method 2 - Spread hay or straw over the area by hand or using a blowing machine. Spread the material uniformly to a depth of 1/2 to 1 1/2 inch using 1 1/2 to 3 tons of material per acre. Immediately after spreading, anchor the mulch into the soil using a mulch tiller.
- E. Paper Fiber: Apply with hydraulic spray equipment in a water slurry at the rate necessary to provide a 1/4 inch layer. Use the color of the material as a metering agent. Take care not to spray material on adjacent surfaces.
- F. Wood Cellulose: Apply with hydraulic spray equipment in a water slurry at the rate of 1500 pounds per acre. Use the color of the material as a metering agent. Take care not to spray material on adjacent surfaces.
- G. Mat: Remove all clods, stones or other materials that could damage the mat. Place mat over seeded area without overlapping. Anchor mat in accordance with the manufacturer's recommendations.

3.07 Establishment

- A. Establishment Period:
1. For areas seeded during the spring or summer planting season the establishment period shall be 90 days.
 2. For areas seeded during the fall planting season the establishment period shall be through June 1 of the following year.
- B. Acceptable Establishment: At the end of the establishment period the grass shall be healthy, uniform in density and color, and substantially free of weeds with uniform coverage of at least 70 percent of a representative one square yard plot and bare spots not exceeding 6 inches by 6 inches.
- C. Re-seed areas that fail to grow an acceptable stand of grass.

3.08 Protection

- A. Protect all seeded areas, as necessary, to prevent trampling and/or damage by erecting temporary fences, barriers, signs, etc.

END OF SECTION

SECTION 33 41 13

STORM SEWER CONSTRUCTION

PART 1 - GENERAL

1.01 Section Includes

- A. Construction of storm sewer.
- B. Construction of storm manholes and inlets.

1.02 Related Sections

- A. Section 31 23 33 - Utility Excavation, Backfill and Compaction.
- B. Section 33 39 13 - Sewer Manholes.

1.03 References

- A. ASTM A48 - Standard Specification for Gray Iron Castings.
- B. ASTM A615 - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
- C. ASTM A760 - Standard Specification for Corrugated Steel Pipe, Metallic-Coated for Sewers and Drains.
- D. ASTM C76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain and Sewer Pipe.
- E. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
- F. ASTM C270 - Standard Specification for Mortar for Unit Masonry.
- G. ASTM C443 - - Standard Specification for Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets.
- H. ASTM C478 - Standard Specification for Precast Reinforced Concrete Manhole Sections.
- I. ASTM C506 - Reinforced Concrete Arch Culvert, Storm Drain and Sewer Pipe.
- J. ASTM C507 - Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe.
- K. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)).
- L. ASTM A929 - Specification for Steel Sheet, Metallic-Coated by the Hot-Dip Process for Corrugated Steel Pipe.
- M. ASTM D3212 - Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals.
- N. ASTM F477 - Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
- O. ASTM F2736 - Standard Specification for 6 to 30 in. (152 to 762 mm) Polypropylene (PP) Corrugated Single Wall Pipe and Double Wall Pipe.
- P. ACI 304 - Recommended Practice for Measuring, Transporting, and Placing Concrete.
- Q. ACI 347 - Recommended Practice for Concrete Formwork.

1.04 Submittals

- A. Submit product data for pipe and accessories.

- B. Submit bedding gradation if requested.
- C. Submit as-built measurements.

1.05 Quality Assurance

- A. All pipes and fittings shall be new and unused.
- B. Provide at least one person thoroughly trained and experienced in the skills required, who shall be completely familiar with the work described in this section, who shall be present at all times during progress of the work of this section, and who shall direct all work performed under this section.

PART 2 - PRODUCTS

2.01 Pipe

- A. Reinforced Concrete (RCP)
 - 1. Pipe: ASTM C76, ASTM C506, or ASTM C507. Provide Class III unless otherwise indicated on the Drawings or in the Specifications.
 - 2. Joints
 - a. Circular Pipe: Tongue and groove with rubber gaskets, ASTM C443.
 - b. Elliptical and Arch Pipe: Tongue and groove with cold plastic sewer joint compound or tongue and groove with external sealing collar, MacWrap or equal.
- B. Corrugated Steel (Use only when indicated on Drawings)
 - 1. Galvanized Pipe:
 - a. Material: Galvanized steel coil, ASTM A929.
 - b. Pipe: Manufactured in accordance with ASTM A760, Type I or II.
 - 2. Aluminized Pipe:
 - a. Material: Aluminized Type 2 steel coil, ASTM A929.
 - b. Pipe: Manufactured in accordance with ASTM A760, Type I or II.
 - 3. Joints: Matching bond connectors.
 - 4. Minimum Pipe Gauge:

Minimum Pipe Gauge			
Pipe Diameter	2-2/3" x 1/2" Corrugations	Pipe Diameter	3" x 1" Corrugations
6"	18	60" - 90"	16
8" - 24"	16	96" - 102"	14
30" - 36"	14	108" - 114"	12
42" - 54"	12	120"	10
60" - 72"	10		
78" - 98"	8		

- C. Corrugated Polyethylene (Use only when indicated on Drawings.)
 - 1. Smooth interior, with annular exterior corrugations meeting requirements of ASTM F2736.
 - 2. Joints: Gasketed integral bell and spigot meeting requirements of ASTM F2736. Joints shall be watertight in accordance with ASTM D3212. Gaskets shall meet the requirements of ASTM F477.
 - 3. Fittings: Polyethylene fittings meeting requirements of ASTM F2736.
 - 4. Acceptable Manufacturers: ADS N-12 HP or equal.

2.02 End Sections

- A. Manufacturer's standard product.
- B. Provide concrete for concrete pipe and corrugated metal for steel pipe or polyethylene pipe.

2.03 Pipe Bedding and Cover

- A. Bedding and Cover:
 - 1. Class IA - Clean angular crushed stone, crushed rock, or crushed gravel conforming to the following gradation:

Sieve Size	% Passing By Weight
1"	100
3/4"	90 - 100
3/8"	20 - 55
No. 4	0 - 10
No. 8	0 - 5

2. Class IB - Clean angular crushed stone, crushed rock, or crushed gravel conforming to the following gradation:

Sieve Size	% Passing By Weight
1/2"	100
3/8"	85 - 100
No. 4	10 - 30
No. 200	0 - 5

3. Class II - Coarse-grained soils free from organic matter, trash, debris, and frozen material with 100% passing the 1-1/2" sieve and less than 5% passing the No. 200 sieve. Generally including sands, gravels, and sand-gravel mixtures with little or no fines. ASTM D2487 Soil Types GW, GP, SW and SP are included in this class. Excavated material may be used if it meets the above material requirements.
4. Class III - Coarse-grained soils with fines free from organic matter, trash, debris, and frozen material with 100% passing the 1-1/2" sieve and 12% - 50% passing the No. 200 sieve. Generally includes silty or clayey sands, gravels, or sand-gravel mixtures. ASTM D2487 Soils Types GM, GC, SM and SC, are included in this class. Excavated material may be used if it meets the above material requirements.

2.04 Manholes and Inlets

A. General

1. Precast concrete manholes and inlets (and castings) shall meet requirements of Section 33 39 13 with the exceptions noted.
2. Exterior/interior manhole seals are not required.
3. Pipe connection may be mortar.
4. Concealed pickhole covers are not required.

B. Cast-In-Place Concrete

1. Ready-mixed concrete meeting requirements of ASTM C94; 3000 psi 28-day strength, 3 to 4-inch slump, maximum aggregate size of 1-1/2 inch and air entrainment of 7 percent.
2. Reinforcing steel: ASTM A615, Grade 60.

- C. Crushed Stone: Hard durable particles of crushed stone or gravel substantially free from shale or lumps of clay or loam meeting the following gradation:

Sieve Size	% Passing By Weight
2"	100
1-1/2"	90 - 100
1"	20 - 55
3/4"	0 - 15
1/2"	0 - 5

PART 3 - EXECUTION

3.01 Handling of Material

- A. All materials shall be handled with care to avoid damage. No material shall be dropped.
- B. All defective material shall be removed from the job site.
- C. Contractor is responsible for arranging suitable sites for material storage.

3.02 Lines and Grade

- A. All pipe shall be laid to the lines and grades shown on the drawings or given by the Engineer.
- B. The use of a laser beam for maintaining line and grade is required unless other methods are approved by the Engineer.
- C. A person qualified to operate the equipment shall be present when the laser is in use.

3.03 Laying Pipe

- A. Lay pipe uniformly to line and grade so that the finished sewer presents a uniform bore. Noticeable variations from true alignment and grade will be sufficient cause for rejection of the work.
- B. Commence at the lowest point and proceed to the upper end. Lay pipe with bell-end pointing up-grade.
- C. For reinforced concrete pipe provide a minimum of six inches between the pipe wall and the trench wall. For polyethylene and corrugated steel pipe, provide a minimum distance between the pipe wall and the trench wall of 2.5 times the pipe diameter for poor or expansive soils and a minimum of 12 inches for all other soils.
- D. Rest each pipe on the full length of its barrel.
- E. Do not lay the next pipe until the previous pipe is backfilled sufficiently to prevent movement during joining.
- F. For flexible pipe do not disturb the installed pipe and its embedment when using movable trench boxes. If the box extends below the cover material, use methods to assure that the integrity of the embedment is maintained when the box is moved.
- G. Keep water out of the pipe. Do not let water rise into or around the pipe until the trench is filled at least one foot above the pipe.
- H. When work is stopped for any reason, securely plug the end of the pipe.
- I. Jointing: Assemble joints in accordance with the pipe manufacturer's instructions.
- J. Do not drive over flexible pipe unless there is a minimum of 24 inches of cover material over the pipe.

3.04 Rigid Pipe Bedding - RCP

- A. Pipe bedding and cover shall be Class IA, Class IB, Class II, or Class III. If pipe is in groundwater, bedding and cover shall be Class IA or IB. Use the same material for bedding and cover.
- B. Place bedding material below and around pipe to the spring line to provide side support and to prevent lateral and vertical movement of the pipe. Place material in 6-inch maximum layers. Work the material in and around the pipe by hand to provide uniform support.
- C. Place cover material to a level 6 inches above the top of the pipe.

3.05 Pipe Bedding - Polyethylene and Corrugated Steel

- A. Pipe bedding and cover shall be Class IA or Class IB. If pipe is in groundwater, use Class IB.
- B. Place bedding material below and around pipe to the spring line to provide side support and to prevent lateral and vertical movement of the pipe. Place Class IA and Class IB material in 6-inch maximum layers. Work the material in and around the pipe by hand to provide uniform support.
- C. Place cover material to a level 12 inches above the top of the pipe. Place Class IA and Class IB material in maximum 6-inch layers. Class IA material shall be worked by hand. Class IB material shall be compacted using hand tampers or vibratory compactors. Each stage shall be compacted by hand or mechanical tamping to the percent of the maximum dry density in accordance with

ASTM D698 indicated below:

Material	Density
Class IA	None
Class IB	85%

- D. Do not use a hydrohammer with less than 4 feet of cover over the pipe.

3.06 Backfilling

- A. Backfill in accordance with the Section 31 23 33.

3.07 Manhole and Inlet Construction

- A. Cast-In-Place: Cast-in-place manholes and inlets shall be constructed as shown on the Drawings. If cast-in-place manholes are not shown and the Contractor desires to provide them in lieu of precast concrete, Shop Drawings prepared by a qualified Engineer must be submitted for approval.
- B. Construction
1. Provide two to four inches of precast adjusting rings unless otherwise indicated.
 2. Manholes that are constructed when temperature is below 35°F shall be protected from freezing.
 3. Limit the manhole excavation to the size required to install the manhole. Provide bracing and sheathing as necessary.
 4. Provide six inches of crushed stone under the manhole base.
 5. Inverts shall be the same size as the diameter of the largest adjoining pipe. Shape inverts in accordance with the Standard Drawings. Provide a smooth finish.
 6. Provide tongue and groove joints sealed with butyl rubber rope for reinforced concrete barrel sections.
 7. Construct cast-in-place structures in accordance with ACI 304 and ACI 347.
 8. Frames and Covers: Provide frames and covers in the size and type indicated on the Drawings. Set rims of manholes and inlets at finish grade elevation. In paved areas set the rims one-half inch below the pavement surface. Set the rim to match the slope of adjacent paving. Perform final rim adjustment after base course has been placed.
 9. Frame/Adjusting Ring Joints: Provide a mortar joint for manholes and field inlets. Dry stack adjusting rings on curb inlets and mortar casting to top ring at time of curb construction.
 10. Provide steps for manholes and circular inlets that are 4-feet or more in depth and 4-feet in diameter and larger. Place steps in vertical alignment, equally spaced at 16" on-center with top step not more than 24 inches from top of casting.

3.08 End Sections

- A. Provide flared end sections on all inlet and outlet ends of storm sewer that do not terminate within a manhole or inlet. Provide prefabricated grates on all end sections for pipes larger than 12-inch diameter. Provide riprap at discharge end as indicated on the drawings.

3.09 Separation from Water Main

- A. Storm sewer mains shall be placed at least 8 feet horizontally (center to center) from any existing or proposed water main. If, due to ledge rock conditions or physical barriers, the Engineer determines that the 8-foot horizontal separation cannot be maintained. The horizontal separation may be reduced to a minimum of 3 feet if the bottom of the water main is at least 18" above the top of the sewer.
- B. The vertical separation for storm sewer mains crossing under water mains shall be such that the elevation from the top of the sewer to the bottom of the water main is at least 6". The vertical separation for storm sewer mains crossing over water mains shall be such that the elevation from the bottom of the sewer to the top of the water main is at least 18".
- C. If an existing water main is encountered while laying the storm sewer and it is impossible to obtain the proper vertical separation, immediately inform the Engineer. Reconstruct the water main for a minimum distance of 8 feet on either side of the storm sewer to permit centering one full length of water main over the storm sewer.

3.10 As-Built Measurements

- A. Provide as-built measurements clearly marked on a clean copy of the Contract Drawings. Tie location of bends and all connections not terminating with a manhole or inlet to ground features to clearly locate the buried construction. As-built measurements are incidental to the Work.

END OF SECTION

CAPITAL CITY TRAIL PAVEMENT RESTORATION DANE COUNTY PARKS

CITY OF FITCHBURG DANE COUNTY, WI

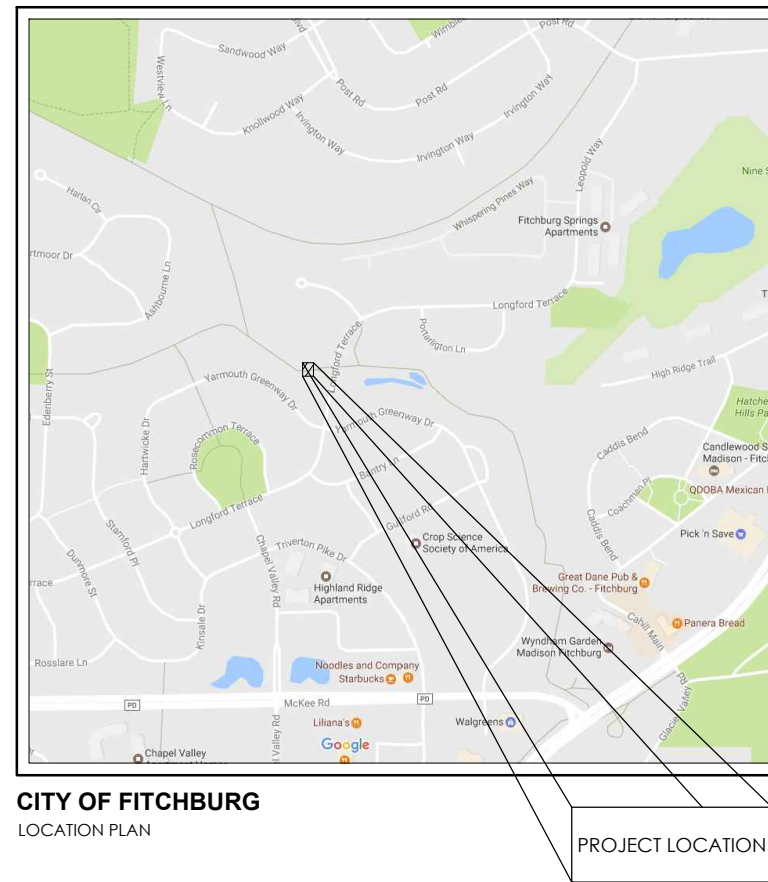
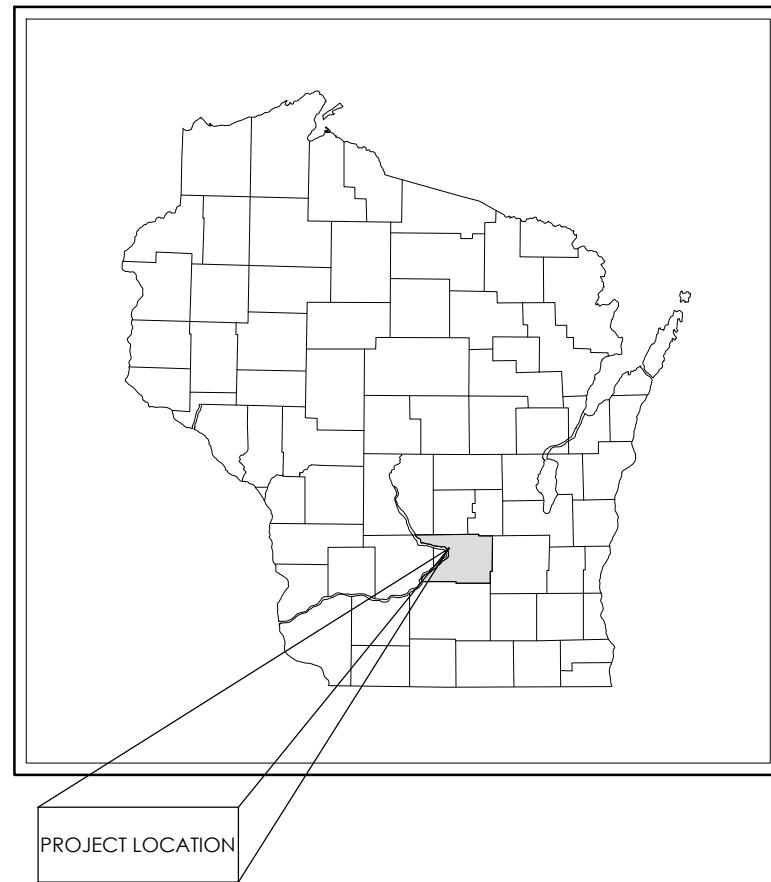



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TITLE PAGE
CAPITAL CITY TRAIL PAVEMENT RESTORATION
DANE COUNTY PARKS
CITY OF FITCHBURG
DANE COUNTY, WI

REVISIONS	NO.	BY	DATE

SCALE	
DRAWN BY	LAL
REVIEWED BY	KDA
ISSUE DATE	JUNE 2017
GEC FILE NO.	2-0517-275
SHEET NO.	G1.0

CONSTRUCTION NOTES

GENERAL

- ALL EXISTING UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED, BY CONTRACTOR, PRIOR TO CONSTRUCTION.
- EXISTING DRIVEWAYS ARE DESIGNATED IN THE FOLLOWING MANNER:
A -- ASPHALT
G -- GRAVEL
C -- CONCRETE
D -- DIRT
- ALL ASPHALT REPAIRS/REPLACEMENT SHALL BE SAWCUT TO MATCH EXISTING PAVEMENT AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

STORM SEWER

- STORM SEWER PIPE LENGTHS ARE SHOWN MEASURED FROM INSIDE OF STRUCTURE TO INSIDE OF STRUCTURE.

GRADING & EROSION CONTROL NOTES

- ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO CONSTRUCTION.
- ADDITIONAL EROSION CONTROL MEASURES MAY BE ADDED ON AN AS-NEEDED BASIS.
- ANY AREAS WHERE GRADING IS COMPLETE SHALL BE STABILIZED WITH FERTILIZER, SEED, & MULCH AS SOON AS POSSIBLE.
- ALL BEST MANAGEMENT PRACTICES WILL BE INSTALLED BY THE TIME THE CONSTRUCTION SITE IS CONSIDERED STABILIZED.
- A COPY OF THIS EROSION CONTROL PLAN SHALL BE KEPT ON SITE THROUGHOUT THE DURATION OF THE PROJECT.
- STOCKPILES LEFT INACTIVE FOR 7 DAYS SHALL BE SEEDED AND SURROUNDED BY SILT FENCE.
- ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, OR OTHER CONSTRUCTION MATERIALS) SHALL BE PROPERLY DISPOSED OF AND NOT ALLOWED TO BE CARRIED BY RUNOFF INTO RECEIVING CHANNEL.
- EROSION CONTROL MAT CLASS I, TYPE A WILL BE USED IN ALL AREAS.
- ALL DEWATERING PERMITTING, IF REQUIRED, IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE IN ACCORDANCE WITH DNR TECHNICAL STANDARD 1061.
- WHEN WORKING WITHIN 50' OF THE WETLAND, SPECIAL CARE NEEDS TO BE TAKEN AS TO NOT DISTURB ANY WETLAND FEATURES.
- STREETS SHALL BE SWEEPED AT THE END OF EACH WORK DAY OR AS DIRECTED BY THE MUNICIPALITY.
- TRACKING PADS SHALL BE USED AT THE CONSTRUCTION ENTRANCE AND EXITS.
- ALTHOUGH ROCK CONSTRUCTION TRACKING PADS MAY NOT BE SHOWN ON THE PLANS, THE CONTRACTOR SHALL INSTALL THEM AS NECESSARY OR AS DIRECTED BY THE ENGINEER TO MINIMIZE TRACKING ONTO ADJACENT STREETS. THESE PADS ARE CONSIDERED INCIDENTAL TO THE WORK AND WILL NOT BE MEASURED OR PAID FOR SEPARATELY.
- CONTRACTOR WILL BE RESPONSIBLE FOR ALL DUST CONTROL.
- ALL BANK AREAS DISTURBED SHALL BE STABILIZED WITH EROSION CONTROL MAT IMMEDIATELY.
- ALL FILL PLACED UNDER PAVED AREAS SHALL BE STRUCTURALLY SOUND.
- SEDIMENT WILL BE REMOVED FROM BEHIND SEDIMENT FENCES AND BARRIERS BEFORE IT REACHES A DEPTH THAT IS EQUAL TO HALF THE BARRIER'S HEIGHT.
- BREAKS AND GAPS IN SEDIMENT FENCES AND BARRIERS WILL BE REPAIRED IMMEDIATELY. DECOMPOSING STRAW BALES WILL BE REPLACED (TYPICAL BALE LIFE IS THREE MONTHS).
- ALL SEDIMENT THAT MOVES OFF-SITE DUE TO CONSTRUCTION ACTIVITY OR STORM EVENTS WILL BE CLEANED UP BEFORE THE END OF THE SAME WORKDAY.
- ALL INSTALLED EROSION CONTROL PRACTICES WILL BE MAINTAINED UNTIL THE DISTURBED AREAS THEY PROTECT ARE STABILIZED.
- ALL EROSION CONTROL MAT SHALL BE INSTALLED WITHIN 24 HOURS OF FINAL GRADES BEING ESTABLISHED.

EXISTING LINETYPES LEGEND

- San SANITARY SEWER
- ST STORM SEWER
- WM WATER MAIN
- FM FORCE MAIN
- E ELECTRIC
- OE OVERHEAD ELECTRIC
- G GAS
- FO FIBER OPTIC
- T TELEPHONE
- TV TV
- X X FENCE
- o o GUARD RAIL
- GL GL GRADING LIMITS
- SF SF SILT FENCE
- DB DB DOUBLE SEDIMENT BARRIER
- ||||| TRAIN TRACKS
- ~~~~~ TREELINE

ABBREVIATION LIST

- B-B = BACK TO BACK
- BOC = BACK OF CURB
- BOP = BOTTOM OF PIPE
- BOW = BOTTOM OF WALL
- C-C = CENTER TO CENTER
- CL = CENTERLINE
- CP = CONTROL POINT
- DIA = DIAMETER
- ELEV = ELEVATION
- EOG = EDGE OF GRAVEL
- EOP = EDGE OF PAVEMENT
- EX = EXISTING
- FL = FLOW LINE
- FM = FORCE MAIN
- HC = HORIZONTAL CURVE
- HP = HIGH POINT
- IE = INVERT ELEVATION
- INL = INLET
- INV = INVERT
- IOS = INSIDE OF STRUCTURE
- L = LENGTH
- LN = LINE
- LP = LOW POINT
- MH = MANHOLE
- MIN = MINIMUM
- MP = MIDPOINT
- PC = POINT OF CURVE
- PI = POINT OF INTERSECTION
- PRO = PROPOSED
- PT = POINT OF TANGENT
- PVC = POINT OF VERTICAL CURVE
- PVI = POINT OF VERTICAL INTERSECTION
- PVMT = PAVEMENT
- PVT = POINT OF VERTICAL TANGENT
- R = RADIUS
- ROW = RIGHT OF WAY
- S = SANITARY SEWER SERVICE LATERAL
- SAN = SANITARY SEWER
- SE = SPOT ELEVATION
- ST = STORM SEWER
- STA = STATION
- STD = STANDARD
- TC = TOP OF CURB
- TOP = TOP OF PIPE
- TOW = TOP OF WALL
- TYP = TYPICAL
- UOS = UNLESS OTHERWISE SPECIFIED
- VC = VERTICAL CURVE
- W = WATER MAIN SERVICE LATERAL
- WM = WATER MAIN

SYMBOLS LEGEND

- EXISTING MANHOLE
- PROPOSED MANHOLE
- EXISTING HYDRANT
- PROPOSED HYDRANT
- ⊗ VALVE
- ⊕ CURB STOP
- ⊠ TRACER WIRE TERMINAL BOX
- △ WELL
- PROPERTY CORNER
- LIGHT POLE
- POWER / TELEPHONE POLE
- GUY WIRE
- UTILITY PEDESTAL
- SIGN
- ⊠ SOIL BORING
- ⊠ MONITORING WELL
- ⊠ MAILBOX
- ⚠ POTENTIAL HAZARD
- ⊙ BENCHMARK
- ⊙ GEC-CP # CONTROL POINT
- ⊙ DECIDUOUS TREE
- ⊙ CONIFEROUS TREE
- ♿ HANDICAP SYMBOL

DIGGERS HOTLINE NOTE

Member
Quality System International

To Obtain Location of Participants Underground Facilities Before You Dig in Wisconsin

CALL DIGGERS HOTLINE
1-800-242-8511

Wis Statute 182.0175 (1974)
Requires Min. 3 Work Days
Notice Before You Excavate

OWNER

DANE COUNTY PARKS
5201 FER-OAK DR.
MADISON, WI 53718
PHONE: (608)224-3730

PURCHASE # 20171369-00

UTILITIES

- ELECTRIC**
MADISON GAS & ELECTRIC
133 S. BLAIR ST.
MADISON, WI 53703
PHONE: (608) 252-5618
- TELEPHONE**
AT & T - TDS TELECOM
PHONE: (608) 252-2432
- GAS**
MADISON GAS & ELECTRIC
133 S. BLAIR ST.
MADISON, WI 53703
PHONE: (608) 252-5618
- CABLE TV**
CHARTER COMMUNICATIONS
2701 DANIELS ST.
MADISON, WI 53718
PHONE: (608) 209-3203
- WATER**
FITCHBURG WATER & UTILITIES
5520 LACY RD.
FITCHBURG, WI 53711
PHONE: (608) 270-4200
- MUNICIPALITY**
CITY OF FITCHBURG
5520 LACY RD.
FITCHBURG, WI 53711
PHONE: (608) 270-4200



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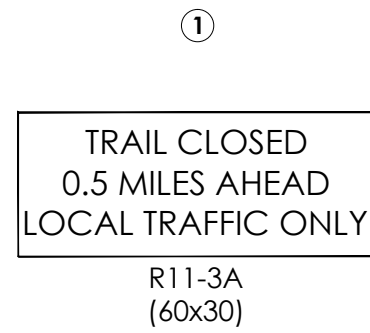
LEGEND & NOTES
CAPITAL CITY TRAIL PAVEMENT RESTORATION
DANE COUNTY PARKS

CITY OF FITCHBURG
DANE COUNTY, WI

REVISIONS	NO.	BY	DATE

SCALE

DRAWN BY	LAL
REVIEWED BY	KDA
ISSUE DATE	JUNE 2017
GEC FILE NO.	2-0517-275
SHEET NO.	

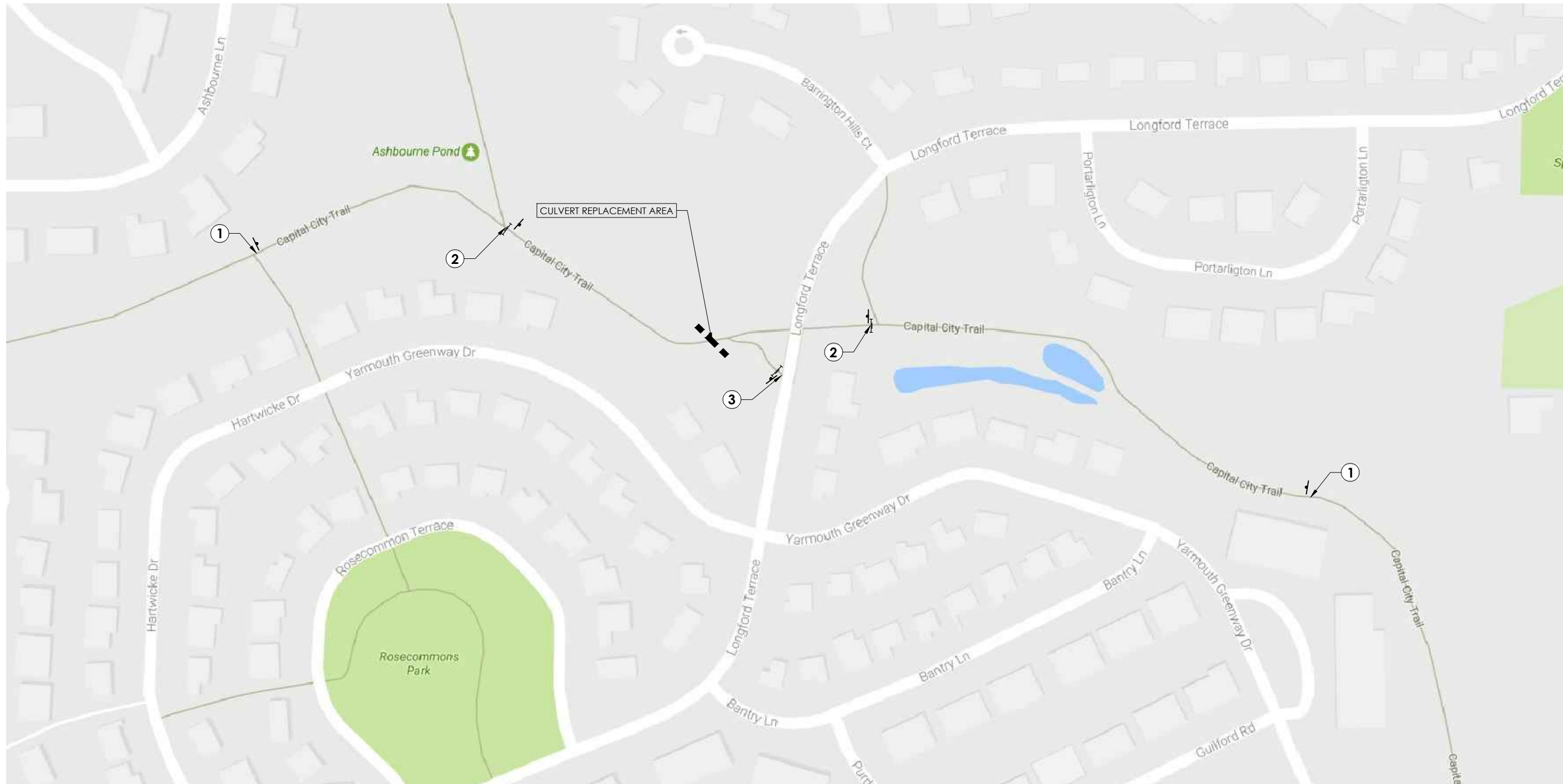


TRAFFIC CONTROL GENERAL NOTES:

1. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
2. SIGN LOCATIONS MAY BE ADJUSTED IN THE FIELD AS APPROVED BY THE ENGINEER, ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS WORK SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.
3. COVER WOOD SIGNS WITH CARDBOARD WHEN NOT IN USE, NAIL WITH LATHE. NO CARDBOARD SHALL SHOW ADVERTISING.
4. ALL ADVANCED WARNING SIGNS SHALL USE FLUORESCENT DIAMOND GRADE SHEETING.
5. CONTRACTOR HAS OPTION OF USING EXISTING POWER POLES, LIGHT POLES, SIGN POSTS, STOP LIGHT POLES, ETC. TO INSTALL TRAFFIC CONTROL SIGNS AS APPROVED BY THE ENGINEER OR THE OWNER.
6. TRAFFIC CONTROL SIGNS SHALL COMPLY WITH MUTCD SPECIFICATIONS.
7. ALL ACCESS, PARKING AND STAGING AREAS SHALL BE APPROVED BY THE OWNER.

MAP LEGEND

- SIGN
- ① SIGN ID NUMBER
- TYPE III BARRICADE w/LIGHTS AND SIGN



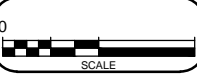
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TRAFFIC CONTROL PLAN
CAPITAL CITY TRAIL PAVEMENT RESTORATION
DANE COUNTY PARKS

CITY OF FITCHBURG
 DANE COUNTY, WI

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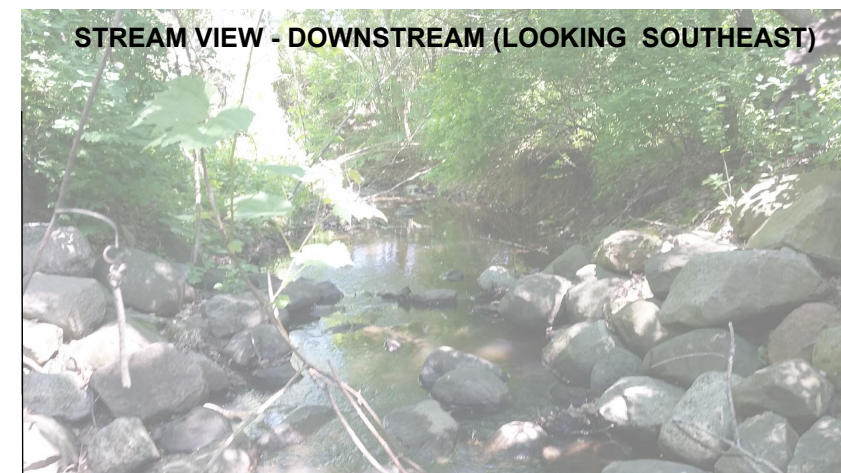


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G2.0

BENCHMARK TABLE

BENCHMARK	DESCRIPTION	ELEVATION
CP #1	TOP OF EXISTING 60" RCP PIPE	917.34'



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EXISTING SITE PLAN
CAPITAL CITY TRAIL PAVEMENT RESTORATION
DANE COUNTY PARKS

CITY OF FITCHBURG
DANE COUNTY, WI

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C1.0

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National
Utility System Contractors

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CALL DIGGERS HOTLINE
1-800-242-8511

Wis Statute 182.0175 (1974)
Requires Min. 3 Work Days
Notice Before You Excavate

- NOTES:
1. ALL EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
 2. ALL GENERAL NOTES FOUND ON SHEET G1.1.



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PLAN AND PROFILE
CAPITAL CITY TRAIL PAVEMENT RESTORATION
DANE COUNTY PARKS

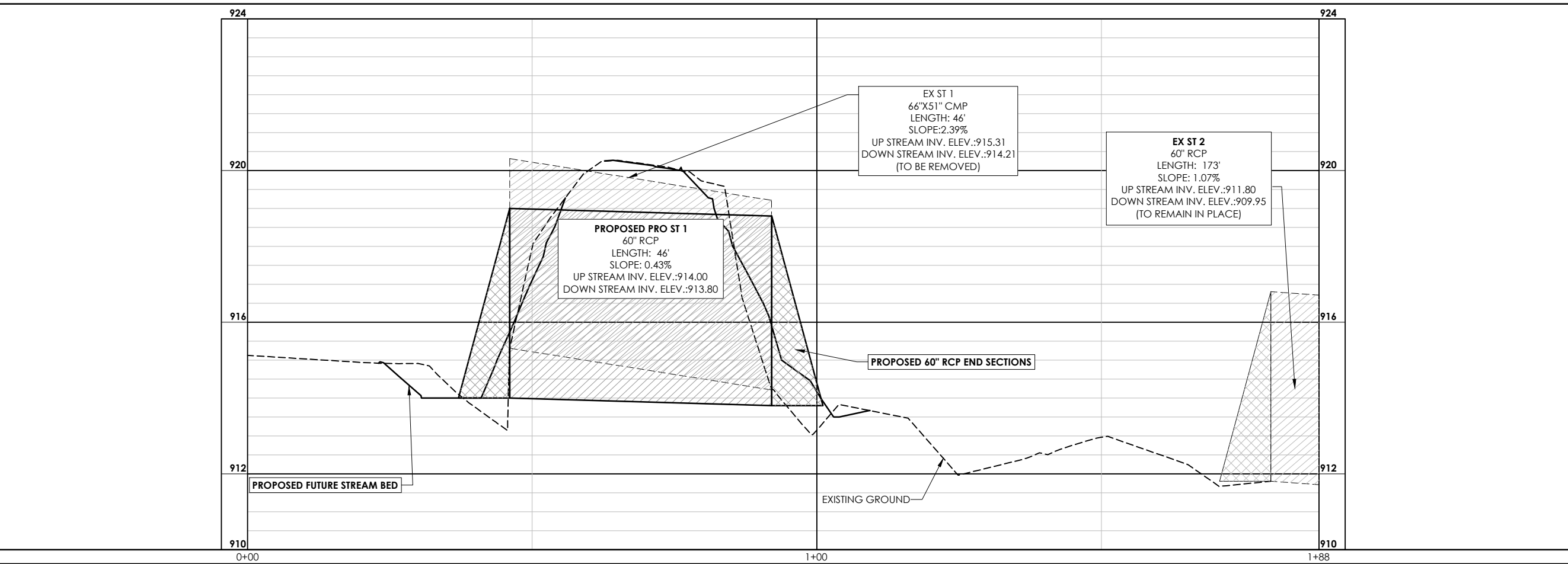
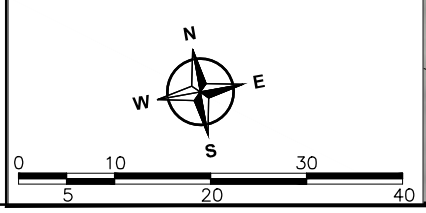
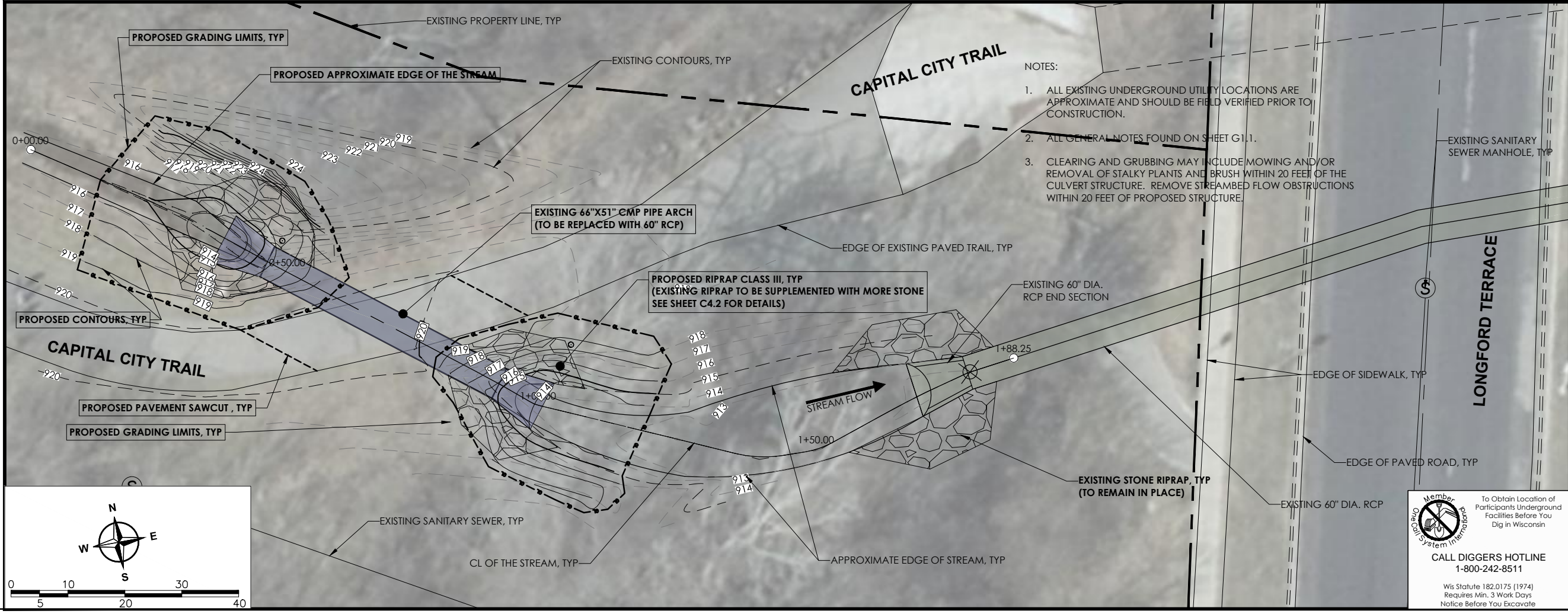
CITY OF FITCHBURG
DANE COUNTY, WI

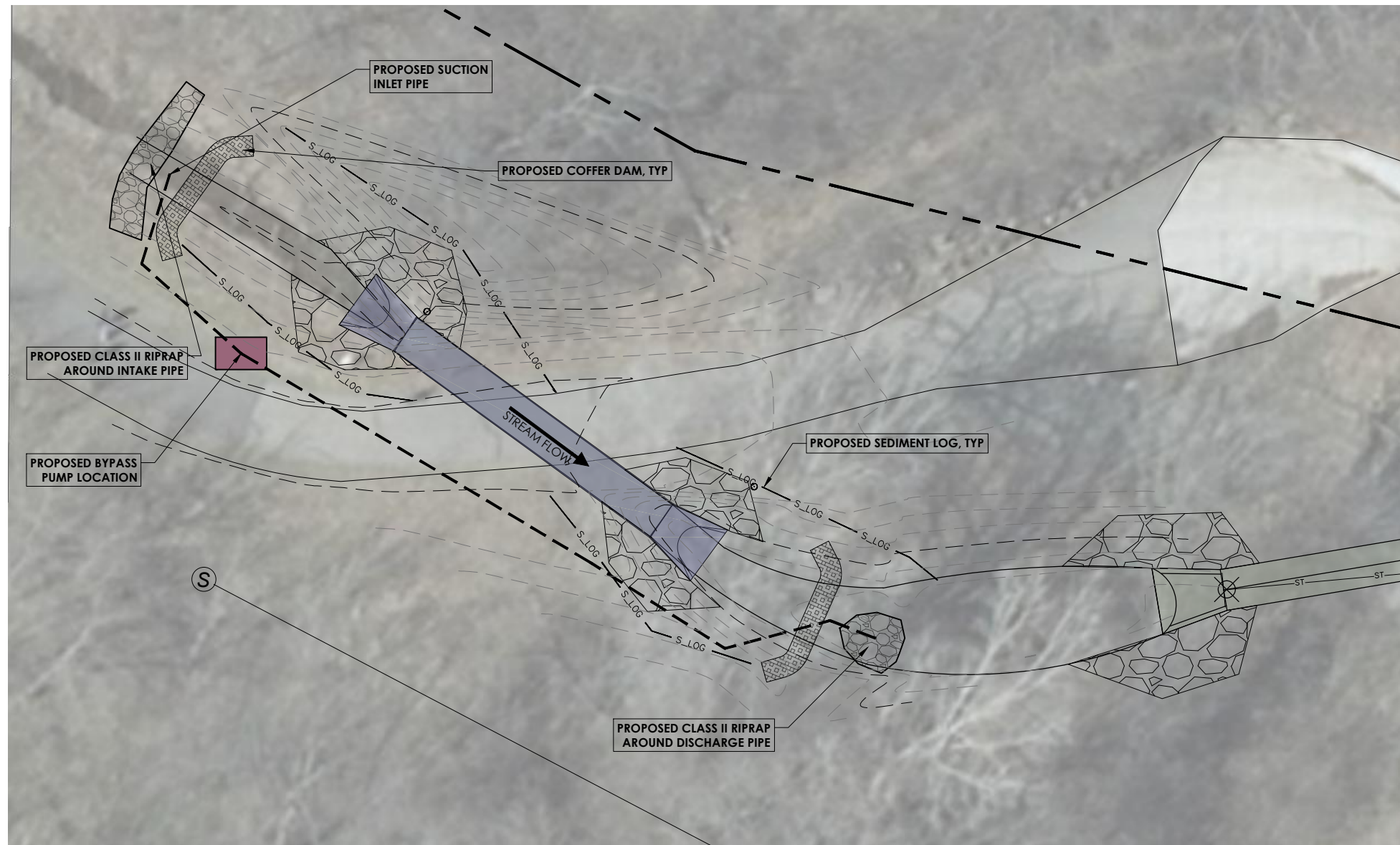
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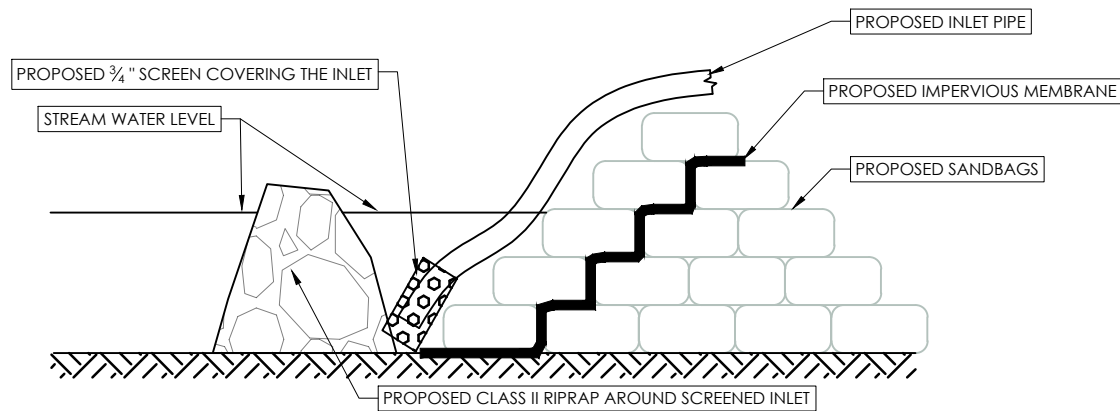
C2.0





NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR CONVEYING THE BASEFLOW DISCHARGE THROUGH THE SITE FROM STREAM TO THE CHANNEL DOWNSTREAM AT ALL TIMES DURING CONSTRUCTION, INCLUDING DURING REMOVAL AND REPLACEMENT OF THE EXISTING STRUCTURE, COFFERDAM CONSTRUCTION AND DEWATERING ACTIVITIES.
2. THE CONTRACTOR SHALL DETERMINE THAT THE CONSTRUCTION OF COFFERDAM IS NECESSARY FOR THE WORK.
3. THE CONTRACTOR SHALL DETERMINE THE NUMBER, PIPE SIZE, LOCATION OF THE EQUIPMENT NEEDED TO BYPASS THE STREAM.
4. THE BYPASSING OF THE STREAM CAN NOT EXCEED MORE THAN 5 WORKING DAYS
5. COFFERDAM SHOULD BE LOCATED APPROXIMATELY 30 FT UPSTREAM.
6. COFFERDAM NEEDS TO BE INSPECTED ON DAILY BASIS.
7. EARTH FILLED SANDBAGS ARE NOT ALLOWED
8. CONSTRUCTION OF THE COFFERDAM SHOULD COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS.
9. COFFER DAMS SHALL BE REMOVED WHEN THE PROJECTS WILL BE COMPLETED AND THE SITE SHALL BE RESTORED TO THE ORIGINAL.



COFFER DAM INSTALLATION WITH INLET PROTECTION DETAIL



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COFFER DAM DETAIL
CAPITAL CITY TRAIL PAVEMENT RESTORATION
DANE COUNTY PARKS

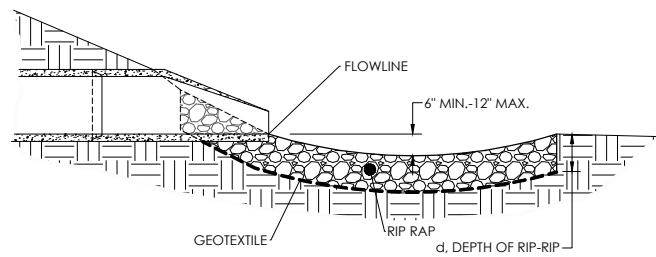
CITY OF FITCHBURG
DANE COUNTY, WI

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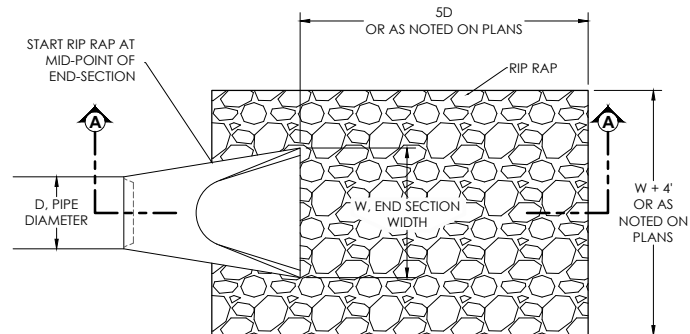
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SECTION A-A

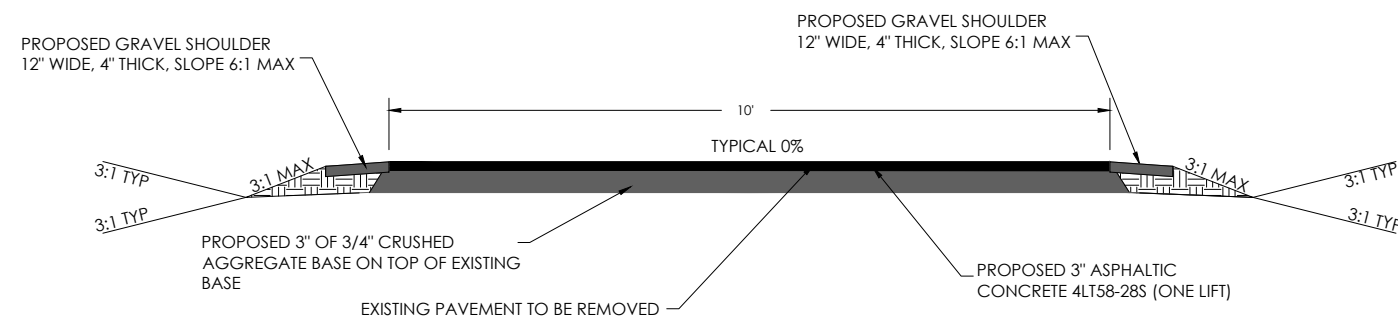
RCP PIPE

RIP RAP CLASS	WIS DOT RIP RAP EQUIVALENT	d. DEPTH
1	--	9"
2	LIGHT	18"
3	HEAVY	27"
4	EXTRA HEAVY	36"

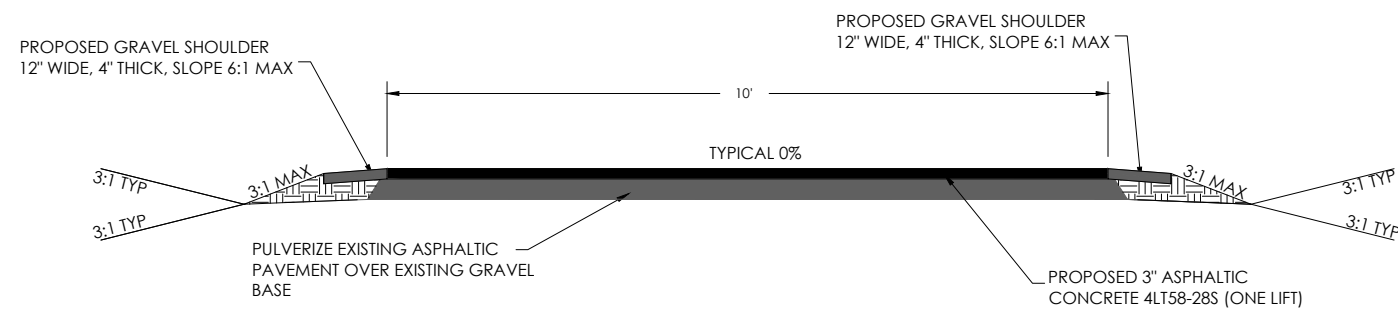


PLAN VIEW

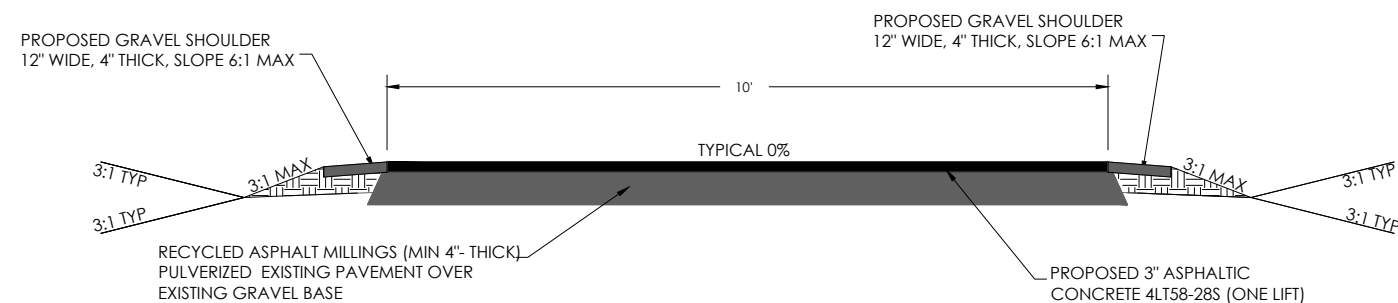
RIP RAP AT PIPE DISCHARGE



TYPICAL TRAIL CROSS SECTION - PAVEMENT TYPE A



TYPICAL TRAIL CROSS SECTION - PAVEMENT TYPE B



TYPICAL TRAIL CROSS SECTION - PAVEMENT TYPE C

NOTES:

- PAVEMENT SURFACE WILL BE REMOVED AND REPLACED 25 FEET FROM EITHER SIDE OF ABUTTING CONCRETE STRUCTURES (BRIDGE BOX CULVERTS) OR ADJACENT CONCRETE REST AREAS TO MATCH EXISTING GRADE AND PROVIDE A SMOOTH TRANSITION.
- THE PREFERRED WINDOW FOR CONSTRUCTION EQUIPMENT ALONG TRAIL IS 12 FEET WIDE AND 12 FEET HIGH.
- MINOR TREE TRIMMING WILL BE REQUIRED IN AREAS ALONG THE TRAIL TO ALLOW FOR CONSTRUCTION EQUIPMENT.
- THE OWNER IS LOOKING TO PHASE THE TRAIL CONSTRUCTION INTO SEGMENTS.
 - THE EASTERN SEGMENTS WOULD BE DIVIDED INTO 4 SECTIONS: NOB HILL TO SOUTH TOWNE RD; SOUTH TOWNE RD TO MOORLAND DR; MOORLAND DR TO LAKE FARM RD; LAKE FARM RD TO CLAYTON RD.
 - THE WESTERN SEGMENT WOULD BE DIVIDED INTO 2 SECTIONS: LONGFORD TERRACE TO EDENBERRY ST; EDENBERRY ST TO SEMINOLE HWY.
 - THE CONTRACTOR SHALL COORDINATE EXACT PHASING WITH THE OWNER.

TYPICAL TRAIL - PAVEMENT TYPE A

- REMOVE PAVEMENT, ADD TO EXISTING BASE, GRADE, PAVE AND SHOULDER.

- THIS WOULD BE DONE IN AREAS WHERE TREE ROOTS IMPACT MAY BE SEVERE AND ADJACENT TO STRUCTURES SUCH AS BOX CULVERT CROSSING AND REST AREAS.

TYPICAL TRAIL - PAVEMENT TYPE B

- PULVERIZE PAVEMENT, GRADE, PAVE AND SHOULDER.

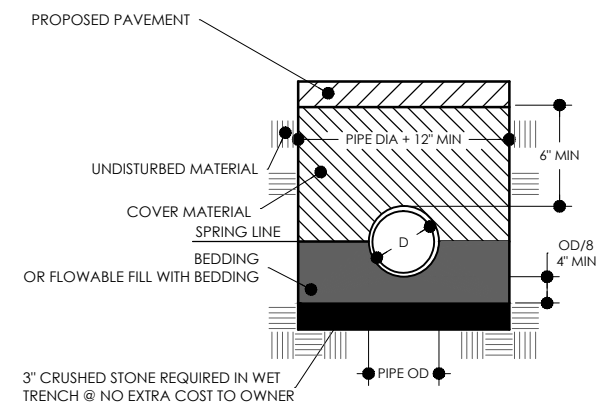
- THIS WOULD BE DONE IN AREAS WHERE THE EXISTING BASE IS SOUND, BUT THE PAVEMENT IS SHOWING SHRINKAGE OR EDGE CRACKING. THIS OPTION IS PREFERRED OVER TYPE A, BECAUSE IT REQUIRES LESS LOADED TRAFFIC ON THE PATH, WHICH REDUCES THE NEED FOR FULL DEPTH RECONSTRUCTION AND UNDERCUTTING.

TYPICAL TRAIL - PAVEMENT TYPE C

- ADDITION OF MINIMUM OF 4" OF RECYCLED ASPHALT MILLINGS, PULVERIZE MILLINGS AND PAVEMENT, GRADE, PAVE AND SHOULDER.

- THIS WOULD BE DONE IN AREAS WHERE THE EXISTING BASE IS QUESTIONABLE AND THE PAVEMENT IS SHOWING DEFORMATION. THIS OPTION IS PREFERRED OVER TYPE B, BECAUSE IT REQUIRES LESS LOADED TRAFFIC ON THE PATH, WHICH REDUCES THE NEED FOR FULL DEPTH RECONSTRUCTION AND UNDERCUTTING. DUE TO THE INCREASED PROFILE ELEVATION, SURROUNDING SLOPES AND GRADES NEED TO BE ASSESSED TO ENSURE DRAINAGE.

TRAIL CONSTRUCTION TECHNIQUES NOTES



BEDDING AND COVER MATERIAL:

CLASS IA: CLEAN, ANGULAR CRUSHED STONE, CRUSHED ROCK, OR CRUSHED GRAVEL CONFORMING TO THE FOLLOWING GRADATION:

SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90-100
3/8"	20-55
NO. 4	0-10
NO. 8	0-5

CLASS IB: CLEAN, ANGULAR CRUSHED STONE, CRUSHED ROCK, OR CRUSHED GRAVEL CONFORMING TO THE FOLLOWING GRADATION:

SIEVE SIZE	% PASSING BY WEIGHT
1/2"	100
3/8"	85-100
NO. 4	10-30
NO. 200	0-5

CLASS II: CLEAN COARSE-GRAINED SOILS CLASSIFIED IN ASTM D2487 AS GW, GP, SW, SP.
CLASS III: COARSE-GRAINED SOILS WITH FINES CLASSIFIED IN ASTM D2487 AS GM, GC, SM, SC.

INSTALLATION:

PLACE 4" OF BEDDING MATERIAL BENEATH PIPE. PLACE BEDDING MATERIAL AROUND THE PIPE TO THE SPRING LINE. WORK THE MATERIAL IN AND AROUND THE PIPE BY HAND TO PROVIDE UNIFORM SUPPORT. PLACE COVER MATERIAL CAREFULLY TO A LEVEL 6" ABOVE THE PIPE.

PIPE BEDDING (RCP)



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CONSTRUCTION DETAILS
CAPITAL CITY TRAIL PAVEMENT RESTORATION
DANE COUNTY PARKS

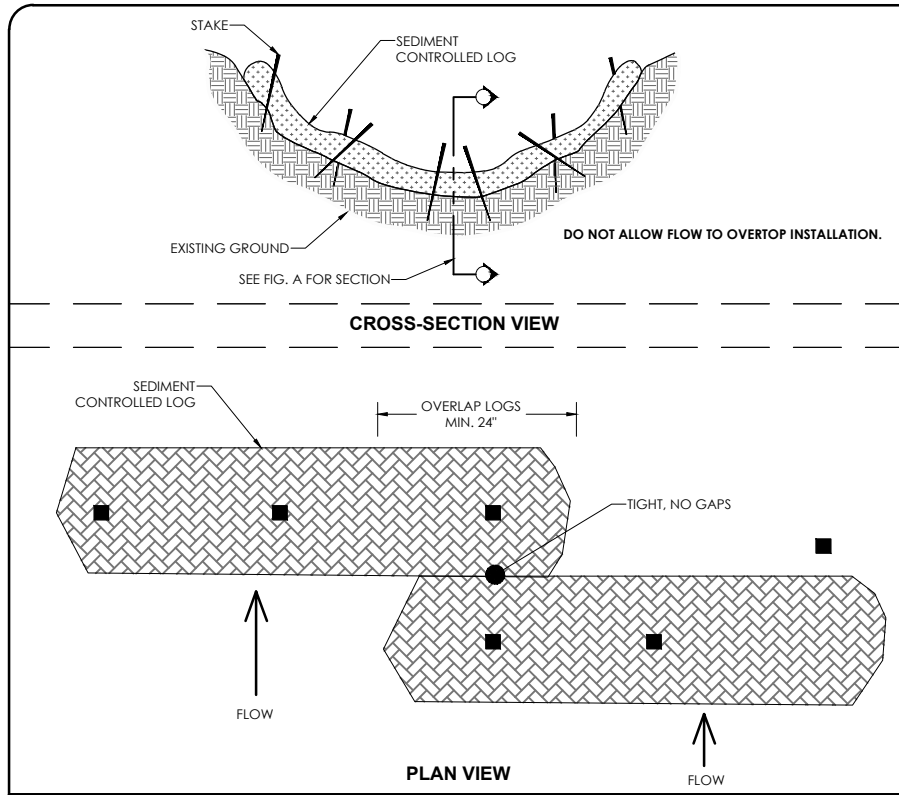
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DANE COUNTY, WI

NO.	DATE	BY

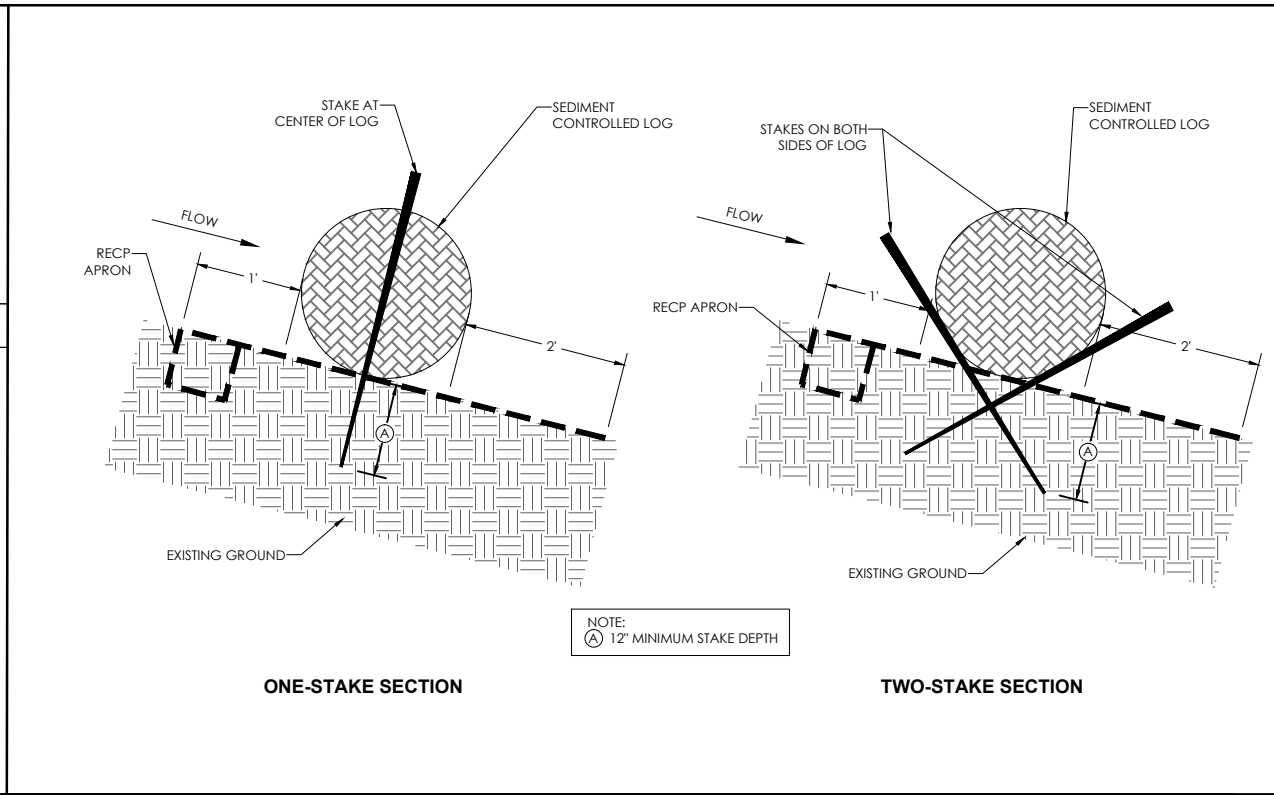


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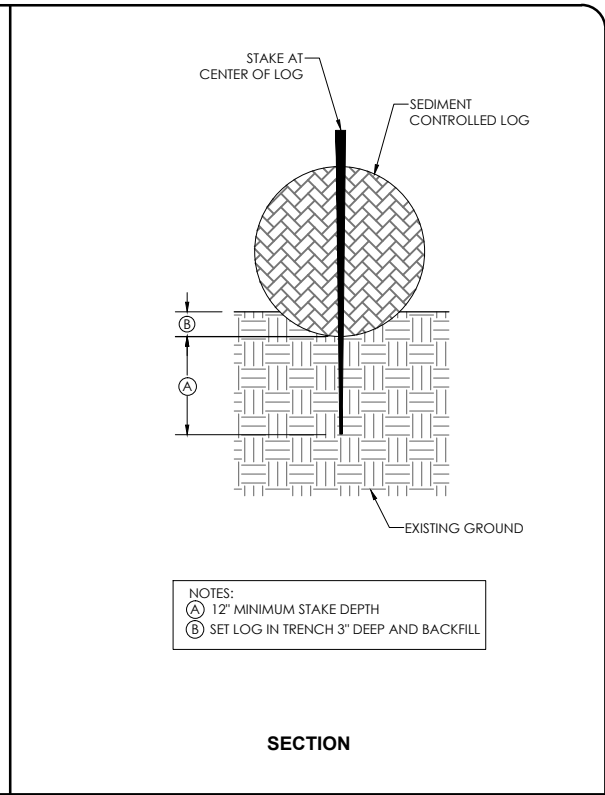
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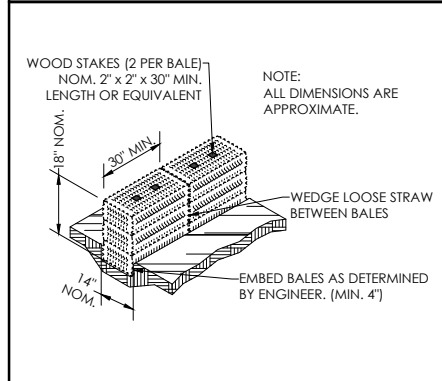
LOG OVERLAP DETAIL



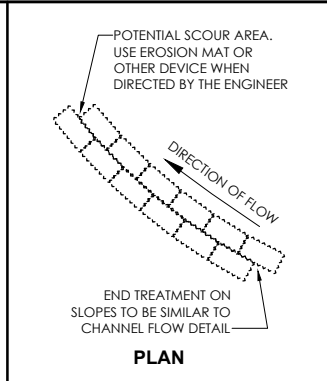
SLOPE/CHANNEL INSTALLATION (FIG. A)



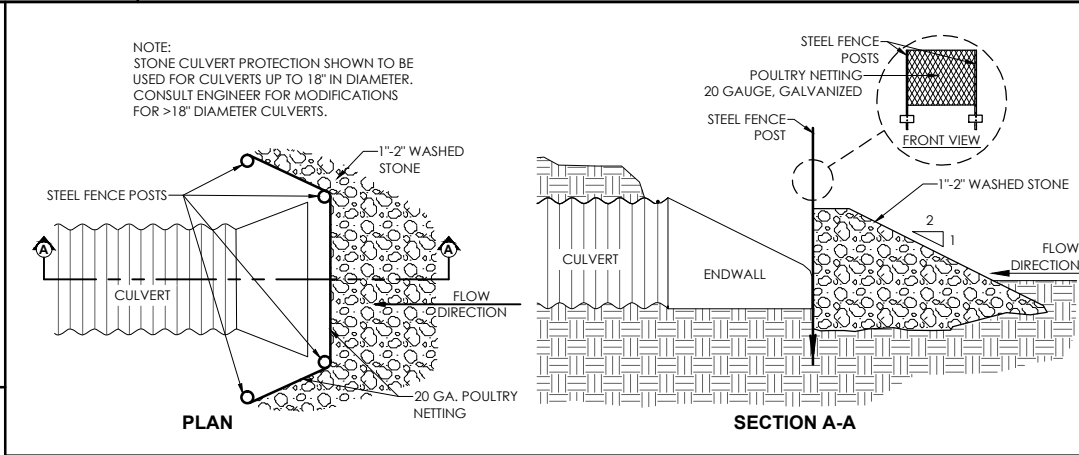
FLAT GROUND INSTALLATION (FIG. B)



EROSION BALE INSTALLATION



EROSION BALE FOR ALTERING FLOW DIRECTION



STONE CULVERT PROTECTION

INSTALLATION INSTRUCTIONS - LOGS AND WATTLES:

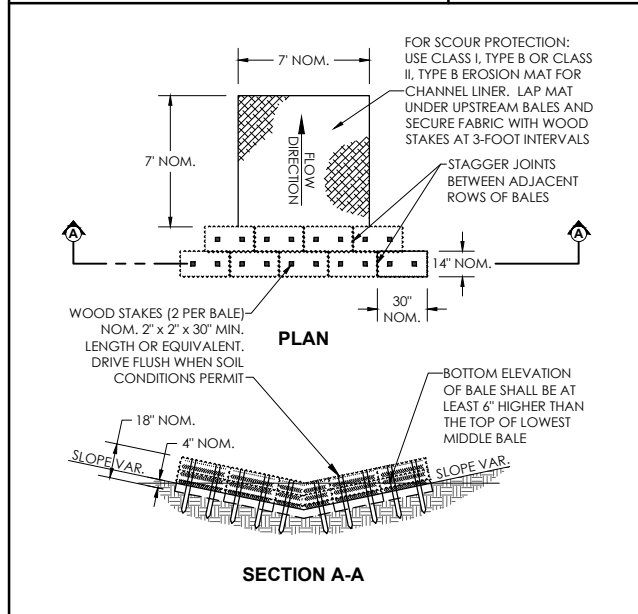
STEP 1 - SITE PREPARATION
PREPARE SITE TO DESIGN PROFILE AND GRADE. REMOVE DEBRIS, ROCKS, CLODS, ETC. GROUND SURFACE SHOULD BE SMOOTH PRIOR TO INSTALLATION TO ENSURE LOG REMAINS IN CONTACT WITH SLOPE.

STEP 2 - STAPLE SELECTION
AT A MINIMUM, 1" LONG BY 1" BY 24", STAKES ARE TO BE USED TO SECURE THE LOG TO THE GROUND SURFACE. INSTALLATION IN ROCKY, SANDY OR OTHER LOOSE SOIL MAY REQUIRE LONGER STAKES.

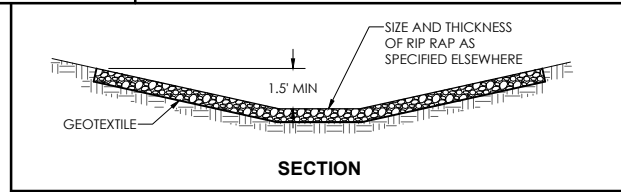
SLOPE INSTALLATION
PLACE RECP ALONG SLOPE TO PROVIDE UPSTREAM APRON FOR LOG. SECURE RECP ACCORDING TO STANDARD SLOPE INSTALLATION INSTRUCTIONS INCLUDING UPSTREAM ANCHOR TRENCH. SECURE LOG TO BLANKET, ENSURING LOG REMAINS IN INTIMATE CONTACT WITH THE RECP OVER THE LENGTH OF THE INSTALLATION. A MINIMUM ONE FOOT UPSTREAM APRON AND TWO FOOT DOWNSTREAM APRON ARE REQUIRED FOR INSTALLATION. SUBSEQUENT, DOWNSLOPE ROWS OF LOGS SHOULD BE SPACED APPROPRIATELY FOR SITE CONDITIONS TO MINIMIZE ACCELERATION OF FLOW. FURTHER, LOG SEAMS ARE TO BE OFFSET TO ENSURE CONTINUOUS FILTRATION. FIGURE A PRESENTS A SCHEMATIC OF A SLOPE INSTALLATION IN PROFILE VIEW.

CHANNEL INSTALLATION
PLACE RECP ALONG CHANNEL TO PROVIDE UPSTREAM AND DOWNSTREAM APRON FOR LOG IDENTICALLY TO SLOPE INSTALLATION. SECURE LOG TO BLANKET, ENSURING LOG REMAINS IN INTIMATE CONTACT WITH THE RECP OVER THE LENGTH OF THE INSTALLATION. A MINIMUM OF ONE FOOT UPSTREAM APRON AND TWO FOOT DOWNSTREAM APRON ARE REQUIRED FOR INSTALLATION. SUBSEQUENT, DOWNSLOPE ROWS OF LOGS SHOULD BE SPACED APPROPRIATELY FOR SITE CONDITIONS TO MINIMIZE ACCELERATION OF FLOW. FURTHER, LOG SEAMS ARE TO BE OFFSET TO ENSURE CONTINUOUS FILTRATION. FIGURE A AND FIGURE C PRESENT A SCHEMATIC OF A CHANNEL INSTALLATION.

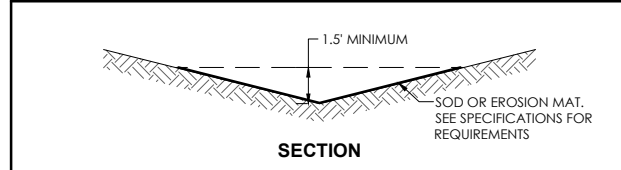
DRAIN FILTER INSTALLATION
SURROUND DRAIN INLET TO BE PROTECTED WITH LOG, ENSURING SEAMS ARE OVERLAPPING TO MINIMIZE FLOW CIRCUMVENTING LOG. SECURE LOGS TO GROUND SURFACE ENSURING THE LOG REMAINS IN INTIMATE CONTACT WITH THE GROUND SURFACE OVER THE ENTIRE INSTALLATION. PROVIDE RECP APRON SECURED TO THE GROUND SURFACE BETWEEN DRAIN AND LOG.



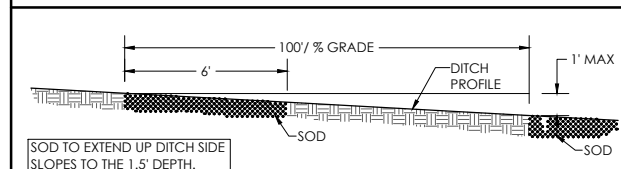
EROSION BALE FOR CHANNEL FLOW



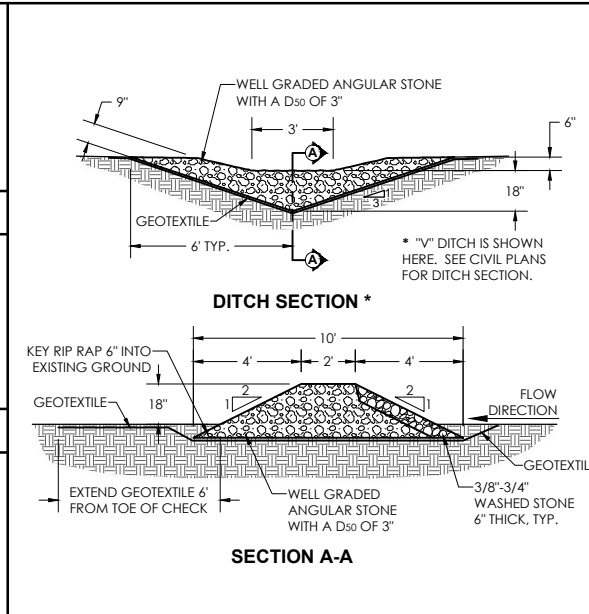
TYPICAL RIP RAP IN DITCH



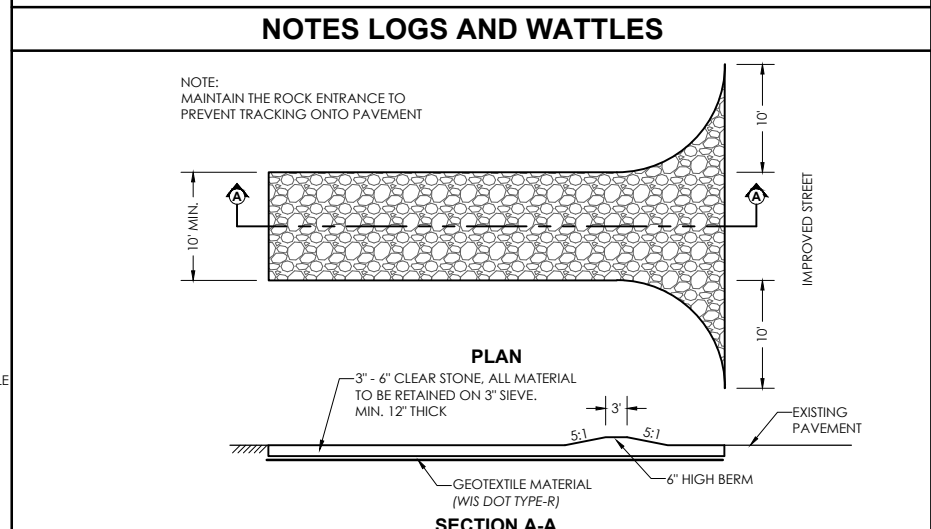
DITCH EROSION CONTROL



SOD DITCH CHECKS

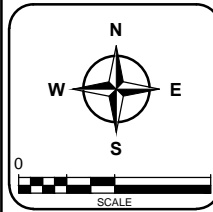


STONE DITCH CHECK



ROCK CONSTRUCTION ENTRANCE

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