PROJECT MANUAL

CITY OF MEQUON

MEQUON – THIENSVILLE COMMUNITY PROMENADE

JANUARY 1, 2019
PROJECT NO. 2018.08
PROJECT MANUAL

FOR

CITY OF MEQUON

MEQUON – THIENSVILLE COMMUNITY PROMENADE

I hereby certify that this plan and specification was prepared by me or under my direct supervision, and that I am a duly registered Professional Engineer/Architect under the laws of the State of Wisconsin.

_________________________________________
Name/Title

Date: ____________________ Reg. No.
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NOTICE TO BIDDERS

OWNER: The City of Mequon, Wisconsin, by the undersigned Director of Community Development, will receive Bids for the Mequon-Thiensville - Community Promenade as follows:

Project Description At its core this project is a park pavilion used as a marker of entry to the Mequon Thiensville Business District. It is an open-air circular steel structure nestled into the natural landscape. The walkway is a combination of concrete and an elevated wood walkway. The structure is partially clad with wood slat and has a masonry wall that is accented with a series of (2) wall mounted and (1) free standing sign. There is a second level located over approximately half of the structure with an open air stair leading from the upper level down to the main level and then down a hill to grade. The project will require electrical service, but no mechanical, plumbing or fire protection. Part of the project scope includes modifications to the existing sidewalks and select landscaped areas.

PLANNING PROJECT FILE NO. 2018-08
Bids shall be submitted on the forms included in the bidding and contract requirements section of these Contract Documents.

PROJECT MANUAL: Project manuals will be available after 12:00 noon on December 27, 2018. Project manuals including contract documents, bidding documents, plans, and specifications may be obtained by contacting Robin Buzzell of the City Community Development office at 262-236-2902 or by email at rbuzzell@ci.mequon.wi.us. Hard copies of the project manual will be available for review and may be purchased for a $25 non-refundable fee at Mequon City Hall, 11333 N Cedarburg Road 60W, Mequon, WI 53092-1930. A $5 shipping and handling charge will apply for hard copy manuals that are mailed.

BIDS: All Bids shall be addressed to Kim Tollefson, Director of Community Development, City of Mequon, 11333 North Cedarburg Road 60W, Mequon, WI 53092, and shall be enclosed with the name and address of the Bidder and the contract for which the Bid is being submitted on the outside of the sealed envelope.

TIME: Sealed Bids will be received until 3:00 P.M. Daylight Standard Time on January 24, 2019, in the Community Development Department at Mequon City Hall, at which time all Bids will be publicly opened and read aloud.

PRE-BID CONFERENCE: A pre-bid conference will be held for all interested bidders at 3:00 P.M. on January 10, 2019 at Mequon City Hall at which time any questions may be answered. Attendance of this meeting is strongly encouraged as the lack of information resulting from failure to attend this meeting does not relieve the bidder of any obligations pertaining to their bid, or to the execution of the contract shall it be awarded to said bidder.

COMPLETION DATE: All work shall be completed by 8 months after the commencement of construction. Failure to meet this deadline will result in the assessment of liquidated damages as specified by the Contract Documents.

QUALIFICATION STATEMENT: In accordance with State Statute 66.0901(2), Bidders shall be required to submit a statement of financial ability, equipment, and experience in the work prescribed. This Pre-Qualification Statement shall be submitted to the office of the Community Development Department no less than five days prior to the opening of bids. Failure to submit a pre-qualification statement at least five days prior to bid opening will result in the rejection of the bid. Pre-Qualification Statement forms can be obtained at the office of the City Engineer. Review of qualification statements will be made by the Engineer prior to award. Those firms whose qualifications are found to be unacceptable shall be disqualified from consideration of award.

BID SECURITY: A certified check, or satisfactory Bid Bond payable to the City of Mequon in the amount of not less than five (5%) percent of the Bid shall accompany each Bid as guarantee that if the Bid is accepted the Bidder will execute and file the Contract Performance Bond and Insurance Certificate as required by this contract within ten (10) calendar days after Notice of Award of the Contract by the City.
BID REJECTION: The City reserves the right to reject any and all Bids, waive any informalities or irregularities in Bidding or accept any Bid or Bids which, in the opinion of the City, shall serve the City’s best interest.

BID WITHDRAWAL: No Bid may be withdrawn for a period of sixty (60) days after the time and date set for the opening thereof, without the consent of the City.

AWARD OF CONTRACT: It is anticipated that authorization to award to the selected qualified, responsive and responsible low bidder will be granted at the February 12, 2019, Common Council meeting. The selected contractor shall, within ten (10) calendar days after notification, provide to the City of Mequon the required contract documents for signature.

Published by authority of the City of Mequon, Wisconsin.
CITY OF MEQUON        Kim Tollefson, Director of Community Development
SECTION 00100

INSTRUCTION TO BIDDERS

DEFINED TERMS
The terms used in these Instructions to Bidders have the meanings assigned to them in the General Conditions. The term "Engineer" is defined as the City or City’s engineer. The term "Bidder" is defined as one who submits a Bid to the City. The term "Successful Bidder" is as defined as the lowest qualified, responsible, and responsive Bidder, to whom the City awards the Contract.

COPIES OF BIDDING DOCUMENTS
The Plans, Specifications, and Contract Documents (PS & CD), which include the Official Notice; Instructions to Bidders; General and Supplementary Conditions; Addenda; Specifications; Plans; Drawings; completed Bonds and Bid Forms of the Successful Bidder; and all Amendments, Modifications, Change Orders, and Supplements issued on or after the Effective Date of the Agreement are on file at Mequon City Hall. Bidders may examine them and/or may obtain complete sets at this office, as stated in the Official Notice. A $25.00 non-refundable fee will be charged.

Each Bidder shall consider the foregoing PS & CD, applying to this work, as a part of every Bid which he submits and shall consider the PS & CD as a part of every Agreement subsequently executed for doing the work referred to herein, as fully as though they had been set forth in the body of the Bid and the Agreement.

QUALIFICATION STATEMENT
In accordance with State Statute 66.0901(2), Bidders shall be required to submit a statement of financial ability, equipment, and experience in the work prescribed. This Pre-Qualification Statement shall be submitted to the office of the Engineer no less than five days prior to the opening of bids. Pre-Qualification Statement forms can be obtained at the office of the Engineer, City Hall, Mequon. Review of qualification statements will be made by the Engineer prior to award. Those firms whose qualifications are found to be unacceptable shall be disqualified from consideration of award.

The Bidder shall also show that he is fully prepared to with the necessary capital to commence the work or furnish the material, without delay, and that he is prepared to complete the work within the time specified in the PS & CD and in accordance with the Agreement.

EXAMINATION OF CONTRACT DOCUMENTS AND THE SITE
Bidders must satisfy themselves, by personal examination of the location of the proposed work, and by such other means as they prefer, as to the character of the work to be done, the accuracy of material quantities, and the intent of the PS & CD. After the submission of the Bid, the City will not entertain any complaint or claim of misunderstanding with regard to the schedule, quantities, or to the nature of the work to be done.

Neither the City, its officers, agents, or employees make any representation as to the existence or nature of surface or subsurface difficulties, obstructions, or obstacles which the Successful Bidder may encounter in the course of completing the work, whether shown on the Plans or not. The Bid price for the work described by the PS & CD must cover satisfactory completion thereof on this condition. In no event shall a Bidder hold the City, its officers, agents, or employees responsible for the accuracy of test borings, if furnished, heretofore or hereafter made or any representations as to the nature of the soil. The results of any borings made by the City are available to Bidders for such information as they may derive therefrom, subject to the condition herein above specified.

Bidders must acquaint themselves, whenever necessary, with the condition of the ground on and through which they are to do the work, to determine whether any excavation may be in rock, hard-pan, quick-sand or soft ground, and the existence and nature of all surface or sub-surface difficulties, obstructions or obstacles, whether or not shown on the plans. Bidders should be
familiar with all of the requirements of the PS & CD for this work, so that they can submit an intelligent bid.

All Bidders are strongly encouraged to visit the construction site so as to acquaint themselves with the scope of work and to perform their own material quantity take-offs. However, trespassing onto private property outside of road right-of-way areas is not allowed. Failure to perform such a site visit does not relieve the bidder from its responsibilities, bid accuracy, knowledge of scope of work, and full compliance with all contract requirements. Should a bidder find a significant (10%) error in the contract quantities, it is incumbent upon them to bring this to the City’s attention prior to bid opening, so appropriate action can be taken. Failure to do so does not obligate the City for any additional cost and expense incurred by the contractor.

**MATERIAL AND EQUIPMENT**

Wherever the contract documents provide only one listed vendor, supplier, or manufacturer for a piece of equipment or material, the contractor shall interpret the meaning to be “or equal.” When the listed vendor, supplier or manufacturer is not the provider of the material and/or equipment bid, it shall be the contractor’s responsibility to provide the owner all forms of documentation required and/or necessary to clearly show that the item bid is equal to the listed item from the suggested/recommended vendor, supplier, or manufacturer. If the contractor fails to provide sufficient documentation to clearly show equivalency, the item shall be supplied by the listed vendor, supplier, or manufacturer.

**BID SIGNATURE**

Bidders must state in their Bids their full name and business address. If an incorporated company, Bidders must list the name of the State which has incorporated the company under its laws. The State of Wisconsin must have licensed this company to do business, prior to award of this Contract for the work described in the PS & CD. The party properly authorized to submit the Bid must sign it. Wisconsin Department of Workforce Development “Disclosure of Ownership” form is included with the bid form and should be included with the bid if required.

If a Bidder does not sign his Bid, the signee must attach a Power of Attorney, evidencing the authority to sign the Bid in the name of the persons for whom he has signed it.

The signee of a Bid for a corporation shall indicate the correct corporate name thereof and shall include the signature of the president or other authorized officer of the corporation, manually written below the corporate name following the word “By    [name, title]    ”. If the signee of such a Bid is other than the President or Vice-President of the corporation, this signee shall attach a certified copy of a resolution of the Board of Directors, evidencing the authority of such official to sign the Bid. Such Bid should also bear the attesting signature of the secretary of the corporation and the impression of the corporate seal.

For Bids of a partnership, all of the partners, or an attorney-in-fact, shall sign the Bid. If signed by an attorney-in-fact, he should attach to the Bid a Power of Attorney, executed by the partners, evidencing authority to sign the Bid.

**BID FORM AND SUBMITTAL**

Each Bidder must seal his Bid in an envelope, upon which he shall plainly state the title of the work for which he submits the Bid. Along with the Bid, the Bidder must submit the cash deposit, Bid bond, or certified check in the amount of 5% of the base bid. The Bidder should deliver or mail the Bid to the Engineer at the City Hall, at or before the time specified in the Official Notice.

The City will only consider Bids which are made out on the regular form furnished with this document and which include a quotation for all required Bid items. When the City does not require a quotation on an item in the schedule of quantities, Bidders should insert the words “No Bid” in the appropriate space provided. Bids must contain a price which is both adequate and reasonable for each and every item named in the schedule of quantities on the Bid form. The City will reject unbalanced Bids. The Bidder shall specify in words and in figures (in case of discrepancy, the written words will govern) the total sum for which he will perform all of the work.
or furnish all of the material specified. All writing shall be done in ink. The City, at its discretion, will compare Bids, in whole or in part, on a unit basis.

The Bidding shall be as set forth on the Bid Form. Each Bid Item shall include all of the Contractor's costs, such as transportation, insurance, bonds, delays, labor, machinery, tools, rigging, brushes, and all materials necessary to repair, clean, and paint as necessary in strict conformity with the requirements of these Specifications.

The schedule of quantities of the work, while the result of careful calculation, are approximate. Bidders shall assume them to be reasonably accurate, and shall use them in calculating the relative amounts of the bid, but they are not the basis for final payment. Each Bidder shall make his own estimate of the quantities and shall calculate his unit prices accordingly. Bidders who rely upon and use these approximate quantities for the calculation of their bid quantities do so at their own risk. The estimated quantities are provided for project scoping purposes.

The Bidder declares: 1) that he will perform all of the work at his own proper cost and expense; 2) that he will furnish all necessary material, labor, tools, machinery, apparatus, and other means of construction in the manner provided and at the time specified in the PS & CD, of which his Bid will become part, if and when accepted; 3) that only the persons, firm, or corporation herein named have an interest in this Bid; and 4) that he submits this Bid without collusion with any person(s) or corporation(s). 5) The submission of a bid acknowledges that the respective bidder recognizes the fact that the contract is a unit price contract and that the prices per item provided in the bid schedule are to be used for bid analysis and to provide a basis for addressing addition or deletion of work as a result of unforeseen conditions. The contract will be awarded on the total bid price on the bid form.

REJECTION OF BIDS
The City Council reserves the right to reject any and all Bids when such rejection is in the best interest of the City; to reject the Bid of a Bidder who has previously failed to perform properly or complete on time, Contracts of a similar nature; and to reject the Bid of a Bidder who is not, in the opinion of the City Council, in a position to perform the work specified.

AWARD
The City shall award the Contract to the lowest responsive responsible Bidder. The City shall mail or deliver a Notice of Award to the Successful Bidder. If low Bids are tied, the City Council will select the Successful Bidder.

The City will require the Successful Bidder to execute and deliver three copies of the Agreement, to which an approved surety or sureties shall, in accordance with the law, become bound to perform or to secure the performance of the Agreement for sums equal to the Agreement prices. The copies of this Agreement will be in the form attached hereto and the successful Bidder shall deliver them to the Engineer, within ten (10) calendar days from the date of notice from said Engineer that the City, Common Council has authorized award of the Contract. In case of failure to perform the above, the City will consider this Successful Bidder to have abandoned his Bid, and to be in default to the City of Mequon in the full amount of the Bid Bond. It is distinctly understood and agreed by the Bidder that the Bid Bond accompanying the Bid represents the liquidated damages which the City will suffer by reason of the Bidder's default in properly executing the Agreement and by the need to furnish sureties after the City has awarded the Contract.

TRAFFIC CONTROL
Unless directed otherwise by the Engineer, all work included in this contract shall be done under traffic. Traffic control is the sole responsibility of the Successful Bidder/Contractor. Traffic control shall meet the requirements of the Manual on Uniform Traffic Control Devices (MUTCD). The Contractor shall develop a traffic control plan for review and approval by the Engineer at the pre-construction conference or at a minimum, 5 working days prior to desired start date.

TIME OF COMPLETION
The Successful Bidder must complete the entire work, to the Engineer’s satisfaction, in the number of days or by the date specified in the contract documents. The Engineer or his designated representative shall oversee, but not supervise the work.

**LIQUIDATED DAMAGES**
The liquidated damages for not completing the work within the time specified shall be as set forth in the Supplementary Conditions and/or the Agreement (Section 00500-Contract).

**INTERPRETATION OF DOCUMENTS**
If any person contemplating submitting a Bid for the proposed work is in doubt as to the true meaning of any part of the PS & CD, he may submit to the Engineer a written request for an interpretation thereof. The person submitting the request will be responsible for its prompt delivery. The Engineer will make an interpretation of the proposed documents only by an Addendum, duly issued. The City will send copies of such Addendum to each prospective Bidder and this Addendum will become a part of the PS & CD.

All Bids submitted shall include an acknowledgment of receipt of the Addenda. Verbal interpretations will be without legal effect.

**WITHDRAWAL OF BIDS**
A Bidder may withdraw his Bid at any time prior to the scheduled time for receipt of Bids. Unless a longer or shorter time period is stated in the Official Notice, no Bid may be withdrawn for forty-five (45) days after the date of the Bid opening.

**BID BOND**
A certified check or a satisfactory Bid Bond, payable to the City of Mequon, executed by the Bidder and a Wisconsin licensed surety company in an amount not less than five (5) percent of the total Bid, shall accompany each Bid. This Bid Bond will serve as guarantee that if the City accepts the Bid, the Bidder will execute and file the proposed Agreement and Bonds within ten (10) calendar days after the award of the Contract. The City will consider no Bid, unless otherwise noted, unless it is accompanied by a Bid Bond guarantee. The Bid Bond shall be made payable to the City of Mequon.

The City will return the Bid Bond and/or deposit of all except the three lowest Bidders within three (3) work days after the opening of the Bids. The City will return the Bid Bond and/or deposit of the three lowest Bidders within two (2) work days after it approves the executed Agreement with the successful bidder.

**END OF SECTION**
SECTION 00300

BID FORM

Project Identification: **Mequon – Thiensville Community Promenade**
City of Mequon, Wisconsin

This Bid is Submitted to: **City of Mequon**
Kim Tollefson
Director of Public Works/City Engineer
City of Mequon
11333 N. Cedarburg Road 60W
Mequon, WI 53092

1. The Bidder signing and submitting this proposal agrees and declares as a condition thereof, to be bound by the following conditions and requirements.

2. The Bidder declares that he has carefully examined the site of, and the proposal, plans, specifications, line item quantities and contract forms for the work contemplated, and it is assumed that the Bidder has investigated and is satisfied as to the conditions to be encountered, as to character, quality, quantities of work to be performed and materials to be furnished, and as to the requirements of the specifications, special provisions and contract. Bidder has examined and carefully studied the Project Manual and the following Addenda, receipt of all which is hereby acknowledged:

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3. A certified check or satisfactory Bid Bond, payable to the City of Mequon, executed by the Bidder and a Wisconsin licensed surety company in an amount not less than five (5) percent of the total Bid, shall accompany each Bid. This Bid Bond will serve as a guarantee that if the City accepts the Bid, the Bidder will execute and file the proposed Agreement and Bonds within ten (10) calendar days after the award of the Contract. The City will consider no Bid, unless otherwise noted, unless it is accompanied by a Bid Bond guarantee. The Bid Bond shall be made payable to the City of Mequon.

The City will return the Bid Bond and/or deposit of all except the three lowest Bidders within three (3) work days after the opening of Bids. The City will return the Bid Bond and/or deposit of the three lowest Bidders within two (2) work days after it approves the executed Agreement with the successful bidder.

4. Wage Rates: Contractor is required to comply with all applicable Federal, State and local wage rate requirements. Wisconsin Department of Workforce Development (DWD) “Prevailing Wage Rate Determination is included in the PROJECT DESCRIPTION AND DETAILS section of the contract documents if applicable, and DWD “Disclosure of Ownership” form is included with the bid form and should be included with the bid if required. **Effective January 1, 2010, all contractors must file certified payroll records with DWD on a monthly basis in a format that meets DWD reporting requirements. Certified payroll reports must be filed with DWD by the end of the first week following the month in which the work was conducted. If the DWD finds a contractor violating the prevailing wage law, DWD will assess liquidated damages of 100% of the wages owed to employees.**
5. **GUARANTEE:** All work shall be and is guaranteed for a period of three (3) years from the City acceptance of work. If, within said guarantee period, rework, which, in the opinion of the City, is rendered necessary as the result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the contract, the Contractor shall promptly, upon receipt of the notice from the City, restore the work to a satisfactory condition, correct all defects, make good all damage to the structure, site, defects, or contents thereof, which damage, in the opinion of the City, results from the use of such inferior or defective materials, equipment or workmanship.

If within ten (10) days after notice the Contractor fails to comply with the terms of any guarantee herein contained, the City may have the defects corrected and the Contractor or his Surety shall be liable for all expenses incurred; except when, in the opinion of the City, delay in correcting the defects would cause serious cost or damage, repairs may be made by the City without notice being given to the Contractor and the Contractor shall pay the cost thereof.

All special guarantees or warranties applicable to specific parts of the work as may be stipulated in the contract specifications or other documents being a part of this contract shall be subject to the terms of this paragraph during the three year guarantee period. All special guarantees and manufacturers’ warranties shall be delivered to the City before shop drawings on items of major equipment are approved; guarantees and warranties for other items shall be furnished prior to the acceptance of the work.

6. **City reserves the right to modify elements and/or portions of the contract if budget constraints warrant it. The unit prices are to be used as a basis for any addition and/or deletion of work to the contract.**
Attach all Addenda’s, if any, to this sheet.
## PRICE SCHEDULE – BASE BID ITEMS

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<th>ITEM NUMBER</th>
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**Total Base Bid:**

**Contract Price - Base Bid:** Total Bid for Items 1 through 27

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Written

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Figures
**ADDITIVE BID - Name**
This item is for DESCRIPTION

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Total Additive Bid – Name:

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**ALTERNATE BID ITEMS – Name**
DESCRIPTION

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Total Alternate Bid – Name:

Final completion of all work is required as stated in Notice to Bidders. Start date for construction will be approved by the City.

The City of Mequon reserves the right to reject any or all Bids, to waive any technicality in any Bid and accept any Bid deemed to be the most advantageous to the City of Mequon.
The Bidder submitting this Proposal hereby agrees to perform the work in accordance with all the terms, conditions and requirements of the PROPOSAL, CONTRACT DOCUMENTS AND SPECIFICATIONS. Said Contract Documents are made a part hereof as full and completely as if attached hereto.

Proposal submitted by: NAME: ________________________________

ADDRESS: ________________________________________________

_________________________________________________________________________

If a corporation, answer the following:

Sole Trade, Partner, or Corporation

Incorporated under the laws of the State of ______________________________

By: ____________________________________________ (Bidder must sign on this line)  (Title)
LIST OF SUBCONTRACTORS

Pursuant to Section 66.29 (7), Wisconsin Statutes, the Bidder, as part of this proposal, submits this full and complete list of all subcontractors and the class of work to be performed by each:

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<tr>
<th>NAME OF SUBCONTRACTORS</th>
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I hereby certify that the use of the name of the above Contractor was with the knowledge and consent of the sub-contractor.

__________________________
(Bidder)

SUBLETTING OR ASSIGNING OF CONTRACT

If the Contractor sublets the whole or any part of the work to be done under this Contract, he shall not under any circumstances be relieved of his liabilities and obligation. All transactions of the City shall be with the Contractor; Subcontractors shall be recognized only in the capacity of employees or workmen and shall be subject to the same requirements as to the character and competence. The Contractor shall not assign, sublet, transfer, convey, sell or otherwise dispose of the whole or any part of his contract, his right, title, or interest therein, or his power to execute such contract to any person, firm, partnership or corporation without the written consent of the City Council.
AFFIDAVIT OF BIDDER

STATE OF WISCONSIN )
) SS

Pursuant to Section 66.29 (7), Wisconsin Statutes ____________________________________________
being duly sworn, deposes and says:

That ___________________________________________, the duly authorized representative of

____________________________________________________________________________________
(Name of person, firm or corporation submitting Bid)

Bidder for doing the work or labor or the furnishing of material under the proposal of which this affidavit is a
part, and

That the said Bidder has examined and carefully prepared his Bid form, the Plans and Specifications, and has
checked the same in detail before submitting said Proposal or Bid to the City of Mequon, represented by the
City Council.

___________________________________________________
(Signed by Bidder or his authorized representative)

Subscribed and sworn to before me this

_____________day of ________________________, 20___

___________________________________________________
Notary Public

My commission expires ________________________________
BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned __________________________
___________________________________________________ _________________________as Principal, and
________________________________________________ as Surety, are hereby held and firmly bound
unto_______________________________________________ ________________________________as
CITY in the penal sum of _______________________________________________________________

for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves successors
and assigns.

Signed this _________ day of __________________, 20______

The Condition of the above obligation is such that whereas the Principal has submitted to
___________________________________________________ ___________a certain BID, attached hereto and hereby made
a part thereof to enter into a contract in writing for the ___________________ __
___________________________________________________ _________________________________________________________

NOW THEREFORE,

(a) If said BID shall be rejected, or

(b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form
of Contract attached hereto (properly completed in accordance with said Bid) and shall furnish
a BOND for his faithful performance of said contract, and for the payment of all persons
performing labor or furnishing materials in persons performing labor or furnishing materials in
connection therewith, and shall in all other respects perform the agreement created by the
acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in
force and effect; It being expressly understood and agreed that the liability of the Surety for any
and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein
stated.

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

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

_______________________________________    (L.S.)
Principal          Surety

By: ______________________________

ATTEST:____________________________
Disclosure of Ownership

The statutory authority for the use of this form is prescribed in Sections 66.0903(12)(d), 66.0904(10)(d) and 103.49(7)(d), Wisconsin Statutes.

The use of this form is mandatory. The penalty for failing to complete this form is prescribed in Section 103.005(12), Wisconsin Statutes.

Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04(1) (m), Wisconsin Statutes].

(1) On the date a contractor submits a bid to or completes negotiations with a state agency, local governmental unit, or developer, investor or owner on a project subject to Section 66.0903, 66.0904 or 103.49, Wisconsin Statutes, the contractor shall disclose to such state agency, local governmental unit, or developer, investor or owner, the name of any "other construction business," which the contractor, or a shareholder, officer or partner of the contractor, owns or has owned within the preceding three (3) years.

(2) The term "other construction business" means any business engaged in the erection, construction, remodeling, repairing, demolition, altering or painting and decorating of buildings, structures or facilities. It also means any business engaged in supplying mineral aggregate, or hauling excavated material or spoil as provided by Sections 66.0903(3), 66.0904(2), 103.49(2) and 103.50(2), Wisconsin Statutes.

(3) This form must ONLY be filed, with the state agency project owner, local governmental unit project owner, or developer, investor or owner of a publicly funded private construction project that will be awarding the contract, if both (A) and (B) are met.

(A) The contractor, or a shareholder, officer or partner of the contractor:
   (1) Owns at least a 25% interest in the "other construction business," indicated below, on the date the contractor submits a bid or completes negotiations; or
   (2) Has owned at least a 25% interest in the "other construction business" at any time within the preceding three (3) years.

(B) The Wisconsin Department of Workforce Development (DWD) has determined that the "other construction business" has failed to pay the prevailing wage rate or time and one-half the required hourly basic rate of pay, for hours worked in excess of the prevailing hours of labor, to any employee at any time within the preceding three (3) years.

<table>
<thead>
<tr>
<th>Other Construction Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Name</td>
</tr>
<tr>
<td>Street Address or P O Box</td>
</tr>
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<td>Business Name</td>
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<tr>
<td>Business Name</td>
</tr>
<tr>
<td>Street Address or P O Box</td>
</tr>
</tbody>
</table>

I hereby state under penalty of perjury that the information, contained in this document, is true and accurate according to my knowledge and belief.

Print the Name of Authorized Officer

Authorized Officer Signature Date Signed

Corporation, Partnership or Sole Proprietorship Name

Street Address or P O Box City State Zip Code

If you have any questions call (608) 266-6861
The use of this form is mandatory. The penalty for failing to complete this form is prescribed in Section 103.005(12), Wisconsin Statutes. Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04(1)(m), Wisconsin Statutes].

The employer indicated below requests that the Department of Workforce Development (DWD) determine the prevailing wage rate(s) and related qualifications to enable such employer to use a subjourneyperson(s) on the following prevailing wage project, in accordance with the provisions of Section DWD 290.025, Wisconsin Administrative Code.

1. Name of Project Appearing on the Project Determination

<table>
<thead>
<tr>
<th>County</th>
<th>City, Village or Town</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>DWD Project Determination Number</th>
<th>Project Number (if applicable)</th>
</tr>
</thead>
</table>

2. Job Classification(s) for which you request a subjourney rate (i.e., carpenter, electrician, plumber, etc.):

<table>
<thead>
<tr>
<th>a.</th>
<th>b.</th>
</tr>
</thead>
<tbody>
<tr>
<td>c.</td>
<td>d.</td>
</tr>
</tbody>
</table>

3. Employer Name

<table>
<thead>
<tr>
<th>Requester Name</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Address</th>
<th>City</th>
<th>State</th>
<th>Zip Code</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Telephone Number</th>
<th>Requester Title</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Email address (if you prefer to receive your response via email)</th>
<th>Fax Number (if you prefer to receive your response via fax)</th>
</tr>
</thead>
</table>

**READ CAREFULLY:** I understand that this request is ONLY applicable to the project and job classification(s) listed above and that subjourney employees primarily work under the direction of and assist a skilled trade employee by frequently using the tools of a skilled trade and will NOT regularly perform the duties of a general laborer, heavy equipment operator or truck driver. If the subjourney employee regularly performs the work of a different trade or occupation, he/she will be compensated for such work at the applicable journeyperson prevailing wage rate. I agree to compensate subjourney employees in strict accordance with the directions received from the DWD.

<table>
<thead>
<tr>
<th>Requester Signature</th>
<th>Date Signed</th>
</tr>
</thead>
</table>

MAIL the completed request to:

EQUAL RIGHTS DIVISION, LABOR STANDARDS BUREAU
PO BOX 8928, MADISON WI 53708

OR

FAX the completed request to: (608) 267-0310 / DO NOT e-mail your request.

Call (608) 266-6861 for assistance in completing this form.
SECTION 00500

CONTRACT

THIS AGREEMENT is dated as of the _____ day of Month, Year by and between the City of Mequon hereinafter called "CITY" and ________________, hereinafter called "CONTRACTOR."

CITY and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

WORK
CONTRACTOR shall complete all work as specified or indicated in the Contract Documents. The work is generally described as follows:

PROJECT DESCRIPTION: At its core this project is a park pavilion used as a marker of entry to the Mequon Thiensville Business District. It is an open-air circular steel structure nestled into the natural landscape. The walkway is a combination of concrete and an elevated wood walkway. The structure is partially clad with wood slat and has a masonry wall that is accented with a series of (2) wall mounted and (1) free standing sign. There is a second level located over approximately half of the structure with an open air stair leading from the upper level down to the main level and then down a hill to grade. The project will require electrical service, but no mechanical, plumbing or fire protection. Part of the project scope includes modifications to the existing sidewalks and select landscaped areas.

The scope of work for this project is described in Divisions 00, 01, 03, 05, 06, 09, 31 & 32 and related Construction Documents.

The Project for which the work, under the contract Documents, may be the whole or only a part is generally referred to as:

Mequon – Thiensville Community Promenade

ENGINEER
The Plans and the Specifications were prepared by the City of Mequon. The Engineer, who is hereinafter called ENGINEER will assume all duties and responsibilities and will have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the WORK in accordance with the Contract Documents.

CONTRACT PRICE
The CITY shall pay the CONTRACTOR for performance of the WORK in accordance with the Contract Documents in current funds as specified in Section 00300, as follows $__________ which figure shall be adjusted in accordance with the attached “Contractor's Unit Prices” for extras and credits, for changes in the scope of the work. The CITY reserves the right to increase or decrease the quantities of work. The cost for such an increase or decrease in the quantities of work will be negotiated using the unit prices/schedule of prices for determination of reasonable cost. No allowance will be made for any increased expenses, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the CONTRACTOR resulting either directly from such alterations or indirectly from unbalanced allocation among the contract items of overhead expense on the part of the bidder and subsequent loss of expected reimbursement therefore, or from any other cause.

CONTRACT TIME
Some work has specific start dates to allow completion of preliminary work by others. These start dates are shown in the project description. All work shall be completed by Date. Failure to meet this deadline will result in the assessment of liquidated damages as specified by the Contract Documents.

DAMAGES
Failure to comply with the project completion date or with the maximum NUMBER working day “Pulverized and Re-laid Pavement” lower layer paving requirement (see section 02420) will result in liquidated damages being assessed at the rate of $500.00 (five hundred dollars) per day.
PAYMENT PROCEDURES
Submittal and Processing of Payments

Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

Progress Payments; Retainage

The City shall make payments on account of the Contract Price on the basis of Contractor’s Applications for Payment. All such payments will be measured by the Schedule of Values established in the General Conditions (and in the case of Bid Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided by Wisconsin State Statutes:

- The retainage shall be an amount equal to not more than 5% of said the estimate until 50% of the work has been completed.
- At 50% completion, no additional amounts shall be retained, and partial payments shall be made in full to the contractor unless the architect or engineer certifies that the job is not proceeding satisfactorily.
- At 50% completion or any time thereafter when the progress of the work is not satisfactory, additional amounts may be retained but in no event shall the total retainage be more than 10% of the value of the work completed.
- Upon substantial completion of the work, an amount retained may be paid to the contractor.

Final Payment

Upon final completion and acceptance of the Work in accordance with the General Conditions, CITY shall pay the Contract Price as recommended by Engineer.

CONTRACTOR’S REPRESENTATIONS

In order to induce CITY to enter into this Agreement CONTRACTOR makes the following representations:

CONTRACTOR has familiarized himself with the nature and extent of the Contract Documents, Work, locality, and with all local conditions and federal, state and local laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the Work. CONTRACTOR has studied carefully all reports of investigations and test of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which were relied upon by ENGINEER in the preparation of the Drawings and Specifications and which have been identified in the Contract Documents. CONTRACTOR has made or caused to be made examinations, investigations and test and studies of such reports and related data in addition to those referred to above as he deems necessary for the performance of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, test, reports or similar data are or will be required by CONTRACTOR for such purposes. CONTRACTOR has correlated the results of all such observations, examinations, investigations, test reports and data with the terms and conditions of the Contract Documents. CONTRACTOR has given ENGINEER written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to the CONTRACTOR.

CONTRACT DOCUMENTS

The Contract documents which comprise the entire agreement between CITY and CONTRACTOR are attached or referenced to this Agreement, made a part hereof and consists of the following:
Official Notice and Instructions to Bidders, General and Supplementary Conditions, Addenda, Specifications, Plans, Drawings, completed Bonds and Bid Form, Contract, all Amendments, Modifications, Change Orders and Supplements issued on or after the effective date of agreement. There are no Contract Documents other than those listed above. The Contract Documents may only be altered, amended or repealed by a Change Order (as defined in Article 1 of the General Conditions).

MISCELLANEOUS
Terms used in the Agreement which are defined in Article 1 of the General Conditions shall have the meanings indicated in the General Conditions. No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents. CITY and CONTRACTOR each binds himself, his partners, successor's assigns and legal representatives to the other party hereto, his partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

LIEN NOTICE
As required by the Wisconsin Construction Lien Law, CONTRACTOR hereby notifies CITY that persons or companies furnishing labor or materials for the construction on CITY'S land may not have lien rights on CITY'S land and buildings if not paid. Those entitled to lien rights, in addition to the undersigned CONTRACTOR, are those who contract directly with the CITY or those who give the CITY notice within 60 days after they first furnish labor or materials for the construction.

IN WITNESS WHEREOF, the parties hereto have signed this Agreement in triplicate. One counterpart each has been delivered to the CONTRACTOR and TWO to the CITY. All portions of the Contract Documents have been signed or identified by City and CONTRACTOR or by ENGINEER on their behalf.

THIS AGREEMENT will be effective on ________________ YEAR

CITY: CITY OF MEQUON                         CONTRACTOR:

BY _______________________________                BY _______________________________
    (Mayor)                                 (Title)

__________________________________        __________________________
    Date                                    Date

    (Corporate Seal)                      (Corporate Seal)

BY _______________________________      ATTEST: __________________________
    (City Clerk)                          (City Attorney)

__________________________________
    Date

ATTEST AS TO FORM: ____________________________
    (City Attorney)

__________________________________
    Date

END OF SECTION
SECTION 00600
BONDING AND CERTIFICATION

1. GENERAL

The requirements of the Contract Documents, including the General Conditions, the Supplemental Conditions and Division I - General Requirements apply to this section, except as modified herein.

2. BONDS

A. Contractor shall furnish performance and labor and materials payment bonds to the City within ten (10) calendar days of the notice to award and prior to commencement of the work. Premiums for such bonds shall be paid for by the Contractor.

B. The bonds shall be in accordance with section 5.1 and 5.2 of the standard general conditions of the construction contract. They shall provide security for the faithful performance of the contract and for the payment of all persons performing labor on the project under this contract and furnishing materials in the connection with the contract, each in an amount at least equal to one hundred percent (100%) of the contract amount. The surety on such bonds shall be secured from the surety company licensed to do business in the State of Wisconsin. Failure to provide these bonds within ten (10) days of Contract award will be grounds for termination of the Contract.

3. CERTIFICATES

A. Contractor shall furnish the City with a certificate of insurance providing proof of adequate insurance coverage per the contract requirements prior to commencement of the work.
SECTION 00600

LABOR AND MATERIALS PAYMENT BOND FORM

KNOW ALL MEN BY THESE PRESENTS: That we __________________________________________

________________________________________ a ______________________________________________________

Hereinafter called “PRINCIPAL” and ______________________________________________________

of __________________________, State of _______________________ Hereinafter called

“SURETY”, are held and firmly bound unto The City of Mequon ______________________

Hereinafter called “CITY”, in the penal sum of ____________ Dollars ($___________) in lawful
money of the United States, for the payment of which sum will and truly to be made, we bind
ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by
these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, The PRINCIPAL entered into a
certain contract with the CITY, dated the ________ day of __________________, 20 _____, a copy of
which is hereto attached and made a part hereof for the construction of:

Mequon – Thiensville Community Promenade

NOW, THEREFORE, if the PRINCIPAL shall promptly make payment to all person, firms,
subcontractors, and corporations furnishing materials for or performing labor in the prosecution
of the Work provided for in such Contract, and any authorized extension or modification thereof,
including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on
machinery, equipment and tools, consumed or used in connection with the construction of such
Work, and all insurance premiums on said Work, and for all labor, performed in such Work by
subcontractor or otherwise, then this obligation shall be void; otherwise remain in full force and
effect.

PROVIDED, FURTHER, that the said SURETY, for value received hereby stipulates and agrees
that no change, extension of time, alteration or addition to the terms of the Contract or to the
Work to be performed thereunder of the Specifications accompanying the same shall in any way
affect its obligation on this bond, and it does hereby waive notice of any such change, extension
of time, alteration or addition to the terms of the Contract or to the Work or to the Specifications.
PROVIDED, FURTHER, that no final settlement between the CITY, and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in three (3) counterparts, each one of which shall be deemed an original, the _____ day of ______________________ 20 ______.

ATTEST:

________________________________________
PRINCIPAL

(PRINCIPAL) Secretary

By

________________________________________
Witness as to PRINCIPAL

(Address)

________________________________________
SURETY

ATTEST:

By

Attorney-in-Fact

(SURETY) Secretary

SEAL

________________________________________
Witness as to SURETY

(Address)

________________________________________
(Address)
SECTION 00600

PERFORMANCE BOND FORM

Know All Men By These Presence That __________________________________________________________

OF THE CITY OF __________________________________________________, WISCONSIN as principal
and _________________________________________ of __________________________________________
State of ________________________________________________ a corporation organized and existing
under the laws of the State of ______________________________________ and authorized to
transact business in the State of Wisconsin (herein after called surety) as surety are held and
firmly bound unto the City of Mequon a municipal corporation of the State of Wisconsin in the
penal sum ______________________________________ dollars good and lawful
money of the United States of America, to be paid to the City of Mequon its duly authorized
attorneys, agents or officers or its successors or assigns for which payment, well and truly to be
made, we bind ourselves, our heirs, administrators, executors, successors and assigns, jointly
and severally firmly by these present.

Sealed with our seals and dated this _______ day of __________________, 20_____

Whereas, the above bounden principal has entered into a certain written contract with the above
name City of Mequon, dated this ______ day of _______________, 20____, which contract is hereby
referred to and made a part hereof as fully and to the same extent as if copied at length herein.

Now therefore, the condition of the above obligation is such, that if the above bounden principal
shall well and truly keep, do and perform, each and every, all and singular, the matters and
things in said contract formed at the time and in the matter in said contract specified, and shall
pay over, make good and reimburse to the above named City all loss and damage which said City
may sustain by reason of failure or default on the part of said principal, then this obligation shall
be void; otherwise, to be and remain in full force and effect.

__________________________________
By: __________________________________

__________________________________
By:     __________________________________

__________________________________
ATTEST: ________________

END OF SECTION
SECTION 00700

STANDARD GENERAL CONDITIONS

GENERAL

STANDARD

The Standard General Conditions of the Construction Contract (EJCDC C-700, 2007 Edition) are hereby made a part of the Construction Documents by reference. Copies of these are available at Mequon City Hall at no additional charge.

PRECEDENCE

Certain provisions of these Standard General Conditions are revised, modified, amplified or expanded by the Supplementary Conditions, notations on the plans, or requirements of the specifications.

The Supplementary Conditions, plan notations, or specifications shall take precedence to the extent of any conflict or inconsistency between them and the General Conditions.

When the term “Engineer” is used in the General Conditions, it shall be taken to mean the City’s designated site representative during construction.
SECTION 00800
SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (EJCDC C-700, 2013 Edition). All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix “SC” added thereto.

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

SC-1.01.A8 Replace the definition with the following:
A document recommended by the Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.

SC-1.01-A18 Replace the definition with the following:
The part of the Contract prepared or approved by Engineer that graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

SC-1.01.A19 Replace the definition with the following:
The date, indicated in the Agreement, on which the Contract becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

SC-1.01.A20 Replace the definition with the following:
References to Engineer in these Contract Documents shall mean City Of Mequon Department of Community Development, City of Mequon Engineering Department, Village of Thiensville Public Works or their designees.

SC-1.01.A26 Replace the definition with the following:
The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

ARTICLE 2 - PRELIMINARY MATTERS

SC-2.03.A.3 Delete the word “preliminary”.

SC-2.05.A.3 Add the following sentence to the end of this Article:
“Front end loading of the Schedule of Values will not be allowed.”

SC-2.06.C Add the following sentence to the end of this Article:
“Where Contractor transmits items in electronic media or digital format to Owner and/or Engineer and the Owner and/or Engineer is unable to access the item transmitted, Contractor shall provide the item in a non-electronic form.”
ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

SC-3.01.B  Add the following sentence to the end of this Article:
“Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.”

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

SC-4.01.A  Replace Paragraph 4.01.A with the following:
Contract Times will commence to run on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within thirty days after the Effective Date of the Agreement, unless otherwise stated in the Agreement.

SC-4.02  Add the following to the last sentence:
“unless so authorized in advance by the owner or engineer”.

SC-4.04.A.1  Add the following sentence to the end of this Article:
“Such adjustments will comply with any provisions of the General Requirements applicable thereto.”

SC-4.04.A.1  Add the following sentence to the end of this Article:
“Adjustments in Contract Times may only be made by a Change Order.”

ARTICLE 5 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

SC-5.03  Add the following new paragraph immediately after Paragraph 5.03.B:
C. In the preparation of Drawings and Specifications, Engineer or Engineer's Consultants relied upon the following reports of explorations and tests of subsurface conditions at the Site: [None]

SC-5.05  Add the following new paragraph immediately after Paragraph 5.05.E:
F. In the preparation of Drawings and Specifications, Engineer or Engineer's Consultants relied upon the following information and data identifying Underground Facilities at the Site: [None]

SC-5.06  Add the following new paragraph immediately after Paragraph 5.06.K:
L. In the preparation of Drawings and Specifications, Engineer or Engineer's Consultants relied upon the following reports and drawings relating to Hazardous Environmental Conditions at the Site: [None]

ARTICLE 6 - BONDS AND INSURANCE

SC-6.01.D  Add the following sentence to the end of this Article:
“No further progress payments will be made under this agreement until the Contractor complies with the provisions of this paragraph.”

SC-6.02  Add the following new paragraphs immediately after paragraph 6.02.J:
K. Certificates of Insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work. These Certificates and the insurance policies provided by the Contractor shall contain a provision that coverage afforded under the policies will not be canceled or allowed to expire until at least 60 days prior written notice has been given to the Owner.
L. The Contractor shall furnish the City of Mequon with Certificates of Insurance, such as an ACORD Certificate of Insurance, or other forms approved by the City, and with the original endorsements affecting coverage required by this clause. Only forms approved by the State Insurance Commissioner are to be used for Worker’s Compensation. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on their behalf.

M. All certificates and endorsements are to be received and approved by the City of Mequon before any work commences. The City reserves the right to require complete, certified copies of all required insurance policies at any time. The limits of liability for the insurance required shall provide coverage for not less than the amounts or greater where required by Laws and Regulations.

**SC-6.02.D** Delete Paragraph 6.02.D in its entirety.

**SC-6.03.I.3** Change “10 days” to “60 days”.

**SC-6.03** Add the following new paragraphs immediately after Paragraph 6.03.J:

K. The limits of liability for the insurance required by paragraph 6.03 of the General Conditions shall be not less than the following amounts or greater where required by Laws and Regulations:

1. Workers’ Compensation Insurance
   - Coverage A - Statutory
   - Coverage B $1,000,000 Per Accident
   - $1,000,000 Disease, Policy Limit
   - $1,000,000 Disease, Each Employee

2. Commercial General Liability (including Premises-Operations; Independent Contractors’ Protective; Products and Completed Operations; Broad Form Property Damage; and Contractual Liability):
   - $2,000,000 General Aggregate
   - $2,000,000 Products-Completed Operations Aggregate
   - $2,000,000 Each Occurrence
   - $2,000,000 Personal and Advertising Injury

3. Automobile Liability (including owned, non-owned, and hired vehicles):
   - $1,000,000 Combined Single Limit - Bodily Injury and Property Damage

4. Umbrella Excess Liability (excess over Employer's Liability, Commercial General Liability, and Automobile Liability):
   - $5,000,000 General Aggregate
   - $5,000,000 Each Occurrence

5. Additional Insured’s to be listed on Contractor's Commercial General Liability and applicable Umbrella Excess Liability policies with respect to the work to be performed (subject to customary exclusion for professional liability) are as follows. Any insurance
afforded the additional insureds under Contractor's liability policies shall be primary over any other insurance the additional insureds may have purchased:

a. Owner: City of Mequon

6. Contractor shall be responsible for its own property while on site.

**SC-6.05.A** Add the following new paragraphs immediately after paragraph 6.05.A.13:

14. include a minimum deductible of $1,000 for each claim and the risk of loss of the applicable deductible shall be borne by the Contractor, subcontractor, or others suffering such loss.

15. The Builder's Risk Insurance required herein shall apply to projects involving construction of structures and buildings only. The requirements of this Section shall be waived on projects involving only underground utilities, grading, street improvements, and similar construction work but any damage or loss to property shall be at the sole responsibility of the Contractor until final acceptance of the Work.

**SC-6.05.B** Change “10 days” to “60 days”.

**ARTICLE 7 – CONTRACTOR’S RESPONSIBILITIES**

**SC-7.02.B** Amend paragraph 7.02.B as follows:

Amend the first sentence by adding the words “(7:00 AM to 7:00 PM)” immediately after the words “regular working hours”. Add the following to the end of the second sentence: “, after prior written notice to Engineer.”

**SC-7.05.A.3** Replace the introductory Paragraph 7.05.A.3 with the following:

3. Contractor shall make written application to the Engineer for review of proposed substitute item of material or equipment that Contractor seeks to furnish or use. That application shall be submitted adequately in advance of the need for item of material or equipment incorporation into the project, so as to allow for a reasonable review time by the Engineer, and lead time for order and/or delivery, so as not to impact the schedule of the project. The application:

**SC-7.06** Add the following paragraphs immediately after Paragraph 7.06.O:

P. In accordance with Wis. Adm. Code, ch. DWD 294, work on the Project shall not be subcontracted to a contractor on the Wis. Dept. of Workforce Development list of debarred employers. No increase in the Contract Price or Contract Time shall be allowed due to rejection of a debarred employer. In accordance with Wis. Stat. § 779.14, Contractor agrees, to the extent practicable, to maintain a list of all subcontractors and suppliers performing labor or furnishing materials to Contractor for the project.

Q. Pursuant to Wisconsin Statute, Contractors that engage subcontractors to perform part of the work on an order or contract from an agency shall pay subcontractors for satisfactory work in a timely fashion. A payment is timely if it is mailed, delivered or transferred to the subcontractor no later than 7 days after the Contractor’s receipt of any payment from the agency. If a subcontractor is not paid in a timely fashion, the Contractor shall pay interest on the balance due from the 8th day after the Contractor’s receipt of any payment from the agency, at the rate of 12% per year compounded monthly. Subcontractors receiving payment shall pay lower-tier subcontractors, and be liable for the interest on late payments in the same manner as Contractors are required to pay subcontractors.
R. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 6.05, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

SC-7.15 Add the following paragraph immediately after Paragraph 7.15.A:

B. In emergencies affecting the safety or protection of persons or property or maintenance of temporary construction at the site or adjacent thereto, and Contractor cannot be reached, the City of Mequon may act to attempt to prevent threatened damage, injury or loss. The City of Mequon will give Contractor proper written notice after such action, and the cost of the correction or remedy shall be charged against the Contractor. A change order will be issued to document the change in contract price.

SC-7.18.A Amend by adding “intentional or” before the words “negligent act.”

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

SC-11.01.A.1.b Amend by replacing the word “without” with the word “with.”

SC-11.04.C.2.a Amend by replacing the words “15 percent” with the words “10 percent”.

SC-11.04.C.2.b Amend by replacing the words “five percent” with the words “those percentages listed in 11.04.C.2.a and 11.04.2.c”.

SC-11.04.C.2.c Amend by replacing the words “15 percent” with the words “10 percent”.

SC-11.04.C.2.e Amend by replacing the words “five percent” with the words “those percentages listed in 11.04.C.2.c”.

SC-11.06.A.1 Amend paragraph 11.06.A.1 as follows:
Replace the sentence that reads “The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event” with the following sentence: “The supporting data shall be accompanied by a written statement, subject to future penalties for perjury, in which Contractor shall certify that the Change Proposal is made in good faith, that the supporting data are accurate and complete to the best of Contractor’s knowledge and belief, and that the amount or
time requested accurately reflects the Contract adjustment for which Contractor believes it is entitled as a result of said event."

SC-11.07.A Amend paragraph 11.07.A by adding the words “recommended by the Engineer” after the words “Change Orders.”

SC-11.08.A Amend paragraph 11.08.A by replacing the word “will” in the first sentence with the word “shall.”

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

SC-13.04 Add new paragraph 13.04 to read as follows:
13.04 Increased Quantities
A. Pursuant to Wis. Stat. § 62.15(1c), the quantity of construction required in the original Contract may be increased by a Change Order executed by the Owner, upon recommendation by the Engineer, by an amount not to exceed 15 percent of the original contract price.

ARTICLE 15 - PAYMENTS TO THE CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

SC-15.01.D.1 Amend by replacing the words “Ten days” with the words “Thirty days”.

SC-15.01.E Add the following new paragraph immediately after Paragraph 15.01.E.3:
4. In the event Owner receives notice from any person, subcontractor, supplier, or other third party, that Contractor has failed to pay such party for work performed in accordance with the Contract Documents, Contractor shall, at request of Owner, and in no more than 10 calendar days, provide all documentation Owner believes necessary to determine whether such payment is due, or reasons for non-payment of disputed amounts. In the event Owner determines a claim to be valid, Owner may withhold from Contractor’s unpaid compensation a sum of money deemed reasonably sufficient to pay such claim until satisfactory documentation is furnished that the liability has been fully discharged or reasons for non-payment of disputed amounts are provided by Contractor. In the event a claim is valid and payment is due, or in the absence of the requested documentation, Owner may authorize direct or two-party payment of any unpaid bills. In no event shall this provision be construed to impose any obligations upon Owner or Engineer to either Contractor or Contractor’s surety (if any).

SC-15.01 Add the following new sub-section immediately after sub-section 15.01.E:
F. Lien Waivers
The Owner may, at any time during the work or before substantial completion of the work, require the Contractor to furnish lien waivers for all labor and materials used on the project to date. Payment of any outstanding pay application may be withheld until the Contractor provides such lien waivers.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

SC-16.02.A.1 Amend the first sentence by adding the words “(3 or more occasions)” immediately after the phrase “persistent failure”.

SC-16.02.B Amend the paragraph by replacing the word “ten” with the word “seven”.

SC-16.02.E Amend the second sentence by replacing the words “be paid to the Contractor.” with the words “remain with the Owner.”
ARTICLE 18 – MISCELLANEOUS

SC-18.09  Add new paragraph 18.09 to read as follows:

18.09  Claims, Costs, Losses, or Damages

A. When used in this Contract, the phase “claims, costs, losses, or damages” shall include, but is not limited to, all fees and charges of engineers, architects, attorneys, and other professionals.

END OF SECTION
Addendum No. 1: January xx, 2019

RE: City of Mequon
    Mequon – Theinsville Community Promenade

FROM: City of Mequon
      Kim Tollefson
      Assistant City Engineer
      11333 N. Cedarburg Road
      Mequon, WI 53092

TO: Prospective Bidders

This addendum forms a part of Bidding Documents dated January 01, 2019. Attach this Addendum to sheet noted in the Bid Form. Failure to do so may subject Bidder to disqualification.

THIS ADDENDUM CONSISTS OF xx PAGES (Including this page)

This addendum addresses:

A. The following are revisions to the specifications:

B. The following are revisions to the plans:
SECTION 01020

ALLOWANCES

1. GENERAL

The requirements of the Contract Documents, including the General Conditions, the Supplementary Conditions and Division I - General Requirements apply to this section except as modified herein.

2. EXAMINATION OF SITE

A. The CONTRACTOR, prior to submitting this proposal, shall visit the site of the said work and familiarize himself with the location and conditions affecting the work thereon and/or therein. No allowance will be granted because of lack of knowledge of such conditions.

3. INCIDENTAL WORK

A. Incidental work shall include all work not particularly specified or that which may be specified and not provided for in a basis for payment, that is of an incidental or temporary nature, and required in order to safely and satisfactorily carry out the intent of the work as indicated on the drawings and in the specifications. The cost of such work shall be merged with and included in the prices bid under all items of work.

4. LOCATION OF UNDERGROUND FACILITIES

A. The location of any underground facilities furnished, shown on the plans or given on the site are based upon the available records, but are not guaranteed to be complete or correct and are given only to assist the CONTRACTOR in making a determination of the general location of all underground facilities. It is the contractors responsibility to notify Diggers Hotline and/or utility company for a utility locate, sufficiently in advance of the project start.

END OF SECTION
SECTION 01040
COORDINATION

1. GENERAL

The requirements of the Contract Documents, including the General Conditions, the Supplementary Conditions and Division I - General Requirements apply to this section, except as modified herein.

2. COOPERATION WITH OTHER CONTRACTORS & UTILITIES

A. The CONTRACTOR shall work in harmony with other Contractors, or with utility or CITY's forces engaged in collateral work. In case of dispute, the decision of the CITY shall be final and binding upon the parties affected.

B. The CONTRACTOR is responsible for all utility coordination. It is the CONTRACTOR's responsibility to contact all affected utilities and coordinate their work with his. The CONTRACTOR shall update the ENGINEER as to the status and schedule of all utility operations.

3. COORDINATION OF WORK

A. The CONTRACTOR shall be responsible for the general coordination of the entire project. Each sub-contractor shall be responsible to advise and coordinate their phase of the work, and their suppliers, through the CONTRACTOR and with other contractors, subcontractors and suppliers working at the project.

4. NOTICE OF INTENT TO PROCEED

A. The CONTRACTOR shall notify all appropriate governmental and regulatory units, including emergency services departments, at least seven (7) working days prior to his commencing work.

B. The CONTRACTOR shall notify the CITY, the ENGINEER, and all utilities and/or underground facilities locators whose property may be affected by the CONTRACTOR’s operations at least seven (7) working days prior to his commencing work in that area.

C. The CONTRACTOR shall notify the CITY and the ENGINEER at least seven (7) working days prior to his commencing operations of his intent to start work. Continuing notice shall be given to the CITY and the ENGINEER each time construction is resumed after shutdown.

END OF SECTION
01040-1
SECTION 01050

FIELD ENGINEERING

1. GENERAL

The requirements of the Contract Documents, including the General Conditions, the Supplementary Conditions and Division I - General Requirements apply to this section, except as modified herein.

2. CONSTRUCTION MONITORING

A. All services rendered by the CITY's Representatives will consist of professional opinions and recommendations in accordance with the generally accepted construction and Engineering practices. Under no circumstances is it the intent of the CITY's Representatives to directly control the physical activities of the CONTRACTOR or the CONTRACTOR's accomplishment of work on this project. The purpose of the CITY's Representatives at the site is to provide monitoring of the CONTRACTOR's work for conformance with the contract documents, and does not include any superintending, supervising, or direction of the actual work.

END OF SECTION

01050-1
SECTION 01060
REGULATORY REQUIREMENTS

1. GENERAL

The requirements of the Contract Documents, including the General Conditions, the Supplementary Conditions and Division I - General Requirements apply to this section, except as modified herein.

2. PERMITS

A. The CONTRACTOR shall procure all necessary permits and licenses, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the work.

B. All work requiring permits or licenses shall abide by the governing permit/license specifications where they exceed the requirements stated in these specifications.

3. COMPLIANCE WITH LAWS

A. The CONTRACTOR, CONTRACTOR’S agents and employees, shall at all times, observe and comply with all Federal and State Laws, local laws, ordinances, codes and regulation which in any manner affect the conduct of the work and all such orders or decrees as exist at the present and which may be enacted later, by bodies or tribunals having jurisdiction or authority over the work. The CONTRACTOR shall protect and save harmless the CITY, the ENGINEER, and their representatives, against any claim or liability arising from the violation of any law, ordinance, code, regulation or order.

B. In particular, the CONTRACTOR shall comply with all local ordinances regulating work hours, noise levels, dust, mud, roadway load limits and barricades/warning devices required at the site.

END OF SECTION
SECTION 01150
MEASUREMENT AND PAYMENT

1. GENERAL

The requirements of the Contract Documents, including the General Conditions, the Supplementary Conditions and Division I - General Requirements apply to this section, except as modified herein.

2. MEASUREMENT

A. Payments shall be based on actual field measurements for unit price contracts. If contract is bid as lump sum per street or specific bid items are lump sum, payments shall be lump sum based on bid amount.

B. The CITY may elect to accept measurements made by the CONTRACTOR. When the CITY agrees to accept such CONTRACTOR measurements, CONTRACTOR shall provide written evidence of such measurement (load tickets, etc.).

C. The CITY reserves the right to increase or decrease the quantities of work. The cost for such an increase or decrease in the quantities of work will be negotiated using the unit prices/schedule of prices for determination of reasonable cost. No allowance will be made for any increased expenses, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the CONTRACTOR resulting either directly from such alterations or indirectly from unbalanced allocation among the contract items of overhead expense on the part of the bidder and subsequent loss of expected reimbursement therefore, or from any other cause.

3. FINAL PAYMENT

A. When the project has been finally accepted by the CITY, the CONTRACTOR shall submit to the CITY or his designated Representative, an invoice for final payment in accordance with the GENERAL CONDITIONS.

B. When the CITY has verified and accepted the quantities of work, the CONTRACTOR shall be paid the entire sum found to be due after deducting all previous payments and all amounts to be deducted under the provisions of the Contract.

C. All prior partial estimates and payments shall be subject to correction in the final estimate of payment.

D. Acceptance of the final payment by the CONTRACTOR is his acceptance of all contract conditions and his indemnification of the CITY from any future claims arising from this Contract.

END OF SECTION
01150-1
SECTION 01200

PROJECT MEETINGS

1. GENERAL

The requirements of the Contract Documents, including the General Conditions, the Supplementary Conditions and Division I - General Requirements apply to this section, except as modified herein.

2. PRECONSTRUCTION MEETINGS

A. The CONTRACTOR shall attend a pre-construction meeting prior to commencing work on the site. The CONTRACTOR will be advised of the exact date, time and location of the meeting. The pre-construction meeting shall be held within 10 days after the Award of Contract.

B. The meeting shall be attended by the CITY and the CONTRACTOR's representative, having the authority to make informed commitments for the CONTRACTOR, and any principal sub-contractors.

C. The CONTRACTOR's representative shall be prepared to present a tentative construction schedule setting out target dates for completion of key elements, and shall also have a rough sketch showing the location of the CONTRACTOR's intended haul roads and material storage points. The name of the person in charge who will be staffing the project and a name and telephone number of a 24-hour contact in case of an after-hours emergency shall be provided.

3. FINAL WALK THROUGH

A. The CONTRACTOR shall schedule a final walk through at the site upon Final Completion.
1. GENERAL

The requirements of the Contract Documents, including the General Conditions, the Supplementary Conditions and Division I - General Requirements apply to this section, except as modified herein.

2. SUBMITTALS

A. HAUL ROUTES – Haul routes for all construction submitted for review and approval by the Engineer at the pre-construction conference, or at a minimum, 5 working days prior to desired start date.

B. TRAFFIC CONTROL PLAN – A traffic control plan for all construction submitted for review and approval by the Engineer at the pre-construction conference, or at a minimum, 5 working days prior to desired start date.

C. NOTICE TO CITY OF WORK SCHEDULE - Prior to commencement of any work the contractor shall submit to the Engineer, for his approval, a complete construction schedule detailing proposed start and completion dates for all elements of the contract. No work shall commence until such schedule is reviewed and accepted by the Engineer. The Contractor shall submit to the Engineer, by Wednesday of each week, an updated and detailed work schedule for all work to be performed the following week. No work shall be performed if it has not been scheduled the previous week. Work not completed as scheduled per week; except due to unforeseen weather conditions, shall be subject to liquidated damages as per section 00500.

D. Certified Test Reports and Design Specifications will be required for the following items. Design Specifications shall be submitted to the ENGINEER 14 days prior to use on the job site. Test Reports shall be submitted to the ENGINEER within 24 hours of test completion.

- Asphaltic Mixture Designs – 02710 Asphaltic Concrete Pavement
- Asphalt Binder Certification – 02710 Asphaltic Concrete Pavement
- Tack Material Certification – 02710 Asphaltic Concrete Pavement

E. Test Results

- The results of the “required sampling and testing” under “QUALITY CONTROL” – 02710 Asphaltic Concrete Pavement
- Nuclear Asphaltic Testing Records – 02710 Asphaltic Concrete Pavement
- Sieve analysis and approved source verification – 02410 Dense Graded Base
- Sieve analysis and approved source verification – 02810 Shouldering

F. Samples

- Sample of Asphaltic Binder sampled under the direction of the ENGINEER – 02710 Asphaltic Concrete Pavement
- Daily samples of Asphaltic Concrete Material sampled in conjunction with Contractor’s Quality Control testing – 02710 Asphaltic Concrete Pavement
SECTION 01400

QUALITY CONTROL

1. GENERAL

The requirement of the Contract Documents, including the General Conditions the Supplementary Conditions and Division I - General Requirements apply to this section except as modified herein.

2. REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

- American Association of State Highway and Transportation Officials (AASHTO)
- Wisconsin Department of Transportation
  Standard Specifications for Highway & Structure Construction (latest edition)
  Facilities Development Manual
- Wisconsin Administrative Code (Transportation Section)
- Standard Specifications for Sewer & Water Construction in Wisconsin

3. RESPONSIBILITY

A. The CONTRACTOR shall assume complete and sole responsibility for the quality of work. If changes or adjustments are recommended by the CONTRACTOR, they may be made only upon written approval from the CITY.

B. The CONTRACTOR shall assume full responsibility for the furnishing of uniform and satisfactory materials.

4. AUTHORITY OF ENGINEER

A. All work shall be done in compliance with the Contract Documents. The ENGINEER shall decide all questions regarding the quality and acceptability of materials furnished, work performed, workmanship, rate of progress of work, and interpretation of the Plans and Specifications. The ENGINEER shall decide all questions of acceptable fulfillment of the Contract, compensation, and disputes and mutual rights between CONTRACTOR'S under the specifications. The CITY or CITY'S ENGINEER shall determine the amount of work performed and materials furnished.

B. The ENGINEER'S failure to reject what is in its opinion to be substandard work or materials does not imply its acceptance of said work or materials. The CITY may, at any subsequent time, recover damages for or require that the CONTRACTOR replace substandard work or material regardless of his failure to reject said work or materials.

5. AUTHORITY AND DUTIES OF INSPECTORS

A. Inspectors employed by the CITY shall be authorized to inspect all work done and all material furnished. Such inspection may extend to all or any part of the work and to the preparation, fabrication or manufacture of the material to be used. The Inspector is not authorized to revoke, alter or waive any requirements of the Specifications, nor is he authorized to approve or accept any portion of the completed project. He shall call the attention of the CONTRACTOR to any failure of the work or materials to conform to the Specifications and Contract, and shall have the authority to reject material. Any dispute between the Inspector and CONTRACTOR shall be referred to the CITY. Any advice which the Inspector may give the CONTRACTOR shall in no way be construed as binding the CITY in any way or releasing the CONTRACTOR from fulfilling any of the terms of the Contract.
6. **INSPECTION**

   A. All material and each part of detail of the work shall be subject at all times to inspection by the CITY, or his Authorized Representatives and the CONTRACTOR will be held strictly to the true intent of the Specifications in regard to quality of materials, workmanship, and the diligent execution of the Contract. Such inspection may include mill, plant or shop inspection, and any material furnished under these specifications is subject to such inspection. The CITY or his Representatives shall be allowed access to all part of the work, and shall be furnished with such information and assistance by the CONTRACTOR as is determined, by the CITY or his representative to make a complete and detailed inspection.

   B. Where such access or opportunity for inspection is not reasonably made available to the CITY or Inspector, the CONTRACTOR shall, at the CITY's request, remove or uncover such portion of the finished work as the CITY may direct before the final acceptance of the same. After the examination, the CONTRACTOR shall restore said portion of the work to the standard required by the specifications. The expense of uncovering or removing and replacing of the same in accordance with the specifications shall be borne by the CONTRACTOR.

7. **WORKMANSHIP**

   A. All workmanship shall conform to the best standard practice. Unless otherwise specified, the Specifications or recognized association of manufacturers and CONTRACTORS or industrial manufacturers shall be used as guides for the standards of workmanship.

   B. All exposed items of work shall present a neat workmanlike appearance and shall be as true to shape and alignment as possible to obtain with measuring or leveling instruments generally used in the respective type of work. Items of work shall be sound and fully protected against damage and premature deterioration. It is specifically understood, the CONTRACTOR agrees to abide by the decision of the CITY.

8. **DEFECTIVE MATERIALS**

   A. All materials and workmanship not conforming to the requirements of the Contract Documents shall be considered as defective, and all such materials, whether in-place or not, shall be rejected and shall be removed from the work by the CONTRACTOR at his expense. Upon failure on the part of the CONTRACTOR to comply with any order of the CITY relative to the provisions of this article, the CITY shall have the authority to remove and replace such defective material and to deduct the cost of removal and replacement from any monies due or which may become due the CONTRACTOR.

9. **PLANS AND SPECIFICATIONS TO BE AVAILABLE**

   A. The CONTRACTOR shall keep a legible copy of the plans, specifications, and all permits at the site of the work at all times.
SECTION 01500
CONSTRUCTION FACILITIES

1. GENERAL

The requirements of the Contract Documents including the General Conditions, the Supplementary Conditions and Division-1 General Requirements apply in this section except as modified herein.

2. SIGNS & MAILBOXES

A. Any signs and mailboxes located in conflict with construction shall be removed, temporarily relocated during construction, and permanently relocated after construction by the CONTRACTOR. This work is incidental to the construction taking place.

3. CONSTRUCTION DEBRIS

A. The CONTRACTOR shall at all times keep the site including all private or public property involved in or adjacent to the site free from any rubbish, surplus or waste materials.

B. The CONTRACTOR shall remove all surplus materials, tools and equipment leaving the site and all portions of the finished work clean, unobstructed and ready for use before Final Completion will be granted. After written notification, the CITY may remove all rubbish, surplus or waste materials which the CONTRACTOR has neglected or refused to remove from the site and deduct the costs of such removal from any monies due the CONTRACTOR.

C. The CITY or his Representative shall have the right to regulate the work in order to control objectionable dust, mud, or other nuisances in or adjacent to the area of the site.

4. STORAGE OF MATERIALS

A. Materials delivered for the CONTRACTOR are to be neatly and compactly placed on the site in such manner as to cause the least inconvenience and ensure the safety of the general public. Materials shall not be placed within 20 feet of any hydrant, pedestrian crossing or intersection.

B. Storage of materials “on” or “off” site is to be insured by the CONTRACTOR against loss, theft, and/or damage. The CITY does not assume any liability for any material or product until it is incorporated into the work at the project site and the CONTRACTOR has been issued a final project release. Final project release will be concurrent with final payment.

5. ACCESS

A. The CITY and his Representatives shall have access to the site at all times. Other CONTRACTORS, SUBCONTRACTORS and material suppliers shall be permitted reasonable coordinated access to the site.

B. The CONTRACTOR shall furnish, erect and maintain the traffic control devices at the project termini and at intersecting roads along the project as provided in this contract or directed by the CITY ENGINEER.

C. The CONTRACTOR shall not close at any time any road to the public except by specific written permission by the CITY ENGINEER. The CONTRACTOR shall notify the CITY ENGINEER at the earliest possible date (minimum 7 calendar days) so arrangements may be made for closing the road and provided detours. The CONTRACTOR shall install signs one week (5 days) in advance advising users of the road closing.
6. **TRAFFIC CONTROL**

A. Traffic control shall be the responsibility of the CONTRACTOR.

B. The CONTRACTOR shall be responsible for the erection and maintenance of all barricades, lights and signs necessary for public safety and convenience in accordance with all applicable requirements. In general, all hazards within the limits of the work must be marked with well-painted, well-maintained barricades, reflectors, electric lights, flashers and warning and directional signs in sufficient quantity and size adequate to protect life and property. These safeguards shall be moved, changed, increased or removed as required during the progress of the work to meet changing conditions.

C. Adequate protection shall be provided around all openings wherever required to safeguard the work or the public. All openings and surface obstructions shall be protected with barricades, signs and warning devices in accordance with local requirements.

D. As a minimum, the provisions of the State Highway Specifications and State Manual for Uniform Traffic Control Devices shall be met. The CONTRACTOR shall develop a traffic control plan for each location. Said plan shall be subject to review and approval of the ENGINEER at the preconstruction conference or at a minimum, 5 working days prior to the desired start date.

7. **PROTECTION FROM DAMAGE**

A. The CONTRACTOR shall be responsible for taking appropriate reasonable and responsible care to protect surrounding property, facilities, and/or utilities from damage. All damage resulting from his work operations to any utilities, property, and/or facilities shall be the contractor’s responsibility to repair and or replace as deemed appropriate by the Engineer. CONTRACTOR shall also be responsible for damage to pavement, sidewalks, curbs, gutter, driveways, trees, shrubbery or lawns which are scheduled to remain.

B. All costs of repairs arising from the CONTRACTOR’S damage to utilities, private property, or pavement, sidewalks, curbs, gutter, driveways, trees, shrubbery and lawns shall be paid by the CONTRACTOR.

8. **STREET AND RIGHT OF WAY USE**

A. Prior to commencement of work the CONTRACTOR shall furnish the ENGINEER with a listing of all proposed haul routes for approval.

B. CONTRACTOR shall be responsible to keep all streets, drives, and parking lots in the area free of mud, clay, gravel, and other materials which vehicles or equipment may track or scatter onto them, or which may be deposited by uncontrolled drainage of water directly onto streets or drives.

Frequency of cleaning shall be based upon amount of material deposited, not necessarily done on a fixed schedule.

CONTRACTOR failure to comply with these requirements within twenty-four hours after being given notice by the CITY will result in CITY having streets cleaned and deducting costs from amount due CONTRACTOR.

Vehicles and equipment shall not be flushed out or dumped onto any streets, drives, walks, gutters, or on grounds of any private property.

C. CONTRACTOR shall maintain dust-free roadways at all times. Roadway surfaces shall be kept watered as required.

END OF SECTION
SECTION 01600
MATERIAL AND EQUIPMENT

1. GENERAL

The requirements of the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 1 – General Requirements, and the Wisconsin Best Practices Management Handbook apply to this section except as modified herein.

2. SECTION INCLUDES

A. Products
B. Transportation and Handling
C. Storage and Protection
D. Product Options
E. Substitutions

3. RELATED SECTIONS

A. Section 01400 - Quality Control
B. Section 01700 - Contract Close Out

4. PRODUCTS

A. Products include material, equipment, and systems.
B. Comply with Specifications and referenced standards as minimum requirements.
C. Components required to be supplied in quantity within a Specification section shall be the same, and shall be interchangeable.

5. TRANSPORTATION AND HANDLING

A. Transport products by methods to avoid product damage; deliver in undamaged condition in manufacturer’s unopened containers or packaging, dry.
B. Provide equipment and personnel to handle products by methods to prevent soiling or damage.
C. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.

6. STORAGE AND PROTECTION

A. Store loose granular materials on solid surfaces in a well-drained area; prevent mixing with foreign matter.
B. Arrange storage to provide access for inspection. Periodically inspect to assure the products are undamaged, and are maintained under required conditions.

7. PRODUCT OPTIONS
A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards.

B. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for an approved equal.

8. **SUBSTITUTIONS**

A. Only within 10 days after date established in Notice to Proceed will the ENGINEER consider requests from CONTRACTOR for substitutions. Subsequently, substitutions will be considered only when a product becomes unavailable due to no fault of CONTRACTOR.

B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

C. Request constitutes a representation that CONTRACTOR:

1. Has investigated proposed product and determined that it meets or exceeds, in all respects, specified product.

2. Will provide the same warranty for substitution as for specified product.

3. Will coordinate installation and make other changes which may be required for work to be complete in all respects.

4. Waives claims for additional costs which may subsequently become apparent.

D. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals without separate written request, or when acceptance will require substantial revision of Contract Documents.

E. The CITY will determine acceptability of proposed substitution, and will notify CONTRACTOR of acceptance or rejection in writing.

F. Only one request for substitution will be considered for each product. When substitution is not accepted the contractor shall provide the specified product.
SECTION 01700

CONTRACT CLOSEOUT

1. GENERAL

The requirement of the Contract Documents, including the General Conditions the Supplementary Conditions and Division I - General Requirements apply to this section except as modified herein.

2. CLEAN-UP AND FINAL INSPECTION

A. The CONTRACTOR shall have thorough and systematic clean-up operations follow closely behind the construction work. CONTRACTOR shall, at its own expense, remove and properly dispose of all dirt, rubbish, construction debris, brush, gravel, wood or any other foreign substances from the site. When the CONTRACTOR has cleaned the work site and is ready for final inspection, a walk through shall be scheduled with the ENGINEER. This shall be done prior to the CONTRACTOR leaving the site. Upon the ENGINEER's inspection, if the work is not found satisfactory, the ENGINEER may require further cleaning and repair and when these are completed, will again inspect the work. In no case will the job be considered complete until the CONTRACTOR has complied with all the requirements set forth and the ENGINEER has made his final inspection of the entire work and is satisfied that the entire work is properly and satisfactorily constructed in accordance with the plans and specifications and that such work is ready for acceptance by the CITY.

3. GUARANTEE

A. The CONTRACTOR shall be liable for the acceptable condition of all work including backfill and surface restoration, both during construction and throughout the guarantee period. The guarantee period of three (3) years, shall commence on the date of City acceptance of Final Completion. Should any defect appear either during construction or the guarantee period, the CONTRACTOR shall in conformance to a written order from the CITY, make the required repairs or replacement at his own expense.

4. FINAL PAYMENT

A. Wisconsin Department of Workforce Development (DWD) “Affidavit of Compliance with Prevailing Wage Rate Determination” forms are included in this section if applicable. Prime Contractor Affidavit of Compliance form shall be completed by the Prime Contractor and submitted with invoice for final payment. Agent or Subcontractor Affidavit of Compliance form shall be filed with the awarding contractor.

B. After the work has been finally accepted by the CITY, the CONTRACTOR will be paid in accordance with the final payment provisions of Section 01150 of these Specifications and the General Conditions.
Prime Contractor Affidavit of Compliance
With Prevailing Wage Rate Determination

Authorization for this form is provided under Sections 66.0903(9)(c), 66.0904(7)(c) and 103.49(4r)(c) Wisconsin Statutes.
The use of this form is mandatory. The penalty for failing to complete this form is prescribed in Section 103.005(12), Wisconsin Statutes.
Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04(1)(m), Wisconsin Statutes].

This form must ONLY be filed with the Awarding Agency indicated below.

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After being duly sworn, the person whose name and signature appears below hereby states under penalty of perjury that

- **I am** the duly authorized officer of the corporation, partnership, sole proprietorship or business indicated below and have recently completed all of the work required under the terms and conditions of a contract with the above-named awarding agency and make this affidavit in accordance with the requirements set forth in Section 66.0903(9)(c), 66.0904(7)(c) or 103.49(4r)(c, Wisconsin Statutes and Chapter DWD 290 of the Wisconsin Administrative Code in order to obtain FINAL PAYMENT from such awarding agency.
- **I have** fully complied with all the wage and hour requirements applicable to this project, including all of the requirements set forth in the prevailing wage rate determination indicated above which was issued for such project by the Department of Workforce Development on the date indicated above.
- **I have** received the required affidavit of compliance from each of my agents and subcontractors that performed work on this project and have listed each of their names and addresses on page 2 of this affidavit.
- **I have** full and accurate records that clearly indicate the name and trade or occupation of every worker(s) that I employed on this project, including an accurate record of the hours worked and actual wages paid to such worker(s).
- **I will** retain the records and affidavit(s) described above and make them available for inspection for a period of at least three (3) years from the completion date indicated above at the address indicated below and shall not remove such records or affidavit(s) without prior notification to the awarding agency indicated above.

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If you have any questions call (608) 266-0028
Agent or Subcontractor Affidavit of Compliance
With Prevailing Wage Rate Determination

Authorization for this form is provided under Sections, 66.0903(9)(b), 66.0904(7)(b) and 103.49(4r)(9b) Wisconsin Statutes.
The use of this form is mandatory. The penalty for failing to complete this form is prescribed in Section 103.005(12), Wisconsin Statutes.
Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04(1)(m), Wisconsin Statutes].

This form must ONLY be filed with the Awarding Contractor indicated below.

| State Of | ) | SS |
| County Of | ) |

| Project Name |
| DWD Determination Number | Project Number (if applicable) |
| Date Determination Issued | Date of Subcontract |
| Awarding Contractor |
| Date Work Completed |

After being duly sworn, the person whose name and signature appears below hereby states under penalty of perjury that

- I am the duly authorized officer of the corporation, partnership, sole proprietorship or business indicated below. We have recently completed all of the work required under the terms and conditions of a subcontract with the above-named awarding contractor. We make this affidavit in accordance with the requirements set forth in Section 66.0903(9)(b), 66.0904(7)(b) or 103.49(4r)(b), Wisconsin Statutes and Chapter DWD 290 of the Wisconsin Administrative Code in order to obtain FINAL PAYMENT from such awarding contractor.
- I have fully complied with all the wage and hour requirements applicable to this project, including all of the requirements set forth in the prevailing wage rate determination indicated above which was issued for such project by the Department of Workforce Development on the date indicated above.
- I have received the required affidavit of compliance from each of my agents and subcontractors that performed work on this project and have listed each of their names and addresses on page 2 of this affidavit.
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| Street Address or PO Box | City | State | Zip Code | Telephone Number |
| Print Name of Authorized Officer | | | | Date Signed |
| Signature of Authorized Officer |
# List of Agents and Subcontractors

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If you have any questions call (608) 266-0028
SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes.

1.3 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash, slag cement, other pozzolans, and silica fume; materials subject to compliance with requirements.

B. W/C Ratio: The ratio by weight of water to cementitious materials.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. Avoid damaging coatings on steel reinforcement.

B. Waterstops: Store waterstops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.

1.5 FIELD CONDITIONS

A. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.

2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.

3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

B. Hot-Weather Placement: Comply with ACI 301 and ACI 305.1, and as follows:
PART 1 - SPECIFICATIONS

1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.

2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

A. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:

1. ACI 301.
2. ACI 117.

2.2 CONCRETE MIXTURES, GENERAL

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.

B. Provide concrete admixtures with no chloride ion content.

2.3 EMBEDDED ITEM INSTALLATION

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC 303.
2. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.
3. Install dovetail anchor slots in concrete structures as indicated.

2.4 SHORING AND RESHORING INSTALLATION

A. Comply with ACI 318 and ACI 301 for design, installation, and removal of shoring and reshoring.

1. Do not remove shoring or reshoring until measurement of slab tolerances is complete.
B. In multistory construction, extend shoring or reshoring over a sufficient number of stories to distribute loads in such a manner that no floor or member will be excessively loaded or will induce tensile stress in concrete members without sufficient steel reinforcement.

C. Plan sequence of removal of shores and reshore to avoid damage to concrete. Locate and provide adequate reshoring to support construction without excessive stress or deflection.

2.5 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections are completed.

B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.

C. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.
   1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.

D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
   1. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
   2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
   3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

E. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
   1. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
   3. Screed slab surfaces with a straightedge and strike off to correct elevations.
   4. Slope surfaces uniformly to drains where required.
   5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
2.6 MISCELLANEOUS CONCRETE ITEM INSTALLATION

A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.

B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.

C. Equipment Bases and Foundations:
   1. Coordinate sizes and locations of concrete bases with actual equipment provided.
   2. Construct concrete bases high unless otherwise indicated and extend base not less than 6 inches in each direction beyond the maximum dimensions of supported equipment unless otherwise indicated or unless required for seismic anchor support.
   3. Minimum Compressive Strength: 4000 psi at 28 days.
   4. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of concrete base.
   5. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete substrate.
   6. Prior to pouring concrete, place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
   7. Cast anchor-bolt insert into bases. Install anchor bolts to elevations required for proper attachment to supported equipment.

D. Steel Pan Stairs: Provide concrete fill for steel pan stair treads, landings, and associated items. Cast-in inserts and accessories as shown on Drawings. Screed, tamp, and trowel finish concrete surfaces.

2.7 LIQUID FLOOR TREATMENT APPLICATION

A. Sealing Coat: Uniformly apply a continuous sealing coat of curing and sealing compound to hardened concrete by power spray or roller according to manufacturer’s written instructions.

2.8 JOINT FILLING

A. Prepare, clean, and install joint filler according to manufacturer's written instructions.
   1. Defer joint filling until concrete has aged at least one month. Do not fill joints until construction traffic has permanently ceased.

B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joints clean and dry.

END OF SECTION 033000
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

A. Structural Steel: Elements of the structural frame indicated on Drawings and as described in AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."

B. Seismic-Load-Resisting System: Elements of structural-steel frame designated as "SLRS" or along grid lines designated as "SLRS" on Drawings, including columns, beams, and braces and their connections.

C. Heavy Sections: Rolled and built-up sections as follows:
   1. Shapes included in ASTM A 6/A 6M with flanges thicker than 1-1/2 inches.
   2. Welded built-up members with plates thicker than 2 inches.
   3. Column base plates thicker than 2 inches.

D. Protected Zone: Structural members or portions of structural members indicated as "Protected Zone" on Drawings. Connections of structural and nonstructural elements to protected zones are limited.

E. Demand Critical Welds: Those welds, the failure of which would result in significant degradation of the strength and stiffness of the Seismic-Load-Resisting System and which are indicated as "Demand Critical" or "Seismic Critical" on Drawings.

1.3 COORDINATION

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

B. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

1.4 VERY, STORAGE, AND HANDLING

A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.

   1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.
B. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.
   1. Fasteners may be repackaged provided Owner's testing and inspecting agency observes repackaging and seals containers.
   2. Clean and relubricate bolts and nuts that become dry or rusty before use.
   3. Comply with manufacturers' written recommendations for cleaning and lubricating ASTM F 3125/F 3125M, Grade F1852 bolt assemblies and for retesting bolt assemblies after lubrication.

PART 2 - PRODUCTS

2.1 FABRICATION

   1. Camber structural-steel members where indicated.
   2. Fabricate beams with rolling camber up.
   3. Identify high-strength structural steel according to ASTM A 6/A 6M and maintain markings until structural steel has been erected.
   4. Mark and match-mark materials for field assembly.
   5. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.

B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
   1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1/D1.1M.

C. Bolt Holes: Cut, drill or punch standard bolt holes perpendicular to metal surfaces.

D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.

E. Cleaning: Clean and prepare steel surfaces that are to remain unpainted according to SSPC-SP 2, "Hand Tool Cleaning." SSPC-SP 3, "Power Tool Cleaning."

F. Steel Wall-Opening Framing: Select true and straight members for fabricating steel wall-opening framing to be attached to structural-steel frame. Straighten as required to provide uniform, square, and true members in completed wall framing. Build up welded framing, weld exposed joints continuously, and grind smooth.

H. Welded Door Frames: Build up welded door frames attached to structural-steel frame. Weld exposed joints continuously and grind smooth. Plug-weld fixed steel bar stops to frames. Secure removable stops to frames with countersunk machine screws, uniformly spaced not more than 10 inches O.C. unless otherwise indicated.

I. Holes: Provide holes required for securing other work to structural steel and for other work to pass through steel members.
   1. Cut, drill, or punch holes perpendicular to steel surfaces.
2. Baseplate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.
3. Weld threaded nuts to framing and other specialty items indicated to receive other work.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify, with certified steel erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedment’s for compliance with requirements.
   1. Prepare a certified survey of existing conditions. Include bearing surfaces, anchor rods, bearing plates, and other embedment’s showing dimensions, locations, angles, and elevations.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.
   1. Do not remove temporary shoring supporting composite deck construction until cast-in-place concrete has attained its design compressive strength.

3.3 ERECTION

A. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.
   1. Set plates for structural members on wedges, shims, or setting nuts as required.
   2. Weld plate washers to top of baseplate.
   3. Anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
   4. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.

C. Maintain erection tolerances of structural steel within AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."
D. Align and adjust various members that form part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that are in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.

1. Level and plumb individual members of structure.
2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.

E. Splice members only where indicated.

F. Do not use thermal cutting during erection unless approved by Architect and Engineer. Finish thermally cut sections within smoothness limits in AWS D1.1/D1.1M.

G. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.

1.

3.4 REPAIRS AND PROTECTION

A. Touchup Painting: Immediately after erection, clean exposed areas where primer is damaged or missing and paint with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

1. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.

END OF SECTION 051200
SECTION 055000 - METAL FABRICATIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Products furnished, but not installed, under this Section include the following:

1. Loose steel lintels.
2. Anchor bolts, steel pipe sleeves, slotted-channel inserts, and wedge-type inserts indicated to be cast into concrete or built into unit masonry.

1.3 COORDINATION

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

B. Coordinate installation of metal fabrications that are anchored to or that receive other work. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

1.4 FABRICATION, GENERAL

A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.

B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

D. Form exposed work with accurate angles and surfaces and straight edges.

E. Weld corners and seams continuously to comply with the following:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) fasteners unless otherwise indicated. Locate joints where least conspicuous.

G. Fabricate seams and other connections that are exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

H. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.

I. Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.

J. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors, 1/8 by 1-1/2 inches, with a minimum 6-inch embedment and 2-inch hook, not less than 8 inches from ends and corners of units and 24 inches o.c., unless otherwise indicated.

1.5 MISCELLANEOUS FRAMING AND SUPPORTS

A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.

B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.

C. Galvanize miscellaneous framing and supports where indicated.

D. Prime miscellaneous framing and supports with zinc-rich primer where indicated.

1.6 FINISHES, GENERAL

A. Finish metal fabrications after assembly.

B. Finish exposed surfaces to remove tool and die marks and stretch lines, and to blend into surrounding surface.

1.7 INSTALLATION, GENERAL

A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
C. Field Welding: Comply with the following requirements:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag screws, wood screws, and other connectors.

E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

END OF SECTION 055000
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

A. Boards: Lumber of less than 2 inches nominal in thickness and 2 inches nominal or greater in width.

B. Dimension Lumber: Lumber of 2 inches nominal or greater but less than 5 inches nominal in least dimension.

C. Timber: Lumber of 5 inches nominal or greater in least dimension.

D. Lumber grading agencies, and the abbreviations used to reference them, include the following:

2. NLGA: National Lumber Grades Authority.
3. RIS: Redwood Inspection Service.
5. WCLIB: West Coast Lumber Inspection Bureau.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Store materials under cover and protected from weather and contact with damp or wet surfaces. Stack lumber flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

B. Handle and store plastic lumber to comply with manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 LUMBER, GENERAL

A. Comply with DOC PS 20 and with grading rules of lumber grading agencies certified by ALSC's Board of Review as applicable. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by ALSC's Board of Review.

1. Factory mark each item with grade stamp of grading agency.
2. For items that are exposed to view in the completed Work, omit grade stamp and provide certificates of grade compliance issued by grading agency.
3. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry wood products.
4. Provide dressed lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content:
   1. Boards: 19 percent.
   2. Dimension Lumber: 19 percent
   3. Timber: 19 percent

Part 3-EXECUTION

2.2 EXAMINATION
   A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
   B. Proceed with installation only after unsatisfactory conditions have been corrected.

2.3 PREPARATION
   A. Clean substrates of projections and substances detrimental to application.
   B. Prime wood indicated to be painted, including both faces and edges. Cut to required lengths and prime ends. Comply with requirements in Section 099113 "Exterior Painting."
   C. Stain wood indicated to be stained, including both faces and edges. Cut to required lengths and stain ends. Comply with requirements in Section 099300 "Staining and Transparent Finishing."

2.4 INSTALLATION, GENERAL
   A. Set work to required levels and lines, with members plumb, true to line, cut, and fitted. Fit work to other construction; scribe and cope as needed for accurate fit.
   B. Framing Standard: Comply with AF&PA WCD1 unless otherwise indicated.
   C. Install wood decking with crown up (bark side down).
   D. Install plastic lumber to comply with manufacturer's written instructions.
   E. Secure decking to framing with.
   F. Do not splice structural members between supports unless otherwise indicated.
   G. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
   H. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of members or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
I. Securely attach exterior rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:

1. ICC-ES AC70 for power-driven fasteners.

J. Use common wire nails unless otherwise indicated. Select fasteners of size that do not fully penetrate members where opposite side is exposed to view. Make tight connections between members. Install fasteners without splitting wood; do not countersink nail heads unless otherwise indicated.

K. For exposed work, arrange fasteners in straight rows parallel with edges of members, with fasteners evenly spaced and with adjacent rows staggered.

2.5 ELEVATED DECK JOIST FRAMING INSTALLATION

A. General: Install joists with crown edge up and support ends of each member with not less than 1-1/2 inches of bearing on wood or metal, or 3 inches on masonry. Attach floor joists where framed into wood supporting members by using wood ledgers as indicated or, if not indicated, by using metal joist hangers. Do not notch joists.

B. Frame openings with headers and trimmers supported by metal joist hangers; double headers and trimmers where span of header exceeds 48 inches.

C. Lap members framing from opposite sides of beams or girders not less than 4 inches or securely tie opposing members together. Provide solid blocking of 2-inch nominal thickness by depth of joist over supports.

D. Provide solid blocking of 2-inch nominal thickness by depth of joist at intervals of 96 inches O.C., between joists.

END OF SECTION 061533
SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes surface preparation and the application of paint systems on [exterior substrates.]

   1. [Section 051200 "Structural Steel Framing"] [Section 051213 "Architecturally Exposed Structural Steel Framing"] for shop priming of metal substrates.

   2. Section 055000 "Metal Fabrications" for shop priming metal fabrications.

1.3 DEFINITIONS

A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.

B. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.

C. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.

D. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.

E. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.

F. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.4 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

   1. Architect will select one surface to represent surfaces and conditions for application of each paint system.

   2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
1.5 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient
temperatures continuously maintained at not less than 45 deg F.

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.6 FIELD CONDITIONS

A. Apply paints per Manufacturer specifications.

B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at
temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: PAINT TO BE DONATED BY MUNICIPALITY AND INSTALLED BY CONTRACTOR.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with
requirements for maximum moisture content and other conditions affecting performance of
the Work.

B. Verify suitability of substrates, including surface conditions and compatibility, with existing
finishes and primers.

C. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural
Painting Specification Manual" applicable to substrates and paint systems indicated.

B. Remove any items already in place that are removable and are not to be painted. If removal is
impractical or impossible because of size or weight of item, provide surface-applied protection
before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to
reinstall items that were removed. Remove surface-applied protection.
C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

   1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."

   1. Use applicators and techniques suited for paint and substrate indicated.
   2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
   3. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
   4. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

END OF SECTION 099113
SECTIN 311000 - SITE CLEARING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Protecting existing vegetation to remain.
   2. Removing existing vegetation.
   3. Clearing and grubbing.
   4. Stripping and stockpiling topsoil.
   5. Removing above- and below-grade site improvements.
   6. Disconnecting, capping or sealing, and abandoning site utilities in place.

1.3 DEFINITIONS

A. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.

B. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called “topsoil,” but in disturbed areas such as urban environments, the surface soil can be subsoil.

C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil; the zone where plant roots grow.

D. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.

E. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and indicated according to requirements in Section 015639 "Temporary Tree and Plant Protection.”.

F. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 MATERIAL OWNERSHIP

A. Except for materials indicated to be stockpiled or otherwise remain Owner’s property, cleared materials shall become Contractor’s property and shall be removed from Project site.
1.5 INFORMATIONAL SUBMITTALS

A. Existing Conditions: Documentation of existing trees and plantings, adjoining construction, and site improvements that establishes preconstruction conditions that might be misconstrued as damage caused by site clearing.

B. Burning: Documentation of compliance with burning requirements and permitting of authorities having jurisdiction. Identify location(s) and conditions under which burning will be performed.

1.6 FIELD CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.

2. Provide alternate routes around closed or obstructed trafficways if required by Owner or authorities having jurisdiction.

B. Utility Locator Service: Notify Digger’s Hotline for area where Project is located before site clearing.

C. Do not commence site clearing operations until temporary erosion- and sedimentation-control and plant-protection measures are in place.

D. Tree- and Plant-Protection Zones: Protect according to requirements in Section 015639 "Temporary Tree and Plant Protection."

PART 2 - PRODUCTS

2.1 MATERIALS

A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 312000 "Earth Moving."

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance during construction.

B. Verify that trees, shrubs, and other vegetation to remain or to be relocated have been flagged and that protection zones have been identified and enclosed according to requirements in Section 015639 "Temporary Tree and Plant Protection."

C. Protect existing site improvements to remain from damage during construction.

1. Restore damaged improvements to their original condition, as acceptable to Owner.
D. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
E. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
F. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.

3.2 TREE AND PLANT PROTECTION
A. Protect trees and plants remaining on-site according to requirements in Section 015639 "Temporary Tree and Plant Protection."
B. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations according to requirements in Section 015639 "Temporary Tree and Plant Protection."

3.3 EXISTING UTILITIES
1. Verify that utilities have been disconnected and capped before proceeding with site clearing.
B. Locate, identify, disconnect, and seal or cap utilities indicated to be abandoned in place.
   1. Arrange with utility companies to shut off indicated utilities.
   2. Owner will arrange to shut off indicated utilities when requested by Contractor.
C. Locate, identify, and disconnect utilities indicated to be abandoned in place.
D. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others, unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
   1. Notify Architect not less than two days in advance of proposed utility interruptions.
   2. Do not proceed with utility interruptions without Architect's written permission.
E. Excavate for and remove underground utilities indicated to be removed.
F. Removal of underground utilities is included in earthwork sections.

3.4 CLEARING AND GRUBBING
A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.
   1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
   2. Grind down stumps and remove roots larger than 2 inches (50 mm) in diameter, obstructions, and debris to a depth of 18 inches (450 mm) below exposed subgrade.
   3. Use only hand methods or air spade for grubbing within protection zones.
4. Chip removed tree branches and dispose of off-site.

3.5 TOPSOIL STRIPPING

A. Remove sod and grass before stripping topsoil.

B. Strip topsoil to depth of **6 inches (150 mm)** in a manner to prevent intermingling with underlying subsoil or other waste materials.
   
   1. Remove subsoil and non-soil materials from topsoil, including clay lumps, gravel, and other objects larger than **2 inches (50 mm)** in diameter; trash, debris, weeds, roots, and other waste materials.

C. Stockpile topsoil away from edge of excavations without intermixing with subsoil or other materials. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.
   
   1. Limit height of topsoil stockpiles to **72 inches (1800 mm)**.
   2. Do not stockpile topsoil within protection zones.
   3. Dispose of surplus topsoil. Surplus topsoil is that which exceeds quantity indicated to be stockpiled or reused.

3.6 SITE IMPROVEMENTS

A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.

B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
   
   1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.
   2. Paint cut ends of steel reinforcement in concrete to remain with two coats of antirust coating, following coating manufacturer’s written instructions. Keep paint off surfaces that will remain exposed.

3.7 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner’s property.

B. Burning tree, shrub, and other vegetation waste is permitted according to burning requirements and permitting of authorities having jurisdiction. Control such burning to produce the least smoke or air pollutants and minimum annoyance to surrounding properties. Burning of other waste and debris is prohibited.

END OF SECTION 311000
SECTION 312000 - EARTH MOVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Excavating and filling for rough grading the Site.
   2. Preparing subgrades for [slabs-on-grade] [walks] [pavements] [turf and grasses] [and] [plants].
   3. Excavating and backfilling for buildings and structures.
   4. Drainage course for concrete slabs-on-grade.
   5. Subbase course for concrete [walks] [pavements].
   6. Subsurface drainage backfill for walls and trenches.

B. Related Requirements:
   2. Section 329200 "Turf and Grasses" for finish grading in turf and grass areas, including preparing and placing planting soil for turf areas.

1.3 DEFINITIONS

A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
   1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
   2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Base Course: Aggregate layer placed between the subbase course and concrete paving.

C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.

D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

E. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.

F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work (Change Order).

2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be without additional compensation.

G. Fill: Soil materials used to raise existing grades.

1. Equipment for Footing, Trench, and Pit Excavation: Late-model, track-mounted hydraulic excavator; equipped with a 42-inch maximum-width, short-tip-radius rock bucket; rated at not less than 138-hp flywheel power with bucket-curving force of not less than 28,700 lbf and stick-crowd force of not less than 18,400 lbf with extra-long reach boom.

H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

I. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.

J. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.

K. Utilities: On-site underground pipes, conduits, ducts, and cables as well as underground services within buildings.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of the following manufactured products required:

1. Geotextiles.
2. Controlled low-strength material, including design mixture.

B. Samples for Verification: For the following products, in sizes indicated below:

1. Geotextile: 12 by 12 inches (300 by 300 mm).

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified testing agency.

B. Material Test Reports: For each [on-site] [and] [borrow] soil material proposed for fill and backfill as follows:

C. Geotechnical Testing Agency Qualifications: Qualified according to ASTM E 329 and ASTM D 3740 for testing indicated.
1.6 FIELD CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth-moving operations.
   1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
   2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.

B. Improvements on Adjoining Property: Authority for performing earth moving indicated on property adjoining Owner's property will be obtained by Owner before award of Contract.
   1. Do not proceed with work on adjoining property until directed by Architect.

C. Utility Locator Service: Notify Digger’s Hotline for area where Project is located before beginning earth-moving operations.

D. Do not commence earth-moving operations until temporary site fencing and erosion- and sedimentation-control measures specified in Section 015000 "Temporary Facilities and Controls" and Section 311000 "Site Clearing" are in place.

E. Do not commence earth-moving operations until plant-protection measures specified in Section 015639 "Temporary Tree and Plant Protection" are in place.

F. The following practices are prohibited within protection zones:
   1. Storage of construction materials, debris, or excavated material.
   2. Parking vehicles or equipment.
   3. Foot traffic.
   4. Erection of structures.
   5. Impoundment of water.
   6. Excavation or other digging unless otherwise indicated.
   7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

G. Do not direct vehicle or equipment exhaust towards protection zones.

H. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.

B. Satisfactory Soils: Soil Classification [Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487] [Groups A-1, A-2-4, A-2-5, and A-3 according to AASHTO M 145], or a combination of these groups; free of rock or gravel larger than [3 inches (75 mm)] <Insert dimension> in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
C. Unsatisfactory Soils: Soil Classification [Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487] [Groups A-2-6, A-2-7, A-4, A-5, A-6, and A-7 according to AASHTO M 145], or a combination of these groups.

1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.

D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940/D 2940M; with at least 90 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.

E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 294/D 2940M 0; with at least 95 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 8 percent passing a No. 200 (0.075-mm) sieve.

F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940/D 2940M; with at least 90 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.

G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940/D 2940M; except with 100 percent passing a 1-inch (25-mm) sieve and not more than 8 percent passing a No. 200 (0.075-mm) sieve.

H. Drainage Course: Narrowly graded mixture of [washed] crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch (37.5-mm) sieve and zero to 5 percent passing a No. 8 (2.36-mm) sieve.

I. Filter Material: Narrowly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM D 448; coarse-aggregate grading Size 67; with 100 percent passing a 1-inch (25-mm) sieve and zero to 5 percent passing a No. 4 (4.75-mm) sieve.

J. Sand: ASTM C 33/C 33M; fine aggregate.

K. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

2.2 GEOTEXTILES

A. Subsurface Drainage Geotextile: Nonwoven needle-punched geotextile, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:

1. Survivability: Class 2; AASHTO M 288.

2. Survivability: As follows:

   a. Grab Tensile Strength: 157 lbf (700 N); ASTM D 4632.
   b. Sewn Seam Strength: 142 lbf (630 N); ASTM D 4632.
   c. Tear Strength: 56 lbf (250 N); ASTM D 4533.
   d. Puncture Strength: 56 lbf (250 N); ASTM D 4833.

3. Permittivity: 0.5 per second, minimum; ASTM D 4491.
4. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth-moving operations.

B. Protect and maintain erosion and sedimentation controls during earth-moving operations.

C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 DEWATERING

A. Provide dewatering system of sufficient scope, size, and capacity to control hydrostatic pressures and to lower, control, remove, and dispose of ground water and permit excavation and construction to proceed on dry, stable subgrades.

B. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

C. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
   1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.

D. Dispose of water removed by dewatering in a manner that avoids endangering public health, property, and portions of work under construction or completed. Dispose of water and sediment in a manner that avoids inconvenience to others.

3.3 EXPLOSIVES

A. Explosives: Do not use explosives.

3.4 EXCAVATION, GENERAL

A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.

1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

2. Remove rock to lines and grades indicated to permit installation of permanent construction without exceeding the following dimensions:
   a. 24 inches outside of concrete forms other than at footings.
   b. 12 inches outside of concrete forms at footings.
c. 6 inches beneath bottom of concrete slabs-on-grade.

B. Classified Excavation: Excavate to subgrade elevations. Material to be excavated will be classified as earth and rock. Do not excavate rock until it has been classified and cross sectioned by Architect. The Contract Sum will be adjusted for rock excavation according to unit prices included in the Contract Documents. Changes in the Contract Time may be authorized for rock excavation.

1. Earth excavation includes excavating pavements and obstructions visible on surface; underground structures, utilities, and other items indicated to be removed; and soil, boulders, and other materials not classified as rock or unauthorized excavation.

   a. Intermittent drilling; blasting, if permitted; ram hammering; or ripping of material not classified as rock excavation is earth excavation.

3.5 EXCAVATION FOR STRUCTURES

1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.

B. Excavations at Edges of Tree- and Plant-Protection Zones:

1. Excavate by hand or with an air spade to indicated lines, cross sections, elevations, and subgrades. If excavating by hand, use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.

2. Cut and protect roots according to requirements in Section 015639 "Temporary Tree and Plant Protection."

3.6 EXCAVATION FOR WALKS AND PAVEMENTS

A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.7 UNAUTHORIZED EXCAVATION

A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Architect.

1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Architect.

3.8 STORAGE OF SOIL MATERIALS

A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.9 BACKFILL

A. Place and compact backfill in excavations promptly, but not before completing the following:
   1. Testing and inspecting underground utilities.
   2. Removing concrete formwork.
   3. Removing trash and debris.
   4. Removing temporary shoring, bracing, and sheeting.
   5. Installing permanent or temporary horizontal bracing on horizontally supported walls.

B. Place backfill on subgrades free of mud, frost, snow, or ice.

3.10 SOIL FILL

A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.

B. Place and compact fill material in layers to required elevations as follows:
   1. Under grass and planted areas, use satisfactory soil material.
   2. Under walks and pavements, use satisfactory soil material.
   3. Under steps and ramps, use engineered fill.
   4. Under building slabs, use engineered fill.
   5. Under footings and foundations, use engineered fill.

C. Place soil fill on subgrades free of mud, frost, snow, or ice.

3.11 SOIL MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.

1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.12 COMPACTION OF SOIL BACKFILLS AND FILLS

A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

B. Place backfill and fill soil materials evenly on all sides of structures to required elevations and uniformly along the full length of each structure.

C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698
1. Under structures, building slabs, steps, and pavements, scarify and re-compact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 95 percent.
2. Under walkways, scarify and re-compact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 92 percent.
3. Under turf or unpaved areas, scarify and re-compact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 85 percent.

3.13 GRADING

A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
   1. Provide a smooth transition between adjacent existing grades and new grades.
   2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to elevations required to achieve indicated finish elevations, within the following subgrade tolerances:
   1. Turf or Unpaved Areas: Plus or minus 1 inch (25 mm).
   2. Walks: Plus or minus 1 inch (25 mm).
   3. Pavements: Plus or minus 1/2 inch (13 mm).

C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch (13 mm) when tested with a 10-foot (3-m) straightedge.

3.14 SUBSURFACE DRAINAGE

A. Subsurface Drain: Place subsurface drainage geotextile around perimeter of subdrainage trench. Place a 6-inch (150-mm) course of filter material on subsurface drainage geotextile to support subdrainage pipe. Encase subdrainage pipe in a minimum of 12 inches (300 mm) of filter material, placed in compacted layers 6 inches (150 mm) thick, and wrap in subsurface drainage geotextile, overlapping sides and ends at least 6 inches (150 mm).
   1. Compact each filter material layer to 85 percent of maximum dry unit weight according to ASTM D 698 with a minimum of two passes of a plate-type vibratory compactor.

B. Drainage Backfill: Place and compact filter material over subsurface drain, in width indicated, to within 12 inches (300 mm) of final subgrade, in compacted layers 6 inches (150 mm) thick. Overlay drainage backfill with one layer of subsurface drainage geotextile, overlapping sides and ends at least 6 inches (150 mm).

3.15 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS

A. Place subbase course and base course on subgrades free of mud, frost, snow, or ice.
   1. Compact subbase course and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than [95] percent of maximum dry unit weight according to ASTM D 698.
3.16 DRAINAGE COURSE UNDER CONCRETE SLABS-ON-GRADE

A. Place drainage course on subgrades free of mud, frost, snow, or ice.

B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:
   1. Place drainage course 6 inches (150 mm) or less in compacted thickness in a single layer.
   2. Place drainage course that exceeds 6 inches (150 mm) in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches (150 mm) thick or less than 3 inches (75 mm) thick.
   3. Compact each layer of drainage course to required cross sections and thicknesses to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

3.17 FIELD QUALITY CONTROL

A. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.

B. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2937, and ASTM D 6938, as applicable. Tests will be performed at the following locations and frequencies:
   1. Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least one test for every 2000 sq. ft. (186 sq. m) or less of paved area or building slab but in no case fewer than three tests.
   2. Foundation Wall Backfill: At each compacted backfill layer, at least one test for every 100 feet (30 m) or less of wall length but no fewer than two tests.
   3. Trench Backfill: At each compacted initial and final backfill layer, at least one test for every 150 feet (46 m) or less of trench length but no fewer than two tests.

C. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.18 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
   1. Scarify or remove and replace soil material to depth as directed by Architect; reshape and re-compact.

C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
1. Restore appearance, quality, and condition of finishedsurfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.19 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

1. Remove waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 312000
SECTION 329113 - SOIL PREPARATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes planting soils specified by composition of the mixes.
B. Related Requirements:
   1. 
   2. 

1.3 DEFINITIONS

B. Backfill: The earth used to replace or the act of replacing earth in an excavation. This can be amended or unamended soil as indicated.
C. CEC: Cation exchange capacity.
D. Compost: The product resulting from the controlled biological decomposition of organic material that has been sanitized through the generation of heat and stabilized to the point that it is beneficial to plant growth.
E. Duff Layer: A surface layer of soil, typical of forested areas, that is composed of mostly decayed leaves, twigs, and detritus.
F. Imported Soil: Soil that is transported to Project site for use.
G. Layered Soil Assembly: A designed series of planting soils, layered on each other, that together produce an environment for plant growth.
H. Manufactured Soil: Soil produced by blending soils, sand, stabilized organic soil amendments, and other materials to produce planting soil.
I. NAPT: North American Proficiency Testing Program. An SSSA program to assist soil-, plant-, and water-testing laboratories through interlaboratory sample exchanges and statistical evaluation of analytical data.
J. Organic Matter: The total of organic materials in soil exclusive of undecayed plant and animal tissues, their partial decomposition products, and the soil biomass; also called "humus" or "soil organic matter."
K. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified as specified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.

M. SSSA: Soil Science Society of America.

N. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

O. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.

P. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil"; but in disturbed areas such as urban environments, the surface soil can be subsoil.


1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Include recommendations for application and use.
   2. Include test data substantiating that products comply with requirements.
   3. Include sieve analyses for aggregate materials.
   4. Material Certificates: For each type of soil amendment and fertilizer before delivery to the site, according to the following:
      a. Manufacturer's qualified testing agency's certified analysis of standard products.
      b. Analysis of fertilizers, by a qualified testing agency, made according to AAPFCO methods for testing and labeling and according to AAPFCO's SUIP #25.
      c. Analysis of nonstandard materials, by a qualified testing agency, made according to SSSA methods, where applicable.

B. Samples: For each bulk-supplied material, 1-quart (1-L) volume of each in sealed containers labeled with content, source, and date obtained. Each Sample shall be typical of the lot of material to be furnished; provide an accurate representation of composition, color, and texture.

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: An independent, state-operated, or university-operated laboratory; experienced in soil science, soil testing, and plant nutrition; with the experience and capability to conduct the testing indicated; and that specializes in types of tests to be performed.

1.6 TESTING REQUIREMENTS

A. General: Perform tests on soil samples according to requirements in this article.

B. Physical Testing:
1. Soil Texture: Soil-particle, size-distribution analysis by one of the following methods according to SSSA's "Methods of Soil Analysis - Part 1-Physical and Mineralogical Methods":
   a. Sieving Method: Report sand-gradation percentages for very coarse, coarse, medium, fine, and very fine sand; and fragment-gradation (gravel) percentages for fine, medium, and coarse fragments; according to USDA sand and fragment sizes.

2. Total Porosity: Calculate using particle density and bulk density according to SSSA's "Methods of Soil Analysis - Part 1-Physical and Mineralogical Methods."


1.7 DELIVERY, STORAGE, AND HANDLING

A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and compliance with state and Federal laws if applicable.

B. Bulk Materials:
   1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
   2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
   3. Do not move or handle materials when they are wet or frozen.
   4. Accompany each delivery of bulk fertilizers and soil amendments with appropriate certificates.

PART 2 - PRODUCTS

2.1 MATERIALS

2.2 PLANTING SOILS SPECIFIED BY COMPOSITION

A. General: Soil amendments, fertilizers, and rates of application specified in this article are guidelines that may need revision based on testing laboratory's recommendations after preconstruction soil analyses are performed.

B. Planting-Soil Type: Existing, on-site surface soil, with the duff layer, if any, retained and stockpiled on-site; modified to produce viable planting soil. Blend existing, on-site surface soil with the following soil amendments and fertilizers in the following quantities to produce planting soil:
   1. Ratio of Loose Compost to Soil: 1:4 by volume.
Planting-Soil Type: Imported, naturally formed soil from off-site sources and consisting of sandy loam soil according to USDA textures; and modified to produce viable planting soil.

1. Sources: Take imported, unamended soil from sources that are naturally well-drained sites where topsoil occurs at least 4 inches (100 mm) deep, not from agricultural land, bogs, or marshes; and that do not contain undesirable organisms; disease-causing plant pathogens; or obnoxious weeds and invasive plants including, but not limited to, quackgrass, Johnsongrass, poison ivy, nutsedge, nimblewill, Canada thistle, bindweed, bentgrass, wild garlic, ground ivy, perennial sorrel, and bromegrass.

2. Additional Properties of Imported Soil before Amending: Soil reaction of pH 6 to 7 and minimum of 2 percent organic-matter content, friable, and with sufficient structure to give good tilth and aeration.

3. Unacceptable Properties: Clean soil of the following:
   a. Unacceptable Materials: Concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.
   b. Unsuitable Materials: Stones, roots, plants, sod, clay lumps, and pockets of coarse sand that exceed a combined maximum of 8 percent by dry weight of the imported soil.
   c. Large Materials: Stones, clods, roots, clay lumps, and pockets of coarse sand exceeding 2 inches (50 mm) in any dimension.

2.3 INORGANIC SOIL AMENDMENTS

A. Lime: ASTM C 602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:
   1. Class: T, with a minimum of 99 percent passing through a No. 8 (2.36-mm) sieve and a minimum of 75 percent passing through a No. 60 (0.25-mm) sieve.
   2. Class: O, with a minimum of 95 percent passing through a No. 8 (2.36-mm) sieve and a minimum of 55 percent passing through a No. 60 (0.25-mm) sieve.
   3. Form: Provide lime in form of ground dolomitic limestone.

2.4 ORGANIC SOIL AMENDMENTS

A. Compost: Well-composted, stable, and weed-free organic matter produced by composting feedstock, and bearing USCC's "Seal of Testing Assurance," and as follows:
   1. Feedstock: Limited to leaves.
   2. Reaction: pH of 5.5 to 8.
   4. Moisture Content: 35 to 55 percent by weight.
   5. Organic-Matter Content: 30 to 40 percent of dry weight.
2.5 FERTILIZERS

A. Superphosphate: Commercial, phosphate mixture, soluble; a minimum of 20 percent available phosphoric acid.

PART 3 - EXECUTION

3.1 GENERAL

A. Place planting soil and fertilizers according to requirements in other Specification Sections.

B. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in planting soil.

C. Proceed with placement only after unsatisfactory conditions have been corrected.

3.2 PREPARATION OF UNAMENDED, ON-SITE SOIL BEFORE AMENDING

A. Excavation: Excavate soil from designated area(s) to a depth of 6 inches and stockpile until amended.

B. Unacceptable Materials: Clean soil of concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.

C. Unsuitable Materials: Clean soil to contain a maximum of 8 percent by dry weight of stones, roots, plants, sod, clay lumps, and pockets of coarse sand.

3.3 PLACING AND MIXING PLANTING SOIL OVER EXPOSED SUBGRADE

A. General: Apply and mix unamended soil with amendments on-site to produce required planting soil. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.

B. Subgrade Preparation: Till subgrade to a minimum depth of 4 inches. Remove stones larger than 1-1/2 inches in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.

1. Apply, add soil amendments, and mix approximately half the thickness of unamended soil over prepared, loosened subgrade according to "Mixing" Paragraph below. Mix thoroughly into top 2 inches of subgrade. Spread remainder of planting soil.

C. Mixing: Spread unamended soil to total depth of 4 inches, but not less than required to meet finish grades after mixing with amendments and natural settlement. Do not spread if soil or subgrade is frozen, muddy, or excessively wet.

1. Amendments: Apply soil amendments except compost, and fertilizer, if required, evenly on surface, and thoroughly blend them with unamended soil to produce planting soil.

   a. Mix lime with dry soil before mixing fertilizer.
   b. Mix fertilizer with planting soil no more than seven days before planting.
2. Lifts: Apply and mix unamended soil and amendments in lifts not exceeding 8 inches in loose depth for material compacted by compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

D. Compaction: Compact each blended lift of planting soil to 75 to 82 percent of maximum Standard Proctor density according to ASTM D 698 and tested in-place except where a different compaction value is indicated on Drawings.

E. Finish Grading: Grade planting soil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

3.4 PLACING MANUFACTURED PLANTING SOIL OVER EXPOSED SUBGRADE

A. General: Apply manufactured soil on-site in its final, blended condition. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.

B. Subgrade Preparation: Till subgrade to a minimum depth of 4 inches. Remove stones larger than 1-1/2 inches in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.

1. Apply approximately half the thickness of planting soil over prepared, loosened subgrade. Mix thoroughly into top 2 inches of subgrade. Spread remainder of planting soil.

C. Application: Spread planting soil to total depth of 4 inches, but not less than required to meet finish grades after natural settlement. Do not spread if soil or subgrade is frozen, muddy, or excessively wet.

1. Lifts: Apply planting soil in lifts not exceeding 8 inches in loose depth for material compacted by compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

D. Compaction: Compact each lift of planting soil to 75 to 82 percent of maximum Standard Proctor density according to ASTM D 698.

E. Finish Grading: Grade planting soil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

1. [Top Layer] <Insert layer designation>: Planting-soil type <Insert drawing designation>.

2. <Insert layer designation>: Planting-soil type <Insert drawing designation>.

3.5

A.

3.6 PROTECTION

A. Protection Zone: Identify protection zones according to Section 015639 "Temporary Tree and Plant Protection."
B. Protect areas of in-place soil from additional compaction, disturbance, and contamination. Prohibit the following practices within these areas except as required to perform planting operations:

1. Storage of construction materials, debris, or excavated material.
2. Parking vehicles or equipment.
3. Vehicle traffic.
4. Foot traffic.
5. Erection of sheds or structures.
6. Impoundment of water.
7. Excavation or other digging unless otherwise indicated.

C. If planting soil or subgrade is over-compacted, disturbed, or contaminated by foreign or deleterious materials or liquids, remove the planting soil and contamination; restore the subgrade as directed by Architect and replace contaminated planting soil with new planting soil.

3.7 CLEANING

A. Protect areas adjacent to planting-soil preparation and placement areas from contamination. Keep adjacent paving and construction clean and work area in an orderly condition.

B. Remove surplus soil and waste material including excess subsoil, unsuitable materials, trash, and debris and legally dispose of them off Owner's property unless otherwise indicated.

1. Dispose of excess subsoil and unsuitable materials on-site where directed by Owner.

END OF SECTION 329113
SECTION 329200 - TURF AND GRASSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary
   Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Seeding.
   2. Turf renovation.
   3. Erosion-control material(s).

1.3 DEFINITIONS

A. Finish Grade: Elevation of finished surface of planting soil.

B. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a
   pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and
   molluscicides. They also include substances or mixtures intended for use as a plant regulator,
   defoliant, or desiccant.

C. Pests: Living organisms that occur where they are not desired or that cause damage to plants,
   animals, or people. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents
   (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.

D. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified
   with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
   See Section 329113 "Soil Preparation" and drawing designations for planting soils.

E. Subgrade: The surface or elevation of subsoil remaining after excavation is complete, or the top
   surface of a fill or backfill before planting soil is placed.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened
   containers showing weight, certified analysis, name and address of manufacturer, and
   indication of compliance with state and Federal laws, as applicable.

B. Bulk Materials:
   1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or
      on existing turf areas or plants.
   2. Provide erosion-control measures to prevent erosion or displacement of bulk materials;
      discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties,
      water conveyance systems, or walkways.
3. Accompany each delivery of bulk materials with appropriate certificates.

1.5 FIELD CONDITIONS

A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with initial maintenance periods to provide required maintenance from date of planting completion.

B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 SEED

A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Rules for Testing Seeds" for purity and germination tolerances.

B. Seed Species:
   1. Quality: Seed of grass species as listed below for solar exposure, with not less than [85] <Insert number> percent germination, not less than [95] <Insert number> percent pure seed, and not more than [0.5] <Insert number> percent weed seed:
   2. Sun and Partial Shade: Proportioned by weight as follows:
      a. 50 percent Kentucky bluegrass (Poa pratensis).
      b. 30 percent chewings red fescue (Festuca rubra variety).
      c. 10 percent perennial ryegrass (Lolium perenne).
      d. 10 percent redtop (Agrostis alba).

2.2 FERTILIZERS

A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:

   1. Composition: [1 lb/1000 sq. ft. (0.45 kg/92.9 sq. m)] <Insert value> of actual nitrogen, 4 percent phosphorus, and 2 percent potassium, by weight.

2.3 MULCHES

A. Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.

B. Fiber Mulch: Biodegradable, dyed-wood, cellulose-fiber mulch; nontoxic and free of plant-growth or germination inhibitors; with a maximum moisture content of 15 percent and a pH range of 4.5 to 6.5.
2.4  EROSION-CONTROL MATERIALS

A.  Erosion-Control Blankets: Biodegradable wood excelsior, straw, or coconut-fiber mat enclosed in a photodegradable plastic mesh. Include manufacturer's recommended steel wire staples, 6 inches (150 mm) long.

B.  Erosion-Control Fiber Mesh: Biodegradable burlap or spun-coir mesh, a minimum of Machine-printed, permanent, with 50 to 65 percent open area. Include manufacturer's recommended steel wire staples, 6 inches (150 mm) long.

PART 3 - EXECUTION

3.1  EXAMINATION

A.  Examine areas to be planted for compliance with requirements and other conditions affecting installation and performance of the Work.
   1.  Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
   2.  Suspend planting operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
   3.  Uniformly moisten excessively dry soil that is not workable or which is dusty.

B.  Proceed with installation only after unsatisfactory conditions have been corrected.

C.  If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.

3.2  PREPARATION

A.  Protect structures; utilities; sidewalks; pavements; and other facilities, trees, shrubs, and plantings from damage caused by planting operations.

B.  Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3  TURF AREA PREPARATION

A.  General: Prepare planting area for soil placement and mix planting soil according to Section 329113 "Soil Preparation."
   1.  Reduce elevation of planting soil to allow for soil thickness of sod.

B.  Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

C.  Before planting, obtain Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.
3.4 PREPARATION FOR EROSION-CONTROL MATERIALS

A. Prepare area as specified in "Turf Area Preparation" Article.

B. For erosion-control mats, install planting soil in two lifts, with second lift equal to thickness of erosion-control mats. Install erosion-control mat and fasten as recommended by material manufacturer.

C. Fill cells of erosion-control mat with planting soil and compact before planting.

3.5 SEEDING

A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph (8 km/h).
   1. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
   2. Do not use wet seed or seed that is moldy or otherwise damaged.
   3. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.

B. Sow seed at a total rate of 3 lb/1000 sq. ft. (0.9 kg/92.9 sq. m).

C. Rake seed lightly into top 1/8 inch (3 mm) of soil, roll lightly, and water with fine spray.

D. Protect seeded areas with slopes exceeding 1:6 with erosion-control fiber mesh installed and stapled according to manufacturer’s written instructions.

E. Protect seeded areas with erosion-control mats where indicated on Drawings; install and anchor according to manufacturer’s written instructions.

F. Protect seeded areas with slopes not exceeding 1:6 by spreading straw mulch. Spread uniformly at a minimum rate of [2 tons/acre (42 kg/92.9 sq. m)] to form a continuous blanket [1-1/2 inches (38 mm)] in loose thickness over seeded areas. Spread by hand, blower, or other suitable equipment.
   1. Anchor straw mulch by crimping into soil with suitable mechanical equipment.
   2. Bond straw mulch by spraying with asphalt emulsion at a rate of [10 to 13 gal./1000 sq. ft. (38 to 49 L/92.9 sq. m)]. Take precautions to prevent damage or staining of structures or other plantings adjacent to mulched areas. Immediately clean damaged or stained areas.

G. Protect seeded areas from hot, dry weather or drying winds by applying compost mulch within 24 hours after completing seeding operations. Soak areas, scatter mulch uniformly to a thickness of 3/16 inch (4.8 mm), and roll surface smooth.

3.6 TURF RENOVATION

A. Renovate turf damaged by Contractor's operations, such as storage of materials or equipment and movement of vehicles.
1. Reestablish turf where settlement or washouts occur or where minor regrading is required.
2. Install new planting soil as required.

B. Remove sod and vegetation from diseased or unsatisfactory turf areas; do not bury in soil.

C. Remove topsoil containing foreign materials, such as oil drippings, fuel spills, stones, gravel, and other construction materials resulting from Contractor's operations, and replace with new planting soil.

D. Mow, dethatch, core aerate, and rake existing turf.

E. Remove weeds before seeding. Where weeds are extensive, apply selective herbicides as required. Do not use pre-emergence herbicides.

F. Remove waste and foreign materials, including weeds, soil cores, grass, vegetation, and turf, and legally dispose of them off Owner's property.

G. Till stripped, bare, and compacted areas thoroughly to a soil depth of 6 inches.

H. Apply soil amendments and initial fertilizer required for establishing new turf and mix thoroughly into top 4 inches of existing soil. Install new planting soil to fill low spots and meet finish grades.
   1. Initial Fertilizer: Commercial fertilizer applied according to manufacturer's recommendations.

I. Apply seed and protect with straw mulch as required for new turf.

J. Water newly planted areas and keep moist until new turf is established.

3.7 TURF MAINTENANCE

A. General: Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
   1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
   2. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.
   3. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.

B. Watering: Install and maintain temporary piping, hoses, and turf-watering equipment to convey water from sources and to keep turf uniformly moist to a depth of 4 inches.
   1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
   2. Water turf with fine spray at a minimum rate of 1 inch per week unless rainfall precipitation is adequate.
C. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than one-third of grass height. Remove no more than one-third of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:

3.8 SATISFACTORY TURF

A. Turf installations shall meet the following criteria as determined by Architect:

1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 5 by 5 inches.

B. Use specified materials to reestablish turf that does not comply with requirements, and continue maintenance until turf is satisfactory.

3.9 CLEANUP AND PROTECTION

A. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

B. Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Owner's property.

C. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.

D. Remove non-degradable erosion-control measures after grass establishment period.

END OF SECTION 329200