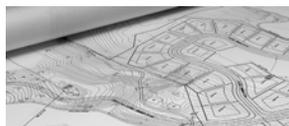


# CONTRACT DOCUMENTS AND TECHNICAL SPECIFICATIONS FOR

## Little Traverse Bay Bands of Odawa Indians Nine Mile Point Boat Launch Hayes Township, Charlevoix County, Michigan

GFA PROJECT NO.: 12184  
DATE: MARCH, 2015



# NINE MILE POINT BOAT LAUNCH

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## ADVERTISEMENT FOR BIDS

Project: Nine Mile Point Boat Launch

Owner: Little Traverse Bay Bands of Odawa Indians

Location: Hayes Township, Charlevoix County, Michigan

Sealed Bids for the site work depicted on the plans and described in the specifications prepared by Gourdie-Fraser, Inc. will be received at the office of the Little Traverse Bay Bands of Odawa Indians Planning Department, 7500 Odawa Circle, Harbor Springs, Michigan, 49740, Attention: Transportation Planner until 3:00PM Local Time, APRIL 17, 2015 at which time there will be a public bid opening.

The site work features the construction of a single-well boat launch with an asphalt paved driveway and parking area. Site work features may include but are not limited to the following items:

- Clearing and demolition
- Earth excavation
- Driveway and bike path grading and paving
- Soil erosion and storm water controls
- Dredging
- Temporary and permanent signage
- Site restoration

The Contract Documents, consisting of Drawings, Specifications, Bid Schedule and Addenda, may be examined and obtained at the Contractor's Expense at the Builders Exchange of Northwest Michigan, 1373 Barlow Street, Suite #4, Traverse City, MI 49686, Phone: 231-946-5531, Email: [inform@bxtvc.com](mailto:inform@bxtvc.com), [www.bxtvc.com](http://www.bxtvc.com). It shall be the Contractor's responsibility to check for any addendums posted for the project during the bidding period.

The Owner reserves the right to waive any informality or to reject any or all Bids. No Bidder may withdraw their Bid within 90 days after the actual date of Bid opening.

     MARCH, 2015  
Date

## INFORMATION FOR BIDDERS

1. Each Bid must be submitted in a sealed envelope addressed to The Little Traverse Bay Bands of Odawa Indians. Each sealed envelope containing a Bid must be plainly marked on the outside as Bid for \_\_\_\_\_ The Nine Mile Point Boat Launch and the envelope should bear on the outside the name of the Bidder, Bidder address, Bidder license number, if applicable, and the name of the Project for which the Bid is submitted. If forwarded by mail, the sealed envelope containing the Bid must be enclosed in another envelope addressed to: The Little Traverse Bay Bands of Odawa Indians Planning Department, 7500 Odawa Circle, Harbor Springs, Michigan, 49740, Attention: Amanda Swiss, Mobility Coordinator and received prior to the designated time for receipt of Bids.
2. All Bids must be made on the required Bid form. All blank spaces for Bid prices and manufacturer's names, where applicable, must be filled in with ink or typewritten, and the Bid form must be fully completed and executed when submitted. Bids not accompanied by a proper bid bond or certified check in the amount stated in the documents, or received after the above Bid closing date and time, will not be considered.
3. Any Bidder may modify their Bid by fax or special delivery at any time prior to the scheduled Bid opening provided such fax or special delivery is received by the Owner prior to the Bid opening time. The Bidder's modification notice shall not reveal the Bid price but should provide the addition or subtraction or other modification so that the final prices or terms will not be known by the Owner until the sealed Bid is opened. Fax transmittal of Bid bonds will not be accepted.
4. No official interpretation of the meaning of the Plans, Specifications or other pre-Bid documents will be made to any Bidder orally except as provided for in a pre-Bid meeting.

Every request for such interpretation shall be in writing, addressed to Gourdie-Fraser, 123 West Front Street, Traverse City, Michigan 49684 and to be given consideration must be received at least five working days prior to the date fixed for the opening of Bids. Any and all such interpretations and any supplemental instructions will be in the form of a written Addenda to the Specifications which, if issued, will not be later than three days prior to the date fixed for the opening of Bids. Bidders are responsible to research Addendums and Acknowledge Addendums on the Bid form. Addendums will be posted, at least three (3) days prior to Bid Opening, at the Builders Exchange of Northwest Michigan , 1373 Barlow Street, Suite #4, Traverse City, MI 49686, Phone: 231-946-5531, Email: [inform@bxtvc.com](mailto:inform@bxtvc.com), website at [www.bxtvc.com](http://www.bxtvc.com) It shall be the Contractor's responsibility to check for any addendums posted for the project during the bidding period. Failure of any Bidder to obtain any such addendum or interpretation shall not relieve such Bidder from any obligation under his Bids as submitted. All Addendas, so issued, shall become part of the Contract Documents.

5. The Owner may waive any informalities or minor defects or reject any and all Bids. Any Bid may be withdrawn prior to the above scheduled time for the opening of Bids or authorized postponement thereof. Any Bid received after the time and date specified will not be opened or considered. No Bidder may withdraw a Bid within 90 days after the actual date of the opening thereof. Should there be reasons why the Contract cannot be awarded within the specified period, the time may be extended by written mutual Agreement between the Owner and the Bidder.
6. Bidders must satisfy themselves of the accuracy of the estimated quantities in the Bid schedule by examination of the Site and a review of the Drawings and Specifications including Addenda. After Bids have been submitted, the Bidder shall not assert that there was a misunderstanding concerning the quantities of Work or of the nature of the Work to be done.

7. The Owner shall provide to Bidders, prior to Bidding, all information which is pertinent to, and delineates and describes, the land owned and rights-of-way acquired or to be acquired.
8. The Contract Documents contain the provisions required for the construction of the Project. Information obtained from an officer, agent, or employee of the Owner or any other person shall not affect the risks or obligations assumed by the Contractor or relieve the Contractor from fulfilling any of the conditions of the Contract.
9. Each Bid must be accompanied by a Bid bond duly executed by a surety company approved by the Owner and payable to the Owner for five (5) percent of the total amount of the Bid. As soon as the Bid prices have been compared, the Owner will return the bonds of all except the three lowest responsive, responsible Bidders. When the Agreement is executed, the bonds of the two remaining Unsuccessful Bidders will be returned. The Bid bond of the Successful Bidder will be retained until the payment bond and performance bond have been executed and approved, after which it will be returned. A certified check, drawn in the Owner's name, may be used in lieu of a Bid bond.
10. A performance bond and payment bond, each in the amount of 100 percent of the Contract Price, with a corporate surety approved by the Owner, will be required for the faithful performance of the Contract.
11. A maintenance bond, in the amount of 50 percent of the final Contract Price with a corporate surety approved by the Owner, will be required. The maintenance bond shall be in effect for the one (1) year warranty period beginning from the date of acceptance by the municipality of the Contract Work as determined by the Owner in written notice to the Contractor and shall accompany Contractor's Request for Final Payment of the Contracted Work.

12. The attorney-in-fact who signs Bid bonds, Payment bonds, performance bonds or maintenance bonds must file with each bond a certified and effective dated copy of his power of attorney.
13. The party to whom the Contract is awarded will be required to execute the Agreement and obtain the performance bond and payment bond within 10 calendar days from the date when Notice of Intent To Award is delivered to the Bidder. The Notice of Intent To Award shall be accompanied by the necessary Agreement and bond forms. In case of failure of the Bidder to execute the Agreement, the Owner may, at his option, consider the Bidder in default, in which case the Bid bond accompanying the proposal shall become the property of the Owner.
14. The Owner, within 30 calendar days of receipt of acceptable performance bond, payment bond, insurance certificates, and Agreement signed by the party to whom the Agreement was awarded, shall sign the Agreement and return to such party an executed duplicate of the Agreement. Should the Owner not execute the Agreement within such period, the Bidder may, by written notice to the Owner, withdraw their signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the Owner. Should there be reasons why the Contract cannot be awarded within the specified period; the time may be extended by written mutual Agreement between the Owner and the Bidder.
15. The Bidder must complete the Bidder's Experience Form(s) in the Contract Documents and submit with their Bid. The Owner reserves the right to request an Experience and Qualifications Statement from the low Bidder. Failure to complete the Experience Form or Experience and Qualifications Statement may constitute an unresponsive Bid.
16. The awarding of the Contracts will be to the lowest responsive, responsible Bidder by the Owner. The Owner may make such investigations as deemed necessary to determine the ability of the Bidder to perform the Work and the

Bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any Bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligations of the Agreement and to complete the Work contemplated herein.

17. All applicable Laws, Ordinances, and the Rules and Regulations of all authorities having jurisdiction over construction of the Project shall apply to the Contract throughout, and they will be deemed to be included in the Contract the same as though herein written out in full.
18. Each Bidder is responsible for inspecting the Site and for reading and being thoroughly familiar with the Contract Documents. The failure or omission of any Bidder to do any of the foregoing shall in no way relieve any Bidder from any obligation in respect to their Bid, or to carry out the provisions of their Contract.
19. The lowest responsible Bidder must supply the names and addresses of major material Suppliers and Subcontractors on the Bid document or when requested to do so by the Owner.
20. The Engineer is Gourdie-Fraser. Engineer's address is 123 West Front Street, Traverse City, Michigan 49684. Phone: 231/946-5874, Fax 231/946-3703.
21. **Subcontracting**
  - A. The Contractor may utilize the services of specialty Subcontractors on those parts of the Work which, under normal Contracting practices, are performed by specialty Subcontractors.
  - B. The Contractor shall not award Work to Subcontractor(s), in excess of fifty percent (50%) of the Contract Price, without prior written approval of the Owner.

- C. The Contractor shall be fully responsible to the Owner for the acts and omissions of his Subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.
- D. Nothing contained in this Contract shall create any Contractual relation between any Subcontractor and the Owner.
- E. All Work of the Contractor and Subcontractors will be pursuant to all the terms and conditions of the original Contract Documents executed between Owner and Contractor, or as further amended and changes thereto.



Bidder agrees to perform all Work in the Contract Documents for the following prices:

Item	Description	Estimated Quantity	Unit	Estimated Unit Price	Estimated Cost
<b>Mobilization</b>					
1	Mobilization	1	Lump Sum		
<b>Demolition and Clearing</b>					
1	Remove Existing Pavement	230	Square Yard		
2	Site Clearing	1.0	Acre		
3	Remove Existing Gravel	100	Square Yard		
<b>Subtotal, Demolition and Clearing:</b>					
<b>Storm Water and Soil Erosion Controls</b>					
1	Silt Fence	1,840	Lineal Feet		
2	Soil Erosion and Sedimentation Controls (Above and Below the Water's Edge)	1	Lump Sum		
<b>Subtotal, Storm Water and Soil Erosion Controls:</b>					
<b>Grading and Paving</b>					
1	Temporary Traffic Controls (Pedestrian and Vehicular)	1	Lump Sum		
2	Site Grading	1	Lump Sum		
3	22A Aggregate Base (6" Section)	2,400	Square Yard		
4	MDOT Intersection with Curb and Gutter	1	Each		
5	13A Bituminous Leveling Course (1 1/2" Section)	200	Tons		
6	36A Bituminous Wearing Course (1 1/2" Section)	180	Tons		
7	Wood Guard Rail (Bike Path Areas)	220	Lineal Feet		
8	MDOT Type B Guardrails (Access Road Areas)	540	Lineal Feet		
9	Metal Guard Rail Terminal Ends	4	Each		
10	Rip/Rap Storm Discharges	2	Each		
11	Bike Path and Launch Access Road Signs at intersection	4	Each		
<b>Subtotal, Grading and Paving:</b>					
<b>Boat Launch</b>					
1	Cofferdam / Dewatering for Boat Launch Construction	1	Lump Sum		
2	Channel Dredging	931	Cubic Yards		
3	Cast in Place Concrete Boat Ramp	2,120	Square Feet		
4	Removable Skid Pier	1	Lump Sum		
<b>Subtotal, Boat Launch:</b>					
<b>Subtotal Overall Project:</b>					
<b>Total Bid:</b>					

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Amount of Bid in Words

Respectfully submitted,

Seal if Bid is by a Corporation  
ATTEST:

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Signature

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Name of Contractor

---

Title

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Address

Bidder acknowledges that the estimated quantities are not guaranteed and are solely for the purpose of comparison of bids. Final payment for unit price bid items will be based on the actual quantities constructed in accordance with the contract documents and will be verified by the engineer.

BIDDER'S EXPERIENCE FORM

The intent of this form is to assist the Owner in the evaluation of the Bidder or his Subcontractor.

LIST OF SIMILAR PROJECTS  
SUCCESSFULLY COMPLETED IN MICHIGAN

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PROJECT	OWNER (Address & Phone No.)	DATE
1.		
2.		
3.		
4.		
5.		

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BIDDER'S LIST OF SUBCONTRACTOR(S)

CONTRACT TYPE	DUTY	CONTRACTOR
1. PRIME (BIDDER)		
2. SUBCONTRACTOR		
3. SUBCONTRACTOR		
4. SUBCONTRACTOR		

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This form shall be completed and submitted with the proposal.

NOTICE OF INTENT TO AWARD

TO: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Project description: Nine Mile Point Boat Launch, GFA Project No. 12184. The Owner has considered the Bid submitted by you for the above described Work. You are hereby notified that your Bid has been accepted for items in the amount of \$\_\_\_\_\_. You are required by the Information for Bidders to execute the Agreement and furnish the required Contractor's Performance Bond and Payment Bond within 10 calendar days from the date of this Notice to you. If you fail to execute said Agreement and to furnish said bonds within 10 days from the date of this Notice, said Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your Bid as abandoned and as a forfeiture of your Bid Bond. The Owner will be entitled to such other rights as may be granted by Law. You are required to return an acknowledged copy of this Notice of Intent to Award to the Owner within two (2) days.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Owner  
By \_\_\_\_\_  
  
Title \_\_\_\_\_  
Little Traverse Bay Bands of Odawa  
Indians

ACCEPTANCE OF NOTICE  
Receipt of the above Notice of Intent to Award is hereby acknowledged.  
By \_\_\_\_\_  
this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.  
  
\_\_\_\_\_  
By: \_\_\_\_\_  
Title: \_\_\_\_\_

## AGREEMENT

This Agreement, made this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by and between the Little Traverse Bay Bands of Odawa Indians, hereinafter called "Owner" & "Co-Owner" and \_\_\_\_\_, doing business as a Corporation hereinafter called "Contractor".

WITNESSETH: That for and in consideration of the payments and Agreement hereinafter mentioned:

1. The Contractor will commence and complete the construction of  
The Nine Mile Point Boat Launch  
\_\_\_\_\_
2. The Contractor will furnish all of the material, supplies, tools, equipment, labor and other services necessary for the construction and completion of the Project described herein.
3. The Contractor will commence the Work required by the Contract Documents in accordance with the Notice to Proceed and will substantially complete the Project within 60 consecutive calendar days thereafter, and fully complete the Project (including restoration, punch list items, maintenance bond, and close-out documents) within 30 days of Substantial Completion.
4. Contractor hereby agrees to pay for the actual costs to the Owner for Resident Project Representative, construction observation, inspection, and Project management services beyond the Contract completion date. In addition, the Bidder hereby agrees to pay the actual cost for any construction observation, inspection, testing, and Project management time and expense of the Engineer for Work beyond the 90 day construction period. (Reference – Section 0800, Supplemental General Conditions).
5. The Contractor agrees to perform all of the Work described in the Contract Documents and comply with the terms therein for the sum of \$ \_\_\_\_\_ or as shown in the Bid Schedule.

6. The term "Contract Documents" means and includes the following:

- A. TABLE OF CONTENTS Page 1 to 2 inclusive
- B. ADVERTISEMENT FOR BIDS Page 00100-1 to 00100-1 inclusive
- C. INFORMATION FOR BIDDERS Page 00200-1 to 00200-6 inclusive
- D. BID Page 00400-1 to 00400-3 inclusive
- E. BIDDER'S EXPERIENCE FORM Page 00410-1 to 00410-1 inclusive
- F. NOTICE OF INTENT TO AWARD Page 00510-1 to 00510-1 inclusive
- G. AGREEMENT Page 00520-1 to 00520-3 inclusive
- H. NOTICE TO PROCEED Page 00550-1 to 00550-1 inclusive
- I. BID BOND Page 00610-1 to 00610-2 inclusive
- J. PAYMENT BOND Page 00611-1 to 00611-3 inclusive
- K. PERFORMANCE BOND Page 00612-1 to 00612-3 inclusive
- L. MAINTENANCE BOND Page 00613-1 to 00613-2 inclusive
- M. LETTER OF GUARANTEE Page 00620-1 to 00620-1 inclusive
- N. APPLICATION FOR PROGRESS PAYMENT Page 00621-1 to 00621-3 inclusive
- O. STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT Page 00700-0 to 00700-40 inclusive
- P. SUPPLEMENTAL GENERAL CONDITIONS Page 00800-1 to 00800-4 inclusive
- Q. CHANGE ORDER (duly delivered after execution of Agreement) Page 00940-1 to 00940-2 inclusive
- R. DRAWINGS prepared by Gourdie-Fraser, 123 West Front Street, Traverse City, Michigan, and dated March, 2015.
- S. SPECIFICATIONS prepared by Gourdie-Fraser, 123 West Front Street, Traverse City, Michigan, dated March, 2015.
- T. ADDENDA:  
No.   , dated \_\_\_\_\_

7. The Owner will pay to the Contractor in the manner and at such times as set forth in the General Conditions such amounts as required by the Contract Documents.

8. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in quadruplicate (4), each of which shall be deemed an original on the date first above written.

CONTRACTOR:

(SEAL)

ATTEST:

\_\_\_\_\_  
NAME: \_\_\_\_\_  
TITLE: \_\_\_\_\_

BY: \_\_\_\_\_  
NAME: \_\_\_\_\_  
TITLE: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
\_\_\_\_\_  
PHONE: \_\_\_\_\_  
FAX: \_\_\_\_\_

OWNER:

(SEAL)

ATTEST:

\_\_\_\_\_  
NAME: \_\_\_\_\_  
TITLE: \_\_\_\_\_

BY: \_\_\_\_\_  
NAME: \_\_\_\_\_  
TITLE: \_\_\_\_\_  
ADDRESS: 7500 Odawa Circle  
Harbor Springs, MI 49740  
PHONE: \_\_\_\_\_  
FAX: \_\_\_\_\_

NOTICE TO PROCEED

TO: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DATE: \_\_\_\_\_  
PROJECT: Nine Mile  
Point Boat Launch  
\_\_\_\_\_  
\_\_\_\_\_

You are hereby notified to commence Work in accordance with the Agreement dated \_\_\_\_\_ on or before \_\_\_\_\_ and you are to substantially complete the Work by August 31, 2015. The Project shall be fully complete within 30 consecutive calendar days of Substantial Completion.

Little Traverse Bay Bands of Odawa  
Indians  
\_\_\_\_\_  
Owner

\_\_\_\_\_  
By

\_\_\_\_\_  
Title

ACCEPTANCE OF NOTICE

Receipt of the above Notice  
To Proceed is hereby acknowledged by

this the \_\_\_\_\_ day of \_\_\_\_\_

\_\_\_\_\_  
By

\_\_\_\_\_  
Title

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 Owner,  
in the penal sum of \_\_\_\_\_  
for the payment of which well and truly to be made, we hereby jointly and severally  
bind ourselves, our heirs, executors, administrators, successors and assigns.

Signed, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

This condition of the above obligation is such that, whereas, the Principal has  
submitted to \_\_\_\_\_ a certain Bid, attached hereto  
and hereby made a part hereof, to enter into a Contract in writing for the

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NOW, THEREFORE,

(a) If said Bid shall be rejected, or in the alternate,

(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 Bid) and shall furnish a bond for the  
faithful performance of said Contract and for the payment of all  
persons performing labor or furnishing materials in connection  
therewith and shall in all other respects perform the Agreement  
created by the acceptance of said Bid,

then this obligation shall be void; 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 Owner 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 and year first set forth above.

\_\_\_\_\_  
Principal

\_\_\_\_\_  
Surety

By: \_\_\_\_\_

**IMPORTANT:**

Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the Project is located.

## PAYMENT BOND

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

Contractor (Name and Address):

Surety (Name and Address of  
Principal Place of Business):

Owner (Name and Address):

### Contract

Date:

Amount:

Description (Name and Location):

### Bond

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Bond Number:

Surety and Contractor, intending to be legally bound hereby, subject to the following terms, do each cause this Payment Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

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

2. With respect to the Owner, this obligation shall be null and void if the Contractor:

2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2 Defends, indemnifies and holds harmless the Owner from all Claims, demands, Liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Contract, provided the Owner has promptly notified the Contractor and the Surety (at the addresses described in paragraph 12) of any Claims, demands, Liens or suits and tendered defense of such Claims, demands, Liens or suits to the Contractor and the Surety, and provided there is no Owner default.

3. With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment directly or indirectly, for all sums due.

4. The Surety shall have no obligation to Claimants under this Bond until:

4.1 Claimants who are employed by or have a direct Contract with the Contractor have given notice to the Surety (at the addresses described in paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a Claim is being made under this Bond and, with substantial accuracy, the amount of the Claim.

4.2 Claimants who do not have a direct Contract with the Contractor:

4.2.1. Have furnished written notice to the Contractor and sent a copy, or notice thereof, to the Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the Claim stating, with substantial accuracy, the amount of the Claim and

the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and

4.2.2. Have either received a rejection in whole or in part from the Contractor, or not received within 30 days of furnishing the above notice any communication from the Contractor by which the Contractor had indicated the Claim will be paid directly or indirectly; and

4.2.3. Not having been paid within the above 30 days, have sent a written notice to the Surety and sent a copy, or notice thereof, to the Owner, stating that a Claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the Contractor.

5. If a notice required by paragraph 4 is given by the Owner to the Contractor or to the Surety, that is sufficient compliance.

6. When the Claimant has satisfied the conditions of paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:

6.1 Send an answer to the Claimant, with a copy to the Owner, within 45 days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.

6.2 Pay or arrange for payment of any undisputed amounts.

7. The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

8. Amounts owned by the Owner to the Contractor under the Contract shall be used for the performance of the Contract and to satisfy Claims, if any, under any Performance Bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Contract are dedicated to satisfy obligations of the Contractor and the Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the Work.

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

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

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent

jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by paragraph 4.1 or paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, the Owner or the Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

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

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

## 15. DEFINITIONS

15.1 Claimant: An individual or entity having a direct Contract with the Contractor or with a Subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Contract, architectural, engineering, and inspection services required for performance of the Work of the Contractor and the Contractor's Subcontractors, and all other items for which a mechanic's Lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

15.2 Contract: The Agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractors required by the Contract or to perform and complete or comply with the other terms thereof.

CONTRACTOR AS PRINCIPAL SURETY

Company: (Corp. Seal)

Company:

(Corp. Seal)

Signature: \_\_\_\_\_ Signature: \_\_\_\_\_

Name and Title:

Name and Title:

**(Attach Power of Attorney)**

(Space is provided below for signatures of additional parties, if required).

CONTRACTOR AS PRINCIPAL SURETY

Company: (Corp. Seal)

Company:

(Corp. Seal)

Signature: \_\_\_\_\_ Signature: \_\_\_\_\_

Name and Title:

Name and Title:

**NOTE:** Date of Bond must not be prior to date of Contract. If Contractor is a Partnership, all partners should execute Bond.

**IMPORTANT:** Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the Project is located.

## PERFORMANCE BOND

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

CONTRACTOR (Name and Address):

SURETY (Name and Address of  
Principal Place of Business):

OWNER (Name and Address):

### CONTRACT

Date:

Amount:

Description (Name and Location):

### BOND

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Bond Number:

Surety and Contractor, intending to be legally bound hereby, subject to the following terms, to each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

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

2. If the Contractor performs the Contract, the Surety and the Contractor has no obligation under this Bond, except to participate in conferences as provided in paragraph 3.1.

3. If there is no Owner Default, the Surety's obligation under this Bond shall arise after:

3.1 The Owner has notified the Contractor and the Surety at the addresses described in paragraph 10 below, that the Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Contract. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Contract, but such an Agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default; and

3.2 The Owner has declared a Contractor Default and formally terminated the Contractor's right to complete the Contract. Such Contractor Default shall not be declared earlier than twenty days after the Contractor and the Surety have received notice as provided in paragraph 3.1; and

3.3 The Owner has agreed to pay the Balance of the Contract Price to:

3.3.1 The Surety in accordance with the terms of the Contract;

3.3.2 Another Contractor selected pursuant to paragraph 4.3 to perform the Contract.

4. When the Owner has satisfied the conditions of paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

4.1 Arrange for the Contractor, with consent of the Owner, to perform and complete the Contract; or

4.2 Undertake to perform and complete the Contract itself, through its agents or through independent Contractors; or

4.3 Obtain Bids or negotiated proposals from qualified Contractors acceptable to the Owner for a Contract for performance and completion of the Contract, arrange for a Contract to be prepared for execution by the Owner and the Contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the Bonds issued on the Contract, and pay to the Owner the amount of damages as described in paragraph 6 in excess of the Balance of the Contract Price incurred by the Owner resulting from the Contractor Default; or

4.4 Waive its right to perform and complete, arrange for completion, or obtain a new Contractor and with reasonable promptness under the circumstances;

4.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, tender payment therefore to the Owner; or

4.4.2 Deny liability in whole or in part and notify the Owner citing reasons therefore.

5. If the Surety does not proceed as provided in paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. IF the Surety proceeds as provided in paragraph 4.4, and the Owner refuses the payment tendered or the Surety had denied pliability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

6. After the Owner has terminated the Contractor's right to complete the Contract, and if the Surety elects to act under paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Contract, and the responsibilities of the Owner to be Surety shall not be greater than those of the Owner under the Contract. To a limit of the amount of this Bond, but subject to commitment by the Owner of the Balance of the Contract Price to mitigation of costs and damages on the Contract, the Surety is obligated without duplication for:

6.1 The responsibilities of the Contractor for correction of defective Work and completion of the Contract;

6.2 Additional legal, design professional, inspection, and delay costs resulting from the actions or failure to act of the Surety under paragraph 4; and

6.3 Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of the Contractor.

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

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

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

10. Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page.

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

12. Definitions.

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

12.2 Contract: The Agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

12.3 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.

12.4 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractors required by the Contract or to perform and complete or comply with the other terms thereof.

CONTRACTOR AS PRINCIPAL  
Company: (Corp. Seal)

SURETY  
Company: (Corp. Seal)

Signature: \_\_\_\_\_ Signature: \_\_\_\_\_  
Name and Title: Name and Title:  
**(Attach Power of Attorney)**

(Space is provided below for signatures of additional parties, if required).

CONTRACTOR AS PRINCIPAL SURETY  
Company: (Corp. Seal) Company: (Corp. Seal)

Signature: \_\_\_\_\_ Signature: \_\_\_\_\_  
Name and Title: Name and Title:

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is a Partnership, all partners should execute Bond.

IMPORTANT: Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the Project is located.

MAINTENANCE BOND

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

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place of Business):

OWNER (Name and Address):

CONTRACT

Date:

Amount:

Project Description (Name and Location):

BOND

Date (1 year from date of Acceptance by the Municipality):

Amount:

Bond Number:

Surety and Contractor, intending to be legally bound hereby, subject to the following terms, to each cause this Maintenance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

KNOW ALL MEN BY THESE PRESENTS, That we, \_\_\_\_\_

\_\_\_\_\_ as Principal, (hereinafter called **Principal**), and \_\_\_\_\_

\_\_\_\_\_ as Surety (hereinafter called **Surety**), are held and firmly bound into \_\_\_\_\_

\_\_\_\_\_ as Obligee (hereinafter called **Obligee**), in the penal sum of \_\_\_\_\_

Dollars \$ \_\_\_\_\_ for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Principal has by written Agreement, dated \_\_\_\_\_

entered into a Contract with said Obligee for \_\_\_\_\_

in accordance with the General Conditions, the Drawings and Specifications, which Contract is by reference incorporated herein, and made a part hereof, and is referred to as the Contract.

NOW, THEREFORE, the condition of this obligation is such that, if said Principal shall maintain and remedy any defects due to faulty materials or workmanship, and pay for any damage to other Work resulting therefrom, and additional expense which shall appear within a period of \_\_\_\_\_ year(s) from the date of acceptance by the municipality of the Work provided for in the Contract, then this obligation to be void; otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that said Obligee shall give Principal and Surety notice of observed defects with reasonable promptness.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

CONTRACTOR AS PRINCIPAL  
Company: (Corp. Seal)

SURETY  
Company: (Corp. Seal)

Signature: \_\_\_\_\_  
Name and Title:

Signature: \_\_\_\_\_  
Name and Title:  
**(Attach Power of Attorney)**

(Space is provided below for signatures of additional parties, if required).

CONTRACTOR AS PRINCIPAL  
Company: (Corp. Seal)

SURETY  
Company: (Corp. Seal)

Signature: \_\_\_\_\_  
Name and Title:

Signature: \_\_\_\_\_  
Name and Title:

**NOTE:** Date of Bond must not be prior to date of Substantial Completion. If Contractor is a Partnership, all partners should execute Bond.

**IMPORTANT:** Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the Project is located.

LETTER OF GUARANTEE

DATE: \_\_\_\_\_

12184 \_\_\_\_\_

PROJECT NO.

OWNER: Little Traverse Bay Bands of Odawa  
Indians  
\_\_\_\_\_

PROJECT:

Gentlemen:

As the Contractor for this Project, I hereby guarantee all materials and equipment furnished and all Work performed on this Project including any restoration Work necessary to be repaired or replaced.

With respect to this Project, to our personal knowledge, all payments have been made and there are no Liens on said system

This guarantee will remain in effect for a period of one (1) year from the date of acceptance by the Municipality.

Signature:

\_\_\_\_\_  
(Contractor)

Title: \_\_\_\_\_  
(Please Print or Type)

Company Name:

\_\_\_\_\_  
(Please Print or Type)

Address:

\_\_\_\_\_  
\_\_\_\_\_

**OWNER**

**ENGINEER**  
Gourdie-Fraser  
123 W. Front Street  
Traverse City, MI 49684

**CONTRACTOR**

**CONTRACT AMOUNT**  
ORIGINAL: \$0.00

REVISED: \$0.00

**COMPLETION DATE**  
ORIGINAL:

REVISED:

**DATES OF ESTIMATES**  
FROM:

TO:

**APPLICATION FOR PROGRESS PAYMENT**

Application

**Project:**

GFA Project No:

Item	Description of Item	CONTRACT ITEMS (Original)		CONTRACT ITEMS (Revised)		This Period		TOTAL TO DATE	
		Unit	Qty	Cost/ Unit	Item Cost	Qty	Cost	Item Cost	%
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
				\$0.00		\$0.00		\$0.00	
								\$0.00	



**Application**

**Project:**

**GFA Project No:**

The undersigned Contractor certifies that: (1) Any previous progress payments received from Owner on account of Work done under the Contract referred to above have been applied to discharge in full all obligations of Contractor incurred in connection with Work covered by prior Applications for Payment; (2) title to all Work, materials, and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to Owner at time of payment free and clear of all Liens, Claims, security interest and encumbrances (except such as are covered by Bond acceptable to Owner indemnifying Owner against any such Lien, Claim, security interest, or encumbrance); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and not defective as that term is defined in the Contract Documents

Payment of the above AMOUNT DUE THIS APPLICATION is recommended.

Dated: \_\_\_\_\_

\_\_\_\_\_  
 Gourdie-Fraser  
 (ENGINEER)

\_\_\_\_\_  
 Authorized Signature

Date: \_\_\_\_\_

\_\_\_\_\_  
 (CONTRACTOR)

\_\_\_\_\_  
 Authorized Signature

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the Controlling Law.

# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

**ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE**

and

Issued and Published Jointly By



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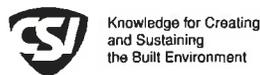
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Construction Specifications Institute

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These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor Nos. C-520 or C-525 (2002 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the EJCDC Construction Documents, General and Instructions (No. C-001) (2002 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (No. C-800) (2002 Edition).

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## GENERAL CONDITIONS

### ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

---

#### 1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*--Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*--The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

3. *Application for Payment*--The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*--The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidder*--The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*--A document recommended by 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, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*-- Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor's submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*--The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any, (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*--The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*--See Paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by Engineer which 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.

18. *Effective Date of the Agreement*--The date indicated in the Agreement on which it 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.

19. *Engineer*--The individual or entity named as such in the Agreement.

20. *Field Order*--A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

21. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

22. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

23. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

24. *Laws and Regulations; Laws or Regulations*--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

25. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*--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.

28. *Notice to Proceed*--A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*--The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*--Polychlorinated biphenyls.

31. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

32. *Progress Schedule*--A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Related Entity* -- An officer, director, partner, employee, agent, consultant, or subcontractor.

37. *Resident Project Representative*--The authorized representative of Engineer who may be assigned to the Site or any part thereof.

38. *Samples*--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. *Schedule of Submittals*--A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

40. *Schedule of Values*--A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

41. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

42. *Site*--Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

43. *Specifications*--That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain

administrative requirements and procedural matters applicable thereto.

44. *Subcontractor*--An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

45. *Substantial Completion*--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

46. *Successful Bidder*--The Bidder submitting a responsive Bid to whom Owner makes an award.

47. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

48. *Supplier*--A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or any Subcontractor.

49. *Underground Facilities*--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

50. *Unit Price Work*--Work to be paid for on the basis of unit prices.

51. *Work*--The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

52. *Work Change Directive*--A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times

but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

## 1.02 *Terminology*

A. The following words or terms are not defined but, when used in the Bidding Requirements or Contract Documents, have the following meaning.

### B. *Intent of Certain Terms or Adjectives*

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered", "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action or determination will be solely to evaluate, in general, the Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

### C. *Day*

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

### D. *Defective*

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

a. does not conform to the Contract Documents, or

b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents, or

c. has been damaged prior to Engineer's - recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

*E. Furnish, Install, Perform, Provide*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

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2.01 *Delivery of Bonds and Evidence of Insurance*

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement

or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule; indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.07 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

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3.01 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or

responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, or Engineer, or any of, their Related Entities, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. Reporting Discrepancies

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor may discover and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor knew or reasonably should have known thereof.

B. Resolving Discrepancies

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work

(unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

### 3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;
2. Engineer's approval of a Shop Drawing or Sample; (Subject to the provisions of Paragraph 6.17.D.3); or
3. Engineer's written interpretation or clarification.

### 3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier or other individual or entity performing or furnishing all of the Work under a direct or indirect contract with Contractor, shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or Engineer's consultants, including electronic media editions; or
2. reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaption by Engineer.

B. The prohibition of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

### 3.06 *Electronic Data*

A. Copies of data furnished by Owner or Engineer to Contractor or Contractor to Owner or Engineer that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's

sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party..

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

## ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

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### 4.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

#### 4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings*: The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer has used in preparing the Contract Documents; and

2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that Engineer has used in preparing the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

#### 4.03 *Differing Subsurface or Physical Conditions*

A. *Notice*: If Contractor believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review*: After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

#### C. Possible Price and Times Adjustments

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and

b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, Owner and Engineer, and any of their Related Entities shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

#### 4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

a. reviewing and checking all such information and data,

b. locating all Underground Facilities shown or indicated in the Contract Documents,

c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction, and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

#### B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will

promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

#### 4.05 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

#### 4.06 *Hazardous Environmental Condition at Site*

A. *Reports and Drawings:* Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the Engineer in the preparation of the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered to Contractor written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to

entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06. G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

## ARTICLE 5 - BONDS AND INSURANCE

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### 5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified

in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent must be accompanied by a certified copy of the agent's authority to act.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

#### 5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

#### 5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

#### 5.04 *Contractor's Liability Insurance*

A. Contractor shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection

from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or

b. by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insured (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include completed operations insurance;

4. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment.

a. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

#### 5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

#### 5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, (other than caused by flood) and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any

deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

#### 5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them.

#### 5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order .

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

#### 5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract

Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

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ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

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6.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances. The superintendent will be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communications given to or

received from the superintendent shall be binding on Contractor.

6.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

#### 6.05 *Substitutes and "Or-Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole,

3) it has a proven record of performance and availability of responsive service; and

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times, and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

#### 2. Substitute Items

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented in the General Requirements and as Engineer may decide is appropriate under the circumstances.

d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

1) shall certify that the proposed substitute item will:

a) perform adequately the functions and achieve the results called for by the general design,

b) be similar in substance to that specified, and

c) be suited to the same use as that specified;

2) will state:

a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time;

b) whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and

c) whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

a) all variations of the proposed substitute item from that specified, and

b) available engineering, sales, maintenance, repair, and replacement services;

4) and shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change,

**B. Substitute Construction Methods or Procedures:** If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

**C. Engineer's Evaluation:** Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

**D. Special Guarantee:** Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

**E. Engineer's Cost Reimbursement:** Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute item so proposed or submitted by Contractor, Contractor shall reimburse Owner for the charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the charges of Engineer for making changes in the Contract

Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

**F. Contractor's Expense:** Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

#### 6.06 Concerning Subcontractors, Suppliers, and Others

**A.** Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

**B.** If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

**C.** Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity, nor

2. shall anything in the Contract Documents create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual

or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. 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 an additional insured on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, 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.

#### 6.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of Owner or Engineer its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

#### 6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

#### 6.09 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

## 6.10 Taxes

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

## 6.11 Use of Site and Other Areas

### A. Limitation on Use of Site and Other Areas

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

*B. Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

*C. Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

*D. Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

## 6.12 Record Documents

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

## 6.13 Safety and Protection

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Draw-

ings or Specifications or to the acts or omissions of Owner or Engineer or , or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

D. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

#### 6.14 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

#### 6.15 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

#### 6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

#### 6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the acceptable Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

##### 1. Shop Drawings

a. Submit number of copies specified in the General Requirements.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples*: Contractor shall also submit Samples to Engineer for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals.

a. Submit number of Samples specified in the Specifications.

b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals , any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

##### C. Submittal Procedures

1. Before submitting each Shop Drawing or Sample, Contractor shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. the suitability of all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto; and

d. shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents

with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations, that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawing's or Sample Submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

#### *D. Engineer's Review*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

#### *E. Resubmittal Procedures*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

#### *6.18 Continuing the Work*

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or

disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

#### *6.19 Contractor's General Warranty and Guarantee*

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its Related Entities shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;

6. any inspection, test, or approval by others; or

7. any correction of defective Work by Owner.

#### *6.20 Indemnification*

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or

arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

B. In any and all claims against Owner or Engineer or any of their respective consultants, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

#### 6.21 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal

shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

## ARTICLE 7 - OTHER WORK AT THE SITE

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### 7.01 *Related Work at Site*

A. Owner may perform other work related to the Project at the Site with Owner's employees, or via other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and
2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and shall properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and

properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

#### 7.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

#### 7.03 *Legal Relationships*

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's actions or inactions.

C. Contractor shall be liable to Owner and any other contractor for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's action or inactions.

## ARTICLE 8 - OWNER'S RESPONSIBILITIES

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### 8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

### 8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

### 8.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

### 8.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

### 8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by Engineer in preparing the Contract Documents.

### 8.06 *Insurance*

A. Owner's responsibilities, if any, in respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

### 8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

### 8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility in respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

#### 8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

#### 8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

#### 8.11 *Evidence of Financial Arrangements*

A. If and to the extent Owner has agreed to furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents, Owner's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

### ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

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#### 9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents and will not be changed without written consent of Owner and Engineer.

#### 9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep

Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

#### 9.03 *Project Representative*

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

#### 9.04 *Authorized Variations in Work*

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

#### 9.05 *Rejecting Defective Work*

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question

B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believe that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show

partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to, the Resident Project Representative, if any, and assistants, if any.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

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10.01 *Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall

promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

#### 10.02 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.B.

#### 10.03 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

#### 10.04 *Notification to Surety*

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any bond to be given to a surety, the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

#### 10.05 *Claims*

A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim, shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part,
2. approve the Claim, or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

## ARTICLE 11 - COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

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### 11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in Paragraph 11.01.B.

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and

Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to Engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have

resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expresses, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

**B. Costs Excluded:** The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A and 11.01.B.

**C. Contractor's Fee:** When all the Work is performed on the basis of cost-plus, Contractor's fee shall

be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

**D. Documentation:** Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

#### 11.02 Allowances

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

##### B. Cash Allowances

1. Contractor agrees that:

a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

##### C. Contingency Allowance

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

#### 11.03 Unit Price Work

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

2. there is no corresponding adjustment with respect any other item of Work; and

3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

## ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

### 12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an

allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;

b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;

c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

### 12.02 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted

by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

#### 12.03 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer and the Related Entities of each of them shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of Engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

## ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

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#### 13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

#### 13.02 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and programs so that they may comply therewith as applicable.

#### 13.03 *Tests and Inspections*

A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in said Paragraph 13.04.C; and
3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to

be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, it must, if requested by Engineer, be uncovered for observation.

F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

#### 13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

D. If, the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

#### 13.05 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

#### 13.06 *Correction or Removal of Defective Work*

A. Promptly after receipt of notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

#### 13.07 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or
2. correct such defective Work; or
3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications .

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

### 13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

### 13.09 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

## ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

### 14.01 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress

payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

#### 14.02 *Progress Payments*

##### A. Applications for Payments

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

##### B. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations on the Site of the executed Work as an experienced and qualified design professional and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and to any other qualifications stated in the recommendation); and

c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

b. that there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

a. to supervise, direct, or control the Work, or

b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent

inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b. the Contract Price has been reduced by Change Orders;
- c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
- d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

*C. Payment Becomes Due*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

*D. Reduction in Payment*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

- a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
- b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
- c. there are other items entitling Owner to a set-off against the amount recommended; or
- d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor corrects to Owner's satisfaction the reasons for such action.

3. If it is subsequently determined that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1.

*14.03 Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

*14.04 Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

B. Promptly after Contractor's notification, , Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will within 14 days after submission of the tentative certificate to Owner notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will within said 14 days execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial

Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to complete or correct items on the tentative list.

#### 14.05 *Partial Utilization*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions.

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor will certify to Owner and Engineer that such part of the Work is substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

#### 14.06 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals

that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

#### 14.07 *Final Payment*

##### A. Application for Payment

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.7;

b. consent of the surety, if any, to final payment;

c. a list of all Claims against Owner that Contractor believes are unsettled; and

d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner or Owner's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

##### B. *Engineer's Review of Application and Acceptance*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations

under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

#### C. Payment Becomes Due

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and , will be paid by Owner to Contractor.

#### 14.08 *Final Completion Delayed*

A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

#### 14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance

with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

## ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

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### 15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

### 15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;

3. Contractor's disregard of the authority of Engineer; or

4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety ) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion),

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and

3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B, and 15.02.C.

#### 15.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

#### 15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

## ARTICLE 16 - DISPUTE RESOLUTION

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### 16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be

governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions, or

2. agrees with the other party to submit the Claim to another dispute resolution process, or

3. gives written notice to the other party of their intent to submit the Claim to a court of competent jurisdiction.

## ARTICLE 17 - MISCELLANEOUS

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### 17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

### 17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

### 17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

### 17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

### 17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

### 17.06 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

## SUPPLEMENTARY CONDITIONS

### PART 1 - STANDARD LANGUAGE

#### 1.1 INTRODUCTORY STATEMENT

SC-1 These Supplementary General Conditions amend or supplement the General Conditions as indicated below. All articles of the General Conditions, which are not amended here, remain in full effect.

SC-2.02.A Amend the first sentence of paragraph 2.02.A to read as follows: Owner shall furnish to Contractor up to six copies of the Contract Documents.

SC-4.02 Add the following new paragraph(s) immediately after paragraph 4.02.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:

1. Soils data contained in the Contract Documents Appendix.

SC-5.02.B Add the following new paragraph immediately after paragraph 5.02.A:

B. All insurance requirements shall be furnished by an insurance company qualified to do business in the State of Michigan and such company shall have a rating of "AAAAA" as listed in the current issue of A.M. Best's "Kay Rating Guide".

SC-5.03.A Delete paragraph 5.03.A in its entirety and insert the following in its place:

A. Contractor shall deliver to Owner and Engineer, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner, Engineer or any other additional insured) which Contractor is required to purchase and maintain.

SC-5.04.B The Department of Public Works shall be named as additionally insured where public water and/or public sanitary sewer systems are involved.

SC-5.04.C Add the following new paragraph immediately after paragraph 5.04.B:

C. The limits of liability for the insurance required by paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts:

1. Workers Compensation, etc. under articles 5.04.A.1 and A.2:
  - a. State of Michigan: Statutory
  - Federal (as required under the Longshoremen's and Harbor Workers Act): Statutory
  - Employer's Liability \$100,000
  
2. Comprehensive General Liability (including Premises – Operations, Independent Contractor Protective, Products and Completed Operations, Contractual and Explosion, Collapse or Underground Damage) under articles 5.04.A.3 through A.6:
  - a. Bodily Injury \$500,000
  - b. Property Damage (Each Occurrence) \$100,000  
(Aggregate) \$200,000
  
3. Comprehensive Motor Vehicle Liability (including owner, non-owned and hired vehicles):
  - a. Bodily Injury (Each Person) \$250,000  
(Each Occurrence) \$500,000
  - b. Property Damage (Each Occurrence) \$100,000
  
4. Umbrella Excess Liability: (Over \$1,000,000 Comprehensive General Liability and Comprehensive Motor Vehicle Policies)
  
5. Protective Public Liability (in name of Owner and Co-Owner and including coverage for cost of defense for such claims):
  - a. Bodily Injury (Each Occurrence) \$1,000,000
  - b. Property Damage (Each Occurrence) \$250,000  
(Aggregate) \$500,000
  - c. Policy shall include as additionally named insured, Tuscarora Township, State of Michigan, Gourdie Fraser Inc., and its consultants, agents and employees and all public corporations in whose jurisdiction the Work is located.

6. Railroad Protective Public Liability:
  - a. When the Work includes construction crossing railroads, procure insurance in the name of the railroad for bodily injury, death and property damage. The form and amounts of liability coverage shall be determined by the railroad involved.
7. All-Risk Builders Insurance:
  - a. Provide in the name of the Owner and the Contractor, as their respective interests may occur, during the life of the Contract, in an amount not less than the Contract amount plus the value of all material furnished by parties other than the Contractor for installation in the Work to cover all structures, materials, supplies, machinery, equipment and fixtures, including installation costs, which are owned by the insured or for which the insured is legally liable. This policy shall cover the property of the insured: (1) while in transit at the risk of the insured; (2) while on the premises of the Work; (3) during construction, installation or testing. Policy shall insure against all risk of direct physical loss or damage to the property insured hereunder and shall specifically cover loss due to fire, wind, flood and collapse but may be subject to exclusion of losses from wear and tear, misappropriation or their dishonest act by insured, earthquake, interruption of business, defective materials, collapse due to faulty workmanship, war, nuclear reaction radiation, insurrection, riot or civil disobedience.
  - b. Policy shall include as additionally named Tuscarora Township, State of Michigan, Gourdie Fraser Inc., its consultants, agents and employees.

SC-6.02.B Revise this paragraph as indicated:

Delete the word "Saturday" from paragraph 6.02.B.

SC.-6.02.C Add the following paragraph immediately following paragraph 6.02.B:

- C. No night Work shall be done except in case of emergency or to protect life and property. The Contractor shall secure the permission of the Engineer in case of emergency for night Work. Night means one-half (½) hour before sunset to one-half (½) after sunrise.

SC-6.02.D Add the following paragraph immediately following paragraph 6.02.C:

This Project includes a provision to complete the sanitary sewer and/or watermain within a given number of work days. The sanitary sewer and/or watermain, leads, and appurtenances shall be installed and tested within the given amount of work days. A work day, plus expenses, will be charged for each day that installation and/or testing Work is performed and construction observation is required. In the event that construction observation is not required for an entire day, work days will be charged according to the following schedule:

Amount of Installation/Testing	Work Days Charged
More than 6 hours:	1 work day
2-6 hours:	½ work day
Less than 2 hours:	¼ work day

SC-8.12 Add the following paragraph immediately following paragraph 8.11.A:

8.12. Payments for Surveys, Testing, Construction Observation and Project Management (the Engineer).

A. The Owner will contract with and make payment to any surveyors, testing agencies, inspectors, construction observers and the Engineer as are required for completion of the Work unless, due to the fault of the Contractor, (in the opinion of the Engineer) additional costs are incurred which would not normally be necessary.

SC-17.01 Replace “state” with “place.”

## CONTRACT CHANGE ORDER SUMMARY

DATE OF ISSUANCE: \_\_\_\_\_  
 OWNER: \_\_\_\_\_  
 CONTRACTOR: \_\_\_\_\_  
 Project Name: \_\_\_\_\_  
 Project No: \_\_\_\_\_  
 ENGINEER: Gourdie-Fraser

You are directed to make the following changes in the Contract Documents:

Description:

Reason for Change Order:

Attachments: See Breakdown on Page 2.

CHANGE IN CONTRACT PRICE:	CHANGE IN CONTRACT TIMES:
Original Contract Price:	Original Contract Times: Substantial Completion: _____ Ready for Final Payment: _____ <span style="float: right;">(days or dates)</span>
Net Increase (Decrease) from Previous: Change Orders _____ To _____	Contract Times prior to this Change Order: Substantial Completion: _____ Ready for Final Payment: _____ <span style="float: right;">(days or dates)</span>
Contract Price Prior to this Change Order:	Net Increase this Change Order: Substantial Completion: _____ Ready for Final Payment: _____ <span style="float: right;">(days or dates)</span>
Net Increase (Decrease) of this Change Order:	Contract Times with all Approved Change Orders: Substantial Completion: _____ Ready for Final Payment: _____ <span style="float: right;">(days or dates)</span>
Contract Price with all Approved Change Order:	

RECOMMENDED:

APPROVED:

ACCEPTED:

By: \_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

ENGINEER (Authorized Signature)  
Date: \_\_\_\_\_

OWNER (Authorized Signature)  
Date: \_\_\_\_\_

CONTRACTOR (Authorized Signature)  
Date: \_\_\_\_\_

APPROVED:

By: \_\_\_\_\_

CO-OWNER (Authorized Signature)  
Date: \_\_\_\_\_

## CONTRACT CHANGE ORDER (ATTACHMENT)

**PROJECT:** \_\_\_\_\_

**CHANGE ORDER:** \_\_\_\_\_

The following items summarize changes being made to the Contract Documents:

ITEM NO.	COMPLETE DESCRIPTION OF CHANGES	DECREASE CONTRACT	INCREASE CONTRACT
	Total Decrease	\$0.00	
	Total Increase		\$0.00
	<b>Net Increase (Decrease)</b>	<b>\$0.00</b>	

The sum of \$0.00 is hereby deducted (added) from the total Contract Price and the total adjusted Contract Price to date thereby is \$0.00. The time provided for completion in the Contract is unchanged. This document shall become an amendment to the Contract and all provisions of the Contract will apply hereto.

Accepted by Contractor \_\_\_\_\_ Date: \_\_\_\_\_

NINE MILE POINT BOAT LAUNCH

**SECTION 01055 - STAKING**

**PART 1 - GENERAL**

**1.01 SCOPE OF WORK**

This work consists of staking required to construct the facilities as shown on the plans and specified herein. The work shall consist of labor, materials, and equipment necessary for installation.

**PART 2 - MATERIALS**

Not used.

**PART 3 - EXECUTION**

3.01 The Owner shall provide construction staking for the work as shown on the plans, including costs associated with this work.

End of Section 01055

**SECTION 01090 - STANDARDS AND REGULATIONS**

**PART 1 - GENERAL**

**1.01 REFERENCE STANDARDS**

- A. Throughout these specifications, reference is made to various standard specifications. Such reference gives the serial designation. The latest revised specification shall apply in all cases. These standard specifications, where applicable, shall be binding on all construction activities.
- B. The following specifications and standards form part of this specification to the extent indicated by reference thereto or for quantity of workmanship and materials required under the contract.

American Society of Testing Materials	(ASTM)
American Water Works Association	(AWWA)
American National Standards Institute, Inc.	(ANSI)
Michigan Department of Transportation	(MDOT)
American Concrete Institute	(ACI)
National Concrete Masonry Association	(NCMA)
Truss Plate Institute	(TPI)
National Electrical Code	(NEC)
Michigan Department of Natural Resources	(MDNR)
Michigan Manual of Uniform Traffic Control Devices	(MMUTCD)
American Railway Engineering Association	(AREA)

**1.02 REGULATORY REQUIREMENTS**

- A. All construction work, alterations, repairs or mechanical installations and appliances connected herewith shall comply with all the State Rules and Regulations and local ordinances and such other statutory provisions pertaining to this class of work. Such Rules and Regulations and local ordinances are to be considered a part of these specifications by reference.
- B. All electrical work shall be in accordance with the latest edition of the National Electrical Code, the National Electrical Safety Code and applicable state and local codes. This shall not be construed to permit a lower grade of construction where the plans and specifications require workmanship or materials in excess of code requirements. All electrical equipment, wiring, cable and materials shall be listed by Underwriter's Laboratories, Inc.

End of Section 01090

**SECTION 01300 - SUBMITTALS**

**PART 1 - GENERAL**

**1.01 DESCRIPTIONS OF REQUIREMENTS**

**A. General**

1. The types of submittal requirements specified in this section include shop drawings, product data, samples and miscellaneous work-related submittals. Individual submittal requirements are specified in applicable sections for each unit of work. Refer to other Division 1 sections and other contract documents for requirements of administrative submittals.

**B. Definitions**

1. Work-related submittals of this section are categorized for convenience as follows:
  - a. Shop drawings include specially prepared technical data for this project including drawings, diagrams, performance curves, data sheets, schedules, templates, patterns, reports, calculations, instruction, measurements and similar information not in standard printed form for general application to several projects.
  - b. Product data include standard printed information on materials, products and systems; not specially prepared for this project, other than the designation of selections from among available choices printed therein.
  - c. Samples include both fabricated and unfabricated physical examples of materials, products and units of work; both as complete units and as smaller portions of units of work; either for limited visual inspections or (where indicated) for more detailed testing and analysis.
    - 1) Mock-ups are a special form of samples, which are too large or otherwise inconvenient for handling in specified manner for transmittal of sample submittals.
  - d. Miscellaneous submittals related directly to the work (non-administrative) include warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, quality testing and certifying reports, copies of industry standards, record drawings, field measurement data, operating and maintenance materials, overrun stock, and similar information, devices and materials applicable to the work and not processed as shop drawings, product data or samples.

## NINE MILE POINT BOAT LAUNCH

### 1.02 GENERAL SUBMITTAL REQUIREMENTS

#### A. Scheduling

1. Where appropriate in administrative submittals (listing of products, manufacturers, suppliers and subcontractors, and in job progress schedule), show principal work-related submittals and time schedules for coordination of submittal activity with related work in each instance.
2. Prepare a separate listing, organized by related specification section number sequence, showing principal work-related submittals and their initial submittal dates as required for coordination of the work. Submit listing within 45 days for commencement of the work.

#### B. Coordination and Sequencing

1. Coordinate preparation and processing of submittals with performance of the work so that work will not be delayed by submittals. Coordinate and sequence different categories of submittals for same work, and for interfacing units of work, so that one will not be delayed for coordination with another.

#### C. Preparation of Submittals

1. Provide permanent marking on each submittal to identify project, date, Contractor, subcontractor name and similar information to distinguish it from other submittals. Show Contractor's executed review and approval marking. Package each submittal approximately for transmittal and handling. Submittals which are received from sources other than through Contractor's office will be returned "without action".

#### D. Transmittal Form

1. Prepare a draft of special transmittal form for project, and submit to Project Engineer for acceptance. Provide places to indicate project date, "To:", "From:", names of subcontractors, suppliers, manufacturers, required references, category and type of submittal, purpose, description, distribution record (for both transmittal and submittals), and signature of transmitter.
  - a. Provide Contractor's certification on form, ready for execution, stating that information submitted complies with requirements of contract documents.

### 1.03 SPECIFIC-CATEGORY SUBMITTAL REQUIREMENTS

#### A. General

1. Except as otherwise indicated in individual work sections, comply with requirements specified herein for each indicated category of submittal. Provide and process intermediate submittals, where required between initial and final, similar to initial submittals.

## NINE MILE POINT BOAT LAUNCH

### B. Shop Drawings

#### 1. General

- a. Provide newly-prepared information, on reproducible sheets, with graphic information at accurate scale (except as otherwise indicated), with name of preparer indicated (firm name). Show dimensions and notes which are based on field measurement. Identify materials and products in the work shown. Indicate compliance with standards and special coordination requirements. Do not allow shop drawing copies without appropriate final "Action" markings to be used in connection with the work.

#### 2. Initial Submittal

- a. One (1) correctable translucent reproducible print and one (1) blue-line or black-line print; reproducible will be returned.

#### 3. Final Submittal

- a. Three (3) prints, plus two (2) additional prints required for maintenance manuals; two (2) will be retained and remainder will be returned, one (1) of which is to be marked-up and maintained by Contractor as "Record Document".

### C. Product Data

#### 1. General

- a. Collect required data into one (1) submittal for each unit of work or system; and mark each copy to show which copies and options are applicable to project. Include manufacturer's standard printed recommendations for application of labels and seals, notation of field measurements which have been checked, and special coordination requirements. Maintain one (1) set of product data (for each submittal) at project site, available for reference by the Project Engineer and others.

#### 2. Submittals

- a. Do not submit product data, or allow its use on the project, until compliance with requirements of contract documents has been confirmed by Contractor. Submittal is for information and record, unless otherwise indicated. Initial submittal is final submittal unless returned promptly by Project Engineer, marked with an "Action" which indicates an observed non-compliance. Submit two (2) copies, plus two (2) additional copies (which will be returned) required for maintenance manuals.

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### 3. **Installer's Copy**

- a. Do not proceed with installation of materials, products or systems until final copy of applicable data is in possession of Installer.

## D. **Samples**

### 1. **General**

- a. Provide units identical with final condition of proposed materials or products for the work. Include "range" samples (not less than 3 units) where unavoidable variations must be expected and describe or identify variations between units of each set. Provide full set of optional samples where Project Engineer's selection is required. Prepare samples to match Project Engineer's sample where so indicated. Include information with each sample to show generic description, source or product name and manufacturer, limitations, and compliance with standards. Samples are submitted for review and confirmation of color, pattern, texture and "kind" by Project Engineer. Project Engineer will not "test" samples (except as otherwise indicated) for compliance with other requirements, which are therefore the exclusive responsibility of Contractor.

### 2. **Submittal**

- a. At Contractor's option, provide preliminary submittal of a single set of samples for Project Engineer's review and "Action". Otherwise, initial submittal is final submittal unless returned with "Action" which requires resubmittal. Submit three (3) sets of samples in final submittal; one (1) set will be returned.

### 3. **Quality Control Set**

- a. Maintain returned final set of samples at project site, in suitable condition and available for quality control comparisons by Project Engineer, and by others.

### 4. **Reusable Samples**

- a. Returned samples which are intended or permitted to be incorporated in the work are so indicated in the individual work sections, and must be in undamaged condition at time of use.

## E. **Mock-Ups**

1. Mock-ups and similar samples specified in individual work sections are recognized as a special type of sample. Comply with requirements for "samples" to greatest extent possible, and process transmittal forms to provide a record of activity.

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### F. **Inspection and Test Reports**

1. Classify each as either "shop drawing" or "product data", depending upon whether report is uniquely prepared for project or a standard publication of workmanship control testing at point of production, and process accordingly.

### G. **Warranties**

1. Refer to general work sections for specific general requirements on warranties, product/workmanship bonds, and maintenance agreements. In addition to copies desired for Contractor's use, furnish two (2) executed copies, except furnish two (2) (confirmed) copies required for maintenance manuals.

### H. **Survey Data**

#### 1. **Records of Actual Work**

- a. Furnish four (4) copies, one (1) of which will be returned for inclusion in "Record Documents".

### I. **Project Photographs**

1. Except as otherwise indicated, furnish two (2) prints plus negatives.

### J. **Standards**

1. Where copy submitted is indicated, and except where specified integrally with "Product Data" submittal, submit a single copy for Project Engineer's use. Where workmanship at project site and elsewhere is governed by standard, furnish additional copies to fabricators, installers, the Owner, and others involved in performance of the work.

### K. **Closeout Submittals**

#### 1. **Record Document Copies**

- a. Furnish one (1) set.

#### 2. **Maintenance/Operating Manuals**

- a. Furnish two (2) bound copies.

### L. **General Distribution**

1. Provide additional distribution of submittals (not included in foregoing copy submittal requirements) to subcontractors, suppliers, fabricators, installers, governing authorities and others as necessary for proper performance of the work. Include such additional copies in transmittal to Project Engineer where required to receive "Action" marking before final distribution. Record distributions on transmittal forms.

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1.04 **ACTION ON SUBMITTALS**

A. **Action Stamp**

1. Project Engineer's action stamp, for use on submittals to be returned to Contractor, is self-explanatory as marked.

**PART 2 - PRODUCTS**

Not applicable.

**PART 3 - EXECUTION**

Not applicable.

End of Section 01300

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### SECTION 01400 - QUALITY CONTROL SERVICES AND INSPECTIONS

#### PART 1 - GENERAL

##### 1.01 SCOPE OF WORK

This work shall include all labor, equipment, and materials necessary to perform the quality control testing and services as specified herein or shown on the drawings. The work will include soils compaction testing, aggregate gradations, bituminous extractions, and mechanical, electrical and building licenses, inspections, tests, etc.

##### 1.02 RELATED SECTIONS

Section 02050 Demolition  
Section 02220 Excavation, Trenching, Backfilling and Embankment  
Section 03300 Concrete Work

##### 1.03 SUBMITTALS

Prior to performing the specified quality control services, the Contractor shall submit the name, address, and qualifications of the certified testing agency including the name(s) of the certified personnel scheduled to perform the work.

#### PART 2 - MATERIALS

Not used.

#### PART 3 - EXECUTION

- 3.01 The Contractor shall be responsible for coordination of all quality control testing and inspections as specified herein with Gourdie-Fraser.
- 3.02 The Owner shall be responsible for all costs associated with the quality control testing specified herein.
- 3.03 Quality control tests, inspections and laboratory work, etc., as specified herein, shall be performed by Gourdie-Fraser.
- 3.04 Where governing regulations and imposed codes and standards require charges, notices, licenses, inspections, tests, and similar items or actions in order to lawfully proceed with the required work, the Contractor shall obtain the necessary items, pay all fees, and take the actions in accordance with the regulations of the governing authority.
- 3.05 Gourdie-Fraser shall maintain a log of inspections at the job site including date, time of inspection, type of inspection, results of inspection, and any comments made. The Contractor shall submit this log to the Engineer at the end of the contract.

End of Section 01400

## NINE MILE POINT BOAT LAUNCH

### SECTION 01510 - CONSTRUCTION FACILITIES, ACCESS AND TEMPORARY CONTROLS

#### PART 1 - GENERAL

##### 1.01 UTILITY SERVICES

###### A. Temporary Utility Services

The Contractor shall protect and save harmless from damage all utilities, whether privately or publicly owned, above and below the ground surface, which may be encountered during the construction period.

It will be the Contractor's responsibility to notify the utility companies of any possible interference by utility company service equipment.

The Contractor shall permit access to the Owners of such utilities for the purpose of making necessary changes and adjustments to permit further execution of work under this contract but necessity for such changes or alterations in utilities shall not be made the basis of a claim for damages. However, an extension of time may be claimed if justified by the circumstances.

If the Contractor undermines any utility facility, the backfill shall be placed in 12-inch layers up to the underside of the utility and shall be compacted to 95% of the maximum unit weight. However, all utilities shall be field located prior to excavation. Work stoppages caused by the Contractor's accidental destruction of these utilities or time lost working around or adjusting these existing utilities and/or the proposed new construction will be considered part of the Contractor's bid price for the particular item of work and incidental to the cost.

The Contractor shall be responsible for any damage to utilities arising out of the course of his work.

Unless otherwise provided for in these specifications, the Contractor shall make his own arrangement for electricity, gas, water and sewer services for use during the construction phase of the work and shall pay for all connections, extensions and services.

###### B. Permanent Utility Service

This paragraph applies to all work which requires utility service. Whenever utility services such as gas, electric, telephone, etc. is required to be installed to operate equipment or appliances within the facility, it shall be the Contractor's responsibility to have the utility services installed and to pay for all associated installation charges. The Contractor shall also pay utility service charges until the facility is operational and accepted by the Owner.

##### 1.02 TEMPORARY CONTROLS

###### A. Dust Control

The Contractor shall insure that during the construction phase of the project, adequate dust control measures are maintained so as not to cause detriment to the safety, health,

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welfare, or comfort to any person or cause damage to property or business. This shall include sweeping and water application as directed by the Engineer.

The material used as a dust palliative shall be a calcium chloride solid or liquid and shall meet the requirements of ASTM D98, except as modified by the Michigan Department of Transportation, Standard Specifications for Construction, Section 6.31.02 (k).

### **B. Soil Erosion and Sedimentation Control**

Soil erosion and sedimentation control shall consist of all labor, material and equipment required to conform to Act 451 of 1972, Michigan Soil Erosion and Sedimentation Control Law.

The Contractor shall exercise construction precautions to ensure that soil erosion shall be minimized. The Contractor shall have a copy of "Michigan Soil Erosion and Sedimentation Control Guidebook", and be thoroughly acquainted with its content, and make every effort to abide with each applicable construction procedure outlined therein to ensure a minimum of soil erosion. Examples of some of the construction procedures which the Contractor shall follow are:

1. Scarify all exposed slopes with a dozer or other heavy equipment in order to minimize velocities of runoff water.
2. Limit and stage removal of existing vegetation so as to minimize the size of the disturbed areas.
3. Stabilize and protect disturbed areas as soon as possible. Permanent soil erosion and sedimentation control measures shall be installed within five (5) days of final grading operations.
4. Protect disturbed areas by diverting runoff waters from these areas by such means as ditches.
5. Pipeline construction shall utilize the "Unified Keying System", which are minimal measures required. Additional control measures should be implemented as needed or requested.
6. Discharge from the site or cofferdam area to the Lake shall be routed through turbidity curtains placed along the outside of sheet pile walls per the standards, specifications, and requirements of the U.S. Army Corps of Engineers.

### **C. Cleanup**

Before final acceptance of the work, the Contractor shall remove all false work, excavated or useless materials, rubbish and restore to pre-settable condition satisfactory to the Engineer, all property, both public and private, which may have been used or damaged during the prosecution of the work.

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### 1.03 **TRAFFIC REGULATION**

This paragraph is written to assist the Contractor in determining the general scope of the requirements of the Michigan Department of Transportation. All work done within the Michigan Department of Transportation right-of-way shall be in accordance with the 2012 Standard Specifications for Construction. All work done within the Charlevoix County Road Commission right-of-way shall be in accordance with the current Charlevoix County Road Commission standards and specifications. The Contractor shall furnish, erect, and maintain all necessary traffic control devices as set forth in the Michigan Manual of Traffic Control Devices. The Contractor shall suspend his work within the right-of-way during holiday periods and Sunday work shall be performed only by the permission of the Department and/or County.

### 1.04 **SUNDAY AND NIGHT WORK**

No Sunday or night work shall be done except in case of emergency or to protect life and property. The Contractor shall secure the permission of the Engineer in case of emergency for Sunday or night work. Nights mean one-half (1/2) hour before sunset to one-half (1/2) hour after sunrise.

### 1.05 **INSPECTION AND TESTING OF CONSTRUCTION**

Construction inspection will be provided by Gourdie-Fraser and governmental agencies having jurisdiction over the various parts of the work. The inspectors will not be denied access to the work.

### 1.06 **COORDINATION**

The Contractor shall be responsible for coordination of all construction activities, including those of subcontractors.

### 1.07 **ACCESS TO FACILITIES AND WORKING HOURS**

The Contractor shall be responsible for making arrangements with each facility manager for any work performed before or after normal working hours of each facility. The Contractor shall be responsible for securing each facility (locking buildings, gates, etc.) if permission is granted to work after hours.

### 1.08 **FIELD ENGINEERING**

The Owner's Engineer shall have the authority to disapprove payments or parts of payments to the Contractor or suspend work on the project when it has been determined that the Contractor is using unsatisfactory construction methods or materials.

### 1.09 **PROJECT MEETINGS**

After receipt of the NOTICE OF INTENT TO AWARD, a principal member of the Contractor's organization shall attend a pre-construction conference to be held at a place and on a date mutually agreed upon. At this time, the requirements of the project, the Contractor's schedule of operations and construction methods, and the contract documents shall be delineated in order to obtain a mutual understanding of the overall construction program by the Owner, Contractor and Engineer.

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End of Section 01510

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### SECTION 01700 - CONTRACT CLOSEOUT

#### PART 1 - GENERAL

##### 1.01 CLEANUP

Before final acceptance of the work, the Contractor shall remove all false work, excavated or useless materials, rubbish and restore to presentable condition satisfactory to the Engineer, all property, both public and private, which may have been used or damaged during the prosecution of the work.

##### 1.02 OPERATING AND MAINTENANCE DATA

Written instruction for the operation and maintenance of the equipment furnished shall be provided at the time of submittal of shop drawings. The instruction shall be short, easy to understand, with directions specifically written for this project, describing the various possible methods of operating the equipment. The instructions shall include procedures for tests required, adjustments to be made and safety precautions to be taken with the equipment. Maintenance instructions shall include test and calibration charts, exploded views of assembled components and spare parts lists. At least six (6) instruction booklets shall be furnished for each separate piece of equipment.

##### 1.03 GUARANTEE

The Contractor shall guarantee his workmanship, materials, and equipment for a period of one (1) year after final acceptance of the work, with the exception of longer guarantee periods on specific items as herein specified. If, during the guarantee period, any defects of faulty workmanship, materials, or equipment of found, the Contractor shall immediately, at his expense, replace or repair defective or faulty work. This guarantee shall not limit or void any manufacturer's express or implied warranty.

For all equipment furnished or installed, the Contractor shall secure from the manufacturer, for the Engineer, a guarantee that the equipment and all parts thereof shall be first class and free from defects and that the manufacturer will upon notice and without undue delay, without expense to the Owner, make good or repair, the whole or any part of the equipment furnished by him should it, within one (1) year from the date or acceptance of the completed work, fail or develop unfitness for the purpose for which it is intended as a result of any defects in design, material or workmanship.

The Contractor shall guarantee all materials and equipment furnished and work performed for a period of one (1) year from the date of substantial completion. The Contractor warrants and guarantees for a period of one (1) year from the date of substantial completion of the system that the completed system is free from all defects due to faulty materials or workmanship and the Contractor shall promptly make such corrections as may be necessary to reason of such defects, including the repairs of any damage to other parts of the system resulting from such defects. The Owner will give notice of observed defects with reasonable promptness. In the event that the Contractor should fail to make such repairs, adjustments or other work that may be necessary by such defects, the Owner may do so and charge the Contractor the cost thereby incurred.

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### 1.04 AS-BUILT DRAWINGS

- B. The requirement of providing and keeping up-to-date "As-Built" drawings shall not be misconstrued as authority for the Contractor to make changes in the design without specific authorization for each case.
- C. Upon completion of the work, the above "Record Drawings" will be delivered to the Owner by Gourdie-Fraser.

End of Section 01700

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### **SECTION 01800 - MEASUREMENT AND PAYMENT**

#### **SCOPE**

This section describes the method of measurement and basis of payment for all items of work included in the contract and specified in the proposal. The Contractor shall provide all labor, materials, tools, equipment, and services required to complete the work specified herein and indicated on the plans.

#### **MOBILIZATION**

The completed work for mobilization will be paid for at the contract unit price lump sum (LS). The unit price shall include the mobilization of vehicles, machinery, labor, materials and equipment necessary to complete the work according to the plans and specifications.

#### **REMOVE EXISTING PAVEMENT**

The completed work for the removal of existing pavement will be paid at the contract unit price per square yard (SY) as quoted in the bid. Payment for the removal of the existing pavement will include saw cutting and disposal of the existing asphalt pavement leaving the bike path as well as all labor, equipment, excavation and materials necessary to complete the work as indicated on the plans.

#### **SITE CLEARING**

The completed work for site clearing will be paid at the contract unit price per acre as quoted in the bid. Payment for site clearing includes the removal and disposal of trees, snags, stumps, shrubs, brush, limbs, trash piles and rubbish. Additionally, the protection of trees, shrubs, and other vegetative growth which are not designated for removal as well as all labor, equipment, excavation and materials necessary to complete the work as indicated on the plans.

#### **REMOVE EXISTING GRAVEL**

The completed work for the removal of existing gravel will be paid at the contract unit price per square yard (SY) as quoted in the bid. Payment for the removal of the existing gravel will include the removal and disposal of the existing gravel entrance and its re-grading and restoration as well as all labor, equipment, excavation and materials necessary to complete the work as indicated on the plans.

#### **SILT FENCE**

The completed work for silt fencing will be paid for at the contract unit price per lineal foot (LF) on the basis of the actual quantity installed within the limits of the plans. Payment shall include all labor, equipment and materials to install fencing as shown on the plans or as required by the Engineer.

#### **TEMPORARY TRAFFIC CONTROLS**

The completed work for temporary traffic controls will be paid for at the contract unit price per lump sum (LS) as quoted in the bid. Payment for the temporary traffic controls includes payment for all labor, equipment, and materials to install, maintain, and remove the temporary traffic controls as shown on the plans or as required by the Engineer.

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### **SITE GRADING**

The site grading necessary to complete the boat launch ramp, parking area, and entrance road as shown on the plans and specifications, shall be paid for at the contract unit price per lump sum (LS) as quoted in the bid. Payment for this item will include the removal and proper disposal of cut materials which do not meet the specifications of the fill materials and the import and placement of suitable fill material. Payment shall include all material, labor, and equipment necessary to complete the work as shown on the plans and specifications.

### **23A AGGREGATE SURFACE**

Aggregate base course shall be paid for at the contract unit price per square yard (SY) as quoted in the bid for the material placed and compacted per the plans, details and specifications. Limits of measurement for the base shall be per the plan cross-sections. Payment for the aggregate base course shall include all material, equipment, labor and grading necessary to shape it to the lines and grades as shown on the plans.

### **MDOT INTERSECTION WITH CONCRETE CURB & GUTTER**

The completed work for the MDOT Intersection will be paid at the contract price as quoted in the bid. The unit price shall include all excavation, compaction, subbase, aggregate base, concrete, fiber reinforcement, rebar, forming, expansion joints, as well as, all other labor, materials and equipment necessary to complete the work according to the plans and in accordance with MDOT 2012 Standard Specifications for Construction.

### **13A BITUMINOUS LEVELING COURSE (1 ½" SECTION)**

The completed work for bituminous leveling course shall be paid for at the contract unit price tons as stated in the contract documents. This price shall include, but not be limited to, all bituminous surfacing 13A and shall meet the specifications for HMA paving according to MDOT 2012 Specifications. This price will include, but not be limited to, all associated labor, materials and equipment necessary to complete the work according to the plans and specifications.

### **36A BITUMINOUS LEVELING COURSE (1 ½" SECTION)**

The completed work for bituminous wearing course shall be paid for at the contract unit price tons as stated in the contract documents. This price shall include, but not be limited to, all bituminous surfacing 36A and shall meet the specifications for HMA paving according to MDOT 2012 Specifications. This price will include, but not be limited to, all associated labor, materials and equipment necessary to complete the work according to the plans and specifications.

### **WOOD GUARDRAIL (BIKE PATH AREAS)**

The completed work for wood guardrail will be paid for at the contract unit price per lineal foot (LF) as quoted in the bid. Payment shall include all labor, equipment and materials to install the wood guardrail as shown on the plans or as required by the Engineer.

### **MDOT TYPE B STEEL GUARDRAIL (ENTRANCE ROAD AREA)**

The completed work for the MDOT Type B guardrail will be paid for at the contract unit price per lineal foot (LF) as quoted in the bid. Payment for the guardrail will include the proper installation of the guardrail and respective terminal ends, and all labor, equipment and materials to install the guardrails as shown on the plans and in accordance with MDOT 2012 Standard Specifications for Construction.

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### **METAL GUARD RAIL TERMINAL ENDS**

The completed work for the MDOT metal guard rail ends will be paid for at the contract unit price per each as quoted in the bid. Payment for the guard rail end will include the proper installation of the guard rail terminal ends, and all labor, equipment and materials to install the guard rails ends as shown on the plans and in accordance with MDOT 2012 Standard Specifications for Construction.

### **RIP/RAP STORM DISCHARGES**

The completed work for rip-rap will be paid for at the contract unit price per item as quoted in the bid. This item is to include angular stone rip-rap with geotextile filter fabric of the size and type as noted on the plans and in the detail. Payment shall include, but not be limited to, all material, labor, equipment, accessories, excavating, backfilling, compacting and inspections necessary to complete the work according to the plans and specifications.

### **BIKE PATH AND LAUNCH ACCESS ROAD SIGNS AT INTERSECTION**

The completed work for traffic control and bike path signs shall be paid for at the contract unit price per sign as indicated on the plans. This unit price shall include all excavation, concrete base, painting, tubing connectors, and signage, as well as, all other labor, materials and equipment necessary to complete the work according to the plans and specifications.

### **COFFERDAM/DEWATERING FOR BOAT LAUNCH CONSTRUCTION**

The completed work for the construction, use of, maintenance, disassembly, and disposal of temporary cofferdam/dewatering system as shown on the plans and specifications, will be paid for at the contract unit price per lump sum (LS) as quoted in the bid. The contractor may use the AQUADAM system or an equivalent approved system. Payment shall include all material, labor, equipment, accessories, trenching, backfilling, inspections required per code, and all other work necessary in order to complete the work according to the cofferdam/dewatering system manufacturer's specifications.

Payment for Temporary cofferdam shall include the placement of turbidity curtains along the outside of the structure as a filtration and sedimentation containment measure prior to the installation of structure and discharge of water from the cofferdam area or construction site.

### **CHANNEL DREDGING**

The completed work for channel dredging shall be paid for at the contract unit price per cubic yard (CY) as quoted in the bid. Payment shall include the proper disposal of dredge material from the site if the material does not meet specifications for use on-site, along with all material, labor, equipment, accessories, and inspections required to complete the work according to the plans and specifications. Blasting is not an allowed construction method for channel dredging.

### **CAST IN PLACE CONCRETE BOAT RAMP**

The completed work for the reinforced concrete ramp and its 6A aggregate base course, as shown on the plans and specifications, will be paid for at the contract unit price per square foot (SF) as quoted in the bid. Payment shall include all labor, material, equipment, accessories, assemblies, trenching, backfilling, inspections necessary to complete the work according to the plans and specifications.

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### **REMOVABLE SKID PIER**

The completed work for the removable skid pier dock as shown on the plans and specifications will be paid for at the contract unit price per lump sum (LS) as quoted in the bid. Payment shall include all labor, material, equipment, accessories, assemblies, and inspections necessary to complete the work according to the plans and specifications.

### **RESTORATION AND CLEAN-UP**

Restoration and clean-up work shall be considered incidental to other contract items unless otherwise specified herein. All unit price items in the proposal will not be considered to be completed until the restoration work has been accepted by the Engineer. Ten percent (10%) of the contract unit price may be withheld from the periodic pay estimate until the restoration work is accepted. This restoration retainage is in addition to the standard contract retainage.

End of Section 01800

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### **SECTION 01900 - COORDINATION AND SCHEDULING**

#### **PART 1 - GENERAL**

##### **1.01 COORDINATION**

The contractor for this project shall coordinate all phases of this contract with any work currently under construction. The contractor for this contract shall be required to coordinate all his work operations so as to not cause disruption, damage, or delay. Weekly meetings will be held by the project engineer, which shall be attended by this contractor at which coordination of each of the active contracts will be discussed.

The owner will not provide additional compensation for any delays to this contract required for coordination. It should be this project contractor's responsibility to notify "MISS DIG" of any excavations required and to coordinate any of his work with the utility companies.

Traffic maintenance shall meet MDOT MMUTCD requirements and shall be coordinated with a traffic maintenance plan approved by applicable roadway agencies.

The amount of dust resulting from any work shall be controlled to prevent the spread of dust to avoid creation of a nuisance in the surrounding area. Use of water will not be permitted when it will result in, or create, hazardous or objectionable conditions such as ice, flooding, and pollution.

##### **1.02 PROJECT SCHEDULE**

A detailed project schedule shall be submitted to the Owner and Engineer with the agreement documents. This schedule will be reviewed by the Owner, Engineer, and this project's contractor to evolve it into a compatible schedule in regard to any other operations.

##### **1.03 SCHEDULE RESTRICTIONS (Not Applicable)**

##### **1.04 OWNER FURNISHED ITEMS (Not Applicable)**

End of Section 01900

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## SECTION 02050 - DEMOLITION

### PART 1 - GENERAL

#### 1.01 DESCRIPTION

The work of this section consists of all work required for the demolition and removal of material, structures, vegetation, equipment, pavements, foundations, etc. within the project area as shown on the drawings.

#### 1.02 AVAILABILITY OF WORK AREAS

Areas in which salvage and demolition work is to be accomplished will be available in accordance with a construction schedule submitted by the Contractor and approved by the Engineer and Owner prior to commencement of any operations on the project site.

#### 1.03 SUBMITTALS

The procedures and schedule proposed for the accomplishment of salvage and demolition work shall be submitted for approval. The procedures shall provide for safe conduct of the work, careful removal and disposition of materials specified to be salvaged, protection of property which is to remain undisturbed, coordination with other work in progress, and timely disconnection of utility services. The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations.

#### 1.04 PROTECTION

- A. Protection of Existing Work: Before beginning any cutting or demolition work, the Contractor shall carefully survey the existing work and examine the drawings and specifications to determine the extent of the work. The Contractor shall take all necessary precautions to insure against damage to existing work to remain in place, to be reused, or to remain the property of the Owner, and any damage to such work shall be repaired or replaced as approved by the Engineer and/or Owner at no additional cost to the Owner. The Contractor shall carefully coordinate the work of this section with all other work and construct and maintain shoring, bracing and supports, as required. The Contractor shall insure that structural elements are not overloaded and be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under any part of this contract. Any trees labeled "save" on the plans shall be left undisturbed by the Contractor.
- B. Protection from the Weather: All materials and equipment shall be protected from the weather at all times.
- C. Environmental Protection: All work and Contractor operations shall comply with the requirements of the Michigan Department of Environmental Quality (MDEQ).
- D. Safety: All demolition work shall be accomplished within current OSHA regulations. Proper precautions shall be taken prior to any work on the demolition of the existing fuel

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system, i.e. vapor freeing tanks and piping. Any hot work, gas cutting, or welding shall be performed as per the requirements of API Publication 2009, fourth edition, 1976, Safe Practices in Gas and Electric Cutting and Welding in Refineries, Gasoline Plants, Cycling Plants, and Petrochemical Plants.

### 1.05 DUST CONTROL

The amount of dust resulting from demolition shall be controlled to prevent the spread of dust to avoid creation of a nuisance in the surrounding area. Use of water will not be permitted when it will result in, or create, hazardous or objectionable conditions such as ice, flooding, and pollution.

### 1.06 BURNING

The use of burning at the project site for the disposal of refuse and debris will not be permitted.

### 1.07 USE OF EXPLOSIVES

Use of explosives will not be permitted.

### 1.08 EXISTING FACILITIES

- A. Structures and Piping: If encountered, existing structures and piping shall be removed to their entire depth.
- B. Removal of Utilities: Remove all existing utilities as indicated. When utility lines are encountered that are not indicated on the drawings, they shall be removed as approved and directed by the Engineer to the extent that they would project into or interfere with the new construction.

### 1.09 FILLING

All depressions shall be filled in accordance with Section 02210, site shall be graded as per the Engineering Drawings.

### 1.10 DISPOSITION OF MATERIAL

- A. Title to Materials: Title to all materials and equipment to be demolished, excepting Owner salvage and historical items, is vested in the Contractor upon receipt of notice to proceed. The Owner will not be responsible for the condition, loss or damage to such property after notice to proceed.
- B. Material for Contractor Salvage: Store material for salvage as directed by the Engineer and/or Facility Manager. Salvage materials shall be removed from each facility before completion of the contract. Material for salvage shall not be sold on the site.
- C. Unsalvageable Materials: Concrete, masonry, and other non-combustible materials other than concrete permitted to remain in place, shall be disposed of off the site. Contractor shall certify that all unsalvageable materials have been disposed of legally and properly.

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### D. Materials for Owner Salvage:

1. All items designated on the plans to be salvaged shall be removed in a manner to prevent damage. Pack or crate in a manner to protect the items from damage in storage or shipment and properly identify as to contents. Deliver the items to the areas of the property designated by the Engineer and/or Facility Manager.
2. Repair items damaged during removal or storage, or replace with new to match existing.

### 1.11 CLEAN-UP

- A. Debris and Rubbish: Remove debris and rubbish from the site daily. Do not allow to accumulate on site.
- B. Debris Control: Remove and transport debris in a manner as to prevent spillage on streets or adjacent areas.
- C. Regulations: Local regulations regarding hauling and disposal apply. Contractor shall meet environmental requirements as per the MDEQ.
- D. Hazardous Waste: A hazardous waste disposal plan shall be submitted by the Contractor and approved as per the MDEQ prior to commencement of any demolition work.

### 1.12 RESTORATION

- A. Regrade site as per notes on the plans and in accordance with Section 02210.
- B. Areas to receive pavement shall be constructed as per Section 02513.

### 1.13 SCHEDULING OF WORK

- A. The Contractor shall notify the Engineer and the Owner prior to commencing any demolition of the existing facility.

## PART 2 - MATERIALS

Not applicable.

## PART 3 - EXECUTION

Not applicable.

End of Section 02050

## NINE MILE POINT BOAT LAUNCH

### SECTION 02100 - SITE PREPARATION

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION

The work of this section consists of the removal of trees, shrubs and other vegetation as shown on the plans or indicated in these specifications. Work shall include all labor, equipment, and materials necessary to complete the work as shown on the plans.

#### PART 2 - MATERIALS

Not applicable.

#### PART 3 - EXECUTION

- 3.01 Clear indicated area at the project site of all trees, shrubs, and other vegetation unless otherwise indicated to be saved by the Project Engineer. Contractor shall survey the site with the Engineer to identify trees to be saved prior to clearing operations commencing. All trees or shrubs identified to be saved shall be protected by the Contractor or replaced at no extra cost to the owner.
- 3.02 Completely remove stumps, roots and other organic material protruding through the ground surface. Removal includes digging out stumps and roots, and legally disposing of trees and shrubs off the site.
- 3.03 Fill depressions caused by clearing and grubbing operations with satisfactory soil material, unless further excavation or earthwork is indicated. Place fill material in horizontal layers not exceeding six (6) inches loose depth, and thoroughly compact to a density equal to adjacent original ground. If further excavation or earthwork is indicated, backfill shall be placed in accordance with Section 02220, Excavation, Trenching and Backfilling, and Embankment.
- 3.04 Topsoil shall be stripped and stockpiled prior to excavation and backfilling work proceeding.
- 3.05 Site preparation work shall be performed in accordance with all permit or agency requirements.
- 3.06 All soil erosion and sedimentation control measures shall be in place prior to commencing operations.

End of Section 02100

## NINE MILE POINT BOAT LAUNCH

### SECTION 02210 - FINISH GRADING

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION

The work of this section consists of hauling, spreading, compacting and fine grading areas to be disturbed in construction of this project.

#### PART 2 - MATERIALS

- 2.01 **TOPSOIL:** All disturbed areas that do not call for a specific finish material shall be topsoiled, fertilized, seeded and mulched. Use salvaged topsoil after removing debris, stones larger than one inch, or other objectionable material. If additional topsoil is required, provide from approved sources outside of site boundaries.
- 2.02 **SUBBASE:** All subbase material for the roads, parking or any other paved area shall be MDOT Class II granular material, placed to a depth as shown on the drawings. All subbase material shall be compacted to a minimum of 95% of the maximum unit dry density, as obtained by Standard Proctor Method ASTM D698.
- 2.03 **GRAVEL:** All gravel for the road shall be placed as shown on the plans or as specified. All gravel shall be either hand-compacted or machine rolled to obtain a minimum of 98% of maximum unit dry density, as obtained per ASTM D698.

#### PART 3 - EXECUTION

- 3.01 **GRADES AND ELEVATIONS:** The final grades and elevations are as shown on the plans. Exercise care to prevent damage to existing structures or new work. Grade to divert water away from buildings, roads, walks, or other paved areas. Finished surface shall be graded as per tolerances and methods stated the 2003 MDOT Standard Specifications for Construction.
- 3.02 **SPREADING TOPSOIL:** Feather finished grade, smoothly blending with adjacent ground shapes. Hand rake in areas inaccessible to equipment. Sweep and clean walks, pavement slabs, and structures of all soil.
- 3.03 **GRADING SUBBASE:** Subbase shall be compacted and graded to the elevations as required by the plans, according to the plans and the 2003 MDOT Standard Specifications for Construction.
- 3.04 **PROTECTION OF FINE GRADED AREAS:** After completion of fine grading operations, do not drive trucks or other heavy equipment over finished areas.

End of Section 02210

## NINE MILE POINT BOAT LAUNCH

### SECTION 02220 - EXCAVATION, TRENCHING, AND BACKFILLING

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION

The work of this section consists of excavating, trenching, and backfilling as called for on the plans and as specified hereafter.

NOTE: Under the current MDEQ permit requirements all excavating shall be done by mechanical methods. Blasting is not a permissible method and will not be allowed.

##### 1.02 JOB CONDITIONS

- A. Obtain all required permits and licenses before excavation and follow the rules and requirements of the authority having jurisdiction.
- B. If unauthorized overexcavation occurs, Contractor shall be responsible for the repair of the area by backfilling with approved select material and compacting to 95 percent maximum density.

##### 1.03 EXCAVATION CLASSIFICATION

Regardless of the nature of material excavated, all excavation will be considered unclassified.

#### PART 2 - MATERIALS

- 2.01 **GENERAL:** All backfill material shall be approved before use and be free of roots, brush, debris, or other objectionable material.
- 2.02 **EXCAVATED MATERIALS:** The Contractor shall use only approved material for backfill. Material stockpiled on site and excess excavated material for backfill may be transported and used in areas of deficiency. Only clean granular backfill will be used as tank bedding.
- 2.03 **WATER:** Clean, free from harmful substances.
- 2.04 **GRAVEL FILL:** Clean, washed bank run gravel. For use under slabs and foundations.

#### PART 3 - EXECUTION

##### 3.01 GENERAL

- A. Excavation includes the removal of all materials to a depth which is sufficient to permit the construction of the structure, foundation or utility in accordance with the plans. Excavated materials may be temporarily stored along the excavated area in a manner that will not endanger the banks of the excavated area by imposing too great a load thereon.
- B. All unsatisfactory soil material, such as muck, peat or organic material, within the grading limits shall be excavated and removed from the site. The Contractor should visit

## NINE MILE POINT BOAT LAUNCH

the site and acquaint himself with all existing conditions prior to bidding. Bidders may make their own subsurface investigation to satisfy themselves as to site and subsurface conditions.

- C. Notify "Miss Dig" before excavating. Locate existing on-site utilities with location or by hand excavation as required and protect them from damage. Should uncharted, or incorrectly charted, utilities be encountered during excavation, consult utility owner and the Engineer immediately for directions.
- D. Cooperate with the Engineer, Owner, and utility companies so as to keep services in operation. Do not interrupt utility connections without providing temporary utility services acceptable to the Engineer. Repair damaged utilities to satisfaction of utility owner and the Engineer.

### 3.02 EXCAVATION AND BACKFILL FOR PIPELINES

- A. Pipe trench shall be excavated to the depth required so as to provide a uniform and continuous bearing support for the pipe barrel on solid and undisturbed ground. The Contractor shall excavate the last four (4) inches of depth to grade using hand tools.
- B. Any part of the bottom of the trench excavated below the specified grade shall be refilled with approved materials, and thoroughly compacted to a minimum of 95% of the maximum dry density, as determined by ASTM D698 or the Michigan Cone Method. The finished subgrade shall be prepared accurately by means of hand tools. Blocking to bring the pipe to grade will not be permitted. Bell holes in the subgrade must be provided to allow for continuous support of the pipe barrel when bell type pipe is used.
- C. If, in the opinion of the Engineer, subgrade pipe support conditions at some locations are found to be unsatisfactory, he shall have the authority to order subgrade preparation at these locations in accordance with the provisions for special foundations in the clay, rock or poor soils.
- D. The width of the trench shall be ample to permit the pipe to be laid and joined properly and the backfill to be placed and compacted as specified.
- E. In order to limit excessive loads on the pipe, the maximum width of trench shall not be more than two (2) feet greater than the nominal inside diameter of the pipe. This limitation shall apply to the width of the trench at the top of the pipe. Trenches shall be of such extra width, when required, as will permit the convenient placing of timber supports, sheeting and bracing and handling of specials.
- F. From the bottom of the trench to a depth of one (1) foot above the top of the pipe, the trench shall be backfilled by hand with sand or approved excavated materials and tamped in three (3) inch layers to a minimum of 95% of the herein defined maximum dry density.
- G. The Contractor shall use care in placing this portion of the backfill so as to make sure sufficient material has been worked under the pipe and also avoid injuring or moving the pipe.

## NINE MILE POINT BOAT LAUNCH

- H. From one (1) foot above the pipe to the grade shown on the drawing, or specified herein, the trench shall be backfilled by mechanical methods approved by the Engineer. A minimum compaction of 95% of maximum unit weight is required unless otherwise noted.
- I. Provide thirty (30) inches of cover above the top of the pipe before application of wheel loading and forty-eight (48) inches before use of heavy compactors.

### 3.03 PUMPING, BAILING AND DRAINING

- A. The Contractor shall provide and maintain adequate pumping and draining facilities for removal and disposal of water from trenches or other excavations. The drainage system must be maintained until the pipe or structure has been covered with sufficient backfill material to prevent floating.
- B. Where work is in ground containing an excessive amount of water, the Contractor shall provide, install and maintain a suitable dewatering system and shall so operate it to insure proper construction of the work. The determination of whether an excessive groundwater condition exists, that is, or might be detrimental to the contraction, will be made by the Engineer or his field representatives. Proper disposal of the dewatering discharge (necessary easements, permits, erosion control, etc.) shall be the responsibility of the Contractor. Contractor shall not discharge or allow any groundwater to enter existing sanitary sewage system. Any water which does enter the existing sewage system shall be the Contractor's responsibility and he will pay any and all transporting and treatment costs involved with this water, according to the local municipal authority. Cost of pumping, bailing, and draining shall be incidental to and included in the price of the pipe or structure placed in the excavation.
- C. Should contaminated groundwater be encountered, the Contractor shall not discharge the groundwater on site.

### 3.04 SPECIAL FOUNDATION IN CLAY OR ROCK

For pipe installations, subgrade consisting of clay or rock shall be excavated to at least three (3) inches and not more than six (6) inches below the specified grade. Before the pipe is laid, the subgrade shall be prepared by backfilling with an approved granular material in three (3) inch compacted layers. The layers shall be thoroughly tamped as directed by the Engineer so as to provide a uniform and continuous bearing and support for the pipe barrel, with a minimum compaction of 95% of the herein defined maximum dry density. The Contractor will not be allowed extra compensation for this work.

### 3.05 SPECIAL FOUNDATIONS IN POOR SOIL

Where the bottom of the trench at subgrade is found to consist of unstable material which will, in the opinion of the Engineer, not provide adequate support, the Engineer shall have authority to require either the removal of the unstable material and replacement with approved materials or require the Contractor to construct a foundation consisting of piling or other materials in accordance with plans prepared by the Engineer. The use of stone bedding by the Contractor to reduce dewatering requirements will not be paid as an extra.

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### 3.06 **FINISH ELEVATIONS AND LINES**

It will be the responsibility of the Contractor to establish and set finish elevations and lines. Except as otherwise directed by the Engineer, perform all rough and finish grading to obtain the elevations indicated on the drawings.

### 3.07 **TREATMENT AFTER COMPLETION OF GRADING**

After grading is completed and the Engineer has finished his inspection, permit no further excavation, filling or grading, except with the approval of and inspection of the Engineer. Use all means necessary to prevent the erosion of freshly graded areas during construction and until such time as permanent drainage and erosion control measures have been installed.

### 3.08 **FINISH GRADING**

After all backfilling and rough grading has been completed and thoroughly compacted, the entire disturbed area at the site shall be graded to smooth, even surfaces with a blade grader or equivalent equipment.

End of Section 02220

## SECTION 02230 - SITE CLEARING

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. This Section includes the following:

1. Protecting existing trees, shrubs, groundcovers, plants, and grass to remain.
2. Removing existing trees, shrubs, groundcovers, plants, and grass.
3. Clearing and grubbing.
4. Stripping and stockpiling topsoil.
5. Removing above- and below-grade site improvements.
6. Disconnecting and capping or sealing site utilities.
7. Temporary erosion and sedimentation control measures.

#### 1.2 MATERIAL OWNERSHIP

- A. Except for stripped topsoil or other materials indicated to remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

#### 1.3 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
- B. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.
- C. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.
- D. Do not commence site clearing operations until temporary erosion and sedimentation control measures are in place.

### PART 2 - PRODUCTS[ (Not Applicable)]

#### 2.1 SOIL MATERIALS

- A. Satisfactory Soil Materials: Requirements for satisfactory soil materials are specified in Division 2 Section "Earthwork."

1. Obtain approved borrow soil materials off-site when satisfactory soil materials are not available on-site.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Locate and clearly flag trees and vegetation to remain or to be relocated.
- C. Protect existing site improvements to remain from damage during construction.
  - 1. Restore damaged improvements to their original condition, as acceptable to Owner.

### 3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties, according to Sediment and Erosion Control drawings.
- B. Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- C. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

### 3.3 TREE PROTECTION

- A. Do not excavate within tree protection zones, unless otherwise indicated. Do not damage or remove trees or vegetation not required to be disturbed or necessary to facilitate sitework.
- B. Repair or replace trees and vegetation indicated to remain that are damaged by construction operations, in a manner approved by Engineer.

### 3.4 UTILITIES

- A. 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:

### 3.5 CLEARING AND GRUBBING

- A. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
  - 1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches (200 mm), and compact each layer to a density equal to adjacent original ground.

### 3.6 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil to whatever depths are encountered in a manner to prevent intermingling with underlying subsoil or other waste materials.
- C. Stockpile topsoil materials away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust.

### 3.7 SITE IMPROVEMENTS

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

### 3.8 DISPOSAL

- A. Disposal: Remove unsuitable soil material, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

END OF SECTION 02230

# NINE MILE POINT BOAT LAUNCH

## SECTION 02300 - EARTHWORK

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes the following:
  - 1. Earthwork, soil erosion and stormwater controls.

#### 1.2 DEFINITIONS

- A. Backfill: Soil material used to fill an excavation.
- B. Base Course: Course placed between the subbase course and hot-mix asphalt paving.
- C. Bedding Course: Course 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. 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 Engineer. Authorized additional excavation and replacement material will be paid for according to Contract provisions changes in the Work.
  - 2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be without additional compensation.
- F. Fill: Soil materials used to raise existing grades.

#### 1.3 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Engineer and then only after arranging to provide temporary utility services according to requirements indicated.

### PART 2 - PRODUCTS

#### 2.1 SOIL MATERIALS

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

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- B. Satisfactory Soils: AASHTO M 145 Soil Classification Groups A-1, A-2-4, A-2-5, and A-3.
- C. Unsatisfactory Soils: Soil Classification 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; MDOT Class II Material.
- E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; MDOT Class 22A Gradation.
- F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; 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.

### 2.2 ACCESSORIES – NOT APPLICABLE

## 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 earthwork operations.
- B. Preparation of subgrade for earthwork operations including removal of vegetation, topsoil, debris, obstructions, and deleterious materials from ground surface is specified in Division 2 Section "Site Clearing."
- C. Protect and maintain erosion and sedimentation controls, which are specified in Division 2 Section "Site Clearing," during earthwork operations.

### 3.2 EXCAVATION

- 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.

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### 3.3 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.

### 3.4 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.

### 3.5 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than **8 inches (200 mm)** in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches (100 mm) 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.

### 3.6 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.
- B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
  - 1. Lawn or Unpaved Areas: Plus or minus 1 inch (25 mm).

### 3.7 SUBBASE AND BASE COURSES

- A. Place subbase and base course on subgrades free of mud, frost, snow, or ice.

### 3.8 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent engineering testing agency to perform field quality-control testing.

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- B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.
- 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 to depth required; recompact and retest until specified compaction is obtained.

### 3.9 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.
- 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 finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

### 3.10 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.

END OF SECTION 02300

## NINE MILE POINT BOAT LAUNCH

### SECTION 02510 – AGGREGATE SURFACE

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION

The work covered by this section shall consist of furnishing all labor, material, tools and equipment necessary for the construction or reconstruction of driveways, parking areas, curb and gutter, and concrete sidewalks.

##### 1.02 DEFINITIONS

- A. Embankment: The earth or other material used to build up the access road or parking area to where the subgrade surface is above the existing ground.
- B. Subgrade: That portion of the earth grade upon which the subbase is to be placed.
- C. Earth Grade: The completely graded roadway or parking area before placing the subbase structure.
- D. Subbase: The layer of specified material of designed thickness placed on the subgrade as a part of the pavement structure.
- E. Surface Course: The top layer of a driveway or parking area.
- F. MDOT: Michigan Department of Transportation.
- G. Pavement Structure: Any combination of subbase, base course and surface course, including shoulders, placed on a subgrade.
- H. Base Course: The layer or layers of specified or selected material of designed thickness placed on a subbase or a subgrade to support a surface course.

##### 1.03 SOIL CONDITIONS

The Contractor is responsible for visiting the site and acquainting themselves with all existing conditions prior to bidding. Bidders may make their own subsurface investigation to satisfy themselves as to site and subsurface conditions. Contractor shall coordinate any boring activity with the owner.

#### PART 2 - MATERIALS

- 2.01 **SUB-BASE:** Sub-base material shall meet the specifications for Class II granular material, as defined by the 2012 edition of the MDOT Standard Specifications.
- 2.02 **AGGREGATE SURFACE:** Aggregate surface course shall meet 2012 MDOT Specifications for 22A aggregate.

## NINE MILE POINT BOAT LAUNCH

### PART 3 - EXECUTION

3.01 **ROADWAY AND PARKING AREA EARTHWORK:** Roadway and parking area earthwork shall include the excavation, fill and subgrade work necessary for salvaging and stockpiling topsoil or selected excavated materials; removal and satisfactory disposal of any and all obstructions, unsuitable materials and rubbish, within the limits of the roadway; construction of the pavement subgrade to the level indicated on the Plans or in standard details; preparation of road foundation; placement of the road sub-base and maintaining of the subgrade and subbase in the finished condition until commencement of new construction.

#### A. **Excavation:**

1. Excavation shall be performed by any practicable method consistent with the integrity and protection of the work and the protection of workmen and the public. Topsoil shall be separately removed and stock-piled for reuse.
2. After excavation has been carried down to earth grade, any unsuitable foundation material found at this level shall be excavated and removed until a suitable foundation material is encountered as directed by the Engineer.
3. Unsuitable material shall consist of peat, muck, marl, underlying very soft clay, topsoil, cinders, vegetable matter, refuse, and any other objectionable poor foundation material. The excess excavation shall be replaced with selected material and compacted as described in Section 3.02 below.
4. Removal of unsuitable material and backfill shall be paid under site grading.
5. The roadbed, parking areas, and ditches shall be maintained in such condition that the work will be well-drained at all times. If it is necessary, in the prosecution of the work, to interrupt existing surface drainage, or underdrainage, temporary drainage facilities shall be provided until the permanent drainage work is completed.
6. All roots, stumps and other objectionable materials in the slopes and bottom of the ditch shall be removed and the holes backfilled with suitable material. All ditches constructed on the project shall be maintained and kept reasonably free from debris until final acceptance.
7. Material excavated from the job site shall be used in subsequent phases of the work, provided it is of sufficient quality to meet the requirements of use in other locations. Such material that is suitable for construction may be used in the new construction work if approved by the Engineer and/or Owner.
8. Excavated material not required or not suitable for backfilling shall be removed and disposed of legally off-site by the Contractor at his expense, or stockpiled on the site at a location as directed by the Owner.

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### B. **Placing and Compacting Embankment:**

1. Embankments for roads and parking areas shall be constructed with sound earth except as restricted within three feet of the surface of the subgrade. Sound earth is defined as a soil-rock mixture which is free from organic matter and other deleterious substance; it shall contain no rocks or lumps over three (3) inches in greatest dimension and not more than 15% of the rocks or lumps shall be larger than two (2) inches in greatest dimension. Frost heave susceptible material shall not be placed in the top three feet of embankment below subgrade. Frost heave susceptible is defined as material containing more than 50 percent silt with a plasticity index less than 10. Silt is defined as material having a particle size of 0.074 to 0.005 mm. Within the top three feet, the embankment shall be constructed to a stable non-rutting condition by using a uniformly textured material.
2. Embankments shall be placed in successive layers not more than nine (9) inches in depth, loose measure, the full width of the cross-section; each layer to be thoroughly compacted to not less than ninety-five (95) percent of the maximum dry density as determined by ASTM D698 or the Michigan Cone Method. All parts of the embankment shall be uniformly compacted and the Contractor shall so direct all earth-moving equipment used in the work so that the same shall be attained. Before any embankments are begun, the base shall be made firm and cleared of topsoil, sod or other unsuitable material. The sides of the embankment shall be neatly and evenly dressed to the slope shown on the Plans, or such other slope as the Engineer may direct.

### C. **Preparation of Subgrade:**

1. The bottom of the excavation for the pavement or top of the fill shall be known as the pavement subgrade and shall be smoothed, trimmed and compacted to the required line, grade and cross-section to receive the pavement structure.
2. Unless otherwise shown on the plans, the subgrade shall be compacted to not less than 98 percent of the maximum dry density as determined by ASTM D698 or the Michigan Cone Method, to a depth of at least twelve (12) inches. Where natural soil meets subbase requirements, as determined by the Engineer, it shall be left in place and shall be compacted to not less than 98 percent of the herein defined maximum dry density, to a minimum depth of 12 inches.
3. The subgrade thus formed shall be maintained in a smooth and compacted condition until the pavement has been placed. The subgrade shall be finished in an acceptable condition at least one day in advance of the pavement construction at all times. No storage piles of fine or coarse aggregate shall be placed directly upon the finished subgrade. Should the subgrade become rutted or disturbed in any manner, it shall be reshaped and recompacted. Where the rutting or other displacement of subgrade material may be caused by trucks, suitable runways shall be provided for their use.

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### 3.02 SUBBASE:

- A. The road and/or parking area subbase shall be constructed of crushed stone and geotextile materials and shown on the plan details. Subbase material shall meet the specification for 1"-3" crushed stone as defined by the 2012 edition of the Michigan Department of Transportation Standard Specifications for Construction.

### 3.03 AGGREGATE BASE COURSE & SURFACE COURSE

- A. The aggregate base shall be constructed on the prepared subbase to the depths shown on the plans using MDOT 22A Aggregate. Aggregate surface course shall be constructed on the aggregate base course to the depths shown on the plans using MDOT 22A. Aggregate shall be placed and maintained in accordance with Section 3.01 of the 2012 MDOT Standard Specifications for Construction.

End of Section 02510

## **SECTION 02513 - BITUMINOUS PAVING**

### **PART 1 - GENERAL**

#### **1.01 WORK INCLUDED**

- A. Hot-mix bituminous pavement.
- B. Tack coats.

### **PART 2 - PRODUCTS**

#### **2.01 MATERIALS**

- A. Sub-base shall conform to Michigan Department of Transportation Standard Specifications, Class II granular material.
- B. Base shall conform to Michigan Department of Transportation Standard Specifications dense graded aggregate 22A.
- C. The bituminous paving shall be of the thickness and composition as described in the plans and shall conform to Michigan Department of Transportation Standard Specifications, hot mix bituminous pavement, 13A and 36A.

### **PART 3 - EXECUTION**

#### **3.01 PREPARATION**

- A. The subgrade soil shall be compacted thoroughly to 95% Modified Proctor, using suitable compacting methods until no further movement of the soil is observed.
- B. Areas indicated on the drawings to be paved shall have been rough graded to the proper depth below finish grades shown on the drawings and as specified in Section 02210.
- C. Bituminous mixtures shall not be placed during rainy or threatening weather or when the moisture on the surface to be paved would prevent satisfactory bond or when the air temperature is less than 40 degrees F.
- D. All pavements abutting new pavement shall be cut to straight line perpendicular to the surface and tack coat applied.
- E. All casting shall be adjusted to the proper grade.

#### **3.02 CONSTRUCTION OF AGGREGATE SUB-BASE**

- A. The gravel sub-base material shall be placed to a minimum finish compacted thickness required.
- B. The gravel sub-base course shall be thoroughly consolidated (98% Modified Proctor ASTM D1557).
- C. The completed sub-base course shall conform to the required line, grade and cross-section and shall be a minimum in thickness in all areas as herein specified.

Sprinkling to aid compaction will be allowed.

### **3.03 CONSTRUCTION OF WEARING AND LEVELING COURSES**

- A. Place wearing and leveling courses on aggregate base and bituminous prime coat so as to provide the proper finished compacted thickness.
- B. Pavement shall be compacted to at least 95% of the control density established by the Marshall Mix Design.

### **3.04 TESTING**

- A. The right is reserved by the Engineer and/or the testing laboratory to sample and submit same to laboratory testing any course or part of the paving mix for extraction and aggregate analysis as proof that the mix supplied is within the limits of the job mix, etc., as specified herein.
- B. The representative of the testing laboratory will make three (3) initial density tests on installed materials.
  - 1. The Contractor shall rework, correct or replace work which does not meet specifications.
  - 2. The Contractor shall alter procedures or equipment, if directed, to achieve the specified minimum density.
- C. The temperature of the bituminous shall be measured for each truck load. Any truck load having a temperature below 250 F. or above 350 F. at time of discharge from hauling unit will be rejected.

### **3.05 CLEANING SURFACE TO BE TACK/BOND COATED**

- A. Dirt, loose pavement particles, and construction debris of all sorts should be completely removed from the surface to be bond-coated.
- B. Areas should be cleaned as necessary. Loose material should be blown out of joints and crack with compressed air.
- C. Vacuum-type sweepers should be used around buildings or parked cars.

### **3.06 PAVEMENT MARKINGS**

Parking areas shall receive 4" wide yellow striping as required. Barrier free areas shall be designed and ramps cross-hatched per barrier free requirements

End of Section 02513

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### SECTION 02910 - RESTORATION AND CLEANUP

#### PART 1 - GENERAL

##### 1.01 SCOPE OF WORK

Under this item, the Contractor shall restore all lawns, trees, gardens, landscape plantings, trails, fences, signs, water courses and sand, gravel, dirt, property markers (such as concrete monuments, irons, stakes, pipes, etc.), mailboxes and other items which may be damaged during the course of construction. All replacement and cleanup work will be considered incidental to the project.

All restoration work shall attempt to return the existing facilities to their original condition. Substitutions, such as gravel instead of grass, will not be allowable, unless shown on the plans.

The Contractor shall pay special attention to the requirements of Act 451, "Soil Erosion and Sedimentation Control". In all construction work the Contractor shall take all precautions necessary to prevent erosion and to conform to the requirements of Act 451. Should erosion occur within the guarantee period, regrade and reseed the disturbed area at no additional cost to the Owner.

Replacement and cleanup operations shall follow immediately behind the construction work. The Contractor shall make every effort to keep the job site clean and free of trash and miscellaneous building materials. The Contractor shall pay special attention in order to restore commercial signs, fences, etc. and to patch and repair pavement, driveways, and sidewalks immediately after the construction work. In the event that replacement and cleanup work does not proceed in a satisfactory manner, the Owner may withhold periodic payments or close the construction area until such time as the replacement and cleanup is satisfactory. An exception may be made if there are physical limitations which do not allow for immediate replacement and cleanup.

#### PART 2 - MATERIALS AND EXECUTION

##### 2.01 GRASS AREA

Terraces, lawns, ditches, open fields and other grassy areas shall be topsoiled, fertilized, seeded and mulched in such a manner that a grass approximately equal in type and density of the original is obtained. Slopes between 1:3 and 1:2 shall be topsoiled, seeded and mulched or receive seed with mulch blankets.

- A. Topsoil: Topsoil furnished shall consist of dark brown or black loam, clay loam, silt loam, or sandy loam surface of fertile, friable humus soil of mineral origin, not including peat or muck. Soil shall be free of stones, roots, sticks and any other extraneous materials. All areas shall be topsoiled to a depth of three (3) inches.
- B. Seeding and Fertilizing: Areas to be seeded and fertilized shall be carefully raked to even surfaces and all stones, sticks and other debris removed.

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The area to be seeded shall be fertilized with agricultural fertilizer applied on the prepared surface at the rate of 240 pounds of nutrient per acre. Fertilizer shall be harrowed or raked into the soil to a depth of not less than one (1) inch.

Seeds shall be furnished in durable bags. On each bag of seed, the vendor shall attach a tag giving name, lot number, net weight of contents, purity and germination. All seed shall be thoroughly mixed and sown in a method which will ensure uniform distribution. Seeding during high winds or inclement weather will not be permitted. All seed is to be raked in and compacted. The seed shall be sown at the rate of 100 pounds per acre. The seeding mixtures shall be composed of certified seed of the purity, germination and proportions by weight as specified in the following table:

Kind	SEEDS		MIXTURES	
	Minimum Purity	Minimum Germination	Type 1	Type 2
Perennial Rye Grass	98%	90%	20%	50%
Kentucky Blue Grass	90%	75%	60%	15%
Creeping Red Fescue	98%	80%	20%	35%

- C. **Mulching:** Immediately after seeding, mulch all seeded areas with unweathered small grain straw or hay spread uniformly per MDOT 2012 Lawn Mix type.
- D. **Mulching Anchoring:** All mulch shall be anchored using one of the following methods. The Contractor may use either method unless otherwise shown on the plans.
1. **Method "A":** The straw mulch shall be anchored by applying one of the following asphalt products at the rate shown. The asphalt may be blown on with the mulch or sprayed on immediately after the mulch is spread.

<u>Asphalt Product</u>	<u>Application Rate</u>
Liquid Asphalt R.C. 1, 2 or 3; M.C. 2 or 3	0.10 Gal. per S.Y.
Emulsified Asphalt R.S. 1 or 2; M.S. 2; or S.S. 1	0.04 Gal. per S.Y.

2. **Method "B":** A "Terra-Tak" mulch binder may be used in lieu of asphalt. Mixing and application shall be done in accordance with the manufacturer's recommendations.
3. **Method "C":** In areas with slopes greater than 10% or where shown on the plans, the Contractor shall place mulch netting or excelsior blanket mulch.
  - a. **Mulch Netting:** Mulch shall be anchored by the use of mulch netting. The light weight fibrous netting shall be properly placed over the mulch

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and secured to the ground using wire staples, spaced per manufacturer's recommendations.

- b. **Excelsior Blanket Mulch:** An excelsior blanket shall be used in lieu of other mulch. The excelsior blanket shall be a consistent thickness of evenly distributed wood excelsior fibers, 80% of which are six (6) inches or more in length. The top side of the blanket shall be covered with a coarse net of twisted Kraft paper or biodegradable extruded plastic mesh. Ends and sides shall be securely butted and stapled with U-shaped wire staples of a size and length suited to the soil conditions.

### 2.02 DITCHES

Ditches which have been grassed and maintained shall be restored to their original shape, condition, line and grade.

Contractor to place mulch blanket at the bottom of all proposed ditches per the plans.

Ditches in which culverts or drain tile have been installed shall have the same tile replaced, if in good condition, or a tile satisfactory to the Engineer installed in its place at the original line and grade.

Catch basins shall be repaired/replaced if damaged.

### 2.03 FENCE REPLACEMENT

- A. Fences shall be replaced equal to and of the same type as existing.
- B. Salvaged material, if approved by the Engineer, may be used for replacement.

### 2.04 SIGNS AND STRUCTURES

Signs or other structures which must be removed by the Contractor in order for work to proceed shall be replaced and reconstructed to original condition. It is very important that replacement follow immediately behind the construction work.

### 2.05 TREES AND SHRUBS

Existing trees and shrubs not marked for demolition that are disturbed during construction shall be replaced at no additional cost to the contract. The size and type of replacement shall be approved by the Owner and/or Engineer prior to replacement.

### 2.06 OTHER DEBRIS

The Contractor shall remove, at his own expense from the site, any and all broken pipe, bricks, blocks, lumps of concrete, broken machinery, cans, containers and other trash and debris.

End of Section 02910

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### SECTION 03300 - CONCRETE WORK

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION

The work under this section shall include all materials, labor, and equipment necessary to achieve a finished product, including but not limited to the items in these specifications and those shown on the working drawings.

##### 1.02 QUALITY ASSURANCE

- A. Codes and Standards: All procedures and materials under this section, where not specifically stated, shall be in accordance with standards and recommendations of the American Concrete Institute's Building Code Requirements for reinforced concrete (ACI 318, latest edition).
- B. Concrete Testing Service: All acceptance testing shall be performed by concrete field testing technicians certified by the American Concrete Institute. All acceptance testing shall be paid for by the Owner.
- C. Concrete Quality: One set of four test cylinders shall be made for each day's placement, or every 50 cubic yards of concrete placed in a day. Samples shall be obtained according to ASTM C172 and C31 (latest edition) and tested according to ASTM C39 (latest edition). One cylinder shall be broken at 7 days with two cylinders to be broken at the 28th day. One cylinder shall be held in reserve. Concrete sampling and testing shall be performed by an independent testing company and paid for by the Owner.
- D. Test Results: Will be reported in writing to the Engineer and concrete producer within 24 hours after tests are made.

#### PART 2 - PRODUCTS

##### 2.01 CONCRETE MATERIALS

- A. Cement: Portland Cement shall conform to "Standard Specifications for Portland Cement" (ASTM C150 - latest edition), or "Specifications for Air-Entrained Portland Cement" (ASTM C175 - latest edition) and shall be Types I, III, or IIIa.
- B. Aggregates: Concrete aggregates shall conform to "Standard Specifications for Concrete Aggregates" (ASTM C33 - latest edition). Fine aggregate shall be clean, sharp, natural sand free from loam, clay, or lumps or other deleterious substances. Coarse aggregate shall be clean, uncoated, processed aggregate containing no clay, mud, loam, or foreign matter. Coarse aggregate shall be washed gravel either natural or crushed. Use of pit or bank-run gravel is not permitted. Maximum coarse aggregate size for all members less than eight (8) inches in thickness shall be 3/4 inch. For members with thicknesses greater than or equal to eight (8) inches, the maximum coarse aggregate size shall be 1-

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- 1/2 inches.
- C. Mixing Water: All water used in concrete shall be potable water.
- D. Admixtures: Air-entraining admixtures shall conform to "Standard Specifications for Air-Entrained Admixtures for Concrete" (ASTM C260 -latest edition).

### 2.02 REINFORCEMENT MATERIALS

- A. Reinforcement Bars: All reinforcing bars shall be deformed, grade 60 as defined by: (ASTM A615, A616, or A617 - latest editions).
- B. Welded Wire Fabric: Welded wire fabric for concrete reinforcement shall conform to: (ASTM A185 - latest edition).
- C. Before fabrication or placement of any reinforcing steel, the Contractor shall submit to the Engineer for approval six (6) sets of shop drawings showing in detail all methods of placement, size, lengths, bends and quantity of bars which will be required. The drawings shall be approved in writing by the Contracting Officer within ten (10) working days of receiving such. The Contractor shall not fabricate or place any reinforcing steel until this approval is obtained.

### 2.03 BITUMINOUS JOINT FILLER

Resilient, non-extruding type premolded bituminous composition, complying with ASTM D944, AASHTO M33, and FS HH-F-341, Type III.

### 2.04 CONCRETE MIX DESIGN

- A. Proportion mixes by either laboratory trial batch or field experience method, complying with ACI 211.1 and Act 301.
  - 1. Submit written reports of each proposed mix for each class of concrete to Engineer at least 30 days prior to start of work. Do not begin concrete production until mixes have been reviewed by the Engineer.
  - 2. Mix designs may be adjusted when material characteristics, job conditions, weather, test results or other circumstances warrant. Do not use revised concrete mixes until submitted to and reviewed by the Engineer.
- B. Use air-entraining admixture in all concrete which will be exposed to freezing and thawing, providing not less than 5% nor more than 7% entrained air, and from 2% to 4% for other concrete.
- C. Design the mix to produce standard-weight concrete consisting of Portland cement, aggregate, water and specified admixture to produce the following properties:
  - 1. Compressive Strength:
    - a. All concrete: 4,000 psi minimum at 28 days.

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### **2. Slump Range:**

- a. 1" to 3" for reinforced foundation systems; 1" to 4" for all other concrete.

### **3. Water Cement Ratio:**

- a. The maximum water-cement ratio shall be in accordance with ACI 301 except as follows:
  - 1) For thin sections (railings, curbs, sills, ledges, ornamental work) and sections with less than 1" cover over steel, maximum water-cement ratio for severe weathering area shall be 0.45.
  - 2) For all other structures in severe weathering areas, maximum water-cement ratio shall be 0.50.

## **PART 3 - EXECUTION**

### **3.01 FORMING, MIXING AND PLACING CONCRETE**

#### **A. Preparation of Equipment and Place of Deposit**

1. Before placement, all equipment for mixing and transporting the concrete shall be cleaned, and all debris and ice shall be removed from the places to be occupied by the concrete. Forms shall be thoroughly wetted (except in freezing weather) or oiled, and masonry filler units that will be in contact with concrete shall be well drenched (except in freezing weather). The reinforcement shall be thoroughly cleaned of ice, dirt, loose rust and mill scale, or other coatings.
2. Water shall be removed from place of deposit before concrete is placed unless otherwise permitted by the Engineer. All latents and other unsound material shall be removed from hardened concrete before additional concrete is added.

#### **B. Mixing**

1. Ready mixed concrete shall be mixed and delivered in accordance with "Standard Specification for Ready Mixed Concrete (ASTM C94 - latest edition). Mixing and transporting equipment shall be capable of providing concrete which meets the ASTM C94 requirements for uniformity.
2. For job mixed concrete, the mixer shall be rotated at a speed recommended by the manufacturer. If mixer performance tests are not made, each batch of 1 cubic yard or less shall be mixed for at least 1 minute after all materials are in the mixer. The mixing time shall be increased 15 seconds for each additional cubic yard or fraction thereof. The entire batch shall be discharged before the mixer is

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recharged.

### **C. Conveying**

1. Concrete shall be conveyed from the mixer to the place of final deposit by methods that will prevent separation or loss of materials.
2. Equipment for chuting, pumping, and pneumatically conveying concrete shall be of such size and design as to ensure a practically continuous flow of concrete at the delivery end without separation of materials practically continuous flow of concrete at the delivery end without separation of materials.

### **D. Placing**

1. Concrete shall be deposited as nearly as practicable in its final position to avoid segregation due to rehandling or flowing. Concrete shall be placed at such a rate that it is at all times plastic and flows readily between bars. No concrete contaminated by foreign material shall be used, nor shall retempered concrete be used unless approved by the Engineer.
2. When placing is started, it shall be carried on as a continuous operation until placement of the panel or section is completed. When construction joints are necessary, they shall be made in accordance with Article H-7: Construction Joints.
3. All concrete shall be thoroughly consolidated during placement. It shall be thoroughly worked around reinforcement and embedded fixtures and into the corners of the forms.

### **E. Curing**

1. Concrete shall be kept moist for at least 5 days after placement. High-early-strength concretes, however, shall be kept moist for at least the first 2 days when concrete and air temperatures are above 50 F.; longer periods of curing shall be required when temperatures are below 50 F. If provisions are made for sufficient damp curing of the concrete to develop compressive strengths equal to those of Types I (Normal) and Ia, Portland-type cements that conform to "Standard Specifications for Blended Hydraulic Cements" (ASTM C595 - latest edition) may be used.
2. In lieu of keeping the surface of slabs continually wet, the Contractor may elect to use a chemical curing and hardening compound such as "Demicon Cure-Hard", "One-Kote" or equal, providing the surfaces are treated in strict accordance with the manufacturer's stated directions.

### **F. Cold-Weather Requirements**

1. Adequate equipment shall be provided for heating concrete materials and protecting concrete during freezing or near-freezing weather. No frozen

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materials or materials containing snow or ice shall be used.

2. All reinforcement, forms, fillers, and ground with which the concrete is to come in contact shall be free from snow and ice. All concrete placed in forms shall have a temperature of 50 F or higher after placement. Adequate means shall be provided for maintaining this temperature for 3 days. When high-early-strength concrete is used, a temperature of at least 50 F shall be maintained for 2 days. In either case, additional time necessary to ensure proper curing of the concrete shall be provided as directed by the Engineer. The housing, covering, or other protection used in curing shall remain intact at least 24 hours after artificial heating is discontinued. No dependence shall be placed on salt or other chemicals for the prevention of freezing.

### **G. Hot-Weather Requirements**

1. In hot weather, suitable precautions shall be taken to avoid drying of the concrete prior to finishing operations. Use of windbreaks, sunshades, fog sprays, or other devices shall be provided as directed by the Engineer.
2. Concrete deposited in hot weather shall not have a placing temperature that will cause difficulty from loss of slump, flash set, or cold joints. Concrete temperature shall be maintained at less than 90 F unless higher temperatures are permitted by the Engineer.

### **H. Forms and Details of Construction**

1. Forms shall conform to shapes, lines, and dimensions of the members as called for on the plans, and shall be sufficiently tight to prevent leakage of mortar. They shall be properly braced or tied together so as to maintain position and shape.
2. Removal of Forms: Forms shall be removed in such a manner as to ensure the complete safety of the structure. In no case shall supporting forms or shoring be removed until members have acquired sufficient strength to support their weight and imposed loads safely.
3. Cleaning and Bending Reinforcement: At the time concrete is placed, metal reinforcement shall be free from loose, thick rust, mill scale, or other coatings that will destroy or reduce the bond. All bars shall be bent cold, unless otherwise permitted by the Contracting Officer. No bars partially embedded in concrete shall be field bent except as shown on the plans or as specifically permitted by the Engineer.
4. Placing Reinforcement: Metal reinforcement shall be accurately placed according to the plans and adequately secured in position by concrete, metal, or other approved chairs, spaces, or ties.
5. Splices in Reinforcement: No splices in reinforcement shall be made except as shown on the plans, or as specified, or as authorized by the Engineer. All welding shall conform to the American Welding Society's "Reinforcing Steel

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Welding Code" (AWS D12.1 - latest edition), unless authorized by the Engineer.

### 6. Concrete Protection for Reinforcement

- a. Reinforcement shall be protected by the thickness of concrete indicated in the plans. Where not otherwise shown, the thickness of concrete over the reinforcement shall be as follows:
  - 1) Where concrete is deposited against the ground without the use of forms - not less than 3 inches.
  - 2) Where concrete is exposed to weather or ground but placed in forms - not less than 2 inches for bars larger than No. 5 and 1-1/2 inches for No. 5 bars or smaller.
  - 3) In all cases, at least equal to the diameter of the bars.
- b. Exposed reinforcing bars intended for bonding with future extensions shall be protected from corrosion by concrete or other adequate covering.

### 7. Joints

- a. Construction Joints: Locate and install construction joints as indicated or, if not indicated, locate so as not to impair strength and appearance of the structure, as acceptable to Architect.
- b. Place construction joints perpendicular to main reinforcement. Continue reinforcement across construction joints.
- c. Contraction joints may be formed by saw cuts as soon as possible after slab finishing as may be safely done without dislodging aggregate.

Joint sealant material is specified in Division-7 sections of these specifications.

## 3.02 CONCRETE FINISHES

- A. Surface Treatment After Removal of Forms: Immediately following the removal of forms, all form ties shall be cut off at a depth of at least 1/2 inch beneath the surface of the concrete. The resulting holes shall be pointed up with cement mortar. Any undesirable fins or other projections on the surface shall be carefully removed and offsets leveled. Honeycombed or damaged places shall be immediately saturated with water and repaired by filling with a concrete or mortar of the same composition as was used in the surface. After making the necessary repairs, the surface shall be finished with a wood float so as to be free from streaks, discolorations or other imperfections. Plastering will not be permitted. The use of a steel trowel to finish surfaces will likewise not be permitted.

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- B. Finish of Exposed Concrete Surfaces: Where shown on drawings, when exposed to view in the completed work, shall be finished in the following manner: All work set forth in the paragraph immediately above shall first be done. Oil and rust stains shall be completely removed from all exposed surfaces. After the defects have been repaired, dampen surface and apply Thoroseal at a rate of 2 lbs. per square yard minimum with tampico fiber brush or sponge to achieve a uniform finish. Color used shall be white. Thoroseal shall be mixed to a batter consistency and must not be applied in temperature below 40 F or when temperature is expected to fall below 40 F within 24 hours.

End of Section 03300

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### SECTION 06100 – WOOD AND CARPENTRY WORK

#### PART 1 – SCOPE

##### 1.01 DESCRIPTION

Work covered in this section of the specifications consists of furnishing all plant, labor, materials, and equipment and performing all operations involved in complete installation of all wood and carpentry work as required by this Contract in strict accordance with provisions of the plans and specifications and subject to the terms and conditions of the Contract.

##### 1.02 GENERAL

The following provisions apply to this section of the Specifications:

- A. All materials unless otherwise indicated on the plans or authorized by the Engineer shall be new and unused materials of the size and type shown on the plans and standard details, and shall conform to the requirements of the specifications.
- B. Standards of American Plywood Association, Western Wood Products Association, Architectural Woodworking Institute, American Institute of Timber Construction, National Forest Products Association, and other recognized trade associations as may be applicable, govern all work of this trade.
- C. In general, all lumber shall be graded prior to shipment, with each piece marked to indicate such inspection. Treated material shall be accompanied by a certificate of inspection indicating the retention level of the pressure-treated preservative. Such certification or grade marking shall not constitute final acceptance of the material, and the Engineer reserves the right to reject any or all material not meeting specifications. Lumber that is warped, cupped or with visible pith or bark will be rejected.
- D. Notations on plan details govern in the event of inconsistency between the plan and this specification section.

#### PART 2 - PRODUCTS

##### 2.01 MATERIALS

- A. Lumber shall meet the grading specifications for #2 and better Southern Pine, except 2" x 4" deck lumber shall be #2 or better Ponderosa Pine or Red Pine. All lumber shall be pressure-treated with CCA preservative treatment with an 85% penetration and a minimum retention level of 0.60 pounds per cubic foot. Lumber shall be surfaced on all sides or worked to patterns shown or required. Specified lumber dimensions are nominal. Actual dimensions shall conform to PS 20.
- B. Rough hardware shall be steel of standard makes, types and design, of sufficient strength for use and shall include clamps, bolts, nuts, screws, washers, anchors, shelf supports, and other items as required. All hardware shall have a hot-dipped, galvanized 2-ounce coating after fabrication in accordance with ASTM A153-95.

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- C. All nails used on this project shall be minimum 16d Ardox Galvanized Deck Nails (or approved equal) unless otherwise authorized by the Engineer.

### **PART 3 - EXECUTION**

#### **3.01 ROUGH CARPENTRY**

- A. Provide and set all rough hardware such as spikes, nails, screws, anchors, and bolts, shown or necessary for the execution of the work. All shall be of suitable type and of sufficient size and length to draw the work firmly together and hold it permanently in place.
- B. Provide to the masonry contractor all bolts, anchors and the like, required to be built into concrete or masonry for setting of items provided under this division of work.
- C. Nailers, blocking, furring, grounds, bucks, and the like may be on No. 2 common dimension of the above materials or when otherwise approved by the Engineer, No. 2 Ponderosa Pine or No. 2 Norway Pine or Eastern Spruce, kiln-dried.
- D. Carefully lay out, cut, fit, and fabricate all items of rough carpentry. Brace, plumb and level all members and secure with sufficient fastenings to secure rigidity.
- E. Do all cutting and fitting of carpentry and millwork required to build in or apply the work of other trades.
- F. Unless otherwise shown, all structural lumber shall have a minimum fiber stress in bending of 1050 psi for single member use.

#### **3.02 FINISH CARPENTRY**

- A. Protect all work against dampness during and after delivery. Store under cover in well-ventilated spaces and where not exposed to extreme changes in temperatures or humidity.
- B. Materials for carpentry shall be live, sound stock, thoroughly seasoned, well manufactured, and kiln-dried to a moisture content not exceeding 9%. All exposed surfaces of woodwork shall be sanded smooth and free of blemishes or marks before finishing.

End of Section 06100