



# Fargo Park District

## 2025 Park Pavement Improvements

Fargo, North Dakota

MBN Project No. 24-205

Bid Date: Thursday, February 6, 2025 @ 2:00 PM



MBN ENGINEERING, INC. | Mechanical | Electrical | Civil | Transmission | [www.mbnengr.com](http://www.mbnengr.com)

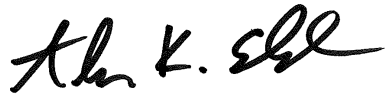
**FARGO OFFICE** 503 7th Street North, Suite 200 • Fargo, ND 58102 • Phone: 701-478-6336

**SIOUX FALLS OFFICE** 101 Main Avenue South, Suite 302 • Sioux Falls, SD 57104 • Phone: 701-478-6336

**BISMARCK OFFICE** 418 Rosser Avenue East, Suite 204 • Bismarck, ND 58501 • Phone: 701-478-6336

SECTION 00 0105  
CERTIFICATIONS PAGE

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF NORTH DAKOTA.



1/15/23

ND#6864

ANTHONY K. EUKEL, PE

DATE

LICENSE NUMBER

END OF CERTIFICATIONS PAGE

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**ADVERTISEMENT FOR BIDS  
THE PARK DISTRICT OF THE CITY OF FARGO  
2025 PAVEMENT IMPROVEMENTS**

Sealed bids will be received by The Park District of the City of Fargo, 6100 38<sup>th</sup> Street South until 2:00 P.M., February 6, 2025 and then opened and read aloud for the **Fargo Park District 2025 Pavement Improvements**.

Bids shall be on the basis of cash payment for work performed. All work included in the contract must be completed on or before **November 21, 2025**.

Bid proposals must be submitted on copies of the bid form provided in the specifications and in its own envelope. A separate envelope shall be provided containing a bidder's bond in a sum equal to five percent (5%) of the full amount of the bid executed by the bidder as principal and by a surety company authorized to do business in this state, conditioned that if the bidder's bid be accepted and the contract be awarded to the bidder, the bidder, within ten (10) days after notice of award, will execute and effect a contract in accordance with the terms of the bidder's bid and a contractor's bond as required by law and the regulations and determinations of The Park District of the City of Fargo. The successful bidder will be required to furnish a performance and payment Bond in the full amount of their contract.

The plans and specifications may be examined at the following locations:

MBN Engineering, Inc., 503 7<sup>th</sup> St N, Suite 200, Fargo, ND 58102  
QuestCDN.com  
Builders Exchange - Fargo, Bismarck, Minneapolis, St. Paul, St. Cloud  
Dodge Data and Analytics

Bidding Documents can be downloaded for a non-refundable charge of \$22.00. Planholders are parties that have downloaded the plans and specifications. Planholders will be notified via email as addenda are issued. Parties that download the plans and specifications and need to have them printed elsewhere are solely responsible for those printing costs. The sales of paper copies for projects listed on this site are not available. Contact QuestCDN.com at 952-233-1632 or [info@questcdn.com](mailto:info@questcdn.com) for assistance in viewing or downloading with this digital project information. **Refer to eBidDoc# 9465648.**

Bids must be submitted on copies of the bid form in the specifications and must be accompanied by a separate envelope containing a bidder's bond in the sum equal to 5% of the full amount of the bid and a copy of the Contractor's license or Certificate of Renewal thereof issued by the Secretary of State. Bids proposals must be in a separate envelope that clearly identify the bidders name, project name, and the Owner's name on the outside.

The Park District of the City of Fargo reserves the right to hold all bids for a period of sixty (60) days after the day fixed for the opening of the bids, and the right to reject any or all bids and to waive any informalities.

No bid will be read or considered which does not fully comply with the above provisions as to bond and licenses and any deficient bid will be resealed and returned to the bidder immediately.

**THE PARK DISTRICT OF THE CITY OF FARGO**

**SECTION 00 2113**  
**INSTRUCTIONS TO BIDDERS**

**SUMMARY**

**1.01 DOCUMENT INCLUDES**

- A. Invitation
  - 1. Bid Submission
  - 2. Intent
  - 3. Work Identified in the Contract Documents
  - 4. Contract Time
- B. Bid Documents and Contract Documents
  - 1. Definitions
  - 2. Contract Documents Identification
  - 3. Availability
  - 4. Examination
  - 5. Inquiries/Addenda
  - 6. Product/Assembly/System Substitutions
- C. Site Assessment
  - 1. Site Examination
- D. Qualifications
  - 1. Qualifications
  - 2. Subcontractors/Suppliers/Others
- E. Bid Submission
  - 1. Bid Depository
  - 2. Bid Ineligibility
- F. Bid Enclosures/Requirements
  - 1. Security Deposit
  - 2. Consent of Surety
  - 3. Performance Assurance
  - 4. Insurance
  - 5. Bid Form Requirements
  - 6. Fees for Changes in the Work
  - 7. Bid Form Signature
- G. Offer Acceptance/Rejection
  - 1. Duration of Offer
  - 2. Acceptance of Offer

**1.02 RELATED DOCUMENTS**

- A. Document 00 4100 - Bid Form.
- B. Document 00 7300 - Supplementary Conditions:

**INVITATION**

**2.01 BID SUBMISSION**

- A. Bids signed and under seal, executed, and dated will be received at the office of the Owner at 701 Main Avenue; Fargo, ND 58103 before 2:00 p.m. local standard time on the 6th day of February, 2025.
- B. Offers submitted after the above time shall be returned to the bidder unopened.
- C. Offers will be opened publicly immediately after the time for receipt of bids.
- D. Amendments to the submitted offer will be permitted if received in writing prior to bid closing and if endorsed by the same party or parties who signed and sealed the offer.



## **2.02 INTENT**

- A. The intent of this Bid request is to obtain an offer to perform work to complete the 2025 Park Pavement Improvements for a Unit Price contract, in accordance with the Contract Documents.

## **2.03 WORK IDENTIFIED IN THE CONTRACT DOCUMENTS**

- A. Work of this proposed Contract comprises building construction, site development, and demolition, including general construction work.
- B. Work of this proposed Contract comprise building construction, site development, and demolition, including general construction, site utility, and site paving work.

## **2.04 CONTRACT TIME**

- A. All work included in the Contract must be completed on or before the following dates:
  - 1. **SCHEDULE A: April/May, 2025 with Final Completion July 31, 2025.**
  - 2. **SCHEDULE B: August 1, 2025 with Final Completion November 21, 2025.**

## **BID DOCUMENTS AND CONTRACT DOCUMENTS**

### **3.01 DEFINITIONS**

- A. Bid Documents: Contract Documents supplemented with Invitation To Bid, Instructions to Bidders, Information Available to Bidders, Bid Form Supplements To Bid Forms and Appendices and Bid securities identified.
- B. Contract Documents: Defined in EJCDC C-700 Article 1 including issued Addenda.
- C. Bid, Offer, or Bidding: Act of submitting an offer under seal.
- D. Bid Amount: Monetary sum identified by the Bidder in the Bid Form.

### **3.02 CONTRACT DOCUMENTS IDENTIFICATION**

- A. The Contract Documents are identified as Project Number 24-205, as prepared by MBN Engineering, Inc., who is located at 503 7th St N, Suite 200; Fargo, ND 58102, and with contents as identified in the Table of Contents.

### **3.03 AVAILABILITY**

- A. Bid Documents can be downloaded for a non-refundable charge of \$22.00. Contact QuestCDN.com at 952-233-1632 or info@questcdn.com for assistance. Refer to eBidDoc #9465648. Contractors that download the plans and specifications are required to have them printed elsewhere and are solely responsible for those printing costs.

### **3.04 EXAMINATION**

- A. Bid Documents are on display at the offices of the following construction plan rooms:
  - 1. Builders Exchange - Fargo, Bismarck, Minneapolis, St. Paul, St. Cloud
  - 2. Dodge Data and Analytics - Minneapolis, MN.
  - 3. QuestCDN.com
- B. Upon receipt of Bid Documents verify that documents are complete. Notify Owner's Representative should the documents be incomplete.
- C. Immediately notify Owner's Representative upon finding discrepancies or omissions in the Bid Documents.

### **3.05 INQUIRIES/ADDENDA**

- A. Direct questions to Tony Eukel, telephone: 701-478-6336.
- B. Addenda may be issued during the bidding period. All Addenda become part of the Contract Documents. Include resultant costs in the Bid Amount.
- C. Verbal answers are not binding on any party.

- D. Clarifications requested by bidders must be in writing not less than 7 days before date set for receipt of bids. The reply will be in the form of an Addendum, a copy of which will be forwarded to known recipients .

### **3.06 PRODUCT/ASSEMBLY/SYSTEM SUBSTITUTIONS**

- A. Where the Bid Documents stipulate a particular product, substitutions will be considered up to 5 days before receipt of bids.
- B. When a request to substitute a product is made, Owner's Representative may approve the substitution and will issue an Addendum to known bidders.
- C. In submission of substitutions to products specified, bidders shall include in their bid all changes required in the Work and changes to Contract Time and Contract Sum to accommodate such substitutions. A later claim by the bidder for an addition to the Contract Time or Contract Sum because of changes in work necessitated by use of substitutions shall not be considered.
- D. The submission shall provide sufficient information to determine acceptability of such products.
- E. Provide complete information on required revisions to other work to accommodate each proposed substitution.
- F. Provide products as specified unless substitutions are submitted in this manner and accepted.

### **SITE ASSESSMENT**

#### **4.01 SITE EXAMINATION**

- A. Examine the project site before submitting a bid.

### **QUALIFICATIONS**

#### **5.01 EVIDENCE OF QUALIFICATIONS**

- A. To demonstrate qualification for performing the Work of this Contract, bidders may be requested to submit written evidence of financial position , license to perform work in the State of North Dakota.

#### **5.02 SUBCONTRACTORS/SUPPLIERS/OTHERS**

- A. Owner reserves the right to reject a proposed subcontractor for reasonable cause.
- B. Refer to General Conditions.

### **BID SUBMISSION**

#### **6.01 BID DEPOSITORY**

- A. The rules and regulations of this bid deposit system, in force on the day of bid submission shall apply.

#### **6.02 SUBMISSION PROCEDURE**

- A. Bidders shall be solely responsible for the delivery of their bids in the manner and time prescribed.
- B. **Bids must be submitted on copies of the bid form in the specifications and must be accompanied by a separate envelope containing a bidder's bond in the sum equal to five percent (5%) of the full amount of the bid and a copy of the Contractor's License or Certificate of Renewal thereof issued by the Secretary of State. Bids must be in envelopes that clearly identify the bidder's name, project name, and the Owner's name on the outside.**
- C. Improperly completed information, irregularities in security deposit, may be cause not to open the Bid Form envelope and declare the bid invalid or informal.

- D. An abstract summary of submitted bids will be made available to all bidders following bid opening.

### **6.03 BID INELIGIBILITY**

- A. Bids that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, or irregularities of any kind, will at the discretion of the Owner, be declared unacceptable.
- B. Bid Forms, Appendices, and enclosures that are improperly prepared will, at the discretion of Owner, be declared unacceptable.
- C. Failure to provide security deposit, bonding or insurance requirements will, at the discretion of Owner, be waived.

### **BID ENCLOSURES/REQUIREMENTS**

#### **7.01 SECURITY DEPOSIT**

- A. Bids shall be accompanied by a security deposit as follows:
  - 1. Bid Bond of a sum no less than 5 percent of the Bid Amount on EJCDC Document C-430 Bid Bond, Penal Sum Formon AIA A310 Bid Bond Form.
- B. Endorse the Bid Bond in the name of the Owner as obligee, signed and sealed by the principal and surety.
- C. The security deposit will be returned after delivery to the Owner of the required Performance and Payment Bond(s) by the accepted bidder.
- D. After a bid has been accepted, all other securities will be returned to the respective bidders and other requested enclosures.
- E. If no contract is awarded, all security deposits will be returned.

#### **7.02 PERFORMANCE ASSURANCE**

- A. Accepted Bidder: Provide a Performance bond as described in 00 7300 - Supplementary Conditions.
- B. Include the cost of performance assurance bonds in the Bid Amount.

#### **7.03 INSURANCE**

- A. Provide an executed "Undertaking of Insurance" on a standard form provided by the insurance company stating their intention to provide insurance to the bidder in accordance with the insurance requirements of the Contract Documents.

#### **7.04 BID FORM REQUIREMENTS**

- A. Complete all requested information in the Bid Form and Appendices.

#### **7.05 BID FORM SIGNATURE**

- A. The Bid Form shall be signed by the bidder, as follows:
  - 1. Sole Proprietorship: Signature of sole proprietor in the presence of a witness who will also sign. Insert the words "Sole Proprietor" under the signature. Affix seal.
  - 2. Partnership: Signature of all partners in the presence of a witness who will also sign. Insert the word "Partner" under each signature. Affix seal to each signature.
  - 3. Corporation: Signature of a duly authorized signing officer(s) in their normal signatures. Insert the officer's capacity in which the signing officer acts, under each signature. Affix the corporate seal. If the bid is signed by officials other than the president and secretary of the company, or the president/secretary/treasurer of the company, a copy of the by-law resolution of their board of directors authorizing them to do so, must also be submitted with the Bid Form in the bid envelope.
  - 4. Joint Venture: Each party of the joint venture shall execute the Bid Form under their respective seals in a manner appropriate to such party as described above, similar to the

requirements of a Partnership.

**OFFER ACCEPTANCE/REJECTION**

**8.01 DURATION OF OFFER**

- A. Bids shall remain open to acceptance and shall be irrevocable for a period of sixty (60) days after the bid closing date.

**8.02 ACCEPTANCE OF OFFER**

- A. Owner reserves the right to accept or reject any or all offers.
- B. After acceptance by Owner, Owner's Representative on behalf of Owner, will issue to the successful bidder, a written Bid Acceptance.

**END OF INSTRUCTIONS TO BIDDERS**

**SECTION 00 4100**

**BID FORM**

**PART 1 THE PROJECT AND THE PARTIES**

**1.01 TO:**

- A. The Park District of the City of Fargo
- B. Attn: Dave Bietz, Director of Parks
- C. 701 Maine Avenue.
- D. Fargo, ND 58102

**1.02 FOR:**

- A. Fargo Park District 2025 Park Pavement Improvements
- B. The Park District of the City of Fargo
- C. MBN Project No. 24-205

**1.03 ADDENDA**

- A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.

Addendum # \_\_\_\_\_ Dated \_\_\_\_\_.

Addendum # \_\_\_\_\_ Dated \_\_\_\_\_.

Addendum # \_\_\_\_\_ Dated \_\_\_\_\_.

Addendum # \_\_\_\_\_ Dated \_\_\_\_\_.

**1.04 DATE: \_\_\_\_\_ (BIDDER TO ENTER DATE)**

**1.05 SUBMITTED BY: (BIDDER TO ENTER NAME AND ADDRESS)**

Bidder's Full Name

\_\_\_\_\_  
Address

\_\_\_\_\_  
City, State, Zip

**BID SCHEDULE : 2025 PARK PAVEMENT IMPROVEMENTS**

- A. Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Bid Documents prepared by MBN Engineering, Inc. for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Unit Prices listed in this bid form. **See the attached form following this section.**



**FARGO PARK DISTRICT**  
**2025 PARK PAVEMENT IMPROVEMENTS**  
**BID FORM SECTION 00 41 00**  
**MBN PROJECT # 24-205**  
**BID DATE: February 6, 2025**  
**TIME: 2:00PM**

Description	Quantity	Units	Unit Cost	Total
<b>1.0 DAVIES HIGH SCHOOL</b>				
Remove Existing Concrete Curb & Gutter	20	LF		
4" Reinforced Concrete Trail w/ 4" Aggregate Base	210	SY		
Standard Concrete Curb & Gutter	20	LF		
ADA Detectable Warning Panel	32	SF		
6" Irrigation Sleeve	18	LF		
Finish Grade & Seeding	1	LS		
Erosion Control	1	LS		
Earthwork	1	LS		
Mobilization	1	LS		
General Conditions	1	LS		
<b>1.0 Davies High School Total</b>				
<b>2.0 MILWAUKEE TRAIL</b>				
Remove Existing Asphalt Pavement (All Thicknesses)	1,570	SY		
Remove Existing Concrete Pavement (All Thicknesses)	20	SY		
Remove Existing Concrete Curb & Gutter	11	LF		
4" Reinforced Concrete Trail w/ 4" Aggregate Base	1,420	SY		
Standard Concrete Curb & Gutter	11	LF		
ADA Detectable Warning Panel	16	SF		
Finish Grade & Seeding	1	LS		
Erosion Control	1	LS		
Earthwork	1	LS		
Mobilization	1	LS		
General Conditions	1	LS		
<b>2.0 Milwaukee Trail Total</b>				

### 3.0 COURTS PLUS

Remove Existing Asphalt Pavement (All Thicknesses)	1,710	SY		
Strip Existing Material (3' Depth)	439	CY		
4" Reinforced Concrete Sidewalk w/ 4" Aggregate Base	120	SY		
7" Reinforced Concrete Pavement w/ 6" Aggregate Base	12	SY		
4" Asphalt Pavement w/ 10" Aggregate Base	970	SY		
Mountable Concrete Curb & Gutter	360	LF		
3' Wide Concrete Valley Gutter	8	LF		
4" Parking Lot Striping	630	LF		
Backfill Topsoil (3' Depth) (Includes 20% Shrink Factor)	527	CY		
New Tree	4	EA		
New Shrub	55	EA		
New 4" Landscape Rock	105	SY		
Finish Grade & Seeding	1	LS		
Erosion Control	1	LS		
Earthwork	1	LS		
Mobilization	1	LS		
General Conditions	1	LS		

**3.0 Courts Plus Total**

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## 4.0 RHEAULT FARM

Remove Existing Plastic Retaining Wall (Field Verify)	217	LF		
Remove and Salvage Existing Bench	6	EA		
Remove and Salvage Existing Sign	1	EA		
Remove and Salvage Existing Tree	1	EA		
Remove Existing Concrete Pavement (All Thicknesses)	28	SY		
PVC Inlet	1	EA		
6" Storm Sewer Cleanout	1	EA		
4" Perforated Drintile w/ Filter Sock	191	LF		
4" SDR35 PVC Storm Sewer Line	28	LF		
8" SDR35 PVC Storm Sewer Line	38	LF		
4"x4" Tee	1	EA		
8" Inserta Tee	1	EA		
Connect to Existing Storm Sewer Inlet	1	EA		
Connect to Existing Storm Sewer Line	1	EA		
4" Reinforced Concrete Playground Sidewalk w/ 4" Agg. Base	165	SY		
4" Reinforced Concrete Sidewalk w/ 4" Agg. Base	70	SY		
Install Salvaged Sign	1	EA		
Install Salvaged Bench	4	EA		
Replant Salvaged Tree	1	EA		
Finish Grade & Seeding	1	LS		
Erosion Control	1	LS		
Earthwork	1	LS		
Mobilization	1	LS		
General Conditions	1	LS		

**4.0 Rheault Farm Total**



## 5.0 STARION FIELD

Remove Existing Asphalt Pavement (All Thicknesses)	80	SY		
Remove Existing Concrete Curb & Gutter	16	LF		
Remove & Salvage Existing Two Post Sign	1	EA		
Remove & Salvage Existing Tree	1	EA		
12" HDPE Storm Sewer Line	120	LF		
27" Storm Sewer Inlet	2	EA		
Connect to Existing Storm Sewer Inlet	1	EA		
4" Reinforced Concrete Sidewalk w/ 4" Agg. Base	190	SY		
4" Reinforced Concrete Pavement w/ 6" Agg. Base	30	SY		
Mountable Concrete Curb & Gutter	16	LF		
ADA Detectable Warning Panel	24	SF		
Install Salvaged Sign	1	EA		
Replant Salvaged Tree	1	EA		
Finish Grade & Seeding	1	LS		
Erosion Control	1	LS		
Earthwork	1	LS		
Mobilization	1	LS		
General Conditions	1	LS		

**5.0 Starion Field Total**

**6.0 ANDERSON SOFTBALL COMPLEX**

Remove and Salvage Existing Sign	9	EA		
Remove Existing Concrete Curb & Gutter	70	LF		
Remove Existing Asphalt Pavement (All Thicknesses)	130	SY		
Sandblast Existing Parking Lot Striping	203	LF		
4" Reinforced Concrete Trail w/ 4" Aggregate Base	440	SY		
6" Reinforced Concrete Trail w/ 6" Aggregate Base	150	SY		
Standard Concrete Curb & Gutter	70	LF		
4" Parking Lot Striping	530	LF		
Accessible Symbol	8	EA		
Install Salvaged Sign	9	EA		
New Accessible Sign	2	EA		
ADA Detectable Warning Panel	108	SF		
6" Irrigation Sleeve	36	LF		
Finish Grade & Seeding	1	LS		
Erosion Control	1	LS		
Earthwork	1	LS		
Mobilization	1	LS		
General Conditions	1	LS		

**6.0 Anderson Softball Complex Total****7.0 ROSE CREEK GOLF COURSE**

Remove Existing Asphalt Pavement (All Thicknesses)	1,980	SY		
4" Reinforced Concrete Trail w/ 4" Aggregate Base	2,190	SY		
Deeproot UB 12-2 Tree Root Barrier	172	LF		
Finish Grade & Seeding	1	LS		
Erosion Control	1	LS		
Earthwork	1	LS		
Mobilization	1	LS		
General Conditions	1	LS		

**7.0 Rose Creek Golf Course Total**

## 8.0 FOX RUN PARK

Remove Existing Plastic Retaining Wall (Field Verify)	241	LF		
Remove Existing Concrete Pavement (All Thicknesses)	9	SY		
Remove and Salvage Existing Sign	1	EA		
4" Perforated Drintile w/ Filter Sock	95	LF		
4" SDR35 PVC Storm Sewer Line	38	LF		
4" PVC-45° Bend	2	EA		
Connect to Existing Storm Sewer Inlet	1	EA		
4" Reinforced Concrete Playground Sidewalk w/ 4" Agg. Base	200	SY		
Install Salvaged Sign	1	EA		
Playground Bench	2	EA		
Finish Grade & Seeding	1	LS		
Erosion Control	1	LS		
Earthwork	1	LS		
Mobilization	1	LS		
General Conditions	1	LS		

**8.0 Fox Run Park Total**

## 9.0 THARALDSON LITTLE LEAGUE COMPLEX

Remove Existing Curb & Gutter	10	LF		
Remove and Salvage Existing Sign	1	EA		
Remove Existing Plastic Retaining Wall (Field Verify)	282	LF		
4" Perforated Drintile w/ Filter Sock	208	LF		
4" SDR35 PVC Storm Sewer Line	17	LF		
4"x4" Tee	1	EA		
6" Storm Sewer Cleanout	1	EA		
4" Inserta Tee	1	EA		
4" Reinforced Concrete Trail w/ 4" Aggregate Base	180	SY		
4" Reinforced Concrete Playground Sidewalk w/ 4" Agg. Base	210	SY		
Standard Concrete Curb & Gutter	10	LF		
4' High Fence (Wirework Plus Panel)	132	LF		
Install Salvaged Sign	1	EA		
Playground Bench	3	EA		
ADA Detectable Warning Panel	16	SF		
Finish Grade & Seeding	1	LS		
Erosion Control	1	LS		
Earthwork	1	LS		
Mobilization	1	LS		
General Conditions	1	LS		

### 9.0 Tharaldson Little League Complex Total

## 10.0 ISLAND PARK

4" Reinforced Concrete Trail w/ 4" Aggregate Base	170	SY		
Finish Grade & Seeding	1	LS		
Erosion Control	1	LS		
Earthwork	1	LS		
Mobilization	1	LS		
General Conditions	1	LS		

### 10.0 Island Park Total

**11.0 FRIENDSHIP PARK**

Remove Existing Basketball Standard	2	EA		
Remove Existing Asphalt Pavement (All Thicknesses)	1,200	SY		
Basketball Standard	1	EA		
Plinko Ball Standard	1	EA		
2" Basketball Striping	272	LF		
4" Reinforced Concrete Trail w/ 4" Aggregate Base	480	SY		
Finish Grade & Seeding	1	LS		
Earthwork	1	LS		
Mobilization	1	LS		
General Conditions	1	LS		

**11.0 Friendship Park Total****12.0 LONGFELLOW PARK**

2" Mill and Overlay	1,620	SY		
4" Parking Lot Striping	820	LF		
Accessible Symbol	2	EA		
New Accessible Sign	2	EA		
Mobilization	1	LS		
General Conditions	1	LS		

**12.0 Longfellow Park Total****TOTAL CONSTRUCTION (\$)**

**ALTERNATE NO.1 - THARALDSON TRAIL REHAB**

Remove Existing Asphalt Pavement (All Thicknesses)	690	SY		
4" Reinforced Concrete Trail w/ 4" Aggregate Base	690	SY		
Finish Grade & Seeding	1	LS		
Earthwork	1	LS		

**Alternate No.1 - Tharaldson Trail Rehab Total****ALTERNATE NO.2 - THARALDSON MOW STRIP**

Concrete Mow Strip	132	LF		
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**Alternate No.2 - Tharaldson Mow Strip Total****ALTERNATE NO.3 - MILWAUKEE TRAIL REHAB**

Remove Existing Asphalt Pavement (All Thicknesses)	400	SY		
4" Reinforced Concrete Trail w/ 4" Aggregate Base	400	SY		
Finish Grade & Seeding	1	LS		
Earthwork	1	LS		

**Alternate No.3 - Milwaukee Trail Rehab Total****ALTERNATE NO.4 - RHEAULT FARM PLAYGROUND SIDEWALK**

4" Reinforced Concrete Playground Sidewalk w/ 4" Agg. Base	(165)	SY		
Thickened Edge Sidewalk	130	SY		

**Alternate No.4 - Rheault Farm Playground Sidewalk Total**

## 1.06 ACCEPTANCE

- A. This offer shall be open to acceptance and is irrevocable for sixty days from the bid closing date.
- B. If this bid is accepted by Owner within the time period stated above, we will:
  - 1. Execute the Agreement within ten (10) days of receipt of Notice of Award.
  - 2. Furnish the required bonds within ten (10) days of receipt of Notice of Award.
- C. If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bond(s), the security deposit shall be forfeited as damages to Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.
- D. In the event our bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.
- E. All bids will be evaluated by base bid and accepted alternates.

## 1.07 CONTRACT TIME

- A. If this Bid is accepted:
  - 1. **Schedule A: April/May 2025, with final completion July 31, 2025.**
  - 2. **Schedule B: August 1, 2025, with final completion November 21, 2025.**

**1.08 BID FORM SIGNATURE(S)**

A. An Individual

1. By: (SEAL)
2. (Individual's Name)
3. doing business as:
4. Business Address:
- 5.
6. Phone Number:

B. A Partnership

1. By: (SEAL)
2. (Firm Name)
- 3.
4. (General Partner)
5. Business Address:
- 6.
7. Phone Number:

C. A Corporation

1. By:
2. (Corporation Name)
- 3.
4. (State of Incorporation)
5. By:
6. (Name of Person Authorized to Sign)
- 7.
8. (Title)
9. (Corporate Seal)
10. Attest:
11. (Secretary)
12. Business Address:
- 13.
14. Phone Number:

D. A Joint Venture

1. By:
2. (Name)
- 3.
4. (Address)
5. By:
6. (Name)
- 7.
8. (Address)
9. (Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

**END OF SECTION**



**SECTION 00 5200  
AGREEMENT FORM**

**PART 1 GENERAL**

**FORM OF AGREEMENT**

**2.01 THE AGREEMENT TO BE EXECUTED IS ATTACHED FOLLOWING THIS PAGE.**

**2.02 RELATED REQUIREMENTS**

- A. Section 00 7200 - General Conditions.
- B. Section 00 7300 - Supplementary Conditions.

**PART 2 PRODUCTS (NOT USED)**

**PART 3 EXECUTION (NOT USED)**

**4.01 ALL FORMS ARE AVAILABLE FOR REVIEW IN THE OFFICE OF THE ENGINEER LOCATED AT 503 7TH ST N, SUITE 200; FARGO, ND 58102.**

- A. See attached forms in following this Specification Section.
- B. All forms are available for review in the office of the Engineer located at 503 7th St N, Suite 200; Fargo, ND 58102.
- C. See attached forms in following this Specification Section.

**END OF AGREEMENT**

**AGREEMENT**  
**BETWEEN OWNER AND CONTRACTOR**  
**FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)**

THIS AGREEMENT is by and between The Park District of the City of Fargo (“Owner”) and  
\_\_\_\_\_ (“Contractor”).

Owner and Contractor hereby agree as follows:

**ARTICLE 1 – WORK**

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

- A. Fargo Park District 2025 Pavement Improvements.

**ARTICLE 2 – THE PROJECT**

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows:

- A. Fargo Park District 2025 Pavement Improvements.

**ARTICLE 3 – ENGINEER**

3.01 The part of the Project that pertains to the Work has been designed by MBN Engineering, Inc.

3.02 The Owner has retained MBN Engineering, Inc. (“Engineer”) to act as Owner’s representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

**ARTICLE 4 – CONTRACT TIMES**

4.01 *Time of the Essence*

- A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Contract Times: Dates*

- A. The Work will start when site conditions allow and be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the following:

**Schedule A:**

**Final Completion: July 31, 2025**

**Schedule B:**

**Final Completion: November 21, 2025**

#### 4.03 *Liquidated Damages*

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):
1. Substantial Completion: Contractor shall pay Owner \$500.00 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.
  2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner \$500.00 for each day that expires after such time until the Work is completed and ready for final payment.
  3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.

#### 4.04 *Special Damages*

- A. In addition to the amount provided for liquidated damages, Contractor shall reimburse Owner (1) for any fines or penalties imposed on Owner as a direct result of the Contractor's failure to attain Substantial Completion according to the Contract Times, and (2) for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Substantial Completion (as duly adjusted pursuant to the Contract), until the Work is substantially complete.
- B. After Contractor achieves Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times, Contractor shall reimburse Owner for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Work to be completed and ready for final payment (as duly adjusted pursuant to the Contract), until the Work is completed and ready for final payment.

### **ARTICLE 5 – CONTRACT PRICE**

- 5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:
- A. For all Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item. The extended prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer.
  - B. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

## ARTICLE 6 – PAYMENT PROCEDURES

### 6.01 *Submittal and Processing of Payments*

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

### 6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 1st day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.

- 1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract

- a. 90 percent of Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and
- b. 90 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 97.5 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 100 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

### 6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

## ARTICLE 7 – INTEREST

- 7.01 All amounts not paid when due as provided in Article 14 of the General Conditions shall bear interest at the maximum rate allowed by law at the place of the project.

## ARTICLE 8 – CONTRACTOR’S REPRESENTATIONS

- 8.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:
- A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
  - B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
  - C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
  - D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
  - E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor’s safety precautions and programs.
  - F. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
  - G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
  - H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
  - I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
  - J. Contractor’s entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

## ARTICLE 9 – CONTRACT DOCUMENTS

### 9.01 *Contents*

- A. The Contract Documents consist of the following:
  - 1. This Agreement.

2. Performance bond.
3. Payment bond.
4. General Conditions.
5. Supplementary Conditions.
6. Specifications as listed in the table of contents of the Project Manual.
7. Drawings (not attached but incorporated by reference) bearing the following general title: **Fargo Park District 2025 Pavement Improvements**.
8. Exhibits to this Agreement (enumerated as follows):
  - a. Contractor's Bid.
9. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
  - a. Notice to Proceed.
  - b. Work Change Directives.
  - c. Change Orders.
  - d. Field Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

## **ARTICLE 10 – MISCELLANEOUS**

### **10.01 Terms**

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

### **10.02 Assignment of Contract**

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

### **10.03 Successors and Assigns**

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

#### 10.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

#### 10.05 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
  - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
  - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
  - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
  - 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on \_\_\_\_\_ (which is the Effective Date of the Contract).

OWNER:

CONTRACTOR:

\_\_\_\_\_

\_\_\_\_\_

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

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

Title: \_\_\_\_\_

Title: \_\_\_\_\_

*(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)*

Attest: \_\_\_\_\_

Attest: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Address for giving notices:

Address for giving notices:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

License No.: \_\_\_\_\_

*(where applicable)*



**SECTION 00 6000**  
**BONDS AND CERTIFICATES**

**FORM OF BONDS AND CERTIFICATES**

**1.01 BID BOND:**

- A. EJCDC Document C-430, Bid Bond, Penal Sum Form (2009).
- B. All forms are available for review in the office of the Engineer located at 503 7th St N, Suite 200; Fargo, ND 58102.
- C. See attached forms in following this Specification Section.

**1.02 PERFORMANCE BOND:**

- A. EJCDC Document C-610, Construction Performance Bond (2009).
- B. All forms are available for review in the office of the Engineer located at 503 7th St N, Suite 200; Fargo, ND 58102.
- C. See attached forms in following this Specification Section.

**1.03 PAYMENT BOND:**

- A. EJCDC Document C-615, Construction Payment Bond (2009).
- B. All forms are available for review in the office of the Engineer located at 3503 7th St N, Suite 200; Fargo, ND 58102.
- C. See attached forms in following this Specification Section.

**END OF BONDS AND CERTIFICATES**

## BID BOND

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

---

BIDDER (*Name and Address*):

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

OWNER (*Name and Address*):

The Park District of the City of Fargo  
701 Main Avenue  
Fargo, ND 58102

BID

Bid Due Date:

Description (*Project Name— Include Location*):

BOND

Bond Number:

Date:

Penal sum

\$

(Words)

(Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

**BIDDER**

**SURETY**

(Seal)

(Seal)

\_\_\_\_\_  
Bidder's Name and Corporate Seal

\_\_\_\_\_  
Surety's Name and Corporate Seal

By:

\_\_\_\_\_  
Signature

By:

\_\_\_\_\_  
Signature (Attach Power of Attorney)

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

Attest:

\_\_\_\_\_  
Signature

Attest:

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

*Note: Addresses are to be used for giving any required notice.*

*Provide execution by any additional parties, such as joint venturers, if necessary.*

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
  - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
  - 3.2 All Bids are rejected by Owner, or
  - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

## PERFORMANCE BOND

CONTRACTOR *(name and address):*

SURETY *(name and address of principal place of business):*

OWNER *(name and address):*

The Park District of the City of Fargo  
70 Main Avenue  
Fargo, ND 58102

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):*

BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract):*

Amount:

Modifications to this Bond Form:  None  See Paragraph 16

---

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

**CONTRACTOR AS PRINCIPAL**

**SURETY**

\_\_\_\_\_  
Contractor's Name and Corporate Seal *(seal)*

\_\_\_\_\_  
Surety's Name and Corporate Seal *(seal)*

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

By: \_\_\_\_\_  
Signature *(attach power of attorney)*

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

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

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

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

**Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.**

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

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

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

3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

3.3 The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

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

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

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

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

5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence,

to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

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

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

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

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

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

7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

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

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

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

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

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

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

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

14. Definitions

14.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims

for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

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

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

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

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

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

16. Modifications to this Bond are as follows:

## PAYMENT BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

The Park District of the City of Fargo  
701 Main Avenue  
Fargo, ND 58102

### CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location)*:

### BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:

Amount:

Modifications to this Bond Form:  None  See Paragraph 18

---

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

### CONTRACTOR AS PRINCIPAL

### SURETY

\_\_\_\_\_ *(seal)*  
Contractor's Name and Corporate Seal

\_\_\_\_\_ *(seal)*  
Surety's Name and Corporate Seal

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

By: \_\_\_\_\_  
Signature *(attach power of attorney)*

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

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

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

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond shall arise after the following:
  - 5.1 Claimants who do not have a direct contract with the Contractor,
    - 5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
    - 5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).
  - 5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
  - 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
  - 7.2 Pay or arrange for payment of any undisputed amounts.
  - 7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.



12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
16. **Definitions**
  - 16.1 **Claim:** A written statement by the Claimant including at a minimum:
    1. The name of the Claimant;
    2. The name of the person for whom the labor was done, or materials or equipment furnished;
    3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
    4. A brief description of the labor, materials, or equipment furnished;
    5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
    6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
    7. The total amount of previous payments received by the Claimant; and
  - 16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
  - 16.3 **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
  - 16.4 **Owner Default:** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
  - 16.5 **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.
8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.
18. Modifications to this Bond are as follows:

**SECTION 00 7200  
GENERAL CONDITIONS**

**FORM OF GENERAL CONDITIONS**

**1.01 THE GENERAL CONDITIONS APPLICABLE TO THIS CONTRACT IS ATTACHED FOLLOWING THIS PAGE.**

**SUPPLEMENTARY CONDITIONS**

**2.01 REFER TO DOCUMENT 00 7300 - SUPPLEMENTARY CONDITIONS FOR AMENDMENTS TO THESE GENERAL CONDITIONS.**

**END OF DOCUMENT**

# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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## ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

### 1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. 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, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
  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. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
  5. *Bidder*—An individual or entity that submits a Bid to Owner.
  6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
  7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
  8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
  9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
  10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer



has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5101 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Engineer*—The individual or entity named as such in the Agreement.
21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner’s acceptance of the Bid.
27. *Notice to Proceed*—A written notice 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.
28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
29. *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.
30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or “RPR” includes any assistants or field staff of Resident Project Representative.
33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals and the performance of related construction activities.
35. *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.
36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

37. *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, and such other lands furnished by Owner which are designated for the use of Contractor.
38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
39. *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.
40. *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.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *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 a Subcontractor.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
45. *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 but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *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; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

## 1.02 Terminology

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated 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 information in the Contract Documents and with the design concept of the 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 Article 10 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 15.03 or 15.04).
- 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. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- F. Unless stated otherwise in the Contract Documents, words or phrases that 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**

### **2.01 *Delivery of Bonds and Evidence of Insurance***

- A. *Bonds*: 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 Contractor’s Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

### **2.02 *Copies of Documents***

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

### **2.03 *Before Starting Construction***

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), 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;
  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.

#### 2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- 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 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

#### 2.05 *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 2.03.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 the component parts of the Work.

#### 2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or

computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

### **ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE**

#### **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.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

#### **3.02 *Reference Standards***

- A. Standards Specifications, Codes, Laws and Regulations
  - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, 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, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract 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, reference standard, 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 part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, 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 part of the Contract Documents prepared by or for Engineer.

#### **3.03 *Reporting and Resolving Discrepancies***

- A. *Reporting Discrepancies:*
  - 1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict,

error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then 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 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
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 had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
  - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); 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 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.



### 3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers 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 its consultants, including electronic media editions, or reuse any 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 adaptation by Engineer; or
  - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions 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.

## **ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK**

### 4.01 *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 Contract 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 Contract. 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 Contract, whichever date is earlier.

### 4.02 *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 such date.

### 4.03 *Reference Points*

- A. Contractor 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.

### 4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 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 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. 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, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

#### 4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, 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 Times and Contract Price. 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.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. 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. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
  2. abnormal weather conditions;
  3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
  4. acts of war or terrorism.
- D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.
- E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.

- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

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

5.01 *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.
- 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 permanent improvements are to be made 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.

5.02 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

- 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
- 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all 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 directly or indirectly, in whole or in part

by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent 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 and adjacent areas 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 of 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 structures or land to stresses or pressures that will endanger them.

### 5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
  - 1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
  - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and
  - 3. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, 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.

#### 5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site 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 5.03 is materially inaccurate; or
  2. is of such a nature as to require a change in the Drawings or Specifications; 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 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, 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 fall within any one or more of the categories described in Paragraph 5.04.A;
    - 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 Paragraph 13.03; and,

- c. 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.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
  - a. Contractor knew of the existence of such condition at the time Contractor made a 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 otherwise; or
  - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
  - c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

#### 5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent 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 do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; 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 information and data regarding existing Underground Facilities at the Site;
    - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
    - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
    - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then 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 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Possible Price and Times Adjustments:*
  - 1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
    - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
    - 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 Paragraph 13.03;
    - c. 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; and
    - d. Contractor gave the notice required in Paragraph 5.05.B.
  - 2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
  - 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

- A. *Reports and Drawings*: The Supplementary Conditions identify:
1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
  2. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors 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 removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) 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. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.



- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. 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, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.
- H. 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, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, 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 (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, 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 failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

## ARTICLE 6 – BONDS AND INSURANCE

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

- A. Contractor shall furnish a performance bond and a payment bond, 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. 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 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then 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 bond and surety requirements above.
- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

### 6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is

maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, 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.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

### 6.03 *Contractor's Insurance*

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
  - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
  - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
  - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).

4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
  2. claims for damages insured by reasonably available personal injury liability coverage.
  3. 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.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage:
    - a. Such insurance shall be maintained for three years after final payment.
    - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
  2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
  3. Broad form property damage coverage.
  4. Severability of interest.
  5. Underground, explosion, and collapse coverage.
  6. Personal injury coverage.
  7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
  8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability:* Contractor shall purchase and maintain automobile liability insurance against 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. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance:* Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result

of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.

- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, 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 (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
  - 1. include at least the specific coverages provided in this Article.
  - 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
  - 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
  - 4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
  - 5. be appropriate for the Work being performed and provide protection from claims that 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.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

#### 6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, 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.
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

#### 6.05 *Property Insurance*

- A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable 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 Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
  - 2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
  - 3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
  - 4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).

5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
  6. extend to cover damage or loss to insured property while in transit.
  7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
  8. allow for the waiver of the insurer's subrogation rights, as set forth below.
  9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
  10. not include a co-insurance clause.
  11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
  12. include performance/hot testing and start-up.
  13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

## 6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, 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 insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, 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 Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, 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 or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, 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 occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.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, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

## 6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the



policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

## **ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES**

### *7.01 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.
- 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.

### *7.02 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, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

### *7.03 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, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work 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.

#### 7.04 "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 Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item 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 is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.
  - 1. If Engineer in its sole discretion determines that 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, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, 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
      - 4) it is not objectionable to Owner.
    - 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.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer considered the proposed item as a substitute pursuant to Paragraph 7.05.

#### 7.05 *Substitutes*

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
  - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.
  - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
  - 3. 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:
    - a. shall certify that the proposed substitute item will:
      - 1) perform adequately the functions and achieve the results called for by the general design,
      - 2) be similar in substance to that specified, and
      - 3) be suited to the same use as that specified.
    - b. will state:
      - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
      - 2) whether 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
      - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
    - c. will identify:
      - 1) all variations of the proposed substitute item from that specified, and

- 2) available engineering, sales, maintenance, repair, and replacement services.
  - d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
  - C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
  - D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable 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.
  - E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
  - F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

#### 7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.

- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. 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 the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. 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.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. 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.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

O. 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 create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *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, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors 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 specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, 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.

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, 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 the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

#### 7.09 *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.

#### 7.10 *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 or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, 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 such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

#### 7.11 *Record Documents*

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

#### 7.12 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. 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, other work in progress, 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 Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
  - C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
  - D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
  - E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.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 at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer 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).
  - F. Contractor's duties and responsibilities for safety and protection 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 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
  - G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

#### 7.13 *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.

#### 7.14 *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.

#### 7.15 *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.

#### 7.16 *Shop Drawings, Samples, and Other Submittals*

##### A. *Shop Drawing and Sample Submittal Requirements:*

1. Before submitting a Shop Drawing or Sample, Contractor shall have:
  - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
  - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
  - c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
  - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
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 of that submittal, and that Contractor approves the 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 set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

##### 1. *Shop Drawings:*

- a. Contractor shall submit the number of copies required in the Specifications.
- 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 7.16.D.

2. *Samples:*
    - a. Contractor shall submit the number of Samples required in the Specifications.
    - b. Contractor shall 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 7.16.D.
  3. 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. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.
- 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 or to safety precautions or programs incident thereto.
  3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
  4. Engineer's review and approval of a Shop Drawing or Sample 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 7.16.A.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 will document any such approved variation from the requirements of the Contract Documents in a Field Order.
  5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
  6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
  7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

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.
2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *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 officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on 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;
  6. the issuance of a notice of acceptability by Engineer;
  7. any inspection, test, or approval by others; or
  8. any correction of defective Work by Owner.

- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

#### 7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, 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 officers, directors, members, partners, employees, agents, consultants, or subcontractors 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 7.18.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 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, 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.

#### 7.19 *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 Laws and Regulations.
- 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, 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, 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 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

## **ARTICLE 8 – OTHER WORK AT THE SITE**

### **8.01 *Other Work***

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. 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 such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, 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.

## 8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
  - 1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
  - 2. an itemization of the specific matters to be covered by such authority and responsibility; and
  - 3. the extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

## 8.03 *Legal Relationships*

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner for whom the Owner is responsible causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. 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.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.
- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.

- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all 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 damage, delay, disruption, or interference.

## **ARTICLE 9 – OWNER'S RESPONSIBILITIES**

### **9.01 *Communications to Contractor***

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

### **9.02 *Replacement of Engineer***

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

### **9.03 *Furnish Data***

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

### **9.04 *Pay When Due***

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

### **9.05 *Lands and Easements; Reports, Tests, and Drawings***

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

### **9.06 *Insurance***

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

### **9.07 *Change Orders***

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *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.

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

**ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION**

10.01 *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.

10.02 *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 10.08. 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.

10.03 *Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. 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.

10.04 *Rejecting Defective Work*

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. 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, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

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

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, 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 15.06.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 10.08 shall also apply to the Resident Project Representative, if any.

#### 10.09 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

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

#### 11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
  - 1. *Change Orders:*
    - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
    - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
  - 2. *Work Change Directives:* A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an

adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. *Field Orders*: Engineer may authorize minor changes in the Work if the changes 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. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

#### 11.02 *Owner-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. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

#### 11.03 *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, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

#### 11.04 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.
- B. 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, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
  2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or
  3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on

the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).

- C. *Contractor's Fee*: When applicable, 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 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
    - b. for costs incurred under Paragraph 13.01.B.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 Paragraphs 11.04.C.2.a and 11.04.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
    - d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
    - 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 11.04.C.2.a through 11.04.C.2.e, inclusive.

#### 11.05 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

#### 11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under

the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
  2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
  3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

#### 11.07 Execution of Change Orders

- A. Owner and Contractor shall execute appropriate Change Orders covering:
1. 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;
  2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
  3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
  4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

#### 11.08 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety 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), 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.

### **ARTICLE 12 – CLAIMS**

#### 12.01 *Claims*

- A. *Claims Process:* The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
  - 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
  - 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
  - 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. *Submittal of Claim:* The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation:*
  - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
  - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim

submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

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

### 13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
  1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
  2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:
  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 on the Work. 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, and 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 13.01.
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, as 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 6.05), 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 communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *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 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here 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 Paragraph 13.01.B.

D. *Contractor's Fee:* When the Work as a whole 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, Change Proposal, Claim, set-off, or other 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 11.04.C.

E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, 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.

## 13.02 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*: Contractor agrees that:
  - 1. 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
  - 2. 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*: 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.

### 13.03 *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. Payments to Contractor for Unit Price Work will be based on actual quantities.
- 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. 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 the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price 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;
  - 2. there is no corresponding adjustment with respect to any other item of Work; and
  - 3. Contractor believes that it 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 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK**

### **14.01 Access to Work**

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

### **14.02 Tests, Inspections, and Approvals**

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- 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, obtaining, and paying for all inspections and tests required:
  - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
  - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
  - 3. by manufacturers of equipment furnished under the Contract Documents;
  - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
  - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. 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, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to

cover the same and Engineer had not acted with reasonable promptness in response to such notice.

#### 14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

#### 14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

#### 14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then 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, and provide all necessary labor, material, and equipment.
  - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages 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 pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
  - 2. 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, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

#### 14.06 *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, then 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.

#### 14.07 *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, 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, then 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 14.07, 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, 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 incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. 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 14.07.

## **ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD**

### **15.01 Progress Payments**

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 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 during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *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, a warehouse bond, 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.
- C. *Review of Applications:*
1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, 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 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, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and 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; or
    - b. 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 money 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 15.01.C.2.
  6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
    - a. the Work is defective, requiring correction or replacement;
    - b. the Contract Price has been reduced by Change Orders;
    - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
    - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

- e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due:*

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

E. *Reductions in Payment by Owner:*

- 1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
  - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
  - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
  - c. Contractor has failed to provide and maintain required bonds or insurance;
  - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
  - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
  - f. the Work is defective, requiring correction or replacement;
  - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
  - h. the Contract Price has been reduced by Change Orders;
  - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
  - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
  - k. 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;
  - l. there are other items entitling Owner to a set off against the amount recommended.
- 2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, 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, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

#### 15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

#### 15.03 *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 and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- 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 preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

#### 15.04 *Partial Use or Occupancy*

- 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. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.
  - 2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work 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 15.03 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 6.05 regarding builder's risk or other property insurance.

#### 15.05 *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, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

#### 15.06 *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, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:
  - a. all documentation called for in the Contract Documents;
  - b. consent of the surety, if any, to final payment;
  - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
  - d. a list of all disputes that Contractor believes are unsettled; and
  - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, 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, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

**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 have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. 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 15.07. 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. *Completion of Work:*** The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.

**D. *Payment Becomes Due:*** Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation,

including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

#### 15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

#### 15.08 *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 Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
  - 1. correct the defective repairs to the Site or such other adjacent areas;
  - 2. correct such defective Work;
  - 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 to 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. 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 repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- 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, 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 are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

## **ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION**

### **16.01 *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 written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

### **16.02 *Owner May Terminate for Cause***

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and 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);
  - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
  - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
  - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
  - 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
  - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, 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 complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.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 the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses,

and damages exceeds 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.

- F. 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, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

#### 16.03 *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; and
  - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

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

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) 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 16.03.
- 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 are not intended to preclude Contractor from submitting a Change Proposal 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 17 – FINAL RESOLUTION OF DISPUTES**

### **17.01 *Methods and Procedures***

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
  - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
  - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this Article, Owner or Contractor may:
  - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
  - 2. agree with the other party to submit the dispute to another dispute resolution process; or
  - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

## **ARTICLE 18 – MISCELLANEOUS**

### **18.01 *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, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
  - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

### **18.02 *Computation of Times***

- A. When any period of time is referred to in the Contract 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.

### **18.03 *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. 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.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

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

18.07 *Controlling Law*

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

18.08 *Headings*

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



**SECTION 00 7300  
SUPPLEMENTARY CONDITIONS**

**PART 1 GENERAL**

**1.01 SUMMARY**

**1.02 THESE SUPPLEMENTARY CONDITIONS AMEND AND SUPPLEMENT THE GENERAL CONDITIONS DEFINED IN DOCUMENT 00 7200 - GENERAL CONDITIONS AND OTHER PROVISIONS OF THE CONTRACT DOCUMENTS AS INDICATED BELOW. PROVISIONS THAT ARE NOT SO AMENDED OR SUPPLEMENTED REMAIN IN FULL FORCE AND EFFECT.**

**1.03 THE TERMS USED IN THESE SUPPLEMENTARY CONDITIONS THAT ARE DEFINED IN THE GENERAL CONDITIONS HAVE THE MEANINGS ASSIGNED TO THEM IN THE GENERAL CONDITIONS.**

**1.04 MODIFICATIONS TO GENERAL CONDITIONS**

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**3.01 7.3.10: THE BID FORM IDENTIFIES THE OVERHEAD AND PROFIT FEES APPLICABLE FOR CHANGES IN THE WORK, WHETHER ADDITIONS TO OR DEDUCTIONS FROM THE WORK ON WHICH THE CONTRACT SUM IS BASED AND IDENTIFIES THE FEES FOR SUBCONTRACT WORK FOR CHANGES (BOTH ADDITIONS AND DEDUCTIONS) IN THE WORK. THE CONTRACTOR SHALL APPLY FEES AS NOTED, TO THE SUBCONTRACTOR'S GROSS (NET PLUS FEE) COSTS.**

**MODIFICATIONS TO EJCDC C-700**

**4.01 SC-1. DEFINITIONS**

- A. The terms used in these Supplementary Conditions which are defined in the Standard General Conditions of the Construction Contract (No. C700, 2007 ed.) have the meanings assigned to them in the General Conditions.

**4.02 SC-5.04.**

- A. 5.04.1 and 5.04.2. Workers' Compensation, etc. under paragraphs 5.04.A.1 and 5.04.A.2 of the General Conditions:
  - 1. State: Statutory.
  - 2. Applicable Federal (e.g. Longshoreman's): Statutory.
  - 3. Employer's Liability: \$500,000.
- B. 5.04.3, 5.04.4, and 5.04.5. Contractor's Liability Insurance under Paragraphs 5.04.A.3 through 5.04.A.5 of the General Conditions which shall also include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody, and control of the Contractor.
  - 1. General Aggregate (Except Products - Completed Operations): \$500,000.
  - 2. Products - Completed Operations Aggregate: \$500,000.
  - 3. Personal and Advertising Injury (Per Person / Organization): \$500,000.
  - 4. Each Occurrence (Bodily Injury and Property Damage): \$500,000.
  - 5. Property Damage liability insurance will provide Explosion, Collapse, and Underground coverages where applicable.

- 6. Excess Liability:
  - a. General Aggregate: \$1,000,000.
  - b. Each Occurrence: \$1,000,000.
- C. 5.04.6 Automobile Liability:
  - 1. Bodily Injury:
    - a. Each Person: \$500,000.
    - b. Each Accident: \$1,000,000.
  - 2. Property Damage:
    - a. Each Accident: \$500,000.
  - 3. Combined Single Limit (Bodily Injury and Property Damage):
    - a. Each Accident: \$1,500,000.
- D. 5.04.7 Other persons or entities to be included on policy as additional insured's: Park District of the City of Fargo, Fargo, North Dakota, and MBN Engineering, Inc., Fargo, North Dakota.

**4.03 SC-5.04.B.**

- A. The Contractual Liability coverage required by Paragraph 5.04.B.1 of the General Conditions shall provide coverage for not less than the following amounts:
  - 1. General Aggregate: \$1,000,000.
  - 2. Each Occurrence (Bodily Injury and Property Damage): \$500,000.

**4.04 SC-5.06.**

- A. Delete Paragraph 5.06.A of the General Conditions in its entirety and insert the following in its place:
  - 1. 5.06 CONTRACTOR 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 these Supplementary Conditions or required by Laws and Regulations). This insurance shall:
  - 2. 5.06.A.1. include the interests of OWNER, CONTRACTOR, SUBCONTRACTORS, ENGINEER, ENGINEER's CONSULTANTS, and any other persons or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;
  - 3. 5.06.A.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 and damage to the Work, temporary buildings, falsework, and Work in transit and shall insure against at least the following perils: fire, lightning, extended coverage, theft, vandalism, and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, and such other perils as may be specifically required by the Supplementary Conditions;
  - 4. 5.06.A.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);
  - 5. 5.06.A.4. cover materials and equipment in transit for incorporation in the Work or 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; and
  - 6. 5.06.A.5. be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR, and ENGINEER with thirty days written notice to each other additional insured to whom a certificate of insurance has been issued.
- B. The policies of insurance required to be purchased and maintained by CONTRACTOR in accordance with this Paragraph 5.06 shall comply with the requirements of GC-5.06.C.

**4.05 SC-5.06.B.**

- A. Delete Paragraph 5.06.B.

**4.06 SC-9.03.**

- A. Add a new paragraph immediately after Paragraph 9.03 of the General Conditions which is to read as follows:
1. ENGINEER shall furnish a Resident Project Representative (RPR), assistants and other field staff to assist ENGINEER in observing performance of the work of Contractor.
  2. Through more extensive on-site observations of the work in progress and field checks of materials and equipment by the RPR and assistants, ENGINEER shall endeavor to provide further protection for OWNER against defects and deficiencies in the work of CONTRACTOR; but, the furnishing of such services will not make ENGINEER responsible for or give ENGINEER control over construction means, methods, techniques, sequences, or procedures or for safety precautions or programs, or responsibility for CONTRACTOR's failure to perform the work in accordance with the Contract Documents and in particular the specific limitations set forth in the Agreement that are applicable.
  3. The duties and responsibilities of the RPR are limited to those of ENGINEER in ENGINEER's agreement with the OWNER and in the construction Contract Documents, and are generally described as below:
    - a. RPR is ENGINEER's agent at the site, will act as directed by and under the supervision of ENGINEER, and will confer with ENGINEER regarding RPR's actions. RPR's dealings in matters pertaining to the on-site work shall in general be with ENGINEER and CONTRACTOR keeping OWNER advised as necessary. RPR's dealings with subcontractors shall only be through or with the full knowledge and approval of CONTRACTOR. RPR shall generally communicate with OWNER with the knowledge of and under the direction of ENGINEER.

**END OF SUPPLEMENTARY CONDITIONS**

**SECTION 01 2000**  
**PRICE AND PAYMENT PROCEDURES**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Procedures for preparation and submittal of applications for progress payments.
- B. Documentation of changes in Contract Sum and Contract Time.
- C. Change procedures.
- D. Correlation of submittals based on changes.
- E. Procedures for preparation and submittal of application for final payment.

**1.02 RELATED REQUIREMENTS**

- A. Section 00 5200 - Agreement Form: Contract Sum, retainages, payment period, monetary values of unit prices.

**1.03 SCHEDULE OF VALUES**

- A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Owner's Representative for approval.
- B. Forms filled out by hand will not be accepted.
- C. Submit a printed schedule on AIA Form G703 - Application and Certificate for Payment Continuation Sheet. Contractor's standard form or electronic media printout will be considered.
- D. Revise schedule to list approved Change Orders, with each Application For Payment.

**1.04 APPLICATIONS FOR PROGRESS PAYMENTS**

- A. Payment Period: Submit at intervals stipulated in the Agreement.
- B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Owner's Representative for approval.
- C. Forms filled out by hand will not be accepted.
- D. Present required information on electronic media printout.
- E. Form: AIA G702 Application and Certificate for Payment and AIA G703 - Continuation Sheet including continuation sheets when required.
- F. For each item, provide a column for listing each of the following:
  - 1. Item Number.
  - 2. Description of work.
  - 3. Scheduled Values.
  - 4. Previous Applications.
  - 5. Work in Place and Stored Materials under this Application.
  - 6. Authorized Change Orders.
  - 7. Total Completed and Stored to Date of Application.
  - 8. Percentage of Completion.
  - 9. Balance to Finish.
  - 10. Retainage.
- G. Execute certification by signature of authorized officer.
- H. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.
- I. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.
- J. Submit one electronic and three hard-copies of each Application for Payment.
- K. Include the following with the application:

1. Transmittal letter as specified for submittals in Section 01 3000.
  2. Construction progress schedule, revised and current as specified in Section 01 3000.
- L. When Owner's Representative requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

#### **1.05 MODIFICATION PROCEDURES**

- A. For minor changes not involving an adjustment to the Contract Price or Contract Time, Owner's Representative will issue instructions directly to .
- B. For other required changes, Owner's Representative will issue a document signed by Owner instructing to proceed with the change, for subsequent inclusion in a Change Order.
1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
  2. Promptly execute the change.
- C. Owner's Representative may issue a document which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 7 days.
- D. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
1. For change requested by Owner's Representative, Owner, or Contractor for work falling under a fixed price contract, the amount will be based on Contractor's price quotation as approved by the owner.
- E. Substantiation of Costs: Provide full information required for evaluation.
1. On request, provide the following data:
    - a. Quantities of products, labor, and equipment.
    - b. Taxes, insurance, and bonds.
    - c. Overhead and profit.
    - d. Justification for any change in Contract Time.
    - e. Credit for deletions from Contract, similarly documented.
  2. Support each claim for additional costs with additional information:
    - a. Origin and date of claim.
    - b. Dates and times work was performed, and by whom.
    - c. Time records and wage rates paid.
    - d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
  3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.
- F. Execution of Change Orders: Owner's Representative will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.
- G. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.
- H. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.

#### **1.06 APPLICATION FOR FINAL PAYMENT**

- A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.

**PART 2 PRODUCTS - NOT USED**  
**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

## SECTION 01 2200

### UNIT PRICES

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Measurement and payment criteria applicable to Work performed under a unit price payment method.

##### 1.02 RELATED REQUIREMENTS

- A. Document 00 2113 - Instructions to Bidders: Instructions for preparation of pricing for Unit Prices.
- B. Section 01 2000 - Price and Payment Procedures: Additional payment and modification procedures.

##### 1.03 COSTS INCLUDED

- A. Unit Prices included on the Bid Form shall include full compensation for all required labor, products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.

##### 1.04 UNIT QUANTITIES SPECIFIED

- A. Quantities indicated in the Bid Form are for bidding and contract purposes only. Quantities and measurements of actual Work will determine the payment amount.

##### 1.05 MEASUREMENT OF QUANTITIES

- A. Measurement methods delineated in the individual specification sections complement the criteria of this section.
- B. Assist by providing necessary equipment, workers, and survey personnel as required.

##### 1.06 PAYMENT

- A. Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities of Work that is incorporated in or made necessary by the Work and accepted by the Owner's Representative, multiplied by the unit price.
- B. Payment will not be made for any of the following:
  1. Products wasted or disposed of in a manner that is not acceptable.
  2. Products determined as unacceptable before or after placement.
  3. Products not completely unloaded from the transporting vehicle.
  4. Products placed beyond the lines and levels of the required Work.
  5. Products remaining on hand after completion of the Work.
  6. Loading, hauling, and disposing of rejected Products.

##### 1.07 DEFECT ASSESSMENT

- A. Replace Work, or portions of the Work, not conforming to specified requirements.

#### PART 2 PRODUCTS - NOT USED

#### PART 3 EXECUTION - NOT USED

END OF SECTION

**SECTION 01 2600**  
**CONTRACT MODIFICATION PROCEDURES**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Contract Modification Procedures:
  - 1. Preliminary Procedures.
  - 2. Construction Change Directive.
  - 3. Lump Sum Change Order.
  - 4. Unit Price Change Order.
  - 5. Time and Material Change Order.
  - 6. Documentation of Change in Contract Sum.
  - 7. Documentation of Change in Contract Time.

**1.02 RELATED REQUIREMENTS**

- A. General Conditions: Governing requirements for changes in Contract Cost and Time.
- B. Supplementary Conditions: Percentage allowances for Contractor's overhead and profit.
- C. Section 01 2000 - Price and Payment Procedures: Applications for payment, Schedule of Values, modifications procedures, closeout procedures.
- D. Section 01 3000 - Administrative Requirements: Submittal procedures, project meetings, progress schedules and documentation, reports, coordination.
- E. Section 01 7800 - Closeout Submittals

**1.03 SUBMITTALS**

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Submit name of individual authorized to accept changes and to be responsible for informing others in Contractor's employ of changes in Work.

**1.04 PRELIMINARY PROCEDURES**

- A. Engineer may submit Proposal Request which includes detailed description of change with supplementary or revised Drawings and Specifications.
- B. Contractor may initiate a change by submittal of request to Architect describing proposed change with a statement of the reason for change, effect on Contract Sum and Contract Time with full documentation and statement of effect on Work of separate Contractors.

**1.05 CONSTRUCTION CHANGE DIRECTIVE**

- A. Engineer may issue directive, signed by Owner, instructing Contractor to proceed with change in Work, for subsequent inclusion in a Change Order.
- B. Directive will describe changes in Work and will designate method of determining any change in Contract Sum or Contract Time.
- C. Promptly execute change in Work.

**1.06 LUMP SUM CHANGE ORDER:**

- A. Will be based on Proposal Request and Contractor's lump sum quotation or Contractor's request for Change Order.

**1.07 UNIT PRICE CHANGE ORDER**

- A. For predetermined unit prices and quantities, Change Order will be executed on lump sum basis.
- B. For unit costs or quantities of units of Work which are not predetermined, execute Work under construction change authorization. Changes in Contract Sum or Contract Time will be



computed as specified for time and material Change Order.

**1.08 TIME AND MATERIAL CHANGE ORDER**

- A. Submit itemized account and supporting data after completion of Change, within time limits in Conditions of the Contract.

**1.09 DOCUMENTATION OF CHANGE IN CONTRACT SUM**

- A. Maintain detailed records of Work done on time and material basis. Provide full information required for evaluation of proposed changes and to substantiate costs of changes in Work.
- B. Document each quotation for change in cost with sufficient data to allow evaluation of quotation.
- C. On request, provide additional data to support computations:
  - 1. Quantities of products, labor, and equipment.
  - 2. Taxes, insurance and bonds.
  - 3. Overhead and profit.
  - 4. Justification for any change in Contract Time.
  - 5. Credit for deletions from Contract, similarly documented.
- D. Support each claim for additional costs, and for Work done on time and material basis, with additional information:
  - 1. Origin and date of claim.
  - 2. Dates and times Work was performed, and by whom.
  - 3. Time records and wage rates paid.
  - 4. Invoices and receipts for products, equipment, and subcontracts, similarly documented.

**1.10 DOCUMENTATION OF CHAGE IN CONTRACT TIME**

- A. A change solely in the Contract Time shall only be considered under the circumstances defined in Section 00 7300 - Supplementary Conditions.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

**SECTION 01 2800**  
**GRADES, LINES, AND LEVELS**

**PART 1 GENERAL**

**1.01 REQUIREMENTS INCLUDED**

- A. Prime Contractor(s) shall furnish construction stakes and marks establishing lines and grades.

**1.02 CONTRACTOR'S RESPONSIBILITIES**

- A. Contractor shall protect all stakes and marks.
- B. Stakes and marks that are destroyed or disturbed, will be replaced at the Contractor's expense.

**PART 2 PRODUCTS (NOT USED)**

**PART 3 EXECUTION (NOT USED)**

**END OF SECTION**

**SECTION 01 3000**  
**ADMINISTRATIVE REQUIREMENTS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Preconstruction meeting.
- B. Progress meetings.
- C. Construction progress schedule.
- D. Number of copies of submittals.
- E. Submittal procedures.

**1.02 RELATED REQUIREMENTS**

- A. Section 01 7800 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION**

**3.01 PRECONSTRUCTION MEETING**

- A. Owner's Representative will schedule a meeting after Notice of Award.
- B. Attendance Required:
  - 1. Owner.
  - 2. Owner's Representative.
  - 3. Contractor.
- C. Agenda:
  - 1. Execution of Owner- Agreement.
  - 2. Submission of executed bonds and insurance certificates.
  - 3. Distribution of Contract Documents.
  - 4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
  - 5. Designation of personnel representing the parties to Contract, Owner, Contractor, and Engineer.
  - 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
  - 7. Scheduling.

**3.02 PROGRESS MEETINGS**

- A. Owner's Representative will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- B. Attendance Required:
  - 1. Owner.
  - 2. Owner's Representative.
  - 3. Contractor's superintendent.
  - 4. Major subcontractors.
- C. Agenda:
  - 1. Review minutes of previous meetings.
  - 2. Review of work progress.
  - 3. Field observations, problems, and decisions.
  - 4. Identification of problems that impede, or will impede, planned progress.
  - 5. Review of submittals schedule and status of submittals.
  - 6. Maintenance of progress schedule.
  - 7. Corrective measures to regain projected schedules.

8. Planned progress during succeeding work period.
9. Maintenance of quality and work standards.
10. Effect of proposed changes on progress schedule and coordination.
11. Other business relating to work.

### **3.03 SUBMITTALS FOR REVIEW**

- A. When the following are specified in individual sections, submit them for review:
  1. Product data.
  2. Shop drawings.
  3. Samples for selection.
  4. Samples for verification.
- B. Submit to Owner's Representative for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.
- C. Samples will be reviewed for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 7800 - Closeout Submittals.

### **3.04 SUBMITTALS FOR INFORMATION**

- A. When the following are specified in individual sections, submit them for information:
  1. Design data.
  2. Certificates.
  3. Test reports.
  4. Inspection reports.
  5. Manufacturer's instructions.
  6. Manufacturer's field reports.
  7. Other types indicated.
- B. Submit for Owner's Representative's knowledge as contract administrator or for Owner.

### **3.05 SUBMITTALS FOR PROJECT CLOSEOUT**

- A. Submit Correction Punch List for Substantial Completion.
- B. Submit Final Correction Punch List for Substantial Completion.
- C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 01 7800 - Closeout Submittals:
  1. Project record documents.
  2. Operation and maintenance data.
  3. Warranties.
  4. Bonds.
  5. Other types as indicated.
- D. Submit for Owner's benefit during and after project completion.

### **3.06 NUMBER OF COPIES OF SUBMITTALS**

- A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.
- B. Samples: Submit the number specified in individual specification sections; one of which will be retained by Owner's Representative.
  1. After review, produce duplicates.
  2. Retained samples will not be returned to unless specifically so stated.

### **3.07 SUBMITTAL PROCEDURES**

- A. General Requirements:
  1. Transmit each submittal with approved form.

2. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
3. Identify Project, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.
4. Deliver submittals to Chris Johnson at MBN Engineering, Inc. at 503 7th St. N, Suite 200; Fargo, ND 58102 or Chris.Johnson@mbnengr.com.
5. Schedule submittals to expedite the Project, and coordinate submission of related items.
6. For each submittal for review, allow 7 days excluding delivery time to and from the Engineer.
7. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.
8. Provide space for review stamps.
9. When revised for resubmission, identify all changes made since previous submission.
10. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
11. Submittals not requested will not be recognized or processed.

**END OF SECTION**

**SECTION 01 3100**  
**PROJECT MANAGEMENT AND COORDINATION**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Project management and coordination.

**1.02 RELATED REQUIREMENTS**

- A. Section 01 1400 - Work Restrictions.
- B. Section 01 2000 - Price and Payment Procedures.
- C. Section 01 2600 - Contract Modification Procedures.
- D. Section 01 3000 - Administrative Requirements.
- E. Section 01 4000 - Quality Requirements.
- F. Section 01 5000 - Temporary Facilities and Controls.
- G. Section 01 7419 - Waste Management.
- H. Section 01 7800 - Closeout Submittals

**1.03 PROJECT ENGINEER:**

- A. Will schedule and administer pre-construction meeting.
- B. Schedule and administer progress meetings.
- C. Preside at meetings.
- D. Record minutes; include significant proceedings and decisions.
- E. Reproduce and distribute copies of minutes within three days after each meeting to Owner, Owner's designated representative, Prime Contractor(s), and Engineer's Consultants. Prime Contractor(s) is/ are responsible for distribution to Subcontractors, Suppliers and Manufacturers as deemed appropriate by the Prime Contractor(s).

**1.04 GENERAL CONTRACTOR:**

- A. Make physical arrangements for meetings.

**1.05 ATTENDEES AT MEETINGS:**

- A. Representatives of Contractors, Subcontractors and Suppliers attending meetings shall be qualified and authorized to act on behalf of entity each represents.
- B. Owner's representative and Engineer will attend meetings to ascertain that Work is expedited consistent with Contract Documents and construction schedule.

**1.06 PRE-CONSTRUCTION MEETING:**

- A. Location: A central site, convenient for all parties, designated by Engineer.
- B. Attendance:
  - 1. Owner's representative
  - 2. Architect and Architect's professional consultants.
  - 3. Contractor(s) superintendent(s).
  - 4. Major Subcontractor's.
  - 5. Major suppliers.
  - 6. Others as appropriate.

**1.07 SUGGESTED AGENDA:**

- A. Distribution and discussion of:
  - 1. Projected construction schedule.
  - 2. Critical Work sequencing.

3. Major equipment deliveries and priorities.
4. Project Coordination. Designation of responsible personnel.
- B. Procedures and processing of:
  1. Field decisions.
  2. Proposal Requests.
  3. Submittals: Paper and/or electronic.
  4. Change Orders.
  5. Applications for Payment, including deadline for submittal if any.
- C. Adequacy of distribution of Contract Documents.
- D. Coordination of Quality Control/ Special Inspections by Sections 01 4000 and 01 4533.
- E. Coordination of Mechanical and Electrical Contractors.
- F. Procedures for maintaining Record Documents.
- G. Coordination of Owner-furnished, Contractor-installed equipment.
- H. Use of premises:
  1. Office Work and storage areas.
  2. Owner's requirements.
  3. Construction facilities controls and construction aids.
- I. Temporary utilities.
- J. Contractor's responsibility for safety and first-aid procedures.
- K. Security procedures.
- L. Housekeeping procedures.
- M. Pre-Installation Conferences
- N. Ordering of certain finish materials that may be discontinued.
- O. Contact information for responsible personnel.

**1.08 PROGRESS MEETINGS:**

- A. Schedule regular bi-weekly meetings.
- B. Location of Meetings: Project field office of General Contractor or on-site.
- C. Attendance:
  1. Architect and professional consultants as needed.
  2. Contractors, Subcontractors and Suppliers as appropriate.
  3. Contractor's superintendent(s).
  4. Others.
- D. Suggested Agenda:
  1. Review, approval of minutes of previous meeting.
  2. Review of Work progress since previous meeting.
  3. Field observations, problems, conflicts.
  4. Problems which impede construction schedule.
  5. Review of off-site fabrication, delivery schedule.
  6. Corrective measures and procedures to regain projected schedule.
  7. Revisions to construction schedule.
  8. Progress during succeeding Work period.
  9. Coordination of schedules.
  10. Coordination of other Contracted Work on same site.
  11. Review submittal schedules; expedite as required.
  12. Maintenance of quality standards.
  13. Status of testing and inspections.
  14. Pending changes and substitutions.
- E. Review proposed changes for:
  1. Effect on construction schedule and on completion date.

- 2. Effect on other contracts of the Project.
- F. Other business.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**



**SECTION 01 4000**  
**QUALITY REQUIREMENTS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Submittals.
- B. Testing and inspection agencies and services.
- C. Control of installation.
- D. Defect Assessment.

**1.02 RELATED REQUIREMENTS**

- A. Document 00 7200 - General Conditions: Inspections and approvals required by public authorities.
- B. Section 01 3000 - Administrative Requirements: Submittal procedures.

**1.03 REFERENCE STANDARDS**

**1.04 SUBMITTALS**

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Test Reports: After each test/inspection, promptly submit three (3) copies of report to Owner's Representative.
  - 1. Include:
    - a. Date issued.
    - b. Project title and number.
    - c. Name of inspector.
    - d. Date and time of sampling or inspection.
    - e. Identification of product and specifications section.
    - f. Location in the Project.
    - g. Type of test/inspection.
    - h. Date of test/inspection.
    - i. Results of test/inspection.
    - j. Compliance with Contract Documents.
    - k. When requested by Owner's Representative, provide interpretation of results.
  - 2. Test report submittals are for Owner's Representative's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.

**1.05 TESTING AND INSPECTION AGENCIES AND SERVICES**

- A. Contractor shall employ and pay for services of an independent testing agency to perform other specified testing.
- B. Employment of agency in no way relieves the Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION**

**3.01 CONTROL OF INSTALLATION**

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Owner's Representative before proceeding.

- D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Have work performed by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

### **3.02 TESTING AND INSPECTION**

- A. Testing Agency Duties:
  - 1. Provide qualified personnel at site. Cooperate with Owner's Representative and in performance of services.
  - 2. Perform specified sampling and testing of products in accordance with specified standards.
  - 3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
  - 4. Promptly notify Owner's Representative and Contractor of observed irregularities or non-conformance of Work or products.
  - 5. Perform additional tests and inspections required by Owner's Representative.
  - 6. Submit reports of all tests/inspections specified.
- B. Limits on Testing/Inspection Agency Authority:
  - 1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
  - 2. Agency may not approve or accept any portion of the Work.
  - 3. Agency may not assume any duties of Owner's Representative or Contractor.
  - 4. Agency has no authority to stop the Work.
- C. Responsibilities:
  - 1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
  - 2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
  - 3. Provide incidental labor and facilities:
    - a. To provide access to Work to be tested/inspected.
    - b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
    - c. To facilitate tests/inspections.
    - d. To provide storage and curing of test samples.
  - 4. Contractor shall notify Owner's Representative and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
  - 5. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by beyond specified requirements.
- D. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Owner's Representative. Payment for re-testing will be charged to the Contractor.
- E. Testing Frequency:
  - 1. Clay Fill: Perform Density test per 1-foot of lift of fill every 250 SY.
  - 2. Aggregate Fill: Perform Density test per 1-foot lift of fill for each field per 250 sy.
  - 3. Trench Fill: Perform one Density test per 100 linear foot of trench per 1-foot lift of fill.
  - 4. All Density tests shall meet requirements given in section 31 2323.
  - 5. All concrete tests shall meet requirements given in Section 32 1313.

### **3.03 DEFECT ASSESSMENT**

- A. Replace Work or portions of the Work not complying with specified requirements.

- B. If, in the opinion of Owner's Representative, it is not practical to remove and replace the work, Owner's Representative will direct an appropriate remedy or adjust payment.

**END OF SECTION**

**SECTION 01 5000**  
**TEMPORARY FACILITIES AND CONTROLS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Temporary sanitary facilities.
- B. Temporary Controls: Barriers.
- C. Vehicular access and parking.
- D. Waste removal facilities and services.

**1.02 RELATED REQUIREMENTS**

- A. Section 01 7419 - Waste Management.

**1.03 TEMPORARY SANITARY FACILITIES**

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. Maintain daily in clean and sanitary condition.

**1.04 BARRIERS**

- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide protection for plants designated to remain. Replace damaged plants.
- C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

**1.05 VEHICULAR ACCESS AND PARKING**

- A. Coordinate access and haul routes with governing authorities and Owner.
- B. Provide and maintain access to fire hydrants, free of obstructions.
- C. Provide means of removing mud from vehicle wheels before entering streets.
- D. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

**1.06 WASTE REMOVAL**

- A. See Section 01 7419 - Waste Management, for additional requirements.
- B. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- C. Provide containers with lids. Remove trash from site periodically.
- D. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.
- E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

**SECTION 01 5713**  
**EROSION CONTROL**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Prevention of erosion due to construction activities.
- B. Prevention of sedimentation of waterways, open drainage ways, and storm and sanitary sewers due to construction activities.
- C. Restoration of areas eroded due to insufficient preventive measures.
- D. Compensation of Owner for fines levied by authorities having jurisdiction due to non-compliance by Contractors.

**1.02 UNIT PRICES**

- A. Erosion Control: Paid at the contract lump sum price for all work included in Section 01 5713.

**1.03 RELATED REQUIREMENTS**

- A. Section 31 2200 - Site Grading: Temporary and permanent grade changes for erosion control.
- B. Section 31 2323 - Fill and Backfill.
- C. Section 32 1123 - Aggregate Base Course: Temporary and permanent roadways.

**1.04 REFERENCE STANDARDS**

- A. ASTM D4355/D4355M - Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture, and Heat in a Xenon Arc-Type Apparatus; 2021.
- B. ASTM D4491 - Standard Test Methods for Water Permeability of Geotextiles by Permittivity.; 1999a (Reapproved 2014).
- C. ASTM D4533/D4533M - Standard Test Method for Trapezoid Tearing Strength of Geotextiles; 2015 (Reapproved 2023).
- D. ASTM D4632/D4632M - Standard Test Method for Grab Breaking Load and Elongation of Geotextiles; 2015a.
- E. ASTM D4751 - Standard Test Methods for Determining Apparent Opening Size of a Geotextile; 2021a.
- F. ASTM D4873/D4873M - Standard Guide for Identification, Storage, and Handling of Geosynthetic Rolls and Samples; 2017 (Reapproved 2021).
- G. EPA (NPDES) - National Pollutant Discharge Elimination System (NPDES), Construction General Permit; Current Edition.
- H. FHWA FLP-94-005 - Best Management Practices for Erosion and Sediment Control; 1995.
- I. USDA TR-55 - Urban Hydrology for Small Watersheds; USDA Natural Resources Conservation Service; 2015.

**1.05 PERMITTING REQUIREMENTS**

- A. Construction General Permit (CGP)
  - 1. The Construction General Permit authorizes the discharge of storm water associated with construction activity and small construction activity as defined under the National Pollutant Discharge Elimination System (NPDES)/ State Disposal System (SDS) program.
    - a. Construction activity includes clearing, grading, excavation, that disturbs land of equal to or greater than five (5) acres and includes the disturbance of less than five (5) acres of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb five (5) acres or more.
    - b. Small construction activity includes clearing, grading, excavation, that disturbs land of equal to or greater than one (1) acre, and includes the disturbance of less than one

- (1) acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one and less than five (5) acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.
- 2. To obtain coverage under the general permit, the General Contractor must submit the following:
  - a. Notice of Intent (NOI).
  - b. Storm Water Pollution Prevention Plan (SWPPP).
- B. Notice of Intent (NOI)
  - 1. The General Contractor shall complete the NOI form for construction activity.
    - a. NOI form can be found at:  
[www.ndhealth.gov/WQ/Storm/Construction/ConstructionHome.htm](http://www.ndhealth.gov/WQ/Storm/Construction/ConstructionHome.htm).
- C. Storm Water Pollution Prevention Plan (SWPPP)
  - 1. The General Contractor shall complete the SWPPP and must be available for review by the ND Health Department at the time of application. The SWPPP must be completed prior to the start of construction.
    - a. The SWPPP form can be found at:  
[www.ndhealth.gov/WQ/Storm/Construction/ConstructionHome.htm](http://www.ndhealth.gov/WQ/Storm/Construction/ConstructionHome.htm).

#### **1.06 TERMINATION OF COVERAGE**

- A. Notice of Termination (NOT)
  - 1. Contractor(s) wishing to terminate coverage under the CGP must submit a Notice of Termination (NOT) to the ND Department of Health.
  - 2. Contractor(s) must submit a NOT within 30 days after one or more of the following conditions have been met:
    - a. Final Stabilization has been achieved on all portions of the site for which the contractor is responsible.
    - b. Another Owner/Contractor has assumed control over all areas of the site that have not been finally stabilized.

#### **1.07 PERFORMANCE REQUIREMENTS**

- A. Comply with requirements of EPA (NPDES) for erosion and sedimentation control, as specified by the NPDES, for Phases I and II, and in compliance with requirements of Construction General Permit (CGP), whether the project is required by law to comply or not.
- B. Best Management Practices Standard: FHWA FLP-94-005.
- C. Runoff Calculation Standard for Urban Areas: USDA TR-55.
- D. Do not begin clearing, grading, or other work involving disturbance of ground surface cover until applicable permits have been obtained; furnish all documentation required to obtain applicable permits.
  - 1. Contractor will obtain permits and pay for securities required by authority having jurisdiction.
  - 2. Owner will withhold payment to equivalent to all fines resulting from non-compliance with applicable regulations.
- E. Timing: Put preventive measures in place as soon as possible after disturbance of surface cover and before precipitation occurs.
- F. Storm Water Runoff: Control increased storm water runoff due to disturbance of surface cover due to construction activities for this project.
  - 1. Prevent runoff into storm and sanitary sewer systems, including open drainage channels, in excess of actual capacity or amount allowed by authorities having jurisdiction, whichever is less.
  - 2. Anticipate runoff volume due to the most extreme short term and 24-hour rainfall events that might occur in 10 years.

- G. Erosion On Site: Minimize wind, water, and vehicular erosion of soil on project site due to construction activities for this project.
  - 1. Control movement of sediment and soil from temporary stockpiles of soil.
  - 2. Prevent development of ruts due to equipment and vehicular traffic.
  - 3. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner.
- H. Erosion Off Site: Prevent erosion of soil and deposition of sediment on other properties caused by water leaving the project site due to construction activities for this project.
  - 1. Prevent windblown soil from leaving the project site.
  - 2. Prevent tracking of mud onto public roads outside site.
  - 3. Prevent mud and sediment from flowing onto sidewalks and pavements.
  - 4. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner.
- I. Sedimentation of Waterways On Site: Prevent sedimentation of waterways on the project site, including rivers, streams, lakes, ponds, open drainage ways, storm sewers, and sanitary sewers.
  - 1. If sedimentation occurs, install or correct preventive measures immediately at no cost to Owner; remove deposited sediments; comply with requirements of authorities having jurisdiction.
  - 2. If sediment basins are used as temporary preventive measures, pump dry and remove deposited sediment after each storm.
- J. Sedimentation of Waterways Off Site: Prevent sedimentation of waterways off the project site, including rivers, streams, lakes, ponds, open drainage ways, storm sewers, and sanitary sewers.
  - 1. If sedimentation occurs, install or correct preventive measures immediately at no cost to Owner; remove deposited sediments; comply with requirements of authorities having jurisdiction.
- K. Open Water: Prevent standing water that could become stagnant.
- L. Maintenance: Maintain temporary preventive measures until permanent measures have been established.
- M. Coordination: All Contractors are responsible to coordinate work and environmental impacts with the General Contractor. Concerns must be addressed and incorporated into the SWPPP prior to construction. General Contractor is responsible for upholding and managing the SWPPP.
- N. Fines: Fines incurred due to non-compliance by contractors shall be levied to the responsible contractor.

## **1.08 SUBMITTALS**

- A. Certificate: Mill certificate for silt fence fabric attesting that fabric and factory seams comply with specified requirements, signed by legally authorized official of manufacturer; indicate actual minimum average roll values; identify fabric by roll identification numbers.
- B. Inspection Reports: Submit report of each inspection; identify each preventive measure, indicate condition, and specify maintenance or repair required and accomplished.
- C. Maintenance Instructions: Provide instructions covering inspection and maintenance for temporary measures that must remain after Substantial Completion.

## **PART 2 PRODUCTS**

### **2.01 MATERIALS**

- A. Grass Seed For Temporary Cover: Select a species appropriate to climate, planting season, and intended purpose. If same area will later be planted with permanent vegetation, do not use

- species known to be excessively competitive or prone to volunteer in subsequent seasons.
- B. Silt Fence Fabric: Polypropylene geotextile resistant to common soil chemicals, mildew, and insects; non-biodegradable; in longest lengths possible; fabric including seams with the following minimum average roll lengths:
1. Average Opening Size: 30 U.S. Std. Sieve, maximum, when tested in accordance with ASTM D4751.
  2. Permittivity:  $0.05 \text{ sec}^{-1}$ , minimum, when tested in accordance with ASTM D4491.
  3. Ultraviolet Resistance: Retaining at least 70 percent of tensile strength, when tested in accordance with ASTM D4355/D4355M after 500 hours exposure.
  4. Tensile Strength: 100 pounds-force, minimum, in cross-machine direction; 124 pounds-force, minimum, in machine direction; when tested in accordance with ASTM D4632/D4632M.
  5. Elongation: 15 to 30 percent, when tested in accordance with ASTM D4632/D4632M.
  6. Tear Strength: 55 pounds-force, minimum, when tested in accordance with ASTM D4533/D4533M.
  7. Color: Manufacturer's standard, with embedment and fastener lines preprinted.
  8. Manufacturers:
    - a. BP Amoco, Amoco Fabrics and Fibers : [www.geotextile.com](http://www.geotextile.com).
    - b. TenCate: [www.tencate.com/](http://www.tencate.com/)
    - c. Propex Geosynthetics: [www.propexglobal.com](http://www.propexglobal.com)
- C. Silt Fence Posts: One of the following, minimum 5 feet long:
1. Steel U- or T-section, with minimum mass of 1.33 pound per linear foot.
  2. Softwood, 4 by 4 inches in cross section.
  3. Hardwood, 2 by 2 inches in cross section.
- D. Gravel: See Section 32 1123 for aggregate.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Examine site and identify existing features that contribute to erosion resistance; maintain such existing features to greatest extent possible.

### **3.02 PREPARATION**

- A. Schedule work so that soil surfaces are left exposed for the minimum amount of time.

### **3.03 SCOPE OF PREVENTIVE MEASURES**

- A. Erosion Prevention Practices:
1. General Contractor must plan for and implement appropriate construction phasing, vegetative buffer strips, horizontal slope grading and other construction practices that minimize erosion, so that the inspection and maintenance requirements are complied with.
  2. All exposed soil areas with a continuous positive slope within 200 lineal feet of a surface water, must have temporary erosion protection or permanent cover for the exposed soil areas year round. This includes constructed storm water management pond side slopes and any exposed soil areas with a positive slope to a storm water conveyance system, such as a curb and gutter system, storm sewer inlet, temporary or permanent drainage ditch or other natural or man made systems that discharge to a surface water. See the guidelines below:
    - a. Slopes steeper than 3:1: Establish temporary or permanent cover within 7 days.
    - b. Slopes 10:1 to 3:1: Establish temporary or permanent cover within 14 days.
    - c. Flatter than 10:1: Establish temporary or permanent cover within 21 days.
  3. The normal wetted perimeter of any temporary or permanent drainage ditch that drains water from a construction site, or diverts water around a site, must be stabilized within 200 lineal feet from the property edge, or from the point of discharge to any surface water. Stabilization must be completed within 24 hours of connecting to a surface water.



4. Pipe outlets must be provided with temporary or permanent energy dissipation within 24 hours of connection to a surface water.
- B. Sediment Control Practices
1. Sediment control practices must minimize sediment from entering surface waters, including curb and gutter systems and storm sewer inlets.
    - a. Temporary or permanent drainage ditches and sediment basins that are designed as part of a treatment system require sediment control practices only as appropriate for site conditions.
    - b. If the down gradient treatment system is overloaded, additional up gradient sediment control practices must be installed to eliminate the overloading, and the SWPPP must be amended to identify these additional practices.
    - c. In order to maintain sheet flow and minimize rill and/or gullies, there shall be no unbroken slope length of greater than 75 feet for slopes with a grade of 3:1 or steeper.
  2. Sediment control practices must be established on all down gradient perimeters before any up gradient land disturbing activities begin. These practices shall remain in place until final stabilization has been established.
    - a. Linear Sediment Barriers: Made of silt fences.
      - 1) Provide linear sediment barriers:
        - (a) Along downhill perimeter edge of disturbed areas, including soil stockpiles.
        - (b) Along the top of the slope or top bank of drainage channels and swales that traverse disturbed areas.
        - (c) Along the toe of cut slopes and fill slopes.
        - (d) Perpendicular to flow across the bottom of existing and new drainage channels and swales that traverse disturbed areas or carry runoff from disturbed areas; space at maximum of 200 feet apart.
        - (e) Across the entrances to culverts that receive runoff from disturbed areas.
      - 2) Space sediment barriers with the following maximum slope length upslope from barrier:
        - (a) Slope of Less Than 2 Percent: 100 feet..
        - (b) Slope Between 2 and 5 Percent: 75 feet.
        - (c) Slope Between 5 and 10 Percent: 50 feet.
        - (d) Slope Between 10 and 20 Percent: 25 feet.
        - (e) Slope Over 20 Percent: 15 feet.
  3. The timing of the installation of sediment control practices may be adjusted to accommodate short-term activities such as clearing or grubbing, or passage of vehicles. Any short-term activity must be completed as quickly as possible and the sediment control practices must be installed immediately after the activity is completed. However, sediment control practices must be installed before the next precipitation event even if the activity is not complete.
  4. All storm drain inlets must be protected by appropriate BMP's during construction until all sources with potential for discharging to the inlet have been stabilized.
  5. Temporary soil stockpiles must have silt fence or other effective sediment controls, and cannot be placed in surface waters, including storm water conveyances such as curb and gutter systems, or conduits and ditches.
  6. Vehicle tracking of sediment from the construction site must be minimized by BMP's such as rock construction pads, concrete or steel wash racks, or equivalent systems. Street sweeping must be used if such BMP's are not adequate to prevent sediment from being tracked onto the street.
    - a. Construction Entrances: Traffic-bearing aggregate surface.
      - 1) Width: 30 feet, minimum.
      - 2) Length: 50 feet, minimum.
      - 3) Provide at each construction entrance from public right-of-way.
      - 4) Where necessary to prevent tracking of mud onto right-of-way, provide wheel washing area out of direct traffic lane, with drain into sediment trap or basin.

7. The General Contractor must install all temporary sedimentation basins if outlined in the plan documents.
- C. Pollution Prevention Management Measures
1. Contractors shall implement the following pollution prevention management measures on the site:
    - a. Solid Waste: Collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris and other wastes must be disposed of properly and must comply with governing state regulations.
    - b. Hazardous Materials: Oil, gasoline, paint and any hazardous substances must be properly stored, including secondary containment, to prevent spills, leaks or other discharge. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with governing state health department regulations.
    - c. External washing of trucks and other construction vehicles must be limited to a defined area of the site. Runoff must be contained and waste properly disposed of. No engine degreasing is allowed on site.
- D. Final Stabilization
1. The General Contractor is responsible for final stabilization of the site.
  2. The General Contractor must submit a Notice of Termination within 30 days after final stabilization has been completed, or another Contractor has assumed control over all areas of the site that have not undergone final stabilization.
  3. Final Stabilization can be accomplished once the following items have been completed:
    - a. All soil disturbing activities at the site have been completed and all soils have been stabilized by a uniform perennial vegetative cover with a density of 70 percent over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions have been established.
    - b. All drainage ditches, constructed to drain water from the site after construction is complete, must be stabilized to preclude erosion.
    - c. All temporary synthetic, and structural erosion prevention and sediment control BMP's must be removed.
    - d. The General Contractor must clean out all sediment from conveyances and from temporary sedimentation basins that are to be used as permanent water quality management basins.
    - e. Sediment must be stabilized to prevent it from being washed back into the basin, conveyances or drainageways discharging off-site or to surface waters. The cleanout of permanent basins must be sufficient to return the basin to design capacity.

### 3.04 INSTALLATION

- A. Traffic-Bearing Aggregate Surface:
1. Excavate minimum of 6 inches.
  2. Place geotextile fabric full width and length, with minimum 12 inch overlap at joints.
  3. Place and compact at least 6 inches of 1 1/2 to 3 1/2 inch diameter stone.
- B. Silt Fences:
1. Store and handle fabric in accordance with ASTM D4873/D4873M.
  2. Where slope gradient is less than 3:1 or barriers will be in place less than 6 months, use nominal 16 inch high barriers with minimum 36 inch long posts spaced at 6 feet maximum, with fabric embedded at least 4 inches in ground.
  3. Where slope gradient is steeper than 3:1 or barriers will be in place over 6 months, use nominal 28 inch high barriers, minimum 48 inch long posts spaced at 6 feet maximum, with fabric embedded at least 6 inches in ground.
  4. Where slope gradient is steeper than 3:1 and vertical height of slope between barriers is more than 20 feet, use nominal 32 inch high barriers with woven wire reinforcement and steel posts spaced at 4 feet maximum, with fabric embedded at least 6 inches in ground.
  5. Install with top of fabric at nominal height and embedment as specified.

6. Embed bottom of fabric in a trench on the upslope side of fence, with 2 inches of fabric laid flat on bottom of trench facing upslope; backfill trench and compact.
  7. Do not splice fabric width; minimize splices in fabric length; splice at post only, overlapping at least 18 inches, with extra post.
  8. Fasten fabric to wood posts using one of the following:
    - a. Four nails per post with 3/4 inch diameter flat or button head, 1 inch long, and 14 gage, 0.083 inch shank diameter.
    - b. Five staples per post with at least 17 gage, 0.0453 inch wire, 3/4 inch crown width and 1/2 inch long legs.
  9. Fasten fabric to steel posts using wire, nylon cord, or integral pockets.
  10. Wherever runoff will flow around end of barrier or over the top, provide temporary splash pad or other outlet protection; at such outlets in the run of the barrier, make barrier not more than 12 inches high with post spacing not more than 4 feet.
- C. Mulching Over Large Areas:
1. Dry Straw and Hay: Apply 2-1/2 tons per acre; anchor using dull disc harrow or emulsified asphalt applied using same spraying machine at 100 gallons of water per ton of mulch.
- D. Temporary Seeding:
1. When hydraulic seeder is used, seedbed preparation is not required.
  2. When surface soil has been sealed by rainfall or consists of smooth undisturbed cut slopes, and conventional or manual seeding is to be used, prepare seedbed by scarifying sufficiently to allow seed to lodge and germinate.
  3. If temporary mulching was used on planting area but not removed, apply nitrogen fertilizer at 1 pound per 1000 sq ft.
  4. On soils of very low fertility, apply 10-10-10 fertilizer at rate of 12 to 16 pounds per 1000 sq ft.
  5. Incorporate fertilizer into soil before seeding.
  6. Apply seed uniformly; if using drill or cultipacker seeders place seed 1/2 to 1 inch deep.
  7. Irrigate as required to thoroughly wet soil to depth that will ensure germination, without causing runoff or erosion.
  8. Repeat irrigation as required until grass is established.

### **3.05 INSPECTIONS & MAINTENANCE**

- A. Inspect preventive measures weekly, within 24 hours after the end of any storm that produces 0.5 inches or more rainfall at the project site, and daily during prolonged rainfall.
- B. All inspections and maintenance conducted during construction must be recorded in writing and these records must be retained with the SWPPP. Records of each inspection and maintenance activity shall include:
  1. Date and time of inspection.
  2. Name of person(s) conducting inspections.
  3. Finding of inspections, including recommendations for corrective actions.
  4. Corrective actions taken (including dates, times, and party completing maintenance activities).
  5. Date and amount of rainfall events greater than 1/2 inch (0.5 inches) in 24 hours.
  6. Documentation of changes made to the SWPPP.
- C. All erosion prevention and sediment control Best Management Practices (BMP's) must be inspected to ensure integrity and effectiveness. All non functional BMP's must be repaired, replaced, or supplemented with functional BMP's. The General Contractor must investigate and comply with the following inspection and maintenance requirements:
  1. Silt Fences:
    - a. Promptly replace fabric that deteriorates unless need for fence has passed.
    - b. Remove silt deposits that exceed one-third of the height of the fence.
    - c. Repair fences that are undercut by runoff or otherwise damaged, whether by runoff or other causes.

2. Surface Waters:
  - a. Surface waters, including drainage ditches and conveyance systems, must be inspected for evidence of sediment being deposited by erosion.
  - b. The General Contractor must remove all deltas and sediment deposited in surface waters, including drainage ways, catch basins and other drainage systems and restabilize the areas where sediment removal results in exposed soil. Removal and stabilization must take place within seven (7) days of discovery unless precluded by legal, regulatory, or physical access constraints.
  - c. The General Contractor shall use all reasonable efforts to obtain access. If precluded, removal and stabilization must take place within seven (7) calendar days of obtaining access.
  - d. The General Contractor is responsible for contacting all local, regional, state and federal authorities and receiving any applicable permits, prior to conducting any work.
3. Construction Exit Locations:
  - a. Construction site vehicle exits must be inspected for evidence of off-site sediment migration onto paved surfaces.
  - b. Tracked sediment must be removed from all off-site paved surfaces within 24 hours of discovery.
4. Temporary and Permanent Best Management Practices (BMP's):
  - a. The General Contractor is responsible for the operation and maintenance of all permanent water quality management BMP's, as well as all erosion prevention and sediment control BMP's, for the duration of the project; or until another Contractor has resumed control over all areas of the site that have not been finally stabilized; or the site has undergone final stabilization.
5. Migrated Sediment Off-Site:
  - a. If sediment escapes the construction site, off-site accumulations of sediment must be removed in a manner and at a frequency sufficient to minimize off-site impacts.
- D. Clean out temporary sediment control structures weekly and relocate soil on site.
- E. Place sediment in appropriate locations on site; do not remove from site.

### **3.06 RECORD RETENTION**

- A. The SWPPP, including all certificates, reports, and records must be made available to the federal, state and local officials within 72 hours upon request for the duration of the permit and for three (3) years following the Notice of Termination.

**END OF SECTION**

**SECTION 01 6000**  
**PRODUCT REQUIREMENTS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Transportation, handling, storage and protection.

**1.02 RELATED REQUIREMENTS**

- A. Section 01 3000 - Administrative Requirements.

**1.03 SUBMITTALS**

- A. Subcontractors, Suppliers and Manufacturers List: Within 14 consecutive calendar days after date of Owner-Contractor Agreement, submit complete listing of Subcontractors, Suppliers and Manufacturers of products proposed on form furnished by Architect. Submittal later than 14 days shall subject Contractor to furnishing base specified products and manufacturers, at discretion of Architect.
  - 1. Review of Subcontractors and Suppliers shall be in accordance with Article 5.2 of General Conditions.
  - 2. Product manufacturers shall be one of those listed in Specifications or Addenda.
  - 3. First Application for Payment cannot be processed until Construction Schedule, Subcontractors, Suppliers and Manufacturers List, Special Structural Testing and Inspection Program Summary Schedule, and completed Schedule of Values have been received by Engineer.
- B. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- C. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- D. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- E. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

**1.04 QUALITY ASSURANCE**

- A. Comply with Specifications and referenced standards as minimum requirements.
- B. Components required to be supplied in quantity within Specification section shall be same and shall be interchangeable.

**PART 2 PRODUCTS**

**2.01 ALL PRODUCTS**

- A. Furnishing and installing any products which are not "asbestos-free" is strictly prohibited. "Asbestos-free" is defined under current EPA Guidelines as a material containing not more than 1% asbestos.

**PART 3 EXECUTION**

**3.01 TRANSPORTATION AND HANDLING**

- A. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- B. Coordinate deliveries to avoid conflict with Work and conditions at site.

- C. Transport and handle products in accordance with manufacturer's instructions.
- D. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- E. Handle product by methods to avoid bending or overstressing. Lift large and heavy components only at designated lift points.

### **3.02 STORAGE AND PROTECTION**

#### **A. Storage, General**

1. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 01 74 19.
2. Immediately on delivery, store and protect products in accordance with manufacturers' instructions. Protect until installed. Owner has no responsibility to protect products from wind, rain and the elements.
3. Repair damage to lawn, paved areas and other existing surfaces caused by storage of products and restore to condition acceptable to Engineer.
4. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.
5. Comply with manufacturer's warranty conditions, if any.

**END OF SECTION**

**SECTION 01 7419  
WASTE MANAGEMENT**

**PART 1 GENERAL**

**1.01 WASTE MANAGEMENT REQUIREMENTS**

- A. Owner requires that this project generate the least amount of trash and waste possible.
- B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.
- C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.
- D. Methods of trash/waste disposal that are not acceptable are:
  - 1. Burning on the project site.
  - 2. Burying on the project site.
  - 3. Dumping or burying on other property, public or private.
  - 4. Other illegal dumping or burying.
  - 5. Incineration, either on- or off-site.
- E. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, State and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

**1.02 RELATED REQUIREMENTS**

- A. Section 01 3000 - Administrative Requirements: Additional requirements for project meetings, reports, submittal procedures, and project documentation.
- B. Section 01 5000 - Temporary Facilities and Controls: Additional requirements related to trash/waste collection and removal facilities and services.

**1.03 DEFINITIONS**

- A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.
- B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.
- C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.
- D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.
- E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.
- F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.
- G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.
- H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- I. Return: To give back reusable items or unused products to vendors for credit.
- J. Reuse: To reuse a construction waste material in some manner on the project site.
- K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

- L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.
- M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.
- N. Toxic: Poisonous to humans either immediately or after a long period of exposure.
- O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.
- P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

#### **1.04 SUBMITTALS**

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

### **PART 2 PRODUCTS (NOT USED)**

### **PART 3 EXECUTION**

#### **3.01 WASTE MANAGEMENT PROCEDURES**

- A. See Section 01 3000 for additional requirements for project meetings, reports, submittal procedures, and project documentation.
- B. See Section 01 5000 for additional requirements related to trash/waste collection and removal facilities and services.

#### **3.02 WASTE MANAGEMENT PLAN IMPLEMENTATION**

- A. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.
- B. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
  - 1. Provide containers as required.
  - 2. Provide temporary enclosures around piles of separated materials to be recycled or salvaged.
  - 3. Provide materials for barriers and enclosures that are nonhazardous, recyclable, or reusable to the maximum extent possible; reuse project construction waste materials if possible.
  - 4. Locate enclosures out of the way of construction traffic.
  - 5. Provide adequate space for pick-up and delivery and convenience to subcontractors.
  - 6. If an enclosed area is not provided, clearly lay out and label a specific area on-site.
  - 7. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.
- C. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.
- D. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.
- E. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.
- F. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

**END OF SECTION**



**SECTION 01 7700**  
**CLOSEOUT PROCEDURES**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Closeout Procedures.

**1.02 RELATED REQUIREMENTS**

- A. Conditions of The Contract: Fiscal provisions, legal submittals and additional administrative requirements.
- B. Section 01 7800 - Closeout Submittals: Project record documents, operation and maintenance (O&M) data, warranties and bonds.

**1.03 SUBSTANTIAL COMPLETION**

- A. When Work is considered Substantially Complete, submit to Engineer written or electronic notice that Work, or designated portion thereof, is Substantially Complete and list of items to be completed or corrected.
- B. Within reasonable time after receipt of such notice, Engineer will make inspection to determine
  - 1. status of completion.
- C. Should Engineer determine Work is not Substantially Complete:
  - 1. Engineer will promptly notify Contractor in writing, giving reasons therefore.
  - 2. Contractor shall remedy deficiencies in Work, and send second written or electronic notice of Substantial Completion to Engineer.
  - 3. Engineer will reinspect Work.
- D. When Engineer concurs Work is Substantially Complete, Engineer will:
  - 1. Prepare Certificate of Substantial Completion, accompanied by Contractor's list of items to be completed or corrected, as verified and amended by Engineer. Contractor(s) shall have 30 calendar days to complete all items on Engineer's list.
  - 2. Submit Certificate to Owner and Contractor for written acceptance of responsibilities
  - 3. assigned to Owner in Certificate.

**1.04 FINAL INSPECTION**

- A. When Work is considered complete, submit written certification that:
  - 1. Contract Documents have been reviewed.
  - 2. Work has been inspected for compliance with Contract Documents.
  - 3. Work has been completed in accordance with Contract Documents.
  - 4. Equipment and systems have been tested in presence of Owner's representative and are
  - 5. operational.
  - 6. Cleaning has been completed in accordance with Section 01 74 00.
  - 7. Work is completed and ready for final inspection.
  - 8. Engineer will make inspection to verify status of completion with reasonable promptness after receipt of such certification.
  - 9. Should Engineer consider that Work is incomplete or defective:
    - a. Engineer will promptly notify Contractor in writing, listing incomplete or defective Work.
    - b. Contractor shall take immediate steps to remedy stated deficiencies, and send second written certification to Engineer that Work is complete.
    - c. Engineer will reinspect Work.
  - 10. When Engineer finds Work is acceptable under Contract Documents, Engineer shall request Contractor to make closeout submittals.

**1.05 FINAL APPLICATION FOR PAYMENT**

- A. Submit final Application for Payment in accordance with Section 01 20 00 and the procedures and requirements stated in General Conditions of The Contract for Construction and Section 00 73 00 Supplementary Conditions. Final Payment will not be certified until all Submittals required by Section 01 78 00 have been received and approved by the Engineer.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

**SECTION 01 7800**  
**CLOSEOUT SUBMITTALS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Project Record Documents.
- B. Warranties and bonds.

**1.02 RELATED REQUIREMENTS**

- A. Section 00 7200 - General Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.
- B. Section 01 3000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- C. Section 01 7700 - Closeout Procedures.
- D. Individual Product Sections: Specific requirements for operation and maintenance data.
- E. Individual Product Sections: Warranties required for specific products or Work.
- F. Individual Product Sections: Warranties required for specific products or Work.

**1.03 SUBMITTALS**

- A. Project Record Documents: Submit documents to Owner's Representative with claim for final Application for Payment.
- B. Warranties and Bonds:
  - 1. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
  - 2. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION**

**3.01 WARRANTIES AND BONDS**

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within ten 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.

**END OF SECTION**

**SECTION 02 4101  
SITE DEMOLITION**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Selective demolition of built site elements.
- B. Abandonment and removal of existing utilities and utility structures.

**1.02 RELATED REQUIREMENTS**

- A. Section 01 5713 - Erosion Control.
- B. Section 31 2200 - Site Grading: Topsoil removal.
- C. Section 31 2323 - Fill and Backfill: Fill material for filling holes, pits, and excavations generated as a result of removal operations.

**1.03 REFERENCE STANDARDS**

- A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.
- B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

**1.04 UNIT PRICES**

- A. Removal of Existing Asphalt Pavement (All Thicknesses ): Paid at contract unit price per square yard, that includes full depth saw cutting, removal, and disposal.
- B. Removal of Existing Concrete Pavement (All Thicknesses ): Paid at contract unit price per square yard, that includes full depth saw cutting, removal, and disposal.
- C. Removal of Existing Concrete Curb and Gutter: Paid at contract unit price per square yard, that includes removal and disposal.
- D. Removal of Existing Pavement Striping: Paid at the contract unit price per lump sum, that includes sandblasting and cleaning.
- E. Removal and Salvage of Existing Tree: Paid at contract unit price per each tree, that includes removal of the stump and backfilling if necessary.
- F. Removal and Salvage of Existing Sign: Paid at the contract unit price per each sign, that includes removal of all posts, hardware and returned to owner.
- G. Removal of Existing Basketball Standard: Paid at the contract unit price per each standard, that includes removal of all posts, backboards, rims, hardware, foundation and disposal.
- H. Removal of Existing Playground Plastic Border: Paid at the contract unit price per lineal foot, that includes removal of all plastic borders, hardware and disposal.
- I. Removal and Salvage of Existing Bench: Paid at the contract unit price per each bench, that includes removal of all hardware and returned to owner.

**1.05 PROJECT CONDITIONS**

- A. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

**PART 2 PRODUCTS**

**2.01 MATERIALS**

- A. Fill Material: As specified in Section 31 2323 - Fill and Backfill.

## **PART 3 EXECUTION**

### **3.01 SCOPE**

- A. Remove, salvage, dispose of, or return to owner all items as indicated on plans.
- B. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as specified in Section 31 2200.
- C. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as required so that required rough grade elevations do not subside within one year after completion.

### **3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS**

- A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
  - 1. Obtain required permits.
  - 2. Comply with applicable requirements of NFPA 241.
  - 3. Use of explosives is not permitted.
  - 4. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
  - 5. Provide, erect, and maintain temporary barriers and security devices.
  - 6. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
  - 7. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
  - 8. Do not close or obstruct roadways or sidewalks without permit.
  - 9. Conduct operations to minimize obstruction of exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
  - 10. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.
- B. Do not begin removal until receipt of notification to proceed from Owner.
- C. Do not begin removal until built elements to be salvaged or relocated have been removed.
- D. Do not begin removal until vegetation to be relocated has been removed and specified measures have been taken to protect vegetation to remain.
- E. Protect existing structures and other elements that are not to be removed.
  - 1. Provide bracing and shoring.
  - 2. Prevent movement or settlement of adjacent structures.
  - 3. Stop work immediately if adjacent structures appear to be in danger.
- F. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
- G. If hazardous materials are discovered during removal operations, stop work and notify Owner's Representative and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.
- H. Hazardous Materials: Comply with 29 CFR 1926 and state and local regulations.

### **3.03 EXISTING UTILITIES**

- A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to the Owner and the local governing authority.

- E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Utility Companies.
- F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

**3.04 DEBRIS AND WASTE REMOVAL**

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.

**END OF SECTION**

## **SECTION 31 2200**

### **SITE GRADING**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Removal of topsoil.
- B. Rough grading the site for site structures.
- C. Finish grading.

##### **1.02 RELATED REQUIREMENTS**

- A. Section 31 2323 - Fill and Backfill: Filling and compaction.

##### **1.03 UNIT PRICES**

- A. Earthwork: Paid at the contract lump sum price for all work including topsoil stripping, stockpiling, replacement, excavation, embankment, imported fill and hauling of excess material to an offsite location.

##### **1.04 PROJECT CONDITIONS**

- A. Protect above- and below-grade utilities that remain.
- B. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from grading equipment and vehicular traffic.

#### **PART 2 PRODUCTS**

##### **2.01 MATERIALS**

- A. Topsoil: Topsoil excavated on-site.
  - 1. Graded.
  - 2. Free of roots, rocks larger than 1/2 inch, subsoil, debris, large weeds and foreign matter.
- B. Other Fill Materials: See Section 31 2323.

#### **PART 3 EXECUTION**

##### **3.01 EXAMINATION**

- A. Verify that survey bench mark and intended elevations for the work are as indicated.
- B. Verify the absence of standing or ponding water.

##### **3.02 PREPARATION**

- A. Identify required lines, levels, contours, and datum.
- B. Stake and flag locations of known utilities.
- C. Locate, identify, and protect from damage above- and below-grade utilities to remain.
- D. Notify utility company to remove and relocate utilities.
- E. Provide temporary means and methods to remove all standing or ponding water from areas prior to grading.
- F. Protect site features to remain, including but not limited to bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs, from damage by grading equipment and vehicular traffic.

##### **3.03 ROUGH GRADING**

- A. Remove topsoil from areas to be further excavated, re-landscaped, or re-graded, without mixing with foreign materials.
- B. Do not remove topsoil when wet.
- C. Remove subsoil from areas to be further excavated, re-landscaped, or re-graded.

- D. Do not remove wet subsoil , unless it is subsequently processed to obtain optimum moisture content.
- E. When excavating through roots, perform work by hand and cut roots with sharp axe.
- F. See Section 31 2323 for filling procedures.
- G. Benching Slopes: Horizontally bench existing slopes greater than 1:4 to key fill material to slope for firm bearing.
- H. Stability: Replace damaged or displaced subsoil to same requirements as for specified fill.
- I. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack surface water control.

### **3.04 SOIL REMOVAL**

- A. Stockpile topsoil to be re-used on site; remove remainder from site.
- B. Stockpile subsoil to be re-used on site; remove remainder from site.
- C. Stockpiles: Use areas designated on site; pile depth not to exceed 8 feet; protect from erosion.

### **3.05 FINISH GRADING**

- A. Before Finish Grading:
  - 1. Verify building and trench backfilling have been inspected.
  - 2. Verify subgrade has been contoured and compacted.
- B. Remove debris, roots, branches, stones, in excess of 1/2 inch in size. Remove soil contaminated with petroleum products.
- C. Where topsoil is to be placed, scarify surface to depth of 6 inches.
- D. In areas where vehicles or equipment have compacted soil, scarify surface to depth of 12 inches.
- E. Place topsoil where required to level finish grade.
- F. Place topsoil to nominal depth of 6 inches.
- G. Place topsoil during dry weather.
- H. Remove roots, weeds, rocks, and foreign material while spreading.
- I. Near plants spread topsoil manually to prevent damage.
- J. Fine grade topsoil to eliminate uneven areas and low spots. Maintain profiles and contour of subgrade.
- K. Lightly compact placed topsoil.
- L. Maintain stability of topsoil during inclement weather. Replace topsoil in areas where surface water has eroded thickness below specifications.

### **3.06 TOLERANCES**

- A. Top Surface of Subgrade: Plus or minus 0.10 foot (1-3/16 inches) from required elevation.
- B. Top Surface of Finish Grade: Plus or minus 0.04 foot (1/2 inch).
- C. Top Surface of Subgrade: Plus or minus 1/10 foot from required elevation.
- D. Top Surface of Finish Grade: Plus or minus 1/2 inch.

### **3.07 REPAIR AND RESTORATION**

- A. Existing Facilities, Utilities, and Site Features to Remain: If damaged due to this work, repair or replace to original condition.
- B. Trees to Remain: If damaged due to this work, trim broken branches and repair bark wounds; if root damage has occurred, obtain instructions from Owner's Representative as to remedy.

### **3.08 FIELD QUALITY CONTROL**

- A. See Section 01 4000 for compaction density testing.



### **3.09 CLEANING**

- A. Remove unused stockpiled topsoil and subsoil. Grade stockpile area to prevent standing water.
- B. Leave site clean and raked, ready to receive landscaping.

**END OF SECTION**

## SECTION 31 2316.13

### TRENCHING

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Backfilling and compacting for utilities outside the building to utility main connections.

##### 1.02 RELATED REQUIREMENTS

- A. Section 31 2200 - Site Grading.
- B. Section 31 2323 - Fill and Backfill.
- C. Section 33 4111 - Storm Sewer Piping.

##### 1.03 REFERENCE STANDARDS

- A. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop; 2022, with Errata .
- B. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>)); 2012 (Reapproved 2021).
- C. ASTM D1556/D1556M - Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method; 2015, with Editorial Revision (2016).
- D. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kN m/m<sup>3</sup>)); 2012.
- E. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method; 2015.
- F. ASTM D6938 - Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2023.

##### 1.04 UNIT PRICES

- A. Trenching: Incidental to the installation of 4", 8", and 12" storm sewer pipe and 4" perforated drain tile w/ filter sock.

##### 1.05 SUBMITTALS

- A. Compaction Density Test Reports.

##### 1.06 DELIVERY, STORAGE, AND HANDLING

- A. When necessary, store materials on site in advance of need.
- B. When fill materials need to be stored on site, locate stockpiles where indicated.
  - 1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
  - 2. Prevent contamination.
  - 3. Protect stockpiles from erosion and deterioration of materials.
- C. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

#### PART 2 PRODUCTS

##### 2.01 FILL MATERIALS

- A. General Fill: Subsoil excavated on-site.
  - 1. Graded.
  - 2. Free of lumps larger than 3 inches, rocks larger than 2 inches, and debris.
- B. Granular Fill: Coarse Aggregate, See Section 32 1123 - Aggregate Base Course.
- C. Topsoil: Topsoil excavated on-site.
  - 1. Graded.

2. Free of roots, rocks larger than 1/2 inch, subsoil, debris, large weeds and foreign matter.

## **2.02 SOURCE QUALITY CONTROL**

- A. See Section 01 4000 - Quality Requirements, for general requirements for testing and analysis of soil material.
- B. If tests indicate materials do not meet specified requirements, change material and retest.
- C. Provide materials of each type from same source throughout the work.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that survey bench marks and intended elevations for the work are as indicated.

### **3.02 TRENCHING**

- A. Notify Owner's Representative of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- B. Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.
- C. Do not interfere with 45 degree bearing splay of foundations.
- D. Cut trenches wide enough to allow inspection of installed utilities.
- E. Hand trim excavations. Remove loose matter.
- F. Remove large stones and other hard matter that could damage piping or impede consistent backfilling or compaction.
- G. Remove excavated material that is unsuitable for re-use from site.
- H. Stockpile excavated material to be re-used in area designated in Section 31 2200.
- I. Remove excess excavated material from site.
- J. Provide temporary means and methods, as required, to remove all water from trenching until directed by the Owner's Representative. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack of dewatering or surface water control.
- K. Determine the prevailing groundwater level prior to trenching. If the proposed trench extends less than 1 foot into the prevailing groundwater, control groundwater intrusion with perimeter drains routed to sump pumps, or as directed by the Owner's Representative.

### **3.03 PREPARATION FOR UTILITY PLACEMENT**

- A. Cut out soft areas of subgrade not capable of compaction in place. Backfill with general fill.
- B. Compact subgrade to density equal to or greater than requirements for subsequent fill material.
- C. Until ready to backfill, maintain excavations and prevent loose soil from falling into excavation.

### **3.04 BACKFILLING**

- A. Backfill to contours and elevations indicated using unfrozen materials.
- B. Fill up to subgrade elevations unless otherwise indicated.
- C. Employ a placement method that does not disturb or damage other work.
- D. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
- E. Maintain optimum moisture content of fill materials to attain required compaction density.
- F. Granular Fill: Place and compact materials in equal continuous layers not exceeding 6 inches compacted depth.
- G. Soil Fill: Place and compact material in equal continuous layers not exceeding 8 inches compacted depth.

- H. Slope grade away from building minimum 2 inches in 10 feet, unless noted otherwise. Make gradual grade changes. Blend slope into level areas.
- I. Correct areas that are over-excavated.
  - 1. Thrust bearing surfaces: Fill with concrete.
  - 2. Other areas: Use general fill, flush to required elevation, compacted to minimum 95 percent of maximum dry density.
- J. Compaction Density Unless Otherwise Specified or Indicated:
  - 1. 95 percent of maximum dry density.
- K. Reshape and re-compact fills subjected to vehicular traffic.

### **3.05 BEDDING AND FILL AT SPECIFIC LOCATIONS**

- A. Use general fill unless otherwise specified or indicated.
- B. Utility Piping
  - 1. Bedding: Use granular fill.
  - 2. Cover with general fill.
  - 3. Fill up to subgrade elevation.

### **3.06 TOLERANCES**

- A. Top Surface of General Backfilling: Plus or minus 1/2 inch from required elevations.
- B. Top Surface of Backfilling Under Paved Areas: Plus or minus 1/2 inch from required elevations.

### **3.07 FIELD QUALITY CONTROL**

- A. See Section 01 4000 for general requirements for field inspection and testing.
- B. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, or ASTM D6938.
- C. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D1557 ("modified Proctor"), AASHTO T 180, or ASTM D698 ("standard Proctor").
- D. If tests indicate work does not meet specified requirements, remove work, replace and retest at no additional cost to the Owner.

### **3.08 CLEANING**

- A. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.
- B. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

**END OF SECTION**

**SECTION 31 2323**  
**FILL AND BACKFILL**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Filling, backfilling, and compacting for paving and site structures.

**1.02 RELATED REQUIREMENTS**

- A. Section 31 2200 - Site Grading.
- B. Section 32 1123 - Aggregate Base Course.
- C. Section 31 2316.13 - Trenching: Excavating for utility trenches.

**1.03 UNIT PRICES**

- A. Fill and Backfill: Incidental to work associated with all earthwork.

**1.04 REFERENCE STANDARDS**

- A. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop; 2022, with Errata .
- B. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>)); 2012 (Reapproved 2021).
- C. ASTM D1556/D1556M - Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method; 2015, with Editorial Revision (2016).
- D. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kN m/m<sup>3</sup>)); 2012.
- E. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method; 2015.
- F. ASTM D6938 - Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2023.

**1.05 SUBMITTALS**

- A. Compaction Density Test Reports.

**1.06 DELIVERY, STORAGE, AND HANDLING**

- A. When necessary, store materials on site in advance of need.
- B. When fill materials need to be stored on site, locate stockpiles where designated.
  - 1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
  - 2. Prevent contamination.
  - 3. Protect stockpiles from erosion and deterioration of materials.

**PART 2 PRODUCTS**

**2.01 FILL MATERIALS**

- A. General Fill: Subsoil excavated on-site.
  - 1. Graded.
  - 2. Free of lumps larger than 3 inches, rocks larger than 2 inches, and debris.
- B. Granular Fill: Coarse Aggregate, See Section 32 1123 - Aggregate Base Course.
- C. Topsoil: Topsoil excavated on-site.
  - 1. Graded.
  - 2. Free of roots, rocks larger than 1/2 inch, subsoil, debris, large weeds and foreign matter.

## **2.02 SOURCE QUALITY CONTROL**

- A. See Section 01 4000 - Quality Requirements, for general requirements for testing and analysis of soil material.
- B. If tests indicate materials do not meet specified requirements, change material and retest.
- C. Provide materials of each type from same source throughout the work.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that survey bench marks and intended elevations for the Work are as indicated.
- B. Identify required lines, levels, contours, and datum locations.
- C. See Section 31 2200 for additional requirements.
- D. Verify structural ability of unsupported walls to support imposed loads by the fill.
- E. Verify areas to be filled are not compromised with surface or ground water.

### **3.02 PREPARATION**

- A. Scarify and proof roll subgrade surface to a depth of 6 inches to identify soft spots.
- B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with general fill.
- C. Compact subgrade to density equal to or greater than requirements for subsequent fill material.
- D. Until ready to fill, maintain excavations and prevent loose soil from falling into excavation.

### **3.03 FILLING**

- A. Fill to contours and elevations indicated using unfrozen materials.
- B. Fill up to subgrade elevations unless otherwise indicated.
- C. Employ a placement method that does not disturb or damage other work.
- D. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
- E. Maintain optimum moisture content of fill materials to attain required compaction density.
- F. Granular Fill: Place and compact materials in equal continuous layers not exceeding 6 inches compacted depth. Compact to 95 percent of maximum dry density.
- G. Soil Fill: Place and compact material in equal continuous layers not exceeding 8 inches compacted depth.
- H. Slope grade away from building minimum 2 inches in 10 feet, unless noted otherwise. Make gradual grade changes. Blend slope into level areas.
- I. Correct areas that are over-excavated.
  - 1. Other areas: Use general fill, flush to required elevation, compacted to minimum 95 percent of maximum dry density.
- J. Compaction Density Unless Otherwise Specified or Indicated:
  - 1. Under paving, slabs-on-grade, and similar construction: 95 percent of maximum dry density.
  - 2. At other locations: 90 percent of maximum dry density.
- K. Reshape and re-compact fills subjected to vehicular traffic.
- L. Maintain temporary means and methods, as required, to remove all water while fill is being placed as required, or until directed by the Owner's Representative. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack of dewatering or surface water control.

### **3.04 FILL AT SPECIFIC LOCATIONS**

- A. Use general fill unless otherwise specified or indicated.

- B. Over Buried Utility Piping in Trenches:
  - 1. Bedding: Use granular fill.
  - 2. Cover with general fill.
  - 3. Fill up to subgrade elevation.
  - 4. Compact in maximum 8 inch lifts to 95 percent of maximum dry density.
- C. At Lawn Areas:
  - 1. Use general fill.
  - 2. Fill up to subgrade elevations.
  - 3. Compact to 90 percent of maximum dry density.
  - 4. See Section 31 2200 for topsoil placement.
- D. Under Monolithic Paving :
  - 1. Compact subsoil to 95 percent of its maximum dry density before placing fill.
  - 2. Use general fill.
  - 3. Fill up to subgrade elevation.
  - 4. Compact to 95 percent of maximum dry density.
  - 5. See Section 32 1123 for aggregate base course placed over fill.

### **3.05 TOLERANCES**

- A. Top Surface of General Filling: Plus or minus 1/2 inch from required elevations.
- B. Top Surface of Filling Under Paved Areas: Plus or minus 1/2 inch from required elevations.

### **3.06 FIELD QUALITY CONTROL**

- A. See Section 01 4000 for general requirements for field inspection and testing.
- B. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, or ASTM D6938.
- C. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with AASHTO T 180, ASTM D1557 ("modified Proctor"), ASTM D698 ("standard Proctor"), AASHTO T 180, ASTM D1557 ("modified Proctor"), ASTM D698 ("standard Proctor"), AASHTO T 180, ASTM D1557 ("modified Proctor"), or ASTM D698 ("standard Proctor").
- D. If tests indicate work does not meet specified requirements remove work, replace and retest at no additional cost to the Owner.
- E. Proof roll compacted fill at surfaces that will be under slabs-on-grade.

### **3.07 CLEANING**

- A. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.
- B. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

**END OF SECTION**

## SECTION 31 2525

### GEOTEXTILE

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Furnish and install geotextile for use as a stabilizer and separator to prevent intermixing of subgrade soils and selected fill materials.

##### 1.02 RELATED SECTIONS

- A. Section 31 2200 - Site Grading.

##### 1.03 UNIT PRICES

- A. Geotextile Fabric: Incidental to the installation of the concrete pavement and not paid for directly. See Section 32 1313 Concrete Paving.

##### 1.04 SUBMITTALS

- A. Submit product data, manufacturer's instructions, and manufacturer's certificates.

##### 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Rolls shall be furnished with wrapping suitable for protection against moisture and extended ultraviolet exposure.
- B. Store rolls in a manner that protects them from the elements.
- C. If outdoor storage, elevate and protect rolls with waterproof cover.
- D. Geotextile rolls shall not be exposed to sunlight for a period exceeding 14 days.
- E. Replace damaged geotextiles.

#### PART 2 PRODUCTS

##### 2.01 MATERIALS

- A. R1 - Geosynthetics for Separation, Riprap, and Reinforcement
  - 1. Geotextile shall be composed of long chain polymeric filaments (95 percent by weight, polyolefins, polyesters or polyamide) formed into a woven fabric.
    - a. US 2700.
    - b. Approved equal.
- B. Geotextiles shall be free of defects or flaws.

#### PART 3 EXECUTION

##### 3.01 PREPARATION

- A. Clear installation area of all obstructions, native vegetation, roots, and other debris which may damage geotextile.

##### 3.02 GEOTEXTILE PLACEMENT

- A. See plan details for placement
- B. Unroll smoothly on subgrade in direction of construction traffic.
- C. Overlap in direction of subbase placement.
- D. Minimum overlap is 2 feet.
- E. Do not drag geotextile across subgrade.
- F. Replace damaged geotextile with a minimum patch size of damaged area plus 3 feet.

##### 3.03 AGGREGATE PLACEMENT

- A. Dumping on geotextile is not permitted.
- B. Traffic directly on geotextile is not permitted.



C. Fill any ruts with additional aggregate.

**END OF SECTION**

**SECTION 32 1123**  
**AGGREGATE BASE COURSE**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Aggregate Bedding.
- B. Paving Aggregates.

**1.02 RELATED REQUIREMENTS**

- A. Section 01 5713 - Erosion Control.
- B. Section 31 2200 - Site Grading: Preparation of site for base course.
- C. Section 31 2323 - Fill and Backfill: Compacted fill under base course.
- D. Section 32 1216 - Asphalt Paving.
- E. Section 32 1313 - Concrete Paving.

**1.03 UNIT PRICES**

- A. Aggregate Base: Incidental to the installation of all new paving and storm sewer bedding. See Section 32 1313 Concrete Paving.

**1.04 REFERENCE STANDARDS**

- A. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop; 2022, with Errata .
- B. ASTM C136/C136M - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates; 2014.
- C. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>)); 2012 (Reapproved 2021).
- D. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method; 2015.
- E. ASTM D6938 - Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2023.

**1.05 SUBMITTALS**

- A. Compaction Density Test Reports.

**1.06 DELIVERY, STORAGE, AND HANDLING**

- A. When necessary, store materials on site in advance of need.
- B. Aggregate Storage, General:
  - 1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
  - 2. Prevent contamination.
  - 3. Protect stockpiles from erosion and deterioration of materials.
- C. Verify that survey bench marks and intended elevations for the work are as indicated.

**PART 2 PRODUCTS**

**2.01 MATERIALS**

- A. Coarse Aggregate Class 3: Coarse aggregate, conforming to State of ND Highway Department Class 3 standard.
- B. Coarse Aggregate Class 5: Coarse aggregate, conforming to State of ND Highway Department Class 5 standard.
- C. Crushed Concrete or Asphalt: Coarse aggregate, conforming to State of ND Highway Department Salvaged Base Standard.

## **2.02 SOURCE QUALITY CONTROL**

- A. See Section 01 4000 - Quality Requirements, for general requirements for testing and analysis of aggregate materials.
- B. If tests indicate materials do not meet specified requirements, change material and retest.
- C. Provide materials of each type from same source throughout the work.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that survey bench marks and intended elevations for the work are as indicated.
- B. Verify substrate has been inspected, gradients and elevations are correct, and is dry.

### **3.02 PREPARATION**

- A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting.
- B. Do not place aggregate on soft, muddy, or frozen surfaces.

### **3.03 INSTALLATION**

- A. Place aggregate in maximum 6 inch layers, roller compact to 95 percent of maximum dry density.
- B. Level and contour surfaces to elevations and gradients indicated.
- C. Add small quantities of fine aggregate to coarse aggregate as appropriate to assist compaction.
- D. Add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.
- E. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

### **3.04 TOLERANCES**

- A. Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.
- B. Scheduled Compacted Thickness: Within 1/4 inch.
- C. Variation From Design Elevation: Within 1/2 inch.

### **3.05 FIELD QUALITY CONTROL**

- A. See Section 01 4000 for general requirements for field inspection and testing.
- B. Compaction density testing will be performed on compacted aggregate base course in accordance with ASTM D1556, ASTM D2167, or ASTM D6938.
- C. Results will be evaluated in relation to compaction curve determined by testing uncompacted material in accordance with AASHTO T 180, ASTM D698 ("standard Proctor"), or ASTM D1557 ("modified Proctor").
- D. If tests indicate work does not meet specified requirements, remove work, replace and retest at no additional cost to the Owner.
- E. Proof roll compacted aggregate at surfaces that will be under slabs-on-grade.

### **3.06 CLEANING**

- A. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.
- B. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

**END OF SECTION**

**SECTION 32 1216**  
**ASPHALT PAVING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Double course bituminous concrete paving.

**1.02 RELATED REQUIREMENTS**

- A. Section 31 2200 - Site Grading: Preparation of site for paving and base.
- B. Section 31 2323 - Fill and Backfill: Compacted subgrade for paving.
- C. Section 32 1123 - Aggregate Base Course: ND Class 5 aggregate base course.
- D. Section 32 1723.13 - Painted Pavement Markings: Parking Lot Striping

**1.03 UNIT PRICES**

- A. 4" Asphalt Pavement: Paid for at the contract unit price per square yard, delivered and installed.
- B. 2" Asphalt Pavement Overlay: Paid for at the contract unit price per square yard, delivered and installed.

**1.04 REFERENCE STANDARDS**

- A. AI MS-2 - Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types; 1997.

**1.05 REGULATORY REQUIREMENTS**

- A. Conform to applicable code for paving work on public property.

**1.06 FIELD CONDITIONS**

- A. Do not place asphalt when ambient air or base surface temperature is less than 40 degrees F, or surface is wet or frozen.
- B. Place bitumen mixture when temperature is not more than 15 F degrees below bitumen supplier's bill of lading and not more than maximum specified temperature.

**PART 2 PRODUCTS**

**2.01 SOURCE QUALITY CONTROL**

- A. Test mix design and samples in accordance with AI MS-2.

**PART 3 EXECUTION**

**3.01 EXAMINATION**

- A. Verify that compacted subgrade is dry and ready to support paving and imposed loads.
- B. Verify gradients and elevations of base are correct.

**3.02 PREPARATION - TACK COAT**

- A. Apply tack coat in accordance with manufacturer's instructions.
- B. Apply tack coat on asphalt or concrete surfaces over subgrade surface at uniform rate of 0.05 gal/sq yd.
- C. Coat surfaces of manhole frames with oil to prevent bond with asphalt pavement. Do not tack coat these surfaces.

**3.03 PLACING ASPHALT PAVEMENT - DOUBLE COURSE**

- A. Place base course to thickness identified in schedule at end of section.
- B. Place wearing course within 24 hours of applying tack coat.
- C. Place wearing course to thickness identified in schedule at end of section.

- D. Compact pavement by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.
- E. Perform rolling with consecutive passes to achieve even and smooth finish, without roller marks.

**3.04 TOLERANCES**

- A. Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.
- B. Compacted Thickness: Within 1/4 inch of specified or indicated thickness.
- C. Variation from True Elevation: Within 1/2 inch.

**3.05 FIELD QUALITY CONTROL**

- A. See Section 01 4000 for general requirements for quality control.
- B. Field inspection will be done by Owner's Representative and testing to be provided by Owner. Take samples and perform tests in accordance with AI MS-2.

**3.06 PROTECTION**

- A. Immediately after placement, protect pavement from mechanical injury for 2 days or until surface temperature is less than 140 degrees F.

**3.07 SCHEDULE**

- A. Pavement thickness shall match noted parking areas: See plan and detail for sections.

**END OF SECTION**

**SECTION 32 1313**  
**CONCRETE PAVING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Concrete sidewalks, integral curbs, gutters, and parking areas.

**1.02 RELATED REQUIREMENTS**

- A. Section 31 2200 - Site Grading: Preparation of site for paving and base and preparation of subsoil at pavement perimeter for planting.
- B. Section 31 2323 - Fill and Backfill: Compacted subbase for paving.
- C. Section 32 1123 - Aggregate Base Course: ND Class 5 aggregate base course.
- D. Section 32 1723.13 - Painted Pavement Markings.
- E. Section 32 1726 - Tactile Warning Surfacing: Cast Iron tactile and detectable warning tiles for pedestrian walking surfaces.

**1.03 UNIT PRICES**

- A. 4" Reinforced Concrete Pavement: Paid for at the contract unit price per square yard, delivered and installed, and includes all excavation, subgrade and subbase preparation, furnishing and installing the aggregate base, concrete, reinforcing, expansion joints, form work and all incidental labor, material, and equipment.
- B. 4" Reinforced Concrete Playground Sidewalk: Paid for at the contract unit price per square yard, delivered and installed, and includes all excavation, subgrade and subbase preparation, furnishing and installing the aggregate base, concrete, reinforcing , expansion joints, form work and all incidental labor, material, and equipment.
- C. 6" Reinforced Concrete Pavement: Paid for at the contract unit price per square yard, delivered and installed and includes all excavation, geotextile fabric, subgrade and subbase preparation, furnishing and installing the aggregate base, concrete, reinforcing, expansion joints, form work and all incidental labor, material, and equipment.
- D. 7" Reinforced Concrete Pavement: Paid for at the contract unit price per square yard, delivered and installed and includes all excavation, geotextile fabric, subgrade and subbase preparation, furnishing and installing the aggregate base, concrete, reinforcing, expansion joints, form work and all incidental labor, material, and equipment.
- E. Standard Concrete Curb and Gutter: Paid for at the contract unit price per lineal foot (as measured along the curb face), delivered and installed and includes all excavation, geotextile fabric, subgrade and subbase preparation, furnishing and installing the aggregate base, concrete, reinforcing, expansion joints, form work, and all incidental labor, material, and equipment.
- F. Mountable Concrete Curb and Gutter: Paid for at the contract unit price per lineal foot (as measured along the curb face), delivered and installed and includes all excavation, geotextile fabric, subgrade and subbase preparation, furnishing and installing the aggregate base, concrete reinforcing, expansion joints, form work, and all incidental labor, material, and equipment.
- G. Concrete Valley Gutter: Paid for at the contract unit price per lineal foot (as measured along center of gutter), delivered and installed and includes all excavation, subgrade and subbase preparation, furnishing and installing the aggregate base, concrete, reinforcing, expansion joints, form work, and all incidental labor, material and equipment.

- H. 2' Wide Concrete Mow Strip: Paid for at the contract unit price per lineal foot, delivered and installed and includes all excavation, subgrade and subbase preparation, furnishing and installing the aggregate base, concrete, reinforcing, expansion joints, form work, and all incidental labor, material and equipment.

#### **1.04 REFERENCE STANDARDS**

- A. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; 1991 (Reapproved 2009).
- B. ACI 301 - Specifications for Structural Concrete; 2010 (Errata 2012).
- C. ACI 305R - Hot Weather Concreting; 2010.
- D. ACI 306R - Cold Weather Concreting; 2010.
- E. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon Steel Bars for Concrete Reinforcement; 2015.
- F. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2013.
- G. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2015a.
- H. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2015.
- I. ASTM C150/C150M - Standard Specification for Portland Cement; 2015.
- J. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2010a.
- K. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2013.
- L. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2015.
- M. ASTM C685/C685M - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing; 2014.

#### **1.05 SUBMITTALS**

- A. Product Data: Provide data on admixtures and curing compound.
- B. Design Data: Indicate designed concrete strength and typical details.

#### **1.06 QUALITY ASSURANCE**

- A. Perform work in accordance with ACI 301.
- B. Follow recommendations of ACI 305R when concreting during hot weather.
- C. Follow recommendations of ACI 306R when concreting during cold weather.

#### **1.07 WARRANTY**

- A. Contractor shall guarantee all exterior flatwork for a period of one (1) year from final completion of the project.
- B. Concrete pavement in which uncontrolled cracks occur shall be removed and replaced at the Contractor's expense. The work shall include the complete removal and replacement of a quantity of pavement, to include dowel bar assemblies when applicable, as is determined necessary for acceptance of the pavement by the Engineer. Any/all damage occurring during the removal and replacement process shall be restored at the Contractor's expense. All removal and replacement work shall be in accordance with the requirements of these Specifications.

#### **1.08 ENVIRONMENTAL REQUIREMENTS**

- A. Do not place concrete when base surface temperature is less than 40 degrees F, or surface is wet or frozen.

## **PART 2 PRODUCTS**

### **2.01 FORM MATERIALS**

- A. Forms shall be metal, made of shaped steel, with sections that interlock and are at least 10 feet in length. The forms shall be of the same thickness as the concrete to be placed against them and shall have a base width of at least 2/3 their height. They shall have at least 3 stake pockets for every 10 feet of length and the bracing and support must be able to withstand the pressure of the concrete and weight and thrust of the machinery operating on the forms. Forms shall be set upon the compacted subgrade at to exact line and grade for a distance of at least 300 feet in advance of the concrete placing operation. Metal forms shall be oiled or coated with soft soap or whitewash before depositing the concrete against them. Forms shall be mortar and dirt free and shall be checked with a 10-foot straightedge and any variation in excess of 1/8 inch shall be corrected.
- B. Approved flexible or curved forms of proper radius shall be used on curves having a radius 150 feet or less. Straight forms longer than 10 feet shall not be used on any curved line unless approved by the Engineer. If the pavement is being placed contiguous to previously finished pavement or curb and gutter, such finished pavement or curb and gutter may be made to serve as a side form if found to be suitable in the opinion of the Engineer.

### **2.02 SLIPFORM PAVING EQUIPMENT**

- A. All equipment shall be self propelled, and designed for the specific purpose of placing, consolidating, and finishing the concrete pavement to grade and cross-section in one complete pass without the use of side forms. The paver shall vibrate or tamp the concrete for the full width and depth of the layer being placed.

### **2.03 CONCRETE FINISHING MACHINES**

- A. The finishing machine shall be adjustable to the specified crown and elevation to maintain the required cover over the reinforcing steel. The machines shall be capable of striking-off and finishing the concrete and compaction shall either be done by the same machine or in a separate operation. The screed shall extend the full width of the slab. All finishing equipment shall be kept in good repair and their use subject to the approval of the Engineer.

### **2.04 AUXILIARY FINISHING EQUIPMENT AND MATERIAL**

- A. Footbridge
  - 1. A footbridge shall be provided so designed that it can be readily transported from place to place and span the width of the slab.
- B. Straight Edge
  - 1. Two or more ten (10) foot straight edges of an approved type shall be used. Extra blades shall be provided and used when previously used edges become wavy and warped.
- C. Floats
  - 1. Approved long-handled floats, each having a blade at least 3 feet in length and 6 inches in width.
- D. Master Straight-Edge
  - 1. All straight edges shall be tested by the master straightedge before being used and frequently during their use.
- E. Brooms
  - 1. Brooms shall be of an approved push type not less than 18 inches long, from good quality bass or bassine fiber not more than five (5) inches in length. The handle shall be at least one foot longer than one-half the pavement width and shall be readily adjustable.



## **2.05 REINFORCEMENT**

- A. Reinforcing Steel: ASTM A615/A615M, Grade 40 (40,000 psi) yield strength; deformed billet steel bars; unfinished.
- B. Dowels: ASTM A615/A615M, Grade 40 - 40,000 psi yield strength; deformed billet steel bars; unfinished finish.
- C. Deformed steel bars meeting the Specifications for bar reinforcement shall be used for the tie bars joining slabs together across longitudinal joints or joining slabs to the curb and gutter section.
- D. Dowel bars across transverse joints shall be epoxy coated smooth round bars meeting the Specifications for bar reinforcing.
- E. Plate dowels shall be of trapezoidal shape and epoxy coated. All dowels shall be greased or coated for debonding as indicated below.
- F. All tie bars used for the longitudinal joints or joining slabs to the curb and gutter section shall be epoxy coated and meet the requirements of AASHTO M284. The epoxy coating shall be in accordance with AASHTO M284/M. All epoxy coated bars shall be protected from the sun's rays with tarps or other means if they are to be subjected to the sun's rays for more than 180 days.
- G. Bars carried over as excess from previous year's construction shall not be used on any project unless documentation of protection from the sun is given to the Engineer. Bars showing rust through the coating shall be rejected for use on a project. Epoxy coatings shall be 8 to 12 mils in thickness.
- H. Bondbreaker coatings of dowel bars shall include any effective coatings as approved by the NDDOT, and may include Contractor applied grease or form oil spray applications and factory applied Tectyl-506.

## **2.06 JOINT MATERIALS**

- A. Expansion Joints
  - 1. If expansion or isolation joints will be required, they shall be as indicated in the diagrams. Expansion/Isolation joint material shall conform to ASTM D-1751. Joint material shall be 1-inch in thickness, 1/2 inch less in height than the pavement depth. It shall extend the full width of the pavement slab and curb, and any concrete at the ends when the forms are removed shall be chipped away. The dowel support shall securely and rigidly hold the dowel bars and premolded filler in correct position during the paving operation. All expansion/Isolation joint faces shall be cleaned by sandblasting and sealed with silicone sealant to produce a slightly concave surface approximately 1/4 inch below the concrete surface.
  - 2. The expansion joint dowel bar assembly shall be of a type as manufactured by Dayton Superior, Wady Industries, Construction Materials, Inc., Laclede Steel Company, the Bethlehem Steel Company, the American Steel and Wire Company, or approved equal. The entire expansion joint assembly shall be of a type approved by the Engineer.

## **2.07 CURING COMPOUNDS**

- A. Linseed oil based or poly-alpha-methylstyrene liquid curing compound, white pigmented conforming to the requirements of AASHTO M 148 Type 2, Class B

## **2.08 CONCRETE MATERIALS**

- A. Obtain cementitious materials from same source throughout.
- B. Cement: ASTM C 150 Normal - Type I or II Portland type, grey color.
- C. Fine, Angular and Coarse Mix Aggregates: ASTM C 33.
- D. Fly Ash: ASTM C618, Class C.

- E. Water: Clean, and not detrimental to concrete.
- F. Air-Entraining Admixtures: ASTM C260/C260M.
- G. Chemical Admixtures: ASTM C 494/C 494M.
  - 1. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.

**2.09 CONCRETE MIX DESIGN**

- A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
- B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.
  - 1. For trial mixtures method, employ independent testing agency acceptable to Owner's Representative for preparing and reporting proposed mix designs.
- C. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended by manufacturer.
- D. Concrete Properties:
  - 1. Compressive Strength, when tested in accordance with ASTM C 39/C 39M at 28 days: 4500 psi.
  - 2. Fly Ash Content: Maximum 20 percent of cementitious materials by weight.
    - a. Fly ash content of mixes (cold weather) will be reduced to zero when placed after October 20th and before April 1st without an adequate cold weather management plan.
  - 3. Cement Content: Minimum 564 lb per cubic yard.
  - 4. Water-Cement Ratio: Maximum 40 percent by weight.
  - 5. Total Air Content (exposed slabs only): 6% shall be targeted, (5-7 percent range), determined in accordance with ASTM C173/C173M.
  - 6. Maximum Slump: 4 inches.
- E. Aggregate:
  - 1. For all paving applications, mixes shall generally be provided with gradations considered well-graded by specification as determined by the most current NDDOT specification for Well-Graded Aggregates for concrete. Optimization techniques will be used to prepare the final gradations for workability and coarseness factor considerations. Fine and coarse aggregates for all other mixes shall conform to the requirements of ASTM C33 for Concrete Aggregates and meet the following requirements.
    - a. Fine Aggregates
      - 1) 3/8 Inch sieve: 100 percent passing.
      - 2) No. 4 sieve: 95 to 100 percent passing.
      - 3) No. 16 sieve: 45 to 80 percent passing.
      - 4) No. 50 sieve: 10 to 30 percent passing.
      - 5) No. 100 sieve: 0 to 10 percent passing.
      - 6) No. 200 sieve: 0 to 3 percent passing.
      - 7) The maximum limits of deleterious material shall not exceed the limits stated in ASTM C33-93. Shale content shall be less than 0.5%.
    - b. Coarse Aggregates
      - 1) 1-1/2 Inch sieve: 100 percent passing.
      - 2) 1 Inch sieve: 95 to 100 percent passing.
      - 3) 1/2 Inch sieve: 25 to 65 percent passing.
      - 4) 3/8 Inch sieve: 15 to 55 percent passing.
      - 5) No. 4 sieve: 0 to 10 percent passing.
      - 6) No. 8 sieve: 5 percent passing.
      - 7) The maximum limits of deleterious material shall not exceed the limits stated in ASTM C33-93, Class 4S; the total of all deleterious substances, excluding No. 200 material, shall not exceed 2.3% by weight. Shale content shall be less than 0.5%. The aggregate shall show a loss of not more than 35% when tested in

accordance with ASTM C131. Crushed hydraulic cement concrete will not be allowed.

## **2.10 MIXING**

- A. On Project Site: Mix in drum type batch mixer, complying with ASTM C685/C685M. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.
- B. Transit Mixers: Comply with ASTM C94/C94M.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify compacted subgrade is acceptable and ready to support paving and imposed loads.
- B. Verify gradients and elevations of base are correct.

### **3.02 SUBBASE**

- A. See Section 32 1123 for construction of base course for work of this Section.

### **3.03 PREPARATION**

- A. Moisten base to minimize absorption of water from fresh concrete.
- B. Notify Owner's Representative minimum 24 hours prior to commencement of concreting operations.

### **3.04 COLD AND HOT WEATHER CONCRETING**

- A. Follow recommendations of ACI 305R when concreting during hot weather.
- B. Follow recommendations of ACI 306R when concreting during cold weather.
- C. Do not place concrete when base surface temperature is less than 40 degrees F, or surface is wet or frozen.

### **3.05 PLACING CONCRETE**

- A. All concrete shall be placed with formwork unless placed by a curb machine or mechanical paver. Curb and gutter may be installed integral with the concrete pavement except at curb radii and one full panel height on each side of inlet castings not located in a radius, where it shall be installed separate. After mixing, the concrete shall be handled rapidly and the successive batches deposited in a continuous operation until individual sections are completed. The concrete shall be placed so segregation and unnecessary rehandling is avoided. Immediately prior to placing the concrete, the inside of the forms shall be wetted and the aggregate base moistened with water. The forms shall be filled and concrete brought to the established grade. Trucks hauling concrete shall not back over reinforcing or over previously deposited concrete. Ruts exceeding 1/2 inch in depth shall be filled with granular material prior to the placing of concrete. Concrete shall not be placed on a frozen subgrade or base.
- B. The mixed concrete shall be deposited on the subgrade to the required depth and for a width not exceeding the direct reach of the mixer boom, in successive batches and in a continuous operation without the use of intermediate forms or bulkheads between joints. If concrete placement is temporarily interrupted, the unfinished face of the concrete shall be covered with wet burlap or plastic sheeting. When placement operations are resumed, the concrete shall be broken down and thoroughly consolidated with the fresh concrete. If the elapsed time between placement loads of concrete exceeds 45 minutes, a transverse construction joint shall be installed. While being placed, the concrete shall be vibrated with spud type vibrators or a vibrating screed so that the formation of voids or honeycomb is prevented. The concrete shall be especially well vibrated against the forms and along fixed structures.

### 3.06 JOINTS AND SAWING

- A. Joints in concrete pavement shall be of the design specified and shall be constructed at the spacing and locations shown on the plans. Where a specific jointing layout is not provided, jointing shall be per the standard detail in these Specifications. The contractor shall establish the joint locations in the field from the plans or standard details. All joints shall be sawed along a true and straight line established by the Contractor and shall not deviate at any point by more than 1/2 inch from the established line.
- B. Transverse Contraction Joints and Sawing
  - 1. The location of each transverse joint shall be marked in a manner satisfactory to the Engineer, prior to placement of the concrete and, in the case of joints that are to be sawed, the markings shall be transferred to the fresh concrete as soon as the final finishing operations have been completed. All contraction joints shall be sawed to a sufficient depth to control cracking, but in no case to a depth less than 1/4 of the thickness of the pavement plus 1/4 inch. Transverse joints constructed in the pavement shall be extended through the integral or separate curb. The Contractor shall be responsible for sawing to a depth that will prevent uncontrolled cracking. A sufficient number of saw cuts shall be made as soon as possible to relieve the contraction joint tension in the slab. Remaining saw cuts must be made within 48 hours after pouring.
  - 2. The initial sawing shall be accomplished as soon as the condition of the concrete will permit without raveling and before random cracking occurs. The sequence of initial sawing shall be at the Contractor's option. The sawing shall be immediately delayed if any raveling occurs. Water under nozzle pressure shall be used to remove the sawing residue from each joint and the pavement surface immediately after completing the sawing of that joint. Widening of the joints to full width as per dimensions shown on the jointing/sealing detail shall not be performed until the concrete has cured for at least 24 hours and shall be delayed longer when the sawing causes joint raveling.
  - 3. The early entry dry saw "Soff-Cut" method of sawing will only be allowed with the Engineer's approval for the initial saw-cutting. Concrete pavement in which uncontrolled cracks occur shall be removed and replaced at the Contractor's expense. The work shall include the complete removal and replacement of a quantity of pavement, to include dowel bar assemblies when applicable, as is determined necessary for acceptance of the pavement by the Engineer. Any/all damage occurring during the removal and replacement process shall be restored at the Contractor's expense. All removal and replacement work shall be in accordance with the requirements of these Specifications.
- C. Transverse Expansion Joints
  - 1. Expansion joints shall be spaced as shown on the plans and shall be of the preformed type and shall extend entirely through the depth and width of the pavement and through all integral curbs. No concrete shall be left above the expansion material or across the joint, but shall be cut away after the forms are removed.
  - 2. Dowel bars shall be installed for load transfer across the joint. They shall be held in place midway across the joint, parallel to both the surface and the centerline of the slab by an approved supporting device. The "free" end of the dowel shall be coated with an approved lubricant and covered with an approved metal or plastic dowel cap or sleeve. The preformed filler material shall be accurately pre-punched to fit snugly around the dowel bars.
  - 3. The expansion material and dowel assembly shall be accurately and firmly staked to the subgrade. The top edge of the filler shall be set 1/2 inch below the pavement surface. During the placing of the concrete, the top edge of the filler shall be protected by a removable channel cap. After the concrete has been placed and finished, the cap shall be removed and the joint edged to the specified radius. All expansion/Isolation joints shall be cleaned by sandblasting and sealed with silicone sealant to produce a slightly concave surface approximately 1/4 inch below the concrete surface.

4. Before the pavement is opened to traffic, the joint shall be cleaned so that there is a clear space of the specified width for the full depth and width of the pavement. It shall then be filled with joint filler which when cooled shall become flush with the surface of the pavement. Any sealant material on the surface of the pavement shall be removed at the Contractor's expense.

D. Transverse Construction Joints

1. Transverse construction joints shall be constructed whenever the placing of the concrete is suspended for more than 45 minutes. When the work is suspended near the proper location for an expansion joint, the expansion joint shall be installed in the manner previously specified, except that the concrete shall only be placed on one side of the header, when work is resumed it shall be placed on the other side.
2. When work is suspended at other locations, a contraction joint shall be formed by securely staking in place at right angles to the subgrade and centerline of the pavement, a bulkhead of wood or metal cut to the cross-section of the pavement and then depositing concrete against it. Before the work is resumed, the bulkhead shall be removed and concrete placed against the face of the older concrete.
3. Transverse construction joints shall only be constructed at planned transverse joint locations.
4. Dowel bars shall be installed for load transfer across the joint. The Dowel bars shall be either installed with the construction joint or later drilled in place. If installed with construction joint they shall be held in place midway across the joint, parallel to both the surface and the centerline of the slab by a dowel splicer basket assembly, self supported dowel sleeve, or other supporting device approved by the Engineer. The dowel bars shall be installed within the tolerances specified above for placing reinforcement. One end of the dowel shall be painted or coated with an approved lubricant.

E. Longitudinal Joints

1. The longitudinal joint between adjoining, separately constructed pavement shall be as constructed as shown on the plans. Tie bars shall be as shown in the detail and may be bent at right angles against the form of the first lane constructed and straightened into final position before the adjacent concrete is placed. Bars may be placed or inserted through small accurately positioned holes or by other approved methods. Tie bars or tie bar baskets shall be placed so that they are not within 12 inches of the intersection of the longitudinal joint and the transverse joint.
2. If uncontrolled cracking occurs, the concrete pavement shall be completely removed to the nearest planned longitudinal and transverse joints. The removal and replacement method shall be approved by Engineer and at the Contractor's sole expense.

### 3.07 PAVEMENT FINISHING

- A. Strike-off and compaction shall be done by both vibrating and screeding processes. Separate power machines may be used for each process or both processes may be combined in the same machine, provided controls exist enabling the operator to apply either operation separately or both combined. When weather conditions cause rapid drying of the pavement surface a fine mist or fog spray applied to the concrete surface shall be permitted only if approved by the Engineer – using any other method to apply water to the concrete surface will not be permitted and will result in nonpayment, replacement, and/or repair of the wetted area as determined by the Engineer.

1. Formwork

- a. Forms shall be left in place for at least 15 hours after placing the concrete, and the method of removing them shall not damage or mar the concrete.

2. Straight Edge

- a. The finished surface of the pavement must conform to the grade, alignment, and contour shown on the plans. Immediately following the floating operation, the Contractor shall test the slab surface for trueness with a 10-foot straightedge. The straightedge shall be placed parallel to the pavement centerline and be passed over

the slab to reveal any high areas or depressions. The high areas or depressions shall be cut or filled as necessary with the long handled floats and the area checked again with the straightedge. Successive advances of the straightedge shall overlap by 1/2 the length of the straightedge. The entire surface shall be checked until all variations in excess of 1/8 inch in 10 feet have been eliminated. Special care shall be taken at all headers to ensure this variation is held to a minimum.

### **3.08 CURB FINISHING**

- A. No grout shall be used to finish the curb. After the concrete is poured into the forms, it shall be puddled and spaded so as to ensure a through, dense mixture, eliminate air pockets, and create uniform and smooth sides.
- B. When weather conditions cause rapid drying of the pavement surface a fine mist or fog spray applied to the concrete surface shall be permitted only if approved by the Engineer – using any other method to apply water to the concrete surface will not be permitted and will result in nonpayment, replacement, and/or repair of the wetted area as determined by the Engineer.
- C. Before the curb concrete has thoroughly set, and while the concrete is still green, the forms shall be removed and the front and top side finished with a float or steel trowel to make a uniform finished surface.
  - 1. Rounding Corners
    - a. Whenever corners are to be rounded, special steel trowels shall be used while the concrete is still workable and the corners constructed to the dimensions herein specified. For combined curb and gutter, the top and side of the curb and gutter may be finished by means of a special shaped trowel or by a curb-and-gutter machine which shapes the entire surface in accordance with the specified dimensions. This trowel shall be used immediately upon removing the front form while the concrete is still workable but firm enough to stand up.
  - 2. Smoothness
    - a. The top and face of the curb and also the top of the apron on combined curb and gutter must be finished true to line and grade without any irregularities of surface noticeable to the eye. The gutter shall not hold water to a depth of more than 1/4 inch, nor shall any portion of the surface or face of the curb or gutter section depart from more than 1/4 of an inch from a straight edge ten (10) feet in length, placed on the curb parallel to the center line of the street not shall any part of the exposed surface present a wavy appearance.

### **3.09 FINAL SURFACE FINISH**

- A. The edges of the pavement shall be left smooth and true to line, and finished, at about the time the concrete takes its initial set.
- B. After surface irregularities have been removed and before the concrete attains an initial set, the pavement shall be uniformly textured using a seamless strip of artificial grass, or by brooming.
- C. Artificial grass drags or a broom pulled longitudinally in a line parallel to the slab centerline, shall be the texturing method, and shall be maintained in good repair. The texturing material shall apply a uniform texture with 1/16 to 1/8 inch deep striations. The width of the texturing material shall be in full contact over the full width of the pavement. The texturing material shall be cleaned as often as necessary to remove hardened particles or debris that would otherwise scar the surface.
- D. The texturing material being pulled longitudinally shall be mounted to a self-propelled bridge, operated off of the paving string-line, and shall not deviate at any point by more than 1/2 inch from the established alignment.
- E. With formed paving only, brooms shall be drawn across the surface at right angles to the centerline of the pavement, with the stroke of the broom slightly overlapping adjacent strokes. The brooming operation shall apply a uniform texture with 1/16 to 1/8 inch deep striations.

Brooms shall be washed and dried at frequent intervals during the day. Any long or coarse bristles that may cause surface irregularities shall be trimmed or cut out, and any brooms that have become worn out shall be discarded.

- F. Upon completion of the final finishing the surface texture shall be uniform in appearance and free of surface water, rough or porous spots, irregularities, depressions, and other objectionable features.

### **3.10 CURING AND PROTECTION**

#### **A. Normal Pavement**

- 1. As soon as the concrete has been textured, the Contractor shall start curing operations. The finished surface shall be sprayed with an approved curing agent on all exposed faces. Sufficient curing compound shall be applied at a rate of approximately 200 SF/gal to ensure a coating as white as a sheet of paper. In lieu of curing agent, the concrete may be cured by wet burlap or other methods approved by the Engineer. When wet burlap or plastic film is used for curing, the curing period shall be at least 5 days. The concrete surface must not be pitted from or damaged from application of water or incidental rain. The Contractor shall protect all concrete from weather conditions, traffic damage, or any other causes occurring prior to its final acceptance. Any damaged section shall be repaired at the Contractor's expense.

#### **B. Timing of Curing Compound Application**

- 1. Curing procedures should be undertaken within ½ hour of completion of finishing operations or before the wet sheen on the surface of the concrete disappears, whichever occurs first. Evaporation retarders shall be used for interim protection whenever hot, windy or dry conditions quantified by evaporation rates exceeding 0.2 pounds per square foot per hour exist, and shall be used in accordance with manufacturer's recommendations. Evaporation retarders shall not be used as a finishing aid.

### **3.11 PROTECTION OF PAVEMENT**

- A. The newly-placed concrete shall be protected from traffic by employing watch persons, if necessary, and by the erection and maintenance of barricades, fences, warning signs and lights, pavement bridges, and cross-overs.
- B. When the temperature is expected to fall below 35°F, suitable measures shall be taken to maintain the concrete surface temperature above 40°F for 5 days or until the concrete attains a compressive strength of 3,000 psi. Admixtures for curing or temperature control shall be used only as permitted or directed. The admixtures shall not be considered as a substitute for any specified curing requirement.
- C. Any concrete pavement damaged before final acceptance, including damage by frost action, shall be repaired to the satisfaction of the Engineer or removed and replaced at the Contractor's sole expense.

### **3.12 OPENING TO TRAFFIC**

- A. Newly constructed pavement shall not be opened to Contractor or public traffic until the concrete has attained a compressive strength of 3,000 psi, as determined by breaking test cylinders cured in the field in a manner that replicates as closely as possible the curing conditions of the pavement. In addition to the strength requirements, the newly constructed concrete pavement shall not be opened to any traffic until all joints have been sealed unless permission is granted by the Engineer. The Contractor shall erect and maintain suitable barricades and lights to protect the pavement from traffic. Any part of the pavement damaged from traffic or other causes occurring prior to the acceptance of the pavement shall be repaired to the satisfaction of the Engineer at the Contractor's sole expense.

### **3.13 FIELD QUALITY CONTROL**

- A. Perform field inspection and testing in accordance with Section 01 4000.
- B. An independent testing agency will perform field quality control tests.
  - 1. Provide free access to concrete operations at project site and cooperate with appointed firm.
  - 2. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.
  - 3. Tests of concrete and concrete materials may be performed at any time to ensure compliance with specified requirements.
- C. Compressive Strength Tests: ASTM C39/C39M; for each test, mold and cure three concrete test cylinders. Obtain test samples for every 75 cu yd or less of each class of concrete placed.
  - 1. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.
- D. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.
- E. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to Owner.

**END OF SECTION**



**SECTION 32 1723.13**  
**PAINTED PAVEMENT MARKINGS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Parking lot markings, including parking bays and accessible symbols.
- B. Basketball court markings.

**1.02 RELATED REQUIREMENTS**

- A. Section 32 1216 - Asphalt Paving.
- B. Section 32 1313 - Concrete Paving.

**1.03 UNIT PRICES**

- A. 4" Parking Lot Striping: Paid at contract unit price per lineal foot installed.
- B. 2" Basketball Court Striping: Paid at the contract per lineal foot installed.

**1.04 REFERENCE STANDARDS**

- A. FHWA MUTCD - Manual on Uniform Traffic Control Devices for Streets and Highways; U.S. Department of Transportation, Federal Highway Administration; Current Edition.

**1.05 SUBMITTALS**

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
- B. Certificates: Submit for each batch of paint and glass beads stating compliance with specified requirements.

**1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

**1.07 FIELD CONDITIONS**

- A. Do not install products under environmental conditions outside manufacturer's absolute limits.

**PART 2 PRODUCTS**

**2.01 MATERIALS**

- A. Line and Zone Marking Paint: MPI No. 97 Latex Traffic Marking Paint; color(s) as indicated.
  - 1. Parking Lots: Yellow.
  - 2. Accessible Symbols: Blue.
  - 3. Basketball Court Markings: 2" width, black in color.

**PART 3 EXECUTION**

**3.01 EXAMINATION**

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Owner's Representative of unsatisfactory preparation before proceeding.

**3.02 PREPARATION**

- A. Allow new pavement surfaces to cure for a period of not less than 14 days before application of marking materials.

- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Obliteration of existing markings using paint is acceptable in lieu of removal; apply the black paint in as many coats as necessary to completely obliterate the existing markings.
- D. Clean surfaces thoroughly prior to installation.
  - 1. Remove dust, dirt, and other granular surface deposits by sweeping, blowing with compressed air, rinsing with water, or a combination of these methods.
  - 2. Completely remove rubber deposits, existing paint markings, and other coatings adhering to the pavement, by scraping, wire brushing, sandblasting, mechanical abrasion, or approved chemicals.
  - 3. Sandblasting: Use equipment of size and capacity necessary, providing not less than 150 cfm of air at pressure not less than 90 psi at each nozzle used.
- E. Where oil or grease are present, scrub affected areas with several applications of trisodium phosphate solution or other approved detergent or degreaser, and rinse thoroughly after each application; after cleaning, seal oil-soaked areas with cut shellac to prevent bleeding through the new paint.
- F. Establish survey control points to determine locations and dimensions of markings; provide templates to control paint application by type and color at necessary intervals.

### **3.03 INSTALLATION**

- A. Begin pavement marking as soon as practicable after surface has been cleaned and dried.
- B. Do not apply paint if temperature of surface to be painted or the atmosphere is less than 50 degrees F or more than 95 degrees F.
- C. Apply in accordance with manufacturer's instructions using an experienced technician that is thoroughly familiar with equipment, materials, and marking layouts.
- D. Comply with FHWA MUTCD manual (<http://mutcd.fhwa.dot.gov>) for details not shown.
- E. Apply markings in locations determined by measurement from survey control points; preserve control points until after markings have been accepted.
- F. Apply uniformly painted markings of color(s), lengths, and widths as indicated on the drawings with true, sharp edges and ends.
  - 1. Apply paint at a rate of 400 lineal feet of 4" pavement marking per 1 gallon of paint.
  - 2. Apply paint in one coat only.
  - 3. Wet Film Thickness: 0.015 inch, minimum.
  - 4. Length Tolerance: Plus or minus 1 inch.
  - 5. Width Tolerance: Plus or minus 1/8 inch.
- G. Parking Lots: Apply parking space lines, entrance and exit arrows, painted curbs, and other markings indicated on drawings.
  - 1. Mark the International Accessible Symbol at indicated parking spaces.
  - 2. Hand application by pneumatic spray is acceptable.
- H. Symbols: Use a suitable template that will provide a pavement marking with true, sharp edges and ends, of the design and size indicated.

### **3.04 DRYING, PROTECTION, AND REPLACEMENT**

- A. Protect newly painted markings so that paint is not picked up by tires, smeared, or tracked.
- B. Provide barricades, warning signs, and flags as necessary to prevent traffic crossing newly painted markings.
- C. Allow paint to dry at least the minimum time specified by the applicable paint standard and not less than that recommended by the manufacturer.
- D. Remove and replace markings that are applied at less than minimum material rates; deviate from true alignment; exceed length and width tolerances; or show light spots, smears, or other

deficiencies or irregularities.

- E. Remove markings in manner to avoid damage to the surface to which the marking was applied, using carefully controlled sand blasting, approved grinding equipment, or other approved method.
- F. Replace removed markings at no additional cost to Owner.

**END OF SECTION**

**SECTION 32 1726**  
**TACTILE WARNING SURFACING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Cast Iron tactile and detectable warning tiles for pedestrian walking surfaces.

**1.02 RELATED REQUIREMENTS**

- A. Section 32 1313 - Concrete Paving: Concrete sidewalks.

**1.03 UNIT PRICES**

- A. ADA Detectable Warning Panel (Cast Iron): Paid for at the contract unit price per square foot, delivered and installed.

**1.04 REFERENCE STANDARDS**

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- B. ASTM A48/A48M - Standard Specification for Gray Iron Castings; 2003 (Reapproved 2012).

**1.05 SUBMITTALS**

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit manufacturer's product data, standard details, details specific to this project; written installation and maintenance instructions.
- C. Manufacturer's Qualification Statement.
- D. Warranty: Submit manufacturer warranty; complete forms in Owner's name and register with manufacturer.

**1.06 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than five years documented experience.

**1.07 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver to project site in manufacturer's protective wrapping and in manufacturer's unopened packaging.
- B. Store covered and elevated above grade and in manufacturer's unopened packaging until ready for installation. Maintain at ambient temperature between 40 and 90 degrees F.

**1.08 WARRANTY**

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Cast Iron Tiles: Provide manufacturer's standard ten year warranty against manufacturing defects, breakage or deformation.

**PART 2 PRODUCTS**

**2.01 MANUFACTURERS**

- A. Cast Iron Detectable Warning Plates:
  - 1. EJ: [www.ejco.com/#sle](http://www.ejco.com/#sle).
  - 2. Neenah Foundry, a division of Neenah Enterprises, Inc: [www.nfco.com/#sle](http://www.nfco.com/#sle).

**2.02 TACTILE AND DETECTABLE WARNING DEVICES**

- A. Cast Iron Detectable Warning Plates:
  - 1. Material: Cast gray iron; ASTM A48/A48M, Class 30 A (minimum).
  - 2. Installation Method: Cast in place.
  - 3. Shape: Rectangular.

4. Pattern: Truncated cones in compliance with ADA Standards.
5. Joint: Manufacturer standard, bolted connection.
6. Finish: Manufacturer's factory-applied powder coat.

### **2.03 ACCESSORIES**

- A. Fasteners: ASTM A666, Type 304 stainless steel
  1. Type: Countersunk, color matched composite sleeve anchors
  2. Size: 1/4 inch diameter and 1-1/2 inches long.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. When installation location is near site boundary or property line, verify required location using property survey.
- B. Verify that work area is ready to receive work:
  1. If existing conditions are not as required to properly complete the work of this section, notify Owner's Representative.
  2. Do not proceed with installation until deficiencies in existing conditions have been corrected.
- C. Verify that dimensions, tolerances, and attachment methods for work in this section are properly coordinated with other work on site.

### **3.02 INSTALLATION, GENERAL**

- A. Install in accordance with manufacturer's written instructions.
  1. Do not install damaged, warped, bowed, dented, abraded, or otherwise defective units.
  2. Do not install when ambient or substrate temperature has been below 40 degrees F during the preceding 8 daylight hours.
- B. Field Adjustment:
  1. Locate relative to curb line in compliance with ATBCB PROWAG, Sections 304 and 305.
  2. Orient so dome pattern is aligned with the direction of ramp.
- C. Install units fully seated to substrate, square to straight edges and flat to required slope.

### **3.03 INSTALLATION - CAST IN PLACE, CAST IRON PLATES**

- A. Install by method described in manufacturer's written instructions.
- B. Place units into wet concrete.
- C. Press assembly into concrete to achieve final elevation.
- D. Finish concrete adjacent to plate. Remove wet concrete spilled onto plate surface.

### **3.04 PROTECTION**

- A. Protect installed units from traffic, subsequent construction operations or other imposed loads until concrete is fully cured.
- B. Touch-up, repair or replace damaged products prior to Date of Substantial Completion.

**END OF SECTION**

## SECTION 32 3110

### SIGNING

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Signs.
- B. Posts.
- C. Hardware.

##### 1.02 RELATED REQUIREMENTS

- A. All site signage will meet the current edition of the Manual of Uniform Traffic Control Devices, published by the FHWA.
- B. All sign faces shall be according to detail drawings and the alphabets shown in the MUTCD, Standard Highway signs, and Standard Alphabets, published by FHWA.
- C. Section 01 3000 - Administrative Requirements: Submittal procedures, project meetings, progress schedules and documentation, reports, coordination.
- D. Section 01 7800 - Closeout Submittals: Project record documents, operation and maintenance (O&M) data, warranties and bonds.

##### 1.03 UNIT PRICES

- A. Accessible Sign: Paid at the contract unit price per each delivered and installed and includes the sign, post, anchor, hardware and labor.
- B. Install Salvaged Sign: Paid at the contract unit price per each salvaged sign installed and includes the sign, post, anchor, hardware and labor.

##### 1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Project Record Documents: Record actual locations of site signage installed.

##### 1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

##### 1.06 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

#### PART 2 PRODUCTS

##### 2.01 MATERIALS

- A. Flat Sheet Aluminum:
  - 1. ASTM B 209 Alloy 6061 T6 or 5052-H38 with mill finish.
    - a. Thickness
      - 1) equal to or less than 24" width: 80 guage.
      - 2) greater than 24" width: 100 gauge.
      - 3) 30" Stop Signs: 80 Gauge.
  - 2. Mounting Holes: 3/8" diameter to fit 3/8" bolt.
- B. Hardware, Fittings and Posts:
  - 1. All Steel bolts, nuts, U-bolts, lock washers and washers shall be galvanizes tell meeting ASTM A153.
    - a. Bolts: 3/8" diameter steel panel bolts, machine bolts, etc., shall meet SAE J429 Grade 5 or ASTM A449.
    - b. Nuts: Steel hex nuts shall meet SAE J995 Grade 5 or ASTM A563.

- c. Washers: Steel flat washers shall be fabricated of steel meeting ASTM F844.
- 2. Posts:
  - a. Telespar 12 gauge brand.
  - b. Vertical Clearance (ground to bottom of sign)
    - 1) Single Sign: 7 feet
    - 2) Double Sign: 6 feet
  - c. Anchor Posts:
    - 1) Length: 4 feet.
- 3. Post Sleeves:
  - a. 18" Omni-Directional Sleeve or approved equal.

### **PART 3 EXECUTION**

#### **3.01 INSTALLATION**

- A. Each sign shall be located according to the plans or adjusted with the Engineer's approval. Installed signs will be inspected at night for maximum effect. If any sign is ineffective at night, the sign shall be replaced at the Contractor's expense.
- B. All sign fabrication, packaging, labeling, handling, and shipping shall follow the latest version of the NDDOT Standard Specifications for Road and Bridge Construction.
- C. Anchors and Anchor Sleeves for telescoping perforated tube supports shall be driven. The perforated tube anchor and sleeve shall be driven to a height of 5-6 inches above the ground. Anchors and sleeves shall be installed per the detail.

**END OF SECTION**

## SECTION 32 3119

### DECORATIVE METAL FENCES AND GATES

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Decorative steel fences.

##### 1.02 RELATED REQUIREMENTS

- A. Section 31 2316 - Excavation.
- B. Section 32 13 13 - Concrete Paving.

##### 1.03 UNIT PRICES

- A. 4' High Fence: Paid at contract unit price per lineal foot, delivered and installed.

##### 1.04 REFERENCE STANDARDS

- A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
- B. ASTM B117 - Standard Practice for Operating Salt Spray (Fog) Apparatus; 2019.
- C. ASTM D523 - Standard Test Method for Specular Gloss; 2014 (Reapproved 2018).
- D. ASTM D714 - Standard Test Method for Evaluating Degree of Blistering of Paints; 2002 (Reapproved 2017).
- E. ASTM D822/D822M - Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings; 2013 (Reapproved 2018).
- F. ASTM D1654 - Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments; 2008, with Editorial Revision (2017).
- G. ASTM D2244 - Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates; 2023.
- H. ASTM D2794 - Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact); 1993 (Reapproved 2024).
- I. ASTM D3359 - Standard Test Methods for Rating Adhesion by Tape Test; 2023.
- J. ASTM F2408 - Standard Specification for Ornamental Fences Employing Galvanized Steel Tubular Pickets; 2016 (Reapproved 2023).

##### 1.05 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to start of work of this section; require attendance by affected installers.

##### 1.06 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
- C. Shop Drawings:
  - 1. Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, gates, and schedule of components.
- D. Manufacturer's Warranty:
  - 1. All structural fence components (i.e. rails, pickets, and posts) shall be warranted within specified limitations, by the manufacturer for a period of 20 years from date of original



purchase. Warranty shall cover any defects in material finish, including cracking, peeling, chipping, blistering or corroding.

2. Reimbursement for labor necessary to restore or replace components that have been found to be defective under the terms of manufacturer's warranty shall be guaranteed for five (5) years from date of original purchase.

### **1.07 QUALITY ASSURANCE**

- A. Installer Qualifications: Experienced with type of construction involved and materials and techniques specified and approved by fence manufacturer.

### **1.08 DELIVERY, STORAGE AND HANDLING**

- A. Store materials in a manner to ensure proper ventilation and drainage. Protect against damage, weather, vandalism and theft.

## **PART 2 PRODUCTS**

### **2.01 MANUFACTURERS**

- A. Decorative Metal Fences and Gates:
  1. Ameristar Perimeter Security, USA: [www.ameristarperimeter.com/#sle](http://www.ameristarperimeter.com/#sle).
    - a. Wireworks Plus Panel
  2. Or approved equal.

## **PART 3 EXECUTION**

### **3.01 INSTALLATION**

- A. Install in accordance with manufacturer's instructions.
- B. Set fence posts in accordance with the manufacturer recommended spacing.

### **3.02 CLEANING**

- A. Clean jobsite of excess materials; scatter excess material from post hole excavations uniformly away from posts. Remove excess material if required.
- B. Clean fence with mild household detergent and clean water rinse well.

### **3.03 CLOSEOUT ACTIVITIES**

- A. See Section 01 7800 - Closeout Submittals, for closeout submittals.

### **3.04 PROTECTION**

- A. Protect installed products until completion of project.

**END OF SECTION**

**SECTION 32 3120**  
**ATHLETIC FIELD EQUIPMENT**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Basketball Standards.
- B. Plinko Ball Standards.

**1.02 REFERENCES**

- A. Federation of State High School Associations, Rules and Regulations.

**1.03 RELATED SECTIONS**

- A. Section 32 1313 - Concrete Paving.

**1.04 UNIT PRICES**

- A. Basketball Standards: Paid at contract unit price per each, delivered and installed.
- B. Plinko Ball Standards: Paid at contract unit price per each, delivered and installed.
- C. Concrete Footings: Incidental to the installation of the Basketball and Plinko Ball Standards and not paid for directly.

**1.05 SUBMITTALS**

- A. Submit name of basketball standard manufacturer and supplier.
- B. Submit Shop Drawings of basketball standard.
- C. See Section 01 3000 - Administrative Requirements, for submittal procedures.

**PART 2 PRODUCTS**

**2.01 BASKETBALL STANDARD**

- A. Bison Inc. 5-9/16" Mega-Duty Playground System PR77 Package or approved equal.
  - 1. Pole: 5-9/16" O.D., hot dip galvanized steel pipe
  - 2. Footing Depth: As detailed on plans.
  - 3. Backboard: 42"x60", Safety rolled Edges, 12 gauge steel skin, graffiti resistant powder coated finish.
  - 4. Play Safe Area: 72" Minimum.
- B. Patterson Williams Basketball System
  - 1. Model 1527G.
  - 2. Footing Depth: As detailed on the plans.
  - 3. Backboard: 42"x60", Safety rolled edges, 12 gauge steel skin, graffiti resistant powder coated finish.
  - 4. Play Safe Area: 72" Minimum.
- C. Approved Equal.

**PART 3 EXECUTION**

**3.01 GENERAL**

- A. Install basketball standards as per manufacturer's recommendations.
- B. Install plinko ball standards as per manufacturer's recommendations.

**END OF SECTION**

**SECTION 32 3125  
PARK STRUCTURES & EQUIPMENT**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Park Benches.

**1.02 RELATED SECTIONS**

- A. Section 32 1313 - Concrete Paving.

**1.03 UNIT PRICES**

- A. Playground Bench: Paid at contract unit price per each, delivered and installed.
- B. Install Salvaged Bench: Paid at contract unit price per each salvaged bench installed.

**1.04 SUBMITTALS**

- A. Submit name of park bench manufacturer and supplier.
- B. Submit Shop Drawings of park bench.
- C. See Section 01 3000 - Administrative Requirements, for submittal procedures.

**PART 2 PRODUCTS**

**2.01 PLAYGROUND BENCHES**

- A. Playground Bench
  - 1. Dimensions: 6' bench length.
  - 2. Style: Perforated
  - 3. Color: Determined by owner.
  - 4. Back rest.
  - 5. Surface mounted to concrete.
- B. Approved Manufacturers
  - 1. Wabash Valley - Model No. PP300(P).
  - 2. Webcoat, Inc. - B6WBPERSM.
  - 3. Ultra Site - Model #940SM-PR6.
  - 4. Or approved equal.

**PART 3 EXECUTION**

**3.01 GENERAL**

- A. Install benches as per the manufacturer's recommendations.

**END OF SECTION**

## SECTION 32 9219

### SEEDING

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Preparation of subsoil.
- B. Placing topsoil.
- C. Seeding, mulching and fertilizer.

##### 1.02 RELATED REQUIREMENTS

- A. Section 01 5713 - Erosion Control.
- B. Section 31 2200 - Site Grading: Preparation of subsoil and placement of topsoil in preparation for the work of this section.

##### 1.03 UNIT PRICES

- A. Seeding w/ Hydro-Mulch: Paid for at the contract unit price per lump sum, that includes preparing the earth bed, placing seed, and hydro mulching.
- B. 4" Landscape Rock: Paid for at the contract unit price per square yard, delivered and installed.

##### 1.04 DEFINITIONS

- A. Weeds: Include Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

##### 1.05 REGULATORY REQUIREMENTS

- A. Comply with regulatory agencies for fertilizer and herbicide composition.
- B. Provide certificate of compliance from authority having jurisdiction indicating approval of seed mixture.

##### 1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable. Deliver seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging, and location of packaging.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

#### PART 2 PRODUCTS

##### 2.01 SEED MIXTURE

- A. Seed: Shall be labeled in accordance with USDA Rules and Regulations under The Federal Seed Act. Wet, moldy, or otherwise damaged seed will not be accepted. Weed seed not to exceed 0.5% of total mixture. Mixture requirements as follows:
- B. Typical Park Seed Mixture: Fescue Mix
  - 1. Chewing Fescue:
    - a. 29.7% by Weight.
  - 2. Creeping Red Fescue:
    - a. 29.1% by Weight.
  - 3. Hard Fescue:
    - a. 19.8% by Weight.
  - 4. Sheep Fescue:
    - a. 19.6% by Weight.

- 5. Crop Seed:
  - a. 0.12% by Weight.
- 6. Inert:
  - a. 1.57% by Weight.
- 7. Weed:
  - a. 0.11% by Weight.
- C. Rate of Seeding = 260 pounds per Acre.

**2.02 ROSE CREEK GOLF COURSE SEED MIXTURE**

- A. Seed: Shall be labeled in accordance with USDA Rules and Regulations under The Federal Seed Act. Wet, moldy, or otherwise damaged seed will not be accepted. Weed seed not to exceed 0.5% of total mixture. Mixture requirements as follows:
- B. Rivards - Premium Sunny Lawn Mix or approved equal.
- C. Rate of Seeding = per manufacturers instructions.

**2.03 SOIL MATERIALS**

- A. Topsoil: Excavated from site and free of weeds.

**2.04 ACCESSORIES**

- A. Mulching Material: Wood cellulose fiber, chip form, free of growth or germination inhibiting ingredients.
- B. Fertilizer: recommended for grass, with fifty percent of the elements derived from organic sources; of proportion necessary to eliminate any deficiencies of topsoil, to the following proportions:
  - 1. Nitrogen: 5 percent.
  - 2. Phosphoric Acid: 10 percent.
  - 3. Soluble Potash: 5 percent.
- C. Water: Clean, fresh and free of substances or matter that could inhibit vigorous growth of grass.

**PART 3 EXECUTION**

**3.01 EXAMINATION**

- A. Verify that prepared soil base is free of stones, sticks, roots, and other debris. Any debris shall be disposed of by the General Contractor at no additional cost to the Owner.

**3.02 PREPARATION**

- A. Prepare subgrade in accordance with Section 31 2200.
- B. Place topsoil in accordance with Section 31 2200.

**3.03 FERTILIZING**

- A. Apply fertilizer in accordance with manufacturer's instructions.
- B. Apply after smooth raking of topsoil and prior to roller compaction.
- C. Do not apply fertilizer at same time or with same machine as will be used to apply seed.
- D. Mix thoroughly into upper 2 inches of topsoil.
- E. Lightly water to aid the dissipation of fertilizer.

**3.04 SEEDING**

- A. Seeding: Soil shall be moist when seeding. Seed shall be mechanically sown with a drill or Brillion type seeder. Seed may be broadcast sown in small areas and covered 1/2 inch by a harrow or approved device. Apply seed uniformly at the specified rate for the mix.
- B. Apply seed evenly in two intersecting directions. Rake in lightly.
- C. Do not seed areas in excess of that which can be mulched on same day.

- D. Do not sow immediately following rain, when ground is too dry, on standing water, on frozen ground, or when wind exceeds 15 mph.
- E. Roll seeded area with roller not exceeding 112 lbs.
- F. Immediately following seeding and compacting, apply mulch to a thickness of 1/8 inches. Maintain clear of shrubs and trees.
- G. Apply water with a fine spray immediately after each area has been mulched. Saturate top 4 inches of soil.
- H. Following germination, immediately re-seed areas without germinated seeds that are larger than 4 by 4 inches.

**3.05 HYDRO MULCHING**

- A. Apply mulch slurry at a rate of 45 lbs per 1000 sq ft evenly in two intersecting directions. The mulch shall have a tacking and bonding agent to ensure lasting stabilization and reduce erosion potential. The tackifier shall be installed per manufacturer's recommendations.

**3.06 PROTECTION**

- A. The Contractor shall protect all seeded areas from traffic by placing warning signs or erecting barricades immediately after seeding is complete. Any damage that may occur prior to final acceptance by the Engineer shall be repaired to re-establish the conditions or grade of the soil prior to the damage and shall then be re-planted by the Contractor at no additional cost.
- B. Damaged or dead seeded areas shall be replaced at no expense to the Owner for a period of 1 year after final acceptance has been made.
- C. Cover seeded slopes where grade is 4 inches per foot or greater with erosion fabric. Roll fabric onto slopes without stretching or pulling.

**3.07 MAINTENANCE**

- A. Immediately upon completion of the seeding and mulching, the seeded areas shall be given sufficient watering to moisten the seedbed to a depth of 2 inches. Water shall be applied in a manner that provides uniform coverage and prevents erosion and damage to the final surface. The Contractor shall provide daily watering for the first five days and sufficient water to maintain surface moisture in the top 2 inches of the soil until such time as the grass (not cover crop) has been evenly established to a height of 2 inches.
- B. Immediately reseed areas that show bare spots.

**END OF SECTION**

**SECTION 33 0561**  
**CONCRETE MANHOLES**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Monolithic precast concrete manholes with transition to lid frame, covers, anchorage, and accessories.

**1.02 RELATED REQUIREMENTS**

- A. Section 31 2316.13 - Trenching.
- B. Section 31 2323 - Fill and Backfill.
- C. Section 33 4111 - Storm Sewer Piping.

**1.03 UNIT PRICES**

- A. 27" Storm Inlet: Paid at contract unit price per each, delivered and installed.
- B. Storm Inlet Casting & Grate: Incidental to the installation of the Storm Inlets and Manholes, and not paid for directly.
- C. General Backfill: Incidental to the installation of the Storm Inlets and Manholes, and not paid for directly.
- D. Aggregate Backfill: Incidental to the installation of the Storm Inlets and Manholes, and not paid for directly.
- E. Inlet Casting & Grates: Incidental to the installation of the Storm Inlets and Manholes, and not paid for directly.
- F. Adjusting Rings: Incidental to the installation of the Storm Inlets and Manholes, and not paid for directly.

**1.04 REFERENCE STANDARDS**

**1.05 SUBMITTALS**

- A. Shop Drawings: Indicate manhole locations, elevations, piping sizes, elevations of penetrations, and resilient rubber connectors.

**1.06 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

**1.07 FIELD CONDITIONS**

- A. Cold and Hot Weather Requirements: Comply with requirements of TMS 402/602 or applicable building code, whichever is more stringent.

**PART 3 EXECUTION**

**2.01 EXAMINATION**

- A. Verify items provided by other sections of work are properly sized and located.
- B. Verify that built-in items are in proper location, and ready for roughing into work.

**2.02 PREPARATION**

- A. Coordinate placement of inlet and outlet pipe or duct sleeves required by other sections.

**2.03 MANHOLES**

- A. Place manhole sections plumb and level, trim to correct elevations, anchor to base pad.
- B. Set cover frames and covers level without tipping, to correct elevations.

## **2.04 SCHEDULES**

- A. Storm Sewer Inlets and Manholes: Precast concrete sections, steps, inside dimension and depth indicated on plans.

**END OF SECTION**



**SECTION 33 4111**  
**STORM SEWER PIPING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

**1.02 RELATED REQUIREMENTS**

- A. Section 31 2316.13 - Trenching: Excavating, bedding, and backfilling.
- B. Section 33 0561 - Concrete Manholes.

**1.03 UNIT PRICES**

- A. 4" Storm Sewer Pipe: Paid at contract unit price per lineal foot delivered and installed.
- B. 8" Storm Sewer Pipe: Paid at contract unit price per lineal foot delivered and installed.
- C. 12" Storm Sewer Pipe: Paid at contract unit price per lineal foot delivered and installed.
- D. Aggregate Backfill: Incidental to the installation of the Storm Sewer Pipe, and not paid for directly.
- E. General Backfill: Incidental to the installation of the Storm Sewer Pipe, and not paid for directly.

**1.04 REFERENCE STANDARDS**

- A. AASHTO M 252 - Standard Specification for Corrugated Polyethylene Drainage Pipe; 2008
- B. AASHTO M294 - Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm Diameter; 2008
- C. ASTM C443 - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets; 2012.
- D. ASTM D2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications; 2014.
- E. ASTM D3034 - Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings; 2015.

**1.05 DEFINITIONS**

- A. Bedding: Fill placed under, beside and directly over pipe, prior to subsequent backfill operations.

**1.06 SUBMITTALS**

- A. Product Data: Provide data indicating pipe and pipe accessories .
- B. Manufacturer's Installation Instructions: Indicate special procedures required to install Products specified.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

**1.07 REGULATORY REQUIREMENTS**

- A. Conform to applicable code for materials and installation of the Work of this section.
- B. Coordinate the work with termination of storm sewer connection outside building, trenching, connection to foundation drainage system and municipal sewer utility service.

**PART 2 PRODUCTS**

**2.01 PIPE ACCESSORIES**

- A. Fittings: Same material as pipe molded or formed to suit pipe size and end design, in required tee, bends, elbows, cleanouts, reducers, traps and other configurations required.
- B. Concrete Manhole Connections:
  - 1. PVC: Sanded Manhole Adaptor, manufactured by GPK or approved equal.

2. Boot Connector: Z Lok STM Connector, manufactured by A Lok Products, Inc. or approved equal.

## **2.02 CATCH BASIN AND AREA DRAIN COMPONENTS**

- A. Lids and Drain Covers: Cast iron, hinged to cast iron frame.
  1. Catch Basin:
    - a. Lid Design: Checkerboard grill.
    - b. See plan detail.
- B. Shaft Construction and Concentric Cone Top Section: Reinforced precast concrete pipe sections, lipped male/female dry joints, nominal shaft diameter of 27 inches.
- C. Base Pad: Precast concrete, levelled top surface to receive concrete shaft sections, sleeved to receive storm sewer pipe sections.

## **2.03 BEDDING AND COVER MATERIALS**

- A. Bedding: As specified in Section 31 2316.13.
- B. Cover: As specified in Section 31 2316.13.

## **PART 3 EXECUTION**

### **3.01 INSTALLATION - CATCH BASINS, TRENCH DRAINS AND CLEANOUTS**

- A. Level top surface of base pad; sleeve concrete shaft sections to receive storm sewer pipe sections.

### **3.02 FIELD QUALITY CONTROL**

- A. Perform field inspection and testing in accordance with Section 01 4000.
- B. Testing will be provided by Owner.
- C. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to Owner.

### **3.03 PROTECTION**

- A. Protect pipe and bedding cover from damage or displacement until backfilling operation is in progress.

**END OF SECTION**