Oak Brook Park District

Central Park North Project

Bid Packet

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CENTRAL PARK NORTH PROJECT

INVITATION TO BID
OAK BROOK PARK DISTRICT
Central Park North Project

The Oak Brook Park District (the "District") is accepting bids for the Central Park North Project. ***This Project is being financed, in part, with funds from the Illinois Department of Natural Resources, "Open Space Lands Acquisition & Development" (OSLAD) grant program.***

Specifications and Contract Documents may be obtained beginning March 19, 2020 in PDF format at the District's website: https://www.obparks.org/bids-rfps. ***In order to receive any Addenda or other communication regarding this bid, all Bidders must acknowledge receipt of the Bid Documents upon downloading by sending an email Bob Johnson, Director of Parks and Planning, at bjohnson@obparks.org.***

Each bid must be placed in a sealed, opaque envelope with the Bidder's name, the date and time of the bid deadline and marked "Sealed Bid: – Oak Brook Park District Central Park North Project," and addressed to the Oak Brook Park District, 1450 Forest Gate Road, Oak Brook, IL 60523, Attention: Executive Director. **Bids will be received until 11:00 a.m. on April 9, 2020**, at which time the bid proposals will be publicly opened and read aloud at the District's Administrative Office, located at the District's Family Recreation Center, 1450 Forest Gate Road, Oak Brook, IL 60523.

A non-mandatory pre-bid meeting will be held on April 1, 2020 at 11:00 a.m. at the District's Family Recreation Center, 1450 Forest Gate Road, Oak Brook, IL 60523. All potential Bidders for this Project are encouraged to attend the pre-bid meeting.

The Oak Brook Park District Board of Park Commissioners reserves the right to waive all technicalities, to accept or reject any or all bids, to accept only portions of a proposal and reject the remainder without disclosure for any reason. Failure to make such a disclosure will not result in accrual of any right, claim or cause of action by any Bidder against the Oak Brook Park District.

Bids shall not include federal excise tax or state sales tax for materials and equipment to be incorporated in, or fully consumed in the performance of, the work. An Exemption Certificate will be furnished by the Oak Brook Park District on request of the Bidder, for use in connection with this project only.

The Work of this Project is subject to the Illinois *Prevailing Wage Act*, 820 ILCS 130/0.01 *et seq*. A prevailing wage determination has been made by the Illinois Department of Labor for public works projects in DuPage County. The Contract entered into for the Work will be drawn in compliance with said law and proposals should be prepared accordingly and provide for payment of all laborers, workmen, and mechanics needed to perform the Work at no less than the prevailing rate of wages (or the prevailing rate for legal holiday and overtime work) for each craft, type of worker, or mechanic.

All bid proposals must be accompanied by a bid bond or bank cashier's check payable to the Oak Brook Park District for ten percent (10%) of the amount of the bid as provided in the Instructions to Bidders. No proposals or bids will be considered unless accompanied by such bond or check.

The Contractor selected will also be required to comply with all applicable federal, state and local laws, rules, regulations and executive orders including but not limited to those pertaining to equal employment opportunity.

The District encourages women and minority business firms to submit bids and encourages bidders to utilize minority businesses for supplies, equipment, services and construction.

Laure Kosey, Executive Director
Oak Brook Park District

INSTRUCTIONS TO BIDDERS
OAK BROOK PARK DISTRICT
CENTRAL PARK NORTH PROJECT

INSTRUCTIONS TO BIDDERS

The Oak Brook Park District and Owner are one and the same. Owner's representative for this Project is Bob Johnson, who can be reached at bjohnson@obparks.org. "Architect" shall mean Upland Design Ltd. Architect's representative for this Project is Heath Wright, who can be reached at hwright@uplanddesign.com.

The words "Contractor" and "Bidder" shall mean the party bidding for or entering the Contract for the performance of the Work covered by the written Specifications and Drawings, and his/her legal representatives or authorized agents.

A. BID DOCUMENTS

1. Bid Documents for this Project will be available for examination commencing March 19, 2020. Bid Documents can be obtained in PDF format at the District's website: http://www.obparks.org/general_information/bid.asp. **In order to receive any Addenda or other communication regarding this bid, all Bidders must acknowledge receipt of the Bid Documents upon downloading by sending an email Bob Johnson, Director of Parks and Planning, at bjohnson@obparks.org.**

2. A non-mandatory pre-bid meeting will be held on April 1, 2020 at 11:00 a.m. at the District's Family Recreation Center, 1450 Forest Gate Road, Oak Brook, IL 60523. All potential Bidders for this Project are encouraged to attend the pre-bid meeting.

B. BID FORM

1. Each bid shall be made on the "Bid Form" furnished by the District. The Bid Form shall be executed properly and all writing, including all signatures, shall be with black ink. Failure to use the Bid Form provided could result in rejection of the bid.

2. All applicable blank spaces on the "Bid Form" shall be fully completed, including the List of Subcontractors and the Bidder's Reference List, and all amounts shall be in words as well as in figures where applicable.

3. The bid shall bear the legal name of the business organization. The signatures shall be in longhand and executed by a duly authorized official of the Bidder's organization and the name of the official and title shall be typed below the signature.

4. Erasures, interlineations, corrections, or other changes on the "Bid Form" shall be explained or noted over the signature of the Bidder. No bid submitted with deviations or reservations from the full contract called for will be considered.

5. Bidders' prices are to include the delivery of all materials; including plant, equipment, supplies, tools, scaffolding, transportation, insurances, bonds, warranties, and all other items and facilities, and the performance of all labor and services, necessary for the proper completion of the Work except as may be otherwise expressly provided in the Contract Documents. Bids shall not include federal excise tax or state sales tax for materials to be incorporated in, or totally consumed in the prosecution of, the Work. An exemption certificate will be furnished by the Park District upon request of the Bidder.

6. Bidder must acknowledge all Addenda received in the spaces provided on the Contractor Bid Form. By submitting a bid, Bidder indicates that all considerations issued by Addendum are incorporated in the bid.

7. Attached to the Bid Form will be one or more certifications regarding the Bidder's compliance with applicable laws. **Failure of a Bidder to complete/submit a required certification shall be the basis for immediate rejection of that Bidder's bid**. The certification of the successful Bidder shall become a part of the Contract with the Park District.

8. The bids shall be sealed in an opaque envelope, marked with the name of the Bidder, the date and time of the bid, and addressed as follows:

   Sealed Bid: Central Park North Project
   Oak Brook Park District
   1450 Forest Gate Road
   Oak Brook, IL 60523

9. **Bid documents shall be delivered or mailed in time for delivery to the foregoing address no later than April 9, 2020 at 11:00 a.m**. Oral bids or oral modifications to bids will not be considered. It is the sole responsibility of the Bidder to see that his bid is received in proper time. **No faxed or e-mail bid or modification of a bid will be considered**. The Park District is not responsible for the premature opening of bids not marked as required. Any bid opened prematurely due to the failure of the Bidder to mark the envelope in accordance with these Bid Documents will be considered non-responsive.

10. No bid can be withdrawn prior to the opening of the bids unless a written request for any such withdrawal, showing good cause for said withdrawal, is first delivered to the District at the foregoing address prior to commencement of the opening of bids. No Bidder may withdraw a bid after opening of the bids.

11. Bids will be publicly opened on the due date.

C. REQUIREMENTS OF BIDDERS

Bidders must be able to demonstrate that they: 1) have experience in performing and have successfully performed and are still actively engaged in performing work similar in kind and scope to the Work of the Project; and 2) are able to show that they have adequate laborers and materials to successfully complete the Work as indicated in the Bid Documents and within the time required by the Bid Documents. The Contractor shall not have been debarred or determined ineligible for public contracts by any governmental agency.

The following information must be attached to the bid proposal. Failure to do so may result in disqualification of the Bidder.

1. On a separate sheet, list all construction projects your organization has in progress, giving the name of the project, project description, project address, owner and telephone number, architect and telephone number, contract amount, percent complete, and scheduled completion date.

2. On the Bidder's Reference List form provided herein, list at least three (3) projects your organization has completed in the past five (5) years, which are comparable in scope, giving the name of the project, project description, project address, owner and telephone number.

3. On the List of Subcontractors form provided herein, provide a list of anticipated subcontractors, if any, including their firm names, addresses and telephone numbers. All subcontractors to be used shall be approved by the Owner. If the Contractor subcontracts any part of the Work for this project, the Contractor shall not under any circumstances be relieved of his liabilities and obligations; any subcontractor for this project will be recognized only in the capacity of an employee of the Contractor.

4. On a separate sheet, list all administrative proceedings and litigation filed by or against Bidder in the past five (5) years, including the name and case number, name/jurisdiction of the court or administrative agency, and a summary of each claim/case, including current status and if no longer pending, the disposition. The foregoing includes but is not limited to information regarding any proceedings and actions taken by any governmental agency to debar or disqualify the Bidder from bidding on public contracts, including the name of the agency initiating the proceeding/action, the nature of the proceeding/action, the claimed basis for the proceeding/action and the current status or disposition of the proceeding/action.

5. On a separate sheet, indicate all instances in which Bidder has been rejected for not being a responsible bidder, giving the name of the project, project description, project address, owner and telephone number, architect and telephone number, contract amount, and an explanation of the circumstances surrounding the rejection.

6. On a separate sheet, provide a list of all contracts to which you were a party and with respect to which you were declared to be in breach of one or more provisions, giving a the type of contract, the project location where applicable, the names and addresses of the parties to the contract, the name of the party declaring the breach, the nature of the claimed breach and current status or resolution of the claim. If a construction contract, also provide the name, address and telephone number of the architect and, if applicable also the construction manager or Owner's representative.

7. Other required submittals include: Bid Form; Contractor's Compliance and Certification Attachment. **Failure of a Bidder to complete/submit these documents shall be the basis for immediate rejection of that Bidder's bid**.

The Park District reserves the right to require of any Bidder such information to verify the Bidder's qualifications and financial status and to withhold formal signing of the contract until such information is received.

D. MODIFICATION OF BIDS

Any Bidder may modify his bid by written notice (signed by the Bidder) at any time prior to the scheduled closing time for receipt of bids, provided that such written notice is received by the District prior to the closing time. Modifications of bid submittals sent by facsimile will not be permitted.

E. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

Each Bidder shall visit the site(s) of the proposed Work and fully acquaint himself with conditions, as they exist, and shall undertake such additional inquiry and investigation as he shall deem necessary so that he may fully understand the requirements, facilities, possible difficulties and restrictions attending the execution of the Work under the Contract. Bidder shall thoroughly examine and be familiar with all of the Bid Documents including, but not limited to, the Drawings and the written Specifications. Any conflicts or discrepancies found between or among Bid Documents including, but not limited to, the Drawings and written Specifications and the site conditions, or any errors, omissions or ambiguities in the Drawings or written Specifications shall be immediately reported to the Park District and Architect and written clarification requested prior to submission of a bid.

The failure or omission of any Bidder to obtain, receive or examine any form, instrument, or information or to visit the Project site(s), and become knowledgeable with respect to conditions there existing, or to seek needed clarification shall in no way relieve any Bidder from any obligations with respect to his bid. By submitting a bid, the Bidder agrees, represents and warrants that he has undertaken such investigation as he deemed necessary, has examined the site(s) and the Bid Documents, has obtained all needed clarifications and where the Bid Documents indicate in any part of the Work, that a given result be produced, that the Bid Documents are adequate and the required result can be produced as indicated in the Specifications and Drawing(s). Once the award has been made, failure to have undertaken and completed the foregoing tasks shall not be cause to alter the original Contract or to request additional compensation.

F. ACCEPTANCE OR REJECTION OF BIDS

The Park District may accept the bid of, and award the contract for the Work to, the lowest responsive and responsible Bidder as determined by and in the sole discretion of the Park District.

The Owner reserves the right to (1) reject all bids; (2) reject only certain bids which are non-conforming or non-responsive to the bid requirements; (3) accept only a portion, part or specific items of Work of all and reject others, as the Owner shall in its sole discretion determine to be in its best interest; and/or (4) award the Contract to the responsible Bidder submitting the lowest bid responsive to the bidding requirements. No bid will be accepted from or Contract awarded to any person, firm or corporation that is in arrears or is in default to the Park District upon any debt or contract, or that is a defaulter, as surety or otherwise, upon any obligation to said Park District or that has failed to perform faithfully any previous contract with the Park District.

In the event of a rejection of a portion, part, or certain items of Work of all bids, the bid of each Bidder shall automatically be deemed reduced by the amount of such rejected part or item at the unit price or other cost designated therefore by that Bidder on its submitted Contractor Bid Form. The successful Bidder so selected may not refuse to enter into a Contract with the Owner on the basis that the Owner awarded a Contract for less than all portions or items of the Work specified in the Bid Documents. The Oak Brook Park District Board of Park Commissioners reserves the right

to waive any technicalities or irregularities, and to disregard any informality on the bids and bidding, when in its opinion the best interest of the Park District will be served by such actions and in accordance with applicable law.

G. SURETY

All bids must be accompanied by a bid bond or bank cashier's check payable to the Oak Brook Park District for ten percent (10%) of the amount of the bid and drawn on a responsive and responsible bank doing business in the United States. All bids not accompanied by a bid security, when required, will be rejected.

The bid security of all except the three (3) lowest responsive and responsible Bidders will be returned after the decision to accept or reject bids by the Oak Brook Park District Board of Park Commissioners. The bid security of the three (3) lowest responsible Bidders will be returned after acceptance by the Park District from the successful Bidder, an acceptable Performance Bond, Labor and Materials/Payment Bond and a certificate of insurance naming the Oak Brook Park District as the certificate holder and as additional insured, and the successful Bidder has executed and returned to the Park District the Contract for the Work presented by the Park District.

Prior to beginning Work, the successful Bidder shall furnish a Performance Bond, and Labor and Materials/Payment Bond in the amount of 110% of the Contract Sum, using a form similar to the AIA-A312-2010 form, or its current equivalent, or one acceptable to Owner, cosigned by a surety company licensed to conduct business in the State of Illinois and with at least an "A" rating and a financial rating of at least "X" in the latest edition of the Best Insurance Guide. Said bond shall guarantee the faithful performance of the Work in accordance with the Contract, the payment of all indebtedness incurred for labor and materials, and guarantee correction of Work. The cost of each bond shall be included in the Contract Sum. The Bidder and all Subcontractors shall name the Park District as an obligee on all bonds. Said bonds shall meet the requirements of the Illinois Public Construction Bond Act, 30 ILCS 550/0.01 *et seq.* and any further amendments thereto. Bidder shall include in its Performance Bond and Labor and Material Payment Bond such language as shall guarantee the faithful performance of the Prevailing Wage Act as required in these Bid Documents.

The Performance Bond and Labor and Material Payment Bond will become a part of the Contract. The failure of the successful Bidder to enter into the Contract and supply the required bonds and evidence of insurance within ten (10) days after the Contract is presented for signature, or within such extended period as the Park District may grant, shall constitute a default, and the Park District may either award the Contract to the next responsible Bidder, or re-advertise for bids. In the event of a default, the Owner need not return the defaulting Bidder's bid surety and may charge against the defaulting Bidder for the full difference between the amount for the bid and the amount for which a Contract for the Work is subsequently executed, irrespective of whether the amount thus due exceeds the amount of the defaulting Bidder's bid surety, provided that the District's retention of the bid guarantee shall not preclude the District from holding the Bidder fully liable for any and all damages which are in excess of said partial liquidated damages, and which shall otherwise be incurred by the District, including reasonable attorneys' fees, arising from the Bidder's failure to enter into said Contract and to deliver the same back to the District within said ten (10) day period.

H. WITHDRAWAL OF BID

Bidders may withdraw or cancel their bids at any time prior to the advertised bid opening time by signing and submitting a request for said withdrawal. After the bid opening time, no bid shall be withdrawn or canceled for a period of ninety (90) calendar days.

I. ACCEPTANCE AND CONTRACT

Owner will award the Contract to the lowest most responsible and responsive Bidder, as determined by Owner. In considering the Bidder's responsibility, the Owner may evaluate, among other factors, the ability of the Bidder to provide experienced labor sufficient in numbers to timely and properly complete the services, conformity with the Specifications, serviceability, quality, and the financial capability of the Bidder, and the performance of the Bidder on other projects.

The Owner shall have the right to accept Alternates in any order or combination, and to determine the low Bidder on the basis of the sum of the Base Bid and Alternates accepted or to award Alternates separately, to the Bidder providing the lowest responsible bid for the respective Alternate.

Bids will be awarded to one Bidder for the entire Project or to any series of Bidders for an appropriate proportion of the Project. If specified in the Bid Form, awards will be based upon the submitted unit prices.

The acceptance of a bid will be by a Notice of Award, signed by a duly authorized representative of the Park District; no other act by the Park District shall constitute the acceptance of a bid. The acceptance of a bid by the Park District shall bind the successful Bidder to execute and perform the Work of the Contract. The successful Bidder to whom the Contract is awarded by the Park District shall sign and deliver to the Park District for execution by the Park District all required copies of the Contract, along with all required insurance and surety documents within ten (10) days after presentation to him of the Contract for signature. In case the Bidder shall fail or neglect to do so, he will be considered as having abandoned the Contract, and as being in default to the Owner. The Owner may thereupon re-advertise or otherwise award said Contract and forfeit the Bid Security.

The Invitation to Bid, Instructions to Bidders, General Conditions, Supplementary and/or Special Conditions, if any, Drawings, Specifications, Contractor Bid Form, Addenda, if any, Contractor's Compliance and Certification Attachment and the Prevailing Wage Determination and Supersedes Notice comprise the Bid Documents. The Bid Documents, together with the Standard Form of Agreement Between Owner and Contractor, AIA Document A101-2017, as modified by the Park District and included in these Bid Documents, and the Performance Bond and Labor Material Payment Bond and proof of insurance comprise the Contract Documents.

J. INTERPRETATION OF THE CONTRACT DOCUMENTS

The Park District shall in all cases determine the amount or quantity of the several kinds of Work which are to be paid for under this Contract, and shall decide all questions which may arise relative to the execution of the Contract on the part of the Contractor, and all estimates and decisions shall be final and conclusive. The Park District shall have the right to make alterations in the lines, grades, plans, forms, or dimensions of the Work herein contemplated either before or after the commencement of the Work. If such alterations diminish the quantity of the Work to be done, they shall not constitute a claim for damage or for anticipated profits on the work dispensed with, or if they increase the amount of Work, such increase shall be paid according to the quantity actually

done and at the price or prices stipulated for such Work in the Contract. The Park District reserves the right to approve, an equal to or superior to product or equipment required under the Specifications, or to reject as not being and equal to or superior to the product or equipment required under the Specifications. If the Bidder is in doubt as to the interpretation of any part of the Bid Documents, or finds errors, discrepancies or omissions from any part of the Contract Documents, he must submit a written request for interpretation thereof not later than five (5) days prior to opening of bids to the Architect. Address all communications to Heath Wright at hwright@uplanddesign.com. If an error or omission is discovered in the Bid Documents after the bid opening, the Park District reserves the right: i) to determine whether to require the submission of new bids; or ii) if the error or omission is of such a nature that it was reasonably discoverable upon a careful review of the Bid Documents, to award the Contract to the lowest responsive and responsible Bidder as determined by the Park District and to require that Contractor to perform the Work in accordance with an issued correction by the Park District and for the amount bid by the Contractor. Such decisions are final and not subject to recourse. Errors and omissions made by the Bidder cannot be corrected after the bid opening.

K. ADDENDA

Any interpretation, correction to, or addition to the Bid Documents will be made by written Addendum and will be delivered by mail or fax to each prime Bidder of record. The written Addenda constitute the only interpretations of the Bid Documents; the Park District accepts no responsibility for any other claimed interpretations or communications.

It is the responsibility of each Bidder to verify that he has received all Addenda prior to submitting a bid. It is also the responsibility of each Bidder to verify that all subcontractors and material suppliers whose prices are incorporated in the Bidder's bid are familiar with the Bid Documents in their entirety, including all Addenda issued up to the time of bid opening.

In the event a conflict or omission is discovered in the Bid Documents after the issuing of the last Addendum such that an interpretation cannot be issued by the Park District prior to bidding, the Bidder is directed to estimate on and provide the quantity and quality of material and labor consistent with the overall represented and indicated Work so as to provide all materials, equipment, labor, and services necessary for the completion of the Work in accordance with the Bid Documents.

L. SUBSTITUTIONS DURING BIDDING

Unless otherwise indicated, the use of brand names in the Specifications is used for the purpose of establishing a grade or quality. Bidders proposing to use an alternate that is equal to or superior to in every respect to that required by the Specifications must request approval in writing to the Architect and Park District at least seven (7) business days prior to the bid opening and mark the item as 'or approved equal'.

Additionally, Bidders requesting approval for use of an alternate must provide certification by the manufacturer that the substitute proposed is equal to or superior in every respect to that required by the Contract Documents, and that its in-place performance will be equal to or superior to the product or equipment specified in the application indicated. The Bidder, in submitting the request for substitution, waives the right to additional payment or an extension of Contract Time because of the failure of the substitute to perform as represented in the request for substitution.

The Architect and the Park District may request additional information or documentation necessary for evaluation of the request for substitution. Bidders will be notified of acceptance of the proposed substitute by means of an Addendum to the Bid Documents. The approval of a substitute during bidding does not relieve the Contractor of the responsibility to submit required shop drawings and to comply with all other requirements of the Contract Documents, including but not limited to proper performance of all components of the Work and suitability for the uses specified.

Bids proposing alternates not previously approved by the Park District will be considered non-responsive and rejected. The Park District reserves the right to determine whether a substituted selection, in its judgment, is equal to or better quality and therefore an acceptable alternate. Such decisions are final and not subject to recourse.

CONDITIONS OF THE CONTRACT
OAK BROOK PARK DISTRICT
CENTRAL PARK NORTH PROJECT

GENERAL CONDITIONS

The General Conditions are the General Conditions of the Contract for Construction included in, AIA Document A201-2017, as modified by the Park District and included in these Bid Documents (the "General Conditions").

SUPPLEMENTARY CONDITIONS

The General Conditions are hereby amended to include the following conditions. In the event of conflict, the conditions most favorable to Owner shall control.

1. COMMENCEMENT AND COMPLETION DATE

The Work for the Contract shall commence no later than June 1, 2020, or on such earlier date upon notice from Owner, weather permitting. Contractor shall achieve Substantial Completion on or before September 30, 2020 and shall achieve Final Completion on or before October 30, 2020.

2. USE OF THE SITE

The Contractor shall confine all equipment, the storage of materials and the operations of its workers, to limits indicated by law, ordinances, permits, or directions of the Owner and shall not unreasonably encumber the site with such materials. The site shall not be utilized for the storage of vehicles, materials, equipment, or fixtures not intended for the Work to be performed.

3. COOPERATION WITH UTILITIES

The Contractor shall notify all utility companies, public and private, as necessary in advance of commencing performance of the Work. The responsibility for moving water lines, gas lines, wire lines, service connections, water and gas meter boxes, water and gas valve boxes, light standards, cable ways, signals and all other utility appurtenances which are within the limits of the proposed construction will be assumed by the Contractor, at no additional compensation.

The Contractor shall verify the location of all utilities prior to the start of construction and shall be responsible for the preservation of existing utility installation and the cost of providing precautionary supports, braces, etc. to insure against damage to said utility installation.

The cost to repair and replace any new or existing utilities damaged will be paid for by the Contractor. It is understood and agreed that the Contractor has considered in its bid all of the permanent and temporary utility appurtenances in their present or relocated positions and that no additional compensation will be allowed for delays, inconvenience, or damage sustained by the Contractor, due to any interference from the said utility appurtenances or the operation of moving them either by the utility company or by the Contractor, or on account of any special construction methods required in performing the Work due to the existence of said appurtenances whether in their present or relocated positions.

4. PROTECTION OF PROPERTY -SAFETY RESPONSIBILITY

In accordance with the Specifications, the Contractor shall protect all existing property and improvements within the Project site and those adjacent to the Owner's property in a manner agreed upon between the Owner and Contractor. The Contractor shall be responsible for the repair cost of any damage created by its operations or the operations of any subcontractors.

Contractor shall comply with State and Federal regulations as outlined in the latest revision of the Federal Construction Safety Standards and with applicable provisions and regulations of Occupation Safety and Health Administration (OSHA), Standards of the William-Steiger Occupational Health and Safety Act of 1970 (revised). The Contractor and Owner shall each be responsible for their respective agents and employees.

The Contractor shall be obligated to indemnify, hold harmless and protect the Owner, its officers, employees and agents, from any actions or suits instituted as a direct or indirect result of any injury or damage consequent upon any failure to use or misuse by the Contractor, its agents and employees and any subcontractor, its agents and employees, of any ladder, support or other mechanical contrivance erected or constructed by any person or any or all kinds of equipment whether or not Owner or furnished by the Owner.

5. INSURANCE

BIDDER'S ATTENTION IS DIRECTED TO THE INSURANCE REQUIREMENTS BELOW. IT IS HIGHLY RECOMMENDED THAT THE BIDDER CONFER WITH ITS INSURANCE CARRIER REGARDING THESE REQUIREMENTS. FAILURE TO MEET THESE REQUIREMENTS IS CAUSE FOR CANCELLATION OF THE CONTRACT.

The successful Bidder shall obtain insurance of the types and in the amounts listed below.

a. Commercial General and Umbrella Liability Insurance

The successful Bidder shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella insurance with a limit of not less than $2,000,000 each occurrence and $2,000,000 in the aggregate. If such CGL insurance contains a general aggregate limit, it shall apply separately to this project/location.

CGL insurance shall be written on Insurance Services Office (ISO) occurrence form CG 00 01 04 13, or a substitute form providing equivalent coverage, and shall cover liability arising from premises, operations, independent contractors, products-completed operations, personal injury and advertising injury, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract).

The District, its elected and appointed officials, employees, agents and volunteers and Architect shall be included as an additional named insured under the CGL, using ISO additional insured endorsement CG 20 26 or a substitute providing equivalent coverage, and under the commercial umbrella, if any.

This insurance shall apply as primary insurance with respect to any other insurance or self-insurance afforded to District and Architect. Any insurance or self-insurance maintained by the District and Architect shall be deemed excess or contingent basis of such Bidder's insurance and shall not contribute with it. The amount of the Contractor's liability under this insurance policy shall not be reduced by the existence of such other insurance.

b. Continuing Completed Operations Liability Insurance

Contractor shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella liability insurance with a limit of not less than $2,000,000 each occurrence for at least three years following substantial completion of the work.

Continuing CGL insurance shall be written on ISO occurrence form CG 00 01 10 93, or substitute form providing equivalent coverage, and shall, at minimum, cover liability arising from products-completed operations and liability assumed under an insured contract.

Continuing CGL insurance shall have a products-completed operations aggregate of at least two times its each occurrence limit.

Continuing commercial umbrella coverage, if any, shall include liability coverage for damage to the insured's completed work equivalent to that provided under ISO form CG 00 01.

c. Business Auto and Umbrella Liability Insurance

The successful Bidder shall maintain business auto liability and, if necessary, commercial umbrella liability insurance with a limit of not less than $1,000,000 each accident. Such insurance shall cover liability arising out of any auto including owned, hired and non-owned autos.

Business auto insurance shall be written on Insurance Services Office (ISO) form CA 00 01, CA 00 05, CA 00 12, CA 00 20, or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage equivalent to that provided in the 1990 and later editions of CA 00 01.

d. Workers Compensation Insurance

The successful Bidder shall maintain workers compensation and employers liability insurance. The commercial umbrella and/or employers liability limits shall not be less than $1,000,000 each accident for bodily injury by accident or $1,000,000 each employee for bodily injury by disease.

Such Bidder waives all rights against District and its officers, officials, employees, volunteers and agents for recovery of damages arising out of or incident to such Bidder's activities.

e. General Insurance Provisions

i. Evidence of Insurance: The successful Bidder shall furnish the District with a certificate(s) of insurance and applicable policy endorsement(s), executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements set forth above.

All certificates shall provide for 30 days' written notice to the District prior to the cancellation or material change of any insurance referred to therein. Written notice to the District shall be by certified mail, return receipt requested.

Failure of the District to demand such certificate, endorsement or other evidence of full compliance with these insurance requirements, or failure of the District to identify a coverage deficiency from evidence that is provided, shall not be construed as a waiver of such Bidder's obligation to maintain such insurance.

The District shall have the right, but not the obligation, of prohibiting such Bidder from entering the premises until such certificates or other evidence that insurance has been placed in complete compliance with these requirements is received and approved by District.

Failure to maintain the required insurance may result in termination of the Contract entered by the parties at the District's option.

Such Bidder shall provide certified copies of all insurance policies required above within 10 days of the District's written request for said copies.

ii. Acceptability of Insurers: All insurance companies shall maintain a rating no less than A-VII from A.M. Best, based on the most recent edition of the A.M. Best's Key Rating Guide. If the Best's rating is less than A-VII or a Best's rating is not obtained, the District has the right to reject insurance written by an insurer it deems unacceptable.

iii. Deductibles and Self-Insured Retentions: Any deductibles or self-insured retentions must be declared to the District. At the option of the District, the successful Bidder may be asked to eliminate such deductibles or self-insured retentions as respects the District, its officers, officials, employees, volunteers and agents, or such Bidder may be required to procure a bond guaranteeing payment of losses and other related costs, including, but not limited to, investigations, claims administration and defense expenses.

f. Subcontractors

Contractor shall cause each subcontractor employed by Contractor to purchase and maintain insurance of the type specified above. When requested by the Owner, Contractor shall furnish copies of certificates of insurance evidencing coverage for each subcontractor.

6. INDEMNIFICATION

To the fullest extent by law, the Contractor shall waive any right of contribution and shall indemnify and hold harmless the Owner, its officers, officials, employees, volunteers and agents, and the Architect and its employees and consultants from and against all claims, damages, losses and expenses, including, but not limited to attorneys' fees and economic or consequential damages, arising out of or resulting from or in connection with the performance of the Work, provided that any such claim, damage, loss or expense is caused in whole or in part by any intentional wrongful act or any negligent act or omission of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would exist as any party or person described in the Contract. In any and all claims against the Owner or Architect by any employee of the Contractor or any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this paragraph of the Contract shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefits acts. Claims, damages, losses and expenses' as these words are used in the Contract shall be construed to include, but not to limited to (1) injury or damage consequent upon the failure of or use or misuse by Contractor, its Subcontractors, agents, servants or employees, of any hoist, rigging, blocking, scaffolding or any and all other kinds of items of equipment, whether or not the same be owned, furnished or loaned by Owner; (2) all attorneys' fees and costs incurred in bringing an action to enforce the provisions of this indemnity or any other indemnity contained in the General Conditions, as modified by any Supplementary General Conditions; and (3) time expended by the party being indemnified and their employees, at their usual rates plus consists of travel, long distance telephone and reproduction of documents. Contractor shall similarly protect, indemnify and hold and save harmless the Owner, its officers, officials, employees, volunteers and agents against and from any and all claims, costs, causes, actions and expenses including but not limited to legal fees, incurred by reason of Contractor's breach of any of its obligations under, or Contractor's default of, any provision of the Contract.

Nothing contained herein shall be construed as prohibiting the Owner, its officers, employees or agents from defending, through the selection and use of their own agents, attorneys and experts, any claims, suits, demands, proceedings or actions brought against them. The Owner's participation in its defense shall not remove the successful Bidder's duty to indemnify, defend and hold the Owner harmless as set forth herein.

The indemnification required hereunder shall not be limited by reason of the enumeration of insurance coverage herein provided.

The successful Bidder's indemnification of the Owner shall survive the termination or expiration of the Contract.

7. WARRANTY

A. Unless otherwise specified by the General Conditions or the Specifications, the Work performed and the materials and equipment installed under this Contract shall be in compliance with the Contract Documents and must be guaranteed by the Contractor and the Surety for a period of twelve (12) months from Final Completion against defective

workmanship and material of any nature. On all material or equipment incorporated, the Contractor and its Surety must guarantee that the type, quality, design and performance will fully meet the requirements of the Specifications and Drawings.

B. The Contractor shall provide the Owner with manufacturer's warranties for all materials and equipment installed under the Contract.

8. **PAYMENT**

The Owner will pay the Contractor as follows and as more specifically as set forth in Article 5 of the Agreement and Article 9 of the General Conditions:

A. Progress Payments. Provided that an Application for Payment, which is in proper form and accompanied by required supporting documents and submittals, is received by the Architect not later than the first day of a month, certified for payment by the Architect and not subsequently nullified by the Owner in accordance with the Contract Documents, the Owner shall make payment of the amount certified to the Contractor not later than the thirtieth (30) day of the following month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than sixty (60) days after the Architect receives the Application for Payment in proper form and accompanied by required supporting documents and submittals and certifies payment to the Owner. Contractor is solely responsible for any delays in payment due in whole or in part to Contractor's failure to submit its payment application timely, in proper form and accompanied by all supporting documents and submittals required under the Contract.

B. Retainage. For each progress payment made prior to Substantial Completion of the Work, the Owner will withhold ten percent (10%) as retainage, from the payment otherwise due.

C. Final Payment. The Owner's final payment to the Contractor for Work properly performed shall be made in accordance with the Local Government Prompt Payment Act, 50 ILCS 505/1 *et seq*., after the Owner's receipt from the Architect of the Architect's final Certificate for Payment.

SPECIAL CONDITIONS

1. Central Park shall remain open to the public for the duration of the Project. As such, Contractor shall maintain the Project site in a manner that ensures safe access to the park's amenities by the public, Park District staff and others requiring access to the park. Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

2. Contractor shall complete all seeding and blanketing on or before September 30, 2020.

3. Time is of the essence to the Contract. Should the Contractor fail to complete the Work on or before the Substantial Completion date as stipulated in the Contract or within such extended time as may be have been allowed, the Contractor shall be liable and shall pay to the Owner the sum of $500.00 per calendar day, not as a penalty but as a liquidated damages for each day of overrun in the Contract Time or such extended time as may have been allowed. The liquidated damages for failure to complete the Contract on time are approximate, due to the impracticality

of calculating and proving actual delay costs. The costs of delay represented by the liquidated damage amount are understood to be a fair and reasonable estimate of the costs that will be borne by the Owner during extended and delayed performance by the Contractor for the Work. The liquidated damage amount specified will accrue and be assessed until Final Completion of the total physical Work of the Contract even though the Work may be substantially complete. The Owner will deduct these liquidated damages from any monies due or to become due to the Contractor from the Owner.

4. This Project is being financed, in part, with funds from the Illinois Department of Natural Resources, "Open Space Lands Acquisition & Development" (OSLAD) grant program. Based on the terms of the OSLAD grant, Owner must complete this Project on or before TBD and, as a result, Contractor hereby agrees and understands that Contractor's failure to meet the Substantial Completion and Final Completion Dates as specified in the Contract Documents shall be a material breach of this Agreement.

5. Contractor shall coordinate with Owner to accommodate the following as needed: a) IDNR representatives shall have access to the Project site to make periodic inspections as construction progresses; b) IDNR representatives shall have access to all Project materials; and c) IDNR shall have the right to inspect the completed Project prior to Project acceptance and grant reimbursement to the Owner.

6. Contractor shall provide all duly authorized State government representatives access to any documents, papers and records of the Contractor for the purpose of making audit, examination, excerpts and transcriptions.

BID FORM
OAK BROOK PARK DISTRICT
CENTRAL PARK NORTH PROJECT

(Please complete in ink, and print or type)

TO: Oak Brook Park District
1450 Forest Gate Road
Oak Brook, IL 60523

FROM: _____
NAME OF BIDDER

_____
STREET ADDRESS

_____
CITY STATE ZIP

_____ _____
PHONE EMAIL ADDRESS

FOR: Central Park North Project

By submission of its bid, the Bidder acknowledges, agrees, represents, declares and warrants:

A. That he has carefully examined the written Specifications and Drawings and is thoroughly familiar therewith, and that he has visited the site of the proposed Work to arrive at a clear understanding of the conditions under which the Work is to be done, and that he has compared the site with the Drawings and Specifications and has satisfied himself as to all conditions affecting the execution of the Work;

B. That all modifications have been submitted with this bid;

C. That he has checked carefully the bid figures and understands that he shall be responsible for any errors or omissions based on these Specifications and alternates as submitted on the Bid Proposal Form;

D. That it is understood and agreed that the Oak Brook Park District reserves the right to accept or reject any or all bids, or to combine or separate any section or work, and to waive any technicalities;

E. To hold the bid open for sixty (60) days subsequent to the date of the bid opening;

F. To enter into and execute a Contract with the Owner within ten (10) days after the date of the Notice of Award, if awarded on the basis of this bid, and in connection therewith to:
(a) Furnish all bonds and insurance required by the Contract Documents;
(b) Accomplish the Work in accordance with the Contract Documents; and
(c) Complete the Work within the time requirements as set forth in the Bid Documents.

G. That if this bid is accepted, the Bidder is to provide all of the necessary equipment, tools, apparatus, labor, and other means of construction, and to do all of the Work and to furnish all of the materials specified in the Bid Documents in the manner and at the time therein prescribed, and in accordance with the requirements set forth;

H. To commence Work as specified in the Instructions to Bidders, and to prosecute the Work in such a manner, and with sufficient materials, equipment and labor as will ensure its completion within reasonable time, it being understood and agreed that the completion within such reasonable time is an essential part of this Contract;

I. That any and all prices stated in the proposal include all costs of labor, materials, equipment, insurance, bonds, overhead and profit, and any and all other costs normal to doing business.

The undersigned Bidder agrees to perform the Work for the following lump sum price:

Base Bid	**Amount**
	$

Total Lump Sum Bid: _____

Add Alternate No. 1 – Permeable Pavers at Parking	**Amount**
Substitute permeable pavers in lieu of asphalt paving in parking lot.	$

Add Alternate No. 2- Electrical Service to Site	**Amount**
Provide electrical service to site including New Service, coordination, utility work, concrete pads, all wiring, electrical equipment for new service, primary electrical cabinet, meter cabinet 'F' and grounding. Exclude transformer and wiring upstream of the transformer which is by ComEd.	$

<u>This is a lump sum bid</u>. The Bidder is responsible for verifying all quantities and/or perform his or her own quantity take off of work items.

SCHEDULE OF UNIT COSTS:
Unit prices are for work to be performed on an as-needed basis only, as directed by the Owner. Such work may include additions, deletions, or other revisions to the scope of work. Each unit price must include all equipment, fuel, labor, materials, transportation, trucks, vehicles, and any/all other costs necessary to perform the work specified. Provide unit pricing for each item or service listed below.

Item	**Unit**	**Unit Cost**
Excavation and Relocation on Site	Cubic Yard	**$**
Excavation, Hauling and Disposal Off Site	Cubic Yard	**$**
Provide and Install Compacted Clay Backfill	Cubic Yard	**$**
Remove unsuitable material off site and replace with CA-1 or CA-3	Cubic Yard	**$**
Topsoil	Cubic Yard	**$**
Engineered Topsoil	Cubic Yard	**$**
Riprap, RR-4	Ton	**$**
Aggregate Base Course, CA-6	Ton	**$**
Aggregate, CA-7	Ton	**$**
Trench Backfill	Ton	**$**
Silt Fence	Linear Foot	**$**
Inlet Basket Filter	Each	**$**
Floating Silt Curtain	Linear Foot	**$**
Additional depth for well drilling deeper than 200’.	Linear Foot	**$**
HMA Pavement- Vehicular	Square Yard	**$**
HMA Pavement – Pedestrian	Square Yard	**$**
HMA Pavement – Basketball	Square Yard	**$**
Concrete Pavement – 5” depth	Square Yard	**$**
B6.12 Curb and Gutter	Linear Foot	**$**
Flush Curb	Linear Foot	**$**
Truncated Dome	Square Foot	**$**
Concrete Pavement – 5” depth	Square Foot	**$**
P.I.P. Rubber Surface (4’ fall height)	Square Foot	**$**
Pavers – Brussels XL	Square Foot	**$**
Heavy Duty Concrete Pavement-8” depth	Square Foot	**$**
Permeable Pavers	Square Foot	**$**

Wood Fence	Linear Foot	**$**
Light Pole & Fixture	Each	**$**
Electrical Wire to Light Pole	Linear Foot	**$**
Seed and Blanket	Square Foot	**$**
Tree Planting- Tree provided by owner	Each	**$**
Shrub Planting- Shrub provided by owner	Each	**$**
Perennial Planting- Perennial provided by owner	Each	**$**
PVC Storm Sewer Pipe- 12” diameter	Linear Foot	**$**
PVC Storm Sewer Pipe-15” diameter	Linear Foot	**$**
PVC Storm Sewer Pipe-18”diameter	Linear Foot	**$**
PVC Storm Sewer Pipe-21” diameter	Linear Foot	**$**
PVC Storm Sewer Pipe-24” diameter	Linear Foot	**$**
Manhole Type A, 4ft Diameter	Each	**$**
Catch Basin Type A	Each	**$**
Catch Basin Type C	Linear Foot	**$**
Underdrain Pipe, 4-inch Diameter Perforated	Linear Foot	**$**
Underdrain Cleanout	Each	**$**

The undersigned Bidder hereby acknowledges the receipt of the following addenda (if any) distributed by the Park District.

Addendum No. _____ Date:_____

Addendum No. _____ Date:_____

Addendum No. _____ Date:_____

Addendum No. _____ Date:_____

The Work for the Contract shall commence no later than June 1, 2020, or on such earlier date upon notice from Owner, weather permitting. Contractor shall achieve Substantial Completion on or before September 30, 2020 and shall achieve Final Completion on or before October 30, 2020.

The undersigned Bidder agrees that if this bid is accepted by the Park District, it will perform all Work in accordance with the requirements of the Contract.

DATED THIS _____ DAY OF _____, 2020.

_____
Full Name of Bidder (Print)

(a) Individual ( )
(b) Partnership ( )
(c) Corporation ( )

Name and Title of Authorized Agent
if Corporation or Partnership (Print): _____

_____
Full Name and Title of Bidder (Signature)

_____
Street Address

_____
City/State/Zip

_____ _____
Email Phone

LIST OF SUBCONTRACTORS

Bidder submits a list of subcontractors for each trade relative to the Work to be performed under the Contract with the District, and agrees that if selected the successful Contractor, the Bidder will promptly confer with the District's agents on the question of which subcontractors the Bidder proposes to use, including submission of their qualifications. It is agreed that the District may substitute for any proposed subcontractor, another subcontractor for the trade against whose standing and ability the Bidder makes no objection in writing, and the Bidder will use all such finally selected subcontractors at the amount named in their respective subcontracts, and be in every way responsible for them and their work as if they had been originally named in the Bidder's bid, the unit, total and alternate Contract prices being adjusted to confirm thereto.

Subcontractor Name & Address	Classification of Work	Amount of Subcontract
1.		
2.		
3.		
4.		

BIDDER'S REFERENCE LIST

Each Bidder must list the name, address, phone number and project name for at least three (3) projects performed for governmental entities of similar scope and complexity as this Project in the past five (5) years. Bidder may include, as a separate attachment, additional information or references on projects completed.

1. _____
Name of Park District, School District, or Municipality

_____
Contact Person

_____
Phone Number E-Mail

_____
Description of Work performed Project Value

2. _____
Name of Park District, School District, or Municipality

_____
Contact Person

_____
Phone Number E-Mail

_____
Description of Work performed Project Value

3. _____
Name of Park District, School District, Municipality

_____
Contact Person

_____
Phone Number E-Mail

_____
Description of Work performed Project Value

CONTRACTOR COMPLIANCE AND CERTIFICATIONS ATTACHMENT

Note: The following certifications form an integral part of the Agreement between the Owner and Contractor. Breach by Contractor of any of the certifications may result in immediate termination of the Contractor's services by Owner.

THE UNDERSIGNED CONTRACTOR HEREBY ACKNOWLEDGES, CERTIFIES, AFFIRMS AND AGREES AS FOLLOWS:

A. Contractor has carefully read and understands the contents, purpose and legal effect of this document as stated above and hereafter in this document. The certifications contained herein are true, complete and correct in all respects.

B. Contractor shall abide by and comply with, and in contracts which it has with all persons providing any of the services or Work on this Project on its behalf shall require compliance with, all applicable Federal, State and local laws and rules and regulations including without limitation those relating to 1) fair employment practices, affirmative action and prohibiting discrimination in employment; 2) workers' compensation; 3) workplace safety; 4) wages and claims of laborers, mechanics and other workers, agents, or servants in any manner employed in connection with contracts involving public funds or the development or construction of public works, buildings or facilities; and 5) steel products procurement.

C. All contracts for this Project are subject to the provisions of the Illinois Prevailing Wage Act (820 ILCS 130/0.01 *et seq.*), providing for the payment of the prevailing rate of wage to all laborers, workmen and mechanics engaged in the Work. Contractor shall pay prevailing rates of wages in accordance with the Illinois Department of Labor's wage determination and any subsequent determinations issued by the Illinois Department of Labor, all in accordance with applicable law. These revisions may be accessed by computer at http://labor.illinois.gov/. Contractor is responsible for determining the applicable prevailing wage rates at the time of bid submission and at the time of performance of the Work. Failure of Contractor to make such determination shall not relieve it of its obligations in accordance with the Contract Documents. Contractor shall also comply with all other requirements of the Act including without limitation those pertaining to inclusion of required language in subcontracts, job site posting, maintenance and submission of certified payroll records and inspection of records. Contractor is not barred from entering into public contracts under Section 11a of the Illinois Prevailing Wage Act due to its having been found to have disregarded its obligations under the Act.

D. To the best of Contractor's knowledge, no officer or employee of Contractor has been convicted of bribery or attempting to bribe an officer or employee of the State of Illinois, or any unit of local government, nor has any officer or employee made an admission of guilt of such conduct which is a matter of record.

E. Contractor is not barred from bidding on or entering into public contracts due to having been convicted of bid-rigging or bid rotating under paragraphs 33E-3 or 33E-4 of the Illinois Criminal Code. Contractor also certifies that no officers or employees of the Contractor have been so convicted and that Contractor is not the successor company or a new company created by the officers or owners of one so convicted. Contractor further certifies that any such conviction occurring after the date of this certification will be reported to the Owner, immediately in writing, if it occurs during the bidding process, or otherwise prior to entering into the Contract therewith.

F. Pursuant to the Illinois Human Rights Act (775 ILCS 5/2-105), Contractor has a written sexual harassment policy that includes, at a minimum, the following information: (i) a statement on the illegality of sexual harassment; (ii) the definition of sexual harassment under State law; (iii) a description of sexual harassment utilizing examples; (iv) the Contractor's internal complaint process including penalties; (v) the legal recourse, investigative and complaint process available through the Illinois Department of Human Rights and the Human Rights Commission and directions on how to contact both; and (vi) protection against retaliation as provided by Section 6-101 of the Illinois Human Rights Act. Contractor further certifies that such policy shall remain in full force and effect. A copy of the policy shall be provided to the Illinois Department of Human Rights upon request.

G. (i) Contractor's bid proposal was made without any connection or common interest in the profits anticipated to be derived from the Contract by Contractor with any other persons submitting any bid or proposal for the Contract; (ii) the Contract terms are in all respects fair and the Contract will be entered into by Contractor without collusion or fraud; (iii) no official, officer or employee of the Owner has any direct or indirect financial interest in Contractor's bid proposal or in Contractor, (iv) the Contractor has not directly or indirectly provided, and shall not directly or indirectly provide, funds or other consideration to any person or entity (including, but not limited to, the Owner and the Owner's employees and agents), to procure improperly special or unusual treatment with respect to this Agreement or for the purpose of otherwise improperly influencing the relationship between the Owner and the Contractor. Additionally, the Contractor shall cause all of its officers, directors, employees, (as the case may be) to comply with the restrictions contained in the preceding sentence.

H. Contractor knows and understands the Equal Employment Opportunity Clause administrated by the Illinois Department of Human Rights, which is incorporated herein by this reference, and agrees to comply with the provisions thereof. Contractor further certifies that Contractor is an "equal opportunity employer" as defined by Section 2000 (e) of Chapter 21, Title 42 of the United States Code Annotated and Executive Orders #11246 and #11375 as amended, which are incorporated herein by this reference.

I. Neither Contractor nor any substantially owned affiliated company is participating or shall participate in an international boycott in violation of the provisions of the U.S. Export Administration Act of 1979 or the regulations of the U.S. Department of Commerce promulgated under that Act.

J. Contractor is not barred from contracting with the Owner because of any delinquency in the payment of any tax administrated by the Illinois Department of Revenue, unless it is being contested. Contractor further certifies that it understands that making a false statement regarding delinquency in taxes is a Class A misdemeanor and, in addition, voids the Contract and allows the Owner, a municipal entity, to recover in a civil action all amounts paid to the Contractor.

K. If Contractor has 25 or more employees at the time of letting of the Contract, Contractor knows, understands and acknowledges its obligations under the Illinois Drug Free Workplace Act (30 ILCS 580/1 *et seq*.) and certifies that it will provide a drug-free workplace by taking the actions required under, and otherwise implementing on a continuing basis, Section 3 of the Drug Free Workplace Act. Contractor further certifies that it has not been debarred and is not ineligible for award of this Contract as the result of a violation of the Illinois Drug Free Workplace Act.

L. Contractor knows, understands and acknowledges its obligations under the Substance Abuse Prevention on Public Works Act, 820 ILCS 265/1 *et seq.* A true and complete copy of Contractor's

Substance Abuse Prevention Program Certification is attached to and made a part of this Contractor Compliance and Certification Attachment.

M. The Contractor shall comply with the requirements and provisions of the Freedom of Information Act (5 ILCS 140/1 *et. seq*.) and, upon request of the Oak Brook Park District's designated Freedom of Information Act Officer (FOIA Officer), Contractor shall within two (2) business days of said request, turn over to the FOIA Officer any record in the possession of the Contractor that is deemed a public record under FOIA.

N. The Contractor shall abide by the "Employment of Illinois Workers on Public Works Act" (30 ILCS 570/0.01 *et seq.*) which stipulates that whenever there is a period of excessive unemployment in Illinois, defined as any month immediately following two (2) consecutive calendar months during which the level of unemployment in Illinois exceeds five percent (5%) as measured by the U.S. Bureau of Labor Statistics in its monthly publication of employment and unemployment figures, the Contractor shall employ only Illinois laborers unless otherwise exempted as so stated in the Act. ("Illinois laborer" means any person who has resided in Illinois for at least 30 days and intends to become or remain an Illinois resident). Other laborers may be used if Illinois laborers are not available or are incapable of performing the particular type of work involved if so certified by the Contractor and approved Owner.

CONTRACTOR

By: _____
Its: _____

STATE OF _____)
)SS
COUNTY OF _____)

I, the undersigned, a notary public in and for the State and County, aforesaid, hereby certify that _____ appeared before me this day and, being first duly sworn on oath, acknowledged that he/she executed the foregoing instrument as his/her free act and deed and as the act and deed of the Contractor.

Dated:_____

_____
(Notary Public)

(SEAL)

SUBSTANCE ABUSE PREVENTION PROGRAM CERTIFICATION

The Substance Abuse Prevention on Public Works Projects Act, 820 ILCS 265/1 et seq., ("Act") prohibits any employee of the Contractor or any Subcontractor on a public works project to use, possess or be under the influence of a drug or alcohol, as those terms are defined in the Act, while performing work on the project. The Contractor/Subcontractor **[circle one],** by its undersigned representative, hereby certifies and represents to the Oak Brook Park District that **[Contractor/Subcontractor must complete either Part A or Part B below]**:

A. The Contractor/Subcontractor **[circle one]** has in place for all of its employees not covered by a collective bargaining agreement that deals with the subject of the Act a written substance abuse prevention program, a true and correct copy of which is attached to this certification, which meets or exceeds the requirements of the Substance Abuse Prevention on Public Works Act, 820 ILCS 265/*1 et seq.* **[Contractor/Subcontractor must attach a copy of its substance abuse prevention program to this Certification.]**

_____
Name of Contractor/Subcontractor (print or type)

_____
Name and Title of Authorized Representative (print or type)

_____ Dated: _____
Signature of Authorized Representative

B. The Contractor/Subcontractor **[circle one]** has one or more collective bargaining agreements in effect for all of its employees that deal with the subject matter of the Substance Abuse Prevention on Public Works Projects Act, 820 ILCS 265/1 *et seq.*

_____
Name of Contractor/Subcontractor (print or type)

_____
Name and Title of Authorized Representative (print or type)

_____ Dated: _____
Signature of Authorized Representative

IMPORTANT NOTICE OF RESPONSIBILITY FOR PERIODIC REVISIONS TO PREVAILING WAGE RATES

Revisions of the Prevailing Wage Rates are made periodically by the Illinois Department of Labor (IDOL). As required by the Illinois Prevailing Wage Act, the contractor/subcontractor has an obligation to check IDOL's web site for revisions to prevailing wage rates. These revisions may be accessed by computer at http://labor.illinois.gov/. Bidders and contractors performing work on this Project are responsible for determining the applicable prevailing wage rates at the time of bid submission and performance of the Work. Failure of a bidder/contractor to make such determination shall not relieve it of its obligations in accordance with the Contract Documents. In consideration for the award to it of the contract for this Project, the contractor agrees that the foregoing notice satisfies any obligation of the public body in charge of this Project to notify the contractor of periodic changes in the prevailing wage rates and the contractor agrees to assume and be solely responsible for, as a material obligation of the contractor under the contract, the obligation to determine periodic revisions of the prevailing wage rates, to notify its subcontractors of such revisions, to post such revisions as required for the posting of wage rates under the Act, and to pay and require its subcontractors to pay wages in accordance with such revised rates.

OWNER/CONTRACTOR AGREEMENT

AIA® Document A101™ – 2017

Standard Form of Agreement Between Owner and Contractor *where the basis of payment is a Stipulated Sum*

AGREEMENT made as of the day of in the year Two Thousand Twenty
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

Oak Brook Park District
1450 Forest Gate Road
Oak Brook, IL 60523

and the Contractor:
(Name, legal status, address and other information)

for the following Project:
(Name, location and detailed description)

Central Park North Project
1315 Kensington
Oak Brook, IL 60523

The Project includes_____, and all other incidental and collateral work necessary to properly complete the Project as indicated in the Contract Documents.

The Architect:
(Name, legal status, address and other information)

Upland Design Ltd.
24042 Lockport Street
Plainfield, IL 60544

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

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

The parties should complete A101™–2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201™–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

TABLE OF ARTICLES

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others. Prior to commencing the Work, the Contractor shall have obtained and provided to the Owner acceptable evidence of all licenses, permits, bonds and insurance indicated as being the Contractor's responsibility under the Contract Documents. Delay in the commencement of the Work attributable to the failure of the Contractor to have obtained and provided such evidence to the Owner shall not result in an extension of the date scheduled for Substantial Completion as provided in Section 3.3 below, or in any milestone date previously agreed to by the Parties in any Project Schedule.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:
(Check one of the following boxes.)

[ ] The date of this Agreement.

[ ] A date set forth in a notice to proceed issued by the Owner.

[X] Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

June 1, 2020

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:
(Check one of the following boxes and complete the necessary information.)

[ ] Not later than ( ) calendar days from the date of commencement of the Work.

[X] By the following date: September 30, 2020

Contractor shall complete all seeding and blanketing on or before September 30, 2020.

Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Final Completion of the entire Work:
(Check one of the following boxes and complete the necessary information.)

[ ] Not later than ( ) calendar days from the date of commencement of the Work.

[X] By the following date: October 30, 2020

§ 3.3.2
(Paragraphs deleted)
Reserved.
§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be /100 Dollars ($), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance

§ 4.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price
NA	

§ 4.4 Unit prices, if any:
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit ($0.00)

§ 4.5 Liquidated damages, if any:

(Insert terms and conditions for liquidated damages, if any.)

Time is of the essence to the Contract. Should the Contractor fail to complete the Work on or before the Substantial Completion date as stipulated in the Contract or within such extended time as may be have been allowed, the Contractor shall be liable and shall pay to the Owner the sum of $500.00 per calendar day, not as a penalty but as a liquidated damages for each day of overrun in the Contract Time or such extended time as may have been allowed. The liquidated damages for failure to complete the Contract on time are approximate, due to the impracticality of calculating and proving actual delay costs. The costs of delay represented by the liquidated damage amount are understood to be a fair and reasonable estimate of the costs that will be borne by the Owner during extended and delayed performance by the Contractor for the Work. The liquidated damage amount specified will accrue and be assessed until Final Completion of the total physical Work of the Contract even though the Work may be substantially complete. The Owner will deduct these liquidated damages from any monies due or to become due to the Contractor from the Owner.

§ 4.6 Other:
(Insert provisions, if any, that might result in a change to the Contract Sum.)

Overtime, if and when specifically authorized in writing in advance by the Owner shall be paid by the Owner on the basis of premium payment if any, plus the cost of insurance and taxes based on the premium payment period. No overhead or profit may be charged for overtime. The Contractor shall not be entitled to any payment for overtime necessitated by the failure of the Contractor to perform the Work in accordance with the Contract Documents including without limitation to the Contractor's failure to prosecute the Work diligently and on an uninterrupted basis and with a sufficient workforce so as to achieve completion of the Work within the time and in the manner contemplated by the Contract Documents, or otherwise due to the fault of the Contractor. In such instances if the Owner requires the Contractor to perform Work on an overtime basis, all costs for and associated with such overtime shall be borne by the Contractor.

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment properly completed and accompanied by all supporting documentation and other submittals required by the Contract Documents submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, and agreed to by Owner and not subsequently nullified by the Architect in accordance with the Contract Documents, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 5.1.3 Provided that an Application for Payment, which is in proper form and accompanied by required supporting documents and submittals, is received by the Architect not later than the 1st day of a month, certified for payment by the Architect and not subsequently nullified in accordance with the Contract Documents, the Owner shall make payment of the amount certified to the Contractor not later than the 30th day of the following month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than sixty (60) days after the Architect receives the Application for Payment in proper form and accompanied by required supporting documents and submittals and certifies payment to the Owner. Contractor is solely responsible for any delays in payment due in whole or in part to Contractor's failure to submit its payment application timely, in proper form and accompanied by all supporting documents and submittals required under the Contract.
(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such

data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201™–2017, General Conditions of the Contract for Construction, as modified by Owner, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

.1 That portion of the Contract Sum properly allocable to completed Work.

.2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and

.3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

.1 The aggregate of any amounts previously paid by the Owner;

.2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017, as modified by Owner;

.3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;

.4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017,as modified by Owner;

.5 Retainage withheld pursuant to Section 5.1.7; and

.6 Any other reduction authorized by the Contract Documents.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:
(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

Ten Percent (10%)

§ 5.1.7.1.1 The following items are not subject to retainage:
(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

NA

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:
(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

In accordance with Article 9 of the AIA Document A201™–2017, General Conditions of the Contract for Construction, as modified by Owner.

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:
(Insert any other conditions for release of retainage upon Substantial Completion.)

NA

§ 5.1.8 Reserved. **§ 5.1.9** Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

.1 the Contractor has fully performed the Contract in accordance with the Contract Documents; provided that Owner shall have no obligation to make final payment if the Contractor is required to correct Work as provided in Article 12 of AIA Document A201–2017, as modified by Owner, or as otherwise specified by the Contract Documents, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Architect and Owner has approved payment.

§ 5.2.2 The Owner's final payment to the Contractor for Work properly performed shall be made in accordance with the Local Government Prompt Payment Act, 50 ILCS 505/1 *et seq*., after the Owner's receipt from the Architect of the Architect's final Certificate for Payment

§ 5.3 Interest

Payments due and unpaid under the Contract shall bear interest only as provided in the Local Government Prompt Payment Act, 50 ILCS 505/1 *et seq*.

§ 5.4 Waiver Procedure/Format

The first Application for Payment shall be accompanied by the Contractor's Partial Waiver of Lien to date for the full amount of the payment. Each subsequent monthly payment application shall be accompanied by the Contractor's Partial Waiver of Lien and the Partial Waivers by of subcontractors and suppliers who were included in the immediately preceding payment application to the extent of that payment. The Application for Final Payment shall be accompanied by Final Waivers of lien from the Contractor, subcontractors, and suppliers who have not previously furnished such Final Waivers. Final Waivers shall be for the full amount of the Contract and the Final Waiver of a Subcontractor shall be for the full amount of its Subcontract. All applications for payment shall be accompanied by affidavits from the Contractor, in triplicate, containing such information and in such form to comply with the Illinois Mechanics Lien Act (770 ILCS 60/001 et seq.) and showing in detail the sources of all labor and materials used and contracted to be used on the Project, including names and addresses of subcontractors and materials suppliers; amounts paid and remaining to be paid to each; together with all other documents as shall be necessary, in the sole judgment of the Owner, to waive all claims of liens to date and comply with all applicable state and local laws.

(i) All waivers (partial and final) shall include language as applicable indicating either that:

1. All materials were taken from fully paid stock and delivered to job site in our own vehicles and all labor has been fully paid in accordance with prevailing wage laws; or

2. Materials were provided by the following suppliers from whom waivers of lien are attached and all labor has been fully paid in accordance with prevailing wage laws.

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker to the extent provided in Article 15 of AIA Document A201–2017, as amended by Owner, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.

(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201–2017, as modified by Owner, the method of binding dispute resolution shall be as follows:
(Check the appropriate box.)

[ ] Arbitration pursuant to Section 15.4 of AIA Document A201–2017

[ ] Litigation in a court of competent jurisdiction

[X] Other *(Specify)*

As provided in the AIA Document A201–2017, as amended by Owner.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2017, as amended by Owner.

§ 7.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document A201–2017, as amended by Owner, then the Owner shall pay the Contractor a termination fee as follows:
(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)

Owner shall pay no termination fee to Contractor.

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017, as amended by Owner.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended by Owner and included in the Project Manual.

§ 8.2 The Owner's representative:
(Name, address, email address, and other information)

Oak Brook Park District
1450 Forest Gate Road
Oak Brook, IL 60523

Laure Kosey
T: 630-645-9535
lkosey@obparks.org

Bob Johnson
T: 630-645-9540
Email: bjohnson@obparks.org

§ 8.3 The Contractor's representative:
(Name, address, email address, and other information)

§ 8.4 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

§ 8.5 Insurance and Bonds

§ 8.5.1 The Contractor shall purchase and maintain insurance and shall provide bonds with limits and amounts as set forth in AIA Document A201–2017, as amended by Owner.

.

(Paragraph deleted)

§ 8.6 Reserved.

§ 8.7 Other provisions:

§ 8.7.1 Not less than the prevailing rate of wages as determined by the Illinois Department of Labor shall be paid to all laborers, workers and mechanics performing the Work. Contractor's bonds shall include a provision as will guarantee the faithful performance of this prevailing wage clause as herein provided and as provided in the General Conditions. Contractor shall comply with all other requirements of the Prevailing Wage Act.

§ 8.7.2 The Contractor shall be responsible for the supply and maintenance of any and all temporary equipment, utilities and facilities necessary to properly and safely complete and protect the Work, including without limitation those required by winter conditions. The Contractor shall provide and erect barricades and other safeguards adequate to warn of danger at the site and to protect persons and property from injury resulting from the Work.

§ 8.7.3 The Contractor shall limit materials and equipment storage to the immediate area of Work and such other areas as the Owner may designate. The Contractor shall promptly remove and properly dispose all construction material, trash, garbage and other debris off site.

§ 8.7.4 Except as otherwise specifically provided in the Contract Documents, if and to the extent of any inconsistency, ambiguity, conflict, discrepancy or error in the Contract Document, and otherwise in interpreting the Contract Documents, the Parties shall give precedence to the Contract Documents in the following order of priority:

(i) Modifications.
(ii) This Agreement
(iii) Supplementary and Special Conditions.
(iv) General Conditions
(v) Construction Drawings

§ 8.7.5 The rights and remedies of the Owner stated in the Contract Documents shall be in addition to and not in limitation of any other rights of the Owner granted at law or in equity.

§8.7.6 This Project is being financed, in part, with funds from the Illinois Department of Natural Resources, "Open Space Lands Acquisition & Development" (OSLAD) grant program. Based on the terms of the OSLAD grant, Owner must complete this Project on or before TBD and, as a result, Contractor hereby agrees and understands that Contractor's failure to meet the Substantial Completion and Final Completion Dates as specified in the Contract Documents shall be a material breach of this Agreement.

§8.7.7 Contractor shall coordinate with Owner to accommodate the following as needed: a) IDNR representatives shall have access to the Project site to make periodic inspections as construction progresses; b) IDNR representatives shall have access to all Project materials; and c) IDNR shall have the right to inspect the completed Project prior to Project acceptance and grant reimbursement to the Owner.

§8.7.8 Contractor shall provide all duly authorized State government representatives access to any documents, papers and records of the Contractor for the purpose of making audit, examination, excerpts and transcriptions.

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor, as amended by Owner;

.2 AIA Document A201™–2017, General Conditions of the Contract for Construction, as amended by Owner;

(Paragraph deleted)

.3 Drawings. The Drawings are those included in the Project Manual dated March 19, 2020.

Number	Title	Date

.4 Specifications. The Specifications are those included in the Project Manual dated March 19, 2020.

Section	Title	Date	Pages

.5 Addenda, if any:

Number	Date	Pages

.6 Other Exhibits:
(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

(Paragraphs deleted)

[ ] Supplementary and other Conditions of the Contract are those included in the Project Manual dated March 19, 2020:

Document	Title	Date	Pages

.7 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

1. All other documents contained in the Project Manual dated March 19, 2020.

2. Certificate of Insurance and endorsements attached to and incorporated in this Agreement by this reference.

3. Performance Bond, Labor and Material Payment Bond, attached to and incorporated in this Agreement by this reference.

4. Prevailing Wage Determination and supersedes notice attached to and incorporated in this Agreement by this reference.

5. Contractor's Proposal, as modified by the Contract Documents, attached to and incorporated in this Agreement by this reference.

6. Contractor's Compliance and Certifications Attachment and Substance Abuse Prevention Program Certification, attached to and incorporated in this Agreement by this reference.

This Agreement entered into as of the day and year first written above.

OAK BROOK PARK DISTRICT

OWNER *(Signature)*	**CONTRACTOR** *(Signature)*
(Printed name and title)	*(Printed name and title)*

Init.

/

Additions and Deletions Report for
AIA® Document A101™ – 2017

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 17:00:47 ET on 03/18/2020.

PAGE 1

AGREEMENT made as of the day of in the year Two Thousand Twenty

...

Oak Brook Park District
1450 Forest Gate Road
Oak Brook, IL 60523

...

Central Park North Project
1315 Kensington
Oak Brook, IL 60523

The Project includes _____, and all other incidental and collateral work necessary to properly complete the Project as indicated in the Contract Documents.

The Architect:

...

Upland Design Ltd.
24042 Lockport Street
Plainfield, IL 60544

PAGE 2

~~**EXHIBIT A INSURANCE AND BONDS**~~

...

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others. Prior to commencing the Work, the Contractor shall have obtained and provided to the Owner acceptable evidence of all licenses, permits, bonds and insurance indicated as being the Contractor's responsibility under the Contract Documents. Delay in the commencement of the Work attributable to the failure of the Contractor to have obtained and provided such evidence to the Owner shall not result

in an extension of the date scheduled for Substantial Completion as provided in Section 3.3 below, or in any milestone date previously agreed to by the Parties in any Project Schedule.

...

[X] Established as follows:

...

June 1, 2020

PAGE 3

[X] By the following date: September 30, 2020

Contractor shall complete all seeding and blanketing on or before September 30, 2020.

Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Final Completion of the entire Work:
(Check one of the following boxes and complete the necessary information.)

[ ] Not later than ( ) calendar days from the date of commencement of the Work.

[X] By the following date: October 30, 2020

§ 3.3.2 ~~Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:~~

~~**Portion of Work**~~ ~~**Substantial Completion Date**~~

Reserved.

...

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be /100 Dollars ($), subject to additions and deductions as provided in the Contract Documents.

...

NA

PAGE 4

Time is of the essence to the Contract. Should the Contractor fail to complete the Work on or before the Substantial Completion date as stipulated in the Contract or within such extended time as may be have been allowed, the Contractor shall be liable and shall pay to the Owner the sum of $500.00 per calendar day, not as a penalty but as a liquidated damages for each day of overrun in the Contract Time or such extended time as may have been allowed. The liquidated damages for failure to complete the Contract on time are approximate, due to the impracticality of calculating and proving actual delay costs. The costs of delay represented by the liquidated damage amount are understood to be a fair and reasonable estimate of the costs that will be borne by the Owner during extended and delayed performance by the Contractor for the Work. The liquidated damage amount specified will accrue and be assessed until Final Completion of the total physical Work of the Contract even though the Work may be substantially complete. The Owner will deduct these liquidated damages from any monies due or to become due to the Contractor from the Owner.

...

(Insert ~~provisions for bonus or other incentives,~~ provisions, if any, that might result in a change to the Contract Sum.)

Overtime, if and when specifically authorized in writing in advance by the Owner shall be paid by the Owner on the basis of premium payment if any, plus the cost of insurance and taxes based on the premium payment period. No overhead or profit may be charged for overtime. The Contractor shall not be entitled to any payment for overtime necessitated by the failure of the Contractor to perform the Work in accordance with the Contract Documents including without limitation to the Contractor's failure to prosecute the Work diligently and on an uninterrupted basis and with a sufficient workforce so as to achieve completion of the Work within the time and in the manner contemplated by the Contract Documents, or otherwise due to the fault of the Contractor. In such instances if the Owner requires the Contractor to perform Work on an overtime basis, all costs for and associated with such overtime shall be borne by the Contractor.

...

§ 5.1.1 Based upon Applications for Payment properly completed and accompanied by all supporting documentation and other submittals required by the Contract Documents submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, and agreed to by Owner and not subsequently nullified by the Architect in accordance with the Contract Documents, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

...

§ 5.1.3 Provided that an Application for ~~Payment~~ Payment, which is in proper form and accompanied by required supporting documents and submittals, is received by the Architect not later than the 1st day of a month, certified for payment by the Architect and not subsequently nullified in accordance with the Contract Documents, the Owner shall make payment of the amount certified to the Contractor not later than the 30th day of the following month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than sixty (60) days after the Architect receives the Application ~~for Payment.~~for Payment in proper form and accompanied by required supporting documents and submittals and certifies payment to the Owner. Contractor is solely responsible for any delays in payment due in whole or in part to Contractor's failure to submit its payment application timely, in proper form and accompanied by all supporting documents and submittals required under the Contract.

PAGE 5

§ 5.1.6 In accordance with AIA Document A201™–2017, General Conditions of the Contract for Construction, as modified by Owner, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

...

.1 That portion of the Contract Sum properly allocable to completed ~~Work;~~Work.

...

.2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document ~~A201–2017;~~A201–2017, as modified by Owner;

...

.4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document ~~A201–2017; and~~A201–2017,as modified by Owner;

.5 Retainage withheld pursuant to Section ~~5.1.7.~~5.1.7; and

.6 Any other reduction authorized by the Contract Documents.

...

Ten Percent (10%)

...

NA

...

In accordance with Article 9 of the AIA Document A201™–2017, General Conditions of the Contract for Construction, as modified by Owner.

PAGE 6

NA

§ 5.1.8 ~~If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.~~

Reserved. **§ 5.1.9** Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

...

.1 the Contractor has fully performed the Contract ~~except for the Contractor's responsibility~~ in accordance with the Contract Documents; provided that Owner shall have no obligation to make final payment if the Contractor is required to correct Work as provided in Article 12 of AIA Document A201–2017, as modified by Owner, or as otherwise specified by the Contract Documents, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the ~~Architect.~~Architect and Owner has approved payment.

§ 5.2.2 The Owner's final payment to the Contractor ~~shall be made no later than 30 days after the issuance~~ for Work properly performed shall be made in accordance with the Local Government Prompt Payment Act, 50 ILCS 505/1 *et seq*., after the Owner's receipt from the Architect of the Architect's final Certificate for ~~Payment, or as follows:~~Payment

...

Payments due and unpaid under the Contract shall bear interest ~~from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.~~only as provided in the Local Government Prompt Payment Act, 50 ILCS 505/1 *et seq*.

§ 5.4 Waiver Procedure/Format

The first Application for Payment shall be accompanied by the Contractor's Partial Waiver of Lien to date for the full amount of the payment. Each subsequent monthly payment application shall be accompanied by the Contractor's Partial Waiver of Lien and the Partial Waivers by of subcontractors and suppliers who were included in the immediately preceding payment application to the extent of that payment. The Application for Final Payment shall be accompanied by Final Waivers of lien from the Contractor, subcontractors, and suppliers who have not previously furnished such Final Waivers. Final Waivers shall be for the full amount of the Contract and the Final Waiver of a Subcontractor shall be for the full amount of its Subcontract. All applications for payment shall be accompanied by affidavits from the Contractor, in triplicate, containing such information and in such form to comply with the Illinois Mechanics Lien Act (770 ILCS 60/001 et seq.) and showing in detail the sources of all labor and materials used and contracted to be used on the Project, including names and addresses of subcontractors and materials suppliers; amounts paid and remaining to be paid to each; together with all other documents as shall be necessary, in the sole judgment of the Owner, to waive all claims of liens to date and comply with all applicable state and local laws.

(i) All waivers (partial and final) shall include language as applicable indicating either that:

1. All materials were taken from fully paid stock and delivered to job site in our own vehicles and all labor has been fully paid in accordance with prevailing wage laws; or

~~(Insert rate of interest agreed upon, if any.)~~2. Materials were provided by the following suppliers from whom waivers of lien are attached and all labor has been fully paid in accordance with prevailing wage laws.

~~ %~~

...

The Architect will serve as the Initial Decision Maker ~~pursuant to~~ to the extent provided in Article 15 of AIA Document A201–2017, as amended by Owner, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.

PAGE 7

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201–2017, as modified by Owner, the method of binding dispute resolution shall be as follows:

...

[**X**] Other *(Specify)*

~~If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.~~As provided in the AIA Document A201–2017, as amended by Owner.

...

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document ~~A201–2017.~~A201–2017, as amended by Owner.

§ 7.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document A201–2017, as amended by Owner, then the Owner shall pay the Contractor a termination fee as follows:

...

Owner shall pay no termination fee to Contractor.

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document ~~A201–2017.~~A201–2017, as amended by Owner.

...

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended ~~or supplemented by other provisions of the Contract Documents.~~by Owner and included in the Project Manual.

...

Oak Brook Park District
1450 Forest Gate Road

Oak Brook, IL 60523

Laure Kosey
T: 630-645-9535
lkosey@obparks.org

Bob Johnson
T: 630-645-9540
Email: bjohnson@obparks.org
PAGE 8

§ 8.5.1 The ~~Owner and the~~ Contractor shall purchase and maintain insurance and shall provide bonds with limits and amounts as set forth in AIA Document ~~A101™–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.~~A201–2017, as amended by Owner.

.

~~**§ 8.5.2** The Contractor shall provide bonds as set forth in AIA Document A101™–2017 Exhibit A, and elsewhere in the Contract Documents.~~

§ 8.6 ~~Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:~~
~~(If other than in accordance with AIA Document E203–2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)~~Reserved.

...

§ 8.7.1 Not less than the prevailing rate of wages as determined by the Illinois Department of Labor shall be paid to all laborers, workers and mechanics performing the Work. Contractor's bonds shall include a provision as will guarantee the faithful performance of this prevailing wage clause as herein provided and as provided in the General Conditions. Contractor shall comply with all other requirements of the Prevailing Wage Act.

§ 8.7.2 The Contractor shall be responsible for the supply and maintenance of any and all temporary equipment, utilities and facilities necessary to properly and safely complete and protect the Work, including without limitation those required by winter conditions. The Contractor shall provide and erect barricades and other safeguards adequate to warn of danger at the site and to protect persons and property from injury resulting from the Work.

§ 8.7.3 The Contractor shall limit materials and equipment storage to the immediate area of Work and such other areas as the Owner may designate. The Contractor shall promptly remove and properly dispose all construction material, trash, garbage and other debris off site.

§ 8.7.4 Except as otherwise specifically provided in the Contract Documents, if and to the extent of any inconsistency, ambiguity, conflict, discrepancy or error in the Contract Document, and otherwise in interpreting the Contract Documents, the Parties shall give precedence to the Contract Documents in the following order of priority:

(i) Modifications.
(ii) This Agreement
(iii) Supplementary and Special Conditions.
(iv) General Conditions
(v) Construction Drawings

§ 8.7.5 The rights and remedies of the Owner stated in the Contract Documents shall be in addition to and not in limitation of any other rights of the Owner granted at law or in equity.

§8.7.6 This Project is being financed, in part, with funds from the Illinois Department of Natural Resources, "Open

Space Lands Acquisition & Development" (OSLAD) grant program. Based on the terms of the OSLAD grant, Owner must complete this Project on or before TBD and, as a result, Contractor hereby agrees and understands that Contractor's failure to meet the Substantial Completion and Final Completion Dates as specified in the Contract Documents shall be a material breach of this Agreement.

§8.7.7 Contractor shall coordinate with Owner to accommodate the following as needed: a) IDNR representatives shall have access to the Project site to make periodic inspections as construction progresses; b) IDNR representatives shall have access to all Project materials; and c) IDNR shall have the right to inspect the completed Project prior to Project acceptance and grant reimbursement to the Owner.

§8.7.8 Contractor shall provide all duly authorized State government representatives access to any documents, papers and records of the Contractor for the purpose of making audit, examination, excerpts and transcriptions.

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.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and ~~Contractor~~Contractor, as amended by Owner;

.2 ~~AIA Document A101™–2017, Exhibit A, Insurance and Bonds~~

.3 AIA Document A201™–2017, General Conditions of the Contract for ~~Construction~~

.4 ~~AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:~~Construction, as amended by Owner;

~~(Insert the date of the E203-2013 incorporated into this Agreement.)~~

.5 ~~Drawings~~**.3** Drawings. The Drawings are those included in the Project Manual dated March 19, 2020.

...

.6 ~~Specifications~~**.4** Specifications. The Specifications are those included in the Project Manual dated March 19, 2020.

...

.7 **.5** Addenda, if any:

...

~~Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.~~

.8 **.6** Other Exhibits:

(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

~~[ ] AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:~~
~~*(Insert the date of the E204-2017 incorporated into this Agreement.)*~~

~~[ ] *The Sustainability Plan:*~~

~~Title~~	~~Date~~	~~Pages~~

[ ] Supplementary and other Conditions of ~~the Contract:~~the Contract are those included in the Project Manual dated March 19, 2020:

...

~~.9~~ .7 Other documents, if any, listed below:

...

1. All other documents contained in the Project Manual dated March 19, 2020.

2. Certificate of Insurance and endorsements attached to and incorporated in this Agreement by this reference.

3. Performance Bond, Labor and Material Payment Bond, attached to and incorporated in this Agreement by this reference.

4. Prevailing Wage Determination and supersedes notice attached to and incorporated in this Agreement by this reference.

5. Contractor's Proposal, as modified by the Contract Documents, attached to and incorporated in this Agreement by this reference.

6. Contractor's Compliance and Certifications Attachment and Substance Abuse Prevention Program Certification, attached to and incorporated in this Agreement by this reference.

This Agreement entered into as of the day and year first written above.

OAK BROOK PARK DISTRICT

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, Nicole L. Karas, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 17:00:47 ET on 03/18/2020 under Order No. 8830539077 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A101™ – 2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

Nicole Karas

(Signed)

Attorney

(Title)

March 18, 2020

(Dated)

General Conditions

AIA Document A201 - 2017

AIA® Document A201™ – 2017

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

Central Park North
1315 Kensington
Oak Brook, IL 60523

THE OWNER:
(Name and address)

Oak Brook Park District
1450 Forest Gate Road
Oak Brook, IL 60523

THE ARCHITECT:
(Name and address)

Upland Design Ltd.
24042 Lockport Street
Plainfield, IL 60544

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

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

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™, Guide for Supplementary Conditions.

TABLE OF ARTICLES

Init.
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(Numbers and Topics in Bold are Section Headings)

ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents included in the Project Manual, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, or (2) a Change Order.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, provided, however, Owner shall be third party beneficiary of any Subcontract agreement as set forth in Article 5 herein, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 The Work

The term "Work" means all of the Contractor's duties under the Contract Documents, including the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker, if any, is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2.

§ 1.1.9 Final Completion

Final Completion means the date the Contract has been fully performed, all the Work has been completed and a final Certificate for Payment approved by the Owner has been issued by Architect.

§ 1.1.10 Punch List

"Punch List" shall mean and shall be limited to uncompleted items of the Work (a) that do not interfere with the use and occupancy of any area of the Project Site for its intended purpose and (b) that, as a group, are capable of being completed by the Contractor within thirty (30) days of issuance of any Punch List.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.2.4 If any two or more provisions of the Contract Documents conflict, and such conflict relates to the quantity or quality of the Work, the Contractor agrees to provide the greater quantity and/or better quality of such Work.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Owner's reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the owner(s) and any licensee(s) who have an interest in and to the Instruments of Service. .

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties may agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. If the parties agree to protocols governing the transmission and use of Instruments of Service and other documents in digital form, the parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish these protocols for the development, use, transmission, and exchange of digital data.

(Paragraphs deleted)

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall, to the extent allowed by law and by the Owner's policies and procedures, have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 Where the Owner furnished any information or documents to the Contractor in connection with the Project, the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.2 Reserved.

(Paragraphs deleted)

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities. The Contractor shall provide information or other assistance as the Architect or Owner may request in connection with these obligations.

§ 2.3.2 As appropriate for the Project, the Owner shall retain an architect and/or engineer lawfully licensed to practice architecture and/or engineering, or an entity lawfully practicing architecture and/or engineering in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 Reserved. **§ 2.3.4** Upon written request by the Contractor, the Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work. Notwithstanding the foregoing, the furnishing of surveys by the Owner is not a guarantee of the accuracy of the information contained therein, and shall not relieve the Contractor from its duties under the Contract Documents in general. The submission of a bid for the work implies that the Contractor had examined the site, taking into consideration all such conditions that may affect the work, regardless of the information contained in the surveys.

(Paragraph deleted)

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2, or fails or refuses to provide a sufficient amount of properly supervised and coordinated labor, materials, or equipment so as to be able to complete the Work within the Contract Time, or fails to remove and discharge (within ten days) any lien filed upon Owner's funds by anyone claiming by, through, or under Contractor, or disregards the instructions of Architect or Owner when based on the requirements of the Contract Documents, or fails to carry out Work in accordance with the Contract Documents, or in the event an emergency arises that requires the Work to be stopped, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3. The Owner's rights and remedies under this section are in addition to, and not a limitation of, any other rights and remedies of the Owner under the Contract Documents or otherwise.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents or approved construction schedules, and fails within a five-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default, neglect or failure. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and reasonable attorneys' fees, and compensation for the Architect's additional services made necessary by such default, neglect or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner within thirty (30) days after a request by the Owner.

§ 2.6 Owner's Right to Audit. The Contractor shall keep full and accurate records, in accordance with sound accounting principles, of all labor and material costs incurred, items billed, and all other expenditures, costs, liabilities and obligations incurred in connection with the performance of the Work, and all papers, files, accounts, reports, cost proposals with backup data and all other material relating to work under this Contract, which records shall be open to audit by the Owner or its authorized representatives during performance of the Work and for the length of time established by law or five years, whichever is longer, from the date of final payment to Contractor or termination of this Contract. In addition, the Contractor shall make it a condition of all Subcontracts relating to the Work that all Subcontractors will keep accurate records of costs incurred and items billed in connection with their work and that such records shall be open to audit by the Owner or its authorized representatives during performance of the Work and for the length of time established by law or five years, whichever is longer, from the date of final payment to Contractor or termination of this Contract.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative. The Contractor is an independent contractor, and shall not be deemed an agent of the Owner for any reason.

§ 3.1.2 The Contractor shall perform the Work in strict accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in strict accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 The Contractor represents that it has visited the Project site, become generally familiar with local conditions under which the Work is to be performed, correlated personal observations with requirements of the Contract Documents, and has satisfied itself as to the nature and location of the Work, the general and local conditions,

including those bearing upon access (including partial or total restrictions on access), transportation, delivery, disposal, staging, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, ground water table or similar physical conditions of the ground, the character, quality and quantity of existing conditions to be encountered, the character of equipment and facilities needed prior to and during the prosecution of the Work and all other matters which can in any way effect the Work or the cost thereof under this Agreement. Any failure by the Contractor to acquaint itself with all the available information concerning these conditions will not relieve the Contractor from any obligation under the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall evaluate any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering latent errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor or its Subcontractors or suppliers as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect and Owner any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations, including any increases in construction costs. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.2.5 In all cases where Work interconnects with existing facilities, Contractor shall field measure and verify at the site all dimensions relating to such existing facilities. Any conflicts in the Work and the existing facilities which could have been mitigated by the Contractor's obligation to verify the dimensions of the existing facilities shall be promptly rectified by the Contractor at its own expense, and such obligation does not limit the Owner's other rights and remedies under the Contract Documents.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures to the Owner and Architect. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. The Contractor shall not proceed performing the Work using its alternative means, methods, techniques, sequences, or procedures without written approval from the Architect.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.3.4 The Contractor shall coordinate inspections by governmental authorities having jurisdiction over the Work.

§ 3.3.5 No inspection performed or failed to be performed by the Owner or Architect shall be a waiver of any of the Contractor's obligations hereunder.

§ 3.3.6 The Contractor has the responsibility to ensure that all material suppliers and Subcontractors, their agents, and employees adhere to the Contract Documents, and that they order materials on time, taking into account the current market and delivery conditions and that they provide materials on time. The Contractor shall coordinate its Work with that of all others on the Project including deliveries, storage, installations, and construction utilities. The Contractor shall be responsible for the space requirements, locations, and routing of its equipment. In areas and locations where the proper and most effective space requirements, locations, and routing cannot be made as indicated, the Contractor shall meet with all others involved, before installation, to plan the most effective and efficient method of overall installation.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions equal to or superior to the specified materials only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive. Except as provided in 3.4.2, the materials specified have been determined to have characteristics appropriate for this Project. No work will be accepted which utilizes an alternate not approved during the bidding process.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.4.4 The Contractor shall not at any time permit on the Project site any alcohol or controlled substances whether inside or outside of buildings or structures. Possession or use of any of the foregoing at or adjacent to the site shall obligate the Contractor to remove such offending personnel from the site and replace them at no additional cost to the Owner.

§ 3.4.5 The Contractor and any Subcontractors shall conform to labor laws of the State and various acts amendatory and supplementary thereto and to other laws, ordinances and legal requirements applicable thereto. Contractor shall enforce among all personnel directly or indirectly employed by it, and among all Subcontractors and their employees, all rules which the Owner may establish for conduct of such personnel on the site.

§ 3.4.6 The Contractor shall pay prevailing wages in accordance with and shall fully comply with all requirements of the Prevailing Wage Act, 820 ILCS 130/0.01, *et seq.*

§ 3.4.7 Before ordering any material or doing any Work, the Contractor shall verify all measurements at the Project Site and he shall be responsible for the correctness of same. No extra charge or compensation will be allowed to the Contractor on account of any difference between actual dimensions and the measurements shown by the Project Drawings.

§ 3.4.8 The Contractor shall carefully inspect all materials delivered on and to the Project Site and reject defective materials without waiting for the Architect or other representative of Owner to observe the materials.

§ 3.4.9 Contractor shall maintain harmonious labor relations on the job site. If a labor problem arises or any person

employed by the Contractor on the Work shall appear to the Owner to be incompetent or conduct himself in a disorderly or improper manner, such person or persons shall be removed from the Work immediately on the request of the Owner. Said removal shall not create any additional cost to Owner and shall not extend the time for completion of the Work.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work shall strictly conform to the requirements of the Contract Documents and shall be free from defects. This warranty shall not be restricted by the limitations of any manufacturer's warranty. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

All warranties shall include labor and materials and shall be signed by the manufacturer or Subcontractor as the case may be and countersigned by the Contractor. All warranties shall be addressed to the Owner and delivered to the Architect upon Final Completion of the Work and before the submission of request for final payment in accordance with Section 9.8.6. Except as otherwise provided elsewhere in the Contract Documents, or in any Certificate of Substantial Completion approved by Owner and Contractor and/or Subcontractor, as applicable, all warranties shall become effective on the date of Final Completion of the entire Work, and shall run for a twelve (12) month period, unless a longer period is provided for in the Contract Documents or by law. Where warranties overlap, the more stringent requirement shall govern.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.5.3 If materials or equipment are replaced during the original warranty period, a new warranty period thereon shall then begin from the date that such corrective action is completed and approved.

§ 3.5.4 For concrete work, warranty protection for a repaired item shall be for twenty-four months after final acceptance of concrete work or the length of the original warranty period, whichever is longer. This will cover structural failures, as well as surface erosion due to spalling caused by frost popping soft aggregates within the concrete and surface erosion due to faulty workmanship. All concrete work not meeting high industry standards will be removed and replaced at no charge to the Owner.

§ 3.5.5 Defective materials, equipment or workmanship occurring within the warranty period may be repaired where such produces results conforming to the Contract Documents relating to appearance, performance and reliability. Where the nature of the defective materials, equipment or workmanship is such that acceptable results cannot be obtained by repair, such defective items shall be removed and replaced with new materials, equipment or workmanship complying with the Contract Documents.

§ 3.5.6 Correction of defective or non-conforming Work shall include, in addition to that described in Article 12, any damage to the Project or other property that may result from such defective or nonconforming Work or from such corrective action, including without limitation any damage to any contents, to the work of other contractors, or to adjacent property.

§ 3.5.7 The Contractor shall furnish maintenance and twenty-four (24) hour callback service for the equipment provided by Contractor, Subcontractor or supplier for a period of at least six (6) months after Final Completion and acceptance of the Work, or for such longer period as shall otherwise be provided in any of the Contract Documents. This service shall include regular examinations of the installation by competent and trained employees of the Contractor, or manufacturer, and shall include all necessary adjustments, greasing, oiling, cleaning, supplies and parts to keep the equipment in proper operation except such parts made necessary by misuse, accidents or negligence not caused by the Contractor or any of its Subcontractors.

§ 3.5.8 The warranty provided in this Paragraph 3.5 shall be in addition to and not in limitation of, any other warranty or remedy required under the Contract Documents or under applicable law.

§ 3.6 Taxes

The Owner is tax-exempt. Notwithstanding, the Contractor shall pay any applicable sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 Permits, Fees, Notices and, Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction including, but not limited to, the cost to correct the Work and any fines, penalties, judgements or damages imposed on, or suffered, sustained or incurred by Owner due to Contractor's failure to comply with the provisions of 3.7.2. The Contractor shall also be liable to the Owner for any delay in the performance of the Work or increase in the cost of the Work resulting from the Contractor's failure to fully comply with the provisions of Section 3.7.2.

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall immediately notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.7.6 Contractor shall comply with all public and private utility requirements relating to the Work or the performance thereof. If the Contractor performs Work contrary to applicable utility requirements, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection. Notwithstanding any provision of the Contract Documents to the contrary, any use of an allowance account is subject to the written pre-approval of the Owner.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

.1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

.2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and

.3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work on site. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. The superintendent shall be subject to approval by the Owner and shall not be replaced without the prior written consent of the Owner. The Owner shall have the right to require that the Contractor replace the superintendent, at no additional cost to the Owner, at any time during the duration of the Work if his/her performance is not satisfactory to the Owner.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Owner may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Owner to provide notice within the 14-day period shall constitute notice that Owner has no initial objection to the proposed superintendent, but shall not affect Owner's right to make a subsequent rejection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.1.1 The Contractor's construction schedules shall be in a bar chart format, and shall depict, at a minimum, activity identification and durations, critical path, float, early start, early finish, late start, and late finish.

§ 3.10.1.2 The float in the construction schedules will not be deemed exclusively available to the Contractor or Owner, but rather shall be available to either party as needed.

§ 3.10.1.3 No less than once per month, the Contractor shall submit an updated construction schedule. The updated construction schedule shall depict actual start and completion dates for Work commenced and, if appropriate, Work completed. Additionally, the updated construction schedules shall depict updated estimates of anticipated commencement and completion dates for all upcoming Work.

§ 3.10.1.4 Submission of the initial construction schedule and monthly schedule updates shall be absolute prerequisites of certification of the Contractor's application for payment.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the

Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect. If the Contractor fails to adhere to the approved construction schedule(s), Contractor shall immediately, at its own expense, take necessary measures to remedy such failure, including addition of personnel and/or equipment, overtime, and/or additional shifts. The Owner shall be entitled to rely on Contractor's schedules for coordination of its own activities, as well as the activities of other contractors working at the Project site or on the Project.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals (collectively the "As-Built Documents"). These As-Built Documents shall be in electronic form or paper copy, available for inspection by the Architect or Owner upon reasonable notice, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed. Adequate maintenance of the As-Built Documents shall be a condition precedent to certification of the Contractor's applications for payment.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. The Contractor shall submit Product Data for all equipment and materials incorporated into the finished Work. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Architect has specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

The Contractor shall confine operations at the site to the site access plan, if any, and to the areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.13.1 General Use. The Contractor shall enforce the Owner's instructions regarding the conduct and use of the site by his employees.

§ 3.13.2 Parking & Traffic.

.1 Parking of construction vehicles on the site by the Contractor shall not inhibit construction nor prevent access for emergency or other official vehicles. Parking of private vehicles on the site by the Contractor is prohibited unless said vehicle is necessary in the execution of the Contract. No construction vehicles shall be parked near or under any existing vegetation on the site.

.2 Construction traffic and staging shall be permitted only within construction limits as indicated on plan. The Contractor is responsible for repair of any areas disturbed outside of this area, including grading and sodding. No staging will be permitted on the existing asphalt.

§ 3.13.3 Fencing. The Contractor will be responsible for erecting and maintaining all construction fencing required by applicable law, regulation, rule, ordinance or code at all times of construction. Failure to erect or maintain this fencing will result in the correction of the problem by the Owner at the expense of the Contractor. The Contractor's expense

will be back charged to the Contract, and may include, but are not limited to, the cost of any materials and staff time. Required fencing must be installed and fully erected before construction operations beginning and tied-up at the end of each working day. All construction fencing must conform to the Specifications and as required by applicable law.

§ 3.13.4 Water Removal. If, during construction, standing water caused by heavy rains or poor drainage becomes a hazard in the proper execution of the Contract, it shall be the responsibility of the Contractor to provide and make payment for removal of said water to existing drainage swales, storm sewers or other natural or man-made drainage ways.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project. Throughout the progress of the Work the Contractor shall continually remove from the Project Site and from any adjacent property, all waste, scraps, tools, equipment, storage facilities, machinery, trailers, and vehicles no longer required for prosecution of the Work, such that the Project site remains clean, orderly, and safe.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, or the Contractor has reason to believe that the required design, process, or product is an infringement, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent by law, the Contractor shall waive any right of contribution and shall indemnify and hold harmless the Owner, its officers, officials, employees, volunteers and agents, and the Architect and its employees and consultants from and against all claims, damages, losses and expenses, including, but not limited to attorneys' fees and economic or consequential damages, arising out of or resulting from or in connection with the performance of the Work, provided that any such claim, damage, loss or expense is caused in whole or in part by any intentional wrongful act or any negligent act or omission of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would exist as any party or person described in the Contract. Contractor shall similarly protect, indemnify and hold and save harmless the Owner, its officers, officials, employees, volunteers and agents

against and from any and all claims, costs, causes, actions and expenses including but not limited to legal fees, incurred by reason of Contractor's breach of any of its obligations under, or Contractor's default of, any provision of the Contract.

Nothing contained herein shall be construed as prohibiting the Owner, its officers, employees or agents from defending, through the selection and use of their own agents, attorneys and experts, any claims, suits, demands, proceedings or actions brought against them. The Owner's participation in its defense shall not remove the successful Bidder's duty to indemnify, defend and hold the Owner harmless as set forth herein.

The indemnification required hereunder shall not be limited by reason of the enumeration of insurance coverage herein provided.

The successful Bidder's indemnification of the Owner shall survive the termination or expiration of the Contract.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

§ 3.18.3 "Claims, damages, loses and expenses" as these words are used herein shall be construed to include, but not be limited to (1) injury or damage consequent upon the failure of or use or misuse by Contractor, its Subcontractors, agents, servants or employees, of any hoist, rigging, blocking, scaffolding, or any and all other kinds of items of equipment, whether or not the same be owned, furnished or loaned by Owner; (2) all attorneys' fees and costs incurred in defense of the claim or in bringing an action to enforce the provision of this Indemnity or any other indemnity contained in the Contract Documents; and (3) all costs, expenses, lost time, opportunity costs and other similar indirect or incident damages incurred by the party being indemnified or its employees, agents or consultants.

§ 3.18.4 In the event that the Contractor or its Subcontractors are requested to, but refuse to, honor the indemnity obligations hereunder or to provide a defense, then in addition to all other obligations hereunder, the Contractor or its Subcontractors shall reimburse the Owner and Architect the cost of any legal action concerning Contractor or Subcontractor's duty to defend and indemnify under this Agreement, including attorneys' fees, time expended, costs and expenses.

§ 3.18.5 The Contractor hereby knowingly and intentionally waives the right to assert, under the case of *Kotecki v. Cyclops Welding Corp*., 146 Ill.2nd 155 (1991) that Contractor's liability may be limited to the amount of its statutory liability under the Workers' Compensation Act, and agrees that Contractor's liability to indemnify and defend the Owner and Architect is not limited by the so called "Kotecki Cap". The Contractor shall include this provision in each of its Subcontract agreements and shall require its Subcontractors to be so bound.

§ 3.18.6 The Contractor shall include in each and every Subcontract with any and all Subcontractors and/or material suppliers performing Work and require each and every Subcontractor and/or material supplier performing Work to agree to be bound by all of the provisions 3.18.1 through 3.18.10 under the Contract Documents.

§ 3.18.7 The Contractor's indemnity obligations hereunder shall specifically include all claims and judgments which may be made against the indemnitees under federal or state law or the law of the other governmental bodies having jurisdiction, and further, against claims and judgments arising from violation of public ordinances and requirements of governing authorities due to Contractor's or Contractor's employees method of execution of the Work.

§ 3.18.8 The indemnification provisions of this Section 3.18 are not intended to conflict in any way with the Construction Contract Indemnification for Negligence Act, 740 ILCS 35/0.01 *et seq*. and shall be interpreted in accordance therewith.

§ 3.18.9 The Contractor shall indemnify and hold harmless the Owner in the event of labor or trade union conflicts or disputes between the Contractor and Subcontractors and their respective employees. The Contractor shall endeavor to adjust and resolve such conflicts and disputes which affect the timely completion of the Work. Such conflicts or disputes shall not be a basis or excuse for the violation of the Contract Documents by the Contractor or its

Subcontractors, and shall not provide the Contractor with relief from complying with dates for Substantial Completion or Final Completion. Labor or trade union disputes that affect production or delivery of materials or equipment, or the installation, shall be at no cost to the Owner. The Contractor shall notify the Architect and the Owner in writing as soon as possible as to any labor or trade disputes which may affect the Work and its timely completion. In such event, the Contractor shall provide a written proposal to the Architect and the Owner which includes any comparable substitution(s) necessary to complete the Work.

§ 3.18.10 None of the foregoing provisions shall deprive the Owner or the Architect of any action, right or remedy otherwise available to them or either of them at law.

§ 3.19 If the Work is to be performed by trade unions, the Contractor shall make all necessary arrangements to reconcile, without delay, damage, or cost to the Architect or the Owner, any conflict between the Contract Documents and any agreements or regulations of any kind at any time in force among members or councils which regulate or distinguish what activities shall not be included in the Work of any particular trade. In case the progress of the Work is affected by any undue delay in furnishing or installing any items or materials or equipment required under the Contract Documents because of the conflict involving any such agreement or regulation, the Architect may require that other material or equipment of equal kind and quality be provided at no additional cost to the Owner.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

(Paragraph deleted)

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate For Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to observe and to keep the Owner informed about the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor shall endeavor to include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's observation and evaluation of the progress and quality of Work and Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect and the Owner each have authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Owner or Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance of the information given with the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The authority of the Architect's Project representative is limited by the Owner's policies and procedures, and by the terms and conditions of the agreement between the Owner and the Architect. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents and if approved in writing by the Owner.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information. All requests for information shall be submitted to the Architect in a format acceptable to the Architect.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 If this Project is utilizing a construction manager at-risk, then when the lowest, responsive and responsible multiple prime trade bidder(s) are identified and awarded contracts by the Owner, each such award shall constitute the automatic assignment of that trade contract by the Owner to the construction manager, who is also known as the "Contractor." Each such successful bidder shall then be known as a "Subcontractor." If this Project is utilizing a single general contractor or multiple prime trade contractors, and the Project is not utilizing a construction manager-at risk, then there shall be no such assignment. In any case, a Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

§5.2.5 In the event of a conflict between the Owner and Architect regarding the selection of Subcontractors, the Owner's decision shall govern.

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect.

Each Subcontractor acknowledges: (1) that the Owner is a direct intended third party beneficiary of each Subcontract between the Contractor and Subcontractor; (2) that notwithstanding any contract provision to the contrary, Subcontractor shall be bound to perform the Work in accordance with these AIA A201 general conditions, as amended; and (3) that the Subcontractor is not a third party beneficiary of any construction management contract between Contractor and Owner.

Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1

(Paragraphs deleted)

All subcontract agreements shall conform to the requirements of the Contract Documents and the Contractor hereby assigns to Owner (and Owner's permitted assigns) all its interest in any subcontract agreements and purchase orders now existing or hereinafter entered into by the Contractor for performance of any part of the Work, which assignment will be effective in the event of the Contractor's failure to perform the Work in accordance with the Contract Documents and upon acceptance by Owner in writing and only as to those subcontract agreements and purchase orders that Owner designates in said writing. It is agreed and understood that the Owner may accept said assignment at any time during the course of construction prior to Final Completion. Upon such acceptance by Owner, (1) the Contractor shall promptly furnish to the Owner true and correct copies of the designated subcontract agreements and purchase orders, and (2) the Owner shall only be required to compensate the designated Subcontractor(s) or supplier(s) for compensation accruing to such party(ies) for Work done or materials delivered from and after the date on which the Owner accepts the subcontract agreement(s) or purchase order(s). All sums due and owing by the Contractor to the designated Subcontractor(s) or supplier(s) for work performed or material supplied prior to Owner's acceptance of the subcontract agreement(s) or purchase order(s) shall constitute a debt between such parties and the Contractor. It is further agreed that no subcontract agreement or purchase order shall contain any restriction that would prohibit assignment under the terms and conditions stated hereinabove. It is further agreed and understood that such assignment is part of the consideration to Owner for entering into the Contract with the Contractor and may not be withdrawn prior to Final Completion.

(Paragraph deleted)

§ 5.4.2Reserved. .

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity, and upon such further the assignment, the Owner shall have no further liability to such subcontractor.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project or other construction or operations on the site with the Owner's own forces, and with Separate Contractors. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction

schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

(Paragraph deleted)

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. Subject to Article 15, the Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 Reserved.

§ 6.2.6 Should the Contractor cause damage to the work or property of any separate contractor and/or in the event of any other claim, dispute, or matter in question between the Contractor and any separate contractor, the Contractor shall promptly attempt to settle with such other contractor by agreement, or otherwise to resolve the dispute. In any event, the Contractor shall indemnify, defend, and hold harmless the Owner, its officers, park commissioners, employees and agents, to the full extent as agreed to under Section 3.18 of these General Conditions.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 The Owner may, without invalidating the Contract and without notice to the surety, direct changes in the Work. Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.1.4 No Change Order shall be approved or paid unless preceded by a written direction for the Change Order is provided by the Owner. This requirement cannot be waived by conduct, custom, or practice with respect to this Project or other projects. There shall be no implied or constructive change orders.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

.1 The change in the Work;
.2 The amount of the adjustment, if any, in the Contract Sum; and
.3 The extent of the adjustment, if any, in the Contract Time.

§ 7.2.2 No payment for changes in the Work shall be made until such change has been memorialized in an executed Change Order and the Change has been executed.

§ 7.2.3 Adjustments to the Contract Sum for changes in the Work (other than for changes in the Work involving items for which unit prices were provided) shall be made in accordance with this Section 7.2.3, provided that in the case of an increase in the Contract Sum attributable to a change in the Work, "reasonable overhead and profit" shall mean: 1. Five percent (5%) of the cost of the change in the Work involved if performed by the Contractor not involving Subcontractors, or

2. Five percent (5%) of the cost of the change in the Work involved performed by Subcontractors, plus two percent of the cost of the change in the Work for the Contractor's supervision of the work performed by the Subcontractors. When both additions and credits covering related Work are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change. No overhead and profit shall be paid to the Contractor for an increase in the cost of the surety bond or insurance premiums resulting from a change in the Work. In the event of an increase in the Contract Sum resulting from an additive change order, the actual amount of any increase in the cost of Contractor's surety bond shall be added to the amount of the change order. Similarly in the event of a decrease in the Contract Sum resulting from a deductive change order, the amount of any decrease in the cost of Contractor's surety bond shall be added to the amount shown in the deductive change order, by which the Contract Sum is to be reduced.

All change order requests must be submitted with the following backup information or they will not be reviewed by the Architect or Owner: material and labor quantities, material unit costs, labor rates, and any other substantiating data to explain the change order amount.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order for the purposes of defining the change and/or how payment shall be calculated, but not for the purpose of approving payment.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

.1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
.2 Unit prices stated in the Contract Documents or subsequently agreed upon;
.3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
.4 As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in Section 7.2.3. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

.1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;

.2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;

.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;

.4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and

.5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Upon execution by the Owner, such agreement shall be effective and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase or net decrease, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

§ 7.5 Continuation of Work Pending Resolution

Pending final determination of cost to the Owner or extension of time to the Contractor, unless otherwise directed by Owner, Contractor shall continue to perform the Work in accordance with the Contract Documents.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time. The Contractor shall achieve Final Completion by the date specified in the Agreement or, if no such date is specified, within thirty (30) days following Substantial Completion.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work which are not caused by the wrongful or negligent acts, errors or omissions of Contractor, its agents, employees or Subcontractors; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.5.2, or other causes beyond the Contractor's control; or (4) by delay authorized by the Owner pending mediation and binding dispute resolution, then, provided that the Contractor is in compliance with all other relevant provisions of the Contract Documents, the Contract Time shall be extended for such reasonable time as the Architect may determine and as approved by Contractor and Owner; provided, however, that such extension of Contract Time shall be net of any delays caused by or due to the fault or negligence of the Contractor or which are otherwise the responsibility of the Contractor and shall also be net of any contingency or "float" time allowance included in the Contractor's construction schedule. The Contractor shall, in the event of any occurrence likely to cause a delay, cooperate in good faith with the Architect and Owner to minimize and mitigate the impact of any such occurrence and do all things reasonable under the circumstances to achieve this goal. Any such extension of Contract Time pursuant to this section shall be reduced to a Change Order.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 Extension of Contract Time pursuant to this Article 8 shall be the Contractor's sole and exclusive remedy for delay.

§ 8.3.4 Extension of Contract Time resulting from Changes in the Work shall be negotiated into respective Change Orders. Whenever the Contractor seeks an adjustment in the Contract Time as part of a Claim or Change Order, the Contractor shall justify the request with proper written reference to the approved construction schedules. All executed Change Orders shall be deemed to include adjustments in the Contract Time, if any, resulting from the underlying Change in the Work.

§ 8.3.5 In addition to liquidated damages set forth elsewhere in the Contract Documents, if any, the Contractor shall reimburse the Owner for all Architect's fees for additional services necessitated by (1) Contractor's failure to achieve

Substantial Completion within the time established in the Contract Documents; (2) for more than one inspection for Substantial Completion; and (3) for more than one inspection for Final Completion.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated for any one item of material or equipment are changed by more than 25% in a proposed Change Order or Construction Change Directive, the applicable unit prices shall be equitably adjusted in such Change order or Construction Change Directive.

§ 9.2 Schedule of Values

The Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. Each section of the schedule organized by Subcontract shall further allocate each Subcontractor's Work into discrete tasks with values corresponding to each task. The total of all values for all tasks for all Subcontractors shall equal the Contract Sum. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment. Approval by the Owner of the schedule of values (and revisions thereto) shall be a condition precedent to certification of Contractor's applications for payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents. Until Final Completion, the Owner will pay ninety percent (90%) of the amount due the Contractor on account of progress payments. No interest will be paid on retention amounts. Provided, however, that after the Work is seventy percent (70%) complete, Owner may, without reduction of previous retainage, determine to pay Contractor remaining progress payments for each work category in full. The Contractor's inclusion in an Application for Payment of an amount owed to a Subcontractor shall constitute the Contractor's certification to the Owner that such Subcontractor is entitled to payment in that amount, and that there are no back-charges, Claims, or other disputes then pending or anticipated which may impact that Subcontractor's right to such payment. Contractor shall submit all Applications for Payment in a consistent format.

When the contract work has been awarded on a unit price bid basis, the form of each application shall follow the Bid Proposal Form, listing each item number, the total quantity of units completed to date of the estimate, the unit price and subtotal. The subtotal column shall be added to show the total cost of work completed to date, less ten (10%) percent to be withheld giving the total amount requested for payment. Previous applications for payment paid by the Owner shall be shown on each subsequent request and subtracted after the ten (10%) percent has been withheld.

§ 9.3.1.1 Such applications may include requests for payment on account of changes in the Work that have been properly authorized by Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor has not approved payment to a Subcontractor or supplier, unless such Work has been performed by others and the Contractor has approved said payment.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials

and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.3.4 All Applications for Payment shall be accompanied by lien waivers from the Contractor and applicable Subcontractors. The lien waivers, when taken together, shall equal the sum due and paid under the immediately preceding Application for Payment, and shall be effective through the submittal date of the immediately preceding Application. All applications for payment shall be accompanied by affidavits, in triplicate, from the Contractor and Subcontractors containing such information and in such form as to comply with the Illinois Mechanics Lien Act (770 ILCS 60/0.01 *et seq.*) and showing in detail the sources of all labor and materials used and contracted to be used on the Project, including names and addresses of subcontractors and material suppliers; amounts paid and remaining to be paid to each; lien waivers in a form acceptable to Owner; together with all other documents as shall be necessary, in the sole judgment of the Architect and Owner, to waive all claims of liens to date and comply with all applicable state and local laws.

§ 9.3.5 All Applications for Payment shall be accompanied by the Contractor's and Subcontractors' certified payrolls as required by the Illinois Prevailing Wage Act, 820 ILCS 130/5.

§ 9.3.6 Submission of properly executed lien waivers, affidavits, and the certified payrolls shall be conditions precedent to certification of the respective Application for Payment. Failure to supply waivers of lien or acceptable evidence of payment, affidavits and certified payroll of all current accounts incurred by this Contract work will be considered grounds for withholding final payment.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, and not Contractor, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made, or if any other condition precedent to payment has not occurred. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment

for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

.1 defective Work not remedied;
.2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
.3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
.4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
.5 damage to the Owner or a Separate Contractor;
.6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
.7 failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 If Contractor disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, Contractor shall submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld. No interest will be paid on payments withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

§9.5.5 If at any time there is evidence of any liens or claims for which, if established, the Owner may become liable for and which would be chargeable to the Contractor or any Subcontractor, the Owner shall have the right to retain, out of any payment due or thereafter to become due to Contractor or a Subcontractor, an amount sufficient to completely indemnify the Owner against such lien or claim, including any reasonable attorneys' fees that have been or may be incurred by the Owner. Should any such evidence be established after all payments are made, the Contractor or Subcontractor shall repay the Owner all sums which the Owner may be compelled to pay in discharging such lien or claim, including all reasonably attorneys' fees and other costs resulting from such lien or claim.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in accordance with the Local Government Prompt Payment Act, 50 ILCS 505/1 *et seq*. and as may be provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

In the sole discretion of the Owner, if the Contractor fails to furnish evidence as required by this Section, the Owner has the right, but not the obligation, to pay Subcontractors and suppliers directly.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§9.6.9 The Owner shall withhold ten percent (10%) from the periodic Progress Payments to the Contractor as retention. Payment of retention shall be requested with the Contractor's application for Final Payment. No interest shall accrue on monies held in retention. Contractor shall ensure that each contract between Contractor and each subcontractor contains this same provision for the withholding and release of retention.

§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner either does not reject the Architect's recommendations for the Certificate of Payment or does not pay the Contractor within ten days after the date established in the Contract Documents, the amount certified by the Architect and accepted by the Owner or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The Work will not be considered suitable for Substantial Completion review until all Project systems included in the Work are operational as designed and scheduled, all designated or required governmental inspections and certifications have been made and posted, designated instruction of the Owner's personnel in the operation of systems has been completed and documented, all final finishes within the Contract are in place, and Contractor has completed all Work necessary in order for the Owner to obtain Illinois Department of Natural Resource's acceptance of the completed project and grant reimbursement. In general, the only remaining Work shall be minor Punch List items, so that the Owner can occupy the Project on that date and the completion of the Work by the Contractor will not materially interfere or hamper the Owner's normal business operations and/or use and enjoyment of the Project. As a further condition of Substantial Completion acceptance, the Contractor shall certify that all remaining Work will be completed by the Final Completion date specified in the Agreement ("Final Completion Date") or, if no such date is specified, within thirty (30) calendar days following the date of Substantial Completion. Upon the Final Completion Date, or if no Final Completion Date is specified, within thirty (30) days after Substantial Completion, the Contractor shall secure and deliver to the Owner written warranties and guarantees from all Subcontractors, Sub-Subcontractors and suppliers bearing the date of Final Completion or some other date as may be agreed to by the Owner and stating the period of warranty as required by the Contract Documents. The Contractor is responsible for the warranty of all Work performed by Subcontractors at any tier. If in the event Contractor does not complete remaining work by the Final Completion Date, or if no such date is specified, within thirty (30) days of Substantial Completion, Owner shall give the Contractor written notice of the remaining Work to be completed. If the Contractor fails to complete the remaining work to be completed within five (5) days of receipt of the written notice, the Owner reserves the right to

complete the remaining Work in accordance with § 2.4 without further notice to the Contractor. All costs incurred by Owner therein shall be offset against Contractor's final payment.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment (the "Punch List"). Failure to include an item on the Punch List does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's Punch List, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's Punch List, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion with the Punch List attached. The Certificate of Substantial Completion shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the Punch List accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Contract Documents or the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.8.6 Upon Substantial Completion, the Contractor and Subcontractors hereby assign all vendor and manufacturers' warranties to the Owner. All such warranties shall be submitted to the Architect prior to submission of the final Application for Payment.

§ 9.8.7 The Contractor's submittal of the following documents shall be a condition precedent to a determination of Substantial Completion:

a. All Record Documents required in conformance with the Contract Documents;
b. All Operations and Maintenance Manuals (two hard copies and one electronically-submitted copy); and
c. All Manufacturers' warranties (two hard copies and one electronically-submitted copy).

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a Punch List to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 All Work depicted on the Contractor's Punch List and thereafter identified in the Architect's inspection shall be completed by Contractor at the time specified in the Agreement or, if no date is specified, within thirty (30) days of issuance of the Certificate of Substantial Completion. Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, and the Architect has advised Owner of that finding and Owner has not advised Architect of any objection to such finding, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation to Owner and not Contractor that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled. Owner's failure to object to and Owner's acceptance of Architect's findings hereunder shall not limit Architect's obligation to properly perform his duties under the Contract Documents and shall not constitute Owner's acceptance of Work not complying with the requirements of the Contract Documents or Owner's waiver of any claims or remedies it may have with respect to any such defective or delayed Work.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) final releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner along with the final submittal of certified payroll as provided by Section 5 of the Prevailing Wage Act, 820 ILCS 130/5.. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs, reasonable attorneys' fees and litigation expenses.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted, less retention. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims. The final payment by Owner shall not relieve the Contractor of the responsibility for the correction of any and all defects in the work performed. Contractor shall correct all defects as notified for the applicable warranty period after final payment.

§ 9.10.4

(Paragraphs deleted)

Reserved.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and specifically identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. Neither the Owner nor the Architect shall be responsible for any safety precautions or programs in connection with the Work.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- **.1** employees on the Work and other persons who may be affected thereby;
- **.2** the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- **.3** other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss. Contractor shall be responsible for securing all tools, materials and equipment left on site.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, such activities shall only be done with written consent of Owner and the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose wrongful acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect. The person designated as responsible for prevention of accidents shall hold regularly scheduled meetings with representatives of Subcontractors, and in the event of separate contracts, hold meetings with other contractors, to promote compliance with governing safety regulations.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If any person party suffers injury or damage to person or property because of an act or omission of a party, or of others for whose acts such party is legally responsible, the responsible party shall give notice of the injury or damage,

whether or not insured, to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume. By Change Order, the Contract Time shall be equitably extended .

§ 10.3.3 Reserved.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the procurement, delivery, unloading, loading, stockpiling, storing, preparing, installing, use and/or handling of such materials or substances (collectively, "handling").
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§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

(Paragraph deleted)

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

(Paragraphs deleted)

§11.1 CONTRACTOR'S INSURANCE REQUIREMENTS.

Contractor shall procure and maintain for the duration of the contract, insurance against claims for death, injuries, sickness to persons, or damages to property which may arise from or in connection with the performance of work hereunder by the Contractor, his agents, representatives, employees or subcontractors, anyone directly or indirectly employed by them or anyone for whose acts any of them may be liable, of the types and in the amounts listed below. To the extent of any conflict between this Article 11 and other Contract Documents, the Contractor and Subcontractors shall purchase and maintain the insurance with the higher limits, broader coverage, and better protections for the Owner.

§11.1.1 Commercial General and Umbrella Liability Insurance. Contractor shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella insurance with a limit of not less than $2,000,000 each occurrence and $2,000,000 in the aggregate. If such CGL insurance contains a general aggregate limit, it shall apply separately to this

project/location. CGL insurance shall be written on Insurance Services Office (ISO) occurrence form CG 00 01, or a substitute form providing equivalent coverage, and shall cover liability arising from premises, operations, independent contractors, products-completed operations, personal injury and advertising injury, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract). Owner, its elected and appointed officials, employees, agents and volunteers, and Architect shall be included as an insured under the CGL, using ISO additional insured endorsement CG 20 10 or a substitute providing equivalent coverage, and under the commercial umbrella, if any. This insurance shall apply as primary insurance with respect to any other insurance or self-insurance afforded to Owner and Architect. There shall be no endorsement or modification of the CGL limiting the scope of coverage for liability arising from pollution, explosion, collapse, or underground property damage.

§11.1.2 Continuing Completed Operations Liability Insurance. Contractor shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella liability insurance with a limit of not less than $2,000,000 each occurrence for at least three years following substantial completion of the work. Continuing CGL insurance shall be written on ISO occurrence form CG 00 01, or substitute form providing equivalent coverage, and shall, at minimum, cover liability arising from products-completed operations and liability assumed under an insured contract. Continuing CGL insurance shall have a products-completed operations aggregate of at least two times its each occurrence limit. Continuing commercial umbrella coverage, if any, shall include liability coverage for damage to the insured's completed work equivalent to that provided under ISO form CG 00 01.

§11.1.3 Business Auto and Umbrella Liability Insurance. Contractor shall maintain business auto liability and, if necessary, commercial umbrella liability insurance with a limit of not less than $1,000,000 each accident. Such insurance shall cover liability arising out of any auto including owned, hired and non-owned autos. Business auto insurance shall be written on Insurance Services Office (ISO) form CA 00 01, CA 00 05, CA 00 12, CA 00 20, or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage equivalent to that provided in the 1990 and later editions of CA 00 01.

§11.1.4 Workers Compensation Insurance. Contractor shall maintain workers compensation as required by statute and employers liability insurance. The commercial umbrella and/or employers liability limits shall not be less than $1,000,000 each accident for bodily injury by accident or $1,000,000 each employee for bodily injury by disease. If Owner has not been included as an insured under the CGL using ISO additional insured endorsement CG 20 10 under the Commercial General and Umbrella Liability Insurance required in this Contract, the Contractor waives all rights against Owner and its officers, officials, employees, volunteers and agents for recovery of damages arising out of or incident to the Contractors work.

§11.1.5 Contractor's Obligation to Insure for Bodily Injury Claims. In addition to the above, the Owner will require all Contractor's to purchase insurance to cover claims and expenses asserted against Architect, its employees and consultants for bodily injury, sickness, disease, or death cause by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts any of them may be liable.

§11.1.6 General Insurance Provisions

.1 Evidence of Insurance Prior to beginning work, and again prior to the expiration of any policy, the Contractor and all Subcontractors shall furnish Owner with a certificate(s) of insurance and applicable policy endorsement(s), executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements set forth above. All certificates shall provide for 30 days written notice to Owner prior to the cancellation or material change of any insurance referred to therein. Written notice to Owner shall be by certified mail, return receipt requested.

An additional certificate and endorsements evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted by Contractor and all Subcontractors with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the time permitted for expiration. If any aggregate limit is reduced on account of claims paid, Contractor and Subcontractor shall immediately notify the Owner and Architect in writing of the amount of such reduction.

Failure of Owner to demand such certificate, endorsement or other evidence of full compliance with these insurance requirements or failure of Owner to identify a deficiency from evidence that is provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance. Owner shall have the right, but not the obligation, of

prohibiting Contractor or any subcontractor from entering the project site until such certificates or other evidence that insurance has been placed in complete compliance with these requirements is received and approved by Owner. Failure to maintain the required insurance may result in termination of this Contract at Owner's option. With respect to insurance maintained after final payment in compliance with a requirement above, an additional certificate(s) evidencing such coverage shall be promptly provided to Owner whenever requested. Contractor shall provide certified copies of all insurance policies required above within 10 days of Owner's written request for said copies.

. 2 Acceptability of Insurers. For insurance companies which obtain a rating from A.M. Best, that rating should be no less than A VII using the most recent edition of the A.M. Best Key Rating Guide. If the Bests rating is less than A VII or a Best's rating is not obtained, the Owner has the right to reject insurance written by an insurer it deems unacceptable.

.3 Cross-Liability Coverage. If Contractor's liability policies do not contain the standard ISO separation of insureds provision, or a substantially similar clause, they shall be endorsed to provide cross-liability coverage.

.4 Deductibles and Self-Insured Retentions. Any deductibles or self-insured retentions must be declared to the Owner. At the option of the Owner, the Contractor may be asked to eliminate such deductibles or self-insured retentions as respects the Owner, its officers, officials, employees, volunteers and agents or required to procure a bond guaranteeing payment of losses and other related costs including but not limited to investigations, claim administration and defense expenses.

§ 11.1.7 Contractor shall also protect the Owner by specifically incorporating this Article 11 into every Subcontract entered into and also requiring that every Subcontractor incorporate this Article and its coverage requirements into every sub-subcontract it enters into. Notwithstanding this requirement, this Article 11 is deemed incorporated into every Subcontract and sub-subcontract via such document's flow-through provisions.

§ 11.1.8 Liability of Contractor or Subcontractor is not limited by these insurance requirements or by actual insurance coverage. Nothing contained in the insurance requirements of the Contract Documents is to be construed as limiting the liability of the Contractor, the liability of any Subcontractor of any tier, or the liability of the Architect, or any of their respective insurance carriers. Owner does not, in any way, represent that the coverages or limits of insurance specified are sufficient or adequate to protect the Owner, Contractor, Architect, or any Subcontractor's interest or liabilities, but are merely minimums. The obligation of the Contractor and every Subcontractor of any tier to purchase insurance shall not, in any way, limit their obligations to the Owner in the event that the Owner should suffer an injury or loss in excess of the amount recoverable through insurance, or any loss or portion of the loss which is not covered by either the Architect's, Contractor's or any Subcontractor's insurance.

§ 11.1.9 Upon receipt of notice of any cancellation in Contractor's required insurance, the Owner shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 PROPERTY INSURANCE

§ 11.2.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance in the amount of the initial Contract Sum as well as subsequent modifications thereto for the entire Work at the site on a replacement cost basis without voluntary deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Paragraph 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Paragraph 11.2 to be covered, whichever is earlier. This insurance shall include the respective interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Work.

§ 11.2.2 Property insurance shall be on a course of construction policy form and shall insure against the perils of fire and extended coverage and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, false work, windstorm, testing and start-up, temporary buildings and debris removal, including demolition, and shall cover reasonable compensation for the Architect's, any of the Owner's Consultant's services and expenses required as a result of such insured loss. Owner shall not be required to provide coverage for

other perils unless otherwise provided in the Contract Documents. Property insurance provided by the Owner shall not cover Contractor's, Subcontractor's or Sub-subcontractor's liability or any tools, apparatus, machinery, scaffolding, hoists, forms, staging, shoring or other similar items commonly referred to as construction equipment, which may be on the site and the capital value of which is not included in the Work. The Contractor shall make his own arrangements for any insurance he may require on such construction equipment.

§ 11.2.3 The Contractor shall effect insurance which will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work.

§ 11.2.4 If the property insurance requires minimum deductibles and such deductibles are identified in the Contract Documents, the Contractor shall pay costs not covered because of deductibles. If the Owner or insurer increases the required minimum deductibles above the amounts so identified or if the Owner elects to purchase this insurance with voluntary deductible amounts, the Owner shall be responsible for payment of the additional costs not covered because of such increased or voluntary deductibles. If deductibles are not identified in the Contract Documents, the Owner shall pay costs not covered because of deductibles.

§ 11.2.5 Unless otherwise provided in the Contract Documents, this property insurance shall cover portions of the Work stored off the site and paid for by Owner after written approval of the Owner at the value established in the approval, and also portions of the Work in transit and paid for by Owner.

§ 11.2.6 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.2.7 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§11.2.8 Notwithstanding any provision contained in Section 11.2, including paragraphs 11.2.1 through and including 11.2.7 and Section 11.3, the Owner's obligation to purchase insurance shall herein be deemed satisfied by the Owner's membership in a self-insured risk management agency or pool. The Contractor agrees that any obligation the Owner has to purchase property insurance shall be satisfied by the Owner's membership in a self-insured risk management agency or pool. The Contractor further agrees that it will only have rights allowable to it under any coverage provided through the Owner's membership in a self-insured risk management agency or pool.

§ 11.3 BOILER AND MACHINERY INSURANCE

The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor Subcontractors and Sub-subcontractors in the Work, and the Owner and the Contractor shall be named insureds.

(Paragraph deleted)

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Contractor shall deposit with the Owner before commencing any Work an *AIA A312-2010 Performance Bond and Payment Bond*, or such other form as approved by Owner, for 110% of the Contract Sum, guaranteeing the faithful performance of the work in accordance with the Contract, the payment of all indebtedness incurred for labor and materials, payment of the prevailing wage in accordance with paragraph 13.1.2.1, and guarantee correction of work. The Surety must be approved by the Owner, and be licensed to conduct business in the State of Illinois and be named in the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Federal Register by the Audit Staff Bureau of Accounts, U.S. Treasury. The payment and performance bonds shall strictly comply with the Public Construction Bond Act, 30 ILCS 550/0.01, *et seq.*, and with all provisions of this Article 11. The Contractor and all subcontractors shall name the Owner as an obligee on all bonds.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.4.3 If at any time the Owner shall become reasonably dissatisfied with any surety, or for any other reason such bonds shall cease to be adequate security for the Owner, Contractor shall, within five (5) days after notice to do so, substitute acceptable bonds in such form and sum and signed by such other surety or sureties as may be reasonably satisfactory to the Owner. No further payment shall be deemed due nor shall be made to Contractor until the new surety or sureties shall have met the Owner's qualifications.

(Paragraphs deleted)
§ 11.4.4 All performance and payment bonds required by this Article 11 shall be deemed modified to the extent to be consistent with this Article 11. A certified copy of the power of attorney from the surety company stating that the person executing the bond is duly authorized by the surety to execute the bond shall be attached to the bond.

§ 11.4.5 Whenever the Contractor shall be and is declared by the Owner to be in default under the Construction Contract, the surety shall be responsible to compensate the Owner for the following costs incurred by the Owner as they result from the default: 1) any and all extra work and/or corrective work, 2) additional Architect costs, 3) accounting costs, 4) legal costs and reasonable attorneys' fees, 5) testing, consulting, and other engineering costs, 6) any other costs necessarily incurred and resulting from the default. Notwithstanding, the surety's obligations shall not exceed the penal sum of the bond.

§ 11.4.6 All terms and conditions of all Contract Documents, including these A201 general conditions, as amended, shall be deemed incorporated by reference into each bond furnished in connection with this Article 11. In case of any conflict between any provision of any performance or payment bond and the Contract Documents, the provisions of the Contract Documents shall prevail to the extent of such conflict.

§ 11.4.7 Any provision of any bond purporting to create a condition precedent for Owner not otherwise contained in the Contract Documents, or which otherwise purports to abrogate or nullify the Owner's rights or remedies otherwise available in contract, law, or equity, is void. If any provision of any bond purports to shorten the period of limitations and/or the period of repose as provided in Section 13-214 of the Code of Civil Procedure, 735 ILCS 5/13-214, or if any provision of any bond purports to shorten any other applicable statute of limitation or repose, such provision of such bond shall be null and void, but all other provisions of such bond shall remain enforceable.

§ 11.4.8 In the event any surety shall make any assignment for the benefit of creditors or commit any act of bankruptcy, or is declared bankrupt, or if it shall file a voluntary petition in bankruptcy, or shall in the opinion of the Owner be insolvent, the Contractor shall immediately upon request by the Owner furnish and maintain other bonds satisfactory to the Owner. No further payment shall be due nor shall be made to Contractor until the new surety or sureties shall have met the Owner's qualifications.

§ 11.4.9 No surety shall assert solvency of its principal or its principal's denial of default as a defense to any claim under any bond furnished in accordance with this Article 11.

§ 11.4.10 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Owner's or Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Owner or Architect, be uncovered for the Owner's or Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Owner or Architect has not specifically requested to examine prior to its being covered, the Owner or Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Owner or Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor an express written acceptance of such specific condition. The Owner shall give such notice promptly after discovery of the condition. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it and backcharge the Contactor in accordance with Section 2.5. Notwithstanding the foregoing, Contractor shall correct Work deficiently or defectively performed, and replace defective or nonconforming materials, even though such deficiency, defect or nonconformity may be discovered more than one year after Final Completion, if the correction is of a latent defect and arises from poor workmanship or improper materials or is required to be made to workmanship or materials covered by Contractor or Subcontractors contrary to the Architect's request or to requirements specifically expressed in the Contract Documents and was therefore not visible for inspection by Architect or Owner at the time the Work was performed.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall be extended on specific items of Work identified as defective, and such extension shall commence upon the performance of corrective Work by the Contractor pursuant to this Section 12.2. Such extension shall expire one year from the date of completion of such corrective Work.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to any obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and

has no relationship to the time within which the Owner may seek to enforce that obligation or any other obligation arising under the Contract Documents.

§ 12.2.6 All other warranties and guarantees required by the Contract Documents shall be provided to the Architect prior to Substantial Completion or Final Completion, as applicable, and are separate obligations from the obligations contained in this Section 12.2.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so by express written notice to the Contractor instead of requiring its removal and correction, in which case the Contract Sum will be reduced by deductive Change Order as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the State of Illinois without regard for conflict of law principles.

§ 13.1.2 COMPLIANCE WITH LAWS

Contractor shall abide by and comply with all applicable Federal, State and local laws and rules and regulations including without limitation those relating to 1) fair employment practices, affirmative action and prohibiting discrimination in employment; 2) workers' compensation; 3) workplace safety; 4) wages and claims of laborers, mechanics and other workers, agents, or servants in any manner employed in connection with contracts involving public funds or the development or construction of public works, buildings or facilities; and 5) steel products procurement. Contractor's Compliance and Certification Attachment, including the Substance Abuse Prevention Program Certification, is attached to and incorporated herein by reference.

As a condition of the award of the Contract to contractor, Contractor shall certify, affirm and agree as follows, which certifications, affirmations and agreements shall be incorporated in and hereunder as a part of the Contract:

.1 The Contractor shall comply with the requirements of the Illinois Prevailing Wage Act (820 ILCS 130/0.01 *et seq.*) and the Owner's Ordinances, if applicable, requiring payment of prevailing wages. The Contractor shall pay or cause to be paid not less than the prevailing rate of hourly wage in the county the work is performed as determined by the Illinois Department of Labor for the month in which the work is performed including but not limited to all laborers, workers and mechanics. All contractors and subcontractors rendering services under this contract must comply with all requirements under the Act, including but not limited to, all wage, notice and record keeping duties.

The Contractor is required to verify current prevailing wage prior to the first day of each month and to pay the then-current prevailing wage rate as determined by the Illinois Department of Labor. Any increases in costs to the Contractor due to the changes in the prevailing wage during the term of this Contract shall be at the expense of Contractor and not at the expense of Owner. Current prevailing wage rates are published at the following website: https://www2.illinois.gov/idol/Laws-Rules/CONMED/pages/2018-rates.aspx. The Contractor agrees to indemnify and hold harmless the Owner for any violations of the Prevailing Wage Act.

The Contractor shall also: (1) insert into each subcontract and the project specifications for each subcontract, a written stipulation that the subcontractor shall not pay less than the prevailing rate of hourly wage to all laborers, workers, and mechanics performing work under the contract; and (2) require each subcontractor to insert into each lower-tiered contract and the project specifications for each lower-tiered subcontract, a stipulation that the subcontractor shall not pay less than prevailing rate of hourly wage to all laborers, workers, and mechanics performing work under the contract.

The Contractor shall include on all bonds and shall cause all subcontractors' bonds required under the Contract Documents to guarantee compliance with the Prevailing Wage Act.

Additionally, the Contractor and each subcontractor shall make and keep, for a period of not less than five (5) years from the date of the last payment on a contract or subcontract, records of all laborers, mechanics, and other workers employed by them on the Project; the records shall include each worker's name, address, telephone number when available, social security number, classification or classifications, the hourly wages

paid in each pay period, the number of hours worked each day, and the starting and ending times of work each day. The Contractor shall submit monthly, no later than the 10th day of each calendar month, in person, by mail, or electronically a certified payroll to the Owner with each monthly pay request in the form attached to the Contract Documents. The certified payroll shall be accompanied by a statement signed by the Contractor or subcontractor which states that: (i) he or she has examined the certified payroll and such records are true and accurate; (ii) the hourly rate paid to each worker is not less than the general prevailing rate of hourly wages required by this Act; and (iii) the Contractor or subcontractor is aware that filing a certified payroll that he or she knows to be false is a Class A misdemeanor. The Contractor may rely on the certification of a lower tier subcontractor, provided the Contractor does not knowingly rely upon a subcontractor's false certification. The records submitted in accordance with this payroll submittal provision shall be considered public records pursuant to Section 5 of the Prevailing Wage Act, 820 ILCS 130/5 (2004, as amended by P.A. 94-515). The Owner may, at its option, immediately terminate the Contract in the event that Contractor violates any provision of this paragraph or the Prevailing Wage Act.

Contractor shall also post the prevailing wage rates for each craft or type of worker or mechanic needed to complete the project at either: (1) a location on the project site easily accessible to the workers engaged on the project; or (2) in lieu of posting on the project site, if the Contractor has a business location where laborers, workers, ands mechanics may regularly visit, the Contractor may either post the prevailing rate of wages in each county the Contractor works in a conspicuous location or provide the laborers, workers or mechanics engaged on the project a written notice indicating the prevailing rate of wages for the project.

Upon seven business days' notice, the Contractor and each subcontractor shall make available for inspection and copying at a location within this State during reasonable hours, the records identified in 820 ILCS 130/5(a)(1) to the Owner, and its officers and agents.

§ 13.1.3 The Contractor shall be required to remain for the entirety of the Contract in compliance with the foregoing legal requirements. A violation is grounds for the immediate termination of the Contractor for cause. However, any forbearance in delay by the Owner in terminating Contractor or canceling the Contract shall not constitute a waiver of any right the Owner may have, including without limitation termination of Contractor, cancellation of the Contract and recovery of damages.

§ 13.1.4 This contract is subject to and shall be construed in accordance with all provisions of law applicable to the Work and the Project. All applicable rules of law shall prevail over any conflicting provision contained in any of the Contract Documents.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Contractor shall not assign the Contract in whole or in part without written consent of the Owner.

§ 13.2.2 The Contract Documents and these A201 General Conditions provide the rights and obligations by and between Owner, Architect, and Contractor. There are no other beneficiaries to the Contract.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and

approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear, without markup by Architect or Contractor, costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense ad without markup by the Architect or Contractor.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest only in accordance with the Local Government Prompt Payment Act, 50 ILCS 505/1, *et seq.*

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

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§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 90 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

.1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;

.2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped; or

.3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents, provided the payment is not in dispute.

§ 14.1.2 Reserved.

§ 14.1.3 If one of the reasons described in Section 14.1.1 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work properly executed in conformance with the Contract Documents as of the date of termination.

§ 14.1.4 If the Work is stopped for a period of 90 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may upon seven (7) days' notice to the Contractor terminate its contract with the Contractor or cause the Contractor to terminate any Subcontract with any Subcontractor or Sub-subcontractor if:

.1 the Contractor, Subcontractor, or Sub-subcontractor fails, except in cases for which extension of time is provided, to prosecute promptly and diligently the Work or to supply enough properly skilled workmen or proper materials for the Work;

.2 the Contractor, Subcontractor, or Sub-subcontractor institutes proceedings or consents to proceedings requesting relief under the Federal Bankruptcy Act or any similar federal or state law, or if a petition under any federal or state bankruptcy or insolvency law is filed against the Contractor, Subcontractor, or Sub-subcontractor and such petition is not dismissed within sixty (60) days from the date of filing, or if the Contractor, Subcontractor, or Sub-subcontractor admits in writing its inability to pay its debts generally as they become due, or makes a general assignment for the benefit of creditors, or if a receiver, liquidator, trustee or assignee is appointed on account of such bankruptcy or insolvency;

.3 the Contractor, Subcontractor, or Sub-subcontractor abandons the Work;

.4 the Contractor, Subcontractor, or Sub-subcontractor submits an Application for Payment, sworn statement, waiver of lien, certified payroll, affidavit or other document of any nature whatsoever which is intentionally falsified or which the Contractor, Subcontractor, or Sub-subcontractor knows to contain a false statement;

.5 a mechanic's or materialman's lien or notice of lien or claim of lien is filed against any part of the Work, the public funds allocated for the Work, or on the site of the Project, if after written demand by the Owner such lien is not promptly released or satisfied;

.6 the Contractor, Subcontractor, or Sub-subcontractor disregards any laws, statutes, ordinances, rules, regulations or orders of a governmental body or public or quasi-public authority having jurisdiction of the Work or the site of the Project;

.7 the Contractor fails to make prompt payment to Subcontractors for materials or labor or otherwise breaches obligations under any subcontract with a Subcontractor, or Subcontractor fails to make prompt payment to Sub-subcontractors for materials or labor or otherwise breaches obligations under any sub-subcontract with a Sub-subcontractor; or

.8 the Contractor or Subcontractor otherwise violates any material provision of the Contract Documents

Upon termination as provided herein, Owner may take possession of the Project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor and accept assignment of Subcontracts and may complete the Work by whatever reasonable method the Owner may deem expedient. If requested by the Owner, the Contractor shall remove any part or all of his equipment, machinery and supplies from the Project within seven (7) days from the date of such request, and in the event of the Contractor's failure to so, the Owner shall have the right to remove or store, or remove and store, such equipment, machinery and supplies at the Contractor's expense. In case of such termination, the Contractor shall not be entitled to receive any further payment for Work performed by the Contractor through the date of termination until final completion of the Work

The termination rights under this Subparagraph 14.2.1 shall be in addition to and not in limitation of any rights or remedies, contractual, statutory or otherwise.

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§ 14.2.2

(Paragraphs deleted)

In the event of termination pursuant to Section 14.2, the Contract Sum shall be reduced by Change Order to reflect any increased costs to the Owner of completing the Work, and if the unpaid balance of the Contract Sum exceeds all costs to the Owner of completing the Work, the Contractor shall pay the difference to the Owner upon written demand by the Owner. Such costs shall include but not be limited to the cost of any additional architectural, managerial and administrative services required thereby, any costs incurred in retaining another Contractor or other Subcontractors, any additional interest or fees which the Owner must pay by reason of a delay in completing of the Work, reasonable attorneys' fees and expenses, and any other damages, costs and expenses the Owner may incur by reason of completing the Work or any delay thereof. The amount, if any, to be paid to the Contractor shall be certified by the Architect, upon application, in the manner provided in Paragraph 9.4, and this obligation for payment shall survive the termination of the Contract.

(Paragraphs deleted)

§14.2.3 The Owner's right to terminate the Contract pursuant to Section14.2 shall be in addition to and not in limitation of its right to stop the Work without terminating the Contract pursuant to Section 2.4.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause and in its sole discretion, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 To the extent not due to the fault of Contractor, the Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

.1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or

.2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

.1 cease operations as directed by the Owner in the notice;

.2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work;

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders; and

.4 Immediately assign to the Owner any sub-contractual assignments requested by the Owner pursuant to Section 5.4.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed in conformance with the Contract Documents. However, in no event shall Contractor be entitled to overhead and profit on Work not executed, or costs incurred by reason of such termination.

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ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by the Contractor seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract.

(Paragraphs deleted)

§ 15.1.2 Notice of Claims

§ 15.1.2.1 Claims by the Contractor, shall be initiated by notice to the Owner and to the Initial Decision Maker, if any, with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by the Contractor under this Section 15.1.2.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the Contractor first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.2.2 Claims by the Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the Owner. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.3 Continuing Contract Performance

§ 15.1.3.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.3.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, if any, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

(Paragraphs deleted)

§ 15.1.4 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.2 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 Claims for Additional Time

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.2 shall be given. The Contractor's Claim shall include an estimate of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary. For Claims for Additional Time, to the extent that an equitable extension of Contract Time is warranted, such extension shall be the Contractor's sole and exclusive remedy.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

§ 15.1.5.3 For all Claims for Additional Time, the Contractor shall support such Claims in the same manner as supporting additional time for Change Orders.

§ 15.1.6 Waiver of Claims for Consequential Damages

The Contractor waives Claims against Owner for consequential damages arising out of or relating to this Contract. This waiver includes

> damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This waiver is applicable, without limitation, to all consequential damages due to Owner's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.0 As used in this Section 15.2 and its subparts, "Claims" refers only to Claims by the Contractor, and does not include Claims by the Owner.

§ 15.2.1 Claims by the Contractor ("Claims"), excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, and 10.4, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to arbitration or litigation, as the case may be, of any Claim initiated by Contractor and arising prior to the date final payment is due. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the Contractor may commence litigation , without a decision having been rendered, and such litigation shall be subject to the Owner's right to elect arbitration as provided in Section 15.4.1. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall not be binding.

§ 15.2.6 Reserved.
(Paragraph deleted)
§ 15.2.7 Reserved. .

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Reserved.

(Paragraphs deleted)
§ 15.4 Arbitration
§ 15.4.1 In the sole and exclusive discretion of the Owner, all claims, disputes and other matters in question between any of the Architect, Owner, Contractor, Surety, Subcontractor or any material supplier arising out of, or relating to, agreements to which two or more of said parties are bound, or the Contract Documents or the breach thereof, shall, in the case of such election by the Owner, be decided by arbitration. If the Owner elects such arbitration, it shall be conducted in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association then in effect at the time that the demand is made, as modified herein. In any such arbitration, the arbitrator shall make separate findings as to liability and the amount of damages with respect to each party to the arbitration to the extent

any liability or responsibility for damages exists. The Architect, surety, subcontractors and material suppliers who have an interest in the dispute shall be joined as parties to the arbitration. The arbitrator shall have authority to decide all issues between the parties. The foregoing agreement to arbitrate and any other agreement to arbitrate with an additional person or persons, duly consented to by the parties, shall be specifically enforceable under the prevailing arbitration law. The award rendered by the arbitrator shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.1.1 If the Owner elects arbitration, in its sole discretion, notice of the demand for arbitration shall be filed in writing with the other part(ies) to the arbitration and with the American Arbitration Association. Such demand for arbitration shall be made within a reasonable time after the claim, dispute or other matter in question has arisen, and in no event shall it be made after the date when institution of legal or equitable proceedings based on such claim, dispute or other matter in question would otherwise be barred by an applicable statute of limitations or repose. Whether such limitations have been met shall be decided by the arbitrator if contested by a party.

§ 15.4.1.2 All parties shall carry on the Work and perform their duties during any arbitration proceedings, and the Owner shall continue to make payments to the extent required by the Contract Documents. However, at the request of any party, contested payments may be placed in an escrow account pending resolution of the dispute.

§ 15.4.1.3 If the Owner elects arbitration, in its sole discretion, in addition to the other rules of the American Arbitration Association applicable to any arbitration hereunder, the following shall apply:

.1 Promptly after the impaneling of the arbitrator, the arbitrator shall establish a procedure for each party to set forth in writing and to serve upon each other party a detailed statement of its contentions of fact and law, along with appropriate responses thereto;

.2 All parties to the arbitration shall be entitled to reasonable discovery procedures as provided by the Illinois Code of Civil Procedure and Illinois Supreme Court Rules, as supplemented by rules to be established by the arbitrator;

.3 The arbitration shall be commenced and conducted as expeditiously as possible consistent with affording reasonable discovery as provided herein. Similarly, the scope of discovery, and the extent of proceedings hereunder relating to discovery, shall be consistent with the parties' intent that the arbitration be conducted as expeditiously as possible.

§ 15.4.2 In the event of any litigation or arbitration between the parties hereunder, the Contractor shall pay the Owner's reasonable attorneys' fees and court costs to the extent the court or tribunal determines the Owner is the prevailing party.

(Paragraphs deleted)

§ **15.4.3 Waiver of Punitive Damages.** The Contractor and Owner waive all claims against each other for all punitive damages arising out of or relating to this Contract, but nothing in this paragraph shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ **15.4.4 Venue.** Any suit or action arising under this Contract shall be commenced in DuPage County, Illinois.

Additions and Deletions Report for
AIA® Document A201™ – 2017

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Central Park North
1315 Kensington
Oak Brook, IL 60523

...

~~*(Name, legal status*~~ *(Name and address)*

Oak Brook Park District
1450 Forest Gate Road
Oak Brook, IL 60523

...

~~*(Name, legal status and address)*~~*(Name and address)*

Upland Design Ltd.
24042 Lockport Street
Plainfield, IL 60544

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~~(Topics and numbers in bold are Section headings.)~~(Numbers and Topics in Bold are Section Headings)

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The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents ~~listed in the Agreement,~~ included in the Project Manual, other documents listed in the Agreement and Modifications issued after execution of

the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, ~~(2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.~~
or (2) a Change Order.

...

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, provided, however, Owner shall be third party beneficiary of any Subcontract agreement as set forth in Article 5 herein, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

...

The term "Work" means all of the Contractor's duties under the Contract Documents, including the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

...

The Initial Decision ~~Maker~~ Maker, if any, is the person identified in the Agreement to render initial decisions on Claims in accordance with ~~Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.~~Section 15.2.

§ 1.1.9 Final Completion

Final Completion means the date the Contract has been fully performed, all the Work has been completed and a final Certificate for Payment approved by the Owner has been issued by Architect.

§ 1.1.10 Punch List

"Punch List" shall mean and shall be limited to uncompleted items of the Work (a) that do not interfere with the use and occupancy of any area of the Project Site for its intended purpose and (b) that, as a group, are capable of being completed by the Contractor within thirty (30) days of issuance of any Punch List.

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§ 1.2.4 If any two or more provisions of the Contract Documents conflict, and such conflict relates to the quantity or quality of the Work, the Contractor agrees to provide the greater quantity and/or better quality of such Work.

...

§ 1.5.1 The ~~Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and~~ Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with ~~the~~ this Project is not to be construed as publication in derogation of the ~~Architect's or Architect's consultants'~~ Owner's reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the ~~Owner, Architect, and the Architect's consultants.~~owner(s) and any licensee(s) who have an interest in and to the Instruments of Service. .

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The parties ~~shall~~ may agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. ~~The~~ If the parties agree to protocols governing the transmission and use of Instruments of Service and other documents in digital form, the parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish ~~the~~ these protocols for the development, use, transmission, and exchange of digital data.

~~**§ 1.8 Building Information Models Use and Reliance**~~

~~Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.~~

...

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who ~~shall~~ shall, to the extent allowed by law and by the Owner's policies and procedures, have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 ~~The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.~~Where the Owner furnished any information or documents to the Contractor in connection with the Project, the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.2 ~~Evidence of the Owner's Financial Arrangements~~**Reserved.**

~~**§ 2.2.1** Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.~~

~~**§ 2.2.2** Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due;~~

~~or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.~~

~~**§ 2.2.3** After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.~~

~~**§ 2.2.4** Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.~~

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities. The Contractor shall provide information or other assistance as the Architect or Owner may request in connection with these obligations.

§ 2.3.2 ~~The~~ As appropriate for the Project, the Owner shall retain an architect and/or engineer lawfully licensed to practice ~~architecture,~~ architecture and/or engineering, or an entity lawfully practicing ~~architecture,~~ architecture and/or engineering in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 ~~If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.~~**Reserved.** **§ 2.3.4** Upon written request by the Contractor, the Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work. Notwithstanding the foregoing, the furnishing of surveys by the Owner is not a guarantee of the accuracy of the information contained therein, and shall not relieve the Contractor from its duties under the Contract Documents in general. The submission of a bid for the work implies that the Contractor had examined the site, taking into consideration all such conditions that may affect the work, regardless of the information contained in the surveys.

~~**§ 2.3.4** The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.~~

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If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by ~~Section 12.2 or repeatedly~~ Section 12.2, or fails or refuses to provide a sufficient amount of properly supervised and coordinated labor, materials, or equipment so as to be able to complete the Work within the Contract Time, or fails to remove and discharge (within ten days) any lien filed upon Owner's funds by anyone claiming by, through, or under Contractor, or disregards the instructions of Architect or Owner when based on the requirements of the Contract Documents, or fails to carry out Work in accordance with the Contract Documents, or in the event an emergency arises that requires the Work to be stopped, the Owner may issue a written order to the Contractor to stop

the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3. The Owner's rights and remedies under this section are in addition to, and not a limitation of, any other rights and remedies of the Owner under the Contract Documents or otherwise.

...

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents or approved construction schedules, and fails within a ~~ten-day~~ five-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such ~~default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the~~ default, neglect or failure. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and reasonable attorneys' fees, and compensation for the Architect's additional services made necessary by such default, ~~neglect, or failure. If current and future payments~~ neglect or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the ~~Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.~~Owner within thirty (30) days after a request by the Owner.

§ 2.6 Owner's Right to Audit. The Contractor shall keep full and accurate records, in accordance with sound accounting principles, of all labor and material costs incurred, items billed, and all other expenditures, costs, liabilities and obligations incurred in connection with the performance of the Work, and all papers, files, accounts, reports, cost proposals with backup data and all other material relating to work under this Contract, which records shall be open to audit by the Owner or its authorized representatives during performance of the Work and for the length of time established by law or five years, whichever is longer, from the date of final payment to Contractor or termination of this Contract. In addition, the Contractor shall make it a condition of all Subcontracts relating to the Work that all Subcontractors will keep accurate records of costs incurred and items billed in connection with their work and that such records shall be open to audit by the Owner or its authorized representatives during performance of the Work and for the length of time established by law or five years, whichever is longer, from the date of final payment to Contractor or termination of this Contract.

...

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative. The Contractor is an independent contractor, and shall not be deemed an agent of the Owner for any reason.

§ 3.1.2 The Contractor shall perform the Work in strict accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in strict accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

...

§ 3.2.1 ~~Execution of the Contract by the Contractor is a representation that the Contractor has visited the~~ The Contractor represents that it has visited the Project site, become generally familiar with local conditions under which the Work is to be performed, ~~and correlated personal observations with requirements of~~ correlated personal observations with requirements of the Contract Documents, and has satisfied itself as to the nature and location of the Work, the general and local conditions, including those bearing upon access (including partial or total restrictions on

access), transportation, delivery, disposal, staging, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, ground water table or similar physical conditions of the ground, the character, quality and quantity of existing conditions to be encountered, the character of equipment and facilities needed prior to and during the prosecution of the Work and all other matters which can in any way effect the Work or the cost thereof under this Agreement. Any failure by the Contractor to acquaint itself with all the available information concerning these conditions will not relieve the Contractor from any obligation under the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall ~~observe~~ evaluate any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering latent errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor or its Subcontractors or suppliers as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect and Owner any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the ~~Owner, subject to Section 15.1.7,~~ Owner as would have been avoided if the Contractor had performed such ~~obligations.~~ obligations, including any increases in construction costs. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, ~~for differences between field measurements~~ or ~~conditions and the Contract Documents, or~~ for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.2.5 In all cases where Work interconnects with existing facilities, Contractor shall field measure and verify at the site all dimensions relating to such existing facilities. Any conflicts in the Work and the existing facilities which could have been mitigated by the Contractor's obligation to verify the dimensions of the existing facilities shall be promptly rectified by the Contractor at its own expense, and such obligation does not limit the Owner's other rights and remedies under the Contract Documents.

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§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or ~~procedures.~~ procedures to the Owner and Architect. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. ~~Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform~~ The Contractor shall not proceed performing the Work using its alternative means, methods, techniques, sequences, or ~~procedures.~~ procedures without written approval from the Architect.

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§ 3.3.4 The Contractor shall coordinate inspections by governmental authorities having jurisdiction over the Work.

§ 3.3.5 No inspection performed or failed to be performed by the Owner or Architect shall be a waiver of any of the Contractor's obligations hereunder.

§ 3.3.6 The Contractor has the responsibility to ensure that all material suppliers and Subcontractors, their agents, and employees adhere to the Contract Documents, and that they order materials on time, taking into account the current market and delivery conditions and that they provide materials on time. The Contractor shall coordinate its Work with that of all others on the Project including deliveries, storage, installations, and construction utilities. The Contractor shall be responsible for the space requirements, locations, and routing of its equipment. In areas and locations where the proper and most effective space requirements, locations, and routing cannot be made as indicated, the Contractor shall meet with all others involved, before installation, to plan the most effective and efficient method of overall installation.

...

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions equal to or superior to the specified materials only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive. Except as provided in 3.4.2, the materials specified have been determined to have characteristics appropriate for this Project. No work will be accepted which utilizes an alternate not approved during the bidding process.

...

§ 3.4.4 The Contractor shall not at any time permit on the Project site any alcohol or controlled substances whether inside or outside of buildings or structures. Possession or use of any of the foregoing at or adjacent to the site shall obligate the Contractor to remove such offending personnel from the site and replace them at no additional cost to the Owner.

§ 3.4.5 The Contractor and any Subcontractors shall conform to labor laws of the State and various acts amendatory and supplementary thereto and to other laws, ordinances and legal requirements applicable thereto. Contractor shall enforce among all personnel directly or indirectly employed by it, and among all Subcontractors and their employees, all rules which the Owner may establish for conduct of such personnel on the site.

§ 3.4.6 The Contractor shall pay prevailing wages in accordance with and shall fully comply with all requirements of the Prevailing Wage Act, 820 ILCS 130/0.01, *et seq.*

§ 3.4.7 Before ordering any material or doing any Work, the Contractor shall verify all measurements at the Project Site and he shall be responsible for the correctness of same. No extra charge or compensation will be allowed to the Contractor on account of any difference between actual dimensions and the measurements shown by the Project Drawings.

§ 3.4.8 The Contractor shall carefully inspect all materials delivered on and to the Project Site and reject defective materials without waiting for the Architect or other representative of Owner to observe the materials.

§ 3.4.9 Contractor shall maintain harmonious labor relations on the job site. If a labor problem arises or any person employed by the Contractor on the Work shall appear to the Owner to be incompetent or conduct himself in a disorderly or improper manner, such person or persons shall be removed from the Work immediately on the request of the Owner. Said removal shall not create any additional cost to Owner and shall not extend the time for completion of the Work.

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work ~~will~~ shall strictly conform to the requirements of the Contract Documents and ~~will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit.~~ shall be free

from defects. This warranty shall not be restricted by the limitations of any manufacturer's warranty. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

All warranties shall include labor and materials and shall be signed by the manufacturer or Subcontractor as the case may be and countersigned by the Contractor. All warranties shall be addressed to the Owner and delivered to the Architect upon Final Completion of the Work and before the submission of request for final payment in accordance with Section 9.8.6. Except as otherwise provided elsewhere in the Contract Documents, or in any Certificate of Substantial Completion approved by Owner and Contractor and/or Subcontractor, as applicable, all warranties shall become effective on the date of Final Completion of the entire Work, and shall run for a twelve (12) month period, unless a longer period is provided for in the Contract Documents or by law. Where warranties overlap, the more stringent requirement shall govern.

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§ 3.5.3 If materials or equipment are replaced during the original warranty period, a new warranty period thereon shall then begin from the date that such corrective action is completed and approved.

§ 3.5.4 For concrete work, warranty protection for a repaired item shall be for twenty-four months after final acceptance of concrete work or the length of the original warranty period, whichever is longer. This will cover structural failures, as well as surface erosion due to spalling caused by frost popping soft aggregates within the concrete and surface erosion due to faulty workmanship. All concrete work not meeting high industry standards will be removed and replaced at no charge to the Owner.

§ 3.5.5 Defective materials, equipment or workmanship occurring within the warranty period may be repaired where such produces results conforming to the Contract Documents relating to appearance, performance and reliability. Where the nature of the defective materials, equipment or workmanship is such that acceptable results cannot be obtained by repair, such defective items shall be removed and replaced with new materials, equipment or workmanship complying with the Contract Documents.

§ 3.5.6 Correction of defective or non-conforming Work shall include, in addition to that described in Article 12, any damage to the Project or other property that may result from such defective or nonconforming Work or from such corrective action, including without limitation any damage to any contents, to the work of other contractors, or to adjacent property.

§ 3.5.7 The Contractor shall furnish maintenance and twenty-four (24) hour callback service for the equipment provided by Contractor, Subcontractor or supplier for a period of at least six (6) months after Final Completion and acceptance of the Work, or for such longer period as shall otherwise be provided in any of the Contract Documents. This service shall include regular examinations of the installation by competent and trained employees of the Contractor, or manufacturer, and shall include all necessary adjustments, greasing, oiling, cleaning, supplies and parts to keep the equipment in proper operation except such parts made necessary by misuse, accidents or negligence not caused by the Contractor or any of its Subcontractors.

§ 3.5.8 The warranty provided in this Paragraph 3.5 shall be in addition to and not in limitation of, any other warranty or remedy required under the Contract Documents or under applicable law.

The Owner is tax-exempt. Notwithstanding, the Contractor shall pay any applicable sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are ~~received or negotiations concluded,~~ received, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 Permits, Fees, Notices ~~and~~ and, Compliance with Laws

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§ 3.7.3 If the Contractor performs Work ~~knowing it to be~~ contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable ~~to correction.~~

to correction including, but not limited to, the cost to correct the Work and any fines, penalties, judgements or damages imposed on, or suffered, sustained or incurred by Owner due to Contractor's failure to comply with the provisions of 3.7.2. The Contractor shall also be liable to the Owner for any delay in the performance of the Work or increase in the cost of the Work resulting from the Contractor's failure to fully comply with the provisions of Section 3.7.2.

...

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall immediately notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.7.6 Contractor shall comply with all public and private utility requirements relating to the Work or the performance thereof. If the Contractor performs Work contrary to applicable utility requirements, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

...

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection. Notwithstanding any provision of the Contract Documents to the contrary, any use of an allowance account is subject to the written pre-approval of the Owner.

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§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the ~~Work.~~ Work on site. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. The superintendent shall be subject to approval by the Owner and shall not be replaced without the prior written consent of the Owner. The Owner shall have the right to require that the Contractor replace the superintendent, at no additional cost to the Owner, at any time during the duration of the Work if his/her performance is not satisfactory to the Owner.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the ~~Architect~~ Owner may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the ~~Architect~~ Owner to provide notice within the 14-day period shall constitute notice ~~of no reasonable objection.~~that Owner has no initial objection to the proposed superintendent, but shall not affect Owner's right to make a subsequent rejection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner ~~or Architect~~ has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's ~~consent, which shall not unreasonably be withheld or delayed.~~consent.

...

§ 3.10.1.1 The Contractor's construction schedules shall be in a bar chart format, and shall depict, at a minimum, activity identification and durations, critical path, float, early start, early finish, late start, and late finish.

§ 3.10.1.2 The float in the construction schedules will not be deemed exclusively available to the Contractor or Owner, but rather shall be available to either party as needed.

§ 3.10.1.3 No less than once per month, the Contractor shall submit an updated construction schedule. The updated construction schedule shall depict actual start and completion dates for Work commenced and, if appropriate, Work completed. Additionally, the updated construction schedules shall depict updated estimates of anticipated commencement and completion dates for all upcoming Work.

§ 3.10.1.4 Submission of the initial construction schedule and monthly schedule updates shall be absolute prerequisites of certification of the Contractor's application for payment.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect. If the Contractor fails to adhere to the approved construction schedule(s), Contractor shall immediately, at its own expense, take necessary measures to remedy such failure, including addition of personnel and/or equipment, overtime, and/or additional shifts. The Owner shall be entitled to rely on Contractor's schedules for coordination of its own activities, as well as the activities of other contractors working at the Project site or on the Project.

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The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required ~~submittals. These~~ submittals (collectively the "As-Built Documents"). These As-Built Documents shall be in electronic form or paper copy, available ~~to the Architect and Owner, and~~ for inspection by the Architect or Owner upon reasonable notice, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed. Adequate maintenance of the As-Built Documents shall be a condition precedent to certification of the Contractor's applications for payment.

...

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. The Contractor shall submit Product Data for all equipment and materials incorporated into the finished Work. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

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§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the ~~Owner and the~~ Architect will specify all performance and design criteria that such services must satisfy. ~~The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents.~~ The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the ~~Owner and Architect have~~ Architect has specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

...

The Contractor shall confine operations at the site to the site access plan, if any, and to the areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.13.1 General Use. The Contractor shall enforce the Owner's instructions regarding the conduct and use of the site by his employees.

§ 3.13.2 Parking & Traffic.

.1 Parking of construction vehicles on the site by the Contractor shall not inhibit construction nor prevent access for emergency or other official vehicles. Parking of private vehicles on the site by the Contractor is prohibited unless said vehicle is necessary in the execution of the Contract. No construction vehicles shall be parked near or under any existing vegetation on the site.

.2 Construction traffic and staging shall be permitted only within construction limits as indicated on plan. The Contractor is responsible for repair of any areas disturbed outside of this area, including grading and sodding. No staging will be permitted on the existing asphalt.

§ 3.13.3 Fencing. The Contractor will be responsible for erecting and maintaining all construction fencing required by applicable law, regulation, rule, ordinance or code at all times of construction. Failure to erect or maintain this fencing will result in the correction of the problem by the Owner at the expense of the Contractor. The Contractor's expense will be back charged to the Contract, and may include, but are not limited to, the cost of any materials and staff time. Required fencing must be installed and fully erected before construction operations beginning and tied-up at the end of each working day. All construction fencing must conform to the Specifications and as required by applicable law.

§ 3.13.4 Water Removal. If, during construction, standing water caused by heavy rains or poor drainage becomes a hazard in the proper execution of the Contract, it shall be the responsibility of the Contractor to provide and make payment for removal of said water to existing drainage swales, storm sewers or other natural or man-made drainage ways.

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§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project. Throughout the progress of the Work the Contractor shall continually remove from the Project Site and from any adjacent property, all waste, scraps, tools, equipment, storage facilities, machinery, trailers, and vehicles no longer required for prosecution of the Work, such that the Project site remains clean, orderly, and safe.

...

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the ~~Owner or~~ Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, or the Contractor has reason to believe that the required design, process, or product is an infringement, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

...

§ 3.18.1 To the fullest extent ~~permitted~~ by law, the Contractor shall waive any right of contribution and shall indemnify and hold harmless the Owner, ~~Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees,~~ its officers, officials, employees, volunteers and agents, and the Architect and its employees and consultants from and against all claims, damages, losses and expenses, including, but not limited to attorneys' fees and economic or consequential damages, arising out of or resulting from or in connection with the performance of the Work, provided that ~~such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor,~~ any such claim, damage, loss or expense is caused in whole or in part by any intentional

wrongful act or any negligent act or omission of the Contractor, any subcontractor, anyone directly or indirectly employed by ~~them,~~ any of them or anyone for whose acts ~~they~~ any of them may be liable, regardless of whether or not ~~such claim, damage, loss, or expense~~ it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or ~~reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.~~otherwise reduce any other right or obligation of indemnity which would exist as any party or person described in the Contract. Contractor shall similarly protect, indemnify and hold and save harmless the Owner, its officers, officials, employees, volunteers and agents against and from any and all claims, costs, causes, actions and expenses including but not limited to legal fees, incurred by reason of Contractor's breach of any of its obligations under, or Contractor's default of, any provision of the Contract.

Nothing contained herein shall be construed as prohibiting the Owner, its officers, employees or agents from defending, through the selection and use of their own agents, attorneys and experts, any claims, suits, demands, proceedings or actions brought against them. The Owner's participation in its defense shall not remove the successful Bidder's duty to indemnify, defend and hold the Owner harmless as set forth herein.

The indemnification required hereunder shall not be limited by reason of the enumeration of insurance coverage herein provided.

The successful Bidder's indemnification of the Owner shall survive the termination or expiration of the Contract.

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§ 3.18.3 "Claims, damages, loses and expenses" as these words are used herein shall be construed to include, but not be limited to (1) injury or damage consequent upon the failure of or use or misuse by Contractor, its Subcontractors, agents, servants or employees, of any hoist, rigging, blocking, scaffolding, or any and all other kinds of items of equipment, whether or not the same be owned, furnished or loaned by Owner; (2) all attorneys' fees and costs incurred in defense of the claim or in bringing an action to enforce the provision of this Indemnity or any other indemnity contained in the Contract Documents; and (3) all costs, expenses, lost time, opportunity costs and other similar indirect or incident damages incurred by the party being indemnified or its employees, agents or consultants.

§ 3.18.4 In the event that the Contractor or its Subcontractors are requested to, but refuse to, honor the indemnity obligations hereunder or to provide a defense, then in addition to all other obligations hereunder, the Contractor or its Subcontractors shall reimburse the Owner and Architect the cost of any legal action concerning Contractor or Subcontractor's duty to defend and indemnify under this Agreement, including attorneys' fees, time expended, costs and expenses.

§ 3.18.5 The Contractor hereby knowingly and intentionally waives the right to assert, under the case of *Kotecki v. Cyclops Welding Corp*., 146 Ill.2nd 155 (1991) that Contractor's liability may be limited to the amount of its statutory liability under the Workers' Compensation Act, and agrees that Contractor's liability to indemnify and defend the Owner and Architect is not limited by the so called "Kotecki Cap". The Contractor shall include this provision in each of its Subcontract agreements and shall require its Subcontractors to be so bound.

§ 3.18.6 The Contractor shall include in each and every Subcontract with any and all Subcontractors and/or material suppliers performing Work and require each and every Subcontractor and/or material supplier performing Work to agree to be bound by all of the provisions 3.18.1 through 3.18.10 under the Contract Documents.

§ 3.18.7 The Contractor's indemnity obligations hereunder shall specifically include all claims and judgments which may be made against the indemnitees under federal or state law or the law of the other governmental bodies having jurisdiction, and further, against claims and judgments arising from violation of public ordinances and requirements of governing authorities due to Contractor's or Contractor's employees method of execution of the Work.

§ 3.18.8 The indemnification provisions of this Section 3.18 are not intended to conflict in any way with the Construction Contract Indemnification for Negligence Act, 740 ILCS 35/0.01 *et seq*. and shall be interpreted in accordance therewith.

§ 3.18.9 The Contractor shall indemnify and hold harmless the Owner in the event of labor or trade union conflicts or disputes between the Contractor and Subcontractors and their respective employees. The Contractor shall endeavor to adjust and resolve such conflicts and disputes which affect the timely completion of the Work. Such conflicts or

disputes shall not be a basis or excuse for the violation of the Contract Documents by the Contractor or its Subcontractors, and shall not provide the Contractor with relief from complying with dates for Substantial Completion or Final Completion. Labor or trade union disputes that affect production or delivery of materials or equipment, or the installation, shall be at no cost to the Owner. The Contractor shall notify the Architect and the Owner in writing as soon as possible as to any labor or trade disputes which may affect the Work and its timely completion. In such event, the Contractor shall provide a written proposal to the Architect and the Owner which includes any comparable substitution(s) necessary to complete the Work.

§ 3.18.10 None of the foregoing provisions shall deprive the Owner or the Architect of any action, right or remedy otherwise available to them or either of them at law.

§ 3.19 If the Work is to be performed by trade unions, the Contractor shall make all necessary arrangements to reconcile, without delay, damage, or cost to the Architect or the Owner, any conflict between the Contract Documents and any agreements or regulations of any kind at any time in force among members or councils which regulate or distinguish what activities shall not be included in the Work of any particular trade. In case the progress of the Work is affected by any undue delay in furnishing or installing any items or materials or equipment required under the Contract Documents because of the conflict involving any such agreement or regulation, the Architect may require that other material or equipment of equal kind and quality be provided at no additional cost to the Owner.

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~~**§ 4.1.2** Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.~~

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate ~~for~~ For Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to ~~become generally familiar with~~ observe and to keep the Owner informed about the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

...

The Owner and Contractor shall endeavor to include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's ~~evaluations of the~~ observation and evaluation of the progress and quality of Work and Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect ~~has~~ and the Owner each have authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority ~~of the Architect~~ nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Owner or Architect to the

Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance ~~with information given and the design concept expressed in~~ of the information given with the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.
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§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The authority of the Architect's Project representative is limited by the Owner's policies and procedures, and by the terms and conditions of the agreement between the Owner and the Architect. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

...

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract ~~Documents.~~Documents and if approved in writing by the Owner.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information. All requests for information shall be submitted to the Architect in a format acceptable to the Architect.
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§ 5.1.1 ~~A~~ If this Project is utilizing a construction manager at-risk, then when the lowest, responsive and responsible multiple prime trade bidder(s) are identified and awarded contracts by the Owner, each such award shall constitute the automatic assignment of that trade contract by the Owner to the construction manager, who is also known as the "Contractor." Each such successful bidder shall then be known as a "Subcontractor." If this Project is utilizing a single general contractor or multiple prime trade contractors, and the Project is not utilizing a construction manager-at risk, then there shall be no such assignment. In any case, a Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

...

§5.2.5 In the event of a conflict between the Owner and Architect regarding the selection of Subcontractors, the Owner's decision shall govern.

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect.

Each Subcontractor acknowledges: (1) that the Owner is a direct intended third party beneficiary of each Subcontract between the Contractor and Subcontractor; (2) that notwithstanding any contract provision to the contrary, Subcontractor shall be bound to perform the Work in accordance with these AIA A201 general conditions, as amended; and (3) that the Subcontractor is not a third party beneficiary of any construction management contract between Contractor and Owner.

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§ 5.4.1 ~~Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that~~

~~**.1** assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and~~

~~**.2** assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.~~

~~When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.~~All subcontract agreements shall conform to the requirements of the Contract Documents and the Contractor hereby assigns to Owner (and Owner's permitted assigns) all its interest in any subcontract agreements and purchase orders now existing or hereinafter entered into by the Contractor for performance of any part of the Work, which assignment will be effective in the event of the Contractor's failure to perform the Work in accordance with the Contract Documents and upon acceptance by Owner in writing and only as to those subcontract agreements and purchase orders that Owner designates in said writing. It is agreed and understood that the Owner may accept said assignment at any time during the course of construction prior to Final Completion. Upon such acceptance by Owner, (1) the Contractor shall promptly furnish to the Owner true and correct copies of the designated subcontract agreements and purchase orders, and (2) the Owner shall only be required to compensate the designated Subcontractor(s) or supplier(s) for compensation accruing to such party(ies) for Work done or materials delivered from and after the date on which the Owner accepts the subcontract agreement(s) or purchase order(s). All sums due and owing by the Contractor to the designated Subcontractor(s) or supplier(s) for work performed or material supplied prior to Owner's acceptance of the subcontract agreement(s) or purchase order(s) shall constitute a debt between such parties and the Contractor. It is further agreed that no subcontract agreement or purchase order shall contain any restriction that would prohibit assignment under the terms and conditions stated hereinabove. It is further agreed and understood that such assignment is part of the consideration to Owner for entering into the Contract with the Contractor and may not be withdrawn prior to Final Completion.

~~**§ 5.4.2** Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.~~

§ 5.4.2Reserved. .

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other ~~entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.~~entity, and upon such further the assignment, the Owner shall have no further liability to such subcontractor.

...

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project or other construction or operations on the site with the Owner's own forces, and with Separate ~~Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.~~Contractors. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

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~~§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.~~

...

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. ~~The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.~~

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. ~~The~~ Subject to Article 15, the Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

...

§ 6.2.5 ~~The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.~~Reserved.

§ 6.2.6 Should the Contractor cause damage to the work or property of any separate contractor and/or in the event of any other claim, dispute, or matter in question between the Contractor and any separate contractor, the Contractor shall promptly attempt to settle with such other contractor by agreement, or otherwise to resolve the dispute. In any event, the Contractor shall indemnify, defend, and hold harmless the Owner, its officers, park commissioners, employees and agents, to the full extent as agreed to under Section 3.18 of these General Conditions.

...

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and ~~the Architect will~~ allocate the cost among those responsible.

...

§ 7.1.1 The Owner may, without invalidating the Contract and without notice to the surety, direct changes in the Work. Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

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§ 7.1.4 No Change Order shall be approved or paid unless preceded by a written direction for the Change Order is provided by the Owner. This requirement cannot be waived by conduct, custom, or practice with respect to this Project or other projects. There shall be no implied or constructive change orders.

...

§ 7.2.2 No payment for changes in the Work shall be made until such change has been memorialized in an executed Change Order and the Change has been executed.

§ 7.2.3 Adjustments to the Contract Sum for changes in the Work (other than for changes in the Work involving items for which unit prices were provided) shall be made in accordance with this Section 7.2.3, provided that in the case of an increase in the Contract Sum attributable to a change in the Work, "reasonable overhead and profit" shall mean: 1. Five percent (5%) of the cost of the change in the Work involved if performed by the Contractor not involving Subcontractors, or

2. Five percent (5%) of the cost of the change in the Work involved performed by Subcontractors, plus two percent of the cost of the change in the Work for the Contractor's supervision of the work performed by the Subcontractors. When both additions and credits covering related Work are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change. No overhead and profit shall be paid to the Contractor for an increase in the cost of the surety bond or insurance premiums resulting from a change in the Work. In the event of an increase in the Contract Sum resulting from an additive change order, the actual amount of any increase in the cost of Contractor's surety bond shall be added to the amount of the change order. Similarly in the event of a decrease in the Contract Sum resulting from a deductive change order, the amount of any decrease in the cost of Contractor's surety bond shall be added to the amount shown in the deductive change order, by which the Contract Sum is to be reduced.

All change order requests must be submitted with the following backup information or they will not be reviewed by the Architect or Owner: material and labor quantities, material unit costs, labor rates, and any other substantiating data to explain the change order amount.

...

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change ~~Order.~~Order for the purposes of defining the change and/or how payment shall be calculated, but not for the purpose of approving payment.

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§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in ~~the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount.~~ Section 7.2.3. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

...

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. ~~Such~~ Upon execution by the Owner, such agreement shall be effective ~~immediately~~ and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net ~~increase,~~ increase or net decrease, if any, with respect to that change.

...

§ 7.5 Continuation of Work Pending Resolution

Pending final determination of cost to the Owner or extension of time to the Contractor, unless otherwise directed by Owner, Contractor shall continue to perform the Work in accordance with the Contract Documents.

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§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time. The Contractor shall achieve Final Completion by the date specified in the Agreement or, if no such date is specified, within thirty (30) days following Substantial Completion.

...

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the ~~Work;~~ Work which are not caused by the wrongful or negligent acts, errors or omissions of Contractor, its agents, employees or Subcontractors; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section ~~15.1.6.2,~~ 15.1.5.2, or other causes beyond the Contractor's control; or (4) by delay authorized by the Owner pending mediation and binding dispute ~~resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then~~ resolution, then, provided that the Contractor is in compliance with all other relevant provisions of the Contract Documents, the Contract Time shall be extended for such reasonable time as the Architect may ~~determine.~~determine and as approved by Contractor and Owner; provided, however, that such extension of Contract Time shall be net of any delays caused by or due to the fault or negligence of the Contractor or which are otherwise the responsibility of the Contractor and shall also be net of any contingency or "float" time allowance included in the Contractor's construction schedule. The Contractor shall, in the event of any occurrence likely to cause a delay, cooperate in good faith with the Architect and Owner to minimize and mitigate the impact of any such occurrence and do all things reasonable under the circumstances to achieve this goal. Any such extension of Contract Time pursuant to this section shall be reduced to a Change Order.

...

§ 8.3.3 ~~This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.~~Extension of Contract Time pursuant to this Article 8 shall be the Contractor's sole and exclusive remedy for delay.

§ 8.3.4 Extension of Contract Time resulting from Changes in the Work shall be negotiated into respective Change Orders. Whenever the Contractor seeks an adjustment in the Contract Time as part of a Claim or Change Order, the Contractor shall justify the request with proper written reference to the approved construction schedules. All executed Change Orders shall be deemed to include adjustments in the Contract Time, if any, resulting from the underlying Change in the Work.

§ 8.3.5 In addition to liquidated damages set forth elsewhere in the Contract Documents, if any, the Contractor shall reimburse the Owner for all Architect's fees for additional services necessitated by (1) Contractor's failure to achieve Substantial Completion within the time established in the Contract Documents; (2) for more than one inspection for Substantial Completion; and (3) for more than one inspection for Final Completion.

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§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated ~~are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor,~~ for any one item of material or equipment are changed by more than 25% in a proposed Change Order or Construction Change Directive, the applicable unit prices shall be equitably ~~adjusted.~~adjusted in such Change order or Construction Change Directive.

...

~~Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the~~ The Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. Each section of the schedule organized by Subcontract shall further allocate each Subcontractor's Work into discrete tasks with values corresponding to each task. The total of all values for all tasks for all Subcontractors shall equal the Contract Sum. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the

schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment. Approval by the Owner of the schedule of values (and revisions thereto) shall be a condition precedent to certification of Contractor's applications for payment.

...

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of ~~values, if required under Section 9.2,~~ values for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents. Until Final Completion, the Owner will pay ninety percent (90%) of the amount due the Contractor on account of progress payments. No interest will be paid on retention amounts. Provided, however, that after the Work is seventy percent (70%) complete, Owner may, without reduction of previous retainage, determine to pay Contractor remaining progress payments for each work category in full. The Contractor's inclusion in an Application for Payment of an amount owed to a Subcontractor shall constitute the Contractor's certification to the Owner that such Subcontractor is entitled to payment in that amount, and that there are no back-charges, Claims, or other disputes then pending or anticipated which may impact that Subcontractor's right to such payment. Contractor shall submit all Applications for Payment in a consistent format.
When the contract work has been awarded on a unit price bid basis, the form of each application shall follow the Bid Proposal Form, listing each item number, the total quantity of units completed to date of the estimate, the unit price and subtotal. The subtotal column shall be added to show the total cost of work completed to date, less ten (10%) percent to be withheld giving the total amount requested for payment. Previous applications for payment paid by the Owner shall be shown on each subsequent request and subtracted after the ten (10%) percent has been withheld.

§ 9.3.1.1 ~~As provided in Section 7.3.9, such~~ Such applications may include requests for payment on account of changes in the Work that have been properly authorized ~~by Construction Change Directives, or~~ by ~~interim determinations of the Architect, but not yet included in~~ Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor ~~does not intend to pay~~ has not approved payment to a Subcontractor or supplier, unless such Work has been performed by others ~~whom the Contractor intends to pay.~~and the Contractor has approved said payment.
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§ 9.3.4 All Applications for Payment shall be accompanied by lien waivers from the Contractor and applicable Subcontractors. The lien waivers, when taken together, shall equal the sum due and paid under the immediately preceding Application for Payment, and shall be effective through the submittal date of the immediately preceding Application. All applications for payment shall be accompanied by affidavits, in triplicate, from the Contractor and Subcontractors containing such information and in such form as to comply with the Illinois Mechanics Lien Act (770 ILCS 60/0.01 *et seq.*) and showing in detail the sources of all labor and materials used and contracted to be used on the Project, including names and addresses of subcontractors and material suppliers; amounts paid and remaining to be paid to each; lien waivers in a form acceptable to Owner; together with all other documents as shall be necessary, in the sole judgment of the Architect and Owner, to waive all claims of liens to date and comply with all applicable state and local laws.

§ 9.3.5 All Applications for Payment shall be accompanied by the Contractor's and Subcontractors' certified payrolls as required by the Illinois Prevailing Wage Act, 820 ILCS 130/5.

§ 9.3.6 Submission of properly executed lien waivers, affidavits, and the certified payrolls shall be conditions precedent to certification of the respective Application for Payment. Failure to supply waivers of lien or acceptable evidence of payment, affidavits and certified payroll of all current accounts incurred by this Contract work will be considered grounds for withholding final payment.

...

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, and not Contractor, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

...

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be ~~made.~~ made, or if any other condition precedent to payment has not occurred. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

.7 ~~repeated~~ failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 ~~When either party~~ If Contractor disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, ~~that party may~~ Contractor shall submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld. No interest will be paid on payments withheld.

...

§9.5.5 If at any time there is evidence of any liens or claims for which, if established, the Owner may become liable for and which would be chargeable to the Contractor or any Subcontractor, the Owner shall have the right to retain, out of any payment due or thereafter to become due to Contractor or a Subcontractor, an amount sufficient to completely indemnify the Owner against such lien or claim, including any reasonable attorneys' fees that have been or may be incurred by the Owner. Should any such evidence be established after all payments are made, the Contractor or Subcontractor shall repay the Owner all sums which the Owner may be compelled to pay in discharging such lien or claim, including all reasonably attorneys' fees and other costs resulting from such lien or claim.

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in ~~the manner and within the time~~ accordance with the Local Government Prompt Payment Act, 50 ILCS 505/1 *et seq*. and as may be provided in the Contract Documents, and shall so notify the Architect.

...

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation

to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law. In the sole discretion of the Owner, if the Contractor fails to furnish evidence as required by this Section, the Owner has the right, but not the obligation, to pay Subcontractors and suppliers directly.

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§ 9.6.7 ~~Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments~~ Payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. ~~Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.~~

...

§9.6.9 The Owner shall withhold ten percent (10%) from the periodic Progress Payments to the Contractor as retention. Payment of retention shall be requested with the Contractor's application for Final Payment. No interest shall accrue on monies held in retention. Contractor shall ensure that each contract between Contractor and each subcontractor contains this same provision for the withholding and release of retention.

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner either does not reject the Architect's recommendations for the Certificate of Payment or does not pay the Contractor within ~~seven~~ ten days after the date established in the Contract Documents, the amount certified by the Architect and accepted by the Owner or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

...

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The Work will not be considered suitable for Substantial Completion review until all Project systems included in the Work are operational as designed and scheduled, all designated or required governmental inspections and certifications have been made and posted, designated instruction of the Owner's personnel in the operation of systems has been completed and documented, all final finishes within the Contract are in place, and Contractor has completed all Work necessary in order for the Owner to obtain Illinois Department of Natural Resource's acceptance of the completed project and grant reimbursement. In general, the only remaining Work shall be minor Punch List items, so that the Owner can occupy the Project on that date and the completion of the Work by the Contractor will not materially interfere or hamper the Owner's normal business operations and/or use and enjoyment of the Project. As a further condition of Substantial Completion acceptance, the Contractor shall certify that all remaining Work will be completed by the Final Completion date specified in the Agreement ("Final Completion Date") or, if no such date is specified, within thirty (30) calendar days following the date of Substantial Completion. Upon the Final Completion Date, or if no Final Completion Date is specified, within thirty (30) days after Substantial Completion, the Contractor shall secure and deliver to the Owner written warranties and guarantees from all Subcontractors, Sub-Subcontractors and suppliers bearing the date of Final Completion or some other date as may be agreed to by the Owner and stating the period of warranty as required by the Contract Documents. The Contractor is responsible for the warranty of all Work performed by Subcontractors at any tier. If in the event Contractor does not complete remaining work by the Final Completion Date, or if no such date is specified, within thirty (30) days of Substantial Completion, Owner shall give the Contractor written notice of the remaining Work to be completed. If the Contractor fails to complete the remaining work to be completed within five (5) days of receipt of the written notice, the Owner reserves the right to complete the remaining Work in accordance with § 2.4 without further notice to the Contractor. All costs incurred by Owner therein shall be offset against Contractor's final payment.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final ~~payment.~~ payment (the "Punch List"). Failure to include an item on ~~such list~~ the Punch List does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's ~~list,~~ Punch List, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's ~~list,~~ Punch List, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion ~~that~~ with the Punch List attached. The Certificate of Substantial Completion shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the ~~list~~ Punch List accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Contract Documents or the Certificate of Substantial Completion.
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§ 9.8.6 Upon Substantial Completion, the Contractor and Subcontractors hereby assign all vendor and manufacturers' warranties to the Owner. All such warranties shall be submitted to the Architect prior to submission of the final Application for Payment.

§ 9.8.7 The Contractor's submittal of the following documents shall be a condition precedent to a determination of Substantial Completion:

a. All Record Documents required in conformance with the Contract Documents;
b. All Operations and Maintenance Manuals (two hard copies and one electronically-submitted copy); and
c. All Manufacturers' warranties (two hard copies and one electronically-submitted copy).

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a ~~list~~ Punch List to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.
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§ 9.9.3 ~~Unless otherwise agreed upon, partial~~ Partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

...

§ 9.10.1 All Work depicted on the Contractor's Punch List and thereafter identified in the Architect's inspection shall be completed by Contractor at the time specified in the Agreement or, if no date is specified, within thirty (30) days of issuance of the Certificate of Substantial Completion. Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly

make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, and the Architect has advised Owner of that finding and Owner has not advised Architect of any objection to such finding, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation to Owner and not Contractor that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled. Owner's failure to object to and Owner's acceptance of Architect's findings hereunder shall not limit Architect's obligation to properly perform his duties under the Contract Documents and shall not constitute Owner's acceptance of Work not complying with the requirements of the Contract Documents or Owner's waiver of any claims or remedies it may have with respect to any such defective or delayed Work.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in ~~effect,~~ effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) ~~if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and~~ final releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by ~~the Owner.~~ the Owner along with the final submittal of certified payroll as provided by Section 5 of the Prevailing Wage Act, 820 ILCS 130/5.. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all ~~costs and reasonable attorneys' fees.~~costs, reasonable attorneys' fees and litigation expenses.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and ~~accepted.~~ accepted, less retention. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims. The final payment by Owner shall not relieve the Contractor of the responsibility for the correction of any and all defects in the work performed. Contractor shall correct all defects as notified for the applicable warranty period after final payment.

§ 9.10.4 ~~The making of final payment shall constitute a waiver of Claims by the Owner except those arising from~~

~~.1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;~~

~~.2 failure of the Work to comply with the requirements of the Contract Documents;~~

~~.3 terms of special warranties required by the Contract Documents; or~~

~~.4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.~~

Reserved.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and specifically identified by that payee as unsettled at the time of final Application for Payment.

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The Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. Neither the Owner nor the Architect shall be responsible for any safety precautions or programs in connection with the Work.

...

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss. Contractor shall be responsible for securing all tools, materials and equipment left on site.

...

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, such activities shall only be done with written consent of Owner and the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose wrongful acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect. The person designated as responsible for prevention of accidents shall hold regularly scheduled meetings with representatives of Subcontractors, and in the event of separate contracts, hold meetings with other contractors, to promote compliance with governing safety regulations.

...

If ~~either~~ any person party suffers injury or damage to person or property because of an act or omission of ~~the other~~ a party, or of others for whose acts such party is legally responsible, the responsible party shall give notice of the injury or damage, whether or not insured, ~~shall be given~~ to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.
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§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall ~~resume upon written agreement of the Owner and Contractor.~~ resume. By Change Order, the Contract Time shall be ~~extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.~~equitably extended .

§ 10.3.3 ~~To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims,~~

~~damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.~~

Reserved.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the ~~use and handling of such materials or substances.~~procurement, delivery, unloading, loading, stockpiling, storing, preparing, installing, use and/or handling of such materials or substances (collectively, "handling").

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...

~~**§ 10.3.6** If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.~~

...

~~**§ 11.1 Contractor's Insurance and Bonds**~~

~~**§ 11.1.1** The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.~~

~~**§ 11.1.2** The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.~~

~~**§ 11.1.3** Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.~~

~~**§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance.** Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.~~

~~**§ 11.2 Owner's Insurance**~~

§11.1 CONTRACTOR'S INSURANCE REQUIREMENTS.

Contractor shall procure and maintain for the duration of the contract, insurance against claims for death, injuries, sickness to persons, or damages to property which may arise from or in connection with the performance of work hereunder by the Contractor, his agents, representatives, employees or subcontractors, anyone directly or indirectly employed by them or anyone for whose acts any of them may be liable, of the types and in the amounts listed below. To the extent of any conflict between this Article 11 and other Contract Documents, the Contractor and Subcontractors

shall purchase and maintain the insurance with the higher limits, broader coverage, and better protections for the Owner.

§11.1.1 Commercial General and Umbrella Liability Insurance. Contractor shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella insurance with a limit of not less than $2,000,000 each occurrence and $2,000,000 in the aggregate. If such CGL insurance contains a general aggregate limit, it shall apply separately to this project/location. CGL insurance shall be written on Insurance Services Office (ISO) occurrence form CG 00 01, or a substitute form providing equivalent coverage, and shall cover liability arising from premises, operations, independent contractors, products-completed operations, personal injury and advertising injury, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract). Owner, its elected and appointed officials, employees, agents and volunteers, and Architect shall be included as an insured under the CGL, using ISO additional insured endorsement CG 20 10 or a substitute providing equivalent coverage, and under the commercial umbrella, if any. This insurance shall apply as primary insurance with respect to any other insurance or self-insurance afforded to Owner and Architect. There shall be no endorsement or modification of the CGL limiting the scope of coverage for liability arising from pollution, explosion, collapse, or underground property damage.

§11.1.2 Continuing Completed Operations Liability Insurance. Contractor shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella liability insurance with a limit of not less than $2,000,000 each occurrence for at least three years following substantial completion of the work. Continuing CGL insurance shall be written on ISO occurrence form CG 00 01, or substitute form providing equivalent coverage, and shall, at minimum, cover liability arising from products-completed operations and liability assumed under an insured contract. Continuing CGL insurance shall have a products-completed operations aggregate of at least two times its each occurrence limit. Continuing commercial umbrella coverage, if any, shall include liability coverage for damage to the insured's completed work equivalent to that provided under ISO form CG 00 01.

§11.1.3 Business Auto and Umbrella Liability Insurance. Contractor shall maintain business auto liability and, if necessary, commercial umbrella liability insurance with a limit of not less than $1,000,000 each accident. Such insurance shall cover liability arising out of any auto including owned, hired and non-owned autos. Business auto insurance shall be written on Insurance Services Office (ISO) form CA 00 01, CA 00 05, CA 00 12, CA 00 20, or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage equivalent to that provided in the 1990 and later editions of CA 00 01.

§11.1.4 Workers Compensation Insurance. Contractor shall maintain workers compensation as required by statute and employers liability insurance. The commercial umbrella and/or employers liability limits shall not be less than $1,000,000 each accident for bodily injury by accident or $1,000,000 each employee for bodily injury by disease. If Owner has not been included as an insured under the CGL using ISO additional insured endorsement CG 20 10 under the Commercial General and Umbrella Liability Insurance required in this Contract, the Contractor waives all rights against Owner and its officers, officials, employees, volunteers and agents for recovery of damages arising out of or incident to the Contractors work.

§11.1.5 Contractor's Obligation to Insure for Bodily Injury Claims. In addition to the above, the Owner will require all Contractor's to purchase insurance to cover claims and expenses asserted against Architect, its employees and consultants for bodily injury, sickness, disease, or death cause by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts any of them may be liable.

§11.1.6 General Insurance Provisions

.1 Evidence of Insurance Prior to beginning work, and again prior to the expiration of any policy, the Contractor and all Subcontractors shall furnish Owner with a certificate(s) of insurance and applicable policy endorsement(s), executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements set forth above. All certificates shall provide for 30 days written notice to Owner prior to the cancellation or material change of any insurance referred to therein. Written notice to Owner shall be by certified mail, return receipt requested.

An additional certificate and endorsements evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted by Contractor and all Subcontractors with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the time permitted for

expiration. If any aggregate limit is reduced on account of claims paid, Contractor and Subcontractor shall immediately notify the Owner and Architect in writing of the amount of such reduction.

Failure of Owner to demand such certificate, endorsement or other evidence of full compliance with these insurance requirements or failure of Owner to identify a deficiency from evidence that is provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance. Owner shall have the right, but not the obligation, of prohibiting Contractor or any subcontractor from entering the project site until such certificates or other evidence that insurance has been placed in complete compliance with these requirements is received and approved by Owner. Failure to maintain the required insurance may result in termination of this Contract at Owner's option. With respect to insurance maintained after final payment in compliance with a requirement above, an additional certificate(s) evidencing such coverage shall be promptly provided to Owner whenever requested. Contractor shall provide certified copies of all insurance policies required above within 10 days of Owner's written request for said copies.

. 2 Acceptability of Insurers. For insurance companies which obtain a rating from A.M. Best, that rating should be no less than A VII using the most recent edition of the A.M. Best Key Rating Guide. If the Bests rating is less than A VII or a Best's rating is not obtained, the Owner has the right to reject insurance written by an insurer it deems unacceptable.

.3 Cross-Liability Coverage. If Contractor's liability policies do not contain the standard ISO separation of insureds provision, or a substantially similar clause, they shall be endorsed to provide cross-liability coverage.

.4 Deductibles and Self-Insured Retentions. Any deductibles or self-insured retentions must be declared to the Owner. At the option of the Owner, the Contractor may be asked to eliminate such deductibles or self-insured retentions as respects the Owner, its officers, officials, employees, volunteers and agents or required to procure a bond guaranteeing payment of losses and other related costs including but not limited to investigations, claim administration and defense expenses.

§ 11.1.7 Contractor shall also protect the Owner by specifically incorporating this Article 11 into every Subcontract entered into and also requiring that every Subcontractor incorporate this Article and its coverage requirements into every sub-subcontract it enters into. Notwithstanding this requirement, this Article 11 is deemed incorporated into every Subcontract and sub-subcontract via such document's flow-through provisions.

§ 11.1.8 Liability of Contractor or Subcontractor is not limited by these insurance requirements or by actual insurance coverage. Nothing contained in the insurance requirements of the Contract Documents is to be construed as limiting the liability of the Contractor, the liability of any Subcontractor of any tier, or the liability of the Architect, or any of their respective insurance carriers. Owner does not, in any way, represent that the coverages or limits of insurance specified are sufficient or adequate to protect the Owner, Contractor, Architect, or any Subcontractor's interest or liabilities, but are merely minimums. The obligation of the Contractor and every Subcontractor of any tier to purchase insurance shall not, in any way, limit their obligations to the Owner in the event that the Owner should suffer an injury or loss in excess of the amount recoverable through insurance, or any loss or portion of the loss which is not covered by either the Architect's, Contractor's or any Subcontractor's insurance.

§ 11.1.9 Upon receipt of notice of any cancellation in Contractor's required insurance, the Owner shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 PROPERTY INSURANCE

§ 11.2.1 ~~The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.~~ Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance in the amount of the initial Contract Sum as well as subsequent modifications thereto for the entire Work at the site on a replacement cost basis without voluntary deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has

been made as provided in Paragraph 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Paragraph 11.2 to be covered, whichever is earlier. This insurance shall include the respective interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Work.

§ 11.2.2 ~~Failure to Purchase Required Property Insurance.~~ ~~If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.~~Property insurance shall be on a course of construction policy form and shall insure against the perils of fire and extended coverage and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, false work, windstorm, testing and start-up, temporary buildings and debris removal, including demolition, and shall cover reasonable compensation for the Architect's, any of the Owner's Consultant's services and expenses required as a result of such insured loss. Owner shall not be required to provide coverage for other perils unless otherwise provided in the Contract Documents. Property insurance provided by the Owner shall not cover Contractor's, Subcontractor's or Sub-subcontractor's liability or any tools, apparatus, machinery, scaffolding, hoists, forms, staging, shoring or other similar items commonly referred to as construction equipment, which may be on the site and the capital value of which is not included in the Work. The Contractor shall make his own arrangements for any insurance he may require on such construction equipment.

§ 11.2.3 ~~Notice of Cancellation or Expiration of Owner's Required Property Insurance.~~ ~~Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.~~The Contractor shall effect insurance which will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work.

§ 11.2.4 If the property insurance requires minimum deductibles and such deductibles are identified in the Contract Documents, the Contractor shall pay costs not covered because of deductibles. If the Owner or insurer increases the required minimum deductibles above the amounts so identified or if the Owner elects to purchase this insurance with voluntary deductible amounts, the Owner shall be responsible for payment of the additional costs not covered because of such increased or voluntary deductibles. If deductibles are not identified in the Contract Documents, the Owner shall pay costs not covered because of deductibles.

§ 11.2.5 Unless otherwise provided in the Contract Documents, this property insurance shall cover portions of the Work stored off the site and paid for by Owner after written approval of the Owner at the value established in the approval, and also portions of the Work in transit and paid for by Owner.

§ 11.2.6 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.2.7 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§11.2.8 Notwithstanding any provision contained in Section 11.2, including paragraphs 11.2.1 through and including 11.2.7 and Section 11.3, the Owner's obligation to purchase insurance shall herein be deemed satisfied by the Owner's membership in a self-insured risk management agency or pool. The Contractor agrees that any obligation the Owner has to purchase property insurance shall be satisfied by the Owner's membership in a self-insured risk management agency or pool. The Contractor further agrees that it will only have rights allowable to it under any coverage provided through the Owner's membership in a self-insured risk management agency or pool.

§ 11.3 ~~Waivers of Subrogation~~BOILER AND MACHINERY INSURANCE

The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor Subcontractors and Sub-subcontractors in the Work, and the Owner and the Contractor shall be named insureds.

~~**§ 11.3.1** The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.~~

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Contractor shall deposit with the Owner before commencing any Work an *AIA A312-2010 Performance Bond and Payment Bond*, or such other form as approved by Owner, for 110% of the Contract Sum, guaranteeing the faithful performance of the work in accordance with the Contract, the payment of all indebtedness incurred for labor and materials, payment of the prevailing wage in accordance with paragraph 13.1.2.1, and guarantee correction of work. The Surety must be approved by the Owner, and be licensed to conduct business in the State of Illinois and be named in the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Federal Register by the Audit Staff Bureau of Accounts, U.S. Treasury. The payment and performance bonds shall strictly comply with the Public Construction Bond Act, 30 ILCS 550/0.01, *et seq.*, and with all provisions of this Article 11. The Contractor and all subcontractors shall name the Owner as an obligee on all bonds.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

~~**§ 11.3.2** If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.~~**11.4.3** If at any time the Owner shall become reasonably dissatisfied with any surety, or for any other reason such bonds shall cease to be adequate security for the Owner, Contractor shall, within five (5) days after notice to do so, substitute acceptable bonds in such form and sum and signed by such other surety or sureties as may be reasonably satisfactory to the Owner. No further payment shall be deemed due nor shall be made to Contractor until the new surety or sureties shall have met the Owner's qualifications.

~~**§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance**~~

~~The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.~~

~~**§11.5 Adjustment and Settlement of Insured Loss**~~

~~**§ 11.5.1** A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.~~

~~**§ 11.5.2** Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.~~

§ 11.4.4 All performance and payment bonds required by this Article 11 shall be deemed modified to the extent to be consistent with this Article 11. A certified copy of the power of attorney from the surety company stating that the person executing the bond is duly authorized by the surety to execute the bond shall be attached to the bond.

§ 11.4.5 Whenever the Contractor shall be and is declared by the Owner to be in default under the Construction Contract, the surety shall be responsible to compensate the Owner for the following costs incurred by the Owner as they result from the default: 1) any and all extra work and/or corrective work, 2) additional Architect costs, 3) accounting costs, 4) legal costs and reasonable attorneys' fees, 5) testing, consulting, and other engineering costs, 6) any other costs necessarily incurred and resulting from the default. Notwithstanding, the surety's obligations shall not exceed the penal sum of the bond.

§ 11.4.6 All terms and conditions of all Contract Documents, including these A201 general conditions, as amended, shall be deemed incorporated by reference into each bond furnished in connection with this Article 11. In case of any conflict between any provision of any performance or payment bond and the Contract Documents, the provisions of the Contract Documents shall prevail to the extent of such conflict.

§ 11.4.7 Any provision of any bond purporting to create a condition precedent for Owner not otherwise contained in the Contract Documents, or which otherwise purports to abrogate or nullify the Owner's rights or remedies otherwise available in contract, law, or equity, is void. If any provision of any bond purports to shorten the period of limitations and/or the period of repose as provided in Section 13-214 of the Code of Civil Procedure, 735 ILCS 5/13-214, or if any provision of any bond purports to shorten any other applicable statute of limitation or repose, such provision of such bond shall be null and void, but all other provisions of such bond shall remain enforceable.

§ 11.4.8 In the event any surety shall make any assignment for the benefit of creditors or commit any act of bankruptcy, or is declared bankrupt, or if it shall file a voluntary petition in bankruptcy, or shall in the opinion of the Owner be insolvent, the Contractor shall immediately upon request by the Owner furnish and maintain other bonds satisfactory to the Owner. No further payment shall be due nor shall be made to Contractor until the new surety or sureties shall have met the Owner's qualifications.

§ 11.4.9 No surety shall assert solvency of its principal or its principal's denial of default as a defense to any claim under any bond furnished in accordance with this Article 11.

§ 11.4.10 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

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§ 12.1.1 If a portion of the Work is covered contrary to the Owner's or Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Owner or Architect, be uncovered for the Owner's or Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Owner or Architect has not specifically requested to examine prior to its being covered, the Owner or Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

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The Contractor shall promptly correct Work rejected by the Owner or Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

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§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor ~~a~~ an express written acceptance of such specific condition. The Owner shall give such notice promptly after discovery of the condition. ~~During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty.~~ If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it and backcharge the Contactor in accordance with Section 2.5. Notwithstanding the foregoing, Contractor shall correct Work deficiently or defectively performed, and replace defective or nonconforming materials, even though such deficiency, defect or nonconformity may be discovered more than one year after Final Completion, if the correction is of a latent defect and arises from poor workmanship or improper materials or is required to be made to workmanship or materials covered by Contractor or Subcontractors contrary to the Architect's request or to requirements specifically expressed in the Contract Documents and was therefore not visible for inspection by Architect or Owner at the time the Work was performed.

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§ 12.2.2.3 The one-year period for correction of Work shall ~~not be extended by corrective Work performed~~ be extended on specific items of Work identified as defective, and such extension shall commence upon the performance of corrective Work by the Contractor pursuant to this Section 12.2. Such extension shall expire one year from the date of completion of such corrective Work.

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§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to ~~other~~ any obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the ~~obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.~~Owner may seek to enforce that obligation or any other obligation arising under the Contract Documents.

§ 12.2.6 All other warranties and guarantees required by the Contract Documents shall be provided to the Architect prior to Substantial Completion or Final Completion, as applicable, and are separate obligations from the obligations contained in this Section 12.2.

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If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so by express written notice to the Contractor instead of requiring its removal and correction, in which case the Contract Sum will be reduced by deductive Change Order as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

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The Contract shall be governed by the law of the ~~place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.~~State of Illinois without regard for conflict of law principles.

§ 13.1.2 COMPLIANCE WITH LAWS

Contractor shall abide by and comply with all applicable Federal, State and local laws and rules and regulations including without limitation those relating to 1) fair employment practices, affirmative action and prohibiting discrimination in employment; 2) workers' compensation; 3) workplace safety; 4) wages and claims of laborers, mechanics and other workers, agents, or servants in any manner employed in connection with contracts involving public funds or the development or construction of public works, buildings or facilities; and 5) steel products procurement. Contractor's Compliance and Certification Attachment, including the Substance Abuse Prevention Program Certification, is attached to and incorporated herein by reference.

As a condition of the award of the Contract to contractor, Contractor shall certify, affirm and agree as follows, which certifications, affirmations and agreements shall be incorporated in and hereunder as a part of the Contract:

.1 The Contractor shall comply with the requirements of the Illinois Prevailing Wage Act (820 ILCS 130/0.01 *et seq.*) and the Owner's Ordinances, if applicable, requiring payment of prevailing wages. The Contractor shall pay or cause to be paid not less than the prevailing rate of hourly wage in the county the work is performed as determined by the Illinois Department of Labor for the month in which the work is performed including but not limited to all laborers, workers and mechanics. All contractors and subcontractors rendering services under this contract must comply with all requirements under the Act, including but not limited to, all wage, notice and record keeping duties.

The Contractor is required to verify current prevailing wage prior to the first day of each month and to pay the then-current prevailing wage rate as determined by the Illinois Department of Labor. Any increases in costs to the Contractor due to the changes in the prevailing wage during the term of this Contract shall be at the expense of Contractor and not at the expense of Owner. Current prevailing wage rates are published at the following website: https://www2.illinois.gov/idol/Laws-Rules/CONMED/pages/2018-rates.aspx. The Contractor agrees to indemnify and hold harmless the Owner for any violations of the Prevailing Wage Act.

The Contractor shall also: (1) insert into each subcontract and the project specifications for each subcontract, a written stipulation that the subcontractor shall not pay less than the prevailing rate of hourly wage to all laborers, workers, and mechanics performing work under the contract; and (2) require each subcontractor to insert into each lower-tiered contract and the project specifications for each lower-tiered subcontract, a stipulation that the subcontractor shall not pay less than prevailing rate of hourly wage to all laborers, workers, and mechanics performing work under the contract.

The Contractor shall include on all bonds and shall cause all subcontractors' bonds required under the Contract Documents to guarantee compliance with the Prevailing Wage Act.

Additionally, the Contractor and each subcontractor shall make and keep, for a period of not less than five (5) years from the date of the last payment on a contract or subcontract, records of all laborers, mechanics, and other workers employed by them on the Project; the records shall include each worker's name, address, telephone number when available, social security number, classification or classifications, the hourly wages paid in each pay period, the number of hours worked each day, and the starting and ending times of work each day. The Contractor shall submit monthly, no later than the 10th day of each calendar month, in person, by mail, or electronically a certified payroll to the Owner with each monthly pay request in the form attached to the Contract Documents. The certified payroll shall be accompanied by a statement signed by the Contractor or subcontractor which states that: (i) he or she has examined the certified payroll and such records are true and accurate; (ii) the hourly rate paid to each worker is not less than the general prevailing rate of hourly wages required by this Act; and (iii) the Contractor or subcontractor is aware that filing a certified payroll that he or she knows to be false is a Class A misdemeanor. The Contractor may rely on the certification of a lower tier subcontractor, provided the Contractor does not knowingly rely upon a subcontractor's false certification. The records submitted in accordance with this payroll submittal provision shall be considered public records pursuant to Section 5 of the Prevailing Wage Act, 820 ILCS 130/5 (2004, as amended by P.A. 94-515). The Owner may, at its option, immediately terminate the Contract in the event that Contractor violates any provision of this paragraph or the Prevailing Wage Act.

Contractor shall also post the prevailing wage rates for each craft or type of worker or mechanic needed to complete the project at either: (1) a location on the project site easily accessible to the workers engaged on the project; or (2) in lieu of posting on the project site, if the Contractor has a business location where laborers, workers, ands mechanics may regularly visit, the Contractor may either post the prevailing rate of wages in each county the Contractor works in a conspicuous location or provide the laborers, workers or mechanics engaged on the project a written notice indicating the prevailing rate of wages for the project.

Upon seven business days' notice, the Contractor and each subcontractor shall make available for inspection and copying at a location within this State during reasonable hours, the records identified in 820 ILCS 130/5(a)(1) to the Owner, and its officers and agents.

§ 13.1.3 The Contractor shall be required to remain for the entirety of the Contract in compliance with the foregoing legal requirements. A violation is grounds for the immediate termination of the Contractor for cause. However, any forbearance in delay by the Owner in terminating Contractor or canceling the Contract shall not constitute a waiver of any right the Owner may have, including without limitation termination of Contractor, cancellation of the Contract and recovery of damages.

§ 13.1.4 This contract is subject to and shall be construed in accordance with all provisions of law applicable to the Work and the Project. All applicable rules of law shall prevail over any conflicting provision contained in any of the Contract Documents.

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§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. ~~Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.~~Contractor shall not assign the Contract in whole or in part without written consent of the Owner.

§ 13.2.2 The ~~Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.~~Contract Documents and these A201 General Conditions provide the rights and obligations by and between Owner, Architect, and Contractor. There are no other beneficiaries to the Contract.

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§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall ~~bear~~ bear, without markup by Architect or Contractor, costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's ~~expense.~~expense ad without markup by the Architect or Contractor.

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Payments due and unpaid under the Contract Documents shall bear interest ~~from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.~~only in accordance with the Local Government Prompt Payment Act, 50 ILCS 505/1, *et seq.*

...

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of ~~30~~ 90 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of ~~the Work,~~ the Work under direct or indirect contract with the Contractor, for any of the following reasons:

...

.2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped; or

.3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract ~~Documents; or~~

~~**.4** The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.~~Documents, provided the payment is not in dispute.

§ 14.1.2 ~~The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.~~**Reserved.**

§ 14.1.3 If one of the reasons described in Section 14.1.1 ~~or 14.1.2~~ exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work ~~executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such~~ properly executed in conformance with the Contract Documents as of the date of termination.

§ 14.1.4 If the Work is stopped for a period of ~~60~~ 90 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

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§ 14.2.1 The Owner may ~~terminate the Contract if the Contractor~~upon seven (7) days' notice to the Contractor terminate its contract with the Contractor or cause the Contractor to terminate any Subcontract with any Subcontractor or Sub-subcontractor if:

.1 ~~repeatedly refuses or fails to supply enough properly skilled workers or proper materials;~~the Contractor, Subcontractor, or Sub-subcontractor fails, except in cases for which extension of time is provided, to prosecute promptly and diligently the Work or to supply enough properly skilled workmen or proper materials for the Work;

.2 ~~fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;~~the Contractor, Subcontractor, or Sub-subcontractor institutes proceedings or consents to proceedings requesting relief under the Federal Bankruptcy Act or any similar federal or state law, or if a petition under any federal or state bankruptcy or insolvency law is filed against the Contractor, Subcontractor, or Sub-subcontractor and such petition is not dismissed within sixty (60) days from the date of filing, or if the Contractor, Subcontractor, or Sub-subcontractor admits in writing its inability to pay its debts generally as they become due, or makes a general assignment for the benefit of creditors, or if a receiver, liquidator, trustee or assignee is appointed on account of such bankruptcy or insolvency;

.3 the Contractor, Subcontractor, or Sub-subcontractor abandons the Work;

.4 the Contractor, Subcontractor, or Sub-subcontractor submits an Application for Payment, sworn statement, waiver of lien, certified payroll, affidavit or other document of any nature whatsoever which is intentionally falsified or which the Contractor, Subcontractor, or Sub-subcontractor knows to contain a false statement;

.5 a mechanic's or materialman's lien or notice of lien or claim of lien is filed against any part of the Work, the public funds allocated for the Work, or on the site of the Project, if after written demand by the Owner such lien is not promptly released or satisfied;

~~**.3** repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or.~~**6** the Contractor, Subcontractor, or Sub-subcontractor disregards any laws, statutes, ordinances, rules, regulations or orders of a governmental body or public or quasi-public authority having jurisdiction of the Work or the site of the Project;

~~**.4** otherwise is guilty of substantial breach of a provision of the Contract Documents.~~**.7** the Contractor fails to make prompt payment to Subcontractors for materials or labor or otherwise breaches obligations under any subcontract with a Subcontractor, or Subcontractor fails to make prompt payment to Sub-subcontractors for materials or labor or otherwise breaches obligations under any sub-subcontract with a Sub-subcontractor; or

.8 the Contractor or Subcontractor otherwise violates any material provision of the Contract Documents

Upon termination as provided herein, Owner may take possession of the Project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor and accept assignment of Subcontracts and may complete the Work by whatever reasonable method the Owner may deem expedient. If requested by the Owner, the Contractor shall remove any part or all of his equipment, machinery and supplies from the Project within seven (7) days from the date of such request, and in the event of the Contractor's failure to so, the Owner shall have the right to remove or store, or remove and store, such equipment, machinery and supplies at the Contractor's expense. In case of

such termination, the Contractor shall not be entitled to receive any further payment for Work performed by the Contractor through the date of termination until final completion of the Work

The termination rights under this Subparagraph 14.2.1 shall be in addition to and not in limitation of any rights or remedies, contractual, statutory or otherwise.

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§ 14.2.2 ~~When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:~~

~~.1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;~~

~~.2 Accept assignment of subcontracts pursuant to Section 5.4; and~~

~~.3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.~~In the event of termination pursuant to Section 14.2, the Contract Sum shall be reduced by Change Order to reflect any increased costs to the Owner of completing the Work, and if the unpaid balance of the Contract Sum exceeds all costs to the Owner of completing the Work, the Contractor shall pay the difference to the Owner upon written demand by the Owner. Such costs shall include but not be limited to the cost of any additional architectural, managerial and administrative services required thereby, any costs incurred in retaining another Contractor or other Subcontractors, any additional interest or fees which the Owner must pay by reason of a delay in completing of the Work, reasonable attorneys' fees and expenses, and any other damages, costs and expenses the Owner may incur by reason of completing the Work or any delay thereof. The amount, if any, to be paid to the Contractor shall be certified by the Architect, upon application, in the manner provided in Paragraph 9.4, and this obligation for payment shall survive the termination of the Contract.

~~**§ 14.2.3** When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.~~

~~**§ 14.2.4** If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.~~

§14.2.3 The Owner's right to terminate the Contract pursuant to Section14.2 shall be in addition to and not in limitation of its right to stop the Work without terminating the Contract pursuant to Section 2.4.

§ 14.3.1 The Owner may, without ~~cause,~~ cause and in its sole discretion, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 ~~The~~ To the extent not due to the fault of Contractor, the Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

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.2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; ~~and~~

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase ~~orders.~~orders; and

.4 Immediately assign to the Owner any sub-contractual assignments requested by the Owner pursuant to Section 5.4.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly ~~executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.~~executed in conformance with the Contract Documents. However, in no event shall Contractor be entitled to overhead and profit on Work not executed, or costs incurred by reason of such termination.

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A Claim is a demand or assertion by ~~one of the parties~~ the Contractor seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. ~~The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.~~

~~**§ 15.1.2 Time Limits on Claims**~~

~~The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.~~

~~**§ 15.1.3 Notice of Claims**~~

§ 15.1.2 Notice of Claims

§ 15.1.2.1 Claims by the Contractor, shall be initiated by notice to the Owner and to the Initial Decision Maker, if any, with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by the Contractor under this Section 15.1.2.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the Contractor first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.2.2 Claims by the Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the Owner. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.3 Continuing Contract Performance

§ 15.1.3.1 ~~Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.~~Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.3.2 ~~Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.~~The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, if any, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

~~**§ 15.1.4 Continuing Contract Performance**~~

~~**§ 15.1.4.1** Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.~~

~~**§ 15.1.4.2** The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.~~

~~**§ 15.1.5 Claims for Additional Cost**~~

~~If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.~~

~~**§ 15.1.6 Claims for Additional Time**~~

~~**§ 15.1.6.1** If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.~~

~~**§ 15.1.6.2** If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.~~

~~**§ 15.1.7 Waiver of Claims for Consequential Damages**~~

~~The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes~~

~~.1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and~~

~~.2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.~~

~~This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.~~

§ 15.1.4 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.2 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 Claims for Additional Time

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.2 shall be given. The Contractor's Claim shall include an estimate of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary. For Claims for Additional Time, to the extent that an equitable extension of Contract Time is warranted, such extension shall be the Contractor's sole and exclusive remedy.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

§ 15.1.5.3 For all Claims for Additional Time, the Contractor shall support such Claims in the same manner as supporting additional time for Change Orders.

§ 15.1.6 Waiver of Claims for Consequential Damages

The Contractor waives Claims against Owner for consequential damages arising out of or relating to this Contract. This waiver includes

damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This waiver is applicable, without limitation, to all consequential damages due to Owner's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2.0 As used in this Section 15.2 and its subparts, "Claims" refers only to Claims by the Contractor, and does not include Claims by the Owner.

§ 15.2.1 ~~Claims,~~ Claims by the Contractor ("Claims"), excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, and 10.4, ~~and 11.5,~~ shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to ~~mediation of any Claim.~~ arbitration or litigation, as the case may be, of any Claim initiated by Contractor and arising prior to the date final payment is due. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the ~~party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered.~~ Contractor may commence litigation , without a decision having been rendered, and such litigation shall be subject to the Owner's right to elect arbitration as provided in Section 15.4.1. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

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§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall ~~be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.~~not be binding.

§ 15.2.6 ~~Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.~~ **Reserved.**

~~§ 15.2.6.1~~ ~~Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.~~

§ 15.2.7 ~~In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.~~ **Reserved.** .

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§ 15.3 ~~Mediation~~Reserved.

~~§ 15.3.1~~ ~~Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.~~

~~§ 15.3.2~~ ~~The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event,~~

~~mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.~~

~~§ 15.3.3~~ ~~Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.~~

~~§ 15.3.4~~ ~~The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.~~

§ 15.4.1 ~~If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.~~In the sole and exclusive discretion of the Owner, all claims, disputes and other matters in question between any of the Architect, Owner, Contractor, Surety, Subcontractor or any material supplier arising out of, or relating to, agreements to which two or more of said parties are bound, or the Contract Documents or the breach thereof, shall, in the case of such election by the Owner, be decided by arbitration. If the Owner elects such arbitration, it shall be conducted in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association then in effect at the time that the demand is made, as modified herein. In any such arbitration, the arbitrator shall make separate findings as to liability and the amount of damages with respect to each party to the arbitration to the extent any liability or responsibility for damages exists. The Architect, surety, subcontractors and material suppliers who have an interest in the dispute shall be joined as parties to the arbitration. The arbitrator shall have authority to decide all issues between the parties. The foregoing agreement to arbitrate and any other agreement to arbitrate with an additional person or persons, duly consented to by the parties, shall be specifically enforceable under the prevailing arbitration law. The award rendered by the arbitrator shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.1.1 ~~A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but~~ If the Owner elects arbitration, in its sole discretion, notice of the demand for arbitration shall be filed in writing with the other part(ies) to the arbitration and with the American Arbitration Association. Such demand for arbitration shall be made within a reasonable time after the claim, dispute or other matter in question has arisen, and in no event shall it be made after the date when ~~the~~ institution of legal or equitable proceedings based on ~~the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.~~such claim, dispute or other matter in question would otherwise be barred by an applicable statute of limitations or repose. Whether such limitations have been met shall be decided by the arbitrator if contested by a party.

§ 15.4.1.2 All parties shall carry on the Work and perform their duties during any arbitration proceedings, and the Owner shall continue to make payments to the extent required by the Contract Documents. However, at the request of any party, contested payments may be placed in an escrow account pending resolution of the dispute.

§ 15.4.1.3 If the Owner elects arbitration, in its sole discretion, in addition to the other rules of the American Arbitration Association applicable to any arbitration hereunder, the following shall apply:

.1 Promptly after the impaneling of the arbitrator, the arbitrator shall establish a procedure for each party to set forth in writing and to serve upon each other party a detailed statement of its contentions of fact and law, along with appropriate responses thereto;

.2 All parties to the arbitration shall be entitled to reasonable discovery procedures as provided by the Illinois Code of Civil Procedure and Illinois Supreme Court Rules, as supplemented by rules to be established by the arbitrator;

.3 The arbitration shall be commenced and conducted as expeditiously as possible consistent with affording reasonable discovery as provided herein. Similarly, the scope of discovery, and the extent of proceedings hereunder relating to discovery, shall be consistent with the parties' intent that the arbitration be conducted as expeditiously as possible.

§ 15.4.2 ~~The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.~~In the event of any litigation or arbitration between the parties hereunder, the Contractor shall pay the Owner's reasonable attorneys' fees and court costs to the extent the court or tribunal determines the Owner is the prevailing party.

~~**§ 15.4.3** The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.~~

~~**§ 15.4.4 Consolidation or Joinder**~~

~~**§ 15.4.4.1** Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).~~

~~**§ 15.4.4.2** Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.~~

§ **15.4.3 Waiver of Punitive Damages.** The Contractor and Owner waive all claims against each other for all punitive damages arising out of or relating to this Contract, but nothing in this paragraph shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ **15.4.4 Venue.** Any suit or action arising under this Contract shall be commenced in DuPage County, Illinois.

§ 15.4.4.3 The Owner and Contra~~ctor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.~~

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, Nicole L. Karas, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 16:48:53 ET on 03/16/2020 under Order No. 8830539077 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A201™ – 2017, General Conditions of the Contract for Construction, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

Nicole Karas

(Signed)

Attorney

(Title)

March 16, 2020

(Dated)

SPECIFICATIONS FOR CONSTRUCTION

Project: Central Park North Fields – Phase 1

Owner: Oak Brook Park District
1450 Forest Gate Road
Oak Brook, IL 60523

DIVISION SECTION TITLE

DIVISION 31 - EARTHWORK

DIVISION 32 – EXTERIOR IMPROVEMENTS

DIVISION 33 – UTILITIES

APPENDIX

END OF TABLE OF CONTENTS

SECTION 004343 – PREVAILING WAGE ACT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 PREVAILING WAGE ACT

A. Pursuant to Illinois Compiled Statutes 820 ILCS 130/0.01 et seq., these specifications reference the Illinois Department of Labor prevailing rate of wages for DuPage county where the contract is being performed and for each craft or type of worker needed to execute the contract.

B. Current wage rate information may be obtained from the IDOL website: www.state.il.us/agency/idol.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 004343

SECTION 004750 – OSLAD CONTRACT COMPLIANCE

This project is being financed, in part, with funds provided through the State of Illinois "Open Space Lands Acquisition & Development" grant program. The following are contract compliance requirements for construction projects assisted with these funds made available through the Illinois Department of Conservation.

A. The Contractor shall abide by and comply with all applicable Local and State laws relating to 1) fair employment practices and prohibiting discrimination in employment; 2) any and all applicable workmen's compensation acts of laws; and 3) wages and claims of laborers, mechanics and other workmen, agents, or servants in any manner employed in connection with contracts involving public funds or the development or construction of public works, buildings or facilities.

B. The Contractor shall provide and furnish to the satisfaction of the Local Agency and IDOC good and sufficient performance bond(s) with adequate surety or sureties, with applicable penalty or loss clauses; concerning or relating to the construction of the proposed facilities and any losses, cost or damages arising out of, or by virtue of said construction by the Contractor of the specified project facilities, insuring, benefiting and protection the Local Agency and IDOC.

C. The Contractor shall personally and individually agree and covenant, and shall furnish and provide sufficient evidence of insurance, to indemnify, protect, defend at its own cost, and hold harmless the Local Agency and IDOC from and against all losses, damages, injuries, costs, expenses or claims thereof to or by persons or property, arising out of, through, under or by virtue of the construction and development of the specified project facilities.

D. The Contractor certifies that, to the best of its knowledge, no officer or employee has been convicted of bribery or attempting to bribe an officer or employee of the State of Illinois, nor has any officer or employee made an admission of guilt of such conduct which is a matter of record.

E. The Contractor certifies it has not been barred from being awarded a contract with a unit of State or Local government as a result of a violation of Section 33E-3 or 33E-4 of the Criminal Code of 1961 (bid rigging or bid rotating).

_____ _____

PREPARER'S SIGNATURE DATE

_____

PREPARER'S TITLE

Subscribed and sworn to before me this

_____ day of _____, 20_____

_____

NOTARY PUBLIC

END OF SECTION 000475

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Project information.
2. Permits.
3. Work covered by the Contract Documents.
4. Type of Contract
5. Work by Owner.
6. Owner-furnished products.
7. Access to site.
8. Coordination with occupants.
9. Work restrictions.
10. Specification and drawing conventions.
11. Miscellaneous provisions.

B. Related Requirements:

1. Division 01 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 PROJECT INFORMATION

A. Project Identification: Central Park North Fields – Phase 1

1. Project Location: 1315 Kensington Road, Oak Brook, IL 60523

B. Owner: Oak Brook Park District
1. Owners Representative: Bob Johnson, Director of Parks and Planning, 630-645-9540, bjohnson@obparks.org.

C. Architect: Upland Design Ltd, 24042 Lockport Street, Plainfield, IL 60544
1. Contact: Heath Wright, 815-254-0091, hwright@uplanddesign.com

1.4 PERMITS AND LICENSES

A. The following permits have been applied for by the owner or engineer, and are required prior to beginning work:
   1. Village of Oak Brook General Application
      a. Contractor will need to finalize this permit.
   2. Village of Oak Brook Engineering Permit
   3. Village of Oak Brook Plumbing Permit
      a. Contractor will need to finalize this permit.
   4. Village of Oak Brook Electrical Permit
      a. Contractor will need to finalize this permit.
   5. Army Corps of Engineers
   6. ILEPA Notice of Intent

B. The general contractor and all subcontractors shall be licensed with the State of Illinois.

1.5 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work consists of the following:
   1. Site clearing, earthwork and grading, asphalt paving, concrete paving, unit paving, installation of prefabricated structures and furnishings, irrigation, planting, and restoration.

B. Type of Contract: Project will be constructed under General Construction Contract

1.6 WORK SCHEDULE

A. Conduct the Work in one phase in the following order:

   1. Pre-Bid Meeting: April 1, 2020 at 11:00 a.m.
   2. Start of General Construction: June 1, 2020.
   3. Substantial Completion: September 30, 2020. Contractor shall complete all seeding and blanketing by September 30, 2020.
   4. Final Completion: October 30, 2020.

1.7 WORK BY OWNER

A. General: Cooperate fully with Owner so work may be carried out smoothly, without interfering with or delaying work under this Contract or work by Owner. Coordinate the Work of this Contract with work performed by Owner.

B. Concurrent Work: Owner, or others coordinated by the owner, will perform the following construction operations at Project site. Those operations will be conducted simultaneously with work under this Contract.
   1. See Plans and Schedule of Values

1.8 OWNER-FURNISHED PRODUCTS

A. Owner will furnish products indicated. The Work includes providing support systems to receive Owner's equipment.

1. Owner will arrange for and deliver Shop Drawings, Product Data, and Samples to Contractor.
2. Owner will arrange and pay for delivery of Owner-furnished items according to Contractor's Construction Schedule.
3. Upon delivery, Owner will inspect delivered items for damage. Contractor shall be present for and assist in Owner's inspection.
4. If upon delivery inspection, Owner-furnished items are damaged, defective, or missing, Owner will arrange for replacement.
5. Owner will arrange for delivery of manufacturer's warranties to Contractor.
6. Owner will furnish Contractor the earliest possible delivery date for Owner-furnished products. Using Owner-furnished earliest possible delivery dates, Contractor shall designate delivery dates of Owner-furnished items in Contractor's Construction Schedule.
7. Contractor shall review Shop Drawings, Product Data, and Samples and return them to Architect noting discrepancies or anticipated problems in use of product.
8. Contractor is responsible for receiving, unloading, and handling Owner-furnished items at Project site.
9. Contractor is responsible for protecting Owner-furnished items from damage during storage and handling, including damage from exposure to the elements.
10. If Owner-furnished items are damaged as a result of Contractor's operations, Contractor shall repair or replace them.
11. Contractor shall install and otherwise incorporate Owner-furnished items into the Work.

B. Owner-Furnished Products:

1. Picnic Shelters
2. Prefabricated Concession Building
3. Fitness Equipment
4. Basketball Goals
5. Totem Pole

1.9 ACCESS TO SITE

A. General: Contractor shall have full use of premises for construction operations as indicated on Drawings by the Contract limits.

B. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Owner Occupancy: Allow for Owner occupancy of Project site and use by the public.

2. Driveways and Entrances: Keep driveways loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

    a. Schedule deliveries to minimize use of driveways and entrances.
    b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.10 COORDINATION WITH OCCUPANTS

A. Full Owner Occupancy: Owner and public will occupy portions of the site outside of construction limits during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits, unless otherwise indicated.

    1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
    2. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

1.11 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

    1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Work shall be according to the Village Ordinance., Monday through Friday, except otherwise authorized.

    1. Weekend Hours: As approved by Owner.
    2. Early Morning Hours: As approved by Owner.
    3. Hours for Utility Shutdowns: As approved by Owner.

C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

    1. Notify Owner not less than three days in advance of proposed utility interruptions.
    2. Do not proceed with utility interruptions without Owner's written permission.

1.12 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 50-division format and CSI/CSC's "MasterFormat" numbering system.

1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.

B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
3. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
4. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

C. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

D. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:

1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.
3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

1.13 MISCELLANEOUS PROVISIONS

A. Materials used in this Project shall be polychlorinated biphenyl (PCB), mercury, and asbestos free. No PCB, mercury, or asbestos-containing-building materials (ACM), as

defined by federal regulation A.H.E.R.A., E.P.A., and Illinois Department of Public Health are permitted for this Project.

B. Installation of a product on surfaces prepared by others constitutes acceptance of the surface.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000
4850-0494-2775, v. 3

SECTION 012200 – UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.

B. Related Requirements:

1. Division 01 Section "Allowances" for procedures for using unit prices to adjust quantity allowances.
2. Division 01 Section "Contract Modification Procedures" for procedures for submitting and handling Change Orders.

1.3 DEFINITIONS

A. Unit price is an amount proposed by bidders, stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.

B. Measurement and Payment: Refer to individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

D. List of Unit Prices: A list of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 LIST OF UNIT PRICES

A. Unit Price No. 1: For excavation and hauling:

1. Description: Excavating and hauling for off site disposal of unsuitable material.
2. Unit of Measurement: Cubic yard, as measured in-place prior to excavation, of material excavated and hauled.

B. Unit Price No. 2: For compacted clay backfill:

1. Description: Furnish, place, and compact clay backfill, in accordance with Division 32 Section “Earth Moving.”
2. Unit of Measurement: Cubic yard, measured in-place after placement and compaction, of clay placed.

C. Unit Price No. 3: For CA-1 or CA-3 fill material:

1. Description: Furnish, place, and compact aggregate fill material (CA1 or CA3) on unsuitable subgrade, in accordance with Division 32 Section “Earth Moving.” or other approved size and gradation.
2. Unit of Measurement: Cubic yard, measured in-place after placement and compaction, of aggregate fill placed.

D. Unit Price No. 4: For topsoil:

1. Description: Furnish, place, and topsoil, in accordance with Division 32 Section “Earth Moving.”
2. Unit of Measurement: Cubic yard, measured in-place after placement and compaction, of topsoil placed.

END OF SECTION 012200
4851-7520-5303, v. 3

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be awarded in accordance with the Instruction to Bidders if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. All additional costs due to the alternates are included in the bid amount submitted for the alternate, so that no additional costs will be borne by the owner due to acceptance of alternates.

2. The alternate price is not to be included in the base bid price.

1.4 PROCEDURES

A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, awarded to a separate contractor, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

C. Execute accepted alternates under the same conditions as other work of the Contract.

D. Schedule:

1. ADD ALTERNATE #1: Substitute permeable pavers in lieu of asphalt paving in parking lot.

2. ADD ALTERNATE #2: Provide electrical service to site including New Service, coordination, utility work, concrete pads, all wiring, electrical equipment for new service, primary electrical cabinet, meter cabinet 'F' and grounding. Exclude transformer and wiring upstream of the transformer which is by ComEd.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012300

4841-6948-9847, v. 3

SECTION 012500 – SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Instruction to Bidders, Section L for substitution requests prior to bid deadline.

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

B. Related Requirements:

1. Division 01 Section "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.3 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner, subject to meeting requirements set forth herein.

1.4 ACTION SUBMITTALS

A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Substitution Request Form: Use CSI Form 13.1A
2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:

a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.

b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable specification section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
e. Samples, where applicable or requested.
f. Certificates and qualification data, where applicable or requested.
g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
k. Cost information, including a proposal of change, if any, in the Contract Sum.
l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

   a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
   b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

A. Coordination: Modify or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately upon discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
b. Substitution request is fully documented and properly submitted.
c. Requested substitution will not adversely affect Contractor's construction schedule.
d. Requested substitution has received necessary approvals of authorities having jurisdiction.
e. Requested substitution is compatible with other portions of the Work.
f. Requested substitution has been coordinated with other portions of the Work.
g. Requested substitution provides specified warranty.
h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: Architect will consider requests for substitution if received within 60 days after the Notice of Award. Requests received after that time may be considered or rejected at discretion of Architect.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
b. Requested substitution does not require extensive revisions to the Contract Documents.
c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
d. Substitution request is fully documented and properly submitted.
e. Requested substitution will not adversely affect Contractor's construction schedule.
f. Requested substitution has received necessary approvals of authorities having jurisdiction.
g. Requested substitution is compatible with other portions of the Work.
h. Requested substitution has been coordinated with other portions of the Work.
i. Requested substitution provides specified warranty.
j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500
4833-8141-9447, v. 3

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section specifies administrative and procedural requirements for handling and processing Contract modifications.

B. Related Requirements:

1. Division 01 Section "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.

1.3 MINOR CHANGES IN THE WORK

A. Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions.

1.4 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
2. Within 3 days after receipt of Proposal Request, submit a detailed quotation of cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. Provide a detailed labor, material and equipment breakdown.
b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

c. Allow, for changes in the work other than that covered by Allowances, Alternates, or Unit Prices, an added percentage to compensate for the Contractor’s profit margin, on the following basis:

1) For work performed by the Contractor’s own forces, 5 percent.
2) For work performed by Subcontractors to the contractor, 5 percent plus 2% for Contractor’s supervision.

d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship.

B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to Architect.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable delivery charges, equipment rental, and amounts of trade discounts.
4. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship.
5. Comply with requirements in Division 01 Section "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.

1.5 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor.

1.6 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600
4817-7224-8503, v. 3

SECTION 012900 – PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Requirements:
   1. Division 01 Section “Contract Modification Procedures” for administrative procedures for handling changes to the Contract.
   2. Division 01 Section “Construction Progress Documentation” for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.

1.3 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the Schedule of Values with preparation of the Contractor's Construction Schedule.

   1. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:

      a. Contractor's Construction Schedule.
      b. Application for Payment forms, including Continuation Sheets.
      c. Schedule of submittals.

   2. Submit the Schedule of Values to the Architect at the earliest possible date but no later than fourteen days before the date scheduled for submittal of the initial Applications for Payment.

B. Format and Content: Use the Project Manual table of contents as a guide to establish the format for the Schedule of Values. Provide at least one line item for each Specification Section.

   1. Identification: Include the following Project identification on the Schedule of Values:

      a. Project name and location.
      b. Name of the Architect.
      c. Project number.

d. Contractor's name and address.
e. Date of submittal.

2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:

a. Related Specification Section or Division.
b. Description of Work.
c. Name of subcontractor.
d. Name of manufacturer or fabricator.
e. Name of supplier.
f. Change Orders (numbers) that affect value.
g. Dollar value as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.

3. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Break principal subcontract amounts down into several line items.

4. Round amounts to nearest whole dollar; the total shall equal the Contract Sum.
5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment include materials or equipment purchased or fabricated and stored, but not yet installed.

a. Differentiate between items stored on-site and items stored off-site. Include requirements for insurance and bonded warehousing, if required.

6. Provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
7. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.

8. Schedule Updating: Update and resubmit the Schedule of Values prior to the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.4 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect and paid for by the Owner.

1. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.

B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

1. Submit draft copy of Application for Payment seven days prior to due date for review by Architect.

C. Payment-Application Forms: Use AIA Document G702 and Continuation Sheets G703 as the form for Applications for Payment.

D. Application Preparation: Complete every entry on the form. Notarize and execute by a person authorized to sign legal documents on behalf of the Contractor. Architect will return incomplete applications without action.

1. Entries shall match data on the Schedule of Values and the Contractor's Construction Schedule. Use updated schedules if revisions were made.
2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
3. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.

E. Stored Materials: include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.

1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
3. Provide summary documentation for stored materials indicating the following:

    a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
    b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
    c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.

F. Transmittal: Submit 3 signed and notarized original copies of each Application for Payment to the Architect by a method ensuring receipt within 24 hours. One copy shall be complete, including waivers of lien and similar attachments, when required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to the Architect.

G. Certified Payroll Report: With each Application for Payment, submit a certified payroll report for the period covered by the Application for Payment, as required by Public Act 94-0515 from every contractor or subcontractor who performs work for the Project.

H. Waivers of Mechanics Lien: With each Application for Payment, submit waivers of mechanics liens from subcontractors, sub-subcontractors and suppliers for the construction period covered by the previous application.

1. Submit partial waivers on each item for the amount requested in the previous application, after deduction for retainage, on each item.

2. When an application shows completion of an item, submit final or full waivers.
3. The Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.

I. Initial Application for Payment: Administrative actions and submittals, that must precede or coincide with submittal of the first Application for Payment, include the following:

1. List of subcontractors.
2. Schedule of Values.
3. Contractor's Construction Schedule (preliminary if not final).
4. Products List
5. Submittal Schedule (preliminary if not final).
6. List of Contractor's staff assignments.
7. List of Contractor's principal consultants.
8. Copies of building permits.
9. Copies of authorizations and licenses from governing authorities for performance of the Work.
10. Initial progress report.
11. Report of preconstruction meeting.
12. Certificates of insurance and insurance policies.
13. Performance and payment bonds.

J. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

K. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.

2. Insurance certificates for products and completed operations where required and proof that fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
6. AIA Document G707, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900
4834-6845-1255, v. 2

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. General project coordination procedures.
2. Conservation.
3. Coordination Drawings.
4. Administrative and supervisory personnel.
5. Project meetings.

B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

C. Related Requirements:

1. Division 01 Section “Construction Progress Documentation” for preparing and submitting the Contractor's Construction Schedule.
2. Division 01 Section “Execution” for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
3. Division 01 Section “Closeout Procedures” for coordinating Contract closeout.

1.3 DEFINITIONS

A. RFI: Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Use CSI Form 1.5A. Include the following information in tabular form:

1. Name, address, and telephone number of entity performing subcontract or supplying products.

2. Number and title of related Specification Section(s) covered by subcontract.
3. Drawing number and detail references, as appropriate, covered by subcontract.

B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.5 GENERAL COORDINATION PROCEDURES

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's Construction Schedule.
2. Preparation of the Schedule of Values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

E. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:

1. File Preparation Format: Same digital data software program, version, and operating system as original Drawings.
2. File Submittal Format: Submit or post coordination drawing files using format same as file preparation format.
3. Architect will furnish Contractor one set of digital data files of Drawings for use in preparing coordination digital data files.

a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Drawings.
b. Digital Data Software Program: Drawings are available in AutoCAD Architecture 2008.
c. Contractor shall execute a data licensing agreement in the form of Agreement form acceptable to Owner and Architect.

1.6 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within 3 days of the meeting.

B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.

1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: Discuss items of significance that could affect progress, including the following:

    a. Tentative construction schedule.
    b. Phasing.
    c. Critical work sequencing and long-lead items.
    d. Designation of key personnel and their duties.
    e. Lines of communications.
    f. Procedures for processing field decisions and Change Orders.
    g. Procedures for RFIs.
    h. Procedures for testing and inspecting.
    i. Procedures for processing Applications for Payment.
    j. Distribution of the Contract Documents.
    k. Submittal procedures.
    l. Sustainable design requirements.
    m. Preparation of record documents.
    n. Use of the premises and existing building.
    o. Work restrictions.
    p. Working hours.
    q. Owner's occupancy requirements.
    r. Responsibility for temporary facilities and controls.
    s. Procedures for moisture and mold control.
    t. Procedures for disruptions and shutdowns.
    u. Construction waste management and recycling.
    v. Parking availability.
    w. Office, work, and storage areas.
    x. Equipment deliveries and priorities.
    y. First aid.
    z. Security.
    aa. Progress cleaning.

3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

    a. Contract Documents.
    b. Options.
    c. Related RFIs.
    d. Related Change Orders.
    e. Purchases.
    f. Deliveries.
    g. Submittals.

h. Sustainable design requirements.
i. Review of mockups.
j. Possible conflicts.
k. Compatibility requirements.
l. Time schedules.
m. Weather limitations.
n. Manufacturer's written instructions.
o. Warranty requirements.
p. Compatibility of materials.
q. Acceptability of substrates.
r. Temporary facilities and controls.
s. Space and access limitations.
t. Regulations of authorities having jurisdiction.
u. Testing and inspecting requirements.
v. Installation procedures.
w. Coordination with other work.
x. Required performance results.
y. Protection of adjacent work.
z. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements.
4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than 90 days prior to the scheduled date of Substantial Completion.

1. Conduct the conference to review requirements and responsibilities related to Project closeout.
2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:

a. Preparation of record documents.
b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
c. Submittal of written warranties.
d. Requirements for completing sustainable design documentation.
e. Requirements for preparing operations and maintenance data.
f. Requirements for delivery of material samples, attic stock, and spare parts.
g. Requirements for demonstration and training.
h. Preparation of Contractor's punch list.
i. Procedures for processing Applications for Payment at Substantial Completion and for final payment.

j. Submittal procedures.
k. Coordination of separate contracts.
l. Owner's partial occupancy requirements.
m. Installation of Owner's furniture, fixtures, and equipment.
n. Responsibility for removing temporary facilities and controls.

4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

E. Progress Meetings: Conduct progress meetings at request of Owner.

1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

1) Review schedule for next period.

b. Review present and future needs of each entity present, including the following:

1) Interface requirements.
2) Sequence of operations.
3) Status of submittals.
4) Status of sustainable design documentation.
5) Deliveries.
6) Off-site fabrication.
7) Access.
8) Site utilization.
9) Temporary facilities and controls.
10) Progress cleaning.
11) Quality and work standards.
12) Status of correction of deficient items.
13) Field observations.
14) Status of RFIs.
15) Status of proposal requests.
16) Pending changes.
17) Status of Change Orders.
18) Pending claims and disputes.

19) Documentation of information for payment requests.

3. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.

   a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Startup construction schedule.
2. Contractor's construction schedule.
3. Construction schedule updating reports.
4. Daily construction reports.
5. Site condition reports.
6. Special reports.

B. Related Requirements:

1. Division 01 Section “Submittal Procedures” for submitting schedules and reports.
2. Division 01 Section “Quality Requirements” for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

B. Event: The starting or ending point of an activity.

C. Float: The measure of leeway in starting and completing an activity.

1. Float is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the following activity.
3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

D. Major Area: A story of construction, a separate building, or a similar significant construction element.

E. Milestone: A key or critical point in time for reference or measurement.

1.4 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:

1. Working electronic copy of schedule file, where indicated.
2. PDF electronic file.

B. Startup construction schedule.

1. Approval of cost-loaded, startup construction schedule will not constitute approval of schedule of values for cost-loaded activities.

C. Startup Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.

D. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.

1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.

E. Construction Schedule Updating Reports: Submit with Applications for Payment.

F. Daily Construction Reports: Submit at weekly intervals.

G. Site Condition Reports: Submit at time of discovery of differing conditions.

H. Special Reports: Submit at time of unusual event.

1.5 QUALITY ASSURANCE (not used)

1.6 COORDINATION

A. Coordinate Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from entities involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for commencement of the Work to date of final completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:

1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
2. Submittal Review Time: Include review and resubmittal times indicated in Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
3. Startup and Testing Time: Include not less than 15 days for startup and testing.
4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
5. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and final completion.

C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.
2. Work under More Than One Contract: Include a separate activity for each contract.
3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division 01 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
5. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 01 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
6. Work Restrictions: Show the effect of the following items on the schedule:

a. Coordination with existing construction.
b. Limitations of continued occupancies.
c. Uninterruptible services.
d. Partial occupancy before Substantial Completion.
e. Use of premises restrictions.
f. Provisions for future construction.
g. Seasonal variations.
h. Environmental control.

D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion.

2.2 STARTUP CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit preliminary horizontal bar-chart-type construction schedule within seven days of date established for the Notice to Proceed.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 60 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

2.3 REPORTS

A. Monthly Construction Reports: Prepare a monthly construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions, including presence of rain or snow.
7. Accidents.
8. Meetings and significant decisions.
9. Unusual events (see special reports).
10. Stoppages, delays, shortages, and losses.
11. Meter readings and similar recordings.
12. Emergency procedures.
13. Orders and requests of authorities having jurisdiction.
14. Change Orders received and implemented.
15. Construction Change Directives received and implemented.
16. Services connected and disconnected.
17. Equipment or system tests and startups.
18. Partial completions and occupancies.
19. Substantial Completions authorized.

B. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.4 SPECIAL REPORTS

A. General: Submit special reports directly to Owner within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.

B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate Actual Completion percentage for each activity.

B. Distribution: Distribute copies of approved schedule to Architect, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200
4812-9351-0839, v. 3

SECTION 013300 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

B. Related Requirements:

1. Division 01 Section "Payment Procedures" for submitting Applications for Payment and the schedule of values.
2. Division 01 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
3. Division 01 Section "Operation and Maintenance Data" for submitting operation and maintenance manuals.
4. Division 01 Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
5. Division 01 Section "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

C. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 ACTION SUBMITTALS

A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
2. Submit concurrently with the first complete submittal of Contractor's construction schedule.

a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.

3. Format: Arrange the following information in a tabular format:

a. Scheduled date for first submittal.
b. Specification Section number and title.
c. Submittal category: Action; informational.
d. Name of subcontractor.
e. Description of the Work covered.
f. Scheduled date for Architect's final release or approval.
g. Scheduled date of fabrication.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. General: Electronic copies of CAD Drawings of the Contract Drawings will not be provided by Architect for Contractor's use in preparing submittals.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No

extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 10 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow 10 days for review of each resubmittal.
4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 15 days for initial review of each submittal.

D. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.

    a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).

3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect
4. Transmittal Form for Electronic Submittals: Use form acceptable to Architect**,** containing the following information:

    a. Project name.
    b. Date.
    c. Name and address of Architect.
    d. Name of Contractor.
    e. Name of firm or entity that prepared submittal.
    f. Names of subcontractor, manufacturer, and supplier.
    g. Category and type of submittal.
    h. Submittal purpose and description.
    i. Specification Section number and title.
    j. Specification paragraph number or drawing designation and generic name for each of multiple items.
    k. Drawing number and detail references, as appropriate.
    l. Location(s) where product is to be installed, as appropriate.
    m. Related physical samples submitted directly.
    n. Indication of full or partial submittal.
    o. Transmittal number, numbered consecutively.
    p. Submittal and transmittal distribution record.
    q. Other necessary identification.
    r. Remarks.

5. Metadata: Include the following information as keywords in the electronic submittal file metadata:

    a. Project name.
    b. Number and title of appropriate Specification Section.
    c. Manufacturer name.
    d. Product name.

E. Options: Identify options requiring selection by Architect.

F. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

G. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.
3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

I. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Submit electronic submittals via email as PDF electronic files.

    a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.

2. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

    a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
    b. Provide a notarized statement on original paper copy certificates and certifications where indicated.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:

    a. Manufacturer's catalog cuts.
    b. Manufacturer's product specifications.
    c. Standard color charts.
    d. Statement of compliance with specified referenced standards.
    e. Testing by recognized testing agency.
    f. Application of testing agency labels and seals.
    g. Notation of coordination requirements.
    h. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:

    a. Wiring diagrams showing factory-installed wiring.
    b. Printed performance curves.
    c. Operational range diagrams.
    d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before or concurrent with Samples.
6. Submit Product Data in one of the following format:

    a. PDF electronic file.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on Architect's digital data drawing files is otherwise permitted.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

    a. Identification of products.

b. Schedules.
c. Compliance with specified standards.
d. Notation of coordination requirements.
e. Notation of dimensions established by field measurement.
f. Relationship and attachment to adjoining construction clearly indicated.
g. Seal and signature of professional engineer if specified.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.
3. Submit Shop Drawings in one of the following format:

a. PDF electronic file.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:

a. Generic description of Sample.
b. Product name and name of manufacturer.
c. Sample source.
d. Number and title of applicable Specification Section.
e. Specification paragraph number and generic name of each item.

3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.

4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.

a. Number of Samples: Submit two full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from

manufacturer's product line. Architect will return submittal with options selected.

6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

    a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned.

        1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
        2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
2. Manufacturer and product name, and model number if applicable.
3. Number and name of room or space.
4. Location within room or space.
5. Submit product schedule in one of the following format:

    a. PDF electronic file.

F. Coordination Drawing Submittals: Comply with requirements specified in Division 01 Section "Project Management and Coordination."

G. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."

H. Application for Payment and Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."

I. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Division 01 Section "Quality Requirements."

J. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Section "Closeout Procedures."

K. Maintenance Data: Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."

L. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

M. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

N. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

O. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

P. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

Q. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

R. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

S. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

1. Name of evaluation organization.
2. Date of evaluation.
3. Time period when report is in effect.
4. Product and manufacturers' names.
5. Description of product.
6. Test procedures and results.
7. Limitations of use.

T. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

U. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests

performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

V. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

W. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally-signed PDF electronic file or three paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect**.**

B. Project Closeout and Maintenance Material Submittals: See requirements in Division 01 Section "Closeout Procedures."

C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of

reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

A. Action Submittals: Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.

B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.

D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

E. Submittals not required by the Contract Documents may be returned by the Architect without action.

END OF SECTION 013300
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SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with the Contract Document requirements.

1.3 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction complies with requirements. Services do not include contract enforcement activities performed by Architect.

C. Mockups: Full-size, physical example assemblies to illustrate finishes and materials. Mockups are used to verify selections made under Sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples. Mockups establish the standard by which the Work will be judged.

D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.

E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

F. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.

G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).

J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 INFORMATIONAL SUBMITTALS

A. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

B. Schedule of Tests and Inspections: Prepare in tabular form and include the following:

1. Specification Section number and title.
2. Description of test and inspection.
3. Identification of applicable standards.
4. Identification of test and inspection methods.
5. Number of tests and inspections required.
6. Time schedule or time span for tests and inspections.
7. Entity responsible for performing tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

1.6 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Ambient conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of technical representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement that equipment complies with requirements.
3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
4. Statement whether conditions, products, and installation will affect warranty.
5. Other required items indicated in individual Specification Sections.

D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.7 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

J. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:

1. Contractor responsibilities include the following:

a. Provide test specimens representative of proposed products and construction.
b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
d. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
e. When testing is complete, remove test specimens, assemblies, and mockups, and laboratory mockups; do not reuse products on Project.

2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

K. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.

2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at Project.
4. Demonstrate the proposed range of aesthetic effects and workmanship.
5. Obtain Architect's approval of mockups before starting work, fabrication, or construction.

    a. Allow seven days for initial review and each re-review of each mockup.

6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
7. Demolish and remove mockups when directed, unless otherwise indicated.

1.8 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of the types of testing and inspecting they are engaged to perform.
2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.

1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

    a. Contractor shall not employ the same entity engaged by Owner, unless agreed to in writing by Owner.

3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation,

including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."

D. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

E. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

F. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform any duties of Contractor.

G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field-curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

I. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Submit schedule within 20 days of date established for the Notice to Proceed.

1. Distribution: Distribute schedule to Owner, Architect, Construction Manager, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.9 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Owner will engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner.

1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviews the completeness and adequacy of those procedures to perform the Work.
2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
6. Retesting and reinspecting corrected work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.
2. Description of the Work tested or inspected.
3. Date test or inspection results were transmitted to Architect.
4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

3.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 015000 – TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes requirements for construction facilities and temporary controls, including temporary utilities, support facilities, and security and protection.

B. Temporary utilities include, but are not limited to, the following:

1. Water distribution.
2. Temporary electric power distribution.
3. Sanitary facilities, including drinking water.
4. Storm and sanitary sewer.

C. Support facilities include, but are not limited to, the following:

1. Temporary enclosures.
2. Waste disposal services.
3. Construction aids and miscellaneous services and facilities.

D. Security and protection facilities include, but are not limited to, the following:

1. Temporary fire protection.
2. Barricades, warning signs, and lights.
3. Environmental protection.

1.3 QUALITY ASSURANCE

A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction including, but not limited to, the following:

1. Building code requirements.
2. Health and safety regulations.
3. Utility company regulations.
4. Police, fire department, and rescue squad rules.
5. Environmental protection regulations.

B. Standards: Comply with NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations," ANSI A10 Series standards for "Safety

Requirements for Construction and Demolition," and NECA Electrical Design Library "Temporary Electrical Facilities."

1. Electrical Service: Comply with NEMA, NECA, and UL standards and regulations for temporary electric service. Install service in compliance with NFPA 70 "National Electric Code."

C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.4 FIELD CONDITIONS

A. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Relocate temporary services and facilities as the Work progresses. Do not overload facilities or permit them to interfere with progress. Take necessary fire-prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Provide new materials. If acceptable to the Architect, the Contractor may use undamaged, previously used materials in serviceable condition. Provide materials suitable for use intended.

B. Tarpaulins: Provide waterproof, fire-resistant, UL-labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures, provide translucent, nylon-reinforced, laminated polyethylene or polyvinyl chloride, fire-retardant tarpaulins.

C. Water: Provide potable water approved by local health authorities.

2.2 EQUIPMENT

A. General: Provide new equipment. If acceptable to the Architect, the Contractor may use undamaged, previously used equipment in serviceable condition. Provide equipment suitable for use intended.

B. Water Hoses: Provide 3/4-inch, heavy-duty, abrasion-resistant, flexible rubber hoses 100 feet long, with pressure rating greater than the maximum pressure of the water distribution system. Provide adjustable shutoff nozzles at hose discharge.

C. Electrical Outlets: Provide properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-Volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button, and pilot light for connection of power tools and equipment.

D. Electrical Power Cords: Provide grounded extension cords. Use hard-service cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.

E. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered-glass enclosures where exposed to breakage. Provide exterior fixtures where exposed to moisture.

F. Temporary Toilet Units: Provide self-contained, single-occupant toilet units of the chemical, aerated recirculation, or combustion type. Provide units properly vented and fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.

G. Fire Extinguishers: Provide hand-carried, portable, UL-rated, Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide hand-carried, portable, UL-rated, Class ABC, dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for the exposures.

1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.

B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary connection to existing service.

1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
2. Provide adequate capacity at each stage of construction.

B. Temporary Water Service: Use of Owner's existing water service will be permitted at the Park District’s Maintenance Garage, located at 1480 Forest Gate Road, Oak Brook, IL, as long as equipment is maintained in a condition acceptable to Owner. There is no water service at the Project site.

C. Temporary Electric Power Service: Use of Owner's existing electric power service will be permitted, as long as equipment is maintained in a condition acceptable to Owner.

D. Temporary Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

E. Toilets: Use of the Owner's existing portable toilets located on site will be permitted, so long as facilities are maintained in a condition acceptable to the Owner. At Substantial Completion, restore these facilities to the condition prevalent at the time of initial use.

F. Drinking-Water Facilities: Use of the Owner's existing drinking water foundtains will be permited located at the south of Ginger Creek between the tennis courts, so long as facilities are cleaned and maintained in a condition acceptable to the Owner. At Substantial Completion, restore these facilities to the condition prevalent at the time of initial use. There are no drinking water foundtains on the Project site.

G. Sanitary facilities include temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for the type, number, location, operation, and maintenance of fixtures and facilities. Install where facilities will best serve the Project's needs.

H. Sewers and Drains: Use of the Owner's existing sewers and drains will be permitted, so long as facilities are are cleaned and maintained in a condition acceptable to the Owner. At Substantial Completion, restore these facilities to the condition prevalent at the time of initial use.

1. Provide temporary connections to remove effluent that can be discharged lawfully.
2. Filter out excessive amounts of construction debris, chemicals, oils, and similar contaminants that might clog sewers or pollute waterways before discharge.

3.3 SUPPORT FACILITIES INSTALLATION

A. Locate support facilities for easy access.

1. Maintain support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.

B. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 deg F. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material lawfully.

C. Waste Disposal Facilities: Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Temporary Construction Fence: Install and maintain 6 foot tall chain link construction fence. Posts to be driven or set on bases. Posts are not to be driven into any pavement designated to remain.

B. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed, provide lighting, including flashing red or amber lights.

C. Storage: Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.

D. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways, and subsoil might be contaminated or polluted or that other undesirable effects might result. Avoid use of tools and equipment that produce harmful noise. Restrict use of noise-making tools and equipment to hours that will minimize complaints from persons or firms near the site.

3.5 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.

B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage.

1. Maintain operation of temporary enclosures and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Termination and Removal: Unless the Architect requests that it be maintained longer, remove each temporary facility when the need has ended, when replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are the Contractor's property.
2. At Substantial Completion, clean and renovate permanent facilities used during the construction period.

END OF SECTION 015000
4819-1683-0135, v. 3

SECTION 015639 - TEMPORARY TREE AND PLANT PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the protection and trimming of existing trees that interfere with, or are affected by, execution of the Work, whether temporary or permanent construction.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Tree Pruning Schedule: Written schedule from arborist detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.

C. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.

D. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.

1.3 QUALITY ASSURANCE

A. Arborist Qualifications: An arborist certified by ISA or licensed in the jurisdiction where Project is located.

B. Tree Pruning Standard: Comply with ANSI A300 (Part 1), "Tree, Shrub, and Other Woody Plant Maintenance--Standard Practices (Pruning)."

PART 2 - PRODUCTS

2.1 MATERIALS

A. Drainage Fill: Selected crushed stone, or crushed or uncrushed gravel, washed, ASTM D 448, Size 24, with 90 to 100 percent passing a 2-1/2-inch sieve and not more than 10 percent passing a 3/4-inch sieve.

B. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 1 inch in diameter; and free of weeds, roots, and toxic and other nonsoil materials.

1. Obtain topsoil only from well-drained sites where topsoil is 4 inches deep or more; do not obtain from bogs or marshes.

C. Filter Fabric: Manufacturer's standard, nonwoven, pervious, geotextile fabric of polypropylene, nylon, or polyester fibers.

D. Chain-Link Fence: Metallic-coated steel chain-link fence fabric of 0.120-inch- diameter wire; a minimum of 48 inches high; with 1.9-inch- diameter line posts; 2-3/8-inch-diameter terminal and corner posts; 1-5/8-inch- diameter top rail; and 0.177-inch-diameter bottom tension wire; with tie wires, hog ring ties, and other accessories for a complete fence system.

E. Plastic Safety Fence: Heavy duty plastic mesh with grid of 1.8” x 3.3”; 4’ height; thickness: 30 MIL; tensile strength: 17 pounds per inch; color: green. Install with temporary fence posts, 6’ ht. and 14-gauge steel. Install 2’ into the ground at 8’ on center and secure plastic mesh with zip ties.

F. Organic Mulch: Shredded hardwood, free from deleterious materials.

PART 3 - EXECUTION

3.1 PREPARATION

A. Temporary Fencing: Install temporary fencing around tree protection zones to protect remaining trees and vegetation from construction damage. Maintain temporary fence and remove when construction is complete.

B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.

C. Mulch areas within drip line of trees to remain and other areas indicated.

1. Apply 3-inch average thickness of organic mulch. Do not place mulch within 6 inches of tree trunks.

D. Do not store construction materials, debris, or excavated material inside tree protection zones. Do not permit vehicles or foot traffic within tree protection zones; prevent soil compaction over root systems.

3.2 EXCAVATION

A. Install shoring or other protective support systems to minimize sloping or benching of excavations.

B. Do not excavate within tree protection zones, unless otherwise indicated.

C. Where utility trenches are required within tree protection zones, tunnel under or around roots by drilling, auger boring, pipe jacking, or digging by hand.

1. Root Pruning: Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots with sharp pruning instruments; do not break or chop.

3.3 REGRADING

A. Grade Lowering: Where new finish grade is indicated below existing grade around trees, slope grade beyond tree protection zones. Maintain existing grades within tree protection zones.

B. Minor Fill: Where existing grade is 6 inches or less below elevation of finish grade, fill with topsoil. Place topsoil in a single uncompacted layer and hand grade to required finish elevations.

C. Moderate Fill: Where existing grade is more than 6 inches but less than 12 inches below elevation of finish grade, place drainage fill, filter fabric, and topsoil on existing grade as follows:

1. Carefully place drainage fill against tree trunk approximately 2 inches above elevation of finish grade and extend not less than 18 inches from tree trunk on all sides. For balance of area within drip-line perimeter, place drainage fill up to 6 inches below elevation of grade.
2. Place filter fabric with edges overlapping 6 inches minimum.
3. Place fill layer of topsoil to finish grade. Do not compact drainage fill or topsoil. Hand grade to required finish elevations.

3.4 TREE PRUNING

A. Prune trees to remain that are affected by temporary and permanent construction.

B. Prune trees to remain to compensate for root loss caused by damaging or cutting root system. Provide subsequent maintenance during Contract period as recommended by arborist.

C. Pruning Standards: Prune trees according to ANSI A300 (Part 1).

D. Cut branches with sharp pruning instruments; do not break or chop.

E. Chip removed tree branches and dispose of off-site.

3.5 TREE REPAIR AND REPLACEMENT

A. Promptly repair trees damaged by construction operations within 24 hours. Treat damaged trunks, limbs, and roots according to arborist's written instructions.

3.6 DISPOSAL OF WASTE MATERIALS

A. Burning is not permitted.

B. Disposal: Remove excess excavated material and displaced trees from Owner's property.

END OF SECTION 015639

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Instruction to Bidders, Section L for substitution requests prior to bid deadline.

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.

B. Related Requirements:

1. Division 01 Section "Alternates" for products selected under an alternate.
2. Division 01 Section "Substitution Procedures" for requests for substitutions.
3. Division 01 Section "References" for applicable industry standards for products specified.

C. Notwithstanding anything contained herein to the contrary, the use of brand names in the Specifications is used for the purpose of establishing a grade or quality. Contractors proposing to use an alternate that is equal to or superior to in every respect to that required by the Specifications must request approval in writing to the Architect as provided in the Instruction to Bidders, Section L and Division 01 Section "Substitution Procedures" for requests for substitutions.

1.3 DEFINITIONS

A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.

3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that are equal to or exceed those of specified product.

B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.4 ACTION SUBMITTALS

A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of Owner’s approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

    a. Form of Approval: As specified in Division 01 Section "Submittal Procedures."
    b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

B. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 01 Section "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and liquids from freezing.
7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.

3. See Divisions 02 through 33 Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Division 01 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures:

1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered.
   Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.

2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered.

   Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.

3. Products:

   a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements, or equal to or superior to product.
   Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.

   b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.

4. Manufacturers:

   a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements, or equal to or superior to product.
   Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.

   b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.

5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Owner's decision will be final on whether a proposed product matches.

   1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Division 01 Section "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements, or equal to or superior to product. Owner will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
5. Samples, if requested.
6. Otherwise comply with requirements in Division 01 Section "Submittal Procedures."

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000
4814-0701-6631, v. 3

SECTION 017300 - EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Installation of the Work.
3. Cutting and patching.
4. Progress cleaning.
5. Starting and adjusting.
6. Protection of installed construction.
7. Correction of Work.

B. Related Requirements:
1. Division 01 Section "Project Management and Coordination" for procedures for coordinating field engineering with other construction activities.
2. Division 01 Section "Submittal Procedures" for submitting surveys.
3. Division 01 Section “Closeout Procedures” for the submitting of final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.3 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.4 QUALITY ASSURANCE

A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect

before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.

2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS (not used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

1. Description of the Work.
2. List of detrimental conditions, including substrates.
3. List of unacceptable installation tolerances.
4. Recommended corrections.

D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.

B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.

1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
2. Establish limits on use of Project site.
3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
4. Inform installers of lines and levels to which they must comply.
5. Check the location, level and plumb, of every major element as the Work progresses.

6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect

3.4 FIELD ENGINEERING

A. Identification: Owner will identify existing benchmarks, control points, and property corners.

B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect] before proceeding.
2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.

1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

D. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.

E. Final Property Topographic Survey: Engage a land surveyor to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey. Final Property Topographic Survey: Engage an Illinois licensed land surveyor to prepare a final topographic survey showing significant features. Include on the survey a certification, signed by land surveyor, that principal elevations and stormwater facility volume of the Project are accurately positioned as shown on the construction documents.

1. Show streets, impervious areas, paving, site improvements and utilities, existing improvements, trees and grade contours. In addition, show general drainage patterns, structure rim elevations, restrictor invert elevation, volume provided by detention area and high water level. Property lines or corners do not need to be certified but are to be shown as obtained from the Owner provided plat of survey.

3.5 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
4. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

C. Temporary Support: Provide temporary support of work to be cut.

D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Division 01 Section "Summary."

F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage

elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Division 31 Sections where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.

    a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    b. Restore damaged pipe covering to its original condition.

3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

    a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.7 OWNER-INSTALLED PRODUCTS

A. Site Access: Provide access to Project site for Owner's construction personnel.

B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.

1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
2. Preinstallation Conferences: Include Owner's construction personnel at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

3.8 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where other contracts worked. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

    a. Use containers intended for holding waste materials of type to be stored.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Division 01 Section "Construction Waste Management and Disposal."

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.9 STARTING AND ADJUSTING

A. Coordinate startup and adjusting of equipment and operating components with requirements in Division 01 Section "General Commissioning Requirements."

B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

E. Manufacturer's Field Service: Comply with qualification requirements in Division 01 Section "Quality Requirements."

3.10 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300
4820-6709-7783, v. 4

SECTION 017400 – CLEANING AND WASTE MANAGEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes: Furnish all labor, tools, materials, equipment and supervision required for, or incidental to, cleaning as indicated on the Drawings and specified herein.

B. Related Requirements:

1. Respective Specification Section for cleaning for specific products of work.

2. Division 1 “Construction Waste Management”

C. Maintain premises and public properties free from accumulation of waste, debris and rubbish caused by construction operations.

D. At completion of work, remove all waste materials, rubbish, tools, equipment, machinery, and surplus materials from areas of work and clean all visible surfaces; leave project clean and ready for occupancy.

1.3 SAFETY REQUIREMENTS

A. Standards: Maintain project in accord with following safety and insurance standards.

1. Occupational Safety and Health Administration (OSHA).
2. Applicable codes and ordinances.

B. Hazard Control:

1. Store volatile wastes in covered metal containers and remove from premises daily.
2. Prevent accumulation of wastes which create hazardous conditions.
3. Provide adequate ventilation during use of volatile or noxious substances.

C. Conduct cleaning and disposal operations to comply with Federal, State and local ordinances and anti-pollution laws.

1. Do not burn or bury rubbish and waste materials on project site.
2. Do not dispose of volatile wastes such as mineral spirits, oil or paint thinner in storm or sanitary sewer drains.
3. Do not dispose of wastes into streams or waterways.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Select and use all cleaning materials and equipment with care to avoid scratching, marring, defacing, staining or discoloring surfaces cleaned.

B. Use only cleaning materials recommended by manufacturer of surface to be cleaned.

C. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 - EXECUTION

3.1 DURING CONSTRUCTION

A. Contractor shall provide and maintain at a location approved by the Owner, suitable trash and disposal bins for the collection of trash and debris. He shall empty said bins and remove accumulated debris from the project site as required or directed by the Architect. All sub-contractors at all times shall keep the premises free from accumulation of waste materials and rubbish caused by his operations. The contractors and all subcontractors shall deposit waste materials and rubbish collected during daily clean-up in trash disposal bins as described above.

B. Dry clean (vacuum and broom) the work area after work is complete in that area.

C. If Contractors fail to accomplish the provisions of this Article, the Owner will do the work and backcharge the Contractor at fault. Such charge shall be a direct lien against issue of final certificates of payment and final payment.

D. Execute cleaning to ensure that building(s), grounds and public properties are maintained free from accumulations of waste materials and rubbish.

E. At the end of each day’s work, clean site and public properties and dispose of waste materials, debris and rubbish.

F. Remove waste materials, debris and rubbish from site and legally dispose of at a public or private dumping areas off Owner’s property.

G. Handle materials in a controlled manner with as few handlings as possible. Do not drop or throw materials from heights.

H. Removing of all temporary protection: Contractor shall remove all temporary protections and leave site in its original condition.

I. Repair, patch and restore marred surfaces to specified finish, to match adjacent surfaces.

END OF SECTION 017400

SECTION 017400 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for disposing of nonhazardous demolition and construction waste.

B. Related Requirements:

1. Division 31 Section "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

1.3 DEFINITIONS

A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

1.4 ACTION SUBMITTALS

A. Waste Management Plan: Submit plan within 7 days of date established for the Notice to Proceed.

1.5 INFORMATIONAL SUBMITTALS

A. Landfill Disposal Records: Indicate receipt and acceptance of waste by landfills licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

1.6 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Waste Management Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review

methods and procedures related to waste management including, but not limited to, the following:

1. Review and discuss waste management plan including responsibilities of waste management coordinator.
2. Review requirements for documenting quantities of each type of waste and its disposition.
3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review waste management requirements for each trade.

PART 2 - (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

1. Comply with operation, termination, and removal requirements in Section 015000 "Temporary Facilities and Controls."

B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.

C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.

1. Distribute waste management plan to everyone concerned within three days of submittal return.
2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
2. Comply with Division 01 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Disposal: Remove waste materials from Owner's property and legally dispose of them.

END OF SECTION 017400
4811-5739-9223, v. 3

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Inspection procedures.
2. Project Record Documents.
3. Maintenance Manuals.
4. Warranties.
5. Final cleaning.
6. Instruction of Owner's personnel.

B. Related Requirements:

1. Division 01 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
2. Division 01 Section "Execution Requirements" for progress cleaning of Project site.
3. Divisions 01 through 48 Sections for specific closeout requirements for products of those Sections.

1.3 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
2. Advise Owner of pending insurance changeover requirements.
3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

5. Prepare and submit Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
7. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
8. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
9. Complete final cleaning requirements, including touchup painting.
10. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for Final Completion.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a final Application for Payment according to Division 01 Section "Payment Procedures."
2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit pest-control final inspection report and warranty.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training videotapes.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:

    a. Project name.
    b. Date.
    c. Name of Architect.
    d. Name of Contractor.
    e. Page number.

4. Submit list of incomplete items in one of the following format:

    a. MS Excel electronic file. Architect will return annotated file.
    b. PDF electronic file. Architect will return annotated file.

1.6 PROJECT RECORD DOCUMENTS

A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

B. Record Drawings: Maintain and submit one set of blue- or black-line white prints of Contract Drawings and Shop Drawings.

1. Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.

    a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
    b. Accurately record information in an understandable drawing technique.

c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
d. Mark Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on Contract Drawings.

2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
3. Mark important additional information that was either shown schematically or omitted from original Drawings.
4. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
5. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.

C. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Note related Change Orders, Record Drawings, and Product Data, where applicable.

D. Record Product Data: Submit one copy of each Product Data submittal. Mark one set to indicate the actual product installation where installation varies substantially from that indicated in Product Data.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, Record Drawings, and Record Specifications, where applicable.

E. Miscellaneous Record Submittals: Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

1.7 MAINTENANCE MANUALS

A. Assemble a complete set of operation and maintenance data indicating the operation and maintenance of each system, subsystem, and piece of equipment not part of a

system. Include operation and maintenance data required in individual Specification Sections and as follows:

1. Maintenance Data:

    a. Manufacturer's information, including list of spare parts.
    b. Name, address, and telephone number of Installer or supplier.
    c. Maintenance procedures.
    d. Maintenance and service schedules for preventive and routine maintenance.
    e. Maintenance record forms.
    f. Sources of spare parts and maintenance materials.
    g. Copies of maintenance service agreements.
    h. Copies of warranties and bonds.

B. Organize maintenance manuals into suitable sets of manageable size. Bind and index data in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, with pocket inside the covers to receive folded oversized sheets. Identify each binder on front and spine with the printed title "MAINTENANCE MANUAL," Project name, and subject matter of contents.

1.8 WARRANTIES

A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

B. Partial Occupancy: Submit properly executed warranties within fifteen days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

D. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (115-by-280-mm) paper.

1. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
2. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.

E. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:

a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
c. Remove tools, construction equipment, machinery, and surplus material from Project site.
d. Remove snow and ice to provide safe access to building.
e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
g. Sweep concrete floors broom clean in unoccupied spaces.
h. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
i. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
j. Remove labels that are not permanent.

k. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.

1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.

l. Wipe surfaces of mechanical and electrical equipment**,** elevator equipment**,** and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
m. Replace parts subject to unusual operating conditions.
n. Clean ducts, blowers, and coils if units were operated without filters during construction.
o. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
p. Leave Project clean and ready for occupancy.

C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

D. Construction Waste Disposal: Comply with waste disposal requirements in Division 01 Section "Construction Waste Management and Disposal."

3.2 INSTRUCTION OF OWNER'S PERSONNEL

A. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections. For each training module, develop a learning objective and teaching outline. Include instruction for the following:

1. System design and philosophy.
2. Review of documentation.
3. Emergencies.
4. Operations, adjustments, and troubleshooting.
5. Maintenance.
6. Repair.

B. Video Recording Format: Provide high-quality color video recordings, minimum 640 x 480 resolution on electronic media, of demonstration and training with menu navigation in format acceptable to Architect. Provide electronic media in read-only format compact disc

END OF SECTION 017700

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes for the following:
   1. Footings
   2. Foundation walls
   3. Slabs-on-grade

B. Related Requirements:
   1. Division 31 Section "Earth Moving" for drainage fill under slabs-on-grade.
   2. Division 32 Section "Concrete Paving" for concrete pavement and walks.

1.3 DEFINITIONS

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

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Not Required

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, or weather, when necessary.

C. Shop Drawings: For steel reinforcement.

D. Material test results, or other circumstances warrant adjustment reports, certificates.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer with a minimum 5 years similar project experience.

B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

C. Testing Agency Qualifications: An independent agency, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated, as documented according to ASTM E 548.

1. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.

1.7 DELIVERY, STORAGE, AND HANDLING

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

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

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

1. ACI 301, "Specification for Structural Concrete,"
2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

PART 3 - PRODUCTS

3.1 FORM-FACING MATERIALS

A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

1. Plywood, metal, or other approved panel materials.
2. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:

a. B-B (Concrete Form), Class 1 or better; mill oiled and edge sealed.

B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

C. Forms for Cylindrical Columns, Pedestals, and Supports: Metal, glass-fiber-reinforced plastic, paper, or fiber tubes that will produce surfaces with gradual or abrupt irregularities not exceeding specified formwork surface class. Provide units with sufficient wall thickness to resist plastic concrete loads without detrimental deformation.

D. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

1. Formulate form-release agent with rust inhibitor for steel form-facing materials.

E. Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.

1. Furnish units that will leave no corrodible metal closer than 1 inch to the plane of exposed concrete surface.

3.2 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615, Grade 60 deformed.
1. Epoxy-Coated Reinforcing Bars: ASTM A 615, Grade 60, deformed bars, ASTM A 775, epoxy coated, with less than 2 percent damaged coating in each 12-inch bar length.

B. Plain-Steel Welded Wire Reinforcement: ASTM A 185, plain, fabricated from as-drawn steel wire into flat sheets.

C. Deformed-Steel Welded Wire Reinforcement: ASTM A 497, flat sheet.

D. Galvanized-Steel Welded Wire Reinforcement: ASTM A 185, plain, fabricated from galvanized steel wire into flat sheets.

E. Epoxy-Coated Welded Wire Reinforcement: ASTM A 884, Class A coated, Type 1, plain steel.

3.3 REINFORCEMENT ACCESSORIES

A. Joint Dowel Bars: ASTM A 615, Grade 60, plain-steel bars, cut bars true to length with ends square and free of burrs.

B. Epoxy-Coated Joint Dowel Bars: ASTM A 615, Grade 60, plain-steel bars, ASTM A 775 epoxy coated.

C. Epoxy Repair Coating: Liquid, two-part, epoxy repair coating; compatible with epoxy coating on reinforcement and complying with ASTM A 775.

D. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:

1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.
2. For epoxy-coated reinforcement, use epoxy-coated or other dielectric-polymer-coated wire bar supports.

3.4 CONCRETE MATERIALS

A. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from one source, and obtain admixtures through one source from a single manufacturer.

B. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:

1. Portland Cement: ASTM C 150, Type I Supplement with the following

a. Fly Ash: ASTM C 618, Class C
b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.

C. Normal-Weight Aggregates: ASTM C 33, Class 3S coarse aggregate or better, graded. Provide aggregates from a single source.

1. Maximum Coarse-Aggregate Size: 3/4-inch nominal, except as follows:

a. Slabs-on-Grade: 1-1/2 inches nominal.

D. Water: ASTM C 94 and potable.

3.5 ADMIXTURES

A. Air-Entraining Admixture: ASTM C 260.

B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C 494, Type A.
2. Retarding Admixture: ASTM C 494, Type B.
3. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.
4. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.
5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494, Type G.
6. Plasticizing and Retarding Admixture: ASTM C 1017, Type II.

3.6 VAPOR RETARDERS

A. Sheet Vapor Retarder: ASTM E 1745, Class A. Include manufacturer's recommended adhesive or pressure-sensitive tape.

B. Accessories: Provide manufacturer's standard accessories for vapor retarder penetrations, including pipe boots, pressure-sensitive tapes, and mastics.
   1. Products: Subject to compliance with requirements, provide products by one of the following:

      a. Fortifiber Building Systems Group; Moistop Ultra 15.
      b. Meadows, W. R., Inc.; Perminator 15 mil.
      c. Poly-America, L.P.; Husky Yellow Guard 15 mil.
      d. Raven Industries Inc.; Vapor Block 15.
      e. Stego Industries, LLC; Stego Wrap 15 mil Class A.

3.7 CURING MATERIALS

A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

   1. Products: Subject to compliance with requirements, provide products by one of the following:

      a. BASF Construction Chemicals - Building Systems; Confilm.
      b. ChemMasters; SprayFilm.
      c. Conspec by Dayton Superior; Aquafilm.
      d. Dayton Superior Corporation; Sure Film (J-74).
      e. Edoco by Dayton Superior; BurkeFilm.
      f. Euclid Chemical Company (The), an RPM company; Eucobar.
      g. L&M Construction Chemicals, Inc.; E-CON.
      h. Meadows, W. R., Inc.; EVAPRE.
      i. Sika Corporation; SikaFilm.
      j. Symons by Dayton Superior; Finishing Aid.

B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.

C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

D. Water: Potable.

E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.

   1. Products: Subject to compliance with requirements, provide products by one of the following:

      a. Anti-Hydro International, Inc.; AH Curing Compound #2 DR WB.
      b. BASF Construction Chemicals - Building Systems; Kure 200.

c. ChemMasters; Safe-Cure Clear.
d. Conspec by Dayton Superior; W.B. Resin Cure.
e. Dayton Superior Corporation; Day Chem Rez Cure (J-11-W).
f. Euclid Chemical Company (The), an RPM company; Kurez W VOX; TAMMSCURE WB 30C.
g. L&M Construction Chemicals, Inc.; L&M Cure R.
h. Meadows, W. R., Inc.; 1100 Clear.
i. Symons Corporation, a Dayton Superior Company; Resi-Chem Clear Cure.

F. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A; certified by curing and sealing compound manufacturer to not interfere with bonding of floor covering.

1. Products: Subject to compliance with requirements, provide products by one of the following:

a. BASF Construction Chemicals - Building Systems; Kure 1315.
b. ChemMasters; Polyseal WB.
c. Conspec by Dayton Superior; Sealcure 1315 WB.
d. Euclid Chemical Company (The), an RPM company; Super Diamond Clear VOX; LusterSeal WB 300.
e. L&M Construction Chemicals, Inc.; Lumiseal WB Plus.
f. Meadows, W. R., Inc.; Vocomp-30.
g. Symons by Dayton Superior; Cure & Seal 31 Percent E.

3.8 RELATED MATERIALS

A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber or ASTM D 1752, cork or self-expanding cork.

B. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.

3.9 REPAIR MATERIALS

A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch and that can be feathered at edges to match adjacent floor elevations.

1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by underlayment manufacturer.
4. Compressive Strength: Not less than 400 psi at 28 days when tested according to ASTM C 109.

B. Repair Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch and that can be feathered at edges to match adjacent floor elevations.

1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by topping manufacturer.
4. Compressive Strength: Not less than 5000 psi at 28 days when tested according to ASTM C 109.

3.10 CONCRETE MIXTURES, GENERAL

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

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

B. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.

C. Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use water-reducing, high-range water-reducing, or plasticizing admixture in concrete, as required, for placement and workability.
2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.

3.11 CONCRETE MIXTURES FOR BUILDING ELEMENTS

A. Footings: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: As indicated on Drawings.
2. Maximum Water-Cementitious Materials Ratio: 0.50.
3. Fly Ash and or GGBF Slag Content: Minimum 15 percent, Maximum 25 percent of cementitious materials by weight.
4. Slump Limit: 5 inches, plus or minus 1 inch.

B. Foundation Walls: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: As indicated on Structural Drawings.
2. Maximum Water-Cementitious Materials Ratio: 0.50.
3. Slump Limit: **4 inches**; **8 inches for concrete with verified slump of 2 to 4 inches before adding high-range water-reducing admixture or plasticizing admixture**, plus or minus 1 inch.

C. Slabs-on-Grade: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: As indicated on Structural Drawings.
2. Minimum Cementitious Materials Content: 470 lb/cu. yd.
3. Maximum Water-Cementitious Materials Ratio: 0.45
4. Fly Ash and or GGBF Slag Content: Maximum 15 percent of cementitious materials by weight.
5. Slump Limit: 4 inches, plus or minus 1 inch.
6. Air Content: Do not allow air content of troweled finished floors to exceed 3 percent.

3.12 FABRICATING REINFORCEMENT

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

3.13 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94, and furnish batch ticket information.

1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 4 - EXECUTION

4.1 FORMWORK

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

C. Limit concrete surface irregularities, designated by ACI 347R as abrupt or gradual, as follows:

1. Class A, 1/8 inch for smooth-formed finished surfaces.
2. Class C, 1/2 inch for rough-formed finished surfaces.

D. Construct forms tight enough to prevent loss of concrete mortar.

E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete

surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.

1. Install keyways, reglets, recesses, and the like, for easy removal.
2. Do not use rust-stained steel form-facing material.

F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.

G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.

H. Chamfer or fillet exterior corners and edges of permanently exposed concrete.

I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.

J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

4.2 EMBEDDED ITEMS

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

1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's "Code of Standard Practice for Steel Buildings and Bridges."

4.3 REMOVING AND REUSING FORMS

A. General: Formwork for the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete, if concrete is hard enough to not be damaged by form-removal operations and curing and protection operations are maintained.

B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.

C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

4.4 VAPOR RETARDER INSTALLATION

A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder according to ASTM E 1643 and manufacturer's written instructions.

1. Lap joints 6 inches and seal with manufacturer's recommended tape.
2. Accessories: Seal penetrations, including pipes, with vapor retarder penetration accessories installed according to manufacturer's written instructions.

4.5 STEEL REINFORCEMENT INSTALLATION

A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.

1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.

C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.

D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

E. Install welded wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

F. Epoxy-Coated Reinforcement: Repair cut and damaged epoxy coatings with epoxy repair coating according to ASTM D 3963. Use epoxy-coated steel wire ties to fasten epoxy-coated steel reinforcement.

4.6 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.

1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints, unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.

2. Form keyed joints as indicated. Embed keys at least 1-1/2 inches into concrete.
3. Space vertical joints in walls as indicated in general notes. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.
4. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.

C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:

1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
3. Unless otherwise indicated, maximum joint spacing in feet shall not exceed 2.5 times slab thickness in inches, in each direction.

D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface, unless otherwise indicated.
2. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface where joint sealants, specified in Division 07 Section "Joint Sealants," are indicated.
3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.

E. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

4.7 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete, that forms are clear of debris, ice, or excessive water, and that required inspections have been performed.

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

C. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.

2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

D. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.

1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
2. Maintain reinforcement in position on chairs during concrete placement.
3. Screed slab surfaces with a straightedge and strike off to correct elevations.
4. Slope surfaces uniformly to drains where required.
5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

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

1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

F. Hot-Weather Placement: Comply with ACI 301 and as follows:

1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

4.8 FINISHING FORMED SURFACES

A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces not exposed to public view.

B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces exposed to public view, or to be covered with a coating or covering material applied directly to concrete.
2. Rub and light broom finish all faces exposed to public view.

C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

4.9 FINISHING FLOORS AND SLABS

A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.

1. Apply float finish to surfaces to receive trowel finish.

C. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, and ramps, and elsewhere as indicated.

1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

4.10 MISCELLANEOUS CONCRETE ITEMS

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

B. Equipment Bases and Foundations:

1. Coordinate sizes and locations of concrete bases with actual equipment provided.
2. Construct concrete bases 6 inches high unless otherwise indicated; and extend base not less than 6 inches in each direction beyond the maximum dimensions of supported equipment unless otherwise indicated or unless required for seismic anchor support.
3. Minimum Compressive Strength: 3500 psi at 28 days.
4. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of concrete base.
5. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base, and anchor into structural concrete substrate.
6. Prior to pouring concrete, place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
7. Cast anchor-bolt insert into bases. Install anchor bolts to elevations required for proper attachment to supported equipment.

4.11 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, apply curing compound and continue curing for the remainder of the curing period.

D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.

E. Cure concrete according to ACI 308.1, by one or a combination of the following methods:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:

   a. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive.

Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

a. Moisture cure or use moisture-retaining covers only to cure concrete surfaces to receive penetrating liquid floor treatments.
b. Cure concrete surfaces to receive other floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies will not interfere with bonding of floor covering used on Project.

3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

a. After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound will not interfere with bonding of floor covering used on Project.

4.12 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension in solid concrete, but not less than 1 inch in depth. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.

D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high

areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.

1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01-inch-wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
2. After concrete has cured at least 14 days, correct high areas by grinding.
3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
6. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
7. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.

F. Repair materials and installation not specified above may be used, subject to Architect's approval.

4.13 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage a special inspector and qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.

B. Inspections:

1. Steel reinforcement placement.
2. Placement of embedded items.
3. Headed bolts and studs.
4. Verification of use of required design mixture.

5. Concrete placement, including conveying and depositing.
6. Curing procedures and maintenance of curing temperature.

7. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:

8. Testing Frequency: Obtain at least one composite sample for each 100 CY or fraction thereof of each concrete mixture placed each day.
9. Slump: ASTM C 143; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
10. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
11. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.
12. Compression Test Specimens: ASTM C 31.

    a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.

13. Compressive-Strength Tests: ASTM C 39; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.

    a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.
    b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.

14. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
15. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
16. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
17. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
18. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive

strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42 or by other methods as directed by Architect.

19. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
20. Correct deficiencies in the Work that test reports and inspections indicate does not comply with the Contract Documents.

4.14 PROTECTION

A. Protect cast-in-place concrete slabs-on-grade from staining, laitance, and contamination until date of Substantial Completion.

END OF SECTION 033000

SECTION 116833 – PLAYFIELD EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Basketball Goals.
2. Fitness Equipment

B. Related Requirements:

1. Division 03 Section “Cast-in-Place Concrete
2. Division 31 Section “Site Excavation.”

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Warranty: Special warranty specified in this Section.

1.4 QUALITY ASSURANCE

A. Comply with applicable provisions of the Illinois Department of Transportation's (IDOT) “Standard Specifications for Road and Bridge Construction,” current edition, except where more stringent requirements are indicated. Measurement and payment provision included in the IDOT Standard Specifications do not apply to this Section.

B. Comply with requirements of the National Federation of State High School Associations, National Collegiate Athletic Association, United States Tennis Court and Track Builders Association, or Illinois High School Athletic Association rules and specifications, whichever is appropriate and applies.

C. Installer Qualifications: An experienced installer who has completed installations of site improvements similar in material, design, and extent to those indicated for the project and that has resulted in construction with a record of successful in-service performance.

D. Source Limitations: Obtain each type of playfield equipment through one source from a single manufacturer.

E. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section “Project Management and Coordination.”

1.5 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of playfield equipment that fail in materials or workmanship within specified warranty period.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Concrete:

1. Concrete for playfield equipment, structures, and footings shall conform to Article 1020 of the “Standard Specifications,” and the following:

a. Portland Cement: ASTM C 150, Type 1.
b. Aggregates: Hard, sound, uncoated particles, conforming to ASTM C 33.

1) Coarse Aggregate: Gravel or crushed rock ranging in size from 1/4 to 3/4 inch, evenly graded, free of clay and other foreign substance.
2) Fine Aggregates: Clean, sharp, coarse torpedo sand, free of clay, loam or foreign substance.

c. Water: Potable.

2. Mix Design: Compression strength of 3500 psi in 14 days, minimum of 5 bags of cement per cubic yard of concrete with a maximum of 6 gallons of water to 1 bag of cement.
3. Slump: Maximum slump of 4 inches and a minimum slump of 2 inches.

2.2 PLAYFIELD EQUIPMENT

A. Basketball Goal provided by owner: model HIL664 by Ironclad Sports, Inc. Contractor to install.

1. Product documentation included herein.

B. Fitness equipment provided by owner. Contractor to install.

1. Refer to construction details for minimum installation requirements. Installer per manufacturer’s requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for playfield layout, alignment of mounting substrates, installation tolerances, and other conditions affecting performance.

1. Verify critical dimensions.
2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. General: Comply with manufacturer's written instructions, and to the referenced competition rulebooks and specifications, for each type of playfield equipment. Complete playfield equipment assembly, where required.

B. Unless otherwise indicated, install playfield equipment after other operations have been completed.

C. Permanently Placed Playfield Equipment and Components: Install rigid, level, plumb, square, and true; anchored securely, positioned at locations and elevations indicated on Shop Drawings; in proper relation to adjacent construction; and aligned with playfield layout.

3.3 CLEANING

A. Repair areas disturbed by playfield installation operations to original conditions. Repair damage to existing roadways, sidewalks, curbs, utilities, plant material and turf, and site furnishings, caused by playfield equipment installation.

B. Remove debris and dispose of legally off site, leaving site clean and undamaged at time of Substantial Completion.

END OF SECTION 116833

D-Series VC Size 1
LED Area Luminaire

Catalog Number

Notes

Type L1

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

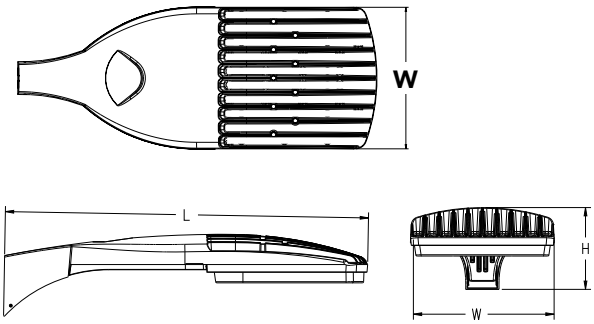
EPA: 1.01 ft² (0.09 m²)

Length: 33" (83.8 cm)

Width: 13" (33.0 cm)

Height: 7-1/2" (19.0 cm)

Weight (max): 27 lbs (12.2 kg)



A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a shaded background. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability1
- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a shaded background[1]

To learn more about A+, visit www.acuitybrands.com/aplus.

1. See ordering tree for details.
2. A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: Link to Roam; Link to DTL DLL

A+ Capable options indicated by this color background.

Ordering Information

EXAMPLE: DSX1 LED P3 30K VLS MVOLT SPA FAO DDBXD

DSX1LED

Series	Lumen Package	Color temperature	Distribution	Voltage	Mounting
DSX1 LED	P1 11,000 Lumen Package P2 15,000 Lumen Package P3 18,000 Lumen Package	30K 3000 K 40K 4000 K 50K 5000 K	VLS Symmetric	MVOLT [1] 120 [2] 208 [2] 240 [2] 277 [2] 347 [2,3] 480 [2,3]	**Shipped included** SPA Square pole mounting RPA Round pole mounting WBA Wall bracket SPUMBA Square pole universal mounting adaptor [4] RPUMBA Round pole universal mounting adaptor [4] **Shipped separately** KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish) [5]

Control options

Shipped installed

NLTAIR2	nLight AIR generation 2 enabled[6]
PER	NEMA twist-lock receptacle only (no controls) [7]
PER5	Five-wire receptacle only (no controls) [7,8]
PER7	Seven-wire receptacle only (no controls) [7,8]
DMG	0-10V dimming driver (no controls)
PIR	Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc [9,10]
PIRH	Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc [9,10]
PIRHN	Network, Bi-Level motion/ambient sensor[11]
PIR1FC3V	Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc [9,10]
PIRH1FC3V	Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc [9,10]
BL30	Bi-level switched dimming, 30% [12,13]
BL50	Bi-level switched dimming, 50% [12,13]
PNMTDD3	Part night, dim till dawn [14]
PNMT5D3	Part night, dim 5 hrs [14]
PNMT6D3	Part night, dim 6 hrs [14]
PNMT7D3	Part night, dim 7 hrs [14]
FAO	Field adjustable output[15]

Other options

Shipped installed

SF	Single fuse (120, 277, 347V) [2]
DF	Double fuse (208, 240, 480V) [2]
FBZ	Flat bezel

Shipped separately

HS	House-side shield [16,17,18]
BS	Bird spikes [16]
WG	Wireguard [16,18]

Finish (required)

DDBXD	Dark bronze
DBLXD	Black
DNAXD	Natural aluminum
DWHXD	White
DDBTXD	Textured dark bronze
DBLBXD	Textured black
DNATXD	Textured natural aluminum
DWHGXD	Textured white

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	L1 AND L2

Anchor Base Poles

SSA

SQUARE STRAIGHT ALUMINUM

FEATURES & SPECIFICATIONS

INTENDED USE — These specifications are for USA standards only. Check with factory for Canadian specifications. Square Straight Aluminum is a general purpose light pole for up to 35-foot mounting heights. This pole provides a lighter and naturally corrosion-resistant option for mounting area light fixtures and floodlights.

CONSTRUCTION — Pole Shaft: The pole shaft is of uniform wall thickness and is made of extruded 6000 series aluminum alloy tubing that is heat treated to a T6 temper to provide maximum strength. The shaft is uniformly square in cross-section with flat sides, small corner radii and excellent torsional qualities. Available shaft widths are 4", 5", 6" and 6.75".

Pole Top: Options include tenon top, drilled for side mount fixture, tenon with drilling (includes extra handhole) and open top. A cast aluminum top cap is provided for all poles that will receive drilling patterns for side-mount luminaire arm assemblies or when ordered with open top (PT) option. The top cap resists intrusion of moisture and environmental contaminants.

Handhole: A handhole opening with grounding provision is provided near the base. Standard positioning varies with shaft width as follows: 4" shaft, handhole at 12"; 5" shaft, handhole at 14"; 6" and 6.75" shaft, handhole at 18" on side A. Positioning the handhole lower than standard may not be possible and requires engineering review; consult Tech Support-Outdoor for further information. Every handhole includes a cover and cover attachment hardware. The handhole for a pole specified with a 4" or 5" shaft width has a nominal dimension of 2" x 4"; the handhole for a pole specified with a 6" or 6.75" width has a nominal dimension of 2.63" x 5".

Anchor Base/ Cover/ Bolts: Anchor base is cast from 356 alloy aluminum and is supplied with 4 nut cover disks. A full 2-piece cast aluminum anchor base cover is available as an option.

Anchor bolts are manufactured to ASTM F1554 Standards Grade 55, (55 KSI minimum yield strength and tensile strength of 75-95 KSI). Upper portion of anchor bolt is galvanized per ASTM A-153; bolts have an "L" bend on bottom end and are galvanized a minimum of 12" on the threaded end.

FINISH — Extra durable painted finish is coated with TGIC (Triglycidyl Isocyanurate) Polyester powder that meets 5A and 5B classifications of ASTM D3359. Standard powder-coat finishes include Dark Bronze, White, Black, Medium Bronze and Natural Aluminum colors. Classic finishes include Sandstone, Charcoal Gray, Tennis Green, Bright Red and Steel Blue colors. Other finishes include Brushed Aluminum, and Anodized Dark Bronze, Anodized Natural Aluminum and Anodized Black. Architectural Colors and Special Finishes are available by quote and include, but are not limited to RAL Colors, Custom Colors and Extended Warranty Finishes. Factory-applied primer paint finish is available for customer field-paint applications.

WARRANTY — 1-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

NOTE: Actual performance may differ as a result of end-user environment and application.

Specifications subject to change without notice.

See footnotes next page.

SSA Square Straight Aluminum Poles

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: SSA 20 4C DM19 BA

SSA					
Series	**Nominal fixture mounting height**	**Nominal shaft base size/wall thickness**	**Mounting[2]**	**Options**	**Finish[10]**
SSA	8'-35' (for 1/2 ft increments, add -6 to the pole height. Ex: 20-6 equals 20ft 6in.) (See technical information table for complete ordering information.)	(See technical information table for complete ordering information.)	Tenon mounting PT Open top T20 2-3/8" O.D. (2" NPS) T25 2-7/8" O.D. (2-1/2" NPS) T30 3-1/2" O.D. (3" NPS)[3] T35 4" O.D. (3-1/2" NPS)[3] Drill mounting[4] DM19 1 at 90° DM28 2 at 180° DM28PL 2 at 180° with one side plugged DM29 2 at 90° DM39 3 at 90° DM49 4 at 90° CSX/DSX/AERIS™/OMERO™/HLA/KAX Drill mounting[4] DM19AS 1 at 90° DM28AS 2 at 180° DM29AS 2 at 90° DM39AS 3 at 90° DM49AS 4 at 90° AERIS™ Suspend drill mounting[4,5] DMxxAST_ OMERO™ Suspend drill mounting[4,5] DMxxMRT_	Shipped installed L/AB Less anchor bolts (Include when anchor bolts are not needed) VD Vibration damper TP Tamper proof HAxy Horizontal arm bracket (1 fixture)[6,7] FDLxy Festoon outlet less electrical[6] CPL12/xy 1/2" coupling[6] CPL34/xy 3/4" coupling[6] CPL1/xy 1" coupling[6] NPL12/xy 1/2" threaded nipple[6] NPL34/xy 3/4" threaded nipple[6] NPL1/xy 1" threaded nipple[6] EHHxy Extra handhole[6,8] MAEX Match existiing [9] USPOM United States point of manufacture[10] UL UL listed wit label (Includes NEC compliant cover) NEC NEC 410.30 compliant gasketed handhole (Not UL Labeled) Shipped separately (replacement kit available) (blank) BLTC Bolt caps FBC Full base cover (spun aluminum) (blank) TC Top cap (with drill-mount poles) (blank) HHC Handhole cover	Standard colors DDBXD Dark bronze DWH White DBLXD Black DMB Medium bronze DNA Natural aluminum Brushed Finish BA Brushed aluminum Classic colors DSS Sandstone DGC Charcoal gray DTG Tennis green DBR Bright red DSB Steel blue Class 1 architectural anodized ABL Black ADB Dark bronze ANA Natural Architectural colors (powder finish)[11]

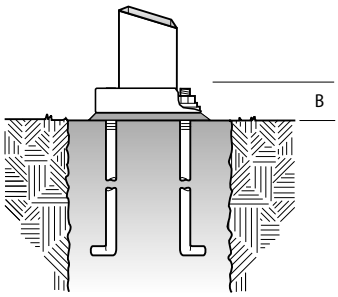
NOTES

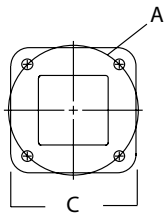
1. Wall thickness will be signified by the letter "C", "G" or "J". C represents a 0.125" thickness, "G" represents a 0.188 thickness and "J" represents a 0.250" thickness.
2. When ordering tenon mounting and drill mounting for the same pole, follow this example: DM28/T20. The combination includes a required extra handhole.
3. 3-1/2" and 4" O.D. tenons available on 5" and 6" shafts only.
4. Refer to the fixture spec sheet for the correct drilling template pattern and orientation compatibility. Refer to the Anchor Bolt Matrix with Generic Template Link at http://www.acuitybrands.com/-/media/Files/Acuity/Resources/Tools-and-Documents/Pole%20Resources/Pole%20Anchorage/Matrix%20Document/AnchorBoltMatrix.pdf?la=en
5. Insert "1" or "2" to designate fixture size; e.g. DM19AST2.
6. Specify location and orientation when ordering option.
   For "x": Specify the height in feet above base of pole.
   Example: 5ft = 5 and 20ft, 3in = 20-3
   For "y": Specify orientation from handhole (A,B,C,D)
   Refer to the Handhole Orientation diagram on this page.
   Example: 1/2" coupling at 5'8", orientation C:
   SSA 20 4C DM19 CPL12/5-8C DDB
7. Horizontal arm is 18" x 2-3/8" O.D. tenon standard, with radius curve providing 12" rise and 2-3/8" O.D. If ordering two horizontal arm at the same height, specify with HAxyy. Example: HA20BD
8. Combination of tenon-top and drill mount includes extra handhole.
9. Must add original order number
10. Use when mill certifications are required.
11. Finish must be specified. Additional colors available; see www.lithonia.com/archcolors or Architectural Colors brochure (Form No. 794.3).

SSA Square Straight Aluminum Poles

TECHNICAL INFORMATION — EPA (ft^2) with 1.3 gust									
Catalog number	**Nominal mount ht. (ft) ***	**Pole shaft size (in x ft)**	**Wall thick (in)**	**80 mph**	**90 mph**	**100 mph**	**Max. weight (lbs)**	**Bolt size (in. x in. x in.)**	**Approximate ship (lbs.)**
SSA 8 4C	8	4.0 x 8.0	0.125	16.5	12.6	9.9	300	3/4 x 18 x 3	32
SSA 10 4C	10	4.0 x 10.0	0.125	11.5	8.6	6.5	230	3/4 x 18 x 3	37
SSA 12 4C	12	4.0 x 12.0	0.125	12.4	9.2	6.9	160	3/4 x 18 x 3	40
SSA 14 4C	14	4.0 x 14.0	0.125	9.3	6.7	4.8	120	3/4 x 18 x 3	50
SSA 15 4C	15	4.0 x 15.0	0.125	8	5.6	3.9	100	3/4 x 18 x 3	52
SSA 16 4C	16	4.0 x 16.0	0.125	6.9	4.7	3.1	90	3/4 x 18 x 3	54
SSA 16 4G	16	4.0 x 16.0	0.188	11.8	8.5	6.2	130	3/4 x 30 x 3	74
SSA 16 5G	16	5.0 x 16.0	0.188	15	11.1	7.5	280	3/4 x 30 x 3	83
SSA 18 4C	18	4.0 x 18.0	0.125	4.9	3	1.7	70	3/4 x 18 x 3	57
SSA 18 4G	18	4.0 x 18.0	0.188	9.2	6.4	4.4	100	3/4 x 30 x 3	80
SSA 18 5G	18	5.0 x 18.0	0.188	16.8	12.2	8.9	230	3/4 x 30 x 3	91
SSA 20 4C	20	4.0 x 20.0	0.125	3.3	1.7	0.5	40	3/4 x 18 x 3	62
SSA 20 4G	20	4.0 x 20.0	0.188	7	4.6	2.9	80	3/4 x 30 x 3	85
SSA 20 5G	20	5.0 x 20.0	0.188	13.6	9.5	6.6	180	3/4 x 30 x 3	107
SSA 20 6G	20	6.0 x 20.0	0.188	22	15.9	11.6	230	1 x 36 x 4	155
SSA 20 6J	20	6.0 x 20.0	0.25	30.4	22.6	17	300	1 x 36 x 4	202
SSA 25 5G	25	5.0 x 25.0	0.188	7.2	4.2	2	110	3/4 x 30 x 3	130
SSA 25 6G	25	6.0 x 25.0	0.188	13.2	8.6	5.4	180	1 x 36 x 4	180
SSA 25 6J	25	6.0 x 25.0	0.25	19.7	13.8	9.5	250	1 x 36 x 4	224
SSA 30 6G	30	6.0 x 30.0	0.188	7	3.4	0.8	130	1 x 36 x 4	210
SSA 30 6J	30	6.0 x 30.0	0.25	12.2	7.5	4.1	170	1 x 36 x 4	258
SSA 32 6J	32	6.0 x 32.0	0.25	9.7	5.4	2.3	160	1 x 36 x 4	272
SSA 35 6J	35	6.0 x 35.0	0.25	6.4	2.6	--	200	1 x 36 x 4	294
SSA 35 7J	35	6.75 x 35.0	0.25	7.6	3.1	--	150	1 x 36 x 4	290

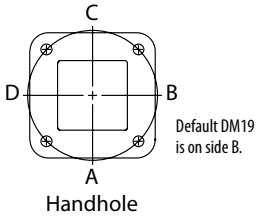
* EPA values are based ASCE 7-93 wind map. For 1/2 ft increments, add -6 to the pole height. Ex: 20-6 equals 20ft 6in.





POLE DATA						
Shaft base size	Bolt circle (in) **A**	Bolt projection (in) **B**	Base square (in) **C**	Bolt Size	Template description	Anchor bolt description
4C	8.5 - 9.625	3.125	9.938	3/4 x 18 x 3	ABTEMPLATE PJ50045	AB18-0
4G	8.5 - 9.625	3.125	9.938	3/4 x 30 x 3	ABTEMPLATE PJ50045	AB30-0
5	10.5 - 11.5	3.25	11.563	3/4 x 30 x 3	ABTEMPLATE PJ50046	AB30-0
6	12-13	4	12.25	1 x 36 x 4	ABTEMPLATE PJ50044	AB36-0
7	14.625	4.125	15	1 x 36 x 4	ABTEMPLATE PJ50130	AB36-0

HANDHOLE ORIENTATION



Handhole

IMPORTANT INSTALLATION NOTES:

- **Do not** erect poles without having fixtures installed.
- Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchorage placement due to failure to use factory template.
- If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage.
- Lithonia Lighting is not responsible for the foundation design.

SECTION 311000 - SITE CLEARING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Protecting existing trees and grass to remain.
2. Removing existing trees and grass.
3. Clearing and grubbing.
4. Stripping and stockpiling topsoil.
5. Removing above- and below-grade site improvements.
6. Disconnecting and capping or sealing site utilities.
7. Temporary erosion and sedimentation control measures.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, including, but not limited to:
1. Section 321000 Earth Moving.

1.3 MATERIAL OWNERSHIP

A. Except for stripped topsoil or other materials indicated to remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site and legally disposed of.

1.4 QUALITY ASSURANCE

A. Unless stated in the specifications, the following documents shall provide general requirements and covenants applicable to construction within the municipality of the project location. In the event of a conflict between this document and the existing municipal codes, the codes and/or the decision of the municipality will prevail.
1. Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, latest revision, along with the Supplemental Specifications and Recurring Special Provisions. (Method of Measurement and Basis of Payment shall not apply.)

1.5 PROJECT CONDITIONS

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

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

B. Restore damaged improvements to their specified condition and repair existing improvements that were damaged during construction activities to their pre-construction condition. All repair work shall be at the Contractor’s expense.

C. When required by the drawings, control monuments shall be re-established.

D. Provide protection of property adjoining the project and limit work to the construction area delineated by the silt fence and/or project limit line as shown on the drawings.

E. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.

F. Utility Locator Service: The Trade Contractor is responsible for calling JULIE at 1-800-892-0123 at least 48 hours prior to beginning any excavation. The Trade Contractor shall notify the Construction Manager with the JULIE dig number at least 48 hours prior to beginning any excavation. The Trade Contractor is responsible for maintaining utility marking throughout construction.

G. Do not commence site clearing operations until temporary erosion and sedimentation control measures are in place.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. Satisfactory Soil Materials: Requirements for satisfactory soil materials are specified in Division 31 Section "Earth Moving."

1. Obtain approved borrow soil materials off-site when satisfactory soil materials are not available on-site.

2.2 EQUIPMENT

A. Equipment shall be at the option of the Trade Contractor within the limits of the "Construction Requirements" of Section 201 of the Standard Specifications.

2.3 DISPOSAL

A. Disposal of surplus materials shall be in accordance with Article 202.03 of the Standard Specifications.

B. Disposal of unstable and unsuitable material shall be off the site in a legal manner at a location provided by the Trade Contractor. Unsuitable and unstable material includes but is not limited to rocks, trees, stumps, and soil not suitable for compaction.

PART 3 - EXECUTION

3.1 PREPARATION

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

B. Locate and clearly flag trees and vegetation to remain or to be relocated.

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

1. Restore damaged improvements to their original condition, as acceptable to Owner.

D. Examine area where clearing and site preparation work is to be performed. Notify Owner's representative in writing of conditions detrimental to proper and timely completion of the work.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to sediment and erosion control Drawings, a sediment and erosion control plan, specific to the site, that complies with EPA 832/R-92-005 or requirements of authorities having jurisdiction, whichever is more stringent.

B. Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.

C. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 TREE PROTECTION

A. Erect and maintain temporary fencing around tree protection zones before starting site clearing. Remove fence when construction is complete.

B. Do not excavate within tree protection zones, unless otherwise indicated.

C. Repair or replace trees and vegetation indicated to remain that are damaged by construction operations, in a manner approved by Architect.

3.4 UTILITIES

A. Locate, identify, disconnect, and seal or cap off utilities indicated to be removed.

1. Arrange with utility companies to shut off indicated utilities.

B. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Architect not less than two days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Architect's written permission.

C. Removal of underground utilities is included in Division 26 and Division 33 Sections covering site utilities.

3.5 CLEARING AND GRUBBING

A. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.

1. Place fill material in horizontal layers not exceeding a loose depth of 6 inches and compact each layer to a density equal to adjacent original ground.

3.6 TOPSOIL STRIPPING

A. Remove sod and grass before stripping topsoil.

B. Strip topsoil to whatever depths are encountered in a manner to prevent intermingling with underlying subsoil or other waste materials.

C. Stockpile topsoil materials away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust.

3.7 SITE IMPROVEMENTS

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

3.8 DISPOSAL

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

1. Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities.

END OF SECTION 311000

SECTION 312000 - EARTH MOVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Excavating and filling for grading of the Site per Plans.
2. Preparing subgrades for slabs-on-grade, walks, paths, pavements, curb and gutter, athletic courts, turf and grasses, plants, and other elements shown on the Plans.
3. Excavating and backfilling for buildings and structures.
4. Aggregate Base course for concrete slabs on grade, walks, paths, pavements, curb and gutter, and other concrete elements as shown on the Plans.
5. Subbase course and base course for asphalt paving.
6. Excavating soil and soil or trench backfilling of trenches for utilities and pits for buried utility structures.

1.2 DEFINITIONS

A. Backfill: Soil material used to fill an excavation.

1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe per Plan Pipe Trench Detail.
2. Final Backfill: Backfill placed over initial backfill to fill a trench per Plan Pipe Trench Detail.

B. Aggregate Base Course: Aggregate layer placed on top of prepared/compacted subgrade.

C. Pipe Backfill: Aggregate layer placed over the excavated subgrade in a trench per Plan Pipe Trench Detail.

D. Trench Backfill: Aggregate backfill per Plan Pipe Trench Detail.

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

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

G. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.

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

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

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

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

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

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

1.3 PREINSTALLATION MEETINGS

A. Pre-installation Conference: Conduct pre-excavation conference at Project site.

1.4 INFORMATIONAL SUBMITTALS

A. Material test reports.

1.5 FIELD CONDITIONS

A. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth-moving operations.

B. Do not commence earth-moving operations until Soil Erosion and Sediment Control Measures and plant-protection measures are in place.

PART 2 - PRODUCTS

2.1 MATERIALS

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

B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D2487 or GroupsA-1, A-2-4, A-2-5, and A-3 according to AASHTO M145], or a combination of these groups as approved by the Architect; free of rock or gravel larger than 2

inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.

C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D2487 or Groups A-2-6, A-2-7, A-4, A-5, A-6, and A-7 according to AASHTO M145], or a combination of these groups.

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

D. Aggregate Material: Shall meet Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction, Latest Addition, Section 1003-Fine Aggregates and Section 1004 Coarse Aggregates for material designation shown on the plans.

2.2 ACCESSORIES

A. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches (150 mm) wide and 4 mils (0.1 mm) thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches (750 mm) deep; colored to comply with local practice or requirements of authorities having jurisdiction.

PART 3 - EXECUTION

3.1 PREPARATION

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

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

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

3.2 EXCAVATION, GENERAL

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

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

3.3 EXCAVATION FOR STRUCTURES

A. Excavate to indicated elevations and dimensions. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.

1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
2. Excavation for Underground Tanks, Basins, and Mechanical or Electrical Utility Structures: Excavate to elevations and dimensions. Do not disturb bottom of excavations intended as bearing surfaces.

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

1. Excavate by hand or with an air spade to indicated lines, cross sections, elevations, and subgrades. If excavating by hand, use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
2. Cut and protect roots according to requirements in Section 015639 "Temporary Tree and Plant Protection."

3.4 EXCAVATION FOR WALKS AND PAVEMENTS

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

3.5 EXCAVATION FOR UTILITY TRENCHES

A. Excavate trenches to indicated gradients, lines, depths, and elevations per plan details.

B. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.

1. Excavate trenches 6 inches (150 mm) deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

C. Trenches in Tree- and Plant-Protection Zones:

1. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
2. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.
3. Cut and protect roots according to requirements in Section 015639 "Temporary Tree and Plant Protection."

3.6 SUBGRADE INSPECTION

A. Proof-roll subgrade below slabs on grade and pavements with a pneumatic-tired dump truck or as directed by the Architect to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.

B. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Architect, without additional compensation.

3.7 UNAUTHORIZED EXCAVATION

A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi (17.2 MPa), may be used when approved by Architect.

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

3.8 STORAGE OF SOIL MATERIALS

A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Soil erosion and sediment control measures shall be placed in stockpile areas as indicated on the SWPPP.

1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.9 UTILITY TRENCH BACKFILL

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

B. Place and compact pipe backfill on trench bottoms where indicated on plans per Pipe Trench Detail. Shape backfill to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

C. Trenches under Footings: Backfill trenches excavated under footings and within 18 inches (450 mm) of bottom of footings with satisfactory soil; fill with concrete to elevation of bottom of footings. Concrete is specified in Section 033000 "Cast-in-Place Concrete."

D. Trenches under Roadways: Shall be per Pipe Trench Detail as shown on the plans.

E. Initial Pipe Backfill: Place and compact initial pipe backfill as shown in the plans on the Pipe Trench Detail.

1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

F. Final Backfill: Place and compact final backfill of satisfactory soil or trench backfill to final subgrade elevation as shown in the plans on Pipe Trench Detail.

G. Warning Tape: Install warning tape directly above utilities, 12 inches (300 mm) below finished grade, except 6 inches (150 mm) below subgrade under pavements and slabs.

3.10 SOIL FILL

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

B. Place and compact fill material in layers as directed by the Architect to required elevations as shown on the plans.

3.11 SOIL MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to at or near optimum moisture content as directed by the Architect.

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

3.12 COMPACTION OF SOIL BACKFILLS AND FILLS

A. Place backfill and fill soil materials in layers not more than 8 inches (200 mm) in loose depth for material compacted by heavy compaction equipment and not more than 4 inches (100 mm) in loose depth for material compacted by hand-operated tampers.

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

C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D698:

1. Under structures, building slabs, steps, and pavements, compact each layer of backfill or fill soil material at 95 percent.
2. Under walkways, compact each layer of backfill or fill soil material at 92 percent.
3. Under turf or unpaved areas, compact each layer of backfill or fill soil material at 85 percent.
4. For utility trenches, compact each layer of initial and final backfill soil material at 85 percent.

3.13 GRADING

A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to elevations required to achieve indicated finish elevations, within the following subgrade tolerances:

3.14 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS

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

B. On prepared subgrade, place subbase course and base course under pavements and walks as follows:

1. Shape subbase course and base course to required crown elevations and cross-slope grades.
2. Place subbase course and base course that exceeds 6 inches (150 mm) in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches (150 mm) thick or less than 3 inches (75 mm) thick.
3. Compact subbase course and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D698.

3.15 DRAINAGE COURSE UNDER CONCRETE SLABS-ON-GRADE

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

B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:

1. Place drainage course that exceeds 6 inches (150 mm) in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches (150 mm) thick or less than 3 inches (75 mm) thick.
2. Compact each layer of drainage course to required cross sections and thicknesses to not less than 95 percent of maximum dry unit weight according to ASTM D698.

3.16 FIELD QUALITY CONTROL

A. Special Inspections: Owner may at their option engage a qualified special inspector to perform inspections:

B. Testing Agency: Owner may at their option engage a qualified geotechnical engineering testing agency to perform tests and inspections.

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

D. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Architect.

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

3.17 PROTECTION

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

B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.18 DISPOSAL OF SURPLUS AND WASTE MATERIALS

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

END OF SECTION 312000

SECTION 321216 – HOT MIX ASPHALT PAVING

PART 1 - GENERAL

1.1 WORK INCLUDES

A. All labor, materials, and equipment required to satisfactorily complete paving as shown on the plans.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, including but not limited to:
   1. 312000 – Earth Moving
   2. 312333 – Trenching and Backfilll

B. Work under this Section shall be done in accordance with the applicable provisions of the "Code of Ordinances", latest edition, as adopted by the Village of Oak Brook, Illinois.

1.3 QUALITY ASSURANCE

A. Unless specifically stated in the specifications, the following documents shall provide general requirements and covenants applicable to construction within the Village In the event of conflict between the contents of this document and the existing Village codes, the former will supercede the latter and/or the decision of the Village will prevail.
   1. Illinois Department of Transportation, Standard Specifications for Road and Bridge Construction, latest revision, along with the Supplemental Specifications and Recurring Special Provisions. (Method of Measurement and Basis of Payment shall not apply.)
   2. I.S.P.E., Consulting Engineers Council of Illinois, et. al., Standard Specifications for Water and Sewer Main Construction in Illinois, latest revision.

1.4 SUBMITTALS

A. Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections:
   1. Material Certificates: Provide copies of materials certificates signed by material producer and Trade Contractor, certifying that each material item complies with, or exceeds, specified requirements.

PART 2 – MATERIALS

2.1 MIX DESIGN

A. This section includes provisions for IDOT Hot Mix Asphalt. Mix shall be IDOT approved design:

PAVEMENT:
1. Base Course - 12" Aggregate Base (CA-6).

2. Binder Course – 2½" HMA Binder Course IL-19.0 N50.
3. Surface Course - 1½" HMA Surface Course IL-9.5 Mix D N50.

PEDESTRIAN PATHS
1. Base Course - 6" Aggregate Base (CA-6).
2. Binder Course – 1½" HMA Binder Course IL-19.0 N50.
3. Surface Course - 1½" HMA Surface Course IL-9.5 Mix D N50.

PART 3 – EXECUTION

3.1 PATCHING

a Asphalt Pavement: Saw cut perimeter of patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12 inches (300 mm) into perimeter of adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Remove excavated material. Recompact existing unbound-aggregate base course to form new subgrade.

b Tack Coat: Before placing patch material, apply tack coat uniformly to vertical asphalt surfaces abutting the patch. Apply at a rate of 0.05 to 0.15 gal./sq. yd. (0.2 to 0.7 L/sq. m).

1 Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
2 Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

c Placing Patch Material: Fill excavated pavement areas with hot-mix asphalt base mix for full thickness of patch and, while still hot, compact flush with adjacent surface.

3.2 SURFACE PREPARATION

a Ensure that prepared subgrade is ready to receive paving. Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces.

1 Proofrolling of prepared base is included in Section 312000 – EARTH MOVING
2 Place and compact subbase according to IDOT specifications

b Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.05 to 0.15 gal./sq. yd. (0.2 to 0.7 L/sq. m).

1 Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
2 Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

3.3 HOT-MIX ASPHALT PLACEMENT

a Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand in areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.

1 Place hot-mix asphalt base course and binder course in number of lifts and thicknesses indicated.
2 Place hot-mix asphalt surface course in single lift.
3 Spread mix at a minimum temperature of 250 deg F (121 deg C).
4 Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.

b Place paving in consecutive strips not less than 10 feet (3 m) wide unless infill edge strips of a lesser width are required.

c Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.4 JOINTS

a Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions, with same texture and smoothness as other sections of hot-mix asphalt course.

1 Clean contact surfaces and apply tack coat to joints.
2 Offset longitudinal joints, in successive courses, a minimum of 6 inches (150 mm).
3 Offset transverse joints, in successive courses, a minimum of 24 inches (600 mm).
4 Construct transverse joints at each point where paver ends a day's work and resumes work at a subsequent time. Construct these joints using either "bulkhead" or "papered" method in accordance with AI MS-22, for both "Ending a Lane" and "Resumption of Paving Operations**.**

3.5 COMPACTION

a General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot hand tampers or with vibratory-plate compactors in areas inaccessible to rollers.

1 Complete compaction before mix temperature cools to 185 deg F (85 deg C).

b Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.

c Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:
1 Average Density, Rice Test Method: 92 percent of reference maximum theoretical density in accordance with ASTM D2041/D2041M, but not less than 90 percent or greater than 96 percent.

d Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.

e Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.

f Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.

g Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.6 INSTALLATION TOLERANCES

a Pavement Thickness: Compact each course to produce thickness indicated within the following tolerances:

1 Base Course: Plus or minus 1/2 inch (13 mm).
2 Surface Course: Plus 1/4 inch (6 mm), no minus.

b Pavement Surface Smoothness: Compact each course to produce surface smoothness within the following tolerances as determined by using a 10-foot (3-m) straightedge applied transversely or longitudinally to paved areas:

1 Base Course and Binder Course: 1/4 inch (6 mm)
2 Surface Course: 1/8 inch (3 mm)
3 Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch (6 mm).

3.7 FIELD QUALITY CONTROL

a Testing Agency: Owner may at their option engage a qualified testing agency to perform tests and inspections.

b Replace and compact hot-mix asphalt where core tests where taken.

c Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

3.8 WASTE HANDLING

a General: Handle asphalt-paving waste in accordance with approved waste management plan required in Section 017419 "Construction Waste Management and Disposal."

END OF SECTION 321216

SECTION 321313 - CONCRETE PAVING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes exterior cement concrete pavement for the following:

1. Driveways and roadways.
2. Parking lots.
3. Curbs and gutters.
4. Walkways.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Design Mixtures: For each concrete pavement mixture.

1.3 QUALITY ASSURANCE

A. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products who complies with ASTM C 94/C 94M requirements for production facilities and equipment.

B. ACI Publications: Comply with ACI 301, "Specification for Structural Concrete," unless modified by requirements in the Contract Documents.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

A. Plain-Steel Welded Wire Reinforcement: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.

B. Deformed-Steel Welded Wire Reinforcement: ASTM A 497, flat sheet.

C. Reinforcing Bars: ASTM A 615/A 615M, Grade 60; deformed.

D. Plain Steel Wire: ASTM A 82, as drawn.

E. Deformed-Steel Wire: ASTM A 496.

F. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice."

2.2 CONCRETE MATERIALS

A. Cementitious Material: Use one of the following cementitious materials, of the same type, brand, and source throughout the Project:
   1. Portland Cement: ASTM C 150, Type I, white.
   2. Blended Hydraulic Cement: ASTM C 595, Type I (SM), slag-modified Portland cement.
   3. Supplement with the following:
      a. Fly Ash: ASTM C 618, Class C.
      b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120. Not more than 25% by weight to achieve a white concrete with a reflectivity of at least 0.3.

B. Normal-Weight Aggregates: ASTM C 33, Class 3S coarse aggregate, uniformly graded. Provide aggregates from a single source.

C. Water: ASTM C 94/C 94M.

D. Air-Entraining Admixture: ASTM C 260.

E. Chemical Admixtures: ASTM C 494/C 494M, of type suitable for application, certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.

2.3 CURING MATERIALS

A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth.

B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

C. Water: Potable.

D. Evaporation Retarder: Waterborne, monomolecular film forming; manufactured for application to fresh concrete.

E. Clear Waterborne Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.

2.4 RELATED MATERIALS

A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.

2.5 CONCRETE MIXTURES

A. Prepare design mixtures, proportioned according to ACI 301, with the following properties:

1. Compressive Strength (28 Days): 3500 psi
2. Minimum Cementitious material Content: 470 LB/CY
3. Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.45.
4. Fly Ash and/or GGBF Slag Content: maximum 15% of cementitious materials by weight.
5. Slump Limit: 4 inches, plus or minus 1 inch.
6. Air Content: 3 percent plus or minus 1.5 percent.

B. Synthetic Fiber: Uniformly disperse in concrete mix at manufacturer's recommended rate, but not less than 1.0 lb/cu. yd.

C. Color Pigment: Add color pigment to concrete mixture according to manufacturer's written instructions.

2.6 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94. Furnish batch certificates for each batch discharged and used in the Work.
1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Proof-roll prepared subbase surface below concrete pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding.

3.2 EDGE FORMS AND SCREED CONSTRUCTION

A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.

B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.3 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

3.4 JOINTS

A. General: Form construction, isolation, and contraction joints and tool edgings true to line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline, unless otherwise indicated.

B. Construction Joints: Set construction joints at side and end terminations of pavement and at locations where pavement operations are stopped for more than one-half hour unless pavement terminates at isolation joints.

C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, walks, other fixed objects, and where indicated.

D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness.

E. Edging: Tool edges of pavement, gutters, curbs, and joints in concrete after initial floating with an edging tool to a 1/4-inch radius. Repeat tooling of edges after applying surface finishes. Eliminate tool marks on concrete surfaces.

3.5 CONCRETE PLACEMENT

A. Moisten subbase to provide a uniform dampened condition at time concrete is placed.

B. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.

C. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.

D. Screed pavement surfaces with a straightedge and strike off.

E. Commence initial floating using bull floats or darbies to impart an open textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

3.6 FLOAT FINISHING

A. General: Do not add water to concrete surfaces during finishing operations.

B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats, or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.
   1. Medium Broom Finish: Draw a soft bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.

3.7 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Comply with ACI 306.1 for cold-weather protection.

C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

E. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound, or a combination of these methods.

3.8 PAVEMENT TOLERANCES

A. Comply with tolerances of ACI 117 and as follows:

   1. Elevation: 1/4 inch.
   2. Thickness: Plus 3/8 inch, minus 1/4 inch.
   3. Surface: Gap below 10-foot-long, unleveled straightedge not to exceed 1/4 inch.
   4. Joint Spacing: 3 inches.
   5. Contraction Joint Depth: Plus 1/4 inch, no minus.
   6. Joint Width: Plus 1/8 inch, no minus.

3.9 REPAIRS AND PROTECTION

A. Remove and replace concrete pavement that is broken, damaged, defective, has graffiti scratched into it, or that does not comply with requirements in this Section.

B. Protect concrete from damage. Exclude traffic from pavement for at least 14 days after placement.

C. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material. Sweep concrete pavement not more than two days before date scheduled for Substantial Completion inspections.

3.10 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.

1. Testing Services: Tests shall be performed according to ACI 301.

2. Contractor to pull 4 cylinders for every 50 CY of concrete for compression testing. One at 7 days, two at 28 days, and one spare.

END OF SECTION 321313

SECTION 321400 – UNIT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provision of contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to work of this Section.

1.2 SUMMARY

A. Perform all work required to complete, as indicated by the Contract Documents, and furnish all supplementary items necessary for the proper installation of Pressed Concrete Pavers.
B. The pressed paver installation shall be absolutely rigid, and even large slabs when subjected to vehicular traffic, shall not be displaced.
C. Related Sections include the following:
   1. Section 31 22 00 Grading.
   2. Section 31 23 00 Excavation, Backfilling and Compaction.
   3. Section 32 16 00 Concrete Paving, Walks, Curbs and Gutters.
   4. Section 07 00 00 Modified Bituminous Sheet Membrane Waterproofing.
   5. Section 07 92 00 Joint Sealants.

1.3 REFERENCES

A. Testing Standards
   1. ASTM C-150 - Specification for Portland Cement.
   2. ASTM C-127 - Test method for specific gravity and absorption of Course Aggregates.
   3. ASTM C-128 - Test method for specific gravity and absorption of Fine Aggregates.
   4. ASTM C-136 - Standard test method for sieve analysis of Fine and Course Aggregates.
   5. ASTM C-140 - Standard test methods for sampling and testing Concrete masonry and related units.
   6. ASTM C-293 - Flexural Strength.
   7. ASTM C-1028 - Static Coefficient of Friction.
   8. ASTM C-1262 - Test Method for Evaluating Freeze-Thaw Durability.
   9. WTCL 99 - Test for Center Load Capacity.

1.4 SUBMITTALS

A. Submit under provisions of Section 01 30 00.

B. Product Data:
   1. Manufacturer's data sheets on each product to be used, including preparation instructions, installation methods, storage, handling requirements and recommendations.
   2. Submit test results for compliance with performance requirements specified herein.
   3. Submit written instructions for recommended maintenance.

C. Shop Drawings:
   1. Layout drawings of each paved area showing the pattern of pressed pavers and indicate pavers requiring cutting, drainage patterns, drains, and relationship of paving joints. Include details of setting beds, noting all materials and their thickness, show details at curbs and vertical surfaces.
   2. Details of custom (nonstandard) curbs and stair tread/risers include methods of installation.

D. Samples:
   1. Submit sample to be selected by Architect / Engineer / Landscape Architect / Owner from manufacturer's available standard and custom colors.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: All products covered under this section shall be produced by a single manufacturer, unless otherwise specified, with a minimum of fifteen (15) years proven production of this concrete paver product.

B. Installer Qualifications: Installer shall have a minimum of five (5) years proven specialized construction experience with this product and be capable of estimating and building from blueprint plans and details, in addition to proper material handling. All work must comply with local, state/provincial licensing and bonding requirements.

1.6 MOCK-UP INSTALLATION

Prior to the start of pressed concrete paver work, construct mock-up of each type of pressed paver size and pattern area for the owner and architect to review. The mock-up will be at the project site or at a location mutually agreed to by the owner and contractor.
1. Construct the mock-up installation in a minimum 4-foot by 4-foot area of typical concrete units and slabs with all setting beds, joints, edge and curb details as shown on the drawings.
2. After review of the mock-up, it will be retained and used as a standard of quality for the pressed concrete paver work. At completion of the work, remove the mock-up installation and related materials from the project site. If the mock-up is incorporated into the actual construction, record their location and size on the actual built record drawings for the project.

1.7 DELIVERY, STORAGE AND HANDLING

A. In accordance with provisions of Section 01 60 00.

B. Pressed concrete pavers to be banded on pallets and delivered in original unopened packaging with legible manufacturer identification, manufacturing number and manufacture date.

C. Protect pressed concrete pavers during shipment, storage and construction against damage.

1.8 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity and ventilation). Do not install products under adverse environmental conditions.

PART 2 – PRODUCTS

2.1 Products

A. Brussels XL, 13.75”x 8.25”
   1. Thickness: 2 3/4”
   2. Color: to be determined by owner
   3. Acceptable Manufacturer:
      Unilock, 800-388-8728, Contact Mike Anderson, Phone (630)276-8043,
      michael.anderson@unilock.com, Website: www.unilock.com
   4. Substitutions: Not permitted.

B. Granite Accents
   1. Canary Gold, medium.
   2. Finish: shot blast
   3. Thickness: 2”
   4. Available from ASL Stone
   5. Contact Doug Hahn, Phone (847) 975-2228, dhahn@sustainarchrep.com

2.2 ENGRAVING

A. Dedication pavers and precast badge to be engraved with black infill
   1. Engraving by Impressions in Stone, 242 2.U.S. Hwy 45, Indian Creek, IL 60061, contact Kathy Tomczyk, kathy@impressionsinstone.com, 847-816-1500
   2. or approved equal.
B. Submit proof of each design.

2.3 INSTALLATION MATERIALS

A. Setting Bed

   1. Non-woven geotextile fabric
   2. Setting Sand:
      a. Sand with angular or sub-angular grains with a max size of 3/16”.
      b. Concrete sand conforming to ASTM 33.

PART 3 – EXECUTION

3.1 INSPECTION

A. Examine all jobsite surfaces to receive the parts of the paving materials. Notify the contractor in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected. Installation of pressed concrete pavers and associated construction constitutes acceptance of the adjacent and underlying construction.

3.2 INSTALLATION

A. INSTALLATION OF SAND SETTING BED – PEDESTRIAN

1. Place a layer of the specified geotextile filter fabric uniformly on the surface of the properly prepared grade that is ready to receive the sand setting bed. Cover the designated area in its entirety.
2. Place solid steel, 3/4-inch or 1-inch thick, control bars directly on the sand or geotextile filter fabric. Install shims under bars for minor adjustment of depth and finish pressed paver elevations and slopes. Space bars approximately 7 feet apart and parallel to each other to serve as guides for strike-off boards. Spacing can very as determined by the size of the area and layout.
3. Place sand setting bed between control bars on the sand or geotextile filter fabric to not less than thickness of the designated control bars. Spread material and strike off by pulling the material with a 8-foot long by 2-inch by 6-inch wood board several times to produce a smooth, firm and even setting bed. Add fresh material in low areas after each pass of the strike-off board. After each panel is complete, remove and advance the first control bar to the next panel position in readiness for placing and striking adjacent panels. Fill in depressions left by the control bar and any shims.

B. Install in accordance with contributing manufacturer's instructions. Installation requirements vary for each individual project site. Pressed pavers used, pattern, grid layout, starting point and finished elevation should be shown on plan view shop drawings which have been prepared and approved by the designer, installing contractor and/or owner.

C. 1. Install pressed concrete pavers in patterns, allowing for surface drainage as shown on the drawings. Install pressed concrete pavers in accordance with the manufacturer's installation instructions and the final reviewed shop drawings.
2. Lay out pavement in 30-foot working area modules. Set pressed concrete pavers on sand setting bed in patterns shown on the drawings with hand tight joints 1/8-inch to 3/16-inch wide joints and uniform top surfaces.
3. Field cut pressed concrete pavers in accordance with manufacturer's recommendations for methods, equipment and precautions.
4. Maintain accurate alignment and check for creep and shrinkage. Make adjustments to creep and shrinkage within the 30-foot module area.
5. Install edge restraints where required and as shown on the architectural drawings and details.
6. Sweep fine dry jointing sand of a type and color approved by the architect over pavement surface to fill joints immediately after installing pressed pavers, slabs and curbs on setting bed. Brush in jointing sand until joints are completely filled, remove surplus sand. Do not allow traffic on installed pressed pavers, slabs or curbing until the joints have been filled.
7. Protect newly laid pressed pavers, slabs and curbs with plywood panels on which workers stand. Advance protective panels as work progresses, but maintain protection in areas subject to continued movement of materials and equipment to avoid creating depressions or disrupting alignment of installed pressed pavers, slabs and curbs.
8. Install the specified joint filler where pressed concrete pavers abut curbs vertical surfaces and other construction.

9. Final cleaning to remove all soiling from pressed pavers for final acceptance.

Placement Tolerance:

1. Maximum of 1/16-inch (1.6 mm) height variation between adjacent pressed pavers.
2. Individual pressed pavers shall not vary more than 1/16 inch (1.6 mm) from level across width of the pressed paver.
3. Paved areas shall not vary more than 1/4 inch (6 mm) in a distance of 10 feet (3 m) measured at any location and in any direction.
4. The surface elevation of pressed pavers shall be 1/8 inch to 1/4 inch (3 mm to 6 mm) above adjacent drainage inlets, concrete collars or channels.
5. Joints between pavers to be greater than 1/16 inch (1.6 mm).

3.3 CLEANING AND PROTECTION

A. Remove and replace pressed pavers which are loose, chipped, broken, stained or otherwise damaged, or if units do not match adjoining units as intended. Provide new units to match adjoining units and install in same manner as original units with same joint treatment to eliminate evidence of replacement.

B. Wash entire surface with phosphate free neutral cleaner, rinse with clean water and allow to dry thoroughly.

C. Apply sealer in accordance with manufacturer’s directions.
   1. Penetrating or topical type sealer designed especially for pressed concrete pavers.

END OF SECTION

SECTION 321413 – POROUS UNIT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Porous paving consisting of concrete pavers set in aggregate setting beds.
2. Cast-in-place concrete edge restraints.

B. Related Sections include the following:

1. Division 31 Section "Earthwork" for excavation and compacted subgrade.
2. Division 32 Section "Concrete Paving" for cast-in-place concrete curbs that serve as edge restraints for porous paving.

1.3 SUBMITTALS

A. Samples for Initial Selection:

1. Each type of unit paver indicated.
2. Aggregate fill.

B. Samples for Verification:

1. Full-size units of each type of unit paver indicated.
2. Aggregate fill.

C. Material Certificates: For unit pavers. Include statements of material properties indicating compliance with requirements, including compliance with standards. Provide for each type and size of unit.

D. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for unit pavers, indicating compliance with requirements.

1. For solid interlocking paving units, include test data for freezing and thawing according to ASTM C 67.

E. Utilize a lighter Paver with a reflectivity of at least 0.3 to mitigate urban heat island effects for all surface type applications. Provide manufacturer test data to document SRI.

1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of porous paver from one source that has resources to provide materials and products of consistent quality in appearance and physical properties.

B. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store aggregates where grading and other required characteristics can be maintained and contamination can be avoided.

PART 2 - PRODUCTS

2.1 CONCRETE UNIT PAVERS

A. Solid Concrete Pavers for Porous Paving: Solid interlocking paving units of shapes that provide openings between units, complying with ASTM C 936 and made from normal-weight aggregates.

1. Available Products: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include the following, or approved equal:

a. Eco-Priora by Unilock, Aurora, IL. Contact: Mike Anderson (630) 892-9191.
1. Edge Paver – Single soldier course brick, 5” x 10”.
2. Thickness: 3-1/8 inches (80 mm).
3. Face Size and Shape: 5” x 10”
4. Color: Sierra, premier finish.
5. Filed pattern: Herringbone
6. Mechanically laid.

b. Or approved equal.

2.2 AGGREGATE SETTING-BED MATERIALS

A. Graded Aggregate for Subbase: Sound crushed stone or gravel complying with CA-1, subbase material.

B. Graded Aggregate for Base Course: Sound crushed stone or gravel complying with CA-7, base-course material.

C. Graded Aggregate for Leveling Course: Sound crushed stone or gravel complying with CA-16.

D. Graded Aggregate for Porous Paver Fill: Sound crushed stone or gravel complying with CA-16.

PART 3 - EXECUTION

3.1 PREPARATION

A. Proof-roll prepared subgrade according to requirements in Division 2 Section "Earthwork" to identify soft pockets and areas of excess yielding. Proceed with porous paver installation only after deficient subgrades have been corrected and are ready to receive subbase and base course for porous paving.

B. Pedestrian area pavers may have engraving. Contractor to coordinate with owner. Owner will arrange for the desired number of pavers to be delivered to the engraver

3.2 INSTALLATION, GENERAL

A. Do not use unit pavers with chips, cracks, voids, discolorations, and other defects that might be structurally unsound or visible in finished work.

B. Cut unit pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.

C. Tolerances:

1. Variation in Plane between Adjacent Units (Lipping): Do not exceed 1/16-inch (1.5-mm) unit-to-unit offset from flush.
2. Variation from Level or Indicated Slope: Do not exceed 1/2 inch in 10 feet (12 mm in 3 m). Leave pavers approximately 1/4 inch to 3/8 inch above curb.

D. Provide curbs as indicated. Install curbs before placing unit pavers.

3.3 SETTING-BED INSTALLATION

A. Compact soil subgrade uniformly to at least 90% percent of ASTM D 698 laboratory density.

B. Proof-roll prepared subgrade to identify soft pockets and areas of excess yielding. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Construction Manager, and replace with compacted backfill or fill as directed.

C. Place aggregate subbase in six (6) inch lifts, compact with 12-ton vibratory roller compactor.

D. Place aggregate base, compact to 100% percent. Proof-roll the area, upon completion, to confirm no movement or depressions in base.

E. Place leveling course and screed to a thickness of 2 inches, taking care that moisture content remains constant and density is loose and constant until pavers are set and compacted.

3.4 PAVER INSTALLATION

A. Set unit pavers on leveling course, being careful not to disturb leveling base. Stagger each pallet layer placement as shown in detail. Fill gaps between units that exceed 3/8 inch (10 mm) with pieces cut to fit from full-size pavers.

1. When installation is performed with mechanical equipment, use only equipment that lifts an entire face-pallet load at one time.

B. Compact pavers into leveling course with a low-amplitude plate vibrator capable of a 3500- to 5000-lbf (16- to 22-kN) compaction force at 80 to 90 Hz. Use vibrator without a neoprene mat on face of plate. If pavers crack or chip, remove and replace that paver. Perform at least three passes across paving with vibrator.

1. Compact pavers when there is sufficient surface to accommodate operation of vibrator, leaving at least 36 inches (900 mm) of uncompacted pavers adjacent to temporary edges.
2. Before ending each day's work, compact installed concrete pavers except for 36-inch (900 mm) width of uncompacted pavers adjacent to temporary edges (laying faces).
3. As work progresses to perimeter of installation, compact installed pavers that are adjacent to permanent edges unless they are within 36 inches (90 mm) of laying face.

C. Place graded aggregate fill immediately prior to the first compaction pass. After compaction has been complete, sweep additional aggregate into the voids of the pavers as required.

1. Before ending each day's work, place aggregate fill in installed porous paving except for 42-inch (1067-mm) width of unfilled paving adjacent to temporary edges (laying faces).
2. As work progresses to perimeter of installation, place aggregate fill in installed paving that is adjacent to permanent edges unless it is within 42 inches (1067 mm) of laying face.

D. Remove and replace pavers that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.

END OF SECTION 321443

SECTION 321723 – PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 WORK INCLUDES

A. All labor, material, and equipment required for the placement of pavement markings for parking stalls or other pavement marks as indicated on the drawings, as hereinafter specified, or as required to properly complete the work.

1.2 RELATED DOCUMENTS

1. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, including, but not limited to:
   1. 321216 – Asphalt Paving.

2. Work under this Section shall be done in accordance with the applicable provisions of the “Code of Ordinances”, latest edition, as adopted by the Village of Oak Brook, Illinois.

1.3 QUALITY ASSURANCE

A. Unless specifically stated in the specifications, the following documents shall provide general requirements and covenants applicable to construction within the Village. In the event of conflict between the contents of this document and the existing Village codes, the former will supercede the latter and/or the decision of the Village will prevail.
   1. Illinois Department of Transportation, Standard Specifications for Road and Bridge Construction, latest revision, along with the Supplemental Specifications and Recurring Special Provisions. (Method of Measurement and Basis of Payment shall not apply.)
   2. I.S.P.E., Consulting Engineers Council of Illinois, et. al., Standard Specifications for Water and Sewer Main Construction in Illinois, latest revision.
   3. FHWA, Manual of Uniform Traffic Control Devices, latest revision.

B. The Illinois Department of Transportation Supplemental Specifications and Recurring Special Provisions, latest revision.

C. Exceptions: All reference in the IDOT Specifications to method of compensation shall not apply.

1.4 GUARANTEE

A. Guarantee the new markings under this section to serve for a minimum of two years.

Service shall be considered satisfactory only if the lines remain visible at the end of the specified period.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Pavement marking shall be paint, meeting the requirements of Article 1095.02 of the IDOT Specifications noted herein.

B. The color shall be yellow, unless otherwise specified on the plans.

C. The glass beads will not be required and may be omitted.

PART 3 - EXECUTION

3.1 CONSTRUCTION OF MARKING LINES

A. Before commencing pavement marking work, examine substrata surfaces to determine
that they are free of conditions which might be detrimental to proper and timely completion of the work. Start of work shall indicate acceptance of the substrata.

B. Properly clean all areas to receive paint immediately before applications begin.

C. Lines shall be machine painted to the length and patterns shown on the drawings. Lines
shall be straight and true. Lines shall be 4 in. wide or as otherwise required.

D. The lines and figures shall not be exposed to traffic until they have dried.

E. Painted symbols shall be constructed as detailed on the drawings or as detailed in the
IDOT Highway Standards.

3.2 CLEAN UP OF MARKING PAINT

A. Remove any paint spills or drips that occur outside the marking lines on the finished pavement.

END OF SECTION 321723

SECTION 321726 - TACTILE WARNING SURFACING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Cast-in-place detectable warning tiles.

B. Related Requirements:

1. Section 321313 "Concrete Paving" for concrete walkways serving as substrates for tactile warning surfacing.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Product cut sheets for Initial Selection: For each type of exposed finish requiring color selection.

C. Product specifications for Initial Selection: For each type of exposed finish requiring color selection.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For tactile warning surfacing, to include in maintenance manuals.

1.5 QUALITY ASSURANCE

A. Products shall be installed according to manufacturers specifications and level with surrounding concrete.

1.6 PROJECT CONDITIONS

A. Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace unit paver work damaged by frost or freezing.

B. Weather Limitations for Mortar and Grout:

1. Cold-Weather Requirements: Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
2. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602. Provide artificial shade and windbreaks, and use cooled materials as required. Do not apply mortar to substrates with temperatures of 100 deg F (38 deg C) and higher.

a. When ambient temperature exceeds 100 deg F (38 deg C), or when wind velocity exceeds 8 mph (13 km/h) and ambient temperature exceeds 90 deg F (32 deg C), set unit pavers within 1 minute of spreading setting-bed mortar.

1.7 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of tactile warning surfaces that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Deterioration of finishes beyond normal weathering and wear.
b. Separation or delamination of materials and components.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 TACTILE WARNING SURFACING, GENERAL

A. Accessibility Requirements: Comply with applicable provisions in Illinois Accessibility Code and local codes for tactile warning surfaces.

1. For tactile warning surfaces composed of multiple units, provide units that when installed provide consistent side-to-side and end-to-end dome spacing that complies with requirements.

B. Source Limitations: Obtain each type of tactile warning surfacing from single source with resources to provide materials and products of consistent quality in appearance and physical properties.

2.2 DETECTABLE WARNING TILES

A. Cast-in-Place Detectable Warning Tiles: Accessible truncated-dome detectable warning tiles with replaceable surface configured for setting flush in new concrete walkway surfaces, with slip-resistant surface treatment on domes and field of tile.
   1. Color: As selected by Architect from manufacturer's standard line.
   2. Shapes and Sizes:
      a. Rectangular panel, 24” wide by length per plan, multiple tiles may be required.
   3. Dome Spacing and Configuration: Manufacturer's standard compliant spacing in manufacturer's standard pattern.
   4. Mounting:
      a. Permanently embedded detectable warning tile wet-set into freshly poured concrete.
      b. Replaceable detectable warning tile wet-set into freshly poured concrete and surface-fastened to permanently embedded anchors.
   5. Approved Product:
      a. Duratek, heavy duty ½” thick warning tile as manufactured by Detectile, 603 Mallard Lane, Oak Brook, IL 60523. Contact: Roger Nelson, 312-213-1507, nelson@detectile.com
      b. Or equal

2.3 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of tactile warning surfaces, noncorrosive and compatible with each material joined.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that pavement is in suitable condition to begin installation according to manufacturer's written instructions. Verify that installation of tactile warning surfacing will comply with accessibility requirements upon completion.

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

3.2 INSTALLATION OF TACTILE WARNING SURFACING

A. General: Prepare substrate and install tactile warning surfacing according to manufacturer's written instructions unless otherwise indicated.

B. Place tactile warning surfacing units in dimensions and orientation indicated. Comply with location requirements of AASHTO MP 12.

3.3 INSTALLATION OF DETECTABLE WARNING TILES

A. Removable Cast-in-Place Detectable Warning Tiles:

1. Concrete Paving Installation: Comply with installation requirements in Section 321313 "Concrete Paving." Mix, place, and finish concrete to conditions complying with detectable warning tile manufacturer's written requirements for satisfactory embedment of removable tile.
2. Set each detectable warning tile accurately and firmly in place with embedding anchors and fasteners attached, and firmly seat tile back in wet concrete by tamping or vibrating. If necessary, temporarily apply weight to tiles to ensure full contact with concrete.
3. Set surface of tile flush with surrounding concrete and adjacent tiles, with variations between tiles and between concrete and tiles not exceeding plus or minus 1/8 inch (3 mm) from flush.
4. Protect exposed surfaces of installed tiles from contact with wet concrete. Complete finishing of concrete paving surrounding tiles. Remove concrete from tile surfaces.
5. Clean tiles using methods recommended in writing by manufacturer.

B. Surface-Applied Detectable Warning Tiles:

3.4 CLEANING AND PROTECTION

A. Remove and replace tactile warning surfacing that is broken or damaged or does not comply with requirements in this Section. Remove in complete sections from joint to joint unless otherwise approved by Architect. Replace using tactile warning surfacing installation methods acceptable to Architect.

B. Protect tactile warning surfacing from damage and maintain free of stains, discoloration, dirt, and other foreign material.

END OF SECTION 321726

SECTION 321816.16 – POURED-IN-PLACE PLAYGROUND PROTECTIVE SURFACING

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Poured-in-Place Playground Surfacing

B. Related Sections: Materials and Methods, Excavation, Asphalt Paving, Concrete Paving, Sub-Drainage, Storm Drainage, Fencing, Playground Equipment and Structures.

1.02 REFERENCES

A. American Society for Testing and Materials (ASTM):
   1. ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers-Tension.
   2. ASTM D624 Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.
   3. ASTM D2047 Standard Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine.
   4. ASTM D2859 Standard Test Method for Flammability of Finished Textile Floor Covering Materials.
   5. ASTM E303 Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester.
   6. ASTM F1292 Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment.
   7. ASTM F1951 Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment.

1.03 SYSTEM DESCRIPTION

A. Performance Requirements: Provide a 2-layer rubber-urethane playground surfacing system which has been designed, manufactured and installed to meet the following criteria:

   1. Shock Attenuation (ASTM F1292):
      a. Gmax: Less than 200.
      b. Head Injury Criteria: Less than 1000.
   2. Flammability (ASTM D2859): Pass.
   3. Tensile Strength (ASTM D412): 60 psi (413 kPa).
   4. Tear Resistance (ASTM D624): 140%.
   5. Water Permeability: 0.4 gal/yd2/second.
   6. Accessibility: Comply with requirements of ASTM F1951.

1.04 SUBMITTALS

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.

B. Product Data: Submit manufacturer’s product data and installation instructions.

C. Verification Samples: Submit manufacturer's standard verification samples of 3" x 3" (229 x 229 mm) minimum for poured in place surfacing and tile color samples.

D. Quality Assurance/Control Submittals: Submit the following:

1. Certificate of qualifications of the playground surfacing installer.

E. Closeout Submittals: Submit the following:

1. Warranty documents specified herein.

1.05 QUALITY ASSURANCE

A. Qualifications: Utilize an installer approved and trained by the manufacturer of the playground surfacing system, having experience with other projects of the scope and scale of the work described in this section.
B. Certifications: Certification by manufacturer that installer is an approved applicator of the playground surfacing system.
C. International Play Equipment Manufacturers Association (IPEMA) certified.

1.06 DELIVERY, STORAGE & HANDLING

A. General: Comply with Division 1 Product Requirement Section.
B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at a minimum temperature of 40 degrees F (4 degrees C) and a maximum temperature of 90 degrees F (32 degrees C).

1.07 PROJECT/SITE CONDITIONS

A. Environmental Requirements: Install surfacing system when minimum ambient temperature is 40 degrees F (1 degree C) and maximum ambient temperature is 90 degrees F (32 degrees C). Do not install in steady or heavy rain.

1.08 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under contract documents.
C. Proper drainage is critical to the longevity of the Poured-in-Place surfacing system. Inadequate drainage will cause premature breakdown of the poured system in affected areas; and void the warranty.
D. Warranty Period: 10 years from date of completion of work.

PART 2 - PRODUCTS

2.01 POURED-IN-PLACE PLAYGROUND SURFACING SYSTEM

A. Manufacturer:
   1. Pro Techs Surfacing, LLC P.O. Box 301 Sharon Center, OH, OH 44274 George K. Tomko (330)-328-8294 gtomko@pro-techssurfacing.com, http://www.pro-techssurfacing.com
   2. Contact Parkreation, Paul Gozder, (815)-735-1497, paul@parkreation.com
B. Proprietary Products/Systems. Poured-in-place playground surfacing system, including the following:
   1. Perma-Lay 2 Layer Poured in Place Surfacing:
      a. Poured-in-Place Basemat:
         1. Material: Blend of 100% recycled SBR (styrene butadiene rubber) and aromatic polyurethane.
            (a) Thickness: Contractor to verify critical fall height of proposed equipment to determine appropriate thickness: Formulation Components: Blend of strand and granular material.

      b. Poured-In-Place Top Surface:
         1. Material: Blend of recycled EPDM (ethylene propylene diene monomer) rubber and aliphatic urethane binder.
         2. Thickness: Nominal 1/2" (12.7 mm), minimum 3/8" (9.5 mm), maximum 5/8" (15.9 mm).
         3. Colors:
            (a) Color 1- Green: 33% each S1, P5, S31
         4. Dry Static Coefficient of Friction (ASTM D2047): 1.0.
      c. Wet Static Coefficient of Friction (ASTM D2047): 0.9.
      d. Dry Skid Resistance (ASTM E303): 89.
      e. Wet Skid Resistance (ASTM E303): 57.

2.02 PRODUCT SUBSTITUTIONS

A. Substitutions: All Substitutions shall be subject to review of manufacturer's specifications and details by the Landscape Architect. Submit substitutions according to Section 012500.

2.03 MIXES

A. Required mix proportions by weight:
   1. Basemat: 14-16% polyurethane, 100lbs rubber
   2. Top Surface: 22-26% polyurethane, 100-110lbs rubber

2.03 BASE

A. Quarry process, crushed limestone. Stone to be homogenous mix of ¾" stone to fines.

PART 3 - EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

A. Comply with the instructions and recommendations of the playground surfacing manufacturer.

3.02 EXAMINATION

A. Substrate preparation must be in accordance with surfacing manufacturer's specification. New asphalt must be fully cured – up to 30 days. New concrete must be fully cured – up to 7 days.
B. Proper drainage is critical to the longevity of the Poured-in-Place surfacing system. Inadequate drainage will cause premature breakdown of the poured system in affected areas; and void the warranty.

3.04 INSTALLATION

A. Do not proceed with playground surfacing installation until all applicable site work, including substrate preparation, fencing, playground equipment installation and other relevant work, has been completed.
B. Base:
   1. Crushed stone base typical thickness to be 5.5", minimum of 4".
   2. Compact to 95% Standard Proctor Compaction.
   3. 4" concrete slab beneath tiles
C. Basemat Primer:
   1. Using a bristle brush, apply ample urethane primer to all curbing and or vertical substrates, which the rubber surfacing system will contact.
D. Basemat Installation:
   1. Using screed sticks and gauge poles, install the basemat rubber materials to 1/8" – 1/4" higher than required thickness. Using pool trowels, pull the basemat material together using consistent pressure throughout. Repeat the process until all areas, including use zones, comply with the architectural plans and specification requirements. Allow basemat to cure for sufficient time (24 hours) so that indentations are not left in the basemat material. Installation contractor must verify that the basemat has cured sufficiently before applying the finished topcoat
E. Topcoat Primer Application:
   1. Using a bristle brush apply urethane binder to the existing 1/2" of curbing and any other vertical structures within the installation areas, and also to the basemat material at a minimum of 2" around the perimeter of the topcoat area.
F. Top Surface Installation:
   1. Screed the EPDM topcoat rubber granules to a nominal 5/8" thickness to allow for compaction. Using a pool trowel, pull together material using consistent pressure throughout to produce the end result of 1/2" thickness. Any area in excess of 2500 sf may be seamed as deemed necessary by Pro-Techs Surfacing, LLC. Any area less than 2500 sf will be completed seamlessly as conditions allow.
   2. Allow topcoat to cure for 24 hours to 72 hours contingent on the humidity and temperature. Protect newly installed topcoat from foot traffic or equipment usage until the Perma-Play 2-Layer Poured-In-Place Playground Surfacing has fully cured. Complete installation recommendations are available from a ProTechs Surfacing LLC representative.
   3. At the end of the minimum curing period, verify that the top surface is sufficiently dry and firm to allow foot traffic and use without damage to the surface.
   4. Do not allow foot traffic or use of the surface until it is sufficiently cured.

3.05 PROTECTION

A. Protect the installed playground surface from damage resulting from subsequent construction activity on the site.

END OF SECTION 321816.13

SECTION 32 18 23.43 – SPORT COURT COLOR COATING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Asphalt basketball & multi-purpose court surface color coating system.

1.2 RELATED REQUIREMENTS

A. Section 321216 – Asphalt Paving

1.3 REFERENCE STANDARDS

A. American Sports Builders Association (ASBA).

B. United States Tennis Association (USTA) Rules of Tennis.

C. National Basketball Association (NBA) Official Rules

D. National Federation of State High School Associations (NFHS) Rule Book

E. National Collegiate Athletic Association (NCAA) Rule Book

1.4 SUBMITTALS

A. Comply with Section 01330 (01 33 00) – Submittal Procedures.

B. Product Data: Submit manufacturer's product data, including surface and crack preparation and application instructions.

C. Samples: Submit manufacturer's color samples of color coating.

D. Test Reports:
1. Submit independent test results for solar reflectance index.
2. Submit independent test results for 2000 Hour ASTM G154, accelerated weathering UV test, to demonstrate long-term durability and fade resistance.
3. Submit independent test results for 2000 Hour, accelerated weathering ASTM G155 Xenon Arc test, to demonstrate long-term fade resistance and quality of pigment.

E. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.

F. Manufacturer's Project References: Submit manufacturer's list of successfully completed asphalt basketball & multi-purpose court surface color coating system projects, including project name, location, and date of application.

G. Applicator's Project References: Submit applicator's list of successfully completed asphalt basketball & multi-purpose court surface color coating system projects, including project name, location, type and quantity of color coating system applied, and date of application.

H. Warranty Documentation: Submit manufacturer's standard warranty.

1.5 QUALITY ASSURANCE

A. Manufacturer's Qualifications:
1. Manufacturer regularly engaged, for past 5 years, in manufacture of asphalt basketball & multi-purpose court surface color coating systems of similar type to that specified.
2. United States owned company.
3. Member: ASBA.

B. Applicator's Qualifications:
1. Applicator regularly engaged, for past 3 years, in application of basketball & multi-purpose court surface color coating systems of similar type to that specified.
2. Employ persons trained for application of basketball & multi-purpose court surface color coating systems.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery and Acceptance Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

B. Storage and Handling Requirements:
1. Store and handle materials in accordance with manufacturer's instructions.
2. Keep materials in manufacturer's original, unopened containers and packaging until application.
3. Store materials in clean, dry area indoors.
4. Store materials out of direct sunlight.
5. Keep materials from freezing.
6. Protect materials during storage, handling, and application to prevent contamination or damage.
7. Close containers when not in use.

1.7 AMBIENT CONDITIONS

A. Do not apply asphalt basketball & multi-purpose court surface color coating system when air or surface temperatures are below 50 degrees F during application or within 24 hours after application.

B. Do not apply asphalt basketball & multi-purpose court surface color coating system when rain is expected during application or within 24 hours after application.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. SportMaster Sport Surfaces, PO Box 2277, 2520 South Campbell Street, Sandusky, Ohio 44870. Toll Free 800-326-1994. Fax 877-825-9226. Website www.sportmaster.net. E-mail info@sportmaster.net.

2.2 MATERIALS

A. Asphalt Basketball & Multi-Purpose Court Surface Color Coating System: SportMaster Color Coating System.

B. Patch Binder: SportMaster “Acrylic Patch Binder”.
1. 100 percent acrylic emulsion liquid binder.
2. Mix on-site with sand and cement.
3. Levels and repairs low spots and depressions up to 3/4 inch deep in asphalt pavement.
4. Weight per Gallon at 77 Degrees F: 8.8 lbs., plus or minus 0.5 lbs.

C. Filler Course: SportMaster “Acrylic Resurfacer”.
1. 100 percent acrylic emulsion resurfacer.
2. Mix on-site with silica sand.
3. Apply to asphalt surfaces or previously colored acrylic surfaces in preparation of color coating system.
4. Chemical Characteristics, by Weight, Minimum:
   a. Acrylic Emulsion: 44.0 percent.
   b. Hiding Pigment: 2.0 percent.
   c. Mineral Inert Fillers: 5.0 percent.
   d. Film Formers, Additives: 0.2 percent.
   e. Water: 45.0 percent.
5. Weight per Gallon at 77 Degrees F: 8.5 lbs., plus or minus 0.5 lbs.
6. Non-Volatile Material: 27.5 percent, plus or minus 5.0 percent.
7. Color: [Black] [Neutral].

D. Color Coating: SportMaster “ColorPlus System”.
1. 100 percent acrylic emulsion coating.
2. Mix on-site with silica sand and water.
3. Color coats basketball & multi-purpose courts.
4. Weight per Gallon at 77 Degrees F: 9.2 lbs., plus or minus 0.5 lbs.
5. Color: Blue, Dark Green

E. Line Markings Primer: SportMaster “Stripe-Rite”.
1. 100 percent acrylic emulsion primer, clear drying.
2. Primes line markings and prevents bleed-under for sharp lines.
3. Chemical Characteristics, by Weight, Nominal:
   a. Acrylic Emulsion: 38.0 percent.
   b. Hiding Pigment: 0.0 percent.
   c. Mineral Inert Fillers: 7.0 percent.
   d. Film Formers, Additives: 1.5 percent.
   e. Water: 50.0 percent.
4. Weight per Gallon at 77 Degrees F: 8.9 lbs., plus or minus 0.5 lbs.
5. Non-Volatile Material: 29 percent, plus or minus 5 percent.

F. Line Paint: SportMaster “Textured Line Paint”.

1. Pigmented, 100 percent acrylic emulsion line paint.
2. Line marking on asphalt basketball & multi-purpose courts.
3. Chemical Characteristics, by Weight, Nominal:
   a. Acrylic Emulsion: 25.89 percent.
   b. Pigment: 14.90 percent.
   c. Mineral Inert Fillers: 13.12 percent.
   d. Additives: 4.73 percent.
   e. Water: 41.36 percent.
4. Weight per Gallon at 77 Degrees F: 10.65 lbs., plus or minus 0.75 lbs.
5. Non-Volatile Material: 45.17 percent, plus or minus 5 percent.
6. Color: White.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine asphalt basketball & multi-purpose court surfaces to receive color coating system.

B. Verify asphalt basketball & multi-purpose courts meet ASBA requirements.

C. Notify Architect of conditions that would adversely affect application or subsequent use.

D. Do not begin surface preparation or application until unacceptable conditions are corrected.

3.2 SURFACE PREPARATION

A. Protection of In-Place Conditions: Protect adjacent surfaces and landscaping from contact with asphalt basketball & multi-purpose court surface color coating system.

B. Prepare surfaces in accordance with manufacturer’s instructions.

C. Cure new asphalt surfaces a minimum of 14 to 30 days before application of asphalt basketball & multi-purpose court surface color coating system.

D. Remove dirt, dust, debris, oil, grease, vegetation, loose materials, and other surface contaminants which could adversely affect application of asphalt basketball & multi-purpose court surface color coating system. Pressure wash entire surface.

E. Repair cracks, depressions, and surface defects in accordance with manufacturer’s instructions before application of filler course and color coating.

F. Level depressions 1/8 inch and deeper with patch binder in accordance with manufacturer’s instructions.

G. Apply 1 or 2 coats of filler course as required by surface roughness and porosity to provide smooth underlayment for application of color coating.

H. Ensure surface repairs are flush and smooth to adjoining surfaces.

3.3 APPLICATION

A. Apply asphalt basketball & multi-purpose court surface color coating system in accordance with manufacturer's instructions at locations indicated on the Drawings.

B. Mix materials in accordance with manufacturer's instructions.

C. Apply Filler Course and Color Coating with a 50-60 durometer, soft rubber squeegee.

D. Filler Course:
   1. Apply 2 coats on new asphalt or existing acrylic surfaces with extensive cracks or low spot repair.
   2. Apply 1 coat on existing acrylic surfaces with minimal repairs.

E. Color Coating: Apply a minimum of 2 coats of color coating to prepared surfaces in accordance with manufacturer's instructions.

F. Allow material drying times in accordance with manufacturer's instructions before applying other materials or opening completed surface to foot traffic.

3.4 LINE MARKINGS

A. Lay out court line markings in accordance with appropriate governing body:
   a. USTA Rules of Tennis.
   b. NBA Official Rules for professional basketball
   c. NFHS Rules for high school basketball
   d. NCAA Rules for college basketball
   e. Other required game layout

B. Apply line markings primer, after masking tape has been laid, to seal voids between masking tape and court surface to prevent bleed-under when line paint is applied.

C. Apply a minimum of 1 coat of line paint in accordance with manufacturer's instructions.

3.5 PROTECTION

A. Allow a minimum of 24 hours curing time before opening basketball & multi-purpose courts for play.

B. Protect applied asphalt basketball & multi-purpose court surface color coating system to ensure that, except for normal weathering, coating system will be without damage or deterioration at time of Substantial Completion.

END OF SECTION

SECTION 129300 - SITE FURNISHINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes site furnishings.
   1. Totem Pole

B. Related Requirements:

   1. Division 03 Section "Cast-in-Place Concrete" for concrete for piers and bases.

1.3 ACTION SUBMITTALS

A. Product Data: Submit manufacturer's technical data and installation instructions for each furnishing.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Instructions: Submit manufacturer's printed instructions for maintenance of installed work, including methods and frequency recommended for maintaining optimum condition under anticipated use conditions. Include precautions against materials and method that may be detrimental to finishes and performance.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Firm (material producer) with not less than 3 years of production experience, whose published literature clearly indicates general compliance of products with requirements of this Section.

B. Installer Qualifications: Engage an experienced installer who has completed installations of site improvements similar in material, design, and extent to those indicated for the Project and that has resulted in construction with a record of successful in-service performance.

C. Proprietary names and model numbers used to designate products are not intended to imply that products named are required or to exclude equal products of other manufacturers.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to project site in original factory wrappings and containers, clearly labeled with identification of manufacturer, brand name, and lot number. Store materials in original undamaged packages and containers, inside well-ventilated area protected from weather, moisture, soiling, extreme temperatures, humidity; laid flat, blocked off ground to prevent sagging and warping.

B. Comply with instructions and recommendations of manufacturer for special delivery, storage, and handling requirements.

1.7 SEQUENCING AND SCHEDULING

A. Sequence accessory installation with other work to minimize possibility of damage and soiling during remainder of construction period.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Design, fabricate, and install site improvements to withstand a wind pressure of 100 mph on the total area in all directions.

2.2 SITE FURNISHINGS

A. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated

1. Totem Pole
    a. Existing solid wood totem pole provided by the owner.
    b. Approximate dimensions: 16.5’ tall and 38” dia. at the base.
    c. Contractor to pick up from the owner’s storage facility and transfer to the site.

2.3 MATERIALS

A. Concrete: Provide concrete for post bases, piers and footings to comply with requirements of Division 03 Section "Cast-in-Place Concrete," for exterior use.

B. Fasteners: Provide fasteners fabricated from metals that are noncorrosive to materials of site improvements and mounting surfaces.

C. Anchors and Inserts: Use nonferrous metal or hot-dipped galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or lead expansion bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Install furnishings according to manufacturers' written instructions, using fasteners that are appropriate to substrate and recommended by manufacturer of unit. Install furnishings plumb and level, firmly anchored in locations and at heights indicated.

B. Post Bases, Piers, and Footings:

1. Drill or use a post-hole digger to hand-excavate holes for posts in firm, undisturbed or compacted soil, to the minimum diameter recommended by the manufacturer, but not less than 4 times the largest post cross-section. Excavate hole depths approximately 3 inches lower than the required post bottoms, with bottom of posts set not less than 42 inches below finished grade surface.
2. Protect portion of post above ground from concrete spattering. Place concrete around post and vibrate or tamp for consolidation. Check each post for vertical and top alignment, and hold in position until concrete has achieved its final set. Unless otherwise indicated, extend concrete base 2 inches above grade and trowel to a crown to shed water.

3.2 ADJUSTING AND CLEANING

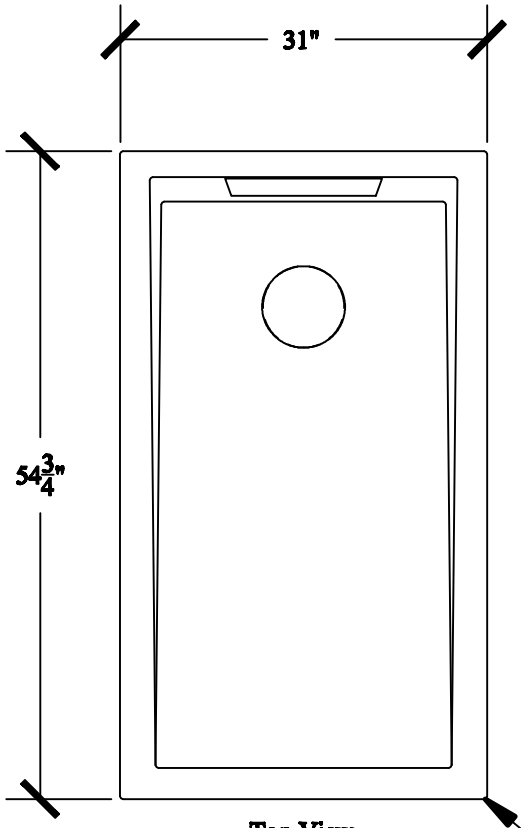
A. Adjust furnishings for proper operation and verify that mechanisms function smoothly. Replace damaged or defective items.

B. Clean and polish exposed surfaces, using materials and methods recommended by the manufacturer.

3.3 PROTECTION

A. Protect furnishings against damage during remainder of construction period, complying with manufacturer's instructions.

END OF SECTION 129300



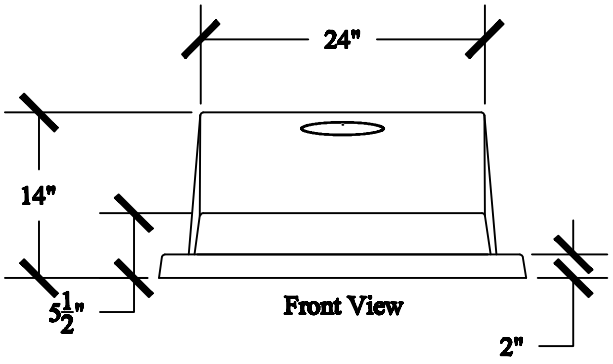
Top View

½" Round Typical All Edges

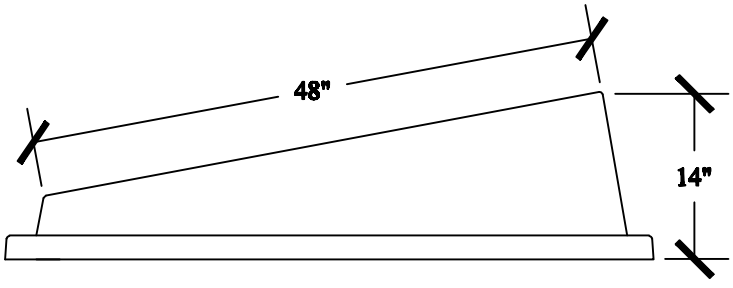
Specifications

Overall Dimensions:
Size: 54¾"x31"x14"
Approximate Weight: 633 lbs.
Materials:
Sand: Washed Torpedo Sand.
Stone: ⅜" Washed Gravel.
Cement: Gray Cement 7 to 7.5 bags per cubic yard.
Admixtures: Water reducers used to increase strength & durability. Chemically entrained air (6-8%) causes concrete to be salt and chloride resistant. Average strength @ 28 days, 5,000 psi.
Curing:
Concrete moist cured indoors before exposure to outside elements to improve durability.
Reinforcing:
Rebar placed as required with no less than 1" of coverage.
Finishes:
Standard Limestone Natural Color.
Sealer:
Two coats of our ACR3 Semi-gloss sealer applied.

ALL MATERIALS USED IN THIS PRODUCT CONFORM TO APPLICABLE ASTM STANDARDS.



Front View

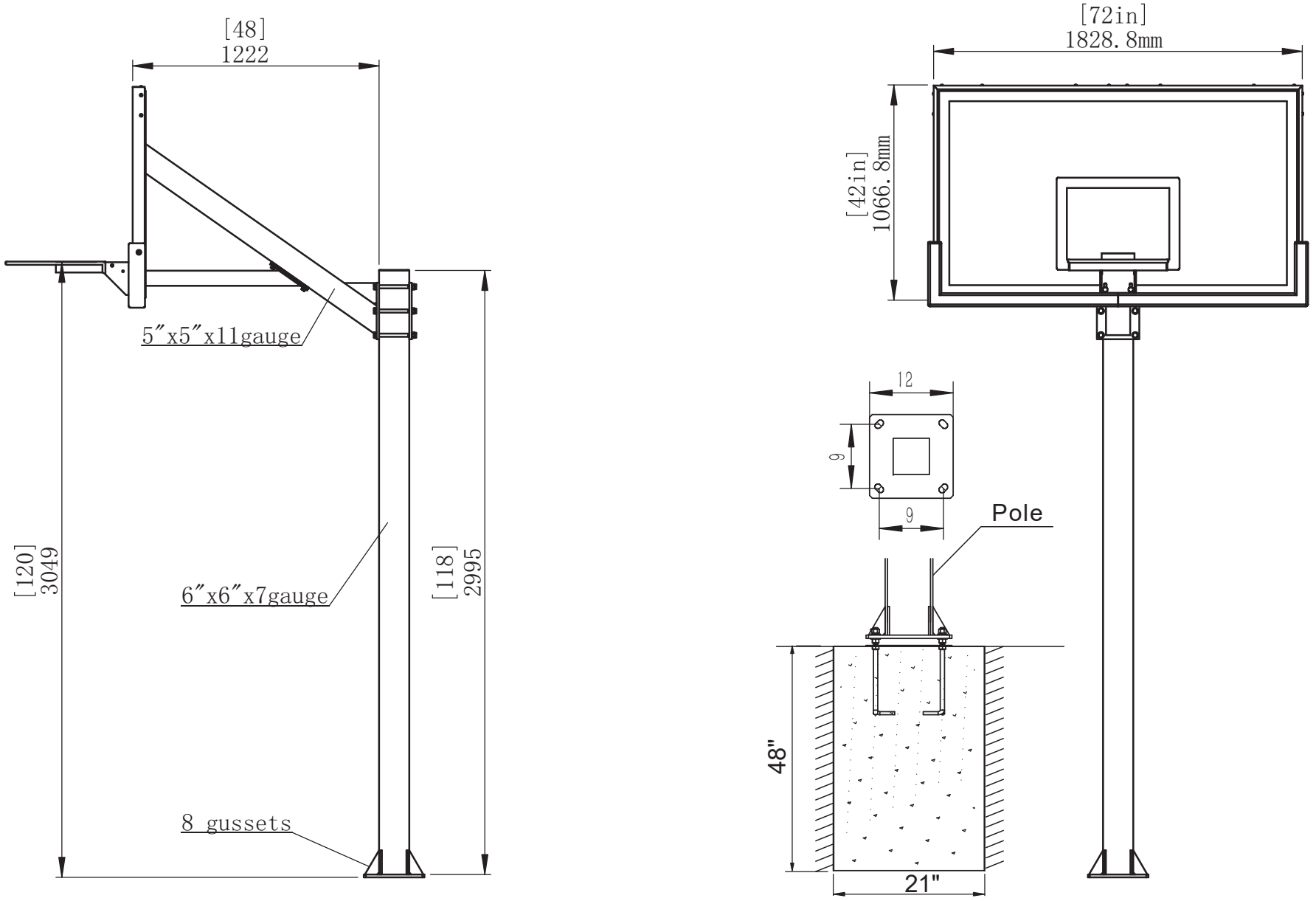


Side View

1 B.Y.O.Bags Item No. BYOB5531
Scale: 1-1/2"=1'-0"

File Name: B.Y.O.Bags Drawing Date: 6-23-09 Project Name: B.Y.O.Bags Item No. BYOB5531	**Doty & Sons Concrete Products, Inc.** Quality Products Since 1948 1275 East State Street Sycamore, Il. 60178 Ph: 800-233-3907 Fx: 815-895-8035	Notes:

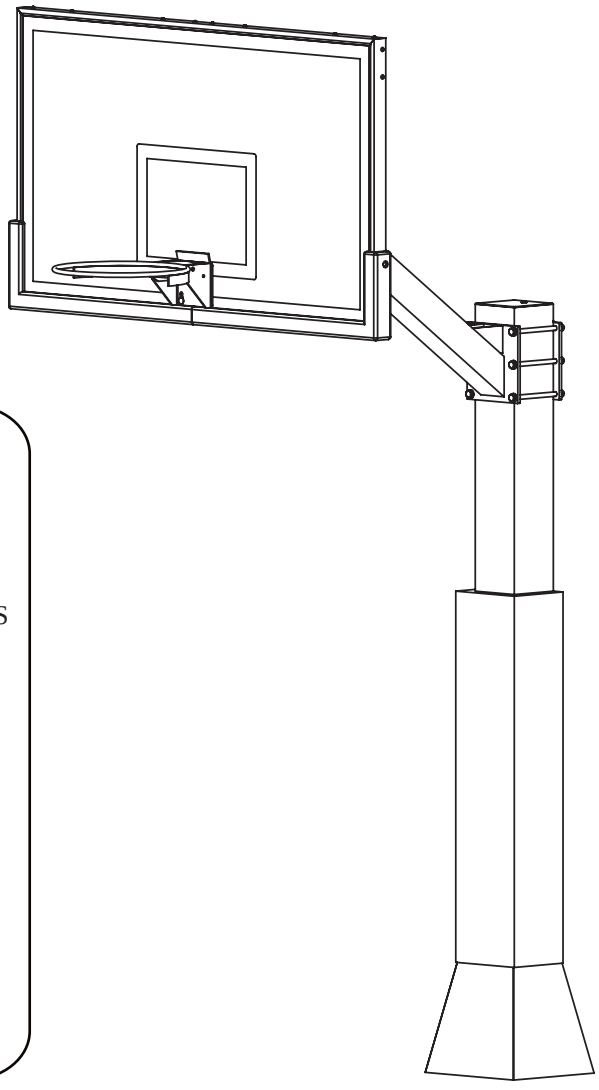
HIL664-XXL


[48]
1222
5″x5″x11gauge
6″x6″x7gauge
8 gussets
[120]
3049
[118]
2995
[72in]
1828.8mm
[42in]
1066.8mm
12
9
9
Pole
48"
21"

IRONCLAD SPORTS , INC
HIGHLIGHT HOOPS

ADJUSTABLE BASKETBALL SYSTEM

ASSEMBLY INSTRUCTIONS AND OWNER'S MANUAL



MODEL: HIL664

⚠ WARNING ⚠

FAILURE TO COMPLY WITH ANY OF THE WARNINGS IN THESE INSTRUCTIONS MAY RESULT IN SERIOUS PERSONAL INJURY.

FAILURE TO COMPLY MAY ALSO RESULT IN PROPERTY DAMAGE.
PLEASE HEED ALL WARNINGS AND CAUTIONS TO ENSURE YOUR SAFETY.

DO NOT ATTEMPT TO ASSEMBLE THIS SYSTEM WITHOUT CAREFULLY READING AND FOLLOWING ALL INSTRUCTIONS. BEGIN BY IDENTIFYING AND TAKING INVENTORY OF ALL PARTS USING THE PARTS LIST PROVIDED.

IRONCLAD SPORTS, INC
902 Corey Road, Hutchinson, KS 67501
Telephone: 620-662-2233
www.ironcladsports.com

Keep this instruction manual in case you have to contact the manufacturer for replacement parts.

TOOLS AND MATERIALS REQUIRED FOR ASSEMBLY
(Not Included)

1. 2 Adjustable Wrenches
2. Socket Set
3. 9/16" Wrench
4. 3/4" Wrench
5. 15/16" Wrench
6. ½" Wrench
7. Hammer or Mallet
8. Tape Measure
9. Shovel
10. Concrete-1/2 yard or 14-16 Bags, (80 lb. bags)
11. Phillips Head Screwdriver
12. A minimum of 2 Ladders
13. Carpenter's Level
14. Water Supply

A MINIMUM OF SIX ADULTS IS REQUIRED TO LIFT UNIT INTO PLACE

BEFORE YOU START

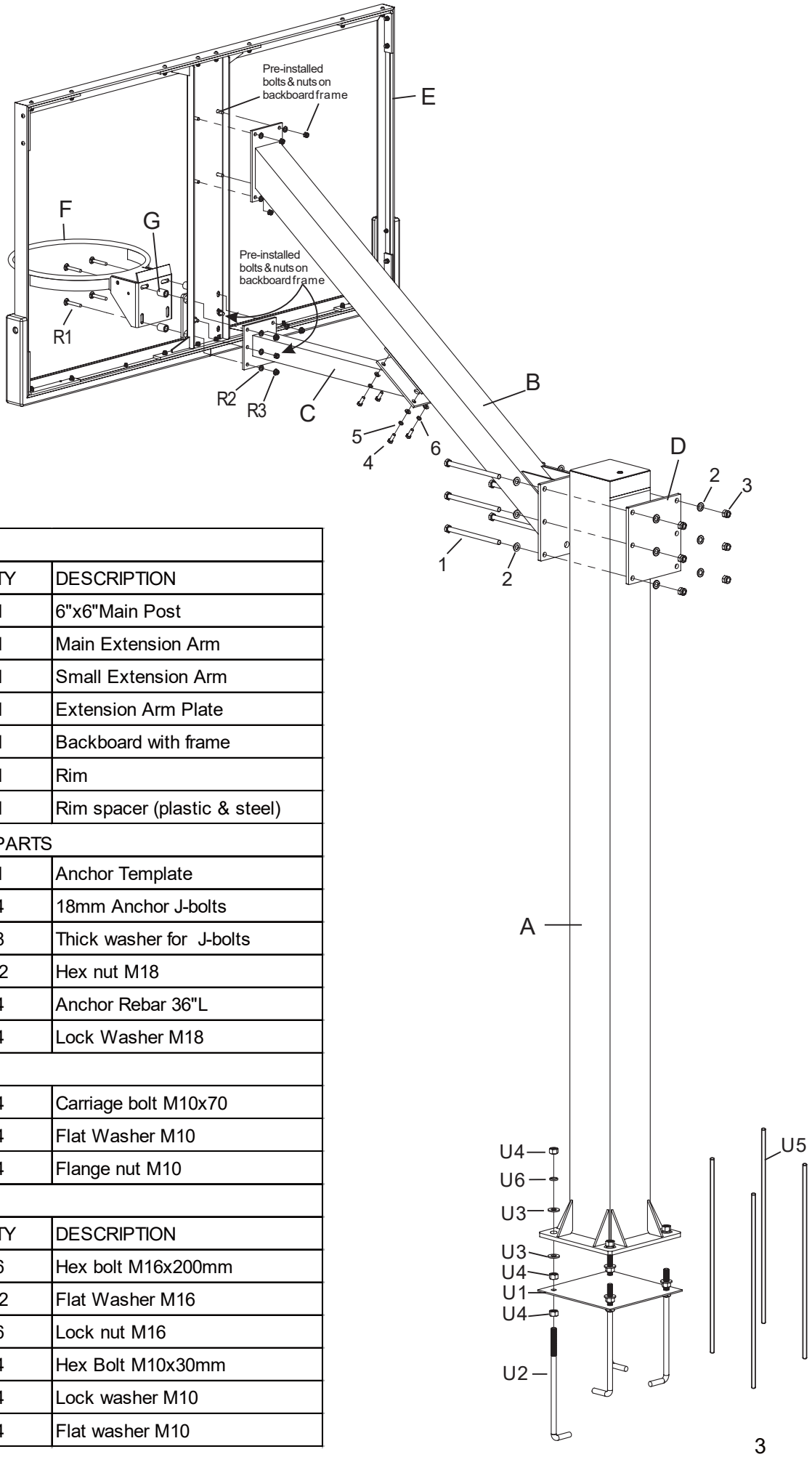
A. Identify and inventory all parts using the checklist boxes in the parts list. Be sure to keep the hardware bags and their contents separate. If any parts are missing call our Customer Service Department (620-662-2233).
B. Test fit all Bolts by inserting them into the respective hole. If necessary, carefully scrape away any excess powder coating buildup from inside the holes. Do not scrape away all of the powder coating. Bare metal may rust.

SAFETY INSTRUCTIONS

FAILURE TO FOLLOW THESE SAFETY INSTRUCTIONS MAY RESULT IN SERIOUS INJURY OR PROPERTY DAMAGE AND WILL VOID THE WARRANTY. The owner must ensure that all players know and follow these rules to safely operate the system. Proper and complete assembly, use and supervision is essential for proper operation and to reduce the risk of accident or injury. A high probability of serious injury exists if this system is not installed, maintained, or operated properly.

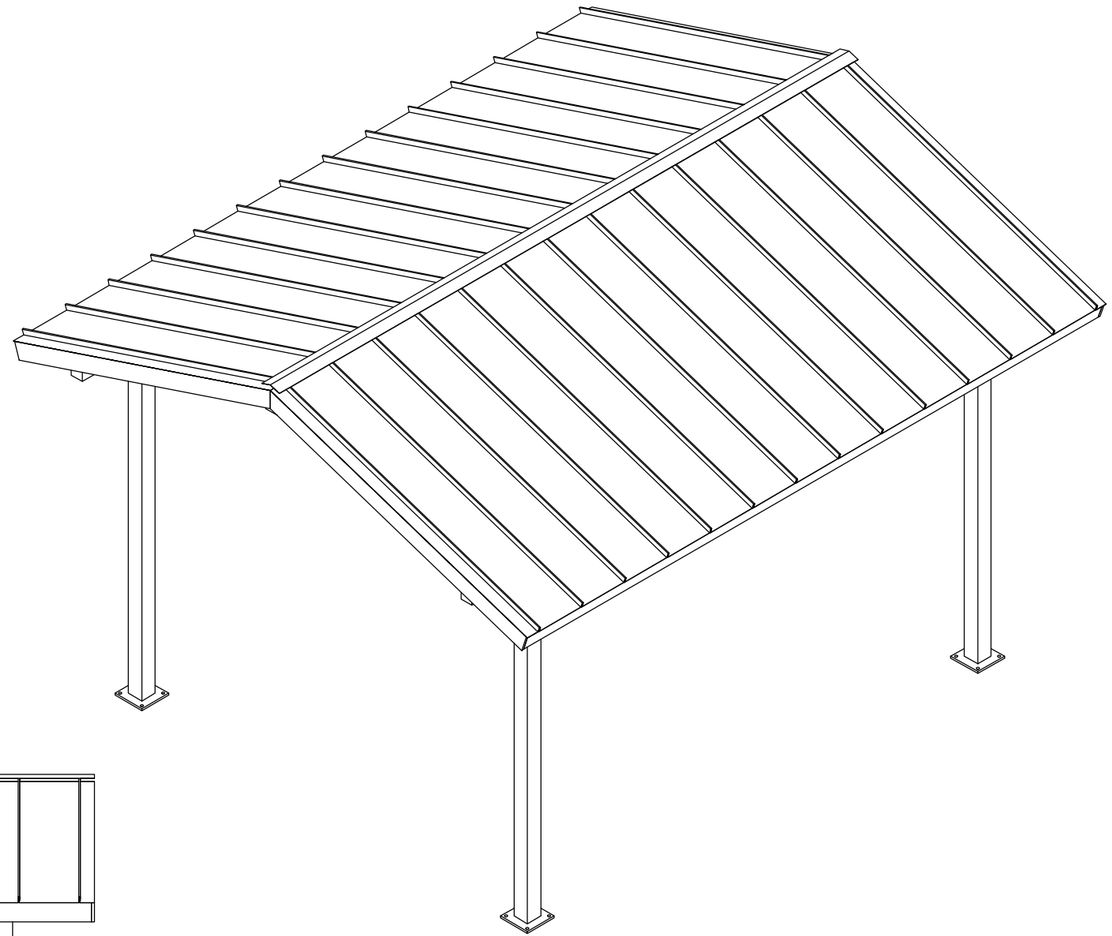
• If using a ladder during assembly, use extreme caution. Follow all warnings and cautions on the ladder carefully. • 6 people are required to lift the unit into place. • Before digging, contact the appropriate agency to locate underground power cables, gas, and water lines. Do not install the system within 20 feet of overhead power lines. • Climate, corrosion, or misuse could result in system failure. • If technical assistance is required, contact the manufacturer. • Minimum operational height is 7'6" to the Rim. Most injuries are caused by misuse and /or failure to follow instructions. Use caution when using the system.

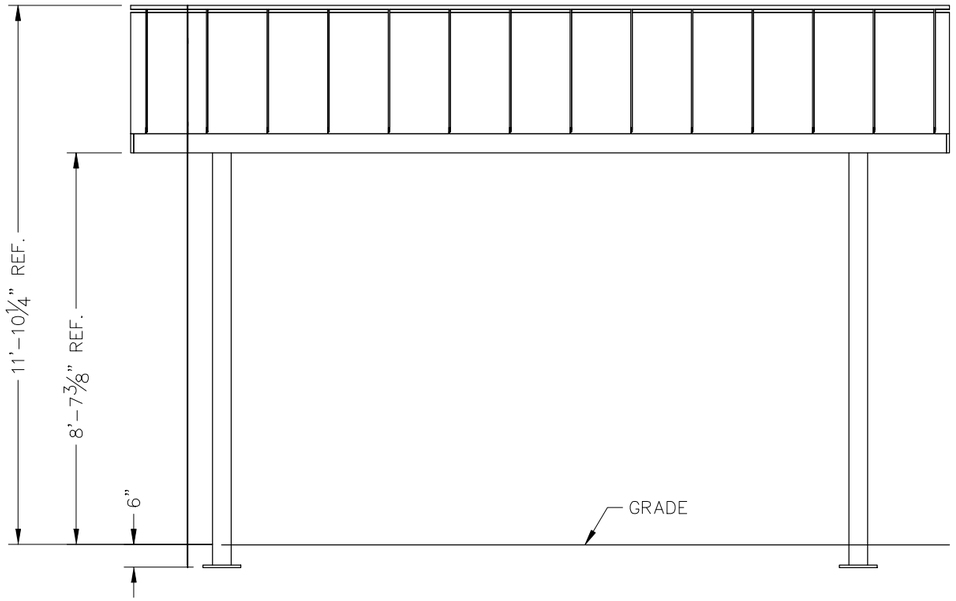
Verify all parts listed on packing list are present prior to installation. Contact our Customer Service at 620-662-2233 for assistance with replacement of any parts missing or damaged.



PARTS LIST		
ITEM	QTY	DESCRIPTION
A	1	6"x6"Main Post
B	1	Main Extension Arm
C	1	Small Extension Arm
D	1	Extension Arm Plate
E	1	Backboard with frame
F	1	Rim
G	1	Rim spacer (plastic & steel)
UNDERGROUND PARTS		
U1	1	Anchor Template
U2	4	18mm Anchor J-bolts
U3	8	Thick washer for J-bolts
U4	12	Hex nut M18
U5	4	Anchor Rebar 36"L
U6	4	Lock Washer M18
RIM HARDWARE		
R1	4	Carriage bolt M10x70
R2	4	Flat Washer M10
R3	4	Flange nut M10
HARDWARE LIST		
ITEM	QTY	DESCRIPTION
1	6	Hex bolt M16x200mm
2	12	Flat Washer M16
3	6	Lock nut M16
4	4	Hex Bolt M10x30mm
5	4	Lock washer M10
6	4	Flat washer M10

PRELIMINARY: NOT FOR CONSTRUCTION





ICON
Shelter Systems Inc
DISTINCTIVE STEEL SHELTERS
WWW.ICONSHELTERS.COM

7900 LOGISTICS DR.
SUITE C.
ZEELAND MI, 49464

616.748.0985
800.748.0985
616.748.0995 FX

Elevation

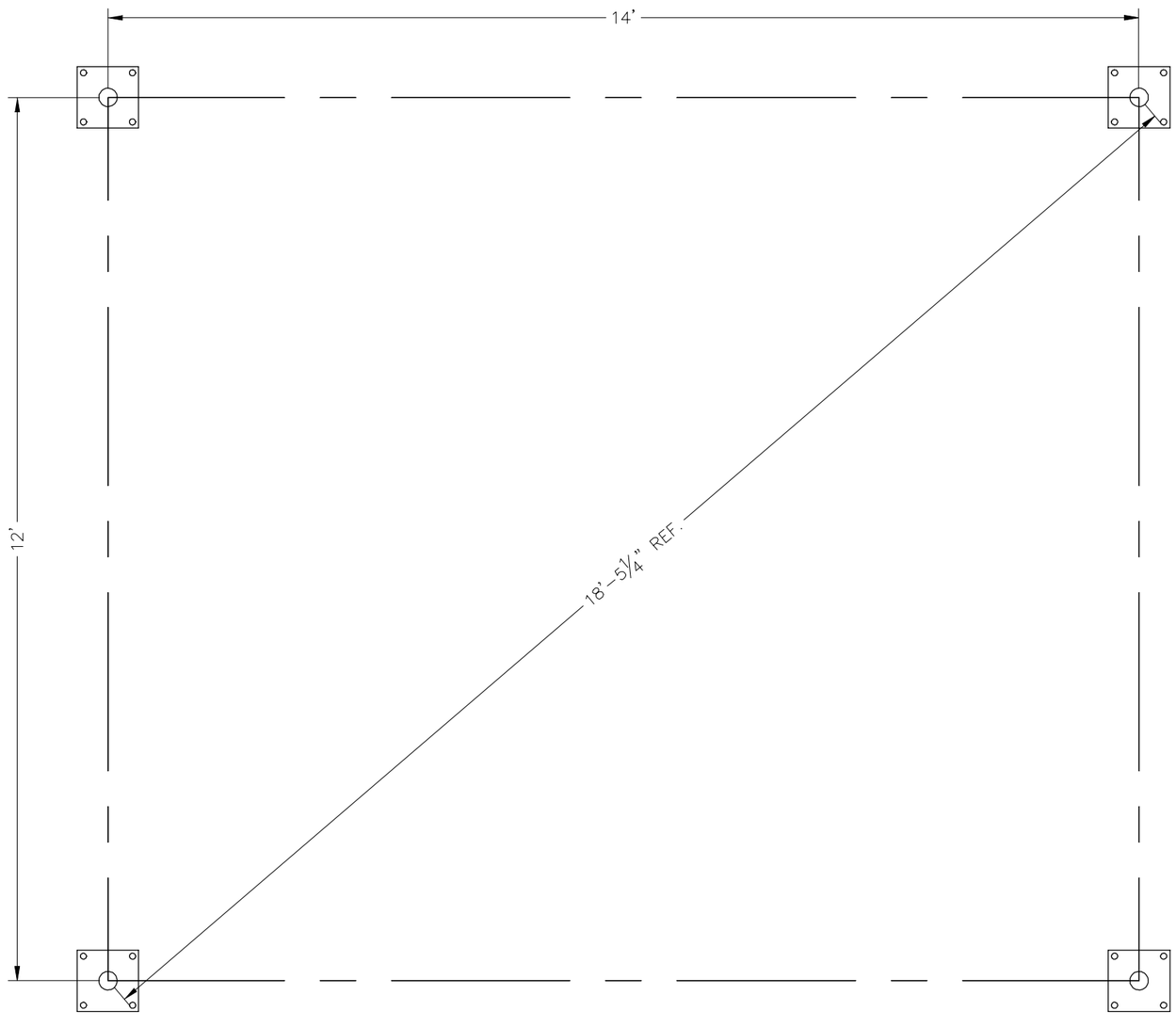
DRAWN BY:	EG
DATE:	8/26/2019
JOB NO.:	61087
REVISION:	B
BUILDING TYPE:	RG16X18-9TS-P4
PROJECT NAME:	

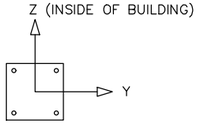
SHEET 1.0

Engineering\AcadStandard\Blocks\Titles\CONPRETB QF-73-01-42

DWG:Shelters\RG\16X18\TS-P4-20-90-117\Drawings\Preliminary\RG16x18TS-P4-25-90-117-REVB~61087.dwg

PRELIMINARY: NOT FOR CONSTRUCTION





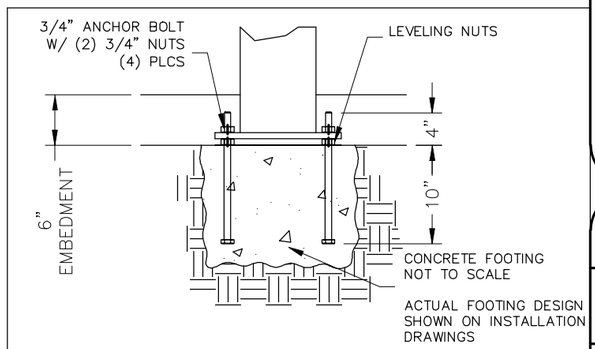
CL1

LOADS TO FOUNDATION (KIPS, IN-KIPS)	FOUNDATION LOADS				
LOAD COMBINATION	AXIAL (Fx)	SHEAR (Fy)	SHEAR (Fz)	MOMENT (My)	MOMENT (Mz)
DL	0.76	−0.13	0.11	−4.36	−4.64
SL	1.76	−0.39	0.24	−10.71	−13.76
W-UPLIFT	−0.91	0.35	−0.11	4.46	19.22
W-FY	0.91	−0.35	0.11	−4.46	−19.22
W-FZ	0.20	−0.01	0.28	−17.64	−0.32
E-FY	0.06	−0.18	0.01	−0.45	−13.76
E-Z	−0.12	0.01	−0.18	11.76	0.25

THESE FOUNDATION LOADS ARE FOR ESTIMATING PURPOSE ONLY.
THE ACTUAL LOADS WILL BE DETERMINED IN THE FINAL ENGINEERING

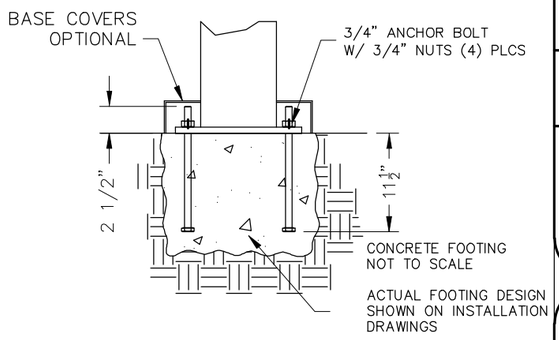
NOTES:
- TABLE SHOWS UNFACTORED SERVICE LOADS
- A FOUNDATION DESIGN HAS NOT BEEN PERFORMED BY ICON SHELTER SYSTEMS INC.
- A LICENSED ENGINEER FAMILIAR WITH SOIL CONDITIONS AT CONSTRUCTION SITE MUST PERFORM A FOUNDATION DESIGN.
- THE STRUCTURE HAS BEEN ENGINEERED AS AN OPEN STRUCTURE.
- CONSULT ICON SHELTER SYSTEMS INC. IF THE STRUCTURE IS TO BE ENCLOSED.
- COORDINATES ARE LOCAL TO THE COLUMN

DEFINITIONS:
DL = SERVICE LEVEL DEAD LOAD REACTION WITH THE GREATEST AXIAL LOAD
SL = SERVICE LEVEL SNOW LOAD REACTION WITH THE GREATEST AXIAL LOAD
W-UL = SERVICE LEVEL WIND LOAD REACTION WITH THE GREATEST UPLIFT LOAD
W-Y = SERVICE LEVEL WIND LOAD REACTION WITH THE GREATEST MAGNATUDE OF SHEAR IN THE LOCAL Y DIRECTION
W-Z = SERVICE LEVEL WIND LOAD REACTION WITH THE GREATEST SHEAR VALUE ACTING IN THE SAME DIRECTION AS THE DL SHEAR LOAD
E-Y = SERVICE LEVEL SEISMIC LOAD REACTION WITH THE GREATEST MAGNATUDE OF SHEAR IN THE LOCAL Y DIRECTION
E-Z = SERVICE LEVEL SEISMIC LOAD REACTION WITH THE GREATEST MAGNATUDE OF SHEAR IN THE LOCAL Z DIRECTION



PRELIMINARY DRAWINGS SHOWN AS 6" BURIED

STANDARD BASE CONNECTION
COLUMN TYPE: A (6" BURIED)



OPTIONAL BASE CONNECTION
COLUMN TYPE: B (SURFACE MOUNT W/ COVERS)

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800.748.0985
616.748.0995 FX

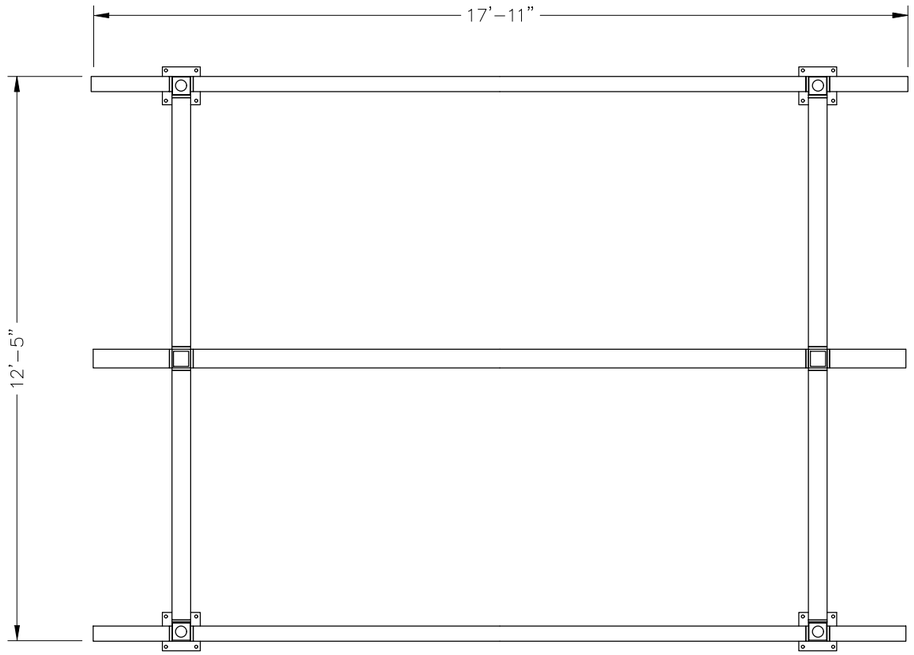
Anchor Bolt Layout

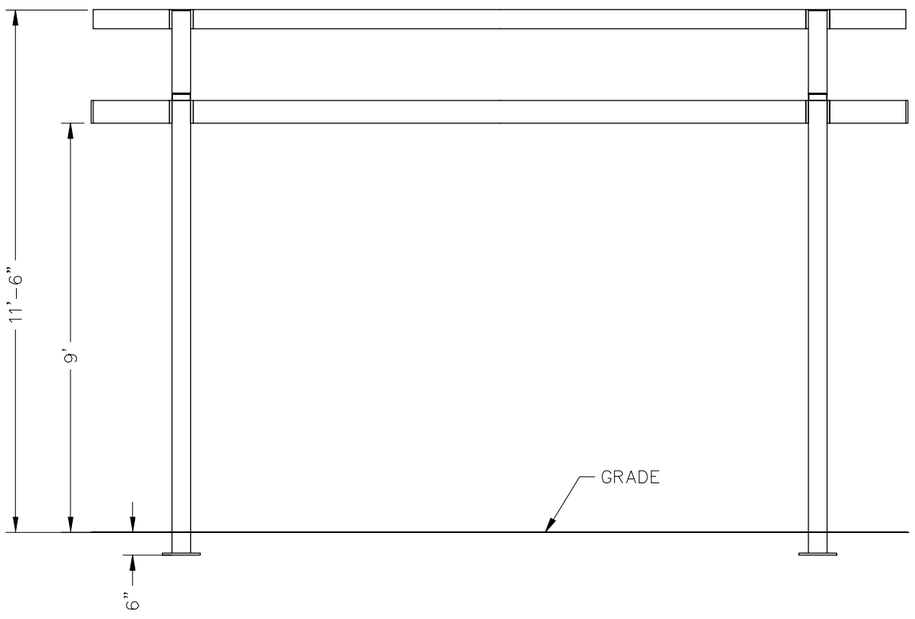
DRAWN BY: EG
DATE: 8/26/2019
JOB NO.: 61087
REVISION: B
BUILDING TYPE: RG16X18-9TS-P4
PROJECT NAME:

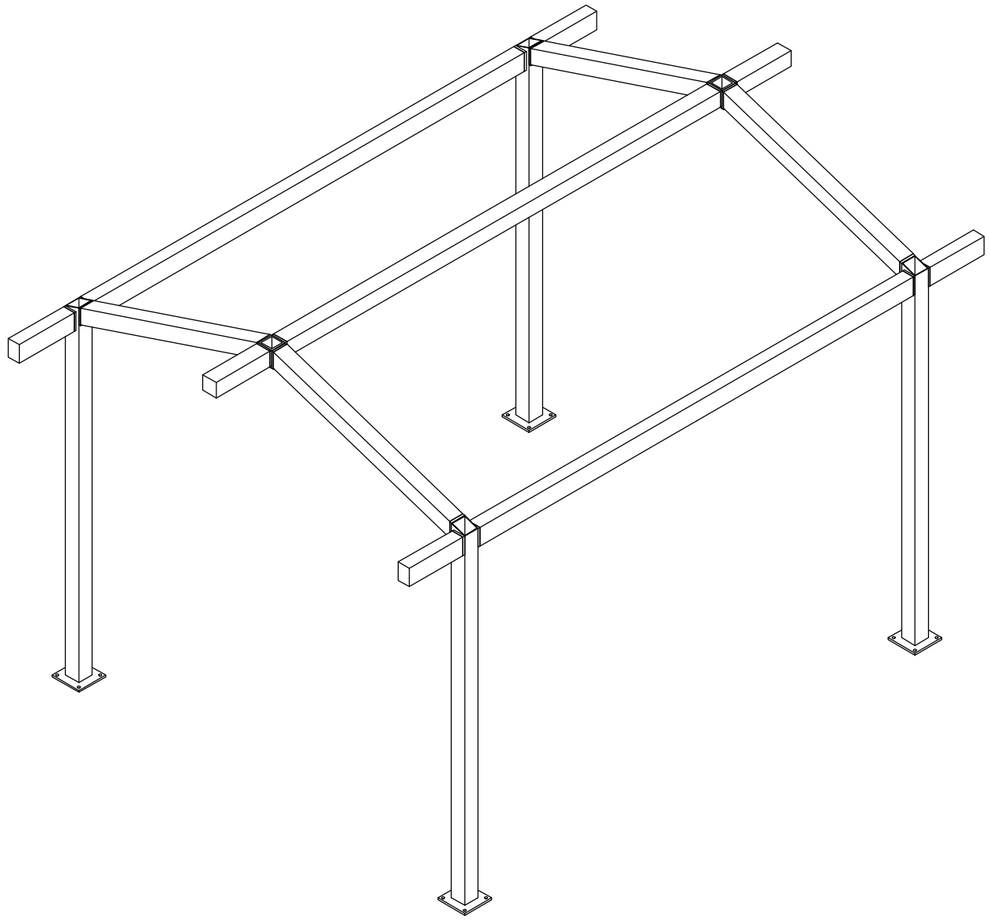
SHEET 2.0

Engineering\AcadStandard\Blocks\Titles\ICONPRETB QF-73-01-42

DWG:Shelters\RG\16X18\TS-P4-20-90-117\Drawings\Preliminary\RG16x18TS-P4-25-90-117-REVB~61087.dwg







PRELIMINARY: NOT FOR CONSTRUCTION

ALL STRUCTURAL COMPONETS WILL BE:
TUBE: ASTM A500 GRADE B
PLATE: ASTM A36
BOLTS: ASTM A325
NUTS: ASTM A563
WELDING: GMAW

NOTE:
COLUMN SIZE: HSS 5X5X3/16

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Frame

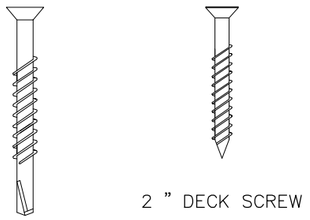
DRAWN BY:
EG
DATE:
8/26/2019
JOB NO.:
61087
REVISION:
B
BUILDING TYPE:
RG16X18-9TS-P4
PROJECT NAME:

SHEET
3.0

Engineering\AcadStandard\Blocks\Titles\ICONPRETB
QF-73-01-42

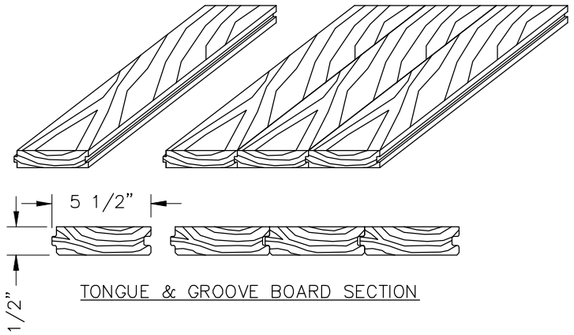
DWG:Shelters\RG\16X18\TS-P4-20-90-117\Drawings\Preliminary\RG16x18TS-P4-25-90-117-REVB~61087.dwg

FASTENERS



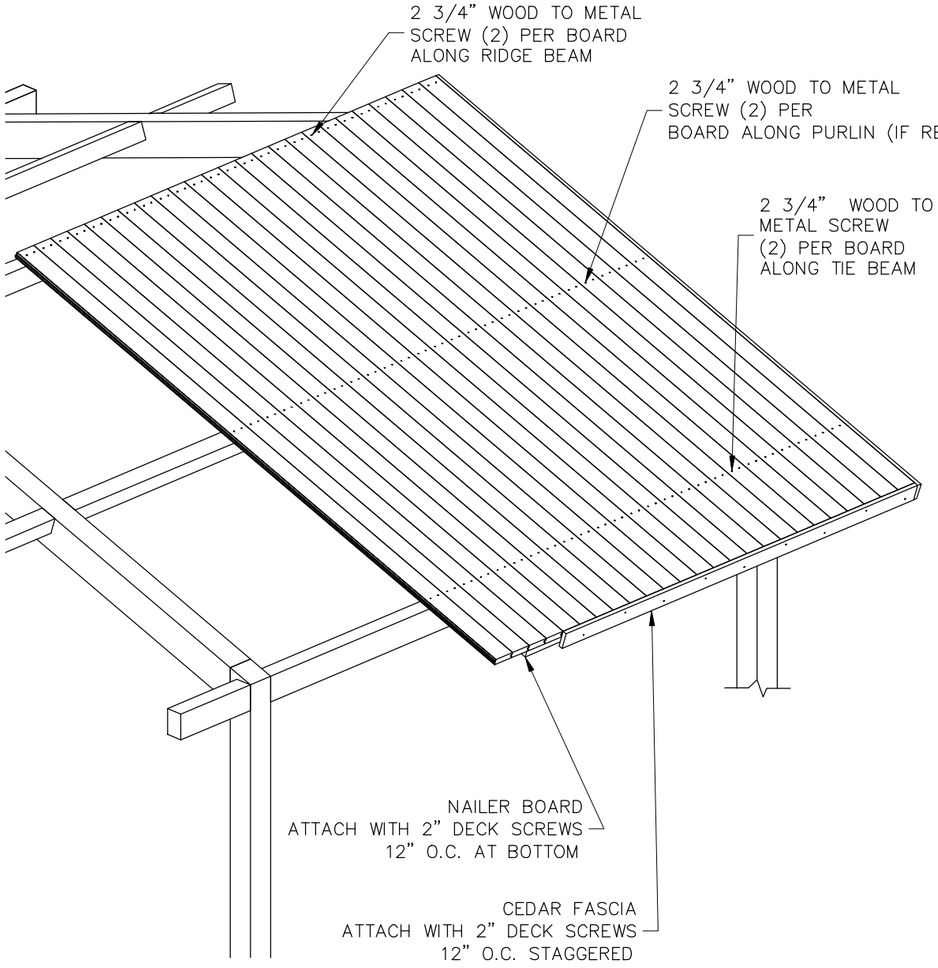
2 3/4" WOOD TO METAL SCREW

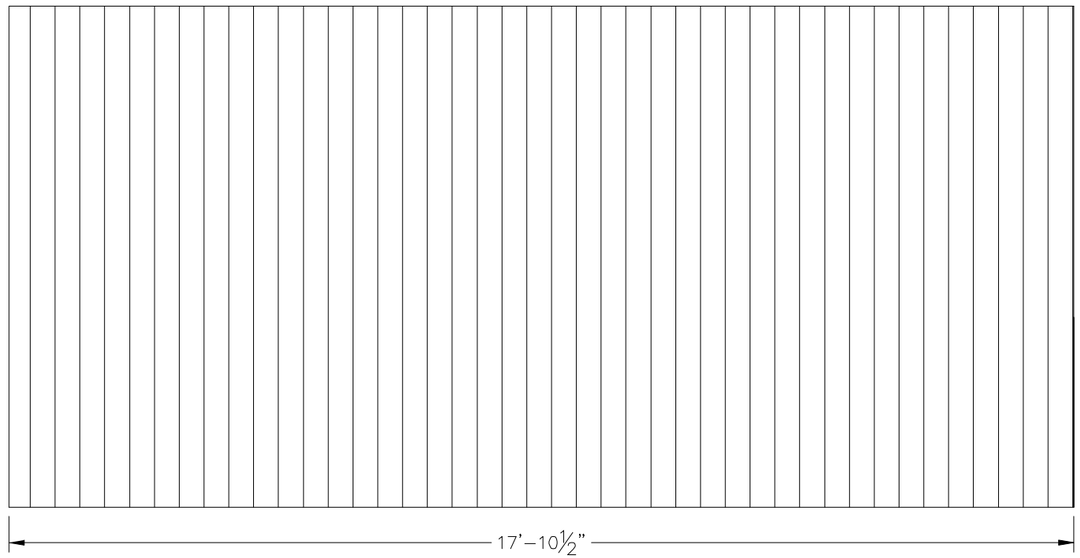
2 " DECK SCREW



TONGUE & GROOVE BOARD SECTION

NOTE: STANDARD DETAILS SHOWN ACTUAL BUILDING MAY VARY





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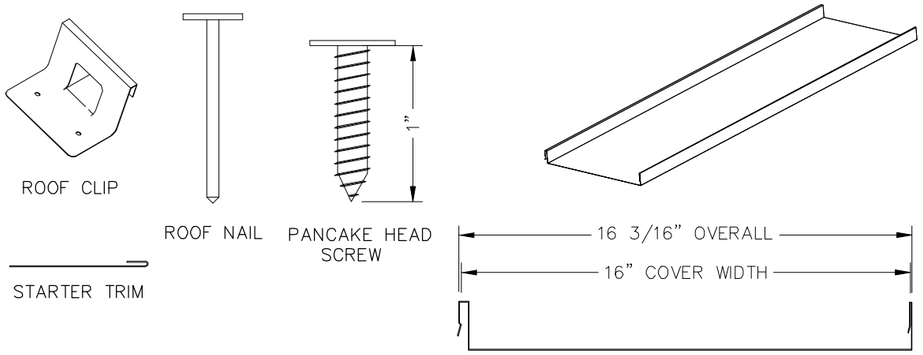
Roof Layout

DRAWN BY:	EG
DATE:	8/26/2019
JOB NO.:	61087
REVISION:	B
BUILDING TYPE:	RG16X18-9TS-P4
PROJECT NAME:	

SHEET 4.0

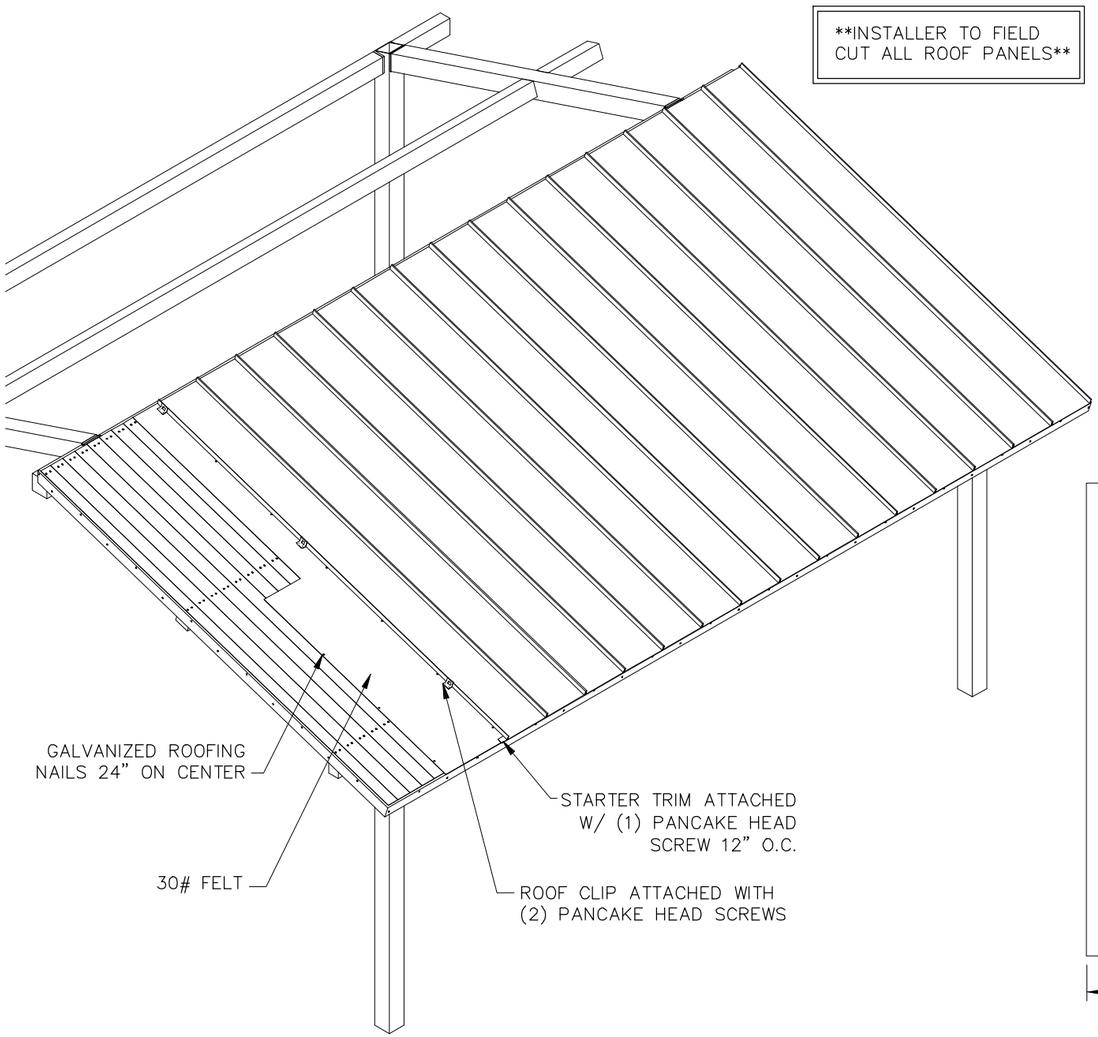
Engineering\AcadStandard\Blocks\Titles\ICONPRETB QF-73-01-42

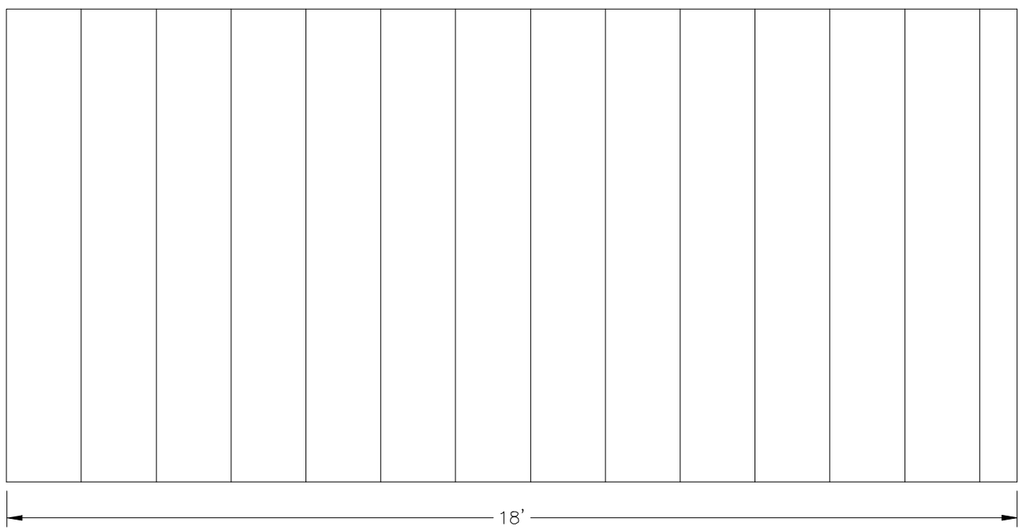
DWG:Shelters\RG\16X18\TS-P4-20-90-117\Drawings\Preliminary\RG16x18TS-P4-25-90-117-REVB~61087.dwg



NOTE: STANDARD DETAILS SHOWN ACTUAL BUILDING MAY VARY

STANDING SEAM PANEL SECTION





PRELIMINARY: NOT FOR CONSTRUCTION

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Roof Layout

DRAWN BY:	EG
DATE:	8/26/2019
JOB NO.:	61087
REVISION:	B
BUILDING TYPE:	RG16X18-9TS-P4
PROJECT NAME:	

SHEET 4.1

Engineering\AcadStandard\Blocks\Titles\CONPRETB QF-73-01-42

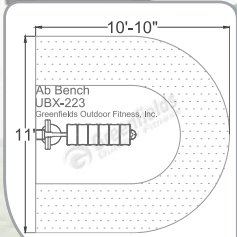
DWG:Shelters\RG\16X18\TS-P4-20-90-117\Drawings\Preliminary\RG16x18TS-P4-25-90-117-REVB~61087.dwg

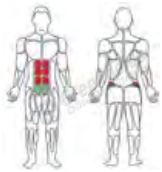
Greenfields Outdoor Fitness®

Promoting Wellness & Fighting Obesity One Community at a Time.™

SIT-UP BENCH

UBX-223





Target muscles

Secondary muscles

Strengthens:

- Abs

VIEW THE VIDEO

Greenfields' units are designed to accommodate the majority of users age 14 and above; however, due to the nature of outdoor fitness equipment, units are "one size fits most".
In order to honor our commitment to quality and safety, Greenfields Outdoor Fitness reserves the right to make changes and revise the design specifications without notice.

Greenfields Outdoor Fitness

Promoting Wellness & Fighting Obesity One Community at a Time.

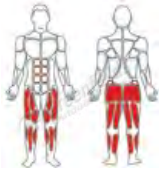
ADJUSTABLE STEPPER

zero recoil for enhanced safety

bidirectional resistance

UBX-292

Equipped with SafeStop

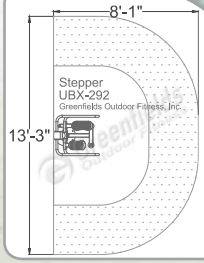


Target muscles

Secondary muscles

Strengthens:

- Glutes
- Legs



The Greenfields Advantage - this unit incorporates SafeStop technology for a workout that's smooth and hazard-free

VIEW THE VIDEO

stepper-video/

Greenfields' units are designed to accommodate the majority of users age 14 and above; however, due to the nature of outdoor fitness equipment, units are "one size fits most".

In order to honor our commitment to quality and safety, Greenfields Outdoor Fitness reserves the right to make changes and revise the design specifications without notice.

SECTION 32 8400- IRRIGATION SYSTEMS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Attention is directed to the Bidding and Contract Requirements and General and Supplemental Requirements, which are hereby made a part of this Section.

1.02 DESCRIPTION OF WORK

A. Field locate and connect to the irrigation water supply as shown on plans.

B. Furnish all labor, materials, supplies, equipment, tools, and transportation, and perform all operations in connection with and reasonably incidental to the complete installation of a complete irrigation system, and guarantee/warranty as shown on the drawings, the installation details, and as specified herein. The system shall be constructed to grades and conform to areas and locations as shown on the drawings. Removal and or restoration of existing improvements, excavation and back-fill, and all other work in accordance with plans and specifications are required. Contractor to acquire all registrations, inspections and permits, controller fees to complete the irrigation system.

B. Extent of irrigation system work is shown on drawings and by provisions of this Section.

C. Sprinkler lines shown on the drawings are essentially diagrammatic. Spacing of the sprinkler heads or quick coupling valves are shown on the drawings and shall be exceeded only with the permission of the Owner's authorized representative.

D. The irrigation system shall include a controlled valve distribution system. CONTRACTOR shall furnish and install equipment as common in the industry, associated piping and incidentals as shown and specified.

E. Items of work specifically included, but not limited to are:
   1. Procurement of all applicable licenses, permits, and fees.
   2. Coordination of all utilities.
   3. Connection of electrical power supply to the irrigation control system.
   4. Sleeving for irrigation pipe and wire.
   5. As-Built Drawings

1.03 RELATED WORK

A. Division 2-Site Work:
   1. Section 32 92 00 – Lawns and Grasses
   2. Section 31 20 00 – Earthwork
   3. Section 32 93 00 – Trees, Shrubs and Ground Cover

1.04 QUALITY ASSURANCE

A. The “Contractor” shall maintain continuously a competent superintendent, satisfactory to the Owner, with authority to act for him in all matters pertaining to the work. The “Contractor” shall coordinate his work with the other trades.

B. The “Contractor” shall confine his operations to the area to be improved and to the areas allotted him by the Owner’s representative for material and equipment storage.

C. The “Contractor” shall have a minimum of 5 years’ experience installing irrigation systems of comparable size and complexity. The contractor shall also have suitable financial status to meet obligations for this project.

D. The contractor is to be a Certified Irrigation Contractor (CIC) through the Irrigation Association. They shall also hold all installer requirements for the state in which this product is located in.

E. Special Requirements:
1. Work involving substantial plumbing for installation of copper piping, backflow preventer(s), and related work shall be executed by licensed and bonded plumber(s). Secure a permit at least 48 hours prior to start of installation.
2. Tolerances: Specified depths of mains and laterals and pitch of pipes are minimums. Settlement of trenches is cause for removal of finish grade treatment, refilling, compaction, and repair of finish grade treatment.
3. Coordination with Other Contractors: Protect, maintain, and coordinate Work with Work under other Section.
4. Damage to Other Improvements: Contractor shall replace or repair damage to grading, soil preparation, seeding, sodding, or planting done under other Sections during Work associated with installation of irrigation system at no additional cost to Owner.

1.05 SUMBITTALS

A. Submit samples under provisions of Section 01 33 00-Submittal Procedures.

B. Materials List: At a minimum include the following, valves, sprinklers, controller, wire, wire connectors, pipe, fittings, valve boxes, swing joints, pipe hangers, electric valves, wire splices, sprinklers, nozzles, fusing devices, grounding components and quick couplers to be used on the project prior to purchasing materials. Quantities of material need not be included.

C. Manufacturer’s Data: Submit manufacturer’s catalog cuts, specifications, and operating instructions for the equipment mentioned above and equipment shown on the materials list.

D. Shop Drawings: If there is a change in the design due to an approved product change prior to bidding, submit shop drawings for acceptance, submit written operating and maintenance instructions. Provide format and contents as directed by the Landscape Architect. Include instruction sheets and parts lists for all operating equipment.

E. Project Record (As-Built) Drawings

1. The CONTRACTOR is to provide the OWNER a scaled drawing of the completed field “As-Built” of the system.
2. The contractor shall use GNSS survey grade equipment to locate all components on the irrigation system. GPS to use sub-decimeter accuracy. All main lines and lateral lines shall be shot in as a continuous point path as the main / lateral lines are walked with the data collector.
3. Components of the system but not limited to, sprinkler heads, electric valves, isolation valves, all PVC and PE piping, quick couplers, PVC pipe sizing, grounding, power wire routes and size and signal wire routes from the controller to the electric valves including wire runs, sensors, grounding locations, decoder fusing devices and any other installed components. All piping shall be referenced in the trench for lengths of run, change in direction and distance and locations of all components referenced in the data collection points.
4. Two final hard copies of the overall drawings with dimension and notes are to be provided to the LANDSCAPE ARCHITECT and OWNER and one copy of the as-built in AutoCAD 2019 digital format at the same scale drawing as provided to the Contractor. Contractor is to provide all GPS data points as separate layers or in a standard format. Drawing is to be georeferenced. Coordinate system shall be NAD83 Illinois State Planes, East Zone, US Foot. The file is to be created in autocadd and not converted to.
5. The contractor is to provide individual controller sequencing sheets in the same format as original drawings and 11” x 17” format. Both submittals shall be laminated and placed as directed by Owner.
6. The contractor is to provide proof of daily field as-builts and notes with pay submittal for each area the pay submittal is being submitted for. All daily sketches shall have the installed components for that day sketched out with dimensions to all components, fittings and layout. Payment will not be approved if progress drawings are not submitted and kept current and payment will not be processed until as-builts are updated.
7. The contractor is to take daily pictures of the work installed for that day prior to any backfilling of the trench and/or in the process of filling the trench. The picture log shall be documented in order of installation and shall be assembled daily and submitted at the end of the project in on a memory stick. The contractor is to provide a sample of the daily as-built log and picture log for approval during the first week of installation.
8. Follow all of the Client’s CAD, GIS guidelines and layer management in creating the as-built.
9. Contractor to submit documentation of GNSS survey equipment including data collector, receiver, and processing software for approval before data is collected.
10. Contractor may coordinate with DESIGNER for as-built creation services.
11. Landscape Architect will not certify any pay request submitted by the Contractor if the as-built drawings are not current, and processing of pay request will not occur until as-builts are updated.

1.06 RULES AND REGULATIONS

A. Work and materials shall be in accordance with the latest edition of the National Electric Code, the Uniform Plumbing Code as published by the Western Plumbing Officials Association, and applicable laws and regulations of the federal, state and local governing authorities.

B. When the contract documents call for materials or construction of a better quality or larger size than required by the above-mentioned rules and regulations, provide the quality and size required by the contract documents.

C. If quantities are provided either in these specifications or on the drawings, these quantities are provided for information only. It is the “Contractor’s” responsibility to determine the actual quantities of all material, equipment, and supplies required by the project and to complete an independent estimate of quantities and wastage.

D. Contractor to provide any plan signatures that are required for irrigation design in the state or jurisdiction in which the project is located in.

E. All sections of the standard specifications applicable to any and all parts of this project shall govern including the following.
1. City, State and municipality of where the project is located
2. American water works association
3. American Society for Testing and Materials (ASTM) – Specifications and Test Methods specifically referenced in this Section
4. Underwriters Laboratories (UL) – UL Wires and Cables.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver irrigation system components in manufacturer’s original undamaged and unopened containers with labels intact and legible.

B. Deliver plastic piping in bundles, packaged to provide adequate protection of pipe ends either threaded or plain.

C. Store and handle materials to prevent damage and deterioration.

D. Provide secure, locked storage for valves, sprinkler heads and similar components that cannot be immediately replaced, to prevent installation delays.

1.08 CODES AND STANDARDS

A. The entire installation shall fully comply with local and state laws and ordinances and with all established codes applicable thereto. Contractor to provide final documents with all licenses and certifications needed for the work in this location.

B. Any permits for the installation or construction of the work included under this contract which are required by any of the legally constituted authorities having jurisdiction, shall be obtained and paid for by the “Contractor”, each at the proper time. He shall also arrange for and pay all costs concerning any inspections and examinations required by these authorities.

C. In all cases where inspection of the sprinkler system work is required and/or where portions of the work are specified to be performed under the direction and/inspection of the Owner’s authorized representative, the “Contractor” shall notify the Owner’s authorized representative at least 72 hours in advance of the time and such inspection and/or direction is required.

D. Any necessary re-excavation or alterations to the system needed because of failure of the “Contractor” to have the required inspections, in the opinion of the Landscape Architect, shall be performed at the “Contractor’s” own expense.

1.09 TESTING

A. Notify the engineer/landscape architect/owner’s representative three days in advance of testing.

B. Pipelines jointed with rubber gaskets or threaded connections may be subjected to a pressure test at any time after partial completion of backfill. Pipelines jointed with solvent-welded PVC joints shall be allowed to cure at least 24 hours before testing.

C. Subsections of mainline pipe may be tested independently, subject to the review of the engineer/landscape architect/owner’s representative.

D. Furnish clean, clear water, pumps, labor, fittings, and equipment necessary to conduct test or retests.

E. Volumetric Leakage Test:
1. Cap riser of mainline components for volumetric pressure tests. Backfill to prevent pipe from moving under pressure. Expose coupling and fitting.
2. Purge all air from the pipeline before test.
3. Subject mainline pipe to the anticipated operating pressure of the system. Maintain constant pressure. Test complete system under full line pressure. Pressure must be maintained with less than 2lbs loss in the system for 4 hours. If the system does not hold pressure, repair leaks and retest system until the system maintains pressure.
4. All necessary testing equipment shall be furnished by CONTRACTOR.
5. Cement or caulking to seal leaks is prohibited.

F. Operational Test:
1. Activate each control valve in sequence from controller. The engineer/ landscape architect/owner’s representative will visually observe operation, water application patterns, and leakage.
2. Replace defective control valve, solenoid, wiring, or appurtenance to correct operational deficiencies.
3. Replace, adjust, or move water emission devices to correct operational or coverage deficiencies.
4. Replace defective pipe, fitting, joint, valve, sprinkler, or appurtenance to correct leakage problems. Cement or caulking to seal leaks is prohibited.
5. Repeat test(s) until each lateral passes all tests. Repeat tests, replace components, and correct deficiencies at no additional cost to the owner.

1.10 CONSTRUCTION REVIEW

A. The purpose of on-site reviews by the engineer/landscape architect/owner’s representative is to periodically observe the work in progress, the “Contractor’s”

interpretation of the construction documents, and to address questions with regard to the installation.

B. Scheduled reviews such as those for irrigation system layout or testing must be scheduled with the engineer/landscape architect's/owner's representative as required by these specifications.

C. Impromptu reviews may occur at any time during the project.

D. A review may occur at the completion of the irrigation system installation and project record (as-built) drawing submittal.

1.11 GUARANTEE/WARRANTY AND REPLACEMENT

A. It shall be the "Contractor's" responsibility to ensure and guarantee satisfactory operation of the entire system and the workmanship and restoration of the area. The entire system shall be guaranteed to be complete and perfect in every detail for a period of one year from the final acceptance and he hereby agrees to repair or replace any such defects occurring within that year, free of expense to the Owner.

B. Minor maintenance and adjustment shall be by the Owner.

C. For a period of one year from commencement of the final acceptance, fill and repair depressions or settling more than one inch (1"). Restore landscape or structural features damaged by the settlement of irrigation trenches or excavation. Repair damage to the premises caused by a defective item.

D. Make repairs with in seven (7) days of notification from the engineer/landscape architect/owner's representative.

E. Contract documents govern replacements identically as with new work. Make replacements at no additional cost to the contract price.

G. Guarantee/warranty applies to originally installed materials, equipment, and replacements made during the guarantee/warranty period. Equipment salvaged and re-used shall not be warranted unless the original warranty is still in effect. The workmanship shall be warranted.

1.12 START-UP AND SEASONAL MAINTENANCE

A. Coordinate the start-up with the Owner's landscape maintenance personnel.

B. "Contractor" shall provide seasonal maintenance of the system for a period of two years as part of this contract and will provide written instructions to the Owner for future service and maintenance.

C. The seasonal maintenance begins after final acceptance of the irrigation system.

D. Return to the site during the subsequent spring season and demonstrate to the Owner the proper procedures for the system start-up, operation and proper

maintenance. Repair any damage caused within the warranty period, adjust pressures, and adjust nozzles at no additional cost to the owner.

E. After completion, testing and acceptance of the system, the “Contractor” will instruct the Owner’s personnel in the operation and maintenance of the system.

1.13 PROJECT CONDITIONS

A. Retain this article if interruption of existing water service is required.

1. Protection of Property:
   2. Preserve and protect all trees, plants, monuments, structures, and paved areas from damage due to Work of this Section. In the event damage does occur, all damage to inanimate items shall be completely repaired or replaced to satisfaction of Owner, and all injury to living plants shall be repaired by Contractor. All costs of such repairs shall be charged to and paid by Contractor.
   3. Protect buildings, walks, walls, and other property from damage. Flag and barricade open ditches. Damage caused to asphalt, concrete, or other building material surfaces shall be repaired or replaced at no cost to Owner. Restore disturbed areas to original condition.

B. Existing Trees:
   1. All trenching or other Work under limb spread of any and all evergreens or low branching deciduous material shall be done by hand or by other methods so as to prevent damage to limbs or branches.
   a) Where it is necessary to excavate adjacent to existing trees, use all possible care to avoid injury to trees and tree roots. Excavation, in areas where 2 inch and larger roots occur, shall be done by hand. Roots 2 inches or larger in diameter, except directly in the path of pipe of conduit, shall be tunneled under and shall be heavily wrapped with burlap to prevent scarring or excessive drying. Where a trenching machine is operated close to trees having roots smaller than 2 inches in diameter, wall of trench adjacent to tree shall be hand trimmed, making clean cuts through roots. Trenches adjacent to trees shall be closed within 24 hours, and when this is not possible, side of trench adjacent to tree shall be kept shaded with moistened burlap or canvas.

C. Protection and Repair of Underground Lines:
   a) Request proper utility company to stake exact location (including depth) of all underground electric, gas, or telephone lines. Take whatever precautions are necessary to protect these underground lines from damage. If damage does occur, Utility Owner shall repair all damage. Contractor shall pay all costs of such repairs unless other arrangements have been made.
   b) Contractor to locate all private utilities (i.e., electrical service to outside lighting) before proceeding with excavation. If Contractor damages staked or located utilities, they shall be repaired by Utility Owner at Contractor's expense unless other arrangements have been made.

D. Replacement of Paving and Curbs:

a) Where trenches and lines cross existing roadways, paths, curbing, etc., damage to these shall be kept to a minimum and shall be restored to original condition at no additional cost to the project.

2. Interruption of Existing Water Service: Do not interrupt water service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary water service according to requirements indicated:
   a) Notify Owner and Engineer or Record no fewer than three days in advance of proposed interruption of water service.
   b) Do not proceed with interruption of water service without local written permission.

PART 2 – MATERIALS

2.01 GENERAL

Use materials that are new and without flaws or defects of any type, and which are the best of their class and kind. All material overages at the completion of the installation are the property of the "Contractor" and are to be removed from the site.

A. Each major component of equipment shall have manufacturer's name, address, catalog and serial number permanently attached in a conspicuous place.

B. The same brand or manufacturer shall be used for each specific application of valves, fittings, controls, and other equipment.

C. All materials shall be new and of the quality specified.

D. All equipment shall be listed, approved or rated by a nationally recognized testing and rating bureau of recognized manufacturer's association responsible for setting industry standards. All electrical equipment and apparatus shall be U.L. listed.
   1) Acceptable irrigation manufacturers – As indicated on the drawings or approved equal.

2.02 SUBSTITUTIONS

A. Equipment Substitutions
   1. Whenever a piece of equipment or material is identified by a manufacturer's trade name, catalog number, etc., it is intended merely to establish a standard; and any equipment of another manufacturer which will perform adequately the requirements of design and is of equal or greater quality than the specifications in the opinion of the LANDSCAPE ARCHITECT will be considered equally acceptable.
   2. The specifications shall permit use of materials of any nationally recognized manufacturer so long as they are fully equal to quality and performance of named item in opinion of LANDSCAPE ARCHITECT. Materials or equipment of other manufacturers may be used upon following conditions.
      a. Proposed substitute is equal in design, materials, construction and performance in opinion of LANDSCAPE ARCHITECT. No compromise in quality level will be allowed.

b. Service capabilities, availability of service parts, and stability of manufacturer are adequate in opinion of LANDSCAPE ARCHITECT.
c. CONTRACTOR assumes responsibility for any modifications required for installation of substitute equipment and for accommodation of such substitution by work of other contractors. Any additional expense on part of other contractors or OWNER due to substitution of equipment shall be borne by CONTRACTOR making such substitution.
d. Substitute equipment shall fit into space provided with adequate provisions for service and maintenance.

The Contractor shall use materials as specified. Material other than specified will be permitted only after written application by the “Contractor” and written approval by the Landscape Architect. Substitutions will only be allowed when in the best interest of the Owner. Substitutions shall be approved equal prior to bidding.

2.03 SLEEVING

A. Install separate sleeve beneath paved areas to route each run of irrigation pipe or wiring bundle.
1. All sleeving shall be SDR21 PVC Class 200 pipe with solvent welded joints.
2. Sleeving diameter: equal to twice that of the pipe or as indicated on drawings. Minimum wire sleeve to be 2” unless indicated.
3. Sleeve pipe and wire separately.
4. For 90 angles use 24” radius long sweep ells on electrical conduit.
5. All piping in sleeves are to be glued, no gasketed pipe will be allowed in the sleeve.
6. Contractor to coordinate sleeving with other trades for the landscaping, building penetrations and interior irrigation piping runs.

2.04 PIPE AND FITTINGS

A. Mainline Pipe and Fittings ; Large Rotor Lateral Pipe and Fittings
1. Use rigid, unplasticized polyvinyl chloride (PVC) 1120, 1220 National Sanitation Foundation (NSF) approved pipe, extruded from material meeting the requirements of Cell Classification 12454-A or 12454-B, ASTM Standard D1784, with an integral belled end.
2. Use Class 200, SDR-21, rated at 200 PSI, conforming to the dimensions and tolerances established by ASTM Standard D2241. Use PVC pipe rated at higher pressures than Class 200 in the case of small nominal diameters that are not manufactured in Class 200.
3. Use rubber-gasketed pipe equipped with Reiber Gasket System for mainline pipe with a nominal diameter 3 inches and greater. Contractor may also use gasketed pipe on 2.5” if desired. Use rubber-gasketed deep bell ductile iron fitting conforming to ASTM A-536 and ASTM F-477 by LEEMCO or approved equal for all fittings 4” and larger. Use lubricant approved by the pipe manufacturer. Size slip fitting socket taper to permit a dry unsoftened pipe end to be inserted no more than halfway into the socket. Saddle and cross fittings are not permitted. Mainline pipe going through sleeves shall be solvent weld. No gasketed pipe is allowed in sleeves.

4. Use solvent weld pipe for mainline pipe with a nominal diameter 1.5", 2", 2.5" and 3" and less or where a pipe connection occurs in a sleeve. Use Schedule 40, Type 1, PVC solvent weld fittings conforming to ASTM Standard D2466 and D1784. Use primer approved by the pipe manufacturer. Solvent cement to conform to ASTM Standard D2564. S-40 fitting may be used on 3" diameter and less. Use ductile iron fittings on 4" and greater.
5. Provide pipe homogeneous throughout and free from visible cracks, holes, foreign materials, blisters, wrinkles and dents.
6. Provide pipe continuously and permanently marked with manufacturer's name and trademark, size schedule and type of pipe working pressure at 73 degrees F. and (NSF) approval.
7. Pipe sizes referenced in the construction documents are minimum sizes and may be increased at the option of the "Contractor" at no cost to the Owner.
8. All pipes damaged or rejected because of defects shall be removed from the site at the time of said rejection.
9. All mainlines and sleeves are to have a metallic tracer tape placed 6" from the surface. The tape shall be 3" wide and indicate "Buried water below". Sleeves shall have tape brought just below the surface at the ends for ease of locating or terminated in valve boxes. Loop tape into and out of all valve boxes.
10. Contractor is to run a #14 gauge direct bury UL-listed wire along the mainline and loop into each gate valve, quick coupler, or other mainline component valve box. Label all wire loops in valve boxes. Use a purple jacketed wire for mainline runs. Tape tracer wire to the pipe every 15 feet.

B. Specialized Pipe and Fittings:
1. Assemblies calling for threaded pipe connections shall use PVC Schedule 80 nipples and PVC Schedule 40 threaded fittings. All fittings shall be by LEEMCO.
2. Joint sealant: Use only Teflon-type tape on plastic threads.
3. Ductile iron fittings: Joint Restraints – all isolation valves shall have a joint restraint system by LEEMCO or approved equal. All ductile iron fittings shall be slanted, deep bell, gasketed style made in accordance with ASTM-A-536, Grade 65-45-12. Fittings shall have four lugs to accommodate joint restraints and other fittings. Bell sections shall allow 5-degree freedom of pipe deflection within the bell end. Gasket design shall be rib-enforced "U-Cup" configuration to seal and assist in restraining pipe at all pressures. Fittings shall be manufactured by LEEMCO or approved equal.
4. Use joint restraints on gasketed tees and 90 ells gasketed joints by LEEMCO or approved equal in addition to concrete thrust blocks.
5. Contractor may substitute joint restraints in place of thrust blocks. If joint restraints were to be used, a joint restraint plan must be submitted for approval prior to construction.

C. Thrust Blocks:
1. Use thrust blocks for fitting on pipe utilizing a rubber gasket pipe.
2. Use 3,000 – PSI concrete.
3. Use 2-mil plastic to encapsulate the fitting or valve.
4. Follow pipe manufacturers' requirements for thrust blocking.

2.05 SPRINKLER COMPONENTS

A. Sprinkler Assembly: As presented in the drawings and installation details. When required use the sprinkler manufacturer's pressure compensating screens or bodies to achieve operating conditions on each spray head sprinkler and to control excessive operating pressures.

2.06 CONTROL SYSTEM COMPONENTS:

A. Irrigation Controller: Hunter Industries A2C-75D-SS Stainless Steel Wall Mount, Decoder Controller.
1. Hunter A2C Series controller factory mounted in a stainless steel enclosure. (#A2C-75D-SS). The controller shall be mounted on the inside of the well equipment fenced area as per the details.
2. All wiring to be run in electrical conduit to and from the controller per local code.
3. Controller is to be installed and grounded per manufacture recommendations.
4. Power to the controllers will be provided by the Owner. The contractor will be responsible for making the connection from the power drop to the controller. The controller will be mounted as directed by the Owner. Provide and install a Paige Electric 250090LED lightning surge arrestor on the power to the controller.
5. Product manufacturer and local distributor are to provide base training for the operation of the controllers at no cost to the Owner. The distributor and contractor shall have complete knowledge of the operation and programming background of the Hunter system.
6. Contractor to fill out the manufactures' warranty application and provide approved copies to the Owner from all products prior to final acceptance.
7. Use Hunter single station decoders (#ICD-100) as required.
8. Install separate conduit for power, 2-wire cable, and grounding per manufactures guidelines.
9. Install a Hunter Industries External status light kit (model #A2CLEDKT) as per manufacture directions.

B. Control Wire:
2-wire path
1. 2-wire decoder wire shall be Hunter wire ID1RED #14 gauge twisted pair wire by Hunter Industries or Paige Wire.
2. Color: Wire color shall be continuous over its entire length. Refer to drawings for jacket colors.
3. Splices: Use 3m DBR/Y-6 wire connector with waterproof sealant. Wire connector to be of plastic construction.
4. Wire Markers: Pre-numbered or labeled with indelible non-fading ink, made of permanent, non-fading material.
5. All wiring to be install following existing local and state codes.

C. Instrumentation:
1. As presented in the drawing and installation details.
2. Rain Sensor: Hunter Industries RFC (Wired Rain and Freeze Sensor). One per controller. The sensor shall be mounted near the controller and is able

to gather all of the necessary data without interference. Coordinate with Owner for proposed mounting location.

3. The rain sensor shall be mounted in a location that will be vandal resistant and is able to gather all of the necessary data without interference. Coordinate with Owner for proposed mounting location.

D. Power Wire:
1. Electric wire from the power source to control unit shall be solid or stranded copper. Type UF single-conductor cable, UL approved for direct underground burial. Power wires shall be black, white and green in color.
2. Splices: Use approved connectors.
3. Conduit: Per local code
4. Follow all local and state codes.

E. Electric Control Valves
1. All valves shall be of globe or globe/angle configuration with a female pipe thread inlet and outlet connections. Diaphragm assembly shall be sonically welded to form a solid-piece component. The diaphragm shall be of rubber construction to retain flexibility and provide maximum sealing throughout its area.
2. Electric valves shall be Hunter PGV, 1”, 1.5”, and 2” series electric valves. The valve shall have a manual flow control with a hand-operated, rising-type flow control stem with control wheel/handle and an internal manual bleed assembly. Size per plan.
3. All parts shall be serviceable without removing valve from line. Valve may be installed at any angle without affecting valve operation.
4. 22” solenoid lead wires shall be attached to a 24 VAC solenoid with waterproof molded coil capable of being removed by turning coil. Valve shall be held normally closed by internal water pressure with manual bleed screw.
5. The legend and flow arrow shall be applied at all valve locations. Valve numbering shall be located so as to be conspicuous and legible. The controller and valve numbering can be engraved in black on a yellow plastic tag, by Christy’s Enterprise or equal. The tag size shall be standard size of 2.25” x 2.66”. An additional ID tag is to be attached by plastic zip tie to the electric valve.

F. Valve Boxes
1. Valve boxes shall be manufactured by Rain Bird VB series or approved equal and shall be rectangular, 12” /w 6” extension or 6” and 10” round and have locking “T” lid tops. Valve box lids in turf areas to be green; valve box lids in plantings to be brown or black.
2. Valve box shall be of a size that provides adequate space for valve repairs. For decoder systems and valve boxes with the decoder, two valves per 12” rectangular box, other wise 1 electric valve per smaller valve box. A 10” round valve box may be used for isolation valves, quick couplers and wire drops only.
3. The valve box cover shall have the component markings heat stamped into the cover with minimum 1.5” high, maximum 2” high lettering. Use the following symbols for corresponding components in the valve box.
   GV – for Gate Valves
   EV – for Electric Valves
   WS – for Wire Splice

QC – for Quick Coupler
SEN – for Sensor wire splice locations
GRD – for grounding splice and rod locations
Valve numbering – for each zone
Other – Label as needed

The final valve numbering shall also be branded into the tops with electric valves. Contractor may find an example of the branding tool at Brand New Industries Inc., Product # VB2x3.

4. Contractor to coordinate location of valve boxes that are ganged together in clusters of three or more in planting beds with the Landscape Architect. Receive his approval of locations prior to installation.

G. Quick Coupler Valves
1. Valves shall be 1” Hunter HQ44-LRC with yellow cover series valves or approved equal. The quick coupling shall have a yellow locking vinyl cover. Provide matching key and 1” hose swivel.
2. Quick coupler valves are to be mounted on a LASCO joint with brass MIPT threads and placed in a 10” round valve box. The valve box is to be filled with 3/8” clear chip gravel, compacted as detailed. Ensure proper quick coupler height when backfilling.

H. Swing Joints
1. Triple Joint Swing Joints riser assemblies shall have a working pressure rating of 315 psi @ 73F. The swing joint shall have O-rings at each swivel joint. The inlet and outlet sockets and threads conforming to ASTM standards D 2467 and D 2464, respectively. The body wall thickness of all components conforming to ASTM D 2464.
2. The swing joint riser assemblies will be molded of Rigid Poly (vinyl) Chloride (PVC) Type 1, Cell Classification 12454-B per ASTM Standard D 1784. It shall be manufactured in such a way, that both the male and female O-ring sealing areas be free from mold parting lines. The burst pressure tested per ASTM D2467 and the long-term pressure tested at 1,000psi for 1,000 hours.
3. The swing joint shall have a five-year warranty for the swing joint. The large sprinkler swing joint shall have a minimum length 12” riser and quick coupler swing joints shall have a minimum length 12” and be by LASCO or approved equal. The threads shall correlate to sprinklers, quick couplers and related components. Quick Coupler Swing Joints are to have a brass male threaded outlet 90 ell outlet to enter the bottom of the quick coupler.
4. Contractor is responsible for final lay length of the riser to ensure a 45-degree lay angle. If longer or shorter risers are needed, they will need to provide them.
5. The swing joint is to have the Snap-Loc fitting with a 1” PVC pipe horizontal stabilizer, 24” in length.
6. Swing Joints are to be by Lasco.

I. Sprinkler Heads – Gear Drives 6” Hunter I-40-06-SS-ON and Hunter I-40-06-SS part circle heads
1. The large diameter gear drive sprinklers shall be a Hunter Industries I-40 stainless-steel with check valve, pop-up sprinkler or approved equal. Sprinkler shall be mounted flush with final grade.

2. Retraction shall be achieved by a heavy-duty steel retraction spring. Sprinkler housing shall be of high impact molded plastic. Sprinkler shall have a large strainer so as to prevent nozzle clogging. Sprinkler shall be constructed such that it is serviceable from top in that drive assembly, screen, and all internal components are accessible throughout top of sprinkler without disturbing case installation. The drive shall be water lubricated and have a drain check valve for up to 7 feet. Radius reductions shall be adjustable by up to 25% by means of adjustment screws accessible from the top of the cap when the sprinkler is properly installed.
3. Type and location of heads shall be as shown on plan. Sprinkler heads shall be mounted on a double swing S-80 PVC swing joint by Lasco or approved equal. Riser length of pipe to be minimum of 10". Contractor is responsible to verify lay length and provide the correct riser length for the pipe depth.
4. Coordinate head set height with grounds / landscape architect.

J. Solvent Weld Fittings
1. Solvent weld PVC fittings shall be Schedule 40, ASTM D-2466 and ASTM D-1784. PVC Schedule-40 fittings shall be produced from PVC Type 1, Cell Classification 1245B. Fittings shall be manufactured by LASCO or approved equal. All solvents and cements shall be that recommended by the manufacturer.
2. S-80 PVC fittings may be used and may be threaded or solvent weld. S-80 TOE Nipples with S-80 couplings for plastic to metal connections. (S-80 nipples cut in half will not be allowed)

P. Gate / Isolation Valves
1. Isolation valves 2", 2.5" and 3" shall be ductile iron resilient seated globe valves. Valve body and restraint clamps shall be constructed of ductile iron per ASTM A-536, Grade 65-42-12. Epoxy coating on all interior and exterior surfaces shall be fusion bonded epoxy, 10-12 mil thickness. Valve mechanism and hardware shall be made of 100% 304-series stainless steel. The valve stem shall be fine threaded stainless steel, O-ring sealed for ease of operation. Valve outlet shall be deep bell gasket and equipped with integrally cast joint restraint clamps to securely fasten pipe to the valve. Restraint shall have blunt cast serrations. Valves shall be made by LEEMCO or approved equal.
2. Valves shall be LEEMCO LGV-BB Series.

K. Thrust Blocks
1. Thrust blocks will be installed at all gasketed tees, bends, reducer fittings and ends of pipelines. Thrust blocks will be poured in forming material, placed between undisturbed soil and the fitting to be thrust blocked. Preformed Concrete blocks will not be allowed. Concrete materials will be the Contractor's responsibility to provide.
2. Size of thrust block will be determined by the soil type, size of pipe and pipe/fitting manufacturers thrust block charts.

L. Grounding
1. The contractor will be responsible to provide earth grounding of 2 –wire ohm reading of not more than 10 ohms. The contractor is to provide the Paige Electric equipment part # 182201IC for the grounding plate assemble 4" x 36" plate with #10 gauge wire lead, part # 182000IC6 for the a pre-

welded wire to rod 5/8" x 8' with #6 wire, and part #1020058 for the PowerSet earth contact material, #50lb on top of the plate and #50lbs below. This equipment shall be installed by the contractor per the Paige Electric instructions. The irrigation distributor supplying the controller to check all ohm readings with a megger and provide a document signed by the distributor that all readings are under 10ohms. Contractor is responsible for making adjustments to achieve this reading.

2. All grounding connections to the plate, rods, decoder fusing devices and surge are to be completed with a re-enterable connector # 270RCx by Paige or approved equal.

2.07 OTHER COMPONENTS

A. Tools and Extra Equipment
   1. The contractor is to provide to the Owner, (2) sets of tools to repair and work on all equipment specified in this irrigation section.
   2. The contractor is to provide the Owner with (2) sprinkler heads and nozzles of each type specified and used, (1) electric valve of each size used.
   3. The contractor shall provide to the Owner, two (2) keys and two (2) hose swivel matching the quick coupling valve installed.
   4. One (1) 5' valve wrenches for gate valves are to be provided.
   5. Twenty (20) 3m DBR/Y-6 wire connectors
   6. One (1) S-80 swing joint used for quick couplers with Brass MIPT.
   7. Two (2) S-80 swing joint used for sprinkler heads.
   8. Two (2) Hunter ICD-100 Single Station Decoders

B. Other Materials: Provide imported fill material as required to complete this work. Provide other materials or equipment shown on the drawings or installation details, which are part of the irrigation system, although such items may not have been referenced in these specifications.

PART 3 – EXECUTION

3.01 INSPECTION AND REVIEWS

A. Site Inspections:
   1. The bidder acknowledges that he has examined the site, plans and specifications, and the submission of a proposal shall be considered evidence that examination has been made.
   2. Verify construction site conditions and note irregularities affecting work of this section. It shall be the contracting installer's responsibility to report to the Owner's authorized representative any deviations between drawings, specifications and the site. Failure to do so before the installing of equipment and resulting in replacing and/or relocation of equipment shall be done at the "Contractor's" expense.
      a. Examine final grades and installation conditions. Do not start irrigation system work until unsatisfactory conditions are corrected.
      b. Beginning work of this section implies acceptance of existing conditions.

B. Utility Locations:
1. The exact location of all existing utilities and structures and underground utilities are not indicated on the drawings; their locations shall be determined by the “Contractor”, and he shall conduct his work so as to prevent interruption of service or damage to them.
2. Arrange for and coordinate with local authorities the location of all underground utilities.
3. Repair any underground utilities damaged during construction. Make repairs at no additional cost above the contract price.
4. The “Contractor” shall protect existing structures and utility services and be responsible for their replacement if damaged by him.

C. Irrigation System Layout Review:
1. Irrigation system layout review will occur after the staking has been completed unless specifically waived by the Landscape Architect. Notify the engineer/landscape architect one week in advance of review.
2. The engineer/landscape architect at this review will identify modifications.

D. STATIC PRESSURE VERIFICATION

1. Contractor shall field verify the static pressure at the project site, prior to commencing work or ordering irrigation materials, and submit findings, in writing, to Consultant. If Contractor fails to verify static water pressure prior to commencing work or ordering irrigation materials, Contractor shall assume responsibility for all costs required to make system operational and the costs required to replace any damaged landscape material. Damage shall include all required material costs, design costs and plant replacement costs.

3.02 LAYOUT OF WORK

A. Stake out the irrigation system. Items staked include: Sprinklers, pipe, control valves, manual drains, quick coupling valves, controller, isolation valves and any misc. components.

B. Install all mainline pipe and mainline components inside of project property lines.

C. Minor adjustments in system layout will be permitted to clear existing fixed obstructions. Final system layout shall be acceptable to the Landscape Architect.

3.03 EXCAVATION, TRENCHING, AND BACKFILLING

A. Excavating shall be considered unclassified and shall include all materials encountered, except materials that cannot be excavated by normal mechanical means.

B. Excavate to permit the pipes to be laid at the intended elevations and to permit workspace for installing connections and fittings.

C. Minimum cover (distance from top of pipe or control wire to finish grade):
1. 24-inch over top of pipe, mainline pipe.
2. 24-inch over top of pipe, lateral pipe

3. 20-inch over control wire, follow local and state requirements if they dictate a deeper bury depth.

D. PVC lateral pipes 2 1/2” and smaller may be pulled into the soil using a vibratory plow device specifically manufactured for pipe pulling, if in the opinion of the Landscape Architect that conditions are suitable. Minimum burial depths equal minimum cover listed above provided soil moisture content and other conditions are suitable to allow for full depth of the right to determine suitability or conditions.

E. Backfill only after lines have been reviewed and tested.

F. Excavated material is generally satisfactory for backfill. Backfill shall be free from rubbish, vegetable matter, and stones larger than 2 inches in maximum dimension. Remove material not suitable for backfill. Backfill placed next to pipe shall be free of sharp objects, which may damage the pipe.

G. Backfill unsleeved pipe by depositing the backfill material equally on both sides of the pipe in 6-inch layers and compacting each layer to 90% Standard Proctor Density, ASTM D698-78. Use of water for compaction, “puddling,” will not be permitted.

H. Enclose pipe and wiring beneath roadways, walks, curbs, etc., in sleeves. Minimum compaction of backfill for sleeves shall reference geotechnical report for compaction requirements. Use of water for compaction around sleeve, “puddling,” will not be permitted.

I. Dress backfilled areas to original grade. Incorporate excess backfill into existing site grades.

I. Where utilities conflict with irrigation trenching and pipe work, contact the engineer / landscape architect for trench depth adjustments.

J. Provide approved fine-grained earth fill or sand to point 4” above the top of pipe, where soil conditions are rocky or otherwise objectionable.

L. Excavate trenches and install piping and backfill during the same working day. Do not leave open trenches or partially-filled trenches open overnight.

M. The CONTRACTOR will be responsible for all finish and fine grading of trenches, disturbed areas around sprinklers heads, electric valves and any other excavated or disturbed areas by the CONTRACTOR. Contractor will also be responsible for all trench settling throughout the project during the one-year warranty period. If settling occurs, the contractor will repair and bring back to originally set grade.

N. When additional backfill material is needed to replace the unsuitable materials, it will be the CONTRACTOR’S responsibility and expense to supply such material. It will also be the CONTRACTOR’S responsibility to dispose of the unsuitable material.

O. Clearances:

1. Piping 3 Inches and Larger - Make trenches of sufficient width to properly assemble and position pipe in trench. Minimum clearance of piping 3 inches or larger shall be 2 inches horizontally on both sides of the trench.
2. Piping Smaller than 3 Inches - Trenches shall have a minimum width of 6 inches.
3. Line Clearance - Provide not less than 6 inches of clearance between each line and not less than 12 inches of clearance between lines of other trades.

4. PVC Piping - Snake pipe in trench as much as possible to allow for expansion and contraction. Do not install pipe when air temperature is below 40~F. Place manual drain valves at low points and dead ends of pressure supply piping to insure complete drainage of system. When pipe installation is not in progress, or at end of each day, close pipe ends with tight plug or cap. Perform Work in accordance with good practices prevailing in piping trades.

5. Solvent Weld PVC Pipe - Lay pipe and make all plastic to plastic joints in accordance with manufacturer's recommendations.

6. Gasketed End Pipes
   a. Lay pipe and make pipe to fitting or pipe to pipe joint, following OR70 recommendations (Johns-Manville Guide for Installation of Ring-Tite Pipe), or pipe manufacturer's recommendations.
   b. Construct concrete thrust blocks on gasketed pipe behind all gasketed fittings, tees, bends, reducers, line valves, and caps in accordance with pipe manufacturer's recommendations. Contact Landscape Architect prior to placing thrust blocks, for observation of thrust block excavation and initial placement. Thrust block bearing surface shall be calculated based on tables below. All bearing surfaces shall be undisturbed soil:

THRUST BLOCK SIZING GUIDE
Thrust developed per 100 PSI pressure (lbs. force) for various fitting configurations.

Pipe Size	Fitting 90 deg. Elbow	Fitting 45 deg. Elbow	Valves, Tees Dead Ends
3	1,000	600	800
4	1,800	1,100	1,300
6	4,000	2,300	4,900
8	7,200	4,100	7,100

Approximate bearing strength of typical soils.

Soil Type	Lbs/ft 2
Mulch, Peat, etc.	0
Soft Clay	500
Sand	1,000
Sand and Gravel	1,500
Sand and Gravel with Clay	2,000
Sand and Gravel Cemented with Clay	4,000

Hard Pan	5,000

Example Calculation: 6 inch 90 degree elbow in sand and gravel soil

Bearing Surface Area (square feet) = 4,000 lbs / 1,500 lbs/ ft 2
= 2.67 square feet bearing surface area
on undisturbed soil

i. Flexible Plastic (Polyethlene) Pipe – Lay pipe and assemble fittings following manufacturer's recommendations.

3.04 WORKMANSHIP

A. All work shall be done by qualified irrigation installers that are knowledgeable and experienced in operations they are performing. Installation methods, procedures and materials shall be in accordance with accepted industry practice and with standards of manufacturing and contracting associations applicable to the work. All work shall be neatly done with special emphasis on appearance of work exposed to view.

3.05 SLEEVING AND BORING

A. Install sleeving at a depth that permits the encased pipe or wiring to remain at the specified burial depth.

B. Extend sleeve ends 2 feet beyond the edge of the paved surface. Cover pipe ends and mark with stakes. Place a small chiseled "X" on the hard surface to mark the location of the sleeve.

C. Bore for sleeves under obstructions that cannot be removed. Employ equipment and methods designed for horizontal boring.

3.06 ASSEMBLING PIPE AND FITTING:

A. General:
1. Keep pipe free from dirt and pipe scale. Cut pipe ends square and deburr. Clean pipe ends.
2. Keep ends of assembled pipe capped. Removed caps only when necessary to continue assembly.
3. All mainline and continuously pressurized pipe is to be installed using open trenches. Lateral pipe may be installed by "plowing" if soil conditions permit, and soils do not contain gravel, rock, construction debris, or other potential damaging material.
4. Trenches may be curved to change direction or avoid obstructions within the limits of the curvature of the pipe.

B. Mainline, lateral piping and Fittings:
1. Use only strap-type friction wrenches for threaded plastic pipe.
2. PVC Rubber-Gasketed Pipe:

a. Use pipe lubricant. Join pipe in the manner recommended by manufacturer and in accordance with accepted industry practices.
b. Epoxy-coated steel fittings shall not be struck with a metallic tool. Cushion blows with a wood block or similar shock absorber.

3. PVC Solvent Weld Pipe:
   a. Use a primer and solvent cement. Join pipe in a manner recommended by the manufacturer and in accordance with accepted industry practices.
   b. Cure for 30 minutes before handling and 24 hours before allowing water in pipe.
   c. Snake pipe from side to side within the trench.
4. Fittings: the uses of cross type fittings are not permitted.
5. Install thrust blocks on the mainline pipe work in accordance with pipe manufacturer's written instructions.

D. Specialized Pipe and Fitting:
1. Low-Density Polyethylene Hose: Install per manufacturer's recommendations.
2. PVC Threaded Connections:
   a. Use only factory-formed threads. Field-cut threads are not permitted.
   b. Use only Teflon-type tape.
3. Threaded Connections:
   a. Make metal-to-metal, threaded connections with Teflon-type tape applied to the male threads only.

C. Thrust Blocks:
1. Use cast-in-place concrete bearing against undisturbed soil.
2. Orientation and placement shall be as shown on the installation details, size per manufacturer's recommendations.
3. Wrap fitting with plastic to protect bolts, joint and fitting from concrete.

3.07 INSTALLATION OF SPRINKLER AND IRRIGATION COMPONENTS:

A. Remote Control Valve (RCV) Assembly:
1. Flush mainline before installation of RCV assembly.
2. Install where indicated on the drawing. Wire connectors and waterproof sealant shall be used to connect control wires to remote control valve wire. Install connectors and sealant per the manufacturer's recommendations.
3. Install only one RCV to a valve box. Locate valve box at least 12 inches from and align with nearby walls and edges of paved areas. Group RCV assemblies together where practical. Arrange grouped valve boxes in rectangular patterns. Allow at least 12 inches between valve boxes.
4. Adjust RCV to regulate the downstream operating pressure.
5. Attach ID tag with controller station number to control wiring.

B. Sprinkler Assembly:
1. Flush lateral pipe before installing sprinkler assembly.
2. Install per the installation details at locations shown on the drawings.
3. Locate rotor sprinklers 6 inches from adjacent walls, fences or edges of paved areas.

4. Locate spray sprinklers 3 inches from adjacent walls, fences or edges of paved areas.
5. Install sprinklers perpendicular to the finish grade.
6. Supply appropriate nozzle or adjust arc of coverage of each sprinkler for best performance.
7. Adjust the radius of throw of each sprinkler for best performance.

3.08 INSTALLATION OF CONTROL SYSTEM COMPONENTS:

A. Irrigation Controller Unit:
1. The location of the controller unit as depicted on the drawings is approximate the engineer/landscape architect/owner's representative will determine the exact site location during sprinkler layout review.
2. Attach wire markers to the ends of control wires inside the controller unit housing. Label wires with the identification numbers (see drawings) of the remote-control valve to which the control wire is connected.
3. Connect control wires to the corresponding controller terminal.

B. Control Wire:
1. Bundle control wires where two or more are in the same trench. Bundle with pipe wrapping tape at 15-foot intervals.
2. Control wiring may be chiseled into the soil using a vibratory plow device specifically manufactured for pipe pulling and wire installation. Appropriate chisel must be used so that wire is fed into a chute on the chisel, and wire is not subject to pulling tension. Minimum burial depth must equal minimum cover previously listed.
3. Provide a 24-inch excess length of wire in an 8-inch diameter loop at 90-degree change of direction, at both ends of sleeves and at 100-foot intervals along continuous runs of wiring. Do not tie wiring loop. Coil 24-inch length of wire within each remote-control valve box.
4. If a control wire must be spliced, make splice with wire connectors and waterproof sealant, installed per the manufacturer's instructions. Locate splice in a valve box that contains an irrigation valve assembly, or in a separate 10-inch round valve box.
5. Use same procedure for connection to valves as for in-line splices.
6. Protect wire not installed with PVC mainline pipe with a continuous run of warning tape placed in the backfill six inches above the wiring.

C. Instrumentation:
1. Install sensor per the installation details and manufacturer's recommendations. Install at locations shown on the drawings.
2. Install electrical connections between central control unit components and sensors per manufacturer's recommendations.

3.09 INSTALLATION OF OTHER COMPONENTS:

A. Tools and Spare Parts: Prior to the review at completion of construction, supply to the owner operating keys, servicing tools, spare parts, test equipment and any other items indicated in general notes on the drawings.

B. Other Materials: Install other materials or equipment shown on the drawings or installation details which are part of the irrigation system, even though such items may not have been referenced in these specifications.

3.10 BALANCING AND ADJUSTING

A. The Contractor will be responsible for the balancing and adjustments of the various components of the system so the overall operation of the system is the most efficient. Including, but not limited to, the synchronization of the controllers, adjustments to the pressure regulator valves and sprinkler adjustments. Coordinate controller setup with Landscape Architect.

3.11 REQUIREMENT FOR SUBSTANTIAL COMPLETION

A. Cleaning Equipment and Premises
1. Thoroughly clean all parts of the piping, valves and equipment.
2. Remove all construction debris, excess materials and equipment.

B. Operating and Maintenance Manuals
1. CONTRACTOR shall furnish to LANDSCAPE ARCHITECT two operating manuals for furnished equipment. Information sheets shall be bound in standard three-ring binders labeled to show contractor's name, address, regular business phone number, emergency phone number and date. Operating manuals shall be submitted prior to completion of work to allow time for review. Manual shall contain following information:
List (keyed with identification numbers used) each item of equipment which requires service, giving the name of the item, model number, manufacturer's name and address, and providing the name, address and phone number of the nearest representative of authorized service organization.
Cut sheets to be included for the following, but not limited to: electric valves, isolation valves, swing joints, valve boxes, controllers and sprinkler heads.
2. A copy of the shop drawing for each item.
3. A complete operating and maintenance manual, parts list, wiring diagrams, lubrication requirements, and service instructions for each major item.
4. Complete control diagrams with description of all operation sequences and control devices.
5. Properly executed registrations and registered manufacturer's warranties.
6. After completion of work and when OWNER has had sufficient time to examine operating manuals and become somewhat familiar with operation of equipment, a meeting will be arranged by the Contractor with the Owner for purpose of instructing OWNER in proper maintenance of system and to answer questions he/she may have regarding its operation. Prior to this meeting, contractor shall have programmed a base program for all stations and run times.
7. Contractor to complete the irrigation submittal for all irrigation systems to the IL State Public Health. Provide the owner with a copy of the submitted form.
8. The above listed items shall also be provided on two USB memory sticks.

3.12 MAINTENANCE

A. Upon completion of construction and review by the engineer / landscape architect / owner's representative, maintain irrigation system for duration of 30 calendar days. Make periodic examinations and adjustments to irrigation system components to achieve the most desirable application of water.

B. Following completion of the "Contractor's" maintenance period, the owner will be responsible for maintaining the system in working order during the remainder of the guarantee/warranty period, for performing necessary minor maintenance, for trimming around sprinklers, for protecting against vandalism, and for preventing damage after the landscape maintenance operation.

3.13 OBSERVATION AND ACCEPTANCE

A. Periodic site visits will be made by the Architect or Irrigation Consultant to review the quality and progress of the work. Work found to be unacceptable must be corrected within five (5) calendar days. Remove rejected materials promptly from the project.

B. Upon completion of the work, the Architect or Irrigation Consultant will issue a punch list for work to be corrected. Where work does not comply with requirements, replace rejected Work.

C. It will be the responsibility of the Irrigation Contractor to provide a reliable communication system (i.e.: Two-way radios or remote radio control activation system) for Substantial Completion, final acceptance and all periodic site visits. Once the controllers are operational, the contractor will be required to have a tablet devise on site to operate the system. This tablet is to be accessible to the designer for any walk troughs that are scheduled.

D. If a site visit to verify Substantial Completion and final acceptance has been scheduled and the Architect or Irrigation Consultant arrives at the site and determines that the irrigation system is not substantially complete or ready for final acceptance (all system components in place, operational and checked and arc and radius adjustments made) the Contractor shall be responsible for all costs incurred by the Architect or Irrigation Consultant to visit the site. Reimbursable expenses include but are not limited to the following: Mileage, airfare, consultants' time, parking fee, meals, rental car, etc. All incurred expenses will be deducted from the final contract amount.

3.14 CLEANING

A. Perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, soils, debris and equipment. Repair damage resulting from sprinkler system installation.

END OF SECTION 328400

SECTION 329200 - LAWNS AND GRASSES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Seeding.
2. Sodding.
3. Fertilizer.
4. Maintenance.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, including, but not limited to:
1. Section 311000 Site Clearing
2. Section 312000 Earth Moving
3. *Section 329100 Soil and Landscape Bed Preparation, Landscape Excavation and Backfill*
4. Section 329300 Woody and Herbaceous Plant Installation

1.3 REFERENCES

A. Illinois Department of Transportation “Standard Specifications for Road and Bridge Construction” (Standard Specifications) most recent edition.

1.4 DEFINITIONS

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

B. Manufactured Soil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.

C. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.

D. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill immediately beneath planting soil.

E. Subsoil: All soil beneath the topsoil layer of the soil profile and typified by the lack of organic matter and soil organisms.

F. Weeds: Vegetative species other than specified species to be established in given area.

1.5 SUBMITTALS

A. Product Data: For seed mix, fertilizer, mulch and other accessories as indicated.

B. Certification of grass seed and of each seed mixture for turfgrass sod.

C. Planting Schedule: Indicating anticipated planting dates for each type of planting.

D. Operation and Maintenance Data: Include maintenance instructions, cutting method and maximum grass height; types, application frequency, and recommended coverage of fertilizer

1.6 INSPECTION

A. Become familiar with project requirements, site and existing conditions impact on scope of work.

B. Inspect existing conditions to verify all previous grading conforms with the drawings and specifications prior to commencing any work under this Section. Report any discrepancies to Landscape Architect.

C. Failure to report discrepancies to Landscape Architect implies acceptance of existing conditions. Any necessary corrections will be at no cost to the Owner.

1.7 QUALITY ASSURANCE

A. Installer's Field Supervision: Provide at least one person thoroughly trained and experienced in the skills required completely familiar with the design and application of the work described in this Section, and who shall be present at all times during progress of the work under this Section and shall direct all work required and performed under this Section.

B. Provide seed mixture in containers showing percentage of seed mix, germination percentage, inert matter percentage, weed percentage, year of production, net weight, date of packaging, and location of packaging.

C. Seed: Conform to current U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act of August 9, 1939 and all subsequent revisions thereto, and the requirements of the state seed laws.

D. Perform Work in accordance with Standard Specifications.

E. Topsoil Analysis: Furnish soil analysis by a qualified soil-testing laboratory.

1. Report suitability of topsoil for lawn growth. State-recommended quantities of nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory topsoil.

1.8 QUALIFICATIONS

A. Seed Supplier: Company specializing in manufacturing Products specified in this section with minimum three years documented experience.

B. Installer: Company specializing in performing work of this section with minimum five years documented experience.

1.9 WORKMANSHIP

A. During seeding, keep all areas neat and clean and with precautions taken to avoid damage to existing plants, turf and structures.

B. Remove all debris and waste material resulting from seeding operations from the project and the area cleaned up upon completion of seeding operation.

C. Repair or restore to original condition any damaged areas caused by the landscape contractor.

1.10 PROTECTION AND REPAIR

A. Use all means necessary to protect site seeding areas before, during, and after installation and to protect the installed work and materials of all other trades.

B. In the event of damage to the site seeding areas including mulch or erosion control blanket, immediately make all repairs or replacements necessary to the approval of the Owner and at all no additional cost to the Owner.

C. Install necessary barricades, temporary fences or signs to protect newly seeded or hydro-seeded/mulched areas until acceptance of the Work.

1.11 DELIVERY, STORAGE, AND HANDLING

A. Sod: Harvest, deliver, store, and handle sod according to requirements in TPI's "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" in its "Guideline Specifications to Turfgrass Sodding." Deliver sod in time for planting within 24 hours of harvesting. Protect sod from breakage and drying.

B. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.

C. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

D. Protect seed, and other required materials against weather conditions and injuries during transit and job storage.

E. Deliver all items to the site in their original containers with all labels intact and legible at time of Owners representative inspection.

F. Use all means necessary to protect all items before, during and after installation and to protect the installed work and materials of all trades

G. Replacements:
   1. Repair all damaged or rejected materials immediately
   2. Make all repairs and replacements necessary to the approval of the Owners Representative at no additional cost to the owner.

1.12 GUARANTEE

A. Guarantee this portion of the through the maintenance period and until final acceptance (See Part 3, Acceptance of this section.)

B. Within the guarantee period, replace all lawn areas which have failed to flourish and produce a stand of turf acceptable to the Owner due to defective materials or workmanship, or unfavorable weather conditions.

C. The decision of the Owner for replacement Work shall be conclusive and binding upon the Contractor.

D. The Contractor is responsible for all damage to persons or property caused by defective materials or workmanship or by the re-working of areas not acceptable.

1.13 MAINTENANCE SERVICE

A. Initial Lawn Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in Part 3.
   1. Begin maintenance immediately after each area is planted and continue until acceptable lawn is established. Minimally, maintenance activities shall occur from initial planting through 30-days after substantial completion.
   2. When initial maintenance period has not elapsed before end of planting season, or if lawn is not fully established, continue maintenance during next planting season.

PART 2 - PRODUCTS

2.1 SEED

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

B. Seed Species for general site and all disturbed areas, except athletic fields: State-certified seed of grass species, available in 50-pound bags, through Clesens, 708.444.2177 / www.clesens.com or approved equal. Proportioned by weight as follows:

1. Premium Mix (80/20):.
    a. 55% Full Moon Kentucky Bluegrass
    b. 15% Moonlight Slt Kentucky Bluegrass
    c. 10% Jumpstart Kentucky Bluegrass
    d. 10% Silver Dollar Perennial Ryegrass
    e. 10% Gray Hawk Perennial Ryegrass

C. Seed Species for athletic fields: State-certified seed of grass species, available in 50-pound bags, through Seed Research of Oregon 800-445-2251 / www.sroseed.com or approved equal. Proportioned by weight as follows:

1. Athletic Fields Mix: Defiance! XRE tall fescue blend
    a. 25% Silver Dollar Perennial Ryegrass
    b. 25% Gray Wolf Perennial Ryegrass
    c. 17% Full Moon Kentucky Bluegrass
    d. 17% Right Kentucky Bluegrass
    e. 16% Jumpstart Kentucky Bluegrass

2.2 TOPSOIL

A. Topsoil: ASTM D 5268, pH range of 5.5 to 7, a minimum of 4 percent organic material content; free of stones 1 inch or larger in any dimension and other extraneous materials harmful to plant growth.

1. Topsoil Source: Reuse surface soil stockpiled on-site. Verify suitability of stockpiled surface soil to produce topsoil. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.
    a. Supplement with imported or manufactured topsoil from off-site sources when quantities are insufficient.
2. Topsoil Source: Amend existing in-place surface soil to produce topsoil. Verify suitability of surface soil to produce topsoil. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.
    a. Surface soil may be supplemented with imported or manufactured topsoil from off-site sources.

2.3 FERTILIZER

A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, phosphorous, and potassium. Provide both fertilizers at the specified rates, total target of 1 LB/1000 SF of nitrogen.
1. Pro Ap Professional Turf Fertilizer 12-25-12 with 25% Duration starter fertilizer, available from National Seed, or equal:
    a. N-Nitrogen 13%
        1) 9.75% Ammoniacal Nitrogen
        2) 3.25% Urea Nitrogen
    b. P-Phosphoric Acid 25%
    c. K-Potash 12%
    d. Application rate: 4 LB/1000 SF = N 0.52 LB, P 1.0 LB and K 0.48 LB
        1) 50-pound bag will cover 12,500 SF

2. EndoRoots 3-3-4 with mycorrhizae, available from Nation Seed, or equal:
   a. N-Nitrogen 3%
   b. P-Phosphate 3%
   c. K-Soluble Potash 4%
   d. Application Rate: 16.6 LB/1000 SF = N 0.5 LB, P 0.5 LB, K 0.7 LB
      1) 50-pound bag will cover 3,000 SF

2.4 EROSION CONTROL BLANKET – use only if no product is specified by Civil Engineer.

A. Available Products:
   1. Curlex I or Curlex NetFree, manufactured by American Excelsior Company / 800.777.7645 / www.curlex.com
   2. EroNet Photodegradable ECB Model: DS75 or S150BN, manufactured by North American Green / (800) 772-2040/ www.nagreen.com
   3. Futerra F4 netless or Environnet, manufactured by Profile Products LLC / 800.508.8681 / www.futerra.com

B. Biodegradable anchor stakes
   1. GreenStake by Vivagreen, or approved equal
   2. Complies with ASTM Biodegradability Standards ASTM D6400.
   3. Length: 4 inch minimum

2.5 MULCHES

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

B. Peat Mulch: Finely divided or granular texture, with a pH range of 6 to 7.5, containing partially decomposed moss peat, native peat, or reed-sedge peat and having a water-absorbing capacity of 1100 to 2000 percent.

PART 3 - EXECUTION

3.1 LAWN PREPARATION

A. Newly Graded Subgrades: Loosen subgrade to a minimum depth of 8 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
   1. Thoroughly blend planting soil mix off-site before spreading or spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil mix.
   2. Spread planting soil mix to a depth of 6 inches but not less than required to meet finish grades after light rolling and natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.

      a. Reduce elevation of planting soil to allow for soil thickness of sod.

B. Unchanged Subgrades: If lawns are to be planted in areas unaltered or undisturbed by excavating, grading, or surface-soil stripping operations, prepare surface soil as follows:
   1. Remove existing grass, vegetation, and turf. Do not mix into surface soil.
   2. Loosen surface soil to a depth of at least 8 inches. Apply soil amendments and fertilizers according to planting soil mix proportions and mix thoroughly into top 6 inches of soil. Till soil to a homogeneous mixture of fine texture.
   3. Remove stones larger than 1 inch in any dimension and sticks, roots, trash, and other extraneous matter.
   4. Legally dispose of waste material, including grass, vegetation, and turf, off Owner's property.

C. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit finish grading to areas that can be planted in the immediate future.

D. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

E. Before planting, restore areas if eroded or otherwise disturbed after finish grading.

F. If, as a result of rain, the prepared seed bed becomes crusted or eroded, or if eroded places, ruts, or depressions exist for any reason, the Contractor shall rework the soil until it is smooth and reseed such areas which are reworked. After the area has been properly shaped, fertilized, and seeded, the blanket shall be laid out flat, evenly, and smoothly, without stretching the material. The erosion control blanket shall be placed so that the netting is on the top and the fibers are in contact with the soil.

G. For placement in ditches, the erosion control blanket shall be applied parallel to the centerline of the ditch so that there are no longitudinal seams within 2 feet of the bottom centerline of the ditch. The blanket shall be toed in on the upslope edge and shingled or overlapped with the flow.

H. On slopes, the blanket shall be applied either horizontally or vertically.

3.2 SEEDING

A. Do not broadcast or drop seed when wind velocity exceeds 5 mph. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.

B. Sow seed at a total rate of **10 lb/1000 SF**, unless the manufacturer’s recommended rate is higher.

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

D. Protect seeded areas with slopes not exceeding 4:1 by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons/acre to form a continuous blanket 1-1/2 inches in loose depth over seeded areas. Spread by hand, blower, or other suitable equipment.

1. Anchor straw mulch by crimping into soil with suitable mechanical equipment.

E. Apply erosion control blanket to all areas with slopes equal to or exceeding 4:1.

F. Protect seeded areas from hot, dry weather or drying winds by applying peat mulch or topsoil within 24 hours after completing seeding operations. Soak areas, scatter mulch uniformly to a depth of 3/16 inch, and roll surface smooth.

G. Install seed under favorable weather conditions unless approved by the Owner's Representative. The conditions of the guarantee apply regardless of the date of installation. The generally accepted times for seeding are:

Spring - April 1 to May 31
Fall - August 1 to September 31

3.3 LAWN MAINTENANCE

A. Maintain and establish lawn by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations, until work under this contract has been completed and accepted by the Owner.
1. Watering:
   a. The seed bed shall be kept moist but not wet during the period of seed germination. Care must be taken that the seed bed does not dry out in spots.
   b. During germination, the water shall penetrate to a depth of 1-inch into the seed bed.
   c. After germination, as the grass roots go deeper into the soil, the quantity of water shall be increased so that the depth of penetration is a minimum of 3-inches.
   d. If water is not available on site, the Contractor shall supply water from his own source. The Contractor shall furnish the hose and proper equipment for watering purposes.

B. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth lawn. Provide materials and installation the same as those used in the original installation.

C. Mow lawn as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than 1/3 of grass height. Remove no more than 1/3 of grass-leaf growth in initial or subsequent mowings. Mowing operations shall be the sole responsibility of the contractor during construction and until substantial completion.

3.4 PROTECTION AND REPAIR

A. The Contractor is responsible for the proper care of the seeded areas during the period when the vegetation is being established.
1. Newly seeded areas shall be protected against traffic or other use, by enclosing the areas with snow fencing or other approved barrier.

2. “NEWLY SEEDED” or other appropriate approved warning placards shall be posted until all work under the contract is completed and accepted.

B. Repair: If at any time before completion and acceptance of the entire work covered by this contract, any portion of the surface becomes gullied or otherwise damaged following seeding, dies due to lack of water, becomes rutted due to improper protection, has been winter-killed or otherwise damaged or destroyed, the affected portion shall be repaired to re-establish the condition and grade of the soil prior to seeding and shall then be reseeded as specified herein by the Contractor, at no additional cost to the Owner.

3.5 SATISFACTORY LAWNS

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

B. Use specified materials to reestablish lawns that do not comply with requirements and continue maintenance until lawns are satisfactory.

3.6 ACCEPTANCE

A. Completion of the Work: Upon completion of work, the Contractor shall notify the Landscape Architect and the Owner at least ten (10) days prior to requested date of substantial completion of all or portions of the work. Landscape Architect will review all the work and prepare a punch list of work not installed or not installed in conformance with the contract documents. All work in the punch list must be completed within five (5) working days from date of issue. Where work does not comply with requirements, replace rejected work and continue specified protection and maintenance until reviewed by Landscape Architect and found to be acceptable.

B. Certificate of Substantial Completion: Certificate of substantial completion will be issued for acceptable work at sole discretion of the Landscape Architect. If punch list items are issued with the certificate, they must be corrected within five (5) working days. If items are not corrected within five (5) working days than the certificate of substantial completion will be revoked and reissued when the punch list items are corrected.

C. Final Acceptance: After the 30-day maintenance period following the date of substantial completion the Landscape Architect and the Owner will review the work for final acceptance. Upon satisfactory completion of repairs and / or replacements the Landscape Architect will certify, in writing, final acceptance of the work, which will serve as evidence that Contractor's obligations have been met.

END OF SECTION 329200

SECTION 329300 - PLANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Trees.
2. Shrubs.
3. Ground cover.
4. Plants.

1.2 DEFINITIONS

A. Backfill: The earth used to replace or the act of replacing earth in an excavation.

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

C. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.

D. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.

E. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill, before placing planting soil.

F. Subsoil: All soil beneath the topsoil layer of the soil profile and typified by the lack of organic matter and soil organisms.

1.3 SUBMITTALS

A. Product Data and/or certificates: For each type of product indicated in Part 2.

B. Planting Schedule - Upon authorization to proceed with the work, a schedule indicating the dates of each of the following items will be prepared by the Contractor and submitted to the Landscape Architect:
1. Tagging of plant material in nurseries.
2. Staking of plant locations on the site.
3. Digging and preparation of plant pits and beds.
4. Delivery of plant material to the site.
5. Planting schedule.
6. Substantial completion of the work.

C. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of exterior plants during a calendar year.

1.4 QUALITY ASSURANCE

A. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when planting is in progress.

B. Topsoil Analysis: Furnish soil analysis by a qualified soil-testing laboratory.

1. Report suitability of topsoil for plant growth. State-recommended quantities of nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory topsoil.

C. Provide quality, size, genus, species, and variety of exterior plants indicated, complying with applicable requirements in the following references:
1. ANSI Z60.1, "American Standard for Nursery Stock."
2. Hortus Third, Cornell University, 1976.

D. Preinstallation Conference: Conduct conference at Project site.

E. Plant Material Selected by Contractor
1. Contractor shall locate all plant material to be supplied for the project and inform the Landscape Architect and Owner in writing of plant location(s) at least thirty (30) days prior to scheduled installation date.
2. In the event plant material is found to be unacceptable after review by the Landscape Architect, the Contractor shall pursue other sources until acceptable plant material is found, at no additional cost to the Owner and Landscape Architect.
3. Selection or lack of selection at the plant source does not impair the right of the Landscape Architect to review and reject material at the time of shipping, during installation of the work, or after the installation of the work.

F. Substitutions
1. If specified landscape material is not obtainable, notify the Landscape Architect, who will identify alternate sources or substitutes. If substitutions are smaller in size than the specified material, credits to the base bid contract will be made based on comparable cost differentials customary for materials and sizes involved.

G. Plant materials shall be subject to final approval by the Landscape Architect at the site. The Landscape Architect reserves the right to reject any plant material that does not meet project specifications at the time of planting.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of exterior plants during delivery. Do not drop exterior plants during delivery and handling.

B. Handle planting stock by root ball.

C. Notify the Landscape Architect and the Owner forty-eight hours in advance of all delivery times for plant material.

D. Deliver exterior plants after preparations for planting have been completed and install immediately. If planting is delayed more than six hours after delivery, set exterior plants and trees in shade, protect from weather and mechanical damage, and keep roots moist.

E. Woody and Herbaceous Plant Materials

1. Schedule shipping to minimize on site storage of plants. Stock shall not be shipped until the planting preparations have been completed.
2. Label the size and variety of plant and securely attach to individual plants or to bundles of like variety and size.
3. During shipment, plants shall not be bent, stacked, or bound in a manner that damages bark, breaks branches, deforms root balls, or destroys natural shape.
4. Plant material shall be transported within enclosed trailers or covered by tarpaulin to protect the material from damage caused by drying winds, heat, freezing, or other exposure that may be harmful to the plants. Plant material arriving at the site in a damaged condition shall be rejected and removed from the site.
5. If delays beyond the Contractor's control occur after delivery, plants shall be kept watered and protected from sun, wind, and mechanical damage; root balls shall be covered with topsoil or mulch. Container-grown stock shall not be removed from containers until planting time. Keep the roots constantly moist until planted.
6. Always handle plants in accordance with the best horticultural practices. Lift balled and burlapped materials from the bottom of the ball only. Balled and burlapped plants which have cracked, or broken balls shall be rejected and removed from the site.

1.6 WARRANTY

A. Special Warranty: Installer's standard form in which Installer agrees to repair or replace plantings that fail in materials, workmanship, or growth within specified warranty period.

1. Failures include, but are not limited to, the following:
   a. Death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, abuse by Owner, or incidents that are beyond Contractor's control.
   b. Structural failures including plantings falling or blowing over.

2. Warranty Period from date of **Final Acceptance** for all plant material shall be one year.

3. See Part 3 Acceptance for additional information.

1.7 MAINTENANCE SERVICE

A. Initial Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after each area

is planted and continue until all plantings are acceptably healthy, well established, and until Final Acceptance.

PART 2 - PRODUCTS

2.1 TREE AND SHRUB MATERIAL

A. General: Furnish nursery-grown trees and shrubs complying with ANSI Z60.1, with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

B. Specimen Plants: Plants indicated, as “specimen plants” shall be exceptionally heavy, symmetrical, and tightly knit, cultured, to be unquestionably superior in form, branching, compactness, and symmetry.

C. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which shall begin at root flare according to ANSI Z60.1. **The root flare of all trees shall be visible before planting which may require removal of soil from the top of the root ball.**

D. Provide balled and burlapped trees, oak trees may be grown in fabric bags.

E. Shrub sizes indicated on Drawings are sizes after pruning.

2.2 GROUND COVER PLANTS

A. Ground Cover: Provide ground cover of species indicated, established and well rooted in pots or similar containers, and complying with ANSI Z60.1.

2.3 PLANTS

A. Annuals and Biennials: Provide healthy, disease-free plants of species and variety shown or listed, with well-established root systems reaching to sides of the container to maintain a firm ball, but not with excessive root growth encircling the container. Provide only plants that are acclimated to outdoor conditions before delivery and that are in bud but not yet in bloom.

B. Perennials: Provide healthy, field-grown plants from a commercial nursery, of species and variety shown or listed, complying with requirements in ANSI Z60.1.

C. Vines: Provide vines of species indicated complying with requirements in ANSI Z60.1 as follows:

D. Plugs: Plants indicated as plugs shall be, at a minimum, grown in 2 ½ inch diameter containers with sidewall grooves, ribs, or slits.

2.4 TOPSOIL

A. Topsoil: ASTM D 5268, pH range of 5.5 to 7, a minimum of 4 percent organic material content; free of stones 1 inch or larger in any dimension and other extraneous materials harmful to plant growth.

1. Topsoil Source: Reuse surface soil stockpiled on-site. Verify suitability of stockpiled surface soil to produce topsoil. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth. Supplement with imported or manufactured topsoil from off-site sources when quantities are insufficient.

2. Topsoil Source: Import topsoil or manufactured topsoil from off-site sources. Obtain topsoil displaced from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches deep; do not obtain from agricultural land, bogs or marshes.

3. Topsoil Source: Amend existing in-place surface soil to produce topsoil. Verify suitability of surface soil to produce topsoil. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth. Surface soil may be supplemented with imported or manufactured topsoil from off-site sources.

2.5 ORGANIC SOIL AMENDMENTS

A. Soil Conditioner: One Step Soil Conditioner, available from Midwest Trading, 6N800 Rt 25, St. Charles, IL 60174 / Phone: (630) 365-1990.

2.6 FERTILIZER

A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, phosphorous, and potassium. Provide the following fertilizer at the specified rate of 0.75 LB/100 SF.
   1. Healthy Start 3-4-3 with mycorrhizae, available from Nation Seed, or equal:
      a. N-Nitrogen 3%
      b. P-Phosphate 4%
      c. K-Soluble Potash 3%
      d. Application Rate: 25 LB/1000 SF = N 0.75 LB, P 1.0 LB, K 0.75 LB
         1) 50-pound bag will cover 2,000 SF

2.7 MULCHES

A. Organic Mulch: Hardwood bark mulch shall be shredded or double-ground, composted hardwood, not to exceed two (2) inches in its largest dimension, free of foreign matter, sticks, stones, roots, soil and/or other unacceptable material.
   1. Proportion of fines (material passing sieve size #60) shall not exceed 10% as determined by weight.

2. Contractor shall provide a mulch sample in a 1-quart ziplock bag to the Landscape Architect project manager for review and approval, before starting work.

2.8 WEED PREVENTERS

A. Preen Garden Weed Preventer: Apply to mulched planting beds after installation of plant material at the recommended rates.

2.9 PLANTING SOIL MIX

A. Planting Soil Mix: Mix topsoil with the following soil amendments and fertilizers in the following quantities:

1. Ratio of Loose Soil Conditioner to Topsoil by Volume: 1:4.
2. Weight of Fertilizer per 1000 Sq. Ft.: 25 pounds.

2.10 ANTI - TRANSPIRANT

A. Anti - transpirant shall be a protective film emulsion providing protective film over evergreen plant surfaces only, permeable to permit transpiration, as manufactured by Wilt Pruf Products, Inc. or approved equal. Mix and apply in accordance with manufacturer's instructions.

2.11 HERBICIDE

A. Herbicides shall be products with rates of application that conforms to registered uses and is applied by a licensed professional applicator.
1. For woody materials ten (10') feet or further from a water body: Garlon 4 herbicide as manufactured by DowElanco or approved equal.
2. For woody and/or herbaceous material ten (10') feet or further from a water body: Roundup Pro herbicide as manufactured by DowElanco or approved equal.
3. For woody and herbaceous materials within ten (10') feet of a water body: Rodeo herbicide as supplied by DowElanco or approved equal.

2.12 PESTICIDES, INSECTICIDES, FUNGICIDES, ETC.

A. If plant material becomes infected with any pests or insects, the most practical and environmentally benign methods should be utilized to control the problem. All products should comply with government regulations and be applied by a licensed applicator. The Landscape Architect reserves the right to ask for certification.

2.13 WATER

A. If water is not available on site, the Contractor shall supply water from his own source. The Contractor shall furnish the hose and proper equipment for watering purposes.

2.14 GUYING AND STAKING MATERIALS

A. Guying and staking shall only be performed as noted on the plans or as directed by the Landscape Architect.
   1. Stakes for tree support shall be hardwood free from knot, rot, cross grain or other defects that would impair strength. Stakes shall be a minimum of 2” by 2” in diameter by 8’-0” long and pointed on one end.
   2. Ground anchors for guying shall be 2” x 2” x 3’-0” long wood stake, pointed on one end.
   3. Guying wire shall be 12 gauge annealed galvanized steel.
   4. Guying cable shall be a minimum of five strands, making a 3/16” diameter steel cable.
   5. Hose chafing guards shall be new or used 2-ply, one half inch reinforced rubber or plastic hose and shall be the same color on the project. Length shall be one and one-half times the circumference of the plant at its base.
   6. Survey flags to be fastened to guys shall be white plastic surveyor’s tape, 6” in length.
   7. Turnbuckles shall be galvanized or cadmium-plated steel and have a 3” minimum lengthwise opening fitted with screw eyes.

PART 3 - EXECUTION

3.1 PROJECT CONDITIONS

A. General
   1. Prior to beginning work, the Contractor shall examine and verify the acceptability of the job site and notify the Owner of unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected or resolved.
   2. Where planting occurs in close proximity to other site improvements, provide adequate protection for all site areas prior to commencing work. Any items damaged during planting operations shall be promptly replaced or repaired to their original condition at the Contractor’s expense and no additional cost to the Owner.
   3. A list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings for convenience of the Owner. Verify and supply the quantities required to complete the work as drawn.

B. Utilities
   1. Contractor shall be solely responsible for determining location of all utilities. Contractor shall be responsible for obtaining site utility plans and contacting local utility locator service and shall perform no work on site until utility locator service has marked site utilities. Perform work in a manner that will avoid possible damage. Excavate to avoid underground utilities including hand digging as required. All damage to utilities resulting from work covered in these contract documents will be repaired at the Contractor's expense and no additional cost to the Owner. No time extension will be allowed due to delay in utility location.

C. Planting Season
   1. Plant material shall be dug and planted only during the planting season appropriate for each individual plant species. Pre-digging of plants with proper storage may

extend the planting season. However, the installation of plant material outside the normal planting season shall be done only with the approval of the Landscape Architect.

2. Evergreen Material: Plant evergreen materials between September 2 and November 1 or in spring before new growth begin. If project timeline requires planting at other times, spray plants with anti-transpirant prior to planting operations.
3. Deciduous Trees: Plant deciduous trees in a dormant condition. If deciduous trees are planted in-leaf, spray with an anti-transpirant prior to planting operations.
4. Woody Material: Plant woody plant materials in Spring between April 1 to June 30 or in Fall between September 1 to November 30.
5. Herbaceous Material: Plant herbaceous materials (including plugs) in Spring between April 15 (with no threat of frost) and June 30 or in Fall between September 1 to October 15.
6. Bulbs: Plant bulbs in a dormant condition between November 1 and 30.
7. When the ground is frozen, no planting activities shall occur.

D. Coordination with Other Work
1. Proceed with complete landscape work as rapidly as portions of the site become available, working within the season limitations for each kind of landscape work is required.

3.2 PREPARATION AND LAYOUT

A. Layout and plant installation cannot begin until all landscape bed preparation and final grading has been achieved. Once complete, the Contractor must layout all planting areas as shown on the contract drawings/plan. The layout must be performed by qualified personnel. The tree locations must be marked by staking and all bed limits must be painted. The Landscape Architect must approve the layout prior to installation.

B. Individual plant locations for trees as noted on the plan shall be staked on the project site by the Contractor and approved by the Landscape Architect before any planting operations commence. The Landscape Architect reserves the right to adjust plant material locations to meet field conditions, without additions to the base contract price.

C. Accurately stake plant material according to the drawings. Where location or spacing dimensions are not clearly shown, request clarification from the Landscape Architect.

D. If obstructions are encountered that are not indicated, do not proceed with planting operations until alternate plant locations have been selected and approved in writing by the Landscape Architect.

E. If alternate locations are not possible, notify the Landscape Architect of the adverse conditions so the Landscape Architect can request a proposal from the Contractor for method of correction. The Contractor shall obtain approval from the Owner for the additional work prior to continuing work in the affected area.

3.3 PLANTING BED ESTABLISHMENT

A. Loosen subgrade of planting beds to a minimum depth of 12 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
   1. Spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil mix.
   2. Spread planting soil mix to a depth of 12 inches but not less than required to meet finish grades after natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.

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

3.4 TREES AND SHRUBS

A. Excavation of Pits and Trenches: Excavate circular pits with sides sloped inward to a depth equal to the depth of the root ball. Trim base leaving center area raised slightly to support root ball and assist in drainage. Do not further disturb base. Scarify sides of plant pit smeared or smoothed during excavation.

   1. Excavate approximately three times as wide as ball diameter.
   2. Excavate at least 12 inches wider than root spread and deep enough to accommodate vertical roots for bare-root stock.
   3. Remove as much gravel backfill as possible without compromising the integrity of the adjacent pavements and replace with planting soil mix to a depth equal to the depth of the root ball.

B. Before planting, verify that root flare is visible at top of root ball according to ANSI Z60.1.

C. Stock with Root Balls: Set trees and shrubs plumb and in center of pit or trench with top of root ball 6 inches above adjacent finish grades.

   1. Balled and Burlapped: Remove burlap and wire baskets from tops of root balls and partially from sides, but do not remove from under root balls. Remove pallets, if any, before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.
   2. Fabric Bag Grown: Carefully remove root ball from fabric bag without damaging root ball or plant. Do not use planting stock if root ball is cracked or broken before or during planting operation.
   3. Place planting soil mix around root ball in layers, tamping to settle mix and eliminate voids and air pockets. When pit is approximately one-half backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed. Water again after placing and tamping final layer of planting soil mix.

D. Organic Mulching: Apply 3-inch average thickness of organic mulch extending 12 inches beyond edge of planting pit or trench. **Do not place mulch within 3 inches of trunks or stems.**

1. "Volcano" mulching, the practice of heaping mulch against the stems or trunks of plant material is strictly forbidden. Plant material with bark or trunk damage due to this practice will be replaced by the Contractor, at his expense.
2. Mulch Tree Rings:
    a. Remove grass, weeds and excess or decomposed mulch to prevent build up over tree roots and/or against the trunk
    b. Mulched tree rings shall be a minimum of 6 ft diameter on trees of 8" caliper or less; larger trees shall have mulch rings a minimum of 3 ft radius, measured from the outside of the base of the tree (for a tree 24" in caliper, the mulch ring will be 8 ft in diameter: 3 ft + 24" + 3 ft = 8 ft).
    c. Supply and install approved shredded hardwood mulch to trees rings as needed to bring mulch depth to that specified.
    d. Edge mulch rings as necessary to maintain a clean, crisp edge.

3.5 TREE AND SHRUB PRUNING

A. Remove only dead, dying, or broken branches. Do not prune for shape.

B. Prune, thin, and shape trees and shrubs according to standard horticultural practice. Prune trees to retain required height and spread. Do not cut tree leaders; remove only injured or dead branches from flowering trees. Prune shrubs to retain natural character.

3.6 GROUND COVER AND PLANT PLANTING

A. Set out and space ground cover 6-12 inches apart, and plants 12-24 inches apart as indicated on the plans.

B. Dig holes large enough to allow spreading of roots and backfill with planting soil.

C. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.

D. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.

E. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.

3.7 PLANTING BED MULCHING

A. Mulch backfilled surfaces of planting beds and other areas indicated. Provide 6' diameter mulch ring around trees in lawn areas.

1. Organic Mulch: Apply 3-inch average thickness of mulch, and finish level with adjacent finish grades. Do not place mulch against plant stems.

3.8 PLATNING TIME

A. Generally accepted planting time is from May 15, after the threat of frost has passed, until September 30, to give plants time to root in. Weather conditions shall be considered when determining the planting schedule.

3.9 WEED PREVENTION

A. Apply Preen to all mulched planting beds per manufacturer's recommended rates.

3.10 CLEAN UP AND PROTECTION

A. Clean up
   1. Excess and waste material shall be removed daily. Keep pavement clean and work area in an orderly condition.
   2. When planting in an area has been completed, the area shall be cleared of all debris, soil piles, containers and all paved areas swept.
   3. At least one paved pedestrian access route and one paved vehicular access route to each building shall always be kept clean. Other paving shall be cleaned when work in adjacent areas is completed.

B. Repairs: Any damage to existing landscape, paving, or other such features as a result of work related to this contract shall be repaired by the responsible Contractor to its original condition. Treat, repair, or replace damaged work at the Contractor's expense and at no additional cost to the Owner.

C. Protection: Protect landscape work and materials from damage due to landscape operations, operations by other contractors and trades, and trespassers. Maintain protection during installation and maintenance periods.

D. Insurance: Insurance on plant material and other materials stored or installed is the responsibility of the Contractor. Such insurance shall cover fire, theft, vandalism, and any other damage that may occur to the plant material. Should the Contractor elect not to provide such insurance, the Contractor will in no way hold the Owner responsible for any losses incurred during the project. The Contractor is responsible for all costs incurred in replacing materials prior to date of substantial completion.

3.11 PLANT MAINTENANCE

A. Time: The contractor shall be responsible for maintenance of all plant material immediately after planting and continuing until Final Acceptance is achieved.

B. Tree and Shrub Maintenance: Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, restoring planting saucers, and resetting to proper grades or vertical position, as required to establish healthy, viable plantings. Spray or treat as required to keep trees and shrubs free of insects and disease.

C. Ground Cover and Plant Maintenance: Maintain and establish plantings by watering, weeding, fertilizing, mulching, and other operations as required to establish healthy, viable plantings.

D. Protect exterior plants from damage due to landscape operations, operations by other contractors and trades, and others. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.

3.12 ACCEPTANCE

A. Completion of the Work: Upon completion of work, the Contractor shall notify the Landscape Architect and the Owner at least ten (10) days prior to requested date of substantial completion of all or portions of the work. Landscape Architect will review all of the work and prepare a punch list of work not installed or not installed in conformance with the contract documents. All work in the punch list must be completed within five (5) working days from date of issue. Where work does not comply with requirements, replace rejected work and continue specified protection and maintenance until reviewed by Landscape Architect and found to be acceptable.

B. Certificate of Substantial Completion: Certificate of substantial completion will be issued for acceptable work at sole discretion of the Landscape Architect. If punch list items are issued with the certificate, they must be corrected within five (5) working days. If items are not corrected within five (5) working days than the certificate of substantial completion will be revoked and reissued when the punch list items are corrected.

C. Warranty.
   1. Warrant for a period of one (1) year, following the certificate of Final Acceptance, all work, against any defects (including death and unsatisfactory growth) as determined by the Landscape Architect. Defects resulting from neglect by the Owner, abuse or damage by others, or unusual phenomena or incidents beyond the Contractor's control are exceptions. Should questions arise concerning the responsibility of replacement, the Landscape Architect shall be the sole judge of the need for replacement.
   2. Remove and replace all work found to be dead or in unhealthy condition during warranty period as determined by Landscape Architect or Owner.
   3. Replacements shall match adjacent specimens of same species. Replacements are subject to all requirements stated in the contract documents and are subject to review by the Landscape Architect at the project site and should be installed during appropriate planting seasons.
   4. Repair grades, paving and any other damage resulting from replacement planting operations, at no additional cost to the Owner.
   5. Replacements made during the warranty period will not carry any warranty.

END OF SECTION 329300

SECTION 334200 - STORMWATER CONVEYANCE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Corrugated Underdrain PE pipe and fittings.
2. PVC pipe and fittings.
3. Cleanouts.
4. Manholes and Stormwater detention structures.
5. Catch basins.
6. Pipe outlets.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings:

1. Manholes: Include plans, elevations, sections, details, frames, and covers.
2. Catch basins: Include plans, elevations, sections, details, frames, covers, and grates.
3. Stormwater Detention Structures: Include plans, elevations, sections, details, frames, covers, design calculations, and concrete design-mix reports.

1.3 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of pipe and fitting.

B. Field quality-control reports.

1.4 QUALITY ASSURANCE

A. Piping materials shall bear label, stamp, or other markings of specified testing agency.

PART 2 - PRODUCTS

2.1 CORRUGATED-UNDERDRAIN PE PIPE AND FITTINGS

A. Corrugated-Underdrain PE Drainage Pipe and Fittings shall be as shown on the plans and meet IDOT Standard Specifications for Road and Bridge Construction, latest addition, applicable portions of Sections 550 and 1040 unless specified herein or as approved by the Architect.

2.2 PVC PIPE AND FITTINGS

A. PVC Pipe and Fittings shall be as shown on the plans and meet IDOT Standard Specifications for Road and Bridge Construction, latest addition, applicable portions of Sections 550 and 1040 unless specified herein or as approved by the Architect.

2.3 CLEANOUTS

A. PVC Cleanouts:
   1. Description: PVC body with PVC threaded plug. Include PVC sewer pipe fitting and riser to cleanout of same material as sewer piping.

2.4 MANHOLES AND STORMWATER DETENTION STRUCTURES

A. Standard Precast Concrete Manholes and Stormwater Detention Structures shall be of the size and type as shown on the plans and shall meet the applicable portions of Section 602 of the IDOT Standard Specifications for Road and Bridge Construction, latest edition.

2.5 CONCRETE

A. General: Cast-in-place concrete in accordance with the applicable portions of Section 1020 of the IDOT Standard Specifications for Road and Bridge Construction, latest edition.

B. Portland Cement Design Mix: 4000 psi (27.6 MPa) minimum, with 0.45 maximum water/cementitious materials ratio.

   1. Reinforcing Fabric: ASTM A1064/A1064M, steel, welded wire fabric, plain.
   2. Reinforcing Bars: ASTM A615/A615M, Grade 60 (420 MPa) deformed steel.

2.6 CATCH BASINS

A. Standard Precast Concrete Catch Basins shall be of the size and type as shown on the plans and shall meet the applicable portions of Section 602 of the IDOT Standard Specifications for Road and Bridge Construction, latest edition.

2.7 PIPE OUTLETS

A. Flared End Sections: Shall be of the size and type as shown on the plans or approved equal as approved by the Architect.

B. Riprap at End Sections and Basin Overflow Section: Broken, irregularly sized and shaped, graded stone in accordance with size and type as shown on the plans in accordance with the applicable portions of Section 281 of the IDOT Standard Specifications for Road and Bridge Construction, latest edition.

PART 3 - EXECUTION

3.1 EARTHWORK

A. Excavation, trenching, and backfilling are specified in Section 312000 "Earth Moving."

3.2 PIPING INSTALLATION

A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm drainage piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.

B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings in accordance with manufacturer's written instructions for use of lubricants, cements, and other installation requirements.

C. Install manholes for changes in direction unless fittings are indicated. Use fittings for branch connections unless direct tap into existing sewer is indicated.

D. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.

E. When installing pipe under streets or other obstructions that cannot be disturbed, use pipe-jacking process of micro-tunneling.

F. Install gravity-flow, nonpressure drainage piping in accordance with the applicable portions of Section 550 of the IDOT Standard Specifications for Road and Bridge Construction, latest edition.

3.3 CLEANOUT INSTALLATION

A. Install cleanouts and riser extensions from sewer pipes to cleanouts at grade. Installation shall be of the size, type, and location as shown on the plans or as directed by the Architect.

3.4 MANHOLE AND STORMWATER DETENTION STRUCTURE INSTALLATION

A. General: Install manholes, complete with appurtenances and accessories indicated.

B. Where specific manhole construction is not indicated, follow manhole manufacturer's written instructions.

C. Set tops of frames and covers flush with finished surface of manholes that occur in pavements. Set tops 3 inches finished surface elsewhere unless otherwise indicated.

3.5 CATCH BASIN INSTALLATION

A. Construct catch basins to sizes and shapes indicated.

B. Set frames and grates to elevations indicated.

3.6 PIPE OUTLET INSTALLATION

A. Construct inlet head walls, aprons, and sides of reinforced concrete, as indicated.

B. Construct riprap of broken stone, as indicated.

C. Install outlets that spill onto grade, anchored with concrete, where indicated.

D. Install outlets that spill onto grade, with flared end sections that match pipe, where indicated.

E. Construct energy dissipaters at outlets, as indicated.

3.7 CONCRETE PLACEMENT

A. Place cast-in-place concrete in accordance with applicable portions of Sections 503 and 606 of the IDOT Standard Specifications for Road and Bridge Construction, latest edition.

3.8 CONNECTIONS

A. Connections to existing piping and underground manholes shall be in accordance with applicable portions of Sections 550, 601, and 602 of the IDOT Standard Specifications for Road and Bridge Construction, latest edition.

1. Protect existing piping, manholes, and structures to prevent concrete or debris from entering while making tap connections. Remove debris or other extraneous material that may accumulate.

3.9 CLOSING ABANDONED STORM DRAINAGE SYSTEMS

A. Abandoned Piping: Close open ends of abandoned underground piping indicated to remain in place. Include closures strong enough to withstand hydrostatic and earth pressures that may result after ends of abandoned piping have been closed. Use either procedure below as directed by the Architect:

1. Close open ends of piping with at least 8-inch thick, brick masonry bulkheads.
2. Close open ends of piping with threaded metal caps, plastic plugs, or other acceptable methods suitable for size and type of material being closed. Do not use wood plugs.

B. Abandoned Manholes and Structures: Excavate around manholes and structures as required and use one procedure below as directed by the Architect:

1. Remove manhole or structure and close open ends of remaining piping.

2. Remove top of manhole or structure down to at least 36 inches below final grade. Fill to within 12 inches of top with stone, rubble, gravel, or compacted dirt. Fill to top with concrete.

C. Backfill to grade in accordance with Section 312000 "Earth Moving."

3.10 FIELD QUALITY CONTROL

A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.

1. Submit separate reports for each system inspection.
2. Defects requiring correction include the following:

    a. Alignment: Less than full diameter of inside of pipe is visible between structures.
    b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
    c. Damage: Crushed, broken, cracked, or otherwise damaged piping.
    d. Infiltration: Water leakage into piping.
    e. Exfiltration: Water leakage from or around piping.

3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
4. Re-inspect and repeat procedure until results are satisfactory.

B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.

1. Do not enclose, cover, or put into service before inspection and approval.
2. Test completed piping systems in accordance with requirements of authorities having jurisdiction.
3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
4. Submit separate report for each test.
5. Gravity-Flow Storm Drainage Piping: Test in accordance with requirements of authorities having jurisdiction, UNI-B-6, and the following:

C. Leaks and loss in test pressure constitute defects that must be repaired.

D. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

3.11 CLEANING

A. Clean interior of piping of dirt and superfluous materials. Flush with potable water.

END OF SECTION 334200

Appendix - Geotechnical Reports

TSC: Testing Service Corporation - August 17, 2018

EGSL: Environmental Group Services, Limited – January 28, 2019

August 17, 2018
Local Office

TESTING SERVICE CORPORATION

Local Office:
457 E. Gundersen Drive, Carol Stream, IL 60188-2492
630.653.3920 • Fax 630.653.2726

Corporate Office:
360 S. Main Place, Carol Stream, IL 60188-2404
630.462.2600 • Fax 630.653.2988

Mr. Ty Morris
Pulte Home Company, LLC
1900 E. Golf Road Suite 300
Schaumburg, IL 60173

RE: L-88,505
McDonalds Property
SWC Kensington & Jorie Boulevard
Oak Brook, Illinois

Dear Mr. Morris:

Borings 1 - 18 were initially performed for the McDonalds Property, a proposed residential development to be located at the southwest corner (SWC) of Kensington and Jorie Boulevard in Oak Brook, Illinois. Borings 101, 106 - 109, 111 and 112 were added as close-outs in the approximate northwest quadrant of the 34-acre site. Typed boring logs (25 total) and a boring location plan are appended for the work performed to date.

Unsuitable soil types were encountered at Borings 2, 3, 10, 11, 109 and 111 (6 total), drilled in the northwest quadrant of the site (not including northwest corner). Approximately 5 to 10 feet of primarily clay/topsoil fill was present at these locations, found overlying buried topsoil, organic clay/peat and/or soft clay soils which extended 10 to 18 feet in depth. These latter materials had very high moisture contents ranging from 30 to 110 percent, representing very low strength and compressible soil types.

The materials described above are unsuitable for foundation as well as floor slab support. One option is to remove and replace/recompact them as part as building pad construction, to require undercuts of 10 to 18 feet at the referenced boring locations. Ground improvement using stone columns or rammed aggregate piers would be another alternative. Based on the original site plan on which the borings have been plotted, these special measures would appear to impact 4 to 5 of the duplexes and 3 to 4 of the townhome buildings.

It is understood that changes may be made to the site plan based on the soil conditions discussed above, in order to minimize the impact of the unsuitable soil types. Please note that undercutting as part of mass-grading or foundation construction will also be required at other of the boring locations, although not everywhere and not to as great a depth.

Please call if there are any questions or if we may be of further service on this project.

Respectfully submitted,

TESTING SERVICE CORPORATION

Michael V. Machalinski, P.E.
Vice President

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **1** DATE STARTED **7-10-18** DATE COMPLETED **7-10-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **673.0**

END OF BORING **658.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **13.0 '**

AT END OF BORING **13.0 '**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.8	672.2	Black clayey TOPSOIL (OL)
1	SS		18	13.4	4.5+*		3.0	670.0	Hard brown silty CLAY, little sand and gravel, moist (CL)
2	SS		7	14.0	1.75 1.75*				Tough brown silty CLAY, little to some sand and gravel, moist to very moist (CL)
3	SS		6	14.8	1.5*		8.0	665.0	
4	SS		5	18.8					Loose gray clayey SILT, very moist (ML)
5	SS		12	9.9			10.5	662.5	
6	SS		14	18.6					Firm gray SAND, moist to very moist (SP)
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 88505.GPJ TSC_ALL.GDT 8/17/18

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **2** DATE STARTED **7-10-18** DATE COMPLETED **7-10-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **671.0**

END OF BORING **646.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **13.0 '**

AT END OF BORING **18.0 '**

24 HOURS

DISTANCE BELOW SURFACE IN FEET

LENGTH RECOVERY	SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
									FILL - Black clayey TOPSOIL (OL)
							1.0	670.0	
	1	SS	11	19.2	2.5*	110			FILL - Brown and black silty CLAY, little sand and gravel, trace organic, moist (CL)
	2	SS	16	18.1	4.0*	112			
							5.5	665.5	
	3	SS	14	24.7		96			FILL - Black clayey TOPSOIL, moist (OL)
							8.0	663.0	
	4	SS	17	16.5	4.5+*	116			FILL - Brown and black silty CLAY, little sand and gravel, moist (CL)
							10.5	660.5	
	5	SS	3	41.6	0.83 0.75*				Dark brown and gray trace black ORGANIC CLAY, very moist (OH)
	6	SS	1	66.7	0.70 0.25*				
	7	SS	1	38.5	0.25*				
							18.0	653.0	
	8	SS	3	16.8	0.70 0.75*				Stiff to tough brown and gray silty CLAY, little sand and gravel, very moist to moist (CL)
	9	SS	12	14.4	1.75*				* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 25.0'

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **3** DATE STARTED **7-9-18** DATE COMPLETED **7-9-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **667.0**

END OF BORING **642.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **10.5 '**

AT END OF BORING **15.0 '**

24 HOURS

DISTANCE BELOW SURFACE IN FEET

LENGTH RECOVERY	SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.3	666.7	FILL - Black clayey TOPSOIL (OL)
	1	SS	12	14.0	4.25*	122			FILL - Dark brown silty CLAY, little to some sand and gravel, trace organic, moist (CL)
							3.0	664.0	
	2	SS	9	56.7		59			FILL - Black clayey TOPSOIL, moist to very moist (OL)
	3	SS	7	51.9		68			
							8.0	659.0	
	4	SS	10	61.2					Black clayey TOPSOIL, very moist (OH)
							10.5	656.5	
	5	SS	2	110	0.75*				Black and brown PEAT, very moist (Pt)
							13.0	654.0	
	6	SS	2	99.3	0.5*				Dark brown and gray ORGANIC CLAY, very moist (OH)
							15.5	651.5	
	7	SS	4	60.8	0.5*				Soft gray ORGANIC CLAY, very moist (OH)
							18.0	649.0	
	8	SS	6	25.0					Gray SILT, little sand, very moist (ML)
									* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.
							22.0	645.0	
	9	SS	12	19.5					Firm gray clayey SAND and GRAVEL, moist (SP/GP)

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 25.0'

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **4** DATE STARTED **7-9-18** DATE COMPLETED **7-9-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **670.0**

END OF BORING **655.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

DISTANCE BELOW SURFACE IN FEET

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.5	669.5	6" Sand and Gravel
1	SS		10	11.0	4.5+*	130			FILL - Brown, gray and black silty CLAY, little to some sand and gravel, moist (CL)
2	SS		8	18.3	4.5+*	109			
							5.5	664.5	
3	SS		13	21.1	3.08 3.0*				Very tough to tough brown trace black silty CLAY, trace sand, trace organic, moist to very moist (CL/CH)
4	SS		9	30.1	1.36 1.25*				
							10.5	659.5	
5	SS		11	20.5	2.5*				Very tough brown silty CLAY, little sand and gravel, moist (CL)
							13.0	657.0	
6	SS		11	21.0	2.75*				Very tough gray silty CLAY, little sand and gravel, moist (CL)
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **5** DATE STARTED **7-9-18** DATE COMPLETED **7-9-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **668.0**

END OF BORING **653.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

DISTANCE BELOW SURFACE IN FEET

LENGTH RECOVERY	SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.5	667.5	FILL - Black clayey TOPSOIL (OL)
	1	SS	11	18.1	4.5+*	110			FILL - Brown trace black silty CLAY, little sand and gravel, trace organic, moist (CL)
							3.0	665.0	
	2	SS	13	19.1	4.22 4.25*				Hard to very tough brown and gray silty CLAY, little sand and gravel, moist (CL)
	3	SS	17	15.4	3.5*				
							8.0	660.0	
	4	SS	8	15.1	2.04 2.0*				Very tough gray silty CLAY, little sand and gravel, moist (CL)
	5	SS	11	15.3	2.25*				
	6	SS	15	17.9	3.25*				
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **6** DATE STARTED **7-9-18** DATE COMPLETED **7-9-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **671.0**

END OF BORING **656.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
1	SS		20	3.8					FILL - Brown , gray and black SAND and GRAVEL, trace Asphalt pieces, moist (SP/GP)
							3.0	668.0	
2	SS		15	23.3	2.49 2.25*				Very tough to tough brown silty CLAY, little sand, moist to very moist (CL/CH)
3	SS		14	24.8	1.5*				
							8.0	663.0	
4	SS		17	19.8	4.5*				Hard brown and gray silty CLAY, little sand and gravel, moist (CL)
5	SS		16	18.2	4.15 3.75*				
							13.0	658.0	
6	SS		15	19.8	2.75*				Very tough gray silty CLAY, little sand, moist (CL)
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 88505.GPJ TSC_ALL.GDT 8/17/18

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **7** DATE STARTED **7-9-18** DATE COMPLETED **7-9-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **677.0**

END OF BORING **662.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.3	676.7	FILL - Black clayey TOPSOIL (OL)
1	SS		9	10.4	4.0*	125			FILL - Brown sandy CLAY, little gravel, moist (CL-ML)
2	SS		10	11.4	4.5+*	124			
							5.5	671.5	
3	SS		9	18.7	2.55 2.5*				Very tough to hard brown silty CLAY, little sand and gravel, moist (CL)
4	SS		16	18.3	4.5+*				
							10.5	666.5	
5	SS		11	19.6	4.5+*				Hard to very tough gray silty CLAY, little sand and gravel, moist (CL)
6	SS		13	19.5	2.75*				
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 88505.GPJ TSC_ALL.GDT 8/17/18

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **8** DATE STARTED **7-9-18** DATE COMPLETED **7-9-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **671.5**

END OF BORING **656.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **8.0 '**

AT END OF BORING **8.0 '**

24 HOURS

DISTANCE BELOW SURFACE IN FEET

LENGTH RECOVERY	SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
	1	SS	11	11.3	4.5+*	129			FILL - Brown trace black silty CLAY, little sand and gravel, trace organic, moist (CL)
	2	SS	6	24.4	2.0*	100			
							5.5	666.0	
	3	SS	10	14.9	4.40 4.5+*				Hard brown silty CLAY, little sand and gravel, moist (CL)
							8.0	663.5	
	4	SS	8	13.4	2.0*				Very tough to tough gray silty CLAY, little to some sand and gravel, occasional Cobbles and Boulders, moist to very moist (CL)
	5	SS	11	13.7	1.5*				
	6	SS	10	13.7	1.75 1.5*				
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **9** DATE STARTED **7-9-18** DATE COMPLETED **7-9-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **670.0**

END OF BORING **655.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **10.5 '**

AT END OF BORING **Dry**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.5	669.5	FILL - Black clayey TOPSOIL (OL)
1	SS		17	13.4	4.5+*	124			FILL - Brown silty CLAY, little to some sand and gravel, moist (CL)
							3.0	667.0	
2	SS		7	40.3	1.5*	81			FILL - Black silty CLAY, trace sand, moist to very moist (CL/CH)
							5.5	664.5	
3	SS		12	15.0	4.5+*				Hard brown silty CLAY, little to some sand and gravel, moist (CL)
4	SS		13	14.6	4.13 4.5+*				▼
5	SS		12	15.9	4.5+*				
							13.0	657.0	
6	SS		12	16.3	4.0 3.5*				Very tough to hard gray silty CLAY, little sand and gravel, moist (CL)
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 88505.GPJ TSC_ALL.GDT 8/17/18

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **10** DATE STARTED **7-9-18** DATE COMPLETED **7-9-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **667.0**

END OF BORING **652.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **8.0 '**

AT END OF BORING **10.0 '**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.5	666.5	FILL - Black clayey TOPSOIL (OL)
1	SS		14	13.3	4.5+*	124			FILL - Brown trace black silty CLAY, little to some sand and gravel, trace organic, trace Crushed Concrete, moist (CL)
2	SS		12	17.7	4.5+*	103			
3	SS		11	17.8	4.5+*	112			
							8.0	659.0	
4	SS		3	54.5	0.5*				Dark brown and gray ORGANIC CLAY, very moist (OH)
5	SS		2	63.4	0.25*				
							13.0	654.0	
6	SS		11	19.8	3.0*				Very tough gray silty CLAY, little sand, moist (CL)
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 88505.GPJ TSC_ALL.GDT 8/17/18

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **11** DATE STARTED **7-10-18** DATE COMPLETED **7-10-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **668.0**

END OF BORING **653.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **13.0 '**

AT END OF BORING **13.0 '**

24 HOURS

LENGTH RECOVERY	SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.8	667.2	FILL - Black clayey TOPSOIL (OL)
	1	SS	23	17.6	4.5+*	114			FILL - Brown trace black silty CLAY, little sand and gravel, moist (CL)
							3.0	665.0	
	A			19.4		104			FILL - Black clayey TOPSOIL (OL)
	2	SS	23				4.0	664.0	
	B			18.8	4.5+*	112			FILL - Brown and gray silty CLAY, little sand and gravel, moist (CL)
							5.5	662.5	
	3	SS	7	27.4	1.09 1.25*				Tough brown trace black silty CLAY, trace sand, trace organic, very moist (CL/CH)
							8.0	660.0	
	4	SS	5	44.1	0.25*				Gray ORGANIC CLAY, very moist (OH)
							10.5	657.5	
	5	SS	9	16.7	2.81 3.0*				Very tough gray very silty CLAY, little sand, moist (CL-ML)
							13.0	655.0	
	6	SS	13	13.8	3.5*				Very tough gray silty CLAY, some sand and gravel, moist (CL)
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 88505.GPJ TSC_ALL.GDT 8/17/18

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **12** DATE STARTED **7-10-18** DATE COMPLETED **7-10-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **668.5**

END OF BORING **653.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **8.0 '**

AT END OF BORING **9.0 '**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0		
							1.0	667.5	FILL - Black clayey TOPSOIL (OL)
1	SS		24	13.1	4.5+*	114			FILL - Brown trace black silty CLAY, little to some sand and gravel, trace organic, moist (CL)
							3.0	665.5	
2	SS		9	15.1					FILL - Brown trace black sandy SILT, trace organic, moist (ML)
							5.5	663.0	
3	SS		11	11.4	4.40 4.5+*				Hard brown and gray very silty CLAY, little sand, moist (CL-ML)
							8.0	660.5	
4	SS		13	11.1					Firm gray silty SAND, little gravel, moist (SM)
							10.5	658.0	
5	SS		12	10.2	4.13 3.5*				Hard gray sandy CLAY, little gravel, moist (CL-ML)
							13.0	655.5	
6	SS		14	18.7	3.25*				Very tough gray silty CLAY, little sand and gravel, moist (CL)
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 88505.GPJ TSC_ALL.GDT 8/17/18

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **13** DATE STARTED **7-10-18** DATE COMPLETED **7-10-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **668.0**

END OF BORING **653.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **8.0 '**

AT END OF BORING **10.0 '**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0		
									FILL - Black clayey TOPSOIL (OL)
							1.2	666.8	
1	SS		19	14.0	4.5+*	122			FILL - Brown, gray and black silty CLAY, little to some sand and gravel, trace organic, moist (CL)
							3.0	665.0	
2	SS		11	13.9					Firm brown trace black silty SAND, moist (SM)
							5.5	662.5	
3	SS		7	20.5					▼
4	SS		10	14.4					Loose to firm gray SAND, trace to little silt, moist to saturated (SP-SM) ▽
5	SS		24	14.3					
							13.0	655.0	
6	SS		31	9.0					Dense gray silty SAND and GRAVEL, wet (SM/GM)
							15		End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 88505.GPJ TSC_ALL.GDT 8/17/18

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **14** DATE STARTED **7-10-18** DATE COMPLETED **7-10-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **667.5**

END OF BORING **652.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **8.0 '**

AT END OF BORING **8.0 '**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							1.0	666.5	FILL - Black clayey TOPSOIL (OL)
1	SS		14	15.3	4.5+*	117			FILL - Brown, gray and black silty CLAY, little sand and gravel, trace organic, moist (CL)
							3.0	664.5	
2	SS		11	26.1	1.75*				Tough brown trace black silty CLAY, little sand, trace organic, moist (CL/CH)
							5.5	662.0	
3	SS		14	15.1	1.25*				Tough brown and gray very silty CLAY, little sand, moist to very moist (CL-ML)
							8.0	659.5	
4	SS		14	14.1					Firm gray SAND, little gravel, very moist to saturated (SP)
							10.5	657.0	
5	SS		16	8.4					Firm gray GRAVEL, some sand, wet (GP)
6	SS		17	10.7					
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 88505.GPJ TSC_ALL.GDT 8/17/18

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **15** DATE STARTED **7-9-18** DATE COMPLETED **7-9-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **667.0**

END OF BORING **642.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **10.5 '**

AT END OF BORING **11.0 '**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
1	SS		12	8.8	3.0*	132			FILL - Brown trace black sandy CLAY, little gravel, moist (CL-ML)
							3.0	664.0	
2	SS		9	20.5					Black clayey TOPSOIL (OL) [Possible Partial Fill]
							5.5	661.5	
3	SS		10	22.7	2.68 2.0*				Very tough brown very silty CLAY, little sand, occasional silt seams, moist (CL-ML)
							8.0	659.0	
4	SS		9	16.1					Loose brown SAND, trace to little silt, moist to saturated (SP-SM)
5	SS		6	21.5					
6	SS		6	19.9					
							15.5	651.5	
7	SS		10	16.8					Loose to firm brown SAND, trace gravel, wet (SP)
							18.0	649.0	
8	SS		9	19.4					Loose brown and gray clayey SILT, little sand, very moist (ML)
									* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.
							22.0	645.0	
9	SS		12	14.6	3.34 3.5*				Very tough brown and gray silty CLAY, little sand and gravel, moist (CL)

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **358**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 25.0'

TSC 88505.GPJ TSC_ALL.GDT 8/17/18

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **16** DATE STARTED **7-9-18** DATE COMPLETED **7-9-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **666.0**

END OF BORING **641.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **10.5 '**

AT END OF BORING **9.0 '**

24 HOURS

DISTANCE BELOW SURFACE IN FEET

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0		
									FILL - Black clayey TOPSOIL (OL)
							1.2	664.8	
1	SS		14	13.4	4.5+*	123			FILL - Brown trace black silty CLAY, some sand and gravel, moist (CL)
							3.0	663.0	
2	SS		14	10.6	1.25*	125			FILL - Brown trace black sandy CLAY, little gravel, trace Crushed Concrete, occasional Cobbles and Boulders, very moist to moist (CL-ML)
3	SS		12	13.5	1.25*	116			
4	SS		8	11.1	2.0*	119			
							10.5	655.5	
5	SS		12	8.6					Firm to dense brown and gray SAND and GRAVEL, trace to little silt, occasional Cobbles and Boulders, saturated (SP/GP-GM)
6	SS		36	7.5					
							15.5	650.5	
7	SS		22	11.0	3.47 3.25*				Very tough gray sandy CLAY, little gravel, moist (CL-ML)
							18.0	648.0	
8	SS		26	15.6					Firm gray SILT, little sand, moist to very moist (ML)
							22.0	644.0	
9	SS		17	20.5	3.75*				Very tough brown and gray very silty CLAY, little sand, moist (CL-ML)
									End of Boring at 25.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DRILL RIG NO. **358**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 88505.GPJ TSC_ALL.GDT 8/17/18

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **17** DATE STARTED **7-10-18** DATE COMPLETED **7-10-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **667.5**

END OF BORING **642.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

DISTANCE BELOW SURFACE IN FEET

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.3	667.2	FILL - Black clayey TOPSOIL (OL)
1	SS		13	18.1	4.5+*	113			FILL - Brown trace black silty CLAY, little sand and gravel, trace organic, moist (CL)
							3.0	664.5	
2	SS		16	16.4	4.54 4.25*				Hard brown and gray silty CLAY, little sand and gravel, moist (CL)
							5.5	662.0	
3	SS		29	23.2					Firm brown and gray SILT, little sand, very moist (ML)
							8.0	659.5	
4	SS		34	7.3					Dense brown and gray SAND and GRAVEL, little silt, moist (SP/GP-GM)
							10.5	657.0	
5	SS		11	15.2	4.15 4.5*				Hard gray silty CLAY, little to some sand and gravel, moist (CL)
							13.0	654.5	
6	SS		16	9.1	4.5+*				Hard to very tough gray sandy CLAY, little gravel, moist (CL-ML)
7	SS		14	12.0	2.49 3.0*				
8	SS		20	10.3	4.5+*				
9	SS		20	11.2	4.5+*				

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 25.0'

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **18** DATE STARTED **7-10-18** DATE COMPLETED **7-10-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **668.0**

END OF BORING **643.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **13.0 '**

AT END OF BORING **13.0 '**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.5	667.5	Black clayey TOPSOIL (OL)
1	SS		12	11.2	4.0*	125			FILL - Brown trace black sandy CLAY, little gravel, moist (CL-ML)
							3.0	665.0	
2	SS		14	16.1	3.39 3.0*				Very tough brown and gray silty CLAY, little to some sand and gravel, occasional sand seams, moist (CL)
							5.5	662.5	
3	SS		30	16.7					Firm to dense brown and gray silty SAND and GRAVEL, moist (SM/GM)
							8.0	660.0	
4	SS		11	13.8	3.07 3.0*				Very tough gray silty CLAY, some sand and gravel, moist (CL)
							10.5	657.5	
5	SS		24	14.1					Firm gray silty SAND, occasional Cobbles and Boulders, very moist (SM)
							13.0	655.0	▼
6	SS		11	12.4	2.17 2.5*				Very tough gray very silty CLAY, little sand, moist (CL-ML)
							15.5	652.5	
7	SS		8	13.1	1.09 1.25*				Tough gray silty CLAY, some sand and gravel, very moist (CL)
							18.0	650.0	
A				11.1					Loose gray SAND and GRAVEL, trace to little silt, wet (SP/GP-GM)
8	SS		7				19.0	649.0	
B				12.6	0.75*				Stiff brown and gray silty CLAY, some sand and gravel, very moist (CL)
									* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.
							22.0	646.0	
9	SS		16	18.2					Firm brown and gray SAND, little silt, saturated (SP-SM)

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 25.0'

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **101** DATE STARTED **7-19-18** DATE COMPLETED **7-19-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **669.0**

END OF BORING **654.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **13.0 '**

AT END OF BORING **13.0 '**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.5	668.5	FILL - Black clayey TOPSOIL (OL)
1	SS		18	20.7	4.0*	108			FILL - Brown and gray trace black silty CLAY, little sand and gravel, trace organic, moist (CL)
2	SS		11	21.9	2.5*	106			
							5.5	663.5	
3	SS		13	20.5	1.53 1.5*				Tough brown and gray silty CLAY, little sand and gravel, occasional sand seams, moist (CL)
							8.0	661.0	
4	SS		7	21.3					Loose brown and gray silty SAND, moist (SM)
							10.5	658.5	
5	SS		11	15.5	2.43 2.75*				Very tough gray silty CLAY, little sand and gravel, moist (CL)
							13.0	656.0	
6	SS		12	12.6	3.25*				Very tough gray sandy CLAY, little gravel, moist (CL-ML)
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 88505.GPJ TSC_ALL.GDT 8/17/18

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **106** DATE STARTED **7-19-18** DATE COMPLETED **7-19-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **667.5**

END OF BORING **652.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **Dry**

AT END OF BORING **Dry**

24 HOURS

DISTANCE BELOW SURFACE IN FEET

LENGTH RECOVERY	SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.5	667.0	FILL - Black clayey TOPSOIL (OL)
	1	SS	13	19.7	2.0*	106			FILL - Brown trace black silty CLAY, little sand and gravel, moist (CL)
							3.0	664.5	
	2	SS	15	27.0	2.0*	97			FILL - Black clayey TOPSOIL (OL)
							5.5	662.0	
	3	SS	5	27.2	1.0*				Tough to stiff brown and gray trace black silty CLAY, trace sand, trace organic, very moist (CL/CH)
	4	SS	2	28.6	0.83 0.50*				
							10.5	657.0	
	5	SS	13	20.3					Firm gray SILT, little sand, very moist (ML)
	6	SS	12	21.7					
									End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **107** DATE STARTED **7-19-18** DATE COMPLETED **7-19-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **667.5**

END OF BORING **655.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **10.5 '**

AT END OF BORING **9.5 '**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.5	667.0	FILL - Black clayey TOPSOIL (OL)
1	SS		16	10.1	4.5+*	126			FILL - Brown trace black sandy CLAY, little gravel, trace organic, moist (CL-ML)
							3.0	664.5	
2	SS		20	22.4	3.25*				Very tough brown silty CLAY, little sand and gravel, moist (CL)
							5.5	662.0	
3	SS		20	14.5					Firm brown silty SAND, little gravel, moist (SM)
							8.0	659.5	
A				18.7	1.09				Tough brown and gray silty CLAY, little sand and gravel, very moist to moist (CL)
4 B	SS		15	8.8	1.75*		9.0	658.5	
									Firm brown SAND, little gravel, very moist to saturated (SP)
							10.5	657.0	
5	SS		21	13.1					Firm gray SAND, little gravel, saturated (SP)
									End of Boring at 12.5'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 88505.GPJ TSC_ALL.GDT 8/17/18

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **108** DATE STARTED **7-19-18** DATE COMPLETED **7-19-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **667.5**

END OF BORING **652.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING

AT END OF BORING

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.5	667.0	FILL - Black clayey TOPSOIL (OL)
1	SS		20	12.7	4.5+*	120			FILL - Dark brown sandy CLAY, trace gravel, trace organic, moist (CL-ML)
							3.0	664.5	
2	SS		12	22.4	2.68 2.75*				Very tough brown silty CLAY, little sand and gravel, moist (CL)
3	SS		12	21.3	3.5*				
							8.0	659.5	
A				13.3					Loose to firm brown and gray silty SAND, little gravel, moist (SM)
4	SS		10	18.4	2.11		9.0	658.5	
B					2.5*				Very tough gray silty CLAY, little sand and gravel, moist (CL)
							10.5	657.0	
5	SS		6	22.5					Loose gray SILT, little sand, very moist (ML)
							13.0	654.5	
6	SS		8	17.4	2.75*				Very tough gray silty CLAY, little sand and gravel, moist (CL)

End of Boring at 15.0'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **315**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 88505.GPJ TSC_ALL.GDT 8/17/18

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **109** DATE STARTED **7-19-18** DATE COMPLETED **7-19-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **667.0**

END OF BORING **649.5**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **10.5 '**

AT END OF BORING **12.0 '**

24 HOURS

DISTANCE BELOW SURFACE IN FEET

LENGTH RECOVERY	SAMPLE NO.	SAMPLE TYPE	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.5	666.5	FILL - Black clayey TOPSOIL (OL)
	1	SS	22	16.5	4.5+*	115			FILL - Brown trace black silty CLAY, little sand and gravel, trace organic, moist (CL)
							3.0	664.0	
	2	SS	4	34.3	2.0*	87			FILL - Brown trace black clayey TOPSOIL (OL)
							5.5	661.5	
	3	SS	13	16.5	5.32 4.5+*				Hard brown silty CLAY, little sand and gravel, moist (CL)
							8.0	659.0	
	4	SS	2	97.4	0.25*				Dark brown ORGANIC CLAY, very moist (OH)
							10.5	656.5	▼
	5	SS	5	20.7					▽ Loose brown and gray silty SAND, little gravel, very moist to wet (SM)
							13.0	654.0	
	6	SS	10	18.7	1.62 1.25*				Tough brown and gray silty CLAY, little sand and gravel, moist to very moist (CL)
							15.5	651.5	
	7	SS	10	12.0	4.5*				Hard brown and gray sandy CLAY, little gravel, moist (CL-ML)
									End of Boring at 17.5'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **111** DATE STARTED **7-19-18** DATE COMPLETED **7-19-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **668.5**

END OF BORING **646.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **10.5 '**

AT END OF BORING **10.0 '**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
							0.5	668.0	FILL - Black clayey TOPSOIL (OL)
1	SS		28	11.5			3.0	665.5	FILL - Brown silty SAND and GRAVEL, moist (SM/GM)
2	SS		8	23.3	2.0*	103	5.5	663.0	FILL - Brown trace black silty CLAY, little sand and gravel, trace organic, moist (CL)
3	SS		12	29.8	2.0*		8.0	660.5	Black clayey TOPSOIL, moist (OL) [Possible Partial Fill]
4	SS		2	35.7	0.83 0.5*		10.5	658.0	Soft brown silty CLAY, trace sand, very moist (CL/CH)
5	SS		5	21.2	1.09 1.25*				Tough brown and gray silty CLAY, little sand and gravel, very moist to moist (CL)
6	SS		5	17.5	1.5*				* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.
7	SS		4	24.7			15.5	653.0	Loose brown SAND and GRAVEL, saturated (SP/GP)
8	SS		15	16.5			18.0	650.5	Firm brown SAND, trace to little silt, very moist (SP-SM)
9	SS		15	16.2	3.25*		20.5	648.0	Very tough brown and gray silty CLAY, little sand and gravel, moist (CL)
									End of Boring at 22.5'

DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **McDonalds Property, Oak Brook, Illinois**

CLIENT **Pulte Home Company, LLC, Schaumburg, Illinois**

BORING **112** DATE STARTED **7-19-18** DATE COMPLETED **7-19-18** JOB **L-88,505**

ELEVATIONS

GROUND SURFACE **666.5**

END OF BORING **654.0**

WATER LEVEL OBSERVATIONS

WHILE DRILLING **10.5 '**

AT END OF BORING **12.0 '**

24 HOURS

SAMPLE NO.	SAMPLE TYPE	LENGTH RECOVERY	N	WC	Qu	γ_{DRY}	DEPTH	ELEV.	SOIL DESCRIPTIONS
1	SS		16	14.7	4.25*	107			FILL - Dark brown sandy CLAY, little gravel, trace organic, moist (CL-ML)
							3.0	663.5	
2	SS		14	12.4	4.25*				Hard brown and gray sandy CLAY, little gravel, moist (CL-ML)
							5.5	661.0	
3	SS		12	16.0	1.85 2.0*				Tough brown and gray silty CLAY, little sand and gravel, moist (CL)
							8.0	658.5	
4	SS		24	10.2					Firm brown SAND, little to some gravel, moist to saturated (SP)
5	SS		25	14.6					
									End of Boring at 12.5'

* Approximate unconfined compressive strength based on measurements with a calibrated pocket penetrometer.

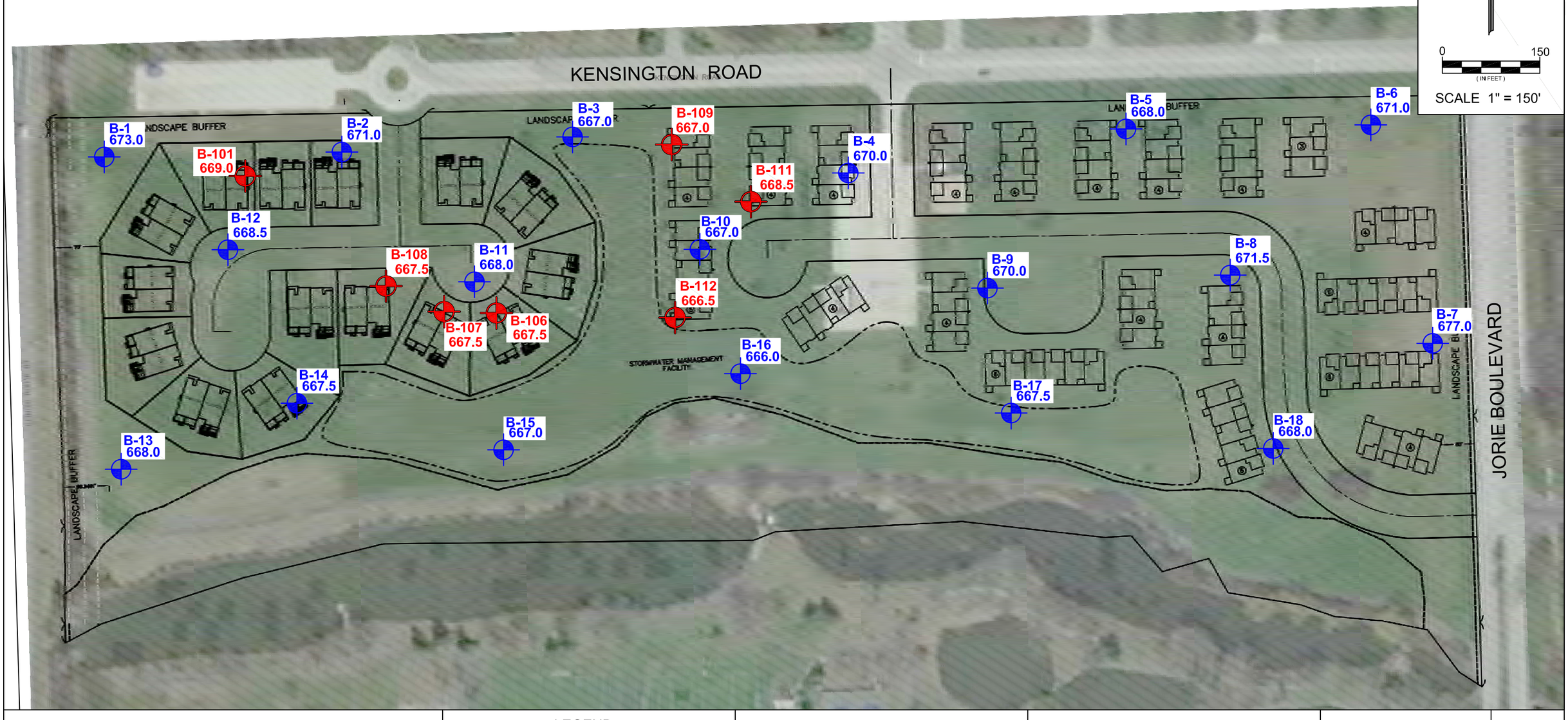
DISTANCE BELOW SURFACE IN FEET

0 5 10 15 20 25

DRILL RIG NO. **314**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC 88505.GPJ TSC_ALL.GDT 8/17/18



NOTE: GROUND SURFACE ELEVATIONS AT THE BORINGS WERE ACQUIRED BY TSC USING A TRIMBLE R8S GNSS RECEIVER, BEING ROUNDED TO THE NEAREST 0.5 FOOT.

LEGEND

SOIL BORING LOCATION

CLOSEOUT BORINGS

BORING LOCATION PLAN
MCDONALDS PROPERTY
SWC KENSINGTON & JORIE BLVD.
OAK BROOK, ILLINOIS

TESTING SERVICE CORPORATION
457 EAST GUNDERSEN DRIVE
CAROL STREAM, ILLINOIS 60188

DRAWN BY:	JAC
CHECKED BY:	SJP
JOB NO. :	L–88,505
DATE:	08–17–18

PAGE NO.
1 OF 1

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Limited Phase II Subsurface Soil and Soil Gas Vapor Investigation

Subject Property: **34.259 Acres, SW Corner of Kensington Road and Jorie Boulevard Oak Brook, Illinois 60523**

EGSL Project No.: **1901114**

Prepared for:
Ms. Laure Kosey
Oak Brook Park District
1450 Forest Gate Road
Oak Brook, Illinois 60523

Prepared by:
Mary Cappellini
Project Manager

January 28, 2019

1. EXECUTIVE SUMMARY

Environmental Group Services, Ltd. (EGSL) completed a Limited Phase II Subsurface Soil and Soil Gas Vapor Investigation of the 34.259 acre parcel located on the southwest corner of Kensington Road and Jorie Boulevard, Oak Brook, Illinois, hereinafter referred to as the "Subject Property". This investigation was performed in accordance with the regulations set forth in 35 IAC 740 (Site Remediation Program (SRP)), 35 IAC 734 (Leaking Underground Storage Tank (LUST) Program) and 35 IAC 742 (Tiered Approach to Corrective Action Objectives (TACO)), Tier 1, for Residential and Industrial/Commercial properties.

EGSL previously completed a Phase I Environmental Site Assessment dated February 9, 2017. According to the report, the following recognized environmental condition (REC) was identified:

- The historical aerial photographs show that the property was disturbed, and possible soil disturbance activities were being conducted on-site from the 1960s through early 1970s. EGSL was unable to determine what the property was utilized for during that time and if fill material from other locations was deposited on-site; therefore, it is considered a significant data gap.

Based on the above-referenced REC, on January 10, 2019, EGSL advanced ten (10) soil borings at the property. Four (4) soil samples were collected and submitted to *STAT Analysis Corporation* for analysis of Target Compound List (TCL). Additionally, EGSL collected one (1) soil gas vapor sample. The soil gas vapor sample was submitted for analysis of VOCs. No visual or olfactory indications of negatively impacted soils were observed. No elevated PID readings were observed.

According to the soil analytical results, Arsenic was detected within soil boring GP-5 (8-10) at a concentration of 16.0 mg/Kg, which is above the IEPA Tier 1 Remediation Objective (RO) of 13 mg/Kg for the ingestion exposure route. However, it should be noted that the IEPA utilizes the Metropolitan Statistical Area average concentration of Arsenic (13 mg/Kg) as a default RO. The ingestion route for Arsenic is the only Inorganic exposure route in which the IEPA has resulted in utilizing the average background concentration as the default RO due to lack of scientific data. Due to this fact, the IEPA will allow a site specific average by utilizing a 95% Upper Confidence Limit (UCL), just so long as the highest concentration detected is not 10x greater than the RO. Based on EGSL's experience with background concentrations of Arsenic in the area and the relatively low concentration of Arsenic detected in the remaining soil samples, EGSL does not believe that the Arsenic detected is resultant of operations conducted on-site and does not believe that it represents an environmental concern. No other chemicals of concern were detected above any of the IEPA Tier 1 ROs within the soil.

According to the soil gas vapor analytical results, no chemicals of concern were detected above any of the IEPA Tier 1 Soil Gas Vapor Remediation Objectives.

2. INVESTIGATION ACTIVITIES

2.1 Soil Boring Investigation Activities

A Limited Phase II Subsurface Investigation was conducted in order to assess the potential for the presence of chemicals of concern (COC) in the subsurface soil present at the Site. The investigation was conducted in accordance with Part 734 (LUST)/ Part 740 (SRP) and the COC were chosen from the Target Compound List (TCL) indicator contaminants identified in Appendix A of Part 742 (TACO).

EGSL utilized a Geoprobe 6610DT to advance soil borings in order to retrieve continuous soil samples throughout the areas of concern (see Appendix A for Boring Locations and Appendix B for Soil Boring Logs). Probe rods were lined with new disposable acetate liners for each sampling interval. The liner prevents cross-contamination of the soil between sample collection intervals.

All soil samples were split into two parts: one to be placed into a sealed plastic bag for headspace analysis of volatile organic vapors and the other to be placed in laboratory supplied containers for potential analysis. The bagged samples were tested in the field with Photo-Ionization Detector (PID). The PID was used to screen each soil sample from each boring location for relative concentration of VOCs and does not provide separation of the contaminants into individual constituents. The utilization of this field-screening device provided immediate on-site data for use in the assessment of the site.

A total of ten (10) soil borings were advanced. Each sample was classified and logged in the field by a geologist. Four (4) soil samples were submitted for analysis in order to analytically determine the presence and concentration of COC in the areas of concern. The sample depth and the type of analysis requested (if any) of the samples are listed below:

Boring Number	Depth of Sample (feet)	TCL	TCLP 18 Metals	pH	Hold
GP-1	2-4				X
GP-2	5-7	X	X	X	
GP-3	3-5				X
GP-4	4-6				X
GP-5	8-10	X	X	X	
GP-6	1-3				X
GP-7	6-8	X	X	X	
GP-8	3-5				X
GP-9	5-7	X	X	X	
GP-10	8-10				X

2.2 Soil Gas Vapor Investigation Activities

A Soil Gas Vapor Investigation was conducted in order to assess the potential for the presence of chemicals of concern (COC) in the subsurface soil gas vapor present at the site. The investigation was conducted in accordance with 35 IAC TACO Part 742 for Residential and Industrial/Commercial properties.

The soil gas vapor sample was collected in accordance with the sampling procedures outlined in TACO Part 742, Subpart B, Section 742.227. The sample was obtained using rigid-wall tubing and gas-tight inert containers. Three volumes were purged prior to obtaining the soil gas sample. A helium tracer leak detection system was utilized and the flow rate was limited to 200 mL/min.

EGSL obtained one (1) soil gas vapor sample. The sample was collected at a depth of four feet below grade surface and above the saturated zone. The sample was submitted to *STAT Analysis Corporation* (STAT), a NELAP certified laboratory with a completed chain of custody. STAT provided EGSL with the appropriate TO-15 sampling canister.

2.3 Soil Geology

On-site field investigations revealed that the subsurface geology was comprised of brown/gray soft clay with intermittent rocks throughout followed by brown/gray silty clay followed by gray silt. Groundwater was encountered at 10 feet bgs within six of the soil borings. No visual or olfactory indications of negatively impacted soil were observed. No elevated PID readings were observed.

3. INVESTIGATION ANALYTICAL RESULTS

3.1 Soil Analytical Results

The analytical test results of the samples were compared to the Remediation Objectives (ROs) derived from the Illinois Environmental Protection Agency (IEPA) “adopted” IAC 742, Tiered Approach to Corrective Action Objectives (TACO), Tier I for Residential and Industrial/Commercial properties, and the Soil Component of the Groundwater Ingestion Route (SCGIR) Class I/II Groundwater.

According to the soil analytical results, Arsenic was detected within GP-5 (8-10) at a concentration of 16.0 mg/Kg; which exceeds the IEPA Tier 1 Soil Ingestion ROs of 13.0 mg/Kg. No other chemicals of concern were detected above any of the IEPA Tier 1 Soil ROs within any of the remaining soil samples.

3.2 Soil Gas Vapor Analytical Results

The soil gas vapor analytical results were compared to the TACO Part 742 Appendix B Table H (Indoor Inhalation Exposure Route Diffusion/Advection). All results are compared to the Tier 1 Soil Gas Remediation Objectives for Residential and Industrial/Commercial properties.

According to the soil gas vapor analytical results, no chemicals of concern were detected above any of the IEPA Tier 1 Soil Gas Vapor Remediation Objectives.

4. CONCLUSIONS

EGSL previously completed a Phase I Environmental Site Assessment dated February 9, 2017. According to the report, the following recognized environmental condition (REC) was identified:

- The historical aerial photographs show that the property was disturbed, and possible soil disturbance activities were being conducted on-site from the 1960s through early 1970s. EGSL was unable to determine what the property was utilized for during that time and if fill material from other locations was deposited on-site; therefore, it is considered a significant data gap.

Based on the above-referenced REC, on January 10, 2019, EGSL advanced ten (10) soil borings at the property. Four (4) soil samples were collected and submitted to *STAT Analysis Corporation* for analysis of Target Compound List (TCL). Additionally, EGSL collected one (1) soil gas vapor sample. The soil gas vapor sample was submitted for analysis of VOCs. No visual or olfactory indications of negatively impacted soils were observed. No elevated PID readings were observed.

According to the soil analytical results, Arsenic was detected within soil boring GP-5 (8-10) at a concentration of 16.0 mg/Kg, which is above the IEPA Tier 1 Remediation Objective (RO) of 13 mg/Kg for the ingestion exposure route. However, it should be noted that the IEPA utilizes the Metropolitan Statistical Area average concentration of Arsenic (13 mg/Kg) as a default RO. The ingestion route for Arsenic is the only Inorganic exposure route in which the IEPA has resulted in utilizing the average background concentration as the default RO due to lack of scientific data. Due to this fact, the IEPA will allow a site specific average by utilizing a 95% Upper Confidence Limit (UCL), just so long as the highest concentration detected is not 10x greater than the RO. Based on EGSL's experience with background concentrations of Arsenic in the area and the relatively low concentration of Arsenic detected in the remaining soil samples, EGSL does not believe that the Arsenic detected is resultant of operations conducted on-site and does not believe that it represents an environmental concern. No other chemicals of concern were detected above any of the IEPA Tier 1 ROs within the soil.

According to the soil gas vapor analytical results, no chemicals of concern were detected above any of the IEPA Tier 1 Soil Gas Vapor Remediation Objectives. Therefore, EGSL has no further recommendations at this time.

5. SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

This report pertains to the 34.259 acre parcel located on the southwest corner of Kensington Road and Jorie Boulevard, Oak Brook, Illinois. Our professional services have been performed using the degree of care and skill ordinarily exercised under similar circumstances by environmental professionals practicing in this field. It should be noted that no investigation, no matter how thorough, can completely eliminate the possible presence of an underground storage tank from a site. The representations made in this report are accurate and true to the best knowledge of the undersigned.

Sincerely,

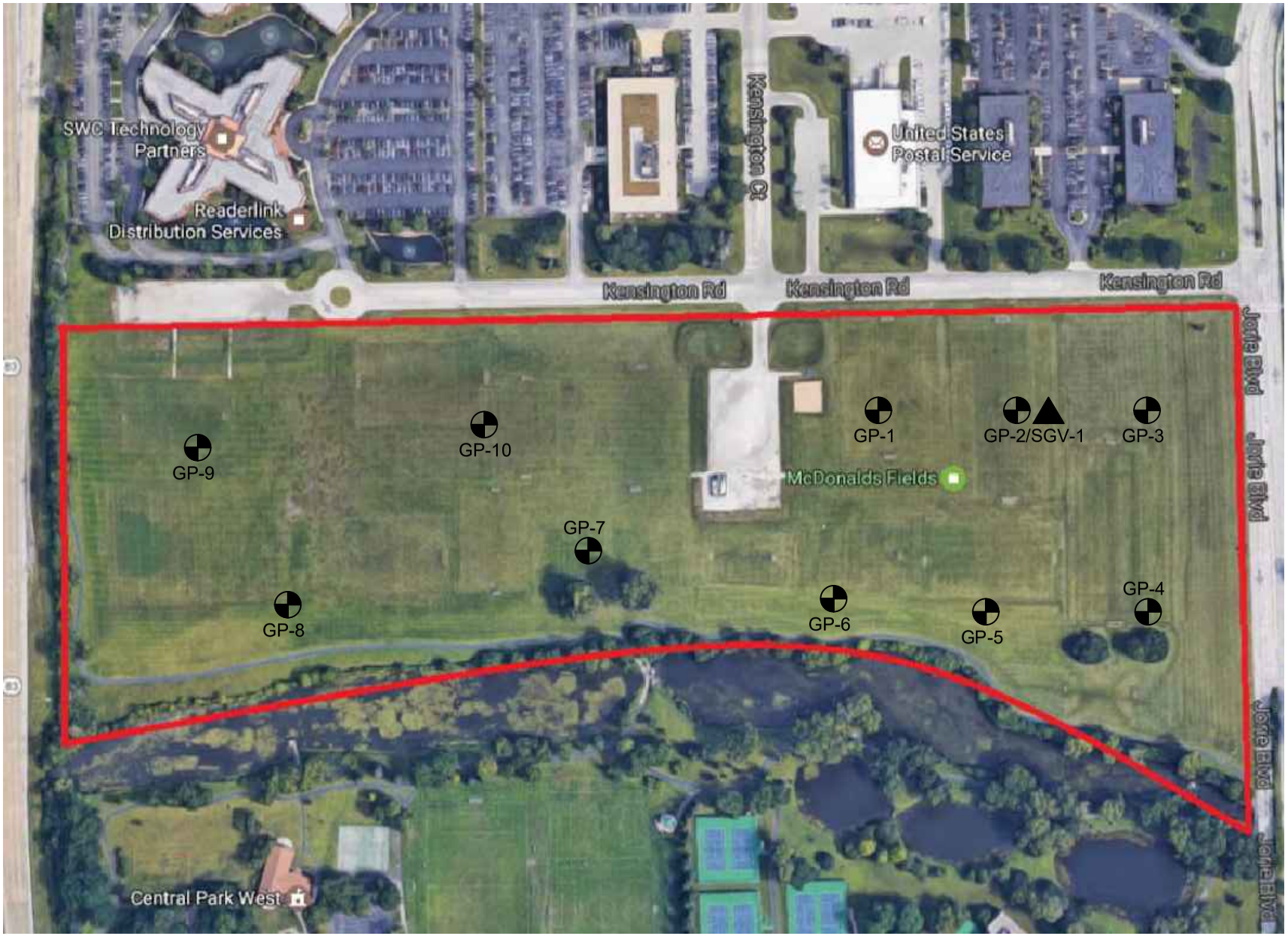
ENVIRONMENTAL GROUP SERVICES, LIMITED

Mary Cappellini
Environmental Professional / Project Manager

Bill Lennon
Environmental Professional / Report Review

Vahooman Mirkhaef
Environmental Professional / President

APPENDIX A – Soil Boring Locations



ENVIRONMENTAL GROUP SERVICES LIMITED

Legend:

- Subject Property
- Soil Boring
- Soil Gas Vapor

Subject Property:
34.259 Acres, SWC Kensington/Jorie

EGSL Project No.
1901114

Drawing Title
Soil Boring Locations

Date
January 10, 2019

Scale:
Not to Scale

N

APPENDIX B – Soil Boring Logs

557 W. Polk St.
Chicago, Il 60607

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Soil Boring Log

Subject Property

~35 Acres, SWC, Kensington & Jorie,
Oak Brook, IL

Boring Number: GP-1

Soil Boring Date

1/10/2019

PID (ppm)	Sample Recovery (%)	Sample	Depth (feet)	General Soil Class	Lithology	Description	Notes
0.0	90		1.0'	Topsoil		Grass underlain by dark brown organic soil-damp	Notes
0.0			2.0'				
0.0			3.0'				
0.0			4.0'				
0.0	99		5.0'	Clay			
0.0			6.0'				
0.0			7.0'				
			8.0'				
			9.0'				
			10.0'			Brown/gray slightly silty clay-damp	

Key: Sample submitted for analysis; Sample on hold at laboratory

Drill Rig: Geoprobe 6610DT

Driller: J. Kulla

Boring Depth: 10'

Groundwater Depth: Not Encountered

Geologist: M. Cappellini

EGSL Project No: 1901114

Note: Stratification lines are approximate; in-situ transition between soil types may be gradual.

Note: Boring backfilled unless otherwise noted.

557 W. Polk St.
Chicago, Il 60607

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Soil Boring Log

Subject Property

~35 Acres, SWC, Kensington & Jorie,
Oak Brook, IL

Boring Number: GP-2

Soil Boring Date

1/10/2019

PID (ppm)	Sample Recovery (%)	Sample	Depth (feet)	General Soil Class	Lithology	Description	Notes
0.0	80		1.0'	Topsoil		Grass underlain by dark brown organic soil-damp	Notes
0.0			2.0'	Clay			
0.0			3.0'			Brown/gray soft clay with intermittent rocks- damp	
0.0			4.0'				
0.0	99		5.0'	Clay			
0.0			6.0'				
			7.0'				
			8.0'				
			9.0'				
			10.0'			Brown/gray silty clay-damp	

Key: Sample submitted for analysis; Sample on hold at laboratory

Drill Rig: Geoprobe 6610DT

Driller: J. Kulla

Boring Depth: 10'

Groundwater Depth: Not Encountered

Geologist: M. Cappellini

EGSL Project No: 1901114

Note: Stratification lines are approximate; in-situ transition between soil types may be gradual.

Note: Boring backfilled unless otherwise noted.

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Chicago, Il 60607

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Soil Boring Log

Subject Property

~35 Acres, SWC, Kensington & Jorie,
Oak Brook, IL

Boring Number: GP-3

Soil Boring Date

1/10/2019

PID (ppm)	Sample Recovery (%)	Sample	Depth (feet)	General Soil Class	Lithology	Description	Notes
0.0	90		1.0'	Topsoil		Grass underlain by dark brown organic soil-damp	Notes
0.0			2.0'				
0.0			3.0'				
0.0			4.0'				
0.0			5.0'	Clay			
0.0	99		6.0'				
0.0			7.0'				
			8.0'				
			9.0'				
			10.0'			Brown/gray slightly silty clay-damp	

Key: Sample submitted for analysis; Sample on hold at laboratory

Drill Rig: Geoprobe 6610DT

Driller: J. Kulla

Boring Depth: 10'

Groundwater Depth: Not Encountered

Geologist: M. Cappellini

EGSL Project No: 1901114

Note: Stratification lines are approximate; in-situ transition between soil types may be gradual.

Note: Boring backfilled unless otherwise noted.

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Soil Boring Log

Subject Property

~35 Acres, SWC, Kensington & Jorie,
Oak Brook, IL

Boring Number: GP-4

Soil Boring Date

1/10/2019

PID (ppm)	Sample Recovery (%)	Sample	Depth (feet)	General Soil Class	Lithology	Description	Notes
0.0	80		1.0'	Topsoil		Grass underlain by dark brown organic soil-damp	Notes
0.0			2.0'				
0.0			3.0'				
0.0			4.0'				
0.0	99		5.0'	Clay			
0.0			6.0'				
			7.0'			Brown/gray soft clay with intermittent rocks- damp	
			8.0'				
0.0			9.0'	Silt			
			10.0'			Gray silt- moist to wet	

Key: Sample submitted for analysis; Sample on hold at laboratory

Drill Rig: Geoprobe 6610DT

Driller: J. Kulla

Boring Depth: 10'

Groundwater Depth: 10'

Geologist: M. Cappellini

EGSL Project No: 1901114

Note: Stratification lines are approximate; in-situ transition between soil types may be gradual.

Note: Boring backfilled unless otherwise noted.

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SERVICES LIMITED

Soil Boring Log

Subject Property

~35 Acres, SWC, Kensington & Jorie,
Oak Brook, IL

Boring Number: GP-5

Soil Boring Date

1/10/2019

PID (ppm)	Sample Recovery (%)	Sample	Depth (feet)	General Soil Class	Lithology	Description	Notes
0.0	80		1.0'	Topsoil		Grass underlain by dark brown organic soil-damp	Notes
0.0			2.0'				
0.0			3.0'				
0.0			4.0'				
0.0			5.0'	Clay			
0.0	80		6.0'				
0.0			7.0'				
0.0			8.0'			Brown/gray hard lean clay- damp	
			9.0'	Silt		Brown silt- damp	
			10.0'				

Key: Sample submitted for analysis; Sample on hold at laboratory

Drill Rig: Geoprobe 6610DT

Driller: J. Kulla

Boring Depth: 10'

Groundwater Depth: 10'

Geologist: M. Cappellini

EGSL Project No: 1901114

Note: Stratification lines are approximate; in-situ transition between soil types may be gradual.

Note: Boring backfilled unless otherwise noted.

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Soil Boring Log

Boring Number: GP-6

Subject Property

~35 Acres, SWC, Kensington & Jorie,
Oak Brook, IL

Soil Boring Date

1/10/2019

PID (ppm)	Sample Recovery (%)	Sample	Depth (feet)	General Soil Class	Lithology	Description	Notes
0.0	75		1.0'	Topsoil		Grass underlain by dark brown organic soil-damp	Notes
0.0			2.0'				
0.0			3.0'				
0.0			4.0'				
0.0			5.0'	Clay			
0.0	90		6.0'				
0.0			7.0'				
			8.0'				
			9.0'			Brown/gray hard lean clay- damp	
			10.0'	Clay		Brown silty clay- damp	

Key: Sample submitted for analysis; Sample on hold at laboratory

Drill Rig: Geoprobe 6610DT

Driller: J. Kulla

Geologist: M. Cappellini

Boring Depth: 10'

Groundwater Depth: 10'

EGSL Project No: 1901114

Note: Stratification lines are approximate; in-situ transition between soil types may be gradual.

Note: Boring backfilled unless otherwise noted.

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Chicago, Il 60607

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Soil Boring Log

Subject Property

~35 Acres, SWC, Kensington & Jorie,
Oak Brook, IL

Boring Number: GP-7

Soil Boring Date

1/10/2019

PID (ppm)	Sample Recovery (%)	Sample	Depth (feet)	General Soil Class	Lithology	Description	Notes
0.0	60		1.0'	Topsoil		Grass underlain by dark brown organic soil-damp	Notes
0.0			2.0'				
0.0			3.0'				
0.0			4.0'				
0.0	90		5.0'	Clay			
0.0			6.0'				
0.0			7.0'				
0.0			8.0'			Brown clay with rocks mixed throughout- damp	
0.0			9.0'	Silt			
			10.0'			Dark brown organic silt- damp	

Key: Sample submitted for analysis; Sample on hold at laboratory

Drill Rig: Geoprobe 6610DT

Driller: J. Kulla

Boring Depth: 10'

Groundwater Depth: 10'

Geologist: M. Cappellini

EGSL Project No: 1901114

Note: Stratification lines are approximate; in-situ transition between soil types may be gradual.

Note: Boring backfilled unless otherwise noted.

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Soil Boring Log

Subject Property

~35 Acres, SWC, Kensington & Jorie,
Oak Brook, IL

Boring Number: GP-8

Soil Boring Date

1/10/2019

PID (ppm)	Sample Recovery (%)	Sample	Depth (feet)	General Soil Class	Lithology	Description	Notes
0.0	90		1.0'	Topsoil		Grass underlain by dark brown organic soil-damp	Notes
0.0			2.0'				
0.0			3.0'				
0.0			4.0'				
0.0			5.0'	Fill			
0.0	90		6.0'				
0.0			7.0'				
0.0			8.0'			Fill: rocks and dirt- damp	
0.0			9.0'	Clay			
			10.0'			Gray hard clay- damp	

Key:

- Sample submitted for analysis
- Sample on hold at laboratory

Drill Rig: Geoprobe 6610DT

Driller: J. Kulla

Geologist: M. Cappellini

EGSL Project No: 1901114

Boring Depth: 10'

Groundwater Depth: 10'

Note: Stratification lines are approximate; in-situ transition between soil types may be gradual.

Note: Boring backfilled unless otherwise noted.

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Soil Boring Log

Subject Property

~35 Acres, SWC, Kensington & Jorie,
Oak Brook, IL

Boring Number: GP-9

Soil Boring Date

1/10/2019

PID (ppm)	Sample Recovery (%)	Sample	Depth (feet)	General Soil Class	Lithology	Description	Notes
0.0	95		1.0'	Topsoil		Grass underlain by dark brown organic soil-damp	Notes
0.0			2.0'	Fill		Fill: rocks and dirt- damp	
0.0			3.0'				
0.0	99		4.0'				
0.0			5.0'	Silt		Gray silt- damp	
			6.0'				
			7.0'				
			8.0'				
			9.0'				
			10.0'				

Key: Sample submitted for analysis; Sample on hold at laboratory

Drill Rig: Geoprobe 6610DT

Driller: J. Kulla

Geologist: M. Cappellini

Boring Depth: 10'

Groundwater Depth: 10'

EGSL Project No: 1901114

Note: Stratification lines are approximate; in-situ transition between soil types may be gradual.

Note: Boring backfilled unless otherwise noted.

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Soil Boring Log

Subject Property

~35 Acres, SWC, Kensington & Jorie, Oak Brook, IL

Boring Number: GP-10

Soil Boring Date

1/10/2019

PID (ppm)	Sample Recovery (%)	Sample	Depth (feet)	General Soil Class	Lithology	Description	Notes
0.0	90		1.0'	Topsoil		Grass underlain by dark brown organic soil-damp	Notes
0.0			2.0'				
0.0			3.0'				
0.0			4.0'				
0.0	99		5.0'	Clay			
0.0			6.0'				
0.0			7.0'				
			8.0'				
			9.0'			Brown/gray slightly silty clay-damp	
			10.0'				

Key: Sample submitted for analysis; Sample on hold at laboratory

Drill Rig: Geoprobe 6610DT

Driller: J. Kulla

Boring Depth: 10'

Groundwater Depth: Not Encountered

Geologist: M. Cappellini

EGSL Project No: 1901114

Note: Stratification lines are approximate; in-situ transition between soil types may be gradual.

Note: Boring backfilled unless otherwise noted.

APPENDIX C – Soil and Soil Gas Vapor Analytical Data

TACO Tier I Soil Remediation Objectives - Supplemental Residential Report (VOC)

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID :	19010291-002	19010291-005	19010291-007	19010291-009
Client Sample ID :	GP-2 (5-7)	GP-5 (8-10)	GP-7 (6-8)	GP-9 (5-7)
Date Collected :	01/10/2019 09:40	01/10/2019 10:15	01/10/2019 10:45	01/10/2019 11:30

		Residential Route Specific Values for Soil		**Construction Worker Route Specific Values for Soil**		**Soil Component of Groundwater Ingestion Exposure Route Values**					
CAS No.	Analyte	**Ingestion**	**Inhalation**	**Ingestion**	**Inhalation**	**Class I**	**Class II**				
67-64-1	Acetone	70,000	100,000	-----	100,000	25	25	< 0.068	< 0.069	< 0.077	< 0.058
71-43-2	Benzene	12	0.8	2,300	2.2	0.03	0.17	< 0.0045	< 0.0046	< 0.0051	< 0.0038
75-27-4	Bromodichloromethane	10	3,000	2,000	3,000	0.6	0.6	< 0.0045	< 0.0046	< 0.0051	< 0.0038
75-25-2	Bromoform	81	53	16,000	140	0.8	0.8	< 0.0045	< 0.0046	< 0.0051	< 0.0038
74-83-9	Bromomethane	110	10	1,000	3.9	0.2	1.2	< 0.0089	< 0.0092	< 0.010	< 0.0077
78-93-3	2-Butanone							< 0.068	< 0.069	< 0.077	< 0.058
75-15-0	Carbon disulfide	7,800	720	20,000	9.0	32	160	< 0.045	< 0.046	< 0.051	< 0.038
56-23-5	Carbon tetrachloride	5	0.3	410	0.90	0.07	0.33	< 0.0045	< 0.0046	< 0.0051	< 0.0038
108-90-7	Chlorobenzene	1,600	130	4,100	1.3	1	6.5	< 0.0045	< 0.0046	< 0.0051	< 0.0038
75-00-3	Chloroethane							< 0.0089	< 0.0092	< 0.010	< 0.0077
67-66-3	Chloroform	100	0.3	2,000	0.76	0.6	2.9	< 0.0045	< 0.0046	< 0.0051	< 0.0038
74-87-3	Chloromethane							< 0.0089	< 0.0092	< 0.010	< 0.0077
124-48-1	Dibromochloromethane	1,600	1,300	41,000	1,300	0.4	0.4	< 0.0045	< 0.0046	< 0.0051	< 0.0038
75-34-3	1,1-Dichloroethane	7,800	1,300	200,000	130	23	110	< 0.0045	< 0.0046	< 0.0051	< 0.0038
107-06-2	1,2-Dichloroethane	7	0.4	1,400	0.99	0.02	0.1	< 0.0045	< 0.0046	< 0.0051	< 0.0038
75-35-4	1,1-Dichloroethene	3,900	290	10,000	3.0	0.06	0.3	< 0.0045	< 0.0046	< 0.0051	< 0.0038
156-59-2	cis-1,2-Dichloroethene	780	1,200	20,000	1,200	0.4	1.1	< 0.0045	< 0.0046	< 0.0051	< 0.0038
156-60-5	trans-1,2-Dichloroethene	1,600	3,100	41,000	3,100	0.7	3.4	< 0.0045	< 0.0046	< 0.0051	< 0.0038
78-87-5	1,2-Dichloropropane	9	15	1,800	0.50	0.03	0.15	< 0.0045	< 0.0046	< 0.0051	< 0.0038
10061-01-5	cis-1,3-Dichloropropene	6	1.1	1,200	0.39	0.004	0.02	< 0.0018	< 0.0018	< 0.0020	< 0.0015
10061-02-6	trans-1,3-Dichloropropene	6	1.1	1,200	0.39	0.004	0.02	< 0.0018	< 0.0018	< 0.0020	< 0.0015
100-41-4	Ethylbenzene	7,800	400	20,000	58	13	19	< 0.0045	< 0.0046	< 0.0051	< 0.0038
591-78-6	2-Hexanone							< 0.018	< 0.018	< 0.020	< 0.015
108-10-1	4-Methyl-2-pentanone							< 0.018	< 0.018	< 0.020	< 0.015
75-09-2	Methylene chloride	85	13	12,000	34	0.02	0.2	< 0.0089	< 0.0092	< 0.010	< 0.0077
1634-04-4	Methyl tert-butyl ether	780	8,800	2,000	140	0.32	0.32	< 0.0045	< 0.0046	< 0.0051	< 0.0038
100-42-5	Styrene	16,000	1,500	41,000	430	4	18	< 0.0045	< 0.0046	< 0.0051	< 0.0038
79-34-5	1,1,2,2-Tetrachloroethane							< 0.0045	< 0.0046	< 0.0051	< 0.0038
127-18-4	Tetrachloroethene	12	11	2,400	28	0.06	0.3	< 0.0045	< 0.0046	< 0.0051	< 0.0038
108-88-3	Toluene	16,000	650	410,000	42	12	29	< 0.0045	< 0.0046	< 0.0051	< 0.0038
71-55-6	1,1,1-Trichloroethane	---	1,200	---	1,200	2	9.6	< 0.0045	< 0.0046	< 0.0051	< 0.0038
79-00-5	1,1,2-Trichloroethane	310	1,800	8,200	1,800	0.02	0.3	< 0.0045	< 0.0046	< 0.0051	< 0.0038
79-01-6	Trichloroethene	58	5	1,200	12	0.06	0.3	< 0.0045	< 0.0046	< 0.0051	< 0.0038
75-01-4	Vinyl chloride	0.46	0.28	170	1.1	0.01	0.07	< 0.0045	< 0.0046	< 0.0051	< 0.0038
1330-20-7	Xylenes, Total	16,000	320	41,000	5.6	150	150	< 0.014	< 0.014	< 0.015	< 0.012

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table A.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

Construction Worker Objectives from 35 IAC Part 742, Appendix B Table B.

TACO Tier I Soil Remediation Objectives - Supplemental Residential Report (PNA)

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID :	19010291-002	19010291-005	19010291-007
Client Sample ID :	GP-2 (5-7)	GP-5 (8-10)	GP-7 (6-8)
Date Collected :	01/10/2019 09:40	01/10/2019 10:15	01/10/2019 10:45

		Residential Route Specific Values for Soil		Construction Worker Route Specific Values for Soil		Soil Component of Groundwater Ingestion Exposure Route Values				
CAS No.	Analyte	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II			
83-32-9	Acenaphthene	4,700	---	120,000	---	570	2,900	< 0.037	< 0.038	< 0.041
208-96-8	Acenaphthylene							< 0.037	< 0.038	< 0.041
120-12-7	Anthracene	23,000	---	610,000	---	12,000	59,000	< 0.037	< 0.038	< 0.041
56-55-3	Benz(a)anthracene	0.9	---	170	---	2	8	< 0.037	< 0.038	< 0.041
50-32-8	Benzo(a)pyrene	0.09	---	17	---	8	82	< 0.037	< 0.038	< 0.041
205-99-2	Benzo(b)fluoranthene	0.9	---	170	---	5	25	< 0.037	< 0.038	< 0.041
191-24-2	Benzo(g,h,i)perylene							< 0.037	< 0.038	< 0.041
207-08-9	Benzo(k)fluoranthene	9	---	1,700	---	49	250	< 0.037	< 0.038	< 0.041
218-01-9	Chrysene	88	---	17,000	---	160	800	< 0.037	< 0.038	< 0.041
53-70-3	Dibenz(a,h)anthracene	0.09	---	17	---	2	7.6	< 0.037	< 0.038	< 0.041
206-44-0	Fluoranthene	3,100	---	82,000	---	4,300	21,000	< 0.037	< 0.038	< 0.041
86-73-7	Fluorene	3,100	---	82,000	---	560	2,800	< 0.037	< 0.038	< 0.041
193-39-5	Indeno(1,2,3-cd)pyrene	0.9	---	170	---	14	69	< 0.037	< 0.038	< 0.041
91-20-3	Naphthalene	1,600	170	4,100	1.8	12	18	< 0.037	< 0.038	< 0.041
85-01-8	Phenanthrene							< 0.037	< 0.038	< 0.041
129-00-0	Pyrene	2,300	---	61,000	---	4,200	21,000	< 0.037	< 0.038	< 0.041

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table A.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

Construction Worker Objectives from 35 IAC Part 742, Appendix B Table B.

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID : 19010291-009
Client Sample ID : GP-9 (5-7)
Date Collected : 01/10/2019 11:30

CAS No.	Analyte	Residential Route Specific Values for Soil		Construction Worker Route Specific Values for Soil		Soil Component of Groundwater Ingestion Exposure Route Values		
		Ingestion	**Inhalation**	**Ingestion**	**Inhalation**	**Class I**	**Class II**	
83-32-9	Acenaphthene	4,700	---	120,000	---	570	2,900	< 0.035
208-96-8	Acenaphthylene							< 0.035
120-12-7	Anthracene	23,000	---	610,000	---	12,000	59,000	< 0.035
56-55-3	Benz(a)anthracene	0.9	---	170	---	2	8	< 0.035
50-32-8	Benzo(a)pyrene	0.09	---	17	---	8	82	< 0.035
205-99-2	Benzo(b)fluoranthene	0.9	---	170	---	5	25	< 0.035
191-24-2	Benzo(g,h,i)perylene							< 0.035
207-08-9	Benzo(k)fluoranthene	9	---	1,700	---	49	250	< 0.035
218-01-9	Chrysene	88	---	17,000	---	160	800	< 0.035
53-70-3	Dibenz(a,h)anthracene	0.09	---	17	---	2	7.6	< 0.035
206-44-0	Fluoranthene	3,100	---	82,000	---	4,300	21,000	< 0.035
86-73-7	Fluorene	3,100	---	82,000	---	560	2,800	< 0.035
193-39-5	Indeno(1,2,3-cd)pyrene	0.9	---	170	---	14	69	< 0.035
91-20-3	Naphthalene	1,600	170	4,100	1.8	12	18	< 0.035
85-01-8	Phenanthrene							< 0.035
129-00-0	Pyrene	2,300	---	61,000	---	4,200	21,000	< 0.035

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table A.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

Construction Worker Objectives from 35 IAC Part 742, Appendix B Table B.

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID : 19010291-002
Client Sample ID : GP-2 (5-7)
Date Collected : 01/10/2019 09:40

		Residential Route Specific Values for Soil		Construction Worker Route Specific Values for Soil		Soil Component of Groundwater Ingestion Exposure Route Values		
CAS No.	Analyte	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II	
120-82-1	1,2,4-Trichlorobenzene	780	3,200	2,000	920	5	53	< 0.19
95-50-1	1,2-Dichlorobenzene	7,000	560	18,000	310	17	43	< 0.19
541-73-1	1,3-Dichlorobenzene							< 0.19
106-46-7	1,4-Dichlorobenzene	---	11,000	---	340	2	11	< 0.19
108-60-1	2, 2'-oxybis(1-Chloropropane)							< 0.19
95-95-4	2,4,5-Trichlorophenol	7,800	---	200,000	---	270	1,400	< 0.19
88-06-2	2,4,6-Trichlorophenol	58	200	11,000	540	0.2	0.77	< 0.19
120-83-2	2,4-Dichlorophenol	230	---	610	---	1	1	< 0.19
105-67-9	2,4-Dimethylphenol	1,600	---	41,000	---	9	9	< 0.19
51-28-5	2,4-Dinitrophenol	160	---	410	---	0.2	0.2	< 0.93
121-14-2	2,4-Dinitrotoluene	0.9	---	180	---	0.0008	0.0008	< 0.037
606-20-2	2,6-Dinitrotoluene	0.9	---	180	---	0.0007	0.0007	< 0.037
91-58-7	2-Chloronaphthalene							< 0.19
95-57-8	2-Chlorophenol	390	53,000	10,000	53,000	4	4	< 0.19
91-57-6	2-Methylnaphthalene							< 0.19
95-48-7	2-Methylphenol	3,900	---	100,000	---	15	15	< 0.19
88-74-4	2-Nitroaniline							< 0.19
88-75-5	2-Nitrophenol							< 0.19
91-94-1	3,3´-Dichlorobenzidine	1	---	280	---	0.007	0.033	< 0.19
99-09-2	3-Nitroaniline							< 0.19
534-52-1	4,6-Dinitro-2-methylphenol							< 0.37
101-55-3	4-Bromophenyl phenyl ether							< 0.19
59-50-7	4-Chloro-3-methylphenol							< 0.37
106-47-8	4-Chloroaniline	310	---	820	---	0.7	0.7	< 0.19
7005-72-3	4-Chlorophenyl phenyl ether							< 0.19
106-44-5	4-Methylphenol							< 0.19
100-01-6	4-Nitroaniline							< 0.19
100-02-7	4-Nitrophenol							< 0.37
62-53-3	Aniline							< 0.37
92-87-5	Benzidine							< 0.37
65-85-0	Benzoic acid	310,000	---	820,000	---	400	400	< 0.93
100-51-6	Benzyl alcohol							< 0.19
111-91-1	Bis(2-chloroethoxy)methane							< 0.19
111-44-4	Bis(2-chloroethyl)ether	0.6	0.2	75	0.66	0.0004	0.0004	< 0.19
117-81-7	Bis(2-ethylhexyl)phthalate	46	31,000	4,100	31,000	3,600	31,000	< 0.93
85-68-7	Butyl benzyl phthalate	16,000	930	410,000	930	930	930	< 0.19
86-74-8	Carbazole	32	---	6,200	---	0.6	2.8	< 0.19
84-74-2	Di-n-butyl phthalate	7,800	2,300	200,000	2,300	2,300	2,300	< 0.19
117-84-0	Di-n-octyl phthalate	1,600	10,000	4,100	10,000	10,000	10,000	< 0.19
132-64-9	Dibenzofuran							< 0.19
84-66-2	Diethyl phthalate	63,000	2,000	1,000,000	2,000	470	470	< 0.19
131-11-3	Dimethyl phthalate							< 0.19
118-74-1	Hexachlorobenzene	0.4	1	78	2.6	2	11	< 0.19
87-68-3	Hexachlorobutadiene							< 0.19
77-47-4	Hexachlorocyclopentadiene	550	10	14,000	1.1	400	2,200	< 0.19
67-72-1	Hexachloroethane	78	---	2,000	---	0.5	2.6	< 0.19
78-59-1	Isophorone	15,600	4,600	410,000	4,600	8	8	< 0.19
621-64-7	N-Nitrosodi-n-propylamine	0.09	---	18	---	0.00005	0.00005	< 0.037
62-75-9	N-Nitrosodimethylamine							< 0.19
86-30-6	N-Nitrosodiphenylamine	130	---	25,000	---	1	5.6	< 0.19
98-95-3	Nitrobenzene	39	92	1,000	9.4	0.1	0.1	< 0.037
87-86-5	Pentachlorophenol	3	---	520	---	0.03	0.14	< 0.075
108-95-2	Phenol	23,000	---	61,000	---	100	100	< 0.19
110-86-1	Pyridine							< 0.75

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table A.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

Construction Worker Objectives from 35 IAC Part 742, Appendix B Table B.

TACO Tier I Soil Remediation Objectives - Supplemental Residential Report (SVOC)

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID : 19010291-005
Client Sample ID : GP-5 (8-10)
Date Collected : 01/10/2019 10:15

CAS No.	Analyte	Residential Route Specific Values for Soil		Construction Worker Route Specific Values for Soil		Soil Component of Groundwater Ingestion Exposure Route Values		
		Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II	
120-82-1	1,2,4-Trichlorobenzene	780	3,200	2,000	920	5	53	< 0.19
95-50-1	1,2-Dichlorobenzene	7,000	560	18,000	310	17	43	< 0.19
541-73-1	1,3-Dichlorobenzene							< 0.19
106-46-7	1,4-Dichlorobenzene	---	11,000	---	340	2	11	< 0.19
108-60-1	2, 2'-oxybis(1-Chloropropane)							< 0.19
95-95-4	2,4,5-Trichlorophenol	7,800	---	200,000	---	270	1,400	< 0.19
88-06-2	2,4,6-Trichlorophenol	58	200	11,000	540	0.2	0.77	< 0.19
120-83-2	2,4-Dichlorophenol	230	---	610	---	1	1	< 0.19
105-67-9	2,4-Dimethylphenol	1,600	---	41,000	---	9	9	< 0.19
51-28-5	2,4-Dinitrophenol	160	---	410	---	0.2	0.2	< 0.95
121-14-2	2,4-Dinitrotoluene	0.9	---	180	---	0.0008	0.0008	< 0.038
606-20-2	2,6-Dinitrotoluene	0.9	---	180	---	0.0007	0.0007	< 0.038
91-58-7	2-Chloronaphthalene							< 0.19
95-57-8	2-Chlorophenol	390	53,000	10,000	53,000	4	4	< 0.19
91-57-6	2-Methylnaphthalene							< 0.19
95-48-7	2-Methylphenol	3,900	---	100,000	---	15	15	< 0.19
88-74-4	2-Nitroaniline							< 0.19
88-75-5	2-Nitrophenol							< 0.19
91-94-1	3,3´-Dichlorobenzidine	1	---	280	---	0.007	0.033	< 0.19
99-09-2	3-Nitroaniline							< 0.19
534-52-1	4,6-Dinitro-2-methylphenol							< 0.38
101-55-3	4-Bromophenyl phenyl ether							< 0.19
59-50-7	4-Chloro-3-methylphenol							< 0.38
106-47-8	4-Chloroaniline	310	---	820	---	0.7	0.7	< 0.19
7005-72-3	4-Chlorophenyl phenyl ether							< 0.19
106-44-5	4-Methylphenol							< 0.19
100-01-6	4-Nitroaniline							< 0.19
100-02-7	4-Nitrophenol							< 0.38
62-53-3	Aniline							< 0.38
92-87-5	Benzidine							< 0.38
65-85-0	Benzoic acid	310,000	---	820,000	---	400	400	< 0.95
100-51-6	Benzyl alcohol							< 0.19
111-91-1	Bis(2-chloroethoxy)methane							< 0.19
111-44-4	Bis(2-chloroethyl)ether	0.6	0.2	75	0.66	0.0004	0.0004	< 0.19
117-81-7	Bis(2-ethylhexyl)phthalate	46	31,000	4,100	31,000	3,600	31,000	< 0.95
85-68-7	Butyl benzyl phthalate	16,000	930	410,000	930	930	930	< 0.19
86-74-8	Carbazole	32	---	6,200	---	0.6	2.8	< 0.19
84-74-2	Di-n-butyl phthalate	7,800	2,300	200,000	2,300	2,300	2,300	< 0.19
117-84-0	Di-n-octyl phthalate	1,600	10,000	4,100	10,000	10,000	10,000	< 0.19
132-64-9	Dibenzofuran							< 0.19
84-66-2	Diethyl phthalate	63,000	2,000	1,000,000	2,000	470	470	< 0.19
131-11-3	Dimethyl phthalate							< 0.19
118-74-1	Hexachlorobenzene	0.4	1	78	2.6	2	11	< 0.19
87-68-3	Hexachlorobutadiene							< 0.19
77-47-4	Hexachlorocyclopentadiene	550	10	14,000	1.1	400	2,200	< 0.19
67-72-1	Hexachloroethane	78	---	2,000	---	0.5	2.6	< 0.19
78-59-1	Isophorone	15,600	4,600	410,000	4,600	8	8	< 0.19
621-64-7	N-Nitrosodi-n-propylamine	0.09	---	18	---	0.00005	0.00005	< 0.038
62-75-9	N-Nitrosodimethylamine							< 0.19
86-30-6	N-Nitrosodiphenylamine	130	---	25,000	---	1	5.6	< 0.19
98-95-3	Nitrobenzene	39	92	1,000	9.4	0.1	0.1	< 0.038
87-86-5	Pentachlorophenol	3	---	520	---	0.03	0.14	< 0.077
108-95-2	Phenol	23,000	---	61,000	---	100	100	< 0.19
110-86-1	Pyridine							< 0.77

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table A.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

Construction Worker Objectives from 35 IAC Part 742, Appendix B Table B.

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID : 19010291-007
Client Sample ID : GP-7 (6-8)
Date Collected : 01/10/2019 10:45

		Residential Route Specific Values for Soil		Construction Worker Route Specific Values for Soil		Soil Component of Groundwater Ingestion Exposure Route Values		
CAS No.	Analyte	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II	
120-82-1	1,2,4-Trichlorobenzene	780	3,200	2,000	920	5	53	< 0.21
95-50-1	1,2-Dichlorobenzene	7,000	560	18,000	310	17	43	< 0.21
541-73-1	1,3-Dichlorobenzene							< 0.21
106-46-7	1,4-Dichlorobenzene	---	11,000	---	340	2	11	< 0.21
108-60-1	2, 2'-oxybis(1-Chloropropane)							< 0.21
95-95-4	2,4,5-Trichlorophenol	7,800	---	200,000	---	270	1,400	< 0.21
88-06-2	2,4,6-Trichlorophenol	58	200	11,000	540	0.2	0.77	< 0.21
120-83-2	2,4-Dichlorophenol	230	---	610	---	1	1	< 0.21
105-67-9	2,4-Dimethylphenol	1,600	---	41,000	---	9	9	< 0.21
51-28-5	2,4-Dinitrophenol	160	---	410	---	0.2	0.2	< 1.0
121-14-2	2,4-Dinitrotoluene	0.9	---	180	---	0.0008	0.0008	< 0.041
606-20-2	2,6-Dinitrotoluene	0.9	---	180	---	0.0007	0.0007	< 0.041
91-58-7	2-Chloronaphthalene							< 0.21
95-57-8	2-Chlorophenol	390	53,000	10,000	53,000	4	4	< 0.21
91-57-6	2-Methylnaphthalene							< 0.21
95-48-7	2-Methylphenol	3,900	---	100,000	---	15	15	< 0.21
88-74-4	2-Nitroaniline							< 0.21
88-75-5	2-Nitrophenol							< 0.21
91-94-1	3,3´-Dichlorobenzidine	1	---	280	---	0.007	0.033	< 0.21
99-09-2	3-Nitroaniline							< 0.21
534-52-1	4,6-Dinitro-2-methylphenol							< 0.41
101-55-3	4-Bromophenyl phenyl ether							< 0.21
59-50-7	4-Chloro-3-methylphenol							< 0.41
106-47-8	4-Chloroaniline	310	---	820	---	0.7	0.7	< 0.21
7005-72-3	4-Chlorophenyl phenyl ether							< 0.21
106-44-5	4-Methylphenol							< 0.21
100-01-6	4-Nitroaniline							< 0.21
100-02-7	4-Nitrophenol							< 0.41
62-53-3	Aniline							< 0.42
92-87-5	Benzidine							< 0.41
65-85-0	Benzoic acid	310,000	---	820,000	---	400	400	< 1.0
100-51-6	Benzyl alcohol							< 0.21
111-91-1	Bis(2-chloroethoxy)methane							< 0.21
111-44-4	Bis(2-chloroethyl)ether	0.6	0.2	75	0.66	0.0004	0.0004	< 0.21
117-81-7	Bis(2-ethylhexyl)phthalate	46	31,000	4,100	31,000	3,600	31,000	< 1.0
85-68-7	Butyl benzyl phthalate	16,000	930	410,000	930	930	930	< 0.21
86-74-8	Carbazole	32	---	6,200	---	0.6	2.8	< 0.21
84-74-2	Di-n-butyl phthalate	7,800	2,300	200,000	2,300	2,300	2,300	< 0.21
117-84-0	Di-n-octyl phthalate	1,600	10,000	4,100	10,000	10,000	10,000	< 0.21
132-64-9	Dibenzofuran							< 0.21
84-66-2	Diethyl phthalate	63,000	2,000	1,000,000	2,000	470	470	< 0.21
131-11-3	Dimethyl phthalate							< 0.21
118-74-1	Hexachlorobenzene	0.4	1	78	2.6	2	11	< 0.21
87-68-3	Hexachlorobutadiene							< 0.21
77-47-4	Hexachlorocyclopentadiene	550	10	14,000	1.1	400	2,200	< 0.21
67-72-1	Hexachloroethane	78	---	2,000	---	0.5	2.6	< 0.21
78-59-1	Isophorone	15,600	4,600	410,000	4,600	8	8	< 0.21
621-64-7	N-Nitrosodi-n-propylamine	0.09	---	18	---	0.00005	0.00005	< 0.041
62-75-9	N-Nitrosodimethylamine							< 0.21
86-30-6	N-Nitrosodiphenylamine	130	---	25,000	---	1	5.6	< 0.21
98-95-3	Nitrobenzene	39	92	1,000	9.4	0.1	0.1	< 0.041
87-86-5	Pentachlorophenol	3	---	520	---	0.03	0.14	< 0.084
108-95-2	Phenol	23,000	---	61,000	---	100	100	< 0.21
110-86-1	Pyridine							< 0.84

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table A.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

Construction Worker Objectives from 35 IAC Part 742, Appendix B Table B.

TACO Tier I Soil Remediation Objectives - Supplemental Residential Report (SVOC)

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID : 19010291-009
Client Sample ID : GP-9 (5-7)
Date Collected : 01/10/2019 11:30

		Residential Route Specific Values for Soil		Construction Worker Route Specific Values for Soil		Soil Component of Groundwater Ingestion Exposure Route Values		
CAS No.	Analyte	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II	
120-82-1	1,2,4-Trichlorobenzene	780	3,200	2,000	920	5	53	< 0.18
95-50-1	1,2-Dichlorobenzene	7,000	560	18,000	310	17	43	< 0.18
541-73-1	1,3-Dichlorobenzene							< 0.18
106-46-7	1,4-Dichlorobenzene	---	11,000	---	340	2	11	< 0.18
108-60-1	2, 2'-oxybis(1-Chloropropane)							< 0.18
95-95-4	2,4,5-Trichlorophenol	7,800	---	200,000	---	270	1,400	< 0.18
88-06-2	2,4,6-Trichlorophenol	58	200	11,000	540	0.2	0.77	< 0.18
120-83-2	2,4-Dichlorophenol	230	---	610	---	1	1	< 0.18
105-67-9	2,4-Dimethylphenol	1,600	---	41,000	---	9	9	< 0.18
51-28-5	2,4-Dinitrophenol	160	---	410	---	0.2	0.2	< 0.89
121-14-2	2,4-Dinitrotoluene	0.9	---	180	---	0.0008	0.0008	< 0.035
606-20-2	2,6-Dinitrotoluene	0.9	---	180	---	0.0007	0.0007	< 0.035
91-58-7	2-Chloronaphthalene							< 0.18
95-57-8	2-Chlorophenol	390	53,000	10,000	53,000	4	4	< 0.18
91-57-6	2-Methylnaphthalene							< 0.18
95-48-7	2-Methylphenol	3,900	---	100,000	---	15	15	< 0.18
88-74-4	2-Nitroaniline							< 0.18
88-75-5	2-Nitrophenol							< 0.18
91-94-1	3,3´-Dichlorobenzidine	1	---	280	---	0.007	0.033	< 0.18
99-09-2	3-Nitroaniline							< 0.18
534-52-1	4,6-Dinitro-2-methylphenol							< 0.35
101-55-3	4-Bromophenyl phenyl ether							< 0.18
59-50-7	4-Chloro-3-methylphenol							< 0.35
106-47-8	4-Chloroaniline	310	---	820	---	0.7	0.7	< 0.18
7005-72-3	4-Chlorophenyl phenyl ether							< 0.18
106-44-5	4-Methylphenol							< 0.18
100-01-6	4-Nitroaniline							< 0.18
100-02-7	4-Nitrophenol							< 0.35
62-53-3	Aniline							< 0.36
92-87-5	Benzidine							< 0.35
65-85-0	Benzoic acid	310,000	---	820,000	---	400	400	< 0.89
100-51-6	Benzyl alcohol							< 0.18
111-91-1	Bis(2-chloroethoxy)methane							< 0.18
111-44-4	Bis(2-chloroethyl)ether	0.6	0.2	75	0.66	0.0004	0.0004	< 0.18
117-81-7	Bis(2-ethylhexyl)phthalate	46	31,000	4,100	31,000	3,600	31,000	< 0.89
85-68-7	Butyl benzyl phthalate	16,000	930	410,000	930	930	930	< 0.18
86-74-8	Carbazole	32	---	6,200	---	0.6	2.8	< 0.18
84-74-2	Di-n-butyl phthalate	7,800	2,300	200,000	2,300	2,300	2,300	< 0.18
117-84-0	Di-n-octyl phthalate	1,600	10,000	4,100	10,000	10,000	10,000	< 0.18
132-64-9	Dibenzofuran							< 0.18
84-66-2	Diethyl phthalate	63,000	2,000	1,000,000	2,000	470	470	< 0.18
131-11-3	Dimethyl phthalate							< 0.18
118-74-1	Hexachlorobenzene	0.4	1	78	2.6	2	11	< 0.18
87-68-3	Hexachlorobutadiene							< 0.18
77-47-4	Hexachlorocyclopentadiene	550	10	14,000	1.1	400	2,200	< 0.18
67-72-1	Hexachloroethane	78	---	2,000	---	0.5	2.6	< 0.18
78-59-1	Isophorone	15,600	4,600	410,000	4,600	8	8	< 0.18
621-64-7	N-Nitrosodi-n-propylamine	0.09	---	18	---	0.00005	0.00005	< 0.035
62-75-9	N-Nitrosodimethylamine							< 0.18
86-30-6	N-Nitrosodiphenylamine	130	---	25,000	---	1	5.6	< 0.18
98-95-3	Nitrobenzene	39	92	1,000	9.4	0.1	0.1	< 0.035
87-86-5	Pentachlorophenol	3	---	520	---	0.03	0.14	< 0.072
108-95-2	Phenol	23,000	---	61,000	---	100	100	< 0.18
110-86-1	Pyridine							< 0.72

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table A.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

Construction Worker Objectives from 35 IAC Part 742, Appendix B Table B.

TACO Tier I Soil Remediation Objectives - Supplemental Residential Report (PCB)

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID :	19010291-002	19010291-005	19010291-007	19010291-009
Client Sample ID :	GP-2 (5-7)	GP-5 (8-10)	GP-7 (6-8)	GP-9 (5-7)
Date Collected :	01/10/2019 09:40	01/10/2019 10:15	01/10/2019 10:45	01/10/2019 11:30

		Residential Route Specific Values for Soil		**Construction Worker Route Specific Values for Soil**		**Soil Component of Groundwater Ingestion Exposure Route Values**					
CAS No.	Analyte	**Ingestion**	**Inhalation**	**Ingestion**	**Inhalation**	**Class I**	**Class II**				
12674-11-2	Aroclor 1016	1	---	1	---	---	---	< 0.091	< 0.091	< 0.10	< 0.086
11104-28-2	Aroclor 1221	1	---	1	---	---	---	< 0.091	< 0.091	< 0.10	< 0.086
11141-16-5	Aroclor 1232	1	---	1	---	---	---	< 0.091	< 0.091	< 0.10	< 0.086
53469-21-9	Aroclor 1242	1	---	1	---	---	---	< 0.091	< 0.091	< 0.10	< 0.086
12672-29-6	Aroclor 1248	1	---	1	---	---	---	< 0.091	< 0.091	< 0.10	< 0.086
11097-69-1	Aroclor 1254	1	---	1	---	---	---	< 0.091	< 0.091	< 0.10	< 0.086
11096-82-5	Aroclor 1260	1	---	1	---	---	---	< 0.091	< 0.091	< 0.10	< 0.086

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table A.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

Construction Worker Objectives from 35 IAC Part 742, Appendix B Table B.

TACO Tier I Soil Remediation Objectives - Supplemental Residential Report (PEST)

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID :	19010291-002	19010291-005	19010291-007	19010291-009
Client Sample ID :	GP-2 (5-7)	GP-5 (8-10)	GP-7 (6-8)	GP-9 (5-7)
Date Collected :	01/10/2019 09:40	01/10/2019 10:15	01/10/2019 10:45	01/10/2019 11:30

		Residential Route Specific Values for Soil		**Construction Worker Route Specific Values for Soil**		**Soil Component of Groundwater Ingestion Exposure Route Values**					
CAS No.	Analyte	**Ingestion**	**Inhalation**	**Ingestion**	**Inhalation**	**Class I**	**Class II**				
72-54-8	4,4´-DDD	3	---	520	---	16	80	< 0.0018	< 0.0018	< 0.0020	< 0.0017
72-55-9	4,4´-DDE	2	---	370	---	54	270	< 0.0018	< 0.0018	< 0.0020	< 0.0017
50-29-3	4,4´-DDT	2	---	100	2,100	32	160	< 0.0018	< 0.0018	< 0.0020	< 0.0017
309-00-2	Aldrin	0.04	3	6.1	9.3	0.5	2.5	< 0.0018	< 0.0018	< 0.0020	< 0.0017
319-84-6	alpha-BHC	0.1	0.8	20	2.1	0.0005	0.003	< 0.0018	< 0.0018	< 0.0020	< 0.0017
5103-71-9	alpha-Chlordane							< 0.0018	< 0.0018	< 0.0020	< 0.0017
319-85-7	beta-BHC							< 0.0018	< 0.0018	< 0.0020	< 0.0017
57-74-9	Chlordane	1.8	72	100	22	10	48	< 0.018	< 0.018	< 0.020	< 0.017
319-86-8	delta-BHC							< 0.0018	< 0.0018	< 0.0020	< 0.0017
60-57-1	Dieldrin	0.04	1	7.8	3.1	0.004	0.02	< 0.0018	< 0.0018	< 0.0020	< 0.0017
959-98-8	Endosulfan I	470	---	1,200	---	18	90	< 0.0018	< 0.0018	< 0.0020	< 0.0017
33213-65-9	Endosulfan II	470	---	1,200	---	18	90	< 0.0018	< 0.0018	< 0.0020	< 0.0017
1031-07-8	Endosulfan sulfate							< 0.0018	< 0.0018	< 0.0020	< 0.0017
72-20-8	Endrin	23	---	61	---	1	5	< 0.0018	< 0.0018	< 0.0020	< 0.0017
7421-93-4	Endrin aldehyde							< 0.0018	< 0.0018	< 0.0020	< 0.0017
53494-70-5	Endrin ketone							< 0.0018	< 0.0018	< 0.0020	< 0.0017
58-89-9	gamma-BHC	0.5	---	96	---	0.009	0.047	< 0.0018	< 0.0018	< 0.0020	< 0.0017
5566-34-7	gamma-Chlordane							< 0.0018	< 0.0018	< 0.0020	< 0.0017
76-44-8	Heptachlor	0.1	0.1	28	16	23	110	< 0.0018	< 0.0018	< 0.0020	< 0.0017
1024-57-3	Heptachlor epoxide	0.07	5	2.7	13	0.7	3.3	< 0.0018	< 0.0018	< 0.0020	< 0.0017
72-43-5	Methoxychlor	390	---	1,000	---	160	780	< 0.0018	< 0.0018	< 0.0020	< 0.0017
8001-35-2	Toxaphene	0.6	89	110	240	31	150	< 0.037	< 0.038	< 0.041	< 0.035

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table A.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

Construction Worker Objectives from 35 IAC Part 742, Appendix B Table B.

TACO Tier I Soil Remediation Objectives - Supplemental Residential Report (INORG)

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID :	19010291-002	19010291-005	19010291-007
Client Sample ID :	GP-2 (5-7)	GP-5 (8-10)	GP-7 (6-8)
Date Collected :	01/10/2019 09:40	01/10/2019 10:15	01/10/2019 10:45

		Residential Route Specific Values for Soil		**Construction Worker Route Specific Values for Soil**		**Soil Component of Groundwater Ingestion Exposure Route Values**				
CAS No.	Analyte	**Ingestion**	**Inhalation**	**Ingestion**	**Inhalation**	**Class I**	**Class II**			
7429-90-5	Aluminum							9900	4600	15000
7440-36-0	Antimony	31	---	82	---			< 1.9	< 2.0	< 2.1
7440-38-2	Arsenic	13.0/11.3	750	61	25,000			8.7	**16**	4.2
7440-39-3	Barium	5,500	690,000	14,000	870,000			37	20	58
7440-41-7	Beryllium	160	1,300	410	44,000			0.81	< 0.49	0.62
7440-43-9	Cadmium	78	1,800	200	59,000			< 0.48	< 0.49	< 0.53
7440-70-2	Calcium	---	---	---	---			74000	71000	51000
7440-47-3	Chromium	230	270	4,100	690			20	10	30
7440-48-4	Cobalt	4,700	---	12,000	---			14	10	17
7440-50-8	Copper	2,900	---	8,200	---			28	34	35
57-12-5	Cyanide	1,600	---	4,100	---			< 0.29	< 0.29	< 0.32
7439-89-6	Iron		---		---			24000	24000	26000
7439-92-1	Lead	400	---	700	---			24	19	19
7439-95-4	Magnesium	325,000	---	730,000	---			37000	43000	35000
7439-96-5	Manganese	1,600	69,000	4,100	8,700			470	420	440
7439-97-6	Mercury	23	10	61	0.1			0.023	0.028	0.031
7440-02-0	Nickel	1,600	13,000	4,100	440,000			33	22	44
7440-09-7	Potassium	---	---	---	---			2600	990	3400
7782-49-2	Selenium	390	---	1,000	---			1.1	< 0.98	< 1.1
7440-22-4	Silver	390	---	1,000	---			< 0.97	< 0.98	< 1.1
7440-23-5	Sodium	---	---	---	---			170	120	140
7440-28-0	Thallium	6.3	---	160	---			< 0.97	< 0.98	< 1.1
7440-62-2	Vanadium	550	---	1,400	---			24	14	30
7440-66-6	Zinc	23,000	---	61,000	---			66	49	72

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table A.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

Construction Worker Objectives from 35 IAC Part 742, Appendix B Table B.

TACO Tier I Soil Remediation Objectives - Supplemental Residential Report (INORG)

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID : 19010291-009
Client Sample ID : GP-9 (5-7)
Date Collected : 01/10/2019 11:30

		Residential Route Specific Values for Soil		Construction Worker Route Specific Values for Soil		Soil Component of Groundwater Ingestion Exposure Route Values		
CAS No.	Analyte	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II	
7429-90-5	Aluminum							3000
7440-36-0	Antimony	31	---	82	---			< 1.8
7440-38-2	Arsenic	13.0/11.3	750	61	25,000			10
7440-39-3	Barium	5,500	690,000	14,000	870,000			15
7440-41-7	Beryllium	160	1,300	410	44,000			< 0.46
7440-43-9	Cadmium	78	1,800	200	59,000			< 0.46
7440-70-2	Calcium	---	---	---	---			130000
7440-47-3	Chromium	230	270	4,100	690			7.2
7440-48-4	Cobalt	4,700	---	12,000	---			6.1
7440-50-8	Copper	2,900	---	8,200	---			19
57-12-5	Cyanide	1,600	---	4,100	---			< 0.27
7439-89-6	Iron		---		---			17000
7439-92-1	Lead	400	---	700	---			9.9
7439-95-4	Magnesium	325,000	---	730,000	---			72000
7439-96-5	Manganese	1,600	69,000	4,100	8,700			440
7439-97-6	Mercury	23	10	61	0.1			< 0.020
7440-02-0	Nickel	1,600	13,000	4,100	440,000			13
7440-09-7	Potassium	---	---	---	---			960
7782-49-2	Selenium	390	---	1,000	---			1.3
7440-22-4	Silver	390	---	1,000	---			< 0.92
7440-23-5	Sodium	---	---	---	---			160
7440-28-0	Thallium	6.3	---	160	---			< 0.92
7440-62-2	Vanadium	550	---	1,400	---			10
7440-66-6	Zinc	23,000	---	61,000	---			54

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table A.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

Construction Worker Objectives from 35 IAC Part 742, Appendix B Table B.

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID :	19010291-002	19010291-005	19010291-007	19010291-009
Client Sample ID :	GP-2 (5-7)	GP-5 (8-10)	GP-7 (6-8)	GP-9 (5-7)
Date Collected :	01/10/2019 09:40	01/10/2019 10:15	01/10/2019 10:45	01/10/2019 11:30

		Residential Route Specific Values for Soil		**Construction Worker Route Specific Values for Soil**		**Soil Component of Groundwater Ingestion Exposure Route Values**					
CAS No.	Analyte	**Ingestion**	**Inhalation**	**Ingestion**	**Inhalation**	**Class I**	**Class II**				
7440-36-0	Antimony					0.006	0.024	< 0.015	< 0.015	< 0.015	< 0.015
7440-38-2	Arsenic					0.05	0.2	< 0.010	< 0.010	< 0.010	< 0.010
7440-39-3	Barium					2.0	2.0	0.41	0.23	0.44	0.23
7440-41-7	Beryllium					0.004	0.5	< 0.0050	< 0.0050	< 0.0050	< 0.0050
7440-43-9	Cadmium					0.005	0.05	< 0.0050	< 0.0050	< 0.0050	< 0.0050
7440-47-3	Chromium					0.1	1.0	< 0.010	< 0.010	< 0.010	< 0.010
7440-48-4	Cobalt					1.0	1.0	0.044	0.010	0.029	0.034
7440-50-8	Copper					0.65	0.65	< 0.10	< 0.10	< 0.10	< 0.10
7439-89-6	Iron					5.0	5.0	< 0.25	< 0.25	< 0.25	< 0.25
7439-92-1	Lead					0.0075	0.1	< 0.0050	< 0.0050	< 0.0050	< 0.0050
7439-96-5	Manganese					0.15	10.0	**3.3**	**2.8**	**3.4**	**2.4**
7439-97-6	Mercury					0.002	0.01	< 0.00020	< 0.00020	< 0.00020	< 0.00020
7440-02-0	Nickel					0.1	2.0	0.084	0.020	0.030	0.045
7782-49-2	Selenium					0.05	0.05	< 0.020	< 0.020	< 0.020	< 0.020
7440-22-4	Silver					0.05	---	< 0.010	< 0.010	< 0.010	< 0.010
7440-28-0	Thallium					0.002	0.02	< 0.0050	< 0.0050	< 0.0050	< 0.0050
7440-62-2	Vanadium					0.049	0.1	< 0.010	< 0.010	< 0.010	< 0.010
7440-66-6	Zinc					5.0	10	< 0.050	< 0.050	< 0.050	< 0.050

All units are mg/L unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table A.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

Construction Worker Objectives from 35 IAC Part 742, Appendix B Table B.

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID :	19010291-002	19010291-005	19010291-007	19010291-009
Client Sample ID :	GP-2 (5-7)	GP-5 (8-10)	GP-7 (6-8)	GP-9 (5-7)
Date Collected :	01/10/2019 09:40	01/10/2019 10:15	01/10/2019 10:45	01/10/2019 11:30
	pH = 8.06	pH = 8.16	pH = 7.79	pH = 8.08

		Residential Route Specific Values for Soil		pH Specific Soil Component of Groundwater Ingestion Route Values					
		Ingestion	Inhalation	Class I	Class II				
INORG	Analyte	*pH Range 7.75 to 8.24*							
	Aluminum					9900	4600	15000	3000
	Antimony	31	---	5	20	< 1.9	< 2.0	< 2.1	< 1.8
	Arsenic	13.0/11.3	750	31	120	8.7	16	4.2	10
	Barium	5,500	690,000	2,100	2,100	37	20	58	15
	Beryllium	160	1,300	8,000	1,000,000	0.81	< 0.49	0.62	< 0.46
	Cadmium	78	1,800	430	4,300	< 0.48	< 0.49	< 0.53	< 0.46
	Calcium	---	---			74000	71000	51000	130000
	Chromium	230	270	28	No Data	20	10	**30**	7.2
	Cobalt	4,700	---	See TCLP/SPLP	See TCLP/SPLP	14	10	17	6.1
	Copper	2,900	---	330,000	330,000	28	34	35	19
	Cyanide	1,600	---	40	120	< 0.29	< 0.29	< 0.32	< 0.27
	Iron		---	See TCLP/SPLP	See TCLP/SPLP	24000	24000	26000	17000
	Lead	400	---	107	1,420	24	19	19	9.9
	Magnesium	325,000	---			37000	43000	35000	72000
	Manganese	1,600	69,000 / 8,700*	See TCLP/SPLP	See TCLP/SPLP	470	420	440	440
	Mercury	23	10 / 0.1*	8.0	40	0.023	0.028	0.031	< 0.020
	Nickel	1,600	13,000	3,800	76,000	33	22	44	13
	Potassium	---	---			2600	990	3400	960
	Selenium	390	---	2.4	2.4	1.1	< 0.98	< 1.1	1.3
	Silver	390	---	110		< 0.97	< 0.98	< 1.1	< 0.92
	Sodium	---	---			170	120	140	160
	Thallium	6.3	---	3.8	38	< 0.97	< 0.98	< 1.1	< 0.92
	Vanadium	550	---	980	See TCLP/SPLP	24	14	30	10
	Zinc	23,000	---	53,000	110,000	66	49	72	54

The actual laboratory determined pH values are listed and used for reference purposes.
NDA - No Data Available for this pH range.
All units are mg/Kg unless otherwise noted.
Based on 35 IAC Part 742, Appendix B Table A.
Class I / II objectives based on 35 IAC Part 742, Appendix B Tables C & D.
Bolded/Shaded values exceed the lowest pH specific remediation objective.
Chromium Class I / II objectives based on hexavalent chromium.
* - Construction Worker Inhalation Objective from Appendix B, Table B.

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

		Laboratory ID :	19010291-002	19010291-005	19010291-007	19010291-009
		Client Sample ID :	GP-2 (5-7)	GP-5 (8-10)	GP-7 (6-8)	GP-9 (5-7)
		Date Collected :	01/10/2019 09:40	01/10/2019 10:15	01/10/2019 10:45	01/10/2019 11:30

	Analyte	Concentration of Chemicals in Background Soils: City of Chicago	Within MSA	Outside MSA				
PNA	Acenaphthene	0.09	0.13	0.04	< 0.037	< 0.038	< 0.041	< 0.035
	Acenaphthylene	0.03	0.07	0.04	< 0.037	< 0.038	< 0.041	< 0.035
	Anthracene	0.25	0.40	0.14	< 0.037	< 0.038	< 0.041	< 0.035
	Benz(a)anthracene	1.1	1.8	0.72	< 0.037	< 0.038	< 0.041	< 0.035
	Benzo(a)pyrene	1.3	2.1	0.98	< 0.037	< 0.038	< 0.041	< 0.035
	Benzo(b)fluoranthene	1.5	2.1	0.70	< 0.037	< 0.038	< 0.041	< 0.035
	Benzo(g,h,i)perylene	0.68	1.7	0.84	< 0.037	< 0.038	< 0.041	< 0.035
	Benzo(k)fluoranthene	0.99	1.7	0.63	< 0.037	< 0.038	< 0.041	< 0.035
	Chrysene	1.2	2.7	1.1	< 0.037	< 0.038	< 0.041	< 0.035
	Dibenz(a,h)anthracene	0.20	0.42	0.15	< 0.037	< 0.038	< 0.041	< 0.035
	Fluoranthene	2.7	4.1	1.8	< 0.037	< 0.038	< 0.041	< 0.035
	Fluorene	0.10	0.18	0.04	< 0.037	< 0.038	< 0.041	< 0.035
	Indeno(1,2,3-cd)pyrene	0.86	1.6	0.51	< 0.037	< 0.038	< 0.041	< 0.035
	Naphthalene	0.04	0.20	0.17	< 0.037	< 0.038	< 0.041	< 0.035
	Phenanthrene	1.3	2.5	0.99	< 0.037	< 0.038	< 0.041	< 0.035
	Pyrene	1.9	3.0	1.2	< 0.037	< 0.038	< 0.041	< 0.035
INORG	Aluminum		9,500	9,200	**9900**	4600	**15000**	3000
	Antimony		4.0	3.3	< 1.9	< 2.0	< 2.1	< 1.8
	Arsenic		13.0	11.3	8.7	**16**	4.2	10
	Barium		110	122	37	20	58	15
	Beryllium		0.59	0.56	**0.81**	< 0.49	**0.62**	< 0.46
	Cadmium		0.6	0.50	< 0.48	< 0.49	< 0.53	< 0.46
	Calcium		9,300	5,525	**74000**	**71000**	**51000**	**130000**
	Chromium		16.2	13.0	**20**	10	**30**	7.2
	Cobalt		8.9	8.9	**14**	**10**	**17**	6.1
	Copper		19.6	12.0	**28**	**34**	**35**	19
	Cyanide		0.51	0.50	< 0.29	< 0.29	< 0.32	< 0.27
	Iron		15,900	15,000	**24000**	**24000**	**26000**	**17000**
	Lead		36.0	20.9	24	19	19	9.9
	Magnesium		4,820	2,700	**37000**	**43000**	**35000**	**72000**
	Manganese		636	630	470	420	440	440
	Mercury		0.06	0.05	0.023	0.028	0.031	< 0.020
	Nickel		18.0	13.0	**33**	**22**	**44**	13
	Potassium		1,268	1,100	**2600**	990	**3400**	960
	Selenium		0.48	0.37	**1.1**	< 0.98	< 1.1	**1.3**
	Silver		0.55	0.50	< 0.97	< 0.98	< 1.1	< 0.92
	Sodium		130	130.0	**170**	120	**140**	**160**
	Thallium		0.32	0.42	< 0.97	< 0.98	< 1.1	< 0.92
	Vanadium		25.2	25.0	24	14	**30**	10
	Zinc		95.0	60.2	66	49	72	54

MSA - Metropolitan Statistical Area
All units are mg/Kg unless otherwise noted.
Based on 35 IAC Part 742, Appendix A Table G and Table H.
Bolded/Shaded values exceed the within MSA background level.

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

			Laboratory ID :	19010291-002	19010291-005
			Client Sample ID :	GP-2 (5-7)	GP-5 (8-10)
			Date Collected :	01/10/2019 09:40	01/10/2019 10:15

			Soil Saturation Limits for Chemicals With Melting Point < 30°C			
			Outdoor Inhalation Exposure Route Value	Soil Component of Groundwater Ingestion Exposure Route		
	CAS No.	Analyte	C_{sat} (mg/Kg)	C_{sat} (mg/Kg)		
VOC	67-64-1	Acetone	100,000	200,000	< 0.068	< 0.069
	71-43-2	Benzene	800	580	< 0.0045	< 0.0046
	75-27-4	Bromodichloromethane	2,800	2,000	< 0.0045	< 0.0046
	75-25-2	Bromoform	2,000	1,200	< 0.0045	< 0.0046
	74-83-9	Bromomethane	3,100	3,600	< 0.0089	< 0.0092
	78-93-3	2-Butanone	25,000	45,000	< 0.068	< 0.069
	75-15-0	Carbon disulfide	850	520	< 0.045	< 0.046
	56-23-5	Carbon tetrachloride	1,200	560	< 0.0045	< 0.0046
	108-90-7	Chlorobenzene	620	290	< 0.0045	< 0.0046
	67-66-3	Chloroform	3,400	2,500	< 0.0045	< 0.0046
	124-48-1	Dibromochloromethane	1,400	890	< 0.0045	< 0.0046
	75-34-3	1,1-Dichloroethane	1,700	1,400	< 0.0045	< 0.0046
	107-06-2	1,2-Dichloroethane	1,900	2,100	< 0.0045	< 0.0046
	75-35-4	1,1-Dichloroethene	1,400	910	< 0.0045	< 0.0046
	156-59-2	cis-1,2-Dichloroethene	1,300	1,000	< 0.0045	< 0.0046
	156-60-5	trans-1,2-Dichloroethene	3,000	2,100	< 0.0045	< 0.0046
	78-87-5	1,2-Dichloropropane	1,200	870	< 0.0045	< 0.0046
	10061-01-5	cis-1,3-Dichloropropene	1,000	850	< 0.0018	< 0.0018
	10061-02-6	trans-1,3-Dichloropropene	1,000	850	< 0.0018	< 0.0018
	100-41-4	Ethylbenzene	350	150	< 0.0045	< 0.0046
	75-09-2	Methylene chloride	2,500	3,000	< 0.0089	< 0.0092
	1634-04-4	Methyl tert-butyl ether	8,400	11,000	< 0.0045	< 0.0046
	100-42-5	Styrene	630	260	< 0.0045	< 0.0046
	127-18-4	Tetrachloroethene	800	310	< 0.0045	< 0.0046
	108-88-3	Toluene	580	290	< 0.0045	< 0.0046
	71-55-6	1,1,1-Trichloroethane	1,300	670	< 0.0045	< 0.0046
	79-00-5	1,1,2-Trichloroethane	1,800	1,300	< 0.0045	< 0.0046
	79-01-6	Trichloroethene	1,200	650	< 0.0045	< 0.0046
	75-01-4	Vinyl chloride	2,600	2,900	< 0.0045	< 0.0046
	1330-20-7	Xylenes, Total	280	110	< 0.014	< 0.014
SVOC	120-82-1	1,2,4-Trichlorobenzene	340	120	< 0.19	< 0.19
	95-50-1	1,2-Dichlorobenzene	560	210	< 0.19	< 0.19
	105-67-9	2,4-Dimethylphenol	10,000	4,700	< 0.19	< 0.19
	95-57-8	2-Chlorophenol	10,000	7,100	< 0.19	< 0.19
	111-44-4	Bis(2-chloroethyl)ether	3,000	3,900	< 0.19	< 0.19
	117-81-7	Bis(2-ethylhexyl)phthalate	200	68	< 0.93	< 0.95
	85-68-7	Butyl benzyl phthalate	1,000	340	< 0.19	< 0.19
	84-74-2	Di-n-butyl phthalate	2,600	880	< 0.19	< 0.19
	117-84-0	Di-n-octyl phthalate	16	5.2	< 0.19	< 0.19
	84-66-2	Diethyl phthalate	2,200	920	< 0.19	< 0.19
	77-47-4	Hexachlorocyclopentadiene	130	44	< 0.19	< 0.19
	78-59-1	Isophorone	3,000	3,000	< 0.19	< 0.19
	621-64-7	N-Nitrosodi-n-propylamine	1,900	2,300	< 0.037	< 0.038
	98-95-3	Nitrobenzene	710	590	< 0.037	< 0.038
INORG	7439-97-6	Mercury	3.1	N/A	0.023	0.028

All units are mg/Kg unless otherwise noted.
Based on 35 IAC Part 742, Appendix A Table A.

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

			Laboratory ID :	19010291-007	19010291-009
			Client Sample ID :	GP-7 (6-8)	GP-9 (5-7)
			Date Collected :	01/10/2019 10:45	01/10/2019 11:30

			Soil Saturation Limits for Chemicals With Melting Point < 30°C			
			Outdoor Inhalation Exposure Route Value	**Soil Component of Groundwater Ingestion Exposure Route**		
	CAS No.	Analyte	**C_{sat} (mg/Kg)**	**C_{sat} (mg/Kg)**		
VOC	67-64-1	Acetone	100,000	200,000	< 0.077	< 0.058
	71-43-2	Benzene	800	580	< 0.0051	< 0.0038
	75-27-4	Bromodichloromethane	2,800	2,000	< 0.0051	< 0.0038
	75-25-2	Bromoform	2,000	1,200	< 0.0051	< 0.0038
	74-83-9	Bromomethane	3,100	3,600	< 0.010	< 0.0077
	78-93-3	2-Butanone	25,000	45,000	< 0.077	< 0.058
	75-15-0	Carbon disulfide	850	520	< 0.051	< 0.038
	56-23-5	Carbon tetrachloride	1,200	560	< 0.0051	< 0.0038
	108-90-7	Chlorobenzene	620	290	< 0.0051	< 0.0038
	67-66-3	Chloroform	3,400	2,500	< 0.0051	< 0.0038
	124-48-1	Dibromochloromethane	1,400	890	< 0.0051	< 0.0038
	75-34-3	1,1-Dichloroethane	1,700	1,400	< 0.0051	< 0.0038
	107-06-2	1,2-Dichloroethane	1,900	2,100	< 0.0051	< 0.0038
	75-35-4	1,1-Dichloroethene	1,400	910	< 0.0051	< 0.0038
	156-59-2	cis-1,2-Dichloroethene	1,300	1,000	< 0.0051	< 0.0038
	156-60-5	trans-1,2-Dichloroethene	3,000	2,100	< 0.0051	< 0.0038
	78-87-5	1,2-Dichloropropane	1,200	870	< 0.0051	< 0.0038
	10061-01-5	cis-1,3-Dichloropropene	1,000	850	< 0.0020	< 0.0015
	10061-02-6	trans-1,3-Dichloropropene	1,000	850	< 0.0020	< 0.0015
	100-41-4	Ethylbenzene	350	150	< 0.0051	< 0.0038
	75-09-2	Methylene chloride	2,500	3,000	< 0.010	< 0.0077
	1634-04-4	Methyl tert-butyl ether	8,400	11,000	< 0.0051	< 0.0038
	100-42-5	Styrene	630	260	< 0.0051	< 0.0038
	127-18-4	Tetrachloroethene	800	310	< 0.0051	< 0.0038
	108-88-3	Toluene	580	290	< 0.0051	< 0.0038
	71-55-6	1,1,1-Trichloroethane	1,300	670	< 0.0051	< 0.0038
	79-00-5	1,1,2-Trichloroethane	1,800	1,300	< 0.0051	< 0.0038
	79-01-6	Trichloroethene	1,200	650	< 0.0051	< 0.0038
	75-01-4	Vinyl chloride	2,600	2,900	< 0.0051	< 0.0038
	1330-20-7	Xylenes, Total	280	110	< 0.015	< 0.012
SVOC	120-82-1	1,2,4-Trichlorobenzene	340	120	< 0.21	< 0.18
	95-50-1	1,2-Dichlorobenzene	560	210	< 0.21	< 0.18
	105-67-9	2,4-Dimethylphenol	10,000	4,700	< 0.21	< 0.18
	95-57-8	2-Chlorophenol	10,000	7,100	< 0.21	< 0.18
	111-44-4	Bis(2-chloroethyl)ether	3,000	3,900	< 0.21	< 0.18
	117-81-7	Bis(2-ethylhexyl)phthalate	200	68	< 1.0	< 0.89
	85-68-7	Butyl benzyl phthalate	1,000	340	< 0.21	< 0.18
	84-74-2	Di-n-butyl phthalate	2,600	880	< 0.21	< 0.18
	117-84-0	Di-n-octyl phthalate	16	5.2	< 0.21	< 0.18
	84-66-2	Diethyl phthalate	2,200	920	< 0.21	< 0.18
	77-47-4	Hexachlorocyclopentadiene	130	44	< 0.21	< 0.18
	78-59-1	Isophorone	3,000	3,000	< 0.21	< 0.18
	621-64-7	N-Nitrosodi-n-propylamine	1,900	2,300	< 0.041	< 0.035
	98-95-3	Nitrobenzene	710	590	< 0.041	< 0.035
INORG	7439-97-6	Mercury	3.1	N/A	0.031	< 0.020

All units are mg/Kg unless otherwise noted.
Based on 35 IAC Part 742, Appendix A Table A.

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Test	Chemical	Sample Number	Concentration Detected (ppm)	TACO Tier 1 RO (mg/Kg)	Exposure Pathway
INORG	Aluminum	GP-2 (5-7)	9900	9,500	Within MSA Background
		GP-7 (6-8)	15000	9,200	Outside MSA Background
INORG	Arsenic	GP-5 (8-10)	16	13.0/11.3	Residential Ingestion
				13.0	Within MSA Background
				11.3	Outside MSA Background
INORG	Beryllium	GP-2 (5-7)	0.81	0.59	Within MSA Background
		GP-7 (6-8)	0.62	0.56	Outside MSA Background
INORG	Calcium	GP-2 (5-7)	74000	9,300	Within MSA Background
		GP-5 (8-10)	71000	5,525	Outside MSA Background
		GP-7 (6-8)	51000		
		GP-9 (5-7)	130000		
INORG	Chromium	GP-2 (5-7)	20	28	pH Specific SCGIR Class I
		GP-7 (6-8)	30	16.2	Within MSA Background
				13.0	Outside MSA Background
INORG	Cobalt	GP-2 (5-7)	14	8.9	Within MSA Background
		GP-5 (8-10)	10	8.9	Outside MSA Background
		GP-7 (6-8)	17		
INORG	Copper	GP-2 (5-7)	28	19.6	Within MSA Background
		GP-5 (8-10)	34	12.0	Outside MSA Background
		GP-7 (6-8)	35		
		GP-9 (5-7)	19		
INORG	Iron	GP-2 (5-7)	24000	15,900	Within MSA Background
		GP-5 (8-10)	24000	15,000	Outside MSA Background
		GP-7 (6-8)	26000		
		GP-9 (5-7)	17000		
INORG	Lead	GP-2 (5-7)	24	20.9	Outside MSA Background
INORG	Magnesium	GP-2 (5-7)	37000	4,820	Within MSA Background
		GP-5 (8-10)	43000	2,700	Outside MSA Background
		GP-7 (6-8)	35000		
		GP-9 (5-7)	72000		
INORG	Nickel	GP-2 (5-7)	33	18.0	Within MSA Background
		GP-5 (8-10)	22	13.0	Outside MSA Background
		GP-7 (6-8)	44		
INORG	Potassium	GP-2 (5-7)	2600	1,268	Within MSA Background
		GP-7 (6-8)	3400	1,100	Outside MSA Background
INORG	Selenium	GP-2 (5-7)	1.1	0.48	Within MSA Background
		GP-9 (5-7)	1.3	0.37	Outside MSA Background
INORG	Sodium	GP-2 (5-7)	170	130	Within MSA Background
		GP-7 (6-8)	140	130.0	Outside MSA Background
		GP-9 (5-7)	160		
INORG	Vanadium	GP-7 (6-8)	30	25.2	Within MSA Background
				25.0	Outside MSA Background
INORG	Zinc	GP-2 (5-7)	66	60.2	Outside MSA Background
		GP-7 (6-8)	72		
TCLP	Manganese	GP-2 (5-7)	3.3 *	0.15	SCGIR Class I
		GP-5 (8-10)	2.8 *		
		GP-7 (6-8)	3.4 *		
		GP-9 (5-7)	2.4 *		

* - result and RO units are mg/L

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Test	Chemical	Sample Number	Concentration Detected (ppm)	TACO Tier 1 RO (mg/Kg)	Exposure Pathway
INORG	Arsenic	GP-5 (8-10)	16	13.0/11.3	Residential Ingestion
TCLP	Manganese	GP-2 (5-7)	3.3 *	0.15	SCGIR Class I
TCLP	Manganese	GP-5 (8-10)	2.8 *	0.15	SCGIR Class I
TCLP	Manganese	GP-7 (6-8)	3.4 *	0.15	SCGIR Class I
TCLP	Manganese	GP-9 (5-7)	2.4 *	0.15	SCGIR Class I
INORG	Chromium	GP-7 (6-8)	30	28	pH Specific SCGIR Class I
INORG	Aluminum	GP-2 (5-7)	9900	9,500	Within MSA Background
INORG	Beryllium	GP-2 (5-7)	0.81	0.59	Within MSA Background
INORG	Calcium	GP-2 (5-7)	74000	9,300	Within MSA Background
INORG	Chromium	GP-2 (5-7)	20	16.2	Within MSA Background
INORG	Cobalt	GP-2 (5-7)	14	8.9	Within MSA Background
INORG	Copper	GP-2 (5-7)	28	19.6	Within MSA Background
INORG	Iron	GP-2 (5-7)	24000	15,900	Within MSA Background
INORG	Magnesium	GP-2 (5-7)	37000	4,820	Within MSA Background
INORG	Nickel	GP-2 (5-7)	33	18.0	Within MSA Background
INORG	Potassium	GP-2 (5-7)	2600	1,268	Within MSA Background
INORG	Selenium	GP-2 (5-7)	1.1	0.48	Within MSA Background
INORG	Sodium	GP-2 (5-7)	170	130	Within MSA Background
INORG	Arsenic	GP-5 (8-10)	16	13.0	Within MSA Background
INORG	Calcium	GP-5 (8-10)	71000	9,300	Within MSA Background
INORG	Cobalt	GP-5 (8-10)	10	8.9	Within MSA Background
INORG	Copper	GP-5 (8-10)	34	19.6	Within MSA Background
INORG	Iron	GP-5 (8-10)	24000	15,900	Within MSA Background
INORG	Magnesium	GP-5 (8-10)	43000	4,820	Within MSA Background
INORG	Nickel	GP-5 (8-10)	22	18.0	Within MSA Background
INORG	Aluminum	GP-7 (6-8)	15000	9,500	Within MSA Background
INORG	Beryllium	GP-7 (6-8)	0.62	0.59	Within MSA Background
INORG	Calcium	GP-7 (6-8)	51000	9,300	Within MSA Background
INORG	Chromium	GP-7 (6-8)	30	16.2	Within MSA Background
INORG	Cobalt	GP-7 (6-8)	17	8.9	Within MSA Background
INORG	Copper	GP-7 (6-8)	35	19.6	Within MSA Background
INORG	Iron	GP-7 (6-8)	26000	15,900	Within MSA Background
INORG	Magnesium	GP-7 (6-8)	35000	4,820	Within MSA Background
INORG	Nickel	GP-7 (6-8)	44	18.0	Within MSA Background
INORG	Potassium	GP-7 (6-8)	3400	1,268	Within MSA Background
INORG	Sodium	GP-7 (6-8)	140	130	Within MSA Background
INORG	Vanadium	GP-7 (6-8)	30	25.2	Within MSA Background
INORG	Calcium	GP-9 (5-7)	130000	9,300	Within MSA Background
INORG	Iron	GP-9 (5-7)	17000	15,900	Within MSA Background
INORG	Magnesium	GP-9 (5-7)	72000	4,820	Within MSA Background
INORG	Selenium	GP-9 (5-7)	1.3	0.48	Within MSA Background
INORG	Sodium	GP-9 (5-7)	160	130	Within MSA Background
INORG	Aluminum	GP-2 (5-7)	9900	9,200	Outside MSA Background
INORG	Beryllium	GP-2 (5-7)	0.81	0.56	Outside MSA Background
INORG	Calcium	GP-2 (5-7)	74000	5,525	Outside MSA Background
INORG	Chromium	GP-2 (5-7)	20	13.0	Outside MSA Background
INORG	Cobalt	GP-2 (5-7)	14	8.9	Outside MSA Background
INORG	Copper	GP-2 (5-7)	28	12.0	Outside MSA Background
INORG	Iron	GP-2 (5-7)	24000	15,000	Outside MSA Background
INORG	Lead	GP-2 (5-7)	24	20.9	Outside MSA Background
INORG	Magnesium	GP-2 (5-7)	37000	2,700	Outside MSA Background
INORG	Nickel	GP-2 (5-7)	33	13.0	Outside MSA Background
INORG	Potassium	GP-2 (5-7)	2600	1,100	Outside MSA Background
INORG	Selenium	GP-2 (5-7)	1.1	0.37	Outside MSA Background
INORG	Sodium	GP-2 (5-7)	170	130.0	Outside MSA Background
INORG	Zinc	GP-2 (5-7)	66	60.2	Outside MSA Background
INORG	Arsenic	GP-5 (8-10)	16	11.3	Outside MSA Background
INORG	Calcium	GP-5 (8-10)	71000	5,525	Outside MSA Background

* - result and RO units are mg/L

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Test	Chemical	Sample Number	Concentration Detected (ppm)	TACO Tier 1 RO (mg/Kg)	Exposure Pathway
INORG	Cobalt	GP-5 (8-10)	10	8.9	Outside MSA Background
INORG	Copper	GP-5 (8-10)	34	12.0	Outside MSA Background
INORG	Iron	GP-5 (8-10)	24000	15,000	Outside MSA Background
INORG	Magnesium	GP-5 (8-10)	43000	2,700	Outside MSA Background
INORG	Nickel	GP-5 (8-10)	22	13.0	Outside MSA Background
INORG	Aluminum	GP-7 (6-8)	15000	9,200	Outside MSA Background
INORG	Beryllium	GP-7 (6-8)	0.62	0.56	Outside MSA Background
INORG	Calcium	GP-7 (6-8)	51000	5,525	Outside MSA Background
INORG	Chromium	GP-7 (6-8)	30	13.0	Outside MSA Background
INORG	Cobalt	GP-7 (6-8)	17	8.9	Outside MSA Background
INORG	Copper	GP-7 (6-8)	35	12.0	Outside MSA Background
INORG	Iron	GP-7 (6-8)	26000	15,000	Outside MSA Background
INORG	Magnesium	GP-7 (6-8)	35000	2,700	Outside MSA Background
INORG	Nickel	GP-7 (6-8)	44	13.0	Outside MSA Background
INORG	Potassium	GP-7 (6-8)	3400	1,100	Outside MSA Background
INORG	Sodium	GP-7 (6-8)	140	130.0	Outside MSA Background
INORG	Vanadium	GP-7 (6-8)	30	25.0	Outside MSA Background
INORG	Zinc	GP-7 (6-8)	72	60.2	Outside MSA Background
INORG	Calcium	GP-9 (5-7)	130000	5,525	Outside MSA Background
INORG	Copper	GP-9 (5-7)	19	12.0	Outside MSA Background
INORG	Iron	GP-9 (5-7)	17000	15,000	Outside MSA Background
INORG	Magnesium	GP-9 (5-7)	72000	2,700	Outside MSA Background
INORG	Selenium	GP-9 (5-7)	1.3	0.37	Outside MSA Background
INORG	Sodium	GP-9 (5-7)	160	130.0	Outside MSA Background

* - result and RO units are mg/L

TACO Tier I Soil Remediation Objectives - Supplemental Industrial/Commercial Report (VOC)

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID :	19010291-002	19010291-005	19010291-007	19010291-009
Client Sample ID :	GP-2 (5-7)	GP-5 (8-10)	GP-7 (6-8)	GP-9 (5-7)
Date Collected :	01/10/2019 09:40	01/10/2019 10:15	01/10/2019 10:45	01/10/2019 11:30

		Industrial/Commercial Route Specific Values for Soil		**Construction Worker Route Specific Values for Soil**		**Soil Component of Groundwater Ingestion Exposure Route Values**					
CAS No.	Analyte	**Ingestion**	**Inhalation**	**Ingestion**	**Inhalation**	**Class I**	**Class II**				
67-64-1	Acetone	-----	100,000	-----	100,000	25	25	< 0.068	< 0.069	< 0.077	< 0.058
71-43-2	Benzene	100	1.6	2,300	2.2	0.03	0.17	< 0.0045	< 0.0046	< 0.0051	< 0.0038
75-27-4	Bromodichloromethane	92	3,000	2,000	3,000	0.6	0.6	< 0.0045	< 0.0046	< 0.0051	< 0.0038
75-25-2	Bromoform	720	100	16,000	140	0.8	0.8	< 0.0045	< 0.0046	< 0.0051	< 0.0038
74-83-9	Bromomethane	2,900	15	1,000	3.9	0.2	1.2	< 0.0089	< 0.0092	< 0.010	< 0.0077
78-93-3	2-Butanone							< 0.068	< 0.069	< 0.077	< 0.058
75-15-0	Carbon disulfide	200,000	720	20,000	9.0	32	160	< 0.045	< 0.046	< 0.051	< 0.038
56-23-5	Carbon tetrachloride	44	0.64	410	0.90	0.07	0.33	< 0.0045	< 0.0046	< 0.0051	< 0.0038
108-90-7	Chlorobenzene	41,000	210	4,100	1.3	1	6.5	< 0.0045	< 0.0046	< 0.0051	< 0.0038
75-00-3	Chloroethane							< 0.0089	< 0.0092	< 0.010	< 0.0077
67-66-3	Chloroform	940	0.54	2,000	0.76	0.6	2.9	< 0.0045	< 0.0046	< 0.0051	< 0.0038
74-87-3	Chloromethane							< 0.0089	< 0.0092	< 0.010	< 0.0077
124-48-1	Dibromochloromethane	41,000	1,300	41,000	1,300	0.4	0.4	< 0.0045	< 0.0046	< 0.0051	< 0.0038
75-34-3	1,1-Dichloroethane	200,000	1,700	200,000	130	23	110	< 0.0045	< 0.0046	< 0.0051	< 0.0038
107-06-2	1,2-Dichloroethane	63	0.70	1,400	0.99	0.02	0.1	< 0.0045	< 0.0046	< 0.0051	< 0.0038
75-35-4	1,1-Dichloroethene	100,000	470	10,000	3.0	0.06	0.3	< 0.0045	< 0.0046	< 0.0051	< 0.0038
156-59-2	cis-1,2-Dichloroethene	20,000	1,200	20,000	1,200	0.4	1.1	< 0.0045	< 0.0046	< 0.0051	< 0.0038
156-60-5	trans-1,2-Dichloroethene	41,000	3,100	41,000	3,100	0.7	3.4	< 0.0045	< 0.0046	< 0.0051	< 0.0038
78-87-5	1,2-Dichloropropane	84	23	1,800	0.50	0.03	0.15	< 0.0045	< 0.0046	< 0.0051	< 0.0038
10061-01-5	cis-1,3-Dichloropropene	57	2.1	1,200	0.39	0.004	0.02	< 0.0018	< 0.0018	< 0.0020	< 0.0015
10061-02-6	trans-1,3-Dichloropropene	57	2.1	1,200	0.39	0.004	0.02	< 0.0018	< 0.0018	< 0.0020	< 0.0015
100-41-4	Ethylbenzene	200,000	400	20,000	58	13	19	< 0.0045	< 0.0046	< 0.0051	< 0.0038
591-78-6	2-Hexanone							< 0.018	< 0.018	< 0.020	< 0.015
108-10-1	4-Methyl-2-pentanone							< 0.018	< 0.018	< 0.020	< 0.015
75-09-2	Methylene chloride	760	24	12,000	34	0.02	0.2	< 0.0089	< 0.0092	< 0.010	< 0.0077
1634-04-4	Methyl tert-butyl ether	20,000	8,800	2,000	140	0.32	0.32	< 0.0045	< 0.0046	< 0.0051	< 0.0038
100-42-5	Styrene	410,000	1,500	41,000	430	4	18	< 0.0045	< 0.0046	< 0.0051	< 0.0038
79-34-5	1,1,2,2-Tetrachloroethane							< 0.0045	< 0.0046	< 0.0051	< 0.0038
127-18-4	Tetrachloroethene	110	20	2,400	28	0.06	0.3	< 0.0045	< 0.0046	< 0.0051	< 0.0038
108-88-3	Toluene	410,000	650	410,000	42	12	29	< 0.0045	< 0.0046	< 0.0051	< 0.0038
71-55-6	1,1,1-Trichloroethane	---	1,200	---	1,200	2	9.6	< 0.0045	< 0.0046	< 0.0051	< 0.0038
79-00-5	1,1,2-Trichloroethane	8,200	1,800	8,200	1,800	0.02	0.3	< 0.0045	< 0.0046	< 0.0051	< 0.0038
79-01-6	Trichloroethene	520	8.9	1,200	12	0.06	0.3	< 0.0045	< 0.0046	< 0.0051	< 0.0038
75-01-4	Vinyl chloride	7.9	1.1	170	1.1	0.01	0.07	< 0.0045	< 0.0046	< 0.0051	< 0.0038
1330-20-7	Xylenes, Total	410,000	320	41,000	5.6	150	150	< 0.014	< 0.014	< 0.015	< 0.012

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table B.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

TACO Tier I Soil Remediation Objectives - Supplemental Industrial/Commercial Report (PNA)

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID :	19010291-002	19010291-005	19010291-007
Client Sample ID :	GP-2 (5-7)	GP-5 (8-10)	GP-7 (6-8)
Date Collected :	01/10/2019 09:40	01/10/2019 10:15	01/10/2019 10:45

		Industrial/Commercial Route Specific Values for Soil		Construction Worker Route Specific Values for Soil		Soil Component of Groundwater Ingestion Exposure Route Values				
CAS No.	Analyte	**Ingestion**	**Inhalation**	**Ingestion**	**Inhalation**	**Class I**	**Class II**			
83-32-9	Acenaphthene	120,000	---	120,000	---	570	2,900	< 0.037	< 0.038	< 0.041
208-96-8	Acenaphthylene							< 0.037	< 0.038	< 0.041
120-12-7	Anthracene	610,000	---	610,000	---	12,000	59,000	< 0.037	< 0.038	< 0.041
56-55-3	Benz(a)anthracene	8	---	170	---	2	8	< 0.037	< 0.038	< 0.041
50-32-8	Benzo(a)pyrene	0.8	---	17	---	8	82	< 0.037	< 0.038	< 0.041
205-99-2	Benzo(b)fluoranthene	8	---	170	---	5	25	< 0.037	< 0.038	< 0.041
191-24-2	Benzo(g,h,i)perylene							< 0.037	< 0.038	< 0.041
207-08-9	Benzo(k)fluoranthene	78	---	1,700	---	49	250	< 0.037	< 0.038	< 0.041
218-01-9	Chrysene	780	---	17,000	---	160	800	< 0.037	< 0.038	< 0.041
53-70-3	Dibenz(a,h)anthracene	0.8	---	17	---	2	7.6	< 0.037	< 0.038	< 0.041
206-44-0	Fluoranthene	82,000	---	82,000	---	4,300	21,000	< 0.037	< 0.038	< 0.041
86-73-7	Fluorene	82,000	---	82,000	---	560	2,800	< 0.037	< 0.038	< 0.041
193-39-5	Indeno(1,2,3-cd)pyrene	8	---	170	---	14	69	< 0.037	< 0.038	< 0.041
91-20-3	Naphthalene	41,000	270	4,100	1.8	12	18	< 0.037	< 0.038	< 0.041
85-01-8	Phenanthrene							< 0.037	< 0.038	< 0.041
129-00-0	Pyrene	61,000	---	61,000	---	4,200	21,000	< 0.037	< 0.038	< 0.041

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table B.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

TACO Tier I Soil Remediation Objectives - Supplemental Industrial/Commercial Report (PNA)

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID : 19010291-009
Client Sample ID : GP-9 (5-7)
Date Collected : 01/10/2019 11:30

		Industrial/Commercial Route Specific Values for Soil		**Construction Worker Route Specific Values for Soil**		**Soil Component of Groundwater Ingestion Exposure Route Values**		
CAS No.	Analyte	**Ingestion**	**Inhalation**	**Ingestion**	**Inhalation**	**Class I**	**Class II**	
83-32-9	Acenaphthene	120,000	---	120,000	---	570	2,900	< 0.035
208-96-8	Acenaphthylene							< 0.035
120-12-7	Anthracene	610,000	---	610,000	---	12,000	59,000	< 0.035
56-55-3	Benz(a)anthracene	8	---	170	---	2	8	< 0.035
50-32-8	Benzo(a)pyrene	0.8	---	17	---	8	82	< 0.035
205-99-2	Benzo(b)fluoranthene	8	---	170	---	5	25	< 0.035
191-24-2	Benzo(g,h,i)perylene							< 0.035
207-08-9	Benzo(k)fluoranthene	78	---	1,700	---	49	250	< 0.035
218-01-9	Chrysene	780	---	17,000	---	160	800	< 0.035
53-70-3	Dibenz(a,h)anthracene	0.8	---	17	---	2	7.6	< 0.035
206-44-0	Fluoranthene	82,000	---	82,000	---	4,300	21,000	< 0.035
86-73-7	Fluorene	82,000	---	82,000	---	560	2,800	< 0.035
193-39-5	Indeno(1,2,3-cd)pyrene	8	---	170	---	14	69	< 0.035
91-20-3	Naphthalene	41,000	270	4,100	1.8	12	18	< 0.035
85-01-8	Phenanthrene							< 0.035
129-00-0	Pyrene	61,000	---	61,000	---	4,200	21,000	< 0.035

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table B.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

TACO Tier I Soil Remediation Objectives - Supplemental Industrial/Commercial Report (SVOC)

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID : 19010291-002
Client Sample ID : GP-2 (5-7)
Date Collected : 01/10/2019 09:40

		Industrial/Commercial Route Specific Values for Soil		Construction Worker Route Specific Values for Soil		Soil Component of Groundwater Ingestion Exposure Route Values		
CAS No.	Analyte	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II	
120-82-1	1,2,4-Trichlorobenzene	20,000	3,200	2,000	920	5	53	< 0.19
95-50-1	1,2-Dichlorobenzene	180,000	560	18,000	310	17	43	< 0.19
541-73-1	1,3-Dichlorobenzene							< 0.19
106-46-7	1,4-Dichlorobenzene	---	17,000	---	340	2	11	< 0.19
108-60-1	2, 2'-oxybis(1-Chloropropane)							< 0.19
95-95-4	2,4,5-Trichlorophenol	200,000	---	200,000	---	270	1,400	< 0.19
88-06-2	2,4,6-Trichlorophenol	520	390	11,000	540	0.2	0.77	< 0.19
120-83-2	2,4-Dichlorophenol	6,100	---	610	---	1	1	< 0.19
105-67-9	2,4-Dimethylphenol	41,000	---	41,000	---	9	9	< 0.19
51-28-5	2,4-Dinitrophenol	4,100	---	410	---	0.2	0.2	< 0.93
121-14-2	2,4-Dinitrotoluene	8.4	---	180	---	0.0008	0.0008	< 0.037
606-20-2	2,6-Dinitrotoluene	8.4	---	180	---	0.0007	0.0007	< 0.037
91-58-7	2-Chloronaphthalene							< 0.19
95-57-8	2-Chlorophenol	10,000	53,000	10,000	53,000	4	20	< 0.19
91-57-6	2-Methylnaphthalene							< 0.19
95-48-7	2-Methylphenol	100,000	---	100,000	---	15	15	< 0.19
88-74-4	2-Nitroaniline							< 0.19
88-75-5	2-Nitrophenol							< 0.19
91-94-1	3,3´-Dichlorobenzidine	13	---	280	---	0.007	0.033	< 0.19
99-09-2	3-Nitroaniline							< 0.19
534-52-1	4,6-Dinitro-2-methylphenol							< 0.37
101-55-3	4-Bromophenyl phenyl ether							< 0.19
59-50-7	4-Chloro-3-methylphenol							< 0.37
106-47-8	4-Chloroaniline	8,200	---	820	---	0.7	0.7	< 0.19
7005-72-3	4-Chlorophenyl phenyl ether							< 0.19
106-44-5	4-Methylphenol							< 0.19
100-01-6	4-Nitroaniline							< 0.19
100-02-7	4-Nitrophenol							< 0.37
62-53-3	Aniline							< 0.37
92-87-5	Benzidine							< 0.37
65-85-0	Benzoic acid	1,000,000	---	820,000	---	400	400	< 0.93
100-51-6	Benzyl alcohol							< 0.19
111-91-1	Bis(2-chloroethoxy)methane							< 0.19
111-44-4	Bis(2-chloroethyl)ether	5	0.47	75	0.66	0.0004	0.0004	< 0.19
117-81-7	Bis(2-ethylhexyl)phthalate	410	31,000	4,100	31,000	3,600	31,000	< 0.93
85-68-7	Butyl benzyl phthalate	410,000	930	410,000	930	930	930	< 0.19
86-74-8	Carbazole	290	---	6,200	---	0.6	2.8	< 0.19
84-74-2	Di-n-butyl phthalate	200,000	2,300	200,000	2,300	2,300	2,300	< 0.19
117-84-0	Di-n-octyl phthalate	41,000	10,000	4,100	10,000	10,000	10,000	< 0.19
132-64-9	Dibenzofuran							< 0.19
84-66-2	Diethyl phthalate	1,000,000	2,000	1,000,000	2,000	470	470	< 0.19
131-11-3	Dimethyl phthalate							< 0.19
118-74-1	Hexachlorobenzene	4	1.8	78	2.6	2	11	< 0.19
87-68-3	Hexachlorobutadiene							< 0.19
77-47-4	Hexachlorocyclopentadiene	14,000	16	14,000	1.1	400	2,200	< 0.19
67-72-1	Hexachloroethane	2,000	---	2,000	---	0.5	2.6	< 0.19
78-59-1	Isophorone	410,000	4,600	410,000	4,600	8	8	< 0.19
621-64-7	N-Nitrosodi-n-propylamine	0.8	---	18	---	0.00005	0.00005	< 0.037
62-75-9	N-Nitrosodimethylamine							< 0.19
86-30-6	N-Nitrosodiphenylamine	1,200	---	25,000	---	1	5.6	< 0.19
98-95-3	Nitrobenzene	1,000	140	1,000	9.4	0.1	0.1	< 0.037
87-86-5	Pentachlorophenol	24	---	520	---	0.03	0.14	< 0.075
108-95-2	Phenol	610,000	---	61,000	---	100	100	< 0.19
110-86-1	Pyridine							< 0.75

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table B.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

TACO Tier I Soil Remediation Objectives - Supplemental Industrial/Commercial Report (SVOC)

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID : 19010291-005
Client Sample ID : GP-5 (8-10)
Date Collected : 01/10/2019 10:15

		Industrial/Commercial Route Specific Values for Soil		Construction Worker Route Specific Values for Soil		Soil Component of Groundwater Ingestion Exposure Route Values		
CAS No.	Analyte	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II	
120-82-1	1,2,4-Trichlorobenzene	20,000	3,200	2,000	920	5	53	< 0.19
95-50-1	1,2-Dichlorobenzene	180,000	560	18,000	310	17	43	< 0.19
541-73-1	1,3-Dichlorobenzene							< 0.19
106-46-7	1,4-Dichlorobenzene	---	17,000	---	340	2	11	< 0.19
108-60-1	2, 2'-oxybis(1-Chloropropane)							< 0.19
95-95-4	2,4,5-Trichlorophenol	200,000	---	200,000	---	270	1,400	< 0.19
88-06-2	2,4,6-Trichlorophenol	520	390	11,000	540	0.2	0.77	< 0.19
120-83-2	2,4-Dichlorophenol	6,100	---	610	---	1	1	< 0.19
105-67-9	2,4-Dimethylphenol	41,000	---	41,000	---	9	9	< 0.19
51-28-5	2,4-Dinitrophenol	4,100	---	410	---	0.2	0.2	< 0.95
121-14-2	2,4-Dinitrotoluene	8.4	---	180	---	0.0008	0.0008	< 0.038
606-20-2	2,6-Dinitrotoluene	8.4	---	180	---	0.0007	0.0007	< 0.038
91-58-7	2-Chloronaphthalene							< 0.19
95-57-8	2-Chlorophenol	10,000	53,000	10,000	53,000	4	20	< 0.19
91-57-6	2-Methylnaphthalene							< 0.19
95-48-7	2-Methylphenol	100,000	---	100,000	---	15	15	< 0.19
88-74-4	2-Nitroaniline							< 0.19
88-75-5	2-Nitrophenol							< 0.19
91-94-1	3,3´-Dichlorobenzidine	13	---	280	---	0.007	0.033	< 0.19
99-09-2	3-Nitroaniline							< 0.19
534-52-1	4,6-Dinitro-2-methylphenol							< 0.38
101-55-3	4-Bromophenyl phenyl ether							< 0.19
59-50-7	4-Chloro-3-methylphenol							< 0.38
106-47-8	4-Chloroaniline	8,200	---	820	---	0.7	0.7	< 0.19
7005-72-3	4-Chlorophenyl phenyl ether							< 0.19
106-44-5	4-Methylphenol							< 0.19
100-01-6	4-Nitroaniline							< 0.19
100-02-7	4-Nitrophenol							< 0.38
62-53-3	Aniline							< 0.38
92-87-5	Benzidine							< 0.38
65-85-0	Benzoic acid	1,000,000	---	820,000	---	400	400	< 0.95
100-51-6	Benzyl alcohol							< 0.19
111-91-1	Bis(2-chloroethoxy)methane							< 0.19
111-44-4	Bis(2-chloroethyl)ether	5	0.47	75	0.66	0.0004	0.0004	< 0.19
117-81-7	Bis(2-ethylhexyl)phthalate	410	31,000	4,100	31,000	3,600	31,000	< 0.95
85-68-7	Butyl benzyl phthalate	410,000	930	410,000	930	930	930	< 0.19
86-74-8	Carbazole	290	---	6,200	---	0.6	2.8	< 0.19
84-74-2	Di-n-butyl phthalate	200,000	2,300	200,000	2,300	2,300	2,300	< 0.19
117-84-0	Di-n-octyl phthalate	41,000	10,000	4,100	10,000	10,000	10,000	< 0.19
132-64-9	Dibenzofuran							< 0.19
84-66-2	Diethyl phthalate	1,000,000	2,000	1,000,000	2,000	470	470	< 0.19
131-11-3	Dimethyl phthalate							< 0.19
118-74-1	Hexachlorobenzene	4	1.8	78	2.6	2	11	< 0.19
87-68-3	Hexachlorobutadiene							< 0.19
77-47-4	Hexachlorocyclopentadiene	14,000	16	14,000	1.1	400	2,200	< 0.19
67-72-1	Hexachloroethane	2,000	---	2,000	---	0.5	2.6	< 0.19
78-59-1	Isophorone	410,000	4,600	410,000	4,600	8	8	< 0.19
621-64-7	N-Nitrosodi-n-propylamine	0.8	---	18	---	0.00005	0.00005	< 0.038
62-75-9	N-Nitrosodimethylamine							< 0.19
86-30-6	N-Nitrosodiphenylamine	1,200	---	25,000	---	1	5.6	< 0.19
98-95-3	Nitrobenzene	1,000	140	1,000	9.4	0.1	0.1	< 0.038
87-86-5	Pentachlorophenol	24	---	520	---	0.03	0.14	< 0.077
108-95-2	Phenol	610,000	---	61,000	---	100	100	< 0.19
110-86-1	Pyridine							< 0.77

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table B.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

TACO Tier I Soil Remediation Objectives - Supplemental Industrial/Commercial Report (SVOC)

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID : 19010291-007
Client Sample ID : GP-7 (6-8)
Date Collected : 01/10/2019 10:45

		Industrial/Commercial Route Specific Values for Soil		Construction Worker Route Specific Values for Soil		Soil Component of Groundwater Ingestion Exposure Route Values		
CAS No.	Analyte	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II	
120-82-1	1,2,4-Trichlorobenzene	20,000	3,200	2,000	920	5	53	< 0.21
95-50-1	1,2-Dichlorobenzene	180,000	560	18,000	310	17	43	< 0.21
541-73-1	1,3-Dichlorobenzene							< 0.21
106-46-7	1,4-Dichlorobenzene	---	17,000	---	340	2	11	< 0.21
108-60-1	2, 2'-oxybis(1-Chloropropane)							< 0.21
95-95-4	2,4,5-Trichlorophenol	200,000	---	200,000	---	270	1,400	< 0.21
88-06-2	2,4,6-Trichlorophenol	520	390	11,000	540	0.2	0.77	< 0.21
120-83-2	2,4-Dichlorophenol	6,100	---	610	---	1	1	< 0.21
105-67-9	2,4-Dimethylphenol	41,000	---	41,000	---	9	9	< 0.21
51-28-5	2,4-Dinitrophenol	4,100	---	410	---	0.2	0.2	< 1.0
121-14-2	2,4-Dinitrotoluene	8.4	---	180	---	0.0008	0.0008	< 0.041
606-20-2	2,6-Dinitrotoluene	8.4	---	180	---	0.0007	0.0007	< 0.041
91-58-7	2-Chloronaphthalene							< 0.21
95-57-8	2-Chlorophenol	10,000	53,000	10,000	53,000	4	20	< 0.21
91-57-6	2-Methylnaphthalene							< 0.21
95-48-7	2-Methylphenol	100,000	---	100,000	---	15	15	< 0.21
88-74-4	2-Nitroaniline							< 0.21
88-75-5	2-Nitrophenol							< 0.21
91-94-1	3,3´-Dichlorobenzidine	13	---	280	---	0.007	0.033	< 0.21
99-09-2	3-Nitroaniline							< 0.21
534-52-1	4,6-Dinitro-2-methylphenol							< 0.41
101-55-3	4-Bromophenyl phenyl ether							< 0.21
59-50-7	4-Chloro-3-methylphenol							< 0.41
106-47-8	4-Chloroaniline	8,200	---	820	---	0.7	0.7	< 0.21
7005-72-3	4-Chlorophenyl phenyl ether							< 0.21
106-44-5	4-Methylphenol							< 0.21
100-01-6	4-Nitroaniline							< 0.21
100-02-7	4-Nitrophenol							< 0.41
62-53-3	Aniline							< 0.42
92-87-5	Benzidine							< 0.41
65-85-0	Benzoic acid	1,000,000	---	820,000	---	400	400	< 1.0
100-51-6	Benzyl alcohol							< 0.21
111-91-1	Bis(2-chloroethoxy)methane							< 0.21
111-44-4	Bis(2-chloroethyl)ether	5	0.47	75	0.66	0.0004	0.0004	< 0.21
117-81-7	Bis(2-ethylhexyl)phthalate	410	31,000	4,100	31,000	3,600	31,000	< 1.0
85-68-7	Butyl benzyl phthalate	410,000	930	410,000	930	930	930	< 0.21
86-74-8	Carbazole	290	---	6,200	---	0.6	2.8	< 0.21
84-74-2	Di-n-butyl phthalate	200,000	2,300	200,000	2,300	2,300	2,300	< 0.21
117-84-0	Di-n-octyl phthalate	41,000	10,000	4,100	10,000	10,000	10,000	< 0.21
132-64-9	Dibenzofuran							< 0.21
84-66-2	Diethyl phthalate	1,000,000	2,000	1,000,000	2,000	470	470	< 0.21
131-11-3	Dimethyl phthalate							< 0.21
118-74-1	Hexachlorobenzene	4	1.8	78	2.6	2	11	< 0.21
87-68-3	Hexachlorobutadiene							< 0.21
77-47-4	Hexachlorocyclopentadiene	14,000	16	14,000	1.1	400	2,200	< 0.21
67-72-1	Hexachloroethane	2,000	---	2,000	---	0.5	2.6	< 0.21
78-59-1	Isophorone	410,000	4,600	410,000	4,600	8	8	< 0.21
621-64-7	N-Nitrosodi-n-propylamine	0.8	---	18	---	0.00005	0.00005	< 0.041
62-75-9	N-Nitrosodimethylamine							< 0.21
86-30-6	N-Nitrosodiphenylamine	1,200	---	25,000	---	1	5.6	< 0.21
98-95-3	Nitrobenzene	1,000	140	1,000	9.4	0.1	0.1	< 0.041
87-86-5	Pentachlorophenol	24	---	520	---	0.03	0.14	< 0.084
108-95-2	Phenol	610,000	---	61,000	---	100	100	< 0.21
110-86-1	Pyridine							< 0.84

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table B.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

TACO Tier I Soil Remediation Objectives - Supplemental Industrial/Commercial Report (SVOC)

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID : 19010291-009
Client Sample ID : GP-9 (5-7)
Date Collected : 01/10/2019 11:30

		Industrial/Commercial Route Specific Values for Soil		Construction Worker Route Specific Values for Soil		Soil Component of Groundwater Ingestion Exposure Route Values		
CAS No.	Analyte	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II	
120-82-1	1,2,4-Trichlorobenzene	20,000	3,200	2,000	920	5	53	< 0.18
95-50-1	1,2-Dichlorobenzene	180,000	560	18,000	310	17	43	< 0.18
541-73-1	1,3-Dichlorobenzene							< 0.18
106-46-7	1,4-Dichlorobenzene	---	17,000	---	340	2	11	< 0.18
108-60-1	2, 2'-oxybis(1-Chloropropane)							< 0.18
95-95-4	2,4,5-Trichlorophenol	200,000	---	200,000	---	270	1,400	< 0.18
88-06-2	2,4,6-Trichlorophenol	520	390	11,000	540	0.2	0.77	< 0.18
120-83-2	2,4-Dichlorophenol	6,100	---	610	---	1	1	< 0.18
105-67-9	2,4-Dimethylphenol	41,000	---	41,000	---	9	9	< 0.18
51-28-5	2,4-Dinitrophenol	4,100	---	410	---	0.2	0.2	< 0.89
121-14-2	2,4-Dinitrotoluene	8.4	---	180	---	0.0008	0.0008	< 0.035
606-20-2	2,6-Dinitrotoluene	8.4	---	180	---	0.0007	0.0007	< 0.035
91-58-7	2-Chloronaphthalene							< 0.18
95-57-8	2-Chlorophenol	10,000	53,000	10,000	53,000	4	20	< 0.18
91-57-6	2-Methylnaphthalene							< 0.18
95-48-7	2-Methylphenol	100,000	---	100,000	---	15	15	< 0.18
88-74-4	2-Nitroaniline							< 0.18
88-75-5	2-Nitrophenol							< 0.18
91-94-1	3,3´-Dichlorobenzidine	13	---	280	---	0.007	0.033	< 0.18
99-09-2	3-Nitroaniline							< 0.18
534-52-1	4,6-Dinitro-2-methylphenol							< 0.35
101-55-3	4-Bromophenyl phenyl ether							< 0.18
59-50-7	4-Chloro-3-methylphenol							< 0.35
106-47-8	4-Chloroaniline	8,200	---	820	---	0.7	0.7	< 0.18
7005-72-3	4-Chlorophenyl phenyl ether							< 0.18
106-44-5	4-Methylphenol							< 0.18
100-01-6	4-Nitroaniline							< 0.18
100-02-7	4-Nitrophenol							< 0.35
62-53-3	Aniline							< 0.36
92-87-5	Benzidine							< 0.35
65-85-0	Benzoic acid	1,000,000	---	820,000	---	400	400	< 0.89
100-51-6	Benzyl alcohol							< 0.18
111-91-1	Bis(2-chloroethoxy)methane							< 0.18
111-44-4	Bis(2-chloroethyl)ether	5	0.47	75	0.66	0.0004	0.0004	< 0.18
117-81-7	Bis(2-ethylhexyl)phthalate	410	31,000	4,100	31,000	3,600	31,000	< 0.89
85-68-7	Butyl benzyl phthalate	410,000	930	410,000	930	930	930	< 0.18
86-74-8	Carbazole	290	---	6,200	---	0.6	2.8	< 0.18
84-74-2	Di-n-butyl phthalate	200,000	2,300	200,000	2,300	2,300	2,300	< 0.18
117-84-0	Di-n-octyl phthalate	41,000	10,000	4,100	10,000	10,000	10,000	< 0.18
132-64-9	Dibenzofuran							< 0.18
84-66-2	Diethyl phthalate	1,000,000	2,000	1,000,000	2,000	470	470	< 0.18
131-11-3	Dimethyl phthalate							< 0.18
118-74-1	Hexachlorobenzene	4	1.8	78	2.6	2	11	< 0.18
87-68-3	Hexachlorobutadiene							< 0.18
77-47-4	Hexachlorocyclopentadiene	14,000	16	14,000	1.1	400	2,200	< 0.18
67-72-1	Hexachloroethane	2,000	---	2,000	---	0.5	2.6	< 0.18
78-59-1	Isophorone	410,000	4,600	410,000	4,600	8	8	< 0.18
621-64-7	N-Nitrosodi-n-propylamine	0.8	---	18	---	0.00005	0.00005	< 0.035
62-75-9	N-Nitrosodimethylamine							< 0.18
86-30-6	N-Nitrosodiphenylamine	1,200	---	25,000	---	1	5.6	< 0.18
98-95-3	Nitrobenzene	1,000	140	1,000	9.4	0.1	0.1	< 0.035
87-86-5	Pentachlorophenol	24	---	520	---	0.03	0.14	< 0.072
108-95-2	Phenol	610,000	---	61,000	---	100	100	< 0.18
110-86-1	Pyridine							< 0.72

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table B.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

TACO Tier I Soil Remediation Objectives - Supplemental Industrial/Commercial Report (PCB)

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID :	19010291-002	19010291-005	19010291-007	19010291-009
Client Sample ID :	GP-2 (5-7)	GP-5 (8-10)	GP-7 (6-8)	GP-9 (5-7)
Date Collected :	01/10/2019 09:40	01/10/2019 10:15	01/10/2019 10:45	01/10/2019 11:30

		Industrial/Commercial Route Specific Values for Soil		**Construction Worker Route Specific Values for Soil**		**Soil Component of Groundwater Ingestion Exposure Route Values**					
CAS No.	Analyte	**Ingestion**	**Inhalation**	**Ingestion**	**Inhalation**	**Class I**	**Class II**				
12674-11-2	Aroclor 1016	1	---	1	---	---	---	< 0.091	< 0.091	< 0.10	< 0.086
11104-28-2	Aroclor 1221	1	---	1	---	---	---	< 0.091	< 0.091	< 0.10	< 0.086
11141-16-5	Aroclor 1232	1	---	1	---	---	---	< 0.091	< 0.091	< 0.10	< 0.086
53469-21-9	Aroclor 1242	1	---	1	---	---	---	< 0.091	< 0.091	< 0.10	< 0.086
12672-29-6	Aroclor 1248	1	---	1	---	---	---	< 0.091	< 0.091	< 0.10	< 0.086
11097-69-1	Aroclor 1254	1	---	1	---	---	---	< 0.091	< 0.091	< 0.10	< 0.086
11096-82-5	Aroclor 1260	1	---	1	---	---	---	< 0.091	< 0.091	< 0.10	< 0.086

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table B.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID :	19010291-002	19010291-005	19010291-007	19010291-009
Client Sample ID :	GP-2 (5-7)	GP-5 (8-10)	GP-7 (6-8)	GP-9 (5-7)
Date Collected :	01/10/2019 09:40	01/10/2019 10:15	01/10/2019 10:45	01/10/2019 11:30

		Industrial/Commercial Route Specific Values for Soil		**Construction Worker Route Specific Values for Soil**		**Soil Component of Groundwater Ingestion Exposure Route Values**					
CAS No.	Analyte	**Ingestion**	**Inhalation**	**Ingestion**	**Inhalation**	**Class I**	**Class II**				
72-54-8	4,4´-DDD	24	---	520	---	16	80	< 0.0018	< 0.0018	< 0.0020	< 0.0017
72-55-9	4,4´-DDE	17	---	370	---	54	270	< 0.0018	< 0.0018	< 0.0020	< 0.0017
50-29-3	4,4´-DDT	17	1,500	100	2,100	32	160	< 0.0018	< 0.0018	< 0.0020	< 0.0017
309-00-2	Aldrin	0.3	6.6	6.1	9.3	0.5	2.5	< 0.0018	< 0.0018	< 0.0020	< 0.0017
319-84-6	alpha-BHC	0.9	1.5	20	2.1	0.0005	0.003	< 0.0018	< 0.0018	< 0.0020	< 0.0017
5103-71-9	alpha-Chlordane							< 0.0018	< 0.0018	< 0.0020	< 0.0017
319-85-7	beta-BHC							< 0.0018	< 0.0018	< 0.0020	< 0.0017
57-74-9	Chlordane	16	140	100	22	10	48	< 0.018	< 0.018	< 0.020	< 0.017
319-86-8	delta-BHC							< 0.0018	< 0.0018	< 0.0020	< 0.0017
60-57-1	Dieldrin	0.4	2.2	7.8	3.1	0.004	0.02	< 0.0018	< 0.0018	< 0.0020	< 0.0017
959-98-8	Endosulfan I	12,000	---	1,200	---	18	90	< 0.0018	< 0.0018	< 0.0020	< 0.0017
33213-65-9	Endosulfan II	12,000	---	1,200	---	18	90	< 0.0018	< 0.0018	< 0.0020	< 0.0017
1031-07-8	Endosulfan sulfate							< 0.0018	< 0.0018	< 0.0020	< 0.0017
72-20-8	Endrin	610	---	61	---	1	5	< 0.0018	< 0.0018	< 0.0020	< 0.0017
7421-93-4	Endrin aldehyde							< 0.0018	< 0.0018	< 0.0020	< 0.0017
53494-70-5	Endrin ketone							< 0.0018	< 0.0018	< 0.0020	< 0.0017
58-89-9	gamma-BHC	4	---	96	---	0.009	0.047	< 0.0018	< 0.0018	< 0.0020	< 0.0017
5566-34-7	gamma-Chlordane							< 0.0018	< 0.0018	< 0.0020	< 0.0017
76-44-8	Heptachlor	1	11	28	16	23	110	< 0.0018	< 0.0018	< 0.0020	< 0.0017
1024-57-3	Heptachlor epoxide	0.6	9.2	2.7	13	0.7	3.3	< 0.0018	< 0.0018	< 0.0020	< 0.0017
72-43-5	Methoxychlor	10,000	---	1,000	---	160	780	< 0.0018	< 0.0018	< 0.0020	< 0.0017
8001-35-2	Toxaphene	5.2	170	110	240	31	150	< 0.037	< 0.038	< 0.041	< 0.035

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table B.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

TACO Tier I Soil Remediation Objectives - Supplemental Industrial/Commercial Report (INORG)

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID :	19010291-002	19010291-005	19010291-007
Client Sample ID :	GP-2 (5-7)	GP-5 (8-10)	GP-7 (6-8)
Date Collected :	01/10/2019 09:40	01/10/2019 10:15	01/10/2019 10:45

		Industrial/Commercial Route Specific Values for Soil		**Construction Worker Route Specific Values for Soil**		**Soil Component of Groundwater Ingestion Exposure Route Values**				
CAS No.	Analyte	**Ingestion**	**Inhalation**	**Ingestion**	**Inhalation**	**Class I**	**Class II**			
7429-90-5	Aluminum							9900	4600	15000
7440-36-0	Antimony	820	---	82	---			< 1.9	< 2.0	< 2.1
7440-38-2	Arsenic	13.0/11.3	1,200	61	25,000			8.7	**16**	4.2
7440-39-3	Barium	140,000	910,000	14,000	870,000			37	20	58
7440-41-7	Beryllium	4,100	2,100	410	44,000			0.81	< 0.49	0.62
7440-43-9	Cadmium	2,000	2,800	200	59,000			< 0.48	< 0.49	< 0.53
7440-70-2	Calcium	---	---	---	---			74000	71000	51000
7440-47-3	Chromium	6,100	420	4,100	690			20	10	30
7440-48-4	Cobalt	120,000	---	12,000	---			14	10	17
7440-50-8	Copper	82,000	---	8,200	---			28	34	35
57-12-5	Cyanide	41,000	---	4,100	---			< 0.29	< 0.29	< 0.32
7439-89-6	Iron		---		---			24000	24000	26000
7439-92-1	Lead	800	---	700	---			24	19	19
7439-95-4	Magnesium	---	---	730,000	---			37000	43000	35000
7439-96-5	Manganese	41,000	91,000	4,100	8,700			470	420	440
7439-97-6	Mercury	610	16	61	0.1			0.023	0.028	0.031
7440-02-0	Nickel	41,000	21,000	4,100	440,000			33	22	44
7440-09-7	Potassium	---	---	---	---			2600	990	3400
7782-49-2	Selenium	10,000	---	1,000	---			1.1	< 0.98	< 1.1
7440-22-4	Silver	10,000	---	1,000	---			< 0.97	< 0.98	< 1.1
7440-23-5	Sodium	---	---	---	---			170	120	140
7440-28-0	Thallium	160	---	160	---			< 0.97	< 0.98	< 1.1
7440-62-2	Vanadium	14,000	---	1,400	---			24	14	30
7440-66-6	Zinc	610,000	---	61,000	---			66	49	72

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table B.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

TACO Tier I Soil Remediation Objectives - Supplemental Industrial/Commercial Report (INORG)

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID : 19010291-009
Client Sample ID : GP-9 (5-7)
Date Collected : 01/10/2019 11:30

CAS No.	Analyte	Industrial/Commercial Route Specific Values for Soil		Construction Worker Route Specific Values for Soil		Soil Component of Groundwater Ingestion Exposure Route Values		
		Ingestion	**Inhalation**	**Ingestion**	**Inhalation**	**Class I**	**Class II**	
7429-90-5	Aluminum							3000
7440-36-0	Antimony	820	---	82	---			< 1.8
7440-38-2	Arsenic	13.0/11.3	1,200	61	25,000			10
7440-39-3	Barium	140,000	910,000	14,000	870,000			15
7440-41-7	Beryllium	4,100	2,100	410	44,000			< 0.46
7440-43-9	Cadmium	2,000	2,800	200	59,000			< 0.46
7440-70-2	Calcium	---	---	---	---			130000
7440-47-3	Chromium	6,100	420	4,100	690			7.2
7440-48-4	Cobalt	120,000	---	12,000	---			6.1
7440-50-8	Copper	82,000	---	8,200	---			19
57-12-5	Cyanide	41,000	---	4,100	---			< 0.27
7439-89-6	Iron		---		---			17000
7439-92-1	Lead	800	---	700	---			9.9
7439-95-4	Magnesium	---	---	730,000	---			72000
7439-96-5	Manganese	41,000	91,000	4,100	8,700			440
7439-97-6	Mercury	610	16	61	0.1			< 0.020
7440-02-0	Nickel	41,000	21,000	4,100	440,000			13
7440-09-7	Potassium	---	---	---	---			960
7782-49-2	Selenium	10,000	---	1,000	---			1.3
7440-22-4	Silver	10,000	---	1,000	---			< 0.92
7440-23-5	Sodium	---	---	---	---			160
7440-28-0	Thallium	160	---	160	---			< 0.92
7440-62-2	Vanadium	14,000	---	1,400	---			10
7440-66-6	Zinc	610,000	---	61,000	---			54

All units are mg/Kg unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table B.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

TACO Tier I Soil Remediation Objectives - Supplemental Industrial/Commercial Report (TCLP)

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID :	19010291-002	19010291-005	19010291-007	19010291-009
Client Sample ID :	GP-2 (5-7)	GP-5 (8-10)	GP-7 (6-8)	GP-9 (5-7)
Date Collected :	01/10/2019 09:40	01/10/2019 10:15	01/10/2019 10:45	01/10/2019 11:30

		Industrial/Commercial Route Specific Values for Soil		**Construction Worker Route Specific Values for Soil**		**Soil Component of Groundwater Ingestion Exposure Route Values**					
CAS No.	Analyte	**Ingestion**	**Inhalation**	**Ingestion**	**Inhalation**	**Class I**	**Class II**				
7440-36-0	Antimony					0.006	0.024	< 0.015	< 0.015	< 0.015	< 0.015
7440-38-2	Arsenic					0.05	0.2	< 0.010	< 0.010	< 0.010	< 0.010
7440-39-3	Barium					2.0	2.0	0.41	0.23	0.44	0.23
7440-41-7	Beryllium					0.004	0.5	< 0.0050	< 0.0050	< 0.0050	< 0.0050
7440-43-9	Cadmium					0.005	0.05	< 0.0050	< 0.0050	< 0.0050	< 0.0050
7440-47-3	Chromium					0.1	1.0	< 0.010	< 0.010	< 0.010	< 0.010
7440-48-4	Cobalt					1.0	1.0	0.044	0.010	0.029	0.034
7440-50-8	Copper					0.65	0.65	< 0.10	< 0.10	< 0.10	< 0.10
7439-89-6	Iron					5.0	5.0	< 0.25	< 0.25	< 0.25	< 0.25
7439-92-1	Lead					0.0075	0.1	< 0.0050	< 0.0050	< 0.0050	< 0.0050
7439-96-5	Manganese					0.15	10.0	**3.3**	**2.8**	**3.4**	**2.4**
7439-97-6	Mercury					0.002	0.01	< 0.00020	< 0.00020	< 0.00020	< 0.00020
7440-02-0	Nickel					0.1	2.0	0.084	0.020	0.030	0.045
7782-49-2	Selenium					0.05	0.05	< 0.020	< 0.020	< 0.020	< 0.020
7440-22-4	Silver					0.05	---	< 0.010	< 0.010	< 0.010	< 0.010
7440-28-0	Thallium					0.002	0.02	< 0.0050	< 0.0050	< 0.0050	< 0.0050
7440-62-2	Vanadium					0.049	0.1	< 0.010	< 0.010	< 0.010	< 0.010
7440-66-6	Zinc					5.0	10	< 0.050	< 0.050	< 0.050	< 0.050

All units are mg/L unless otherwise noted.

Based on 35 IAC Part 742, Appendix B Table B.

Bolded/Shaded values have detected results exceeding the lowest Tier I remediation objective.

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID :	19010291-002	19010291-005	19010291-007
Client Sample ID :	GP-2 (5-7)	GP-5 (8-10)	GP-7 (6-8)
Date Collected :	01/10/2019 09:40	01/10/2019 10:15	01/10/2019 10:45
	pH = 8.06	pH = 8.16	pH = 7.79

	Industrial/Commercial Route Specific Values for Soil		Construction Worker Route Specific Values for Soil		pH Specific Soil Component of Groundwater Ingestion Route Values				
	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II			
INORG Analyte	*pH Range 7.75 to 8.24*								
Aluminum							9900	4600	15000
Antimony	820	---	82	---	5	20	< 1.9	< 2.0	< 2.1
Arsenic	13.0/11.3	1,200	61	25,000	31	120	8.7	16	4.2
Barium	140,000	910,000	14,000	870,000	2,100	2,100	37	20	58
Beryllium	4,100	2,100	410	44,000	8,000	1,000,000	0.81	< 0.49	0.62
Cadmium	2,000	2,800	200	59,000	430	4,300	< 0.48	< 0.49	< 0.53
Calcium	---	---	---	---			74000	71000	51000
Chromium	6,100	420	4,100	690	28	No Data	20	10	**30**
Cobalt	120,000	---	12,000	---	See TCLP/SPLP	See TCLP/SPLP	14	10	17
Copper	82,000	---	8,200	---	330,000	330,000	28	34	35
Cyanide	41,000	---	4,100	---	40	120	< 0.29	< 0.29	< 0.32
Iron		---		---	See TCLP/SPLP	See TCLP/SPLP	24000	24000	26000
Lead	800	---	700	---	107	1,420	24	19	19
Magnesium	---	---	730,000	---			37000	43000	35000
Manganese	41,000	91,000	4,100	8,700	See TCLP/SPLP	See TCLP/SPLP	470	420	440
Mercury	610	16	61	0.1	8.0	40	0.023	0.028	0.031
Nickel	41,000	21,000	4,100	440,000	3,800	76,000	33	22	44
Potassium	---	---	---	---			2600	990	3400
Selenium	10,000	---	1,000	---	2.4	2.4	1.1	< 0.98	< 1.1
Silver	10,000	---	1,000	---	110		< 0.97	< 0.98	< 1.1
Sodium	---	---	---	---			170	120	140
Thallium	160	---	160	---	3.8	38	< 0.97	< 0.98	< 1.1
Vanadium	14,000	---	1,400	---	980	See TCLP/SPLP	24	14	30
Zinc	610,000	---	61,000	---	53,000	110,000	66	49	72

The actual laboratory determined pH values are listed and used for reference purposes.
NDA - No Data Available for this pH range.
All units are mg/Kg unless otherwise noted.
Based on 35 IAC Part 742, Appendix B Table B.
Class I / II objectives based on 35 IAC Part 742, Appendix B Tables C & D.
Bolded/Shaded values exceed the lowest pH specific remediation objective.
Chromium Class I / II objectives based on hexavalent chromium.

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID : 19010291-009
Client Sample ID : GP-9 (5-7)
Date Collected : 01/10/2019 11:30
pH = 8.08

		Industrial/Commercial Route Specific Values for Soil		Construction Worker Route Specific Values for Soil		pH Specific Soil Component of Groundwater Ingestion Route Values		
		Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II	
INORG	Analyte	*pH Range 7.75 to 8.24*						
	Aluminum							3000
	Antimony	820	---	82	---	5	20	< 1.8
	Arsenic	13.0/11.3	1,200	61	25,000	31	120	10
	Barium	140,000	910,000	14,000	870,000	2,100	2,100	15
	Beryllium	4,100	2,100	410	44,000	8,000	1,000,000	< 0.46
	Cadmium	2,000	2,800	200	59,000	430	4,300	< 0.46
	Calcium	---	---	---	---			130000
	Chromium	6,100	420	4,100	690	28	No Data	7.2
	Cobalt	120,000	---	12,000	---	See TCLP/SPLP	See TCLP/SPLP	6.1
	Copper	82,000	---	8,200	---	330,000	330,000	19
	Cyanide	41,000	---	4,100	---	40	120	< 0.27
	Iron		---		---	See TCLP/SPLP	See TCLP/SPLP	17000
	Lead	800	---	700	---	107	1,420	9.9
	Magnesium	---	---	730,000	---			72000
	Manganese	41,000	91,000	4,100	8,700	See TCLP/SPLP	See TCLP/SPLP	440
	Mercury	610	16	61	0.1	8.0	40	< 0.020
	Nickel	41,000	21,000	4,100	440,000	3,800	76,000	13
	Potassium	---	---	---	---			960
	Selenium	10,000	---	1,000	---	2.4	2.4	1.3
	Silver	10,000	---	1,000	---	110		< 0.92
	Sodium	---	---	---	---			160
	Thallium	160	---	160	---	3.8	38	< 0.92
	Vanadium	14,000	---	1,400	---	980	See TCLP/SPLP	10
	Zinc	610,000	---	61,000	---	53,000	110,000	54

The actual laboratory determined pH values are listed and used for reference purposes.
NDA - No Data Available for this pH range.
All units are mg/Kg unless otherwise noted.
Based on 35 IAC Part 742, Appendix B Table B.
Class I / II objectives based on 35 IAC Part 742, Appendix B Tables C & D.
Bolded/Shaded values exceed the lowest pH specific remediation objective.
Chromium Class I / II objectives based on hexavalent chromium.

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

		Concentration of Chemicals in Background Soils						
	Analyte	City of Chicago	Within MSA	Outside MSA				
	Laboratory ID :				19010291-002	19010291-005	19010291-007	19010291-009
	Client Sample ID :				GP-2 (5-7)	GP-5 (8-10)	GP-7 (6-8)	GP-9 (5-7)
	Date Collected :				01/10/2019 09:40	01/10/2019 10:15	01/10/2019 10:45	01/10/2019 11:30
PNA	Acenaphthene	0.09	0.13	0.04	< 0.037	< 0.038	< 0.041	< 0.035
	Acenaphthylene	0.03	0.07	0.04	< 0.037	< 0.038	< 0.041	< 0.035
	Anthracene	0.25	0.40	0.14	< 0.037	< 0.038	< 0.041	< 0.035
	Benz(a)anthracene	1.1	1.8	0.72	< 0.037	< 0.038	< 0.041	< 0.035
	Benzo(a)pyrene	1.3	2.1	0.98	< 0.037	< 0.038	< 0.041	< 0.035
	Benzo(b)fluoranthene	1.5	2.1	0.70	< 0.037	< 0.038	< 0.041	< 0.035
	Benzo(g,h,i)perylene	0.68	1.7	0.84	< 0.037	< 0.038	< 0.041	< 0.035
	Benzo(k)fluoranthene	0.99	1.7	0.63	< 0.037	< 0.038	< 0.041	< 0.035
	Chrysene	1.2	2.7	1.1	< 0.037	< 0.038	< 0.041	< 0.035
	Dibenz(a,h)anthracene	0.20	0.42	0.15	< 0.037	< 0.038	< 0.041	< 0.035
	Fluoranthene	2.7	4.1	1.8	< 0.037	< 0.038	< 0.041	< 0.035
	Fluorene	0.10	0.18	0.04	< 0.037	< 0.038	< 0.041	< 0.035
	Indeno(1,2,3-cd)pyrene	0.86	1.6	0.51	< 0.037	< 0.038	< 0.041	< 0.035
	Naphthalene	0.04	0.20	0.17	< 0.037	< 0.038	< 0.041	< 0.035
	Phenanthrene	1.3	2.5	0.99	< 0.037	< 0.038	< 0.041	< 0.035
	Pyrene	1.9	3.0	1.2	< 0.037	< 0.038	< 0.041	< 0.035
INORG	Aluminum		9,500	9,200	**9900**	4600	**15000**	3000
	Antimony		4.0	3.3	< 1.9	< 2.0	< 2.1	< 1.8
	Arsenic		13.0	11.3	8.7	**16**	4.2	10
	Barium		110	122	37	20	58	15
	Beryllium		0.59	0.56	**0.81**	< 0.49	**0.62**	< 0.46
	Cadmium		0.6	0.50	< 0.48	< 0.49	< 0.53	< 0.46
	Calcium		9,300	5,525	**74000**	**71000**	**51000**	**130000**
	Chromium		16.2	13.0	**20**	10	**30**	7.2
	Cobalt		8.9	8.9	**14**	**10**	**17**	6.1
	Copper		19.6	12.0	**28**	**34**	**35**	19
	Cyanide		0.51	0.50	< 0.29	< 0.29	< 0.32	< 0.27
	Iron		15,900	15,000	**24000**	**24000**	**26000**	**17000**
	Lead		36.0	20.9	24	19	19	9.9
	Magnesium		4,820	2,700	**37000**	**43000**	**35000**	**72000**
	Manganese		636	630	470	420	440	440
	Mercury		0.06	0.05	0.023	0.028	0.031	< 0.020
	Nickel		18.0	13.0	**33**	**22**	**44**	13
	Potassium		1,268	1,100	**2600**	990	**3400**	960
	Selenium		0.48	0.37	**1.1**	< 0.98	< 1.1	**1.3**
	Silver		0.55	0.50	< 0.97	< 0.98	< 1.1	< 0.92
	Sodium		130	130.0	**170**	120	**140**	**160**
	Thallium		0.32	0.42	< 0.97	< 0.98	< 1.1	< 0.92
	Vanadium		25.2	25.0	24	14	**30**	10
	Zinc		95.0	60.2	66	49	72	54

MSA - Metropolitan Statistical Area
All units are mg/Kg unless otherwise noted.
Based on 35 IAC Part 742, Appendix A Table G and Table H.
Bolded/Shaded values exceed the within MSA background level.

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID :	19010291-002	19010291-005
Client Sample ID :	GP-2 (5-7)	GP-5 (8-10)
Date Collected :	01/10/2019 09:40	01/10/2019 10:15

	CAS No.	Analyte	Soil Saturation Limits for Chemicals With Melting Point < 30°C: Outdoor Inhalation Exposure Route Value C_{sat} (mg/Kg)	Soil Saturation Limits for Chemicals With Melting Point < 30°C: Soil Component of Groundwater Ingestion Exposure Route C_{sat} (mg/Kg)		
VOC	67-64-1	Acetone	100,000	200,000	< 0.068	< 0.069
	71-43-2	Benzene	800	580	< 0.0045	< 0.0046
	75-27-4	Bromodichloromethane	2,800	2,000	< 0.0045	< 0.0046
	75-25-2	Bromoform	2,000	1,200	< 0.0045	< 0.0046
	74-83-9	Bromomethane	3,100	3,600	< 0.0089	< 0.0092
	78-93-3	2-Butanone	25,000	45,000	< 0.068	< 0.069
	75-15-0	Carbon disulfide	850	520	< 0.045	< 0.046
	56-23-5	Carbon tetrachloride	1,200	560	< 0.0045	< 0.0046
	108-90-7	Chlorobenzene	620	290	< 0.0045	< 0.0046
	67-66-3	Chloroform	3,400	2,500	< 0.0045	< 0.0046
	124-48-1	Dibromochloromethane	1,400	890	< 0.0045	< 0.0046
	75-34-3	1,1-Dichloroethane	1,700	1,400	< 0.0045	< 0.0046
	107-06-2	1,2-Dichloroethane	1,900	2,100	< 0.0045	< 0.0046
	75-35-4	1,1-Dichloroethene	1,400	910	< 0.0045	< 0.0046
	156-59-2	cis-1,2-Dichloroethene	1,300	1,000	< 0.0045	< 0.0046
	156-60-5	trans-1,2-Dichloroethene	3,000	2,100	< 0.0045	< 0.0046
	78-87-5	1,2-Dichloropropane	1,200	870	< 0.0045	< 0.0046
	10061-01-5	cis-1,3-Dichloropropene	1,000	850	< 0.0018	< 0.0018
	10061-02-6	trans-1,3-Dichloropropene	1,000	850	< 0.0018	< 0.0018
	100-41-4	Ethylbenzene	350	150	< 0.0045	< 0.0046
	75-09-2	Methylene chloride	2,500	3,000	< 0.0089	< 0.0092
	1634-04-4	Methyl tert-butyl ether	8,400	11,000	< 0.0045	< 0.0046
	100-42-5	Styrene	630	260	< 0.0045	< 0.0046
	127-18-4	Tetrachloroethene	800	310	< 0.0045	< 0.0046
	108-88-3	Toluene	580	290	< 0.0045	< 0.0046
	71-55-6	1,1,1-Trichloroethane	1,300	670	< 0.0045	< 0.0046
	79-00-5	1,1,2-Trichloroethane	1,800	1,300	< 0.0045	< 0.0046
	79-01-6	Trichloroethene	1,200	650	< 0.0045	< 0.0046
	75-01-4	Vinyl chloride	2,600	2,900	< 0.0045	< 0.0046
	1330-20-7	Xylenes, Total	280	110	< 0.014	< 0.014
SVOC	120-82-1	1,2,4-Trichlorobenzene	340	120	< 0.19	< 0.19
	95-50-1	1,2-Dichlorobenzene	560	210	< 0.19	< 0.19
	105-67-9	2,4-Dimethylphenol	10,000	4,700	< 0.19	< 0.19
	95-57-8	2-Chlorophenol	10,000	7,100	< 0.19	< 0.19
	111-44-4	Bis(2-chloroethyl)ether	3,000	3,900	< 0.19	< 0.19
	117-81-7	Bis(2-ethylhexyl)phthalate	200	68	< 0.93	< 0.95
	85-68-7	Butyl benzyl phthalate	1,000	340	< 0.19	< 0.19
	84-74-2	Di-n-butyl phthalate	2,600	880	< 0.19	< 0.19
	117-84-0	Di-n-octyl phthalate	16	5.2	< 0.19	< 0.19
	84-66-2	Diethyl phthalate	2,200	920	< 0.19	< 0.19
	77-47-4	Hexachlorocyclopentadiene	130	44	< 0.19	< 0.19
	78-59-1	Isophorone	3,000	3,000	< 0.19	< 0.19
	621-64-7	N-Nitrosodi-n-propylamine	1,900	2,300	< 0.037	< 0.038
	98-95-3	Nitrobenzene	710	590	< 0.037	< 0.038
INORG	7439-97-6	Mercury	3.1	N/A	0.023	0.028

All units are mg/Kg unless otherwise noted.
Based on 35 IAC Part 742, Appendix A Table A.

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

			Laboratory ID :	19010291-007	19010291-009
			Client Sample ID :	GP-7 (6-8)	GP-9 (5-7)
			Date Collected :	01/10/2019 10:45	01/10/2019 11:30

			Soil Saturation Limits for Chemicals With Melting Point < 30°C			
			Outdoor Inhalation Exposure Route Value	**Soil Component of Groundwater Ingestion Exposure Route**		
	CAS No.	Analyte	**C_{sat} (mg/Kg)**	**C_{sat} (mg/Kg)**		
VOC	67-64-1	Acetone	100,000	200,000	< 0.077	< 0.058
	71-43-2	Benzene	800	580	< 0.0051	< 0.0038
	75-27-4	Bromodichloromethane	2,800	2,000	< 0.0051	< 0.0038
	75-25-2	Bromoform	2,000	1,200	< 0.0051	< 0.0038
	74-83-9	Bromomethane	3,100	3,600	< 0.010	< 0.0077
	78-93-3	2-Butanone	25,000	45,000	< 0.077	< 0.058
	75-15-0	Carbon disulfide	850	520	< 0.051	< 0.038
	56-23-5	Carbon tetrachloride	1,200	560	< 0.0051	< 0.0038
	108-90-7	Chlorobenzene	620	290	< 0.0051	< 0.0038
	67-66-3	Chloroform	3,400	2,500	< 0.0051	< 0.0038
	124-48-1	Dibromochloromethane	1,400	890	< 0.0051	< 0.0038
	75-34-3	1,1-Dichloroethane	1,700	1,400	< 0.0051	< 0.0038
	107-06-2	1,2-Dichloroethane	1,900	2,100	< 0.0051	< 0.0038
	75-35-4	1,1-Dichloroethene	1,400	910	< 0.0051	< 0.0038
	156-59-2	cis-1,2-Dichloroethene	1,300	1,000	< 0.0051	< 0.0038
	156-60-5	trans-1,2-Dichloroethene	3,000	2,100	< 0.0051	< 0.0038
	78-87-5	1,2-Dichloropropane	1,200	870	< 0.0051	< 0.0038
	10061-01-5	cis-1,3-Dichloropropene	1,000	850	< 0.0020	< 0.0015
	10061-02-6	trans-1,3-Dichloropropene	1,000	850	< 0.0020	< 0.0015
	100-41-4	Ethylbenzene	350	150	< 0.0051	< 0.0038
	75-09-2	Methylene chloride	2,500	3,000	< 0.010	< 0.0077
	1634-04-4	Methyl tert-butyl ether	8,400	11,000	< 0.0051	< 0.0038
	100-42-5	Styrene	630	260	< 0.0051	< 0.0038
	127-18-4	Tetrachloroethene	800	310	< 0.0051	< 0.0038
	108-88-3	Toluene	580	290	< 0.0051	< 0.0038
	71-55-6	1,1,1-Trichloroethane	1,300	670	< 0.0051	< 0.0038
	79-00-5	1,1,2-Trichloroethane	1,800	1,300	< 0.0051	< 0.0038
	79-01-6	Trichloroethene	1,200	650	< 0.0051	< 0.0038
	75-01-4	Vinyl chloride	2,600	2,900	< 0.0051	< 0.0038
	1330-20-7	Xylenes, Total	280	110	< 0.015	< 0.012
SVOC	120-82-1	1,2,4-Trichlorobenzene	340	120	< 0.21	< 0.18
	95-50-1	1,2-Dichlorobenzene	560	210	< 0.21	< 0.18
	105-67-9	2,4-Dimethylphenol	10,000	4,700	< 0.21	< 0.18
	95-57-8	2-Chlorophenol	10,000	7,100	< 0.21	< 0.18
	111-44-4	Bis(2-chloroethyl)ether	3,000	3,900	< 0.21	< 0.18
	117-81-7	Bis(2-ethylhexyl)phthalate	200	68	< 1.0	< 0.89
	85-68-7	Butyl benzyl phthalate	1,000	340	< 0.21	< 0.18
	84-74-2	Di-n-butyl phthalate	2,600	880	< 0.21	< 0.18
	117-84-0	Di-n-octyl phthalate	16	5.2	< 0.21	< 0.18
	84-66-2	Diethyl phthalate	2,200	920	< 0.21	< 0.18
	77-47-4	Hexachlorocyclopentadiene	130	44	< 0.21	< 0.18
	78-59-1	Isophorone	3,000	3,000	< 0.21	< 0.18
	621-64-7	N-Nitrosodi-n-propylamine	1,900	2,300	< 0.041	< 0.035
	98-95-3	Nitrobenzene	710	590	< 0.041	< 0.035
INORG	7439-97-6	Mercury	3.1	N/A	0.031	< 0.020

All units are mg/Kg unless otherwise noted.
Based on 35 IAC Part 742, Appendix A Table A.

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Test	Chemical	Sample Number	Concentration Detected (ppm)	TACO Tier 1 RO (mg/Kg)	Exposure Pathway
INORG	Aluminum	GP-2 (5-7)	9900	9,500	Within MSA Background
		GP-7 (6-8)	15000	9,200	Outside MSA Background
INORG	Arsenic	GP-5 (8-10)	16	13.0/11.3	Industrial/Commercial Ingestion
				13.0	Within MSA Background
				11.3	Outside MSA Background
INORG	Beryllium	GP-2 (5-7)	0.81	0.59	Within MSA Background
		GP-7 (6-8)	0.62	0.56	Outside MSA Background
INORG	Calcium	GP-2 (5-7)	74000	9,300	Within MSA Background
		GP-5 (8-10)	71000	5,525	Outside MSA Background
		GP-7 (6-8)	51000		
		GP-9 (5-7)	130000		
INORG	Chromium	GP-2 (5-7)	20	28	pH Specific SCGIR Class I
		GP-7 (6-8)	30	16.2	Within MSA Background
				13.0	Outside MSA Background
INORG	Cobalt	GP-2 (5-7)	14	8.9	Within MSA Background
		GP-5 (8-10)	10	8.9	Outside MSA Background
		GP-7 (6-8)	17		
INORG	Copper	GP-2 (5-7)	28	19.6	Within MSA Background
		GP-5 (8-10)	34	12.0	Outside MSA Background
		GP-7 (6-8)	35		
		GP-9 (5-7)	19		
INORG	Iron	GP-2 (5-7)	24000	15,900	Within MSA Background
		GP-5 (8-10)	24000	15,000	Outside MSA Background
		GP-7 (6-8)	26000		
		GP-9 (5-7)	17000		
INORG	Lead	GP-2 (5-7)	24	20.9	Outside MSA Background
INORG	Magnesium	GP-2 (5-7)	37000	4,820	Within MSA Background
		GP-5 (8-10)	43000	2,700	Outside MSA Background
		GP-7 (6-8)	35000		
		GP-9 (5-7)	72000		
INORG	Nickel	GP-2 (5-7)	33	18.0	Within MSA Background
		GP-5 (8-10)	22	13.0	Outside MSA Background
		GP-7 (6-8)	44		
INORG	Potassium	GP-2 (5-7)	2600	1,268	Within MSA Background
		GP-7 (6-8)	3400	1,100	Outside MSA Background
INORG	Selenium	GP-2 (5-7)	1.1	0.48	Within MSA Background
		GP-9 (5-7)	1.3	0.37	Outside MSA Background
INORG	Sodium	GP-2 (5-7)	170	130	Within MSA Background
		GP-7 (6-8)	140	130.0	Outside MSA Background
		GP-9 (5-7)	160		
INORG	Vanadium	GP-7 (6-8)	30	25.2	Within MSA Background
				25.0	Outside MSA Background
INORG	Zinc	GP-2 (5-7)	66	60.2	Outside MSA Background
		GP-7 (6-8)	72		
TCLP	Manganese	GP-2 (5-7)	3.3 *	0.15	SCGIR Class I
		GP-5 (8-10)	2.8 *		
		GP-7 (6-8)	3.4 *		
		GP-9 (5-7)	2.4 *		

* - result and RO units are mg/L

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Test	Chemical	Sample Number	Concentration Detected (ppm)	TACO Tier 1 RO (mg/Kg)	Exposure Pathway
INORG	Arsenic	GP-5 (8-10)	16	13.0/11.3	Industrial/Commercial Ingestion
TCLP	Manganese	GP-2 (5-7)	3.3 *	0.15	SCGIR Class I
TCLP	Manganese	GP-5 (8-10)	2.8 *	0.15	SCGIR Class I
TCLP	Manganese	GP-7 (6-8)	3.4 *	0.15	SCGIR Class I
TCLP	Manganese	GP-9 (5-7)	2.4 *	0.15	SCGIR Class I
INORG	Chromium	GP-7 (6-8)	30	28	pH Specific SCGIR Class I
INORG	Aluminum	GP-2 (5-7)	9900	9,500	Within MSA Background
INORG	Beryllium	GP-2 (5-7)	0.81	0.59	Within MSA Background
INORG	Calcium	GP-2 (5-7)	74000	9,300	Within MSA Background
INORG	Chromium	GP-2 (5-7)	20	16.2	Within MSA Background
INORG	Cobalt	GP-2 (5-7)	14	8.9	Within MSA Background
INORG	Copper	GP-2 (5-7)	28	19.6	Within MSA Background
INORG	Iron	GP-2 (5-7)	24000	15,900	Within MSA Background
INORG	Magnesium	GP-2 (5-7)	37000	4,820	Within MSA Background
INORG	Nickel	GP-2 (5-7)	33	18.0	Within MSA Background
INORG	Potassium	GP-2 (5-7)	2600	1,268	Within MSA Background
INORG	Selenium	GP-2 (5-7)	1.1	0.48	Within MSA Background
INORG	Sodium	GP-2 (5-7)	170	130	Within MSA Background
INORG	Arsenic	GP-5 (8-10)	16	13.0	Within MSA Background
INORG	Calcium	GP-5 (8-10)	71000	9,300	Within MSA Background
INORG	Cobalt	GP-5 (8-10)	10	8.9	Within MSA Background
INORG	Copper	GP-5 (8-10)	34	19.6	Within MSA Background
INORG	Iron	GP-5 (8-10)	24000	15,900	Within MSA Background
INORG	Magnesium	GP-5 (8-10)	43000	4,820	Within MSA Background
INORG	Nickel	GP-5 (8-10)	22	18.0	Within MSA Background
INORG	Aluminum	GP-7 (6-8)	15000	9,500	Within MSA Background
INORG	Beryllium	GP-7 (6-8)	0.62	0.59	Within MSA Background
INORG	Calcium	GP-7 (6-8)	51000	9,300	Within MSA Background
INORG	Chromium	GP-7 (6-8)	30	16.2	Within MSA Background
INORG	Cobalt	GP-7 (6-8)	17	8.9	Within MSA Background
INORG	Copper	GP-7 (6-8)	35	19.6	Within MSA Background
INORG	Iron	GP-7 (6-8)	26000	15,900	Within MSA Background
INORG	Magnesium	GP-7 (6-8)	35000	4,820	Within MSA Background
INORG	Nickel	GP-7 (6-8)	44	18.0	Within MSA Background
INORG	Potassium	GP-7 (6-8)	3400	1,268	Within MSA Background
INORG	Sodium	GP-7 (6-8)	140	130	Within MSA Background
INORG	Vanadium	GP-7 (6-8)	30	25.2	Within MSA Background
INORG	Calcium	GP-9 (5-7)	130000	9,300	Within MSA Background
INORG	Iron	GP-9 (5-7)	17000	15,900	Within MSA Background
INORG	Magnesium	GP-9 (5-7)	72000	4,820	Within MSA Background
INORG	Selenium	GP-9 (5-7)	1.3	0.48	Within MSA Background
INORG	Sodium	GP-9 (5-7)	160	130	Within MSA Background
INORG	Aluminum	GP-2 (5-7)	9900	9,200	Outside MSA Background
INORG	Beryllium	GP-2 (5-7)	0.81	0.56	Outside MSA Background
INORG	Calcium	GP-2 (5-7)	74000	5,525	Outside MSA Background
INORG	Chromium	GP-2 (5-7)	20	13.0	Outside MSA Background
INORG	Cobalt	GP-2 (5-7)	14	8.9	Outside MSA Background
INORG	Copper	GP-2 (5-7)	28	12.0	Outside MSA Background
INORG	Iron	GP-2 (5-7)	24000	15,000	Outside MSA Background
INORG	Lead	GP-2 (5-7)	24	20.9	Outside MSA Background
INORG	Magnesium	GP-2 (5-7)	37000	2,700	Outside MSA Background
INORG	Nickel	GP-2 (5-7)	33	13.0	Outside MSA Background
INORG	Potassium	GP-2 (5-7)	2600	1,100	Outside MSA Background
INORG	Selenium	GP-2 (5-7)	1.1	0.37	Outside MSA Background
INORG	Sodium	GP-2 (5-7)	170	130.0	Outside MSA Background
INORG	Zinc	GP-2 (5-7)	66	60.2	Outside MSA Background
INORG	Arsenic	GP-5 (8-10)	16	11.3	Outside MSA Background
INORG	Calcium	GP-5 (8-10)	71000	5,525	Outside MSA Background

* - result and RO units are mg/L

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Test	Chemical	Sample Number	Concentration Detected (ppm)	TACO Tier 1 RO (mg/Kg)	Exposure Pathway
INORG	Cobalt	GP-5 (8-10)	10	8.9	Outside MSA Background
INORG	Copper	GP-5 (8-10)	34	12.0	Outside MSA Background
INORG	Iron	GP-5 (8-10)	24000	15,000	Outside MSA Background
INORG	Magnesium	GP-5 (8-10)	43000	2,700	Outside MSA Background
INORG	Nickel	GP-5 (8-10)	22	13.0	Outside MSA Background
INORG	Aluminum	GP-7 (6-8)	15000	9,200	Outside MSA Background
INORG	Beryllium	GP-7 (6-8)	0.62	0.56	Outside MSA Background
INORG	Calcium	GP-7 (6-8)	51000	5,525	Outside MSA Background
INORG	Chromium	GP-7 (6-8)	30	13.0	Outside MSA Background
INORG	Cobalt	GP-7 (6-8)	17	8.9	Outside MSA Background
INORG	Copper	GP-7 (6-8)	35	12.0	Outside MSA Background
INORG	Iron	GP-7 (6-8)	26000	15,000	Outside MSA Background
INORG	Magnesium	GP-7 (6-8)	35000	2,700	Outside MSA Background
INORG	Nickel	GP-7 (6-8)	44	13.0	Outside MSA Background
INORG	Potassium	GP-7 (6-8)	3400	1,100	Outside MSA Background
INORG	Sodium	GP-7 (6-8)	140	130.0	Outside MSA Background
INORG	Vanadium	GP-7 (6-8)	30	25.0	Outside MSA Background
INORG	Zinc	GP-7 (6-8)	72	60.2	Outside MSA Background
INORG	Calcium	GP-9 (5-7)	130000	5,525	Outside MSA Background
INORG	Copper	GP-9 (5-7)	19	12.0	Outside MSA Background
INORG	Iron	GP-9 (5-7)	17000	15,000	Outside MSA Background
INORG	Magnesium	GP-9 (5-7)	72000	2,700	Outside MSA Background
INORG	Selenium	GP-9 (5-7)	1.3	0.37	Outside MSA Background
INORG	Sodium	GP-9 (5-7)	160	130.0	Outside MSA Background

* - result and RO units are mg/L

Indoor Inhalation Route - Tier 1 Soil Gas Remediation Objectives

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Laboratory: STAT ANALYSIS

Laboratory ID : 19010291-011
Client Sample ID : SGV-1 (Kensington)
Date Collected : 01/10/2019 12:00

		Indoor Inhalation Route - Tier 1 Soil Gas Remediation Objectives				
		Diffusion and Advection		Diffusion Only		
CAS No.	Analyte	Residential	Industrial / Commercial	Residential	Industrial / Commercial	
67-64-1	Acetone	750,000	750,000	750,000	750,000	0.031
71-43-2	Benzene	0.37	2.8	41	300	< 0.0018
75-27-4	Bromodichloromethane	450,000	450,000	450,000	450,000	< 0.0039
75-25-2	Bromoform	11	52	1,800	13,000	< 0.016
78-93-3	2-Butanone	6,400	40,000	380,000	380,000	< 0.0045
75-15-0	Carbon disulfide	780	5,300	81,000	500,000	< 0.0019
56-23-5	Carbon tetrachloride	0.21	1.5	24	180	< 0.0039
108-90-7	Chlorobenzene	69	420	8,300	51,000	< 0.0027
124-48-1	Dibromochloromethane	57,000	57,000	57,000	57,000	< 0.0051
67-66-3	Chloroform	0.11	0.92	12	87	< 0.0030
106-93-4	1,2-Dibromoethane	0.0078	0.048	1.1	7.9	< 0.0045
95-50-1	1,2-Dichlorobenzene	290	1,700	11,000	11,000	< 0.0036
106-46-7	1,4-Dichlorobenzene	1,200	6,800	8,400	8,400	0.0084
75-71-8	Dichlorodifluoromethane	270	1,700	32,000	200,000	0.0031
75-34-3	1,1-Dichloroethane	690	4,200	81,000	500,000	< 0.0024
107-06-2	1,2-Dichloroethane	0.099	0.81	10	76	< 0.0024
75-35-4	1,1-Dichloroethene	240	1,600	27,000	160,000	< 0.0024
156-59-2	cis-1,2-Dichloroethene	1,100,000	1,100,000	1,100,000	1,100,000	< 0.0024
156-60-5	trans-1,2-Dichloroethene	85	510	10,000	63,000	< 0.0024
78-87-5	1,2-Dichloropropane	0.31	2.3	36	260	< 0.0027
10061-01-5	cis-1,3-Dichloropropene	0.90	6.2	110	830	< 0.0027
10061-02-6	trans-1,3-Dichloropropene	0.90	6.2	110	830	< 0.0027
123-91-1	1,4-Dioxane	0.22	2.3	15	110	< 0.0054
100-41-4	Ethylbenzene	1.3	9.3	150	1,100	< 0.0027
74-83-9	Bromomethane	6.9	42	830	5,100	< 0.0057
1634-04-4	Methyl tert-butyl ether	3,700	24,000	420,000	1,200,000	< 0.0021
75-09-2	Methylene chloride	5.6	45	590	4,400	< 0.021
91-20-3	Naphthalene	0.11	0.75	14	100	< 0.0030
100-42-5	Styrene	1,400	8,500	34,000	34,000	< 0.0027
127-18-4	Tetrachloroethene	0.55	4.0	66	490	< 0.0042
108-88-3	Toluene	6,200	40,000	140,000	140,000	< 0.0024
120-82-1	1,2,4-Trichlorobenzene	5.4	25	800	4,300	< 0.0045
71-55-6	1,1,1-Trichloroethane	6,600	41,000	770,000	870,000	< 0.0033
79-00-5	1,1,2-Trichloroethane	170,000	170,000	170,000	170,000	< 0.0033
79-01-6	Trichloroethene	1.5	12	180	1,300	0.0037
75-69-4	Trichlorofluoromethane	860	5,600	97,000	600,000	< 0.0033
108-05-4	Vinyl acetate	250	1,600	28,000	170,000	< 0.021
75-01-4	Vinyl chloride	0.29	4.8	30	440	< 0.0015
95-47-6	o-Xylene	120	790	14,000	41,000	< 0.0027
1330-20-7	m,p-Xylene	140/130	850/820	17,000/16,000	52,000/55,000	< 0.0051
1330-20-7	Xylenes, Total	140	840	17,000	49,000	< 0.0078

Diffusion and Advection Objectives - Based on 35 IAC Part 742 Appendix B Table H.
Diffusion Only Objectives - Based on 35 IAC Part 742 Appendix B Table I.
Objective/result units are mg/m^3

STAT Analysis Corporation
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Accreditations: IEPA ELAP 100445; ORELAP IL300001; AIHA-LAP, LLC 101160; NVLAP LabCode 101202-0

January 22, 2019

Environmental Group Services, Ltd.
557 W. Polk
Chicago, IL 60610
Telephone: (312) 447-1200
Fax: (312) 447-0922

Analytical Report for STAT Work Order: 19010291 Revision 0

RE: Kensington, Oak Brook

Dear Mary Cappellini:

STAT Analysis received 11 samples for the referenced project on 1/11/2019 4:45:00 PM. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAP standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,

Justice Kwateng
Project Manager

Client: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Work Order: 19010291 Revision 0

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
19010291-001A	GP-1 (2-4)		1/10/2019 9:30:00 AM	1/11/2019
19010291-001B	GP-1 (2-4)		1/10/2019 9:30:00 AM	1/11/2019
19010291-002A	GP-2 (5-7)		1/10/2019 9:40:00 AM	1/11/2019
19010291-002B	GP-2 (5-7)		1/10/2019 9:40:00 AM	1/11/2019
19010291-003A	GP-3 (7-9)		1/10/2019 9:50:00 AM	1/11/2019
19010291-003B	GP-3 (7-9)		1/10/2019 9:50:00 AM	1/11/2019
19010291-004A	GP-4 (4-6)		1/10/2019 10:00:00 AM	1/11/2019
19010291-004B	GP-4 (4-6)		1/10/2019 10:00:00 AM	1/11/2019
19010291-005A	GP-5 (8-10)		1/10/2019 10:15:00 AM	1/11/2019
19010291-005B	GP-5 (8-10)		1/10/2019 10:15:00 AM	1/11/2019
19010291-006A	GP-6 (1-3)		1/10/2019 10:30:00 AM	1/11/2019
19010291-006B	GP-6 (1-3)		1/10/2019 10:30:00 AM	1/11/2019
19010291-007A	GP-7 (6-8)		1/10/2019 10:45:00 AM	1/11/2019
19010291-007B	GP-7 (6-8)		1/10/2019 10:45:00 AM	1/11/2019
19010291-008A	GP-8 (3-5)		1/10/2019 11:00:00 AM	1/11/2019
19010291-008B	GP-8 (3-5)		1/10/2019 11:00:00 AM	1/11/2019
19010291-009A	GP-9 (5-7)		1/10/2019 11:30:00 AM	1/11/2019
19010291-009B	GP-9 (5-7)		1/10/2019 11:30:00 AM	1/11/2019
19010291-010A	GP-10 (8-10)		1/10/2019 11:45:00 AM	1/11/2019
19010291-010B	GP-10 (8-10)		1/10/2019 11:45:00 AM	1/11/2019
19010291-011A	SGV-1 (Kensington)		1/10/2019 12:00:00 PM	1/11/2019

CLIENT: Environmental Group Services, Ltd.
Project: Kensington, Oak Brook
Work Order: 19010291 Revision 0

CASE NARRATIVE

TO-15 results that are reported in mg/m³ are calculated based on a temperature of 25°C, atmospheric pressure of 760 mm Hg, and the molecular weight of the analyte.

The TO-15 Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) analyzed 1/14/2019 had recovery for Vinyl Acetate outside of control limits (28.6%/24.2% (LCS/LCSD) recovery (QC limits 70-130%).

STAT Analysis Corporation
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Date Reported: January 22, 2019
Date Printed: January 22, 2019

ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-002

Client Sample ID: GP-2 (5-7)
Collection Date: 1/10/2019 9:40:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Volatile Organic Compounds by GC/MS	**SW5035/8260B**			Prep Date: **1/14/2019**		Analyst: **MJK**
Acetone	ND	0.068		mg/Kg-dry	1	1/14/2019
Benzene	ND	0.0045		mg/Kg-dry	1	1/14/2019
Bromodichloromethane	ND	0.0045		mg/Kg-dry	1	1/14/2019
Bromoform	ND	0.0045		mg/Kg-dry	1	1/14/2019
Bromomethane	ND	0.0089		mg/Kg-dry	1	1/14/2019
2-Butanone	ND	0.068		mg/Kg-dry	1	1/14/2019
Carbon disulfide	ND	0.045		mg/Kg-dry	1	1/14/2019
Carbon tetrachloride	ND	0.0045		mg/Kg-dry	1	1/14/2019
Chlorobenzene	ND	0.0045		mg/Kg-dry	1	1/14/2019
Chloroethane	ND	0.0089		mg/Kg-dry	1	1/14/2019
Chloroform	ND	0.0045		mg/Kg-dry	1	1/14/2019
Chloromethane	ND	0.0089		mg/Kg-dry	1	1/14/2019
Dibromochloromethane	ND	0.0045		mg/Kg-dry	1	1/14/2019
1,1-Dichloroethane	ND	0.0045		mg/Kg-dry	1	1/14/2019
1,2-Dichloroethane	ND	0.0045		mg/Kg-dry	1	1/14/2019
1,1-Dichloroethene	ND	0.0045		mg/Kg-dry	1	1/14/2019
cis-1,2-Dichloroethene	ND	0.0045		mg/Kg-dry	1	1/14/2019
trans-1,2-Dichloroethene	ND	0.0045		mg/Kg-dry	1	1/14/2019
1,2-Dichloropropane	ND	0.0045		mg/Kg-dry	1	1/14/2019
cis-1,3-Dichloropropene	ND	0.0018		mg/Kg-dry	1	1/14/2019
trans-1,3-Dichloropropene	ND	0.0018		mg/Kg-dry	1	1/14/2019
Ethylbenzene	ND	0.0045		mg/Kg-dry	1	1/14/2019
2-Hexanone	ND	0.018		mg/Kg-dry	1	1/14/2019
4-Methyl-2-pentanone	ND	0.018		mg/Kg-dry	1	1/14/2019
Methylene chloride	ND	0.0089		mg/Kg-dry	1	1/14/2019
Methyl tert-butyl ether	ND	0.0045		mg/Kg-dry	1	1/14/2019
Styrene	ND	0.0045		mg/Kg-dry	1	1/14/2019
1,1,2,2-Tetrachloroethane	ND	0.0045		mg/Kg-dry	1	1/14/2019
Tetrachloroethene	ND	0.0045		mg/Kg-dry	1	1/14/2019
Toluene	ND	0.0045		mg/Kg-dry	1	1/14/2019
1,1,1-Trichloroethane	ND	0.0045		mg/Kg-dry	1	1/14/2019
1,1,2-Trichloroethane	ND	0.0045		mg/Kg-dry	1	1/14/2019
Trichloroethene	ND	0.0045		mg/Kg-dry	1	1/14/2019
Vinyl chloride	ND	0.0045		mg/Kg-dry	1	1/14/2019
Xylenes, Total	ND	0.014		mg/Kg-dry	1	1/14/2019
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**			Prep Date: **1/16/2019**		Analyst: **DM**
Acenaphthene	ND	0.037		mg/Kg-dry	1	1/17/2019
Acenaphthylene	ND	0.037		mg/Kg-dry	1	1/17/2019

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Date Reported: January 22, 2019
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ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-002

Client Sample ID: GP-2 (5-7)
Collection Date: 1/10/2019 9:40:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**		Prep Date: **1/16/2019**		Analyst: **DM**	
Aniline	ND	0.37		mg/Kg-dry	1	1/17/2019
Anthracene	ND	0.037		mg/Kg-dry	1	1/17/2019
Benz(a)anthracene	ND	0.037		mg/Kg-dry	1	1/17/2019
Benzidine	ND	0.37		mg/Kg-dry	1	1/17/2019
Benzo(a)pyrene	ND	0.037		mg/Kg-dry	1	1/17/2019
Benzo(b)fluoranthene	ND	0.037		mg/Kg-dry	1	1/17/2019
Benzo(g,h,i)perylene	ND	0.037		mg/Kg-dry	1	1/17/2019
Benzo(k)fluoranthene	ND	0.037		mg/Kg-dry	1	1/17/2019
Benzoic acid	ND	0.93		mg/Kg-dry	1	1/17/2019
Benzyl alcohol	ND	0.19		mg/Kg-dry	1	1/17/2019
Bis(2-chloroethoxy)methane	ND	0.19		mg/Kg-dry	1	1/17/2019
Bis(2-chloroethyl)ether	ND	0.19		mg/Kg-dry	1	1/17/2019
Bis(2-ethylhexyl)phthalate	ND	0.93		mg/Kg-dry	1	1/17/2019
4-Bromophenyl phenyl ether	ND	0.19		mg/Kg-dry	1	1/17/2019
Butyl benzyl phthalate	ND	0.19		mg/Kg-dry	1	1/17/2019
Carbazole	ND	0.19		mg/Kg-dry	1	1/17/2019
4-Chloroaniline	ND	0.19		mg/Kg-dry	1	1/17/2019
4-Chloro-3-methylphenol	ND	0.37		mg/Kg-dry	1	1/17/2019
2-Chloronaphthalene	ND	0.19		mg/Kg-dry	1	1/17/2019
2-Chlorophenol	ND	0.19		mg/Kg-dry	1	1/17/2019
4-Chlorophenyl phenyl ether	ND	0.19		mg/Kg-dry	1	1/17/2019
Chrysene	ND	0.037		mg/Kg-dry	1	1/17/2019
Dibenz(a,h)anthracene	ND	0.037		mg/Kg-dry	1	1/17/2019
Dibenzofuran	ND	0.19		mg/Kg-dry	1	1/17/2019
1,2-Dichlorobenzene	ND	0.19		mg/Kg-dry	1	1/17/2019
1,3-Dichlorobenzene	ND	0.19		mg/Kg-dry	1	1/17/2019
1,4-Dichlorobenzene	ND	0.19		mg/Kg-dry	1	1/17/2019
3,3´-Dichlorobenzidine	ND	0.19		mg/Kg-dry	1	1/17/2019
2,4-Dichlorophenol	ND	0.19		mg/Kg-dry	1	1/17/2019
Diethyl phthalate	ND	0.19		mg/Kg-dry	1	1/17/2019
2,4-Dimethylphenol	ND	0.19		mg/Kg-dry	1	1/17/2019
Dimethyl phthalate	ND	0.19		mg/Kg-dry	1	1/17/2019
4,6-Dinitro-2-methylphenol	ND	0.37		mg/Kg-dry	1	1/17/2019
2,4-Dinitrophenol	ND	0.93		mg/Kg-dry	1	1/17/2019
2,4-Dinitrotoluene	ND	0.037		mg/Kg-dry	1	1/17/2019
2,6-Dinitrotoluene	ND	0.037		mg/Kg-dry	1	1/17/2019
Di-n-butyl phthalate	ND	0.19		mg/Kg-dry	1	1/17/2019
Di-n-octyl phthalate	ND	0.19		mg/Kg-dry	1	1/17/2019

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Date Reported: January 22, 2019
Date Printed: January 22, 2019

ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-002

Client Sample ID: GP-2 (5-7)
Collection Date: 1/10/2019 9:40:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**			Prep Date: **1/16/2019**		Analyst: **DM**
Fluoranthene	ND	0.037		mg/Kg-dry	1	1/17/2019
Fluorene	ND	0.037		mg/Kg-dry	1	1/17/2019
Hexachlorobenzene	ND	0.19		mg/Kg-dry	1	1/17/2019
Hexachlorobutadiene	ND	0.19		mg/Kg-dry	1	1/17/2019
Hexachlorocyclopentadiene	ND	0.19		mg/Kg-dry	1	1/17/2019
Hexachloroethane	ND	0.19		mg/Kg-dry	1	1/17/2019
Indeno(1,2,3-cd)pyrene	ND	0.037		mg/Kg-dry	1	1/17/2019
Isophorone	ND	0.19		mg/Kg-dry	1	1/17/2019
2-Methylnaphthalene	ND	0.19		mg/Kg-dry	1	1/17/2019
2-Methylphenol	ND	0.19		mg/Kg-dry	1	1/17/2019
4-Methylphenol	ND	0.19		mg/Kg-dry	1	1/17/2019
Naphthalene	ND	0.037		mg/Kg-dry	1	1/17/2019
2-Nitroaniline	ND	0.19		mg/Kg-dry	1	1/17/2019
3-Nitroaniline	ND	0.19		mg/Kg-dry	1	1/17/2019
4-Nitroaniline	ND	0.19		mg/Kg-dry	1	1/17/2019
2-Nitrophenol	ND	0.19		mg/Kg-dry	1	1/17/2019
4-Nitrophenol	ND	0.37		mg/Kg-dry	1	1/17/2019
Nitrobenzene	ND	0.037		mg/Kg-dry	1	1/17/2019
N-Nitrosodi-n-propylamine	ND	0.037		mg/Kg-dry	1	1/17/2019
N-Nitrosodimethylamine	ND	0.19		mg/Kg-dry	1	1/17/2019
N-Nitrosodiphenylamine	ND	0.19		mg/Kg-dry	1	1/17/2019
2, 2'-oxybis(1-Chloropropane)	ND	0.19		mg/Kg-dry	1	1/17/2019
Pentachlorophenol	ND	0.075		mg/Kg-dry	1	1/17/2019
Phenanthrene	ND	0.037		mg/Kg-dry	1	1/17/2019
Phenol	ND	0.19		mg/Kg-dry	1	1/17/2019
Pyrene	ND	0.037		mg/Kg-dry	1	1/17/2019
Pyridine	ND	0.75		mg/Kg-dry	1	1/17/2019
1,2,4-Trichlorobenzene	ND	0.19		mg/Kg-dry	1	1/17/2019
2,4,5-Trichlorophenol	ND	0.19		mg/Kg-dry	1	1/17/2019
2,4,6-Trichlorophenol	ND	0.19		mg/Kg-dry	1	1/17/2019
PCBs	**SW8082A (SW3550B)**			Prep Date: **1/14/2019**		Analyst: **GVC**
Aroclor 1016	ND	0.091		mg/Kg-dry	1	1/14/2019
Aroclor 1221	ND	0.091		mg/Kg-dry	1	1/14/2019
Aroclor 1232	ND	0.091		mg/Kg-dry	1	1/14/2019
Aroclor 1242	ND	0.091		mg/Kg-dry	1	1/14/2019
Aroclor 1248	ND	0.091		mg/Kg-dry	1	1/14/2019
Aroclor 1254	ND	0.091		mg/Kg-dry	1	1/14/2019
Aroclor 1260	ND	0.091		mg/Kg-dry	1	1/14/2019

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Date Reported: January 22, 2019
Date Printed: January 22, 2019

ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-002

Client Sample ID: GP-2 (5-7)
Collection Date: 1/10/2019 9:40:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Pesticides		**SW8081B (SW3550B)**		Prep Date: **1/14/2019**		Analyst: **GVC**
4,4´-DDD	ND	0.0018		mg/Kg-dry	1	1/14/2019
4,4´-DDE	ND	0.0018		mg/Kg-dry	1	1/14/2019
4,4´-DDT	ND	0.0018		mg/Kg-dry	1	1/14/2019
Aldrin	ND	0.0018		mg/Kg-dry	1	1/14/2019
alpha-BHC	ND	0.0018		mg/Kg-dry	1	1/14/2019
alpha-Chlordane	ND	0.0018		mg/Kg-dry	1	1/14/2019
beta-BHC	ND	0.0018		mg/Kg-dry	1	1/14/2019
Chlordane	ND	0.018		mg/Kg-dry	1	1/14/2019
delta-BHC	ND	0.0018		mg/Kg-dry	1	1/14/2019
Dieldrin	ND	0.0018		mg/Kg-dry	1	1/14/2019
Endosulfan I	ND	0.0018		mg/Kg-dry	1	1/14/2019
Endosulfan II	ND	0.0018		mg/Kg-dry	1	1/14/2019
Endosulfan sulfate	ND	0.0018		mg/Kg-dry	1	1/14/2019
Endrin	ND	0.0018		mg/Kg-dry	1	1/14/2019
Endrin aldehyde	ND	0.0018		mg/Kg-dry	1	1/14/2019
Endrin ketone	ND	0.0018		mg/Kg-dry	1	1/14/2019
gamma-BHC	ND	0.0018		mg/Kg-dry	1	1/14/2019
gamma-Chlordane	ND	0.0018		mg/Kg-dry	1	1/14/2019
Heptachlor	ND	0.0018		mg/Kg-dry	1	1/14/2019
Heptachlor epoxide	ND	0.0018		mg/Kg-dry	1	1/14/2019
Methoxychlor	ND	0.0018		mg/Kg-dry	1	1/14/2019
Toxaphene	ND	0.037		mg/Kg-dry	1	1/14/2019
Metals by ICP/MS		**SW6020A (SW3050B)**		Prep Date: **1/15/2019**		Analyst: **JG**
Aluminum	9900	19		mg/Kg-dry	10	1/15/2019
Antimony	ND	1.9		mg/Kg-dry	10	1/15/2019
Arsenic	8.7	0.97		mg/Kg-dry	10	1/15/2019
Barium	37	0.97		mg/Kg-dry	10	1/15/2019
Beryllium	0.81	0.48		mg/Kg-dry	10	1/15/2019
Cadmium	ND	0.48		mg/Kg-dry	10	1/15/2019
Calcium	74000	58		mg/Kg-dry	10	1/15/2019
Chromium	20	0.97		mg/Kg-dry	10	1/15/2019
Cobalt	14	0.97		mg/Kg-dry	10	1/15/2019
Copper	28	2.4		mg/Kg-dry	10	1/15/2019
Iron	24000	29		mg/Kg-dry	10	1/15/2019
Lead	24	0.48		mg/Kg-dry	10	1/15/2019
Magnesium	37000	29		mg/Kg-dry	10	1/15/2019
Manganese	470	0.97		mg/Kg-dry	10	1/15/2019
Nickel	33	0.97		mg/Kg-dry	10	1/15/2019

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Date Reported: January 22, 2019
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ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-002

Client Sample ID: GP-2 (5-7)
Collection Date: 1/10/2019 9:40:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **1/15/2019**		Analyst: **JG**
Potassium	2600	29		mg/Kg-dry	10	1/15/2019
Selenium	1.1	0.97		mg/Kg-dry	10	1/15/2019
Silver	ND	0.97		mg/Kg-dry	10	1/15/2019
Sodium	170	58		mg/Kg-dry	10	1/15/2019
Thallium	ND	0.97		mg/Kg-dry	10	1/15/2019
Vanadium	24	0.97		mg/Kg-dry	10	1/15/2019
Zinc	66	4.8		mg/Kg-dry	10	1/15/2019
TCLP Metals by ICP/MS	**SW1311/6020A (SW3005A)**			Prep Date: **1/17/2019**		Analyst: **MDT**
Antimony	ND	0.015		mg/L	5	1/18/2019
Arsenic	ND	0.010		mg/L	5	1/18/2019
Barium	0.41	0.050		mg/L	5	1/18/2019
Beryllium	ND	0.0050		mg/L	5	1/18/2019
Cadmium	ND	0.0050		mg/L	5	1/18/2019
Chromium	ND	0.010		mg/L	5	1/18/2019
Cobalt	0.044	0.010		mg/L	5	1/18/2019
Copper	ND	0.10		mg/L	5	1/18/2019
Iron	ND	0.25		mg/L	5	1/18/2019
Lead	ND	0.0050		mg/L	5	1/18/2019
Manganese	3.3	0.010		mg/L	5	1/18/2019
Nickel	0.084	0.020		mg/L	5	1/18/2019
Selenium	ND	0.020		mg/L	5	1/18/2019
Silver	ND	0.010		mg/L	5	1/18/2019
Thallium	ND	0.0050		mg/L	5	1/18/2019
Vanadium	ND	0.010		mg/L	5	1/18/2019
Zinc	ND	0.050		mg/L	5	1/18/2019
TCLP Mercury	**SW1311/7470A**			Prep Date: **1/17/2019**		Analyst: **LB**
Mercury	ND	0.00020		mg/L	1	1/17/2019
Mercury	**SW7471B**			Prep Date: **1/15/2019**		Analyst: **LB**
Mercury	0.023	0.020		mg/Kg-dry	1	1/15/2019
Cyanide, Total	**SW9012A**			Prep Date: **1/14/2019**		Analyst: **CAB**
Cyanide	ND	0.29		mg/Kg-dry	1	1/14/2019
pH (25 °C)	**SW9045C**			Prep Date: **1/11/2019**		Analyst: **JT**
pH	8.06			pH Units	1	1/11/2019
Percent Moisture	**D2974**			Prep Date: **1/14/2019**		Analyst: **RW**
Percent Moisture	12.7	0.2	*	wt%	1	1/15/2019

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Date Reported: January 22, 2019
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ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-005

Client Sample ID: GP-5 (8-10)
Collection Date: 1/10/2019 10:15:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Volatile Organic Compounds by GC/MS	**SW5035/8260B**			Prep Date: **1/14/2019**		Analyst: **MJK**
Acetone	ND	0.069		mg/Kg-dry	1	1/14/2019
Benzene	ND	0.0046		mg/Kg-dry	1	1/14/2019
Bromodichloromethane	ND	0.0046		mg/Kg-dry	1	1/14/2019
Bromoform	ND	0.0046		mg/Kg-dry	1	1/14/2019
Bromomethane	ND	0.0092		mg/Kg-dry	1	1/14/2019
2-Butanone	ND	0.069		mg/Kg-dry	1	1/14/2019
Carbon disulfide	ND	0.046		mg/Kg-dry	1	1/14/2019
Carbon tetrachloride	ND	0.0046		mg/Kg-dry	1	1/14/2019
Chlorobenzene	ND	0.0046		mg/Kg-dry	1	1/14/2019
Chloroethane	ND	0.0092		mg/Kg-dry	1	1/14/2019
Chloroform	ND	0.0046		mg/Kg-dry	1	1/14/2019
Chloromethane	ND	0.0092		mg/Kg-dry	1	1/14/2019
Dibromochloromethane	ND	0.0046		mg/Kg-dry	1	1/14/2019
1,1-Dichloroethane	ND	0.0046		mg/Kg-dry	1	1/14/2019
1,2-Dichloroethane	ND	0.0046		mg/Kg-dry	1	1/14/2019
1,1-Dichloroethene	ND	0.0046		mg/Kg-dry	1	1/14/2019
cis-1,2-Dichloroethene	ND	0.0046		mg/Kg-dry	1	1/14/2019
trans-1,2-Dichloroethene	ND	0.0046		mg/Kg-dry	1	1/14/2019
1,2-Dichloropropane	ND	0.0046		mg/Kg-dry	1	1/14/2019
cis-1,3-Dichloropropene	ND	0.0018		mg/Kg-dry	1	1/14/2019
trans-1,3-Dichloropropene	ND	0.0018		mg/Kg-dry	1	1/14/2019
Ethylbenzene	ND	0.0046		mg/Kg-dry	1	1/14/2019
2-Hexanone	ND	0.018		mg/Kg-dry	1	1/14/2019
4-Methyl-2-pentanone	ND	0.018		mg/Kg-dry	1	1/14/2019
Methylene chloride	ND	0.0092		mg/Kg-dry	1	1/14/2019
Methyl tert-butyl ether	ND	0.0046		mg/Kg-dry	1	1/14/2019
Styrene	ND	0.0046		mg/Kg-dry	1	1/14/2019
1,1,2,2-Tetrachloroethane	ND	0.0046		mg/Kg-dry	1	1/14/2019
Tetrachloroethene	ND	0.0046		mg/Kg-dry	1	1/14/2019
Toluene	ND	0.0046		mg/Kg-dry	1	1/14/2019
1,1,1-Trichloroethane	ND	0.0046		mg/Kg-dry	1	1/14/2019
1,1,2-Trichloroethane	ND	0.0046		mg/Kg-dry	1	1/14/2019
Trichloroethene	ND	0.0046		mg/Kg-dry	1	1/14/2019
Vinyl chloride	ND	0.0046		mg/Kg-dry	1	1/14/2019
Xylenes, Total	ND	0.014		mg/Kg-dry	1	1/14/2019
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**			Prep Date: **1/16/2019**		Analyst: **DM**
Acenaphthene	ND	0.038		mg/Kg-dry	1	1/17/2019
Acenaphthylene	ND	0.038		mg/Kg-dry	1	1/17/2019

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Date Reported: January 22, 2019
Date Printed: January 22, 2019

ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-005

Client Sample ID: GP-5 (8-10)
Collection Date: 1/10/2019 10:15:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**		Prep Date: **1/16/2019**		Analyst: **DM**	
Aniline	ND	0.38		mg/Kg-dry	1	1/17/2019
Anthracene	ND	0.038		mg/Kg-dry	1	1/17/2019
Benz(a)anthracene	ND	0.038		mg/Kg-dry	1	1/17/2019
Benzidine	ND	0.38		mg/Kg-dry	1	1/17/2019
Benzo(a)pyrene	ND	0.038		mg/Kg-dry	1	1/17/2019
Benzo(b)fluoranthene	ND	0.038		mg/Kg-dry	1	1/17/2019
Benzo(g,h,i)perylene	ND	0.038		mg/Kg-dry	1	1/17/2019
Benzo(k)fluoranthene	ND	0.038		mg/Kg-dry	1	1/17/2019
Benzoic acid	ND	0.95		mg/Kg-dry	1	1/17/2019
Benzyl alcohol	ND	0.19		mg/Kg-dry	1	1/17/2019
Bis(2-chloroethoxy)methane	ND	0.19		mg/Kg-dry	1	1/17/2019
Bis(2-chloroethyl)ether	ND	0.19		mg/Kg-dry	1	1/17/2019
Bis(2-ethylhexyl)phthalate	ND	0.95		mg/Kg-dry	1	1/17/2019
4-Bromophenyl phenyl ether	ND	0.19		mg/Kg-dry	1	1/17/2019
Butyl benzyl phthalate	ND	0.19		mg/Kg-dry	1	1/17/2019
Carbazole	ND	0.19		mg/Kg-dry	1	1/17/2019
4-Chloroaniline	ND	0.19		mg/Kg-dry	1	1/17/2019
4-Chloro-3-methylphenol	ND	0.38		mg/Kg-dry	1	1/17/2019
2-Chloronaphthalene	ND	0.19		mg/Kg-dry	1	1/17/2019
2-Chlorophenol	ND	0.19		mg/Kg-dry	1	1/17/2019
4-Chlorophenyl phenyl ether	ND	0.19		mg/Kg-dry	1	1/17/2019
Chrysene	ND	0.038		mg/Kg-dry	1	1/17/2019
Dibenz(a,h)anthracene	ND	0.038		mg/Kg-dry	1	1/17/2019
Dibenzofuran	ND	0.19		mg/Kg-dry	1	1/17/2019
1,2-Dichlorobenzene	ND	0.19		mg/Kg-dry	1	1/17/2019
1,3-Dichlorobenzene	ND	0.19		mg/Kg-dry	1	1/17/2019
1,4-Dichlorobenzene	ND	0.19		mg/Kg-dry	1	1/17/2019
3,3´-Dichlorobenzidine	ND	0.19		mg/Kg-dry	1	1/17/2019
2,4-Dichlorophenol	ND	0.19		mg/Kg-dry	1	1/17/2019
Diethyl phthalate	ND	0.19		mg/Kg-dry	1	1/17/2019
2,4-Dimethylphenol	ND	0.19		mg/Kg-dry	1	1/17/2019
Dimethyl phthalate	ND	0.19		mg/Kg-dry	1	1/17/2019
4,6-Dinitro-2-methylphenol	ND	0.38		mg/Kg-dry	1	1/17/2019
2,4-Dinitrophenol	ND	0.95		mg/Kg-dry	1	1/17/2019
2,4-Dinitrotoluene	ND	0.038		mg/Kg-dry	1	1/17/2019
2,6-Dinitrotoluene	ND	0.038		mg/Kg-dry	1	1/17/2019
Di-n-butyl phthalate	ND	0.19		mg/Kg-dry	1	1/17/2019
Di-n-octyl phthalate	ND	0.19		mg/Kg-dry	1	1/17/2019

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Date Reported: January 22, 2019
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ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-005

Client Sample ID: GP-5 (8-10)
Collection Date: 1/10/2019 10:15:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**			Prep Date: **1/16/2019**		Analyst: **DM**
Fluoranthene	ND	0.038		mg/Kg-dry	1	1/17/2019
Fluorene	ND	0.038		mg/Kg-dry	1	1/17/2019
Hexachlorobenzene	ND	0.19		mg/Kg-dry	1	1/17/2019
Hexachlorobutadiene	ND	0.19		mg/Kg-dry	1	1/17/2019
Hexachlorocyclopentadiene	ND	0.19		mg/Kg-dry	1	1/17/2019
Hexachloroethane	ND	0.19		mg/Kg-dry	1	1/17/2019
Indeno(1,2,3-cd)pyrene	ND	0.038		mg/Kg-dry	1	1/17/2019
Isophorone	ND	0.19		mg/Kg-dry	1	1/17/2019
2-Methylnaphthalene	ND	0.19		mg/Kg-dry	1	1/17/2019
2-Methylphenol	ND	0.19		mg/Kg-dry	1	1/17/2019
4-Methylphenol	ND	0.19		mg/Kg-dry	1	1/17/2019
Naphthalene	ND	0.038		mg/Kg-dry	1	1/17/2019
2-Nitroaniline	ND	0.19		mg/Kg-dry	1	1/17/2019
3-Nitroaniline	ND	0.19		mg/Kg-dry	1	1/17/2019
4-Nitroaniline	ND	0.19		mg/Kg-dry	1	1/17/2019
2-Nitrophenol	ND	0.19		mg/Kg-dry	1	1/17/2019
4-Nitrophenol	ND	0.38		mg/Kg-dry	1	1/17/2019
Nitrobenzene	ND	0.038		mg/Kg-dry	1	1/17/2019
N-Nitrosodi-n-propylamine	ND	0.038		mg/Kg-dry	1	1/17/2019
N-Nitrosodimethylamine	ND	0.19		mg/Kg-dry	1	1/17/2019
N-Nitrosodiphenylamine	ND	0.19		mg/Kg-dry	1	1/17/2019
2, 2'-oxybis(1-Chloropropane)	ND	0.19		mg/Kg-dry	1	1/17/2019
Pentachlorophenol	ND	0.077		mg/Kg-dry	1	1/17/2019
Phenanthrene	ND	0.038		mg/Kg-dry	1	1/17/2019
Phenol	ND	0.19		mg/Kg-dry	1	1/17/2019
Pyrene	ND	0.038		mg/Kg-dry	1	1/17/2019
Pyridine	ND	0.77		mg/Kg-dry	1	1/17/2019
1,2,4-Trichlorobenzene	ND	0.19		mg/Kg-dry	1	1/17/2019
2,4,5-Trichlorophenol	ND	0.19		mg/Kg-dry	1	1/17/2019
2,4,6-Trichlorophenol	ND	0.19		mg/Kg-dry	1	1/17/2019
PCBs	**SW8082A (SW3550B)**			Prep Date: **1/14/2019**		Analyst: **GVC**
Aroclor 1016	ND	0.091		mg/Kg-dry	1	1/14/2019
Aroclor 1221	ND	0.091		mg/Kg-dry	1	1/14/2019
Aroclor 1232	ND	0.091		mg/Kg-dry	1	1/14/2019
Aroclor 1242	ND	0.091		mg/Kg-dry	1	1/14/2019
Aroclor 1248	ND	0.091		mg/Kg-dry	1	1/14/2019
Aroclor 1254	ND	0.091		mg/Kg-dry	1	1/14/2019
Aroclor 1260	ND	0.091		mg/Kg-dry	1	1/14/2019

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Date Reported: January 22, 2019
Date Printed: January 22, 2019

ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-005

Client Sample ID: GP-5 (8-10)
Collection Date: 1/10/2019 10:15:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Pesticides		**SW8081B (SW3550B)**		Prep Date: **1/14/2019**		Analyst: **GVC**
4,4´-DDD	ND	0.0018		mg/Kg-dry	1	1/14/2019
4,4´-DDE	ND	0.0018		mg/Kg-dry	1	1/14/2019
4,4´-DDT	ND	0.0018		mg/Kg-dry	1	1/14/2019
Aldrin	ND	0.0018		mg/Kg-dry	1	1/14/2019
alpha-BHC	ND	0.0018		mg/Kg-dry	1	1/14/2019
alpha-Chlordane	ND	0.0018		mg/Kg-dry	1	1/14/2019
beta-BHC	ND	0.0018		mg/Kg-dry	1	1/14/2019
Chlordane	ND	0.018		mg/Kg-dry	1	1/14/2019
delta-BHC	ND	0.0018		mg/Kg-dry	1	1/14/2019
Dieldrin	ND	0.0018		mg/Kg-dry	1	1/14/2019
Endosulfan I	ND	0.0018		mg/Kg-dry	1	1/14/2019
Endosulfan II	ND	0.0018		mg/Kg-dry	1	1/14/2019
Endosulfan sulfate	ND	0.0018		mg/Kg-dry	1	1/14/2019
Endrin	ND	0.0018		mg/Kg-dry	1	1/14/2019
Endrin aldehyde	ND	0.0018		mg/Kg-dry	1	1/14/2019
Endrin ketone	ND	0.0018		mg/Kg-dry	1	1/14/2019
gamma-BHC	ND	0.0018		mg/Kg-dry	1	1/14/2019
gamma-Chlordane	ND	0.0018		mg/Kg-dry	1	1/14/2019
Heptachlor	ND	0.0018		mg/Kg-dry	1	1/14/2019
Heptachlor epoxide	ND	0.0018		mg/Kg-dry	1	1/14/2019
Methoxychlor	ND	0.0018		mg/Kg-dry	1	1/14/2019
Toxaphene	ND	0.038		mg/Kg-dry	1	1/14/2019
Metals by ICP/MS		**SW6020A (SW3050B)**		Prep Date: **1/15/2019**		Analyst: **JG**
Aluminum	4600	20		mg/Kg-dry	10	1/15/2019
Antimony	ND	2.0		mg/Kg-dry	10	1/15/2019
Arsenic	16	0.98		mg/Kg-dry	10	1/15/2019
Barium	20	0.98		mg/Kg-dry	10	1/15/2019
Beryllium	ND	0.49		mg/Kg-dry	10	1/15/2019
Cadmium	ND	0.49		mg/Kg-dry	10	1/15/2019
Calcium	71000	59		mg/Kg-dry	10	1/15/2019
Chromium	10	0.98		mg/Kg-dry	10	1/15/2019
Cobalt	10	0.98		mg/Kg-dry	10	1/15/2019
Copper	34	2.5		mg/Kg-dry	10	1/15/2019
Iron	24000	30		mg/Kg-dry	10	1/15/2019
Lead	19	0.49		mg/Kg-dry	10	1/15/2019
Magnesium	43000	30		mg/Kg-dry	10	1/15/2019
Manganese	420	0.98		mg/Kg-dry	10	1/15/2019
Nickel	22	0.98		mg/Kg-dry	10	1/15/2019

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Date Reported: January 22, 2019
Date Printed: January 22, 2019

ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-005

Client Sample ID: GP-5 (8-10)
Collection Date: 1/10/2019 10:15:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **1/15/2019**		Analyst: **JG**
Potassium	990	30		mg/Kg-dry	10	1/15/2019
Selenium	ND	0.98		mg/Kg-dry	10	1/15/2019
Silver	ND	0.98		mg/Kg-dry	10	1/15/2019
Sodium	120	59		mg/Kg-dry	10	1/15/2019
Thallium	ND	0.98		mg/Kg-dry	10	1/15/2019
Vanadium	14	0.98		mg/Kg-dry	10	1/15/2019
Zinc	49	4.9		mg/Kg-dry	10	1/15/2019
TCLP Metals by ICP/MS	**SW1311/6020A (SW3005A)**			Prep Date: **1/17/2019**		Analyst: **MDT**
Antimony	ND	0.015		mg/L	5	1/18/2019
Arsenic	ND	0.010		mg/L	5	1/18/2019
Barium	0.23	0.050		mg/L	5	1/18/2019
Beryllium	ND	0.0050		mg/L	5	1/18/2019
Cadmium	ND	0.0050		mg/L	5	1/18/2019
Chromium	ND	0.010		mg/L	5	1/18/2019
Cobalt	0.010	0.010		mg/L	5	1/18/2019
Copper	ND	0.10		mg/L	5	1/18/2019
Iron	ND	0.25		mg/L	5	1/18/2019
Lead	ND	0.0050		mg/L	5	1/18/2019
Manganese	2.8	0.010		mg/L	5	1/18/2019
Nickel	0.020	0.020		mg/L	5	1/18/2019
Selenium	ND	0.020		mg/L	5	1/18/2019
Silver	ND	0.010		mg/L	5	1/18/2019
Thallium	ND	0.0050		mg/L	5	1/18/2019
Vanadium	ND	0.010		mg/L	5	1/18/2019
Zinc	ND	0.050		mg/L	5	1/18/2019
TCLP Mercury	**SW1311/7470A**			Prep Date: **1/17/2019**		Analyst: **LB**
Mercury	ND	0.00020		mg/L	1	1/17/2019
Mercury	**SW7471B**			Prep Date: **1/15/2019**		Analyst: **LB**
Mercury	0.028	0.021		mg/Kg-dry	1	1/15/2019
Cyanide, Total	**SW9012A**			Prep Date: **1/14/2019**		Analyst: **CAB**
Cyanide	ND	0.29		mg/Kg-dry	1	1/14/2019
pH (25 °C)	**SW9045C**			Prep Date: **1/14/2019**		Analyst: **JT**
pH	8.16			pH Units	1	1/14/2019
Percent Moisture	**D2974**			Prep Date: **1/11/2019**		Analyst: **RW**
Percent Moisture	13.1	0.2	*	wt%	1	1/12/2019

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Date Reported: January 22, 2019
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ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-007

Client Sample ID: GP-7 (6-8)
Collection Date: 1/10/2019 10:45:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Volatile Organic Compounds by GC/MS	**SW5035/8260B**			Prep Date: **1/14/2019**		Analyst: **MJK**
Acetone	ND	0.077		mg/Kg-dry	1	1/14/2019
Benzene	ND	0.0051		mg/Kg-dry	1	1/14/2019
Bromodichloromethane	ND	0.0051		mg/Kg-dry	1	1/14/2019
Bromoform	ND	0.0051		mg/Kg-dry	1	1/14/2019
Bromomethane	ND	0.010		mg/Kg-dry	1	1/14/2019
2-Butanone	ND	0.077		mg/Kg-dry	1	1/14/2019
Carbon disulfide	ND	0.051		mg/Kg-dry	1	1/14/2019
Carbon tetrachloride	ND	0.0051		mg/Kg-dry	1	1/14/2019
Chlorobenzene	ND	0.0051		mg/Kg-dry	1	1/14/2019
Chloroethane	ND	0.010		mg/Kg-dry	1	1/14/2019
Chloroform	ND	0.0051		mg/Kg-dry	1	1/14/2019
Chloromethane	ND	0.010		mg/Kg-dry	1	1/14/2019
Dibromochloromethane	ND	0.0051		mg/Kg-dry	1	1/14/2019
1,1-Dichloroethane	ND	0.0051		mg/Kg-dry	1	1/14/2019
1,2-Dichloroethane	ND	0.0051		mg/Kg-dry	1	1/14/2019
1,1-Dichloroethene	ND	0.0051		mg/Kg-dry	1	1/14/2019
cis-1,2-Dichloroethene	ND	0.0051		mg/Kg-dry	1	1/14/2019
trans-1,2-Dichloroethene	ND	0.0051		mg/Kg-dry	1	1/14/2019
1,2-Dichloropropane	ND	0.0051		mg/Kg-dry	1	1/14/2019
cis-1,3-Dichloropropene	ND	0.0020		mg/Kg-dry	1	1/14/2019
trans-1,3-Dichloropropene	ND	0.0020		mg/Kg-dry	1	1/14/2019
Ethylbenzene	ND	0.0051		mg/Kg-dry	1	1/14/2019
2-Hexanone	ND	0.020		mg/Kg-dry	1	1/14/2019
4-Methyl-2-pentanone	ND	0.020		mg/Kg-dry	1	1/14/2019
Methylene chloride	ND	0.010		mg/Kg-dry	1	1/14/2019
Methyl tert-butyl ether	ND	0.0051		mg/Kg-dry	1	1/14/2019
Styrene	ND	0.0051		mg/Kg-dry	1	1/14/2019
1,1,2,2-Tetrachloroethane	ND	0.0051		mg/Kg-dry	1	1/14/2019
Tetrachloroethene	ND	0.0051		mg/Kg-dry	1	1/14/2019
Toluene	ND	0.0051		mg/Kg-dry	1	1/14/2019
1,1,1-Trichloroethane	ND	0.0051		mg/Kg-dry	1	1/14/2019
1,1,2-Trichloroethane	ND	0.0051		mg/Kg-dry	1	1/14/2019
Trichloroethene	ND	0.0051		mg/Kg-dry	1	1/14/2019
Vinyl chloride	ND	0.0051		mg/Kg-dry	1	1/14/2019
Xylenes, Total	ND	0.015		mg/Kg-dry	1	1/14/2019
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**			Prep Date: **1/16/2019**		Analyst: **DM**
Acenaphthene	ND	0.041		mg/Kg-dry	1	1/17/2019
Acenaphthylene	ND	0.041		mg/Kg-dry	1	1/17/2019

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Date Reported: January 22, 2019
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ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-007

Client Sample ID: GP-7 (6-8)
Collection Date: 1/10/2019 10:45:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**		Prep Date: **1/16/2019**		Analyst: **DM**	
Aniline	ND	0.42		mg/Kg-dry	1	1/17/2019
Anthracene	ND	0.041		mg/Kg-dry	1	1/17/2019
Benz(a)anthracene	ND	0.041		mg/Kg-dry	1	1/17/2019
Benzidine	ND	0.41		mg/Kg-dry	1	1/17/2019
Benzo(a)pyrene	ND	0.041		mg/Kg-dry	1	1/17/2019
Benzo(b)fluoranthene	ND	0.041		mg/Kg-dry	1	1/17/2019
Benzo(g,h,i)perylene	ND	0.041		mg/Kg-dry	1	1/17/2019
Benzo(k)fluoranthene	ND	0.041		mg/Kg-dry	1	1/17/2019
Benzoic acid	ND	1.0		mg/Kg-dry	1	1/17/2019
Benzyl alcohol	ND	0.21		mg/Kg-dry	1	1/17/2019
Bis(2-chloroethoxy)methane	ND	0.21		mg/Kg-dry	1	1/17/2019
Bis(2-chloroethyl)ether	ND	0.21		mg/Kg-dry	1	1/17/2019
Bis(2-ethylhexyl)phthalate	ND	1.0		mg/Kg-dry	1	1/17/2019
4-Bromophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	1/17/2019
Butyl benzyl phthalate	ND	0.21		mg/Kg-dry	1	1/17/2019
Carbazole	ND	0.21		mg/Kg-dry	1	1/17/2019
4-Chloroaniline	ND	0.21		mg/Kg-dry	1	1/17/2019
4-Chloro-3-methylphenol	ND	0.41		mg/Kg-dry	1	1/17/2019
2-Chloronaphthalene	ND	0.21		mg/Kg-dry	1	1/17/2019
2-Chlorophenol	ND	0.21		mg/Kg-dry	1	1/17/2019
4-Chlorophenyl phenyl ether	ND	0.21		mg/Kg-dry	1	1/17/2019
Chrysene	ND	0.041		mg/Kg-dry	1	1/17/2019
Dibenz(a,h)anthracene	ND	0.041		mg/Kg-dry	1	1/17/2019
Dibenzofuran	ND	0.21		mg/Kg-dry	1	1/17/2019
1,2-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	1/17/2019
1,3-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	1/17/2019
1,4-Dichlorobenzene	ND	0.21		mg/Kg-dry	1	1/17/2019
3,3´-Dichlorobenzidine	ND	0.21		mg/Kg-dry	1	1/17/2019
2,4-Dichlorophenol	ND	0.21		mg/Kg-dry	1	1/17/2019
Diethyl phthalate	ND	0.21		mg/Kg-dry	1	1/17/2019
2,4-Dimethylphenol	ND	0.21		mg/Kg-dry	1	1/17/2019
Dimethyl phthalate	ND	0.21		mg/Kg-dry	1	1/17/2019
4,6-Dinitro-2-methylphenol	ND	0.41		mg/Kg-dry	1	1/17/2019
2,4-Dinitrophenol	ND	1.0		mg/Kg-dry	1	1/17/2019
2,4-Dinitrotoluene	ND	0.041		mg/Kg-dry	1	1/17/2019
2,6-Dinitrotoluene	ND	0.041		mg/Kg-dry	1	1/17/2019
Di-n-butyl phthalate	ND	0.21		mg/Kg-dry	1	1/17/2019
Di-n-octyl phthalate	ND	0.21		mg/Kg-dry	1	1/17/2019

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Date Reported: January 22, 2019
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ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-007

Client Sample ID: GP-7 (6-8)
Collection Date: 1/10/2019 10:45:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**			Prep Date: **1/16/2019**		Analyst: **DM**
Fluoranthene	ND	0.041		mg/Kg-dry	1	1/17/2019
Fluorene	ND	0.041		mg/Kg-dry	1	1/17/2019
Hexachlorobenzene	ND	0.21		mg/Kg-dry	1	1/17/2019
Hexachlorobutadiene	ND	0.21		mg/Kg-dry	1	1/17/2019
Hexachlorocyclopentadiene	ND	0.21		mg/Kg-dry	1	1/17/2019
Hexachloroethane	ND	0.21		mg/Kg-dry	1	1/17/2019
Indeno(1,2,3-cd)pyrene	ND	0.041		mg/Kg-dry	1	1/17/2019
Isophorone	ND	0.21		mg/Kg-dry	1	1/17/2019
2-Methylnaphthalene	ND	0.21		mg/Kg-dry	1	1/17/2019
2-Methylphenol	ND	0.21		mg/Kg-dry	1	1/17/2019
4-Methylphenol	ND	0.21		mg/Kg-dry	1	1/17/2019
Naphthalene	ND	0.041		mg/Kg-dry	1	1/17/2019
2-Nitroaniline	ND	0.21		mg/Kg-dry	1	1/17/2019
3-Nitroaniline	ND	0.21		mg/Kg-dry	1	1/17/2019
4-Nitroaniline	ND	0.21		mg/Kg-dry	1	1/17/2019
2-Nitrophenol	ND	0.21		mg/Kg-dry	1	1/17/2019
4-Nitrophenol	ND	0.41		mg/Kg-dry	1	1/17/2019
Nitrobenzene	ND	0.041		mg/Kg-dry	1	1/17/2019
N-Nitrosodi-n-propylamine	ND	0.041		mg/Kg-dry	1	1/17/2019
N-Nitrosodimethylamine	ND	0.21		mg/Kg-dry	1	1/17/2019
N-Nitrosodiphenylamine	ND	0.21		mg/Kg-dry	1	1/17/2019
2, 2'-oxybis(1-Chloropropane)	ND	0.21		mg/Kg-dry	1	1/17/2019
Pentachlorophenol	ND	0.084		mg/Kg-dry	1	1/17/2019
Phenanthrene	ND	0.041		mg/Kg-dry	1	1/17/2019
Phenol	ND	0.21		mg/Kg-dry	1	1/17/2019
Pyrene	ND	0.041		mg/Kg-dry	1	1/17/2019
Pyridine	ND	0.84		mg/Kg-dry	1	1/17/2019
1,2,4-Trichlorobenzene	ND	0.21		mg/Kg-dry	1	1/17/2019
2,4,5-Trichlorophenol	ND	0.21		mg/Kg-dry	1	1/17/2019
2,4,6-Trichlorophenol	ND	0.21		mg/Kg-dry	1	1/17/2019
PCBs	**SW8082A (SW3550B)**			Prep Date: **1/14/2019**		Analyst: **GVC**
Aroclor 1016	ND	0.10		mg/Kg-dry	1	1/14/2019
Aroclor 1221	ND	0.10		mg/Kg-dry	1	1/14/2019
Aroclor 1232	ND	0.10		mg/Kg-dry	1	1/14/2019
Aroclor 1242	ND	0.10		mg/Kg-dry	1	1/14/2019
Aroclor 1248	ND	0.10		mg/Kg-dry	1	1/14/2019
Aroclor 1254	ND	0.10		mg/Kg-dry	1	1/14/2019
Aroclor 1260	ND	0.10		mg/Kg-dry	1	1/14/2019

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Date Reported: January 22, 2019
Date Printed: January 22, 2019

ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-007

Client Sample ID: GP-7 (6-8)
Collection Date: 1/10/2019 10:45:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Pesticides		**SW8081B (SW3550B)**		Prep Date: **1/14/2019**		Analyst: **GVC**
4,4´-DDD	ND	0.0020		mg/Kg-dry	1	1/14/2019
4,4´-DDE	ND	0.0020		mg/Kg-dry	1	1/14/2019
4,4´-DDT	ND	0.0020		mg/Kg-dry	1	1/14/2019
Aldrin	ND	0.0020		mg/Kg-dry	1	1/14/2019
alpha-BHC	ND	0.0020		mg/Kg-dry	1	1/14/2019
alpha-Chlordane	ND	0.0020		mg/Kg-dry	1	1/14/2019
beta-BHC	ND	0.0020		mg/Kg-dry	1	1/14/2019
Chlordane	ND	0.020		mg/Kg-dry	1	1/14/2019
delta-BHC	ND	0.0020		mg/Kg-dry	1	1/14/2019
Dieldrin	ND	0.0020		mg/Kg-dry	1	1/14/2019
Endosulfan I	ND	0.0020		mg/Kg-dry	1	1/14/2019
Endosulfan II	ND	0.0020		mg/Kg-dry	1	1/14/2019
Endosulfan sulfate	ND	0.0020		mg/Kg-dry	1	1/14/2019
Endrin	ND	0.0020		mg/Kg-dry	1	1/14/2019
Endrin aldehyde	ND	0.0020		mg/Kg-dry	1	1/14/2019
Endrin ketone	ND	0.0020		mg/Kg-dry	1	1/14/2019
gamma-BHC	ND	0.0020		mg/Kg-dry	1	1/14/2019
gamma-Chlordane	ND	0.0020		mg/Kg-dry	1	1/14/2019
Heptachlor	ND	0.0020		mg/Kg-dry	1	1/14/2019
Heptachlor epoxide	ND	0.0020		mg/Kg-dry	1	1/14/2019
Methoxychlor	ND	0.0020		mg/Kg-dry	1	1/14/2019
Toxaphene	ND	0.041		mg/Kg-dry	1	1/14/2019
Metals by ICP/MS		**SW6020A (SW3050B)**		Prep Date: **1/15/2019**		Analyst: **JG**
Aluminum	15000	21		mg/Kg-dry	10	1/15/2019
Antimony	ND	2.1		mg/Kg-dry	10	1/15/2019
Arsenic	4.2	1.1		mg/Kg-dry	10	1/15/2019
Barium	58	1.1		mg/Kg-dry	10	1/15/2019
Beryllium	0.62	0.53		mg/Kg-dry	10	1/16/2019
Cadmium	ND	0.53		mg/Kg-dry	10	1/15/2019
Calcium	51000	63		mg/Kg-dry	10	1/15/2019
Chromium	30	1.1		mg/Kg-dry	10	1/15/2019
Cobalt	17	1.1		mg/Kg-dry	10	1/15/2019
Copper	35	2.6		mg/Kg-dry	10	1/15/2019
Iron	26000	32		mg/Kg-dry	10	1/15/2019
Lead	19	0.53		mg/Kg-dry	10	1/15/2019
Magnesium	35000	32		mg/Kg-dry	10	1/15/2019
Manganese	440	1.1		mg/Kg-dry	10	1/15/2019
Nickel	44	1.1		mg/Kg-dry	10	1/15/2019

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Date Reported: January 22, 2019
Date Printed: January 22, 2019

ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-007

Client Sample ID: GP-7 (6-8)
Collection Date: 1/10/2019 10:45:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **1/15/2019**		Analyst: **JG**
Potassium	3400	32		mg/Kg-dry	10	1/15/2019
Selenium	ND	1.1		mg/Kg-dry	10	1/15/2019
Silver	ND	1.1		mg/Kg-dry	10	1/15/2019
Sodium	140	63		mg/Kg-dry	10	1/15/2019
Thallium	ND	1.1		mg/Kg-dry	10	1/15/2019
Vanadium	30	1.1		mg/Kg-dry	10	1/15/2019
Zinc	72	5.3		mg/Kg-dry	10	1/15/2019
TCLP Metals by ICP/MS	**SW1311/6020A (SW3005A)**			Prep Date: **1/17/2019**		Analyst: **MDT**
Antimony	ND	0.015		mg/L	5	1/18/2019
Arsenic	ND	0.010		mg/L	5	1/18/2019
Barium	0.44	0.050		mg/L	5	1/18/2019
Beryllium	ND	0.0050		mg/L	5	1/18/2019
Cadmium	ND	0.0050		mg/L	5	1/18/2019
Chromium	ND	0.010		mg/L	5	1/18/2019
Cobalt	0.029	0.010		mg/L	5	1/18/2019
Copper	ND	0.10		mg/L	5	1/18/2019
Iron	ND	0.25		mg/L	5	1/18/2019
Lead	ND	0.0050		mg/L	5	1/18/2019
Manganese	3.4	0.010		mg/L	5	1/18/2019
Nickel	0.030	0.020		mg/L	5	1/18/2019
Selenium	ND	0.020		mg/L	5	1/19/2019
Silver	ND	0.010		mg/L	5	1/18/2019
Thallium	ND	0.0050		mg/L	5	1/18/2019
Vanadium	ND	0.010		mg/L	5	1/18/2019
Zinc	ND	0.050		mg/L	5	1/18/2019
TCLP Mercury	**SW1311/7470A**			Prep Date: **1/17/2019**		Analyst: **LB**
Mercury	ND	0.00020		mg/L	1	1/17/2019
Mercury	**SW7471B**			Prep Date: **1/15/2019**		Analyst: **LB**
Mercury	0.031	0.021		mg/Kg-dry	1	1/15/2019
Cyanide, Total	**SW9012A**			Prep Date: **1/14/2019**		Analyst: **CAB**
Cyanide	ND	0.32		mg/Kg-dry	1	1/14/2019
pH (25 °C)	**SW9045C**			Prep Date: **1/14/2019**		Analyst: **JT**
pH	7.79			pH Units	1	1/14/2019
Percent Moisture	**D2974**			Prep Date: **1/14/2019**		Analyst: **RW**
Percent Moisture	21.1	0.2	*	wt%	1	1/15/2019

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ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-009

Client Sample ID: GP-9 (5-7)
Collection Date: 1/10/2019 11:30:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Volatile Organic Compounds by GC/MS	**SW5035/8260B**			Prep Date: **1/14/2019**		Analyst: **MJK**
Acetone	ND	0.058		mg/Kg-dry	1	1/14/2019
Benzene	ND	0.0038		mg/Kg-dry	1	1/14/2019
Bromodichloromethane	ND	0.0038		mg/Kg-dry	1	1/14/2019
Bromoform	ND	0.0038		mg/Kg-dry	1	1/14/2019
Bromomethane	ND	0.0077		mg/Kg-dry	1	1/14/2019
2-Butanone	ND	0.058		mg/Kg-dry	1	1/14/2019
Carbon disulfide	ND	0.038		mg/Kg-dry	1	1/14/2019
Carbon tetrachloride	ND	0.0038		mg/Kg-dry	1	1/14/2019
Chlorobenzene	ND	0.0038		mg/Kg-dry	1	1/14/2019
Chloroethane	ND	0.0077		mg/Kg-dry	1	1/14/2019
Chloroform	ND	0.0038		mg/Kg-dry	1	1/14/2019
Chloromethane	ND	0.0077		mg/Kg-dry	1	1/14/2019
Dibromochloromethane	ND	0.0038		mg/Kg-dry	1	1/14/2019
1,1-Dichloroethane	ND	0.0038		mg/Kg-dry	1	1/14/2019
1,2-Dichloroethane	ND	0.0038		mg/Kg-dry	1	1/14/2019
1,1-Dichloroethene	ND	0.0038		mg/Kg-dry	1	1/14/2019
cis-1,2-Dichloroethene	ND	0.0038		mg/Kg-dry	1	1/14/2019
trans-1,2-Dichloroethene	ND	0.0038		mg/Kg-dry	1	1/14/2019
1,2-Dichloropropane	ND	0.0038		mg/Kg-dry	1	1/14/2019
cis-1,3-Dichloropropene	ND	0.0015		mg/Kg-dry	1	1/14/2019
trans-1,3-Dichloropropene	ND	0.0015		mg/Kg-dry	1	1/14/2019
Ethylbenzene	ND	0.0038		mg/Kg-dry	1	1/14/2019
2-Hexanone	ND	0.015		mg/Kg-dry	1	1/14/2019
4-Methyl-2-pentanone	ND	0.015		mg/Kg-dry	1	1/14/2019
Methylene chloride	ND	0.0077		mg/Kg-dry	1	1/14/2019
Methyl tert-butyl ether	ND	0.0038		mg/Kg-dry	1	1/14/2019
Styrene	ND	0.0038		mg/Kg-dry	1	1/14/2019
1,1,2,2-Tetrachloroethane	ND	0.0038		mg/Kg-dry	1	1/14/2019
Tetrachloroethene	ND	0.0038		mg/Kg-dry	1	1/14/2019
Toluene	ND	0.0038		mg/Kg-dry	1	1/14/2019
1,1,1-Trichloroethane	ND	0.0038		mg/Kg-dry	1	1/14/2019
1,1,2-Trichloroethane	ND	0.0038		mg/Kg-dry	1	1/14/2019
Trichloroethene	ND	0.0038		mg/Kg-dry	1	1/14/2019
Vinyl chloride	ND	0.0038		mg/Kg-dry	1	1/14/2019
Xylenes, Total	ND	0.012		mg/Kg-dry	1	1/14/2019
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**			Prep Date: **1/16/2019**		Analyst: **DM**
Acenaphthene	ND	0.035		mg/Kg-dry	1	1/17/2019
Acenaphthylene	ND	0.035		mg/Kg-dry	1	1/17/2019

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Date Reported: January 22, 2019
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ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-009

Client Sample ID: GP-9 (5-7)
Collection Date: 1/10/2019 11:30:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**		Prep Date: **1/16/2019**		Analyst: **DM**	
Aniline	ND	0.36		mg/Kg-dry	1	1/17/2019
Anthracene	ND	0.035		mg/Kg-dry	1	1/17/2019
Benz(a)anthracene	ND	0.035		mg/Kg-dry	1	1/17/2019
Benzidine	ND	0.35		mg/Kg-dry	1	1/17/2019
Benzo(a)pyrene	ND	0.035		mg/Kg-dry	1	1/17/2019
Benzo(b)fluoranthene	ND	0.035		mg/Kg-dry	1	1/17/2019
Benzo(g,h,i)perylene	ND	0.035		mg/Kg-dry	1	1/17/2019
Benzo(k)fluoranthene	ND	0.035		mg/Kg-dry	1	1/17/2019
Benzoic acid	ND	0.89		mg/Kg-dry	1	1/17/2019
Benzyl alcohol	ND	0.18		mg/Kg-dry	1	1/17/2019
Bis(2-chloroethoxy)methane	ND	0.18		mg/Kg-dry	1	1/17/2019
Bis(2-chloroethyl)ether	ND	0.18		mg/Kg-dry	1	1/17/2019
Bis(2-ethylhexyl)phthalate	ND	0.89		mg/Kg-dry	1	1/17/2019
4-Bromophenyl phenyl ether	ND	0.18		mg/Kg-dry	1	1/17/2019
Butyl benzyl phthalate	ND	0.18		mg/Kg-dry	1	1/17/2019
Carbazole	ND	0.18		mg/Kg-dry	1	1/17/2019
4-Chloroaniline	ND	0.18		mg/Kg-dry	1	1/17/2019
4-Chloro-3-methylphenol	ND	0.35		mg/Kg-dry	1	1/17/2019
2-Chloronaphthalene	ND	0.18		mg/Kg-dry	1	1/17/2019
2-Chlorophenol	ND	0.18		mg/Kg-dry	1	1/17/2019
4-Chlorophenyl phenyl ether	ND	0.18		mg/Kg-dry	1	1/17/2019
Chrysene	ND	0.035		mg/Kg-dry	1	1/17/2019
Dibenz(a,h)anthracene	ND	0.035		mg/Kg-dry	1	1/17/2019
Dibenzofuran	ND	0.18		mg/Kg-dry	1	1/17/2019
1,2-Dichlorobenzene	ND	0.18		mg/Kg-dry	1	1/17/2019
1,3-Dichlorobenzene	ND	0.18		mg/Kg-dry	1	1/17/2019
1,4-Dichlorobenzene	ND	0.18		mg/Kg-dry	1	1/17/2019
3,3´-Dichlorobenzidine	ND	0.18		mg/Kg-dry	1	1/17/2019
2,4-Dichlorophenol	ND	0.18		mg/Kg-dry	1	1/17/2019
Diethyl phthalate	ND	0.18		mg/Kg-dry	1	1/17/2019
2,4-Dimethylphenol	ND	0.18		mg/Kg-dry	1	1/17/2019
Dimethyl phthalate	ND	0.18		mg/Kg-dry	1	1/17/2019
4,6-Dinitro-2-methylphenol	ND	0.35		mg/Kg-dry	1	1/17/2019
2,4-Dinitrophenol	ND	0.89		mg/Kg-dry	1	1/17/2019
2,4-Dinitrotoluene	ND	0.035		mg/Kg-dry	1	1/17/2019
2,6-Dinitrotoluene	ND	0.035		mg/Kg-dry	1	1/17/2019
Di-n-butyl phthalate	ND	0.18		mg/Kg-dry	1	1/17/2019
Di-n-octyl phthalate	ND	0.18		mg/Kg-dry	1	1/17/2019

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Date Reported: January 22, 2019
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ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-009

Client Sample ID: GP-9 (5-7)
Collection Date: 1/10/2019 11:30:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**			Prep Date: **1/16/2019**		Analyst: **DM**
Fluoranthene	ND	0.035		mg/Kg-dry	1	1/17/2019
Fluorene	ND	0.035		mg/Kg-dry	1	1/17/2019
Hexachlorobenzene	ND	0.18		mg/Kg-dry	1	1/17/2019
Hexachlorobutadiene	ND	0.18		mg/Kg-dry	1	1/17/2019
Hexachlorocyclopentadiene	ND	0.18		mg/Kg-dry	1	1/17/2019
Hexachloroethane	ND	0.18		mg/Kg-dry	1	1/17/2019
Indeno(1,2,3-cd)pyrene	ND	0.035		mg/Kg-dry	1	1/17/2019
Isophorone	ND	0.18		mg/Kg-dry	1	1/17/2019
2-Methylnaphthalene	ND	0.18		mg/Kg-dry	1	1/17/2019
2-Methylphenol	ND	0.18		mg/Kg-dry	1	1/17/2019
4-Methylphenol	ND	0.18		mg/Kg-dry	1	1/17/2019
Naphthalene	ND	0.035		mg/Kg-dry	1	1/17/2019
2-Nitroaniline	ND	0.18		mg/Kg-dry	1	1/17/2019
3-Nitroaniline	ND	0.18		mg/Kg-dry	1	1/17/2019
4-Nitroaniline	ND	0.18		mg/Kg-dry	1	1/17/2019
2-Nitrophenol	ND	0.18		mg/Kg-dry	1	1/17/2019
4-Nitrophenol	ND	0.35		mg/Kg-dry	1	1/17/2019
Nitrobenzene	ND	0.035		mg/Kg-dry	1	1/17/2019
N-Nitrosodi-n-propylamine	ND	0.035		mg/Kg-dry	1	1/17/2019
N-Nitrosodimethylamine	ND	0.18		mg/Kg-dry	1	1/17/2019
N-Nitrosodiphenylamine	ND	0.18		mg/Kg-dry	1	1/17/2019
2, 2'-oxybis(1-Chloropropane)	ND	0.18		mg/Kg-dry	1	1/17/2019
Pentachlorophenol	ND	0.072		mg/Kg-dry	1	1/17/2019
Phenanthrene	ND	0.035		mg/Kg-dry	1	1/17/2019
Phenol	ND	0.18		mg/Kg-dry	1	1/17/2019
Pyrene	ND	0.035		mg/Kg-dry	1	1/17/2019
Pyridine	ND	0.72		mg/Kg-dry	1	1/17/2019
1,2,4-Trichlorobenzene	ND	0.18		mg/Kg-dry	1	1/17/2019
2,4,5-Trichlorophenol	ND	0.18		mg/Kg-dry	1	1/17/2019
2,4,6-Trichlorophenol	ND	0.18		mg/Kg-dry	1	1/17/2019
PCBs	**SW8082A (SW3550B)**			Prep Date: **1/14/2019**		Analyst: **GVC**
Aroclor 1016	ND	0.086		mg/Kg-dry	1	1/14/2019
Aroclor 1221	ND	0.086		mg/Kg-dry	1	1/14/2019
Aroclor 1232	ND	0.086		mg/Kg-dry	1	1/14/2019
Aroclor 1242	ND	0.086		mg/Kg-dry	1	1/14/2019
Aroclor 1248	ND	0.086		mg/Kg-dry	1	1/14/2019
Aroclor 1254	ND	0.086		mg/Kg-dry	1	1/14/2019
Aroclor 1260	ND	0.086		mg/Kg-dry	1	1/14/2019

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Date Reported: January 22, 2019
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ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-009

Client Sample ID: GP-9 (5-7)
Collection Date: 1/10/2019 11:30:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Pesticides		**SW8081B (SW3550B)**		Prep Date: **1/14/2019**		Analyst: **GVC**
4,4´-DDD	ND	0.0017		mg/Kg-dry	1	1/14/2019
4,4´-DDE	ND	0.0017		mg/Kg-dry	1	1/14/2019
4,4´-DDT	ND	0.0017		mg/Kg-dry	1	1/14/2019
Aldrin	ND	0.0017		mg/Kg-dry	1	1/14/2019
alpha-BHC	ND	0.0017		mg/Kg-dry	1	1/14/2019
alpha-Chlordane	ND	0.0017		mg/Kg-dry	1	1/14/2019
beta-BHC	ND	0.0017		mg/Kg-dry	1	1/14/2019
Chlordane	ND	0.017		mg/Kg-dry	1	1/14/2019
delta-BHC	ND	0.0017		mg/Kg-dry	1	1/14/2019
Dieldrin	ND	0.0017		mg/Kg-dry	1	1/14/2019
Endosulfan I	ND	0.0017		mg/Kg-dry	1	1/14/2019
Endosulfan II	ND	0.0017		mg/Kg-dry	1	1/14/2019
Endosulfan sulfate	ND	0.0017		mg/Kg-dry	1	1/14/2019
Endrin	ND	0.0017		mg/Kg-dry	1	1/14/2019
Endrin aldehyde	ND	0.0017		mg/Kg-dry	1	1/14/2019
Endrin ketone	ND	0.0017		mg/Kg-dry	1	1/14/2019
gamma-BHC	ND	0.0017		mg/Kg-dry	1	1/14/2019
gamma-Chlordane	ND	0.0017		mg/Kg-dry	1	1/14/2019
Heptachlor	ND	0.0017		mg/Kg-dry	1	1/14/2019
Heptachlor epoxide	ND	0.0017		mg/Kg-dry	1	1/14/2019
Methoxychlor	ND	0.0017		mg/Kg-dry	1	1/14/2019
Toxaphene	ND	0.035		mg/Kg-dry	1	1/14/2019
Metals by ICP/MS		**SW6020A (SW3050B)**		Prep Date: **1/15/2019**		Analyst: **JG**
Aluminum	3000	18		mg/Kg-dry	10	1/15/2019
Antimony	ND	1.8		mg/Kg-dry	10	1/15/2019
Arsenic	10	0.92		mg/Kg-dry	10	1/15/2019
Barium	15	0.92		mg/Kg-dry	10	1/15/2019
Beryllium	ND	0.46		mg/Kg-dry	10	1/15/2019
Cadmium	ND	0.46		mg/Kg-dry	10	1/15/2019
Calcium	130000	55		mg/Kg-dry	10	1/15/2019
Chromium	7.2	0.92		mg/Kg-dry	10	1/15/2019
Cobalt	6.1	0.92		mg/Kg-dry	10	1/15/2019
Copper	19	2.3		mg/Kg-dry	10	1/15/2019
Iron	17000	28		mg/Kg-dry	10	1/15/2019
Lead	9.9	0.46		mg/Kg-dry	10	1/15/2019
Magnesium	72000	28		mg/Kg-dry	10	1/15/2019
Manganese	440	0.92		mg/Kg-dry	10	1/15/2019
Nickel	13	0.92		mg/Kg-dry	10	1/15/2019

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Date Reported: January 22, 2019
Date Printed: January 22, 2019

ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-009

Client Sample ID: GP-9 (5-7)
Collection Date: 1/10/2019 11:30:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **1/15/2019**		Analyst: **JG**
Potassium	960	28		mg/Kg-dry	10	1/15/2019
Selenium	1.3	0.92		mg/Kg-dry	10	1/15/2019
Silver	ND	0.92		mg/Kg-dry	10	1/15/2019
Sodium	160	55		mg/Kg-dry	10	1/15/2019
Thallium	ND	0.92		mg/Kg-dry	10	1/15/2019
Vanadium	10	0.92		mg/Kg-dry	10	1/15/2019
Zinc	54	4.6		mg/Kg-dry	10	1/15/2019
TCLP Metals by ICP/MS	**SW1311/6020A (SW3005A)**			Prep Date: **1/17/2019**		Analyst: **MDT**
Antimony	ND	0.015		mg/L	5	1/18/2019
Arsenic	ND	0.010		mg/L	5	1/18/2019
Barium	0.23	0.050		mg/L	5	1/18/2019
Beryllium	ND	0.0050		mg/L	5	1/18/2019
Cadmium	ND	0.0050		mg/L	5	1/18/2019
Chromium	ND	0.010		mg/L	5	1/18/2019
Cobalt	0.034	0.010		mg/L	5	1/18/2019
Copper	ND	0.10		mg/L	5	1/18/2019
Iron	ND	0.25		mg/L	5	1/18/2019
Lead	ND	0.0050		mg/L	5	1/18/2019
Manganese	2.4	0.010		mg/L	5	1/18/2019
Nickel	0.045	0.020		mg/L	5	1/18/2019
Selenium	ND	0.020		mg/L	5	1/19/2019
Silver	ND	0.010		mg/L	5	1/18/2019
Thallium	ND	0.0050		mg/L	5	1/18/2019
Vanadium	ND	0.010		mg/L	5	1/18/2019
Zinc	ND	0.050		mg/L	5	1/18/2019
TCLP Mercury	**SW1311/7470A**			Prep Date: **1/17/2019**		Analyst: **LB**
Mercury	ND	0.00020		mg/L	1	1/17/2019
Mercury	**SW7471B**			Prep Date: **1/15/2019**		Analyst: **LB**
Mercury	ND	0.020		mg/Kg-dry	1	1/15/2019
Cyanide, Total	**SW9012A**			Prep Date: **1/14/2019**		Analyst: **CAB**
Cyanide	ND	0.27		mg/Kg-dry	1	1/14/2019
pH (25 °C)	**SW9045C**			Prep Date: **1/14/2019**		Analyst: **JT**
pH	8.08			pH Units	1	1/14/2019
Percent Moisture	**D2974**			Prep Date: **1/14/2019**		Analyst: **RW**
Percent Moisture	8.2	0.2	*	wt%	1	1/15/2019

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Date Reported: January 22, 2019
Date Printed: January 22, 2019

ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-011

Client Sample ID: SGV-1 (Kensington)
Collection Date: 1/10/2019 12:00:00 PM
Matrix: Air

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Volatile Organic Compounds in Air by GC/MS TO-15				Prep Date: **1/14/2019**		Analyst: **MAS**
1,1,1-Trichloroethane	ND	0.0033		mg/m³	2	1/15/2019
1,1,2-Trichloroethane	ND	0.0033		mg/m³	2	1/15/2019
1,1-Dichloroethane	ND	0.0024		mg/m³	2	1/15/2019
1,1-Dichloroethene	ND	0.0024		mg/m³	2	1/15/2019
1,2,4-Trichlorobenzene	ND	0.0045		mg/m³	2	1/15/2019
1,2-Dibromoethane	ND	0.0045		mg/m³	2	1/15/2019
1,2-Dichlorobenzene	ND	0.0036		mg/m³	2	1/15/2019
1,2-Dichloroethane	ND	0.0024		mg/m³	2	1/15/2019
1,2-Dichloropropane	ND	0.0027		mg/m³	2	1/15/2019
1,4-Dichlorobenzene	0.0084	0.0036		mg/m³	2	1/15/2019
1,4-Dioxane	ND	0.0054		mg/m³	2	1/15/2019
2-Butanone	ND	0.0045		mg/m³	2	1/15/2019
Acetone	0.031	0.014	*	mg/m³	2	1/15/2019
Benzene	ND	0.0018		mg/m³	2	1/15/2019
Bromodichloromethane	ND	0.0039		mg/m³	2	1/15/2019
Bromoform	ND	0.016		mg/m³	2	1/15/2019
Bromomethane	ND	0.0057		mg/m³	2	1/15/2019
Carbon disulfide	ND	0.0019		mg/m³	2	1/15/2019
Carbon tetrachloride	ND	0.0039		mg/m³	2	1/15/2019
Chlorobenzene	ND	0.0027		mg/m³	2	1/15/2019
Chloroform	ND	0.0030		mg/m³	2	1/15/2019
cis-1,2-Dichloroethene	ND	0.0024		mg/m³	2	1/15/2019
cis-1,3-Dichloropropene	ND	0.0027		mg/m³	2	1/15/2019
Dibromochloromethane	ND	0.0051		mg/m³	2	1/15/2019
Dichlorodifluoromethane	0.0031	0.0030		mg/m³	2	1/15/2019
Ethylbenzene	ND	0.0027		mg/m³	2	1/15/2019
m,p-Xylene	ND	0.0051		mg/m³	2	1/15/2019
Methyl tert-butyl ether	ND	0.0021		mg/m³	2	1/15/2019
Methylene chloride	ND	0.021		mg/m³	2	1/15/2019
Naphthalene	ND	0.0030		mg/m³	2	1/15/2019
o-Xylene	ND	0.0027		mg/m³	2	1/15/2019
Styrene	ND	0.0027		mg/m³	2	1/15/2019
Tetrachloroethene	ND	0.0042		mg/m³	2	1/15/2019
Toluene	ND	0.0024		mg/m³	2	1/15/2019
trans-1,2-Dichloroethene	ND	0.0024		mg/m³	2	1/15/2019
trans-1,3-Dichloropropene	ND	0.0027		mg/m³	2	1/15/2019
Trichloroethene	0.0037	0.0033		mg/m³	2	1/15/2019
Trichlorofluoromethane	ND	0.0033		mg/m³	2	1/15/2019

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Date Reported: January 22, 2019
Date Printed: January 22, 2019

ANALYTICAL RESULTS

Client: Environmental Group Services, Ltd.
Work Order: 19010291 Revision 0
Project: Kensington, Oak Brook
Lab ID: 19010291-011

Client Sample ID: SGV-1 (Kensington)
Collection Date: 1/10/2019 12:00:00 PM
Matrix: Air

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Volatile Organic Compounds in Air by GC/MS TO-15				Prep Date: **1/14/2019**		Analyst: **MAS**
Vinyl acetate	ND	0.021		mg/m³	2	1/15/2019
Vinyl chloride	ND	0.0015		mg/m³	2	1/15/2019
Xylenes, Total	ND	0.0078		mg/m³	2	1/15/2019

Qualifiers:
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CHAIN OF CUSTODY RECORD

N°: _____ **Page :** 1 **of** 1

Company: EGSL
Project Number: _____ Client Tracking No.: _____
Project Name: Kensington
Project Location: Oak Brook
Sampler(s): Mary Cappellini
Report To: Mary@EGSL.com Phone: _____
Fax: _____
QC Level: 1 ____ 2 ____ 3 ____ 4 ____ e-mail: _____

P.O. No.: _____
Quote No.: _____

Turn Around: 5 days
Results Needed: / / am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	TCL	TCLP 18 Metals + pH	VOCs	Hold	Remarks	Lab No.:
GP-1 (2-4)	1/10/19	9:30	S		X		4			X			001
GP-2 (5-7)		9:40						X	X				002
GP-3 (7-9)		9:50								X			003
GP-4 (4-6)		10:00								X			004
GP-5 (8-10)		10:15						X	X				005
GP-6 (1-3)		10:30								X			006
GP-7 (6-8)		10:45						X	X				007
GP-8 (3-5)		11:00								X			008
GP-9 (5-7)		11:30						X	X				009
GP-10 (8-10)	↓	11:45	↓		↓		↓			X			010
SGV-1 (Kensington)	1/10/19	12:00	A		X		1				X		011

Relinquished by: (Signature) Mary Cappellini Date/Time: 1/11/19 8 am
Received by: (Signature) Date/Time: 1/11/19 16:23
Relinquished by: (Signature) Date/Time: 1/11/19 16:45
Received by: (Signature) Date/Time: 1/11/19 16:45
Relinquished by: (Signature) Date/Time:
Received by: (Signature) Date/Time:

Comments: canister # 11042

Preservation Code: A = None B = HNO_3 C = NaOH D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.: 1901029

Received on Ice: Yes ☑ No ☐
Temperature: 4.1 °C

STAT Analysis Corporation

Sample Receipt Checklist

Client Name EGSL | Date and Time Received: 1/11/2019 4:45:00 PM

Work Order Number 19010291 | Received by: CHB

Checklist completed by: _____ 1/11/19 (Signature / Date) | Reviewed by: _____ 1/14/19 (Initials / Date)

Matrix: | Carrier name STAT Analysis

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels/containers?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container or Temp Blank temperature in compliance?	Yes ☑	No ☐	Temperature 4.1 °C
Water - VOA vials have zero headspace?	No VOA vials submitted ☒	Yes ☒	No ☒
Water - Samples pH checked?	Yes ☒	No ☒	Checked by:
Water - Samples properly preserved?	Yes ☒	No ☒	pH Adjusted?

Any No response must be detailed in the comments section below.

Comments:

Client / Person contacted: | Date contacted: | Contacted by:

Response: