Project Manual for 2023 Miracle Field OSLAD Re-Development

Bids to be delivered by 2:00 PM, October 5, 2023 to
Centennial Community Center
16028 127th Street
Lemont, IL 60439

Prepared for:
The Lemont Park District
630-257-6787

Prepared by:

DesignPerspectives INC.
Grounded in Creativity

1167 Hobson Mill Drive
Naperville, Illinois 60540
630-606-0776

September 20, 2023

2023 Miracle Field OSLAD Re-Development
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DIVISION 0

BID INFORMATION, CONTRACT DOCUMENTS & GENERAL CONDITIONS

AD FOR BID

Notice is hereby given to potential Bidders that the Lemont Park District will be receiving Notice is hereby given to potential Bidders that the Lemont Park District will be receiving sealed bids for 2023 Lemont Park District Miracle Field OSLAD Re-Development. The work for this project primarily consists of the renovation and expansion of the existing accessible Miracle Field ball field. The work consists of demolition and removals, site grading, storm drainage, concrete flatwork, foundations and curbing, asphalt paving, synthetic turf athletic field infrastructure construction, electrical work, fence installation, site furnishings installation and landscaping.

Digital Bid Documents may be obtained free of charge from the office of Design Perspectives, 1167 Hobson Mill Drive, Naperville, Illinois 60540 starting September 20, 2023, between the hours of 8:30 A.M. and 4:30 P.M., Monday through Friday. Please email tod@design-perspectives.net for the bidding documents which will be sent via e-mail as requested. Please contact Design Perspectives, Inc. at (630) 606-0776 with any general questions regarding this project.

Each bid must be placed in a sealed opaque envelope clearly marked **"Sealed Bid: 2023 Miracle Field OSLAD Re-Development"** and addressed to the Lemont Park District, Centennial Community Center, 16028 127th Street, Lemont, IL 60439. Bids will be received until 2:00 pm, on October 5, 2023, at which time the bid proposals will be publicly opened and read aloud at the Centennial Community Center, 16028 127th Street, Lemont, IL 60439.

This project is being financed, in part, with funds from the Illinois Department of Natural Resources, "Open Space Lands Acquisition & Development" (OSLAD) grant program. Minority businesses are encouraged to submit bids for this Project and the successful Contractor is encouraged to utilize qualified minority businesses as sub-contractors for supplies, equipment, services, and construction. There is no required minimum percentage of utilization for minority business participation to meet grant requirements.

The Lemont 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 Lemont Park District. The Lemont Park District will award the Contract to the lowest most responsible and responsive Bidder, as determined by the Park District. After bid opening, no bids may be withdrawn and all bids shall remain firm for ninety (90) days. After submission of the bid, no complaint or claim that there was any misunderstanding regarding the scope of work and associated costs listed for bidding will be considered.

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 Lemont 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 Park District, which is the

same as that determined by the Illinois Department of Labor for public works projects in Cook 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 (including the prevailing rate for legal holiday and overtime work in and as applicable) 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 Lemont 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.

By order of the Board of Park Commissioners of the Lemont Park District.

INSTRUCTION TO CONTRACTORS

A. SCOPE

The Contractor shall furnish all labor, materials, tools and equipment required to complete the construction indicated in these Drawings and Specifications.

B. PROJECT IDENTIFICATION AND LOCATION
Project Identification: 2023 Miracle Field OSLAD Re-Development
Project Owner: Lemont Park District – 16028 127th Street Lemont, IL 60439
Project Location:
1. Centennial Park – 16028 127th Street Lemont, IL 60439

Board Approval:	**October 24, 2023**
Commencement of Work:	**November 6, 2023**
Completion:	**June 30, 2024**

C. RECEIPT AND OPENING OF BIDS

1. Sealed bids shall be received by 2:00 pm, Thursday, October 5, 2023, at the Centennial Community Center, 16028 127th Street, Lemont, IL 60439.

2. The Park District reserves the right to reject any or all bids and to waive any formality or technicality in any Proposal in the interest of the Park District.

3. The bid shall be valid for 90 days after opening.

D. PREPARATION OF BIDS

1. Each bid shall be submitted on the Proposal Form furnished in these documents.

2. All bids must be written in black ink or typewritten, and signed with the legal signature of the Contractor, and enclosed in an opaque envelope, sealed, and clearly addressed as follows:

SEALED BID – 2023 MIRACLE FIELD OSLAD RE-DEVELOPMENT

The envelope shall also contain the name and address of the Contractor.

E. EXAMINATION

1. Each Contractor shall first examine the site, taking into consideration all such conditions that may affect this work. A submission of a proposal implies that this examination has been made.

2. Each Contractor shall examine each part of these Specifications and Drawings in order to comply with all requirements.

3. After submission of the bid, no complaint or claim that there was any misunderstanding in regard to the scope of work and associated costs listed for bidding will be considered.

F. QUALIFICATIONS OF CONTRACTOR

The Park District may take any action deemed necessary to investigate the qualifications of each Contractor. Each Contractor shall complete the affidavit of experience form in these Bid Documents and submit such form with the proposal form. The Park District reserves the right to qualify or disqualify Contractors as a result of lack of similar project experience and/or any other information obtained from the affidavit of experience form.

G. ADDENDA AND INTERPRETATION

All interpretations and requests for interpretations of the Bid Documents shall be made in writing. Any addenda shall become part of the Contract Documents.

H. CONTRACT DOCUMENTS

The Contractor to whom the project is awarded will be required to enter into a contract with the Lemont Park District for the extent of the work and contractual amount until the completion of the agreed work. The awarded Contractor will be required to enter into a contract with the Lemont Park District within ten (10) days after acceptance of the bid price.

I. SUBMITTAL OF PLANS AND SPECIFICATIONS

Before commencing work, the Contractor shall submit for approval the manufacturer's information covering all materials and equipment that it proposes to furnish. The Owner has all final approvals on colors. This will require a written approval by the Owner prior to the purchase of these items. The Contractor shall commence no work nor purchase any materials prior to the approval of the submittals. Approval of the submittals by the Owner shall not be considered a waiver of any provisions of the specifications nor shall they be construed to permit a waiver from any of the performance criteria required at the final inspection.

J. MATERIALS

All materials supplied by the Contractor under the provisions of these Specifications and Plans shall be new materials of the kind and character called for. Defective equipment or material damaged during installation or tests shall be replaced or repaired in a manner satisfactory to the Owner. All material and equipment to be furnished under these Specifications shall be the standard product of a manufacturer regularly engaged in the production of such material and shall be the manufacturer's current standard design.

K. SUBSTITUTION OF MATERIALS

The materials specified have been determined to have the characteristics appropriate for the purpose of the project. In the event, however, the clause "or equal" is used in the Specifications pertaining to the material or article, the use of an alternate article other than that specified must be submitted for written approval of the Owner or his representative before purchase.

L. AWARDING OF CONTRACT

1. Bids will be presented to the Board of Commissioners for approval during a October 2023 regular board meeting.

2. Contract will be awarded to the lowest and most responsible Bidder as determined by the Park District.

M. COMPLETION OF CONTRACT WORK

All work contained in these documents shall be completed no later than as follows:

Miracle Field OSLAD Re-Development – June 30, 2024

N. BASIS OF PAYMENT

Payments shall be made for ninety (90%) percent of the bid price upon completion of work or portion thereof. The balance of ten (10%) percent shall be paid after receipt of final waivers of lien for all materials used and within sixty (60) days of work completion.

O. GOVERNING LAWS AND REGULATIONS

The Contractor to whom the work is awarded shall perform all work and use only those materials that conform to city, state and federal codes regarding health, safety and welfare. The Lemont Park District and its consultant, Design Perspectives, shall be held faultless for failure of work and material that does not conform to such

codes. The Contractor shall comply with Equal Opportunity clause required by the Illinois Fair Employment Practices Commission. The Contractor shall also comply with all reporting requirements for Prevailing Wages for Construction Trades as required by the Illinois Department of Labor for Cook County.

Q. OSLAD REQUIREMENTS

The following are specific to the OSLAD grant:

1. Steel Products Procurement Act (30 ILCS 565 et seq.): The Contractor, if applicable, hereby certifies that any steel products used or supplied in accordance with this Award for a public works project shall be manufactured or produced in the United States per the requirements of the Steel Products Procurement Act (30 ILCS 565 et seq.).

2. Illinois Works Jobs Program Act (30 ILCS 559/20-1 et seq.): For grants with an estimated total project cost of $500,000 or more, the Park District will be required to comply with the Illinois Works Apprenticeship Initiative (30 ILCS 559/20-20 to 20-25) and all applicable administrative rules. The "estimated total project cost" is a good faith approximation of the costs of an entire project being paid for in whole or in part by appropriated capital funds to construct a public work. The Contractor, if required, shall meet the goal of the Illinois Apprenticeship Initiative is that apprentices will perform either 10% of the total labor hours actually worked in each prevailing wage classification or 10% of the estimated labor hours in each prevailing wage classification, whichever is less. The Park District will be permitted to seek from the Department a waiver or reduction of this goal in certain circumstances pursuant to 30 ILCS 559/20-20(b). The Park District with the Contractor must ensure compliance for the life of the entire project, including during the term of the grant and after the term ends, if applicable, and will be required to report on and certify its compliance.

PREVAILING WAGES

The general prevailing rate of wages in the locality for each craft or type of worker or mechanic needed to execute the contract or perform the work, and the general prevailing rate for legal holiday and overtime work, as ascertained by the Park District or the Illinois Department of Labor shall be paid for each craft or type of worker needed to execute the contract or to perform such work and it shall be mandatory upon the contractor to whom the contract is awarded and upon any subcontractor under him to pay not less than the specified rates to all laborers, workers and mechanics employed by them in the execution of the contract or such work.

Certified payroll will be required from all Contractors for all employees performing work at the job site until completion of the project.

CONTACT INFORMATION

Owner/Project Manager:

Mr. Jason Khuen, CPRP, CPO
Director of Maintenance and Planning
Lemont Park District
16028 127th Street
Lemont, IL 60439

Phone: (630) 257-6787 x 3204
jkhuen@lemontparks.org

Landscape Architect:

Mr. Tod Stanton, President
Design Perspectives, Inc.
1167 Hobson Mill Drive
Naperville, IL 60540

Phone: (630) 606-0776
tod@design-perspectives.net

PROPOSAL FORM

OWNER: **Lemont Park District**
16028 127th Street
Lemont, IL 60439

PROJECT: 2023 Miracle Field OSLAD Re-Development

Bids shall be received on or before 2:00 pm, Thursday, October 5, 2023, at the Centennial Community Center, 16028 127th Street, Lemont, IL 60439.

A. ACKNOWLEDGEMENTS

1. Receipt of Documents: Contractor has received a complete set of specifications and plans and understands the meaning of their content and shall willingly comply with the guidelines set forth in these documents.
___Yes; ___No.

2. Identification of Documents Received: The following is a general checklist of documents that should appear in the Bid Documents. Please complete the checklist and contact the Park District if any of the documents have been omitted. (Refer to the Table of Contents for specific documents)

	Yes	No
BIDDING INFORMATION & CONTRACT REQUIREMENTS	___	___
DIVISION 1 – GENERAL REQUIREMENTS	___	___
DIVISION 2 – TECHNICAL SPECIFICATIONS	___	___

B. PROPOSAL

PROPOSAL FORM – 2023 MIRACLE FIELD OSLAD RE-DEVELOPMENT

Sealed Bids shall be received on or before 2:00 pm, Thursday, October 5, 2023 at the Centennial Community Center, 16028 127th Street, Lemont, IL 60439.

MIRACLE FIELD

Item	Description	Approx. Quantity	Unit	Unit Price	Subtotal

A. MOBILIZATION & PROJECT START UP

1. Project & site mobilization including all construction staking, temporary bathroom, tree protection fencing, **metal chain link construction fence** around ballfield construction area and bond costs.

For Completing Mobilization & Project Start Up Item 1 Lump Sum _____

B. DEMOLITION & REMOVALS

1. Remove all items including footings, site furnishings, paving surfaces, aggregate base, fencing, tree removal and any other incidental items as shown and/or noted on the Plans. Haul off and legally dispose of materials from the site.

For Completing Demolition & Removals Item 1 Lump Sum _____

C. GRADING & DRAINAGE

1. Strip and stockpile all topsoil encountered during grading operations. Topsoil will be used to fulfill the requirements of this project.

2. Perform all grading and excavation to obtain subgrade for pavements, sports fields, install drainage pipe with end sections and other grading requirements as shown or noted on Plan and in accordance with the specifications.

3. Re-spread stockpiled cleaned topsoil 6" thick over all prepared subgrades within landscape areas.

4. Furnish & Install all drainage pipes, structures, connections and all other drainage requirements as shown or noted on Plan and in accordance with the specifications.

Item	Description	Approx. Quantity	Unit	Unit Price	Subtotal
5.	Furnish & Install All Erosion Control Measures as Shown on Civil Plans. This includes wash-out stations and dumpsters as required.				
For Completing Grading & Drainage Items 1-5				Lump Sum	_____
D.	**PAVING**				
1.	Type 201 5" Concrete Paving	3,600	SF	_____	_____
2.	Type 202 Asphalt Paving (South Path Adjustment)	290	SY	_____	_____
3.	Type 202 Asphalt Paving (South & East Path Replacement Allowance) (Allowance to be Credit Back to Owner Any Unused Portion)	320	SY	_____	_____
4.	Furnish & Install Dugout Reinforced Concrete Foundations (Total of 2)	1	LS	_____	_____
5.	Furnish & Install Masonry Wall with Reinforced Concrete Foundation	120	LF	_____	_____
6.	Furnish & Install Pre-Cast Concrete Cap for Masonry Wall	120	LF	_____	_____
7.	Furnish & Install Cast In Place Concrete Statue Base	1	LS	_____	_____
E.	**MIRACLE FIELD BALLFIELD CONSTRUCTION**				
1.	Furnish & Install Geo-tech Fabric and Stone Infill For Entire Synthetic Turf Areas (Ballfield & Batting Cage) See Civil Plans)	1	LS	_____	_____

Item	Description	Approx. Quantity	Unit	Unit Price	Subtotal
2.	Concrete Curb For Synthetic Turf Installation (See Civil Plans)	710	LF	_____	_____
3.	Furnish & Install Nailer Board on Concrete Flatwork & Curb For Synthetic Turf Installation	1	LS	_____	_____
4.	Furnish & Install 6' Black Vinyl Coated Line Fence With Top Rail Fence Protective Cap	520	LF	_____	_____
5.	Furnish & Install 8' Black Vinyl Coated Line Fence With Top Rail Fence Protective Cap	104	LF	_____	_____
6.	Furnish & Install 6' Black Vinyl Coated Line Gate	2	EA	_____	_____
7.	Furnish & Install 8' Black Vinyl Coated Line Double Maintenance Gate	1	EA	_____	_____
8.	Furnish & Install Concrete Footings for Backstop Netting Posts	8	EA	_____	_____
9.	Furnish & Install all Poles, Cables, Netting, Stainless Steel Eyebolts & Connections To Masonry Wall/Cap, Dugout And/or For Complete Installation By Beacon Athletics or Equal	1	LS	_____	_____
10.	Furnish & Install Outfield Foul Poles with Sleeves By Beacon Athletics or Equal	2	EA	_____	_____

Item	Description	Approx. Quantity	Unit	Unit Price	Subtotal
11.	Furnish & Install Dugout Line Fence Netting with Padding By Beacon Athletics or Equal	2	EA	_____	_____
12.	Furnish & Install Batting Cage with Cables, Netting, Stainless Steel Eyebolts & Connections For Complete Installation By Beacon Athletics or Equal	1	LS	_____	_____

F. SITE ELECTRICAL CONSTRUCTION

1. Furnish & install electrical work to include the installation of all fixtures, solar panels, receptacles, feeders, circuits, controls and miscellaneous appurtances to fulfill the intent of the plans, specifications and details.

For Completing Site Electrical Construction Item 1 Lump Sum _____

G. SITE FURNISHINGS (See Site Furnishings Schedule)

1.	Furnish & Install 8' Player Bench Model No.: #02SA2863-GN Surface Mount Application Color: Seat: Green Frame: Black By Barco	4	EA	_____	_____
2.	Furnish & Install ADA Accessible Bleachers Model No: 3R19A-3 By JW Industries	2	EA	_____	_____
3.	Install Only Drinking Fountain Model No: #440 SM ADA Fountain with Jug Filler Color: Green By Most Dependable Fountains	1	EA	_____	_____

H. LANDSCAPE PLANTING (See Landscape Plans)

1.	Transplant Existing Trees	4	EA	_____	_____

Item	Description	Approx. Quantity	Unit	Unit Price	Subtotal
2.	Furnish & Install Autumn Brilliance Serviceberry	3	EA	_____	_____
3.	Furnish & Install Legend Elite Sport ProNitro Plus Grass Seed with Blanket (SEED)	18,000	SF	_____	_____
4.	Furnish & Install Legend Elite Sport ProNitro Plus Grass Seed with Blanket (SEED1) (Basin Work Allowance) (Allowance to be Credit Back to Owner Any Unused Portion)	10,000	SF	_____	_____
5.	Furnish & Install Midwest Mesic Pollinator Seed Mix with Blanket (PRA)	7,000	SF	_____	_____
I.	**GENERAL CONSTRUCTION**				
1.	Unsuitable Soil Conditions Removal & Install 3" Rock Allowance (Allowance to be Credit Back to Owner Any Unused Portion	100	CY	_____	_____
2.	Owner Project Allowance (Allowance to be Credit Back to Owner Any Unused Portion)	1	LS	$50,000	$50,000
3.	Preparation of SWPPP Manual & All Required Site Inspections	1	LS	_____	_____
4.	Preparation of All Documents For MWRD RFI permit closeout including As-Built Construction Plans & Volume Calculations	1	LS	_____	_____

MIRACLE FIELD OSLAD RE-DEVELOPMENT – BASE BID $_____

ALTERNATES

Item	Description	Approx. Quantity	Unit	Unit Price	Subtotal
J.	**ADD ALTERNATE A- CONCRETE WALK REPLACEMENT**				
1.	Remove Existing Concrete Walk (Existing Compacted Stone Base to Remain)	1	LS	_____	_____
2.	Type 201 5" Concrete	2,500	SF	_____	_____

TOTAL FOR ADD ALTERNATE A- CONCRETE WALK REPLACEMENT **$**_____

BID RECAPITULATION:

MIRACLE FIELD – BASE BID $_____

ADD ALTERNATE A-CONCRETE WALK REPLACEMENT $_____

MIRACLE FIELD – BASE BID
WITH ALTERNATE PACKAGE A $_____

BID PARAMETERS: Please check each box to acknowledge understanding and compliance of said parameters.

- ☐ The bidder hereby agrees to provide all labor, materials, tools, staking and equipment required to complete project construction in conformance with the terms of the Contract Documents.

- ☐ The bidder has included the construction schedule for this project as required by these bid documents.

- ☐ The Bidder understands that a properly certified check, bank draft, cashier's check or bid bond payable to the Lemont Park District for not less than ten (10%) percent of the total bid amount will be required for each bid.

Form of Bid Security _____, in the amount of $_____ is enclosed.

CONTRACT WILL BE AWARDED TO LOWEST RESPONSIBLE TOTAL BASE BID AMOUNT WITH ANY ACCEPTED ALTERNATE PACKAGE AND/OR SPECIFIC ITEMS WITHIN THE BID.

SIGNATURE: _____

TITLE:_____

1. Firm Name:
2. Address (Street):
   (City, state, zip):
3. Phone:
4. Date:

AFFIDAVIT OF EXPERIENCE (*This Affidavit must be executed*)

STATE OF _____)
}SS:
COUNTY OF _____)

_____, being duly sworn, says that he/she is

_____of _____

(sole owner, member of firm, corporate official) (individual, firm, corporate name)

which has done work for the following parties of or the general kind and approximate magnitude required under this Contract: (*list project name, contact, phone number and date of completion below)*

Project Name	Contact	Phone #	Completion Date

and that _____ owns or has available for immediate use on
(he/she, said firm, said corporation)

the proposed work the following equipment:

_____and that

_____ will be assigned to work under this Contract, and
(name of superintendent)

that his experience in this kind of work as shown above:

_____

(Signature)

Subscribed and sworn to before me

this _____ day of _____, 2023

Notary Public

LEMONT PARK DISTRICT
MIRACLE FIELD OSLAD RE-DEVELOPMENT

CONTRACTOR'S CERTIFICATION

In Compliance with P.A. 85-1295 – Illinois Revised Statute, Chapter 38, Section 33E-11

_____ a _____
Print name of Contractor Individual, Partnership, Corporation

As part of his bid on the above-sole referenced Contract, hereby certifies that the Contractor is not barred from quoting on the above referenced contract as a result of a violation of either Section 33E-3 Bid-rigging or 33E-4 Bid-stating of Article 33E of the Illinois Criminal Code of 1961, as amended.

_____
Date

Contractor

By:_____

Title:_____

STATE OF ILLINOIS)

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 in person and, being first duly sworn on oath, acknowledged that he/she executed the foregoing certification as his/her free act and deed.

Dated:_____ Notary Public:_____

LIST OF SUBCONTRACTORS & SUPPLIERS

The sub-contractors and suppliers listed below will be involved in this contract work in the assignments listed. We understand that any deviation from this list must be requested and approved in writing ten days before the start of the work that is involved.

Failure to complete this list will result in reject of bid.

Legal name, current telephone number and address of all subcontractors must be included.

Sub-Contractors	Work Assignment

Suppliers	Material

CONTRACTOR BID AGREEMENT

TO: Lemont Park District
16028 127th Street
Lemont, Illinois 60439

The undersigned Contractor, in compliance with your advertisement for bids for work as specified, and related documents prepared by or at the direction of the Lemont Park District, Owner, and having examined the site and being familiar with all conditions surrounding the Work, including availability of labor and material, does hereby propose to furnish materials, labor, equipment and services and pay for same and shall perform all Work required for the completion of the Project, in accordance with the contract documents and at the prices stated below.

The undersigned Contractor understands that prevailing wages must be paid in connection with the Work and agrees to maintain and provide to Owner upon its request, required documentation to support compliance with the Illinois Prevailing Wage Act, in accordance with the law.

Contractor certifies this bid to be for the project described below and to be in accordance with plans, specifications and contract documents, including the invitation for bid.

In no event shall any delays or extensions of time be construed as cause or justification for payment of extra compensation to the Contractor. Any claims for an increase of the contract time shall be made in writing to the Park District within seven (7) days of the cause.

Signed: _____

Title: _____

Date: _____

GENERAL CONDITIONS

1.1 DEFINITION OF TERMS

A. Owner: Lemont Park District, or authorized personnel representing the interest of the District.

B. Contractor/Vendor: The individual, firm or corporation undertaking the execution of the work under the terms of the Contract and acting directly or through a duly authorized representative.

C. Plans: All official drawings or reproductions of drawings pertaining to the work provided for in the Contract as prepared by the Owner or his agent.

D. Construction Observer: The authorized representative of the Owner assigned to make construction observation of the work or materials thereof.

E. Contractor: Any individual, firm or corporation submitting a proposal for the work contemplated, acting directly or through a duly authorized representative.

F. Corporation: With respect to the execution and performance of the Contract, a corporate body authorized or licensed to do business in the state in which the site is located.

G. Specification: The body of directions, conditions and requirements contained in the Contract, together with written agreements and all documents of any description made or to be made pertaining to the method or manner of performing the work, the quantities, or the quality of materials to be furnished under the Contract.

H. Proposal: The offer to perform the work proposed, presented upon the proposal form prepared by the Owner.

I. Contract: The written Agreement covering the performance of the work and the furnishing of any related materials for the construction of the project.

J. Performance Bond: The form of security approved by the Owner and furnished by the Contractor for his Surety as a guarantee of good faith and ability on the part of the Contractor to execute the work in accordance with the terms of the Contract.

L. Award: The decision of the Owner to accept the Proposal of a responsible Contractor for the work, subject to the execution and approval of the Contract and Contract Bond to secure the performance thereof, and to such other conditions as may be specified or otherwise required by law.

M. Or Equal: When used on the drawings or in the specifications in reference to a material, product or procedure shall mean a substitute meeting the exact specification of those items so stated; and must be approved by the Owner before bids are submitted.

N. Special Conditions: Special conditions, when included in these contract documents, shall act to supplement these General Conditions, the attached specifications and the plans on particular portions of the project. They shall govern the contract documents whenever they conflict therewith, but shall not operate to annul those portions of the Specifications with which they are not in conflict.

1.2 OWNERSHIP OF PLANS AND SPECIFICATIONS:

A. All Plans and Specifications and copies thereof, furnished by the Owner, are his property. They are not to be used on other work, and with the exception of one complete set, are to be returned to him on request at the completion of the Contract work. No deposit for plans will be required.

B. The Plans, Specifications, Special Conditions and Proposal Form are intended to include all job items necessary to properly complete the work. If, through inadvertence or otherwise, the Plans or Specifications omit to require any work necessary for such completion, the Contractor shall, nevertheless, be required to perform such work. Plans and Specifications are intended to be consistent with one another and with other portions of the Contract. Work or materials called for by the Plans and not mentioned in the Specifications, or vice-versa, shall be performed in as faithful and thorough manner as though fully covered by both.

1.3 PROPOSAL FORM

A. The Proposal Form will be furnished stating the items of work contemplated.

B. The Proposal Form states the date, time and place of filing and opening of Proposals.

1.4 PERFORMANCE BOND

A. The successful Contractor at the time of the execution of the Contract shall deposit with the Owner a Performance Bond for the full amount of the contract, guaranteeing 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 for a period of one (1) year after final payment.

B. Failure on the part of the successful Contractor to execute a Contract and deposit an acceptable Performance Bond within ten (10) days from the date of notice of the award of Contract will be considered just cause for the annulment of the Award and the forfeiture of the Proposed Guarantee to the Owner.

1.5 LAWS AND PERMITS

The Contractor shall at all times observe and comply with all federal, state and local laws, regulations and ordinances which in any manner affect the conduct of the work. Any complaint, claim or action brought against the Contractor for failure to observe or comply with any law, ordinance or regulation shall be the sole responsibility of the Contractor and shall in no

way extend to or expose the Owner to liability, and the Contractor shall indemnify and hold harmless the Owner from any and all such complaints, claims or actions. Before beginning work, the Contractor shall obtain from the proper officials all necessary permits and licenses, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the work.

1.6 COMPETENCY

The Contractor shall, when requested by the Owner, furnish signed statements evidencing his responsibilities and showing financial ability, experience, amount and condition of equipment and the value of all uncompleted work under contract pertaining to the proper execution of the specified work.

1.7 DECISION OF THE OWNER

All work done under this Contract shall be done to the satisfaction of the Owner. The Owner shall in all cases determine the amount of work done which is to be paid for under this Contract. The Owner shall decide all questions that may arise as to the measurements of quantities and the fulfillment of this Contract on the part of the Contractor, and shall determine all questions concerning the true intent or meaning of the Plans and Specifications and his determination and decision shall be final and conclusive.

1.8 USE OF SITE

A. The Contractor shall confine his equipment, the storage of materials and the operations of his workmen to the limits indicated by law, ordinances, permits or directions of the Owner and shall not unreasonably encumber the site with his materials.

B. The Contractor shall enforce the Owner's instructions regarding the conduct and use of the site by his employees.

1.9 SUPERINTENDENTS

The Contractor shall keep a competent superintendent on the job at all times who shall have the knowledge and control of all work under this Contract and shall communicate directly to the Owner upon request and be able to communicate in English.

1.10 HOLD HARMLESS AND INDEMNIFICATION

The Contractor shall assume all liability for, and shall protect, defend, indemnify and hold harmless the Owner, their officers, employees, servants, and agents, from and against all claims, actions, suits, judgments, costs, losses, expenses and liabilities of whatsoever kind or nature arising out of:

A. Any infringement (actual or claimed) on any patents, copyrights or trade names by reason of any work performed or to be performed by the Contractor under this Contract or by reason of anything to be supplied by the Contractor pursuant to this Contract:
B. Bodily injury, including death, to any person or persons (including Contractor's officers,

employees, agents and servants) or damage to or destruction of any property, including the loss of use thereof:

1. Caused in whole or in part by any act, error or omission by the Contractor or any sub-contractor or anyone directly or indirectly employed by any of them regardless of whether or not it is caused in part by a party to be indemnified hereunder:

2. Arising directly or indirectly out of the presence of any person in or about any part of the project site or in the streets, sidewalks and property adjacent thereto;

3. Arising directly or indirectly out of the use, misuse or failure of any machinery or equipment used directly or indirectly in the performance of this Contract.

1.11 CHANGES OR ALTERATIONS OF CONTRACT WORK

A. The Owner reserves the right to alter the Plans by adding to or deducting from the original quantities as bid without invalidating the Contract. All such work shall be executed under the original conditions for the original contract, except for an extension in time caused by any such changes or alterations.

B. All changes or alterations shall be made ONLY when ordered in writing from the Owner showing any claims for changes in the Contract amount.

C. The value of any change shall be determined by one or more of the following methods:

1. By an approved Lump Sum;

2. By Unit Prices given in the Contract or subsequently agreed upon;

3. Time and material plus percentage. This method of cost shall be used on the Contractor's actual costs for time and material plus 20% for Contractor's overhead and profit. Contractor's actual costs shall be the direct costs for labor, payroll taxes, materials and equipment.

1.12 EXTRA WORK

The Contractor, as requested, shall perform EXTRA WORK as directed by the Owner. Written orders and claims for payment shall be the same as those stated above in Section C.

1.13 LIENS

If at any time during the progress of said work the Contractor shall fail or neglect to pay for any labor performed, material furnished or tools, machinery, appliances, fuel, provisions or supplies of any sort or kind, used or consumed in, upon, on account of said work, for ten (10) days after payment for same shall become due, then the Owner shall have the power to pay for such labor, or for materials, and the amount so paid shall be retained out of money due, or becoming due to the Contractor. The Owner may refuse to make payment to said Contractor of monies due him to the extent of such indebtedness, and until satisfactory evidence in writing has been furnished that said indebtedness has been discharged.

1.14 DISCHARGE OF EMPLOYEES

If 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 shall be removed from the work immediately on the request of the Owner.

1.15 ABANDONMENT

Should the Contractor abandon or neglect the work, or if the Owner at any time is convinced that the work is unreasonably delayed or that the Conditions of the Contract are being willfully violated, executed carelessly, or in bad faith, he may notify the Contractor in writing, and if this notification be without effect within twenty-four (24) hours after the delivery thereof, then, and in that case, the Contractor shall discontinue all work under the Contract and the Owner shall have full authority to make arrangements for the completion of the Contract at the expense of the Contractor.

1.16 PROTECTION OF PROPERTY - SAFETY RESPONSIBILITY

The Contractor shall protect all existing property and improvements within this Site and those adjacent to the Owner's property. He shall be responsible for the repair costs of any damage created by his operations or those of his sub-contractors.

1.17 CLEANING UP

The Contractor shall at all times keep the Site free from accumulation of waste material or rubbish caused by his employees or work, and at the completion of the work, he shall remove all his rubbish, tools, and surplus materials from the site, leaving the area in a neat and professional workmanlike condition. In case of dispute, the Owner may remove the rubbish and charge and cost to the Contractor.

1.18 PAYMENT

The Contractor may request partial payments, based on estimates of work, during the third week of each month. The estimate shall be a sworn statement of the work completed to date. Payment requests should be submitted directly to Design Perspectives, Inc. in triplicate and in turn will be submitted to the Park Board for payment during their regularly scheduled meetings the fourth week of each month. Estimates for partial payment request shall be as follows:

A. Lump Sum: When the Contract work has been awarded on Lump Sum Bid basis, the form of each estimate will include the Contractor's breakdown of job items with a total value given each item. The estimate for the items of work completed to date shall be expressed as a percentage of the total with the corresponding cost for each item shown and totaled to show the total cost of work, the work completed to date, less ten (10%) percent to be withheld, giving the amount requested for payment. Previous requests for payment, paid by the Owner, shall be shown on each subsequent request and subtracted after the ten (10%) percent has been withheld.

B. Percent Withheld: Each request for payment shall be approved by the Owner only after ten (10%) percent has been retained as stated above.

C. Waivers of Lien & Certified Payroll: Failure to supply certified payroll and waivers of lien or acceptable evidence of payment of all current accounts incurred by this Contract work will be considered grounds for withholding payment.

C. Final Payment: Upon satisfactory completion of the improvements provided for by the Contract in Section - 01770 Close-Out Procedures and final approval and acceptance by the Owner, the Contractor shall submit a final request for payment, including the ten (10%) percent withheld, to be paid by the Owner within ninety (90) days after receipt of payment request.

1.19 CORRECTION OF WORK AFTER FINAL PAYMENT

The final payment of any provision in the Contract documents shall not relieve the Contractor of the responsibility for the correction of any and all defects in the work performed. He shall correct all defects as notified for a period of one year after final payment and two years after final payment for all concrete work.

1.20 RESPONSIBILITY

The Owner recognizes that the Contractor is an expert in the manner in which the work under this Contract is to be performed. The Owner agrees that the responsibility for the maintenance of safe equipment and the using of proper construction methods and procedures shall rest solely with the Contractor and sub-contractors performing the work, and that the Owner shall not have any responsibility therefor. The Owner does have the right to ascertain and require that the work product of the Contractor and his sub-contractors complies with the Contract.

1.21 CONTRACTOR RESPONSIBILITY TO OWNER

The successful contractor shall notify the Owner three (3) days in advance of all grading, drainage, and other major items of construction for field checking of construction engineering. All questions pertaining to the Plans, Specifications and details of the work shall be directed to the Owner and cleared prior to construction.

1.22 COMPLETION DATE

It is hereby understood and mutually agreed by and between the Contractor and the Owner that the date of beginning and the time for completion as specified in the Contract is a reasonable time for the completion of the work, taking into consideration the average weather and industrial conditions prevailing in this locality. If the Contractor shall neglect, fail or refuse to complete the work within the time specified in the contract or any proper extension thereof granted by the Owner, it in no way relieves the Contractor of his responsibility to complete the work at no additional cost to the Owner. Should it be necessary to extend the completion date in order for the Contractor to complete the work, the Owner and the Contractor shall come upon a written agreement to extend the completion date, provided the Contractor shall not be responsible for failure to meet the completion date when the Owner determines that the Contractor is without fault and the Contractor's reasons for the time extension are acceptable to the Owner. The Contractor shall not be charged with any excess cost when the delay in completion of work is due to:

A. Any order duly issued by the government (city, county, state or federal):

B. Any unforeseeable cause beyond the control and without fault or negligence of the Contractor including, but not restricted to, Acts of God, severe weather, strikes, acts of the Owner, acts of another Contractor in the performance of a Contract with the Owner, and;

C. Any delays of sub-contractors or suppliers occasioned by any of the causes specified in subsections A and B. The Contractor shall notify the Owner within five (5) days prior to any such delay, when reasonably possible.

1.23 TEMPORARY WORK

It shall be the responsibility of the Contractor to make all arrangements to obtain permits, provide and make payment for such utilities as water, electricity, heat/air and telephone when necessary when performing work tasks as required by the Contract. The work shall consist of all tools, materials and labor necessary to complete the work as specified on the drawings. The Contractor shall be responsible for complying with all municipal codes and for inspections to certify compliance with all codes.

1.24 CONSTRUCTION AIDS

A. Pumping: 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.

B. Ladders and Hoists: It shall be the responsibility of the Contractor to provide ladders and hoists when necessary in performing work tasks as required by the Contract.

C. Temporary Roads: It shall be the responsibility of the Contractor to provide and make payment for any necessary temporary roads for access to and within the site during the execution of the Contract.

1.25 PROTECTION

A. Public and Adjacent Property: The Contractor shall under all circumstances be responsible for the preservation of all public and adjacent properties and shall use every precaution necessary to prevent damage or injury thereto.

B. Present Structures: The Contractor shall use suitable precautions to prevent damage to pipes, conduits, and other underground structures as well as fences, monuments or any other above ground structures.

C. Trees and Shrubs: The Contractor shall be responsible for the protection of all trees and shrubs not marked for removal. The Contractor shall provide on-site traffic patterns away from existing trees and shall provide suitable ramps where necessary. Methods for ramps, staking and bark protection must be developed by the Contractor and approved by the Owner.

D. Protection for the Owners, Employees, and General Public: The Contractor shall be responsible for adequately barricading off the construction areas, covering holes, properly storing equipment, and providing other suitable methods for the protection of said persons.

1.26 STORAGE

Materials and equipment shall be so stored as to insure the preservation of their quality and fitness for the work. When considered necessary, they shall be placed on wooden platforms or other hard, clean surfaces, and not on the ground, and/or they shall be placed under cover. Private property shall not be used for storage purposes without the written permission of the owner of said property.

1.27 PARKING

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.

1.28 SUBMITTALS

Contractor must submit in triplicate all materials and/or products to be used for construction within this contract. Failure to submit and gain approval by Design Perspectives, Inc. could lead to removal of materials and/or products and the installation of acceptable materials and/or products at the expense of the contractor. Submittals need to be received and reviewed and approved at least two (2) weeks prior to start of construction.

SPECIAL CONDITIONS

LIMIT OF CONSTRUCTION: Construction traffic and staging shall be permitted only within construction limits as directed by Owner. The Contractor is responsible for the repair of any areas disturbed outside of this area, including grading and sodding.

TOPSOIL: Prior to the stripping of topsoil, all areas within the grading limits containing existing debris shall be cleaned to permit easy use of the topsoil. The topsoil shall not contain any sharp objects, such as glass, that will in danger the health, safety and welfare of the user.

LAW COMPLIANCE: All project construction work shall comply with all State and Municipal Laws and Regulation and with all Local Ordinances and Rules pertaining to this work. Such Laws, Regulations, Ordinances and Rules shall be considered a part of these specifications.

All successful Contractors must comply with the provisions of the Illinois Human Rights Act dealing with equal employment opportunities (Section 2-105, 775 ILCS 5/2-105) including equality of employment opportunity and the regulations of the Department of Human Rights of the State of Illinois and also must provide for the adoption and implementation or written Sexual Harassment Policies. The Contract with the successful Contractor will provide for this requirement. The statutory provisions setting forth what such policies shall include as a minimum under the Act are on file with the District and available to the Contractor upon request.

LAYOUT/STAKING: All layout and staking required through completion shall be the responsibility of the Contractor at no additional cost to the Owner. The Contractor shall maintain measuring equipment on the site at all times for the purpose of establishing proper elevations and alignments. The Contractor is required to verify all grades as shown on the plans and request adjustments based on data collected in the field based on OWNER review and approval.

INSURANCE:

General: The Contractor shall not commence work under the Contract until he has obtained all insurance required, and it has been approved by the Owner, nor shall Contractor allow any Subcontractor to commence work or any portion of the work until all insurance required of the Contractor and Subcontractor has been similarly approved by the Owner.

All such insurance shall be purchased only from companies licensed and duly authorized by the Department of Insurance of the State of Illinois to do business in Illinois and to write the types of insurance policies as herein specified. Said companies must have a policy holder's rating of A+ and a financial rating of AAAAA as stated in the latest edition of Best's Insurance Guide.

The insurance coverage must be maintained by the Contractor and the Subcontractor (where applicable) until all work is completed by the Contractor and accepted by the Owner are set forth in this section.

Automobile Liability: Contractor shall obtain at his expense Comprehensive Automobile Liability Insurance providing for bodily injury and death coverage in limits of an amount not less than $1,000,000 per person and $1,000,000 per accident, and property damage coverage in limits of an amount not less than $1,000,000 per accident. The Contractor shall be the named insured and the Lemont Park District, public officials, employees and agents as additional insured.

Employer's Liability: Contractor shall obtain at his expense insurance protecting Contractor from all liabilities that may be imposed under the Workmen's Compensation Act and the Workmen's Occupational Diseases Act of the State of Illinois. In the event any portion of the work is sublet, the Contractor shall require the Subcontractor similarly to provide such insurance for all their employees. The limit of liability afforded under the Employers Liability Policy shall not be less than the Illinois Statutory Limit.

General Liability: Contractor shall obtain at his expense such comprehensive Public Liability and Property Damage insurance as shall protect him from claims for damages for bodily injury, including accidental death, as well as from claims for property damage including loss of use resulting therefrom, which may arise from activities under or incidental to the Contract, both on or off the site, whether such activities by himself, any Subcontractor or anyone directly or indirectly employed by any of the, or as otherwise may be herein specified. This provision shall be construed as requiring to Contractor to purchase and maintain Contractor's Protective Insurance and Contractual Insurance in like amounts.

Public Liability Insurance shall be in an amount not less than $1,000,000.00 on account of any one occurrence, including accidental death. Property damage insurance shall be in an amount not less than $1,000,000.00 for bodily injury per person with an aggregate limit of not less than $2,000,000.00. If, as a result of any one or more occurrences the Owner shall decide that the foregoing property damage insurance aggregate limits have either been exhausted or are threatened to become exhausted, the Contractor shall immediately purchase, at his own expense, such additional property damage insurance as the Owner may direct.

Summary: The required minimum coverage's are summarized as follows:

1. Automobile	$1,000,000 B.I. Per Occurrence $1,000,000 B.I. Per Person $1,000,000 P.D. Per Accident
2. Employer's Liability IL Statutory Limit	$1,000,000 Min.

3. General Liability	$1,000,000 B.I. Per Occurrence $1,000,000 B.I. Per Person $2,000,000 P.C. Aggregate Limit

Certificate of Insurance: Within ten (10) calendar days after receipt of the "Written Notice to Proceed", the Contractor shall file with the Owner, a Certificate of Insurance showing complete coverage of all insurance required by this Section signed by the insurance companies or their authorized agents, certifying to the name and address of the party insured, the description of the work covered by such insurance, the insurance policy numbers, the limits of liability of the policies and the dates of their expirations, with a further certification from said insurance companies that their policies will not be modified, amended, changed, cancelled or terminated without thirty (30) business days prior written notice to the Owner. Such certification must be in the form acceptable to the Owner. If any form of umbrella or excess coverage policy is utilized by the Contractor, the Owner reserves the right to require a copy of the entire policy.

INDEMNIFICATION:

Duty to Defend, Indemnify, Give Notice: Contractor shall defend all suits brought against the Owner and his representatives, officers, agents, consultants and employees by any person (whether employed by Contractor, or not) for damage to property and/or injury to persons (including death) alleged or claimed to have been caused by or through the performance by Contractor of the work, including work required by Guarantees or the condition of the site, and shall indemnify and hold harmless the Owner, his representatives, officers, agents and employees in their individual or their official capacities from and against all claims, damages, losses and expenses, including attorney's fees, cause by or growing out of, incidental to, the performance of the work covered by this Contract.

The Contractor shall pay, liquidate and discharge all claims or demands for personal injury (including death), and for loss of and damage to all property caused by, growing out of or incidental to the performance of the work by the Contract including, without limiting the foregoing thereto, damage to the work and other property of the Owner and including all damages for the obstruction of private driveways, streets and alleys and all costs and expenses of suits and reasonable attorney's fees.

The obligation set forth in this section shall, but not by way of limitation, specifically include all claims and judgment arising or alleged to arise under the Illinois laws regarding Structural Work (Illinois Revised Statutes, Chapter 48, Section 60 et seq.) and regarding the Protection of Adjacent Landowners (Illinois Revised Statutes, Chapter 17 1/2, Section 51 et seq.). In the event of any such injury (including death) or loss or damage (or claims therefore), the Contractor shall give immediate notice thereof to the Owner. The Contractor shall not be required to indemnify and hold Harmless the Owner, his representatives, officers, agents and employees of each of them, in their

individual or their official capacities for such claims or demands which result solely from their own negligence.

Effect of Statutory Limitations: In any and all claims against the Owner, his respective agents, employees and representatives in their personal capacities as individuals as well as in their public and official capacities, made by any employee of the Contractor, and Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts they may be liable, the indemnification obligation under this Section 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 any Workmen's Compensation Act, any Disability Benefit Act or any other Employee Benefit Act.

LABOR LAW: The Contractor and each and every Subcontractor performing work at the site of the project to which this contract relates shall comply with applicable and provisions of all pertinent Federal, State, and Local Labor Laws.

FINAL CLEANING: Just prior to delivery of the job to the Owner, the Contractor shall perform a final cleaning of the curbs, sidewalks and parking lot and haul away from the job-site all debris created by his work on the building and surrounding area.

TIME SCHEDULE: Work under the Contract shall commence within ten (10) calendar days after given "Written Notice to Proceed" by Owners and shall continue with due diligence until completion.

Each Contractor or Subcontractor shall and does hereby agree that he will start and prosecute his work so as to cause no delay to the Contractor and that he will complete all work under his contract coincidentally with completion of Contractor's work.

ALTERNATE MATERIALS: The materials specified have been determined to have characteristics appropriate for the purposes of this project. No bid will be accepted which proposes to use a non-approved alternate.

EARTHWORK: The Lemont Park District will review and where appropriate, adjust the site grading to balance on-site. If the bidder wishes this clause to be considered in submitting bids, the bidder must notify the Owner in writing three days prior to the bid opening. If the bidder does not notify the Owner in writing prior to bid that it wishes to exercise this clause, the Bidder agrees to the site grading concept and has performed investigations relating to the examination clause resulting in a price that meets the technical specifications relating to these construction activities and will not result in change orders related to the earthwork.

WORKMANSHIP: High quality craftsmanship will be expected in all phases of work. Any elements found unacceptable and not in compliance with the contract documents will be removed and replaced by the Contractor at his expenses until satisfactory results are obtained.

CONSTRUCTION FENCING: The Contractor will provide a construction fence for the duration of construction at the park site.

GUARANTEE OF CONCRETE WORK: As an additional guarantee beyond the one (1) year guarantee of the Performance Bond, the Contractor will be required to extend that guarantee to a total of two (2) years after final acceptance. 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.

WATER: The Contractor will be responsible for supplying all water and associated materials for any construction activities including hoses, connectors and misc. appurtenances necessary for watering landscape, sod areas and water needed for all remaining construction activities. The Contractor may use domestic water sources, such as hose bibs, etc. if available on-site and approved in writing by the Owner and/or local municipality. Otherwise, arrangements must be made by the Contractor to furnish all water needed for any construction activities at no expense to the Owner.

CONSTRUCTION SCHEDULE: The Lemont Park District views the construction schedule a vital part of the bid submittal. All Bids must have a bi-weekly construction schedule included in the submission.

CONTRACTOR QUALIFICATIONS: The Lemont Park District requires all contractors to demonstrate three successfully completed projects at a minimum of similar size, scope and cost. These projects must be listed on the affidavit of experience.

END OF SECTION

INDEX OF DRAWINGS

SOIL AND MATERIAL CONSULTANTS, INC.

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www.soilandmaterialconsultants.com

June 26, 2023
File No. 27259

Mr. Jason Khuen, CPRP, CPO
Lemont Park District
16028 127th Street
Lemont, IL 60439

Re: Geotechnical Investigation
Miracle Field
16028 127th Street
Lemont, Illinois

Dear Mr. Khuen:

We are submitting our report for the subsurface investigation completed at Miracle Field in the Village of Lemont, Illinois. The investigation was requested to determine current subsurface soil and water conditions at select boring locations. The findings of the field investigation and the results of laboratory testing are intended to assist in the expansion and reconstruction of the artificial turf field.

SCOPE OF THE INVESTIGATION

The field investigation included obtaining 5 borings at the locations requested and as indicated on the enclosed location sketch. The boring locations were established using field taping methods and accuracy. Surface elevations were determined using the temporary benchmark indicated on the location sketch.

We auger drilled the 5 borings to depths of 15.0 feet below existing surface elevations. Soil samples were obtained using a split barrel sampler advanced utilizing an automatic SPT hammer. Soil profiles were determined in the field and soil samples returned to our laboratory for additional testing including determination of moisture content. Cohesive soils obtained by split barrel sampling were tested further to determine dry unit weight and unconfined compressive strength.

The results of all field determinations and laboratory testing are included in summary with this report.

RESULTS OF THE INVESTIGATION

Enclosed are boring logs indicating the soil conditions encountered at each location. Site surface conditions include synthetic turf within the limits of the existing baseball field along with vegetation, topsoil and fill soil conditions existing outside the baseball field. The topsoil is classified as black silt/clay mixtures with traces of roots.

Fill soil conditions were encountered at each of the boring locations. Composition of the fill includes the presence of moderately compacted clay/silt, silt/clay, and topsoil mixtures

extending to depths of 3.0 feet to 3.5 feet at these boring locations. The limits of fill placement were not determined within the scope of this investigation. Larger debris may also be present within the fill but was not encountered during the investigation. The fill soil conditions are found to overlie the apparent natural topsoil at borings B-1, B-2, B-4, and B-5 extending to depths of 4.0 feet to 5.0 feet.

Underlying natural soil conditions consist of cohesive soils. These are classified as soft to very hard clay/silt mixtures with lesser portions of sand and gravel. Portions of these soils are sometimes high in moisture content with values in excess of 31% determined. A large rock was encountered at boring B-2 between 11.0-11.5 feet below the existing surface elevation. Additional cobbles and boulders may be present within the site soils at any elevation.

A significant high moisture content and low-strength soil condition was encountered at a depth of 9.0 feet below the surface of boring B-4. These conditions are likely present in other areas of the site but were not discovered within the scope of this investigation.

SUBSURFACE WATER

The boring logs indicate the depth at which subsurface water was encountered in the bore holes at the time of the drilling operations and during the period of these readings. It is expected that fluctuations from the water levels recorded will occur over a period of time due to variations in rainfall, temperature, subsurface soil conditions, soil permeability and other factors not evident at the time of the water level measurements. We would estimate the seasonal high groundwater to be found approximately 14.0 feet below surface elevations at boring location B-2 where gray clay soils were encountered.

SUBGRADE SOIL PREPARATION

Subgrade soil preparation will be needed in all new field turf areas. The procedure in all areas of subgrade supported improvements should include the removal of unsuitable surface conditions including the old synthetic turf, bituminous concrete, vegetation, topsoil, unsuitable fill soils, weak or unstable soils, and other deleterious conditions which may be encountered. Above grade areas should be cut to design subgrade elevations. Exposed subgrade soils should be leveled, compacted and proof-rolled in the presence of the Soil Engineer.

Proof-rolling may reveal areas of unstable soil conditions, requiring additional removal. Soft or unstable soil conditions can often be bridged by use of an effective depth of crushed granular material. The placement of the crushed granular bridging material, possibly in conjunction with the use of an appropriate geotextile fabric, should only proceed after review of the proof-roll conditions by the Soil Engineer.

Structural fill can be placed on soils prepared to the satisfaction of the Soil Engineer. The fill should be placed in lifts not to exceed 8.0 inches when uncompacted. Each lift should exceed minimum compaction requirements prior to placement of the next lift. We recommend a minimum of 95% compaction based on the modified Proctor test, ASTM D-1557, be achieved. Compaction requirements also apply within trench excavations located below subgrade supported improvements.

DEWATERING

Excavations may require dewatering due to subsurface water seepage and/or surface precipitation. This water can be removed by standard sump and pump operations. Soils exposed at foundation, slab or undercut elevations should not be permitted to become saturated. Loss of bearing strength and stability may occur, requiring additional soil excavation.

Fill soils, cohesive soils and others can be unstable when saturated. These soils tend to cave or run when submerged or disturbed. The stability of exposed embankments is minimal to non-existent as confining soil pressures are removed. Proper drainage within excavations is necessary at all times, particularly when excavations extend below anticipated water levels and below saturated soils.

The contractor should be made responsible for designing and constructing stable temporary excavations. Also, the contractor should shore, slope, bench or restrain the sides of the excavations as required to maintain stability of both the excavation sides and bottom. In no case, should the slope, slope heights, or excavation depth exceed those in the local, state, and federal safety regulations.

FILL SOURCES

The onsite non-organic soils are generally suitable for reuse as fill. Offsite sources may also be used provided they are approved in advance by the Soil Engineer. Aeration may be necessary to reduce soil moisture content prior to compaction. Soil borrowed from near the surface where seasonal fluctuations in soil moisture content occur may require particular attention. The moisture content of fill soils should be within approximately 3.0% of optimum moisture content as determined by the modified Proctor test for the soils to meet or exceed minimum compaction requirements.

SOIL INFILTRATION RATES

Grain-size analysis testing was performed on selected soil samples encountered in the borings to determine USDA soil classifications along with estimated infiltration rates. The grain size analysis determinations and estimated infiltration rates are shown in the below table:

Boring	Depth	USDA Soil Classification	Estimated Infiltration Rate
B-4	1.0’ to 2.5’	Silty Clay	0.07 inches per hour
B-4	4.0’ to 5.0’	Silty Clay	0.07 inches per hour

Estimated design infiltration rates were taken from
Table 3-1 of City of Chicago Stormwater Ordinance Manual.

CONCLUSION

The information within this report is intended to provide initial information concerning subsurface soil and water conditions on the site. Variations in subsurface conditions are expected to be

present between boring locations due to naturally changing soil conditions. Variations are also expected within areas of disturbed (filled) soil conditions.

Our understanding of the proposed improvements is based on limited information available to us at the writing of this report. The findings of the investigation and the recommendations presented are not considered applicable to significant changes in the scope of the improvements or applicable to alternate site uses. We recommend that proposed foundation, pavement and grading plans be reviewed by our office to determine if additional considerations are necessary to address anticipated subsurface conditions.

The soils exposed in soil undercut areas should be evaluated for suitability prior to placement of structural fill, as previously indicated in this report. Soils and aggregates placed as structural fill should be tested as the work progresses to verify that minimum compaction requirements have been met. We recommend that soil conditions encountered at foundation elevations be tested to verify the presence of design soil strength prior to concrete placement.

If you have any questions concerning the findings or recommendations presented in this report, please let me know.

Very truly yours,

SOIL AND MATERIAL CONSULTANTS, INC.

Thomas P. Johnson, P.E.
President

David Rak, E.I.T.
Project Engineer

TPJ:ek
Enc.

cc: Mr. Tod J. Stanton, ASLA – Design Perspectives

N

SMC	SOIL AND MATERIAL CONSULTANTS, INC.	LOCATION SKETCH
Client:	LEMONT PARK DISTRICT	
Project:	MIRACLE FIELD 16028 127TH STREET	
Location:	LEMONT, ILLINOIS	
File No. 27259	Date: 6-13-23	Scale: NONE

SOIL AND MATERIAL CONSULTANTS, INC.

8 W. COLLEGE DR. • SUITE C • ARLINGTON HEIGHTS, IL 60004

SOIL BORING LOG 1

Logged By: CS **Page:** 1 of 1

Client: Lemont Park District

File No. 27259 **Date Drilled:** 6/20/23

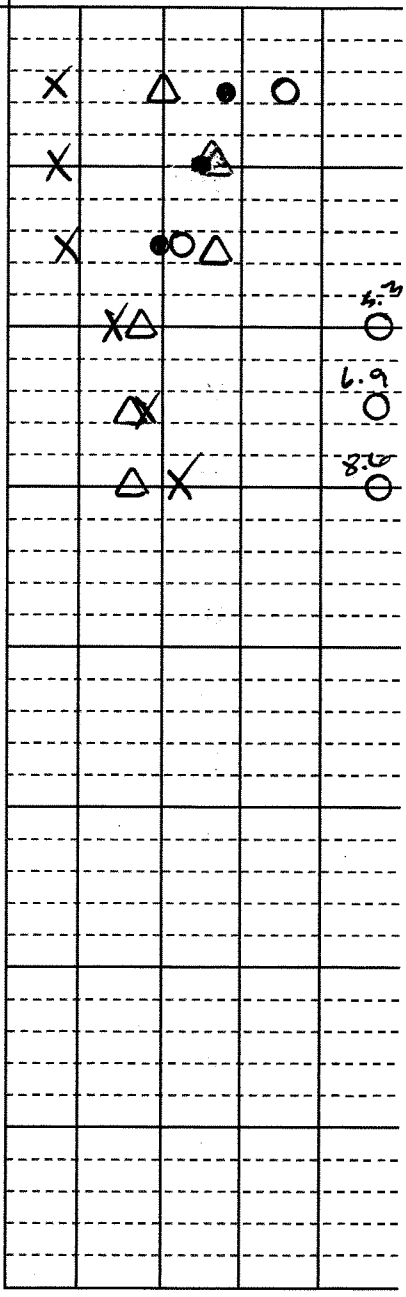
Reference: Miracle Field
16028 127th Street
Lemont, IL

Comments:

Equipment: ☒D - 25 ☐D - 50 ☐Hand Auger ☐Other

depth, ft.	CLASSIFICATION Elevation 101.2' Existing Surface	standard penetration ×	moisture content Δ	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(a,b & c) see below				
	Brown clay,some silt,trace sand & gravel damp,very tough - Fill	7	20.1	108.3	3.6
	(d) see below		25.7		
5	Dark brown-gray to brown-gray to brown clay,some silt,trace sand & gravel,damp, very tough to very hard	7	25.6		
		8	27.0	96.7	2.3
10		14	17.7	115.5	5.3
		18	15.7	121.4	6.9
15		22	16.2	119.6	8.6
	End of Boring				
	(a) Rubber - 0.5"				
	(b) Bituminous concrete - 2.0"				
20	(c) Crushed limestone - 15.5"				
	(d) Black silt,some clay,trace sand & roots,damp,loose (topsoil)				
25					
30					
35					
40					

○ unconfined compressive strength, tons/sq. ft.
● penetrometer reading, tons/sq. ft.
1.0 2.0 3.0 4.0
× standard penetration "N", blows/ft.
Δ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.)
Water recorded at dry feet on completion of drilling operations (A.D.)
Water recorded at feet hours after completion of drilling operations (A.D.)

SOIL AND MATERIAL CONSULTANTS, INC.
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SOIL BORING LOG 2

Logged By: CS **Page:** 1 of 1

Client: Lemont Park District

File No. 27259 **Date Drilled:** 6/20/23

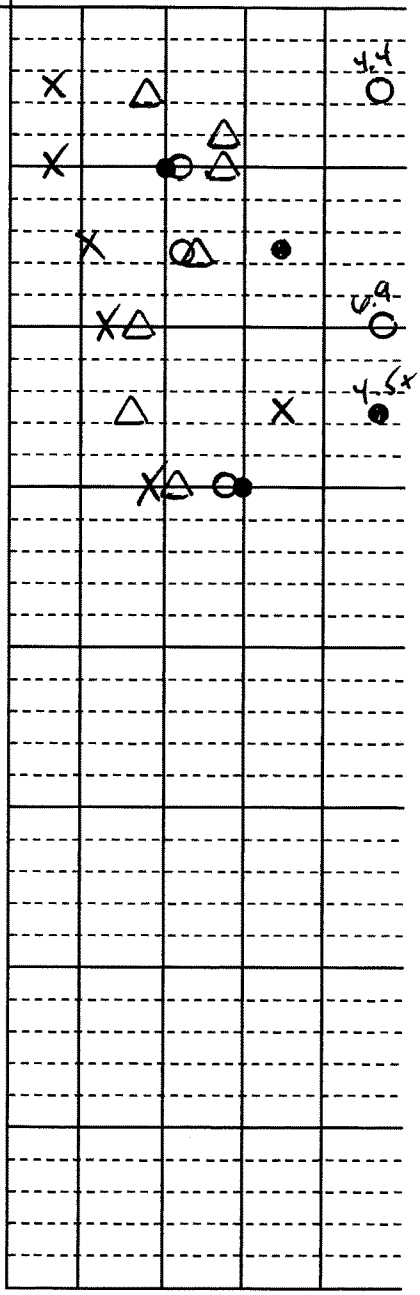
Reference: Miracle Field
16028 127th Street
Lemont, IL

Comments:

Equipment: ☒D - 25 ☐ D - 50 ☐Hand Auger ☐Other

depth, ft.	CLASSIFICATION Elevation 100.9' Existing Surface	standard penetration ×	moisture content Δ	dry unit weight lbs./cu.ft. ϑ	unconfined compressive strengh ○
	(a,b & c) see below				
	Brown clay,some silt,trace sand & gravel damp,hard - Fill	6	18.7	109.4	4.4
	(d) see below		28.6		
5	Brown-gray to brown clay,some silt,trace sand & gravel,damp,very tough to hard	6	28.6	93.4	2.1
		11	24.2	101.3	2.2
10	(large rock between 11.0'-11.5')	13	16.7	116.0	6.9
		35	16.1		
15	(e) see below	18	20.6	114.7	2.8
	End of Boring				
20	(a) Rubber - 0.5" (b) Bituminous concrete - 2.0" (c) Crushed limestone - 9.5" (d) Black silt,some clay,trace sand & roots,damp,loose (topsoil) (e) Gray clay,some silt,trace sand & gravel,damp,very tough				
25					
30					
35					
40					

○ unconfined compressive strength, tons/sq. ft.
● penetrometer reading, tons/sq. ft.
1.0 2.0 3.0 4.0
× standard penetration "N", blows/ft.
Δ moisture content, %
10 20 30 40



Water encountered at 9.0 feet during drilling operations (W.D.)
Water recorded at 13.5 feet on completion of drilling operations (A.D.)
Water recorded at feet hours after completion of drilling operations (A.D.)

SOIL AND MATERIAL CONSULTANTS, INC.
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SOIL BORING LOG 3

Logged By: CS **Page:** 1 of 1

Client: Lemont Park District

File No. 27259 **Date Drilled:** 6/20/23

Reference: Miracle Field
16028 127th Street
Lemont, IL

Comments:

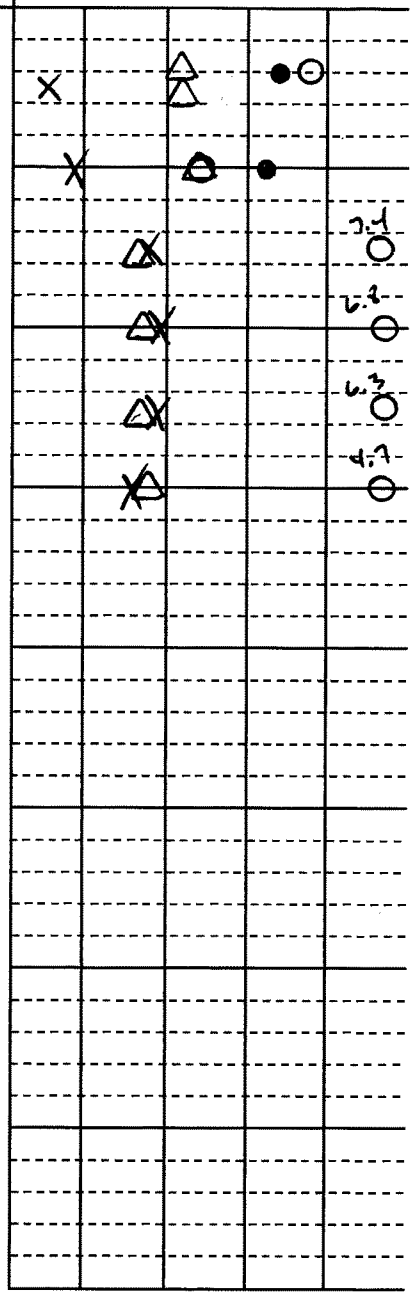
Equipment: ☒D - 25 ☐ D - 50 ☐Hand Auger ☐Other

CLASSIFICATION

Elevation 100.9 **Existing Surface**

depth, ft.	CLASSIFICATION	standard penetration ×	moisture content Δ	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strengh ○
	(a,b & c) see below				
	(d) see below				
	Dark brown-gray silt,some clay,trace sand,damp,loose - Fill	5	21.0 21.9	107.5	2.8
5	Brown-gray to brown clay,some silt,trace sand & gravel,damp,very tough to hard	9	24.3	100.3	2.4
		18	16.9	116.4	7.4
10		19	16.8	116.6	6.8
		19	16.0	120.0	6.3
15		16	18.8	91.0	4.7
	End of Boring				
	(a) Rubber - 0.5"				
	(b) Bituminous concrete - 2.0"				
20	(c) Crushed limestone - 10.0"				
	(d) Brown clay,some silt,trace sand & gravel,damp,very tough - Fill				
25					
30					
35					
40					

○ unconfined compressive strength, tons/sq. ft.
● penetrometer reading, tons/sq. ft.
1.0 2.0 3.0 4.0
× standard penetration "N", blows/ft.
Δ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.)
Water recorded at dry feet on completion of drilling operations (A.D.)
Water recorded at feet hours after completion of drilling operations (A.D.)

SOIL AND MATERIAL CONSULTANTS, INC.

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SOIL BORING LOG 4

Logged By: CS **Page:** 1 of 1

Client: Lemont Park District

File No. 27259 **Date Drilled:** 6/30/23

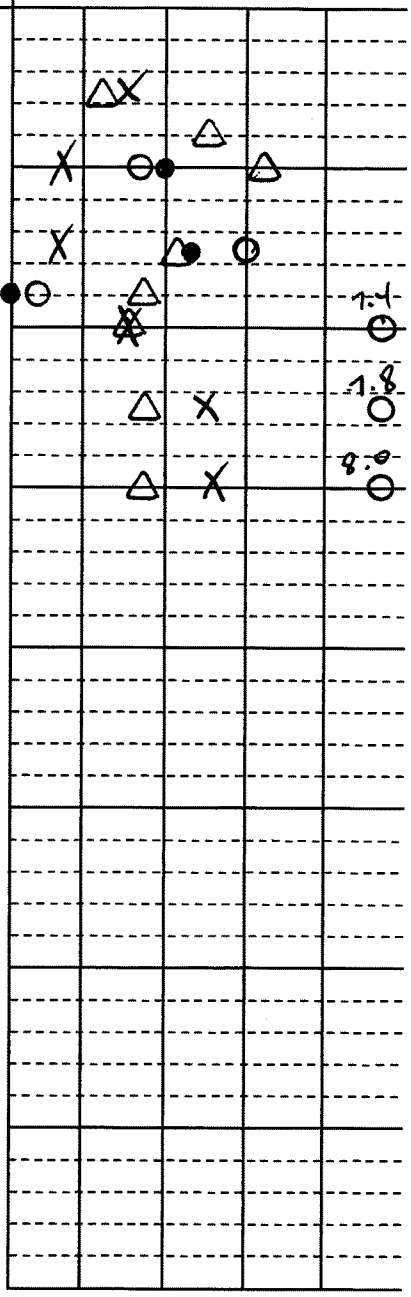
Reference: Miracle Field
16028 127th Street
Lemont, IL

Comments:

Equipment: ☒D - 25 ☐ D - 50 ☐Hand Auger ☐Other

depth, ft.	CLASSIFICATION Elevation 99.8' Existing Surface	standard penetration ×	moisture content Δ	dry unit weight lbs./cu.ft. ϒ	unconfined compressive strengh ○
	(a) see below Brown clay,some silt,trace sand & gravel dry,hard - Fill				
	(b) see below	15	12.1 25.3		
5	Brown-gray to brown clay,some silt,trace sand & gravel,damp-very damp,tough to very tough	7	31.5	90.2	1.7
		7	20.9	111.0	3.0
			37.7	93.3	0.4
10	Brown-gray to brown clay,some silt,trace sand &gravel,damp-very damp,soft to very hard	16	16.3	125.7	7.4
		25	18.5	111.7	7.8
15		26	18.2	118.2	8.0
	End of Boring				
	(a) Topsoil - Fill - 2.0"				
20	(b) Black silt,some clay,trace sand & roots,damp,loose (topsoil)				
25					
30					
35					
40					

○ unconfined compressive strength, tons/sq. ft.
● penetrometer reading, tons/sq. ft.
1.0 2.0 3.0 4.0
× standard penetration "N", blows/ft.
Δ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.)
Water recorded at dry feet on completion of drilling operations (A.D.)
Water recorded at feet hours after completion of drilling operations (A.D.)

SOIL AND MATERIAL CONSULTANTS, INC.

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SOIL BORING LOG 5

Logged By: CS **Page:** 1 of 1

Client: Lemont Park District

File No. 27259 **Date Drilled:** 6/20/23

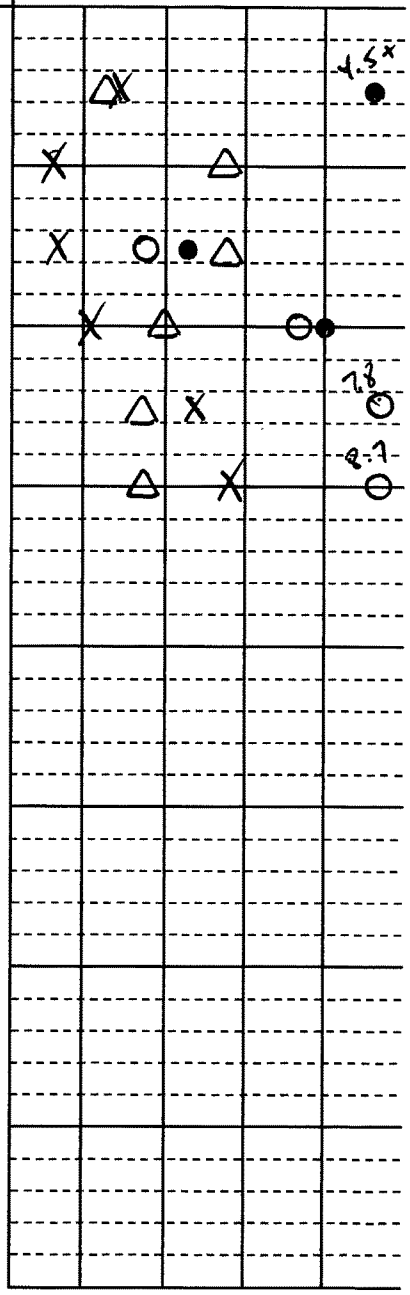
Reference: Miracle Field
16028 127th Street
Lemont, IL

Comments:

Equipment: ☒D - 25 ☐ D - 50 ☐Hand Auger ☐Other

depth, ft.	CLASSIFICATION Elevation 99.9' Existing Surface	standard penetration ×	moisture content Δ	dry unit weight lbs./cu.ft. ϒ	unconfined compressive strengh ○
	(a) see below				
	Brown clay,some silt,trace sand & gravel dry,hard - Fill	14	13.2		
5	Black silt,some clay,trace sand & roots, damp (topsoil)	6	29.3		
	Brown-gray to brown clay,some silt,trace sand & gravel,damp,tough to very hard	7	28.5	94.0	1.8
10		11	19.7	111.3	3.7
		24	19.1	115.1	7.8
15		28	18.2	117.1	8.7
	End of Boring				
	(a) Topsoil - Fill 2.0"				
20					
25					
30					
35					
40					

○ unconfined compressive strength, tons/sq. ft.
● penetrometer reading, tons/sq. ft.
1.0 2.0 3.0 4.0
× standard penetration "N", blows/ft.
Δ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.)
Water recorded at dry feet on completion of drilling operations (A.D.)
Water recorded at feet hours after completion of drilling operations (A.D.)

SOIL AND MATERIAL CONSULTANTS, INC.
8 W. COLLEGE DR. • ARLINGTON HEIGHTS, IL 60004 • 847-870-0644 • FAX 847-870-0661

GENERAL NOTES

SAMPLE CLASSIFICATION

Soil sample classification is based on the Unified Soil Classification System, the Standard Practice for Description and Identification Soils (Visual-Manual Procedure), ASTM D-2488, the Standard Test Method for Classification of Soils for Engineering Purposes, ASTM D-2487 (when applicable), and the modifiers noted below.

CONSISTENCY OF COHESIVE SOILS

Term	Qu-tons.sq.ft.	N (unreliable)
Very soft	0.00 – 0.25	0 – 2
Soft	0.26 – 0.49	3 – 4
Stiff	0.50 – 0.99	5 – 8
Tough	1.00 – 1.99	9 –15
Very Tough	2.00 – 3.99	16 – 30
Hard	4.00 – 7.99	30 +
Very Hard	8.00 +	

RELATIVE DENSITY OF GRANULAR SOILS

Term	N – blows/foot
Very Loose	0 – 4
Loose	5 – 9
Medium Dense	10 – 29
Dense	30 – 49
Very Dense	50 +

IDENTIFICATION AND TERMINOLOGY

Term	Size Range
Boulder	over 8 in.
Cobble	3 in. to 8 in.
Gravel - coarse	1 in. to 3 in.
- medium	3/8 in. to 1 in.
- fine	#4 sieve to 3/8 in.
Sand - coarse	#10 sieve to #4 sieve
- medium	#40 sieve to #10 sieve
- fine	#200 sieve to #40 sieve
Silt	0.002 mm to #200 sieve
Clay	smaller than 0.002mm

Modifying Term	Percent by Weight
Trace	1 – 10
Little	11 – 20
Some	21 – 35
And	36 – 50

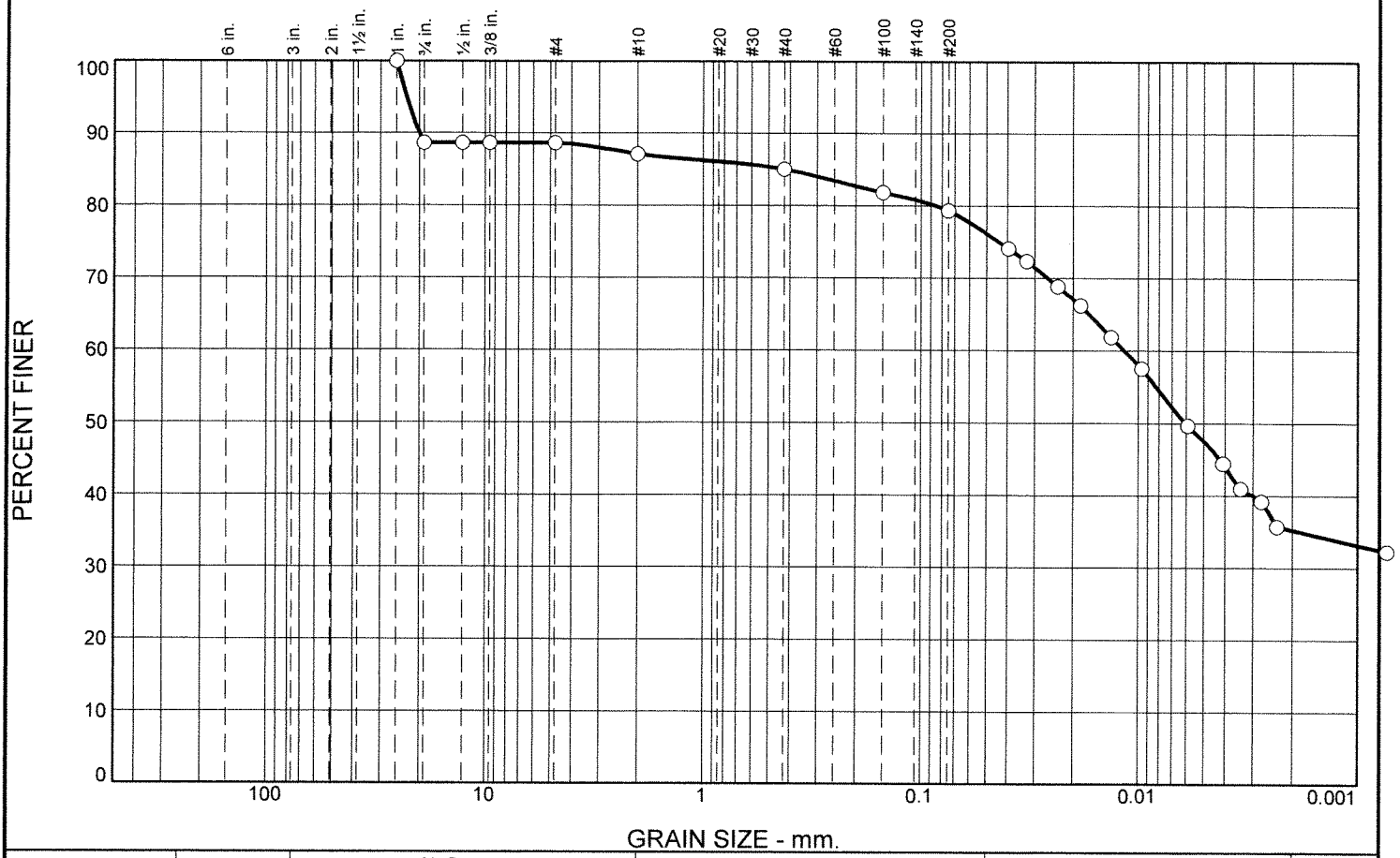
Moisture Content

Dry
Damp
Very Damp
Saturated

DRILLING, SAMPLING & SOIL PROPERY SYMBOLS

- CF - Continuous Flight Auger
- HS - Hollow Stem Auger
- HA - Hand Auger
- RD - Rotary Drilling
- AX - Rock Core, 1-3/16 in. diameter
- BX - Rock Core, 1-5/8 in. diameter
- NX - Rock Core, 2-1/8 in. diameter
- S - Sample Number
- T - Type of Sample
- J - Jar
- AS - Auger Sample
- SS - Split Spoon (2 in. O.D. with 1-3/8 in. I.D.)
- ST - Shelby Tube (2 in. O.D. w/ith1-7/8 in. I. D.)
- R - Recovery Length, in.
- B - Blows/6 in. interval, Standard Penetration Test (SPT)
- N - Blows/foot to drive 2 in. O.D. split-spoon sampler with 140 lb. hammer falling 30 in., (STP)
- Pen. - Pocket Penetrometer readings, tons/sq.ft.
- W - Water Content, % dry weight
- Uw - Dry Unit Weight of soil, lbs./cu.ft.
- Qu - Unconfined Compressive Strength, tons/sq.ft.
- Str - % Strain at Qu.
- WL - Water Level
- WD - While Drilling
- AD - After Drilling
- DCI - Dry Cave-in.
- WCI - Wet Cave-in.
- LL - Liquid Limit, %
- PL - Plastic Limit, %
- PI - Plasticity Index (LL-PL)
- LI - Liquidity Index [(W-PL)/PI]

Particle Size Distribution Report



% Stones	% +3"	% Gravel			% Sand					% Silt		% Clay
		Coarse	Medium	Fine	V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Fine	
0.0	0.0	11.4	0.0	1.5	0.9	0.9	1.9	2.8	4.4	9.1	31.9	35.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.0	100.0		
3/4	88.6		
1/2	88.6		
3/8	88.6		
#4	88.6		
#10	87.1		
#40	85.0		
#100	81.8		
#200	79.3		

* (no specification provided)

Material Description

Silty Clay

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 20.0924 D_{85}= 0.4250 D_{60}= 0.0116
D_{50}= 0.0061 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

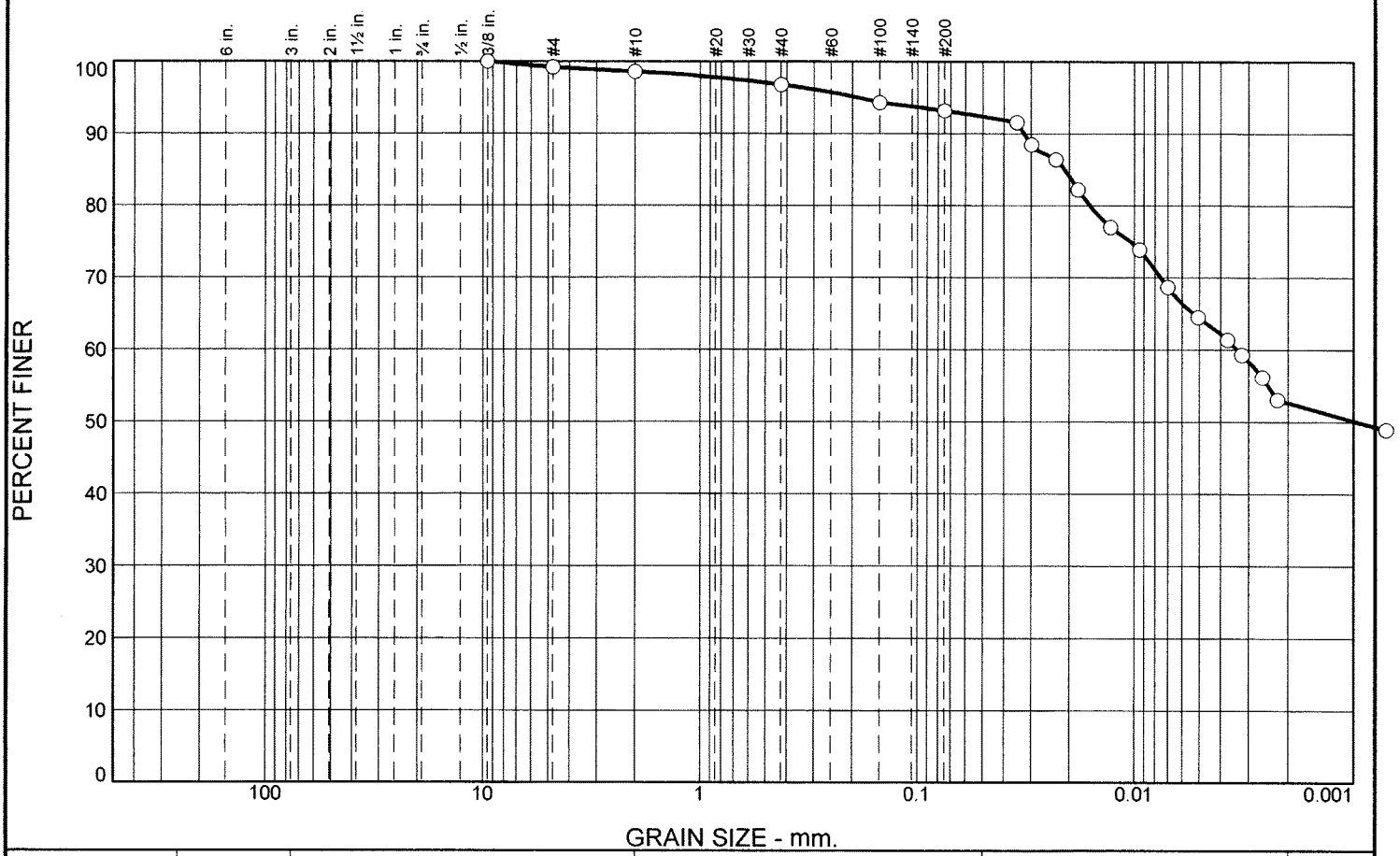
Remarks

Location: B-4
Sample Number: 1 **Depth:** 1.0' - 2.5' **Date:** 6/26/23

SOIL AND MATERIAL CONSULTANTS, INC.

Client: Lemont Park District
Project: Miracle Field
16028 127th Street
Project No: 27259 **Figure**

Particle Size Distribution Report



% Stones	% +3"	% Gravel			% Sand					% Silt		% Clay
		Coarse	Medium	Fine	V. Crs.	Crs.	Med.	Fine	V. Fine	Crs.	Fine	
0.0	0.0	0.0	0.8	0.6	0.6	0.9	1.4	2.0	1.3	8.3	31.4	52.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/8	100.0		
#4	99.2		
#10	98.6		
#40	96.8		
#100	94.3		
#200	93.2		

* (no specification provided)

Material Description

Silty Clay

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0324 D_{85}= 0.0210 D_{60}= 0.0034
D_{50}= 0.0010 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Location: B-4
Sample Number: 3 **Depth:** 4.0' - 5.0' **Date:** 6/26/23

SOIL AND MATERIAL CONSULTANTS, INC.

Client: Lemont Park District
Project: Miracle Field
16028 127th Street
Project No: 27259 **Figure**

DIVISION 1

GENERAL REQUIREMENTS

SECTION 01100 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification: 2023 Miracle Field OSLAD Re-Development

B. Architect Identification: The Contract Documents, dated September 20, 2023 were prepared for Project for The Lemont Park District by Design Perspectives, Inc. in association with RTM Engineering Consultants.

C. The Work for this project primarily consists of demolition and removals, site grading, storm drainage, concrete flatwork, foundations and curbing, asphalt paving, synthetic turf athletic field infrastructure construction, electrical work, fence installation, site furnishings installation and landscaping.

1.3 CONTRACT

A. Project will be constructed under a general construction contract.

1.4 WORK SEQUENCE

A. This Work shall be conducted in a single phase.

1. Work of this phase shall be complete and ready for occupancy by June 30, 2024 from the Notice to Proceed.

1.5 USE OF PREMISES

A. General: Contractor shall have full use of premises as shown by limits of construction on plans and outlined in the General Conditions for construction operations, including use of Project site, during the construction period.

1.6 PRODUCTS ORDERED IN ADVANCE

A. General: Owner has purchased the playground equipment, park shelters and site furnishings (bench, litter cans, bike rack) and these items will be stored within the Lemont Park District for Contractor pick up for use in this project.

1.7 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 16-division format and CSI/CSC's "MasterFormat" numbering system or owner developed format reflecting CSI divisions or located on Plan Sheets.

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. 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.

a. 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.

1.8 RESPONSIBILITIES

A. The responsibilities of the Contractor include the following:

1. Furnish all labor, supervision, materials, equipment and services necessary for proper execution of the work.
2. Protect all finished and unfinished work from the public.
3. Equipment, materials and supplies may be stored at each work site at an appropriate location approved by the Project Manager that is considered best for work execution, without jeopardizing safety.
4. A schedule of the project work operations shall be coordinated with the Project Manager to determine starting and estimating completion dates for the purpose of scheduling inspections and to reduce operational affects upon on-going activities.
5. Notify the Project Manager seventy-two hours (72) in advance of initiating construction.
6. Submit to the Project Manager, literature providing manufacturer's technical information regarding materials and products used.
7. Provide a foreman that is fluent in English on site at all times. Provide general supervision of the work and issue instructions to subcontractors in regard to work schedules, assignment of work and storage areas, safety provisions, and coordination.
8. Comply with codes, ordinances, rules and legal requirements of authorities.
9. Secure all applicable permits and licenses.
10. Remove from site all extra excavated material, unless otherwise directed by Owner.
11. Damage to existing improvements, piping, conduit, lawns or structures shall be repaired by the Contractor at his own expense.
12. Abide by the current Illinois Department of Labor Prevailing wages for Cook County.

B. The responsibilities of the Park District:

1. Review layout of the project elements as illustrated in the drawings.
2. Provide synthetic turf material & installation, dugout material & installation and drinking fountain.

PRODUCTS (Not Used)

EXECUTION (Not Used)

END OF SECTION 01100

SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS

1.1 SUMMARY

A. Temporary Utilities: Contractor is responsible for the following:

1. Sewers and drainage.
2. Water Service: Contractor provided.
3. Sanitary Facilities:
   a. Toilets: Self-contained toilet unit provided by Contractor.
4. Electric Power Service: Contractor provided.

B. Support Facilities: Contractor is responsible for the following:

1. Traffic controls.
2. Dewatering facilities and drains.
3. Waste disposal facilities.
4. On-Site Secured Staging Area
5. Lifts and hoists.
6. Construction aids and miscellaneous services and facilities.

C. Security and Protection Facilities: Contractor is responsible for the following:

1. Stormwater control.
2. Tree and plant protection.
3. Site construction fence.
4. Security enclosure and lockup.
5. Barricades, warning signs.
6. Erosion control/silt fence.

END OF SECTION 01500

SECTION 01770 - 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 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Inspection procedures.
2. Project Record Documents.
3. Operation and maintenance manuals.
4. Warranties.
5. Instruction of Owner's personnel.
6. Final cleaning.

B. Related Sections include the following:

1. Division 1 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
2. Division 1 Section "Construction Progress Documentation" for submitting Final Completion construction photographs and negatives.
3. Divisions 2 through 16 Sections for specific closeout and special cleaning requirements for products of those Sections.

1.3 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, the contractor is to 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, Final Completion construction photographs, 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. Complete startup testing of systems.
8. Submit test/adjust/balance records.
9. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
10. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
11. Complete final cleaning requirements, including touchup painting.
12. 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, Project Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will after inspection notify Contractor of items, either on Contractor's list or additional items identified by Project Manager, that must be completed or corrected before Final completion by owner.

1. Re-inspection: Request re-inspection 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 and Final Payment Request Documentation according to Division 1 Section "Payment Procedures."
2. Submit a copy of Project Manager's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Landscape 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. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Project Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Project Manager will approve 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. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit three copies of list. 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.

1.6 PROJECT RECORD DOCUMENTS

A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss.

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 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 where applicable.

1.7 OPERATION AND MAINTENANCE MANUALS (AS REQUESTED BY OWNER)

A. Maintenance Data:

1. Manufacturer's information, including list of spare parts.
2. Name, address, and telephone number of Installer or supplier.
3. Maintenance procedures.
4. Maintenance and service schedules for preventive and routine maintenance.
5. Maintenance record forms.
6. Sources of spare parts and maintenance materials.
7. Copies of maintenance service agreements.
8. Copies of warranties and bonds.

B. Organize operation and 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 "OPERATION AND MAINTENANCE MANUAL," Project name, and subject matter of contents.

1.8 WARRANTIES

A. Submittal Time: Submit written warranties on request of Owner 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 (15) 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.

1. 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 paper.

D. 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. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    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. Remove labels that are not permanent.
    h. 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.

    i. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
    j. Replace parts subject to unusual operating conditions.
    k. 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.
    l. Power wash all site items.
    m. 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.

END OF SECTION 01770

DIVISION 2

TECHNICAL SPECFICATIONS

SECTION 02751 - CEMENT CONCRETE PAVEMENT

1. GENERAL

1.1 WORK INCLUDES

A. Base Bid:

1. General Contractor shall provide:

a. Labor, materials, and equipment necessary for poured in place Portland cement concrete pavement, including curbs and sidewalks, as located on the Drawings and as specified herein.

1.2 REFERENCES:

A. American Concrete Institute (ACI):

1. 305R - Hot-Weather Concreting.

2. 306R - Cold-Weather Concreting.

B. American Society for Testing and Materials (ASTM):

1. A615/A615M - Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.

2. A616/A616M - Rail-Steel Deformed and Plain Bars for Concrete Reinforcement.

3. C309 - Liquid Membrane-Forming Compounds for Curing Concrete.

4. D1751 - Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).

5. D1752 - Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.

6. D6690 - Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.

C. American Association of State Highway and Transportation Officials (AASHTO):

1. Gg M6 - Fine Aggregates for Portland Cement Concrete.

2. M80 - Coarse Aggregates for Portland Cement Concrete.

3. T26 - Quality of Water to be Used in Concrete.

D. Federal Specifications (FS):

1. CCC-C-467 - Cloth, Burlap, Jute, (or Kenaf).

E. IDOT Standard Specifications for Road and Bridge Construction in Illinois (SSRBC), April 1, 2022 edition and latest Supplemental Specifications and Recurring Special Provisions.

F. IDOT Supplemental Specifications and Recurring Special Provisions, January 1, 2023 edition.

1.4 QUALITY ASSURANCE

A. Sampling and Testing:

1. When incorporating materials into the Work, quality control testing will be performed during construction by a testing laboratory retained by the A/E.

2. Furnish specific schedule for sampling to provide Testing Service the opportunity to schedule sampling and A/E to observe sampling.

3. Copies of reports and certificates regarding tests and inspection of equipment, materials and completed Work shall be distributed as specified in Division 1.

2. PRODUCTS

2.1 FORMS

A. Forms shall conform to requirements in Article 1103.05 of IDOT/SSRBC.

2.2 STEEL REINFORCEMENT

A. Welded wire fabric shall conform to the requirements of Article 1006.10 of IDOT/SSRBC.

B. Dowels shall be smooth round steel bars of sizes indicated and conforming to the requirements of Article 1006.11 of IDOT/SSRBC.

C. Tie bars shall be deformed and of the sizes indicated and conforming to the requirements of Article 1006.10 of IDOT/SSRBC.

D. Metal accessories used to support dowels and tiebars shall be designed to hold these items rigidly in place in the center of the slab parallel to the pavement surface without displacement.

E. Metal dowel caps or tubes shall be 32-gage sheet metal of proper size to fit dowels indicated.

1. Indent 1/8 of an inch to provide a limiting stop.

2. Provide unobstructed expansion space of not less than 1 inch.

2.3 CONCRETE

A. Compressive strength: 4000 psi at 28 days.

B. Portland Cement:

1. Furnish cement conforming to the requirements in Section 1001 of IDOT/SSRBC.

2. Use only one brand.

C. Coarse Aggregate:

1. Coarse aggregate shall conform to the requirements of Section 1004 of IDOT/SSRBC.

2. Gradation shall conform to Article 1004.01 of IDOT/SSRBC.

3. Coarse Aggregate shall be crushed limestone.

D. Water:

1. Mixing and curing water shall be clean, clear, and free from sewage, oil, acid, alkali, salt, organic matter, or other substances injurious to the finished product.

2. Potable water will be accepted without testing.

3. Nonpotable water shall be tested in accordance with, and shall meet the suggested requirements of, AASHTO T26.

E. Admixtures:

1. Air-entraining agents shall be neutralized Vinsol Resin conforming to the requirements in Article 1021.01 of IDOT/SSRBC.

a. Conform to manufacturer's recommendations for use.

b. Technical assistance of the manufacturer's field representative shall be furnished upon request.

2. Use of set-retarding and water-reducing admixtures, when requested in writing by Contractor, will be permitted only with the written approval of CDB.

a. Shall conform to requirements in Article 1021.03 of IDOT/SSRBC.

b. Furnish evidence of satisfactory performance on other work for the specific brand proposed for use.

c. Compatible with concrete mixture.

3. Additional compensation will not be allowed for water-reducing and set-retarding admixtures.

2.4 EXPANSION JOINT FILLER

A. Fiber board per Article 1059.01 of IDOT/SSRBC.

2.5 JOINT DOWELS

A. Smooth round dowels having at least one-half the length of each dowel coated to ensure that no bond is developed between dowel and concrete.

B. Conform to ASTM A615M (A615), Intermediate Grade or ASTM A616M (A616), Regular Grade.

2.6 JOINT SEALER

A. Hot poured joint sealer per Article 1050.02 of IDOT/SSRBCC.

2.7 CURING COMPOUND

A. Conform to ASTM C309, Type I OR Type I-D.

2.8 DETECTABLE WARNING SURFACES

A. Concrete block-out to allow for detectable paving units. Do not stamp pattern on poured concrete.

2.9 PAVEMENT MARKINGS

A. Alkyd resin marking paint.

3. EXECUTION

3.1 FORMS

A. Installation shall conform to requirements in Article 420.06 of IDOT/SSRBC.

B. Use flexible forms for all curved form lines except:

1. Curves having a radius of 200 feet or greater may be formed in 10-foot or shorter chords.

2. Curves having a radius of 100 feet or greater may be formed in 5-foot or shorter chords.

C. Thoroughly clean, oil, securely stake, brace, and hold forms to line and grade.

D. Remove forms from front face of curb section at the time necessary to permit finishing concrete. Leave other forms in place not less than 12 hours after placement of concrete.

3.2 CONCRETE HANDLING

A. Handling and storage of materials shall conform to requirements of Article 1020.10 of IDOT/SSRBC.

B. Concrete mixture shall be Class PV for pavement restoration base course and Class SI for all other applications and shall conform to the requirements in Sections 420 and 423 of IDOT/SSRBC.

C. Paving Mixers:

1. Ready Mix: Ready-mix equipment and operation shall conform to requirements in Article 1103.04 of IDOT/SSRBC.

D. Transportation of concrete shall conform to requirements in Article 1020.11 of IDOT/SSRBC.

E. Transporting equipment shall conform to requirements in Article 1103.04 of IDOT /SSRBC.

3.3 PLACING AND FINISHING

A. Sequence of placing and finishing shall conform to requirements in Article 420.07 of IDOT/SSRBC.

B. Placing Concrete:

1. Place only on prepared and approved subgrade.

2. Lightly moisten surface of dry subgrade before placing concrete.

3. Deposit and compact concrete in manner to avoid displacement of forms and joint materials.

4. Tamp or vibrate concrete sufficiently to eliminate all voids and bring the mortar to the top for finishing

C. Finishing Concrete:

1. Edge concrete with proper edging tools.

2. Tool radii as soon as possible after concrete has taken its initial set.

3. Remove curb face forms and rub with rubbing block and water until all blemishes, forms, and tool marks have been removed.

4. Float-finish with wood float or concrete rubbing block until concrete is true to line, grade, and cross section, and is uniform in texture.

5. Brush with hairbrush as follows:

a. Curb and curb and gutter parallel to the line of curb.

b. Flatwork Medium-Textured California Broom Finish: Draw a medium bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform texture. Provide a smooth trowel edge on all four (4) sides of pavement as illustrated in construction documents.

6. Do not use mortar topping or sand and cement dryer.

D. Tolerances:

1. Applies to conventional and slip-form construction.

2. Alignment deviation of finished concrete Work not to exceed 1/4-inch in 10 feet from true line and grade.

3.4 JOINTS

A. Joint construction shall conform to the requirements in Article 420.05 of IDOT/SSRBC.

B. Contraction Joints:

1. Construct at locations indicated and as follows:

a. Divide concrete curb, curb and gutter, median, and paved drainage into monolithic sections not greater than 10 feet in length.

b. Match contraction joint spacing of adjacent Portland cement concrete pavement.

c. Divide sidewalks as shown on plans or into approximately square areas if not shown.

2. Form contraction joints by the following methods:

a. Tooled Joints:

1. Form contraction joints after initial floating by grooving and finishing each edge of joint with groover tool to a 1/8 inch radius. This is the preferred scoring method for all concrete work.

b. Sawed Joints:

1. 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 developing random contraction cracks. This is an alternate method in large concrete areas to be poured and requires Project Manager approval unless indicated on plans to be sawed cut joints.

C. Expansion Joints:

1. Construct at the following locations:

a. Locations as indicated on the Drawings.

b. All points of curvature and points of tangency of curves having a radius of 100 feet or less, and at intervals not exceeding 60 feet in tangent section.

c. Locations matching expansion joint spacing of adjacent portland cement concrete pavement.

d. Locations where curb, curb and gutter, sidewalk, median, or paved drainage abut each other or other structures and slabs.

2. Stake, support, and secure local transfer dowels and preformed joint filler in position to prevent displacement during placing and finishing operations.

3. Round edges of joints with an edging tool of 1/4-inch radius.

D. Key Joints:

1. Construct at locations indicated for paved drainage and curb and gutter adjacent to portland cement concrete pavement.

E. Construction Joints:

1. Locate to coincide with contraction, expansion, or key joints.

2. When concrete placement is interrupted between joint locations for a sufficient time for the concrete to take its initial set, remove concrete to the nearest joint location before resuming placement.

3. Make transverse construction joints in paved drainage having a thickness of 6 inches or greater by either key joints or expansion joints.

3.5 CONCRETE CURING AND PROTECTION

A. Curing and protection of concrete shall conform to the requirements in Articles 420.21, 606.11 and 1020.13 of IDOT/SSRBC.

B. Curing:

1. Spray all exposed surfaces after finishing with curing compound.

2. Apply curing compound at a rate of not less than 1 gallon per 25 square yards of surface area.

3. Apply second coat at a rate of not less than 1 gallon per 30 square yards 30 minutes after first-coat application when the atmospheric temperature exceeds 100 degrees F.

C. Protection:

1. Protect the finished Work from damage until final acceptance.

2. Repair, replace, or clean all concrete damaged or discolored prior to final acceptance.

3. When pavement is constructed after October 15, protective coat application shall be applied in accordance with IDOT/SSRBC articles 420.21 and 1023.01.

3.6 JOINT SEALING

A. Seal all expansion joints and contraction joints 1/4-inch or greater in width.

B. Do not seal portions of expansion joints located in vertical parts of curbs.

C. Remove curing compound and other material from joint surfaces before sealing. Joint shall be clean and surface dry at time of sealant application.

D. Apply joint sealant using methods and equipment necessary to ensure complete filling of the joint space without voids or air bubbles.

E. Apply sealant to conform to sealant manufacturer's instructions.

F. Apply finished sealant from 1/8-inch below to level with adjacent concrete surfaces.

G. Protect adjacent surfaces to prevent contamination with sealant material.

H. Protect sealant until it has set up or cured sufficiently to preclude pickup or tracking.

END OF SECTION 02751

SECTION 02821 - CHAIN-LINK FENCES (VINYL)

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. PVC-coated, steel chain-link fabric.
   2. Galvanized steel framework.

B. Related Sections include the following:

   1. Division 2 Section "Earthwork" for filling and for grading work.

1.3 SUBMITTALS

A. Product Data: Material descriptions, construction details, dimensions of individual components and profiles, and finishes for the following:

   1. Fence and gate, posts, rails, and fittings.
   2. Chain-link fabric, reinforcements, and attachments.

B. Samples for Verification: For the following products, in sizes indicated, showing the full range of color, texture, and pattern variations expected. Prepare Samples from the same material to be used for the Work.

C. Product Certificates: Signed by manufacturers of chain-link fences and gates certifying that products furnished comply with requirements.

D. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has completed chain-link fences and gates similar in material, design, and extent to those indicated for this Project and whose work has resulted in construction with a record of

successful in-service performance. The installer must document their experience on three (3) projects of similar size and character.

1.5 PROJECT CONDITIONS

A. Field Measurements: Verify layout information for chain-link fences and gates shown on Drawings in relation to property survey and existing structures. Verify dimensions by field measurements. Location and layout to be approved in field by Project Manager before installation begins. The contractor will be held responsible for all costs to correct layout if not Owner approved before installation has begun.

PART 2 - PRODUCTS

2.1 CHAIN-LINK FENCE FABRIC

A. Aluminum-Coated (Aluminized) Fabric: ASTM A 491, coated with metallic coating Type I, aluminum coated (aluminized), applied before weaving.

1. PVC-Coated Fabric: ASTM F 668, minimum 0.4 oz./sq. ft over metallic coated steel wire.

a. Metallic Coating: Aluminum.
b. Color: Black complying with ASTM F 934.

2. Line Fence Mesh and Wire Size: 2-inch mesh fencing of #9 gauge.

B. Selvage: Top edge knuckled and bottom edge knuckled.

2.2 COMMERCIAL FENCE FRAMING

A. Round Steel Pipe: High strength, SPS 40E, galvanized steel pipe by Stephens Pipe & Steel to meet the strength of 50,000 psi min. yield strength.

1. Line, End, Corner, and Pull Posts and Top Rail: Per requirements for Heavy Duty Commercial Fence. See Details for Sizes.

2. Pipe Size/Outside Diameter	Weight Lbs. Per Ft.
1 5/8"	1.84
2"	2.28
2 ½"	3.12
3"	4.64
4"	6.56

B. Top Rails: Fabricate top rail from lengths 21 feet and shall be coupled with a six (6) inch sleeve forming a continuous rail along top of chain-link fabric. Top rail to be one and five-eights (1-5/8") inch

C. Intermediate Rails: Match top rail for coating and strength and stiffness requirements.

D. Bottom Rails: Match top rail for coating and strength and stiffness requirements.

2.3 FITTINGS

A. General: Provide fittings for a complete fence installation, including special fittings for corners. Comply with ASTM F 626.

B. Post and Line Caps: Hot-dip galvanized pressed steel. Provide weathertight closure cap for each post.

C. Rail and Brace Ends: Hot-dip galvanized pressed steel. Provide rail ends or other means for attaching rails securely to each gate, corner, pull, and end post.

D. Rail Fittings: Provide the following:

1. Top Rail Sleeves: Hot-dip galvanized pressed steel. Not less than 6 inches long.
2. Rail Clamps: Hot-dip galvanized pressed steel. Provide line and corner boulevard clamps for connecting intermediate and bottom rails in the fence line to line posts.

E. Tension and Brace Bands: Hot-dip galvanized pressed 12 gauge pressed steel. Tension Bands spaced not to exceed 14" O.C. to secure tension bars to terminal posts. Bands shall have beveled edges. Brace Bands are to secure rail ends and truss rods to terminal posts. Bands shall have beveled edges.

F. Tension Bars: 5/8" wide x 3/16" thick steel. Provide on tension bar for each gate and end post, and two for each corner and pull post.

G. Tie Wires, Clips, and Fasteners: Provide the following types according to ASTM F 626:

1. Standard Round Wire Ties: For attaching chain-link fabric to posts, rails, and frames, complying with the following:
   a. Aluminum: ASTM B 211; alloy 1350-H19; #9 gauge 0.148-inch-diameter, mill-finished wire.

2.4 CAST-IN-PLACE CONCRETE

A. General: Comply with ACI 301 for cast-in-place concrete.

B. Materials: Portland cement complying with ASTM C 150, aggregates complying with ASTM C 33, and potable water for ready-mixed concrete complying with ASTM C 94.

1. Concrete Mixes: Normal-weight concrete with not less than 3000-psi compressive strength (28 days), 3-inch slump, and 1-inch maximum size aggregate.

2.5 POLYMER FINISHES

A. Supplemental Color Coating: In addition to specified metallic coatings for steel, provide fence components with polymer coating.

B. Metallic-Coated Steel Tension Wire: PVC-coated wire complying with ASTM F 1664, with a minimum 0.4 oz./sq. ft over metallic-coated steel wire.

C. Aluminum Framing: Comply with ASTM F 1043 for polymer coating applied to exterior surfaces and, except for tubular shapes, to exposed interior surfaces.

1. Polymer Coating: Not less than 10-mil- thick PVC or 3-mil -thick polyester finish.

D. Fittings, Post and Line Caps, Rail and Brace Ends, Top Rail Sleeves, Tie Wires, Clips, and Fasteners: Comply with ASTM F 626 for polymer coating applied to exterior surfaces and, except inside cap shapes, to exposed interior surfaces.

1. Polymer Coating: Not less than 10-mil- thick PVC.

E. Color: To match chain-link fabric, Black complying with ASTM F 934.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for site clearing, earthwork, pavement work, and other conditions affecting performance.

1. Do not begin installation before final grading is completed, unless otherwise permitted by Project Manager.

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

3.2 PREPARATION

A. Stake locations of fence lines, and terminal posts. Do not exceed intervals of 50 feet or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

3.3 INSTALLATION, GENERAL

A. General: Install chain-link fencing to comply with ASTM F 567 and more stringent requirements specified.

1. Install fencing on established boundary lines inside property line.

B. Post Excavation: Machine-excavate holes for posts to diameters and spacings indicated, in firm, undisturbed or compacted soil. All holes are to be bell shaped, concrete monolithically poured. Belled holes 12" minimum at bottom of hole.

C. Post Setting: Machine-excavate holes for post foundations in firm, undisturbed or compacted soil. Set terminal and line posts in concrete footing. Protect portion of posts aboveground from concrete splatter. Place concrete around posts and vibrate or tamp for consolidation. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during placement and finishing operations until concrete is sufficiently cured.

1. Dimensions and Profile: As indicated on Drawings.
2. Concealed Concrete Footings: Stop footings below grade as indicated on Drawings to allow covering with surface material.
3. Posts Set into Concrete in Voids: Set in concrete footings, 4" below grade and back fill with spoils to grade. Concrete shall conform to standard ASTM C-94 3000 psi at 28 days.

3.4 CHAIN-LINK FENCE INSTALLATION

A. Terminal Posts: Locate terminal end and corner posts per ASTM F 567 and terminal pull posts at changes in horizontal or vertical alignment of 30 degrees or more.

B. Line Posts: Space line posts uniformly at 8 feet o.c.

C. Tension Wire: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Pull wire taut, without sags. Fasten to terminal posts with tension bars threaded through mesh and secured with tension bands at max. of 14" intervals. Tie to line posts and top rails with tie wires spaced at max. 12" on posts and 24" on rails.

D. Top Rail: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Run rail continuously through line post caps, bending to radius for curved runs and terminating into rail end attached to posts or post caps fabricated to receive rail at terminal posts. Provide expansion couplings as recommended by fencing manufacturer.

E. Intermediate Rails: Install in one piece at as indicated on Drawings, spanning between posts, using fittings, and accessories.

F. Bottom Rails: Install, spanning between posts, using fittings and accessories. One additional bottom rail to be added to backstop and backstop wings 12" from bottom rail on all panels using 1 5/8" O.D. pipe cut one piece from post to post and secured by boulevard clamps.

G. Chain-Link Fabric: Apply fabric to inside of enclosing framework. Leave 1 inch between finish grade or surface and bottom selvage, unless otherwise indicated. Pull fabric taut and tie to posts, rails, and tension wires. Anchor to framework so fabric remains under tension after pulling force is released.

H. Tension or Stretcher Bars: Thread through fabric and secure to end, corner, pull, and gate posts with tension bands spaced not more than 14 inches o.c.

I. Tie Wires: Use wire of proper length to firmly secure fabric to line posts and rails. Attach wire at one end to chain-link fabric, wrap wire around post a minimum of 180 degrees, and attach other end to chain-link fabric per ASTM F 626. Bend ends of wire to minimize hazard to individuals and clothing.

    1. Maximum Spacing: Tie fabric to line posts 12 inches o.c. and to braces 24 inches o.c.

J. Fasteners: Install nuts for tension bands and carriage bolts on the side of the fence opposite the fabric side.

END OF SECTION 02821

SECTION 02870 - SITE AND STREET FURNISHINGS

PART 1 - GENERAL

1.1 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, finishes, field-assembly requirements, and installation details.

B. Samples for Initial Selection: For units with factory-applied color finishes.

C. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below.

1. Size: Not less than 6-inch long linear components and 4-inch square sheet components.

D. Product Schedule: For site and street furnishings. Use same designations indicated on Drawings.

E. Material Certificates: For site and street furnishings, signed by manufacturers.

1. Recycled plastic.

F. Maintenance Data: For site and street furnishings to include in maintenance manuals.

PART 2 - INSTALLATION

2.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance.

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

2.2 INSTALLATION, GENERAL

A. Comply with manufacturer's written installation instructions, unless more stringent requirements are indicated on plans. Complete field assembly of site

and street furnishings, where required. INSTALL ALL SAFETY INFORMATION ON EQUIPMENT PROVIDED BY MANUFACTURER.

B. Unless otherwise indicated, install site and street furnishings after landscaping and paving have been completed.

C. Install site and street furnishings level, plumb, true, and positioned at locations indicated on Drawings or approved locations by Owner.

D. Post Setting: Set cast-in support posts in concrete footing with smooth top, shaped to shed water. Protect portion of posts above footing from concrete splatter. Verify that posts are set plumb or at correct angle and are aligned and at correct height and spacing. Hold posts in position during placement and finishing operations until concrete is sufficiently cured.

E. Posts Set into Voids in Concrete: Form or core-drill holes for installing posts in concrete to depth recommended in writing by manufacturer of site and street furnishings and 3/4 inch (20 mm) larger than OD of post. Clean holes of loose material, insert posts, and fill annular space between post and concrete with non-shrink, nonmetallic grout or anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions, with top smoothed and shaped to shed water. Install expansion joint per detail.

F. Pipe Sleeves: Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with nonshrink, nonmetallic grout, or anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions, with top smoothed and shaped to shed water. Install expansion joint per detail.

2.3 CLEANING

A. After completing site and street furnishing installation, inspect components. Remove spots, dirt, and debris. Repair damaged finishes to match original finish or replace component.

END OF SECTION 02870

SECTION 02920 - TURF AND GRASSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Seeding.
2. Prairie/Native Seeding.

B. Related Sections include the following:

1. Division 2 Section "Site Clearing" for topsoil stripping and stockpiling.
2. Division 2 Section "Earthwork" for excavation, filling and backfilling, and rough grading.

1.3 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.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture stating the botanical and common name and percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.

1. Certification of each seed mixture for turfgrass and prairie, identifying source, including name and telephone number of supplier.

C. Product Certificates: For fertilizers, by product manufacturer.

D. Qualification Data: For landscape Installer.

E. Material Test Reports: For existing surface soil and imported topsoil.

F. Planting Schedule: Indicating anticipated planting dates for each type of planting.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful lawn and prairie establishment.

1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor that can clearly communicate and provide understanding to all interested parties on Project site when planting is in progress.

B. Soil-Testing Laboratory Qualifications: An independent laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.

C. Topsoil Analysis: Furnish soil analysis by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; deleterious material; pH; and mineral and plant-nutrient content of topsoil.

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 a satisfactory topsoil.

Pre-installation Conference: Conduct conference at Project site to comply with requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Seed: Deliver seed in original sealed, labeled, and undamaged containers.

1.7 SCHEDULING

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

1. Planting for Seed: 4/1 – 6/1 & 8/16 – 10/15

B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit.

1.8 LAWN MAINTENANCE

A. Begin maintenance immediately after each area is planted and continue until acceptable lawn is established, but for not less than the following periods:

1. Seeded Lawns: 60 days from date of Substantial Completion.

a. When full maintenance period has not elapsed before end of planting season, or if lawn is not fully established, continue maintenance during next planting season.

B. Maintain and establish lawn by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth lawn.

1. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch. Anchor as required to prevent displacement.

C. Watering: Provide all water and maintain temporary piping, hoses, and lawn-watering equipment to convey water from sources and to keep lawn uniformly moist to a depth of 4 inches.

1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
2. Water lawn at a minimum rate of 1 inch per week.

D. Mow lawn as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than 40 percent of grass height. Remove no more than 40 percent of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:

1. Mow lawn grass 2 inches high.

E. Lawn Postfertilization: Apply fertilizer after initial mowing and when grass is dry.

1. Uniformly distribute fertilizer by mechanical means at the rate of 20 pounds per 1000 sq. ft.

2. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
3. Water prairie at a minimum rate of 1/2 inch per week for 8 weeks after planting.

1.9 PRAIRIE/NATIVE SEED MAINTENANCE

A. Begin maintenance immediately after each area is planted and continue until acceptable prairie is established, but for not less than 30 days from date of Substantial Completion.

B. Maintain and establish prairie by watering, weeding, mowing, trimming, replanting, and other operations. Roll, regrade, and re-hydroseed bare or eroded areas.

C. Watering: Provide and maintain temporary piping, hoses, and lawn-watering equipment to convey water from sources and to keep meadow uniformly moist.

1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
2. Water prairie at a minimum rate of 1/2 inch per week for 8 weeks after planting.

PART 2 - PRODUCTS

2.1 TURFGRASS 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.

A. Seed Species: Seed can be obtained at Conser FS (630) 963-8787.

1. SEED: Seed of grass species shall be Legend Elite Sport ProNitro Plus Seed or Equal. The mix is to be applied at a rate of 600 lbs/acre.

B. Ground Stabilization Geotextile: Woven geotextile fabric, manufactured for ground stabilization applications (General seed application).

1. Products: ECS-1B Single Net Biodegradable Blanket by East Coast Erosion Control Blankets 1-800-582-4005, or Equal. Color: Natural

2.2 PRAIRIE/NATIVE SEED

A. Native Grass Seed: Fresh, clean, dry, new seed, mixed species from Stantec Native Plant Nursery 574-586-2412 or Martenson Turf Products 1-800-833-2290 or Equal as follows:

1. PRA: Midwest Mesic Pollinator Mix. Apply at a rate of 39.00 lbs/acre.

B. Ground Stabilization Geotextile: Woven geotextile fabric, manuf0actured for ground stabilization applications (Native seed application)

1. Products: ECS-2B Double Net Biodegradable Blanket by East Coast Erosion Control Blankets 1-800-582-4005, or Equal. Color: Natural

2.3 GENERAL 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 topsoil from off-site sources when quantities are insufficient.

2.4 INORGANIC SOIL AMENDMENTS

B. Lime: ASTM C 602, agricultural limestone containing a minimum 80 percent calcium carbonate equivalent and as follows:

1. Class: Class O, with a minimum 95 percent passing through No. 8 sieve and a minimum 55 percent passing through No. 60 sieve.

C. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.

D. Perlite: Horticultural perlite, soil amendment grade.

E. Agricultural Gypsum: Finely ground, containing a minimum of 90 percent calcium sulfate.

F. Sand: Clean, washed, natural or manufactured, free of toxic materials.

2.5 ORGANIC SOIL AMENDMENTS

G. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

1. Organic Matter Content: 50 to 60 percent of dry weight.

H. Peat: Sphagnum peat moss, partially decomposed, finely divided or granular texture, with a pH range of 3.4 to 4.8.

I. Peat: 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.

J. Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, and material harmful to plant growth.

2.6 PLANTING ACCESSORIES

A. Selective Herbicides: EPA registered and approved, of type recommended by manufacturer for application for site conditions and approved by landscape architect.

2.7 FERTILIZER

A. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:

1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.

2.8 PLANTING SOIL MIX

A. Planting Soil Mix: Mix topsoil with the following soil amendments and fertilizers in the following quantities:

1. Contractor to amend imported topsoil to produce satisfactory planting soil, depending on soil tests of imported or manufactured soils.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas to receive lawns and grass for compliance with requirements and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

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

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

3.3 LAWN PREPARATION

A. Limit lawn subgrade preparation to areas to be planted.

B. 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 Apply slow release fertilizer directly to subgrade before loosening.
2. Thoroughly blend planting soil mix by spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil mix.

a. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.
b. Mix lime with dry soil before mixing fertilizer as needed.

3. Spread planting soil mix to a max. 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. Mix thoroughly into top 4 inches of subgrade. Spread remainder of planting soil mix.

C. 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 of 4 inches. Apply soil amendments and fertilizers according to planting soil mix proportions and mix thoroughly into top 2 inches of soil. Till soil to a homogeneous mixture of fine texture.

    a. Apply slow release fertilizer directly to surface soil before loosening.

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.

D. 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 fine grading to areas that can be planted in the immediate future.

E. Apply herbicide treatment to entire project construction area before excavation.

F. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

G. Restore areas if eroded or otherwise disturbed after finish grading and before planting.

3.4 SEEDING

A. Do not perform seeding in windy conditions.

B. Seeding shall be dispersed in 2 directions at right angles to each other.

C. Permanently seed and mulch cut and fill slopes as construction proceeds to extent considered desirable and practical.

D. Seed lawn areas by sowing evenly with approved mechanical seeder at rate of minimum of 300 pounds per acre. Culti-packer or approved similar equipment may be used to cover seed and to form seedbed in one operation. In areas inaccessible to culti-packer, lightly rake seeded ground with flexible rakes and roll with water ballast roller. After seeding, apply erosion control blanket.

E. Surface layer of soil for seeded areas shall be kept moist during germination period. Water seeded areas twice first week to minimum depth of 6 inches with fine spray and once per week thereafter as necessary to supplement natural rain to equivalent of 6 inches depth.

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. Satisfactory Sodded Lawn: At end of maintenance period, a healthy, well-rooted, even-colored, viable lawn has been established, free of weeds, open joints, bare areas, and surface irregularities.

C. Reestablish lawns that do not comply with requirements and continue maintenance until lawns are satisfactory.

3.6 CLEANUP AND PROTECTION

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

B. Erect barricades and warning signs as required to protect newly planted areas from traffic. Maintain barricades throughout maintenance period and remove after lawn is established.

C. Remove erosion-control measures after grass establishment period.

END OF SECTION 02920

SECTION 02930 - EXTERIOR PLANTS

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. Trees
2. Shrubs
3. Ground cover
4. Plants
5. Edgings

B. Related Sections include the following:

1. Division 2 Section "Site Clearing" for protection of existing trees and planting, topsoil stripping and stockpiling, and site clearing.
2. Division 2 Section "Earthwork" for excavation, filling, and rough grading and for subsurface aggregate drainage and drainage backfill materials.

1.3 DEFINITIONS

A. Balled and Burlapped Stock: Exterior plants dug with firm, natural balls of earth in which they are grown, with ball size not less than diameter and depth recommended by ANSI Z60.1 for type and size of tree or shrub required; wrapped, tied, rigidly supported, and drum-laced as recommended by ANSI Z60.1.

B. Container-Grown Stock: Healthy, vigorous, well-rooted exterior plants grown in a container with well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for kind, type, and size of exterior plant required.

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

D. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.

E. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.

F. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill, before placing planting soil.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Material Test Reports: For existing surface soil and imported topsoil.

C. Planting Schedule: Indicating anticipated planting dates for exterior plants.

D. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of exterior plants during a calendar year. Submit before expiration of required maintenance periods.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful establishment of exterior plants.

1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor that can clearly communicate and provide understanding to all interested parties on Project site when planting is in progress.

B. Soil-Testing Laboratory Qualifications: An independent laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.

C. Topsoil Analysis: Furnish soil analysis by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; deleterious material; pH; and mineral and plant-nutrient content of topsoil.

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 a satisfactory topsoil.

D. Provide quality, size, genus, species, and variety of exterior plants indicated, complying with applicable requirements in ANSI Z60.1, "American Standard for Nursery Stock."

1. Selection of exterior plants purchased under allowances will be made by Architect, who will tag plants at their place of growth before they are prepared for transplanting.

E. Tree and Shrub Measurements: Measure according to ANSI Z60.1 with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurements 6 inches (150 mm) above ground for trees up to 4-inch (100-mm) caliper size, and 12 inches (300 mm) above ground for larger sizes. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip-to-tip.

F. Observation: Project Manager may observe trees and shrubs either at place of growth or at site before planting for compliance with requirements for genus, species, variety, size, and quality. Architect retains right to observe trees and shrubs further for size and condition of balls and root systems, insects, injuries, and latent defects and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.

1. Notify Project Manager of sources of planting materials 14 days in advance of delivery to site.

G. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver exterior plants freshly dug.

1. Immediately after digging up bare-root stock, pack root system in wet straw, hay, or other suitable material to keep root system moist until planting.

B. Do not prune trees and shrubs before delivery, except as approved by Architect. 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.

C. Handle planting stock by root ball.

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 trees in shade, protect from weather and mechanical damage, and keep roots moist.

1. Heel-in bare-root stock. Soak roots in water for two hours if dried out.
2. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
3. Do not remove container-grown stock from containers before time of planting.
4. Water root systems of exterior plants stored on-site with a fine-mist spray. Water as often as necessary to maintain root systems in a moist condition.

1.7 COORDINATION

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

1. Spring Planting: 4/1 – 6/15
2. Fall Planting: 9/1 – 11/1

B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit.

C. Coordination with Lawns: Plant trees and shrubs after finish grades are established and before planting lawns, unless otherwise acceptable to Architect.

1. When planting trees and shrubs after lawns, protect lawn areas and promptly repair damage caused by planting operations.

1.8 WARRANTY

A. Special Warranty: Warrant the following exterior plants, for the warranty period indicated, against defects including death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, or abuse by Owner, or incidents that are beyond Contractor's control.

1. Warranty Period for Trees and Shrubs: One year from date of Substantial Completion.
2. Warranty Period for Ground Cover and Plants: One year from date of Substantial Completion.
3. Remove dead exterior plants immediately. Replace immediately unless required to plant in the succeeding planting season.
4. Replace exterior plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.

5. A limit of one replacement of each exterior plant will be required, except for losses or replacements due to failure to comply with requirements.

1.9 MAINTENANCE

A. Trees and Shrubs: Maintain for the following maintenance period by pruning, cultivating, watering, weeding, fertilizing, restoring planting saucers, tightening and repairing stakes and guy supports, and resetting to proper grades or vertical position, as required to establish healthy, viable plantings. Spray as required to keep trees and shrubs free of insects and disease. Restore or replace damaged tree wrappings.

1. Maintenance Period: 30 days from date of Substantial Completion.

B. Ground Cover and Plants: Maintain for the following maintenance period by watering, weeding, fertilizing, and other operations as required to establish healthy, viable plantings:

1. Maintenance Period: 30 days from date of Substantial Completion.

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. Grade: Provide trees and shrubs of sizes and grades complying with ANSI Z60.1 for type of trees and shrubs required. Trees and shrubs of a larger size may be used if acceptable to Project Manager, with a proportionate increase in size of roots or balls.

C. Label each tree and shrub with securely attached, waterproof tag bearing legible designation of botanical and common name.

D. Label at least one tree and one shrub of each variety and caliper with a securely attached, waterproof tag bearing legible designation of botanical and common name.

E. If formal arrangements or consecutive order of trees or shrubs is shown, select stock for uniform height and spread, and number label to assure symmetry in planting.

2.2 SHADE AND ORNAMENTAL TREES

A. Shade Trees: Single-stem trees with straight trunk, well-balanced crown, and intact leader, of height and caliper indicated, complying with ANSI Z60.1 for type of trees required.

1. Provide balled and burlapped trees.
2. Branching Height: One-third to one-half of tree height.

B. Flowering Trees: Branched or pruned naturally according to species and type, with relationship of caliper, height, and branching according to ANSI Z60.1; stem form as follows:

1. Stem Form: Single stem, Multistem, clump with two or more main stems.
2. Provide balled and burlapped trees.

2.3 EVERGREENS

A. Form and Size: Normal-quality, well-balanced, evergreens, of type, height, spread, and shape required, complying with ANSI Z60.1.

1. Provide container-grown shrubs.

2.4 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.

2.5 PLANTS

A. Annuals: Provide healthy, disease-free plants of species and variety shown or listed. 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.

2.6 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 (25 mm) 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 topsoil from off-site sources when quantities are insufficient. Obtain topsoil displaced from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches (100 mm) deep; do not obtain from bogs or marshes.

2.7 INORGANIC SOIL AMENDMENTS

A. Lime: ASTM C 602, agricultural limestone containing a minimum 80 percent calcium carbonate equivalent and as follows:
   1. Class: Class O, with a minimum 95 percent passing through No. 8 (2.36-mm) sieve and a minimum 55 percent passing through No. 60 (0.25-mm) sieve.

B. Sulfur: Granular, biodegradable, containing a minimum of 90 percent sulfur, with a minimum 99 percent passing through No. 6 (3.35-mm) sieve and a maximum 10 percent passing through No. 40 (0.425-mm) sieve.

C. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.

D. Aluminum Sulfate: Commercial grade, unadulterated.

E. Perlite: Horticultural perlite, soil amendment grade.

F. Agricultural Gypsum: Finely ground, containing a minimum of 90 percent calcium sulfate.

G. Sand: Clean, washed, natural or manufactured, free of toxic materials.

2.8 ORGANIC SOIL AMENDMENTS

A. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

   1. Organic Matter Content: 50 to 60 percent of dry weight.

B. Peat: Sphagnum peat moss, partially decomposed, finely divided or granular texture, with a pH range of 3.4 to 4.8.

C. Peat: 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.

D. Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, and material harmful to plant growth.

2.9 FERTILIZER

A. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:

1. Composition: 10 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight or in amounts recommended in soil reports from a qualified soil-testing agency.

2.10 MULCHES

A. Organic Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of one of the following:

1. Type: Shredded hardwood

2.11 PLANTING SOIL MIX

A. Planting Soil Mix: Mix topsoil with the following soil amendments in the following quantities:

1. Ratio of Loose Compost to Topsoil by Volume: 1:4

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas to receive exterior plants for compliance with requirements and conditions affecting installation and performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities, and lawns and existing exterior plants from damage caused by planting operations.

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

C. Lay out individual tree and shrub locations and areas for multiple exterior plantings. Stake locations, outline areas, adjust locations when requested, and obtain Project Manager's acceptance of layout before planting. Make minor adjustments as required.

3.3 PLANTING BED ESTABLISHMENT

A. Loosen subgrade of planting beds 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. Apply soil amendments and fertilizer on surface, and thoroughly blend planting soil mix.

    a. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.

2. Spread planting soil mix to a depth of 8 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.

    a. Spread approximately one-half the thickness of planting soil mix over loosened subgrade. Mix thoroughly into top 4 inches of subgrade. Spread remainder of planting soil mix.

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.

C. Restore planting beds if eroded or otherwise disturbed after finish grading and before planting.

3.4 TREE AND SHRUB EXCAVATION

A. Pits and Trenches: Excavate circular pits with sides sloped inward. 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 for balled and burlapped stock.
2. If drain tile is shown or required under planted areas, excavate to top of porous backfill over tile.

B. Subsoil removed from excavations may be used as backfill.

C. Obstructions: Notify Project Manager if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.

D. Drainage: Notify Project Manager if subsoil conditions evidence unexpected water seepage or retention in tree pits.

3.5 TREE AND SHRUB PLANTING

A. Set balled and burlapped stock plumb and in center of pit or trench with top of root ball flush with adjacent finish grades.

1. 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. 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. THE COST OF WATERING (AND ALL RELATED ACTIVITES) SHALL BE INCLUDED IN THE BASE BID AMOUNT.

B. Organic Mulching: Apply min. 3" average thickness of organic mulch extending within the spade edge planting ring set at a 3' radius from the trunk of the specimen. Do not place mulch within 3 inches of trunks or stems.

C. Wrap trees of 2-inch (50-mm) caliper and larger with trunk-wrap tape. Start at base of trunk and spiral cover trunk to height of first branches. Overlap wrap, exposing half the width, and securely attach without causing girdling. Inspect tree trunks for injury, improper pruning, and insect infestation; take corrective measures required before wrapping.

3.6 TREE AND SHRUB PRUNING

A. Prune, thin, and shape trees and shrubs as directed by Project Manager.

B. Prune, thin, and shape trees and shrubs according to standard horticultural practice. Prune trees to retain required height and spread. Unless otherwise indicated by Project Manager, do not cut tree leaders; remove only injured or dead branches from flowering trees. Prune shrubs to retain natural character. Shrub sizes indicated are sizes after pruning.

3.7 GUYING AND STAKING

A. Upright Staking and Tying: Stake all trees of 2- through 5-inch caliper. Stake trees of less than 2-inch (50-mm) caliper only as required to prevent wind tip-out. Use a minimum of 2 stakes of length required to penetrate at least 18 inches below bottom of backfilled excavation and to extend at least 3 inches above grade. Set vertical stakes and space to avoid penetrating root balls or root masses. Support trees with three strands of ArborTie by DEEPROOT, a polypropylene material with 900 lbs. of test strength. (See Detail). Allow enough slack to avoid rigid restraint of tree. Use the number of stakes as follows:

1. Use 3 stakes for all trees except designated ornamentals by the Project Manager. Space stakes equally around trees.

3.8 GROUND COVER AND PLANT PLANTING

A. Set out and space ground cover and plants as indicated.

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. THE COST OF WATERING (AND ALL RELATED ACTIVITES) SHALL BE INCLUDED IN THE BASE BID AMOUNT.

E. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.

3.9 PLANTING BED MULCHING

A. Completely cover area to be mulched, overlapping edges a minimum of 6 inches (150 mm).

B. Mulch backfilled surfaces of planting beds and other areas indicated.

1. Organic Mulch: Apply 3 inches average thickness of organic mulch, and finish level with adjacent finish grades. Do not place mulch against plant stems.

3.10 EDGING INSTALLATION

A. Spade/Trench Edging: (See Detail).

3.11 CLEANUP AND PROTECTION

A. During exterior planting, keep adjacent pavings and construction clean and work area in an orderly condition.

B. 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 exterior planting.

3.12 DISPOSAL

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

END OF SECTION 02930