

**CITY OF ELGIN, ILLINOIS, INVITATION FOR BIDS
INSTRUCTIONS TO BIDDERS**

NO PROPOSAL WILL BE ACCEPTED VIA PAPER OR EMAIL

The City of Elgin invites bids for Wing Park Renovation for the Parks and Recreation Department. This bid process and award of the contract are made in conformance with Elgin Municipal Code Title 5. The City of Elgin reserves the right to reject any or all proposals, or any part thereof, or to accept any proposal or any part thereof, or to waive informalities in any proposal, if deemed to be in the best interest of the City.

The City of Elgin Purchasing Department is pleased to announce that we are instituting our E-bidding process. ALL vendors, regardless of whether your firm is currently registered with the City of Elgin or not, will need to register in order to receive notification of upcoming bids. In order to bid on any projects you must register as a vendor at <https://cityofelgin.ionwave.net/VendorRegistration/PreliminaryInfo.aspx>. **NO PROPOSAL WILL BE ACCEPTED VIA PAPER OR EMAIL.** They must come through this site. We know that you will enjoy the ease of our new system. For questions, please contact the Purchasing Department at (847) 931-5606. Failure to do so may result in the proposal being declared nonresponsive. A bidder may correct, modify, or withdraw its proposal by making the request in writing to the Director of Purchasing prior to the time and date for the proposal opening. All corrections and modifications must be made on the E-Bidding Website. Bid awards made by the City Council of the City of Elgin may be corrected or amended in the sole discretion of the City Council prior to the city's execution and delivery of a signed agreement to a bidder.

Bids must be signed by an authorized official of the proposer's organization, and the name of the official and the official's title typed below the signature. Purchases made by the City of Elgin are exempt from the payment of federal excise tax and State of Illinois sales tax and any such taxes must not be included in the bid prices. Unless otherwise indicated in the Invitation for Bid, deliveries are FOB designated location, Elgin, Illinois.

In the case of a conflict between unit price and extended price, unit price shall take precedence. If goods are not delivered or services not performed within the time frame specified in the Invitation for Bid (or where no time is specified, within a reasonable time frame) the City of Elgin reserves the right to cancel the order or any part thereof.

Bids will be considered on goods complying substantially with specifications provided each deviation or alternatives are identified and described in an attachment to the bid. The City of Elgin reserves the right to determine whether such deviations or alternatives are acceptable. Brand names that may be mentioned in specifications as used only as a reference to the type and quality of goods desired unless otherwise indicated.

The selected bidder(s) must comply with all laws, rules, and regulations pertaining to public contracts as adopted by the State of Illinois and the City of Elgin including, but not limited to, the payment of prevailing wages, if applicable.

LOCAL PURCHASING PREFERENCE: Bids from responsible and responsive local businesses that do not exceed the lowest bid price from a responsive and responsible nonlocal business by more than two percent (2%) but no more than \$500 for contracts of \$25,000 or less or by more than one percent (1%) but no more than \$2,500 for contracts in excess of \$25,000 shall be awarded to the local businesses. A local business is a business authorized to do business under the laws of the City of Elgin, a business with its principal place of business located within the corporate limits of the City of Elgin, which has the majority of its regular, full-time workforce located within the City of Elgin and is subject to City of Elgin taxes including, but not limited to, sales taxes.

BID SUBMISSION REQUIREMENTS

Bids must contain:

1. A signed Agreement. If awarded a contract, a fully executed copy will be sent to you.
2. A completed Bidder's Employee Utilization Form (if you employ 5 or more persons).
3. A signed Sexual Harassment Form.
4. A signed Certification Requirements Form.
5. Any other information or materials required in the specifications.

Bid announcements can be found on the City of Elgin Home Page at
<https://cityofelgin.ionwave.net/VendorRegistration/PreliminaryInfo.aspx>

BID PROPOSAL
AND SPECIFICATIONS

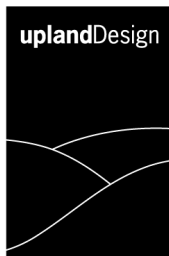
FOR
Wing Park Renovation

BID OPENING:
October 28, 2026 at 3:00 P.M.



City of Elgin
100 Symphony Way
Elgin, Illinois 60120
(847)531-7000

Prepared By:



UPLAND DESIGN Ltd.

24042 Lockport St., Suite 200, Plainfield, Illinois 60544
1229 N. North Branch Street, #220A, Chicago, Illinois 60642
PH: (815) 254-0091

Project #1361

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DRAWINGS – Separate Sheets

Drawing set title: Wing Park Renovation

END OF SECTION

NOTICE TO BIDDERS
Wing Park Renovation

Sealed Bids will be received by the City of Elgin, Illinois (Owner) electronically by the Purchasing Department, until 3:00 P.M., local time, on **October 28, 2026** for the **Wing Park Renovation**. The specifications and bidding documents are available for viewing and download for no cost at <https://cityofelgin.ionwave.net/VendorRegistration/PreliminaryInfo.aspx>, the City of Elgin's electronic bidding web portal.

At that time the bids will be opened online by the Purchasing Department.

A mandatory pre-bid meeting for all bidders will take place on October 8, 2026, at 9:00 a.m. at Wing Park, located at 1010 Wing St., Elgin, IL 60123. The proposed improvement includes demolition of existing site features including asphalt paths, concrete, playground surfacing and equipment, and restroom building. The project will include the construction of new paths, playground, site furniture, parking, restroom building, sport court surfacing, fencing, landscape, and utility improvements.

An original bid bond (in the amount of 5% of the original bid amount) must be delivered to the City of Elgin Purchasing Department, 150 Dexter Court no later than 12:00 pm on **October 28, 2026**. The bid bond with surety satisfactory to the City, in either surety bond, cash, certified check, cashier's check, or bank money order on a solvent bank shall be made payable to the City of Elgin, Illinois. The sum shall be forfeited in the case the successful bidder fails to enter into a binding contract and provide a properly executed surety bond within 15 days after the date the contract is awarded by the City Council.

The bidder shall submit a list of qualified references for projects of similar size and scope of this project. Proposals withdrawn may not be re submitted at the same letting. Each bidder shall satisfy the City as to their ability, financially or otherwise, to carry out the work. The City of Elgin reserves the right to reject any and all bids and/or to waive any informality in any bids.

The successful bidder shall be required to furnish a satisfactory contract bond to the City of Elgin by a surety company authorized to do business in the State of Illinois covering the full amount of the contract. The successful bidder shall pay prevailing wage, shall provide certified payrolls to the City for the duration of the project and comply with the Responsible Bidder's Ordinance and Elgin Residency Ordinance for the duration of the project.

Minority business firms are encouraged to submit bids. Successful contract bidders are also encouraged to utilize minority businesses as sub-contractors for supplies, equipment, services, and construction. This project is being financed, in part, with funds from the Illinois Department of Natural Resources, "Open Space Lands Acquisition & Development" (OSLAD) grant program.

All bid documents shall be uploaded to <https://cityofelgin.ionwave.net/CurrentSourcingEvents.aspx>.

Questions regarding this bid package can be directed to Liz Dafoe of Upland Design Ltd at 312-350-4088 ext. 301.

Dated September 25, 2026
Nickon Etminan
Procurement Manager
City of Elgin

INFORMATION FOR AND INSTRUCTIONS TO BIDDERS

1. DEFINITIONS AND TERMINOLOGY

Definitions, of the General Terms and Conditions of the Contract ("General Terms and Conditions") included in the Project Manual are incorporated by reference as if fully rewritten herein. In the event of a conflict between the definitions herein and those found in the General Terms and Conditions, the former shall govern for the purpose of this section only. All other terms which are not herein defined have their ordinary dictionary meaning.

ADDENDUM (ADDENDA, PLURAL)-An Addendum is a document issued by the City prior to the opening of the General Bids which clarifies, amends, or modifies the Bidding Documents or the Contract Documents.

ALTERNATE BID-An Alternate Bid (or An Alternate) is a proposal for work which is bid alternatively to the original bid proposal pursuant to instructions contained in the Bid Form. Such alternative bids may include proposals for work that is different in scope from that contained in the Base Bid.

BASE BID-A Base Bid is the sum proposed by a Bidder to perform the Work and does not include any Alternate Bids.

BID-A Bid is a proposal to do the Work for a specified sum and includes accompanying forms which are required to be submitted.

BIDDER-A Bidder is an entity that submits a Bid.

BIDDING DOCUMENTS-The Bidding Documents are comprised of the entire Project Manual, which includes, but is not limited to, the Invitation to Bid (advertisement), the Instructions to Bidders, all of the forms (e.g., Bid forms, sample Agreement form, bond forms), the wage rates, the General Terms and Conditions of the Contract, any supplementary terms and conditions thereto, the Drawings, the Specifications, and all addenda.

BUSINESS DAYS-Business days are defined as all days of the week excluding Saturdays, Sundays, and those holidays for which the City offices are closed for observance.

CONTRACT DOCUMENTS- The Contract Documents consist of the Agreement, the Certificates of Insurance, Bonds, Notice of Award, Notice to Proceed, General Conditions, Supplementary Conditions, Specifications, Drawings, Addenda, Contractor's Bid, City Forms, and any subsequent written amendments to the documents listed herein.

PROJECT-The Project is the total Construction to be provided under the Contract Documents and the Work may be the whole or a part of the Project as indicated elsewhere in the Contract Documents and may include construction by the City or by separate contractors. The Project is the Work described in the Bidding Documents.

PURCHASING DEPARTMENT-The Purchasing Department refers to the City of Elgin Purchasing Department located at 150 Dexter Court, Elgin IL.

WORK-Work refers to the services and the entire completed construction or the various separately identifiable parts thereof required by the Contract Documents, including all labor, materials, and equipment furnished, furnished and incorporated into the Project, or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

2. COPIES OF BIDDING DOCUMENTS

A Bidder may obtain complete sets of Bidding Documents <https://cityofelgin.ionwave.net/VendorRegistration/PreliminaryInfo.aspx>.

No partial sets of Bidding Documents shall be issued.

It is the responsibility of the Bidder to insure that it has obtained a complete set of Bidding Documents. Complete sets of Bidding Documents shall be used in preparing Bids. The City shall not be liable for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents, or any other reason, in preparing the Bids.

Distribution of the Bidding Documents is for the sole purpose of obtaining Bids and does not confer a license or grant permission for any other use of the Bidding Documents.

3. STATE WAGE RATE REQUIREMENTS

The minimum prevailing wage rates are included with the Bidding Documents and apply to this Project. Bidder shall comply with all statutory requirements regarding prevailing wage rates.

Bidder, if awarded the contract, will keep accurate records showing the name, address, telephone number, social security number, occupation, hourly wages (including itemized hourly cash and fringe rates), hours worked each day, gross and net weekly wages for each laborer, worker and mechanic employed on the Work. The records shall be provided on a weekly basis to the City. The bidder shall collect and forward to the City the certified payrolls of all its subcontractors. The prevailing wage for any trade may change during the life of the Project. The selected Bidder and all its subcontractors shall be responsible for checking the Illinois Department of Labor web page (<http://www.state.il.us/agency/idol/>) to ensure that they are paying the current rate. If the City discovers any discrepancies between the prevailing wage rates as apply to the Work and the Bidder's payrolls, or if the Bidder or a subcontractor fails to submit payrolls, no further payments shall be made to the Bidder until the discrepancy is corrected.

4. QUESTIONS AND INTERPRETATIONS

All questions about the meaning or intent of the Bidding Documents shall be submitted in writing to the City's Purchasing Director or applicable department contact specified in the Invitation no later than five calendar days prior to the date set for the opening of Bids. Any questions received after such time shall be answered at the discretion of the City.

Written clarifications or interpretations shall be issued by the Purchasing Department in the form of an Addendum. Only questions answered by an Addendum shall be binding. Oral clarifications or interpretations shall be without legal effect. Addenda shall either be faxed or emailed to all persons having received Bidding Documents from the Purchasing Department.

Each Bidder shall be responsible for determining that it has received all Addenda issued.

5. THE BID

BIDDER'S REPRESENTATIONS.

In submitting a Bid, the Bidder represents that:

- it has read and examined the Bidding Documents thoroughly;
- it understands the Bidding Documents;
- the Bid is made in accordance with the Bidding Documents;
- it has visited the site, has become familiar with the conditions of the site and the surrounding area, and has familiarized itself with local conditions that may in any manner affect cost, progress, or performance of the Work;
- it has correlated its own observations with the Bidding Documents;
- it has found no errors, conflicts, ambiguities, or omissions in the Bidding Documents, except for those that it has brought to the City's attention either orally at a pre-bid conference or in writing at least five (5) calendar days prior to submitting its Bid;
- it is familiar with all of the applicable Federal, State, and City laws, rules, regulations, and procedures affecting its Bid and its Bid is in conformity with those laws, rules, regulations, and procedures;
- the Bidder has complied with every requirement of these Instructions and that the Bidding Documents are sufficient in scope and detail to indicate and convey an understanding of all terms and conditions for the performance of the Work; and
- Bidder hereby waives and releases any and all rights it may have pursuant to the Public Construction Contract Act, 30 ILCS 557/1 et.seq.

BID CONTENTS.

The checklists below are included for the bidders' convenience only and shall not be construed to constitute a waiver or abridgement of the City's right to reject any or all bids.

A Bid shall include:

- a completed Bid form
- a Bid deposit;
- Certification Requirements
- Bidder's Employee Utilization
- Sexual Harassment Forms
- Responsible Bidder's Affidavit
- Qualifications of Bidder
- Signed Agreement

RIGHT TO WAIVE INFORMALITIES AND PERMIT CURATIVE MEASURES.

The City reserves the right to waive any Bid informalities. The City may permit bidders who fail to include forms not otherwise required by law to cure such omission(s) within five days of bid opening, in the City's sole discretion.

Bid Deposits: Unless otherwise stated, every Bid shall be accompanied by a Bid deposit in the form of an original Bid bond, certified check or a treasurer's, or cashier's check issued by a responsible bank or trust company, payable to the City of Elgin. The Bid bond shall be (a) in a form satisfactory to the City; (b) with a surety company qualified to do business in the state of Illinois and satisfactory to the City; and (c) conditioned upon the faithful performance by the bidder of the terms contained in the Bid. The Bid deposit shall be not less than five percent (5 %) of the value of the Bid.

Bids Forms. Each Bid shall be submitted on the Bid form included in the Project Manual. In the case of a conflict between dollar figures and words, written amounts shall control over dollar figures. All blank spaces shall be filled. Any and all blank spaces shall constitute sufficient cause to reject any bid. The Bid form shall be completed in ink or by typewriter.

Acknowledgment of Addenda. Each Bidder shall acknowledge the receipt of all Addenda (the numbers of which are to be filled in on the Bid form by the Bidder). A Bidder's failure to acknowledge any Addendum shall constitute sufficient cause for rejection of a bid at the City's sole discretion.

SUBMISSION OF A BID.

Prior to the deadline for receipt of Bids, each Bid Bond shall be submitted to the Purchasing Department in a sealed envelope which is plainly marked on the outside with the name and address of the Bidder, the title of the Project, and the date and time of the Bid opening no later than **October 28, 2026 at 12:00pm.** All Bid submissions must be entered into the City of Elgin's web portal at <https://cityofelgin.ionwave.net/VendorRegistration/PreliminaryInfo.aspx>, no later than **October 28, 2026 at 3:00 pm.** Any Bid received after the deadline shall not be accepted. Any Bid submitted to any other office or department of the City and received by the Purchasing Department after the deadline for receipt of Bids shall not be accepted. It is the responsibility of the Bidder to ensure that its Bid is received by the Purchasing Department in a timely fashion. The deadline for receipt of Bids can be extended by Addendum only.

Bids may not be submitted orally, by facsimile, by telephone, or by any other method except for the method described above.

MODIFICATION OF A BID.

A Bid may be modified only by submitting any such modification executed in the same manner as a Bid, through the City of Elgin's web portal at <https://cityofelgin.ionwave.net/VendorRegistration/PreliminaryInfo.aspx>. Contact the Purchasing Department for instructions.

WITHDRAWAL OF A BID.

Prior to Bid opening. A Bid may be withdrawn before the time designated for opening Bids. All requests for withdrawal of a bid shall go through the City of Elgin's web portal at <https://cityofelgin.ionwave.net/VendorRegistration/PreliminaryInfo.aspx>. Contact the Purchasing Department for instructions. Withdrawal of a Bid prior to the Bid opening time shall not prejudice the right of a Bidder to resubmit a Bid. A Bid cannot be withdrawn after the Bid opening time except as provided in the Bidding Documents.

After Bid opening. In the case of death, disability, clearly apparent clerical error, a Bidder may withdraw its Bid after the time designated for Bid opening, if within five (5) days of the date designated for opening its Bid, such Bidder submits a statement under the penalties of perjury to the Purchasing Department detailing the basis for withdrawal. The City shall then make a determination as to whether

such Bidder shall be permitted to withdraw such bid. Such a determination shall be in the City's sole discretion. In such case, the Bid Deposit shall be returned to the Bidder.

BID OPENING.

All Bids received prior to the date and time designated for the Bid opening shall be available on the City's electronic web portal at <https://cityofelgin.ionwave.net/AwardedSourcingEvents.aspx>.

PUBLIC BID REVIEW AND INSPECTION.

Upon opening, all Bids become public records except for any portions thereof that are not subject to public disclosure as a matter of law.

Bids may be reviewed by the public in a manner set forth by the Purchasing Department.

Any Bidder who objects to a Bid may protest the Bid. Bid protests shall be governed by Elgin Municipal Code Chapter 5.26.

LOCAL PURCHASING PREFERENCE: Bids from responsible and responsive local businesses that do not exceed the lowest bid price from a responsive and responsible nonlocal business by more than two percent (2%) but no more than \$500 for contracts of \$25,000 or less or by more than one percent (1%) but no more than \$2,500 for contracts in excess of \$25,000 shall be awarded to the local businesses. A local business is a business authorized to do business under the laws of the City of Elgin, a business with its principal place of business located within the corporate limits of the City of Elgin, which has the majority of its regular, full-time workforce located within the City of Elgin and is subject to City of Elgin taxes including, but not limited to, sales taxes.

6. RESERVATION OF RIGHTS TO REJECT BIDS

The City reserves the right to reject any or all Bids, if it is in the public interest to do so.

The City reserves the right to reject the Bid of any Bidder who, either in its own right or through an affiliation with another entity which the City has determined has not completed a prior project, whether with the City or elsewhere, because of the fault of the Bidder, its Subcontractors or employees; has been declared in default on a prior contract whether with the City or elsewhere; has failed to complete a prior project in a timely fashion whether with the City or elsewhere; based on its work record, is not capable of performing the within Contract whether due to lack of sufficient prior experience, as determined by the City, or any other reason; has a work record of its Subcontractors demanding direct payment from the owner; has a work record of its Subcontractors, employees or material suppliers complaining to the City or other awarding authority regarding the Bidder's failure to pay them; has a record of complaints made to the City or other awarding authority by persons offended by the behavior of the Bidder, its Subcontractors or employees; or has a record of its failure to comply with State of Illinois and/or City laws or requirements. "Work record" or "record" constitutes a minimum of one event in the work history of the Bidder.

The City shall reject every Bid that is not accompanied by a Bid deposit.

7. AWARD OF CONTRACT

The City shall award the contract to the lowest responsible (as defined in Elgin Municipal Code Chapter 5.04) and responsive (as defined in Elgin Municipal Code Chapter 5.04) Bidder within 60 days after the date of the opening of the Bids. If the successful Bidder fails to execute a contract in accordance with the terms of its Bid and to furnish all applicable bonds, an award shall be made to the next lowest

responsible and responsive Bidder. The time limit provided above shall not be applicable to a second or subsequent award.

Any Bidder who fails to execute a contract and furnish applicable bonds shall forfeit its Bid deposit which shall become the property of the City. The amount retained by the City shall not exceed the difference between the lowest Bid price and the Bid price of the next lowest responsible and eligible bidder.

The City shall notify the selected Bidder and all other Bidders of the award.

The City shall submit to the selected Bidder a Notice of Award and at least four (4) unsigned copies of the Agreement between the City and the Contractor. The Bidder shall return all executed copies of the Agreement, all bonds and insurance certificates to the City's Purchasing Director within 10 Business Days of the notice of the notice of award.

The selected bidder will be required to furnish a Performance and Payment Bond equal to one hundred percent (100%) of the total contract price in accordance with the provisions stated in the Information for Bidders.

The selected Bidder shall also provide a written substance abuse program that conforms with the requirements of Public Act 095-0635, or a copy of its union contract that establishes a drug/alcohol testing program, prior to the performance of the Work.

Failure of the selected Bidder to submit such documents in a timely fashion as provided above may result in the withdrawal of the award, at the City's discretion. The City shall return one executed copy of the Agreement to the Contractor. Time is of the essence in the performance of the Agreement.

ALL certified payroll must be submitted with an Application for Payment. All invoices go to City of Elgin Parks and Recreation Department, 100 Symphony Way, Elgin, IL 60120. All certified payroll should be submitted on a flash drive and mailed to City of Elgin Purchasing Department, 150 Dexter Court, Elgin, IL 60120 or emailed on a monthly basis to Nickon.etimnan@elginil.gov.

8. COMPLETION TIME

The selected Bidder shall commence work not less than 10 days following receipt of a written "Notice to Proceed" and shall substantially complete the project within 10 months from the date of the Notice to Proceed but not later than November 15, 2027. If any conflict exists between the date provided in the Agreement and these instructions, the Agreement shall prevail. Selected Bidder shall also pay as liquidated damages the sum of **\$1,000** for each calendar day thereafter that the work remains unfinished.

Selected Bidder agrees that such liquidated damages constitute a reasonable, good faith estimate of damages actually incurred by the City and do not constitute a penalty. Such aforementioned liquidated damages shall constitute the sole recourse for the City for violation of this paragraph.

9. EMPLOYMENT OF ILLINOIS WORKERS

The Owner is a public body that is subject to the Employment of Illinois Workers on Public Work Projects Act. If the project receives State funds or funds administered by the State Illinois, and if at the time the contract is executed, or if during the term of the contract, there is a period of excessive unemployment in Illinois as defined in the Employment of Illinois Workers on Public Works Act, the Contractor, its consultants, contractors, subcontractors, and agents agree to employ laborers on this project in accordance with the Employment of Illinois Workers on Public Works shall comply at all times with provisions of the Act. Failure of Contractor to comply with the Employment of Illinois Workers on Public Works Act, and any rules or

regulations promulgated by the State of Illinois with regard to the Employment of Illinois Workers on Public Works Act, will result in the cancellation of the Contract. Contractor expressly waives any right for recovering damages due to Contract cancellation. Contractor shall maintain accurate records of the names and addresses of workers employed by it, whether skilled, semi-skilled, or unskilled, and whether manual or non-manual.

NICKON ETMINAN
PROCUREMENT MANAGER

END OF INFORMATION FOR AND INSTRUCTIONS TO BIDDERS

Wing Park Renovation Bid Worksheet

The undersigned bidder has carefully examined the plans and specifications for the Wing Park Renovation, in Elgin, Illinois as prepared by Upland Design Ltd. The bidder has carefully examined the site and completely familiarized him/herself with local conditions affecting the cost of the work: hereby states that he/she will provide all necessary labor, equipment, tools, machinery, apparatus and all other means of construction, do all the work and furnish all materials, called for by said plans and specifications in the manner prescribed by in accordance with the requirements of the contract, specifications and drawings

The attached worksheet must be completed and submitted as part of the bid package. The quantities are provided in good faith by Upland Design Ltd. The bidding contractor is responsible for varifying all quantities. Where there may be any discrepancy with the construction plans, the plans will supersede the worksheet. The totals for base bid and alternate work shall be equal to the summation of the extension of the unit prices.

Description of abbreviations:

SF = Square Feet

SY = Square Yard

FF = Finished Face

CF = Cubic Feet

CY = Cubic Yard

LF= Lineal Feet

LS = Lump Sum

BASE BID

Item #	Description	Quantity	Unit	Installed Unit Price	Item Total
1	General Conditions Including Bonds and Insurance	1	LS	\$	\$
2	Site Preparation, Removals & Earthwork, Complete	1	LS	\$	\$
3	Stormwater Pollution Prevention Measures and Reporting	1	LS	\$	\$
4	Private Utility Locate	1	LS	\$	\$
5	Undercut, Haul off, and Placement of PGE Allowance (to be Preapproved by Owner)	250	CY	\$	\$
6	Asphalt Cleaning, preparation and crack repair Allowance (to be preapproved by owner)	500	LF	\$	\$
7	Asphalt sealcoat	425	SY	\$	\$
8	Asphalt Paving - Court	644	SY	\$	\$
9	Asphalt Color Coat	644	SY	\$	\$
10	Asphalt Paving – Vehicular	577	SY	\$	\$
11	Asphalt Paving – Vehicular Overlay	958	SY	\$	\$
12	Asphalt Paving - Trail	6109	SY	\$	\$
13	Asphalt Paving – Existing Base	1175	SY	\$	\$
14	Concrete Paving	30844	SF	\$	\$
15	Concrete Paving- WWM including integral and stamped concrete spiral	593	SF	\$	\$
16	Concrete Paving- Integral Color (no stamping)	646	SF	\$	\$
17	Concrete paving - Integral color with stamped concrete spiral	2776	SF	\$	\$
18	Concrete paving - Integral color with stamped wood plank	228	SF	\$	\$
19	Decomposed Granite Path	68	SY	\$	\$
20	Tactile Warning Strip	22	EA	\$	\$
21	Curb and Gutter	422	LF	\$	\$

Bid Proposal for:
Wing Park
Renovation

Contractor: _____

Item #	Description	Quantity	Unit	Installed Unit Price	Item Total
22	ADA Depressed Curb	61	LF	\$	\$
23	Barrier Curb	1229	LF	\$	\$
24	Thickened Edge	186	LF	\$	\$
25	Curb at Playground	359	LF	\$	\$
26	Concrete Curb at ATF with Nailer Board	205	LF	\$	\$
27	Thickened Edge at ATF with Nailer Board	187	LF	\$	\$
28	Thickened Edge at Sway Fun	7.5	LF	\$	\$
29	Thickened Edge at Playground Wall	203	LF	\$	\$
30	Playground wall with veneer including precast cap	173	LF	\$	\$
31	Playground wall without veneer including precast cap	27	LF	\$	\$
32	Playground wall precast cap	122	LF	\$	\$
33	Concrete Wall at Splash pad including skate stoppers	20	LF	\$	\$
34	Stairs with Handrail at Bandshell	1	LS	\$	\$
35	Block Retaining Wall at Bandshell	180	FF	\$	\$
36	Block Retaining Wall at Pickleball	164	LF	\$	\$
37	Decorative Rope Guardrail with Handrail	177	LF	\$	\$
38	Perimeter Rope Fencing	425	LF	\$	\$
39	Decorative Rope Guardrail	110	LF	\$	\$
40	Poured-In-Place on Gravel	12591	SF	\$	\$
41	Poured-In-Place on Concrete including Mound Transition	3201	SF	\$	\$
42	Thickened Edge at Mound	17	LF	\$	\$
43	Artificial Turf at Playground including transition to PIP	831	SF	\$	\$
44	Artificial Turf at Bandshell	1734	SF	\$	\$
45	Sand Surfacing	80	CY	\$	\$
46	Cut Limestone Seatwall on Concrete Pad	254	LF	\$	\$
47	Limestone Seatwall on Concrete Pad - Straight Cut	15	LF	\$	\$
48	Painted Pavement Markings	1	LS	\$	\$
49	Wheelstop	30	EA	\$	\$
50	4' Chainlink Fence and Gate	64	LF	\$	\$
51	10' Chainlink Fence and Gates	211	LF	\$	\$
Play Equipment shall be purchased by Owner, Contractor shall take delivery and fully install.					\$
52	LSI Playground Equipment (Items AF-AR, BD-BW, CC-CN)	1	LS	\$	\$
Play Equipment shall be purchased by Contractor, Contractor shall take delivery and fully install.					\$
53	Grotto with Treasure Chest including concrete support wall	1	LS	\$	\$

Bid Proposal for:
Wing Park
Renovation

Contractor: _____

Item #	Description	Quantity	Unit	Installed Unit Price	Item Total
54	Kraken	1	LS	\$	\$
55	Custom Cargo Deck Access Climber	1	LS	\$	\$
56	Grass Climber with Small Log Stepper	2	EA	\$	\$
57	Stump Tables with Sandblasted Graphics	2	EA	\$	\$
58	Accessible Whirl	1	EA	\$	\$
59	PIP Half Spheres - Small	16	EA	\$	\$
60	PIP Half Spheres - Large	13	EA	\$	\$
61	PIP Transfer Deck	1	EA	\$	\$
62	Splash Pad Equipment including mechanicals activator bollard, drains	1	LS	\$	\$
Site Furniture shall be purchased by Owner, Contractor shall take delivery and fully install.					\$
63	Linear Bench (A0)	12	EA	\$	\$
64	Custom Curved Bench at Council Ring (item A1-A3)	1	LS	\$	\$
65	Custom Curved Bench at Band Shell (item A4-A15)	1	LS	\$	\$
Site Furniture shall be purchased by Contractor, Contractor shall take delivery and fully install.					\$
66	Lago Curved Bench Seating - Large	1	EA	\$	\$
67	Lago Curved Bench Seating - Small	2	EA	\$	\$
68	Lago Stool/Table	3	EA	\$	\$
69	6' Rectangular Picnic Table	16	EA	\$	\$
70	ADA Rectangular Picnic Table	10	EA	\$	\$
71	8' Rectangular Picnic Table	3	EA	\$	\$
72	Bike Rack	18	EA	\$	\$
73	Grill	3	EA	\$	\$
74	Interpretive Sign	1	EA	\$	\$
75	Litter Receptacle	13	EA	\$	\$
76	Drinking Fountain	1	EA	\$	\$
77	Bankshot System	1	EA	\$	\$
78	Pickleball Net and Post System	2	EA	\$	\$
79	Pickleball Racket Holder	2	EA	\$	\$
80	Tip Down Double Bollard	3	EA	\$	\$
81	Solar Bollard	18	EA	\$	\$
82	Volleyball Net	1	EA	\$	\$
83	Playground Directional Sign	1	EA	\$	\$
84	10' x 52' Custom Steel Pergola	1	EA	\$	\$
85	Custom Curved Bench at Playground AD0-AD6	1	LS	\$	\$
86	Oval Picnic Table - Surface Mount	10	EA	\$	\$
87	Traffic, Pedestrian and ADA Signage per plans	1	LS	\$	\$

Bid Proposal for:
Wing Park
Renovation

Contractor: _____

Item #	Description	Quantity	Unit	Installed Unit Price	Item Total
88	Relocate Existing Traffic Signage	1	LS	\$	\$
89	Relocate Entry Signage	1	LS	\$	\$
90	Drinking Fountain Sewer Connection	1	LS	\$	\$
91	Type K Copper Water Line - 1"	262	LF	\$	\$
92	Type K Copper Water Line - 1.5"	29	LF	\$	\$
93	Type K Copper Water Line - 3"	76	LF	\$	\$
94	Type K Copper Water Line - 2" at Splash Pad	39	LF	\$	\$
95	Manhole Cover Replacement - closed lid	1	EA	\$	\$
96	RPZ including cover	1	EA	\$	\$
97	Bbox / Valve Box	2	EA	\$	\$
98	Splash Pad Electrical Connection including wiring and conduit	1	LS	\$	\$
99	2' Storm Manhole	6	EA	\$	\$
100	4' Open Lid Storm Manhole	6	EA	\$	\$
101	4" PVC SDR 26 solid pipe	86	LF	\$	\$
102	4" PVC SDR 26 wall drains	305	LF	\$	\$
103	6" Cleanout	7	EA	\$	\$
104	6" Sanitary Cleanout	1	EA	\$	\$
105	6" Bubbler	2	EA	\$	\$
106	6" PVC SDR 26 perf pipe	653	LF	\$	\$
107	6" PVC SDR 26 solid pipe	210	LF	\$	\$
108	6" Water Main Quality Sanitary Pipe	12	LF	\$	\$
109	6" Stand Pipe	1	EA	\$	\$
110	6" Storm Drain With ADA Lid	3	EA	\$	\$
111	10" PVC SDR 26 perf pipe	45	LF	\$	\$
112	10" PVC SDR 26 solid pipe	86	LF	\$	\$
113	12" Cleanout	1	EA	\$	\$
114	12" Flared End Section including Rip rap	2	EA	\$	\$
115	12" Open Lid Drain	1	EA	\$	\$
116	12"PVC SDR 26 solid pipe	536	LF	\$	\$
117	12"PVC SDR 26 perf pipe	16	LF	\$	\$
118	Level Spreader including aggregate per details	1	LS	\$	\$
119	2" PVC Conduit with Tracer Wire and caps at Bandshell	55	LF	\$	\$
120	Limestone Outcrop	1	LS	\$	\$
121	Tree Cookie Steppers	436	SF	\$	\$

Bid Proposal for:
Wing Park
Renovation

Contractor: _____

Item #	Description	Quantity	Unit	Installed Unit Price	Item Total
122	Shade Tree	31	EA	\$	\$
123	Ornamental Tree	38	EA	\$	\$
124	Deciduous Shrub	333	EA	\$	\$
125	Evergreen Shrub	127	EA	\$	\$
126	Perennial and Grass Installation	7492	EA	\$	\$
127	Groundcover	150	EA	\$	\$
128	Bulb Planting	1149	EA	\$	\$
129	Berms	1	LS	\$	\$
130	Landscape Fence	806	LF	\$	\$
131	Native Seed and Plug Mix restoration and establishment including core aeration, seeding, fertilizing, and erosion control blanket cover at all disturbed areas.	13235	SF	\$	\$
132	Lawn restoration and establishment including core aeration, seeding, fertilizing, and erosion control blanket cover at all disturbed areas.	1	LS	\$	\$
133	Contingency Allowance	1	LS	\$250,000.00	\$250,000.00

Base Bid Total \$ _____

Base Bid in Writing:

ALTERNATE #1: Wetland Boardwalk and Adjacent Paths

Item #	Description	Quantity	Unit	Installed Unit Price	Item Total
Add A1-1	General Conditions	1	LS	\$	\$
Add A1-2	Site Preparation & Earthwork, Complete	88	CY	\$	\$
Add A1-3	Tree Protection Fence	265	LF	\$	\$
Add A1-4	Silt Fence	1	LS	\$	\$
Add A1-5	Boardwalk with Benches, piles, and curb	1	LS	\$	\$
Add A1-6	Asphalt Paving - Trail	233	SY	\$	\$
Add A1-7	Concrete Paving	574	SF	\$	\$
Add A1-8	Tactile Warning	2	EA	\$	\$
Add A1-9	Traffic Sign - Pedestrian Crossing	1	EA	\$	\$
Add A1-10	Concrete Abutment- Boardwalk	3	EA	\$	\$
Add A1-11	Shade Tree	5	EA	\$	\$
Add A1-12	Deciduous Shrub	19	EA	\$	\$
Add A1-13	Perennial and Grass Installation	54	EA	\$	\$
Add A1-14	Lawn restoration and establishment including core aeration, seeding, fertilizing, and erosion control blanket cover at all disturbed areas.	1	LS	\$	\$
Add A1-15	Contingency Allowance	1	LS	\$ 25,000.00	\$ 25,000.00

Alternate Bid Total \$ _____

Alternate Bid in Writing: _____

ALTERNATE #2: Restroom Building

Item #	Description	Quantity	Unit	Installed Unit Price	Item Total
Add A2-1	General Conditions	1	LS	\$	\$
Add A2-2	Site Preparation, Removals & Earthwork, including but not limited to existing structure removal	1	LS	\$	\$
Add A2-3	Building: Masonry, Structural Steel, Roofing, Flooring, Painting, Aluminum, Glass & Glazing	1	LS	\$	\$
Add A2-4	Building Plumbing and connection to existing utilities	1	LS	\$	\$
Add A2-5	Building HVAC	1	LS	\$	\$
Add A2-6	Building Electrical and connection to existing utilities	1	LS	\$	\$
Add A2-7	All security camera installation including conduit, wiring, cameras, poles, footings, and connection to Maintenance Building	1	LS	\$	\$
Add A2-8	Limestone at Landscape (at drinking Fountain)	2	EA	\$	\$
Add A2-9	Lawn restoration and establishment including core aeration, seeding, fertilizing, and erosion control blanket cover at all disturbed areas.	1	LS	\$	\$
Add A2-10	Contingency Allowance	1	LS	\$ 75,000.00	\$ 75,000.00

Alternate Bid Total \$ _____

Alternate Bid in Writing: _____

ALTERNATE #3: West Parking Lot

Item #	Description	Quantity	Unit	Installed Unit Price	Item Total
Add A3-1	General Conditions	1	LS	\$	\$
Add A3-2	Site Preparation & Earthwork, Complete	63	CY	\$	\$
Add A3-3	Tree Protection Fence	575	LF	\$	\$
Add A3-4	Asphalt Paving - Trail	30	SY	\$	\$
Add A3-5	Asphalt Paving - Vehicular	1642	SY	\$	\$
Add A3-6	Wheelstops	27	EA	\$	\$
Add A3-7	Parking Stall Striping including ADA Striping	1	LS	\$	\$
Add A3-8	Traffic and Pedestrian Signs	1	LS	\$	\$
Add A3-9	LED Head Replacement of Existing Lights	1	LS	\$	\$
Add A3-10	Shade Tree	11	EA	\$	\$
Add A3-11	Deciduous Shrub	76	EA	\$	\$
Add A3-12	Perennial and Grass Installation	473	EA	\$	\$
Add A3-13	Lawn restoration and establishment including core aeration, seeding, fertilizing, and erosion control blanket cover at all disturbed areas.	1	LS	\$	\$
Add A3-14	Contingency Allowance	1	LS	\$ 20,000.00	\$ 20,000.00

Alternate Bid Total \$ _____

Alternate Bid in Writing: _____

ALTERNATE #4: ADA Baseball Plaza Improvements

Item #	Description	Quantity	Unit	Installed Unit Price	Item Total
Add A4-1	General Conditions	1	LS	\$	\$
Add A4-2	Site Preparation & Earthwork, Complete	62	CY	\$	\$
Add A4-3	Construction Entrance Plan and Soil Erosion Control per plans	1	LS	\$	\$
Add A4-4	Asphalt Paving – Existing Base	325	SY	\$	\$
Add A4-5	Concrete Paving	11767	SF	\$	\$
Add A4-6	Block Retaining Wall at Baseball	65	LF	\$	\$
Add A4-7	Stairs with Handrail at Baseball Plaza	1	LS	\$	\$
Add A4-8	Bike Rack	3	EA	\$	\$
Add A4-9	Barrier Curb	169	LF	\$	\$
Add A4-10	Manhole Rim Adjustment	1	LS	\$	\$
Add A4-11	4" pvc sdr26 wall drains	97	LF	\$	\$
Add A4-12	6" bubbler	1	EA	\$	\$
Add A4-13	Limestone at Landscape	7	EA	\$	\$
Add A4-14	Shade Tree	2	EA	\$	\$
Add A4-15	Ornamental Tree	3	EA	\$	\$
Add A4-16	Deciduous Shrub	15	EA	\$	\$
Add A4-17	Evergreen Shrub	9	EA	\$	\$
Add A4-18	Perennial and Grass Installation	248	EA	\$	\$
Add A4-19	Lawn restoration and establishment including core aeration, seeding, fertilizing, and erosion control blanket cover at all disturbed areas.	1	LS	\$	\$
Add A4-20	Contingency Allowance	1	LS	\$ 15,000.00	\$ 15,000.00

Alternate Bid Total \$

Alternate Bid in Writing:

ALTERNATE #5: Bridge and Adjoining Paths

Item #	Description	Quantity	Unit	Installed Unit Price	Item Total
Add A5-1	General Conditions	1	LS	\$	\$
Add A5-2	Site Preparation & Earthwork, Complete	13	CY	\$	\$
Add A5-3	Weed Control - Aquatic Vegetation	1	LS	\$	\$
Add A5-4	Brush clearing and tree removal	1	LS	\$	\$
Add A5-5	Soil Erosion Control per plans	1	LS	\$	\$
Add A5-6	Asphalt Paving - Trail	84	SY	\$	\$
Add A5-7	Pedestrian Bridge - Weathered Steel	1	LS	\$	\$
Add A5-8	Pedestrian Bridge - Painted Steel upgrade	1	LS	\$	\$
Add A5-9	Boardwalk including guardrails	1	LS	\$	\$
Add A5-10	Solar Bollard	4	EA	\$	\$
Add A5-11	Limestone at Landscape	6	EA	\$	\$
Add A5-12	Interplanted Boulder Toe	518	SF	\$	\$
Add A5-13	Limestone Outcrop at Creek	376	FF	\$	\$
Add A5-14	Native Seed and Plug Mix restoration and establishment including core aeration, seeding, fertilizing, and erosion control blanket cover at all disturbed areas.	2001	SF	\$	\$
Add A5-15	Lawn restoration and establishment including core aeration, seeding, fertilizing, and erosion control blanket cover at all disturbed areas.	1	LS	\$	\$
Add A5-16	Contingency Allowance	1	LS	\$ 30,000.00	\$ 30,000.00

Alternate Bid Total \$ _____

Alternate Bid in Writing: _____

ALTERNATE #6: Sports Plaza Lighting AND Tennis Fence Replacement

Item #	Description	Quantity	Unit	Installed Unit Price	Item Total
Add A6-1	General Conditions	1	LS	\$	\$
Add A6-2	Site Preparation & Earthwork, Complete	1	CY	\$	\$
DED A6-3	LED Head Replacement of Existing Lights (Alternate #3)	1	LS	(\$)	(\$)
Add A6-4	Concrete Paving	30776	SF	\$	\$
Add A6-5	10' Chainlink Fence and Gates	771	LF	\$	\$
Add A6-6	Linear Bench	1	EA	\$	\$
Add A6-7	Musco Lighting: Tennis Court LED Replacement	1	LS	\$	\$
Add A6-8	Musco Lighting: Pickleball Lighting	1	LS	\$	\$
Add A6-9	Musco Lighting: Parking Lot Light Pole	1	LS	\$	\$
Add A6-10	Lawn restoration and establishment including core aeration, seeding, fertilizing, and erosion control blanket cover at all disturbed areas.	1	LS	\$	\$
Add A6-11	Contingency Allowance	1	LS	\$ 7,500.00	\$ 7,500.00

Alternate Bid Total \$ _____

Alternate Bid in Writing: _____

ALTERNATE #7: Sulphur Spring Beautification and Erosion Control

Item #	Description	Quantity	Unit	Installed Unit Price	Item Total
Add A7-1	General Conditions	1	LS	\$	\$
Add A7-2	Site Preparation & Earthwork, Complete	13	CY	\$	\$
Add A7-3	Brush clearing and tree removal	1	LS	\$	\$
Add A7-4	Silt Fence	1	LS	\$	\$
Add A7-5	Asphalt Paving - Trail	18	SY	\$	\$
Add A7-6	Tactile Warning	1	EA	\$	\$
Add A7-7	Traffic Sign - Pedestrian Crossing	1	EA	\$	\$
Add A7-8	Limestone Outcrop	1	LS	\$	\$
Add A7-9	Interplanted Boulder Toe	1059	SF	\$	\$
Add A7-10	Shade Tree	1	EA	\$	\$
Add A7-11	Ornamental Tree	6	EA	\$	\$
Add A7-12	Deciduous Shrub	38	EA	\$	\$
Add A7-13	Perennial and Grass Installation	204	EA	\$	\$
Add A7-14	Native Seed and Plug Mix restoration and establishment including core aeration, seeding, fertilizing, and erosion control blanket cover at all disturbed areas.	3669	SF	\$	\$
Add A7-15	Lawn restoration and establishment including core aeration, seeding, fertilizing, and erosion control blanket cover at all disturbed areas.	1	LS	\$	\$
Add A7-16	Contingency Allowance	1	LS	\$ 30,000.00	\$ 30,000.00

Alternate Bid Total \$ _____

Alternate Bid in Writing: _____

ALTERNATE #8: Wetland Restoration and Maintenance

Item #	Description	Quantity	Unit	Installed Unit Price	Item Total
Add A8-1	General Conditions	1	LS	\$	\$
Add A8-2	Site Preparation & Earthwork, Complete	1	LS	\$	\$
Add A8-3	Weed Control - Aquatic Vegetation	1	LS	\$	\$
Add A8-4	Brush clearing and tree removal	1	LS	\$	\$
Add A8-5	Silt Fence	1	LS	\$	\$
Add A8-6	Native Seed and Plug Mix restoration and establishment including core aeration, seeding, fertilizing, and erosion control blanket cover at all disturbed areas.	26054	SF	\$	\$
Add A8-7	Native Establishment Maintenance Contract	3	YEARS	\$	\$
Add A8-8	Contingency Allowance	1	LS	\$ 7,500.00	\$ 7,500.00

Alternate Bid Total \$ _____

Alternate Bid in Writing: _____

End of Bid Items - Fill out remainder of forms.
Provide 2 copies of bid form.

CONTRACTOR:_____

CONTACT:_____SIGNATURE:_____

PHONE:_____FAX:_____

ADDRESS:_____

List Surety Company Which Contractor will be using for Performance and Payment Bonds:_____

CITY OF ELGIN, ILLINOIS

BID BOND

We, the undersigned, _____ as Principal, and _____ as Surety, are hereby held and firmly bound unto the CITY OF ELGIN, a municipality in the State of Illinois, in the sum of Dollars (\$_____). We hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns. Principal has hereby submitted to the City of Elgin a certain Bid attached hereto and hereby made a part hereof for the Project described as:

Wing Park Renovation

If Principal fails to execute a contract and furnish a performance bond and a labor and materials or payment bond as provided for in its bid or otherwise fails to perform any of the obligations created by the acceptance of said bid, Principal's bid deposit shall become and be the property of the City of Elgin as and for reasonable liquidated damages, which shall not be construed as a penalty, but as an actual estimate of damages.

If such Bid is rejected because of death, disability, or clearly apparent clerical error, Principal's bid bond shall be returned to Principal.

Surety, for value received, the sufficiency of which is hereby acknowledged, hereby agrees that its obligations and this bond shall in no way be impaired or affected by an extension of the time in which the City of Elgin may accept such bid and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and have caused this bond to be signed by their proper officers on this ____ day of _____, 20_____.

CONTRACTOR AS PRINCIPAL

SURETY

(Signature)

(Signature)

(Name & Title)

(Name & Title)

SEAL

SEAL

PAYMENT BOND

We, the undersigned, _____
(Name of Contractor)

(Address of Contractor)

_____ (Corporation, Partnership or Individual), hereinafter called "Principal", and _____

(Name of Surety) _____
(Address of Surety)

hereinafter called "Surety", are held and firmly bound unto the CITY OF ELGIN, 150 Dexter Court, Elgin, IL 60120, hereinafter called "Owner", in the sum of _____ Dollars (\$_____). We hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

Principal has entered into a certain contract with Owner dated the ____ day of _____, 20____, a copy of which is attached hereto and made a part hereof, for the project known as :

Wing Park Renovation

Now, therefore, if Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, and not less than the general prevailing rate of hourly wages of a similar character in the locality in which the work is performed, as determined by the State of Illinois Department of Labor pursuant to the Illinois Compiled Statutes 280 ILCS 130 / 1-12 et. seq. including all amounts due for all materials used in connection with the work, and shall promptly make payment for all insurance premiums on said work, and for all labor performed in such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise this bond shall remain in full force and effect.

Surety for value received hereby agrees that no changes, extension of time, alteration or addition to the terms of the contract or to the work to be performed there under or the Specifications accompanying the same shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such changes, extensions of time, alterations or additions to the terms of the contract or to the work or specifications.

Provided, further, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed on this _____ day of _____, 20____

CONTRACTOR AS PRINCIPAL

SURETY

(Signature)
Name and Title: _____

(Signature)
Name and Title: _____

SEAL

SEAL

PERFORMANCE BOND

We, the undersigned, _____
(Name of Contractor)

(Address of Contractor)

(Corporation, Partnership, or Individual)

hereinafter called "Principal", and _____,
(Name of Surety)

_____, (Address of Surety)

hereinafter called "Surety", are held and firmly bound unto the CITY OF ELGIN, 150 Dexter Court, Elgin, IL 60120, hereinafter called "Owner", in the sum of _____ Dollars (\$ _____).

We hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

Principal has entered into a certain contract with Owner, dated the _____ day of _____, 20____, a copy of which is attached hereto and made a part hereof, for the project known as:

Wing Park Renovation

and Principal and Surety hereby bind themselves to Owner for the performance of the contract.

Now, therefore, if Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by Owner, with or without notice to Surety and during the guaranty period set forth in the contract, and if it shall satisfy all claims, obligations, requirements and demands incurred pursuant to such contract, and shall fully indemnify and save harmless Owner from all costs, damages, suits, causes of action and any and all other liability of whatsoever nature, which it may suffer by reason of Principal's failure to do so, and shall reimburse and repay Owner all outlay and expense which Owner may incur in making good any default, then this obligation shall be void; otherwise, this bond shall remain in full force and effect; provided, further, that the said Surety for value received hereby agrees that no change, extension of time, alteration or addition to the terms of such contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this Bond. Surety hereby waives notice of any such changes, extensions of time, alterations or additions to the terms of such contract or to the work or specifications provided for therein.

Provided, further, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed on this ____ day of _____, 20____.

CONTRACTOR AS PRINCIPAL

SURETY

(Signature)

(Signature)

Name and Title: _____

Name and Title: _____

SEAL

SEAL

Kane County Prevailing Wage Rates posted on 9/15/2026

						Overtime										
Trade Title	Rg	Type	C	Base	Foreman	M-F	Sa	Su	Hol	H/W	Pension	Vac	Trng	Other Ins	Add OT 1.5x owed	Add OT 2.0x owed
ASBESTOS ABT-GEN	All	ALL		53.00	54.00	1.5	1.5	2.0	2.0	17.23	20.97	0.00	0.91		0.00	0.00
ASBESTOS ABT-MEC	All	BLD		43.52	47.00	1.5	1.5	2.0	2.0	17.84	16.75	0.00	1.01		3.42	6.84
BOILERMAKER	All	BLD		62.06	67.64	2.0	2.0	2.0	2.0	7.07	27.81	0.00	3.69	2.72	0.00	40.50
BRICK MASON	All	BLD		54.81	60.29	1.5	1.5	2.0	2.0	14.74	25.51	0.00	1.59	0.00	13.05	17.40
CARPENTER	All	ALL		58.51	60.51	1.5	1.5	2.0	2.0	14.49	28.87	2.43	1.04		0.00	0.00
CEMENT MASON	All	ALL		52.15	54.15	2.0	1.5	2.0	2.0	12.86	30.96	0.00	0.80	0.00	0.00	0.00
CERAMIC TILE FINISHER	All	BLD		51.09	51.09	1.5	1.5	2.0	2.0	14.00	18.32	0.00	1.41	0.00	17.32	23.08
CERAMIC TILE LAYER	All	BLD		59.44	64.44	1.5	1.5	2.0	2.0	14.00	22.43	0.00	1.54	0.00	23.67	31.56
COMMUNICATION TECHNICIAN	N	BLD		48.71	51.71	1.5	1.5	2.0	2.0	14.96	20.31	0.00	1.10	0.00	10.44	20.90
COMMUNICATION TECHNICIAN	S	BLD		49.70	53.20	1.5	1.5	2.0	2.0	17.30	19.41	0.00	1.74	0.00	0.00	0.00
CONCRETE SPECIALIST	All	BLD		53.56	60.18	1.5	1.5	2.0	2.0	14.74	26.81	0.00	1.59	0.00	15.00	20.00
CONCRETE SPECIALIST WELDER	All	BLD		56.24	60.18	1.5	1.5	2.0	2.0	14.74	26.81	0.00	1.59	0.00	15.00	20.00
ELECTRIC PWR EQMT OP	All	ALL		54.83	74.82	1.5	1.5	2.0	2.0	7.50	15.35	0.00	1.92	1.64	9.46	18.91
ELECTRIC PWR GRNDMAN	All	ALL		42.12	74.82	1.5	1.5	2.0	2.0	7.50	11.79	0.00	1.47	1.26	7.26	14.51
ELECTRIC PWR LINEMAN	All	ALL		65.92	74.82	1.5	1.5	2.0	2.0	7.50	18.46	0.00	2.31	1.98	11.38	22.75
ELECTRIC PWR TRK DRV	All	ALL		43.65	74.82	1.5	1.5	2.0	2.0	7.50	12.22	0.00	1.53	1.31	7.53	15.06
ELECTRICIAN	N	ALL		62.22	68.44	1.5	1.5	2.0	2.0	17.12	25.48	0.00	1.87		13.16	26.33
ELECTRICIAN	S	BLD		64.16	70.58	1.5	1.5	2.0	2.0	17.55	24.96	0.00	2.25		0.00	0.00
ELEVATOR CONSTRUCTOR	All	BLD		73.65	82.86	2.0	2.0	2.0	2.0	16.37	21.76	5.89	0.85		0.00	0.00
FENCE ERECTOR	All	ALL		52.68	60.58	1.5	1.5	2.0	1.5	14.45	29.20	0.00	1.80	0.00	0.00	0.00
GLAZIER	All	BLD		55.35	56.85	1.5	2.0	2.0	2.0	16.54	27.36	0.00	2.35	0.00	0.00	0.00
HEAT/FROST INSULATOR	All	BLD		58.02	61.50	1.5	1.5	2.0	2.0	17.84	20.05	0.00	1.01		5.07	10.14
IRON WORKER	All	ALL		57.55	66.18	2.0	2.0	2.0	2.0	14.45	33.29	0.00	1.80	0.00	0.00	0.00
LABORER	All	ALL		53.00	53.75	1.5	1.5	2.0	2.0	17.23	20.97	0.00	0.91		0.00	0.00
LATHER	All	ALL		58.51	60.51	1.5	1.5	2.0	2.0	14.49	28.87	2.43	1.04		0.00	0.00

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MACHINIST	All	BLD		61.89	65.89	1.5	1.5	2.0	2.0	14.43	9.95	1.85	1.47		0.00	0.00
MARBLE FINISHER	All	ALL		41.74	56.44	1.5	1.5	2.0	2.0	14.74	22.81	0.00	1.01	0.00	9.00	12.00
MARBLE SETTER	All	BLD		53.75	59.13	1.5	1.5	2.0	2.0	14.74	24.78	0.00	1.27	0.00	11.96	15.94
MATERIAL TESTER I	All	ALL		43.00		1.5	1.5	2.0	2.0	17.23	20.97	0.00	0.91		0.00	0.00
MATERIALS TESTER II	All	ALL		48.00		1.5	1.5	2.0	2.0	17.23	20.97	0.00	0.91		0.00	0.00
MILLWRIGHT	All	ALL		58.51	60.51	1.5	1.5	2.0	2.0	14.49	28.87	2.43	1.04		0.00	0.00
OPERATING ENGINEER	All	BLD	1	68.80	72.80	2.0	2.0	2.0	2.0	25.95	22.30	2.00	2.80	0.00	0.00	0.00
OPERATING ENGINEER	All	BLD	2	67.50	72.80	2.0	2.0	2.0	2.0	25.95	22.30	2.00	2.80	0.00	0.00	0.00
OPERATING ENGINEER	All	BLD	3	64.95	72.80	2.0	2.0	2.0	2.0	25.95	22.30	2.00	2.80	0.00	0.00	0.00
OPERATING ENGINEER	All	BLD	4	63.20	72.80	2.0	2.0	2.0	2.0	25.95	22.30	2.00	2.80	0.00	0.00	0.00
OPERATING ENGINEER	All	BLD	5	72.55	72.80	2.0	2.0	2.0	2.0	25.95	22.30	2.00	2.80	0.00	0.00	0.00
OPERATING ENGINEER	All	BLD	6	69.80	72.80	2.0	2.0	2.0	2.0	25.95	22.30	2.00	2.80	0.00	0.00	0.00
OPERATING ENGINEER	All	BLD	7	71.80	72.80	2.0	2.0	2.0	2.0	25.95	22.30	2.00	2.80	0.00	0.00	0.00
OPERATING ENGINEER	All	FLT		57.25	57.25	1.5	1.5	2.0	2.0	26.05	24.50	2.00	2.10	0.00	0.00	0.00
OPERATING ENGINEER	All	HWY	1	67.00	71.00	1.5	1.5	2.0	2.0	25.95	22.30	2.00	2.80	0.00	0.00	0.00
OPERATING ENGINEER	All	HWY	2	66.45	71.00	1.5	1.5	2.0	2.0	25.95	22.30	2.00	2.80	0.00	0.00	0.00
OPERATING ENGINEER	All	HWY	3	64.40	71.00	1.5	1.5	2.0	2.0	25.95	22.30	2.00	2.80	0.00	0.00	0.00
OPERATING ENGINEER	All	HWY	4	63.00	71.00	1.5	1.5	2.0	2.0	25.95	22.30	2.00	2.80	0.00	0.00	0.00
OPERATING ENGINEER	All	HWY	5	61.80	71.00	1.5	1.5	2.0	2.0	25.95	22.30	2.00	2.80	0.00	0.00	0.00
OPERATING ENGINEER	All	HWY	6	70.00	71.00	1.5	1.5	2.0	2.0	25.95	22.30	2.00	2.80	0.00	0.00	0.00
OPERATING ENGINEER	All	HWY	7	68.00	71.00	1.5	1.5	2.0	2.0	25.95	22.30	2.00	2.80	0.00	0.00	0.00
ORNAMENTAL IRON WORKER	E	ALL		61.36	65.36	2.0	2.0	2.0	2.0	15.36	28.70	0.00	2.40	0.00	0.00	0.00
PAINTER	All	ALL		56.30	58.30	1.5	1.5	1.5	2.0	16.95	11.68	0.00	1.75	0.00	0.00	0.00
PAINTER - SIGNS	All	BLD		48.16	54.11	1.5	1.5	2.0	2.0	8.20	16.81	0.00	0.00	0.00	0.00	0.00
PILEDRIIVER	All	ALL		58.51	60.51	1.5	1.5	2.0	2.0	14.49	28.87	2.43	1.04		0.00	0.00
PIPEFITTER	All	BLD		59.50	62.50	1.5	1.5	2.0	2.0	16.00	23.85	0.00	2.87	0.00	0.00	0.00
PLASTERER	All	BLD		54.98	58.28	1.5	1.5	2.0	2.0	18.50	22.10	0.00	1.25		0.00	0.00
PLUMBER	All	BLD		62.00	65.70	1.5	1.5	2.0	2.0	20.85	18.00	0.00	2.17		0.00	0.00
ROOFER	All	BLD		53.75	58.75	1.5	1.5	2.0	2.0	12.95	18.19	0.00	1.14	0.00	0.00	0.00

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SHEETMETAL WORKER	All	BLD		60.89	65.76	1.5	1.5	2.0	2.0	18.91	19.90	0.00	1.82	2.72	0.00	0.00
SPRINKLER FITTER	All	BLD		65.45	68.20	1.5	1.5	2.0	2.0	16.45	20.95	0.00	1.20	0.00	0.00	0.00
STONE MASON	All	BLD		54.81	60.29	1.5	1.5	2.0	2.0	14.74	25.51	0.00	1.59	0.00	13.05	17.40
SURVEY WORKER	All	BLD		53.00	53.75	1.5	1.5	2.0	2.0	17.23	20.97	0.00	0.91		0.00	0.00
SURVEY WORKER	All	HWY		53.00	53.75	1.5	1.5	2.0	2.0	17.23	20.97	0.00	0.91		0.00	0.00
TERRAZZO FINISHER	All	BLD		53.44	53.44	1.5	1.5	2.0	2.0	14.00	19.59	0.00	1.14	0.00	13.89	18.52
TERRAZZO MECHANIC	All	BLD		57.35	60.85	1.5	1.5	2.0	2.0	14.00	20.97	0.00	1.50	0.00	14.63	19.50
TRAFFIC SAFETY WORKER I	All	HWY		44.65	46.65	1.5	1.5	2.0	2.0	11.00	10.33	0.00	1.05	0.00	0.00	0.00
TRAFFIC SAFETY WORKER II	ALL	HWY		45.65	47.65	1.5	1.5	2.0	2.0	11.00	10.33	0.00	1.05	0.00	0.00	0.00
TRUCK DRIVER	All	ALL	1	46.71		1.5	1.5	2.0	2.0	12.65	16.50	0.00	0.35	0.00	0.00	0.00
TRUCK DRIVER	All	ALL	2	46.86		1.5	1.5	2.0	2.0	12.65	16.50	0.00	0.35	0.00	0.00	0.00
TRUCK DRIVER	All	ALL	3	47.06		1.5	1.5	2.0	2.0	12.65	16.50	0.00	0.35	0.00	0.00	0.00
TRUCK DRIVER	All	ALL	4	47.26		1.5	1.5	2.0	2.0	12.65	16.50	0.00	0.35	0.00	0.00	0.00
TUCK POINTER	All	BLD		53.53	54.53	1.5	1.5	2.0	2.0	12.05	23.73	0.00	1.48	0.00	0.00	0.00

Legend

Rg Region

Type Trade Type - All,Highway,Building,Floating,Oil & Chip,Rivers

C Class

Base Base Wage Rate

OT M-F Unless otherwise noted, OT pay is required for any hour greater than 8 worked each day, Mon through Fri. The number listed is the multiple of the base wage.

OT Sa Overtime pay required for every hour worked on Saturdays

OT Su Overtime pay required for every hour worked on Sundays

OT Hol Overtime pay required for every hour worked on Holidays

H/W Health/Welfare benefit

Vac Vacation

Trng Training

Other Ins Employer hourly cost for any other type(s) of insurance provided for benefit of worker.

Explanations KANE COUNTY

ELECTRICIANS AND COMMUNICATIONS TECHNICIAN (NORTH) - Townships of Burlington, Campton, Dundee, Elgin, Hampshire, Plato, Rutland, St. Charles (except the West half of Sec. 26, all of Secs. 27, 33, and 34, South half of Sec. 28, West half of Sec. 35), Virgil and Valley View CCC and Elgin Mental Health Center.

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The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

CERAMIC TILE FINISHER

The grouting, cleaning, and polishing of all classes of tile, whether for interior or exterior purposes, all burned, glazed or unglazed products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials. The handling and unloading of all sand, cement, lime, tile, fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scarifying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

COMMUNICATIONS TECHNICIAN

Construction, installation, maintenance and removal of telecommunication facilities (voice, sound, data and video), telephone, security systems, fire alarm systems that are a component of a multiplex system and share a common cable, and data inside wire, interconnect, terminal equipment, central offices, PABX and equipment, micro waves, V-SAT, bypass, CATV, WAN (wide area network), LAN (local area networks), and ISDN (integrated system digital network), pulling of wire in raceways, but not the installation of raceways.

MARBLE FINISHER

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Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

OPERATING ENGINEER - BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft; Concrete Paver 27E cu. ft. and Under; Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Heavy Duty Self-Propelled Transporter or Prime Mover; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes: Squeeze Cretes-Screw Type Pumps; Gypsum Bulker and Pump; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Operation of Tie Back Machine; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Laser Screed; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators (remodeling or renovation work); Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to

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exceed a total of 300 ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 4. Bobcats and/or other Skid Steer Loaders; Oilers; and Brick Forklift.

Class 5. Assistant Craft Foreman.

Class 6. Gradall.

Class 7. Mechanics; Welders.

OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines; ABG Paver; Backhoes with Caisson Attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower Cranes of all types: Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derrick Boats; Derricks, Traveling; Dredges; Elevators, Outside type Rack & Pinion and Similar Machines; Formless Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Heavy Duty Self-Propelled Transporter or Prime Mover; Hydraulic Backhoes; Backhoes with shear attachments up to 40' of boom reach; Lubrication Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig; Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill Grinder; Slip-Form Paver; Snow Melters; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel); Operation of Tieback Machine; Tractor Drawn Belt Loader; Tractor Drawn Belt Loader (with attached pusher - two engineers); Tractor with Boom; Tractaire with Attachments; Traffic Barrier Transfer Machine; Trenching; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5 ft. in diameter and over tunnel, etc; Underground Boring and/or Mining Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine - Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; Hydro Excavating (excluding hose work); Laser Screed; All Locomotives, Dinky; Off-Road Hauling Units (including articulating) Non Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper - Single/Twin Engine/Push and Pull; Scraper - Prime Mover in Tandem (Regardless of Size); Tractors pulling attachments, Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two

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Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats; Tamper-Form-Motor Driven.

Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Vacuum Trucks (excluding hose work); Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. SkidSteer Loader (all); Brick Forklifts; Oilers.

Class 6. Field Mechanics and Field Welders

Class 7. Dowell Machine with Air Compressor; Gradall and machines of like nature.

OPERATING ENGINEERS - FLOATING

Diver. Diver Wet Tender, Diver Tender, ROV Pilot, ROV Tender

SURVEY WORKER

Operates survey equipment (such as levels, transits, data collectors, GPS and robotic total stations) for the purpose of performing construction layout and/or grade checking.

SURVEY FOREMAN

Operates survey equipment (such as levels, transits, data collectors, GPS and robotic total stations) for the purpose of performing construction layout and/or grade checking; oversees survey crew operations; and/or coordinates work of survey crews.

TRAFFIC SAFETY Worker I

Traffic Safety Worker I - work associated with the delivery, installation, pick-up and servicing of safety devices during periods of roadway construction, including such work as set-up and maintenance of barricades, barrier wall reflectors, drums, cones, delineators, signs, crash attenuators, glare screen and other such items, and the layout and application or removal of conflicting and/or temporary roadway markings utilized to control traffic in construction zones, as well as flagging for these operations.

TRAFFIC SAFETY WORKER II

Work associated with the installation and removal of permanent pavement markings and/or pavement markers including both installations performed by hand and installations performed by truck.

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and

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tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters; Unskilled Dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turnatrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnatrailers or turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front.

TERRAZZO FINISHER

The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and Terrazzo work, floors, base, stairs, and wainscoting by hand or machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

MATERIAL TESTER & MATERIAL TESTER/INSPECTOR I AND II

Notwithstanding the difference in the classification title, the classification entitled "Material Tester I" involves the same job duties

Kane County Prevailing Wage Rates posted on 9/15/2026

as the classification entitled "Material Tester/Inspector I". Likewise, the classification entitled "Material Tester II" involves the same job duties as the classification entitled "Material Tester/Inspector II".



City of Elgin, Illinois

BIDDER'S EMPLOYEE UTILIZATION FORM

This report is required by the City of Elgin and must be submitted before the contract can be awarded.

Chapter 3.12.1000 Affirmative Action - City Contracts

1. Name and Address of Bidder

2. Description of Project

JOB CATEGORIES	Total Employees	African American M / F	Caucasian M / F	Hispanic M / F	Asians or Pacific Islanders M / F	Indigenous People M / F	Minority (M & F) %	Female (All Categories) %
Example: Managers	18	3 / 5	3 / 2	4 / 0	0 / 1	0 / 0	55.6% (10/18)	44.4% (8/18)
TOTALS								

Signature of Company Official	Title	Telephone Number	Date Signed	Page ____ of ____
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- Have you ever been awarded a bid by the City of Elgin?
____ Yes ____ No
- If the answer to question #2 is Yes, please submit a copy of the Employee Utilization Form that was submitted with your last successful bid along with a fully completed copy of this form.
- Please submit, according to the guideline provided in the attached document, a written commitment to provide equal employment opportunity. An Employee Utilization Form is required for any subcontractors.

NOTE: In the event that a contractor or vendor, etc., fails to comply with the fair employment and affirmative action provisions of the City of Elgin, the City amongst other actions may cancel, terminate, or suspend the contract in whole or in part.



City of Elgin, Illinois

Certification Requirements

Please submit all required forms and documentation, fully completed and signed, with your proposal. **No proposal will be accepted without this information.**

- 1 To assure compliance with the City of Elgin's Affirmative Action Ordinance, all contractors and vendors. Herein referred to as "bidders", are requested to submit the following information:
 - A. Workforce analysis using the enclosed Bidder's Employee Utilization form.
 - B. Provide the information required in Item #3 on the employee utilization form if the answer to Question # 2 on the form is "Yes".
 - C. Provide a written commitment outlining the steps that the bidder plans to take in the area of recruitment and promotion of minorities and females to assure equal employment opportunity. (A copy of the bidder's affirmative action plan may be submitted in lieu of this requirement.)
2. To assure compliance with the City of Elgin's Sexual Harassment Ordinance, all bidders must submit a signed sexual harassment form enclosed with the Invitation to Bid.
3. The undersigned certifies that the offerer is not delinquent in the payment of any tax administered by the Illinois Department of Revenue unless there is a pending proceeding contesting the tax.
4. The undersigned certifies that the offerer is not barred from offering on this solicitation as a result of a conviction for the violation of State law prohibiting bid-rigging or bid-rotating.
5. The successful bidder agrees that upon acceptance by the City of Elgin, the executed Invitation to Bid along with all instructions, conditions, and specifications attached thereto constitute a binding contract which may be enforced by the city.

Signature / Title
Company Name
Address

Phone Number
Email Address
FEIN No.



City of Elgin, Illinois

Equal Employment Written Commitment Guideline

The written commitment required in Item #4 of the Bidder's Employee Utilization Form shall:

1. Set out the name and phone number of the bidder's Equal Employment Officer.
2. Clearly identify the bidder's recruitment area and the percentage of minorities and females in the area's population and labor force.
3. Set out what the bidder has done and has set as a goal to ensure the recruitment of minority and female employees.
4. Set out the bidder's specific goals to recruit minorities and females for training programs or other similar opportunities available through the bidder's organization.
5. Indicate bidder's consent to submit to the City of Elgin, upon request, statistical data concerning its employee composition and recruitment efforts anytime during the term of the contract.
6. Show bidder's consent to distribute copies of the written commitment to all persons who participate in recruitment, screening, referral, and selection and hiring of job applicants for the bidder.
7. Clearly show that the bidder shall require all subcontractors, if any, to submit a written commitment complying with the above requirements of their affirmative action plan to the City of Elgin.
8. Clearly state the bidder agrees that:

"Bidder (company name) shall not discriminate against any employee or applicant on the basis of race, color, religion, sex, national origin, age, place of birth, ancestry, marital status, or disability (physical or mental) which will not interfere with the performance of the job in question."

Description of Groups for Classification Purposes

African American:	all persons having origins in any of the Black racial groups of Africa
Asian American:	all persons having origins in the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands
Caucasian:	all persons having origins in Europe, North America, or the Middle East
Hispanic:	all persons of Mexican, Puerto Rican, Cuban, Central South American, or other Spanish culture or origin, regardless of race
Indigenous People:	all persons having origins in any of the original peoples of North America and who maintain cultural identification through tribal affiliation or community recognition



City of Elgin, Illinois Sexual Harassment - - Policies and Programs

Effective July 1, 1993, every party to any contract with the City of Elgin and every eligible bidder is required to have written sexual harassment policies that include, at a minimum, the following information:

- the illegality of sexual harassment
- the definition of sexual harassment under state law
- a description of sexual harassment, utilizing examples
- a vendor's internal complaint process including penalties
- the legal recourse, investigative and complaint process available through the Illinois Department of Human Rights, and the Illinois Human Rights Commission
- directions on how to contact the department and commission
- protection against retaliation as provided by Section 6-101 of the Human Rights Act

I hereby affirm that the organization which I represent has in place sexual harassment policies which include the required information set forth above, and I hereby agree to furnish the City of Elgin - Human Resources Department with a copy of these policies if they so request.

Signature/Title _____
Company _____
Date _____

Sexual harassment is defined as follows:

"Sexual harassment" means any unwelcome sexual advances or requests for sexual favors or any conduct of a sexual nature when (1) submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment, (2) submission to or rejection of such conduct by an individual is used as a basis for employment decisions affecting such individual, or (3) such conduct has the purpose or effect of substantially interfering with an individual's work performance or creating an intimidating, hostile, or offensive working environment.

Any questions by contracting parties or eligible bidders concerning compliance with these requirements should be directed to the City of Elgin - Human Resources Department at (847) 931-6049.

I hereby agree to fully indemnify and hold the City of Elgin harmless from any and all liability, loss or damage including costs of defense or claim, demands, costs of judgment against it arising from any sexual harassment complaint resulting from the act of any member of my organization in the performance of this contract.

Signature/Title _____
Company _____
Date _____

**ELGIN
RESPONSIBLE
BIDDER'S
ORDINANCE**

AN ORDINANCE
AMENDING TITLE 5 OF THE
ELGIN MUNICIPAL CODE, 1976, AS AMENDED,
ENTITLED "PROCUREMENTS"

WHEREAS, the City of Elgin is a home rule unit pursuant to Subsection (a) of Section 6 of Article VII of the Illinois Constitution of 1970; and

WHEREAS, pursuant to such section of the Illinois Constitution a home rule unit may exercise any power and perform any function pertaining to its governmental affairs; and

WHEREAS, the City of Elgin pursuant to its home rule powers has previously adopted a procurement ordinance pursuant to Title 5 of the Elgin Municipal Code, 1976, as amended, entitled "Procurements"; and

WHEREAS, the purpose of such procurement ordinance includes providing for the fair and equitable treatment of all persons involved in public purchasing by the city, to maximize the purchasing value of public funds and procurement, to obtain the best value for using departments, and to provide safeguards for maintaining a procurement system of quality and integrity; and

WHEREAS, On March 23, 2011, the city council of the City of Elgin adopted an ordinance amending the procurement ordinance to provide for a more comprehensive definition of a responsible bidder for certain contracts involving the city; and

WHEREAS, the city council of the City of Elgin has determined that it is appropriate to further amend the definition of a responsible bidder set forth in the procurement ordinance; and

WHEREAS, defining what constitutes a responsible bidder for certain city contracts and otherwise providing for procurements regulations for City of Elgin procurements pertains to the government and affairs of the city.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ELGIN, ILLINOIS:

Section 1. That within Section 5.04.005 of the Elgin Municipal Code, 1976, as amended, entitled "Definitions generally," the definition of "Responsible bidder or offeror" be and is hereby further amended to read as follows:

""Responsible bidder or offeror" means a person who has the capability in all respects to perform fully the contract requirements, and the tenacity, perseverance, experience, integrity, reliability, capacity, facilities, equipment, and credit which will assure good faith performance. In addition to meeting such criteria a responsible bidder must also submit evidence of compliance with the following specific applicable criteria:

A. Documents evidencing compliance with all applicable laws and ordinances prerequisite to doing business in the state, including but not limited to: (i) a copy of the Illinois Secretary of State's Department of Business Services online records evidencing that the bidder has a current corporate annual report on file, to the extent applicable; (ii) documents evidencing current registration with the Illinois Department of Revenue if bidder has employees (e.g., a document with account number, Illinois Business Tax number); (iii) documents evidencing current registration with the Illinois Department of Employment Security if bidder has employees (e.g. document with Unemployment Insurance account number).

B. Disclosure of any federal, state, or local tax liens or tax delinquencies against the bidder or any officers of the bidder in the last five (5) years.

C. A valid federal employer tax identification number or, if an individual, a valid Social Security number.

D. A statement of compliance with the equal opportunity employer provisions of Section 2000e of chapter 21, title 42 of the United States Code and federal executive order number 11246, as amended, by Executive Order 11375 and evidence of compliance with the equal opportunity employer provisions of section 3.12.100, as amended.

E. Certificates of insurance indicating insurance coverages as set forth in a bid specification including general liability, workers' compensation, completed operations, automobile, hazardous occupations, and products liability. Bidders shall also submit a statement that all employees are (i) covered under a current workers' compensation insurance policy and (ii) properly classified under such policy. If the bidder is insured with a carrier, the evidence of workers' compensation insurance shall be a copy of the "Information Page" of the bidder's workers' compensation policy and any continuation of that Information Page which include the name and address of the insured, as well as the class codes the compensation premium is based on and the total estimated remuneration per class code.

F. Evidence of a written sexual harassment policy in compliance with the provisions of the Illinois Human Rights Act (775 ILCS 5/2-105(A)(4), as amended).

G. A statement of compliance with the provisions of the Illinois Prevailing Wage Act (820 ILCS 130/1 *et seq.*, as amended) and all rules and regulations therein, for the past five (5) years. Such statement shall also provide that the bidder has reviewed the Prevailing Wage Act or federal Davis Bacon and Related Acts, has reviewed and agrees to pay the applicable prevailing wage rates attached to the bid specifications, and will strictly comply with the

Prevailing Wage Act or federal Davis Bacon and related acts and requirements. A bidder who has been found by the Illinois Department of Labor to be in violation of the Prevailing Wage Act twice within a three (3) year period shall be deemed not to be a responsible bidder for two (2) years from the date of the latest finding.

H. Evidence of compliance with the Substance Abuse Prevention on Public Works Projects Act (820 ILCS 265/1 *et seq.*, as amended).

I. A statement that individuals who will perform work on the Public Works project on behalf of the contractor are properly classified as either (i) an employee or (ii) an independent contractor under all applicable state and federal laws and local ordinances.

J. Documents evidencing any professional or trade license required by law or local ordinance for any trade or specialty area in which the bidder is seeking a contract award. Additionally, the bidder must disclose any suspension or revocation of such license held by the company, or of any director, officer or manager of the company.

K. Evidence of relevant experience that indicates the necessary capacity to perform the project and adequate references verifying the quality of work performed. Such evidence shall include any evidence of similar public works projects completed in the past three (3) years by the bidder, including the name of the public body and the project, original contract price, final contract price, the names of all subcontractors used, if applicable, and a statement as to compliance with completion deadlines.

L. For city construction projects (construction of new city facilities, renovation of existing city facilities, or city road construction projects) over Thirty Thousand Dollars (\$30,000), evidence of participation in apprentice and training programs applicable to the work to be performed on the project which are approved by and registered with the United States Department of Labor Office of Apprenticeship and Training or its successor organization; and evidence that any applicable apprenticeship program has graduated some number of apprentices in the past three (3) years for the construction crafts the bidder will perform on the project.

Evidence of graduation rates are not required for apprenticeable crafts dedicated exclusively to the transportation of material and equipment to and from the subject project. The required evidence includes but is not limited to a copy of all applicable apprenticeship standards and apprenticeship agreement(s) for any apprentice(s) who will perform work on the project. Additional evidence of participation and graduation requirements may be requested by the purchasing department at its discretion.

M. A statement that the bidder will maintain an Illinois office as the primary place of employment for the persons employed in the construction authorized by the contract.

N. Any determinations against the bidder by a court or governmental agency for violations of federal, state, or local laws, including but not limited to serious, willful, or repeated violations of the Occupational Safety and Health Act (OSHA), violations of contracting or antitrust laws, tax or licensing laws, environmental laws, or the Federal Davis Bacon and related acts.

O. For city construction projects (construction of new city facilities, renovation of existing facilities, or city road construction projects), bidders must demonstrate a good faith effort toward providing equal employment opportunities for persons to work as craftspersons, laborers, workers, or mechanics consistent with the racial, ethnic and gender demographics of the labor force available in the state department of employment security Chicago-Naperville-Joliet metropolitan division which consists of Cook, DeKalb, DuPage, Grundy, Kane, Kendall, McHenry, and Will Counties.

P. Disclosure of the name and address of each subcontractor from whom the bidder has accepted a bid and/or intends to hire on any part of the project. Further, any subcontractor that will complete either (i) 10% or more of the work on a project, or (ii) at least \$100,000 of the work on a project, shall be required to adhere to all of the requirements set forth herein as though it were bidding directly to the City of Elgin. Each bidder shall submit all subcontractor information and supporting documentation to the purchasing department prior to the subcontractor commencing work on the project.”

Section 2. If any provision, clause, sentence, paragraph, section or part of this ordinance, or application thereof, to any person or circumstance, shall for any reason be adjudged by a court of competent jurisdiction to be unconstitutional or invalid, said judgment shall not affect, impair, or validate the remainder of this ordinance and the application of such provisions to other persons or circumstances shall be confined in its operation to the provision, clause, sentence, paragraph, section or part thereof directly involved with the controversy in which such judgment shall have been rendered and to the person or circumstance involved. It is hereby declared to be the legislative intent of the city council that this chapter would have been adopted had such constitutional or invalid provisions, clause, sentence, paragraph, section or part thereof not been included.

Section 3. That all ordinances or parts or ordinances in conflict with the provisions of this ordinance be and are hereby repealed.

Section 4. That this ordinance shall be in full force and effect upon its passage and publication in the manner provided by law. The amendatory provisions of this ordinance shall be applicable to bids issued after the effective date of this ordinance.

David J. Kaptain, Mayor

Presented:

Passed:

Omnibus Vote: Yeas: Nays:

Recorded:

Published:

Attest:

Kimberly A. Dewis, City Clerk

**CITY OF ELGIN, ILLINOIS
RESPONSIBLE BIDDER AFFIDAVIT**

State of _____ ss.

County of _____

_____, being first duly sworn, hereby deposes and states:

(1) That s/he is the _____ of the party making the bid (the “bidder”) of which this affidavit is a part thereof.

(2) That the bidder has a valid federal employer tax identification number or, if an individual, a valid social security number, such number being as follows: _____.

(3) That bidder is in compliance with and has attached documents evidencing compliance with all applicable laws and ordinances prerequisite to doing business in the state, including but not limited to: (i) a copy of the Illinois Secretary of State’s Department of Business Services online records evidencing that the bidder has a current corporate annual report on file, to the extent applicable; (ii) documents evidencing current registration with the Illinois Department of Revenue if bidder has employees (e.g., a document with account number, Illinois Business Tax number); (iii) documents evidencing current registration with the Illinois Department of Employment Security if bidder has employees (e.g. document with Unemployment Insurance account number).

(4) That the bidder agrees to and shall comply with the Equal Opportunity Employer provisions of Section 2000e of Chapter 21, Title 42 of the United States Code and Federal Executive Order Number 11246, as amended, by Executive Order 11375, and shall provide evidence of compliance with the Equal Opportunity Employer provisions of the Elgin Municipal Code, Section 5.02.040, as amended.

(5) That bidder has the insurance coverages as set forth in a bid specification including general liability, workers’ compensation, completed operations, automobile, hazardous occupations, and products liability. Bidders shall submit a statement that all employees are (i) covered under a current workers’ compensation insurance policy and (ii) properly classified under such policy. If the bidder is insured with a carrier, the evidence of workers’ compensation insurance shall be a copy of the “Information Page” of the bidder’s workers’ compensation policy and any continuation of that Information Page which include the name and address of the insured, as well as the class codes the compensation premium is based on and the total estimated remuneration per class code. Copies of certificates of insurance indicating such insurance coverages are attached.

(6) That bidder has a written sexual harassment policy in compliance with the provisions of the Illinois Human Rights Act (775 ILCS 5/2-105(A)(4), as amended). A copy of bidder’s written sexual harassment policy is attached.

(7) That bidder hereby certifies that it has been in compliance with the provisions of the Illinois Prevailing Wage Act (820 ILCS 130/1 *et seq.*, as amended) and all rules and regulations therein, for the past five (5) years. Bidder hereby further certifies that it has reviewed the Prevailing Wage Act or federal Davis Bacon and Related Acts, has reviewed and agrees to pay the applicable prevailing wage rates attached to the bid specifications, and will strictly comply with the Prevailing Wage Act or federal Davis Bacon and related acts and requirements. A bidder who has been found by the Illinois Department of Labor to be in violation of the Prevailing Wage Act twice within a three (3) year period shall be deemed not to be a responsible bidder for two (2) years from the date of the latest finding.

(8) That the bidder hereby certifies: [check all that apply]

- _____ Bidder has not received =or been subject to any federal, state, or local tax liens or tax delinquencies against the bidder or any officers of the bidder in the last five (5) years.
- _____ Bidder has not received any notices of violations of the Illinois Prevailing Wage Act (820 ILCS 130/0.01 *et seq.*).
- _____ In the event any such tax liens, tax delinquencies, or notices of violations have been received by bidder, a copy of any such notices are attached hereto.
- _____ In the event that bidder has received any such tax liens, tax delinquencies, or notices of violations, any documentation demonstrating the resolution of any such liens, delinquencies, or notice is attached hereto.
- _____ For each such lien, delinquency, or other notice received by bidder, the matter has been resolved as follows:

_____.

(9) As a condition of the agreement for the project, bidder shall have in place a written substance abuse prevention program which meets or exceeds the program requirements of the Substance Abuse Prevention on Public Works Act (820 ILCS 265/1 *et seq.*, as amended). A copy of such policy shall be provided to the city's purchasing director prior to the entry into and execution of the agreement for the project.

10) Bidder represents and warrants that it has relevant experience that indicates the necessary capacity to perform the project and adequate references verifying the quality of work performed. Such evidence shall include any evidence of similar public works projects completed in the past three (3) years by the bidder, including the name of the public body and the project,

original contract price, final contract price, the names of all subcontractors used, if applicable, and a statement as to compliance with completion deadlines. Relevant experience of the bidder includes the following projects:

Bidder's references verifying the quality of the work performed on such projects are as follows:

(11) For city construction projects (construction of new city facilities, renovation of an existing facility, or city road construction projects) over thirty thousand dollars (\$30,000) bidder hereby certifies, evidence of participation in apprentice and training programs applicable to the work to be performed on the project which are approved by and registered with the United States Department of Labor Office of Apprenticeship and Training or its successor organization; and evidence that any applicable apprenticeship program has graduated some number of apprentices in the past three (3) years for the construction crafts the bidder will perform on the project. The required evidence includes but is not limited to a copy of all applicable apprenticeship standards and apprenticeship agreement(s) for any apprentice(s) who will perform work on the project.

Evidence of graduation rates are not required for apprenticeable crafts dedicated exclusively to the transportation of material and equipment to and from the subject project. The required evidence includes but is not limited to a copy of all applicable apprenticeship standards and apprenticeship agreement(s) for any apprentice(s) who will perform work on the project. Additional evidence of participation and graduation requirements may be requested by the purchasing department at its discretion. Evidence of such participation is hereby attached:

_____ Yes _____ No _____ Not applicable to this project
(check response which applies)

(12) For city construction projects (construction of new city facilities, renovation of existing facilities or city road construction projects) bidder must demonstrate a good faith effort toward providing equal employment opportunities for persons to work as craftspersons, laborers, workers or mechanics consistent with the racial, ethnic and gender demographics of the labor force available in the Illinois Department of Employment Security Chicago-Naperville-Joliet Metropolitan Division which consists of Cook DeKalb, DuPage, Grundy, Kane, Kendall, McHenry and Will counties. The following is bidder's description of bidder's good-faith efforts toward providing such equal employment opportunities:

(13) Bidder hereby certifies that individuals who will perform work on the Public Works project on behalf of the contractor are properly classified as either (i) an employee or (ii) an independent contractor under all applicable state and federal laws and local ordinances.

(14) That bidder is in compliance with and has attached documents evidencing any professional or trade license required by law or local ordinance for any trade or specialty area in which the bidder is seeking a contract award. Additionally, the bidder hereby certifies that it has disclosed any suspension or revocation of such license held by the company, or of any director, officer or manager of the company.

(15) Bidder hereby certifies that it will maintain an Illinois office as the primary place of employment for the persons employed in the construction authorized by the contract.

(16) Bidder hereby certifies that it has disclosed and has attached documents evidencing any determinations against the bidder by a court or governmental agency for violations of federal, state, or local laws, including but not limited to serious, willful, or repeated violations of the Occupational Safety and Health Act (OSHA), violations of contracting or antitrust laws, tax or licensing laws, environmental laws, or the Federal Davis Bacon and related acts.

(17) Bidder hereby certifies that it has disclosed and has attached documents evidencing the name and address of each subcontractor from whom the bidder has accepted a bid and/or intends to hire on any part of the project. Bidder hereby further certifies that any subcontractor that will complete either (i) ten percent (10%) or more of the work on a project, or (ii) at least \$100,000 of the work on a project, shall be required to adhere to all of the requirements set forth herein as though it were bidding directly to the City of Elgin. Each bidder shall submit all subcontractor information and supporting documentation to the purchasing department prior to the subcontractor commencing work on the project.

Signature of bidder, if an individual:

Signature of bidder, if a corporation:

President

Secretary

Signature of bidder, if a partnership:

Partner (indicate General or Limited)

Signature of bidder, if a limited liability company:

Member or Manager

Subscribed and sworn to before me this _____ day
of _____, 20_____.

My Commission expires: _____

FOR CITY PURCHASING DEPARTMENT ONLY:

Attachments - Insurance certificates: _____

Bidder's sexual harassment policy: _____

Bidder's substance abuse prevention program: _____

Apprenticeship and training program documentation: _____

If applicable, Illinois Prevailing Wage Act violation notice(s): _____

If applicable, documentation resolving IPWA violation notice(s): _____

Illinois Secretary of State's Department of Business Services Online Records _____

References _____

Statement classifying individuals as employee or contractors _____

Statement that the bidder will maintain an Illinois office as the primary place of employment _____

If applicable, professional or trade license _____

If applicable, OSHA violation determinations _____

If applicable, list of subcontractors _____

INSURANCE & INDEMNIFICATION

To the fullest extent permitted by law, Bidder shall indemnify, defend and hold harmless the City, its officers, employees, agents, boards and commissions from and against any and all claims, suits, judgments, costs, attorney's fees, damages or other relief, including but not limited to worker's compensation claims, in any way resulting from or arising out of negligent actions or omissions of the Bidder in connection herewith, including negligence or omissions or agents of the Bidder arising out of the performance of this Agreement and/or the Subject Services. In the event of any action against the City, its officers, employees, agents, boards or commissions covered by the foregoing duty to indemnify, defend and hold harmless, such action shall be defended by legal counsel of the City's choosing. The provisions of this section shall survive any expiration, completion and/or termination of this Agreement.

Bidder agrees to obtain, furnish, and maintain in full force and effect during the entire term of this Agreement, at its sole cost, the insurance coverages outlined herein. All of said insurance shall be written by, and secured from, companies approved to do business and issue insurance in the State of Illinois and must be rated "A-" or better, in accordance with the latest edition of Best's Insurance Guide, published by A.M. Best Company, Inc. or its equivalent.

The comprehensive general liability insurance shall be endorsed to include independent contractors, contractual liability, personal injury, products/completed operations liability, broad form property damage, and cross liability and severability of interest provisions. Policies provided hereunder shall not contain XCU exclusions relating to explosion, collapse and underground property damage. All liability insurance shall be written on an occurrence basis. Automobile liability insurance should include coverage for all owned, non-owned, hired and leased vehicles.

All insurance policies shall be written in the name of the Bidder and such insurance shall be primary and noncontributory with any insurance or self-insurance program afforded to the City of Elgin.

Comprehensive Liability	
General Aggregate	\$2 Million
Products Completed Operations Aggregate	\$2 Million
Personal Injury and Advertising Limit	\$1 Million
Each Occurrence	\$1 Million
Automobile Liability	
Combined Single Limit	\$1 Million
Umbrella Liability	
Each Occurrence	\$2 Million
General aggregate	\$2 Million
Worker's Compensation	
Statutory	As required by state law
Employer's Liability	\$1,000,000 Each Accident
	\$1,000,000 Each Emp for Disease
	\$1,000,000 Policy Limit for Disease

The Bidder may purchase and maintain excess liability insurance in the umbrella form in order to satisfy the limits of liability required in accordance with the requirements set forth above. The comprehensive liability and umbrella policies must name the City of Elgin as additional insured. The workers' compensation policy shall include a waiver of subrogation in favor of the City. The Bidder shall be responsible for and shall bear the risk of loss and damage to any property of Bidder and any property for which it is responsible or in its care, custody, or control, wherever located. Any insurance provided for such property shall be solely at Bidder's expense.

Prior to the commencement of any work under this Agreement, Bidder shall furnish Certificates of Insurance acceptable to the City and conforming to the insurance coverage required herein. The policy cancellation notification provision will provide the City with at least thirty (30) days written notice in the event of cancellation or material change.

The City reserves the right, at its sole discretion, to amend the insurance requirements contained herein.

AGREEMENT

THIS AGREEMENT is dated this _____ day of _____, 2026 by and between the City of Elgin, an Illinois Municipal Corporation (herein called "City") and _____ (herein called "Contractor"), a corporation with a principal place of business at _____.

WHEREAS, on September 25, 2026 the City released an Invitation for Bids entitled Wing Park Renovation.

WHEREAS, Contractor submitted a timely bid on _____; and

WHEREAS, the City Council has deemed Contractor to be the lowest price responsive and responsible bidder for _____ hereinafter referred to as "Work";

NOW THEREFORE, in consideration of the mutual promises and covenants herein, the sufficiency of which is hereby acknowledged, the parties hereto hereby agree as follows:

Article 1. Work.

Contractor shall complete the Work as specified in the Contract Documents.

The Work is generally described as follows:

The proposed improvement includes removal of existing playground and surfacing, concrete paving, shelter, fitness equipment, playground safety surfacing, drinking fountain, plumbing and underdrainage and all other appurtenant work and materials necessary to complete the project.

Article 2. ENGINEER.

The Work has been designed by Upland Design LTD ("Engineer"). Engineer shall act as City's representative and shall assume and provide such duties and obligations to the extent provided in the Contract Documents.

Article 3. Work COMPLETION, LIQUIDATED DAMAGES, DELAYS AND DAMAGES.

3.1. Work Completion. The Work shall be completed as provided in the Contract Documents. Final Completion is November 15, 2027 with remaining landscaping to be completed by June 01, 2028. In the event of any conflict between these dates and dates elsewhere in the Contract Documents, these dates shall prevail. Time is of the essence of this Agreement.

3.2. Liquidated Damages. City and Contractor agree that as reasonable liquidated damages for delay (but not as a penalty) Contractor shall pay City \$1,000 for each day beyond the time specified for Substantial Completion in the Contract Documents. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the times specified in the Contract Documents (hereinafter referred to as "Contract Times") or any proper extension thereof granted by City, Contractor shall pay City \$1,000 for each day beyond the time for Final Completion. Contractor agrees and acknowledges that such liquidated damages constitute a reasonable estimate of City's actual damages. Such liquidated damages shall constitute City's sole recourse for and shall constitute full satisfaction of City's actual damages resulting from Contractor's delay. Contractor further acknowledges and agrees that in the event any provisions in any of the Contract Documents conflict with the provisions of this paragraph or otherwise provide for damages resulting from Contractor's delay, the provisions of this paragraph shall control, and such conflicting provisions and any Contract Documents shall not constitute, and shall not be construed as, a basis by which to render the provisions of this paragraph unenforceable.

3.3. Delays and Damages. In the event Contractor is delayed in the prosecution and completion of the Work or achievement of any Contract Times because of any delays caused by City or Engineer, Contractor shall have no claim against City or Engineer for damages or contract adjustment other than an extension of the Contract Times as provided herein and the waiving of liquidated damages during the period occasioned by the delay.

Article 4. CONTRACT PRICE.

City shall pay Contractor \$_____ as indicated in the Contractor's Bid for completion of the Work in accordance with the Contract Documents.

Article 5. PAYMENTS.

5.1. Payments. City shall make payments on the basis of Contractor's Applications for Payment as recommended by Engineer, in conformance with the City of Elgin's accounts payable schedule. All payments shall be based on the progress of the Work measured by the schedules provided in the Contract Documents. Notwithstanding anything to the contrary in any Contract Documents, City shall be entitled to withhold any payments pending the submission of partial or full waivers of lien and/or certifications verifying the receipt of payment for all work performed by all subcontractors up to the date of Contractor's application for partial or final payment in City's sole discretion. City shall further be entitled to make such payments directly to any subcontractors as may be necessary to obtain such lien waivers and/or certifications. In the event City makes any such payments directly to any subcontractors, the amount of such payments shall be deducted from the total amount due to Contractor pursuant to this agreement; and Contractor shall provide a written release to City in the amount of any such payments upon ten (10) days written demand. Concurrent with all applications for payment, Contractor shall provide City with a sworn certification of all work performed by all subcontractors and amounts paid to all subcontractors as of the date of application.

5.2. Retainage. City may withhold, from all payments prior to Substantial Completion, an amount equal to up to ten percent (10%) of work completed, at City's sole discretion.

Upon Substantial Completion, City may release a portion of the retainage to Contractor, retaining at all times an amount sufficient to cover the cost of the Work remaining to be completed, at City's sole discretion.

The time for payment of any retainage from City to Contractor shall be at City's sole discretion. Such payment shall not be unreasonably withheld.

5.3. Final Payment. The City shall not be required to make final payment prior to completion and acceptance of the Work by the City.

Article 6. CONTRACT DOCUMENTS.

There are no Contract Documents other than those listed below. The Contract Documents which comprise the entire agreement between City and Contractor concerning the Work consist of the following:

- a. This Agreement.
- b. Certificates of Insurance.
- c. Bonds.

- d. Notice of Award.
- e. Notice to Proceed.
- f. General Conditions.
- g. Supplementary Conditions.
- h. Specifications.
- i. Drawings consisting of 17 sheets, with each sheet bearing one of the following general titles:
 - 1.0 Title Sheet
 - 2.0 Existing Conditions & Removals Plan
 - 3.0 Layout Plan – Field #7
 - 3.1 Layout Plan – Field #8
 - 4.0 Dimension Plan – Field #7
 - 4.1 Dimension Plan - Field #8
 - 5.0 Grading & Restoration Plan - Field #7
 - 5.1 Grading & Restoration Plan - Field #8
 - 5.2 Grading & Restoration Plan – Field #6 (Alternate #1)
 - 6.0 Irrigation Plan – Field #7
 - 6.1 Irrigation Plan - Field #7
 - 6.2 Irrigation Plan – Field #8
 - 6.3 Irrigation Details
 - 6.4 Irrigation Details
 - 6.5 Irrigation Details
 - 7.0 Construction Details
 - 7.1 Construction Details
- j. Any Addenda.
- k. Contractor's Bid.
- l. City Forms.
- m. Any subsequent Written Amendments to any documents listed above and other documents amending, modifying, or supplementing the Contract Documents, which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto.

This Agreement and the Contract Documents listed above comprise the sole and exclusive Agreement between the parties hereto. There are no other agreements between the parties hereto either oral or written, and neither this Agreement nor any Contract Documents shall be modified or amended without the written consent of the authorized representatives of the parties hereto.

Article 7. MISCELLANEOUS.

- a. Terms used in this Agreement shall have the meanings indicated in the General Conditions.
- b. No assignment or delegation by a party hereto of any rights under, obligations or interests in the Contract Documents shall be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation moneys that may become due and moneys that are due

may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law); and unless specifically stated to the contrary in any written consent to an assignment, no assignment shall release or discharge the assignor from any duty or responsibility under the Contract Documents.

- c. City and Contractor each binds itself, its partners, successors, employees, assigns, and agents to the other party hereto, its partners, successors, employees, assigns, and agents in respect of all covenants, agreements, and obligations contained in the Contract Documents.
- d. The business address of Contractor is hereby designated as the place to which all notices, letters, and other communication to Contractor shall be mailed or delivered. The address of City is hereby designated as the place to which all notices, letters, and other communication to City shall be mailed or delivered. Such notices, letters and other communications shall be directed to the City's General Services Manager. Either party may change its address at any time by an instrument in writing delivered to Engineer and to the other party.
- e. The terms and provisions of this Agreement shall be severable. In the event any of the terms or provisions of this Agreement shall be deemed to be void or otherwise unenforceable for any reason, the remainder of this Agreement shall remain in full force and effect.
- f. This Agreement shall be subject to and governed by the laws of the State of Illinois. Venue for the resolution of any disputes and the enforcement of any rights arising out of or in connection with the Agreement shall be in the Circuit Court of Kane County, Illinois.
- g. This Agreement shall not be construed so as to create a partnership, joint venture, employment or agency relationship between the parties hereto except as may be specifically provided for herein.
- h. In the event of any conflict between any of the terms or provisions of this Agreement and any other Contract Documents, the terms and provisions of this Agreement shall control.
- i. Indemnification. To the fullest extent permitted by law, Contractor agrees to and shall indemnify, defend and hold harmless the City, the Engineer, Engineer's consultants and the officers, employees, boards and commissions of each and any of them from and against any and all claims, suits, judgments, costs, attorneys' fees, damages or any and all other relief or liability arising out of or resulting from or through, or alleged to arise out of, any acts or negligent acts or omissions of Contractor or Contractor's officers, employees, agents or subcontractors in the performance of this agreement, or arising out of or in connection with litigation based on any mechanic's lien or other claims, suits, judgments and/or demands for damages by subcontractors. In the event of any action against the City, its officers, employees, agents, boards or commissions covered by the foregoing duty to indemnify, defend and hold harmless, such action shall be defended by legal counsel of City's choosing. In the event and to the extent that any legal work is performed by City's in-house legal counsel pursuant to the provisions of this section, City shall be reimbursed by Contractor for such legal work at the rate of \$200 per hour, which rate Contractor hereby agrees and acknowledges to be a reasonable rate for such in-house attorneys' fees. The provisions of this paragraph shall survive any expiration and/or termination of this agreement.
- j. Compliance with Laws. Notwithstanding any other provision of this Agreement, it is expressly agreed and understood that in connection with the performance of this Agreement, _____ shall comply with all applicable Federal, State, City and other requirements of law, including, but not limited to, any applicable requirements regarding prevailing wages, minimum wage, workplace safety

and legal status of employees. Without limiting the foregoing, _____ hereby certifies, represents and warrants to the City that all of _____'s employees and/or agents who will be providing products and/or services with respect to this Agreement shall be legally authorized to work in the United States. _____ shall also, at its expense, secure all permits and licenses, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the work, and/or the products and/or services to be provided for in this Agreement. The City shall have the right to audit any records in the possession or control of _____ to determine _____'s compliance with the provisions of this section. In the event the City proceeds with such an audit, _____ shall make available to the City _____'s relevant records at no cost to the City. _____ shall pay any and all costs associated with any such audit up to the amount of \$900.

- k. Contractor hereby waives any and all claims to interest on money claimed to be due pursuant to this Agreement, and all such rights to interest to which it may otherwise be entitled pursuant to law, including, but not limited to, pursuant to the Local Government Prompt Payment Act, as amended (50 ILCS 505/1, *et.seq*), or the Illinois Interest Act as amended (815 ILCS 205/1, *et.seq*).
- l. Limitation of Actions. Contractor shall not be entitled to and hereby waives, any and all rights that it might have to file suit or bring any cause of action or claim for damages against the City of Elgin and/or its affiliates, officers, employees, agents, attorneys, boards and commissions, of whatsoever nature and in whatsoever forum after two (2) years from the date of this Agreement.
- m. Notwithstanding any other provision hereof, the City may terminate this Agreement at any time for convenience or any other reason upon thirty (30) days prior written notice to _____ without penalty. In the event this Agreement is so terminated _____ shall be paid for goods provided and/or services actually performed, and reimbursable expenses actually incurred as may be specifically provided for herein prior to such termination, except that such payment and/or reimbursement shall not in any event exceed the total amount set forth for the total contemplated payment provided for herein. Additionally, in the event this Agreement is so terminated, _____ shall immediately cease the expenditure of any funds paid to _____ by the City and shall refund to the City any unearned or unexpended funds.
- n. This agreement may be executed in counterparts, each of which shall be an original and all of which shall constitute one and the same agreement. For the purposes of executing this agreement, any signed copy of this agreement transmitted by fax machine or e-mail shall be treated in all manners and respects as an original document. The signature of any party on a copy of this agreement transmitted by fax machine or e-mail shall be considered for these purposes as an original signature and shall have the same legal effect as an original signature. Any such faxed or e-mailed copy of this agreement shall be considered to have the same binding legal effect as an original document. At the request of either party any fax or e-mail a copy of this agreement shall be re-executed by the parties in an original form. No party to this agreement shall raise the use of fax machine or e-mail as a defense to this agreement and shall forever waive such defense.

IN WITNESS WHEREOF, City and Contractor have signed this Agreement. One counterpart each has been delivered to City, Contractor, Surety, and Engineer.

This Agreement shall be effective on _____.

CONTRACTOR:

By: _____

Title: _____

FEIN # _____

Address for giving notices

CITY: City of Elgin

By: Richard G. Kozal

Title: City Manager

Address for giving notices

City of Elgin

150 Dexter Court

Elgin, IL 60120

**ELGIN
RESIDENCY
ORDINANCE**

Section 1. That Chapter 5.08 of the Elgin Municipal Code, 1976, as amended, entitled "Source Selection; Competitive Sealed Bidding" be and is hereby further amended by adding a new Section 5.08.170 thereto entitled "Construction Contracts-Percentage of City Resident Worker Hours", to read as follows:

- A. "5.08.170 Construction Contracts-Percentage of City Resident Worker Hours: For any city construction contract advertised, or if not advertised, awarded after the effective date of this ordinance having an estimated contract value of \$100,000.00 or more, and where not otherwise prohibited by federal, state or local law, the total hours worked by persons on the site of the construction project by employees of the contract or and subcontractors shall be performed at least ten percent (10%) by actual residents of the City of Elgin.

This minimal percentage of Elgin residents shall not be understood as limiting or deterring the fuller utilization of Elgin residents beyond this level, but is intended instead as a minimal requirement. Contractors shall make good faith efforts to utilize qualified residents of the City of Elgin in unskilled and skilled labor positions. The purchasing director shall separately monitor the utilization of residents of the city in skilled and unskilled positions, and shall report his or her findings to the city manager and the city council when substantially all of the construction contracts for each construction season have been closed. The purchasing director shall also report whether he or she has determined that separate minimum percentages of Elgin residents are warranted for skilled and unskilled labor positions.

A waiver or reduction shall be deemed appropriate if a contractor or subcontractor has unsuccessfully solicited a sufficient number of residents of the City of Elgin to perform the work identified in the bid solicitation and has documented such effort to the satisfaction of the purchasing director. In addition, such standards and procedures shall require that a contractor seeking a waiver or reduction shall have provided timely notice of the need for qualified residents of the City of Elgin to an appropriate source of referrals, which source shall be entitled to comment on any waiver or reduction application. If the purchasing director determines that a lesser percentage standard is appropriate with respect to a particular contract subject to competitive bidding prior to the bid solicitations for such contract, such bid solicitations shall include a statement of such revised standards. The purchasing director shall file annual reports of his or her determinations on all reduction or waiver requests made pursuant to this paragraph with the city manager and the city council.

- B. Implementation of the requirements established in subsection A of this section will be achieved by including in contracts and subcontracts described therein the following language: The contractor and all subcontractors that perform work on the site on the construction project undertaken pursuant to this contract shall comply with the minimum percentage of total worker hours performed by actual residents of the City of Elgin as specified in Section 5.08.170 of the Elgin Municipal Code.

"Actual residents of the City of Elgin" shall mean persons domiciled within the corporate city limits of the City of Elgin. The domicile is an individual's one and only true, fixed and permanent home and principal residence which has not been adopted with the intention of again taking up or claiming a previous residence outside the corporate city limits of the City of Elgin.

The contractor shall provide for the maintenance of adequate employee residency records to ensure that actual Elgin residents are employed on the project. The contractor and subcontractors shall maintain copies of personal documents supportive of every Elgin employee's actual record of residence. Weekly certified payroll reports (U.S. Department of Labor Form WH-347 or equivalent) submitted to the head of the using department in triplicate, shall identify clearly the actual residence of every employee on each submitted certified payroll. The first time that an employee's name appears on a payroll, the date that the company hired the employee should be written in after the employee's name.

Full access to the contractor's and subcontractor's employment record shall be granted to the purchasing director, the head of the using department, the corporation counsel, the professional standards officer, or any duly authorized representative thereof. The contractor and subcontractors shall maintain all relevant personnel data in records for a period of at least three years after final acceptance of the work.

At the direction of the using department, affidavits and other supporting documentation will be required of the contractor to verify or clarify an employee's actual address when doubt or lack of clarity has arisen.

Good faith efforts on the part of the contractor to provide utilization of actual Elgin residents shall not suffice to replace the actual, verified achievement of the requirements of this section concerning the worker hours performed by actual Elgin residents.

When work is completed, in the event that the city has determined that the contractor failed to ensure the fulfillment of the requirement of this section concerning the worker hours performed by actual Elgin residents or has failed to report in the manner as indicated above, the city will thereby be damaged in the failure to provide the benefit of demonstrable employment to Elgin residents to the degree stipulated in this section. Therefore, in such a case of non-compliance it is agreed that 1/10 of 1 percent (.01%), 0.001, of the approved contract value for the subject contract shall be surrendered by the contractor to the city in payment for each percentage of shortfall toward the stipulated residency requirement. Failure to report the residency of employees entirely and correctly shall result in the surrender of the entire liquidated damages as if no Elgin residents were employed in either of the categories. The willful falsification of statements and the certification of payroll data may subject the contractor or subcontractors or employee to prosecution. Any retainage to cover contract performance that may become due to the contractor may be withheld by the city pending the purchasing director's determination whether the contractor must surrender damages as provided in this paragraph.

Nothing herein provided shall be construed to be a limitation upon the "Notice of Requirements for Affirmative Action to Ensure Equal Employment Opportunity, Executive Order 11246" and "Standard Federal Equal Employment Opportunity, Executive Order 11246", or other affirmative action required for equal opportunity under the provisions of the subject contract.

- C. In addition to assessing the monetary damages stipulated in subsection B hereof, the purchasing director may, in lieu of declaring the contractor to be a non-responsible bidder, require the contractor to post a surety bond or other appropriate security in an amount

representing ten percent of the approved contract value for subsequent contracts on which the contractor bids, which the contractor shall agree to forfeit in its entirety in the event that full compliance with the requirements of this is not achieved during the performance of any future contract that the contractor enters with the City of Elgin.

- D. Any person who is employed in a construction project subject to the provisions of this section who knowingly supplies false information concerning his or her residence shall be subject to a fine of not less than \$500.00 for each offense. Any person found to have violated this section shall also be barred from employment on any construction project subject to this section for a period of five years."

Section 2. That Chapter 5.08 of the Elgin Municipal Code, 1976, as amended, entitled "Source Selection; Competitive Sealed Bidding" be and is hereby further amended by adding a new Section 5.08.180 thereto entitled "Construction Contracts-Apprentice Utilization", to read as follows:

"5.08.180: Construction Contracts-Bid Incentive For Apprentice Utilization:

- A. For purposes of this section only the following definitions apply:

"Apprentice" means any person who is sponsored into an apprenticeship training program by a contractor and who is an actual resident of the City of Elgin as defined in Section 5.08.170. The contractor's apprenticeship training program must be approved by and registered with the United States Department of Labor, Office of Apprenticeship and Training Programs, or be reasonably equivalent to such programs.

"Bid incentive" means an amount deducted, for bid evaluation purposes only, from the total bid price that is attributable to labor costs, in order to calculate the bid price to be used to evaluate the bid on a competitively bid construction project.

"Earned credit" means the amount of the bid incentive allocated to a contractor upon completion of a construction project in which the contractor met or exceeded his or her goals for the utilization of apprentices in performance of the total labor hours performed under the contract.

"Earned credit certificate" means a certificate issued by the purchasing director evidencing the amount of earned credit a contractor has been awarded.

"Labor hours" means the total hours of workers receiving an hourly wage who are directly employed at the work site. "Labor hours" shall include hours performed by workers employed by the contractor and all subcontractors working at the work site. "Labor hours" shall not include hours worked by non-working foremen, superintendents, owners and workers who are not subject to prevailing wage requirements.

- B. 1. For any city construction contract advertised after the effective date of this ordinance having an estimated contract value of \$100,000.00 or more, and where not otherwise prohibited by federal, state or local law, the purchasing director shall allocate to any qualified bidder the

following bid incentive for utilization of apprentices in performance of the total labor hours performed under contract.

<i>C. Total Labor Hours Performed by Apprentices</i>		<i>Bid</i>	<i>Incentive</i>
5 to 10%	½%		of bid price
11 to 15%	1%		of bid price

The bid incentive shall be calculated and applied in accordance with the provisions of subsection B2. The bid incentive is used only to calculate an amount to be used in evaluating the bid. The bid incentive does not affect the contract price.

2. Upon the completion of a contract subject to this section, a contractor may apply to the purchasing director for earned credits if the contractor met or exceeded his or her apprentice utilization goals established in the contract. If the purchasing director determines that the contractor has successfully met his or her apprentice utilization goals, the purchasing director shall issue an earned credit certificate that evidences the amount of earned credits allocated to the contractor. The contractor may apply the earned credits as the bid incentive for any future construction project, contract bid of equal or greater dollar value.

The earned credit certificate is valid for twelve months from the date of issuance and shall not be applied towards any future contract bid after the expiration of that period.

C. The contractor shall maintain accurate and detailed books and records necessary to monitor compliance with this section and shall submit such reports as required by the purchasing director or the head of the using department.

Full access to the contractor's and subcontractor's records shall be granted to the purchasing director, the head of the using department, the corporation counsel, the professional standards officer, or any duly authorized representative thereof. The contractor and subcontractors shall maintain all relevant records for a period of at least three years after final acceptance of the work.

D. The purchasing director is authorized to adopt, promulgate and enforce reasonable rules and regulations pertaining to the administration and enforcement of this section."

Section 3. That all ordinances or parts of ordinances in conflict with the provisions of this ordinance be and are hereby repealed to the extent of any such conflict.

Section 4. That this ordinance shall be in full force and effect upon its passage and publication from and after April 1, 2013.

AMENDING TITLE 5 OF THE
ELGIN MUNICIPAL CODE, 1976, AS AMENDED,
ENTITLED "PROCUREMENTS"

WHEREAS, the City of Elgin is a home rule unit pursuant to Subsection (a) of Section 6 of Article VII of the Illinois Constitution of 1970; and

WHEREAS, pursuant to such section of the Illinois Constitution a home rule unit may exercise any power and perform any function pertaining to its governmental affairs; and

WHEREAS, the City of Elgin pursuant to its home rule powers has previously adopted a procurement ordinance pursuant to Title 5 of the Elgin Municipal Code, 1976, as amended, entitled "Procurements"; and

WHEREAS, the purpose of such procurement ordinance includes providing for the fair and equitable treatment of all persons involved in public purchasing by the city, to maximize the purchasing value of public funds and procurement, to obtain the best value for using departments, and to provide safeguards for maintaining a procurement system of quality and integrity; and

WHEREAS, the city council of the City of Elgin has determined that it is appropriate to amend the definitions within the City of Elgin's procurement ordinance to provide for a more comprehensive definition of a responsible bidder for certain contracts involving the city; and

WHEREAS, defining what constitutes a responsible bidder for certain city contracts and otherwise providing for procurements regulations for City of Elgin procurements pertains to the government and affairs of the city.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ELGIN, ILLINOIS:

Section 1. That Section 5.04.075 of the Elgin Municipal Code, 1976, as amended, entitled "Responsible Bidder or Offerer" be and is hereby further amended to read as follows:

"Responsible bidder or offerer" means a person who has the capability in all respects to perform fully the contract requirements, and the tenacity, perseverance, experience, integrity, reliability, capacity, facilities, equipment, and credit which will assure good faith performance. In addition to meeting such criteria a responsible bidder must also submit evidence of compliance with the following specific applicable criteria:

1. Documents evidencing compliance with all applicable laws and ordinances prerequisite to doing business in Illinois.
2. A valid federal employer tax identification number or, if an individual, a valid social security number.

3. A statement of compliance with the Equal Opportunity Employer provisions of Section 2000e of Chapter 21, Title 42 of the United States Code and federal executive order number 11246, as amended, by executive order 11375 and evidence of compliance with the Equal Opportunity Employer provisions of Elgin Municipal Code Section 3.12.100, as amended.
4. Certificates of insurance indicating insurance coverage as set forth in a bid specification including general liability, workers' compensation, completed operations, automobile, hazardous occupations and products liability.
5. Evidence of a written sexual harassment policy in compliance with the provisions of the Illinois Human Rights Act (775 ILCS 5/2-105(A)(4), as amended).
6. A statement of compliance with the provisions of the Illinois Prevailing Wage Act (820 ILCS 130/1 *et seq.*, as amended).
7. Evidence of compliance with the Substance Abuse Prevention on Public Works Projects Act (820 ILCS 265/1 *et seq.*, as amended).
8. Evidence of relevant experience that indicates the necessary capacity to perform the project and adequate references verifying the quality of work performed."
9. For city construction projects (construction of new city facilities, renovation of existing city facilities or city road construction projects) over Fifty Thousand Dollars (\$50,000) evidence of participation in an apprentice and training programs applicable to the work to be performed on the project which are approved by and registered with the United States Department of Labor Office of Apprenticeship and Training or are reasonable equivalent to such programs.
10. For city construction projects (construction of new city facilities, renovation of existing facilities or city road construction projects) bidders must demonstrate a good-faith effort toward providing equal employment opportunities for persons to work as craftspersons, laborers, workers or mechanics consistent with the racial, ethnic and gender demographics of the labor force available in the Illinois Department of Employment Security Chicago-Naperville-Joliet Metropolitan Division which consists of Cook, DeKalb, DuPage, Grundy, Kane, Kendall, McHenry and Will counties."

Section 2. If any provision, clause, sentence, paragraph, section or part of this ordinance, or application thereof, to any person or circumstance, shall for any reason be adjudged by a court of competent jurisdiction to be unconstitutional or invalid, said judgment shall not affect, impair, or validate the remainder of this ordinance and the application of such provisions to other persons or circumstances shall be confined in its operation to the provision, clause, sentence, paragraph, section or part thereof directly involved with the controversy in which such judgment shall have been rendered and to the person or circumstance involved. It is hereby declared to be the legislative intent of the city council that this chapter would have been adopted had such constitutional or invalid provisions, clause, sentence, paragraph, section or part thereof not been included.

Section 3. That all ordinances or parts or ordinances in conflict with the provisions of this ordinance be and are hereby repealed.

Section 4. That this ordinance shall be in full force and effect upon its passage and publication in the manner provided by law. The amendatory provisions of this ordinance shall be applicable to bids issued after the effective date of this ordinance.

Dave Kaptain, Mayor

Presented: March 23, 2011

Passed:

Vote: Yeas Nays:

Recorded:

Published:

Attest:

Jennifer Quinton, City Clerk

Workforce Availability Information



Table I

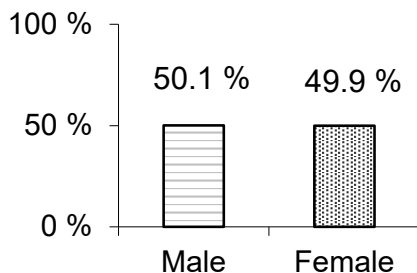
Elgin Metro Division

Population by Sex and Race & Ethnicity

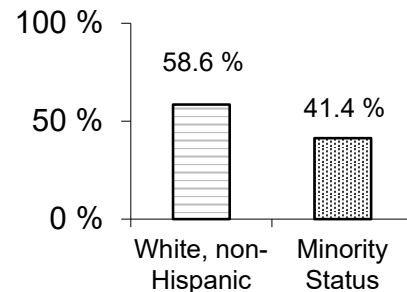
	Total		Male		Female	
	Number	Percent *	Number	Percent *	Number	Percent *
Total Population	617,940	100 %	309,520	50.1 %	308,420	49.9 %
One Race, Any Ethnicity **						
White Alone	421,536	68.2 %	210,332	34.0 %	211,204	34.2 %
Black or African American Alone	34,737	5.6 %	17,048	2.8 %	17,689	2.9 %
Asian & Pac. Is.	23,330	3.8 %	11,007	1.8 %	12,323	2.0 %
Native American	4,775	0.8 %	2,154	0.3 %	2,621	0.4 %
Other	68,862	11.1 %	35,504	5.7 %	33,358	5.4 %
Two or More Races, Any Ethnicity **	64,700	10.5 %	33,475	5.4 %	31,225	5.1 %
Hispanic, Any Race	180,965	29.3 %	93,246	15.1 %	87,719	14.2 %

Total Population	617,940	100 %	309,520	50.1 %	308,420	49.9 %
White, non-Hispanic	362,134	58.6 %	179,957	29.1 %	182,177	29.5 %
All Others, including Hispanic	255,806	41.4 %	129,563	21.0 %	126,243	20.4 %

Population by Gender



Population by Race & Ethnicity



Source: US Census Bureau, 2022 American Community Survey (ACS), 5-Year Estimates

Tables B01001, B01001A, B01002A, B01002B, B01002C, B01002D, B01002E, B01002F, B01002G, B01002H & B01002I

* Percent of Total Population ** Includes the ethnic group Hispanic

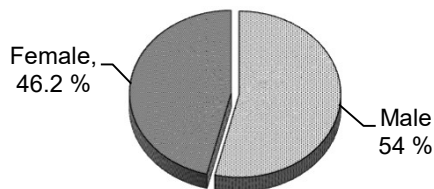
Table II

Elgin Metro Division
Labor Force by Sex and Race & Ethnicity

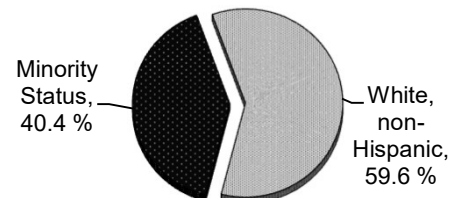
	Number of People					
	Total		Male		Female	
	Number	Percent *	Number	Percent *	Number	Percent *
Total Civilian Labor Force, Aged 16+	338,554	100 %	182,274	53.8 %	156,280	46.2 %
One Race, Any Ethnicity **						
White Alone	232,554	68.7 %	124,439	36.8 %	108,115	31.9 %
Black or African American Alone	18,227	5.4 %	8,996	2.7 %	9,231	2.7 %
Asian & Pac. Is.	13,471	4.0 %	6,917	2.0 %	6,554	1.9 %
Native American	3,006	0.9 %	1,547	0.5 %	1,459	0.4 %
Other	38,201	11.3 %	22,238	6.6 %	15,963	4.7 %
Two or More Races, Any Ethnicity **	33,095	9.8 %	18,137	5.4 %	14,958	4.4 %
Hispanic, Any Race	97,510	28.8 %	55,011	16.2 %	42,499	12.6 %

Total Civilian Labor Force, Aged 16+	338,554	100 %	182,274	53.8 %	156,280	46.2 %
White, non-Hispanic	201,674	59.6 %	107,282	31.7 %	94,392	27.9 %
All Others, including Hispanic	136,880	40.4 %	74,992	22.2 %	61,888	18.3 %

Labor Force by Gender



Labor Force by Race & Ethnicity



Source: US Census Bureau, 2022 American Community Survey (ACS), 5-Year Estimates

Tables C23002A, C23002B, C23002C, C23002D, C23002E, C23002F, C23002G, C23002H & C23002I

* Percent of Total Labor Force ** Includes the ethnic group Hispanic

Table III

EEO Occupational Groups by Sex and Race/Ethnicity for Civilian Labor Force 16 Years and Over						
Elgin Metro Division	Total, race and ethnicity	Hispanic or Latino	Not Hispanic or Latino, one race			Balance of not Hispanic or Latino
			White alone	Black or African American alone	Other Races	
Management, Business and Financial Workers						
Total, both sexes						
Number	46,215	4,930	36,990	1,870	1,865	570
Percent	100 %	10.7 %	80.0 %	4.0 %	4.0 %	1.2 %
Male						
Number	28,650	3,015	23,380	950	1,005	305
Percent	62.0 %	6.5 %	50.6 %	2.1 %	2.2 %	0.7 %
Female						
Number	17,565	1,915	13,605	930	850	265
Percent	38.0 %	4.1 %	29.4 %	2.0 %	1.8 %	0.6 %
Science, Engineering and Computer Professionals						
Total, both sexes						
Number	10,820	840	8,085	370	1,359	165
Percent	100 %	7.8 %	74.7 %	3.4 %	12.6 %	1.5 %
Male						
Number	8,575	675	6,575	225	969	119
Percent	79.3 %	6.2 %	60.8 %	2.1 %	9.0 %	1.1 %
Female						
Number	2,245	165	1,510	145	385	45
Percent	20.7 %	1.5 %	14.0 %	1.3 %	3.6 %	0.4 %
Healthcare Practitioner Professionals						
Total, both sexes						
Number	9,805	575	7,615	314	1,255	50
Percent	100 %	5.9 %	77.7 %	3.2 %	12.8 %	0.5 %
Male						
Number	2,005	105	1,425	4	435	40
Percent	20.4 %	1.1 %	14.5 %	0.0 %	4.4 %	0.4 %
Female						
Number	7,800	470	6,185	314	820	10
Percent	79.6 %	4.8 %	63.1 %	3.2 %	8.4 %	0.1 %
Other Professional Workers						
Total, both sexes						
Number	32,860	2,450	26,990	1,335	1,794	290
Percent	100 %	7.5 %	82.1 %	4.1 %	5.5 %	0.9 %
Male						
Number	13,470	870	10,910	615	894	185
Percent	41.0 %	2.6 %	33.2 %	1.9 %	2.7 %	0.6 %
Female						
Number	19,385	1,585	16,080	720	904	100
Percent	59.0 %	4.8 %	48.9 %	2.2 %	2.8 %	0.3 %
Technicians						
Total, both sexes						
Number	7,355	1,710	4,975	325	259	84
Percent	100 %	23.2 %	67.6 %	4.4 %	3.5 %	1.1 %
Male						
Number	3,205	765	2,015	230	140	50
Percent	43.6 %	10.4 %	27.4 %	3.1 %	1.9 %	0.7 %
Female						
Number	4,155	945	2,960	95	119	34
Percent	56.5 %	12.8 %	40.2 %	1.3 %	1.6 %	0.5 %

Table III

EEO Occupational Groups by Sex and Race/Ethnicity for Civilian Labor Force 16 Years and Over						
Elgin Metro Division	Total, race and ethnicity	Hispanic or Latino	Not Hispanic or Latino, one race			Balance of not Hispanic or Latino
			White alone	Black or African American alone	Other Races	
Sales Workers						
Total, both sexes						
Number	37,835	7,585	26,415	1,840	1,285	695
Percent	100 %	20.0 %	69.8 %	4.9 %	3.4 %	1.8 %
Male						
Number	19,325	3,125	14,685	645	670	200
Percent	51.1 %	8.3 %	38.8 %	1.7 %	1.8 %	0.5 %
Female						
Number	18,505	4,465	11,730	1,195	619	495
Percent	48.9 %	11.8 %	31.0 %	3.2 %	1.6 %	1.3 %
Administrative Support Workers						
Total, both sexes						
Number	42,885	9,760	28,595	2,565	1,535	430
Percent	100 %	22.8 %	66.7 %	6.0 %	3.6 %	1.0 %
Male						
Number	10,235	2,880	5,910	730	660	55
Percent	23.9 %	6.7 %	13.8 %	1.7 %	1.5 %	0.1 %
Female						
Number	32,650	6,880	22,685	1,840	875	375
Percent	76.1 %	16.0 %	52.9 %	4.3 %	2.0 %	0.9 %
Construction and Extractive Craft Workers						
Total, both sexes						
Number	15,750	7,010	8,485	160	25	75
Percent	100 %	44.5 %	53.9 %	1.0 %	0.2 %	0.5 %
Male						
Number	15,275	6,755	8,275	160	25	64
Percent	97.0 %	42.9 %	52.5 %	1.0 %	0.2 %	0.4 %
Female						
Number	475	254	205	4	0	15
Percent	3.0 %	1.6 %	1.3 %	0.0 %	0.0 %	0.1 %
Installation, Maintenance and Repair Craft Workers						
Total, both sexes						
Number	9,720	2,765	6,515	125	224	90
Percent	100 %	28.4 %	67.0 %	1.3 %	2.3 %	0.9 %
Male						
Number	9,510	2,635	6,435	125	224	90
Percent	97.8 %	27.1 %	66.2 %	1.3 %	2.3 %	0.9 %
Female						
Number	205	130	75	0	0	0
Percent	2.1 %	1.3 %	0.8 %	0.0 %	0.0 %	0.0 %
Production Operative Workers						
Total, both sexes						
Number	26,760	15,095	9,220	1,070	1,030	355
Percent	100 %	56.4 %	34.5 %	4.0 %	3.8 %	1.3 %
Male						
Number	17,820	9,135	7,070	725	650	255
Percent	66.6 %	34.1 %	26.4 %	2.7 %	2.4 %	1.0 %
Female						
Number	8,945	5,960	2,155	345	380	105
Percent	33.4 %	22.3 %	8.1 %	1.3 %	1.4 %	0.4 %

Table III

EEO Occupational Groups by Sex and Race/Ethnicity for Civilian Labor Force 16 Years and Over						
			Not Hispanic or Latino, one race			
Elgin Metro Division	Total, race and ethnicity	Hispanic or Latino	White alone	Black or African American alone	Other Races	Balance of not Hispanic or Latino
Transportation and Material Moving Operative Workers						
Total, both sexes						
Number	15,450	4,820	8,575	1,540	329	179
Percent	100 %	31.2 %	55.5 %	10.0 %	2.1 %	1.2 %
Male						
Number	13,010	4,280	6,990	1,325	244	164
Percent	84.2 %	27.7 %	45.2 %	8.6 %	1.6 %	1.1 %
Female						
Number	2,440	534	1,585	215	80	15
Percent	15.8 %	3.5 %	10.3 %	1.4 %	0.5 %	0.1 %
Laborers and Helpers						
Total, both sexes						
Number	22,555	11,425	8,395	1,960	589	180
Percent	100 %	50.7 %	37.2 %	8.7 %	2.6 %	0.8 %
Male						
Number	16,305	8,090	6,540	1,235	320	109
Percent	72.3 %	35.9 %	29.0 %	5.5 %	1.4 %	0.5 %
Female						
Number	6,250	3,335	1,855	720	269	65
Percent	27.7 %	14.8 %	8.2 %	3.2 %	1.2 %	0.3 %
Protective Service Workers						
Total, both sexes						
Number	5,970	985	4,335	460	104	85
Percent	100 %	16.5 %	72.6 %	7.7 %	1.7 %	1.4 %
Male						
Number	4,475	690	3,425	175	104	85
Percent	75.0 %	11.6 %	57.4 %	2.9 %	1.7 %	1.4 %
Female						
Number	1,500	295	920	285	0	0
Percent	25.1 %	4.9 %	15.4 %	4.8 %	0.0 %	0.0 %
Service Workers, Except Protective						
Total, both sexes						
Number	51,210	18,180	26,850	3,595	1,774	815
Percent	100 %	35.5 %	52.4 %	7.0 %	3.5 %	1.6 %
Male						
Number	18,445	7,680	8,710	1,230	524	305
Percent	36.0 %	15.0 %	17.0 %	2.4 %	1.0 %	0.6 %
Female						
Number	32,765	10,495	18,145	2,360	1,250	505
Percent	64.0 %	20.5 %	35.4 %	4.6 %	2.4 %	1.0 %

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

These General Conditions are based upon the EJCDC No. 1910-8 (1996 Edition) and have been modified by the City of Elgin Illinois. Revised 7/2006.

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GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Contract Documents and printed with initial or all capital letters, the terms listed below shall have the meanings indicated which are applicable to both the singular and plural thereof.

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

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

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

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

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

6. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

7. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, Bid security form, if any, and the Bid form with any supplements.

8. *Bonds*--Performance and payment bonds and other instruments of security.

9. *Change Order*--a change in a contract term other than as specifically provided in the contract which authorizes or necessitates any increase or decrease in the cost of the contract or the time of completion by thirty (30) days or more.

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

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

12. *Contract Documents*--The Contract Documents establish the rights and obligations of the parties and include the Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award), the Notice to Proceed, the Bonds, Certificates of Insurance, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Work Change Directives, Field Orders, and ENGINEER's written interpretations and clarifications issued on or after the Effective Date of the Agreement. Approved Shop Drawings and the reports and drawings of subsurface and physical conditions are not Contract Documents. Only printed or hard copies of the items listed in this paragraph are Contract Documents. Files in electronic media format of text, data, graphics, and the like that may be furnished by OWNER to CONTRACTOR are not Contract Documents.

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

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

15. *CONTRACTOR*--The individual or entity with whom OWNER has entered into the Agreement.

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

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

graphically shows the scope, extent, and character of the Work to be performed by CONTRACTOR. Shop Drawings and other CONTRACTOR submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

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

20. *ENGINEER's Consultant*--An individual or entity having a contract with ENGINEER to furnish services as ENGINEER's independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

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

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

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

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

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

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

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

28. *Reserved*

29. *Notice to Proceed*--A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Times shall commence to run and on which CONTRACTOR shall start to perform the Work under the Contract Documents.

30. *OWNER*--The City of Elgin

31. *Partial Utilization*--Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

32. *PCBs*--Polychlorinated biphenyls.

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

34. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part, as may be indicated elsewhere in the Contract Documents.

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

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

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

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

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

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

furnished by OWNER which are designated for the use of CONTRACTOR.

41. *Specifications*--That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

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

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

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

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

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

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

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

49. *Work Change Directive*--A written statement to CONTRACTOR issued on or after the Effective Date of the Agreement and signed by OWNER ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive shall not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive shall be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

50. *Written Amendment*--A written statement modifying the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly construction-related aspects of the Contract Documents.

1.02 Terminology

A. Intent of Certain Terms or Adjectives

1. Whenever in the Contract Documents the terms "as allowed," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of ENGINEER as to the Work, it is intended that such action or determination shall be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.10 or any other provision of the Contract Documents.

B. Day

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

C. Defective

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it does not conform to the Contract

Documents or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER's recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.04 or 14.05).

D. Furnish, Install, Perform, Provide

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

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

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

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

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

ARTICLE 2 - PRELIMINARY MATTERS

2.01 Delivery of Bonds

A. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds and certificates of insurance as CONTRACTOR may be required to furnish.

2.02 Copies of Documents

A. OWNER shall furnish to CONTRACTOR up to ten copies of the Contract Documents. Additional copies shall be furnished upon request at the cost of reproduction.

2.03 Commencement of Contract Times; Notice to Proceed

A. The Contract Times shall commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement.

2.04 Starting the Work

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

2.05 Before Starting Construction

A. *CONTRACTOR's Review of Contract Documents:* Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error, ambiguity, or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless CONTRACTOR knew or reasonably should have known thereof.

B. *Preliminary Schedules:* Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER for its timely review:

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

2. a preliminary schedule of Shop Drawing and Sample submittals which shall list each required submittal and the times for submitting, reviewing, and processing such submittal; and

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

2.06 Preconstruction Conference

A. Within 10 days after the date of delivery of the Project Schedules referenced herein but before any Work at the Site is

started, a conference attended by CONTRACTOR, ENGINEER, the OWNER and others as appropriate shall be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.05.B, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.07 *Initial Acceptance of Schedules: reserved*

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

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

B. Any applicable labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result shall be provided whether or not specifically called for at no additional cost to OWNER.

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

3.02 *Reference Standards*

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

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids, except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of OWNER, CONTRACTOR, or ENGINEER, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall any such provision or instruction be effective to assign to OWNER, ENGINEER, or any of ENGINEER's Consultants, agents, or employees any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*

1. If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, CONTRACTOR shall report it to ENGINEER in writing within three business days. CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as required by paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by OWNER or ENGINEER as provided for herein.

B. *Resolving Discrepancies*

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

a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); provided however, that any conflict between the provisions of the Contract Documents and any Laws or Regulations applicable to the performance of the Work shall be resolved in favor of the Laws or Regulations.

3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways: (i) a Written Amendment; (ii) a Change Order; or (iii) a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways: (i) a Field Order; (ii) ENGINEER's approval of a Shop Drawing or Sample; or (iii) ENGINEER's written interpretation or clarification.

3.05 *Reuse of Documents*

A. CONTRACTOR and any Subcontractor or Supplier or other individual or entity performing or furnishing any of the Work: (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER or ENGINEER's Consultant, including electronic media editions; and (ii) shall not reuse any of such

Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written ratification by ENGINEER. This prohibition shall survive final payment, completion, and acceptance of the Work, or termination or completion of the Contract. Nothing herein shall preclude CONTRACTOR from retaining copies of the Contract Documents for record purposes.

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

4.01 *Availability of Lands*

A. OWNER shall furnish reasonable access to the Site. OWNER shall notify CONTRACTOR of any encumbrances or restrictions not of general application but specifically related to use of the Site with which CONTRACTOR must comply in performing the Work. OWNER shall obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities.

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

4.02 *Subsurface and Physical Conditions*

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

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

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

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER, or any of ENGINEER's Consultants with respect to:

1. the completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to,

any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, and safety precautions and programs incident thereto; or

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

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

4.03 *Differing Subsurface or Physical Conditions*

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

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

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

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

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

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

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

C. *Possible Price and Times Adjustments*

1. The Contract Price or the Contract Times, or both, shall be equitably adjusted, in the form of a Change Order, to the extent that the existence of such differing subsurface or physical condition causes an increase or

decrease in CONTRACTOR's cost of, or time required for, performance of the Work; subject, however, to the following:

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

b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price shall be subject to the provisions of paragraphs 9.08 and 11.03.

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

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

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

c. CONTRACTOR failed to give the written notice promptly and as required by paragraph 4.03.A.

d. CONTRACTOR represents he has made a reasonable inspection of the construction site and hereby voluntarily waives the incorporation of the provisions of 30 ILCS 557/1 et seq. and represents that the negotiated contract price is the sole consideration for the construction of the improvement described in this contract. Further, OWNER shall not be liable to CONTRACTOR for any amount of money over the negotiated contract price.

3. OWNER, ENGINEER, and ENGINEER's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* Any information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities, including

OWNER, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

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

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

a. reviewing and checking all such information and data,

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

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

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

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to OWNER and ENGINEER. ENGINEER shall promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility.

2. If ENGINEER concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order may be issued at OWNER'S discretion to reflect and document such consequences.

C. The provisions of paragraphs 4.02, 4.03, and 4.04 shall not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

4.05 *Reference Points*

A. OWNER shall provide land surveys necessary to establish right of way, easements and property lines. ENGINEER shall provide base lines, benchmarks and reference points which in ENGINEER'S judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall provide all stakes, markers, labor and assistance required by ENGINEER. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible and pay for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

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

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER or any of ENGINEER's Consultants with respect to:

1. the completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. CONTRACTOR shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at

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

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

E. CONTRACTOR shall not be required to resume Work in connection with such condition or in any affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely.

F. If after receipt of such written notice CONTRACTOR does not agree to resume such Work or does not agree to resume such Work under such special conditions, then OWNER may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. OWNER shall be entitled to deduct the cost of such Work from the Contract Price.

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

ARTICLE 5 - BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Contract Documents.

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

C. If the surety on any Bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.01.B, CONTRACTOR shall within 20 days thereafter substitute another Bond and surety, both of which shall comply with the requirements of paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All Bonds and insurance required by the Contract Documents to be purchased and maintained by OWNER or CONTRACTOR shall be obtained from surety or insurance companies that are duly licensed or authorized in the state of Illinois to issue Bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

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

Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by CONTRACTOR or any other additional insured) which OWNER is required to purchase and maintain.

B. Such insurance shall apply as primary insurance with respect to any other insurance or self-insurance program afforded to the City of Elgin. There shall be no endorsement or modification of such insurance to make it excess over other available insurance, and alternatively, if the insurance states that it is excess or pro rata, it shall be endorsed to be primary with respect to the City of Elgin.

C. The policies to be purchased and maintained shall be furnished by insurers with A.M. Best Company rating of at least A- (Excellent) and a financial size category of VIII or greater.

5.04 *CONTRACTOR's Liability Insurance*

A. CONTRACTOR shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as shall provide protection from claims set forth below which may arise out of or result from CONTRACTOR's performance of the Work and CONTRACTOR's other obligations under the Contract Documents, whether it is to be performed by CONTRACTOR, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

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

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

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

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained: (i) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (ii) by any other person for any other reason;

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

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

B. The policies of insurance so required by this paragraph 5.04 to be purchased and maintained shall:

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

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

3. include completed operations insurance;

4. include contractual liability insurance covering CONTRACTOR's indemnity obligations under paragraphs 6.07, 6.11, and 6.20;

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

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

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter).

5.05 *Contractor's Property Insurance*

A. Contractor shall purchase and maintain property insurance coverage for the Work at each site in the amount of the full replacement cost thereof. This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, Engineer, and Engineer's Consultants, each of whom is deemed to have an insurable interest and shall be listed as a named insured;

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, Work in transit including ocean transit, and Work in storage at each project site or at another location acceptable to Owner, and shall insure against at least the following perils: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, flood, and damage caused by frost and freezing;

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

4. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer, with 30 days' written notice to each other insured.

5.06 *Waiver of Rights*

A. OWNER and CONTRACTOR intend that all policies purchased in accordance with paragraph 5.05 shall protect OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) in such policies and shall provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers shall have no rights of recovery against any of the insureds or additional insureds thereunder. OWNER and CONTRACTOR waive all rights against each other and their respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition,

waive all such rights against Subcontractors, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by OWNER as trustee or otherwise payable under any policy so issued.

5.07 Acceptance of Bonds and Insurance; Option to Replace

A. If either OWNER or CONTRACTOR has any objection to the coverage afforded by or other provisions of the Bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by paragraph 2.05.C. OWNER and CONTRACTOR shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the Bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent Bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.8 Partial Utilization, Acknowledgment of Property Insurer

A. If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to paragraph 5.05 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 Supervision and Superintendence

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

B. At all times during the progress of the Work, CONTRACTOR shall assign a competent resident superintendent thereto who shall not be replaced without written notice to OWNER and ENGINEER. The superintendent shall be CONTRACTOR's representative at the Site and shall have authority to act on behalf of CONTRACTOR. All communications given to or received from the superintendent shall be binding on CONTRACTOR.

6.02 Labor; Working Hours

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

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

6.03 Services, Materials, and Equipment

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

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract

Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of OWNER. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

A. CONTRACTOR shall adhere to the progress schedule established in accordance with the Contract Documents as may be adjusted from time to time as provided below.

1. CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in the Contract Documents) any proposed adjustments in the progress schedule that shall not result in changing the Contract Times (or Milestones). Such adjustments shall conform generally to the progress schedule then in effect and additionally shall comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the progress schedule that shall change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of Article 12. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

6.05 *Substitutes and "Or-Equals"*

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

1. The procedure for review by ENGINEER for "or equal" or substitute items shall be as set forth in below, as supplemented in the General Requirements and as ENGINEER may decide is appropriate under the circumstances.

2. CONTRACTOR shall first make written application to ENGINEER for review of a proposed substitute item of material or equipment that CONTRACTOR seeks to furnish or use. The application shall certify that the proposed substitute item shall

perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified, and be suited to the same use as that specified. The application shall state the extent, if any, to which the use of the proposed substitute item shall prejudice CONTRACTOR's achievement of Substantial Completion on time, whether or not use of the proposed substitute item in the Work shall require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute item and whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute item from that specified shall be identified in the application, and available engineering, sales, maintenance, repair, and replacement services shall be indicated. The application shall also contain an itemized estimate of all costs or credits that shall result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change, all of which shall be considered by ENGINEER in evaluating the proposed substitute item. ENGINEER may require CONTRACTOR to furnish additional data about the proposed substitute item.

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

C. *Engineer's Evaluation:* ENGINEER shall be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.05.A and 6.05.B. ENGINEER shall be the sole judge of acceptability. No "or-equal" or substitute shall be ordered, installed or utilized until ENGINEER's review is complete, which shall be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." ENGINEER shall advise CONTRACTOR in writing of any negative determination.

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

E. *ENGINEER's Cost Reimbursement:* ENGINEER shall record time required by ENGINEER and ENGINEER's Consultants in evaluating substitute proposed or submitted by CONTRACTOR pursuant to paragraphs 6.05.A.2 and 6.05.B and in making changes in the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not ENGINEER approves a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER's Consultants for evaluating each such proposed substitute.

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

6.06 *Concerning Subcontractors, Suppliers, and Others*

A. CONTRACTOR shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to OWNER as indicated in paragraph 6.06.B), whether initially or as a replacement, against whom OWNER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection. Any person employed by CONTRACTOR or Subcontractors who does not perform his work in a proper and skillful manner, or who is intemperate, disorderly, or otherwise objectionable, shall, at the written request of OWNER, be forthwith removed from the project site and shall not be employed again in any portion of the Work without written consent of OWNER.

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

C. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other individual or entity, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

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

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

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

G. All Work performed for CONTRACTOR by a Subcontractor or Supplier shall be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.05, the agreement between the CONTRACTOR and the Subcontractor or Supplier shall contain provisions whereby the Subcontractor or Supplier waives all rights against OWNER, CONTRACTOR, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR shall obtain the same.

6.07 *Patent Fees and Royalties*

A. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees or agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids. CONTRACTOR shall pay all charges of utility owners for connections to the Work.

6.09 *Laws and Regulations*

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

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

this shall not relieve CONTRACTOR of CONTRACTOR's obligations under paragraph 3.03.

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

6.10 *Taxes*

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

6.11 *Use of Site and Other Areas*

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

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

2. Should any claim be made by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim as provided by law.

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

causes of action, and any and all liability of any nature arising out of or in connection with CONTRACTOR's negligent or illegal failure to comply with any law or regulation, including but not limited to any claim for injunctive relief or for any attorney's fees incurred thereof.

B. Removal of Debris During Performance of the Work:

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

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

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

6.12 Record Documents

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

6.13 Safety and Protection

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

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

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

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

B. CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury, or loss to any property referred to in paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of OWNER or ENGINEER or ENGINEER's Consultant, or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them). CONTRACTOR's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 Safety Representative

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

6.15 Hazard Communication Programs

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

6.16 Emergencies

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

6.17 *Shop Drawings and Samples*

A. CONTRACTOR shall submit Shop Drawings to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. All submittals shall be identified as ENGINEER may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings shall be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show ENGINEER the services, materials, and equipment CONTRACTOR proposes to provide and to enable ENGINEER to review the information.

B. CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. Each Sample shall be identified clearly as to material, Supplier, pertinent data such as catalog numbers, and the use for which intended and otherwise as ENGINEER may require to enable ENGINEER to review the submittal for the limited purposes required by paragraph 6.17.E. The numbers of each Sample to be submitted shall be as specified in the Specifications.

C. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER as required by paragraph 2.07, any related Work performed prior to ENGINEER's review and approval of the pertinent submittal shall be at the sole expense and responsibility of CONTRACTOR.

D. *Submittal Procedures*

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

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

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

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

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

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

3. At the time of each submittal, CONTRACTOR shall give ENGINEER specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall Documents with respect to CONTRACTOR's review and approval of that submittal. cause a specific notation to be made on each Shop Drawing and Sample submitted to ENGINEER for review and approval of each such variation.

E. *ENGINEER's Review*

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

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

3. ENGINEER's review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in

writing called ENGINEER's attention to each such variation at the time of each submittal as required by paragraph 6.17.D.3 and ENGINEER has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample approval; nor shall any approval by ENGINEER relieve CONTRACTOR from responsibility for complying with the requirements of the Contract Documents.

F. *Resubmittal Procedures*

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

6.18 *Continuing the Work*

A. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by the Contract Documents or as OWNER and CONTRACTOR may otherwise agree in writing.

6.19 *CONTRACTOR's General Warranty and Guarantee*

A. CONTRACTOR warrants and guarantees to OWNER, ENGINEER, and ENGINEER's Consultants that all Work shall be in accordance with the Contract Documents and shall not be defective. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors, Suppliers, or any other individual or entity for whom CONTRACTOR is responsible; or
2. normal wear and tear under normal usage.

This warranty shall guarantee all work for a period of three years from the date of acceptance of the Work and final acceptance by the OWNER, except for equipment, motors, electrical controls and other mechanical devices that shall be guaranteed for a period of two years from the date of acceptance and use of each item of equipment by OWNER unless a different guarantee period of time is specified under other parts of the Contract Documents.

B. CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following shall constitute an acceptance of Work that is not in accordance with the Contract

Documents or a release of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents:

1. observations by ENGINEER;
2. recommendation by ENGINEER or payment by OWNER of any progress or final payment;
3. the issuance of a certificate of Substantial Completion by ENGINEER or any payment related thereto by OWNER;
4. use or occupancy of the Work or any part thereof by OWNER;
5. any acceptance by OWNER or any failure to do so;
6. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by ENGINEER;
7. any inspection, test, or approval by others; or
8. any correction of defective Work by OWNER.

6.20 *Indemnification*

A. Indemnification. To the fullest extent permitted by law, Contractor agrees to and shall indemnify, defend and hold harmless the Owner, the Engineer, Engineer's consultants and the officers, employees, boards and commissions of each and any of them from and against any and all claims, suits, judgments, costs, attorneys' fees, damages or any and all other relief or liability arising out of or resulting from or through, or alleged to arise out of, any acts or negligent acts or omissions of Contractor or Contractor's officers, employees, agents or subcontractors in the performance of this agreement, or arising out of or in connection with litigation based on any mechanic's lien or other claims, suits, judgments and/or demands for damages by subcontractors. In the event of any action against the Owner, its officers, employees, agents, boards or commissions covered by the foregoing duty to indemnify, defend and hold harmless, such action shall be defended by legal counsel of Owner's choosing. In the event and to the extent that any legal work is performed by Owner's in-house legal counsel pursuant to the provisions of this section, Owner shall be reimbursed by Contractor for such legal work at the rate of \$200 per hour, which rate Contractor hereby agrees and acknowledges to be a reasonable rate for such in-house attorneys' fees. The provisions of this paragraph shall survive any expiration and/or termination of this agreement.

B. Contractor Specification Indemnification. To the fullest extent permitted by law, and notwithstanding anything to the contrary in any specifications, plans or Contract Documents, Contractor hereby warrants and represents that it has thoroughly and carefully reviewed all specifications, plans and

Contract Documents; and Contractor hereby waives, releases, indemnifies and agrees to hold harmless Owner, Engineer, Engineer's consultants, and any and all other entities which may have contributed or been involved in or with the preparation or drafting of any plans, specifications or Contract Documents, and the officers, employees, boards and commissions of each and any of them from and against any and all claims, suits, judgments, costs, attorneys' fees, damages or any and all other relief or liability arising out of or resulting from or through, or alleged to arise out of or through, ambiguities, errors or conflicts in such specifications, plans or Contract Documents. Contractor hereby agrees and acknowledges that any such claims, suits, judgments, costs, attorneys' fees, damages or any and all other relief or liability shall inherently and per se be based upon and result from Contractor's negligent acts or omissions in failing to detect any such errors, ambiguities or conflicts. The provisions of this paragraph shall survive any expiration and/or termination of this agreement.

ARTICLE 7 - OTHER WORK

7.01 *Related Work at Site*

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

1. written notice thereof shall be given to CONTRACTOR prior to starting any such other work; and

2. if OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in paragraph 10.05.

B. CONTRACTOR shall afford each other contractor who is a party to any contract or work as provided in the paragraph above and each utility owner (and OWNER, if OWNER is performing the other work with OWNER's employees) proper and safe access to the Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating, or otherwise altering their work and shall only cut or alter their work with the written consent of

ENGINEER, OWNER and the others whose work may be affected.

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

7.02 *Coordination*

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

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

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

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

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

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through ENGINEER.

B. Requirements to Provide Documents. To the extent they are available, the OWNER shall furnish surveys describing physical characteristics, legal limitations, and utility locations for the site of the Project, and a legal description of the Site.

The OWNER shall obtain and pay for necessary approvals, easements, assessments, and charges which are customarily secured prior to the execution of the Contract.

The OWNER shall furnish information or services required of the OWNER hereunder with reasonable promptness after receipt from the CONTRACTOR of a written request for such information or services.

The OWNER shall provide the CONTRACTOR, at no charge, such copies of the Project Manual as are reasonably necessary for the execution of the Work.

C. OWNER's Right to Perform Construction and to Award Separate Contracts. The OWNER reserves the right to perform construction or operations at the Site with its own forces or others. If the CONTRACTOR claims that a delay or additional cost is involved because of such action by the OWNER, the CONTRACTOR shall make such Claim as provided elsewhere in the Contract Documents.

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

The OWNER shall provide for coordination of the activities of the OWNER's own forces and of each separate contractor with the Work of the CONTRACTOR, who shall cooperate with them. The CONTRACTOR shall afford each other person access to the Site and shall properly coordinate its Work with that of the persons performing other work. The CONTRACTOR shall participate with other separate contractors and the OWNER in reviewing their construction schedules when directed to do so. The CONTRACTOR shall make any revisions to the construction schedules deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the CONTRACTOR, separate contractors, and the OWNER until subsequently revised.

D. Limitations on the OWNER's Responsibilities. The OWNER shall not supervise, direct, or have control or authority over, nor be responsible for the CONTRACTOR'S means, methods, techniques, sequences, or procedures of construction or the safety precautions and programs incident thereto, or for any failure of the CONTRACTOR to comply with laws, codes and regulations applicable to the furnishing or performance of the Work. The OWNER will not be responsible for the CONTRACTOR'S failure to perform or furnish the Work in accordance with the Contract Documents. The OWNER is not responsible for the acts or omissions of the CONTRACTOR, any Subcontractor, Supplier, or anyone for whose acts the CONTRACTOR, any Subcontractor or Suppliers may be liable.

The OWNER's authority to review any of the CONTRACTOR's progress schedules, or its decision to raise or not to raise any objections about such schedules shall not impose on the OWNER any responsibility for the timing, planning, scheduling, or execution of the Work, nor in any way give rise to any duty or responsibility on the part of the OWNER to exercise this authority for the benefit of the

CONTRACTOR, any Subcontractor or Supplier or any other party.

The OWNER's decision to raise or not to raise objections with regard to any aspects of the CONTRACTOR's insurance shall in no way give rise to any duty or responsibility on the part of the OWNER to or for the benefit of the CONTRACTOR, any Subcontractor, any Supplier, or any other party.

E. Reservation of Rights. The OWNER reserves the right to correct at any time any error in any progress payment that may have been made.

Should defective Work be discovered subsequent to final payment, the OWNER reserves the right to make a claim and recover all costs and professional fees associated therewith, including the cost of removing and/or replacing the defective Work.

F. Waivers. All waivers by the OWNER are valid only to the extent that they are signed by the OWNER. Any such waivers pertain only to the specific matter contained in the waiver and not to any similar, subsequent matters.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 OWNER'S Representative

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

9.02 Visits to Site

A. ENGINEER shall make visits to the Site at intervals appropriate to the various stages of construction as ENGINEER reasonably deems necessary in order to observe the progress that has been made and the quality of the various aspects of CONTRACTOR's executed Work. Based on information obtained during such visits and observations, ENGINEER, shall determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER shall not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. On the basis of such visits and observations, ENGINEER shall keep OWNER informed of the progress of the Work and shall use its best efforts to guard OWNER against defective Work.

B. ENGINEER's visits and observations are subject to all the limitations on ENGINEER's authority and

responsibility set forth herein, and particularly, but without limitation, during or as a result of ENGINEER's visits or observations of CONTRACTOR's Work ENGINEER shall not supervise, direct, control, or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work.

9.03 Project Representative

A. If OWNER and ENGINEER agree, ENGINEER shall furnish a Resident Project Representative to assist ENGINEER in providing more extensive observation of the Work. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants shall be as provided in paragraph 9.10 and in the Supplementary Conditions. If OWNER designates another representative or agent to represent OWNER at the Site who is not ENGINEER's Consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity shall be as provided in the Supplementary Conditions.

9.04 Clarifications and Interpretations

A. ENGINEER shall issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents as ENGINEER may determine necessary, which shall be consistent with the intent of and reasonably inferable from the Contract Documents. Such written clarifications and interpretations shall be binding on OWNER and CONTRACTOR.

9.05 Authorized Variations in Work

A. ENGINEER may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and shall be binding on CONTRACTOR, who shall perform the Work involved promptly.

9.06 Rejecting Defective Work

A. ENGINEER shall have authority to disapprove or reject Work which ENGINEER believes to be defective, or that ENGINEER believes shall not produce a completed Project that conforms to the Contract Documents or that shall prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ENGINEER shall also have authority to require special inspection or testing of the Work as provided

herein whether or not the Work is fabricated, installed, or completed.

9.07 Determinations for Unit Price Work

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

9.08 Decisions on Requirements of Contract Documents and Acceptability of Work

A. ENGINEER shall be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work, the quantities and classifications of Unit Price Work, the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, and Claims seeking changes in the Contract Price or Contract Times shall be referred initially to ENGINEER in writing, in accordance with the provisions of paragraph 10.05, with a request for a formal decision.

B. When functioning as provided under paragraph 9.07, ENGINEER shall not show partiality to OWNER or CONTRACTOR and shall not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by ENGINEER pursuant to this paragraph 9.08 with respect to any such Claim, dispute, or other matter shall be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such Claim, dispute, or other matter.

9.09 Limitations on ENGINEER's Authority and Responsibilities

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

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

C. ENGINEER shall not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

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

E. The limitations upon authority and responsibility set forth in this paragraph 9.09 shall also apply to ENGINEER's Consultants, Resident Project Representative, and assistants.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

A. Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Written Amendment, a Change Order, or a Work Change Directive. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which shall be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

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

10.02 *Unauthorized Changes in the Work*

A. CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented

as provided in paragraph 3.04, except in the case of an emergency as provided in paragraph 6.16 or in the case of uncovering Work as provided in paragraph 13.04.B.

10.03 *Execution of Change Orders*

A. OWNER and CONTRACTOR shall execute appropriate Change Orders recommended by ENGINEER (or Written Amendments) covering:

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

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

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

10.04 *Notification to Surety*

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

10.05 *Claims and Disputes*

A. *Notice:* Written notice stating the general nature of each Claim, dispute, or other matter shall be delivered by the claimant to ENGINEER and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. Notice of the amount or extent of the Claim, dispute, or other matter with supporting data shall be delivered to the ENGINEER and the other party to the Contract within 60 days after the start of such event (unless ENGINEER allows additional time for claimant to submit additional or more accurate data in support of such Claim,

dispute, or other matter). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of Article 12. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to ENGINEER and the claimant within 30 days after receipt of the claimant's last submittal (unless ENGINEER allows additional time).

B. *ENGINEER's Decision:* ENGINEER shall render a formal decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any. ENGINEER's written decision on such Claim, dispute, or other matter shall be final and binding upon OWNER and CONTRACTOR unless:

1. an appeal from ENGINEER's decision is taken within the time limits and in accordance with the dispute resolution procedures set forth in Article 16; or

2. if no such dispute resolution procedures have been set forth in Article 16, a written notice of intention to appeal from ENGINEER's written decision is delivered by OWNER or CONTRACTOR to the other and to ENGINEER within 30 days after the date of such decision, and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction within 60 days after the date of such decision or within 60 days after Substantial Completion, whichever is later (unless otherwise agreed in writing by OWNER and CONTRACTOR), to exercise such rights or remedies as the appealing party may have with respect to such Claim, dispute, or other matter in accordance with applicable Laws and Regulations.

C. If ENGINEER does not render a formal decision in writing within the time stated in paragraph 10.05.B, a decision denying the Claim in its entirety shall be deemed to have been issued 31 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any.

D. No Claim for an adjustment in Contract Price or Contract Times (or Milestones) shall be valid if not submitted in accordance with this paragraph 10.05.

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

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work.

When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to CONTRACTOR shall be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in paragraph 11.01.B.

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

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

3. Payments made by CONTRACTOR to Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from subcontractors acceptable to OWNER and CONTRACTOR and shall deliver such bids to OWNER, who shall then determine, with the advice of ENGINEER, which bids, if any, shall be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as CONTRACTOR's Cost of the Work and fee as provided in this paragraph 11.01.

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

5. Supplemental costs including the following:

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

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

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

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

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

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with paragraph 5.05), provided such losses and damages have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages, and

expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR's fee.

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

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

i. When the Cost of the Work is used to determine the value of a Change Order or of a Claim, the cost of premiums for additional Bonds and insurance required because of the changes in the Work or caused by the event giving rise to the Claim.

j. When all the Work is performed on the basis of cost-plus, the costs of premiums for all Bonds and insurance CONTRACTOR is required by the Contract Documents to purchase and maintain.

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

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

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

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

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

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

C. *CONTRACTOR's Fee*: When all the Work is performed on the basis of cost-plus, CONTRACTOR's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, CONTRACTOR's fee shall be determined as set forth in paragraph 12.01.C.

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

11.02 *Cash Allowances*

A. It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums as may be acceptable to OWNER and ENGINEER. CONTRACTOR agrees that:

1. the allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
2. CONTRACTOR's costs for unloading and handling on the Site, labor, installation costs, overhead, profit, and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing shall be valid.

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

11.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price shall be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of

Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR shall be made by ENGINEER subject to the provisions of paragraph 9.08.

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

C. OWNER or CONTRACTOR may make a Claim for an adjustment in the Contract Price in accordance with paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
2. there is no corresponding adjustment with respect any other item of Work; and
3. if CONTRACTOR believes that CONTRACTOR is entitled to an increase in Contract Price as a result of having incurred additional expense or OWNER believes that OWNER is entitled to a decrease in Contract Price

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

12.01 *Change of Contract Price*

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

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

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraph 11.03); or
2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum; or
3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under paragraph

12.01.B.2, on the basis of the Cost of the Work (determined as provided in paragraph 11.01) plus a CONTRACTOR's fee for overhead and profit (determined as provided in paragraph 12.01.C).

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

1. a mutually acceptable fixed fee; or

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

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

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

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

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

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

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

12.02 *Change of Contract Times*

A. The Contract Times (or Milestones) may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Times (or Milestones) shall be based on written notice submitted by the party making

the claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

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

12.03 *Delays Beyond CONTRACTOR's Control*

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

12.04 *Delays Within CONTRACTOR's Control*

A. The Contract Times (or Milestones) shall not be extended due to delays within the control of CONTRACTOR. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

12.05 *Delays Beyond OWNER's and CONTRACTOR's Control*

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay.

12.06 *Delay Damages*

A. In no event shall OWNER or ENGINEER be liable to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from:

1. delays caused by or within the control of CONTRACTOR; or

2. delays beyond the control of both OWNER and CONTRACTOR including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, or

acts or neglect by utility owners or other contractors performing other work as contemplated by Article 7.

B. Nothing in this paragraph 12.06 bars a change in Contract Price pursuant to this Article 12 to compensate CONTRACTOR due to delay, interference, or disruption directly attributable to actions or inactions of OWNER or anyone for whom OWNER is responsible.

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

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which OWNER or ENGINEER has actual knowledge shall be given to CONTRACTOR. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

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

13.03 *Tests and Inspections*

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

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

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

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other

representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish ENGINEER the required certificates of inspection or approval.

D. CONTRACTOR shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for OWNER's and ENGINEER's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to OWNER and ENGINEER.

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

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

13.04 *Uncovering Work*

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

B. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment. If it is found that such Work is defective, CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefor as provided in paragraph 10.05 or as may otherwise be provided by law.

13.05 *OWNER May Stop the Work*

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

13.06 *Correction or Removal of Defective Work*

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

13.07 *Correction Period*

A. If within three years after the date of Substantial Completion (except for equipment, motors, electrical controls and other mechanical devices which are guaranteed for a period of two years from the date of acceptance and use of each item of equipment by OWNER pursuant to Section 6.19(A) herein), or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for CONTRACTOR's use by OWNER or permitted by Laws and Regulations as contemplated in paragraph 6.11.A is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instructions: (i) repair such defective land or areas, or (ii) correct such defective Work or, if the defective Work has been rejected by OWNER, remove it from the Project and replace it with Work that is not defective, and (iii) satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or repaired or may have the rejected Work removed and replaced, and all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or

relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) shall be paid by CONTRACTOR.

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

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

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

13.08 *Acceptance of Defective Work*

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

13.09 *OWNER May Correct Defective Work*

A. If CONTRACTOR fails within a reasonable time after written notice from ENGINEER to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.06.A, or if CONTRACTOR fails to perform the Work in accordance with

the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days written notice to CONTRACTOR, correct and remedy any such deficiency.

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

C. All Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by OWNER in exercising the rights and remedies under this paragraph 13.09 shall be charged against CONTRACTOR, and a Change Order shall be issued incorporating the necessary revisions in the Contract Documents with respect to the Work. Such claims, costs, losses and damages shall include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of CONTRACTOR's defective Work.

D. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER's rights and remedies under this paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The schedule of values established as provided in paragraph 2.07.A shall serve as the basis for progress payments and shall be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work shall be based on the number of units completed.

B. CONTRACTOR shall submit revisions to the initial schedule of progress payments whenever actual outlays for the Work vary beyond -5 percent and +10 percent from the schedule, as determined by ENGINEER.

14.02 *Progress Payments*

A. *Applications for Payments*

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

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

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

B. *Review of Applications*

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

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

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.08, and to any other qualifications stated in the recommendation); and

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

3. By recommending any such payment ENGINEER shall not thereby be deemed to have represented that: (i) inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents; or (ii) that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

4. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER's opinion, it would be incorrect to make the representations to OWNER referred to in paragraph 14.02.B.2. ENGINEER may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in ENGINEER's opinion to protect OWNER from loss because:

a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;

b. the Contract Price has been reduced by Written Amendment or Change Orders;

c. OWNER has been required to correct defective Work or complete Work in accordance with paragraph 13.09; or

d. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraph 15.02.A.

C. Payment Becomes Due

1. Within 30 days after presentation of the Application for Payment to OWNER with ENGINEER's recommendation, the amount recommended shall (subject to the provisions of paragraph 14.02.D) become due, and when due shall be paid by OWNER to CONTRACTOR.

D. Reduction in Payment

1. OWNER may refuse to make payment of the full amount recommended by ENGINEER because:

a. claims have been made against OWNER on account of CONTRACTOR's performance or furnishing of the Work;

b. Liens have been filed in connection with the Work;

c. there are other items entitling OWNER to a set-off against the amount recommended, including, but not limited to, the failure of Contractor to provide any lien waivers and/or certifications which may be required by Owner or as a result of Owner's payments to subcontractors pursuant to the provisions of the Contract Documents; or

d. OWNER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.02.B.5.a through 14.02.B.5.c or paragraph 15.02.A.

14.03 CONTRACTOR's Warranty of Title

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

14.04 Substantial Completion

A. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Promptly thereafter, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER shall notify CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers the Work substantially complete, ENGINEER shall prepare and deliver to OWNER a tentative

certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have fourteen days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER shall within 14 days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefor. If, after consideration of OWNER's objections, ENGINEER considers the Work substantially complete, ENGINEER shall within said 14 days execute and deliver to OWNER and CONTRACTOR a definitive and final certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion ENGINEER shall deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform ENGINEER in writing prior to ENGINEER's issuing the definitive and final certificate of Substantial Completion, ENGINEER's aforesaid recommendation shall be binding on OWNER and CONTRACTOR until final payment.

B. OWNER shall have the right to exclude CONTRACTOR from the Site after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Use by OWNER at OWNER's option of any substantially completed part of the Work that has specifically been identified in the Contract Documents, or which OWNER, ENGINEER, and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following conditions.

1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR shall certify to

OWNER and ENGINEER that such part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, ENGINEER shall notify OWNER and CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers that part of the Work to be substantially complete, the provisions of paragraph 14.04 shall apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

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

14.06 *Final Inspection*

A. Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER shall promptly make a final inspection with OWNER and CONTRACTOR and shall notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment*

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

2. The final Application for Payment shall be accompanied (except as previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by subparagraph 5.04.B.7; (ii) consent of the

surety, if any, to final payment; and (iii) complete and legally effective releases or waivers (satisfactory to OWNER) of all Lien rights arising out of or Liens filed in connection with the Work.

B. Review of Application and Acceptance

1. If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, ENGINEER shall, within ten days after receipt of the final Application for Payment, indicate in writing ENGINEER's recommendation of payment and present the Application for Payment to OWNER for payment. At the same time ENGINEER shall also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.09. Otherwise, ENGINEER shall return the Application for Payment to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

1. Thirty days after the presentation to OWNER of the Application for Payment and accompanying documentation, the amount recommended by ENGINEER shall become due and, when due, shall be paid by OWNER to CONTRACTOR.

14.08 Waiver of Claims

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

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

2. a waiver of all Claims by CONTRACTOR against OWNER other than those previously made in writing which are still unsettled.

ARTICLE 15 - TERMINATION

15.01 OWNER May Terminate for Cause

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

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

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

3. CONTRACTOR's disregard of the authority of ENGINEER; or

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

B. If one or more of the events identified in paragraph 15.01.A occur, OWNER may, after giving CONTRACTOR (and the surety, if any) seven days written notice, terminate the services of CONTRACTOR, exclude CONTRACTOR from the Site, and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case, CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by OWNER arising out of or relating to completing the Work, such excess shall be paid to CONTRACTOR. If such claims, costs, losses, and damages exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such claims, costs, losses, and damages incurred by OWNER shall be reviewed by ENGINEER as to their reasonableness and, when so approved by ENGINEER, incorporated in a Change Order. When exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

C. Where CONTRACTOR's services have been so terminated by OWNER, the termination shall not affect any rights or remedies of OWNER against CONTRACTOR then

existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER shall not release CONTRACTOR from liability.

15.02 *OWNER May Terminate For Convenience*

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

1. for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
2. for expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
3. for all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
4. for reasonable expenses directly attributable to termination.

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

ARTICLE 16 - DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. This Agreement shall be subject to and governed by the laws of the State of Illinois. Venue for the resolution of any dispute or the enforcement of any rights pursuant to this Agreement shall be in the Circuit Court of Kane County.

ARTICLE 17 - MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it shall be deemed to have been validly given if delivered in person to the individual or to

a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

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

17.03 *Cumulative Remedies*

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

17.04 *Survival of Obligations*

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

17.05 *Controlling Law*

A. This Contract is to be governed by the law of Illinois.

17.06 *Professional Fees and Court Costs Included*

A. Whenever reference is made to Claims, costs, losses and damages, it shall specifically exclude all fees and charges of attorneys and all court or dispute resolution costs.

17.07 *Prevailing Wage Rates*

A. CONTRACTOR shall comply with the attached prevailing wage rates as determined by the Illinois Department of Labor.

SECTION 00 3132
GEOTECHNICAL DATA

1.0 GEOTECHNICAL DATA

- A. This Document with its referenced attachments is part of the Procurement and Contracting Requirements for Project. They provide Owner's information for Bidders' convenience and are intended to supplement rather than serve in lieu of Bidders' own investigations. They are made available for Bidders' convenience and information, but are not a warranty of existing conditions. This Document and its attachments are not part of the Contract Documents.
- a. Report dated June 30, 2025 as prepared by: Pioneer Engineering and Environmental Services LLC.
 - b. Supplemental report dated July 1, 2026 as prepared by: Pioneer Engineering and Environmental Services LLC.

END OF SECTION

SECTION 01 2300
ALTERNATES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Description of Alternates.

1.02 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.
 - 2. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

1.03 ACCEPTANCE OF ALTERNATES

- A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.
- B. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.
- C. Execute accepted alternates under the same conditions as other work of the Contract.

1.04 SCHEDULE OF ALTERNATES

- A. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.
- B. Alternate No.1: Wetland Boardwalk and Adjacent Paths
 - 1. Base Bid: Base bid work in this area includes the renovation of the concrete Aquatic Center plaza, including the bike racks, south of the boardwalk and asphalt path connecting northeast crosswalk to parking.
 - 2. Alternate: Alternate work includes the removals, site preparation, earthwork, installation of the boardwalk, concrete piers and driven piles. The work also includes the concrete path connections to the Aquatics Cener plaza and asphalt paving and path connections to the north.

- C. Alternate No. 2: Restroom Building
1. Base Bid: All of the paths, features, and landscaping surrounding the building are base bid. Electric for splash pad shall connect to existing electrical panel.
 2. Alternate: Alternate work includes the complete demolition and construction of the restroom building including all utility connections, limestone outcropping and security camera work at building and playground.
- D. Alternate No. 3: West Parking Lot
1. Base Bid: The Tyler Creek Trail north of the parking lot is base bid.
 2. Alternate: Alternate work includes site preparation, removals and earthwork associated with the parking lot. This work includes landscaping, signage, pavement markings, wheel stops, the asphalt trail connection to the Tyler Creek Trail to the north and the concrete sidewalk and crosswalk on the east side of the lot. The six street parking spaces south of the lot are also part of this alternate. The existing overhead lights in the parking lot are to remain and upgraded to LED fixtures. If Alternate #6 is accepted, the complete replacement of these lights will be installed.
- E. Alternate No. 4: ADA Baseball Plaza Improvements
1. Base Bid: There are no base bid components in this area.
 2. Alternate: Work includes all site preparation, removals, earthwork associated with the installation of the concrete and asphalt paving, walls, concrete curb along with the landscaping and restoration at the baseball plazas.
- F. Alternate No. 5: Bridge and Adjoining Paths
1. Base Bid: There are no base bid components in this area.
 2. Alternate: Work includes all site preparation, removals, earthwork associated of installation of a new steel pedestrian bridge and wood and composite boardwalks. This work also includes all asphalt path to the north, a portion of the adjacent southern asphalt path. Work in the creek including removals, stormwater pollution prevention measures, vegetated rock toe, limestone outcrop at the bridge, and landscaping as delineated on the plans.
- G. Alternate No. 6: Sports Plaza Lighting and tennis Fence Replacement
1. Base Bid: Base bid to include no work at tennis courts with adjacent paving and pickleball courts installed as base bid per plans.
 2. Alternate: Work includes the replacement of existing Musco light fixtures at the existing tennis courts, new lighting at the proposed pickleball courts, and new lighting at the proposed west parking lot. This alternate negates the head replacement of the existing lights in the parking lot and calls for the demolition of those poles. This alternate also includes the replacement of the existing tennis fence and gates, protection of existing asphalt courts and restoration of all areas impacted by this alternate.
- H. Alternate No. 7: Sulphur Spring Beautification and Erosion Control
1. Base Bid: There are no base bid components in this area.
 2. Alternate: Work includes all site preparation, removals, earthwork associated with the asphalt to the west of the bridge connection in Alternate #5. Work also includes installing the vegetated rock toe, limestone outcrop, and landscaping as delineated on the plans to the west of the Alternate #5 work as delineated on plans.

- I. Alternate No. 8: Sulphur Spring Beautification and Erosion Control
 - 1. Base Bid: There are no base bid components in this area.
 - 2. Alternate: Work includes the weed control at the wetland prior to boardwalk installation in Alternate #1. Work also includes restoration at treated areas around the boardwalk.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION 01 23 00

SECTION 01 1300

SUBMITTALS

1.0 CONTRACTOR'S CONSTRUCTION SCHEDULES

1.1 Immediately after notification of Contract Award, the Contractor shall prepare and deliver to the Owner's Representative for approval, a Construction Schedule. This Schedule shall include a breakdown of the various divisions of the Work and shall show the date of commencement and the date of completion of each division of the Work. This Schedule shall be prepared on the basis of the Contractor's stated Final Completion Date and in consultation with Contractors for any other work involved in the completion of the Project, and with the Owner's Representative's consent or direction, shall be revised from time to time as required. This Schedule shall include the Owner's equipment installation timetable (if any) as furnished by him/her.

2.0 CONTRACTOR PAYOUTS AND LIEN WAIVERS

2.1 Contractor shall submit payment requests in **triplicate** using standard AIA Document G702 "Application and Certificate for Payment."

2.2 Waivers of lien shall be submitted in **triplicate** from all major Subcontractors or suppliers as directed by the Owner.

3.0 SURVEY DATA

3.1 Contractor shall be responsible for properly laying out the Work, and for lines and measurements for the Work executed under Contract Documents. Verify figures shown on the drawings before laying out the Work, and report errors or inaccuracies in writing to the Owner's Representative before commencing work. The Owner's Representative will in no case assume responsibility for laying out the Work.

3.2 Establish necessary reference lines and permanent benchmarks from which built object lines and elevations shall be established. Contractor shall establish two such benchmarks in widely separated locations and be responsible for proper location and level of the work and for maintenance of reference lines and benchmarks. Establish benchmarks and axis lines showing exact floor elevations and other lines and dimensional reference points as required for information and guidance of all trades.

3.3 Each Subcontractor, as it applies to his/her work, shall verify grades, lines, levels, locations, and dimensions as shown on drawings and report any errors or inconsistencies to the Owner's Representative before commencing work. Starting of work by Subcontractor shall constitute acceptance.

4.0 SHOP DRAWINGS, PRODUCT DATA, SAMPLES (SUBMITTALS)

4.1 The contractual requirements for shop drawings, product data, and samples are specified in the General and Supplemental Conditions. The Contractor shall submit shop drawings, product data, and samples.

4.2 Within thirty (30) days after award of Contract, Contractor shall prepare a schedule of specific target dates for submission and return of Owner's Representative reviewed submittals required by Contract Documents.

4.3 No Portion of work requiring such submittal will be permitted to start until submission has been reviewed by the Owner's Representative. Changes or modification to Contract Documents shall not be initiated by corrections to submittals.

4.4 Submittals which reflect major design changes to the Contract Drawings or Specifications must be accompanied by a separate letter justifying change, and will require that a change order be executed prior to acceptance.

5.0 SUBMITTAL PROCEDURES BY CONTRACTOR

5.1 Shop Drawings

A. Submit to the Owner's Representative four (4) copies of Shop Drawings for review. The Owner's Representative's check of any Contractor's Shop Drawings will cover approval of material and design only, and while figures or dimension will be checked in a general way, the responsibility for correctness of all drawings will rest with the Contractor submitting the Shop Drawings. After review, three (3) copies of the Shop Drawings with corrections or accompanying comments will be returned to the Contractor for resubmission, if required, after corrections have been made. For final resubmission, after corrections have been made, the Contractor shall send prints to the Owner's Representative for distribution. The Owner's Representative review of the Shop Drawings does not relieve the Contractor from furnishing materials and performing work as required by the Contract Documents. No extension of time will be granted for review and approval.

5.2 Product Data

A. Submit to the Owner's Representative three (3) copies of the manufacturer's specification, installation instructions and general recommendations for applicable products. Include manufacturer's certification or other data substantiating that the materials comply with the requirements and are recommended by manufacturer for the application shown and specified. Indicate by copy of transmittal form that Installer has received copy of the instructions and recommendations. Hardware schedules and collection of catalog cuts such as light fixtures, site furniture, etc., shall be presented in bound brochures, three (3) copies each.

5.3 Samples

A. Submit to the Owner's Representative two (2) samples and color data information for all finishes and finish materials.

6.0 DISTRIBUTION

6.1 Contractor is responsible for obtaining and distributing required submittal items to his/her Subcontractors and material suppliers after, as well as before, items are stamped "Approved."

7.0 SHOP DRAWINGS FILE TO OWNER

7.1 At completion of construction, Contractor shall furnish for Owner's use one (1) unused copy of all Shop Drawings, manufacturer's diagrams, literature, etc., that were used in execution of the Work.

END OF SECTION

SECTION 01 1330
CONTINGENCY ALLOWANCE

PART 1- GENERAL

1.1 Section Includes

- A. Contingency allowance: Work not specified in the plans that may be required to be completed at the discretion of the Owner.
- B. Payment and modification procedures relating to allowances

1.2 Contingency allowance

- A. Certain materials and equipment are specified in the Contract Documents by allowances. In some cases, these allowances include installation. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Bulletin and/or Change Order.
- B. At closeout of Contract, funds remaining in Contingency Allowance will be credited to Owner by Change Order.

PART 2 PRODUCTS (NOT USED)

PART 3 - EXECUTION

- A. The cost for this work shall be per the allowance total as noted in the bid form.
- B. Use the allowance only as directed by the Owner's representative and only by Change Orders that indicate amounts to be charged to the allowance
- B. Should this clause be used, the following process shall be followed:
 - 1. The Contractor shall request in writing the proposed change with a cost for this work that indicates the amounts to be charged to the allowance and what purpose.
 - 2. The Owner and or Owner's representative shall provide written approval this work and the cost prior to work being completed. This work will be deducted from the allowance item in the schedule of values. The cost shall not exceed the remaining balance of this line item.

END OF SECTION 01 1330

SECTION 015000 - **TEMPORARY FACILITIES AND CONTROLS**

GENERAL

1.1 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities and access, waste removal and project identification signs.
- B. All temporary connections to utilities and services shall be acceptable to Owner and local authorities having jurisdiction thereof. OSHA Standards and Regulations shall apply if more restrictive.
- C. Contractor shall note that if any part of the permanent building equipment (plumbing, heating, electrical) is used to provide temporary utilities, this shall not void or shorten the equipment guarantee provided by the Contractor and material and equipment supplier and as described in Contract Documents.
- D. All temporary facilities shall be included in general conditions and mobilization costs incidental to the contract.

1.2 TEMPORARY UTILITIES

- 1. Contractor shall provide and pay for all electrical power, lighting, water, heating and cooling, ventilation, and sewer service required by all entities for construction purposes at the Project site.
- 2. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use.
 - a. Obtain required certifications and permits.
 - b. Obtain required certifications and permits.
 - c. Provide copies of reports of tests, inspections, meter readings, and similar procedures performed on temporary utilities.
- 3. Provide, maintain, and pay for telecommunications services to field office and field personnel, as required for adequate Project communication.
- 4. The Contractor shall provide temporary water service for construction operations.
- 5. Temporary sanitary facilities
 - a. Provide and maintain required facilities and enclosures. Provide at time of project mobilization. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.
 - b. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; fully enclosed with a glass-fiber-reinforced polyester shell or similar non-absorbent material.
 - c. Disposable Supplies: Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.
- 1) Wash Facilities: Install wash facilities supplied with potable water at convenient locations for personnel who handle materials that require wash

- up. Dispose of drainage properly. Supply cleaning compounds appropriate for each type of material handled.
- d. Maintain daily in clean and sanitary condition.

B. BARRIERS

- a. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- b. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard.
- c. Where appropriate and needed, provide lighting, including flashing red or amber lights.
- d. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building. Comply with authorities having jurisdiction.
- e. For safety barriers, sidewalk canopies, and similar uses, provide minimum 5/8-inch thick exterior plywood.

- C. Traffic Controls: Provide temporary traffic controls at junction of temporary roads with public roads. Include warning signs for public traffic and "STOP" signs for entrance onto public roads. Comply with requirements of authorities having jurisdiction

1.3 Vehicular Access and Parking

- A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.
- B. Coordinate access and haul routes with the owner.
- C. Provide and maintain access to fire hydrants, free of obstructions.
- D. Provide means of removing mud from vehicle wheels before entering streets.
- E. Provide dust-control treatment that is nonpolluting and non-tracking. Reapply treatment as required to minimize dust.

1.4 INFORMATIONAL SUBMITTALS

- A. Site Plan: Show temporary facilities, staging areas, and parking areas for construction personnel.

1.5 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- C. Accessible Temporary Egress: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Owner's ADA-ABA Accessibility Guidelines and Illinois Accessibility Code.

1.6 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

1.7 WASTE REMOVAL

- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- B. Provide containers of adequate size to handle waste from construction operations. Provide containers with lids. Remove trash from site periodically.
- C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.
- D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.
- E. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste.
- F. If required by authorities having jurisdiction, provide separate containers, clearly labeled, for each type of waste material to be deposited.

1.8 PROJECT IDENTIFICATION

- A. Provide project identification sign of design and construction as indicated by owner.
 - 1. Standard sign is 4'-0" x 8'-0" 1/2 inch thick,
 - 2. Sign vendor will be identified by the Owner's representative.
- B. Erect on site at location established by Owner's representative.
- C. Provide temporary signs to indicate directional information to construction personnel and visitors; and as required by law.
- D. No advertising signage is permitted. Do not allow installation of unauthorized signs.

1.9 FIELD OFFICES

- A. Offices: Prefabricated or Mobile Units with lockable entrances, and operable windows, on foundations adequate for normal loading. Offices to be weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture.
 - 1. Provide incombustible construction for offices, shops, and sheds located within construction area or within 30 feet of building lines. Comply with NFPA 241.
 - 2. Provide and maintain one port-o-let per 10 to 20 workers within construction site.
 - a. Position units within a 10-minute walk (ideally no more than 500 feet) from active work areas.
 - b. Servicing frequency: Units should be serviced and pumped at least once a week. High-traffic sites may require servicing 2-3 times a week.
 - c. Handwashing: If running water is not available, hand sanitizer must be provided inside each unit. If working with hazardous chemicals, separate handwashing stations with soap and water are required.
 - d. Stocking: Ensure each unit remains fully stocked with toilet paper and hand sanitizer at all times
- B. Provide space for Project meetings, with table and chairs to accommodate 10 persons.

1.10 FENCING

- A. Provide 6 foot high fence around construction site; equip with vehicular and pedestrian gates with locks. Locate where indicated.
- B. Construction: Commercial grade chain link fence.
 - 1. 9 gauge 2" galvanized steel mesh, 8 feet high. Temporary fencing (where allowed) may be 6 feet high).
 - 2. 3" outside dimension galvanized end posts with caps
 - 3. 2" outside dimension galvanized line (intermediate) posts
 - 4. 10 ft. max. center to center, with caps
 - 5. 1-5/8" outside dimension galvanized top and bottom rails
 - 6. 12 gauge min. galvanized ties
 - 7. Required fittings for proper installation of above.

1.11 CONSTRUCTION AIDS

- A. Contractor shall furnish, maintain, and remove at completion, all temporary ladders, ramps, barricades, enclosures, fences, walks and like facilities, as required for proper execution of Work for all trades, except as otherwise specifically required under individual section.
- B. All such apparatus, equipment, and construction shall meet all requirements of OSHA and other applicable state or local laws.
- C. Contractor and each of their Subcontractors, for their own use, shall provide all scaffolding required for execution of their own work. Scaffolding shall not be built into walls of buildings.

- D. The Contractor shall provide, install and maintain all shoring and bracing or other devices necessary to maintain all aprons, curbs, pavements, and existing structure, etc., at their present levels and in their present location and condition during construction. Demolish all such work after it is not needed and required and remove it from the premises.

PART 2 - PRODUCTS

PART 3 - EXECUTION

3.1 GENERAL

- A. Refer to 01 70 00 - Execution Requirements for additional requirements for the execution of temporary facilities.
- B. Locate facilities where they shall serve Project adequately and result in minimum interference with performance of the Work.
- C. Relocate temporary services and facilities as required by progress of the Work.
- D. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.
- E. Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects. Avoid using tools and equipment that produce harmful noise. Restrict use of noisemaking tools and equipment to hours that shall minimize complaints from persons or firms near Project site.

3.2 PREPARATION

- A. Provide and plan for adequate capacity for temporarily facilities at each stage of construction.
- B. Obtain easements to bring temporary utilities to Project site where the Owner's easements cannot be used for that purpose.

3.3 INSTALLATION

- A. Fencing: Unless otherwise indicated on the drawings, posts are to be set at a depth of no less than 3'0" below ground level and anchored in concrete to full depth. Posts shall be properly capped. End posts and line posts will be evenly spaced at a distance of no more than 10'-0" apart, center to center. Fence shall be erected with top and bottom rails of 1-5/8" o.d. and ties of no less than 12 gauge, securing the galvanized steel mesh to the rails. The bottom rail shall be placed at a distance of no greater than 2" from the bottom of the posts and shall be secured by the use of proper fittings to corner

and intermediate posts. Top rail shall run continuously through line post caps and shall be fastened to end posts no less than 2" from the top by the use of proper fittings.

3.4 CLEANING

- A. Provide cleaning of temporary facilities on a daily basis; including, but not limited to: temporary offices, first-aid stations, toilets, wash facilities, lunchrooms, and similar areas.
- B. Maintain facilities in good operating condition until removal. Protect from damage caused by freezing temperatures and similar elements.
- C. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- D. Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.

3.5 CLOSEOUT ACTIVITIES

- A. Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Preliminary Acceptance.
 - 1. Except for using permanent fire protection as soon as available, do not change over from using temporary security and protection facilities to permanent facilities until Preliminary Acceptance.
- B. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facilities.
- C. Materials and facilities that constitute temporary facilities are the property of Contractor. The Owner reserves right to take possession of Project identification signs.
- D. Remove temporary paving not intended for or acceptable for integration into permanent paving. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
- E. Prior to Preliminary Acceptance, restore Owner's existing facilities to condition established before initial use.
- F. Remove all support facilities near and prior to Preliminary Acceptance. Personnel remaining after Preliminary Acceptance will be permitted to use permanent facilities, under conditions acceptable to the Owner.
- G. Clean and repair damage caused by installation or use of temporary work.

- H. Restore new permanent facilities used during construction to specified condition.
- I. Refer to final cleaning requirements in Section 01 77 00 - Closeout Procedures

END OF SECTION 015000

SECTION 01 2100
SITE PREPARATION AND PROTECTION OF EXISTING FACILITIES

1.0 GENERAL

1.1 Description

- A. This work shall consist of the complete removal of all items called for in the plans and specifications or as otherwise implied in a safe and orderly manner creating as little disturbance as possible.
- B. Protection of saved items as described within the specifications and plans.
- C. All areas indicated for construction of any kind shall be cleared of any debris, undergrowth, weeds, stumps, roots, and marked trees which might interfere with the progress of that work. Unmarked trees or any plant material indicated to be saved by the Owner or Owner's Representative shall be given special protection as specified.

2.0 PRODUCTS (not applicable)

3.0 EXECUTION

3.1 Safety of Operations

- A. Work site safety is the Contractor's responsibility. During removal operations, proper signs and security fence shall be installed by the Contractor prior to commencing work. Barricades shall be used to warn and protect the public against hazards. If a street must be temporarily closed to traffic, it shall be the Contractor's obligation to make arrangements for permission from the governing agency prior to closing. After such approval is obtained, the Contractor shall notify the Owner, local law enforcement, and Fire Department of actual times and dates of closure.

3.2 Protection and restoration of Items to Remain.

- A. Locations and dimensions shown in the Drawings for existing facilities are in accordance with available information obtained without uncovering, measuring or other verification and are not guaranteed. The Contractor shall protect from damage private and public utilities encountered during the Work. The Contractor shall, before an excavation begins, call J.U.L.I.E. or Digger (depending on service location).
- B. Extreme care shall be utilized when removing any item adjacent to structures, utilities, paving, vegetation or any item not indicated for removal or relocation whether shown on the Drawings or not. These items shall be properly protected as required to keep them from damage or other disturbance of any kind during the course of work. Existing utilities shall be protected and maintained to prevent leakage, settlement or other damage. Damage to any of the above shall be repaired or replaced to former condition as required by the utility company or Owner at the Contractor's expense. Repair of damaged utility shall be completed within 24 hours of damage occurring.
- C. The Contractor shall, at no additional cost to the Owner, provide and install safeguards acceptable to the Owner to protect public and private property. During removal operations, proper signs and security fence shall be installed by the Contractor prior to commencing work. Barricades shall be used to warn and protect the public against hazards.

1. If a street must be temporarily closed to traffic, it shall be the Contractor's obligation to obtain permission from the governing agency prior to closing. After such approval is obtained, the Contractor shall notify the Owner, local law enforcement, and Fire Department of actual times and dates of closure.
2. If public or private property is damaged or destroyed or its use interfered with by the Contractor, the Contractor's agents or the Contractor's employees, such interference shall be terminated and damaged or destroyed property repaired and restored immediately to its former condition by the Contractor at the Contractor's expense.
3. Should the Contractor refuse or not respond promptly to a written request to restore damaged or destroyed property to its original condition, the Owner may have such property restored by other means at the Contractor's expense.

3.3 Protection and Restoration of trees, shrubs, and plant material

- A. Trees, shrubs, plants, and other landscaping not designated for removal shall be left in place and protected from damage or injury during construction. The Contractor shall provide full and adequate protection against construction damage to all landscaping that is to remain.
- B. No traffic, storage of Equipment, vehicles or materials shall be allowed within the drip line of trees not designated for removal. In addition, plans may indicate no-construction activity areas that are larger than the dripline (see plan notes).
- C. Prior to construction activities beginning, Contractor shall be responsible for installing and maintaining tree protection fencing as indicated on the drawings and details.
- D. Root pruning shall occur on all tree roots larger than one inch, but less than two inches in diameter. Such roots shall be cleanly cut in place. Root pruning shall be done so as not to disturb remaining fibrous roots.
- E. Where excavation operations occur and where tree roots 2 inch or greater in diameter are discovered, the Contractor shall promptly notify the Owner's Representative, who will determine how these tree roots are to be handled.
- F. Promptly cover exposed roots and maintain moisture on them to keep them alive.
- G. Failure to promptly preserve the viability of roots on trees to be saved may result in the Owner making corrective action. Given the urgency needed in keeping desirable tree roots alive, the Owner may take such action following as little as twenty-four-hour notice to the Contractor. Reasonable costs for any and all such action by Owner may be charged to the Contractor and/or deducted from project monies due to the Contractor.

3.4 Plant Damage Compensation

- A. The Owner shall be reimbursed for trees or other plant material not ordered or designated to be removed but that are destroyed or irreparably damaged by Contractor operations as determined by the Owner's Representative. At a minimum, the Contractor shall reimburse Upland Design and/or other Owner consultant for time and materials expended related to tree damage (such as meetings, measuring, preparing reports and preparing change orders)
- B. Damage to tree trunks, branches and roots shall be reported to the owner's representatives immediately.

- C. The penalty for each incidence of trunk damage to trees shall be \$450.00.
- D. The penalty for each incidence of branch or root damage shall be \$100.00 per caliper inch.
- E. The penalty for compaction of soil by unauthorized vehicle travel on the grounds shall be \$.45 per square foot of traveled area.
- F. Where the damaged tree is a heritage tree or landscape specimen, the reimbursement amount will be based on a benefit-based-valuation. This service is to be conducted by a certified arborist trained in tree appraisals that is approved by the Owner and the cost of the service will be borne solely by the contractor.
- G. The penalty for damage to a shrub shall be the removal and replacement cost as determined by at least two written quotes obtained by the Owner.

3.5 Removal Responsibility

- A. All debris, paving, equipment, fencing, trees, stumps, sod or soil to be cleared and removed from the project area shall be legally disposed of off site at the arrangement and expense of the Contractor. No materials will be stockpiled on site for future disposal; materials used for fill or topsoil may be stored on site. No excavation areas will be left in unsafe or unsightly conditions at day's end. The Contractor will be responsible for all transportation and disposal fees associated with this work. Burning of any materials on site is prohibited unless indicated otherwise on plans.

END OF SECTION

SECTION 01 2113

Weed Control – Aquatic Vegetation

1.0 GENERAL

1.1 Description

This work shall consist of the application of herbicide (Habitat or equal) for weed control in wet areas. Applications may only be made for the control of undesirable vegetation around standing and flowing water.

1.2 Experience

The Contractor shall have previous experience with the use of weed control chemicals. He/she shall have had at least one (1) season's experience in the use of their chemicals in spraying aquatic areas or at least three (3) season's experience in their use in farm or custom spraying. The Contractor shall observe and comply with all sections of the Illinois Custom Spray Law, including licensing. Contractor shall have all applicable licensing and permits needed for spraying herbicides as provided by state and local municipalities.

1.3 Submittals

The Contractor shall submit a certificate, including the following, prior to starting work:

1. A statement describing the products proposed for use when the manufacturer of Habitat or equal requires that surfactants, drift control agents, or other additives be used with the product. These mix additives shall be used as specified by the manufacturer.
2. The chemical names of the compound and the percentage by weight of the ingredients which must match the above specified formulation.
3. A statement that the material is in a solution which will form a satisfactory emulsion for use when diluted with water for normal spraying conditions.
4. A statement that the Habitat or equal, when mixed with water, will be completely soluble and dispersible and remain in suspension with continuous agitation.

2.0 PRODUCTS

2.1 Equipment

Hand spray guns shall be used for spraying areas. The equipment must provide consistently uniform coverage and keep the spray mixture sufficiently agitated or the work will be suspended until the equipment is repaired or replaced.

2.2 Materials

The herbicide (Habitat or equal) shall have the following formulation:

Active Ingredient:

Isopropylamine salt of Imazapyr (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-Pyridinecarboxylic acid)*.....28.7%

Inert Ingredients:..... 71.3%

Total100.0%

Application Rate: The Habitat or equal herbicide shall be applied at the rate of 4 pints per acre. Habitat or equal formulation shall be diluted with a minimum of one-hundred (100) gallons of water per acre and applied as a mixture.

3.0 EXECUTION

3.1 Exclusion of Spraying areas

Spraying will not be permitted into water, over any drainage swales or waterways, or other areas where the chemical label prohibits application. Spraying within 150 feet of where endangered or threatened species occur shall be prohibited unless authorized by the Owner's Representative. It is the responsibility of the contractor for prevention of damage to private property.

The Contractor shall, at all times, exercise extreme caution to prevent damage to residential plantings, flower or vegetable gardens, vegetable crops, farm crops, orchard or desirable plants adjacent to the area to be sprayed.

3.2 Application

Apply herbicides and other chemical products and biological control agents according to authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.

Apply only as necessary to treat already-germinated weeds and according to manufacturer's written recommendations.

Follow label directions for timing of application with removals and earthwork. Allow for target plant species, including roots, to receive effects of chemical application.

SECTION 01 2133 **BRUSH CLEARING**

1.0 GENERAL

1.1 Incorporated Specifications:

SECTION 01 2100 SITE PREPARATION

1.2 Summary

A. Clearing

1. Clearing shall consist of the removal and disposal of all logs, shrubs, bushes, saplings, grass, weeds, other vegetation and stumps of a diameter less than 6" in areas indicated on the drawings.

2.0 EXECUTION

2.1 Location

- A. Location of brush clearing limits and individual trees and tree removal limits shall be as noted on plans. Contractor shall verify extents with owner and marked with wood lathe and or plastic flagging ribbon. Marking materials shall be provided by the contractor. Contractor is to notify Owner's Representative a minimum of 48 hours prior to starting field marking. Approval of location and measurements shall be given by the Owner's Representative prior to removal.
- B. A supervisor that will be directly involved in the clearing and tree removals shall be present during a site meeting with the Owner's Representative prior to the start of the work.

2.2 Herbicide

- A. In the event that roots can not be completely grubbed out, the Contractor shall apply Garlon XRT herbicide with purple dye to roots/stumps that remain.
- B. Herbicide shall be used only with the approval of the Owner's Representative.
- C. Herbicide shall be applied under favorable weather conditions and according to manufacturer's label.
 - a. Apply only when temperatures are below 82°F
 - b. Do not apply directly to water, wetlands, or areas with a high water table due to groundwater contamination and/or fish kill risks.
 - c. All herbicide application work shall be performed according to State of Illinois law and under the supervision of an Illinois Commercial Pesticide Applicator.
 - d. All debris included wood chips and plant material to be removed and properly disposed of. Holes from brush clearing to be backfilled with topsoil until level with surrounding surface.
 - e. SUBMITTAL: GC to provide copy of Pesticide Applicator License

2.3 Disposal of Removal materials

- A. See incorporated specifications

END OF SECTION

SECTION 01 2140
SOIL, CONSTRUCTION & DEMOLITION DEBRIS REMOVAL

PART 1 – GENERAL

1.0 GENERAL

1.1 Incorporated Specifications:

- A. SECTION 01 2100 SITE PREPARATION
- B. SECTION 21 2000 EARTHWORK

1.2 SUMMARY

- A Work included: This specification is for the excavation, stockpiling, loading, hauling, removal, and disposal of any soils (including non-special waste soils and non-hazardous special waste soils), fill, backfill, top soil, CU structural soil/stone, and/or construction and demolition debris. The contractor shall perform the work under this Section in accordance with all applicable local, county, state, and federal regulations. The work shall include the following:
- B Removal and disposal
 - a. Excavation to the depth required to complete the proposed site preparation/construction work activities as specified in the drawings and specifications.
 - b. Analytical testing has been completed by Pioneer Engineering & Environmental Services. LLC. Report and documents are included in the appendix
 - c. Obtain authorization from a permitted disposal facility – either a Clean Construction & Demolition Debris facility or a Subtitle D landfill.
- C Load and transport all materials to the approved permitted disposal facility.
- D Prepare daily reports, transport manifests, weight tickets and receipts (as applicable) prior to starting any soil removal activities.
- E Provide copies of all daily reports, transport/waste manifests, weight tickets, and disposal receipts (as applicable) to the OWNER or Owner's Representative

1.3 DEFINITIONS

- A Agency means Illinois Environmental Protection Agency (IEPA).
- B Owner's Representative means the person or entity designated as the official representative of the owner in connection with a project.
- C Clean Construction & Demolition Debris means uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, reclaimed or other asphalt pavement, or soil generated from construction or demolition activities. CCDD may include uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, or reclaimed or other asphalt pavement that has been painted ("painted CCDD") if the painted CCDD is used as fill material at a CCDD fill operation in accordance with Section 1100.212 of the Illinois Environmental Protection Act. Clean construction or demolition debris does not include uncontaminated soil generated during construction, remodeling, repair, and demolition of utilities, structures, and roads provided the uncontaminated soil is not commingled with any clean construction or demolition debris or other waste.

Uncontaminated soil may include incidental amounts of stone, clay, rock, sand, gravel, roots, and other vegetation.

- D CU structural soil/stone means a uniformly blended mixture of crushed stone, clay, loam and/or hydrogel.
- E Fill means any earthen or non-earthen materials including but not limited to any sediment, granular or cohesive non-native earthen materials, cinders, ash, wood, and brick, concrete, and asphalt fragments, glass, and building debris encountered above naturally occurring undisturbed soils or bedrock in built-up areas.
- F General construction and demolition (C&D) debris means non-hazardous, uncontaminated materials resulting from construction, remodeling, repair, and demolition of utilities, structures, and roads as defined in Public Act 92-0574, The Environmental Protection Act, 415 ILCS 5 Section 3.160 and regulated under Title 35: Environmental Protection; Subtitle G: Waste Disposal; Chapter I: Pollution Control Board; Subchapter i: Solid Waste and Special Waste Hauling. C&D debris may include soil, wall coverings, reclaimed asphalt pavement, rock, plaster, glass, non-hazardous painted wood, drywall, plastics, non-hazardous coated wood, non-asbestos insulation, bricks, wood products, roofing shingles, concrete, and general roof coverings.
- G Permitted Subtitle D landfill means any solid waste landfill facility in any state licensed and/or permitted to accept non-hazardous waste.
- H IEPA means Illinois Environmental Protection Agency.
- I IDOT means Illinois Department of Transportation.
- J Manifest means the form provided or prescribed by IEPA and used for identifying name, quality, routing, and destination of special waste during its transportation from point of generation to the point of disposal, treatment, or storage.
- K Hazardous waste means a waste, or combination of wastes, which has been identified by characteristics or listing as hazardous pursuant to Section 3001 of the Resource Conservation and Recovery Act of 1976, P.L. 94-580, 40 CFR part 261, Illinois Environmental protection Act 415 ILCS 5/3.220, and Section 809.103 of Title 35: Environmental Protection; Subtitle G: Waste Disposal; Chapter I: Pollution Control Board. A waste is classified as hazardous if it exhibits any of the following characteristics: 1) ignitability, 2) corrosivity, 3) reactivity, or 4) toxicity, and as defined in Illinois Administrative Code Title 35, Section 721.103 (35 IAC 721.103).
- L MSDS means Material Safety Data Sheet, required by OSHA for any substances that are toxic, caustic, or otherwise potentially hazardous to workers.
- M Non-Special Waste mean a non-hazardous industrial-process or pollution-control waste that is not a liquid (as determined by paint-filter test SW-846 Method 9095); not regulated asbestos-containing material as defined in 40 Code of Federal Regulations, Section 61.141; does not contain polychlorinated biphenyls (PCBs) regulated in accordance with 40 Code of Federal Regulations, Part 761; is not formerly hazardous waste rendered non-hazardous; and does not result from shredding recyclable metals (e.g. auto fluff).
- N OSHA means Occupational Safety and Health Administration.
- O Soil means any granular or cohesive materials designated for removal as specified in the Architect/Engineer drawings and specifications and includes soils that are determined to be non-special and special waste.
- P Special waste means any wastes as defined in Title 35: Environmental Protection; Subtitle G: Waste Disposal; Chapter I: Pollution Control Board;

Subchapter i: Solid Waste and Special Waste Hauling; Part 808: Special Waste Classifications; Subpart A: General Provisions; Section 808.110,

AND

Any wastes as defined in Title 35: Environmental Protection; Subtitle G: Waste Disposal; Chapter I: Pollution Control Board; Subchapter i: Solid Waste and Special Waste Hauling; Part 809: Non Hazardous Special Waste Classifications; Subpart A: General Provisions; Section 809.103.

- Q SROs mean soil remediation objectives for various exposure routes identified in 35 Illinois Administrative Code 742: Tiered Approach to Corrective Action Objectives (TACO).
- R Storm water means water deposited at the site in the form of rain, snow or other natural weather event.
- S TACO means TIERED APPROACH TO CORRECTIVE ACTION OBJECTIVES per 35 Illinois Administrative Code 742.
- T Top soil means soils or black dirt used to promote vegetative growth.
- U USEPA means United States Environmental Protection Agency.

1.4 SUBMITTALS

- F Copies of the following submittals shall be prepared and submitted to the Owner/ Owner Representative at contractor's own cost:
 - 1. Soil, fill, backfill, CU structural soil/stone, construction and demolition debris removal
 - 2. Prior to removal from the site, the contractor shall submit a letter of authorization from the facility where soils (including non-special waste soils and non-hazardous special waste soils), fill, general or clean construction and demolition debris are to be deposited.

1.5 NOTIFICATIONS

- G The contractor shall notify the Owner's Representative no less than forty-eight (48) business hours prior to loading and transporting any materials from the site.

1.6 RECORDKEEPING

- H The contractor shall provide documentation of labor, equipment, and materials used for soil removal, when requested by the Owner's Representative.

PART 2 – PRODUCTS

2.1 REMOVAL

- a. The contractor shall furnish all necessary means, products, tools, and equipment required to remove soil (including non-special waste soils and non-hazardous special waste soils), fill, backfill, CU structural soil/stone and/or construction and demolition debris from the site as directed by the Owner's Representative.

PART 3 - EXECUTION

3.1 AUTHORIZATIONS

- A. Obtain authorization from the permitted disposal facility owner where soils (including non special waste soils and non-hazardous special waste soils), fill, backfill, CU structural soil/stone and/or construction and demolition debris are to be transported, stored, or disposed. The authorization must be signed by a facility representative and shall state that the facility has received a copy of one or more laboratory analyses of representative sample(s) collected from the site by the contractor and has agreed to accept the material. The authorization shall further state that the facility agrees to accept the material for permanent placement on their site and that the material will not be removed from their site unless required by a local, state or federal authority. The authorization shall further state that the facility complies with all local zoning codes, state, federal and local laws, rules, and regulations.
- B. Obtain prior authorization from Owner's Representative to backfill excavations and utility lines, and apply top soil. All backfill, CU structural soil/stone, and top soil shall comply with site specific project specifications.
- C. Haulers for transportation of soils, backfill and top soil shall hold, and present upon request, a current valid Commercial Driver's License (CDL). Non-hazardous special wastes and hazardous wastes must be hauled by an IDOT-approved, licensed, and permitted transporter and must be visible during transportation.

3.2 MATERIAL SAMPLING

- A. Analytical testing has been completed by Pioneer Engineering & Environmental Services, LLC. Preliminary results have been completed and full results are available to the contractor before commencement of construction.
 - 1. The initial results for Wing Park indicate that it has uncontaminated soil and may be disposed of at CCDD facility. Final test results and signed LPC 663 form have be provided by the Owner and no additional testing will need to be completed.

3.3 EXCAVATION

- A. The contractor shall perform excavation of soils (including non-special waste soils and non-hazardous special waste soils), fill, backfill, CU structural soil/stone and/or construction and demolition debris as directed by the Owner's Representative.
- B. All excavation shall be performed in accordance with OSHA requirements and guidelines. The contractor shall be responsible for its worker's health and safety.

3.4 HAULING

- A. The contractor shall remove soils, dusts, rocks, etc. from the exterior of trucks, trailers, or other heavy equipment leaving the site before they leave the site.
- B. The contractor shall clean the tractor-trailers or trucks that are loaded with materials for off site placement/salvage by removing clinging soils, or rocks from the exterior of the equipment.

- C. The contractor shall not create dust and shall maintain adequate dust suppression equipment on site if conditions warrant.
- D. The contractor shall maintain streets clean and free of mud and dirt.
- E. The contractor shall conduct soil (including non-special waste soils and non-hazardous special waste soils), fill, backfill, CU structural soil/stone and/or construction and demolition debris removal in a manner that ensures minimum interference with roads; streets, walks and other adjacent occupied and used facilities. Do not close or obstruct streets, walks or other occupied or used facilities without permission from the applicable governing agency and Owner's Representative. Provide alternate routes around closed or obstructed traffic ways if required by the governing agency.

3.5 DUST CONTROL

- A. The contractor shall control dust by all necessary means, including but not limited to covering trucks, stockpiles and open materials, watering haul roads, sweeping paved roads, and limiting the speed of all on-site vehicles.

3.6 LIQUID (WATER) MANAGEMENT

- A. The contractor shall subscribe to a weather notification system and manage the work so as not to accumulate storm water on the site during excavation.
- B. The contractor shall ensure that contamination of water, perched water and previously uncontaminated water or perched water does not occur by preventing the contact of such liquid with materials that exceed Title 35: Environmental Protection Subtitle G: Waste Disposal Chapter I: Pollution Control Board Subchapter F: Risk Based Cleanup Objectives, Part 742, Tiered Approach To Corrective Action Objectives, Appendix B, Table A values for 35 ILL. ADM CODE 740 APPENDIX A Target Compound List (TCL) parameters. Earthen berms, plastic (polyethylene) sheeting, pumping, and other such means may be used as needed to prevent contaminated water.
- C. If the contractor, through negligence, allows storm water to contact materials that exceed Title 35: Environmental Protection Subtitle G: Waste Disposal Chapter I: Pollution Control Board Subchapter F: Risk Based Cleanup Objectives, Part 742, Tiered Approach To Corrective Action Objectives, Appendix B, Table A values for 35 ILL. ADM CODE 740 APPENDIX A Target Compound List (TCL) parameters, the water must be disposed of as water that exceeds Title 35: Environmental Protection Subtitle G: Waste Disposal Chapter I: Pollution Control Board Subchapter F: Risk Based Cleanup Objectives, Part 742, Tiered Approach To Corrective Action Objectives, Appendix B, Table A values for 35 ILL. ADM CODE 740 APPENDIX A Target Compound List (TCL) parameters. The contractor will be responsible for the additional costs incurred for any disposal analysis and disposal costs.

3.7 QUALITY CONTROL

- A. Visual inspections and damage repairs shall be made daily by the contractor and/or as directed by the Owner's Representative to assure that erosion, drainage and containment control measures are functioning properly.
- B. The contractor shall take all necessary precautions to protect structures, equipment, pavement, walks and utilities against movement or settlement during the course of work.
- C. Damages: Promptly replace or repair any damage caused to adjacent pavement, utilities or facilities by removal operations at no additional cost. Work shall be performed to the satisfaction of the Owner's Representative.
- D. Utility services: Maintain existing utilities and protect against damage during removal operations.

END OF SECTION

SECTION 01 2500

SUBSTITUTION PROCEDURES

1.01 SECTION INCLUDES

- A. Procedural requirements for proposed substitutions.

1.02 DEFINITIONS

- A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
 - 1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
 - a. Unavailability: The specified product or method of construction is no longer available.
 - 2. Regulatory changes.
 - a. There is no condition under which the specified product or method of construction can be installed as shown on the Contract Documents.
 - b. There is no condition under which the specified product or method of construction can be provided within the time limits of the Contract.
 - 3. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project and to the Board.
 - a. Substitution requests offering advantages solely to the Contractor will not be considered.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

- A. All Substitution Requests shall include the following items:
 - 1. Itemized Comparison of the requested substitution with product specified. REQUIRED
 - 2. Performance and Test Data, including performance against specified reference standards. REQUIRED
 - 3. Manufacturer's Qualifications: Evidence of manufacturer qualifications and reputation for prompt delivery and efficiency in servicing products. REQUIRED
 - 4. Previous Installations: Attach list of not less than 5 similar projects on which proposed substitution was used. List of projects in the Chicago area. List name and address of project, date of installation, and name, address, and phone number of Architect. REQUIRED
 - 5. Color Chart, illustrating Manufacturer's full range. IF APPLICABLE
 - 6. Installation Instructions. IF APPLICABLE
 - 7. Maintenance Instructions. IF APPLICABLE
 - 8. Changes in Work: Attach data relating to changes required in other work to permit use of proposed substitution and changes required in construction schedule. IF APPLICABLE
 - 9. Cost Data: Attach accurate cost data on proposed substitution in comparison with product specified. IF APPLICABLE
- B. Refer to 01 60 00 - Product Requirements for additional requirements for product selection and substitution limitations.

- C. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
 - 2. Agrees to provide the same warranty for the substitution as for the specified product.
 - 3. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Board.
 - 4. Waives claims for additional costs or time extension that may subsequently become apparent.
- D. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
 - 1. Note explicitly any non-compliant characteristics.
- E. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
 - 1. Forms included in Section 00 25 01 - Substitution Request Form are adequate for this purpose and must be used.
 - 2. Attach applicable supporting documentation. Provide point-by-point side-by-side comparison addressing essential attributes specified, as appropriate and relevant for the item.
- F. Limit each request to a single proposed substitution item.
 - 1. Submit an electronic document, combining the request form with supporting data into single document.
- G. There shall be no time extensions granted due to time required for completion of the Substitution process either successfully or unsuccessfully.

3.02 SUBSTITUTION PROCEDURES

- A. Submittal Form: Submit substitution requests to the owner's representative.
- B. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Owner's Representative, in order to stay on approved project schedule.
- C. Submit request for Substitution for Convenience immediately upon discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Owner's Representative, in order to stay on approved project schedule.
 - 1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Board through cost savings, time savings, greater energy conservation, or in other specific ways.
 - 2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
- D. The Owner's Representative shall consider requests for substitutions which are received within thirty (30) days after the Notice to Proceed. Any such requests which are received by the Owner's Representative more than thirty (30) days after the date of

the Notice to Proceed may be considered or rejected in the sole and absolute discretion of the Owner's Representative.

3.03 RESOLUTION

- A. Owner's Representative may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner. Owner's Representative will request additional information or documentation for evaluation within one week of receipt of a request for substitution.
- B. Owner's Representative will notify Contractor in writing of decision to accept or reject request within 14 days of receipt of the request, or 7 days of receipt of additional information or documentation, whichever is later..
 - 1. Owner's Representative's decision following review of proposed substitution will be noted on the submitted form.
 - 2. Use the product specified if the Owner's Representative cannot make a decision on the use of a proposed substitute within the time allocated.

END OF SECTION 01 2500

SECTION 01 5713 **EROSION CONTROL**

1.0 GENERAL

1.1 Description

A. Erosion Control shall consist of furnishing all labor, materials, tools and equipment necessary to install and maintain for the duration of the work as indicated on the drawings.

1.2 Incorporated Specifications

A. The following specifications are incorporated into the document

1. "Standard Specifications for Road and Bridge Construction" – latest edition - Illinois Department of Transportation
 - a. Section 280 Temporary Erosion Control
 - b. Article 1005.01 Stone for Erosion Protection, Sediment Control and Rockfill
 - c. Article 1081.10 Special Erosion Control Materials
 - d. Article 251.04 Erosion Control Blanket
2. Contractor shall adhere to the above specifications unless applicable items of work or materials are modified herein.

2.0 MATERIALS

2.1 Riprap

A. Riprap fill shall consist of sound, durable cobbles and crushed rock having a maximum diameter of eight inches (8") as measured in the smallest dimension. Riprap shall be well graded and meet the gradation requirements for IDOT RR3 in accordance with the above referenced and incorporated specification.

2.2 Silt Fence

A. Silt fence shall be polypropolyne fabric. Stakes for silt fence shall be wooden or metal and at least five feet (5') long.

2.3 Erosion Control Blanket

A. 3:1 and Greater Slopes shall be Bionet S75BN or approved equal. As manufactured by:

1. Western Green, 4609 E. Boonville-New Harmony Rd.; Evansville, IN 47725, (800) 772-2040

a. All staples shall be E-Staple, 4-inch bio-degradable. As manufactured by: American Excelsior Company OR
www.Greenstake.com

B. Erosion control blanket shall be approved by the Department of Transportation. All netting shall be single sided and white UV reactive. Netting shall begin to bio-degrade within 15-18 months of installation. Netting shall have an opening between 1/2" x 1/2" and 2" x 1". Staple shall be 100% Polyhydroxyalkanoate (PHA) plastic, biodegradable from microbial activity in accordance to ASTM D5338 and ASTM D5271. Staples shall completely biodegrade within 24 months of installation. Staples shall be 4 inches (4") in length, T-Shaped and have barbed head and shoulders.

2.4 Coir Log

- A. Made from 100% natural, compressed coconut husk fibers bound inside a biodegradable netting made of coir twine.

2.5 Triangular Silt Dike

- A. Triangular silt dike barrier shall be urethane foam and geotextile fabric and shall have protective aprons on both sides of the barrier. Barrier shall be eight inches (8") wide.

3.0 EXECUTION

3.1 Riprap Installation

- A. Riprap shall be placed in a twelve inch (12") thick layer or as shown on the drawings or as directed by Owner and worked as required to provide a well graded matrix of stone pieces.

3.2 Silt Fence

- A. Silt fencing shall be placed in the locations shown on the plans and in accordance with the above incorporated specifications. Staking shall be a maximum of eight feet (5') apart. Silt fence shall remain in place for the duration of the construction project and shall only be removed with prior approval.

3.3 Erosion Control Blanket

- A. Erosion control blankets shall be placed in accordance with the above incorporated specifications. Before barrier installation, ensure areas to be covered are smooth and free of ruts, depressions, rocks or clods over eighteen inches (18") in diameter, sticks and any other debris that will prevent contact between the blanket and soil. Erosion control blanket to be installed within 24 hours after seeding. Staking shall be a minimum of six feet (6') apart and staked per the manufacturer's instructions.

3.4 Triangular Silt Dike Barrier

- A. Triangular silt dike barrier shall be placed in the locations shown on the plans and in accordance with the above incorporated specifications.
- B. Secure triangular silt dike by burying the first six inches (6") of the leading edge apron in a two to three inch trench. 4 to 5 staples shall be used on the front apron and 4 to 5 staples shall be used on the rear apron on each seven foot (7') section. Water flow is not allowed under the barrier.
- C. The barrier shall remain in place for the duration of the construction project and shall only be removed with prior approval. Contractor shall routinely inspect and maintain the barrier. Contractor to ensure that barrier is free of accumulated silt, debris, and other miscellaneous material. Accumulated sediment deposit shall be removed if more than eight inches (8"). Torn or punctured barrier shall be repaired or replaced as directed by the Owner's Representative.
- D. Contractor shall be required to obtain approval for removal of silt fence. Remove fence, take off site, fill in trenches with topsoil, seed, cover with blanket, and roll as needed to match existing grade and conditions.

END OF SECTION

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Sustainable design-related product requirements.
- B. Re-use of existing products.
- C. Transportation, handling, storage and protection.
- D. Product option requirements.
- E. Substitution limitations.
- F. Procedures for Owner-supplied products.
- G. Maintenance materials, including extra materials, spare parts, tools, and software.
- H. Warranties on products.

1.02 DEFINITIONS

- A. Products: Items to be purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation, shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through the Substitution Procedures to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that meet or exceed those of a listed product.
 - 4. Basis-of-Design Products: Where a specific Manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named Manufacturers. Submission for approval of a Basis-of-Design product which is not of a named Manufacturer is to be through the Substitution Procedures.
- B. Manufacturer's Warranty: Preprinted written warranty published by individual Manufacturer for a particular product and specifically endorsed by Manufacturer to the Owner.
- C. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for the Owner.

1.03 SUBMITTALS

- A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
 - 1. Include manufacturer's certification or other data substantiating that the materials comply with the requirements and are recommended by manufacturer for the application shown and specified. Indicate by copy of transmittal form that Installer has received copy of the instructions and recommendations. Hardware schedules and collection of catalog cuts such as light fixtures, site furniture, etc., shall be presented in bound brochures
- B. Shop Drawing Submittals: Prepared specifically for this Project
 - 1. The Owner's Representative's check of any Contractor's Shop Drawings will cover approval of material and design only, and while figures or dimension will be checked in a general way, the responsibility for correctness of all drawings will rest with the Contractor submitting the Shop Drawings. After review, the Shop Drawings with corrections or accompanying comments will be returned to the Contractor for resubmission, if required, after corrections have been made. For final resubmission, after corrections have been made, the Contractor shall send prints to the Owner's Representative for distribution. The Owner's Representative review of the Shop Drawings does not relieve the Contractor from furnishing materials and performing work as required by the Contract Documents. No extension of time will be granted for review and approval.
- C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit two (2) samples of the full range of the manufacturer's standard colors, textures, and patterns.
- D. No Portion of work requiring such submittal will be permitted to start until submission has been reviewed by the Owner's Representative. Changes or modification to Contract Documents shall not be initiated by corrections to submittals.
- E. Contractor is responsible for obtaining and distributing required submittal items to his/her Subcontractors and material suppliers after, as well as before, items are stamped "Approved."

1.04 SUBMITTAL PREPARATION

- A. Each submittal shall include a transmittal letter including the following:
 - 1. Project name
 - 2. Date
 - 3. Name and address of Owner
 - 4. Name and address of Contractor
 - 5. Name and address of subcontractor

6. Name and address of supplier
 7. Name of manufacturer
 8. Number and title of appropriate Specification Section
 9. Drawing number and detail reference, as appropriate
- B. Each sample or shop drawing shall include a label or titleblock including the same information.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

- A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by Contract Documents.
- B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.
- C. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

2.02 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by Contract Documents.
- B. Use of products having any of the following characteristics is NOT permitted:
 1. Containing lead, cadmium, or asbestos.

2.03 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
- C. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications. Where specific products or model numbers are provided, use the identified product
- D. Where products are specified by name and accompanied by the term "or equal" or "or approved equal" or "or approved," comply with Section 01 25 00 - Substitution Procedures to obtain approval for use of an unnamed product.
- E. Where products are accompanied by the term "as selected," Owner's Representative will make selection.
- F. Where products are accompanied by the term "match sample," sample to be matched will be provided by the Owner's Representative.
- G. If Contractor is given option of selecting between two or more products or manufacturer's, product selected shall be compatible with products previously selected, even if previously selected products were also options.
- H. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
- I. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.

2.04 MAINTENANCE MATERIALS

- A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
- B. Deliver and place in location as directed; obtain receipt prior to final payment.

2.05 PRODUCT WARRANTIES

- A. Refer to 01 77 00 - Closeout Procedures for additional warranty requirements.
- B. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
- C. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Refer to individual Sections for specific content requirements and particular requirements for submitting special warranties.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

- A. See Section 01 25 00 - Substitution Procedures.
- B. The following are not considered to be requests for substitutions and are not subject to the provisions of this Section:
 - 1. Changes requested during the bidding period and accepted by Addendum prior to award of the Contract.
 - 2. Revisions to the Contract Documents and issued to the Contractor via Bulletin.
 - 3. Specified options of products and construction methods included in the Contract Documents.

3.02 OWNER-SUPPLIED PRODUCTS AND PRODUCTS PROVIDED BY OTHERS

- A. Contractor's Responsibilities:
 - 1. Receive and unload products at site; inspect for completeness or damage.
 - 2. Handle, store, install and finish products.
 - 3. Repair or replace items damaged after receipt.

3.03 TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.
- I. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.

3.04 STORAGE AND PROTECTION

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
 - 1. On-site storage shall be limited to the locations allowed by owner and approved by owner's representative. Should the construction site not have adequate on site storage, the provide proper off site material storage.
 - 2. Any storage of materials outside of the Contractor's work area or within Owner's existing facilities is to be pre-approved by the Owner.
- B. Store and protect products in accordance with manufacturers' written instructions for temperature, humidity, ventilation, and weather-protection.
- C. Store with seals and labels intact and legible.
- D. Store products to allow for inspection and measurement of quantity of units.
- E. Store materials in a manner that shall not endanger Project structure.
- F. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.
- G. For exterior storage of fabricated products, place on sloped supports above ground.
- H. Provide off-site storage and protection when site does not permit on-site storage or protection.
 - 1. No payments shall be made for material stored off site without prior approval. If approved, review and payment shall be made according to the requirements of the Contract Documents, the General Construction Contract, and applicable provisions of the Specifications.
- I. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- J. Comply with manufacturer's warranty conditions, if any.
- K. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- L. Prevent contact with material that may cause corrosion, discoloration, or staining.
- M. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- N. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 7300

EXECUTION REQUIREMENTS

1.0 GENERAL

1.1 Summary

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Construction layout.
 - 2. General installation of products.
 - 3. Progress cleaning.
 - 4. Starting and adjusting.
 - 5. Protection of installed construction.
 - 6. Correction of the Work.

2.0 PRODUCTS (Not Used)

3.0 EXECUTION

3.1 Examination

- A. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning site work, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
 - 1. Before construction, verify the location and invert elevation at points of connection of storm sewer, and sanitary sewer.
 - 2. Verify location of existing water lines, electric and private utilities.
- B. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of conditions.

3.2 Preparation

- A. Field Measurements: Take field measurements as required to fit the Work properly. Re-check measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Owner's Representative. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.3 Construction Layout

- A. Contractor shall be responsible for properly laying out the Work, and for lines and measurements for the Work executed under Contract Documents. The Owner's Representative will in no case assume responsibility for laying out the Work.
- B. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Owner and Owner's Representative promptly and before commencing work.
- C. General: Lay out the Work using accepted surveying practices.
 - 1. Establish necessary reference lines and permanent benchmarks from which built object lines and elevations shall be established. Contractor shall establish two such benchmarks in widely separated locations and be responsible for proper location and level of the work and for maintenance of reference lines and benchmarks. Establish benchmarks and axis lines showing exact floor elevations and other lines and dimensional reference points as required for information and guidance of all trades.
 - 2. Establish dimensions within tolerances indicated.
 - 3. Inform installers of the lines and levels to which they must comply.
 - 4. Check the location, level and plumb, of every major element as the Work progresses.
 - 5. Notify Owner when deviations from required lines and levels exceed allowable tolerances.
- D. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.
- E. Building Lines and Levels: Locate and lay out control lines and levels for structures. Transfer survey markings and elevations for use with control lines and levels. Level foundations from two or more locations.
- F. Each Subcontractor, as it applies to his/her work, shall verify grades, lines, levels, locations, and dimensions as shown on drawings and report any errors or inconsistencies to the Owner's Representative before commencing work. Starting of work by Subcontractor shall constitute acceptance.
- G.

3.4 Field Engineering

- A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

3.5 Installation

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
- B. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- C. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

- D. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- E. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 Progress Cleaning

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80° F.
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- F. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- G. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- H. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period.
- I. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.7 Protection of Installed Construction

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

3.8 Correction of the Work

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.
 - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

3.9 Substantial Completion

- A. Contractor shall inform Owner and Owner's Representative when they feel Substantial completion has been reached. The Owner and Owner's Representative shall review work with the Contractor and approve or require further correction of the work.

END OF SECTION

SECTION 01 7700
PROJECT CLOSEOUT

1.0 General

1.1 CLEANING UP

- A. Contractors shall, prior to punch list preparation, remove trash and debris and clean all walks, drives and parking areas.
- B. Upon completion of work, Contractor shall remove all temporary structures, fences, surplus materials, and rubbish of every kind from site and dispose of legally, except in cases where permits require silt fences to remain.
- C. If Contractor fails to clean up, the Owner may do so and the cost thereof shall be charged to the Contractor as provided in the General Conditions.

1.2 SUBMITTALS

- A. Submit copy of record drawings/ as built
- B. Submit copy of all approved submittals
- C. Submit copy of all warranties and bonds as required for final acceptance

2.0 Not used

3.0 Execution

3.1 RECORD DRAWINGS/ AS-BUILT DRAWINGS/SPECIFICATIONS

- A. Contractor shall maintain one set of Drawings and one set of bound specifications on which he/she shall record every deviation that is made from original drawings and specifications at the time the change is made.
 - 1. Contractor shall keep a neat and complete record of exact manner in which all work is installed. Dimensions shall be included to accurately locate items that will be concealed and which may later be necessary to locate for service.
 - 2. This record set of drawings and specifications shall be kept by Contractor at the job site for inspection by the Owner and the Owner's Representative.
- B. Specifications: Contractor shall mark and record at each production section description of actual products installed
- C. At completion of the Work, Contractor shall arrange above records in order properly indexed and certify by endorsement thereof that each of the revised drawings and specifications is complete and accurate.
- D. Before final payment is made, the Contractor shall deliver the annotated as-built drawings and specifications to the Owner's Representative. The as-built drawings and specifications created by the Contractor at all times remain the property of the Owner.
- E. The Owner or Owner's Representative's review or receipt of such records showing deviations from the Contract Documents does not in any way relieve the Contractor from their responsibility to perform the work in accordance with

the Contract Documents.

F. As-built drawings shall consist of a topographic survey, prepared and sealed by an Illinois licensed surveyor including but not limited to for any proposed as well as any other areas as indicated on the Drawings. Contractor shall submit survey of any floodplain, floodway, compensatory storage areas, detention, rain garden or regulated areas to owner's representative for review prior to seeding and substantial completion to ensure volume and grades are in compliance with permit documents.

1. Contractor shall supply both digital printed copy of as built documents as well as cad drawings.
 - a. CAD drawings shall be done in the same program, version, and operating system as the original Contract Drawings.
 - b. Incorporate changes and additional information previously marked on Record Drawings. Delete, redraw, and add details and notations where applicable.
 - c. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
2. Owner's representative will be allowed a reasonable time within which to evaluate as built survey.
 - a. Cad file shall be provided for review. Contours and grades shall include surface elevations for evaluations of grading to meet regulatory requirements.
3. If contractor does not meet permit or regulatory requirements, the contractor is responsible for all remedies required to repair site to meet contract documents and regulatory requirements at no additional expense to the owner. If additional review time is needed by owner's representative, contractor shall reimburse owner for charges of owner's representatives for evaluating any subsequent reviews required after initial review.

4.0 PUNCH LIST

- 4.1 Upland Design Ltd. and the Owner shall make a final inspection of work after Contractor notifies the Owner that work is substantially complete. The Contractor will be notified in writing of incomplete and/or unaccepted items in a written punch list. These items, if any, are to be corrected or completed before final acceptance is granted by Owner.
- 4.2 Punchlist items may include, but are not limited to, all requested as-built drawings/surveys, specifications, product warranties, operations & maintenance manuals, final unconditional lien waivers and accompanied sworn statements, required Certificate of Occupancies, permit acceptance, environmental compliance, and other approvals as indicated in the Drawings and/or Contract Documents.
- 4.3 Failure of the Owner's Representative to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Following Contractor completion of all punch list work, Owner shall provide a written notice of final acceptance to Contractor.

5.0 MAINTENANCE AND OPERATION INSTRUCTION

- 5.1 Prior to final payment, Contractor shall arrange all technical instruction of Owner's

maintenance personnel, either by his/her own or the equipment manufacturer's personnel.

5.2 All electrical, telecommunication, water and sewer systems shall be reviewed with owner's staff.

5.3 All new water systems shall be flushed, chlorinated and winterized prior to turn over.

6.0 GUARANTEES

6.1 The Contractor shall guarantee all workmanship and materials, including plant material for a period of one (1) year from the date of the final acceptance letter, except where certain guarantees are otherwise specified in writing to be longer than one year.

6.2 At the completions of the work, all such guarantees covering material, workmanship, maintenance, etc., as specified, shall be procured by the Contractor from the various suppliers and subcontractors, and forwarded to the Owner, together with a letter, addressed to the Owner, giving a summary of guarantees attached stating, the character of work, name of the Contractor, name of the material or equipment supplier, period of guarantee and condition of guarantee. This shall be done within fifteen (15) days of the punch list date.

6.3 Neither the final payment nor termination of the guarantee period, nor any provision in the Contract Documents, shall relieve the Contractor of the responsibility for negligence, faulty materials or workmanship within the extent and period provided by law. Upon written notice, the Contractor shall remedy any defects, and shall pay all expenses for damage to other work resulting from that defect.

6.4 If the drawings and/or specifications provide for methods of construction and installation, or materials which cannot be guaranteed by the Contractor for the indicated period, the Contractor shall so inform the Owner in writing prior to submitting a bid. Otherwise the Contractor shall guarantee all methods of construction and installation, and materials for the indicated period of time.

END OF SECTION

SECTION 03 3000

CAST-IN-PLACE CONCRETE

1.0 GENERAL

1.1 Summary

- A. Provide cast-in-place concrete for general building construction, including, without limitation:
 - 1. Footings, foundations, and walls.
 - 2. Slabs on grade.
- B. Requirements (materials, mixes, finishes) apply to concrete work specified in other sections, such as sidewalk paving and concrete curb.

1.2 Submittals

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.
- B. Mix Design: Submit proposed mix design for approval.

1.3 Quality Assurance

- A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
- B. Testing: Employ an independent testing agency acceptable to Owner to design concrete mixes. Owner shall employ a Special Testing Agency to perform material evaluation tests.
- C. Standards:
 - 1. ACI 301, Specifications for Structural Concrete for Buildings.
 - 2. ACI 350, Code Requirements for Environmental Engineering Concrete Structures.
- D. Mock-Ups: Provide mock-up as required to demonstrate quality of workmanship.

2.0 PRODUCTS

2.1 Materials

- A. Concrete Design Mixes, ASTM C 94, 28 Day Compressive Strength:
 - 1. Columns, Beams, Walls, Foundations, and Footings:
 - a. Compressive Strength: 4000 psi.
 - 2. Slabs on Grade and Paving Base:
 - a. Compressive Strength: 4000 psi.
- B. Formwork: Plywood or metal panel formwork sufficient for structural and aesthetic requirements.
 - 1. Special forms for textured finish concrete.
 - 2. Metal, plastic or paper tubes for cylindrical columns and supports.
- C. Reinforcing Materials:
 - 1. Reinforcing Bars: ASTM A 615, Grade 60, deformed.
 - 2. Steel Wire: ASTM A 82.
 - 3. Steel Wire Fabric: ASTM A 185, welded.
 - 4. Fiber Reinforcement: Engineered polypropylene fibers for secondary reinforcement of slabs.

- D. Concrete Materials: ASTM C 150, Type I, Portland cement; potable water.
 - 1. Normal weight aggregates: ASTM C 33.
 - 2. Light weight aggregates: ASTM C 33.
 - 3. Fiber Reinforcement: Polypropylene fibers for secondary reinforcement, ASTM C 1116, Type III.
- E. Concrete Admixtures: Containing less than 0.1 percent chloride ions.
 - 1. Air-Entraining Admixture: ASTM C 260, for exterior exposed concrete and foundations exposed to freeze-thaw.
 - 2. Water-Reducing Admixture: ASTM C 494, Type A, for placement and workability.
 - 3. High-Range Water-Reducing Admixture, Super Plasticizer: ASTM C 494, Type F or G for placement and workability.
 - 4. Water-Reducing, Accelerating Admixture: ASTM C 494, Type E for placement and workability.
 - 5. Water-Reducing, Retarding Admixture: ASTM C 494, Type D for placement and workability.
- F. Auxiliary Materials:
 - 1. Reglets: Galvanized sheet steel reglets, minimum 26 gauge (.018 inch).
 - 2. Waterstops: Rubber or PVC waterstops.
 - 3. Vapor Retarder: ASTM E 154 polyethylene sheet, 8 mils.
 - 4. Vapor Barrier: Premolded membrane, ASTM E 96, Method B, 0 vapor transmission rate.
 - 5. Nonslip Aggregate Finish: Fused aluminum oxide granules or crushed emery.
 - 6. Liquid Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class A.
 - 7. Water-Based Acrylic Membrane Curing Compound: ASTM C 309, Type 1, Class B.
 - 8. Evaporation Control Compound: Monomolecular film-forming compound.
 - 9. Underlayment Compound: Free-flowing, self-leveling cement-based compound.
 - 10. Bonding Compound: Polyvinyl acetate or acrylic base.
 - 11. Epoxy Adhesive: ASTM C 881, two-component material.
 - 12. Expansion Joint Material: DECK-O-FOAM® polyethylene, closed-cell expansion joint filler where noted on drawings: ASTM D4819, Type II
 - 13. Expansion Joint Material: Preformed, resilient, non-extruding asphalt impregnated resilient fiber conforming to ASTM D1751. Thickness of expansion joint material shall be 1/2" unless noted otherwise on the drawings.
- G. Concrete Finishes For Formed Surfaces:
 - 1. Surfaces Not Exposed To View: As-cast form finish.
 - 2. Surfaces Exposed To View: Smooth form finish or as noted on plans.
- H. Concrete Finishes for Monolithic Slabs:
 - 1. Nonslip broom finish for exterior concrete platforms, steps, ramps, and sloped walls.
 - 2. Nonslip aggregate finish for concrete stair treads, platforms, ramps, and sloped walks.
 - 3. Colored wear-resistant finish, dry shake type.
- I. Concrete Proportions: Select concrete proportions to provide the required strength and durability and to provide workability and consistency so that the

concrete can be worked into forms and around reinforcement without segregation or excessive bleeding.

1. Provide concrete for all structures which is watertight. Do not allow the maximum water-cementitious material ratio to exceed 0.40 by weight of the total cementitious constituent. Measure the quantity of water to be the total quantity, including free surface moisture contained in the aggregates.
2. Do not allow the amount of ground granulated blast furnace slag contained in concrete to be less than 150 or to exceed 190 pounds per cubic yard, while maintaining a minimum cement content of 445 pounds per cubic yard.
3. Establish concrete proportions including the water-cementitious material ratio on the bases of field experience or trial mixtures with the materials to be used in accordance with Section 5.3 of ACI 318.
4. Provide sand/lightweight concrete with a dry weight not more than 115 pounds per cubic foot. Limit shrinkage to .03 percent at 28 days.

J. Air Entrainment:

1. Provide air entrained concrete with an average total air content of 5 percent. Allow a tolerance of plus or minus 1.5 percent on air content as delivered.

K. Slumps: When tested in accordance with ASTM C-143, provide a concrete mix design with slumps within the following limits:

<u>Concrete Placement</u>	<u>Minimum and Maximum Slump In Inches</u>
Normal	3 to 4
Pumped	4 to 6

1. Base the mix design slump on the concrete mix with water reducing admixture. For production concrete, allow no more than 1-inch increase in slump by use of specified water reducing admixtures. Measure slump at the end of the hose for pumped concrete.
2. Grade the combined aggregates for the design mix such that when a sample of the mix is separated on No. 4 standard sieve, the weight passing the sieve is not less than 30 percent or greater than 40 percent of the total, unless otherwise specified.

L. Chlorine Ion Concentration: Provide a maximum water soluble chloride ion concentration, percent by weight of cementitious materials, with two 28 day tests of design mix hardened concrete as follows:

1. Cast-in place concrete, 0.10 exposed to moisture, water or sewage in service.
2. Cast-in place concrete that will be dry or protected from moisture in service 1.00.

3.0 EXECUTION

3.1 Installation

- A. Comply with ASTM C 94. Do not change mix design without approval. Calcium chloride admixtures are not permitted.
- B. Chamfer exposed edges/corners to provide straight lines.
- C. Tolerance: Plus 1/8" in 10' for grade, alignment, and straightness.

- D. Construction Joints: Use keyways, continue reinforcement through joint.
- E. Expansion Joints: For exterior work locate 30' o.c. (or less) at approved locations. Provide smooth dowels across joint which permit 1" horizontal movement and no vertical shear movement.
- F. Isolation Joints: Provide between slabs and vertical elements such as columns and structural walls.
- G. Control Joints: Provide sawn or tooled joints or removable insert strips; depth equal to 1/4 slab thickness. Spacing as required and approved.
- H. Wall Finishes: As-cast and patched for concealed work; rubbed smooth, filled and cement paste coated for exposed work.
- I. Slab Finishes: Obtain sample approval before beginning work.
 - 1. Broom: After trowel finishing, roughen surface by fine brooming perpendicular to traffic direction for exposed exterior walks, steps and ramps.
- J. Cure and protect work. Report defective work in writing.
- K. All existing concrete surface where to be joined with new concrete shall be blasted clean to provide a minimum of one-quarter inch (1/4") amplitude and remove all grease, foreign particles, and disintegrated materials from the surface before placing new concrete
- L. All pipes which penetrating to the new concrete shall be in non-metallic pipe sleeves and then sealed by link-seal modular seals or approved equal.
- M. All pipes which penetrating to the existing concrete shall be in core drilled holes and then sealed by link-seal modular seals or approved equal. The existing concrete structure shall be reinforced according to the drawing before core drilling.
- N. Water stops shall be provided at all construction joints in walls and slabs that separate dry structures from liquid containing structures and/or ground water.
- O. Water stop shall be a minimum of four inches (4") long, ribbed center bulb synthetic rubber water stop.
- P. Keyway, when specified in the construction joint, shall be a minimum of two inches high by four inches wide (2" x 4").
- Q. Bevel all exposed concrete corners one inch by forty-five degrees (1" x 45°).
- R. All concrete anchors shall be stainless steel expansion anchors, Hilti Kwik bolts or approved equal, unless noted otherwise. Installation shall be in accordance with the manufacturer's instructions.
- S. Drilling and grouting rebars into existing concrete shall use Hilti HIT HY150 adhesive or approved equal. Installation shall be in accordance with the manufacturer's instruction.
- T. Grout for baseplates and any openings in the concrete shall by Symons Multipurpose non-shrink grout or approved equal.

3.2 Testing

- A. Plant Tests: Sufficient testing shall be done by the supplier to assure the quality and consistency of the mix produced. The field tests are not to be used as a gauge of this quality.
- B. Field Tests
 - 1. Cylindrical Compression Tests
 - a. OWNER shall make arrangements with an independent laboratory for making compression strength tests and shall pay for those tests. Owner shall also make arrangements with testing

firm to have cylinders picked up and transported to location of curing and testing. Owner reserves right to reject testing firm at anytime during Construction and to require another testing firm to perform tests. Specimens for making compressive strength tests shall be made using standard 6" x 12" cylindrical molds. CONTRACTOR or Testing Laboratory Staff, shall take samples and fill molds. Specimens shall be made, cured and tested in accordance with ASTM C-31 and ASTM C-39. Test cylinders will accurately represent the concrete placed in the forms. For each 50 cubic yards or fraction thereof or for each 4,000 square feet of surface area poured per day in each separate structure of each class of concrete, one set of four standard cylinders shall be cast. Casting, handling, and curing of all cylinders shall be in accordance with ASTM C21. Additional cylinders may be required if an error in batching is suspected. For the first 24 hours after molding, the cylinders will be kept moist in a storage box constructed and located so that its interior air temperature will be between 60 and 80 degrees F. At the end of 24 hours, the cylinders will be transported to the laboratory.

b. The CONTRACTOR shall inform the Owner's representative 24 hours in advance of any concrete pours, indicating the location and size of the pour by submitting the completed concrete pre-pour checklist.

c. Testing of specimens for compressive strength will be in accordance with ASTM C39. Tests shall be made at 7 and 28 days from time of molding. One test cylinder from each group of four shall be tested at the end of 7 days, and two will be tested at the end of 28 days, all in accordance with ASTM C39. The fourth cylinder will be held for testing as a check cylinder. The laboratory test reports shall include the following information:

- 1) Mix design designation
- 2) Number of specimens
- 3) Date specimen taken
- 4) Date specimen tested
- 5) Portion of structure represented by specimen
- 6) Design strength of concrete
- 7) Slump of concrete
- 8) Temperature of concrete
- 9) Percent entrained air Test strength of specimen

2. Slump Test: OWNER shall make arrangements for making slump tests and shall pay for those tests. Concrete shall be tested for consistency at place of deposit in accordance with ASTM C-143. OWNER shall arrange for slump tests to be made from first load of concrete of each placement and as often thereafter as Owner's representative determines necessary.

3. Air Entrainment: OWNER shall make arrangements for making air tests and shall pay for those tests. Air content of air entrained concrete shall be determined in conformance with ASTM C-231. OWNER shall arrange for sufficient tests to be made to insure uniform air content in placement.

3.3 Batching, Mixing, and Transporting Concrete

A. The concrete shall be transit-mixed and batched at a stationary batch plant

which has been certified by the State of Illinois, Department of Transportation. The name of the concrete supplier shall be submitted to the Owner's representative for approval prior to the beginning of the concrete work. The Owner's representative reserves the right to reject the supplier at any time and to require the CONTRACTOR to obtain a different supplier.

- B. The concrete batch shall be transferred from the plant hoppers to revolving-drum type truck mixers and it shall be completely mixed while in transit to the job site. The truck mixers shall be modern and dependable and be maintained in good working condition. The Owner's representative reserves the right to disallow any truck mixers that have excessively worn mixing blades or fail to conform to any other requirements of this specification, or hinder the operations of placing and finishing at the job site.
- C. Delivery and discharge of the concrete shall be made within 1-1/2 hours or before the drum has revolved 300 revolutions after the addition of the mixing water to the cement and aggregates. Delivery of mixed concrete shall be regulated so that there will not be an interruption of more than 20 minutes duration in the placement of concrete in the forms. The Owner's representative may waive these requirements if slump and temperature requirements are met without adding water.
- D. Each load of transit-mixed concrete shall have a delivery ticket showing the following information:
 - 1. Mix design designation
 - 2. Quantity of concrete
 - 3. Concrete design strength
 - 4. Quantity of cement
 - 5. Quantity of water
 - 6. Time of charging of mixer (mechanically stamped ticket only)
 - 7. Total amount of admixtures
- E. The quantity of water added to the concrete at the job site shall be noted on the ticket. No water is to be added at the job site unless approved by the Owner's representative. One copy of the delivery ticket shall be furnished to the Owner's representative at the time the truck arrives at the job site.

3.4 Conveying and Placing Concrete

- A. Concrete shall be conveyed and placed in conformance with ACI 350, ACI 309 and ACI 304. The method and manner of placing concrete shall be such as to avoid segregation or separation of the aggregates or the displacement of reinforcing steel. The CONTRACTOR shall instruct the laborers on the proper vibration techniques required for each situation.
- B. Chutes shall extend as nearly as practicable to the point of deposit. Concrete shall not be dropped more than six (6) feet. For walls or column placements in excess of six feet vertical height, tremie shall be used in placing the concrete. If reinforcing steel or formwork is such that a tremie cannot be used, the method of placement shall be approved by the Owner's representative.
- C. Placement of concrete shall be regulated so that the pressures caused by the wet concrete will not exceed those used in the design of the forms. Concrete placed in vertical forms shall be placed in lifts of not more than two feet which shall be kept practically level.
- D. On horizontal construction joints, a mixture of grout shall be applied to the joint prior to placing concrete. It is anticipated this will be a manually mixed and poured (via funnel and pipe) just ahead of the concrete placement.

3.5 Pumping Concrete

- A. The pumping of concrete shall be in accordance with ACI 304.2 except as modified herein.
- B. The CONTRACTOR, at his option, may elect to use a concrete pump for the final placement of the concrete. It is the responsibility of the CONTRACTOR to furnish and maintain in good working condition, modern and dependable equipment for pumping concrete. All equipment shall be appropriate for the work, in accordance with these specifications and subject to the approval of the Owner's representative.
- C. The selection of the pipe diameter for pumping shall be such that the smallest inside diameter is no less than 4 inches or 3 times the nominal maximum size coarse aggregate, whichever is greater.
- D. The pumping lines shall be lubricated with a minimum of one cubic yard of grout prior to pumping the regular mix through the lines.
- E. The CONTRACTOR shall show sufficient evidence prior to the use of the pump that the mix is pumpable. This shall be accomplished by submitting a certification from the supplier that the mix has performed satisfactorily on previous jobs of similar nature or by performing a full scale field test for pumpability with line height and other variables being identical (or nearly so) to that of the actual placing conditions.
- F. No increase in water content shall be allowed for concrete which is to be pumped. An admixture (water reducer or superplasticizer) shall be used if improvement of the pumpability of the concrete is necessary. Mix design requirements of this specification shall apply for concrete containing admixtures not previously included in the mix.

3.6 Consolidation

- A. Consolidation of the concrete in formwork and in slabs shall be accomplished by the use of hand-held internal type vibrators and shall be adequately powered to operate at a minimum frequency of 4500 cycles per minute. They shall be applied internally to the fresh concrete in a manner which will result in homogeneous mass without segregation.
- B. Hand spading, tapping the forms and other external vibration techniques shall be used only when permitted by the Owner's representative and will not be allowed as the sole means of consolidation of the concrete.
- C. At the beginning of the concrete placement, a spare vibrator shall be on the job site in addition to vibrators to be used during the placement.
- D. When concrete is placed in vertical forms, the vibrator shall slowly penetrate the newly placed concrete well into the concrete layer below. The vibrator shall penetrate the concrete at frequent regular spacings amply close together to insure complete consolidation of the concrete.
- E. Use of a vibrator to aid in the lateral movement of the concrete in slabs or wall forms shall not be permitted under any circumstances.

3.7 Curing and Protection

- A. Freshly deposited concrete shall be protected from premature drying and excessively hot or cold temperatures, and shall be maintained with a minimal moisture loss at a relatively constant temperature for the period of time necessary for the hydration of the cement and proper hardening of the concrete.
- B. Initial curing shall immediately follow the finishing operation and shall continue for

a minimum of 24 hours after placement. Concrete shall be kept continuously moist by one of the following methods listed below:

1. Polyethylene Sheeting: The unformed surfaces shall be covered with polyethylene sheeting as soon as the concrete has hardened sufficiently to prevent marring the surface. The surface of the concrete shall be wetted immediately before sheeting is placed. Use of a layer of wetted burlap beneath the sheeting may be required at the option of the Owner's representative. The edges of the sheeting shall have sufficient lap and shall be fastened securely by any means satisfactory to the Owner's representative to provide an airtight cover. Tears or holes in the sheeting will not be permitted.
 2. Membrane Curing: After the concrete has been finished and immediately after the water sheen is no longer visible on the surface of the concrete, the surface shall be cured with membrane curing compound. Curing compounds may be used to cover all exposed surfaces. Membrane curing will not be permitted at construction joints. Application shall be such to completely cover all exposed surfaces and rate of coverage shall be in accordance with the manufacturer's recommendations. Application of curing compound shall be by a power sprayer. Garden sprayers will not be allowed. Curing compound shall be applied immediately after form removal. Notify the Owner's representative when curing compound is to be applied so that application rate can be verified. The curing compounds, specified in Section 2 "Materials", shall be used unless other special floor or wall treatments are required.
 3. Continuous Wetting: After the concrete has been finished and is hardened sufficiently to prevent any type of surface damage, curing shall be accomplished by continuous steam not exceeding 150°F, a continuous vapor mist bath or by the use of a burlap fabric kept continuously saturated. Mechanical equipment used in this method shall be modern and maintained in good working condition throughout the specified curing period. All equipment and procedures shall meet the approval of the Owner's representative prior to its use.
- C. Immediately following the initial curing and before the concrete has dried, additional curing shall be accomplished by one of the following methods:
1. Continuing the method used in initial curing.
 2. Waterproof Paper: While the concrete surface is still wet, the surface shall be covered with waterproof paper meeting the approval of the Owner's representative. The paper shall be lapped a minimum of 12 inches end to end and such laps and ends shall be a securely held in placed to form a closed joint. Tears or holes in the paper will not be permitted.
 3. Other moisture-retaining coverages which are practical and no exceptions are taken by the Owner's representative.
- D. The final curing shall continue until the cumulative number of days of initial and final curing totals not less than seven days. Rapid drying at the end of the curing period shall be prevented.
- E. Steel forms heated by the sun and all wood forms in contact with the concrete during the final curing period shall be kept wet. If forms are to be removed during the curing period, one of the above curing methods shall be employed immediately. Such curing shall be continued for the remainder of the curing period.
- F. Protection Against Vandalism: The Contractor shall take all necessary

precautions to ensure the protection of work against vandalism or graffiti. Any work, which is blemished in the finish at exposed final surfaces will be cause for rejection.

3.8 Cold Weather Concreting and Curing

- A. The special precautions described below shall be applicable to cold weather concreting and curing under the following weather conditions:
 - 1. In the fall, when the mean daily temperature falls below 40°F for more than one day.
 - 2. In the spring, until the mean daily temperature rises above 40°F for three consecutive days.
 - 3. Mean daily temperatures below 40°F are forecast.
- B. The minimum temperature of concrete and the protection method shall be as follows:

Atmospheric Temperature Range	Minimum Fresh Concrete Temperature	Protection Method
Above 30°F	60°F	1
0°17 =30°F	65°F	2
Below 0°F	70°F	3

- C. Protection Method 1: Following the finishing procedure and after the concrete surface is such that no damage to the surface will occur, the concrete shall be covered with 12 inches of dry straw and then covered completely with a layer of polyethylene sheeting or equivalent. The covering shall be sealed and tied down to prevent flapping and shall remain in place for a minimum of seven days.
- D. Protection Method 2: The concrete shall be covered with a minimum of 2 inches of an insulating material such as fiberglass or another commercial insulating material of not less than 2 inches and meeting the approval of the Owner's representative. A waterproof covering of 40 lb. asphalt-impregnated paper shall then be placed and maintained for a minimum of seven days.
- E. After the surfaces are formed, two inch insulating material shall be attached tightly to the forms with suitable fastening devices so as to prevent circulation of the air under the insulation. The insulating material shall be installed prior to placement of concrete in the forms. Special care shall be exercised at edges and ends so as to exclude air and moisture. This material shall remain in place for a period of seven days after the concrete is placed.
- F. Protection Method 3: An adequate enclosure shall be erected to house the formwork and exposed concrete such that the temperature is not less than 50°F or greater than 80°F for a period of at least seven days after placement of the concrete. All enclosures shall be in place and meet the approval of the Owner's representative prior to the placement of the concrete. Salamanders and other heaters which produce carbon dioxide may be allowed, provided the surfaces of the concrete are adequately covered to prevent direct exposure to the carbon dioxide. All heating devices shall meet the approval of the Owner's representative.
- G. Other suitable means of placing and protection may be permitted provided the procedure is in conformance with ACI 306R, latest edition, Section 5.3 and all other applicable sections, and meets the approval of the Owner's representative prior to its use.
- H. If the mean daily temperatures are above 40°F but the weather forecast

indicates a low temperature of 32°F or below, concrete less than 72 hours old shall be protected by one of the following procedures:

1. Two layers of polyethylene sheeting or two layers of waterproof paper.
 2. One layer of polyethylene and one layer of burlap.
- I. This curing procedure shall remain in place until the concrete is at least 96 hours old.
- J. Changes in temperature of the concrete shall be as uniform as possible and shall not exceed 5°F in any one hour or 50°F in any 24-hour period.
- K. The CONTRACTOR shall maintain temperature records of concrete. When concrete is placed, record time, date, weather conditions, outside air temperature and temperature of concrete. Record temperatures at several locations (or as directed by the Owner's representative) within enclosures and on concrete surfaces, edges and corners to obtain the range of temperatures. Record maximum and minimum temperatures in each 24 hour period. Using measuring devices embedded in the concrete surface or place a thermometer against the surface under a temporary cover of thick insulation until a constant temperature is registered.

3.9 Repair of Defective Areas

- A. All repair work on defective areas, regardless of size shall have prior approval of the Owner's representative. Methods and procedures shall be in accordance with ACI 301, Chapter 9 except as modified herein.
- B. As early as possible, after the removal of the forms, the CONTRACTOR shall patch any poor joints, voids, air pockets and minor honeycomb. Large areas of honeycomb and other weak areas shall be chipped out with a light pneumatic chip-hammer. When chipping is performed, edges shall be perpendicular to the surface. Featheredging will not be permitted.
- C. Repair of all defects shall be accomplished by first wetting the area followed by the application of a bonding grout consisting of one part cement and one part sand (passing the No. 30 sieve) mixed to the consistency of a thick cream. The patching material shall consist of one part of gray portland and white portland cement so proportioned with 2-1/2 parts of sand (passing the No. 30 sieve) and enough water to produce a workable mixture which, when in place and cured will match the color of the unmarred surfaces.
- D. In lieu of the cement bonding grout, bonding compound shall be Euco-Weld by the Euclid Company, Duraweld by the W. R. Grace Company, or equal. In lieu of the portland cement patching material, for non- architectural and non-structural areas only, the patching compound may be "Poly-patch" by the Euclid Company, Thorocrete by Standard Drywall, or equal.

END OF SECTION

SECTION 03 3350
DECORATIVE CONCRETE

PART 1. GENERAL

1.1 Summary

- A. Section includes:
 - 1. Integrally colored concrete pavement
 - 2. Stamped concrete pavement
- B. Related Sections:
 - 1. 32 200 Earthwork
 - 2. 32 1313 Concrete Paving

1.2 Submittals

- A. Submit according to Conditions of the Contract and Division 1 Specification Sections.
- B. Product Data: For each product indicated.
- C. Mix Designs: For each type of integrally-colored concrete mix required.
- D. Samples for Initial Selection: Manufacturer's color charts.
- E. Sample Panels: 4' by 4' feet to demonstrate finish, color, and texture of decorative cement concrete pavement.
- F. Material Test Reports: From testing agency indicating compliance of concrete materials, reinforcing materials, admixtures, and similar items with requirements.

1.3 Quality Assurance

- A. Installer Qualifications: Two years' experience with projects of similar scope and quality.
- B. Manufacturer's Qualifications: Three years' experience manufacturing products required.
- C. Testing Agency Qualifications; An independent agency qualified according to ASTM C 1077
- D. Source Limitations; Obtain products from same source throughout project.
- E. Field Samples: Locate at site and obtain approval before start of final work.
 - Field samples shall be a minimum 4' by 4' by full thickness
 - 1. Demonstrate range of finishes and workmanship, including curing procedures.
 - 2. Approved field samples set quality standards for comparison with remaining work.

1.4 Delivery, Storage and Handling

- A. Deliver materials in original packaging with labels intact.
- B. Store in clean, dry and protected location, according to manufacturer's requirements.

1.5 Project Conditions

- A. Comply with requirements in 32 1313 Concrete paving specification.

PART 2. MATERIALS

2.1 COLOR MATERIALS

- A. Integral Concrete Colorant: ASTM C 979, factory-measured powdered mix in self-dissolving packaging, consisting of non-fading finely-ground synthetic mineral-oxide coloring pigments and water reducing wetting agent.
 - 1. Product: Butterfield Color Select Grade® Integral Colorant or equal
 - 2. Color as noted on plans

2.2 ADMIXTURES

- A. Comply with requirements in 32 1314 Concrete paving specification.
- B. Do not use calcium chloride or admixtures containing calcium chloride.

2.3 RELATED MATERIALS

- A. Comply with requirements in 32 1314 Concrete paving specification.
- B. Bonding Agent: ASTM C 1059, Type II.

2.4 CURING AND SEALING MATERIALS

- A. Clear, Solvent-Based, Membrane-Forming Curing and Sealing Compound: ASTM C 309, non-yellowing, VOC-compliant, high-gloss, clear liquid.
 - 1. Product: Butterfield Color® Clear-Guard™ Por 350 ® Cure & Seal or approved equal.
 - 2. At Splashpad area only: Apply Foundation Armor brand Armor SX5000 solvent based silane-siloxane concrete sealer or approved equal.
- B. Slip-Resistive Additive: Finely graded aggregate or polymer additive designed to add to sealer for slip-resistant surface.

2.5 INTEGRAL CONCRETE MIXES

- A. White Portland Cement
 - 1. Type I: general – purpose
 - 2. Conforms to ASTM C150
- B. Comply with requirements in 32 1313 Concrete paving specification.
 - 1. Minimum Portland Cement Content: Five sacks of cement per cubic yard.
 - 2. Maximum Slump: 4 inches.
 - 3. Air Content: 6 percent plus or minus 1 percent.
- C. Add integral concrete colorant according to manufacturer's instructions.
- D. Maintain mix characteristics for all concrete required to have matching finish.

PART 3. EXECUTION

3.1 EXAMINATION

- A. Examine subgrade and sub base for compliance with requirements.
- B. Do not proceed with decorative cement concrete pavement until unacceptable conditions are corrected.

3.2 CONCRETE PLACEMENT

- A. Do not add water once placing has begun. Do not retemper concrete that has started to set.

3.3 FINISHING

- A. After final floating, apply stamped concrete pattern to integral colored concrete according to the manufacturer's directions/recommendations.

3.4 CURING AND SEALING

- A. Protect decorative cement concrete from prematurely drying and excessive cold or hot temperatures.
- B. Cure decorative cement concrete according to manufacturer's instructions.
- C. Curing and Sealing Compound: Apply uniformly in continuous operation by sprayer or short nap roller according to manufacturer's instructions. After initial application is dry and tack free, apply a second coat.
 - 1. Do not over apply or apply in a single heavy coat.
 - 2. Thoroughly mix slip-resistant additive in sealer according to manufacturer's instructions. Stir occasionally to maintain uniform distribution of additive.
 - 3. Verify adequacy of slip resistance before opening up surfaces to traffic.
- D. Do not cover concrete with plastic sheeting.

3.5 REPAIRS AND PROTECTION

- A. Repair damaged decorative cement concrete pavement according to manufacturer's instructions.
- B. Clean spillage and soiling from adjacent construction according to manufacturer's instructions.
- C. Protect decorative cement concrete pavement from damage or deterioration until date of Substantial Completion.

END OF SECTION

SECTION 04 4200
STONE VENEER

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Stone cladding as indicated in the drawings

1.2 RELATED REQUIREMENTS

- A. Section 03 3300 Cast-In-Place Concrete

1.3 SUBMITTALS

Submit under provisions of Section 01 1300.

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- B. Selection Samples: For each product specified, contractor to coordinate with Owner's Representative to view samples representing manufacturer's variation in color and veining range
- C. Verification Samples: For each finish product specified, two sample boards, minimum sample size of 6 inches (150 mm) square, representing actual product, color, and veining.
- D. Mock-Up: Provide a mock-up for evaluation of stone, mortar color and application workmanship.
 - 1. Finish areas designated by Owner/Owner's representative.
 - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Owner/Owner's representative.
 - 3. Refinish mock-up area as required to produce acceptable work.

1.4 QUALITY ASSURANCE

- A. Work shall be performed by those experienced in masonry veneer installation. A minimum of 5 years of experience working on similar size and type of installation is required.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store stone on pallets. Pallet shall be shrink wrapped, double banded wood crates with 1 ton of product.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.6 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Contractor shall furnish veneer similar in appearance, color, type, hardness and approximate size as shown on Drawings or specified in the Contract Documents. No evidence of drilling, scrapes, large flakes, or cracks shall be visible after the stone is set in place.
- B. Stone shall be supplied by the following or approved equal:
 - 1. Lurvey's Landscape Supply: Des Plaines, Illinois Ph: 1.847.299.8333
 - 2. Halquist Stone Company: Sussex, Wisconsin Ph: 1.800.255.8811
- C. Sizes to be as indicated on the drawings. Stone shall be of such shape as to form a stable formation in the required locations. Sharp or jagged protrusions shall be file down

2.2 MATERIALS

A. Type N Mortar

- 1. Laticrete International, Inc. One Laticrete Park, North Bethany, CT 06524; Tel: 1-203-393-0010
- 2. The Quikrete Companies, 5 Concourse Parkway Suite 1900, Atlanta, GA 30328; Toll Free Tel: 800-282-5828; Tel: 404-634-9100
- 3. Approved Equal

2.3 ACCESSORIES

A. Masonry Drainage Mat

- 4. Manufacturer and Type: CavClear Masonry Mat as manufactured by

Archovations, Inc., 701 Second Street, Hudson, WI 54016, (715) 381-5773.

B. Corrugated Stainless Steel Veneer Anchors

2.3 STONE

A. Basis of Design: Halquist Stone Beaver Creek Ledge

- C. Physical Characteristics: Limestone.
1. Color Range: Buff, Tan, and Beige
 2. Finish: Split Face
 3. Size:
 - a. Height: 3-5"
 - b. Length: 8-30"
 - c. Depth: 3-5"

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Owner/Owner's representative of unsatisfactory preparation before proceeding.
- C. Stone that is chipped, uneven, or significantly differing in color or veining from the sample boards may be rejected by the owner's representative.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 047200
PRECAST STONE MASONRY

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Precast stone cap

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include dimensions and finishes.

B. Shop Drawings: Show fabrication and installation details for precast stone units. Include dimensions, details of reinforcement and anchorages if any, and indication of finished faces.

C. Samples:

1. For each color and texture of precast stone required.
2. For colored mortar.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer of precast stone units similar to those indicated for this Project, that has sufficient production capacity to manufacture required units, and is a plant certified by the Cast Stone Institute.

PART 2 PRODUCTS

2.1 PRECAST STONE UNITS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Architectural Cast Stone

a) Address: 2775 Norton Creek Drive, West Chicago, IL 60185

b) Phone: (630)377-4800

2. Approved Equal

B. Provide precast stone units complying with ASTM C 1364 using either the vibrant dry tamp or wet-precast method.

1. Slope exposed horizontal surfaces 1:12 to drain unless otherwise indicated.
2. Provide raised fillets at backs of sills and at ends indicated to be built into jambs.
3. Provide drips on projecting elements unless otherwise indicated.

C. Cure units as follows:

1. Cure units in enclosed moist curing room at 95 to 100 percent relative humidity and temperature of 100 deg F for 12 hours or 70 deg F for 16 hours.
2. Keep units damp and continue curing to comply with one of the following:
 - a) No fewer than five days at mean daily temperature of 70 deg F or above.
 - b) No fewer than six days at mean daily temperature of 60 deg F or above.
 - c) No fewer than seven days at mean daily temperature of 50 deg F or above.
 - d) No fewer than eight days at mean daily temperature of 45 deg F or above.

D. Acid etch units after curing to remove cement film from surfaces to be exposed to view.

E. Colors and Textures: As selected by Landscape Architect from manufacturer's full range.

2.2 ACCESSORIES

A. Anchors: Type and size indicated, fabricated from steel complying with ASTM A 36/A 36M, and hot-dip galvanized to comply with ASTM A 123/A 123M.

B. Dowels: 1/2-inch diameter, round bars, fabricated from steel complying with ASTM A 36/A 36M, and hot-dip galvanized to comply with ASTM A 123/A 123M.

C. Proprietary Acidic Cleaner: Manufacturer's standard-strength, proprietary acidic cleaner specifically formulated for cleaning precast/cast stone masonry, complying with the following:

1. Cleaner shall not contain hydrofluoric acid, hydrochloric (muriatic) acid, or other strong mineral acids unless specifically formulated and labeled for use on cast stone or precast concrete masonry.

2. Cleaner shall be expressly approved for the intended use, in writing, by both the precast stone unit manufacturer and the cleaner manufacturer prior to use.
3. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - a. ProSoCo, Inc.; Sure Klean Limestone & Masonry Prewash, or Sure Klean Vana Trol (for units with iron-based staining).
 - b. Diedrich Technologies, Inc.; Diedrich 101 Limestone Restorer, or Diedrich 606 Limestone & Masonry Prewash.
 - c. EaCo Chem, Inc.; comparable proprietary acidic cleaner formulated for precast/cast stone.
4. Test cleaner on an inconspicuous sample area of not less than 1 sq. ft. for each precast stone type and finish, using application method identical to that to be used on remainder of the Work. Allow sample area to dry for a minimum of 7 days before evaluating. Obtain Architect's approval of sample area cleaning before proceeding with cleaning of remaining areas.
5. Do not use cleaners containing acids, alkalis, or other chemicals that could etch, discolor, or otherwise damage precast stone surface, unless expressly approved by precast stone manufacturer for the specific unit finish being cleaned.

2.3 MORTAR

1. For setting mortar, use Type N.
2. For pointing mortar, use Type N

2.4 SOURCE QUALITY CONTROL

- A. Engage a qualified independent testing agency to sample and test precast stone units according to ASTM C 1364.

PART 3 EXECUTION

3.1 SETTING PRECAST STONE IN MORTAR

- A. Set units in full bed of mortar with full head joints unless otherwise indicated.
 1. Fill dowel holes and anchor slots with mortar.
 2. Fill collar joints solid as units are set.
 3. Build concealed flashing into mortar joints as units are set.
 4. Keep head joints in coping and other units with exposed horizontal surfaces open to receive sealant.

5. Keep joints at shelf angles open to receive sealant.
- B. Rake out joints for pointing with mortar to depths of not less than 3/4 inch. Rake joints to uniform depths with square bottoms and clean sides. Scrub faces of units to remove excess mortar as joints are raked.
- C. Point mortar joints by placing and compacting mortar in layers not greater than 3/8 inch. Compact each layer thoroughly and allow it to become thumbprint hard before applying next layer.
- D. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.
- E. Provide sealant joints at copings and other horizontal surfaces, at expansion, control, and pressure-relieving joints, and at locations indicated.
 1. Keep joints free of mortar and other rigid materials.
 2. Prepare and apply sealant of type and at locations indicated to comply with applicable requirements in Section 079200 "Joint Sealants."

3.2 SETTING ANCHORED PRECAST STONE WITH SEALANT-FILLED JOINTS

- A. Set units accurately in locations indicated with edges and faces aligned.
 1. Install anchors, supports, fasteners, and other attachments to secure units in place.
 2. Shim and adjust anchors, supports, and accessories.
- B. Fill anchor holes with sealant.
 1. Where dowel holes occur at pressure-relieving joints, provide compressible material at ends of dowels.
- C. Set precast stone supported on clip or continuous angles on resilient setting shims. Hold shims back from face of precast stone a distance at least equal to width of joint.
- D. Keep joints free of mortar and other rigid materials. Remove temporary shims and spacers from joints after anchors and supports are secured in place and precast stone units are anchored.
- E. Prepare and apply sealant of type and at locations indicated to comply with applicable requirements in Section 079200 "Joint Sealants."

3.3 INSTALLATION TOLERANCES

- A. Variation from Plumb: Do not exceed 1/4 inch in maximum.
- B. Variation from Level: Do not exceed 1/4 inch in 20 feet maximum.

- C. Variation in Joint Width: Do not vary joint thickness more than 1/8 inch in 36 inches or one-fourth of nominal joint width, whichever is less.
- D. Variation in Plane between Adjacent Surfaces (Lipping): Do not vary from flush alignment with adjacent units or adjacent surfaces indicated to be flush with units by more than 1/16 inch, except where variation is due to warpage of units within tolerances specified.

3.4 ADJUSTING AND CLEANING

- A. Remove and replace stained and otherwise damaged units and units not matching approved Samples. Precast stone may be repaired if methods and results are approved by Architect.
- B. Replace units in a manner that results in precast stone matching approved Samples, complying with other requirements, and showing no evidence of replacement.
- C. In-Progress Cleaning: Clean precast stone as work progresses.
 - 1. Remove mortar fins and smears before tooling joints.
 - 2. Remove excess sealant immediately, including spills, smears, and spatter.
- D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed precast stone of mortar smears, grout stains, dirt, and other foreign substances without damaging precast stone units, joints, or adjacent materials.
 - A. Remove excess mortar and mortar droppings.
 - B. Replace defective mortar. Match adjacent work.
 - C. Clean soiled surfaces with cleaning solution, follow cleaner manufacturer's instructions.

END OF SECTION

SECTION 05 5500

METAL FABRICATIONS

PART 1 GENERAL

1.1 Description

- A. Metal fabrications includes items made from iron and steel shapes, plates, bars, strips, tubes, pipes and castings which are not at part of structural steel or other metal systems specified elsewhere.
- B. Types of work in this section include metal fabrications for handrails and guardrails, miscellaneous framing and supports.

1.2 Reference Specifications

- A. The following specifications are incorporated into the document:
 - 1. Standard Specifications for Road and Bridge Construction" – Latest Edition - Illinois Department of Transportation
 - a. Section 505.03 Steel Structures, Drawings
 - b. Section 505.04 Steel Structures, Fabrication
 - 2. AISC "Code of Standard Practice for Steel Buildings"
 - 3. AWS D1.1 "Structural Welding Code – Steel"
 - 4. NOMMMA "Voluntary Guidelines for Joint Finishes"
- B. Contractor shall adhere to the above specifications unless applicable items of work or materials are modified herein.

1.3 Submittals

- A. Contractor shall submit shop drawings for approval by Owner/Owner's representative.

PART 2 MATERIALS

2.1 Metals

- A. Metal Surfaces, General
 - For fabrication of miscellaneous metal work which will be exposed to view, use only materials which are smooth and free of surface blemishes including pitting, seam marks, roller marks, roller trade names and roughness.
- B. Steel Plates, Shapes and Bars ASTM A 36
- C. Steel Pipe
 - ASTM A 53; Type and grade (if applicable) as selected by fabricator and as requested for design loading; black finish unless galvanized is indicated; standard weight (schedule 40), unless otherwise indicated).
- D. Concrete Inserts
 - Threaded or wedge type; galvanized ferrous castings, either malleable iron, ASTM A 47, or cast steel, ASTM A 27. Provide Bolts, washers, and shims as required, hot-dip galvanized, ASTM A 153.

2.2 Fasteners; Unless otherwise noted on Plans

- A. General
 - 1. Provide zinc-coated fasteners for exterior use. Select fasteners for the type, grade and class required.
- B. Bolts and Nuts
 - 1. Regular hexagon head type, ASTM A 307, Grade A

- C. Lag Bolts
 - 1. Square head type, FS FF-B-561
 - D. Masonry Anchorage Devices
 - 1. Expansion shields, FS FF-S325
 - 2.3 Paint
 - A. Per plans and paint specifications
 - 2.4 Hot-Dipped Galvanized Finish
 - A. Per included specifications

PART 3 EXECUTION

3.1 Preparation

- A. Coordinate and furnish anchorages, setting drawings, diagrams, templates, instructions, and directions for installation of anchorages, such as concrete inserts, sleeves, anchor bolts and miscellaneous items having integral anchors, which are to be embedded in concrete or masonry construction. Coordinate delivery of such items to project site.

3.2 Installation

- A. Fastening to In-Place Construction
 - 1. Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrication to in-place construction; including, threaded fasteners for concrete and masonry inserts, toggle bolts, through-bolts, lag bolts, wood screws and other connectors as required.
- B. Cutting, Fitting and Placement
 - 1. Perform cutting, drilling and fitting required for installation of miscellaneous metal fabrication. Set work accurately in location, alignment and elevation, plumb, level, true and free of rack, measured from established lines and levels. Provide temporary bracing or anchors in framework for items which are to be built into concrete, masonry or similar construction.
 - 2. Fit exposed connections accurately together to form tight hairline joints. Weld connections which are not to be left as exposed joints, but cannot be shop welded because of shipping size limitations. Grind exposed joints smooth and touch-up shop paint coat. Do not weld, cut or abrade the surfaces of exterior units which have been hot-dipped galvanized after fabrication, and are intended for bolted or screwed field connections.
- C. Field-Welding
 - 1. Comply with AWS Code for procedure of manual shielded metal-arc welding, quality of welds made, and methods used in correcting welding work.
 - 2. All welding shall be 100% at joints and shall be grinded smooth. All joints shall meet NOMMA Finish #1 with no visible evidence of a welded joint.

3.3 Workmanship

- A. Use materials of size and thickness indicated or, if not indicated as requires to produce strength and durability in finished product for use intended. Work to dimensions shown or accepted on shop drawings,

using proven details of fabrication and support. Use type of materials shown or specified for various components of work.

- B. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges. Ease exposed edges to a radius of approximately 1/32" unless otherwise shown. Form bent metal corner to smallest radius possible without causing grain separation or otherwise impairing work.
- C. Weld corners and seams continuously, complying with AWS recommendations. At exposed connections, grind exposed welds smooth and flush to match and blend with adjoining surfaces.
- D. Form exposed connections with hairline joints, flush and smooth using concealed fasteners wherever possible. Use exposed fasteners of type shown or, if not shown, Phillips flat-head (countersunk) screw or bolts.
- E. Provide for anchorage of type shown, coordinated with supporting structure. Fabricate and space anchoring devices to provide adequate support for intended use.
- F. Cut, reinforce, drill and tap miscellaneous metal work as indicated to receive finish hardware and similar items

3.4 Shop Painting

- A. Refer to included paint specifications

3.5 Loose Bearing/Leveling Plates and Brackets

- A. Provide loose bearing/leveling plates and brackets for items bearing on masonry or concrete construction, made flat, free from wraps or twists, and of required thickness and bearing area with anchor bolts for grouting as required

3.6 Miscellaneous Framing and Supports

- A. Provide miscellaneous steel framing and supports shown as required to complete work
- B. Fabricate miscellaneous units to sizes, shapes and profiles shown or, if not shown, of required dimensions to receive adjacent other work to be retained by framing. Except as otherwise shown, fabricate from structural steel shapes and plates and steel bars of welded construction using mitered joints for field connection.

3.7 Adjust and Clean

- A. Touch-Up Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material as used for shop painting. See included paint specifications for minimum dry film thickness.

END OF SECTION

SECTION 06 1000

WOOD CONSTRUCTION

1.0 GENERAL

1.1 Description

- A. This work consists of providing all labor, and equipment necessary for complete construction of wood elements and related structures and equipment including all wood, hardware, fasteners and related construction materials as called for in the plans and details.

1.2 Codes and Regulations

- B. All work shall be in complete conformance to all local codes, ordinances, regulations, and Article 1007.12: preservative Treatment, from the Standard Specifications for Road and Bridge Construction (Current edition and supplements), Illinois Department of Transportation.

1.3 Related Requirements

- A. Section 32 3400 Prefabricated Bridge
- B. Section 31 6200 Driven Piles

1.4 Submittal Requirements

- A. Wood preservative treatment certification from the treating facility will be provided.
- B. Engineering specifications, engineered calculations, and engineered construction shop drawings shall be
- C. provided detailing, verifying and/or sizing each individual component. The above must contain an embossed seal by a professional engineer who is registered in the state where the work will be performed.
- D. Specifications for pile-driving equipment and methods, including hammer calculations verifying capacity to drive the piling to required tonnage and criteria for verification of pile capacity will be provided.

2.0 MATERIALS

- A. Basis of design to be York Bridge Concepts, or equal, meeting or exceeding the specifications below. York Bridge Concepts has been pre-approved to build the bridges for this project. Any other bridge company must be pre-approved at least 5 days prior to the bid to be used.
- B. Contact:
 - York Bridge Concepts
 - 2423 Brunello Trace
 - Lutz, FL 33558
 - Brian Steeves
 - 813-482-0625
 - bsteeves@ybc.com
- C. All foot traffic will be contained within six feet from bridge path.
- D. Awarded bridge contractor, at the time of design and engineering, shall provide shop drawings with engineering calculations to verify structural integrity, sizing, verification, and loading capacity of design(s). A professional engineer licensed

in the state of IL will seal all drawings and calculations to support sizing of structural components and required load handling.

- E. Bridge contractor will provide a 1-year structural warranty. Bidder must provide a written copy, with maintenance requirements that supports the 1-year warranty with bid submittal.
- F. Bridge contractor must have built a minimum of twenty (20) similar timber bridges utilizing a similar construction method and protective system applications.
- G. Bridge contractor must supply references of at least 10 clients for whom the bridge contractor has built similar timber bridges utilizing a similar construction method and protective system applications.
- H. Bridge contractor must have been in business for 10 years or more.
- I. Bridge contractor must provide a statement of insurance/bonding capabilities to attest to the financial strength of the company. Include the name and rating of each carrier for the following: Corporate insurance, Auto liability insurance, Bonding/Surety Company.
- J. Bridge contractor will clean up each work site daily.
- K. Bridge contractor to provide a system to catch all shavings, dust, and cutoffs before they enter the environmentally sensitive areas to every extent possible. Any that enter the wetlands and forest will be cleaned up immediately. A plan will be submitted in writing to the owner.
- L. General Contractor is responsible for posting load limit signs and/or barriers at each end of bridge.
- M. General contractor is required to inspect and sign off on each bridge and/or site both before and after construction.

2.1 Treated Timbers

- A. Timber posts and framing shall be northern pine, southern yellow pine, eastern white pine, or western larch. All lumber shall be No. 1 grade. All lumber shall be pressure treated with water-borne preservative and shall conform to the above referenced specification.

2.2 Decking Boards

- A. Decking to be a minimum of 5/4" thick reinforced polymeric lumber.
- B. Deck to be fastened with composite screws or better. All screws will be recessed below deck surface.
- C. Decking to be consistently spaced with 3/16" gap between installed decking.
- D. Boardwalk curb system using square reinforced polymeric lumber on reinforced polymeric lumber blocking.

2.3 Bolts, Metal Connectors and Supports

- A. Except for the #5 rebars used for anchoring, all other metal fasteners and miscellaneous parts shall be hot dipped galvanized to protect against corrosion and specifically approved for use with treated lumber.
- B. Provide all metal connectors and supports shown on the Drawings or as otherwise required to complete all work.
- C. Connectors and supports shall be shop fabricated from prime quality steel

which meets ASTM A653A/653M, galvanized finish, gauge as shown, or if not shown, as recommended by the manufacturer for the required application.

- D. Manufacturers are subject to the requirements, provide products from one of the following:
 - a. Simpson Strong-Tie
 - b. TECO
 - c. Heckman Building Products, Inc.

2.4 Wood Preservative Treatment

- A. All lumber noted on the Drawings to be treated and all other miscellaneous blocking and nailers in contact with masonry, concrete, or the ground shall be factory pressure treated with water-borne preservatives as herein specified
- B. Manufacturers are subject to compliance with specified requirement, pressure treat all lumber with preservatives manufactured by one of the following or approved equal:
 - a. Koppers Company, Inc
 - b. Osmose Inc.
- A. Pressure treatment shall meet AWWPA Standard P-5 and Federal Specification TT-W-550 and consist of preservative chemicals forced into the wood by a vacuum-pressure process in a closed cylinder.
- B. The retention of preservative chemicals injected into the wood shall be 0.4 lbs per cubic foot of wood (oxide basis) and meet the specified results of American Wood Protection Association Standard U1.
- C. Complete fabrication of treated items prior to treatment, where possible. If cut after treatment, coat cut surfaces with heavy brush coat of same chemical used for treatment. Inspect each piece of lumber after drying and discard damaged or defective pieces.
- D. Grade: Construction Grade light framing size lumber of any species or board size lumber as required. Provide construction grade boards or No. 2 boards.

3.0 EXECUTION

3.1 Construction Methods

- A. Layout shall be staked for the approval of Owner's Representative before commencing construction. Set carpentry work accurately to required grades and layout with members plumb and true. Fit carpentry work accurately to assure maximum strength at all joints by using adequate fastening, blocking and bracing as necessary or as shown on the plans. Wood dimensions shall conform to the plans. Variations greater than 1/4" shall be removed and replaced.
- B. All fastenings shall be complete with optimum care after accurately fitting each timber. Wax or lubrication of fasteners that depend on friction for holding power

is not allowed. Tighten bolts and lag screws at installation and check for tight connections prior to completion of work.

END OF SECTION

SECTION 09 9114

EXTERIOR RE-PAINTING

1.0 GENERAL

1.1 Description

- A. This work shall consist of all labor, equipment and materials necessary for completion of shelter re-painting.

1.2 Submittals

- A. Color: Submit colors and finishes for approval. The design intent is to closely match the existing color and finish.

- B. Sub-Contractor Certification Status

- 1. The painting Contractor shall possess current SSPC–QP1 certification for lead-free paint. The Contractor shall maintain certified status throughout the duration of the painting work under the contract. The Owner reserves the right to accept Contractors documented to be currently enrolled in the SSPC-QP7, Painting Contractor Introductory Program, Category 2, in lieu of the QP certifications noted above. The Owner at their sole discretion may accept proof of other commercial painting training and experience as qualification for performing work at the project site.

1.3 Related Documents

- A. All terms and conditions of the Contract apply to this Section.
- B. AMPP (NACE/SSPC) Joint Surface Preparation Standards, NACE International

2.0 MATERIALS

2.1 COLORS AND FINISHES

- A. Prior to beginning work, the Owner's Representative will furnish sample color chips if color is not to match an existing color for surfaces to be painted. Match the colors of the chips and submit samples, as specified herein, before proceeding with the work.

2.2 MATERIAL QUALITY EXTERIOR PAINTING

- A. Provide the best quality grade of the various types of coatings as regularly manufactured by approved paint materials manufacturers. Materials not displaying the manufacturer's identification as a standard, best-grade product will not be acceptable.
- B. Provide undercoat paint produced by the same manufacturer as the finish coats. Use only thinners approved by the paint manufacturer and use only within recommended limits.

2.3 PAINT MATERIALS: See schedule following this section for materials quality requirements.

- A. PAINT SCHEDULE - All paint systems shall be three coats minimum or additional coats as required to completely cover. Provide all paint and coating products used in any individual system from the same manufacturer; no

exceptions. The paint schedule refers to products by Sherwin Williams. www.sherwin-williams.com.

1. Exterior woodwork – Existing Shelters

- a. 1st Coat: A-100 Alkyd Exterior Wood Primer. 2.2 mils
- b. 2nd Coat: SWP gloss House & Trim Paint. 2.0 mils
 - 1) Color: SW6097 – Sturdy Brown
- c. 3rd Coat: Same as second coat. 2.0 mils

2. Exterior metalwork – Existing Shelters

- a. 1st Coat: A-100 Alkyd Exterior Wood Primer. 2.2 mils
- b. 2nd Coat: SWP gloss House & Trim Paint. 2.0 mils
 - 1) Color: SW6097 – Sturdy Brown
- c. 3rd Coat: Same as second coat. 2.0 mils

B. Other pre-approved manufacturers include:

- 1. Benjamin Moore & Co: www.benjaminmoore.com.
- 2. United Gilsonite Laboratories (UGL): www.ugl.com

2.4 SEALANT: Sika-1a, 1-component polyurethane, or approved equal.

3.0 EXECUTION

3.1 Contractor shall inspect all surfaces prior to preparation or painting. Any damaged wood or metal shall be reviewed with the owner's representative. If owner determines any areas are to be replaced, contractor shall coordinate with owner's representative and replace areas prior to proceeding with painting.

3.2 Surface Preparation

- A. Per topcoat manufacturer's recommendation: Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion. Do not use hydrocarbon solvents for cleaning.
 - a. For metal surfaces: Minimum surface preparation is Hand Tool Clean per SSPC-SP2. SSPC-SP3 Power Tool Cleaning is also acceptable with prior owner approval.
 - b. For wood surfaces: Surface shall be scraped to remove peeling paint, grime or debris, surface cleaned with soap and water to remove dirt and sanded working with the grain to remove any rough edges or splintered surfaces.
- B. Paint chips and debris from cleaning are to be collected and properly disposed of. Paint chips are to be intercepted prior to making contact with soil or vegetation.
- C. Removable covers and fixtures are to be removed for surface preparation procedures.

3.3 Application

- A. Primer: Spot Prime rusted areas following surface preparation

- B. Paint: Apply coats as necessary to uniformly and completely cover all surfaces. Sagging or runs in the paint surface are cause for rejection of the work.
- C. Prime and paint as recommended by paint manufacturer.
- D. Adjacent paving and surfaces not designated for new paint (i.e. site furniture, roofing) is to be protected from drips, spills and overspray.

END OF SPECIFICATION

SECTION 09 9700

HOT-DIP GALVANIZING

1.0 GENERAL

1.1 Description

A. This Section specifies hot-dip galvanizing for all miscellaneous and structural steel and iron exposed to the weather, moisture, or corrosive atmosphere including but not limited to the following: Structural steel, handrails and railings, grating, stair stringers and steps, miscellaneous and ornamental iron consisting of fences.

1.2 Reference Standards

A. The following specifications are incorporated into the document:

1. American Galvanizers Association Inc. (AGA):
 - a. "Inspection Manual for Hot-Dip Galvanized Products."
 - b. "Inspection of Products Hot-dip Galvanized After Fabrication"
 - c. "Quality Assurance Manual"
2. American Society for Testing and Materials (ASTM):
 - a. A123 - Zinc (Hot Dipped Galvanized) Coating on Iron and Steel products.
 - b. A153 - Zinc Coating (Hot Dip) on Iron and Steel Hardware.
 - c. A143 - Safeguarding Against Embrittlement.
 - d. A384 - Safeguarding Against Warpage.
 - e. A385 - Providing High Quality Zinc Coatings.
 - f. A780 - Repair of Hot-Dip Galvanizing.

1.3 Submittals

A. Certificate stating Galvanizer source including address and phone number.

1.4 Quality Assurance

- A. Coating applicator: Company specializing in hot dip galvanizing after fabrication and following the procedures in the *Quality Assurance Manual of the American Galvanizers Association*.
- B. Coordination Between Fabricator and Galvanizer: Prior to fabrication, Contractor shall submit approved fabrication shop drawings to the galvanizer. The Galvanizer shall review shop drawings for suitability of materials for galvanizing and coatings and coordinate any required fabrication modifications.
- C. Materials: For steel to be hot dip galvanized, provide steel chemically suitable for metal coatings complying with the following requirements: carbon below 0.25%, phosphorous below 0.04%, manganese below 1.3%, and silicon below 0.04%. Notify the galvanizer if steel does not meet these requirements so that suitability for galvanizing may be determined and whether special processing techniques are required. Provide and apply materials complying with environmental requirements of authority having jurisdiction. All materials shall be delivered to the galvanizer with label or product data sheet affixed to the manufacturer's containers showing the manufacturer's name, batch number, type of paint, stock number, label analysis of solids and vehicle, reducing and thinning instructions, drying and recoat time, OSHA SDS sheets, recommended application procedures and environmental restrictions. Paint

materials shall be stored in an acceptable location reserved only for such materials and related equipment in compliance with applicable local health and fire regulations and OSHA requirements.

- D. Damage Prevention: To prevent unnecessary damage to the galvanized coating by field welding, provide slip fit method of connecting pipe railings. Fabricate pipe railing from mechanical steel tubing internally vented with holes 3/4 the size of the pipe's internal diameter. For other fabrications, bolted connections shall be used wherever possible. Where size of assembly is too large for galvanizing kettle, galvanize components prior to fabrication and assemble after galvanizing.

2.0 MATERIALS

2.1 Steel Materials

- A. Material for galvanizing to be geometrically suitable for galvanizing as described in ASTM A 384 and A 385. Steel materials suitable for galvanizing include structural shapes, pipe, sheet, fabrications and assemblies.
- B. Recommended steel materials for hot-dip galvanizing include but are not limited to:
1. Structural shapes and plates: ASTM A36, A242 type 2, A283, A441, A500, A501, A529, A572, A588, and A992.

2. Steel for fasteners:

General Category	Bolt Material	Nut Material
Carbon Steel	A 307 Gr A or B	A 563 Gr A
High-strength	A 325 Type 1	A 563 Gr DH
Tower Bolts	A 394	A 563 Gr A
Quenched & Tempered (Carbon Steel Bolts)	A 499	A 563 Gr C
Quenched & Tempered (Alloy Steel Bolts)	A 354 Gr BC	A 563 Gr DH

3. Steel for sheet metal articles: ASTM A1011A/A1011M or A1011/A1011M.
4. Steel for pipe or tubing: ASTM A53, or A 595, Gr A or B.
5. Do not use of steel with an ultimate tensile strength greater than 150 ksi.

2.2 Hot-dip Galvanizing

- A. Provide coating for iron and steel fabrications applied by the hot-dip process, Comply with ASTM A123 for fabricated products and ASTM A 153 for hardware. Provide thickness of galvanizing specified in referenced standards. The galvanizing bath shall contain high grade zinc.
- B. Fabricate structural steel in accordance with Class I, II, III guidelines as described in AGA's *Recommended Details for Galvanized Structures*.
- C. Fabrication practices for products to be in accordance with the applicable portions of ASTM A 143, A 384, and A 385, except as specified herein. Avoid fabrication techniques that could cause steel distortion or embrittlement.
- D. The Contractor shall consult the hot-dip galvanizer regarding potential concerns, including handling issues, during the galvanizing process that may require design modifications before fabrication proceeds.
- E. Remove all welding slag, splatter, anti-splatter compounds and burrs prior to delivery for galvanizing.

- F. Any grease, oil, paint, and other deleterious material to be removed prior to fabrication. Remove by blast-cleaning, or other methods, surface contaminants and coatings that are not removable by the normal chemical cleaning process in the galvanizing operation.
- G. Whenever possible, slip joints should be used to minimize field welding of material.
- H. If, for any reason, the galvanizing item is to be primed (for future field painting or finish coated), the coatings shall be applied by the galvanizer at same facility, within 12 hours of galvanizing, in accordance with Section 9910. Field priming of hot dip galvanizing will not be permitted.
- I. To prevent unnecessary damage to the finished coating by field welding, use bolted connections for field connections wherever possible.

3.0 EXECUTION

3.1 Surface preparation

- A. Pre-clean steel work in accordance with accepted methods to produce an acceptable surface for quality hot-dip galvanizing.

3.2 Coating Application

- A. Galvanize steel members, fabrications, and assemblies after fabrication by the hot-dip process in accordance with ASTM A 123 / 123M.
- B. Galvanize bolts, nuts, washers and iron and steel hardware components in accordance with ASTM A 153 / 153M.
- C. Safeguard products against steel embrittlement in conformance with ASTM A 143.
- D. Galvanize reinforcing steel in accordance with ASTM A 767.
- E. Handle all articles to be galvanized in such a manner as to avoid any mechanical damage and to minimize distortion.
- F. Galvanizing shall provide an acceptable substrate for applied coatings.
- G. The dry kettle process shall be used to eliminate any flux inclusions on the surface of the galvanized material. Prior to galvanizing, the steel shall be immersed in a pre flux solution (zinc ammonium chloride). The pre flux tanks must be 12o to 14o Baume' and contain less than .4% iron. The wet kettle process shall be prohibited.
- H. To provide the galvanized surface required, the following procedures shall be implemented:
 - 1. A monitoring recorder shall be utilized and inspected regularly to observe any variances in the galvanizing bath temperature.
 - 2. The pickling tanks shall contain hydrochloric acid with a constant rang between 10-14%, iron content less than 8% and zinc content less than 3%.
 - 3. Rinse tanks, for the removal of cleaning chemicals, shall contain water.
 - 4. Water quenching of galvanized steel shall be prohibited.

3.3 Coating Requirements

- A. Conform to paragraph 6.1 of ASTM A 123 / 123M, Table 1 of ASTM A 153 / 153M, or Table 2 of A 767, as appropriate. Special thickness requirements should refer to ASTM A 123 / 123M, 3.1.7., and be specified as the minimum average mils of thickness.
- B. Surface Finish: Continuous, adherent, as smooth and evenly distributed as possible and free from any defect detrimental to the stated end use of the coated article. To ensure a smooth even coating, pipe rails should be fabricated from mechanical steel tubing with "slip fit" type connections.

C. Adhesion: Withstand normal handling consistent with the nature and thickness of the coating and normal use of the article.

3.4 Tests

Inspection and testing of hot-dip galvanized coatings shall be done under the guidelines provided in the AGA publication *Inspection of Products Hot-dip Galvanized After Fabrication*. Include visual examination and tests in accordance with ASTM A 123 / 123M, A 153 / 153M, or A 767, as applicable, to determine the thickness of the zinc coating on the metal surface.

3.5 Touch-up and Repair

- A. For damaged and field-welded metal coated surfaces, clean welds, bolted connections and abraded areas.
- B. At galvanized surfaces, apply organic zinc repair paint complying with requirements of ASTM A780. Galvanizing repair paint shall have 95 percent zinc by weight. Thickness of applied galvanizing repair paint shall be not less than coating thickness required ASTM A123 or A153 as applicable. Touch-up of galvanized surfaces with aerosol spray, silver paint, bright paint, or aluminum paints is not acceptable.

END OF SECTION

SECTION 9910

PAINTING OF HOT-DIPPED GALVANIZED STEEL

1.0 GENERAL

1.1 Description: This Section specifies requirements for furnishing and applying shop-applied paint on structural steel, miscellaneous and ornamental metal which is exposed to view and is hot-dipped galvanized, as defined in Section 09 9700, including requirements for substrate surface preparation and related activities.

1.2 Incorporated Specifications

A. The following specifications are incorporated into the document:

1. Standard Specifications for Road and Bridge Construction" – Latest Edition - Illinois Department of Transportation
 - a. Section 506.02 Cleaning and Painting Metal Structures, Materials
 - b. Section 506.03 Cleaning New Structures
 - c. Section 506.04 Shop Painting New Structures
 - d. Section 506.05 Field Painting New Structure
2. The American Galvanizers Association (AGA)
 - a. "Duplex Systems: Painting Over Hot Dip Galvanized Steel"
 - b. "Practical Guide for Preparing Hot Dip Galvanized Steel for Painting"
3. American Society for Testing and Materials (ASTM):
 - a. A 123 /123M Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
 - b. A 153/A 153M Zinc Coating (Hot-Dip) on Iron and Steel Hardware
 - c. A 780 Repair of Damaged Hot-Dip Galvanized Coatings
 - d. B 201 Testing Chromate Coatings on Zinc and Cadmium Surfaces
 - e. D 6386 Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for Painting
 - f. E 376 Measuring Coating Thickness by Magnetic-Field or Eddy-Current (Electromagnetic) Test Methods
4. Contractor shall adhere to the above specifications unless applicable items of work or materials are modified herein.

1.3 Samples: Submit two samples of hot-dipped galvanized and finished in selected color. Sample item shall be designated as control for color, texture, and application for each paint system with the accepted item used as criteria for similar items.

1.4 Application Condition

A. Apply primer hot-dip galvanizing within 12 hours after galvanizing in the galvanizer's facility in accordance with specified requirements and recommendations of galvanizer.

- B. The primer and topcoat shall be applied under the following conditions:
1. Minimum air temperature shall be 65°F. Surface temperature of steel shall be 60° - 90°F and, in any event, be 5°F higher than the dew point. Humidity shall be 85% maximum.
 2. Surface steel shall be dry and free from dust, dirt, oil, grease or other contaminants. Coating and cure facility shall be maintained free of airborne dust and dirt until coatings are completely cured.
 3. The primer shall be applied by way of a plural component airless spray over a consistent surface profile.
 4. The use of iron or steel shot and sand and aluminum oxide grit as a blast medium, and power wire brushes are not permitted.

2.0 PRODUCTS

2.1 Factory-Applied Primer Over Hot-Dip Galvanizing

- a. Provide factory-applied polyamide epoxy primer, 3.0 mils dry film thickness (DFT) minimum.

3.0 EXECUTION

3.1 Preparation

- a. Zinc high spots, such as a metal drip line, should be removed by cleaning with hand or power tools as described in SSPC Surface Preparation Specification 2 or 3. The zinc should be removed until it is level with the surrounding area, taking care that the base coating is not removed by the cleaning methods.
- b. After cleaning, the surface shall be inspected for conformance to the required zinc thickness in accordance with ASTM A 123/A 123M or A 153/A 153M utilizing a magnetic-field-type thickness instrument in accordance with ASTM E 376. Any item falling below the required zinc thickness, before or after removal of any high spots, shall be repaired in accordance with ASTM A 780.

3.2 Shop Painting

- a. Galvanizing shall provide an acceptable substrate for applied coatings. Shop paint miscellaneous metal work, except members or portions of members to be embedded in concrete or masonry, and surfaces and edges to be field welded.
- b. All items to be shop painted shall be free of scale, rust, blast materials and other deleterious materials before applying shop coat. Clean off rust and loose mill scale in accordance with SSPC SP-2 "Hand Tool Cleaning" or SSPC SP-3 "Power Tool Cleaning", or SSPC SP-7 "Brush-Off Blast Cleaning." Remove oil, grease and similar contaminants in accordance with SSPC SP-1 "Solvent Cleaning"
- c. Apply primer within 12 hours after galvanizing at the galvanizer's plant in a controlled environment meeting applicable environmental regulations and as recommended by coatings manufacturer. Brush or spray on primer in accordance with manufacturer's instructions, and at a rate to provide uniform dry film thickness (DFT) of 3.0 mils. Use painting methods which will result in full coverage of joints, corners, edges and exposed surfaces.

d. The primer and topcoat material shall be certified VOC complaint and conform to all environmental and EPA requirements.

1. The primer shall be a high solid polyamide epoxy applied to a DFT of 3 mils minimum.

2. The topcoat shall be a color pigmented, two-component high build aliphatic polyurethane applied to a DFT of 3 mils minimum.

e. Provide materials identified and specified by industry standards.

3.3 Quality Control

a. Measure areas for DFT.

b. If thickness of coating does not comply with DFT requirements, apply additional applications of coating to attain specified DFT at no additional cost.

c. Where characteristics of coating prohibit recoating, remove and replace unacceptable coating.

d. Where application of coating exceeds DFT and is considered detrimental to the quality of Project, remove and recoat to specified DFT at no additional cost.

END OF SECTION

SECTION 11 6813
PLAYGROUND EQUIPMENT – Purchase as noted in bid form

1.0 GENERAL

1.1 Description

- A. As part of this work the Contractor shall be responsible for the purchase of some of the play equipment as described on the plans and in the bid form.
- B. Playground equipment installation shall consist of all labor, equipment and materials necessary for complete installation of play equipment specified.
- C. As part of this work, the Contractor shall coordinate with manufacturer delivery and secure storage of all play equipment. Contract bid includes the coordination and labor necessary to install a complete playground system. This shall also include checking freight tickets, providing a copy to the Owner's Representative and inspection of items shipped.

1.2 Specifications and Standards

- A. Play equipment installation shall conform to the most current standard:
 - 1. ASTM 1487-Specification for Playground Equipment for Public Use
 - 2. ASTM F1292-Specification for Attenuation of Surface Systems Under and Around Playground Equipment
 - 3. United States Consumer Product Safety Commission Handbook for Public Playground Safety, latest publication
 - 4. American with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities: Play Areas: Final Rule

1.3 Submittals

- A. Provide copy of freight ticket for equipment to Owner/Owner's rep

2.0 MATERIALS

2.1 Play Equipment

- A. All equipment shall be as designated on the plans or approved equal. The Contractor shall not modify equipment.

3.0 EXECUTION

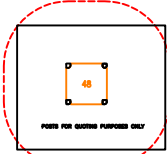
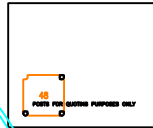
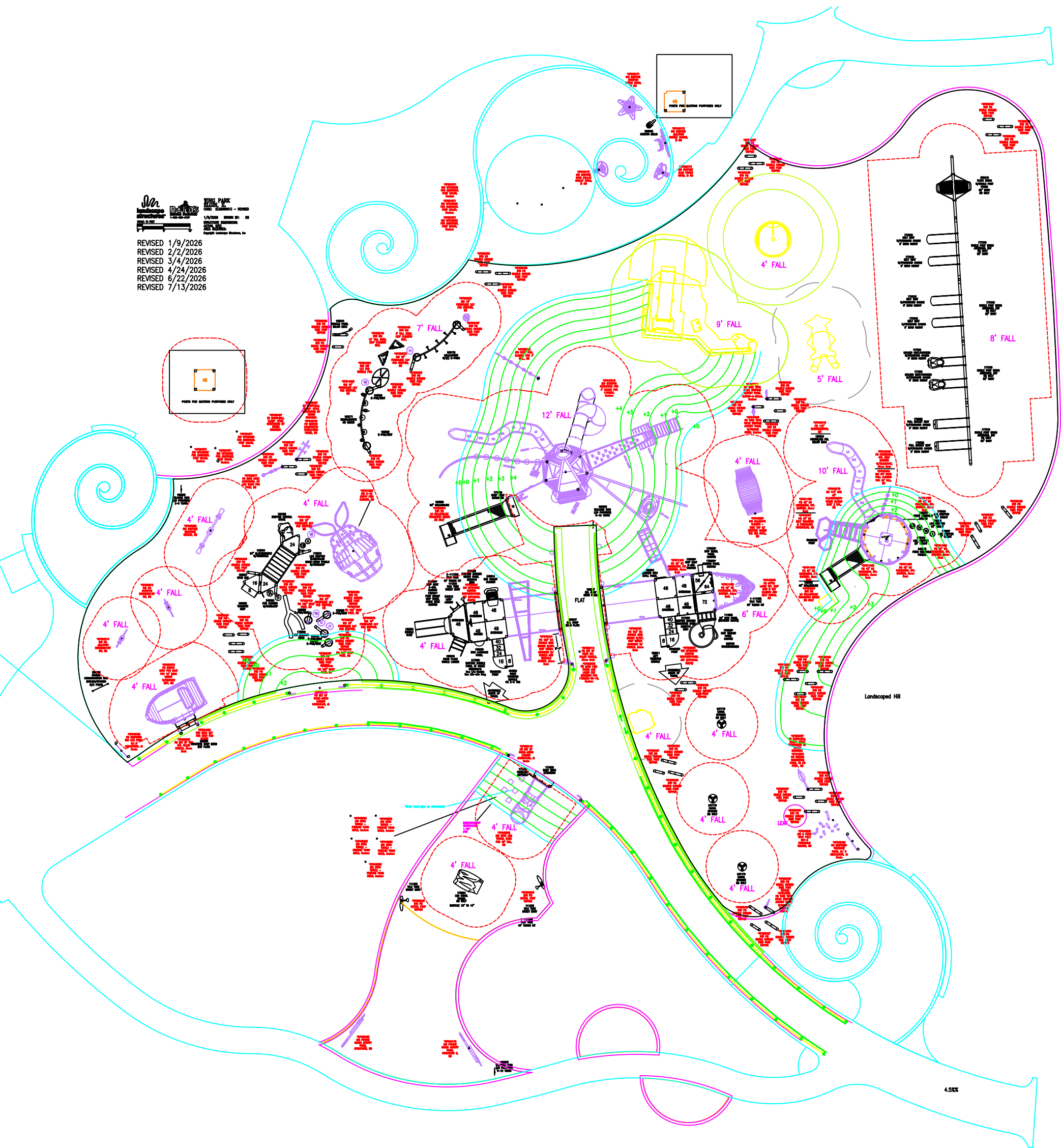
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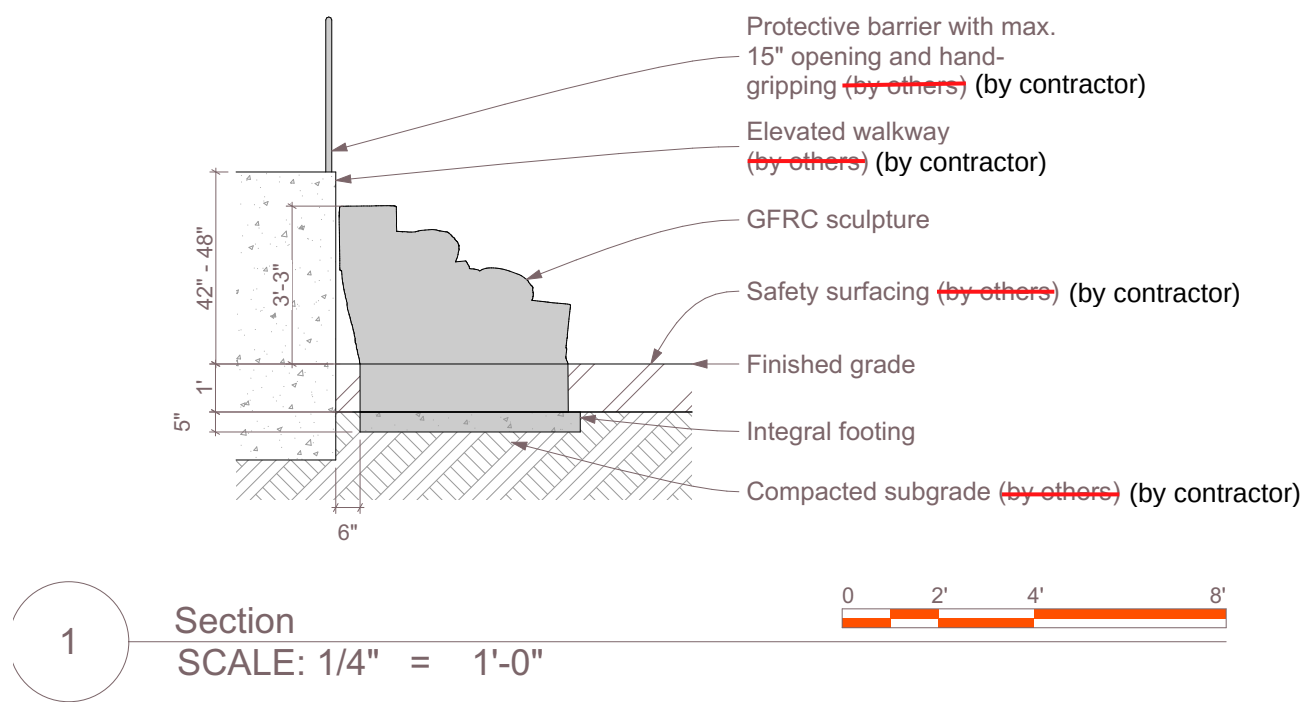
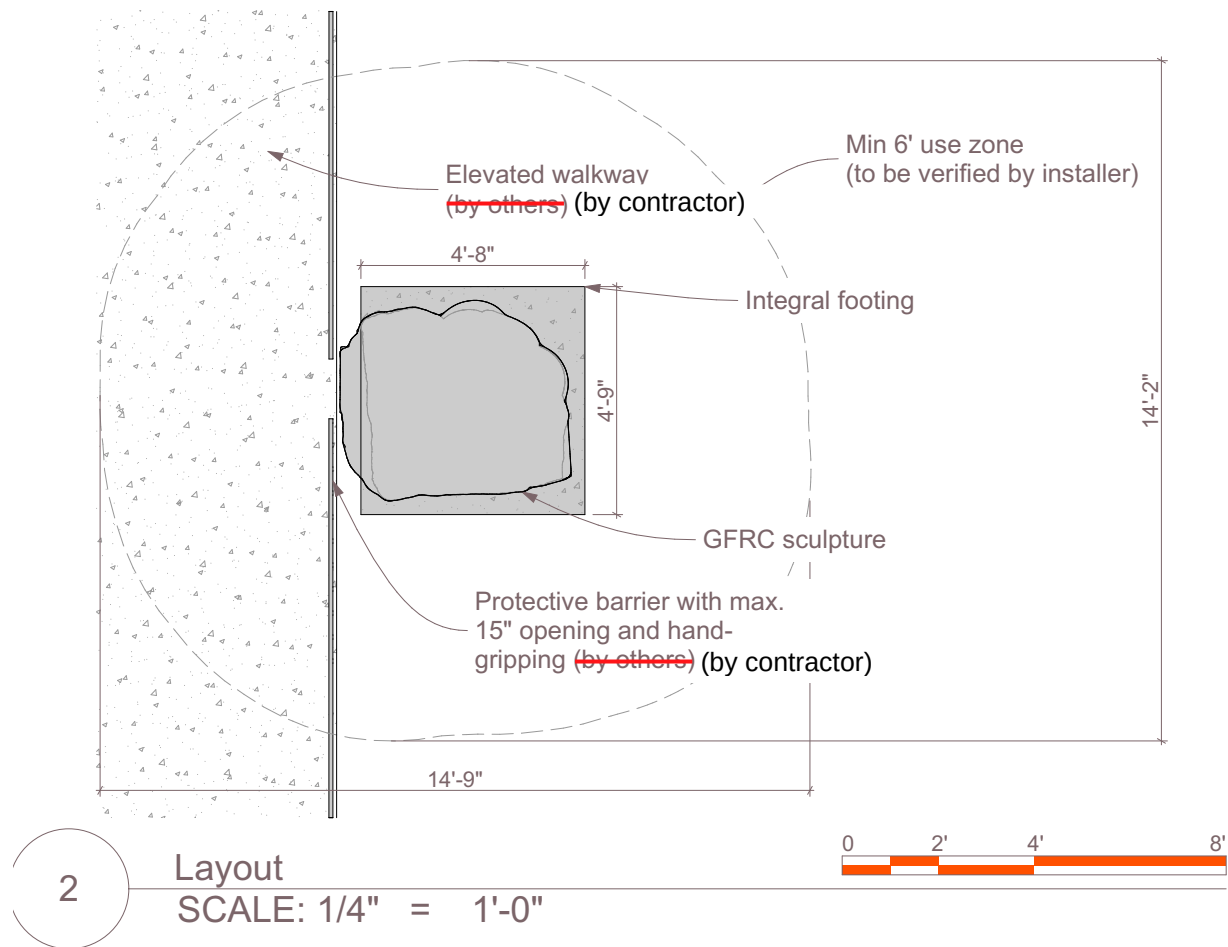
- A. All equipment detailed on the drawings and specified herein shall be installed per manufacturer's specifications and recommendations, unless otherwise described specifically herein, or on the plans.
- B. Contractor shall obtain instructions for proper installation from the specific manufacturer. If any manufacturer does not provide installation specifications after request by the Contractor, the Owner's representative shall be notified before installation occurs.
- C. Contractor shall uncrate, inspect, clean and assemble all playground equipment and site furniture as necessary to install complete and usable items. If there are discrepancies with the items shipped, the Contractor is responsible for coordination of obtaining the correct materials at no cost to the Owner.
- D. Concrete footings shall be installed at all play equipment. Concrete shall conform to concrete specification. Footings shall be dimensioned as per the manufacturer's specification and/or the plans and details, which ever specifies the larger dimensions.
- E. Contractor shall be responsible for trimming all bolts and other similar fastener items to meet specifications noted herein. Contractor shall ensure all tags, staples and stickers are removed from play equipment except for those required by incorporated specifications and standards.

END OF SECTION

City of Elgin

REVISED 1/9/2026
REVISED 2/2/2026
REVISED 3/4/2026
REVISED 4/24/2026
REVISED 6/22/2026
REVISED 7/13/2026





3 Cargo Deck Access



4 Cargo Deck Access

Wing Park

Elgin, IL

Age Group: 5-12

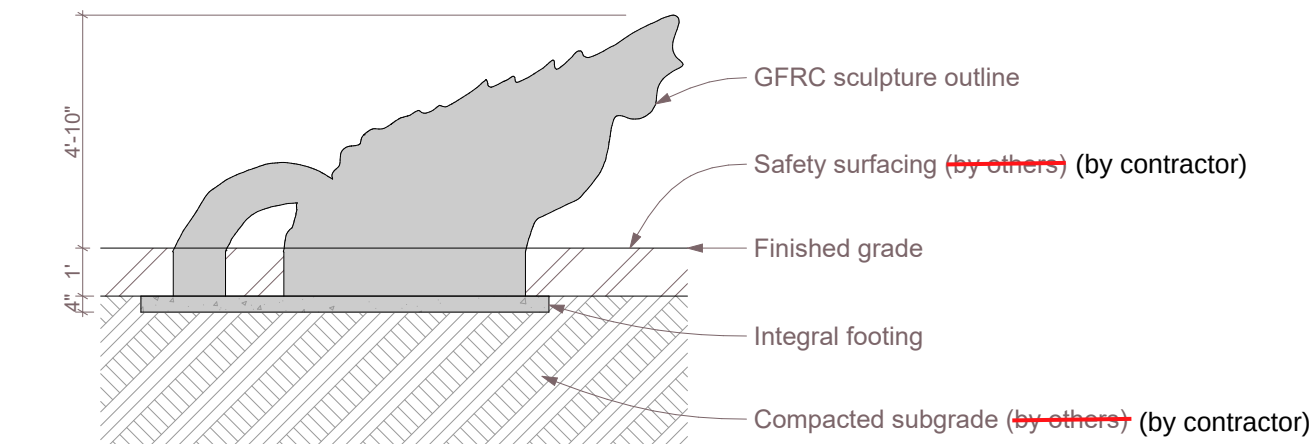
90% CONSTRUCTION DRAWINGS

All IDS projects are designed to meet or exceed ASTM 1487. Not all equipment may be appropriate for all children. Supervision is required. ASTM compliant safety surfacing is required under and around all play equipment. The Americans with Disabilities Act (ADA) may require your play area to be accessible, please consult with an ADA professional to ensure compliance.

Date
5/14/2026

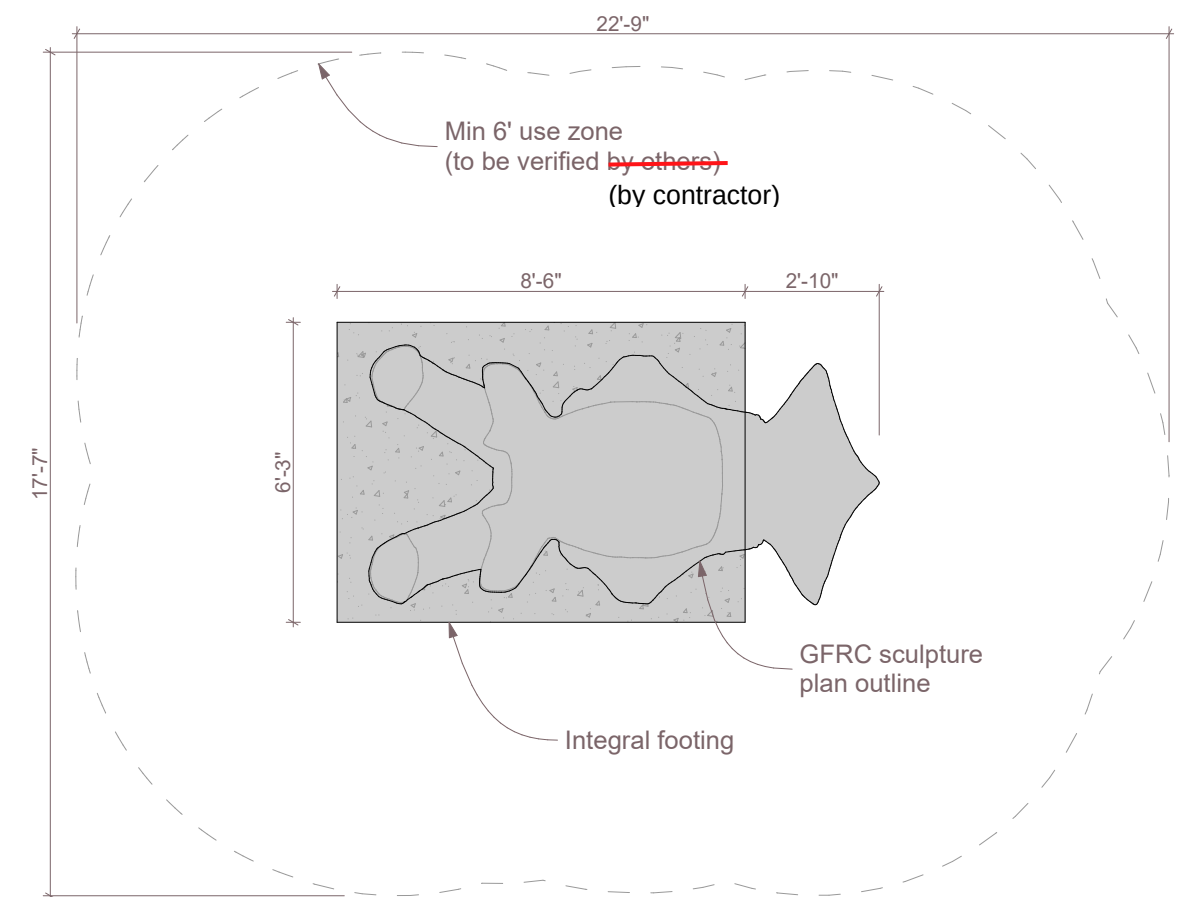
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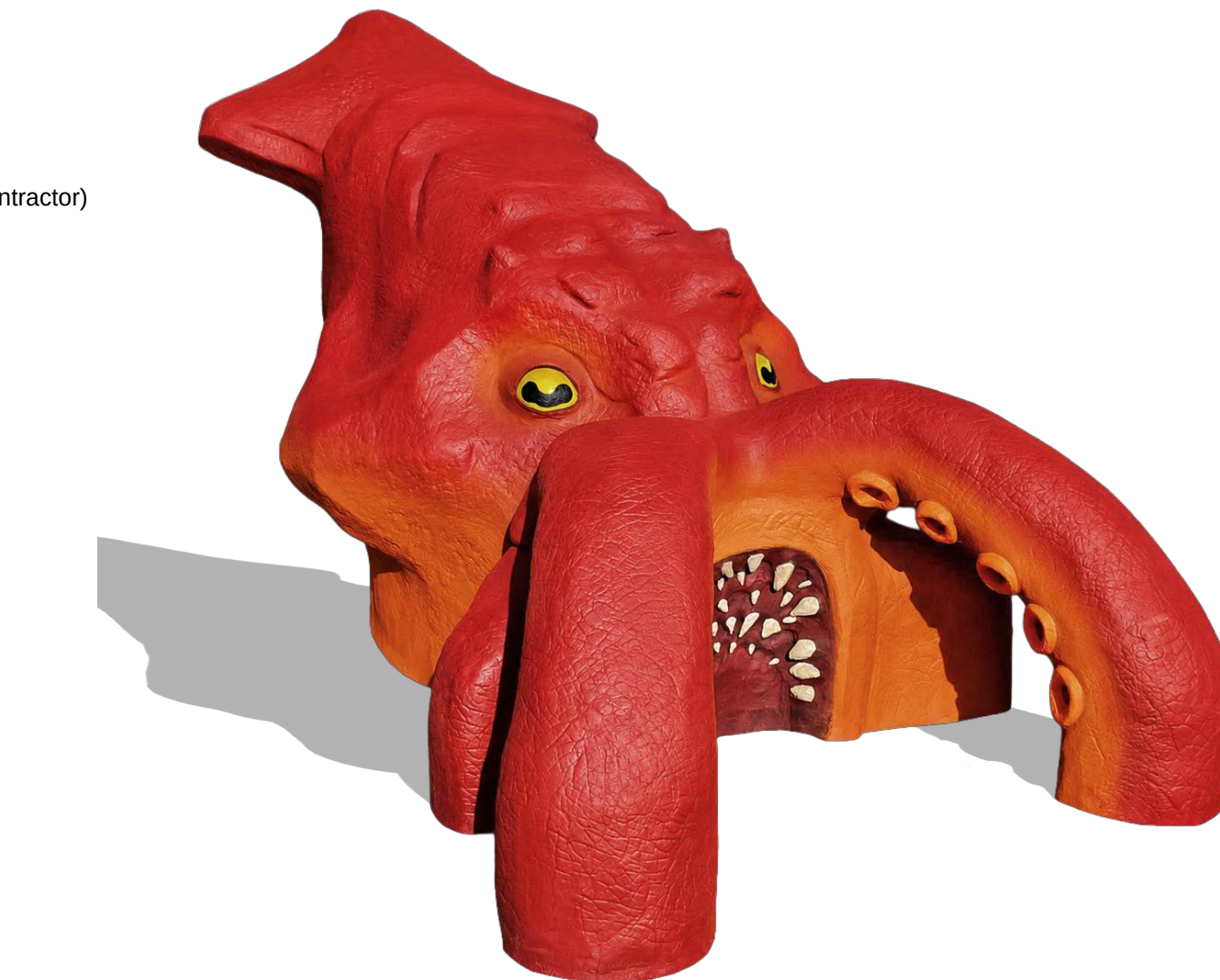
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0 2' 4' 8'



2 Plan
SCALE: 1/4" = 1'-0"

0 2' 4' 8'



3 Kraken_SC071 (PAINT MOD: RED/ORANGE)

Wing Park

Elgin, IL

Age Group: 5-12

90% CONSTRUCTION DRAWINGS

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Date
5/14/2026

Drawing Title
Kraken_SC071

Sheet #
A.02.2

Wing Park

Elgin, IL

Age Group: 5-12

90% CONSTRUCTION DRAWINGS

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Date

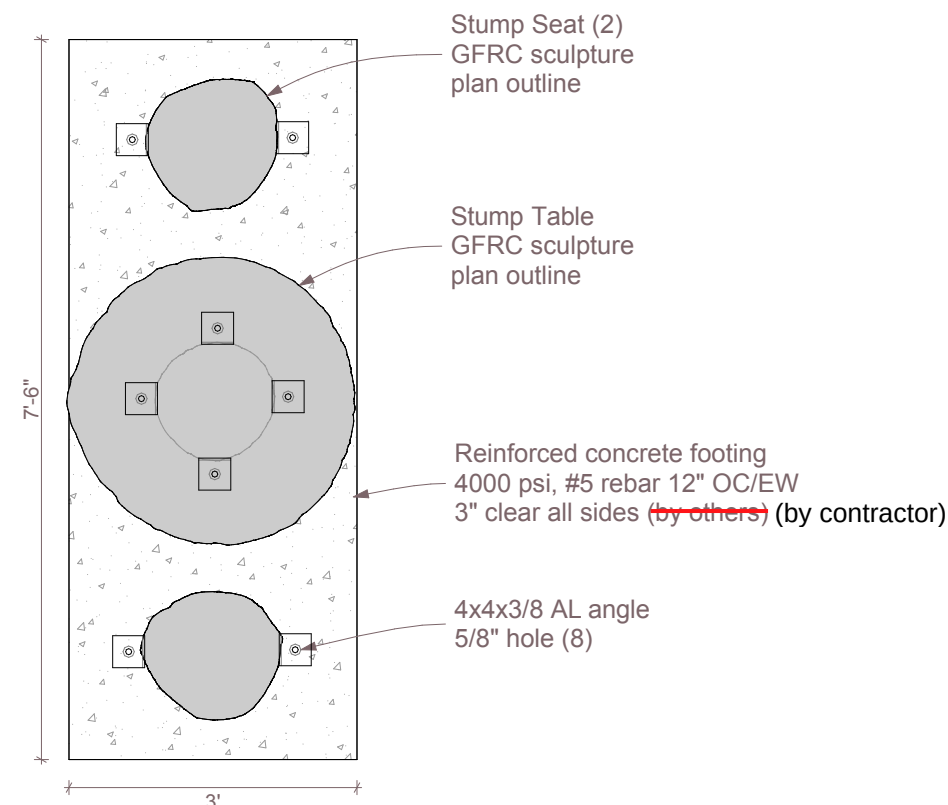
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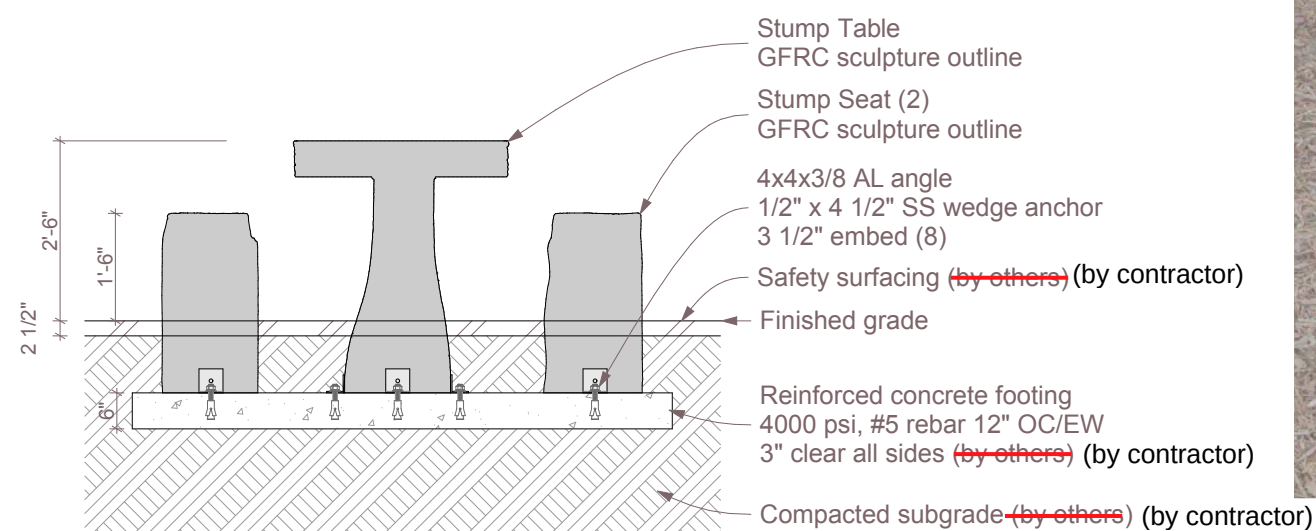
Stump Table and Seats_SF005

Sheet #

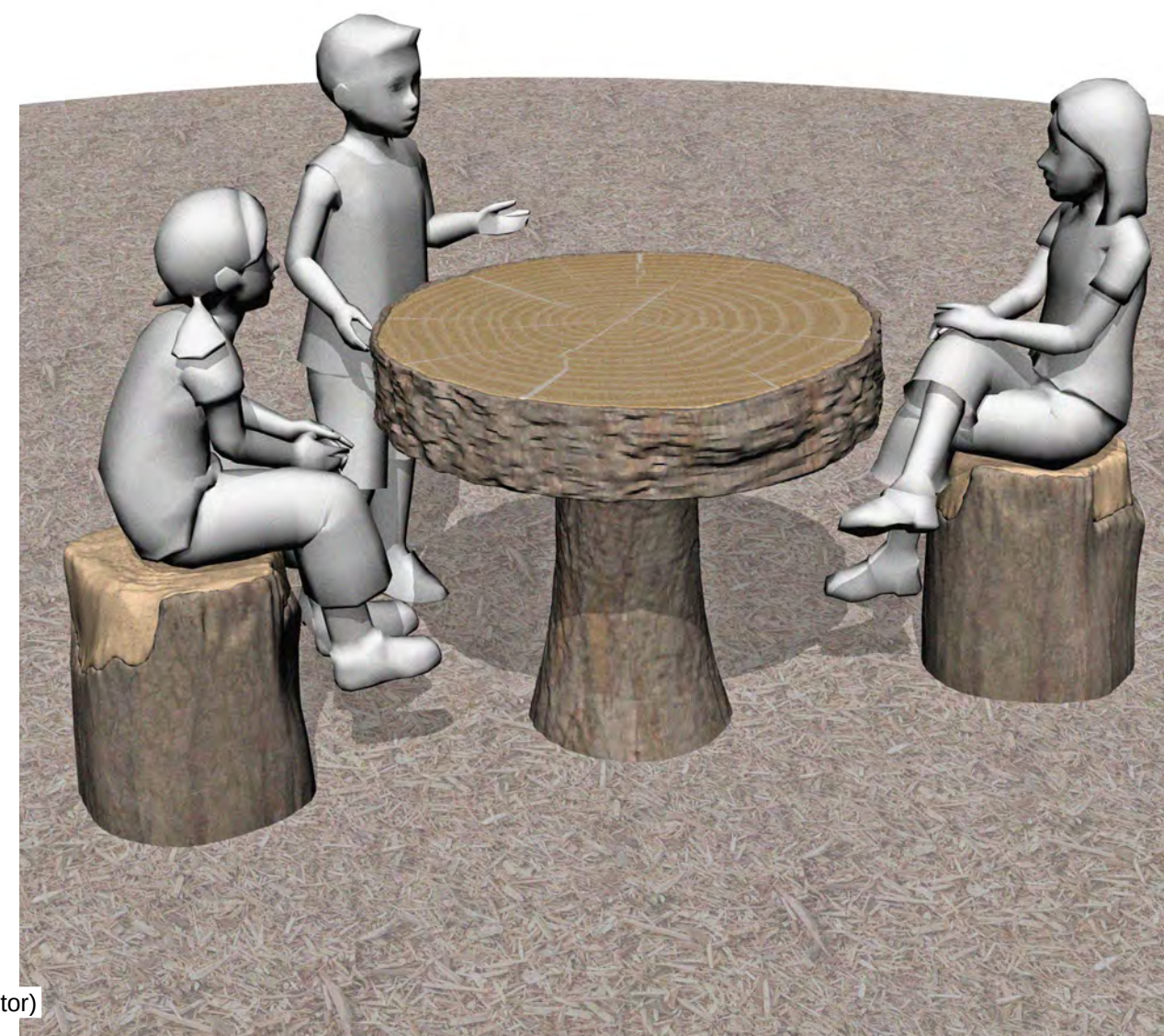
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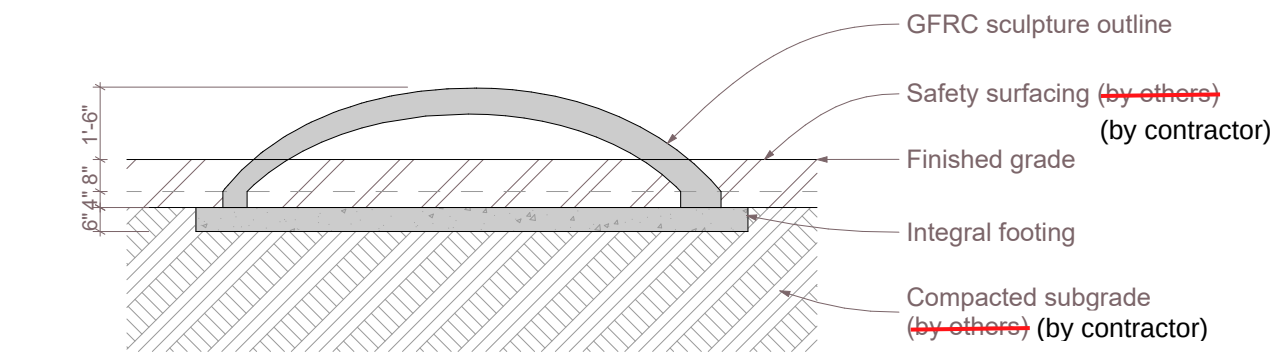
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2 Section
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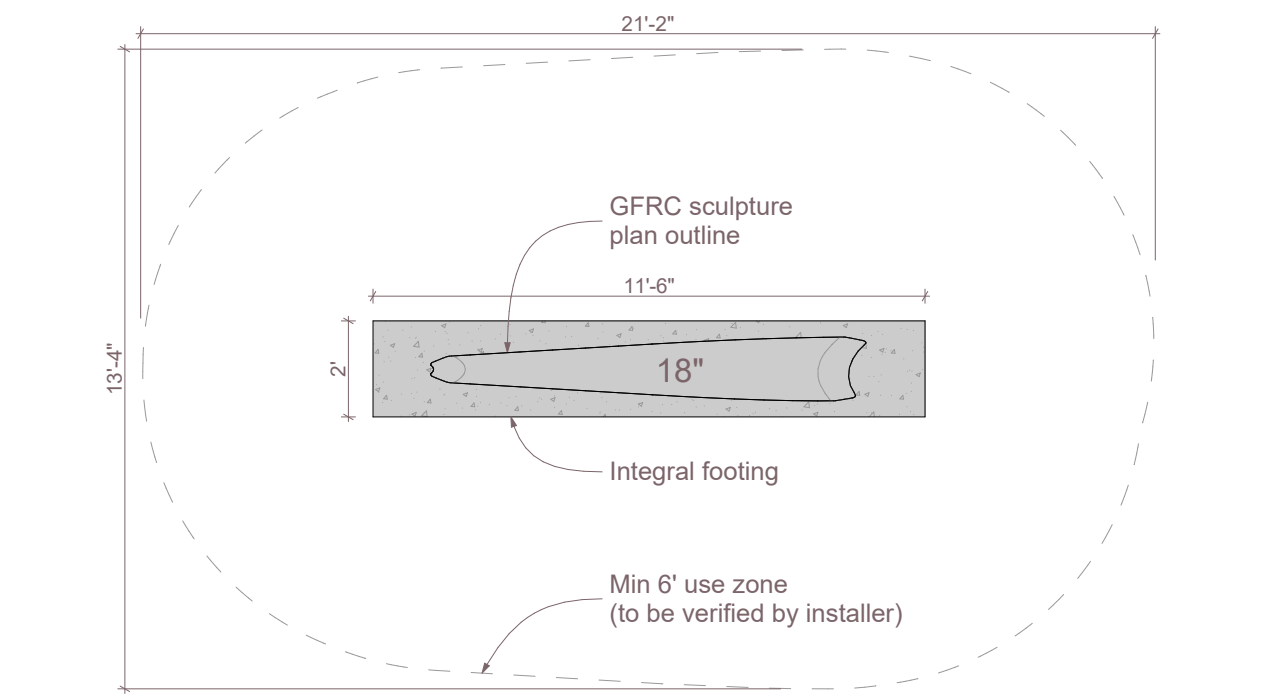


3 Stump Table and Seats_SF005



Note:
When determining critical fall height,
please allow for +/- 2" tolerance in concrete
surface

1 Section
SCALE: 1/4" = 1'-0"



2 Plan
SCALE: 1/4" = 1'-0"



3 Grass Blade Beam_SC020

Wing Park
Elgin, IL

Age Group: 5-12

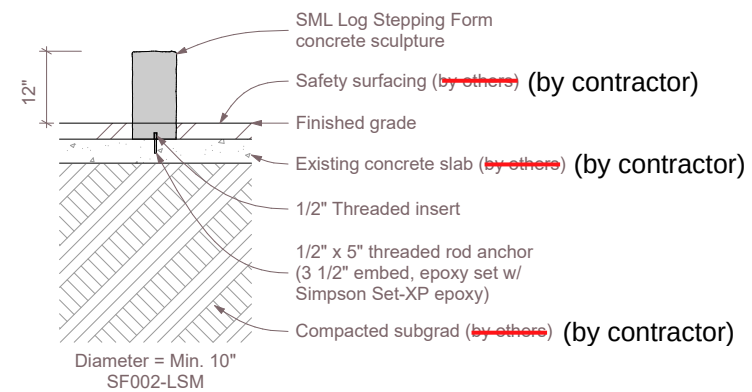
90% CONSTRUCTION DRAWINGS

All IDS projects are designed to meet or exceed ASTM 1487. Not all equipment may be appropriate for all children. Supervision is required. ASTM compliant safety surfacing is required under and around all play equipment. The Americans with Disabilities Act (ADA) may require your play area to be accesible, please consult with an ADA professional to ensure compliance.

Date
5/14/2026

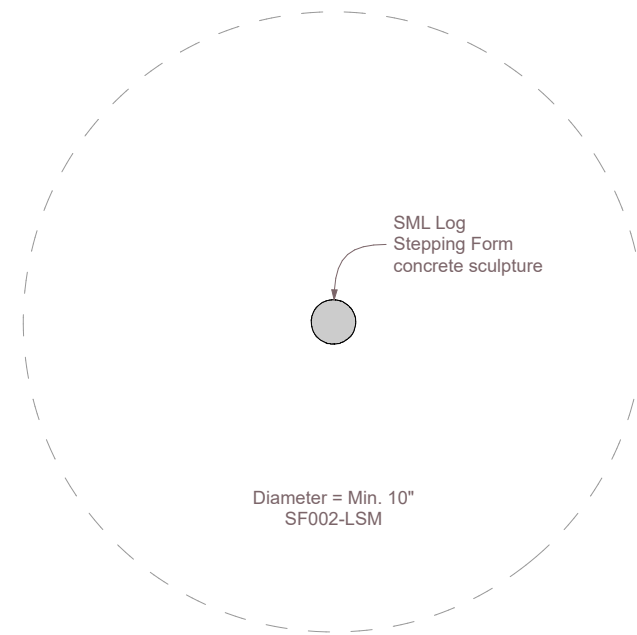
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Sheet #
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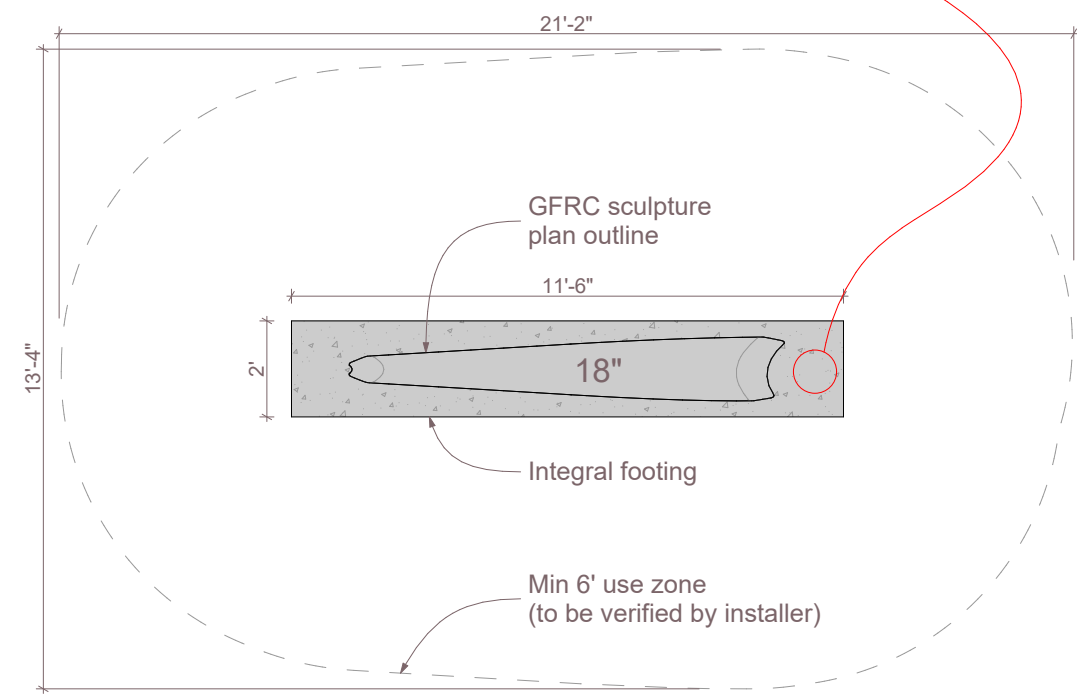
Plan
SCALE: 1/4" = 1'-0"



3

Stepping Form_SML

Note: Stepper to be surface mounted to integral footing of Grass Blade Beam (SC020)



2

Plan
SCALE: 1/4" = 1'-0"



Wing Park
Elgin, IL

Age Group: 5-12

90% CONSTRUCTION DRAWINGS

All IDS projects are designed to meet or exceed ASTM 1487. Not all equipment may be appropriate for all children. Supervision is required. ASTM compliant safety surfacing is required under and around all play equipment. The Americans with Disabilities Act (ADA) may require your play area to be accessible, please consult with an ADA professional to ensure compliance.

Date
5/14/2026

Drawing Title
**Log Stepping Form (S)
(SF002-LSM)**

Sheet #
A.02.5



1

Perspective - Grotto with Slide and Stone Arch

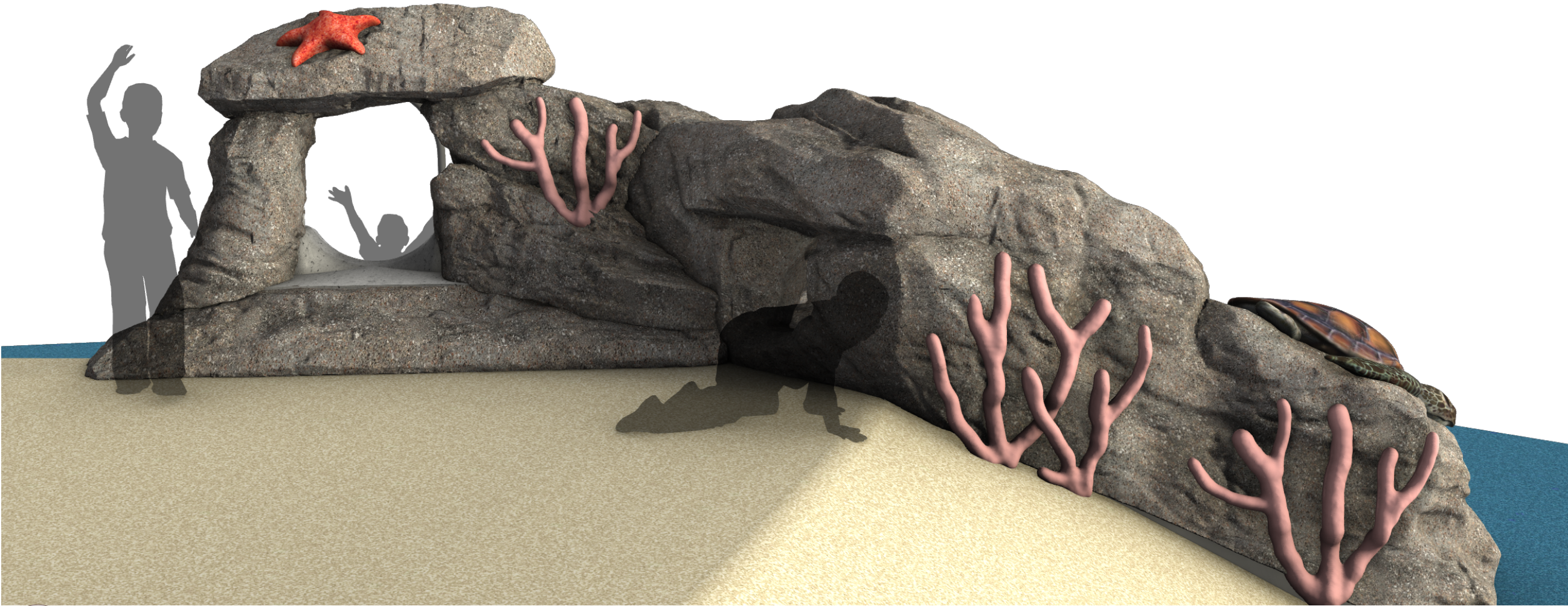
Wing Park
Elgin, IL

Age Group: 5-12

90% CONSTRUCTION DRAWINGS

All IDS projects are designed to meet or exceed ASTM 1487. Not all equipment may be appropriate for all children. Supervision is required. ASTM compliant safety surfacing is required under and around all play equipment. The Americans with Disabilities Act (ADA) may require your play area to be accesible, please consult with an ADA professional to ensure compliance.

Date	5/12/2026
Drawing Title	Perspective
Sheet #	A.01.1



2

Perspective - Grotto with Slide and Stone Arch

Wing Park

Elgin, IL

Age Group: 5-12

90% CONSTRUCTION DRAWINGS

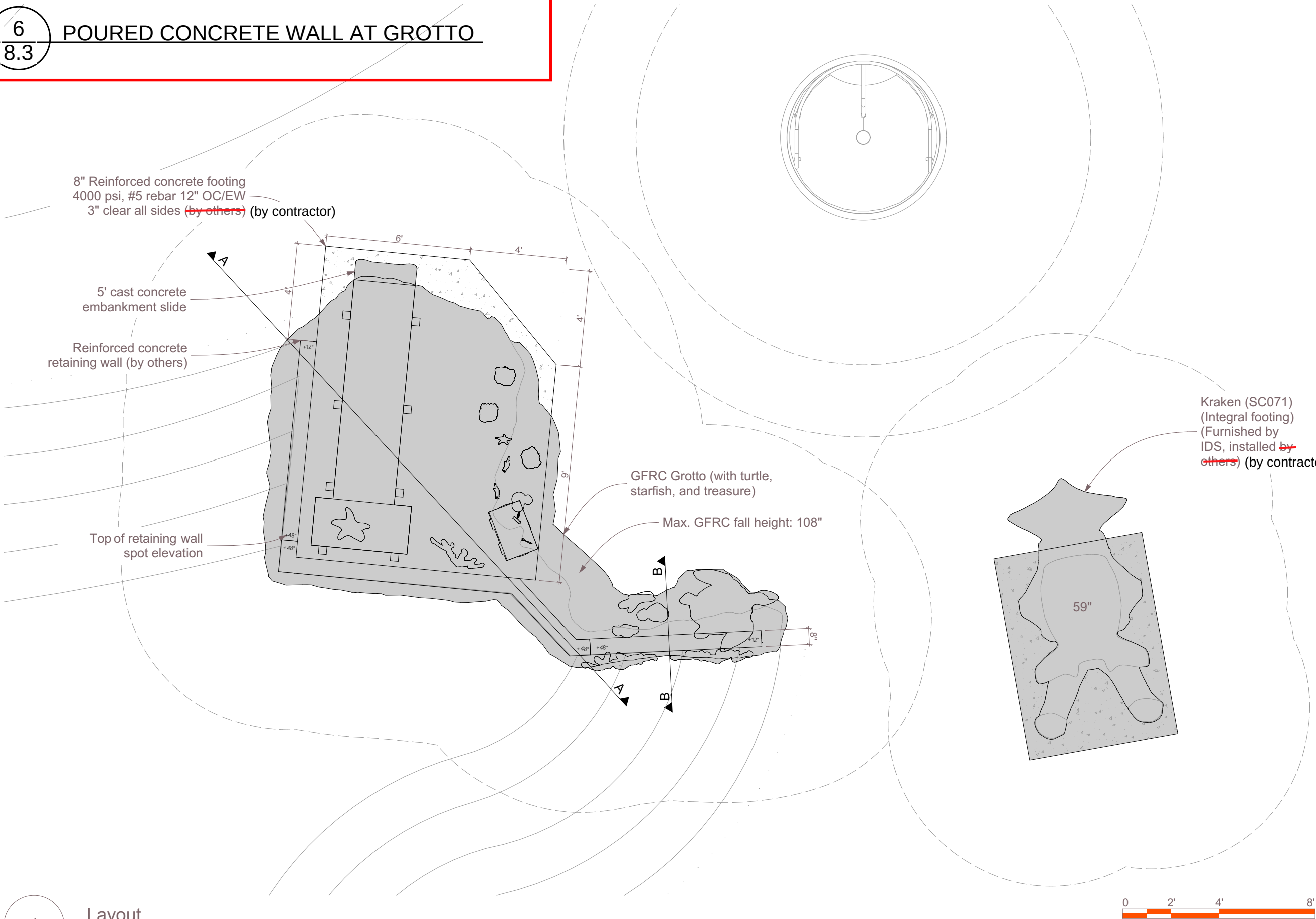
All IDS projects are designed to meet or exceed ASTM 1487. Not all equipment may be appropriate for all children. Supervision is required. ASTM compliant safety surfacing is required under and around all play equipment. The Americans with Disabilities Act (ADA) may require your play area to be accesible, please consult with an ADA professional to ensure compliance.

Date	5/12/2026
Drawing Title	Perspective
Sheet #	A.01.2

SEE DETAIL

6
8.3

POURED CONCRETE WALL AT GROTTO



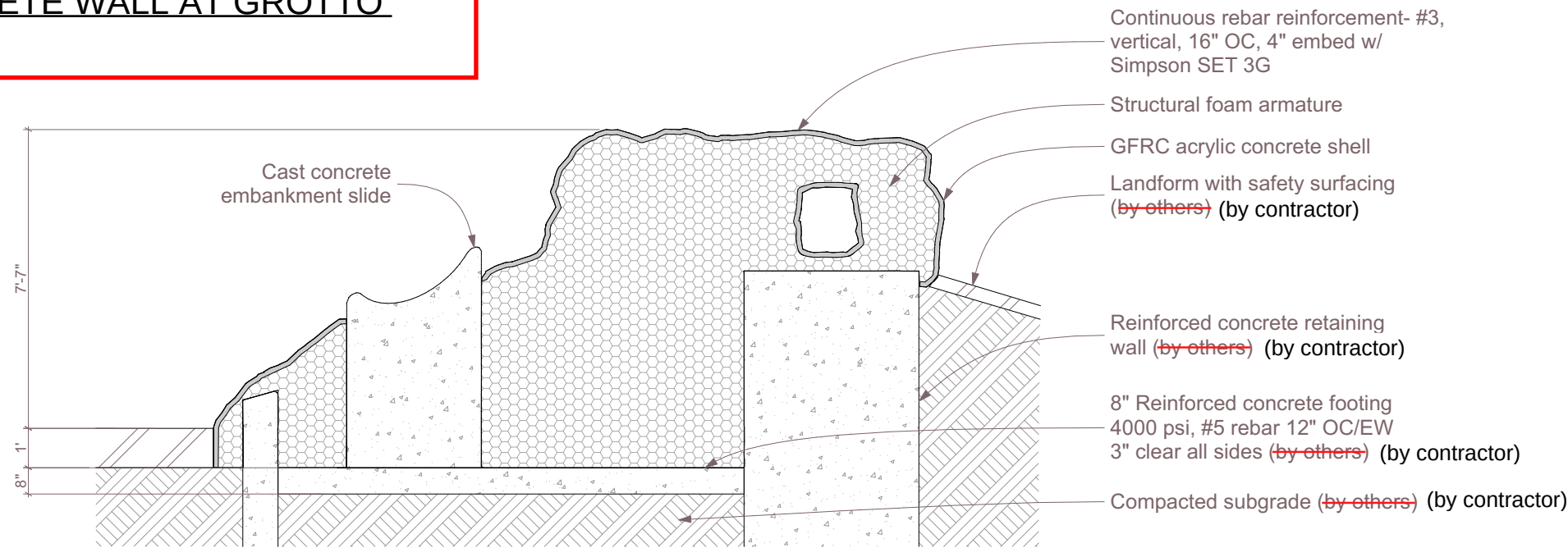
All IDS projects are designed to meet or exceed ASTM 1487. Not all equipment may be appropriate for all children. Supervision is required. ASTM compliant safety surfacing is required under and around all play equipment. The Americans with Disabilities Act (ADA) may require your play area to be accesible, please consult with an ADA professional to ensure compliance.

Date	5/12/2026
Drawing Title	Layout
Sheet #	A.01.3

SEE DETAIL

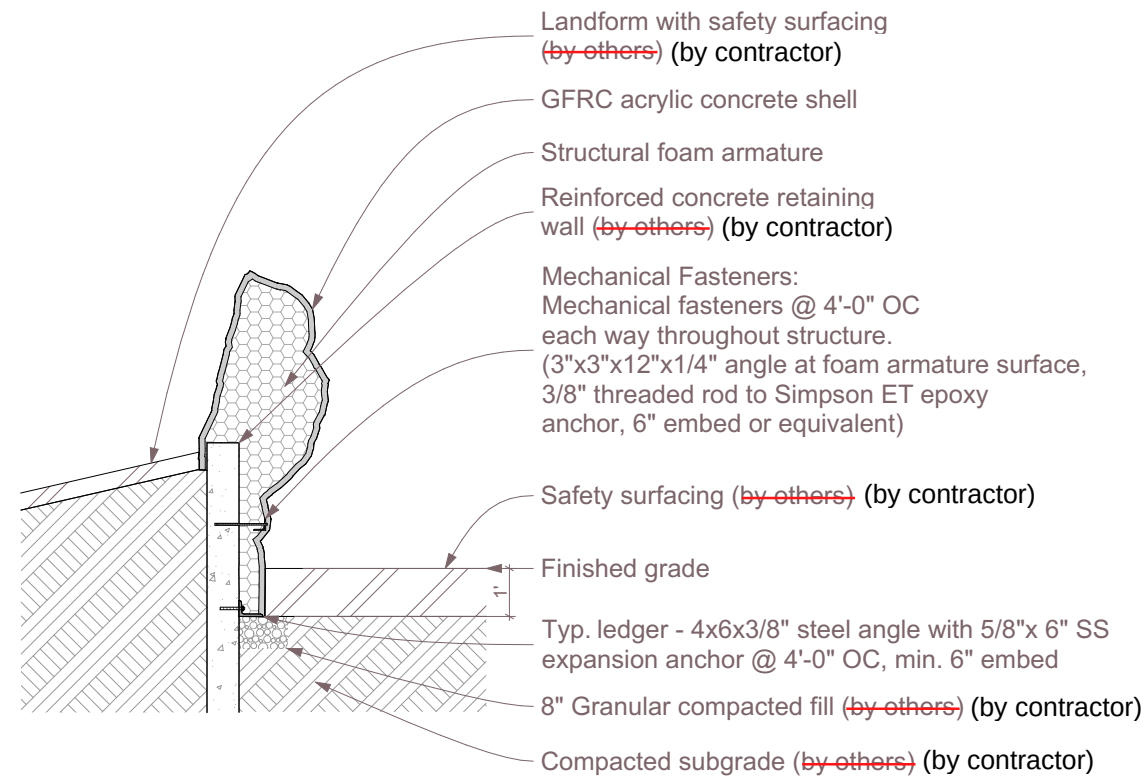
6
8.3

POURED CONCRETE WALL AT GROTTO



1

Section A-A
SCALE: 1/4" = 1'-0"



2

Section B-B
SCALE: 1/4" = 1'-0"

Wing Park

Elgin, IL

Age Group: 5-12

90% CONSTRUCTION DRAWINGS

All IDS projects are designed to meet or exceed ASTM 1487. Not all equipment may be appropriate for all children. Supervision is required. ASTM compliant safety surfacing is required under and around all play equipment. The Americans with Disabilities Act (ADA) may require your play area to be accesible, please consult with an ADA professional to ensure compliance.

Date	5/12/2026
Drawing Title	Sections
Sheet #	A.01.4

Accessible Whirl



Features

Put kids of all abilities on the same level to enjoy the dizzying action.

This modified traditional whirl provides a more accessible motion activity for kids of all ages and ability levels. Built flush with the ground, it allows up to two people with wheelchairs to board quickly and easily without having to transfer from their seat. The surface-level design and bright yellow contrast band around the edge also aids those with visual disabilities in safely boarding. A small seat offers extra physical support for kids or caregivers who prefer to sit, while sloping handrails enable users of different heights to hold on tight. With room for up to nine people in total, this spinner brings everyone together to experience a thrilling centripetal sensation.

Materials:

Hand Rail – 1.66 Dia. 14 gauge powder coated steel

Decking – 14 gauge perf steel coated

Seat – 3/4" slip resistant HDPE

Description	Item Number	Ages	Space Required	Size	Fall Height	Play Events	Child Capacity	Install Hours	Weight
Accessible Whirl	ZZXX1158	2-12	24' 8" Diameter (7,5m Diameter)	6' 8" x 2' 8" 2,0m x 0,8m	ASTM (15") CSA (31.9")	1	9	10	617 lbs (280 kg)
Accessible Whirl - surface mount	ZZXX1158S	2-12	24' 8" Diameter (7,5m Diameter)	6' 8" x 2' 8" 2,0m x 0,8m	ASTM (15") CSA (31.9")	1	9	10	617 lbs (280 kg)

*CSA and EN compliant versions available. See your Playworld representative for more information.

Substructure

The subbase must be even and stable against frost.

Installation

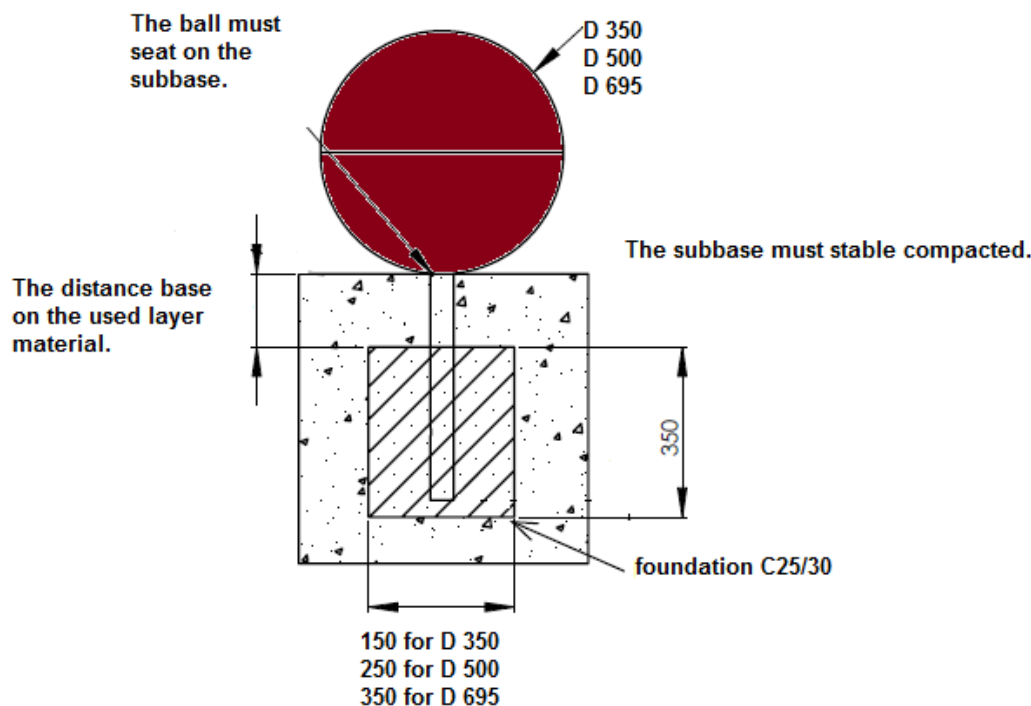
Install the EUROFLEX® ball using an optional steel mounting anchor into a prepared fresh concrete bed situated over a stable bearing substructure.

The EUROFLEX® half ball may be installed directly in a fresh concrete bed or glued to a rubber surface such as EUROFLEX® slabs.

Attach the steel anchor to the ball using polyurethane glue Ottocoll M 500 (red) or Ottocoll P83 (grey), with 1 cartridge for every 3 half balls.

Attention: Ensure the ball is placed on a stable subbase.

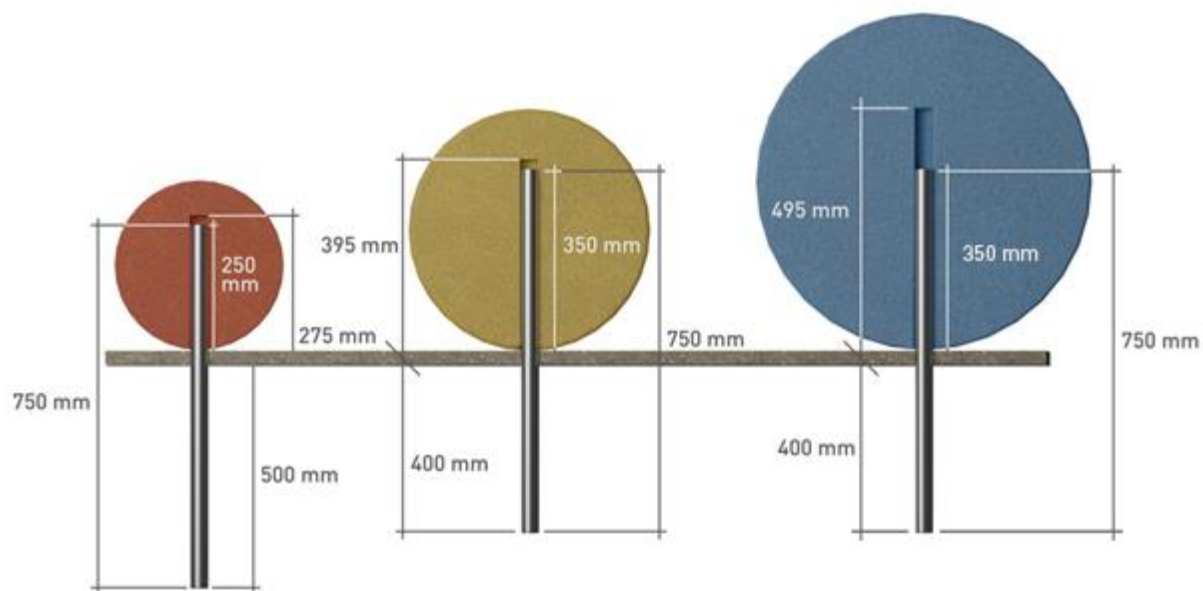
A concrete bed equal in diameter to the ball is recommended.



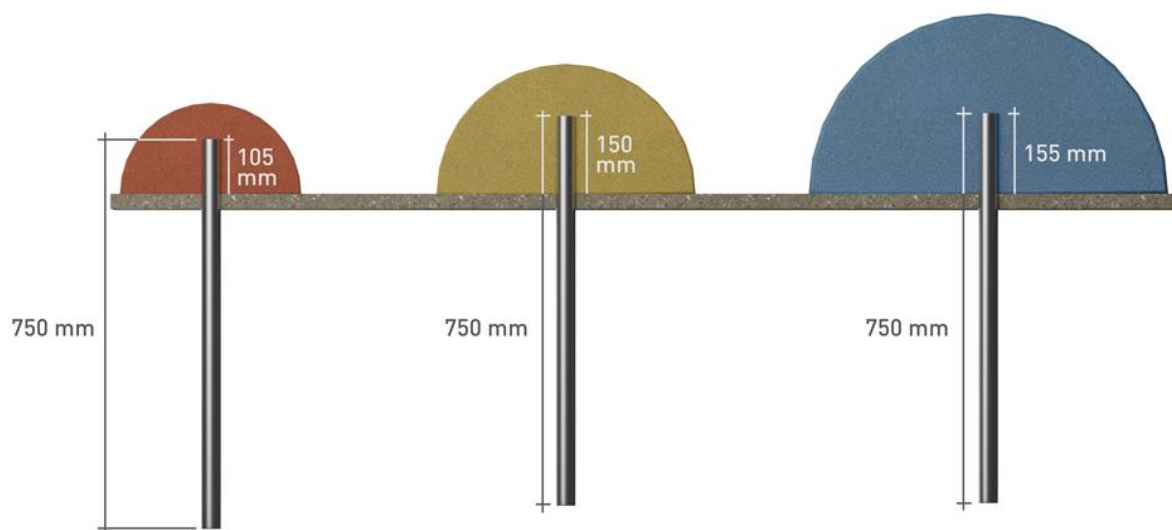
Ball and half ball

Nr. 9354- R - 11
Edition: August 2025

Installation ball:



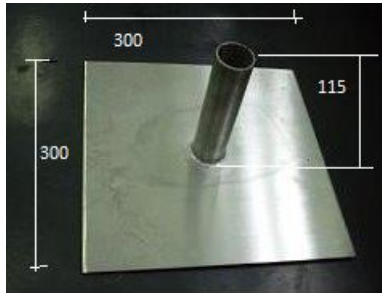
Installation half ball



Outside – diameter metal pipe approx 42mm Inside – diameter pipe approx 38mm

All information without guarantee, subject to change. The installation instruction is not subject to any change service. Each current and valid from can be recalled at www.kraiburg-relastec.com/euroflex/

page 2 of 3

Steel plate:**Ground anchor steel pipe**

Diameter of the metal pipe: approximately 40 mm.

The pipe must be securely bonded to the ball or half-ball, using one cartridge for every three half-balls or balls.

Half-balls may be installed directly into a fresh concrete bed or glued to Euroflex slabs.

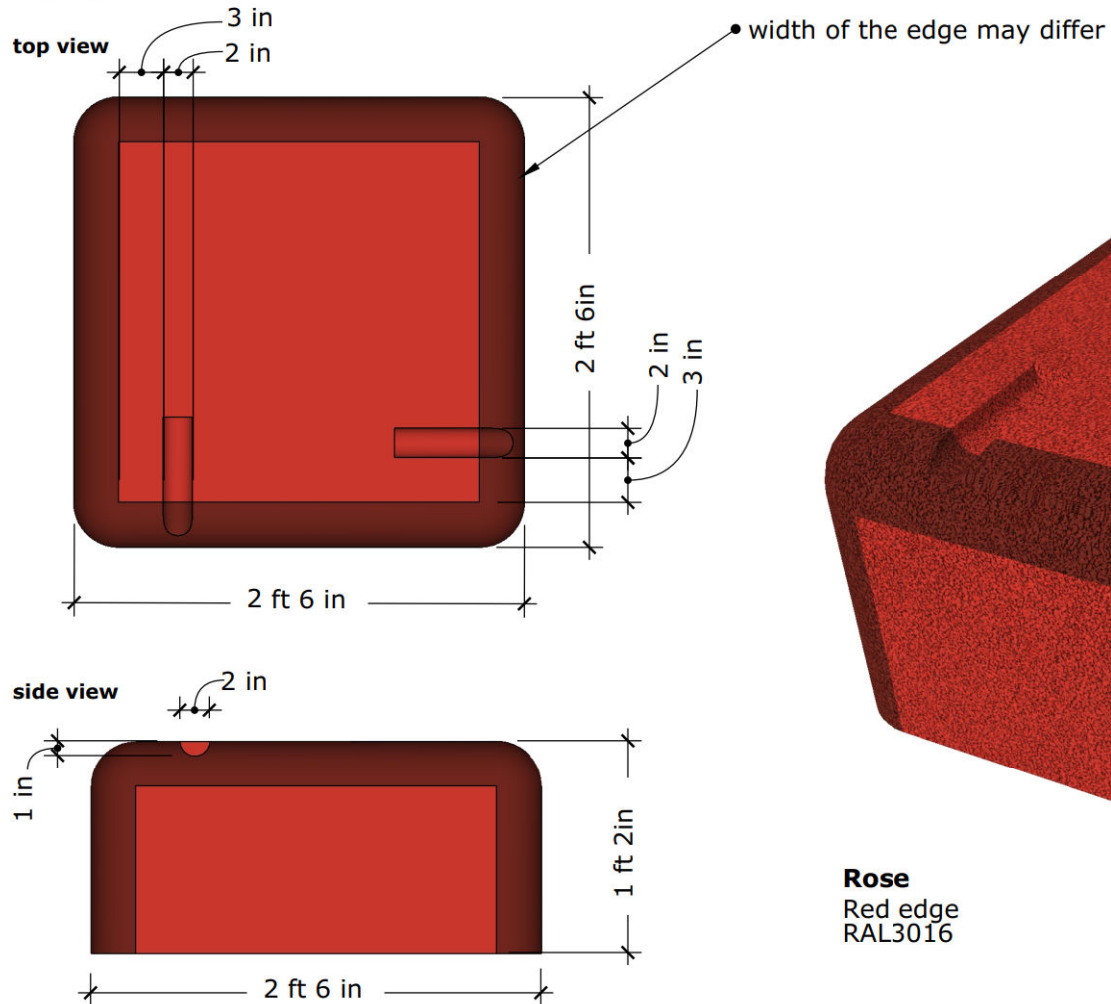
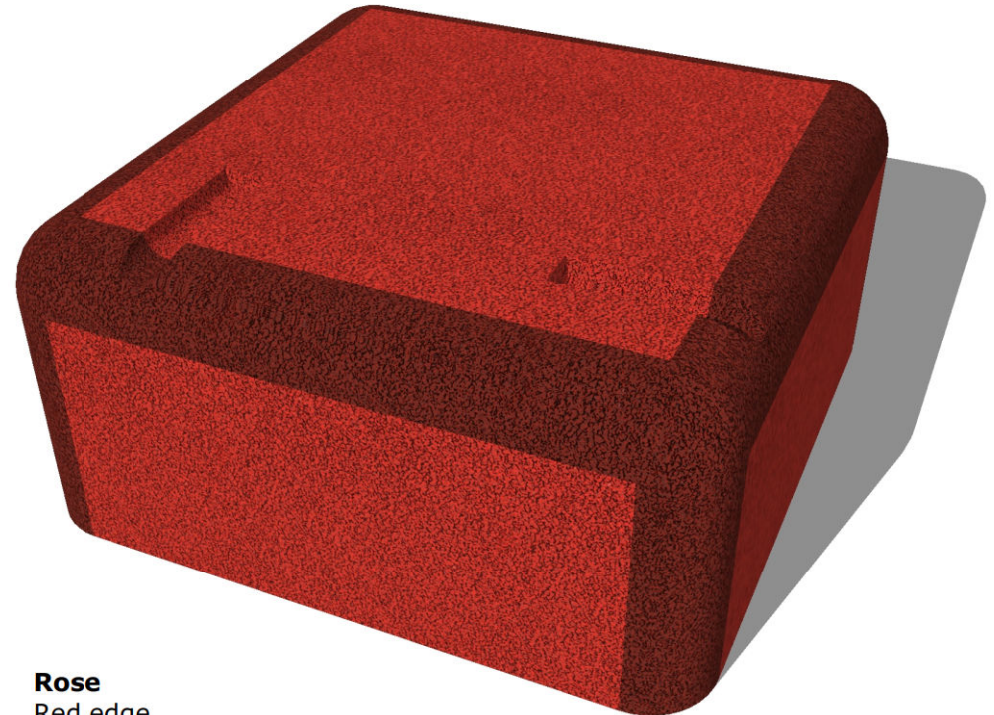


To prevent color variations caused by differences in sunlight exposure, keep the UV protection film on the products in their original packaging until just prior to installation.



model / project: **Molded Transfer Platform**

See Amenities Chart for colors



Rose
Red edge
RAL3016

SUR18390-547
MFH: 1'-2"

Note:
EPDM Transfer Platform can only be installed on
Unitary Surfacing

SECTION 12 9300
SITE FURNITURE – Contractor purchase site furniture

1.0 GENERAL

1.1 Description

Note – The Contractor **SHALL BE** responsible for the purchase of all site furniture as described on the plans.

- A. This work shall consist of all labor, equipment and materials necessary for complete installation of all specified site furniture. Site furniture that is specified in and around play areas shall also conform to SECTION 11 6813, Playground Equipment.
- B. As part of this work, the Contractor shall coordinate with Owner for delivery, and storage of site furniture. Contract bid includes the coordination and labor necessary to install site furniture completely. This shall also include checking freight ticket, providing a copy to the Owner's representative, and inspection of items shipped. Contractor to provide secure storage of equipment prior to installation. In the event of damaged or missing parts, the Contractor shall immediately notify the distributor/vendor and the Owner.

1.2 Submittals

- A. Provide copy of freight ticket to Owner/owner's representative

2.0 MATERIALS

2.1 Site Furniture

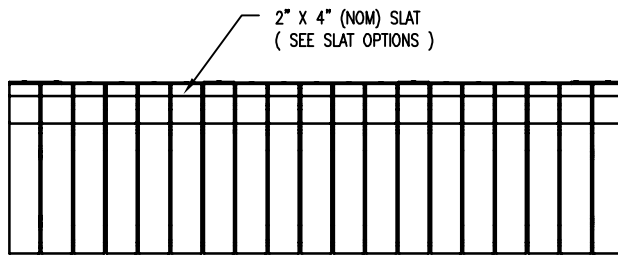
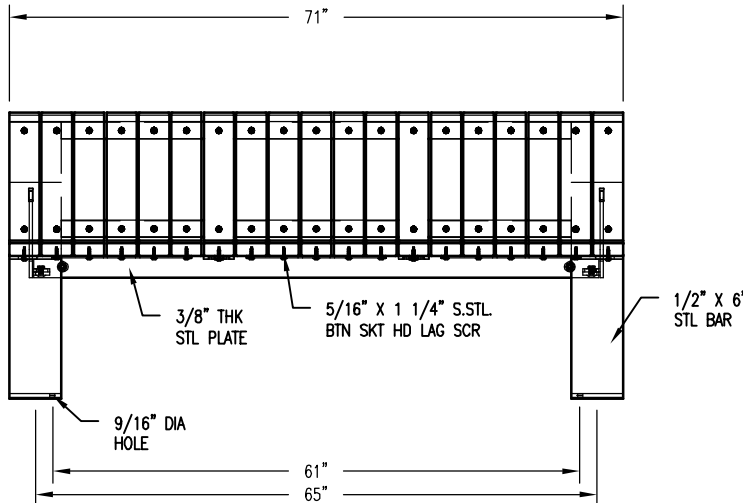
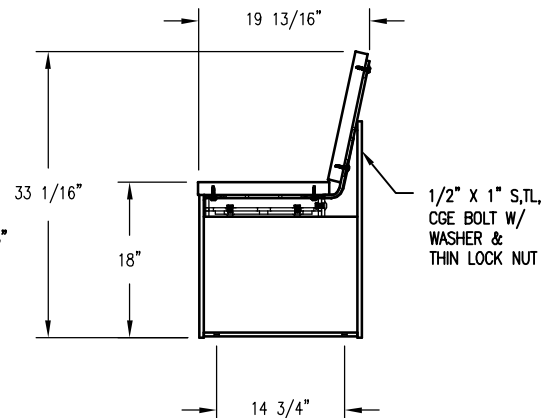
- A. All site furniture shall be as designated on the plans or approved equals as per the Specifications. The Contractor shall not modify site furniture.

3.0 EXECUTION

3.1 Installation

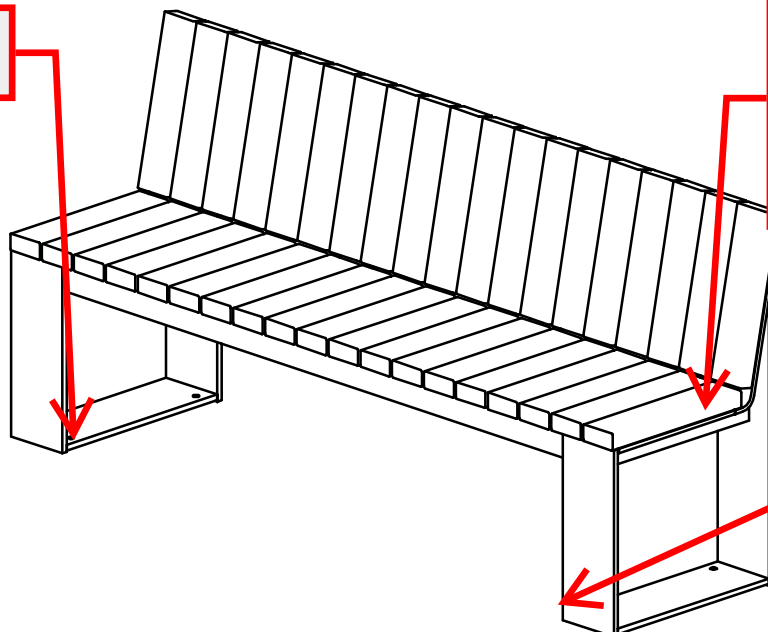
- A. All site furniture shall be installed as per manufacturer's specifications and recommendations and shall follow all plans and details. Wherever the details and manufacturer's specifications do not agree on footing size, the larger footing shall prevail. Wherever the details and manufacturer's specifications do not agree on any other item, the Owner shall be notified and a decision rendered.
- B. Contractor shall be responsible for trimming all bolts and other similar fastener items to within one-quarter inch (1/4") of the nuts/fasteners. All fasteners shall be secured in a manner that will prevent removal: such as peening, tack welding, or tamper proof fasteners.

END OF SECTION



**Surface
Mount**

**Rounded
armrests on
each end.
Powdercoat
to match
legs.**



**Powdercoat
black or
bronze legs
per site
amenities
schedule.**

SLAT OPTIONS

WOOD
RECYCLED PLASTIC
WOOD GRAIN RECYCLED PLASTIC

Antique Mahogany

NOTES:

- 1.) ALL STL. MEMBERS COATED W/ ZINC RICH EPOXY THEN FINISHED W/ POLYESTER POWDER COATING.
- 2.) 1/2" X 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED.

NOTES:

- 1.) DURING ASSEMBLY PROCEDURE;
DO NOT COMPLETELY TIGHTEN HARDWARE.
- 2.) THE ACTUAL PARTS WILL NOT BE NUMBERED.
NUMBERS ONLY APPLY TO DRAWING.
- 3.) UPON COMPLETION OF ASSEMBLY SQUARE
ALL COMPONENTS THEN TIGHTEN ALL HARDWARE.
- 4.) MOUNT AND ANCHOR AS SPECIFIED.

TOOLS REQ'D

3/4" WRENCH
5/16" ALLEN WRENCH
1/2" MASONRY DRILL BIT
DRILL

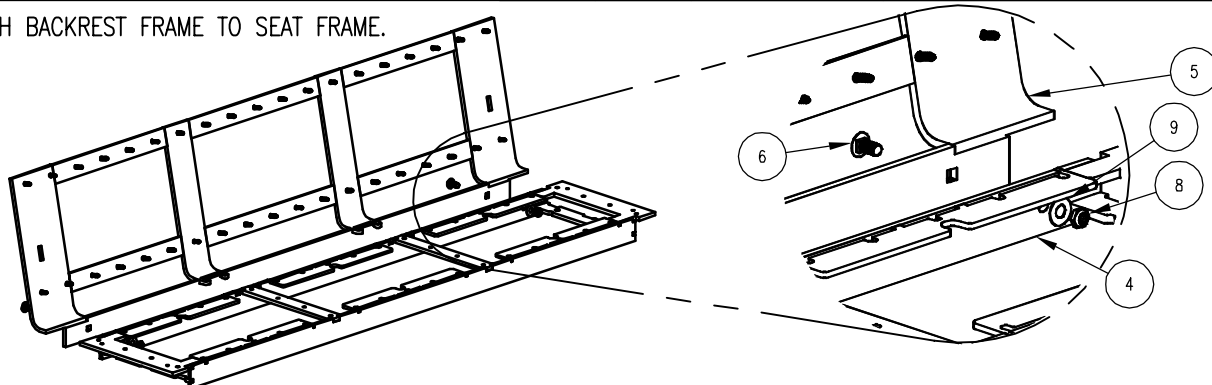
PARTS LIST FOR S-2

ITEM	QTY	PART NO	DESCRIPTION
1	1	0-520-00-01L	STL END SUPPORT, LEFT
2	1	0-520-00-01R	STL END SUPPORT, RIGHT
3	38	0-520-00-04	2" X 4" X 15 1/8" VERT RAD SLAT
4	1	0-520-60-02	6' STL SEAT FRAME
5	1	0-520-60-03	6' STL VERT BACKREST SEAT FRAME
6	6	1-11-068	1/2" X 1" SS CGE BOLT
7	76	1-13-023	5/16" X 1 1/4" SS BTN SKT HD LAG
8	6	1-20-018	1/2" SS THIN NYLON LOCKNUT
9	6	1-22-015	1/2" SS FLAT WASHER
10	76	1-22-017	5/16" SS FLAT WASHER

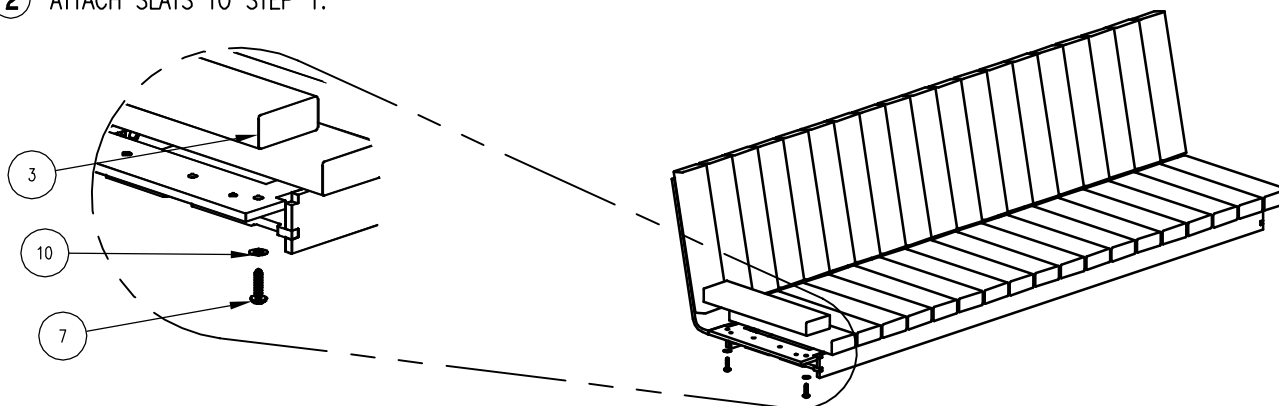
KITS PROVIDED FOR S-2

ITEM	QTY	PART NO	DESCRIPTION
11	1	K-ANC0860-4	1/2" X 3 3/4" SS ANCHOR KIT (4PC)
12	2	K-BL0524-40	5/16" LAG HARDWARE KIT (40PC)
13	2	K-CG0816-4TL	1/2" CGE BOLT HARDWARE KIT (4PC)

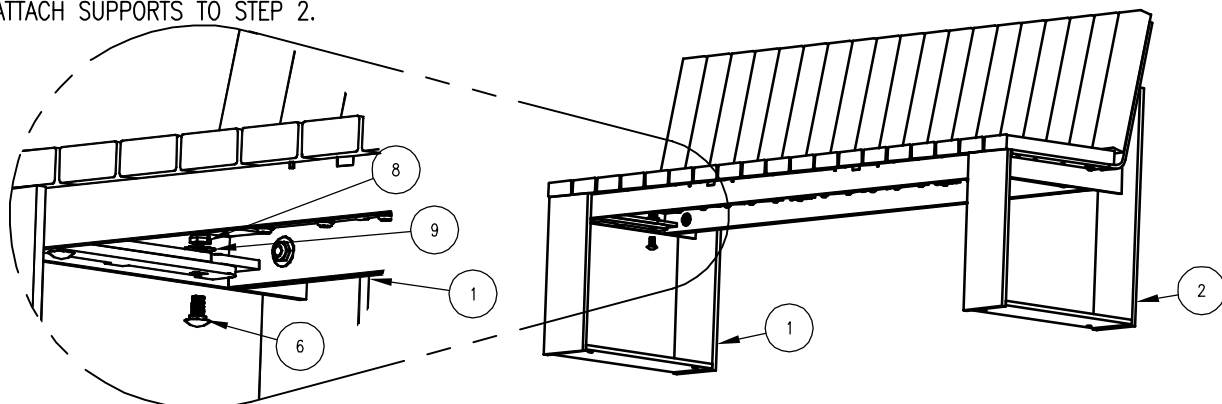
1 ATTACH BACKREST FRAME TO SEAT FRAME.

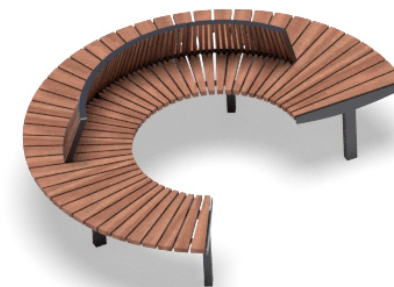


2 ATTACH SLATS TO STEP 1.

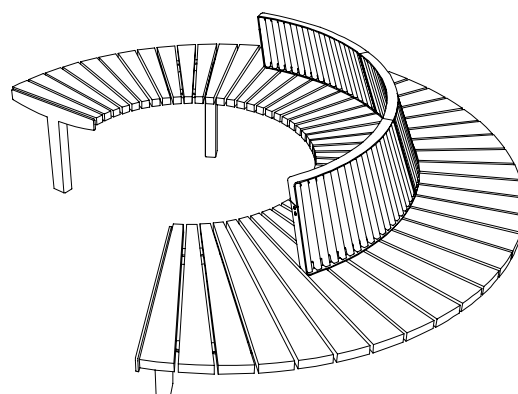
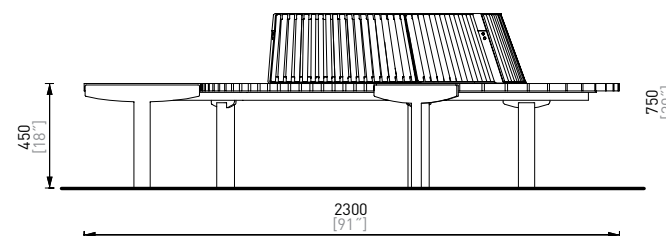
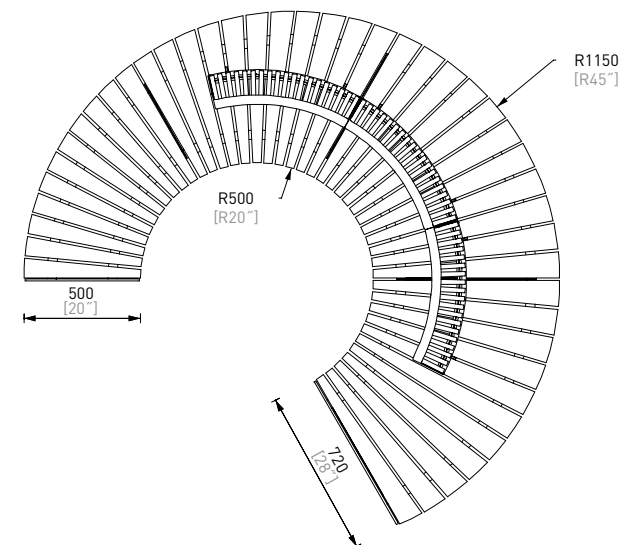


3 ATTACH SUPPORTS TO STEP 2.





ILLUSTRATIVE PHOTO



Steel: #RAL 5002, ultramarine blue
Wood: Jatoba
Surface Mount with Backrest

DATE: 20.9.2021 V: 01
dimensions in mm [inch]

LAG350 - LAGO

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Rozměry výrobků jsou zaokrouhlené. Výrobce si vyhrazuje právo na změnu technické specifikace bez předchozího upozornění. Rozměry spodní stavby a způsob osazení výrobku jsou závazné. Rozteče kotvěv rozměřovat dle rozměrů dodaného výrobku.
Dimensions of the products are rounded. The producer reserves the right to amend the technical specification at any time without previous warning. The size of foundation baseplate and the method of mounting of the product are imperative. Anchor spacing measure out by measurements of supplied product.
Die Produktmaße sind gerundet. Der Hersteller behält sich das Recht an Änderungen der technischen Spezifikationen vor, ohne vorher darauf hinzuweisen. Abmessungen der Fundamentierung – Unterbau und Art des Produkteinbaus sind verbindlich. Ankerabstand gemäß der gelieferten Produktabmessungen dimensionieren.
Les dimensions des produits sont arrondies. Le fabricant se réserve le droit de modifier les spécifications techniques sans préavis. Dimensions des fondations et manière de l'implantation du produit sont obligatoire. Ancre écartement dimensions à partir des dimensions du produit livré.
Los datos de las dimensiones estan redondeados. El fabricante se reserva el derecho de cambio de la especificación técnica sin aviso previo. Tanto las dimensiones de las bases de cimentación como el sistema de fijación son inalterables. Hay que medir el espaciamiento de anclajes según las dimensiones del producto suministrado.



Circular bench with backrest, diameter 2,3 m [91"], open

Versions:	LAG350t tropical wood
Structure type:	wooden lamellas connected to steel structure by means of stainless steel screw joints.
Coating:	steel frame and legs structure treated with protective zinc coating and powder coating.
Supporting frame:	frame and legs welded from closed rectangular profile and steel sheet NC-laser cuts.
Seat:	44 boards made of hardwood of various profiles and lengths.
Backrest:	lamellas made of hardwood with a rectangular section.
Colour options:	shades of polyester powder coatings in the fine matt finish, standardly provided by mmcité. Other shades according to the RAL chart are available on request.
Anchoring:	anchoring under the paving into concrete foundation using threaded rods. All street furniture elements must be properly anchored according to the producer's technical instructions. The manufacturer declines responsibility for any damages caused by careless use or by non-compliance with the instructions.
Weight:	LAG350t 148 kg [326 lb]
Option:	different than standard colour.

DATE: 17.09.2021 V:01
TECHNICAL SPECIFICATIONS

LAGO LAG350

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Dimensions of the products are rounded. The producer reserves the right to amend the technical specification at any time without previous warning. The size of foundation baseplate and the method of mounting of the product are imperative. Anchor spacing measure out by measurements of supplied product.
Die Produktmaße sind gerundet. Der Hersteller behält sich das Recht an Änderungen der technischen Spezifikationen vor, ohne vorher darauf hinzuweisen. Abmessungen der Fundamentierung – Unterbau und Art des Produkteinbaus sind verbindlich. Ankerabstand gemäß der gelieferten Produktabmessungen dimensionieren.
Les dimensions des produits sont arrondies. Le fabricant se réserve le droit de modifier les spécifications techniques sans préavis. Dimensions des fondations et manière de l'implantation du produit sont obligatoires. Ancre écartement dimensions à partir des dimensions du produit livré.
Los datos de las dimensiones están redondeados. El fabricante se reserva el derecho de cambio de la especificación técnica sin aviso previo. Tanto las dimensiones de las bases de cimentación como el sistema de fijación son inalterables. Hay que medir el espaciamiento de anclajes según las dimensiones del producto suministrado.



LAG310

LAG350

LAG112

LAG910

DLAŽBA
PAVEMENT
PFLASTERUNG

4 x M12x150
CHEMICKÁ KOTVA
CHEMICAL ANCHOR
CHEMISCHER ANKER

BETON
CONCRETE C12/15

DETAIL D
1 : 5

DIN 934
M12

DIN 127 B
M12

DIN 125-1 A
M12 (13)

DRILL DIAMETER

DATE: 8.9.2021 V: 01
minimal load-bearing capacity of the soil 150kPa

LAG310, LAG350, LAG112, LAG910

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Rozměry výrobků mají informativní charakter. Výrobce si vyhrazuje právo na změnu technické specifikace bez předchozího upozornění. Rozměry spodní stavby a způsob osazení výrobku jsou závazné. Minimální únosnost základové půdy 150kPa. Rozteče kotvěv rozměřovat dle rozměrů dodaného výrobku.

All product sizes have an informative character. The producer reserves the right to amend the technical specification at any time without previous warning. The size of foundation baseplate and the method of mounting of the product are imperative. Minimal load-bearing capacity of the soil 150kPa. Anchor spacing measure out by measurements of supplied product.

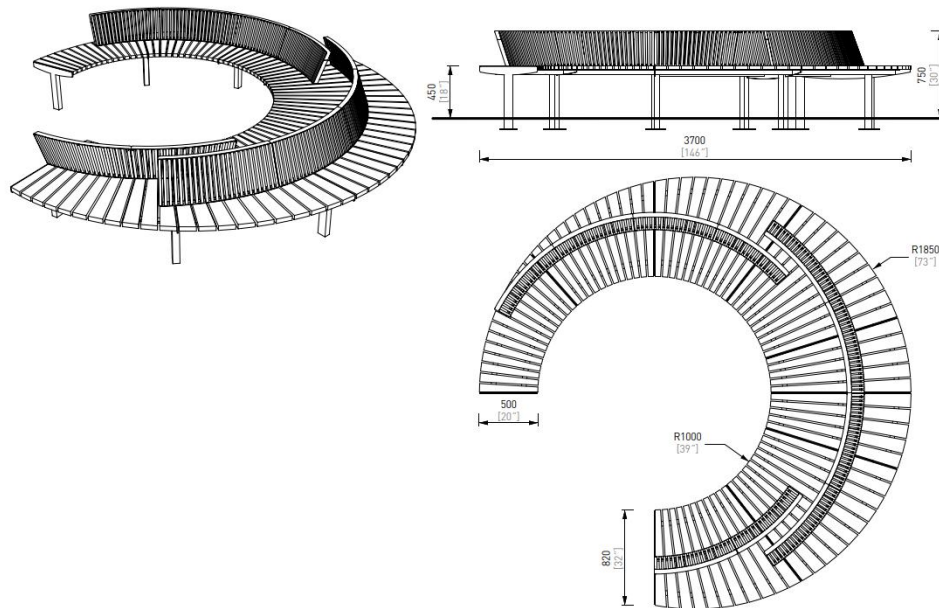
Die Abmessungen der Produkte sind informativ. Der Hersteller behält sich das Recht an Änderungen der technischen Spezifikationen vor, ohne vorher darauf hinzuweisen. Abmessungen der Fundamentierung – Unterbau und Art des Produkteinbaus sind verbindlich. Minimum tragfähigkeit des Bauuntergrundes 150 kPa. Ankerabstand gemäß der gelieferten Produktabmessungen dimensionieren.

Dimensions des produits sont à titre informatif seulement. Le fabricant se réserve le droit de modifier les spécifications techniques sans préavis. Dimensions des fondations et manière de l'implantation du produit sont obligatoires. La capacité portante du sol 150 kPa (minimale). Ancre écartement dimensions à partir des dimensions du produit livré.

Las dimensiones de los productos tienen carácter informativo. El fabricante se reserva el derecho de cambio de la especificación técnica sin aviso previo. Tanto las dimensiones de las bases de cimentación como el sistema de fijación son inalterables. Capacidad portante mínima del suelo 150kPa. Hay que medir el espaciamiento de anclajes según las dimensiones del producto suministrado.



Lago LAG353t



Steel: #RAL 5002, ultramarine blue
Wood: Jatoba
Surface Mount with Backrest



Circular bench with backrests, diameter 3,7 m [146"], open

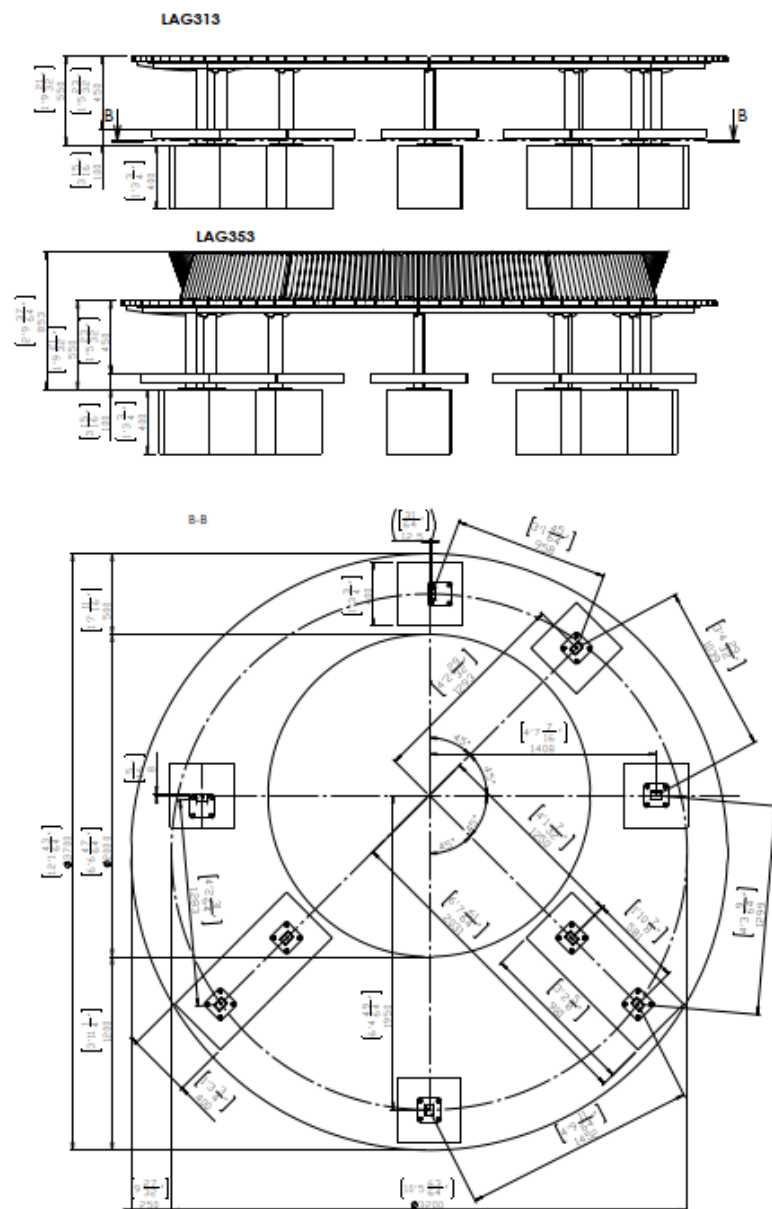
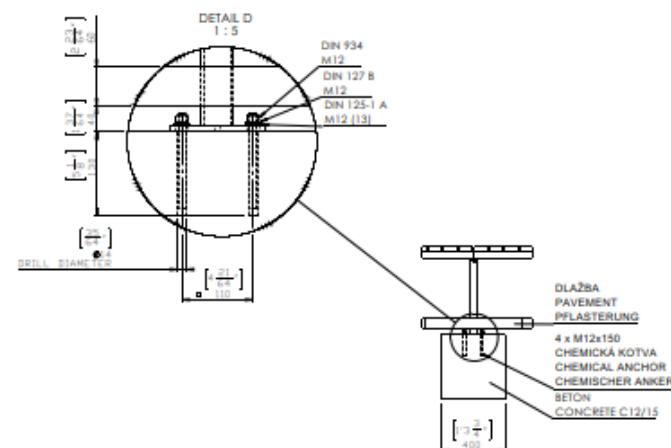
Versions:	LAG353t tropical wood
Structure type:	wooden lamellas connected to steel structure by means of stainless steel screw joints.
Coating:	steel frame and legs structure treated with protective zinc coating and powder coating.
Supporting frame:	frame and legs welded from closed rectangular profile and steel sheet NC-laser cuts.
Seat:	78 boards made of hardwood of various profiles and lengths.
Backrests:	3 backrests made of lamellas of hardwood with a rectangular section.
Colour options:	shades of polyester powder coatings in the fine matt finish, standardly provided by mmcité. Other shades according to the RAL chart are available on request.
Anchoring:	anchoring under the paving into concrete foundation using threaded rods. All street furniture elements must be properly anchored according to the producer's technical instructions. The manufacturer declines responsibility for any damages caused by careless use or by non-compliance with the instructions.
Weight:	LAG353t 394 kg [869 lb]
Option:	different than standard colour.

DATE: 17.09.2021 V:01
TECHNICAL SPECIFICATIONS

LAGO LAG353

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Rozměry výrobků jsou zaokrouhlené. Výrobce si vyhrazuje právo na změnu technické specifikace bez předchozího upozornění. Rozměry spodní stavby a způsob osazení výrobku jsou závazné. Rozměry kotvěv rozměřovat dle rozměrů dodaného výrobku.
Dimensions of the products are rounded. The producer reserves the right to amend the technical specification at any time without previous warning. The size of foundation baseplate and the method of mounting of the product are imperative. Anchor spacing measure out by measurements of supplied product.
Die Produktmaße sind gerundet. Der Hersteller behält sich das Recht an Änderungen der technischen Spezifikationen vor, ohne vorher darauf hinzuweisen. Abmessungen der Fundamentierung – Unterbau und Art des Produkteinbaus sind verbindlich. Ankerabstand gemäß der gelieferten Produktabmessungen dimensionieren.
Les dimensions des produits sont arrondies. Le fabricant se réserve le droit de modifier les spécifications techniques sans préavis. Dimensions des fondations et manière de l'implantation du produit sont obligatoires. Ancrer écartement dimensions à partir des dimensions du produit livré.
Los datos de las dimensiones están redondeados. El fabricante se reserva el derecho de cambio de la especificación técnica sin aviso previo. Tanto las dimensiones de las bases de cimentación como el sistema de fijación son inalterables. Hay que medir el espaciamiento de anclajes según las dimensiones del producto suministrado.

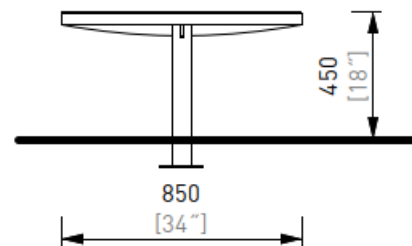
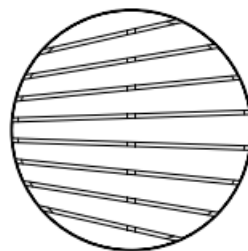


DATE: 22.9.2021 V 01
Minimal load-bearing capacity of the soil 150kPa
Dimensions in mm[inch]

LAG313, LAG353

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Lago LAG112t



Steel: #RAL 5002, ultramarine blue
Wood: Jatoba
Surface Mount with Backrest



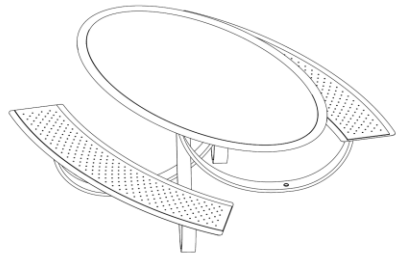
Stool, diameter 0,85 m [33"]

Versions:	LAG112t tropical wood
Structure type:	wooden lamellas connected to steel structure by means of stainless steel screw joints.
Coating:	steel frame and legs structure treated with protective zinc coating and powder coating.
Supporting frame:	frame and legs welded from closed rectangular profile and steel sheet NC-laser cuts.
Seat:	9 boards made of hardwood of various profiles and lengths.
Colour options:	shades of polyester powder coatings in the fine matt finish, standardly provided by mmcité. Other shades according to the RAL chart are available on request.
Anchoring:	anchoring under the paving into concrete foundation using threaded rods. All street furniture elements must be properly anchored according to the producer's technical instructions. The manufacturer declines responsibility for any damages caused by careless use or by non-compliance with the instructions.
Weight:	LAG112t 30 kg [66 lb]
Option:	different than standard colour.

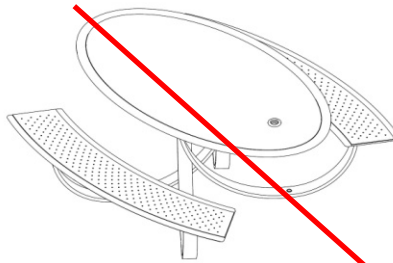
DATE: 17.09.2021 V:01
TECHNICAL SPECIFICATIONS

LAGO LAG112

All rights reserved. Protection of industrial design.



Picnic Table without umbrella hole



Picnic Table with umbrella hole

Custom color
RAL# 6025,
Fern Green

Included components:
Table must be anchored.

- (4) Stainless steel drop-in anchors with $\varnothing 3/8$ -16 x 1-1/2" hex flat head stainless steel screws provided. Setting tool for 3/8"-16 drop-in anchor included.



Drop-in anchor
4X



Flat head screw
4X



Setting tool
1X

Tools Required

- Safety glasses
- Hammer drill with 1/2" diameter masonry bits
- Hammer
- 7/32 hex key/bit for installing flat head screws

ASSEMBLE WITH CARE! Pangard II® Polyester Powdercoat is a strong, long-lasting finish. To protect this finish during assembly, place unwrapped powdercoated parts on packaging foam or other non-marring surface. Do not place or slide powdercoated parts on concrete or other hard or textured surface – this will damage the finish causing rust to occur. Use touch-up paint on any gouges in the finish caused by assembly tools.

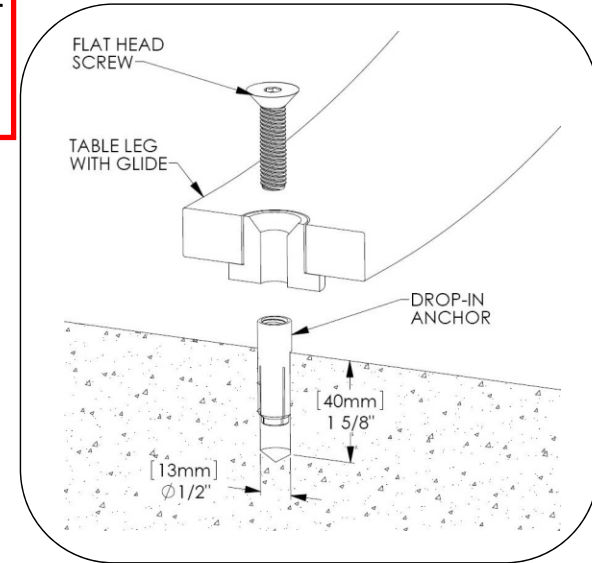


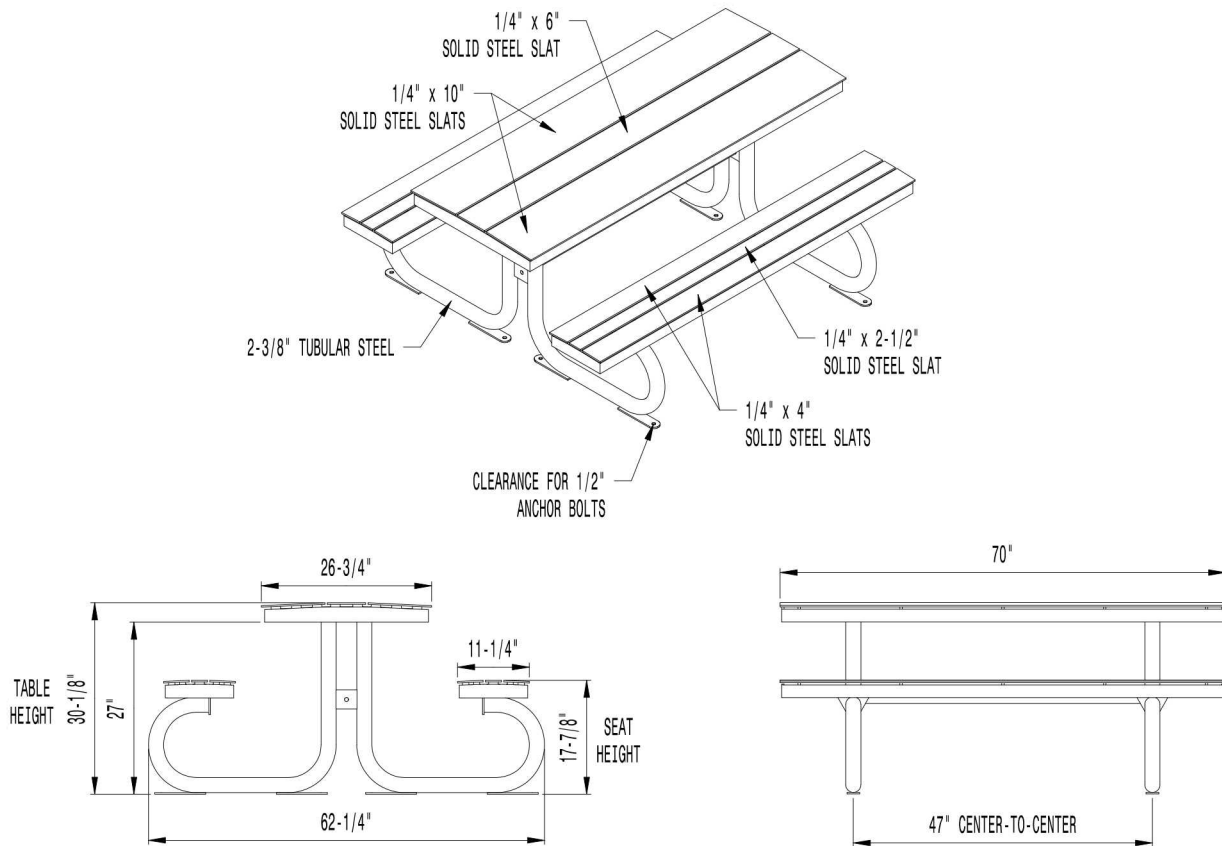
Fig. 1.4
Concrete and table leg shown
in section view for clarity

NOTE:

~~If specifying a Landscape Forms' umbrella, the umbrella must be ordered with the surface mount stand. The surface mount stand must be anchored. Refer to the separate installation guide for the umbrella surface mount stand for mounting instructions.~~

INSTALLATION:

1. Prepare proper concrete slab as required.
2. Set table in place and mark hole locations.
3. Move table and drill holes. Clear holes of debris.
4. Install drop-in anchor as shown in Fig. 1.4. Ensure top of anchor is flush or slightly below concrete surface. Expand with setting tool.
5. Set table in place and install flat head screws.
6. Tighten securely.



AVAILABLE OPTIONS:

POWDER COATING

STANDARD COLORS, OPTIONAL SATIN COLORS & METALLIC COLORS

CUSTOM COLORS (INCLUDING THE RAL RANGE) **RAL 1019, Grey Beige**

MOUNTING:

AVAILABLE WITH ADA COMPLIANT LEG POSITIONING

(ADA COMPLIANT TABLE/BENCH CONFIGURATION: 8' TABLE WITH 6' BENCHES)

LENGTHS

STANDARD 4'

STANDARD 6' (AS SHOWN)

STANDARD 8'

NOTES:

1. DRAWINGS NOT TO SCALE. DO NOT SCALE DRAWINGS.
2. ALL FABRICATED METAL COMPONENTS ARE STEEL SHOTBLASTED, ETCHED, PHOSPHATIZED, PREHEATED, AND ELECTROSTATICALLY POWDER-COATED WITH T.G.I.C. POLYESTER POWDER COATINGS. PRODUCTS ARE FULLY CLEANED AND PRETREATED, PREHEATED AND COATED WHILE HOT TO FILL CREVICES AND BUILD COATING THICKNESS. COATED PARTS ARE THEN FULLY CURED TO COATING MANUFACTURER'S SPECIFICATIONS. THE THICKNESS OF THE RESULTING FINISH AVERAGES 8-10 MILS (200-250 MICRONS).
3. IT IS NOT RECOMMENDED TO LOCATE ANCHOR BOLTS UNTIL TABLE IS IN PLACE. THIS VICTOR STANLEY, LLC. PRODUCT MUST BE PERMANENTLY AFFIXED TO THE GROUND. CONSULT YOUR LOCAL CODES FOR REGULATIONS.
4. ANCHOR BOLTS NOT PROVIDED BY VICTOR STANLEY, LLC.
5. FOR HIGH SALT ABUSIVE CLIMATES, HOT-DIP GALVANIZING BEFORE POWDER COATING IS AVAILABLE. HOT-DIP GALVANIZING IS PERFORMED FOR VICTOR STANLEY, LLC. BY AN EXPERIENCED QUALIFIED FIRM TO WHICH PRODUCTS ARE SHIPPED FOR GALVANIZING. HOT-DIP GALVANIZING INCLUDES AN AGGRESSIVE PRE-TREATMENT AND IMMERSION IN A TANK OF CHARGED LIQUID ZINC AT OR AROUND 860°F (460°C). THE RESULTING SURFACE IS RESISTANT TO RUST BUT HAS SOME UNEVENNESS RESULTING FROM THE BONDING OF THE ZINC TO THE STEEL SURFACE. AS A RESULT, THE POWDER-COATING SURFACE FINISH OVER THAT GALVANIZED SURFACE MAY EXHIBIT BUMPS, UNEVENNESS, AND MAY NOT BE AS SMOOTH AS THE STANDARD FINISH; THIS UNEVEN AND INCONSISTENT FINISH IS NORMAL FOR GALVANIZING. CONTACT MANUFACTURER FOR DETAILS.
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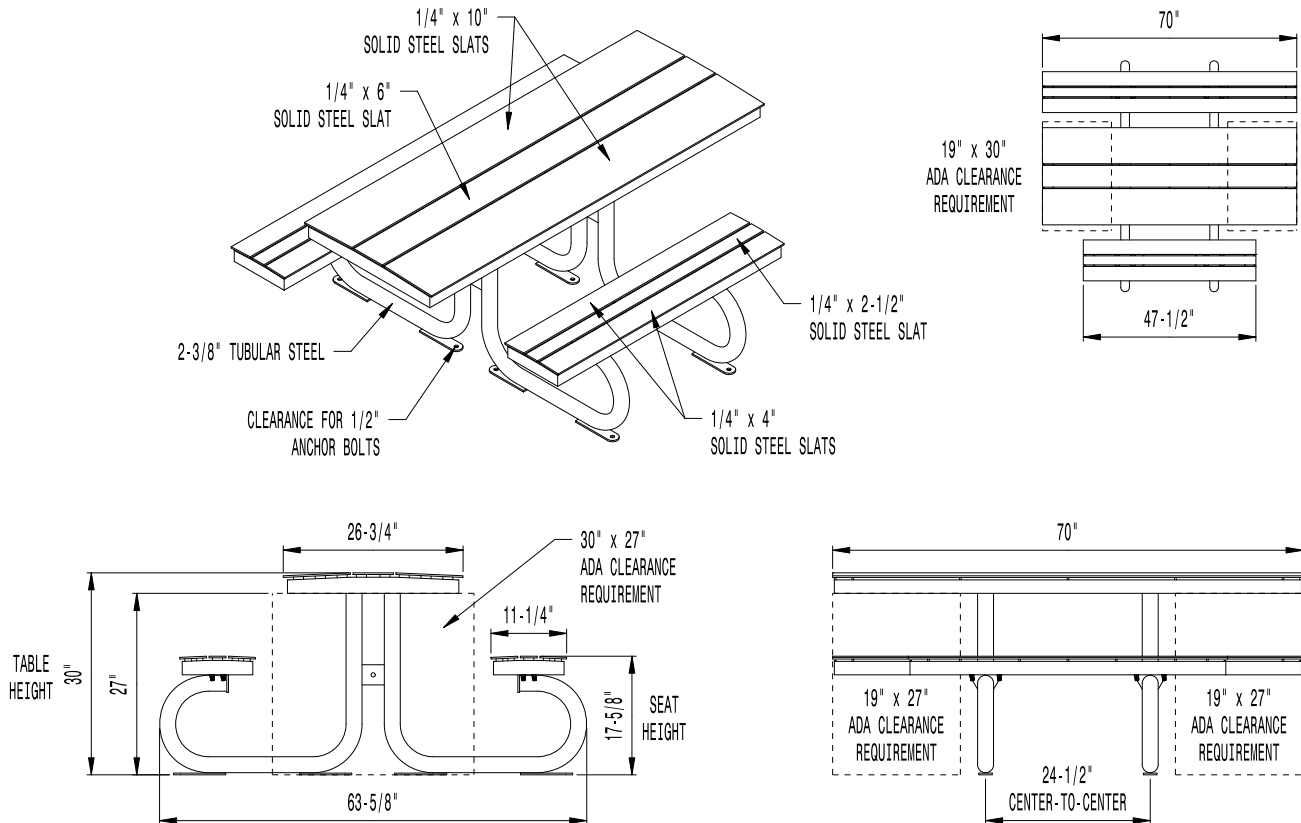
ALL STEEL TABLE
SHOWN: STANDARD 6-FOOT LENGTH



Create a timeless moment.®

* ALL DIMENSIONS ARE IN INCHES *

2103 BRICKHOUSE ROAD, DUNKIRK, MD 20754 USA
1.800.368.2573 (USA + CANADA)
T 301.855.8300 | F 410.257.7579
VICTORSTANLEY.COM



AVAILABLE OPTIONS:
POWDER COATING

STANDARD COLORS, OPTIONAL SATIN COLORS & METALLIC COLORS

CUSTOM COLORS (INCLUDING THE RAL RANGE) **RAL 1019 Grey Beige**

MOUNTING

AVAILABLE WITH ADA COMPLIANT LEG POSITIONING (AS SHOWN)
(ADA COMPLIANT TABLE/BENCH CONFIGURATION: 6' TABLE WITH 4' BENCHES,
AND 8' TABLE WITH 6' BENCHES)

LENGTHS

STANDARD 4'

STANDARD 6' (AS SHOWN)

STANDARD 8'

ACCESSORIES

AVAILABLE WITH OPTIONAL BAG HOOK

NOTES:

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3. IT IS NOT RECOMMENDED TO LOCATE ANCHOR BOLTS UNTIL TABLE IS IN PLACE. THIS VICTOR STANLEY, LLC. PRODUCT MUST BE PERMANENTLY AFFIXED TO THE GROUND. CONSULT YOUR LOCAL CODES FOR REGULATIONS.
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FWF-565

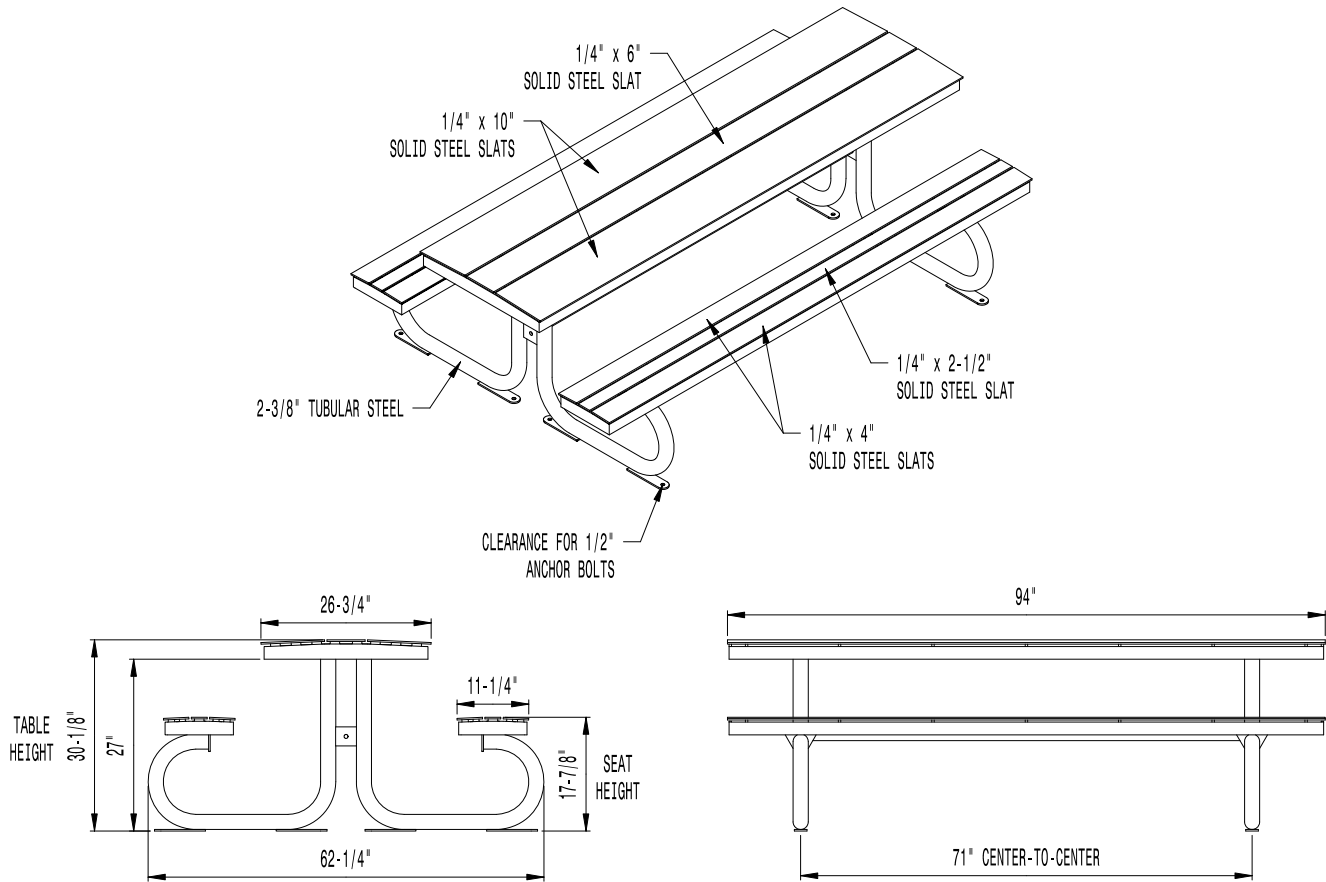
STREETSIDES™

SPECIAL

ALL STEEL TABLE

SHOWN: SPECIAL CONFIGURATION:

- (1) OPTIONAL 6-FOOT TABLE WITH ADA COMPLIANT LEG POSITIONING
- (1) SPECIAL 6-FOOT BENCH WITH ADA COMPLIANT LEG POSITIONING
- (1) OPTIONAL 4-FOOT BENCH



AVAILABLE OPTIONS:

POWDER COATING

STANDARD COLORS, OPTIONAL SATIN COLORS & METALLIC COLORS

CUSTOM COLORS (INCLUDING THE RAL RANGE) **RAL 1019 Grey Beige**

MOUNTING

AVAILABLE WITH ADA COMPLIANT LEG POSITIONING

(ADA COMPLIANT TABLE/BENCH CONFIGURATION: 8' TABLE WITH 6' BENCHES)

LENGTHS

STANDARD 4'

STANDARD 6'

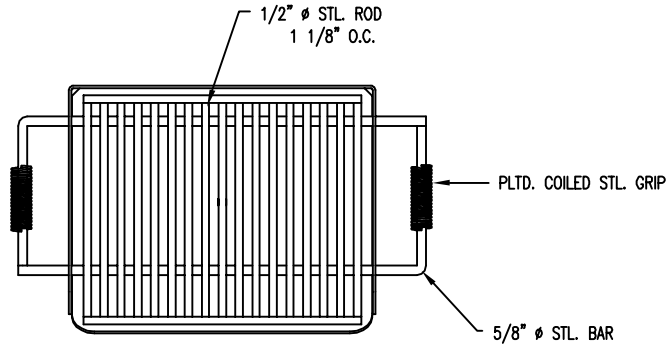
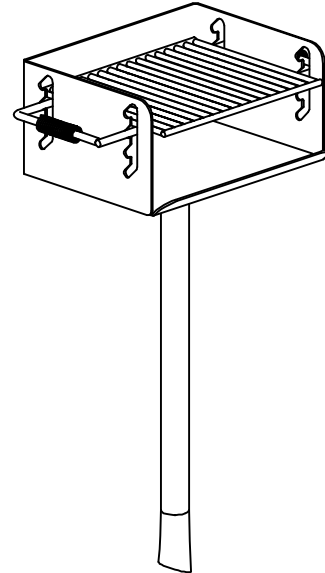
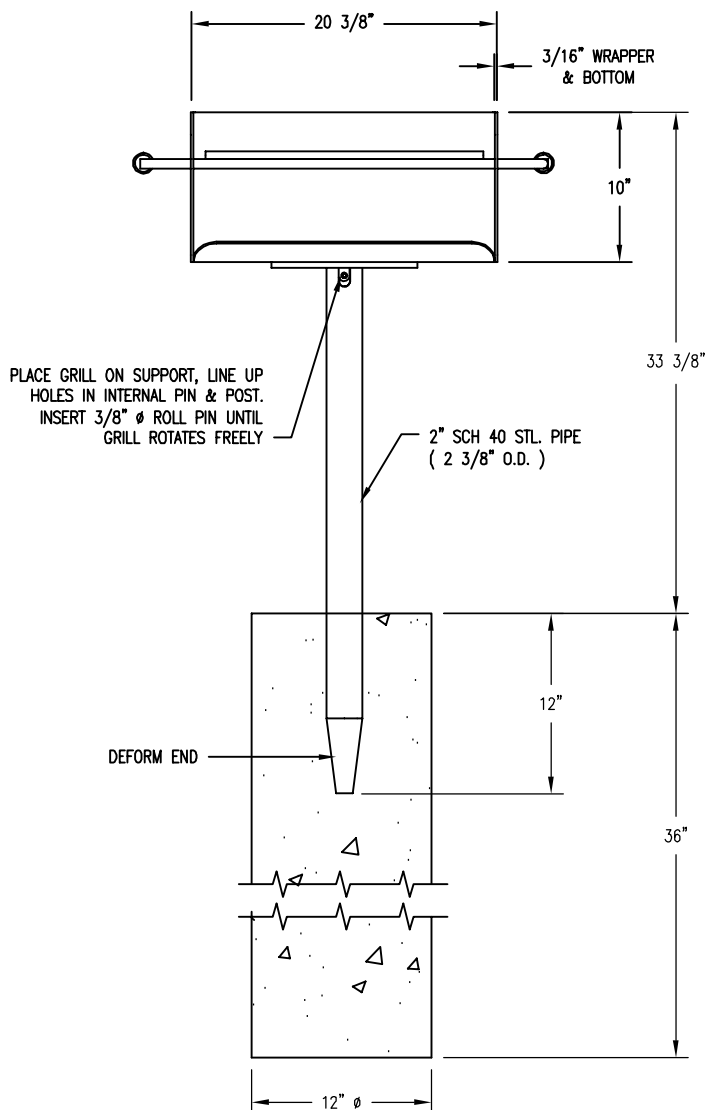
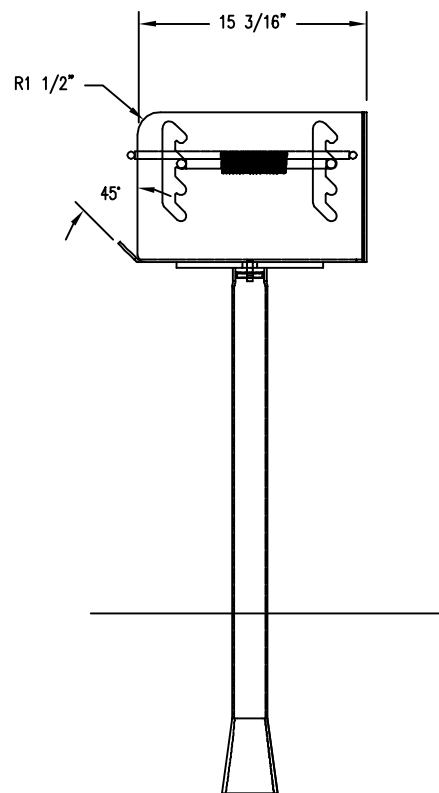
STANDARD 8' (AS SHOWN)

NOTES:

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ALL STEEL TABLE
SHOWN: STANDARD 8-FOOT LENGTH



NOTES

- 1.) GRILL FINISHED W/ HEAT RESISTANT BLACK ENAMEL.
- 2.) GRILL ROTATES FREELY 360° FOR DRAFT CONTROL.

NOTES:

- 1.) DURING ASSEMBLY PROCEDURE;
DO NOT COMPLETELY TIGHTEN HARDWARE.
- 2.) THE ACTUAL PARTS WILL NOT BE NUMBERED.
NUMBERS ONLY APPLY TO DRAWING.
- 3.) UPON COMPLETION OF ASSEMBLY SQUARE
ALL COMPONENTS THEN TIGHTEN ALL HARDWARE.
- 4.) MOUNT AND ANCHOR AS SPECIFIED.

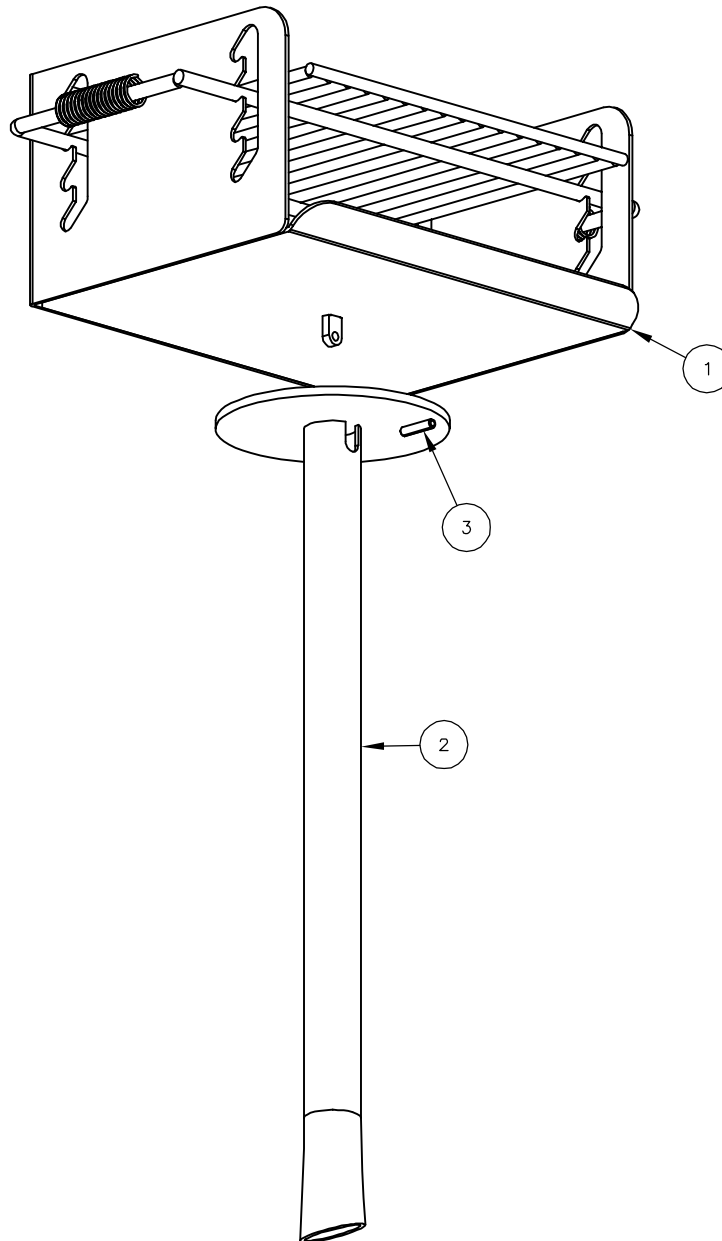
TOOLS REQ'D**HAMMER****PARTS LIST**

ITEM	QTY	PART NO	DESCRIPTION
1	1	0-21-00-01	GRILL BODY ASSEMBLY
2	1	0-21-00-02	POST FOR EMBEDMENT
3	1	1-14-001	3/8" X 1 3/4" ROLL PIN

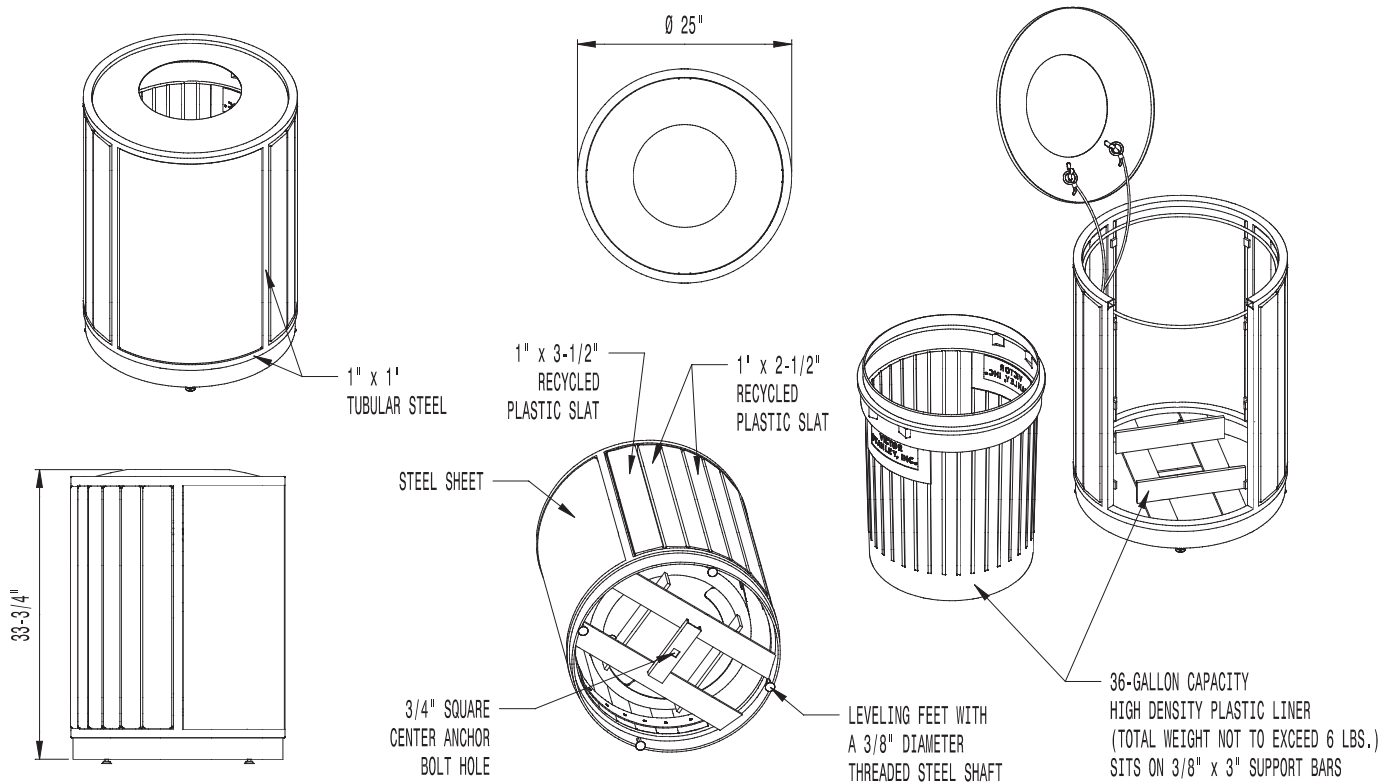
KITS PROVIDED

ITEM	QTY	PART NO	DESCRIPTION
4	1	K-21	GRILL HARDWARE KIT

- ① ATTACH GRILL BODY TO POST USING ROLL PIN.



* ALL DIMENSIONS ARE IN INCHES *



AVAILABLE OPTIONS:

POWDER COATING

10 STANDARD COLORS, 2 OPTIONAL METALLIC COLORS,
CUSTOM COLORS (INCLUDING THE RAL RANGE)

**Grey beige RAL
#1019 powdercoat**

SLAT TYPES

RECYCLED PLASTIC SLATS (NOT 2nd SITE SYSTEMS®)
COLORS: GRAY, MAPLE, CHERRY, AND WALNUT

**Heirloom Grain
recycled plastic
slats**

CUSTOM DECALS

AVAILABLE WITH PRESSURE SENSITIVE VINYL OUTDOOR DECALS.

LIDS

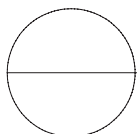
STANDARD WIDE MOUTH CONVEX LID (AS SHOWN) AVAILABLE WITH
OPTIONAL DOME LID, DOME LID WITH ASHTRAY, RAIN BONNET LID,
RAIN BONNET LID WITH ASHTRAY, RECYCLE AND DUAL-FLOW LIDS.
ASHTRAYS AVAILABLE WITH OPTIONAL ASHTRAY COVER.

SECURITY

LID IS SECURED WITH VINYL COATED GALVANIZED STEEL AIRCRAFT
CABLE. CABLE IS LOOPED AROUND WELDED IN PLACE ATTACHMENT
BRACKETS AND CRIMPED IN PLACE. AVAILABLE WITH OPTIONAL
BOTTOM PLATE COVER.

NOTES:

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3. THIS VICTOR STANLEY, INC. PRODUCT MUST BE PERMANENTLY AFFIXED TO THE GROUND. CONSULT YOUR LOCAL CODES FOR REGULATIONS.
4. VICTOR STANLEY, INC., PLASTIC INNER LINERS ARE MOLDED ON TOOLING DESIGNED FOR AND OWNED BY VICTOR STANLEY, INC. THEY OFFER MAXIMUM CAPACITY AND STRENGTH WITH LIGHTWEIGHT CONSTRUCTION USING CRITICAL MOLDED RIBS, INTEGRAL HANDHOLDS, AND HIGH-STRENGTH MATERIALS. THIS MINIMIZES HANDLING DIFFICULTY AND FACILITATES EASY EMPTYING AND STORAGE WHILE AFFORDING LONG SERVICE LIFE.
5. ANCHOR BOLT(S) NOT PROVIDED BY VICTOR STANLEY, INC.
6. FOR HIGH SALT ABUSIVE CLIMATES, HOT-DIP GALVANIZING BEFORE POWDER COATING IS AVAILABLE. HOT-DIP GALVANIZING IS PERFORMED FOR VICTOR STANLEY, INC. BY AN EXPERIENCED QUALIFIED FIRM TO WHICH PRODUCTS ARE SHIPPED FOR GALVANIZING. HOT-DIP GALVANIZING INCLUDES AN AGGRESSIVE PRE-TREATMENT AND IMMERSION IN A TANK OF CHARGED LIQUID ZINC AT OR AROUND 860°F (460°C). THE RESULTING SURFACE IS RESISTANT TO RUST BUT HAS SOME UNEVENNESS RESULTING FROM THE BONDING OF THE ZINC TO THE STEEL SURFACE. AS A RESULT, THE POWDER-COATING SURFACE FINISH OVER THAT GALVANIZED SURFACE MAY EXHIBIT BUMPS, UNEVENNESS, AND MAY NOT BE AS SMOOTH AS THE STANDARD FINISH; THIS UNEVEN AND INCONSISTENT FINISH IS NORMAL FOR GALVANIZING. CONTACT MANUFACTURER FOR DETAILS.
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8. THIS PRODUCT IS SHIPPED FULLY ASSEMBLED.



REN-36TD-ER
STELLA OF SUNNE™

Surface Mount

36-GALLON TOP LOAD LITTER RECEPTACLE
SHOWN: STANDARD WIDE MOUTH CONVEX LID



Create a timeless moment.®

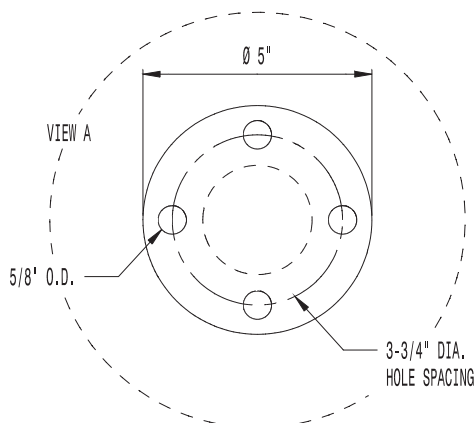
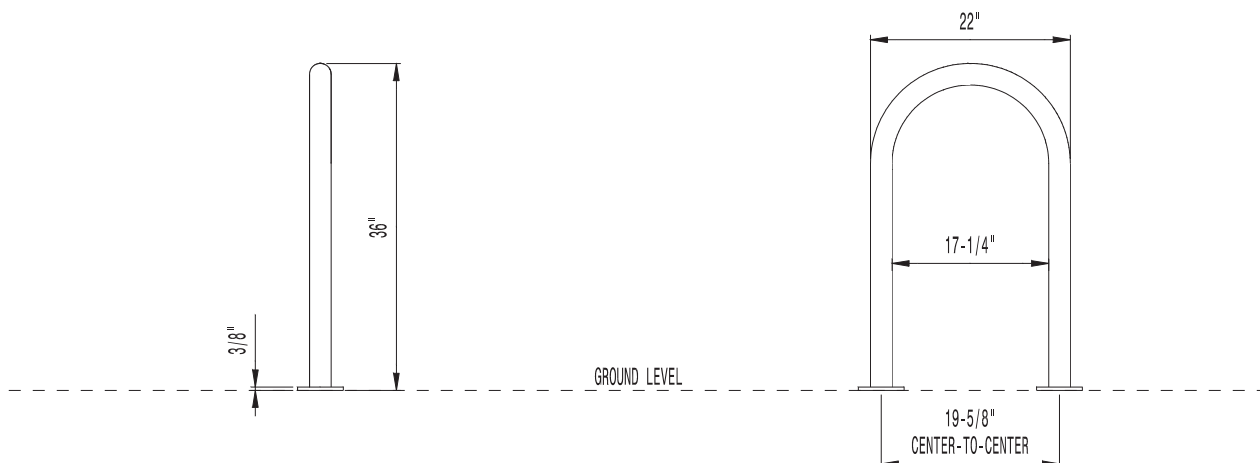
* ALL DIMENSIONS ARE IN INCHES *

P.O. DRAWER 330 - DUNKIRK, MD 20754 USA
TOLL FREE: (800) 368-2573 (USA & CANADA)
TEL (301) 855-8300 - FAX (410) 257-7579
WEB SITE: HTTP://WWW.VICTORSTANLEY.COM

HOLE IS ONLY PRESENT WHEN
GALVANIZED OPTION IS SPECIFIED

FORMED FROM
2-3/8" O.D.
TUBULAR STEEL

SEE VIEW A



AVAILABLE OPTIONS:
POWDER COATING

Powder coat black

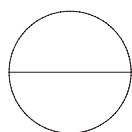
10 STANDARD COLORS, 2 OPTIONAL METALLIC COLORS,
CUSTOM COLORS (INCLUDING THE RAL RANGE)
OTHER FINISHES: SATIN STAINLESS-STEEL

MOUNTING

STANDARD IN-GROUND AND **SURFACE (AS SHOWN)**

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3. IT IS NOT RECOMMENDED TO LOCATE ANCHOR BOLTS UNTIL BIKE RACK IS IN PLACE. THIS VICTOR STANLEY, INC. PRODUCT MUST BE PERMANENTLY AFFIXED TO THE GROUND. CONSULT YOUR LOCAL CODES FOR REGULATIONS.
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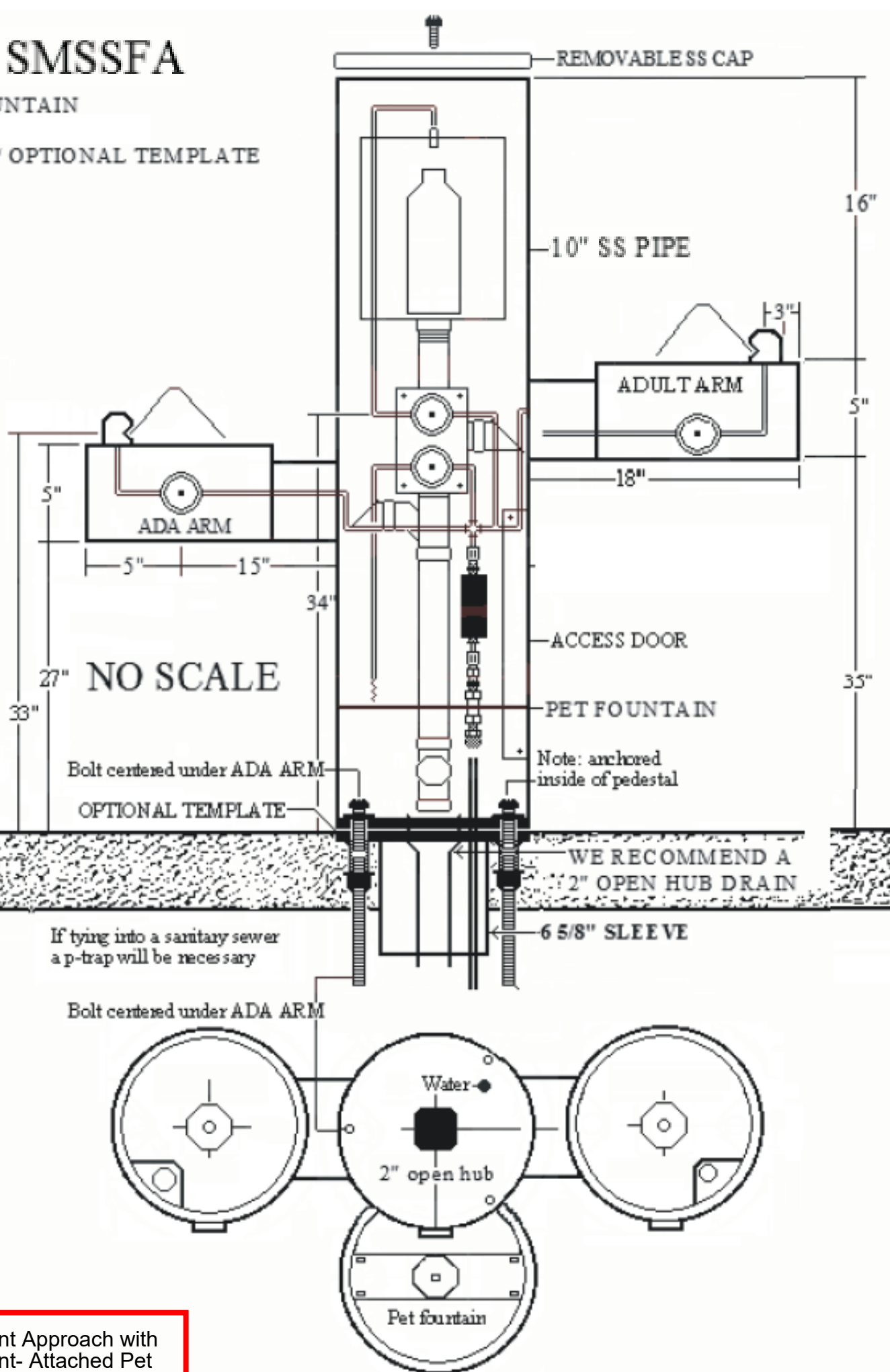
BRWS-101
CYCLE SENTRY™

BIKE RACK
SHOWN: STANDARD SURFACE MOUNT

10145 SMSSFA

W/PET FOUNTAIN

SHOWN W/ OPTIONAL TEMPLATE



CUSTOM LOCATION OF PET FOUNTAIN-



TRAFFICGUARD®, Inc.

P.O. BOX 201

Geneva, IL 60134

PHONE 877-727-7347

FAX 800-814-7194

www.trafficguard.net



GENERAL WARNINGS AND CAUTIONARY STATEMENTS **COLLAPSIBLE BOLLARDS**

In order to safely and effectively use any TrafficGuard® product, please read and understand the General Warnings and Cautionary Statements contained below. If you have any questions about any of these General Warnings and Cautionary Statements, or about any aspect of TrafficGuard® products or literature, please contact TrafficGuard® at 877-727-7347, or email at sales@trafficguard.net.



Bollard selection and placement based on vehicle weight, speed and other site specific factors to be determined by owner.



Failure to utilize TrafficGuard® authorized parts, or modifications to the TrafficGuard® products, or failure to follow the recommended installation procedures, will result in your warranty being null and void.



Read and fully understand the installation instructions before attempting to install any TrafficGuard® bollard product.



Substitution of components may impair the proper function of TrafficGuard® bollards products. If you need replacement parts, please contact TrafficGuard® at the number and email above.



Always ensure that the lock pin is locked into place in the upright position with all collapsible bollards.



WARNING: Failure to return collapsible bollard to upright, locked position immediately after use poses a significant hazard.



Replacement lock pins are available for purchase at TrafficGuard®. For purchase of replacement lock pins or other components, please contact TrafficGuard® at the number or email above.



CAUTION: Lock pin must always be secured with padlock when bollard is in upright position.



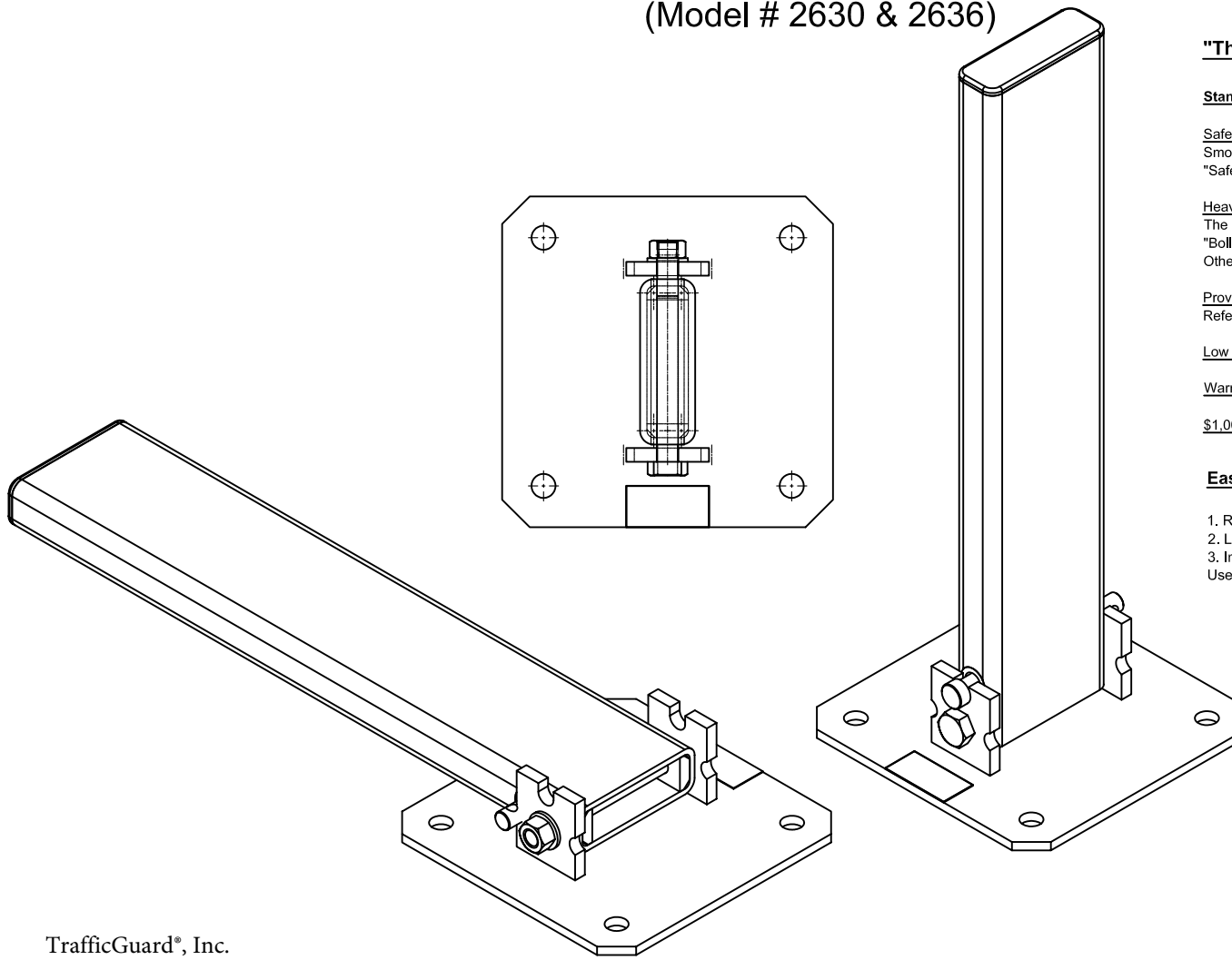
For maximum effectiveness of TrafficGuard® bollard products, be sure to properly maintain bollards by replacing any damaged, corroded or missing components, and reapply paint as required to maximize visibility. Failure to properly maintain product can negatively impact the bollards performance over time.



To ensure visibility of bollards, be sure to apply all decals that are provided with the product, and in the manner recommended by TrafficGuard®

If in doubt **CALL** TrafficGuard® 877-727-7347

Two-Way Collapsible Bollard (Model # 2630 & 2636)



"The Two-Way Collapsible Bollard"

Standard Features Include:

Safety

Smooth Surface bollard post at 30" or 36" height and painted with highly durable "Safety Yellow" finish are standard for high visibility and no sharp edges.

Color: Black

Heavy Duty:

The 2630 or 2636 shall be installed with the appropriate detail per "Bollard Post Concrete Anchorage Detail". Other anchorage systems may cause premature failure.

Proven Performance:

References Available Upon Request

Low Maintenance

Warranty

\$1,000,000 Liability Coverage

Ease of Use in Three Easy Reversible Steps

1. Remove the Padlock and Lock Pin.
 2. Lower the 2x6 Bollard Post
 3. Install the Lock Pin and Padlock
- Use the reverse procedure to raise the bollard post.

TrafficGuard®, Inc.
PO Box 201, Geneva, IL 60134
Phone: 877-727-7347
Fax: 800-814-7194
www.trafficguard.net

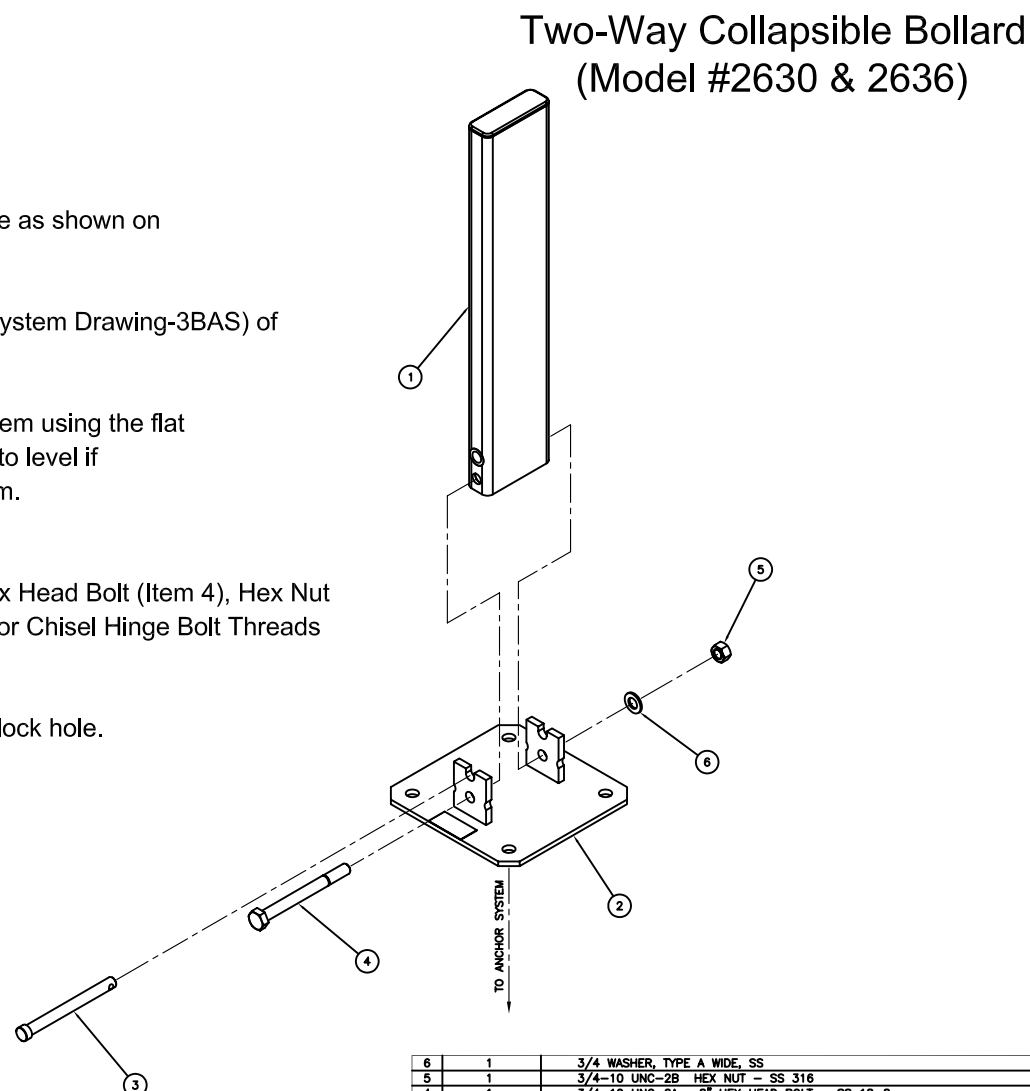
NAME:	USED ON:	TOLERANCES:	ACTION:	BY:	DRAWING NUMBER:
DISPLAY		0.X ± 0.1	DESIGN:		2630/2636
1. DO NOT SCALE FROM DRAWING		0.00X ± 0.06	DRAWING:	CJD	SCALE:
2. UNITS ARE INCHES U.S.A.		ANGULARS ± 1°	CHECKED:	WKZ	DATE: 08-12-05
3. DIMENSIONING BASED ON ASME Y14.5M-1994		FRACTIONS: 1/16			SIZE: 34 X 22
					WT: 55 LP
					COPYRIGHT: 2005
					SHT: 1 of 1

Installation Instructions:

HINGED SINGLE POST BOLLARD

1. **Verify that all** Hinged Single Post Bollard parts are in the shipment package as shown on the "Bill of Material".
2. Provide Hinged Single Post Bollard Anchor System (see included Anchor System Drawing-3BAS) of your choice at a location to suit your specific needs.
3. Install Base Weldment (Item 2) true and level on your selected Anchor System using the flat washers and hex nuts included in your Anchor System Kit. Use S.S. shims if needed. Torque hex nuts to Minimum 100 ft-lbs for CPAS10 Anchor System. Torque hex nuts for other Anchor Systems to Manufacturers Specification.
5. Install Bollard Post Weldment (Item 1) to Base Weldment (Item 2) using Hex Head Bolt (Item 4), Hex Nut (Item 5), and Washer (Item 6) as shown. Tack Weld Hex Nut to Hinge Bolt or Chisel Hinge Bolt Threads such that Hex Nut cannot be easily removed.
6. Install Pin (Item 3) thru UP Position Bollard Post, and install Padlock at padlock hole.
7. Install the Label at the location shown.
8. Check the functional operation of the Hinged Bollard Post.

* Note: S.S. shims, tools, grease, and padlock are not provided.



6	1	3/4 WASHER, TYPE A WIDE, SS
5	1	3/4-10 UNC-2B HEX NUT - SS 316
4	1	3/4-10 UNC-2A x 8" HEX HEAD BOLT - SS 18-8
3	1	PIN
2	1	BOLLARD POST WELDMENT
1	1	BASE WELDMENT
ITEM	QTY.	DESCRIPTION
BILL OF MATERIAL		
NAME: ASSEMBLY		
USED ON: TOLERANCES: 0.000 ± 0.005		
DESIGN: ANISOLAR 11"		
1. DO NOT SCALE FROM DRAWING		
2. UNITS ARE INCHES U.S.		
3. DIMENSIONING BASED ON ASME Y14.5M-1994		
ACTION: BY: DRAWING NUMBER: 2630/2636		
DRAWING: CJD SCALE: 1:4 DATE: 11-28-05 SIZE: 34 X 22		
CHECKED: WKZ WT: 52 LBS COPYRIGHT: 2005 SHEET: 1 of 1		

TrafficGuard®, Inc.
PO Box 201, Geneva, IL 60134
Phone: 877-727-7347
Fax: 800-814-7194
www.trafficguard.net

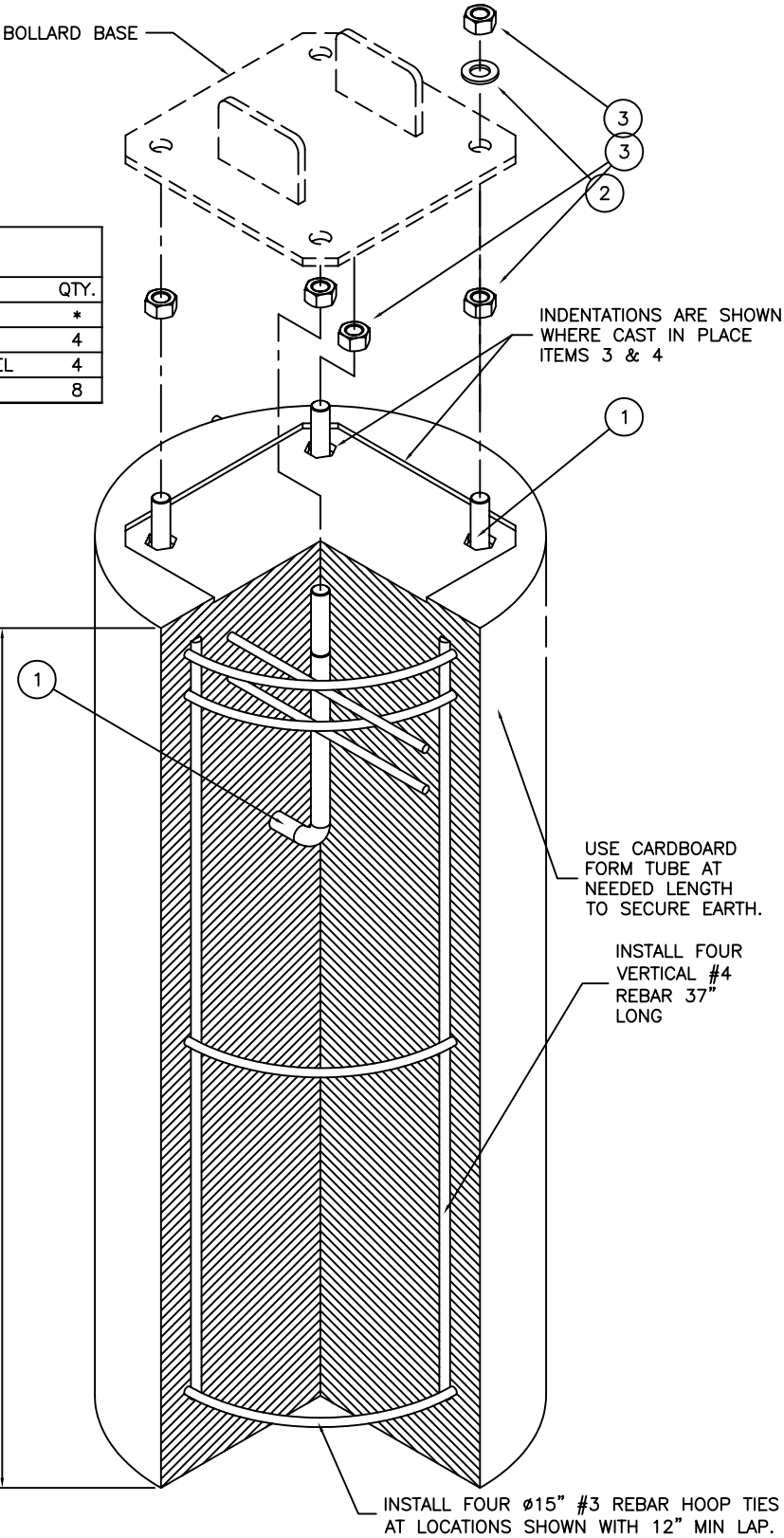
This drawing shall not be used or reproduced except when authorized in writing by TrafficGuard®.

TrafficGuard®, Inc.
PO Box 201, Geneva, IL 60134
Phone: 877-727-7347
Fax: 800-814-7194
www.trafficguard.net

Footing Detail

FOR MODELS:
2630
2636

NOTE: CONCRETE, FORM AND REBAR PROVIDED BY OTHERS



BILL OF MATERIAL

ITEM	DESCRIPTION	QTY.
*	ANCHOR BOLT KIT	*
1	3/4" x 12" TYPE L ANCHOR BOLT-H.D.G.	4
2	3/4" TYPE A FLAT NARROW WASHER GALVANIZED STEEL	4
3	3/4" HEX NUT GALVANIZED STEEL	8

*Anchor Bolt Kit included only
if ordered at an additional cost.

RETE PIER ANCHOR SYSTEM (CPAS)

Vega Series - Bollard

With a refined and contemporary form, FLT's Vega bollard is an attractive choice for pathways, parks and other locations where design-forward illumination is desired to elevate the experience.

This attention to design is combined with industry leading reliability and performance. The Vega bollard contains FLT's proprietary Adaptive Intelligence providing dependable illumination throughout the night, regardless of weather or location. Available in single and double-sided configurations for two heights, Vega's robust construction and sleek profile make it a must-have solution for combining form and function.

Features and Benefits

- Self-contained design means installation takes minutes. Simply bolt it to the footing and you're done!
- Product activates automatically out of the box
- Save on costs with no wiring, trenching or electrical service required
- Integrated design eliminates visually distracting external solar panels
- No ongoing maintenance needed
- Provides intelligent illumination all night, every night.
- Contains one of the best performing batteries in the industry.

Key Applications

- Pathways, Parks and Public Spaces

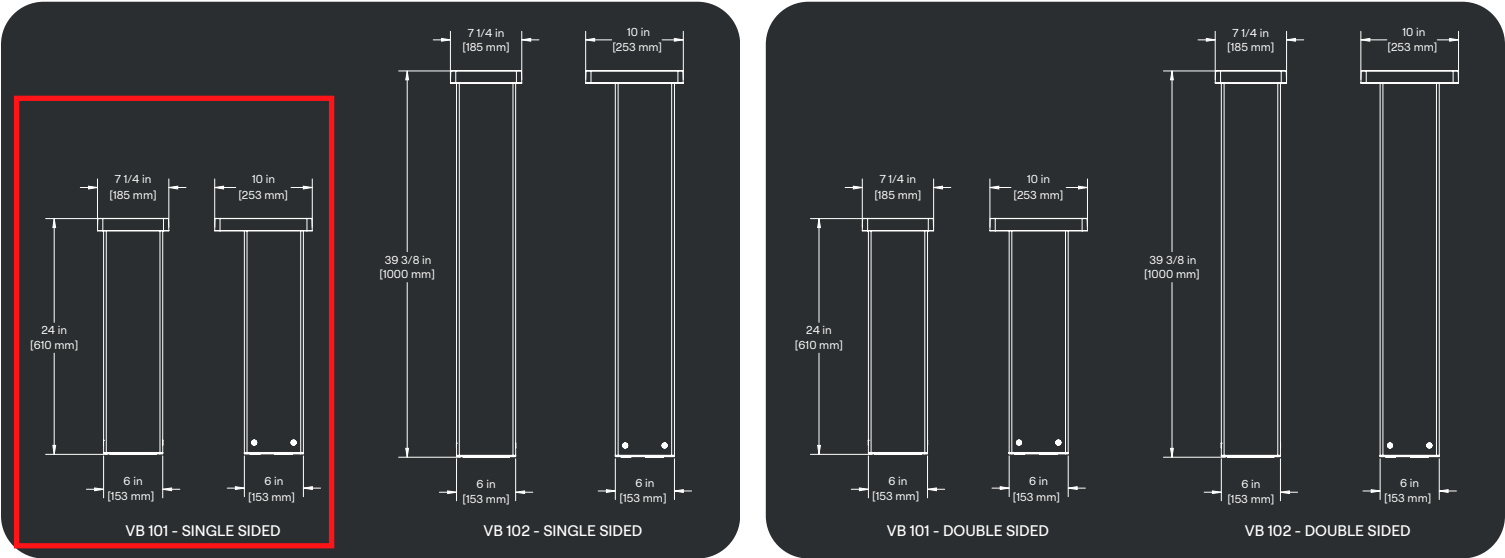


Technical Specifications

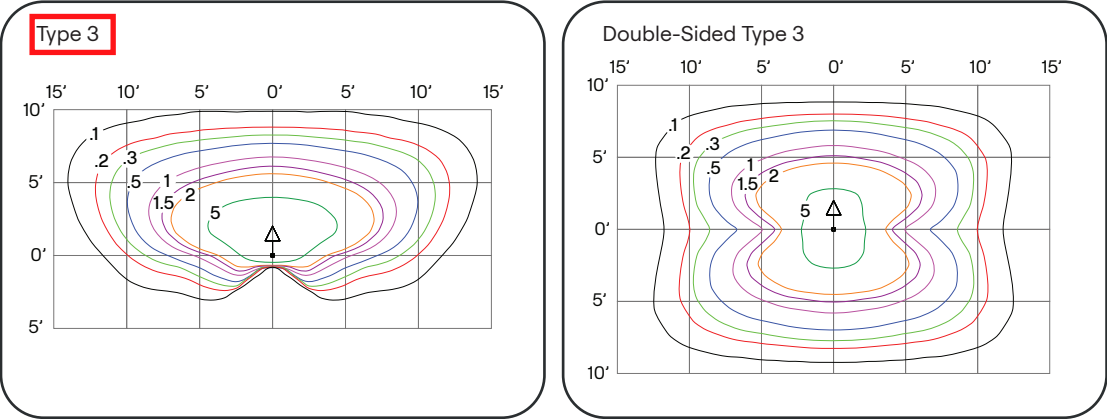
Solar Module	<ul style="list-style-type: none">• Active cell technology optimizes power generation even when partially blocked• Integrated into the top of luminaire• Impact-tested polymer encapsulation• Discreet panel design with hidden electrical contacts, preserving uniform, sleek and modern appearance.	FLT's Exclusive Controller with Adaptive Intelligence	<ul style="list-style-type: none">• Ensures all-night every-night performance by intelligently managing lighting based on environmental conditions and lighting requirements• Smart dusk/dawn detection synchronizes lights across installation using astronomical calculations• Automatically detects its time zone and sets its time for time-of-night profiles• High-efficiency, Maximum Power Point Tracking (MPPT) battery charger• High-efficiency integrated LED driver• On-board multi-year data logging
Battery	<ul style="list-style-type: none">• High performance Lithium Iron Phosphate (LiFePO4)• High and low temperature range• IP67 water and dust ingress protection.• Large storage capacity to withstand extreme weather	Construction & Materials	<ul style="list-style-type: none">• Two heights: 24" [610mm] and 39 3/8" [1000mm]• Durable cast aluminum body with stainless steel fasteners• IK10 tested impact rating• Tamper-resistant security screws• Architectural grade powder coat rated to super-durable AAMA 2604 specifications• Available in a range of designer-curated FLT colors (Custom colors available upon request)
LED Light Engine	<ul style="list-style-type: none">• Best-in-class proprietary pathway lighting optic• Integrated optics maximize application efficiency and light distribution• IP67 optic sealing provides water and dust ingress protection.• CCT Options: 2700K, 3000K, 4000K, 1850K Lumileds NightScape (<2% blue light)• Wildlife friendly, narrow-band Amber LEDs (595nm)• Type 3 and double-sided Type 3 full cut-off light distribution options.	Wireless Control	<ul style="list-style-type: none">• Easy-to-use interface via iOS smartpone app• Configure and control lighting profiles• Adjust dusk and dawn thresholds
Optical Performance	<ul style="list-style-type: none">• Achieves pathway and area lighting standards with typical output of 540 lumens• >94,000-hour LED L90 lifetime• B0 – U1 – G0 BUG Rating (T3)	Reliability & Warranty	<ul style="list-style-type: none">• Tested for high & low heat and humidity• 5-year warranty• 10+ year battery life• IP67 protection• Designed and manufactured in North America
Lighting Profiles	<ul style="list-style-type: none">• 10 duration-based profiles• Easily configurable, time-of-night profiles• All profiles pre-programmed or field adjustable		

Order Matrix

Series	Height	Finish	Distribution	LED	Lighting Profiles	Options
VB	101 - 24"	BK - Black	SS - Single-Sided Type 3	DarkSky Approved Options:	00 - On at dusk > Off at dawn	PA - Pre-Ship Anchor Bolts
	102 - 39 3/8"	DB - Dark Bronze	DS - Double-Sided Type 3	XW - 2700K	01 - On at dusk > Off after 6 hours	NAB - No Anchor Bolts
		LB - Light Bronze		WW - 3000K	02 - On at dusk > Dim to 30% after 6 hours > Off at dawn	
		CG - Charcoal Grey		NS - 1850K Lumileds Nightscape	03 - On at dusk > Off after 5 hours > On 1 hour before dawn > Off at dawn	
		LG - Light Grey		AMB - Amber	04 (Default) - On at dusk > Dim to 30% after 5 hours > Brighten to 100% 1 hour before dawn > Off at dawn	
		FG - Forest Green			05 - On at dusk > Off after 3 hours	
		SN - Sandstone		Not DarkSky Approved:	06 - On at dusk > Off after 4 hours	
		CC- Custom Color		NW - 4000K	07 - On at dusk > Off after 4 hours > On 1 hour before dawn > Off at dawn	
					09 (Default) - On at dusk > Dim to 30% after 3 hours > Brighten to 100% 1 hour before dawn > Off at dawn	
					10 - On 30% at dusk > Off at dawn	
					TX0000X0000 - T=Real-time based lighting profile. X=Choose O for off, L for Low (30%) or M for Medium (50%) or B for Bright. 0000=choose event time between 00:00 and 23:59. Second event optional.	



Photometrics



- Notes:
1. Photometrics based on 39 3/8" bollard height.
 2. All light levels in foot candles (fc) with 3000K color temperature and typical lumen output.
 3. Contact us for help in choosing the right lighting profile and distribution.
 4. Specifications subject to change without notice.
 5. IES files available at flt.com.



8 Station Court

Station #	Name	Icon	Boards	Board Shape(s)	Pole Qty	Pole Size (Ft/in)	Pole Size (In.)	Inches Above Ground	Inches Below Ground	Rim Height AGL
1	Straight Away		1	Kite	1	12' 8"	152	120	32	96"
2	Any		1	Half-Round	1	12' 8"	152	120	32	96"
3	Either		1	3-Panel	2	12' 8"	152	120	32	96"
4	Double Roll Back		1	Fan Back	1	11' 4"	136	104	32	96"
			1	Square Slide-Down						60"
5	Double Bank Down		1	Fan Forward	1	11' 4"	136	104	32	96"
			1	Square						60"
6	Chute		1	Rectangle	1	11' 4"	136	104	32	N/A
			1	Square	1	10' 6"	126	94	32	84"
7	Slant Back - Left		1	Kite	1	12' 8"	152	120	32	N/A
			1	Square	1	7' 7"	91	71	20	60"
8	Black Hole		1	Kite	1	12' 8"	152	120	32	N/A
			1	Kite	1	12' 8"	152	120	32	N/A
			1	Square	1	7' 7"	91	71	20	60"

Pole Specifications

2 inch round galvanized pipe, Schedule 80 (2.375 OD X 0.154 Wall)

Rims = 10
Set Screws = 30
Caps = 13

Qty. Length

2 7' 7"
1 10' 6"
3 11' 4"
7 12' 8"

Total 13

<i>Board Shape(s)</i>	<i>Board Qty.</i>
3-Panel	1
Fan Back	1
Fan Forward	1
Half-Round	1
Kite	4
Rectangle	1
Square	4
Square Slide-Down	1
Grand Total	14

<i>Pole Size (Ft/in)</i>	<i>Pole Qty.</i>
10' 6"	1
11' 4"	3
12' 8"	7
7' 7"	2
Grand Total	13

2 inch round galvanized pipe, Schedule 80 (2.375 OD X 0.154 Wall)

<i>Also Included</i>	<i>Qty</i>
Rims	10
Set Screws	30
Pole Caps	13

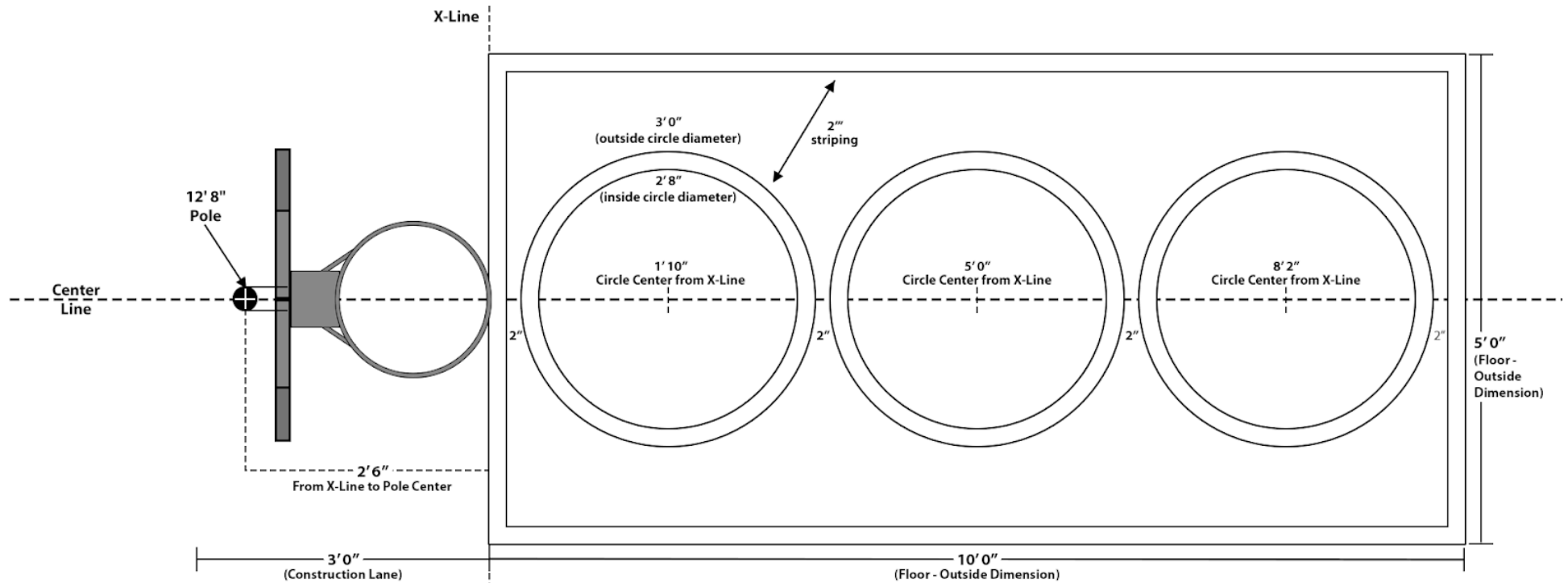
Note: This is our standard station selection sequence for this layout.
Colors and sequence may vary, and can be tailored to your specific location and community.

Station #	Name	Icon	Board Shape(s)	Pole Qty	Pole Size (Ft/in)	Pole Size (In.)	Inches Above Ground	Inches Below Ground	Rim Height AGL
1	Straight Away		Kite	1	12' 8"	152	120	32	96"

Installation Notes

IMPORTANT!!! DO NOT FINALIZE POLE INSTALLATION UNTIL BOARDS ARE ON SITE.

- Variations in manufacturing can shift pole position slightly. Be sure to measure boards at job site prior to pole installation.

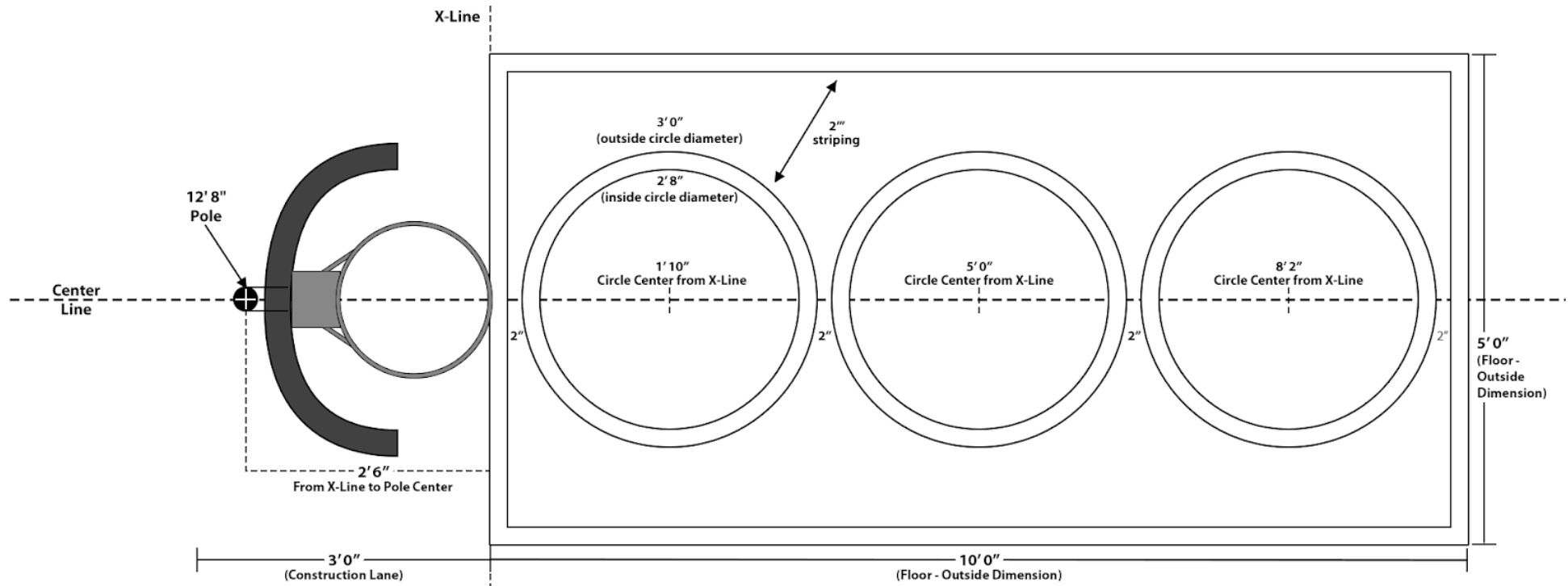


Station #	Name	Icon	Board Shape(s)	Pole Qty	Pole Size (Ft/in)	Pole Size (In.)	Inches Above Ground	Inches Below Ground	Rim Height AGL
2	Any		Half-Round	1	12' 8"	152	120	32	96"

Installation Notes

IMPORTANT!!! DO NOT FINALIZE POLE INSTALLATION UNTIL BOARDS ARE ON SITE.

- Variations in manufacturing can shift pole position slightly. Be sure to measure boards at job site prior to pole installation.

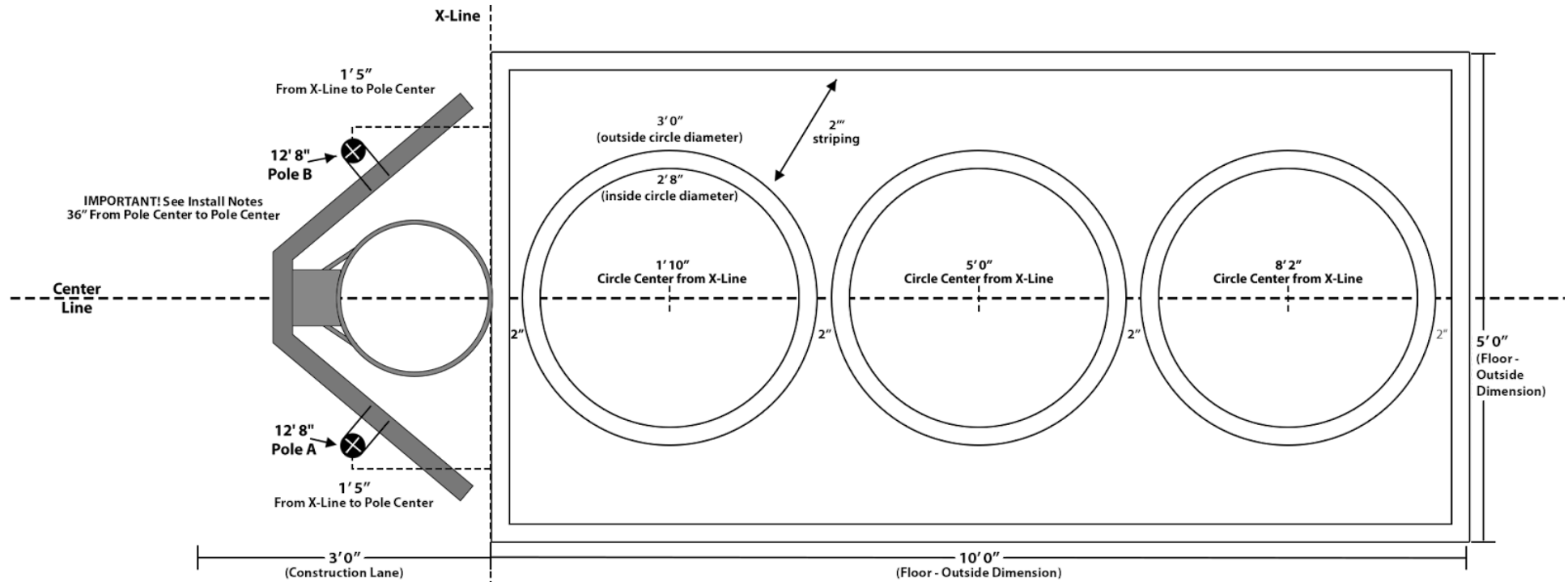


Station #	Name	Icon	Board Shape(s)	Pole Qty	Pole Size (Ft/in)	Pole Size (In.)	Inches Above Ground	Inches Below Ground	Rim Height AGL
3	Either		3-Panel	2	12' 8"	152	120	32	96"

Installation Notes

IMPORTANT!!! DO NOT FINALIZE POLE INSTALLATION UNTIL BOARDS ARE ON SITE.

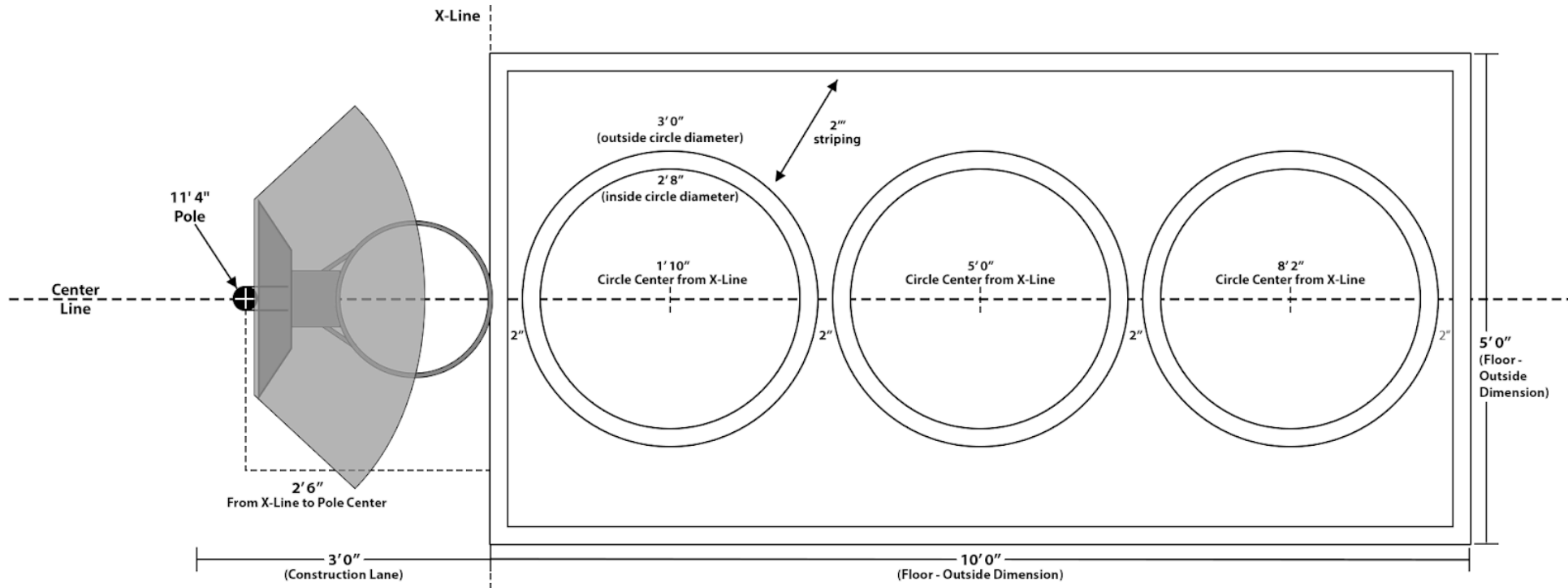
- Variations in manufacturing can shift pole position slightly. Be sure to measure boards at job site prior to pole installation.
- Pole Center to Pole Center should be 36". It is recommend you install Pole A first, then measure from its center and the X-line to set Pole B



Station #	Name	Icon	Board Shape(s)	Pole Qty	Pole Size (Ft/in)	Pole Size (In.)	Inches Above Ground	Inches Below Ground	Rim Height AGL
5	Double Bank Down		Fan Forward	1	11' 4"	136	104	32	96"
			Square						60"

Installation Notes

- IMPORTANT!!! DO NOT FINALIZE POLE INSTALLATION UNTIL BOARDS ARE ON SITE.**
- Variations in manufacturing can shift pole position slightly. Be sure to measure boards at job site prior to pole installation.
 - Mount Square Board on pole first, Rim should be 5 feet (60 inches) above surface.

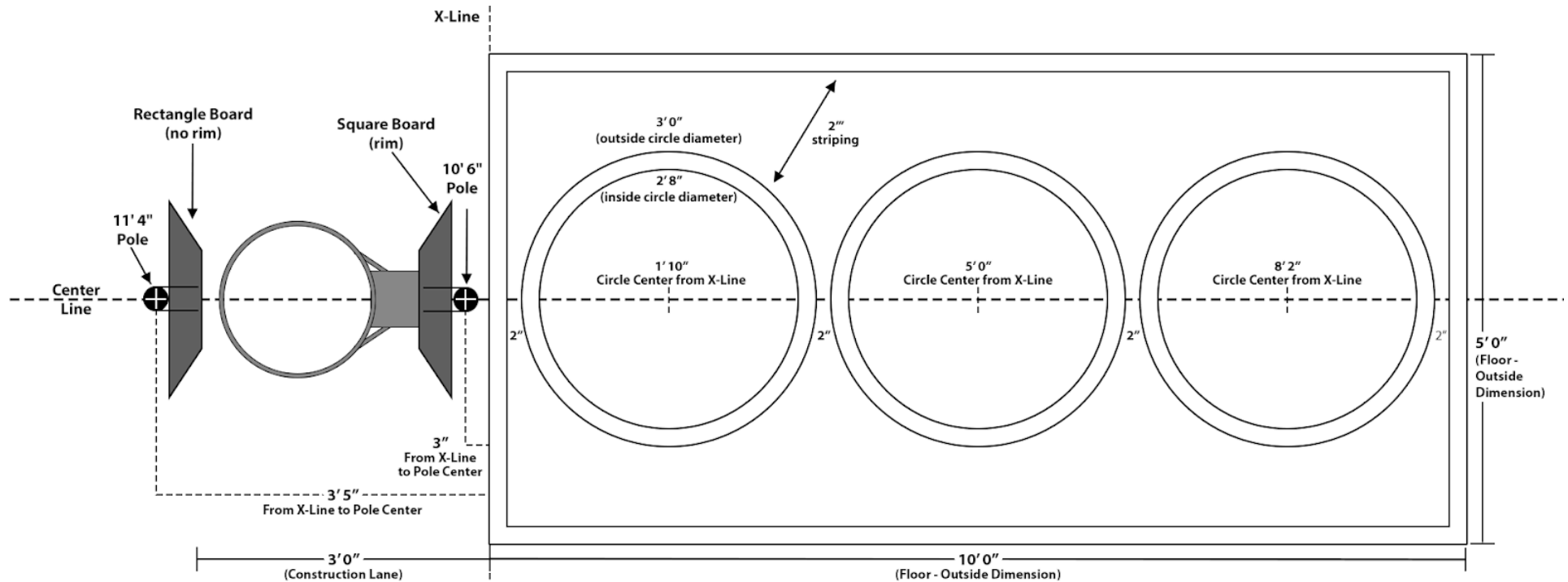


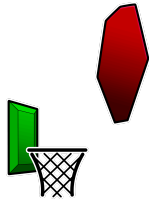
Station #	Name	Icon	Board Shape(s)	Pole Qty	Pole Size (Ft/in)	Pole Size (In.)	Inches Above Ground	Inches Below Ground	Rim Height AGL
6	Chute		Rectangle	1	11' 4"	136	104	32	N/A
			Square	1	10' 6"	126	94	32	84"

Installation Notes

IMPORTANT!!! DO NOT FINALIZE POLE INSTALLATION UNTIL BOARDS ARE ON SITE.

- Variations in manufacturing can shift pole position slightly. Be sure to measure boards at job site prior to pole installation.
- Pole Center to Pole Center should be 38". It is recommend you install Pole A first, then measure from its center and the X-line to set Pole B
- There should be roughly a 2" gap from the face of the rectangle board to the front edge of the rim.

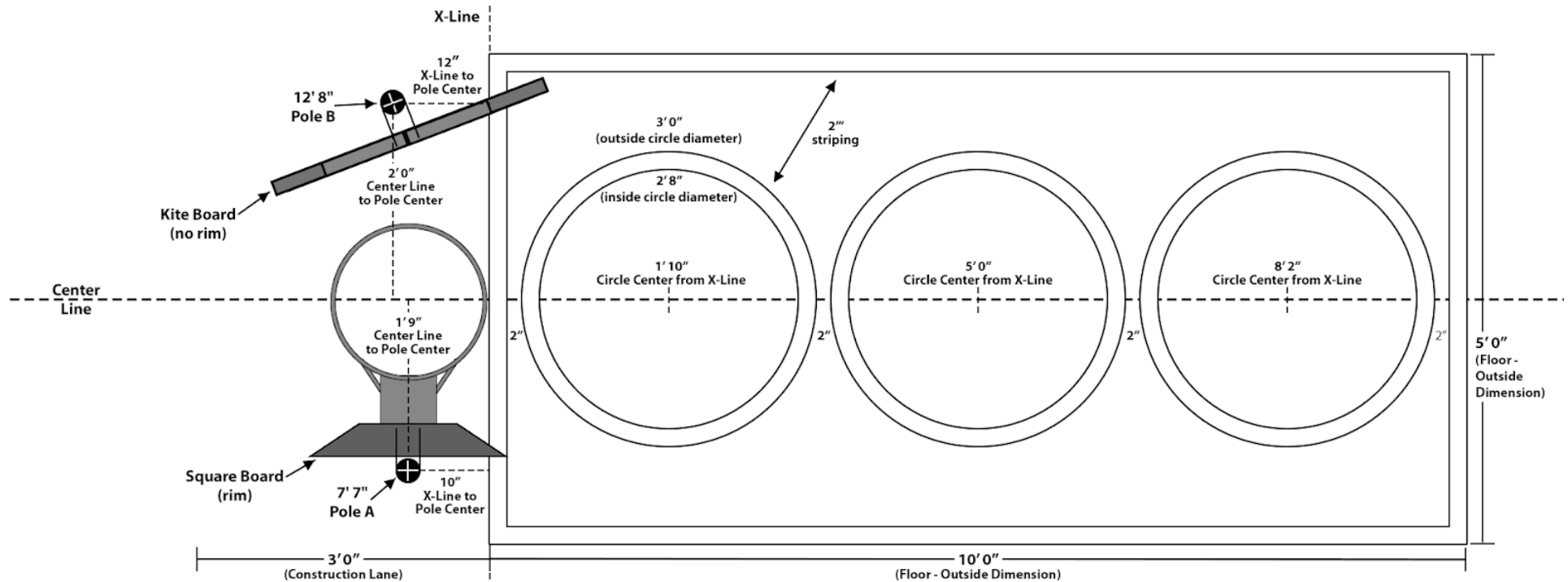


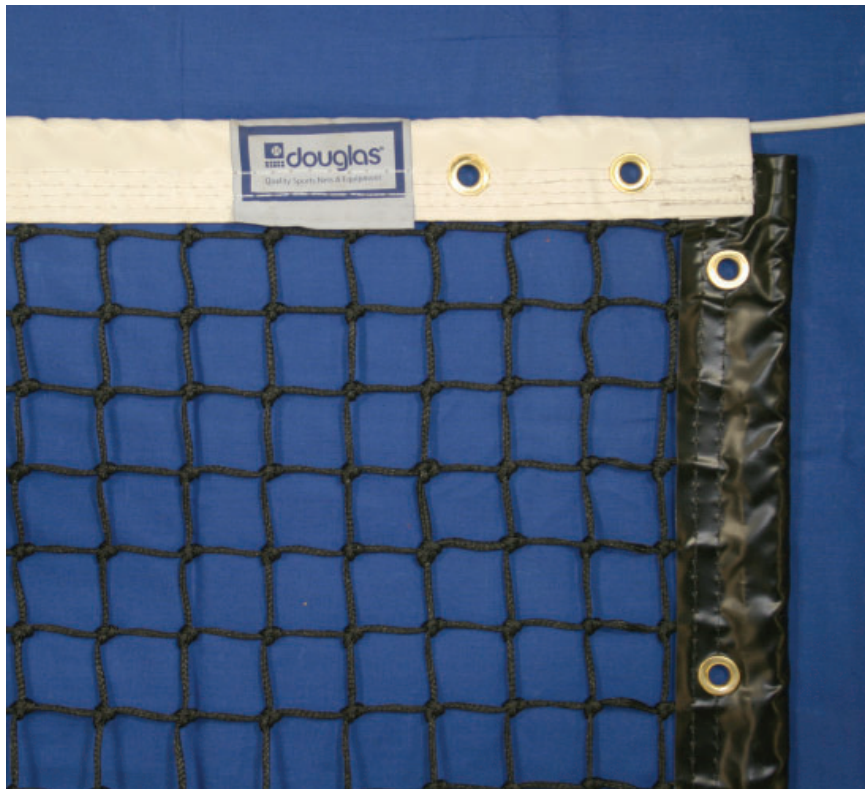
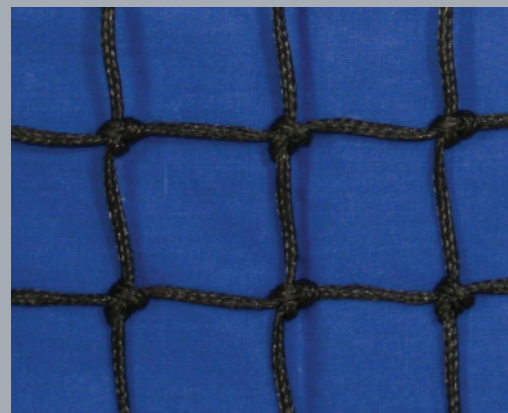
Station #	Name	Icon	Board Shape(s)	Pole Qty	Pole Size (Ft/in)	Pole Size (In.)	Inches Above Ground	Inches Below Ground	Rim Height AGL
7	Slant Back - Left		Kite	1	12' 8"	152	120	32	N/A
			Square	1	7' 7"	91	71	20	60"

Installation Notes

IMPORTANT!!! DO NOT FINALIZE POLE INSTALLATION UNTIL BOARDS ARE ON SITE.

- Variations in manufacturing can shift pole position slightly. Be sure to measure boards at job site prior to pole installation.
- Pole Center to Pole Center should be 38". It is recommend you install Pole A first, then measure from its center and the X-line to set Pole B
- There should be roughly a 10" gap from the face of the kite board to the front edge of the rim.





SPECIFICATIONS

SIZE

Official Pickleball Net size, 21'9"L x 36"H meeting USPA requirements.

HEADBAND

65 oz (20 oz./sq. yd.) 2-Ply vinyl coated polyester headband. Headband is lock-sewn with four rows of #32 white polyester thread. Complete with a vinyl coated, 5/32" galvanized steel cable with 2300# break strength.

NETTING

Netting is 1-3/4" square mesh braided solid core polyethylene, unsurpassed for durability and weather resistance. 3.0 mm netting with 285 lb break strength.

SIDE & BOTTOM TAPE

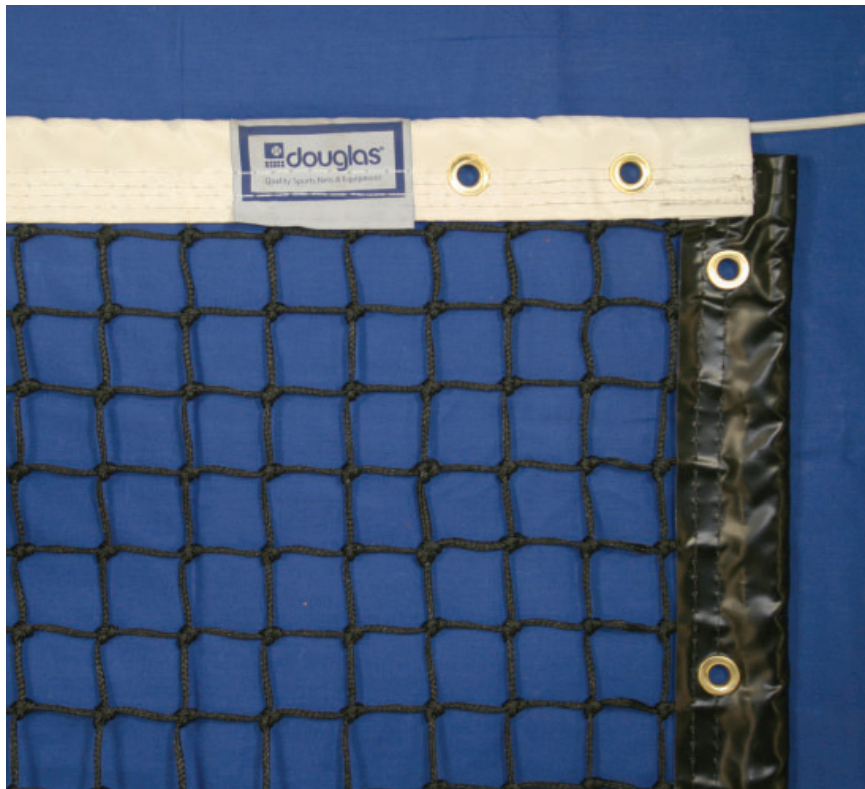
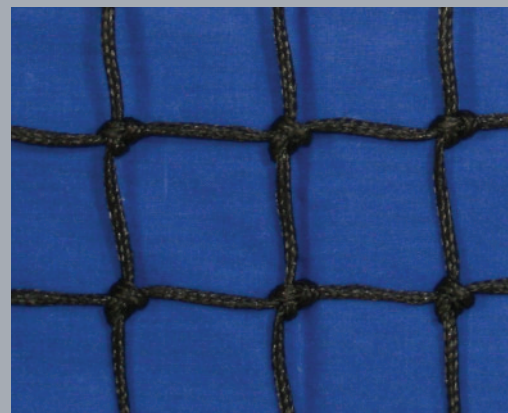
Vinyl bottom tape and side pockets of headbands are polyester based and won't shrink, mildew or rot when exposed to the elements. Tapes are double lock-stitched with black polyester thread.

INCLUDES

1/2" fiberglass side dowels and lacing cord.

WARRANTY

4 Year Limited



SPECIFICATIONS

SIZE

Official Pickleball Net size, 21'9"L x 36"H meeting USPA requirements.

HEADBAND

65 oz (20 oz./sq. yd.) 2-Ply vinyl coated polyester headband. Headband is lock-sewn with four rows of #32 white polyester thread. Complete with a vinyl coated, 5/32" galvanized steel cable with 2300# break strength.

NETTING

Netting is 1-3/4" square mesh braided solid core polyethylene, unsurpassed for durability and weather resistance. 3.0 mm netting with 285 lb break strength.

SIDE & BOTTOM TAPE

Vinyl bottom tape and side pockets of headbands are polyester based and won't shrink, mildew or rot when exposed to the elements. Tapes are double lock-stitched with black polyester thread.

INCLUDES

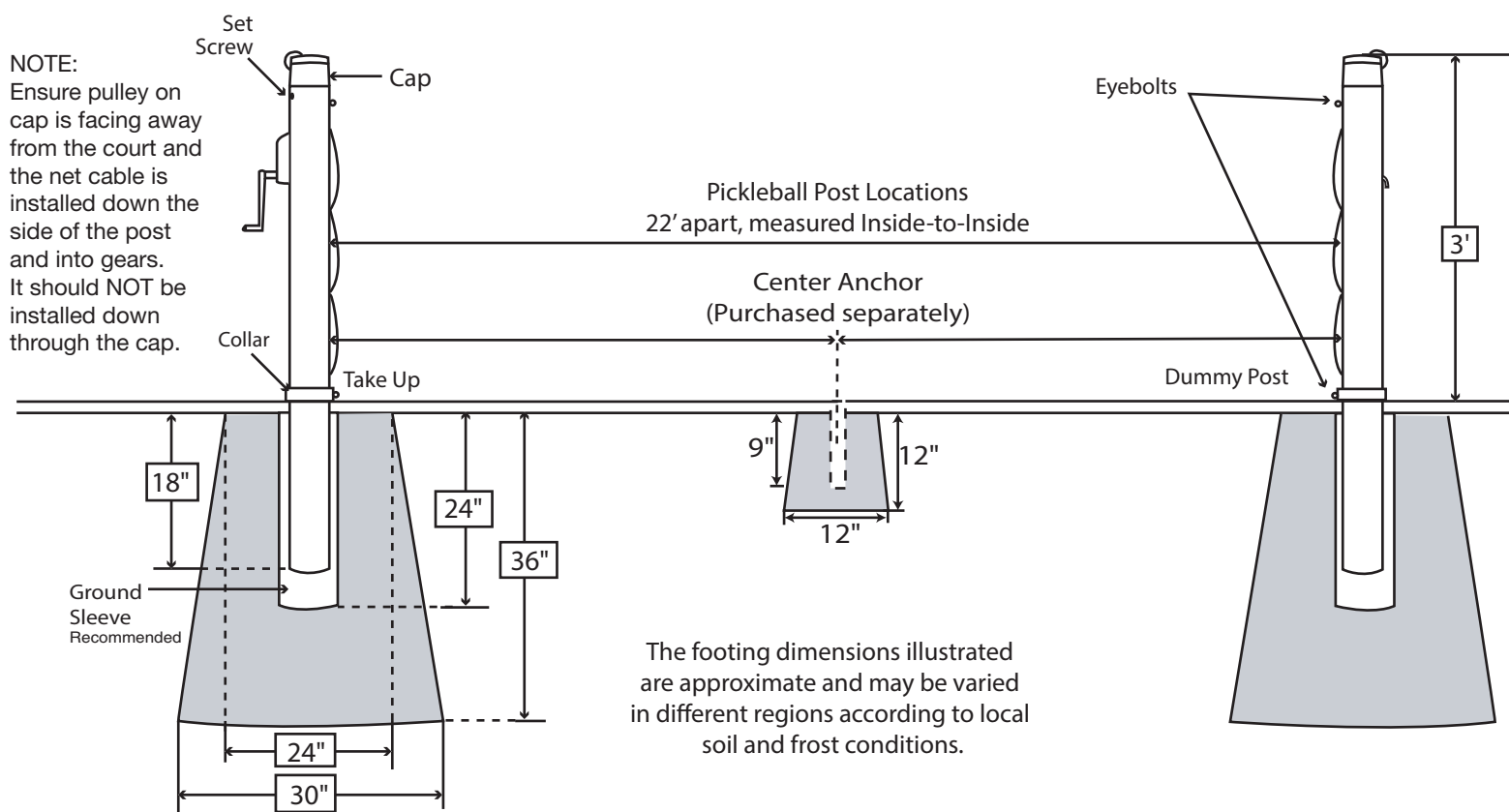
1/2" fiberglass side dowels and lacing cord.

WARRANTY

4 Year Limited

Douglas® Premier™ XS Pickleball/QuickStart Tennis Posts

(Item #'s 63074, 63075)



Hardware is located inside the end of take up post and includes (1) removable chrome handle and (4) eyebolts.

NOT TO SCALE

POST AND ANCHOR INSTALLATION:

1. When installing post, use bottom collar to ensure post height is about 3' above the court surface.
2. Posts should be spaced 22' apart (measured inside-to-inside).
4. **DIRECT GROUND INSTALLATION**
Anchor each post in a block of concrete as shown in the diagram. Pour the concrete into a bell-shaped hole 24" in diameter at the top and 30" in diameter at the bottom. Make the hole at least 36" deep.
5. **GROUND SLEEVE INSTALLATION -Recommended**
While pouring the concrete hold the ground sleeve in place, plugged end down. Use a plumb line to set the sleeve pointing straight up. Sleeve should be set flush with the surface. Let concrete dry. Carefully set the post in ground sleeves.

6. Adjust set screw to tighten tennis post cap.
7. Screw on the top and bottom eyebolts to each post.
8. **CENTER ANCHOR -Recommended**
The center anchor should be 11' away from each post. Pour concrete into a bell shaped hole 9" in diameter at the top and 12" in diameter at the bottom. The hole should be 12" deep. While pouring, hold the anchor in place, with the narrowed end down. Make sure the anchor is flush with the surface and pin is parallel to the net line. Let concrete dry.

CARE & MAINTENANCE

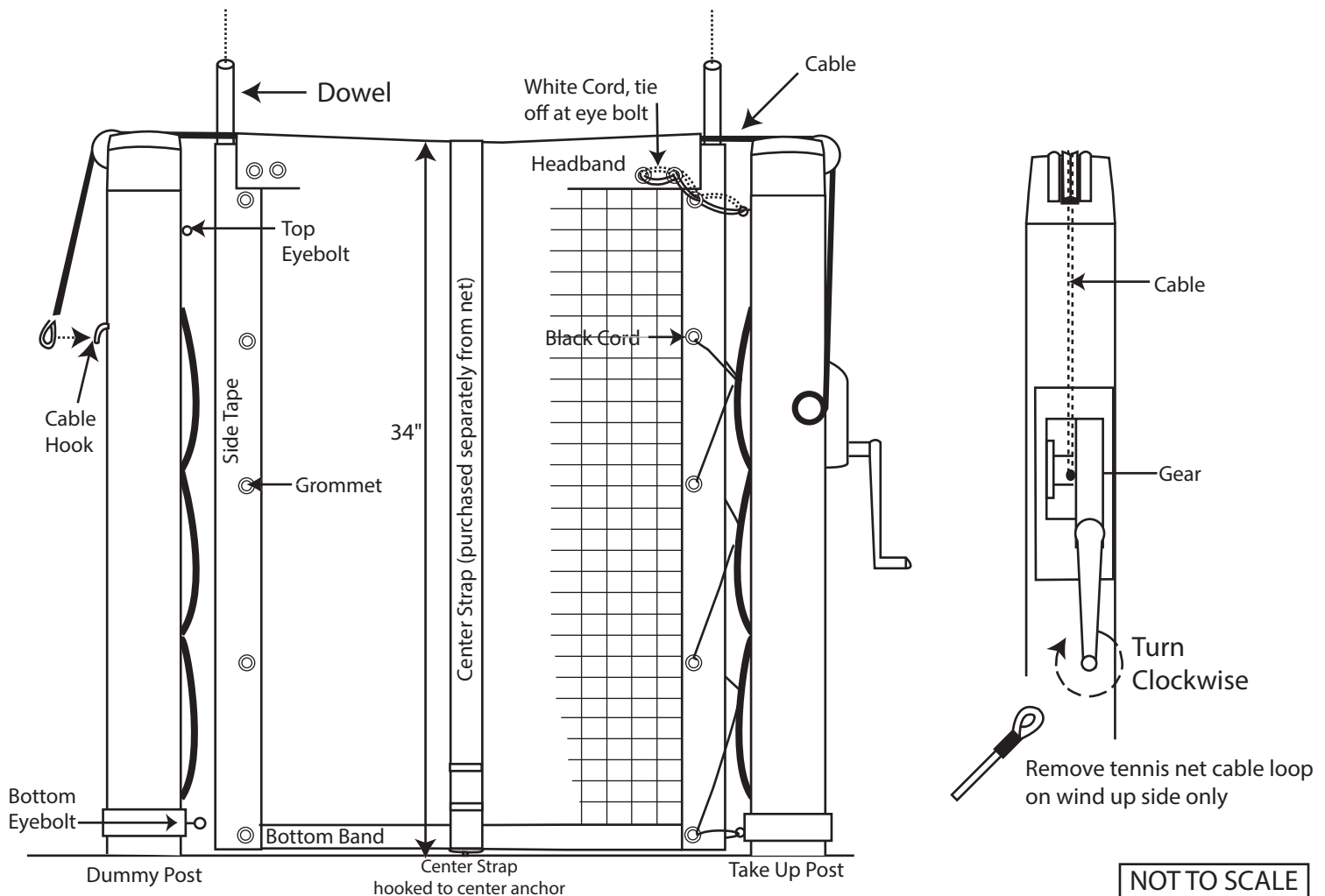
During the off season, it is best to winterize your court by removing the posts and use sleeve plugs (sold separately) to prevent moisture and dirt from falling in.

Douglas® Premier™ XS

Net Installation *Pickleball nets are sold separately.

(Item #'s 63074, 63075)

1. Stretch out the net across the court.
2. Attach the loop on the other end of the cable to the hook half way down the outside of the "dummy" post.
3. Since the Premier is an internally wound post, cut off the loop at one end of the cable for the take up side. Leave some excess in order to allow for several turns around the internal mechanism. Now, insert the plain cable into the hole on the gear.
4. Turning the handle clockwise, crank up cable so center of net is approximately 36". DO NOT OVERWIND.
5. Insert dowels (provided) through the end side tapes.
6. To secure the net with provided lacing cord; You will receive (2) shorter white pieces of cord and (2) longer pieces of black cord. Take one piece of white lacing cord and tie a knotted loop approximately 2" at one end. Use this white cord to lace through the (2) grommets on the net headband, as well as the 1st top grommet on the side of the net; tie a knot and secure to top eyebolt. Next, use the black cord and start by tying the top of the black cord to the top eyebolt, and proceed in lacing the cord through the grommets and onto the lacing rods (if available) or around the post. Continue this along the entire side of the net. As you move down the post, keep tension on the lacing cord. Once the lacing cord has been installed through all the grommets, begin at the top and pull on the lacing cord until the net is flush against the net post from top to bottom. Once the net is flush against the net post, tie the lacing cord at the bottom of the net post to the eyebolt. Cut off any excess lacing cord. Repeat for other post.
7. Measure the depth of the net in the center and adjust the optional center strap to make the net 34" at the center line of the courts.
8. Your installation is now complete. Your net should sit comfortable but somewhat taut between the net posts with a small gap between the net and posts.



Douglas®

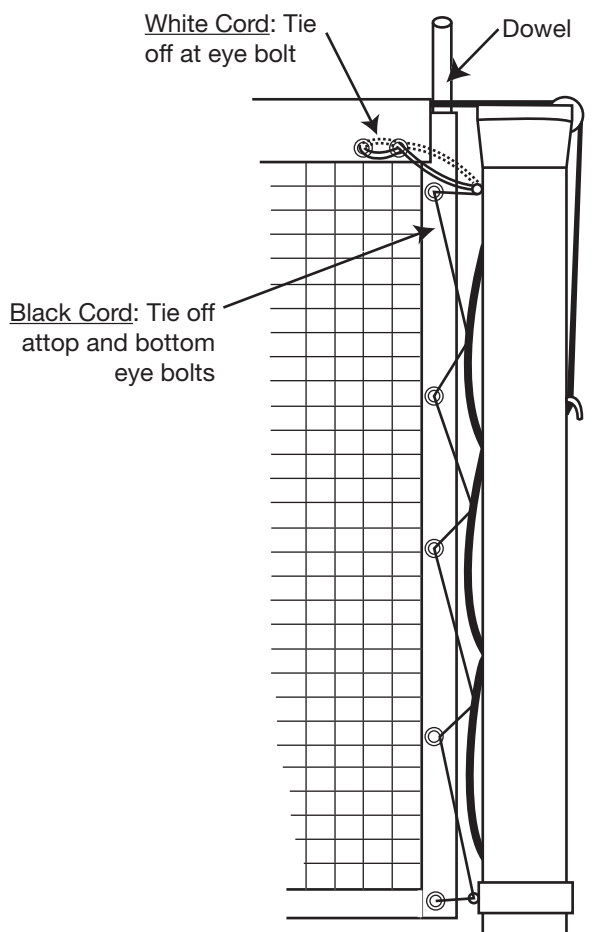
Tennis Net Installation

FOR THE BEST INSTALLATION, PLEASE READ THE FOLLOWING CAREFULLY.

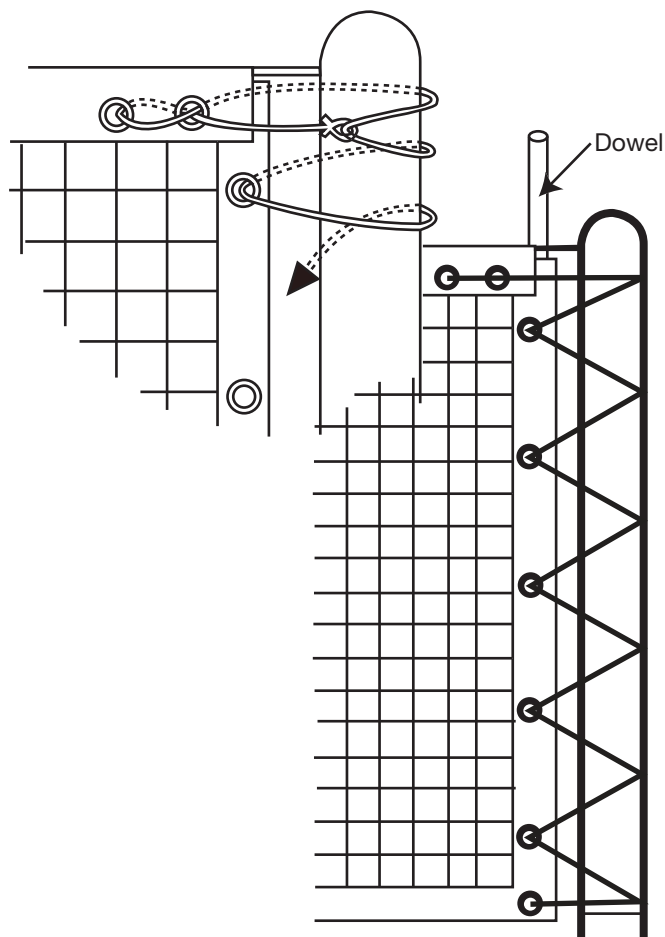
1. Stretch out the net across the court.
2. See if your winder post mechanism has a hook or a hole to accept the cable.
 - a. If it has a hook, use the cable as provided by attaching the loop to the hook.
 - b. If it has a hole, (internal mechanism), cut off the loop at one end of the cable. Leave some excess in order to allow for several turns around the internal mechanism. Now, insert the plain cable into the hole.
3. Attach the loop on the other end of the cable to the hook half way down the outside of the "dummy" post.
4. Crank up cable/net to 38" at center. DO NOT OVERWIND.
5. Insert dowels (provided) through the end side tapes.
6. Attach the headband to posts with the rope provided.
7. Square up the net and lace it to the post using black lacing cord provided. Most posts have lacing bars for easy installation. Use the side grommets on the net to accept the lacing cords. If the posts do not have lacing bars, hooks may be provided or you can lace around the posts.
8. Measure the depth of the net in the center and adjust the strap to make the net 36" at the center line of the courts.

Your installation is now complete. Your net should sit comfortable but somewhat taut between the net posts. There should be a very small gap between the net and post on each end.

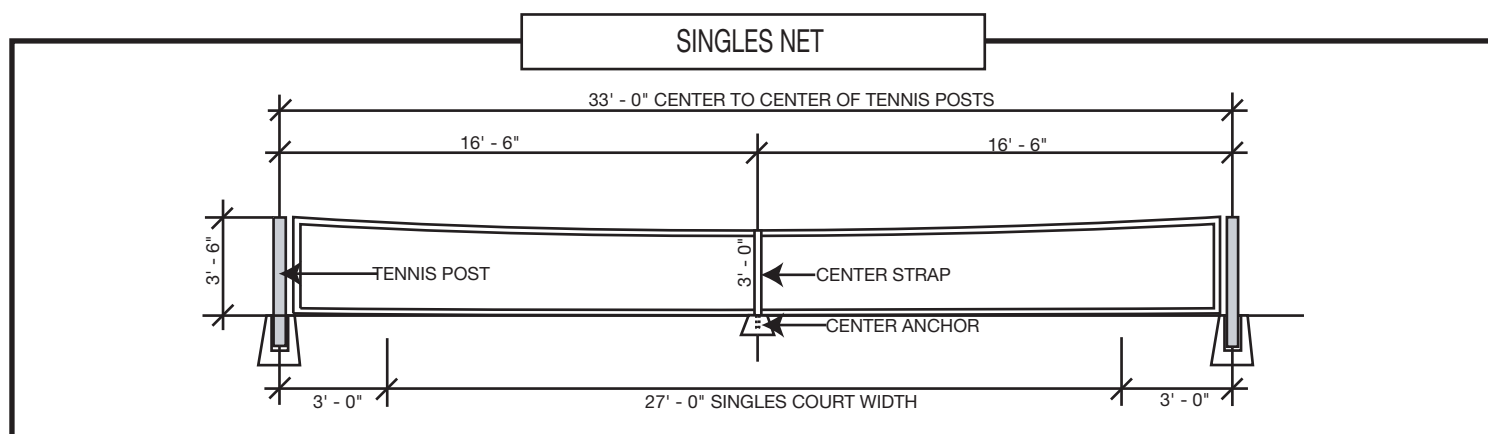
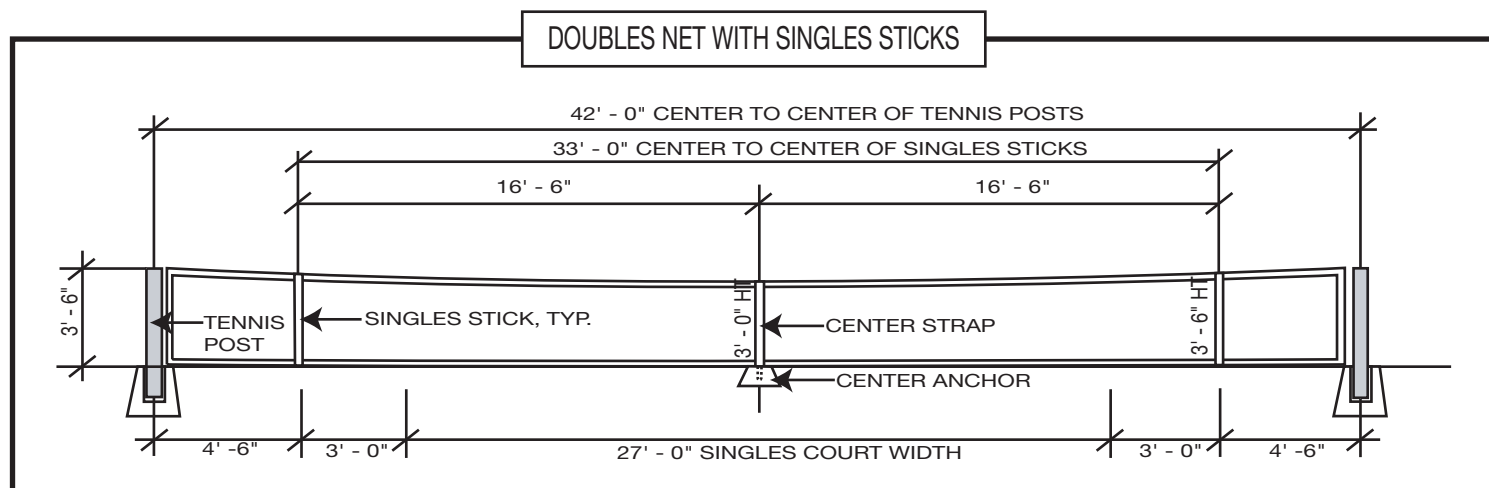
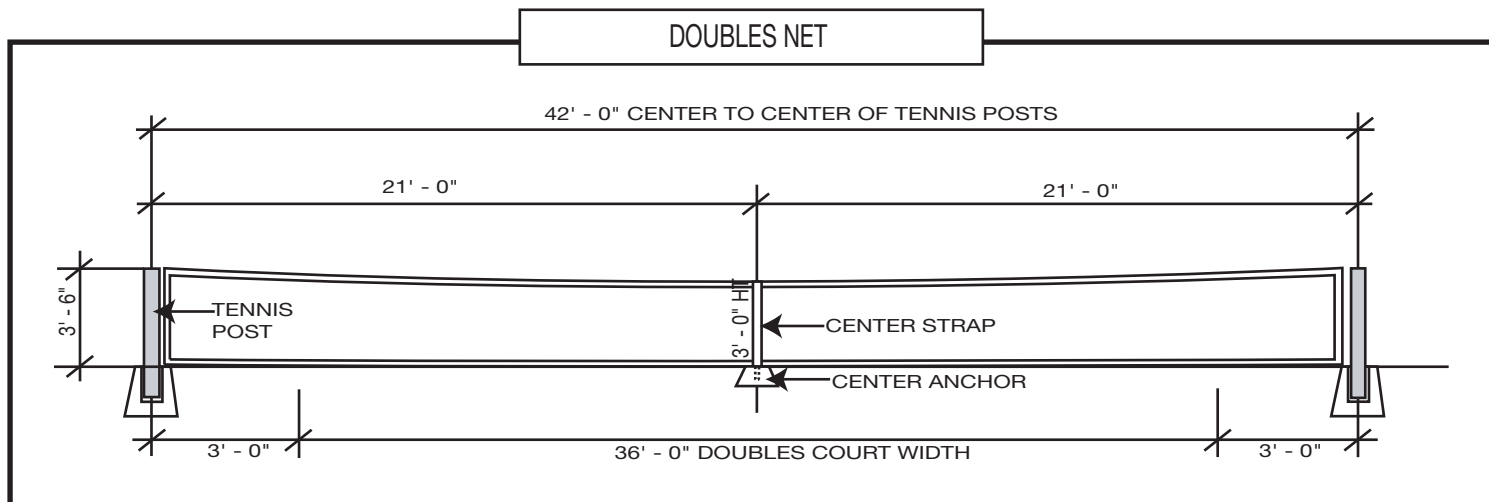
POST WITH LACING RODS



POST WITHOUT LACING RODS



Tennis Net Elevations



*Drawings are not to scale and are illustrative only.

Dimensions are from the USTC, TBA, & USTA, & they accept no responsibility for their use.

Douglas®

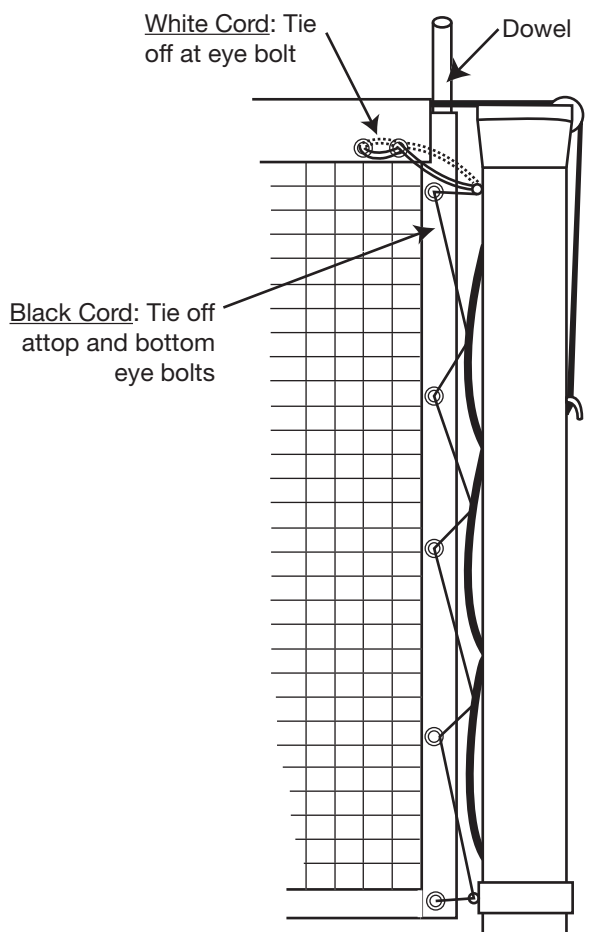
Tennis Net Installation

FOR THE BEST INSTALLATION, PLEASE READ THE FOLLOWING CAREFULLY.

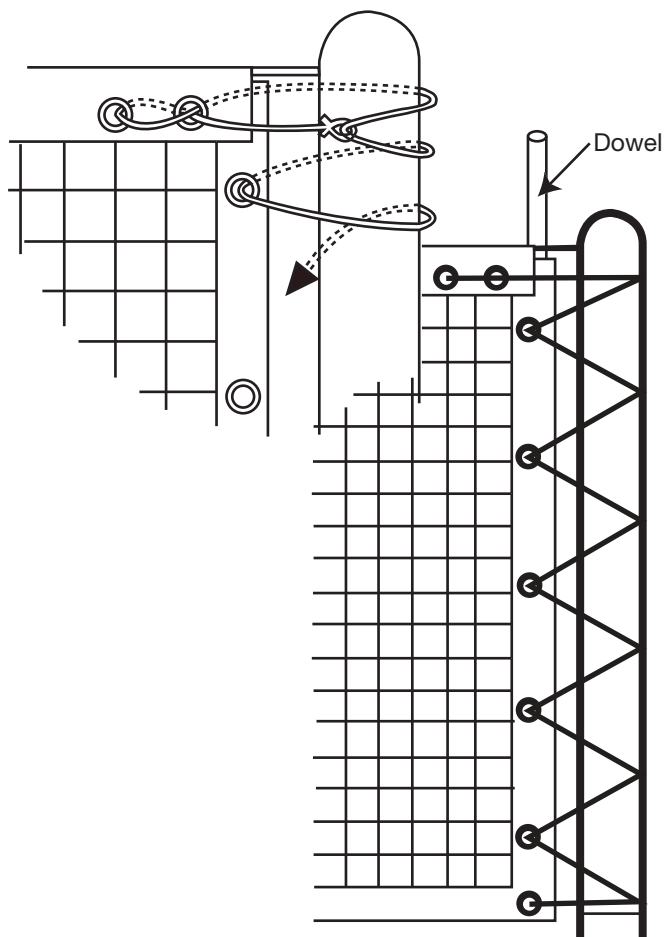
1. Stretch out the net across the court.
2. See if your winder post mechanism has a hook or a hole to accept the cable.
 - a. If it has a hook, use the cable as provided by attaching the loop to the hook.
 - b. If it has a hole, (internal mechanism), cut off the loop at one end of the cable. Leave some excess in order to allow for several turns around the internal mechanism. Now, insert the plain cable into the hole.
3. Attach the loop on the other end of the cable to the hook half way down the outside of the "dummy" post.
4. Crank up cable/net to 38" at center. DO NOT OVERWIND.
5. Insert dowels (provided) through the end side tapes.
6. Attach the headband to posts with the rope provided.
7. Square up the net and lace it to the post using black lacing cord provided. Most posts have lacing bars for easy installation. Use the side grommets on the net to accept the lacing cords. If the posts do not have lacing bars, hooks may be provided or you can lace around the posts.
8. Measure the depth of the net in the center and adjust the strap to make the net 36" at the center line of the courts.

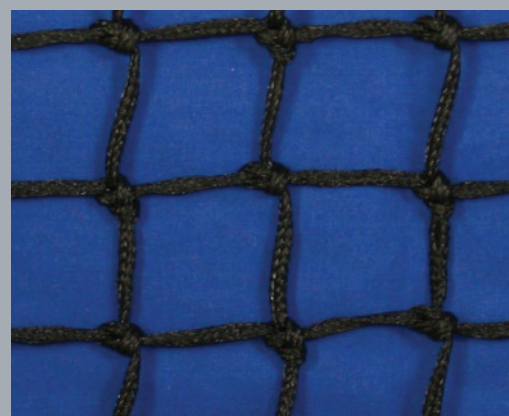
Your installation is now complete. Your net should sit comfortable but somewhat taut between the net posts. There should be a very small gap between the net and post on each end.

POST WITH LACING RODS



POST WITHOUT LACING RODS





SPECIFICATIONS

SIZE

Official size, 42' x 3'6" meeting USTA requirements.

HEADBAND

Double thick 48 oz polyester headband. Headband is lock-sewn with four rows of #32 white polyester thread. Complete with a vinyl coated, 5/32" galvanized steel cable with 2300# break strength.

NETTING

Netting is 1-3/4" square mesh braided solid core polyethylene, unsurpassed for durability and weather resistance. 3.5 mm netting with 325 lb break strength.

SIDE & BOTTOM TAPE

Vinyl bottom tape and side pockets of headbands are polyester based and won't shrink, mildew or rot when exposed to the elements. Tapes are double lock-stitched with black polyester thread.

INCLUDES

1/2" fiberglass side dowels and lacing cord.

WARRANTY

5 Year Limited



BOOMER HD PADDLE RACK

★★★★★ (2)

From: \$129.99



Free shipping (Continental U.S.)

Boomer HD Paddle Racks are a convenient solution to organize player rotations effortlessly. Our HD Paddle Racks are Lightweight, durable, and with a capacity for up to 8 paddles. These rugged paddle racks offer versatile mounting options for fences. A fair and effective (spin & point) paddle rack accessory for tracking players next up on the courts.

Product Specifications

- Boomer Pickleball paddle rack includes a fence-mount bracket and standard hardware.
- Accommodates up to 4 paddles; double them up to hold 8 for added convenience.
- Boomer paddle racks crafted from 1/8" steel ensure durability.
- Coated with black weather-proof powder for lifelong protection.
- **Dimensions:**
 - Length: 36"
 - Height: 7"
 - Depth: 2.5"
 - Weight: 13 lbs

Number of Racks : 4 Racks

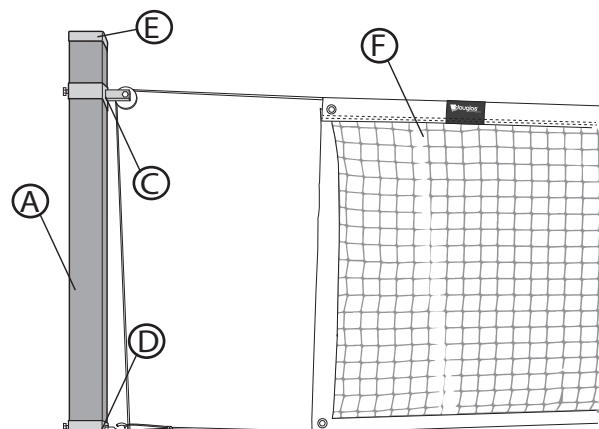
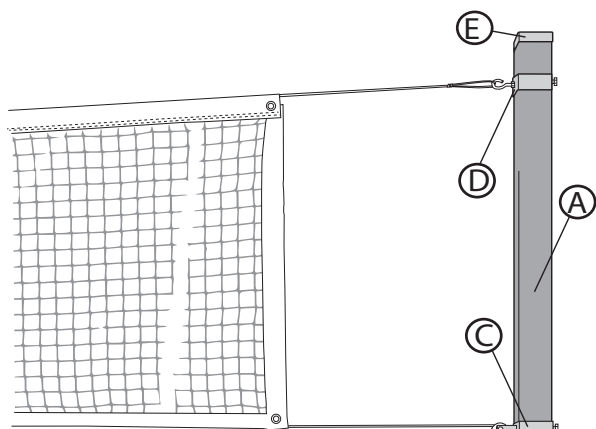
1 Rack

2 Racks

3 Racks

4 Racks

Clear



PARTS LIST

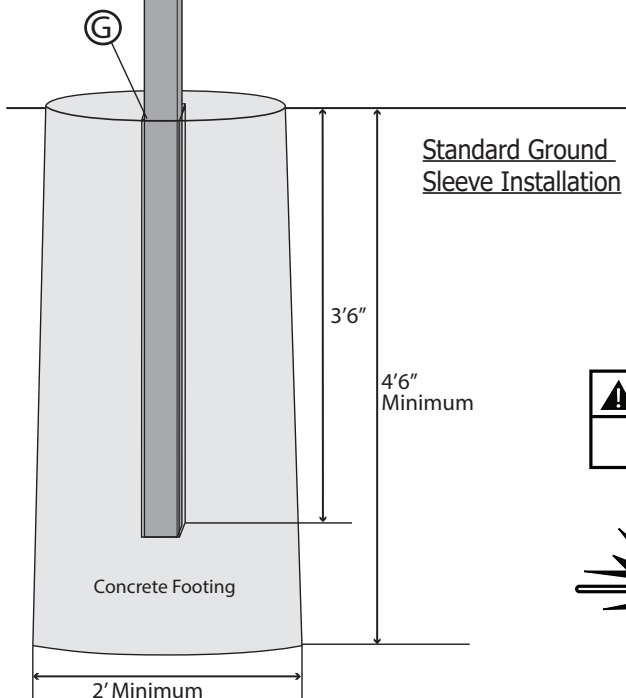
Ref.	Qty	Description
A	(2)	3.5" Square Poles -12' Long
B	(2)	Collar with Reel and Hardware
C	(2)	Collar with Pulley
D	(2)	Collar with Eye bolts
E	(2)	Pole Caps
F	(1)	VB-1200 Volleyball Net, 36"H x 32'L Lacing Cord (included with net)

SOLD SEPARATELY

G	(1)	Pair of 42" SQ Ground Sleeves (#65275) (GS-42SQ) (Recommended but optional)
---	-----	---

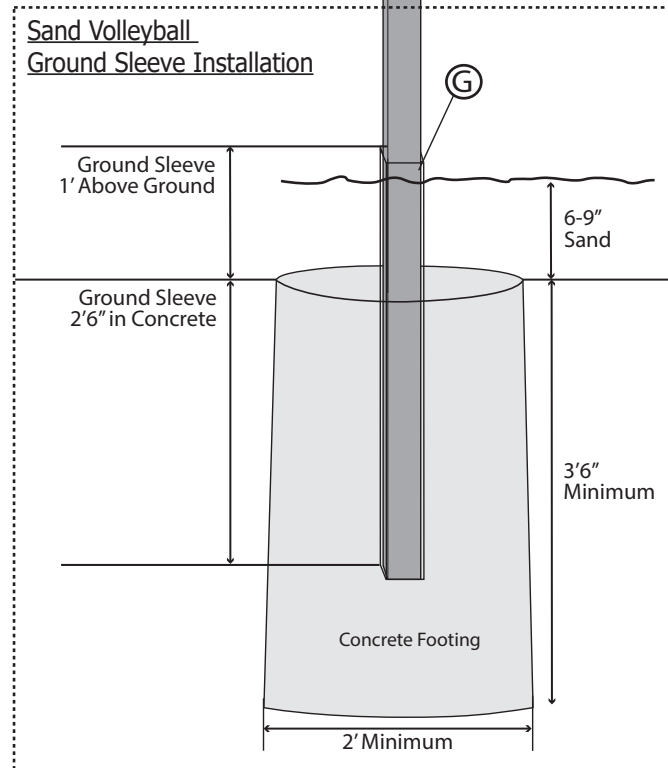
RECOMMENDED TOOLS

Level
Ladder or Step Stool
Concrete
Shovel
1/4" Allen Wrench
(Included with Reel)
9/16" Wrench
Measuring Tape

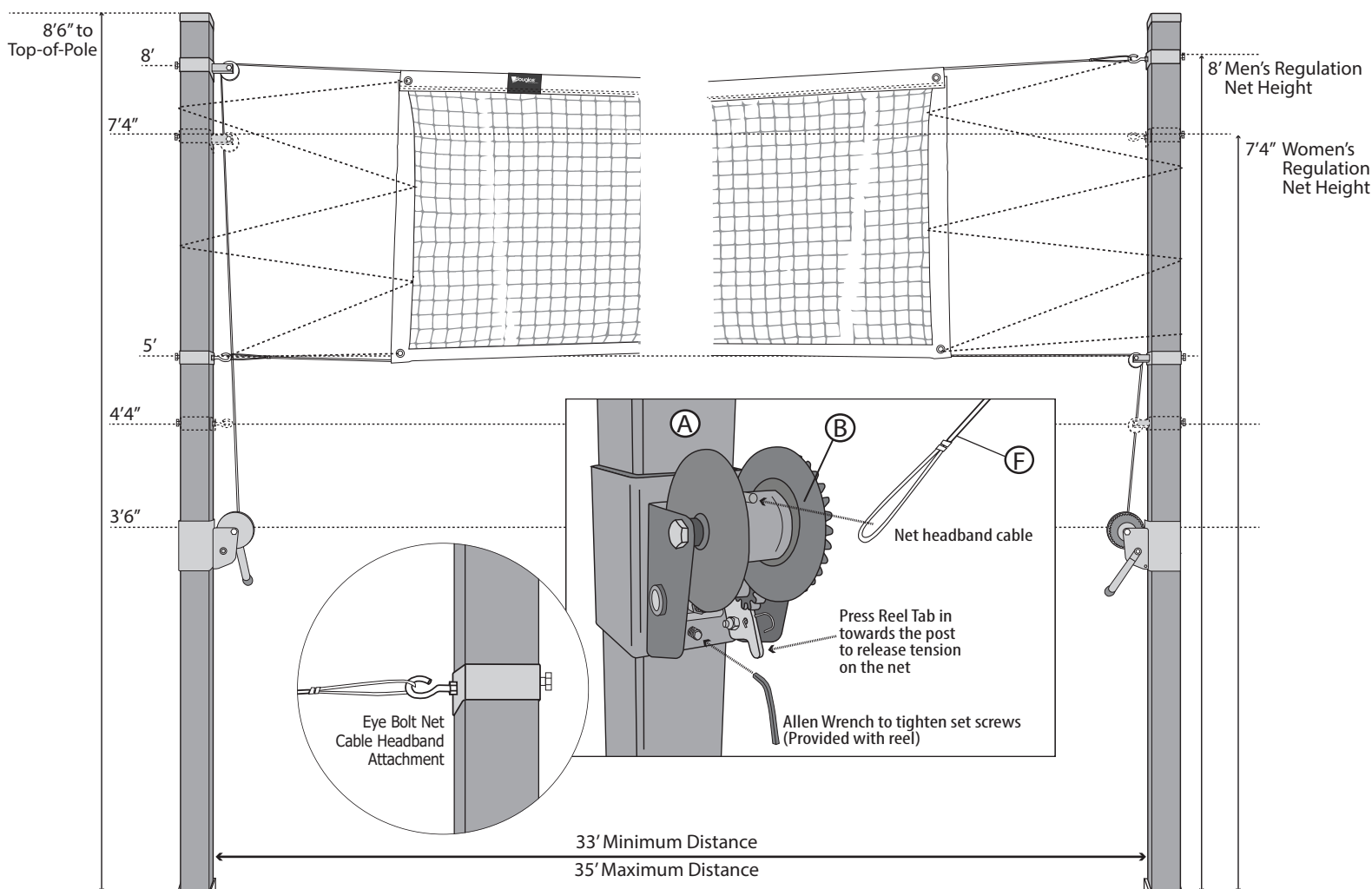


Standard Ground Sleeve Installation

WARNING
CONTACT UTILITIES
BEFORE DIGGING.



Sand Volleyball Ground Sleeve Installation



POLE INSTALLATION

1. The poles should be sunk to the depths shown in the illustration on page 1, with concrete 12" below the end of the pole. The maximum recommended pole spacing is 35' apart. The optional ground sleeves are recommended. Concrete installation varies depending on your area's soil condition.
2. Slide reel and all collars over the top of poles according to the illustration. Secure collars with reels according to your desired volleyball height. For this you will need a 9/16" wrench and a ladder.
3. To secure collars, use a 9/16" wrench and tighten each bolt on the backside of the pole.
4. To set the reel in place, use the provided Allen wrench to tighten the set screws on the front of the pole. One set screw is underneath the reel, and the other is above the reel.
5. If you plan on adjusting the net between heights, tighten the collars just enough to set in place. Over-tightening will make it difficult to reset the collars.
6. Secure the handle to the reel and place caps on the tops of the poles.

NET INSTALLATION

1. Attach one headband cable loop to the post with the top eye bolt collar set at 7'4" or 8'.
2. On the post with the top pulley collar, run the cable loop over and down through the pulley.
3. Continue pulling the net cable loop down to the hook on the reel. Turn the reel handle clockwise and begin cranking until the net is taught between the posts.
4. Now, follow the same steps for the bottom cable. Attach one end of the net to the post with the lower eye bolt collar. On the other post, run the cable loop over and down through the pulley.
5. Continue pulling the net cable loop down to the hook on the reel. Turn the reel handle clockwise and begin cranking until the net is taught between the posts.
6. Use the provided lacing cord to secure sides of net to the post.

SECTION 12 9353
CUSTOM STEEL PERGOLA

PART 1 GENERAL

1.1 Description

- A. The work consists of all labor, equipment and materials necessary for complete installation of a metal construction picnic pergola as called for in the plans and proposal for installation of complete picnic pergola. Owner to provide stamped engineering drawings for construction.

1.2 Submittals – Only required if a product other than the basis of design is proposed.

- A. Three original sets of Shop Drawings for permit submittal
- B. Structural calculations for permit submittal
- C. Drawings/Calculations to meet the version of IBC that is current in the jurisdiction that will be providing the building permit. It is the manufacturer's responsibility to determine which codes/code version that the building is to be design to meet. The code version is to be indicated on the submittals.
- D. Drawings and calculations are to be sealed by architect/structural engineer licensed in the state of Illinois.

1.3 Pergola System Description

- A. Basis of Design: ICON Shelter Systems Inc. 10x52 Custom Punched Metal Pergola (FAT10X52KZ)
- A. The pre-engineered package shall be shipped as a pre-fabricated package that shall include the structural frame members, roof material, fasteners, trim and installation instructions. The structure shall be shipped in knocked down bundles. No on-site welding will be required.

1.3 Delivery and Storage

- A. Contractor shall order and be responsible for delivery, storage and security of the parts and materials until final acceptance. Unload materials with necessary equipment, store covered out of weather. Inspect parts, compare with manufacturer's bill of material, and report any missing or non-conforming parts to the manufacturer.

1.4 Related Sections

- A. Section 32 1313 – Concrete paving

PART 2 PRODUCTS

- A. When submitting a request for a substitution, provide complete product data for each product as listed in the Submittals Section.
- B. The pergola is to be manufactured by Icon Shelter System, Inc., 1455 Lincoln Ave., Holland, Michigan 49423, (616) 396-0919. Pergola is powder-coated at factory. See stamped engineering drawings attached for pergola information.

2.2 Equipment

- A. All proprietary items shall be considered specified as "or equal". All equivalent substitutions must be approved by Owner's Representative. All fixtures shall be supplied with the complimentary accessories and parts required for proper installation and operation.
- B. The Contractor shall supply and install the pergola wholly and completely with all hardware, fixtures, utilities, components and coatings necessary to provide a finished product.
- C. Basis of design shall be ICON 10x52 Custom Punched Metal Pergola as depicted in the plans or approved equal. The structure shall be attached to

- the top of the concrete by use of anchor bolt(s) furnished by the manufacturer. Anchor bolts to be hidden by base plate covers.
- D. All steel parts shall be factory powder coated in the Owner approved color.

3.0 EXECUTION

3.1 Installation

- A. Verify that all components and parts have been delivered. If not, contact manufacturer to obtain the correct parts.
- B. The contractor shall not modify equipment.
- C. All equipment detailed on the drawings shall be provided and installed per Manufacturers plans and specifications.
- D. The Contractor shall un-crate, clean and assemble all parts as necessary to install complete a usable item.
- E. Contractor shall set the pergola on prepared footings and foundation. Footings and foundations shall be as per details. Foundation will be constructed to local codes, and good construction practices for the specific site conditions. Foundation footings shall be plumb and level with each other.
- F. Remove all stickers, staples, tags and packing materials from the equipment except for those required by law.

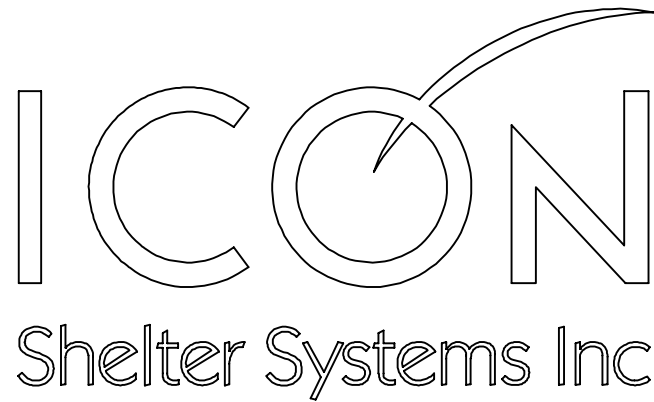
3.2 Cleaning

- A. Clean and polish exposed surfaces, using materials and methods recommended by manufacturer.

3.4 Protection

- A. Protect accessories against damage during remainder of construction period, complying with manufacturer's directions.
- B. At direction of Owner, repair or replace any damaged fixtures and accessories.

END OF SECTION



JOB NUMBER: 11937
JOB NAME: WING PARK
JOB LOCATION: ELGIN IL 60123

REVISION: A
A - INITIAL SUBMITTAL REVISION (DTH 7/20/2026)

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DISTINCTIVE STEEL SHELTERS
WWW.ICONSHELTERS.COM
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SYSTEMS, INC.

1455 LINCOLN AVE.
HOLLAND MI, 49423

616.396.0919
800.748.0985
616.396.0944 FX

REV: A DATE: 7/20/2026	APPROVAL FOR FABRICATION REQUIRED: BY SIGNING THIS FABRICATION APPROVAL, I AUTHORIZE ICON SHELTERS TO FABRICATE THE PRODUCT AS REPRESENTED AND DESCRIBED WITHIN THIS SUBMITTAL PACKAGE, WITH NO FURTHER CHANGES OR AMENDMENTS REQUIRED. THIS APPROVED SUBMITTAL DOCUMENT SUPERSEDES ALL OTHER DESIGN DOCUMENTS RELATED TO THIS SHELTER/PRODUCT AND REPRESENTS THE FINAL DESIGN TO BE FABRICATED.	
	PRINT NAME: _____	DATE: _____
	SIGNATURE: _____	

TABLE OF CONTENTS

- 1.0 - 1.1 COVER SHEET/ NOTES
- 2.0 ELEVATION
- 3.0 ANCHOR BOLT LAYOUT
- 4.0 - 4.2 FRAME LAYOUT
- 5.0 - 5.2 FRAME CONNECTIONS

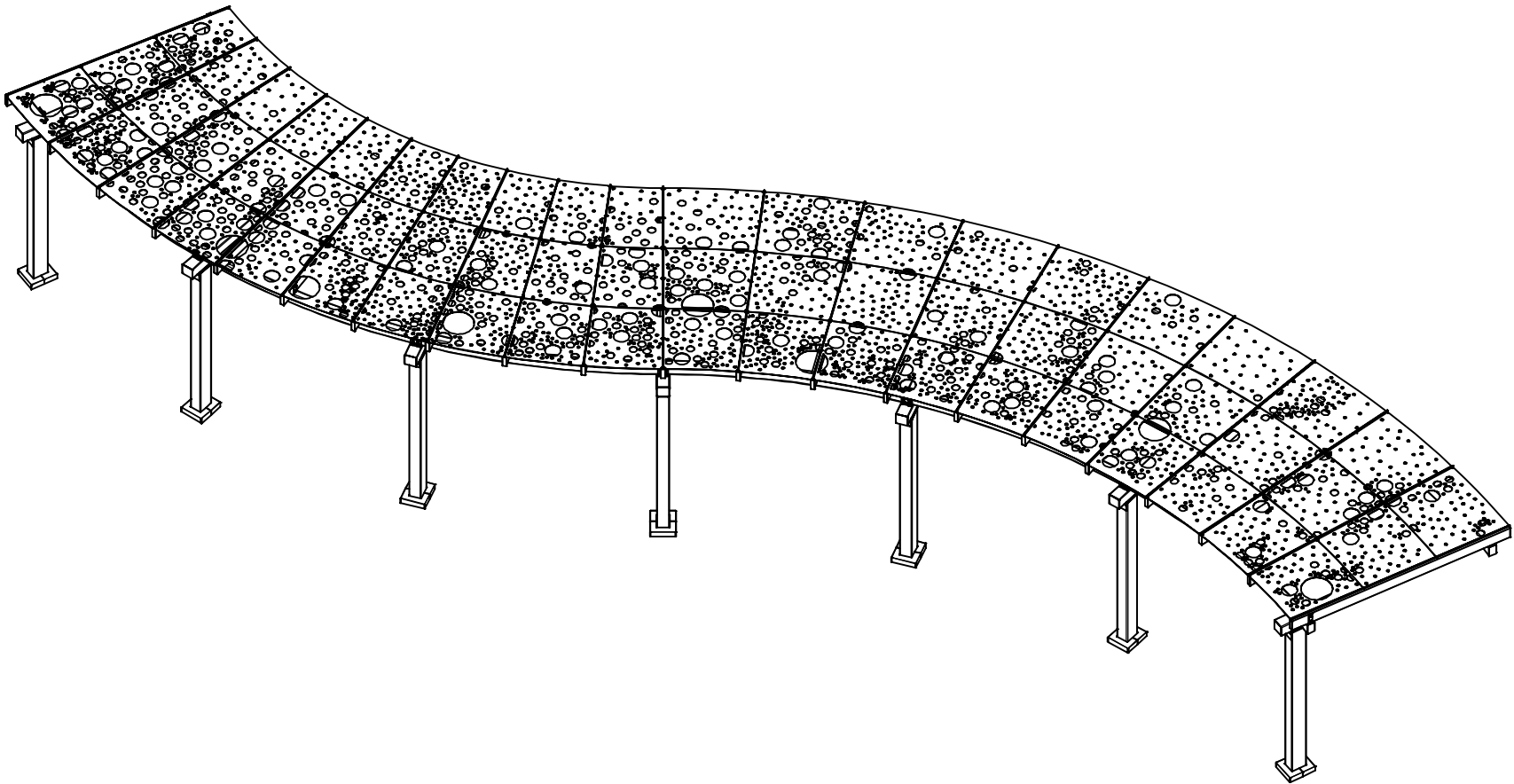
DESIGN LOADS

CODE: 2021 INTERNATIONAL BUILDING CODE

TOTAL DEAD: 13.64 P.S.F.
FRAME DEAD: 10.64 P.S.F.
ROOF DEAD: 1.20 P.S.F.
COLLATERAL DEAD: 1.80 P.S.F.
ROOF LIVE LOAD: 20.00 P.S.F.
GROUND SNOW LOAD: 30.00 P.S.F.
ROOF SNOW LOAD: 25.20 P.S.F.
WIND SPEED: 115.00 M.P.H.
EXPOSURE: C
SEISMIC USE GROUP: I
SEISMIC SITE CLASS: D
SEISMIC DESIGN CATEGORY: A
SEISMIC ANALYSIS: SIMPLIFIED

MATERIALS

TUBE STEEL (HSS HOLLOW STRUCTURAL SECTION)	(ASTM DESIGNATION)
WIDE FLANGE SECTIONS	A - 500 GRADE B / C
STRUCTURAL STEEL PLATE	A - 992
ROOF PANELS (STEEL)	A - 36, A - 572 GRADE 50
ANCHOR BOLTS	A - 792
CONNECTION BOLTS	F1554 GRADE 55
	F3125 GRADE A325



FABRICATOR APPROVALS
CLARK COUNTY STEEL FABRICATOR NUMBER: 707
CITY OF LOS ANGES FABRICATOR NUMBER: FB03254

8/10/26

TROY L. GARLAND
081-006162
Expires 11-30-2026
STATE OF ILLINOIS

THIS SEAL PERTAINS ONLY TO THE MATERIALS AND INFORMATION SHOWN ON THESE DRAWINGS. THIS SEAL DOES NOT SERVE AS - OR REPRESENT - THE PROJECT ENGINEER OF RECORD AND SHALL NOT BE CONSTRUED AS SUCH.

COVER SHEET

DRAWN BY:
DTH
DATE:
7/20/2026
JOB NO.:
11937
REVISION:
A
BUILDING TYPE:
FAT10X52KZ
PROJECT NAME:
WING PARK ELGIN IL 60123

SHEET
1.0

NOTES:

ALL WELDING CONFORMS TO THE LATEST EDITION OF AWS D1.1 OR D1.3 AS REQUIRED.
ALL WELDING IS PERFORMED BY AWS CERTIFIED WELDERS. THERE IS NO FIELD WELDING REQUIRED, U.N.O.

FOUNDATIONS HAVE BEEN DESIGNED WITH CLASS 5 SOILS PRESUMPTIVE LOAD - BEARING VALUES IN ACCORDANCE WITH BUILDING CODE REQUIREMENTS. VERTICAL FOUNDATION PRESSURE: 1,500 PSF. LATERAL BEARING PRESSURE: 100 PSF/FT. COHESION 130 PSF. IF SITE - SPECIFIC SOILS DO NOT MEET THE REQUIREMENTS FOR SOIL CLASS 5 , CONTACT A LOCAL GEOTECHNICAL ENGINEER.

DUE TO STANDARDIZED FABRICATION, PARTS SHOWN MAY BE UPGRADED. REFER TO THE SHIPPING BILL OF MATERIALS FOR POSSIBLE SUBSTITUTIONS.

ICON SHELTER SYSTEMS INC. RECOMMENDS THAT THE PRIMARY FRAMING INSTALLER AND THE ROOF INSTALLER HAVE A MINIMUM OF FIVE (5) YEARS OF DOCUMENTED EXPERIENCE INSTALLING THIS TYPE OF PRODUCT.

HIGH STRENGTH BOLTING:
ALL HIGH STRENGTH BOLTS ARE F3125 GRADE A325 BOLTS WITH HEAVY HEX NUTS. THE BOLTS ARE TO BE INSTALLED UTILIZING THE "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS" (8/1/2014) AS PREPARED BY RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC) FOR THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC). THE BOLTS SHALL BE INSTALLED AS SNUG TIGHTENED WHICH IS DEFINED AS THE TIGHTNESS THAT IS ATTAINED WITH A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH TO BRING THE PLIES INTO FIRM CONTACT, WHICH IS THE CONDITION WHEN THE PLANES OF CONTACT BETWEEN TWO PLIES ARE SOLIDLY SEATED AGAINST EACH OTHER, BUT NOT NECESSARILY IN CONTINUOUS CONTACT WITH UTILIZATION OF THE SNUG TIGHTENING METHOD, NO WASHERS ARE REQUIRED.
ALL CONNECTIONS ARE BEARING TYPE CONNECTIONS UNLESS NOTED OTHERWISE.

BEFORE ERECTING THE FRAME, VERIFY ALL BOLTS AND NUTS ARE CLEAN OF DEBRIS AND BURRS - INCLUDING THE HARDWARE ALREADY FASTENED INSIDE THE MEMBERS. CHASING THREADS ON SOME BOLTS AND NUTS MAY BE REQUIRED. APPLICATION OF THREAD WAX MAY BE USED TO ASSIST IN TIGHTENING (NOT BY ICON).

IT IS THE RESPONSIBILITY OF THE INSTALLER TO INSURE PROPER TIGHTNESS.

PROPER ERECTION OF THE FRAMING MEMBERS REQUIRES THE MAIN COLUMNS TO BE PLUMB & SQUARE. COLUMNS, RAFTER, AND TIE BEAM CONNECTIONS MUST BE TIGHTENED BEFORE INSTALLING THE PURLINS. PURLINS MUST BE PARALLEL TO THE TIE BEAMS AND EAVE BEAMS.

ICON RECOMMENDS TO NOT FULLY TIGHTEN CONNECTION HARDWARE UNTIL THE MAJORITY OR ENTIRETY OF FRAME COMPONENTS ARE ERECTED. PURLINS OR OTHER MEMBERS THAT REQUIRE SCREW FASTENERS SHOULD BE INSTALLED LAST. THIS ALLOWS FOR MOVEMENT OF MEMBERS TO HELP ALIGN THE SHELTER AS INTENDED.

THE TOUCH - UP KIT SHOULD BE UTILIZED FOR ANY EXPOSED STEEL (CHIPS, SCUFFS, OR SCRATCHES) THAT MAY RESULT FROM SHIPPING, HANDLING, OR INSTALLATION OF SHELTER COMPONENTS. ROUTINE TOUCH - UP IS RECOMMENDED.

WHEN DRILLING OPERATIONS ARE REQUIRED, METAL SHAVINGS CAN ACCUMULATE AND MUST BE QUICKLY AND CAREFULLY REMOVED TO PREVENT RUST AND STAINS ON SHELTER COMPONENTS (FRAME AND ROOF). THIS SHOULD BE CHECKED AND PERFORMED AT THE END OF EACH DAY OF INSTALLATION BY SWEEPING, BRUSHING, AND/OR USING COMPRESSED AIR.

THE ENGINEERING AND DETAILING FOR THIS STRUCTURE IS ONLY VALID IF ICON SHELTERS SYSTEMS FABRICATES THE COMPONENTS.

CARE & MAINTENANCE:

- ICON REQUIRES THAT THE COATED PRODUCTS LOCATED NEAR A SEASHORE (SALT WATER) ENVIRONMENT BE SYSTEMATICALLY CLEANED, TO REMOVE SALT DEPOSITS PER THE FOLLOWING CLEANING PROGRAM:
- A. PERIODIC CLEANING AND INSPECTION OF THE STRUCTURES IS REQUIRED TO REMOVE CONTAMINANTS THAT CAN CAUSE CHEMICAL OR MECHANICAL FILM DEGRADATION IF LEFT EXPOSED FOR LONG PERIODS OF TIME.
 - B. CLEANING AND INSPECTION MUST COMMENCE IMMEDIATELY AFTER INSTALLATION TO CLEAN ANY SOILS, CONCRETE, OR OTHER CONTAMINANTS THAT HAVE BEEN DEPOSITED DURING THIS TIME. FOR APPLICATION OF WARRANTY, CLEANING MUST BE DOCUMENTED, AND PROPER RECORDS KEPT, OR WARRANTIES ARE CONSIDERED NULL AND VOID.
 - I. NON - HAZARDOUS ENVIRONMENTS - CLEAN AND CHECK EVERY 12 MONTHS.
 - II. TROPICAL ENVIRONMENTS - CLEAN AN CHECK EVERY 9 MONTHS.
 - III. SWIMMING AND LEISURE POOLS - CLEAN AND CHECK EVERY 3 MONTHS.
 - IV. MARINE ENVIRONMENTS - CLEAN AND CHECK EVERY 3 MONTHS.
 - V. INDUSTRIAL ENVIRONMENTS - CLEAN AND CHECK EVERY 3 MONTHS.
 - VI. HAZARDOUS ENVIRONMENTS - CLEAN AND CHECK MONTHLY.
 - C. DO NOT USE ABRASIVE CLEANERS OR ABRASIVE IMPLEMENTS SUCH AS STEEL WOOL, SANDPAPER, OR WIRE BRUSHES.
 - D. CLEANING AGENTS SHOULD ALWAYS BE TESTED IN AN AREA THAT IS NOT EASILY SEEN BEFORE USE.
 - E. STRONG SOLVENTS SHOULD NOT BE USED.
 - F. ALWAYS RINSE CLEANER WITH PLENTIFUL AMOUNTS OF CLEAN WATER.
 - G. MILDEW CAN BE REMOVED WITH A SOLUTION OF:
 - I. 1/3 CUP DETERGENT.
 - II. 2/3 CUP TRISODIUM PHOSPHATE
 - III. 1- QUART SODIUM HYPOCHLORITE, 5% SOLUTION (BLEACH)

RECEIVING SHIPMENTS:

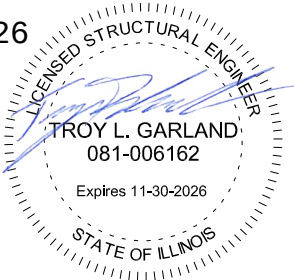
PERFORM A FULL INVENTORY OF ALL ITEMS RECEIVED UPON DELIVERY. ANY DEFECTS OR DAMAGE MUST BE ANNOTATED ON THE BILL OF LADING AND REPORTED TO ICON SHELTER SYSTEMS AS SOON AS POSSIBLE.

PLASTIC WRAP ON COMPONENT BUNDLES MUST BE REMOVED WITHIN 5 DAYS OF DELIVERY. FAILURE TO COMPLY MAY DAMAGE COATING AND WILL VOID WARRANTY. EXTRA PRECAUTION SHOULD BE TAKEN TO AVOID DAMAGE TO MEMBER FINISH.

TOUCH - UP KITS SHOULD BE REMOVED FROM SHIPMENT BUNDLES AND STORED INDOORS WITH MINIMAL HEAT FLUCTUATION. OPTIMAL STORAGE TEMPERATURE IS 70 DEG F. PAINT WILL QUICKLY DEGRADE AT TEMPERATURES LOWER THAN 40 DEG F, AND HIGHER THAN 90 DEG F.

IF METAL ROOF PANELS ARE NOT TO BE INSTALLED WITHIN 2 WEEKS, ICON RECOMMENDS KEEPING IN A CLIMATE CONTROLLED STORAGE FACILITY OR A COVERED, LOW HUMIDITY ENVIRONMENT. ROOF MATERIALS CAN QUICKLY DEVELOP STORAGE STAINS FROM EXCESS MOISTURE BETWEEN PANELS/TRIM WHICH CAN BE DIFFICULT, OR IMPOSSIBLE, TO FULLY REMOVE.

8/10/26



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HOLLAND MI, 49423

616.396.0919
800.748.0985
616.396.0944 FX

NOTES

DRAWN BY:

DTH

DATE:

7/20/2026

JOB NO.:

11937

REVISION:

A

BUILDING TYPE:

FAT10X52KZ

PROJECT NAME:

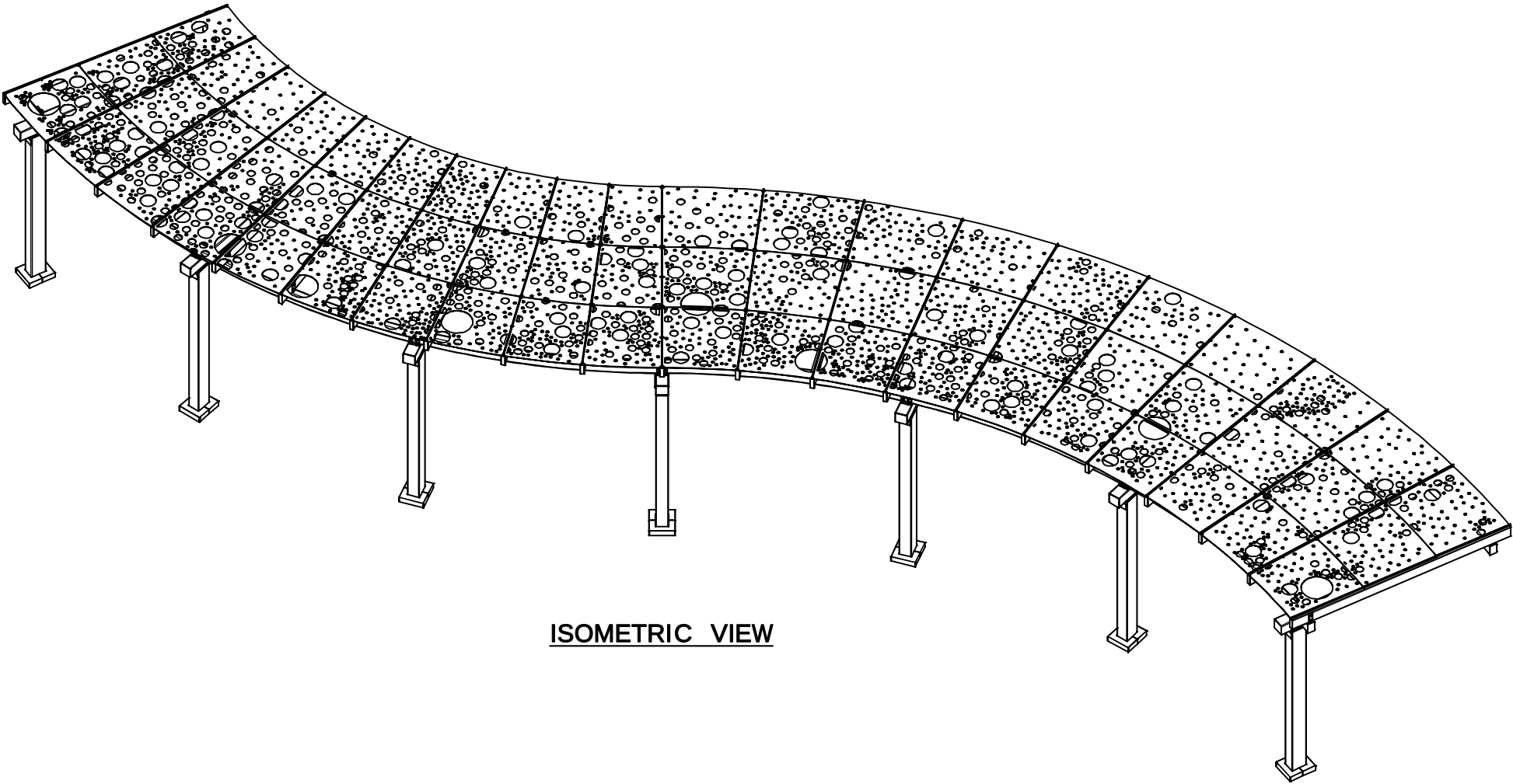
WING PARK
ELGIN IL
60123

SHEET

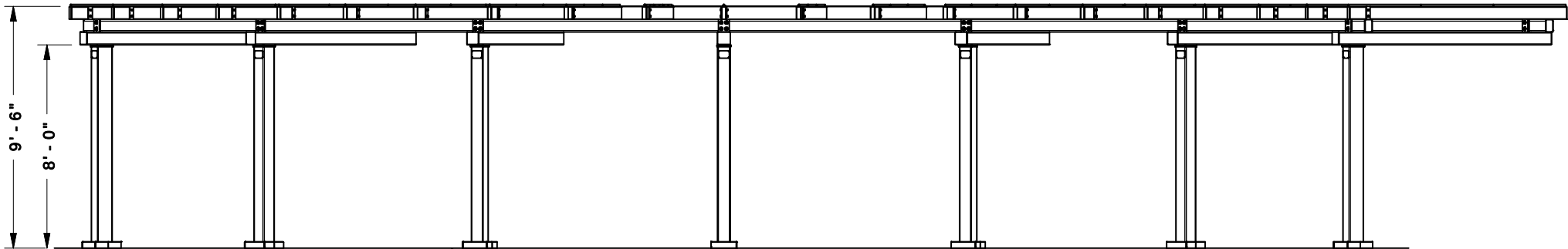
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ISOMETRIC VIEW



FINISHED GRADE - CONSTANT ELEVATION

FRONT VIEW

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ELEVATION

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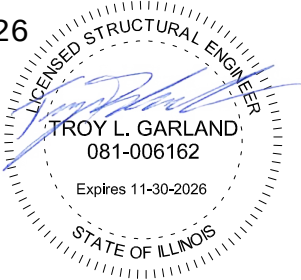
REVISION:
A

BUILDING TYPE:
FAT10X52KZ

PROJECT NAME:
WING PARK
ELGIN IL
60123

SHEET
2.0

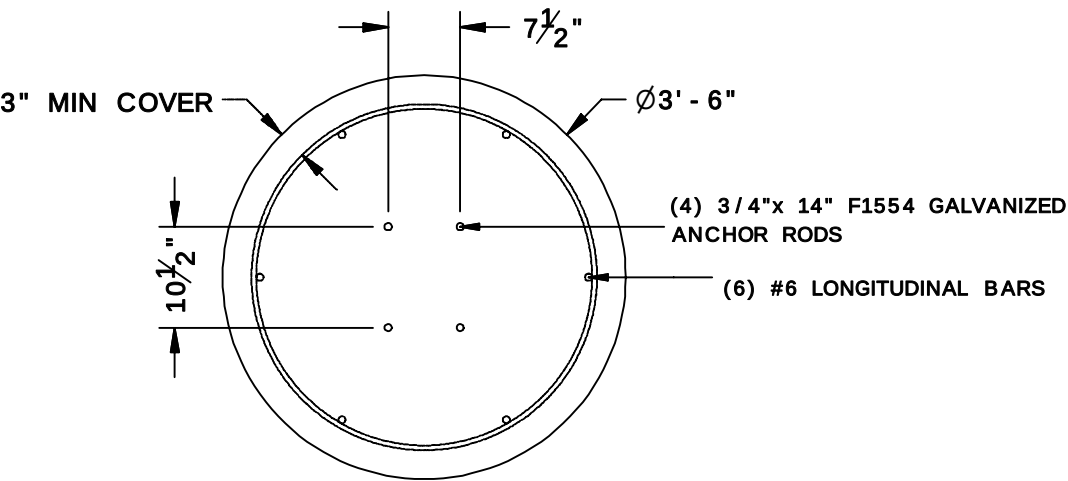
8/10/26



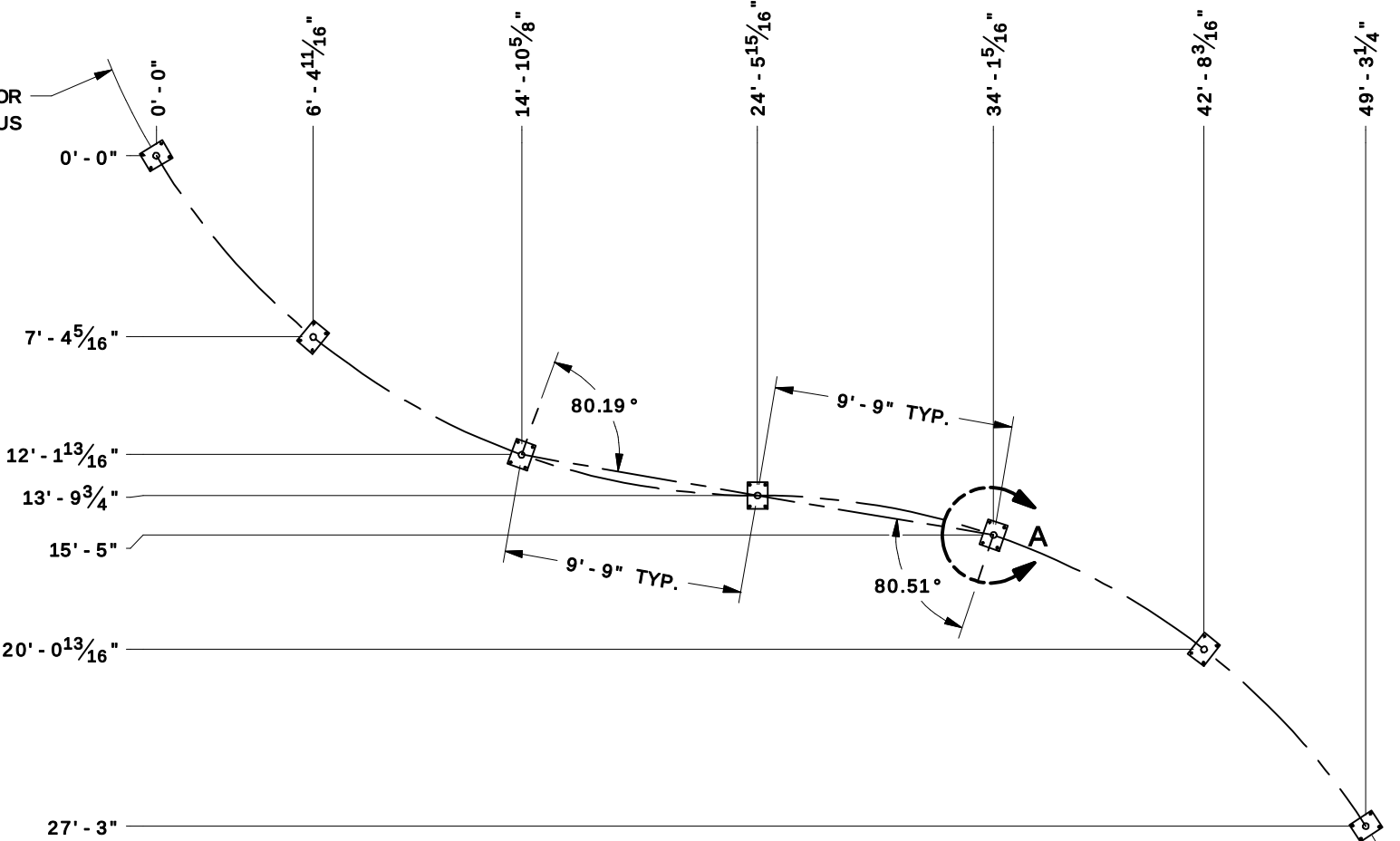
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NOTE:
IT IS ESSENTIAL THAT ANCHOR BOLTS ARE PLACED ACCURATELY!
MEASUREMENTS SHOULD BE TAKEN BEFORE AND AFTER FOUNDATIONS
ARE POURED TO CONFIRM DIMENSIONS ARE MET AND COMPONENTS HAVE
NOT SHIFTED. ICON STRONGLY RECOMMENDS UTILIZING ANCHOR BOLT
TEMPLATES TO AID IN THIS PROCESS.

CONCRETE STRENGTH F'_c = 2500 PSI
REBAR GRADE F_y = 60 KSI
SLAB IS REQUIRED. IF NO SLAB IS TO BE
INSTALLED, CONTACT THE ICON ENGINEERING
DEPARTMENT.



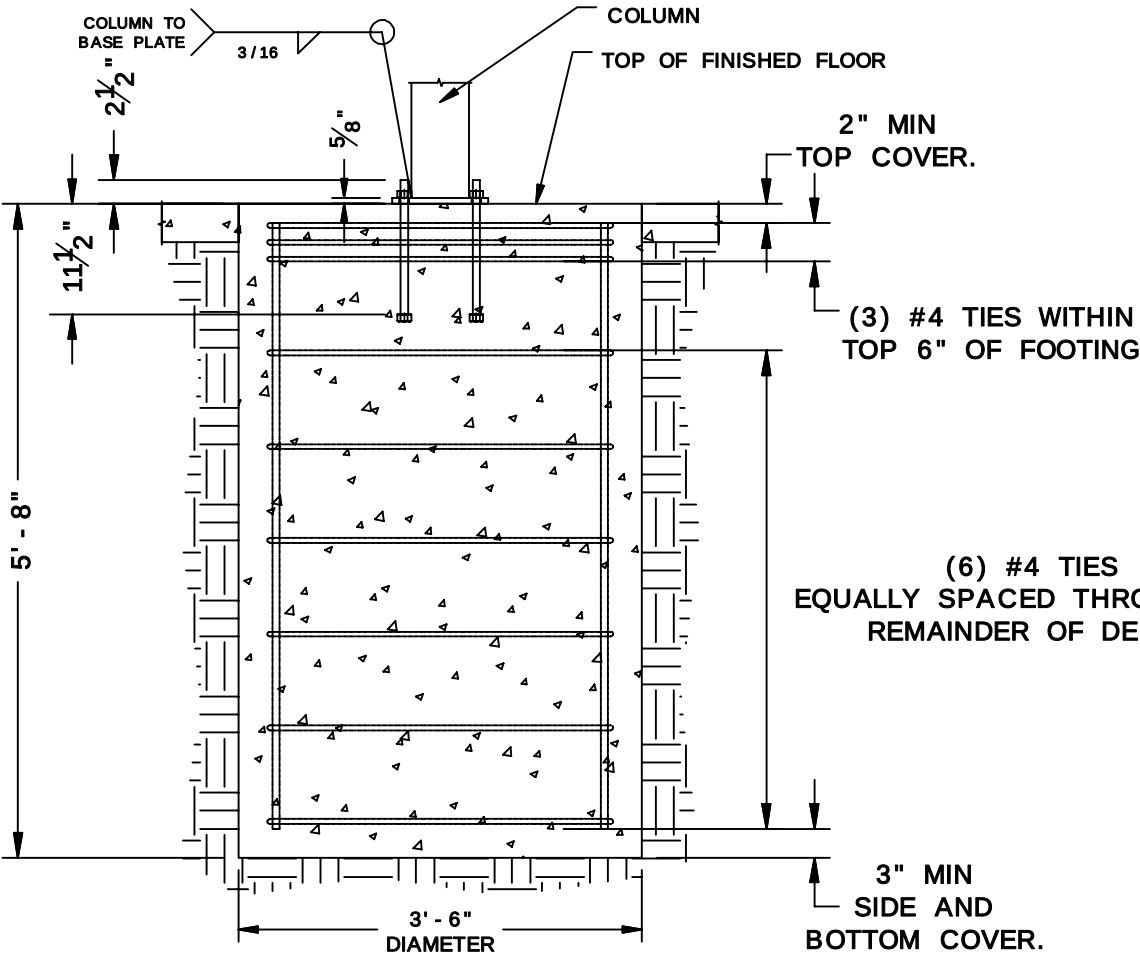
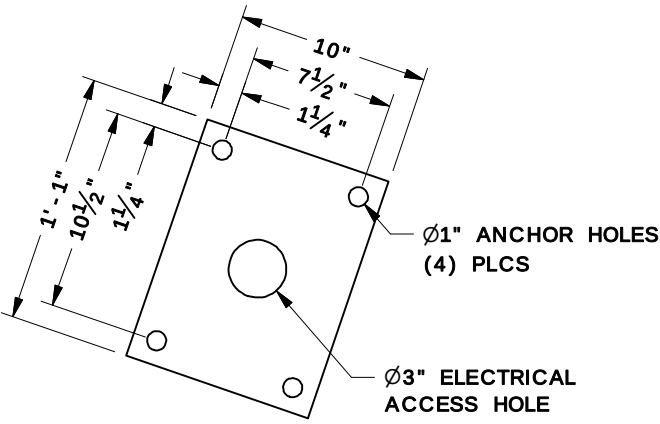
R28' - 7 1/2" ANCHOR
BOLT RADIUS



R29' - 6 3/4" ANCHOR
BOLT RADIUS

ANCHOR BOLT LAYOUT

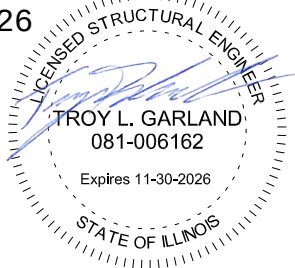
FINISHED GRADE ASSUMED AT CONSTANT ELEVATION UNLESS NOTED OTHERWISE



DETAIL A

BASE PLATE MATERIAL
5/8" THICK GR50

8/10/26



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ANCHOR BOLT LAYOUT

DRAWN BY:
DTH
DATE:
7/20/2026
JOB NO.:
11937
REVISION:
A
BUILDING TYPE:
FAT10X52KZ
PROJECT NAME:
WING PARK ELGIN IL 60123

SHEET
3.0

FRAME LAYOUT

DRAWN BY:

DTH

DATE:

7/20/2026

JOB NO.:

11937

REVISION:

A

BUILDING TYPE:

FAT10X52KZ

PROJECT NAME:

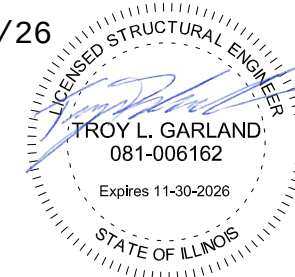
WING PARK

ELGIN IL
60123

SHEET

4.0

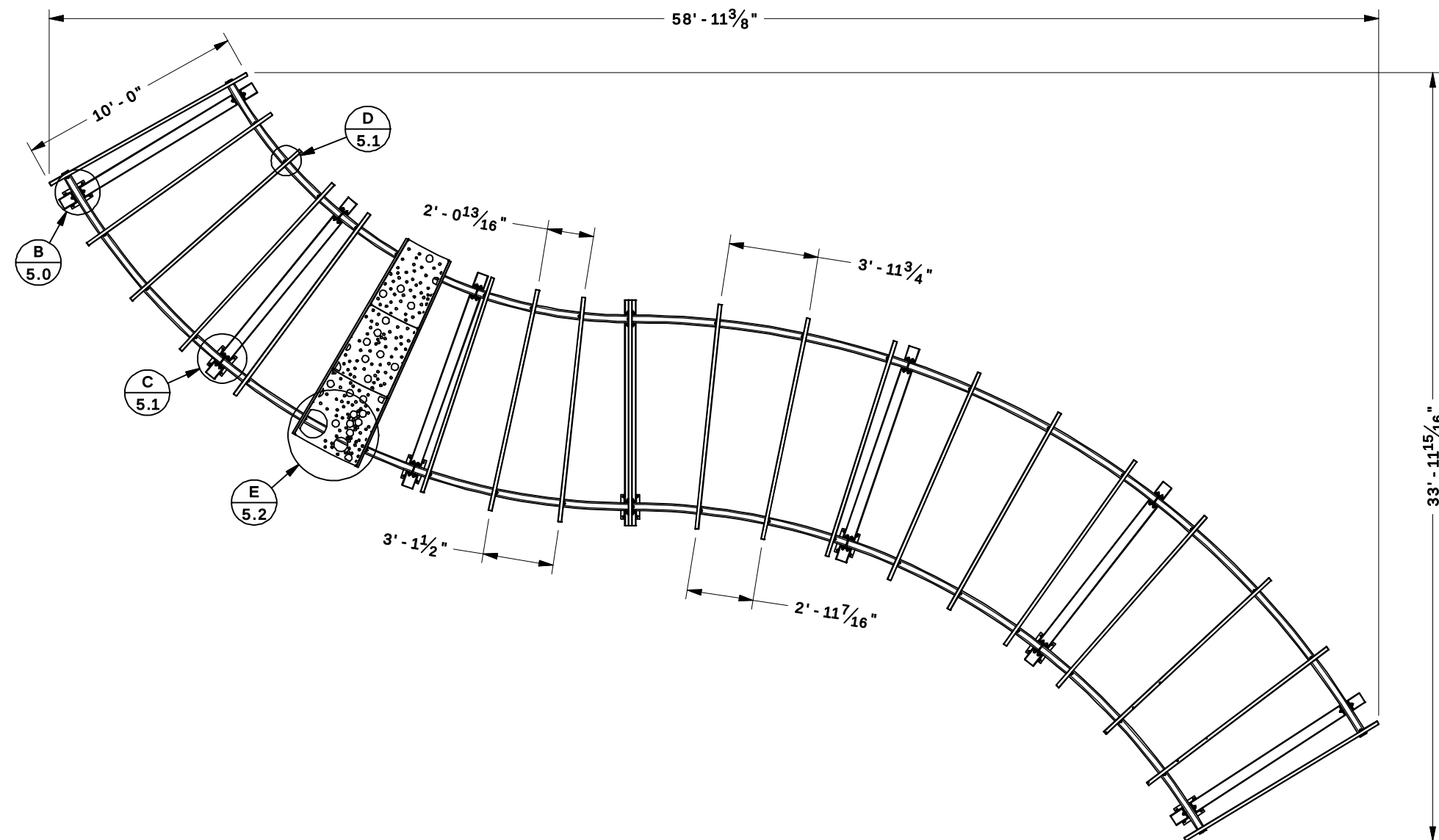
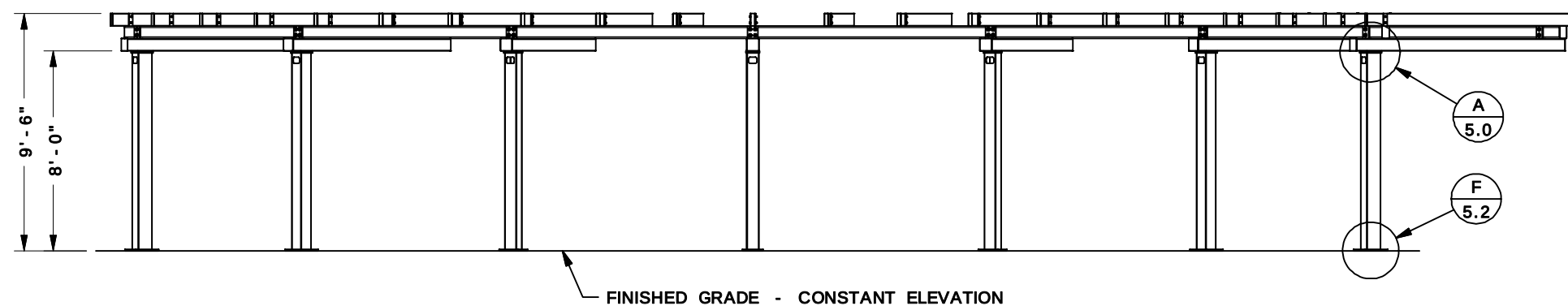
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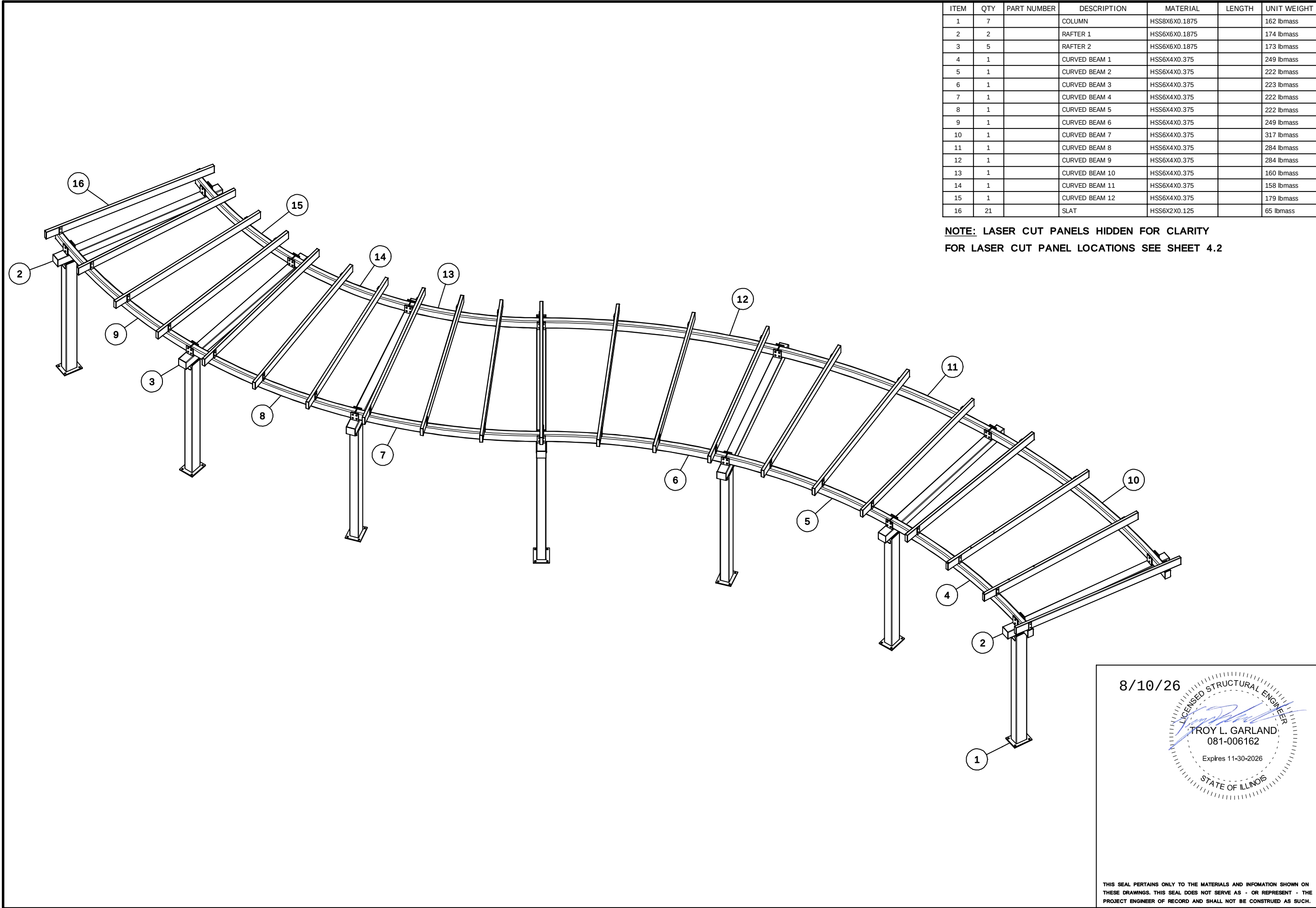


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ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	LENGTH	UNIT WEIGHT
1	7		COLUMN	HSS8X6X0.1875		162 lbmass
2	2		RAFTER 1	HSS6X6X0.1875		174 lbmass
3	5		RAFTER 2	HSS6X6X0.1875		173 lbmass
4	1		CURVED BEAM 1	HSS6X4X0.375		249 lbmass
5	1		CURVED BEAM 2	HSS6X4X0.375		222 lbmass
6	1		CURVED BEAM 3	HSS6X4X0.375		223 lbmass
7	1		CURVED BEAM 4	HSS6X4X0.375		222 lbmass
8	1		CURVED BEAM 5	HSS6X4X0.375		222 lbmass
9	1		CURVED BEAM 6	HSS6X4X0.375		249 lbmass
10	1		CURVED BEAM 7	HSS6X4X0.375		317 lbmass
11	1		CURVED BEAM 8	HSS6X4X0.375		284 lbmass
12	1		CURVED BEAM 9	HSS6X4X0.375		284 lbmass
13	1		CURVED BEAM 10	HSS6X4X0.375		160 lbmass
14	1		CURVED BEAM 11	HSS6X4X0.375		158 lbmass
15	1		CURVED BEAM 12	HSS6X4X0.375		179 lbmass
16	21		SLAT	HSS6X2X0.125		65 lbmass

NOTE: LASER CUT PANELS HIDDEN FOR CLARITY
FOR LASER CUT PANEL LOCATIONS SEE SHEET 4.2

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616.396.0919
800.748.0985
616.396.0944 FX

FRAME LAYOUT

DRAWN BY:
DTH

DATE:
7/20/2026

JOB NO.:
11937

REVISION:
A

BUILDING TYPE:
FAT10X52KZ

PROJECT NAME:
WING PARK
ELGIN IL
60123

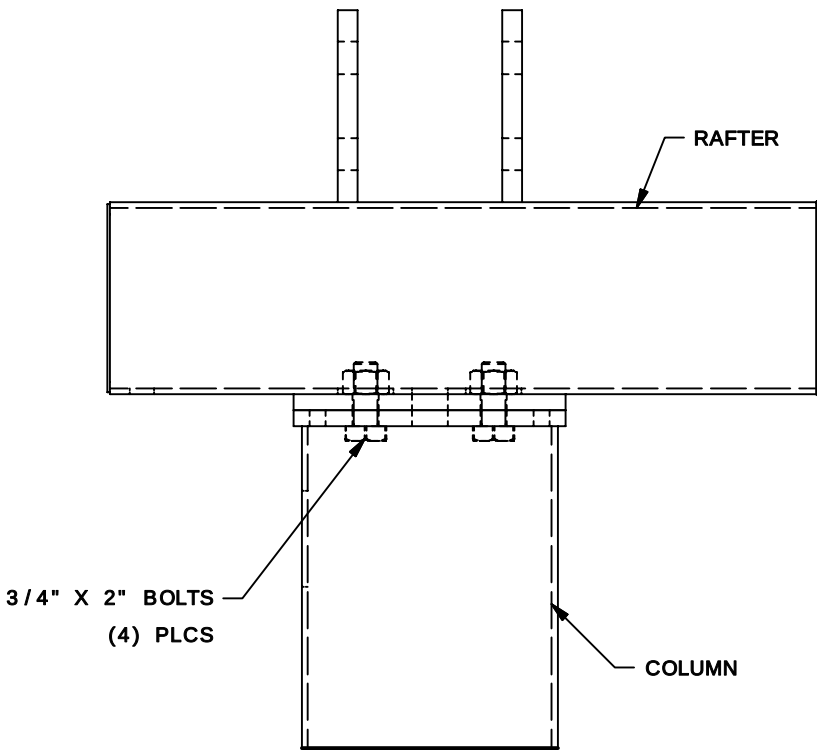
SHEET
4.1

8/10/26

LICENSED STRUCTURAL ENGINEER

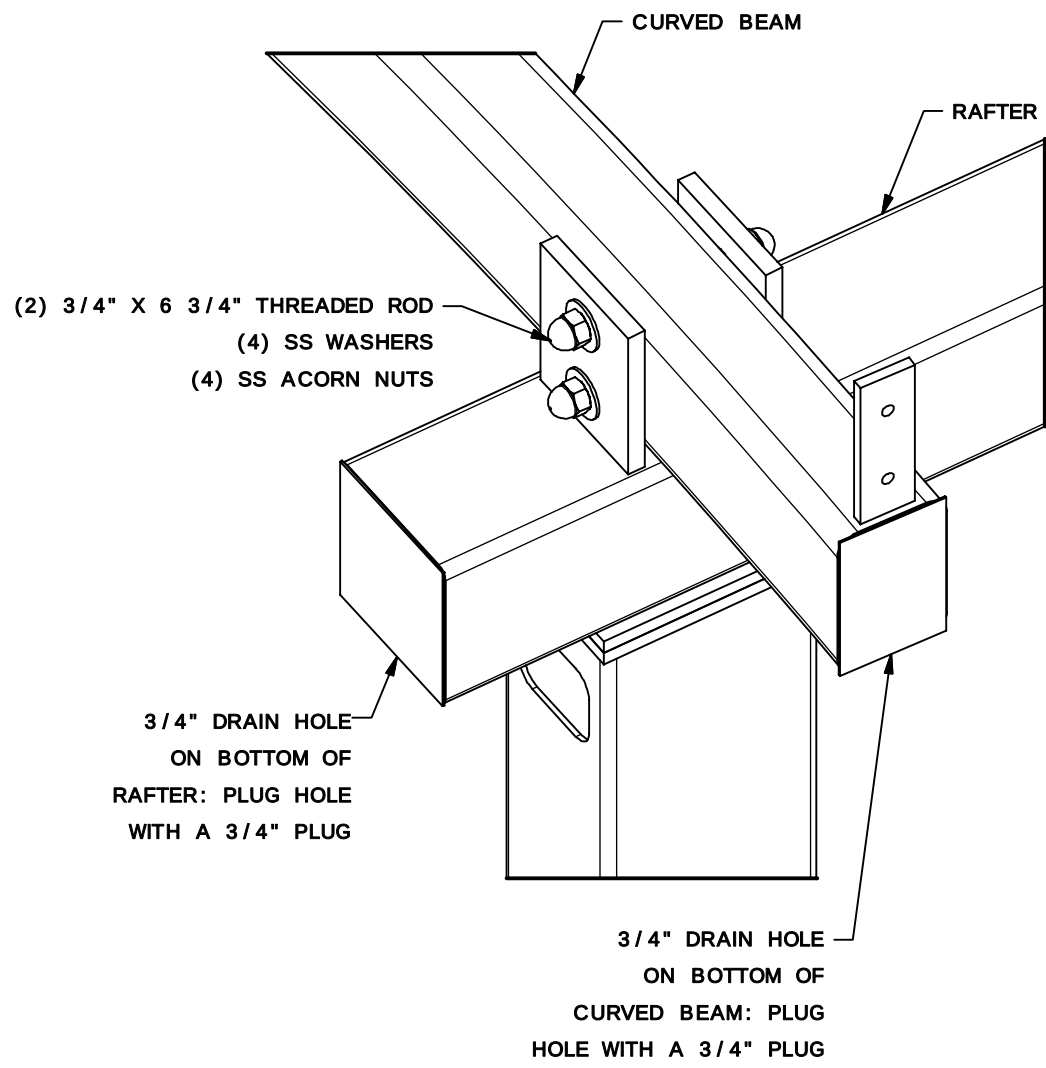
TROY L. GARLAND
081-006162
Expires 11-30-2026
STATE OF ILLINOIS

THIS SEAL PERTAINS ONLY TO THE MATERIALS AND INFORMATION SHOWN ON
THESE DRAWINGS. THIS SEAL DOES NOT SERVE AS - OR REPRESENT - THE
PROJECT ENGINEER OF RECORD AND SHALL NOT BE CONSTRUED AS SUCH.



RAFTER CONNECTION
@ COLUMN

DETAIL A



CURVED BEAM CONNECTION
@ COLUMN

DETAIL B

NOTE TO INSTALLERS:
WITH FACTORY POWDERCOATED
SHELTERS, PAINT **EXPOSED**
FASTENERS OF COMPRESSION RINGS,
ORNAMENTATION, KNIFE PLATES, ETC.
WITH PROVIDED TOUCH UP PAINT TO
PREVENT RUSTING OF FASTENERS

PAINT EXPOSED FASTENERS

8/10/26

LICENSED STRUCTURAL ENGINEER
TROY L. GARLAND
081-006162
Expires 11-30-2026
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FRAME CONNECTIONS

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JOB NO.:
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REVISION:
A

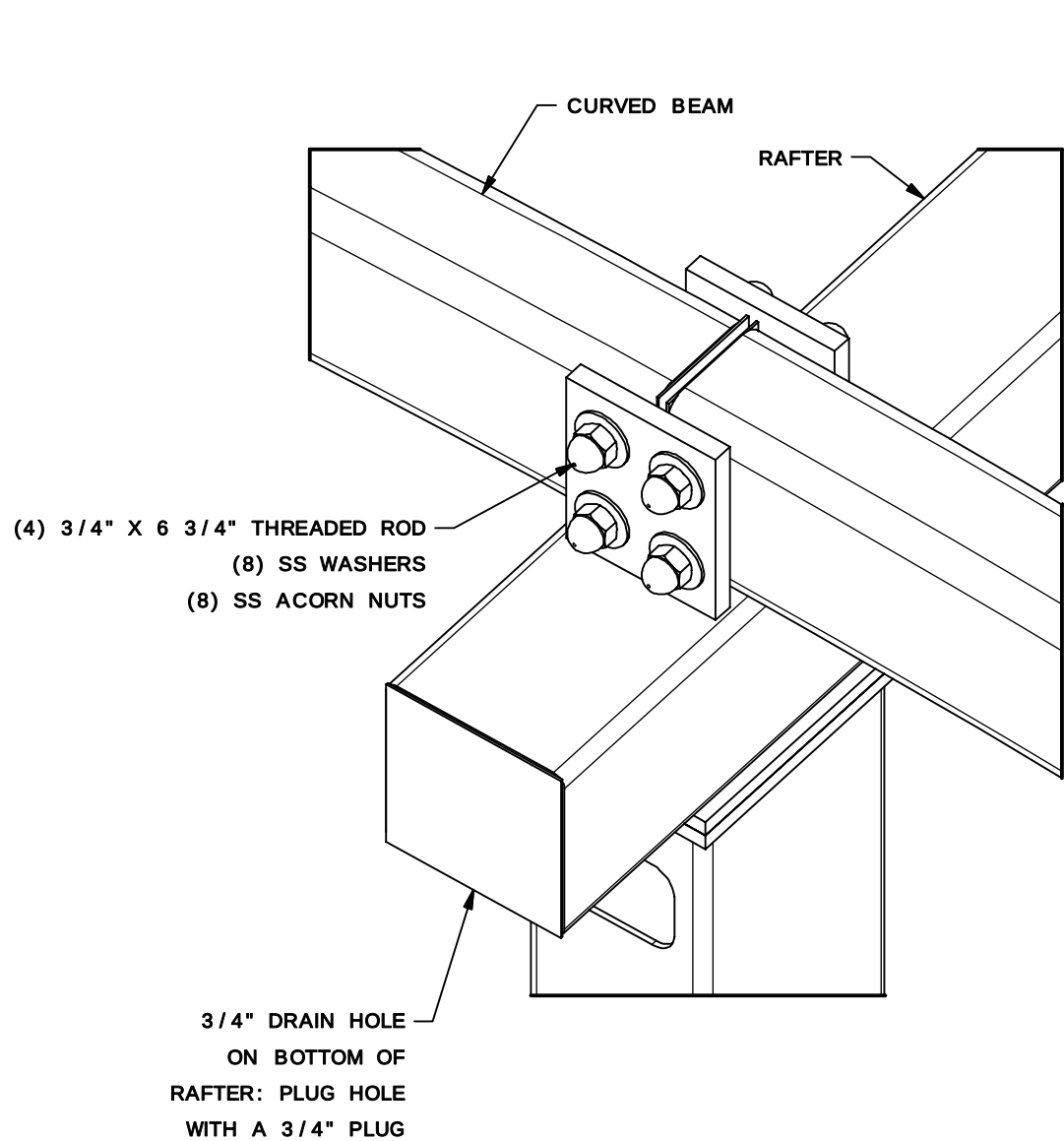
BUILDING TYPE:
FAT10X52KZ

PROJECT NAME:
WING PARK
ELGIN IL
60123

SHEET
5.0

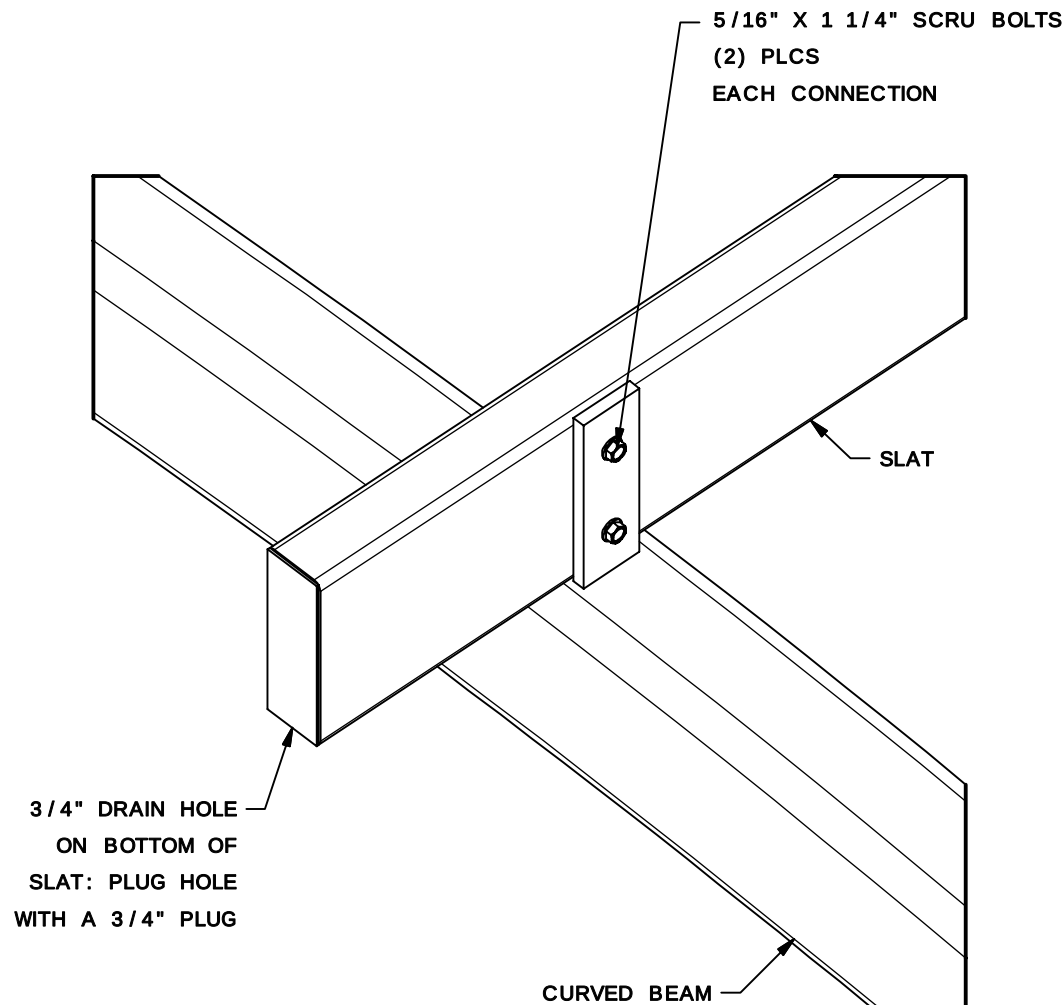
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CURVED BEAM CONNECTION
@ COLUMN

DETAIL C



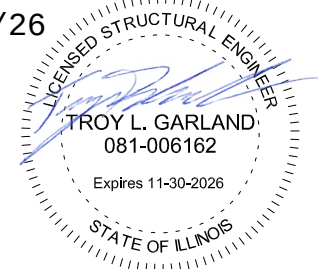
SLAT CONNECTION
@ CURVED BEAM

DETAIL D

NOTE TO INSTALLERS:
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FASTENERS OF COMPRESSION RINGS,
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PREVENT RUSTING OF FASTENERS

PAINT EXPOSED FASTENERS

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DATE:

7/20/2026

JOB NO.:

11937

REVISION:

A

BUILDING TYPE:

FAT10X52KZ

PROJECT NAME:

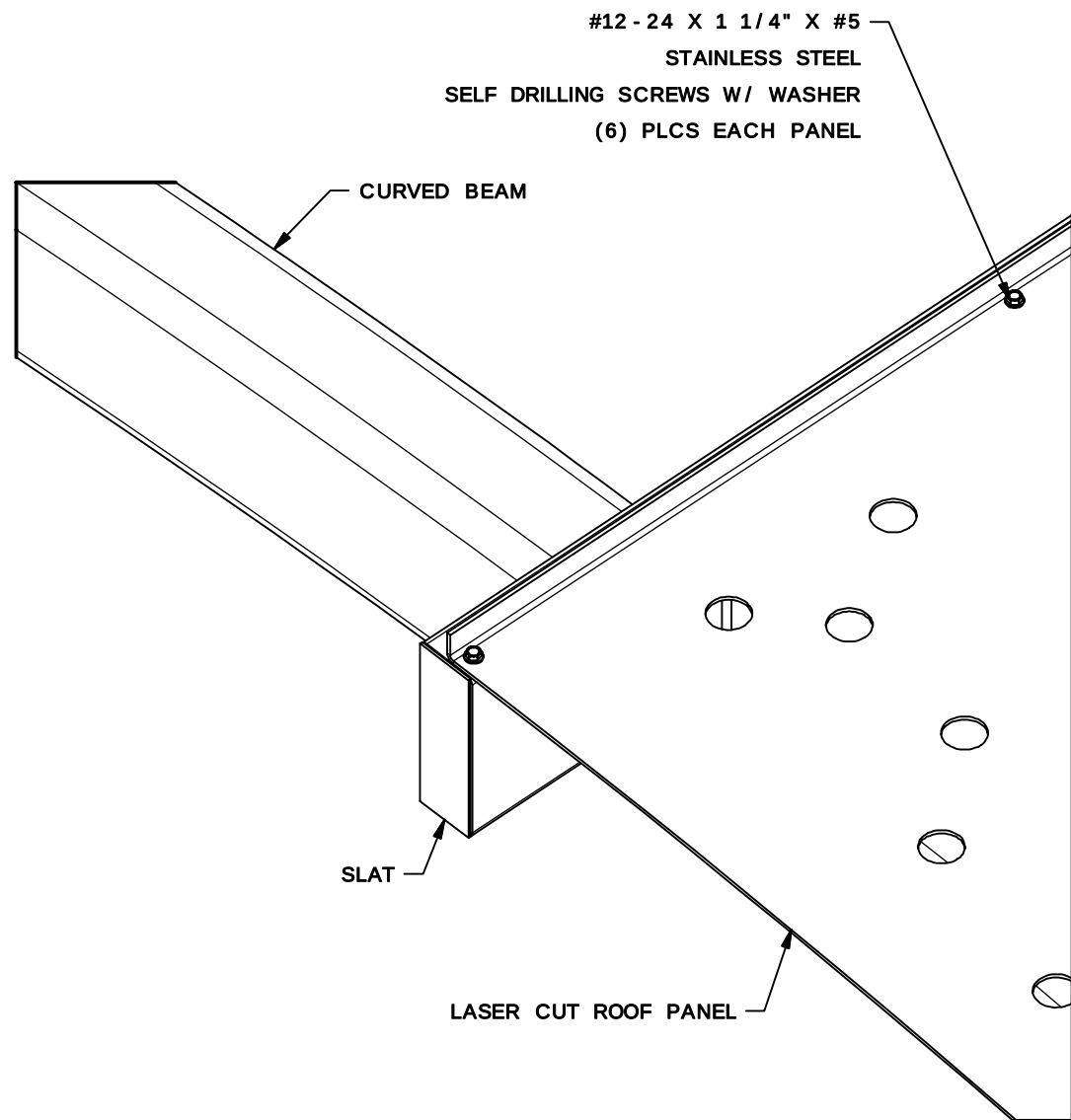
WING PARK
ELGIN IL
60123

SHEET

5.1

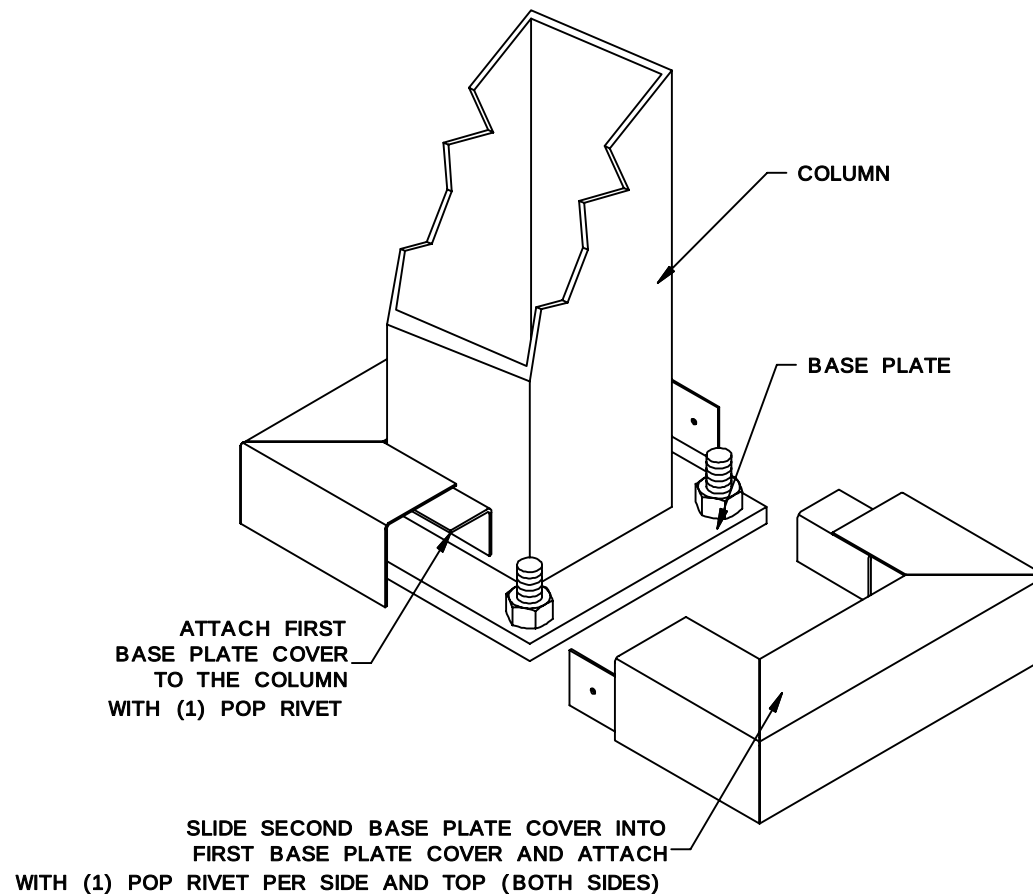
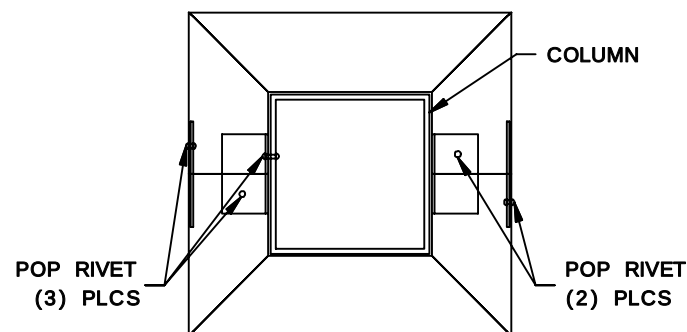
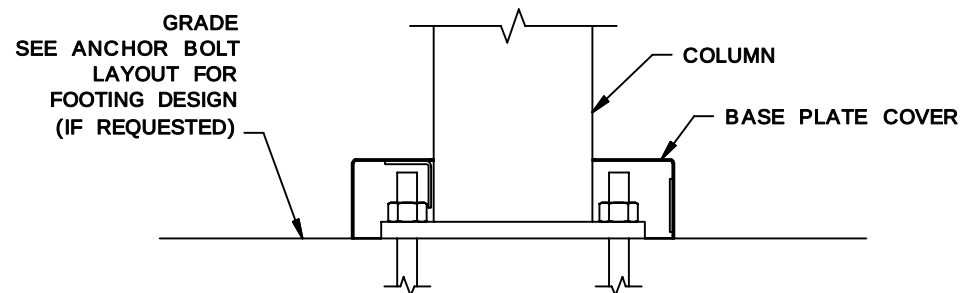
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LASER CUT PANEL CONNECTION
@ SLAT

DETAIL E



NOTE: AFTER DRILLING OUT HOLES FOR RIVETS, ENSURE METAL SHAVINGS ARE CLEARED OF THE AREA AND ASSEMBLIES. APPLY TOUCH-UP PAINT TO HOLES BEFORE RIVETING USING SUPPLIED TOUCH-UP KIT.

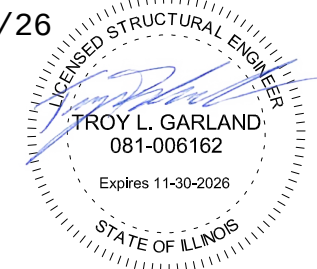
BASE PLATE COVER CONNECTION
@ BASE PLATE

DETAIL F

NOTE TO INSTALLERS:
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SHELTERS, PAINT **EXPOSED**
FASTENERS OF COMPRESSION RINGS,
ORNAMENTATION, KNIFE PLATES, ETC.
WITH PROVIDED TOUCH UP PAINT TO
PREVENT RUSTING OF FASTENERS

PAINT EXPOSED FASTENERS

8/10/26



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FRAME CONNECTIONS

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BUILDING TYPE:

FAT10X52KZ

PROJECT NAME:

WING PARK
ELGIN IL
60123

SHEET

5.2

SECTION 22 0600

WATER DISTRIBUTION

1.0 GENERAL

1.1 Description

A. This work consists of equipment, labor and materials required for the complete installation of plumbing, water features valves and water vaults as specified in the plans. All installations shall include all necessary pipes and fittings to complete the systems in proper working order.

1.2 Code and Regulations

A. All work shall be in complete conformance to all local, state and federal codes, ordinances and regulations. **The Contractor is responsible for obtaining all Permits and for scheduling necessary inspections with the appropriate municipality.**

B. During installation, proper signs and barricades shall be used to warn and protect the public against hazards. No trenches or pits shall be left open overnight.

C. All road way traffic controls are the responsibility of the contractor to ensure public safety.

1.3 Submittals

A. Contractor shall submit specification sheets for all materials to Landscape Architect.

B. Contractor to test water pressure at municipal source and submit result to Landscape Architect.

C. Contractor is responsible to submit any and all test reports and/or letters of approval or rejection from the appropriate municipality to the Owner/Owner's representative.

2.0 MATERIALS

2.1 Pipes and Fittings

A. Piping 2" and smaller shall be copper water tubing and be clean and deoxidized, type "K" copper tubing with solder joint and wrought copper fittings meeting the requirements of ASTM B88. All piping shall be installed in accordance with the manufacturer's recommendation.

B. Piping larger than 2" shall be ductile-iron pipe. AWWA C151, with cement mortar lining and a heavy coating of tar. Pipe shall have mechanical joints. Install in accordance with AWWA C600.

2.2 Buffalo Box

A. Gate Valves: Provide as indicated, gate valves, AWWA C500, 175 psi working pressure. Provide threaded, flanged, hub, or other end configurations to suit size of valve and piping connection. Provide inside screw type for use with curb valve box, iron body, bronze-mounted, double disc, parallel seat, non-rising stem. Manufacturer's Clow, Dresser, Fairbanks, Kennedy Valve, Stockham Valves and Waterous. Install as indicated with stems pointed up. Provide valve box to cover underground valves.

B. Butterfly Valves: Provide as indicated, butterfly valves, AWWA C504 150 psi working pressure. Provide iron body, bronze disc, stainless steel stem, and metal-reinforced EPDM seat. Manufacturers: Demco, ITT, Grinnell Valve, or

Keystone Valve. Install as indicated with stems pointing up. Provide valve box over underground valves.

- C. Check valves: Provide as indicated, swing check valves, AWWA C508 150 psi working pressure Provide iron body, cast-iron disc, bolted cap.
Manufacturer's: Clow, Dresser, Fairbanks, Kennedy Valve, Stockham Valves and Waterous.

2.3 Pressure Gauge

- A. Install a 200lb pressure gauge on manifold.

2.4 Water Pressure Reducing Valve

- A. Water pressure reducing valve is required when water source exceeds 65 psi.

2.5 Back-flow Preventor

- A. Back-Flow Preventor shall be installed to meet all current local codes and State of Illinois requirements. Manufactured backflow preventers, of size indicated for maximum flow rate and maximum pressure loss indicated. A valve shall be provided and installed to allow for winterization. Submit cut sheets and shop drawings for approval prior to purchase.
- B. Working Pressure: 150 psi minimum, unless otherwise indicated.
- C. 2-inch NPS and smaller: Bronze body with threaded ends.
- D. 2-1/2 inch NPS and Larger: Bronze, cast-iron, steel, or stainless-steel body with flanged ends.
- E. Interior Lining: AWWA C550, epoxy coating for backflow preventers with cast-iron or steel body.
- F. Interior Components: Corrosion-resistant materials.
- G. Strainer on inlet strainer is indicated.
- H. Reduced-Pressure Principal Backflow Preventer: AWWA C511, with OS gate valves on inlet and outlet, and strainer on inlet. Include test cocks and pressure differential relief valve with air-gap fitting located between 2 positive-seating check valves for continuous-pressure application.
- I. Pressure Loss: 12 psig maximum through middle third of flow range.
Manufacturers: Ames Co., Inc., Cla-Val Co., or approved equal

2.6 Enclosure

- A. Valve box shall be sized to fit back-flow preventor. Top of box shall have hinged lid with simple square key access. Contractor shall supply lock and key as required by owner. Box and lid to be powder coated non-ferrous metal construction as manufactured by "GuardShack Enclosures" or equal.

2.7 Valve Pits

- A. Provide valves pits as indicated, constructed of poured-in-place or precast concrete. Construct using dimensions as indicated on plans with manhole access, ladder and drain. Provide PVC sleeves for pipe entry and exit, provide waterproof sleeves seals.

3.0 EXECUTION

3.1 Trenching and Filling

A. Trenching shall be kept away from the base of existing trees a minimum of ten feet (10'), unless otherwise approved by the Owner's Representative. Backfill material placed around pipe shall be sand, free from all rocks which are capable of damaging the pipe or its coating. Fill shall be placed, and hand tamped in six inch (6") layers.

3.2 Piping

A. Laying Copper Pipe: All connection of copper pipe to fittings shall be made in accordance with the details shown on the drawing. Fully wiped joints shall be neatly and carefully made to provide connections of ample strength to withstand working water pressure of 75 pounds per square inch, and a hydraulic test pressure of 100 pounds per square inch.

1. Solder Joints shall be as follows:

- a. Cut tube end square, ream, burr, size
- b. Use steel wool, sand cloth, or steel wire brush to clean both tube and cup to a bright metal.
- c. Carefully apply proper solder flux to the end of the tube and to the inside of the fitting.
- d. Use solder wide according to nature of the job, bending over an end as long as the diameter of the fitting ½" fitting etc.
- e. Apply a flame at end of fitting to heat tube and fitting until solder melts, then pass flame toward center of fitting until solder is absorbed and joint completed.
- f. Remove excess solder with a small brush; leaving a fillet at the fitting as it cools.

2. Stop cocks and fitting for copper pipe shall be set and jointed in accordance with the details shown. Keys of the stop cocks shall be set vertically and maintained in that position so that the stop cocks can be properly operated through the service box.

B. Install ductile iron pipe in accordance to AWWA C-600.

C. Joints Between Different Type Pipes: Joint between clay sewer pipe and iron sewer pipe shall be caulked and filled with cement mortar as hereinafter specified for clay pipe, and in addition shall be completely wrapped with a concrete collar 6" thick and 24" long.

D. Testing piping systems (The following procedures shall be followed):

1. Notify the Engineer prior to making tests.
2. Tests shall be made in the presence of the Engineer before piping is concealed.
3. Existing drainage lines shall be plugged, either in catch basin or by using a test tee near junction to existing sewer line. Fill with water

under a 10' head for one hour. Repair leaks, if any remove plugs and backfill as specified.

4. New water supply lines shall be flushed until water runs clear and then after all openings are plugged, fill with water and pressurize domestic system with compressed air or water to 75 psi for 4 hours, using an approved apparatus. Repair all leaks, if any, and retest. Sterilize all water piping in accordance with local standards.

5. Testing shall be viewed by owner's representative, who shall be given a 48 hours' notice of test.

END OF SECTION

SECTION 22 8621
SPLASH PAD EQUIPMENT

PART 1 GENERAL

1.1 Description

- A. Splash pad equipment shall consist of all labor, equipment and materials necessary for complete installation of play equipment or site furniture specified.

1.2 Related Requirements

A. Standards

1. Installation shall conform to the following:

- a. ASTM 1487-17-Specification for Playground Equipment for Public Use
- b. American with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities: Play Areas: Final Rule
- c. Local Codes and State of Illinois Plumbing Code

1.3 Summary

- A. This section includes splash pad equipment consisting of the following:

- 1. Upright spray features
- 2. Ground sprays
- 3. Wall sprays
- 4. Activator
- 5. Controller
- 6. All required water distribution equipment and associated piping as shown on plans.

- 1.4 Submittals A. Provide all Manufacturer's information on the equipment, installation instructions, and maintenance kit including touch up paint to the Owner.

- B. Provide shop drawings for all components, and water recirculation system equipment including piping diagram (if applicable) to the Owner/Owner's representative for approval.

PART 2 PRODUCTS

2.1 Spray Equipment

- A. All equipment shall be as designated on the plans or approved equal. The contractor shall not modify equipment.
- B. For spray equipment to be purchased by contractor, contractor is responsible for purchasing, unloading and verification, storing and installation of equipment.
- C. See Plans for Model, Manufacturer and Distributor

PART 3 EXECUTION

3.1 Installation

- A. All equipment detailed on the drawings and specified herein shall be installed per manufacturer's specifications and recommendations, unless otherwise described specifically herein, or on the plans.
- B. Contractor shall acquire instructions for proper installation from the specific manufacturer. If any manufacturer does not provide installation specifications after request by the Contractor, the Owner's representative shall be notified before installation occurs.
- C. Contractor shall uncrate, clean, and assemble all splash pad equipment as necessary to install complete and usable item. Contractor shall notify the Owner's

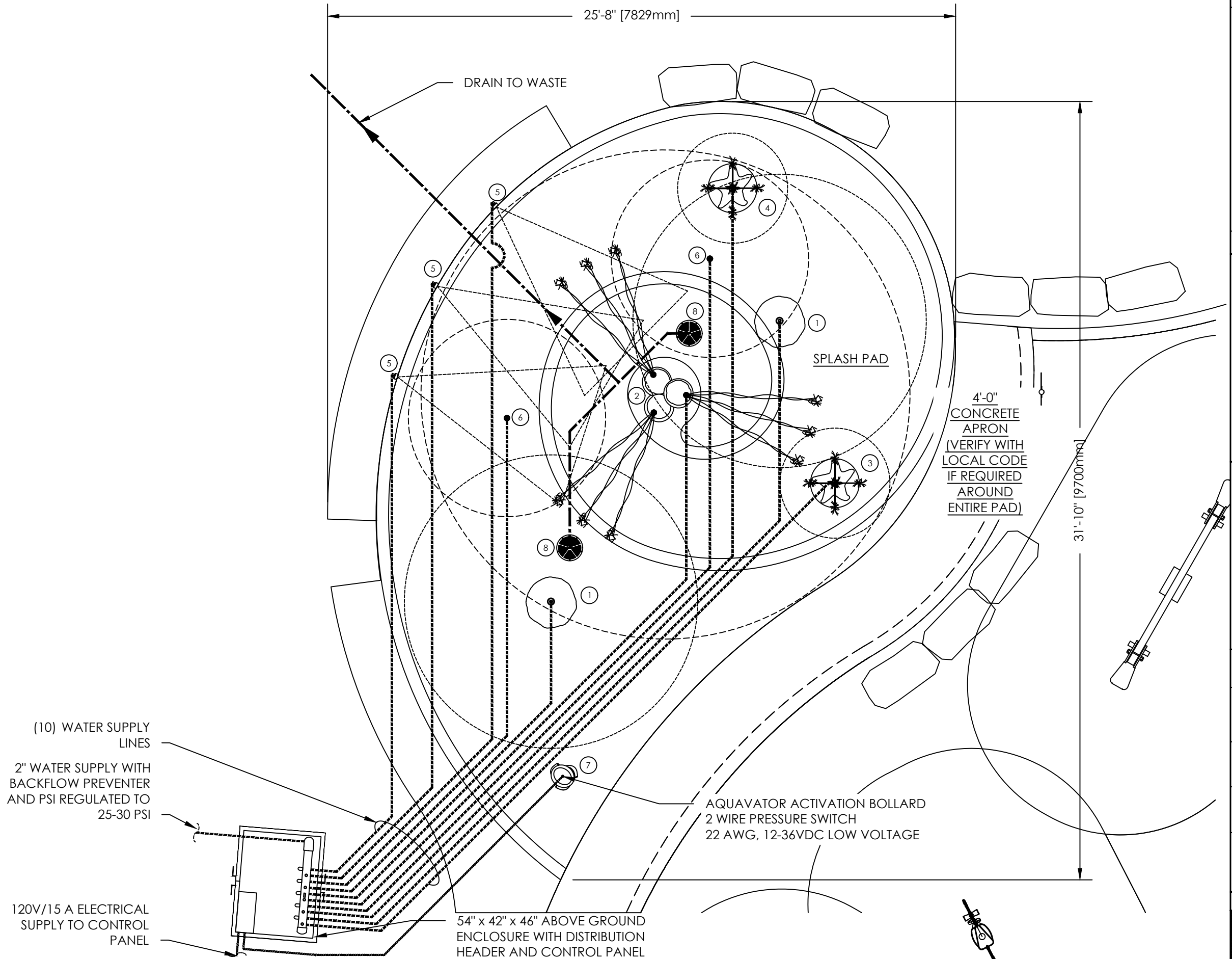
representative of any issues with the equipment such as damage during shipping or missing components.

- D. Concrete footings shall be installed at all spray equipment. Concrete shall conform to concrete specification. Footings shall be dimensioned as per the manufacturer's specifications and/or the plans and details, which ever specifies the larger dimensions.
- E. Contractor shall be responsible for trimming all bolts and other similar fastener items to meet specifications noted herein. Contractor shall ensure all tags, and stickers are removed from play equipment except for those required by law.
- F. Provide electrical grounding for spray features.

END OF SECTION

SPLASH PAD AREA: 525 SQ. FT. APRON AREA: 106 SQ. FT. TOTAL AREA: 631 SQ. FT. TOTAL FEATURE FLOW RATE: 42 GPM

NO	PRODUCT	QTY	LINE SIZE	GPM
1	CUSTOM SEADOME W/TRIPLE MIST NOZZLE	2	1" EA.	3 EA.
2	SEAPIER WITH PELICAN	1	1 ½"	9
3	CUSTOM STARDOME W/TRIPLE MIST NOZZLE	1	1"	3
4	CUSTOM STARDOME W/TRIPLE MIST NOZZLE AND THEME PAINT STARFISH "LOBSTER" COLOR FROM SEADOME	1	1"	3
5	SIDE WALL STREAM	3	1" EA.	5 EA.
6	TRIPLE MIST	2	1" EA.	3 EA.
7	THEMED AQUAVATOR W/WOOD GRAIN PAINT	1	N/A	N/A
8	DRAIN BOX	2	N/A	N/A



NOT FOR
CONSTRUCTION

1. ALL CONCRETE SLOPES TO BE 1/8"/FT MIN.
2. SITE ELEVATIONS OF SPLASH PAD AND CONCRETE APRON TO BE VERIFIED BY OTHERS. AQUATIX® ELEVATION REFERENCE IS 0'-0" FOR TOP OF COLLECTOR(S)/DRAIN BOX(ES). ALL OTHER NOTED ELEVATIONS ARE REFERENCED FROM THAT POINT.
3. REFER TO SPEC SHEET AND INSTALLATION DRAWING FOR EACH PRODUCT.
4. ACTUAL SIZE, SHAPE, AND LOCATION OF SPLASH PAD TO BE FIELD DETERMINED BY OTHERS. ALL DIMENSIONS OF SIZE AND SHAPE OF SPLASH PAD FOR REFERENCE ONLY.
5. THE INTENT OF A SPLASH PAD IS TO BE A DRY DECK WITH NO STANDING WATER. THE WATER IS TO BE CONTAINED WITHIN THE PERIMETER OF THE SPLASH PAD AND ALL WATER IS TO DRAIN INTO THE DRAIN BOXES. THE CONCRETE IS TO BE FORMED AND SLOPED TO ACCOMMODATE THIS DRAIN PATTERN.
6. ALL SPLASH PAD WATER IS INTENDED TO REMAIN WITHIN DESIGNATED SPLASH PAD DECK. UNDER NO CIRCUMSTANCES SHOULD SLOPE OF SPLASH PAD ALLOW WATER TO DRAIN OFF PAD.
7. UNDER NO CIRCUMSTANCES SHALL THE SURROUNDING HARDSCAPE AREA BE SLOPED TO ALLOW WATER TO BE DRAINED INTO THE SPLASH PAD DECK.
8. ALL CONCRETE SURFACES TO HAVE A MEDIUM BROOM FINISH.
9. CONSTRUCTION OF SPLASH PAD CONCRETE TO BE 5" THICK, 4,000 PSI CONCRETE WITH #4 BARS SPACED 12" O.C. EACH WAY, OR AN EQUIVALENT WELDED WIRE MESH (EQUIVALENT MESHES INCLUDE W6 ON 4"X4" SPACING, OR W10 ON 6" X 4" SPACING). CONCRETE PAD TO HAVE REQUIRED EXPANSION JOINTS AT HARD EDGES (E.G. COLUMNS, SEAT WALLS, ETC.) AND BETWEEN THE WET DECK AND APRON, AND SAW CUT CONTROL JOINTS AT A MAXIMUM OF 15', PREFERRED AT 10'. COLD CLIMATES. THICKEN PROFILE AT EDGE OF PAD AND AT EACH STRUCTURE/EMBED.
10. WHERE REQUIRED, WATER STOPS CAN BE MADE WITH SIKAHYDROLITE OR WATERSTOP RX102.
11. COORDINATE EXPANSION JOINT AND SAW CUT LOCATIONS WITH PLAY EQUIPMENT LOCATIONS.
12. DRAWINGS ARE FOR DESIGN/LAYOUT PURPOSES ONLY.
13. PLEASE SEE AQUATIX® BY LANDSCAPE STRUCTURES FOR INCLUDED STRUCTURES, EQUIPMENT, SERVICES, AND EXCLUSIONS.
14. ——— INDICATES SPLASH ZONE.
15. SPLASH ZONES ARE APPROXIMATE. ACTUAL SPLASH ZONE MAY VARY BASED ON VARIOUS ENVIRONMENTAL CONDITIONS, FLOW RATES, SLOPE OF THE SPLASH PAD, SUBMERGENCE DEPTH AND WIND.
16. DRAWINGS ARE SCHEMATIC ONLY.
17. SUB-CUT EXCAVATION UNDER SPLASH PAD SLAB MIN. 8" FOR GRANULAR FILL OR AS SOIL CONDITIONS AND/OR LOCAL CODE REQUIRES WITH A MINIMUM 2500 PSF SOIL BEARING CAPACITY. THE USE OF A WELL-DRAINING BASE, #51 OR #57 GRAVEL IS SUGGESTED IF EXPANSIVE SOILS (CLAYS) ARE ENCOUNTERED. FROST SUSCEPTIBLE SOILS OR AREAS THAT EXPERIENCE WINTER FROST HEAVE REQUIRE A VAPOR BARRIER.
18. CONCRETE TO BE THICKENED AT MOST PRODUCT INSTALLATION LOCATIONS (BOTH EMBED AND ABOVE GROUND STRUCTURES). REFER TO INSTALLATION DRAWINGS FOR EACH PRODUCT.
19. ALL PIPING RECOMMENDED TO BE SCHEDULE 80 PVC. (SCH 40 ACCEPTABLE).
20. POLYETHYLENE PE TUBING (PEX) AND ASSOCIATED FITTINGS APPROVED FOR UNDERGROUND USE IS ACCEPTABLE FOR SUPPLY PIPING LINES.
21. LEVEL MOUNTING AREA REQUIRED FOR ALL PRODUCTS.
22. RECOMMENDED POOL WATER DEPTHS:
 - DO NOT EXCEED 6" WATER DEPTH ON GROUND SPRAYS AND STRUCTURES UP TO 24" TALL
 - DO NOT EXCEED 12" WATER DEPTH ON STRUCTURES UP TO 48" TALL
 - DO NOT EXCEED 12" WATER DEPTH ON MULTI LEVEL PLATFORMS. NO WATER SPRAY OR CRAWL TUNNEL TO BE UNDERWATER.
23. THICKENED AND LEVEL SLABS REQUIRED UNDER ENTIRE MULTI LEVEL STRUCTURES.
24. LINE SIZES ASSUME MECHANICAL SYSTEM TO BE WITHIN 100' OF SPLASH PAD.
25. SITE LAYOUT ASSUMES NO STRONG PREVAILING WINDS FROM ANY SPECIFIC DIRECTION. PLEASE ADVISE AQUATIX® AS SOON AS POSSIBLE IF WIND CONDITIONS MAY EFFECT PRODUCT SPRAY ZONES.

ABOVEGROUND MECHANICAL ENCLOSURE (NTS)
LOCATION TO BE DETERMINED

2" DOMESTIC WATER SUPPLY LINE
(CONFIRM SIZING PRIOR TO CONSTRUCTION)

WATER METER (M)

SHUTOFF VALVE

BACKFLOW PREVENTER

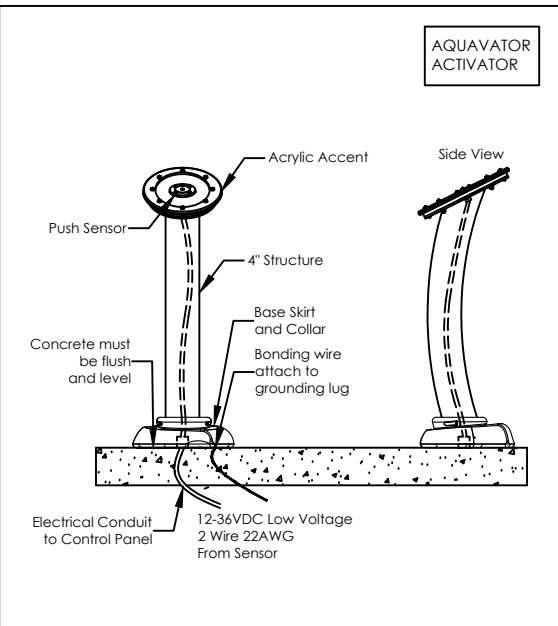
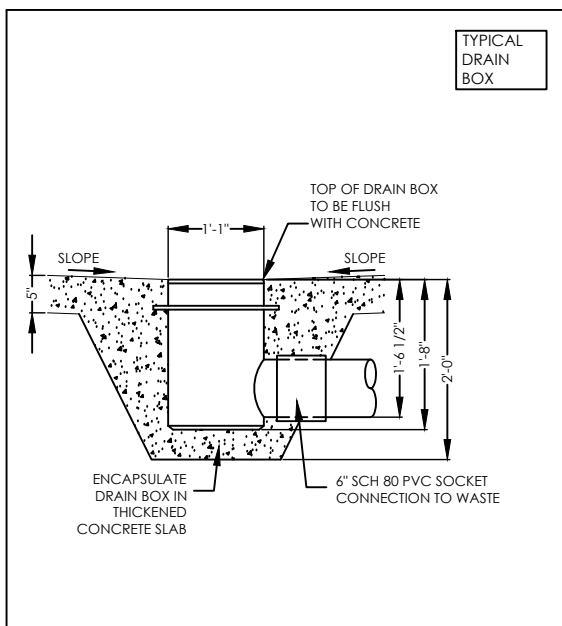
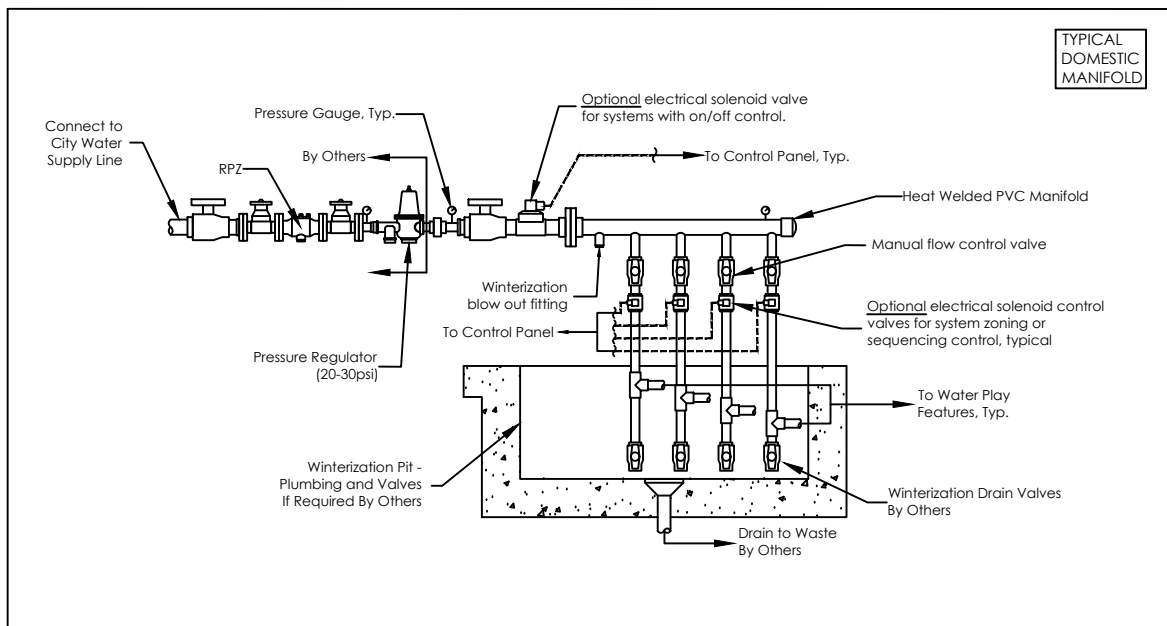
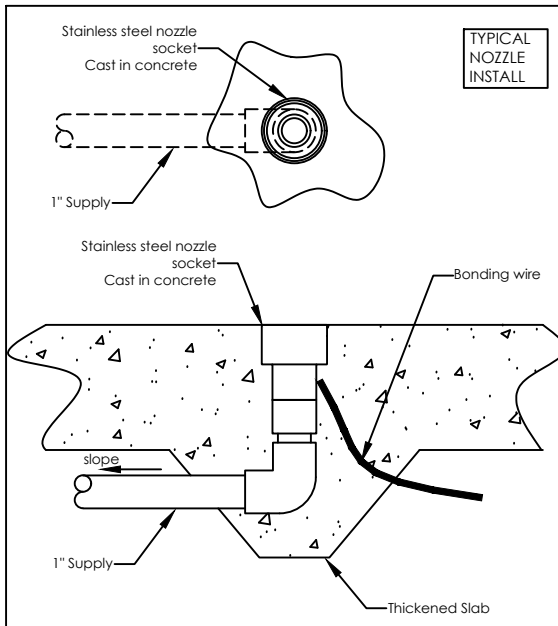
PRV
25 PSI MIN
30 PSI MAX

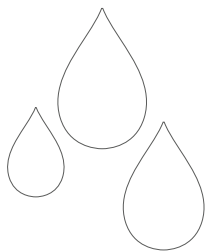
UL LISTED CONTROL PANEL MOUNTED TO INTERNAL MOUNTING FRAME

PREFABRICATED DISTRIBUTION HEADER

FEATURE SUPPLY LINES TO SPLASH PAD WATER PLAY FEATURES. SEE PRODUCT LEGEND

*COMPONENTS BY OTHERS





Wing Park

Design# 1188282-07-06 05/06/26

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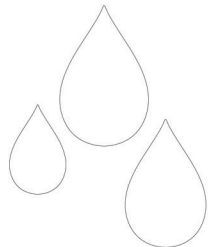


PROUDLY PRESENTED BY

Debby Shapland
NuToys Leisure Products, Inc.
debbys@nutoys4fun.com
(708) 579 - 9055

Wing Park

Design# 1188282-07-06 05/06/26



DESIGN DETAILS

*Surface finishes and/or site furnishings shown are conceptual and provided by others.

PROPOSED COLORS

PAINT COLORS



PROJECT DETAILS

PROJECT DIMENSIONS

31'-10" X 25'-8"
LENGTH WIDTH

TOTAL SYSTEM FLOW RATE

42
GPM (GALLONS PER MINUTE)

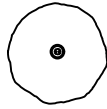
COLOR APPROVAL

CUSTOMER SIGNATURE

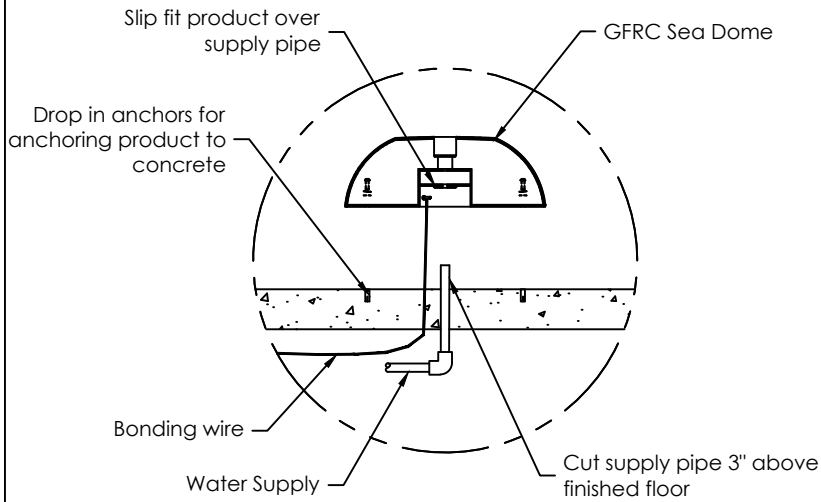
DATE

*Colors shown are for representation purposes.
Consult with your Representative for actual color swatches for final color selection.

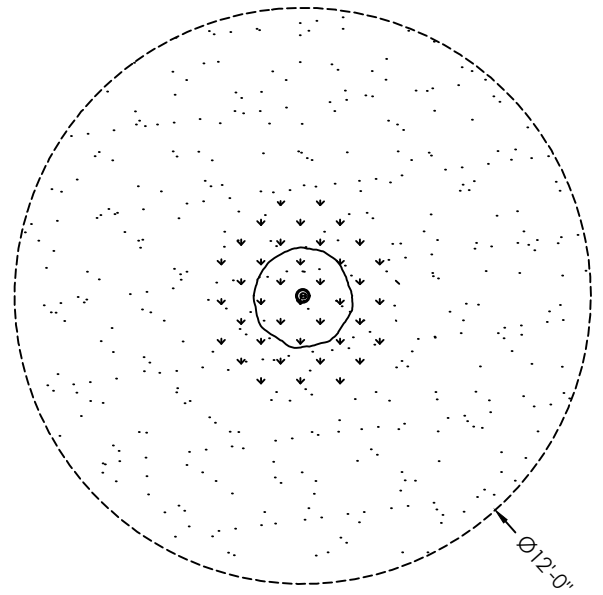
TOP VIEW



Connection Detail



SPLASH ZONE



Splash Zone-Not to Scale

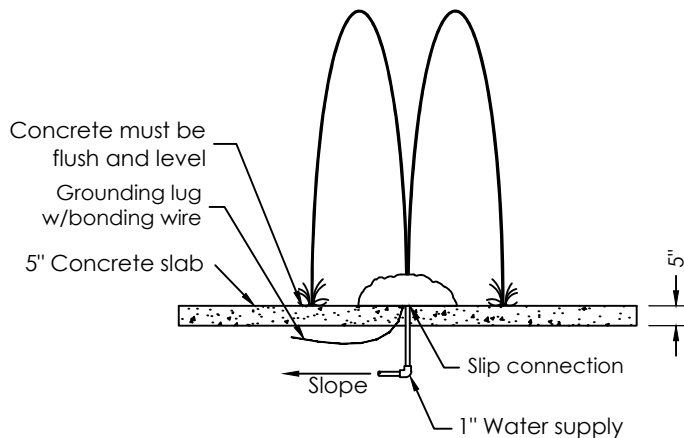
Splash Zone Notes:

Splash zones are approximate, actual splash may vary based on various environmental conditions, flow rates, slope of splash pad and submergence depth.

Construction Details

Built with internal stainless steel armature, Solid pour GFRc concrete. Theme painted and Clear Coat. Surface mount to concrete pad. Included grounding lug and mounting anchors.

Elevation



Design Details

Sea Dome - Approximately Ø24" x 8" H
Single Jr Water Jewel spray from center

DATA

Flow Rate: 7 gpm
Pressure: 3 PSI
Supply Line: 1" Pipe

Not for Construction



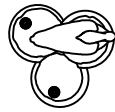
1101 McKinley Parkway
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SEA DOME

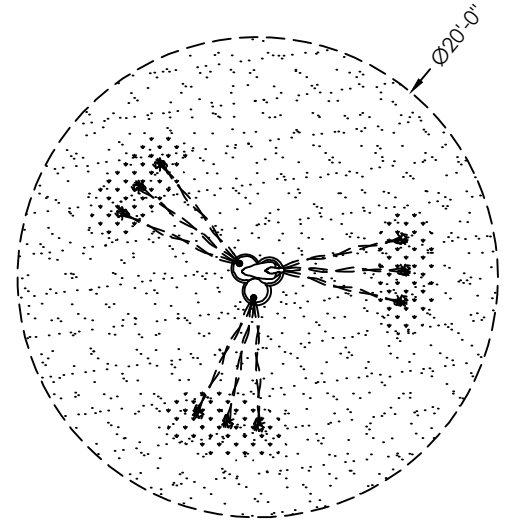
DRAWN BY	P.J.	SCALE	1/4" = 1'-0"	DATE	5/17/23
REVISED BY	NCS	REVISION LETTER	B	REVISION DATE	2/10/2025

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TOP VIEW



SPLASH ZONE

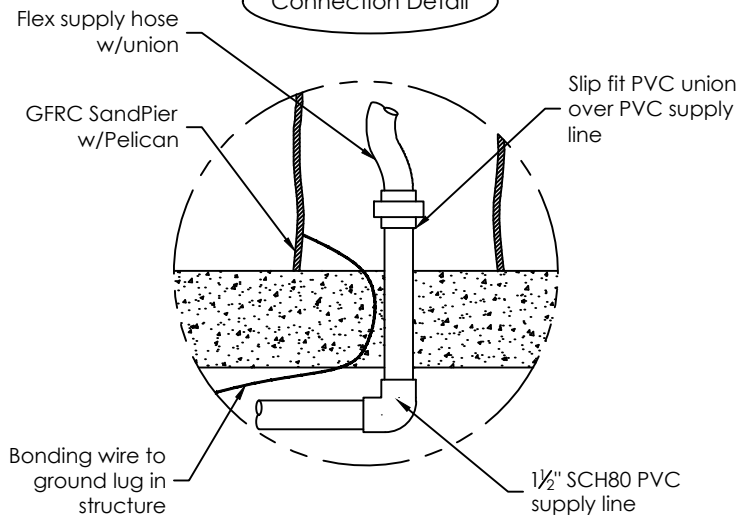


Splash Zone-Not to Scale

Splash Zone Notes:

Splash zones are approximate, actual splash may vary based on various environmental conditions, flow rates, slope of splash pad and submergence depth.

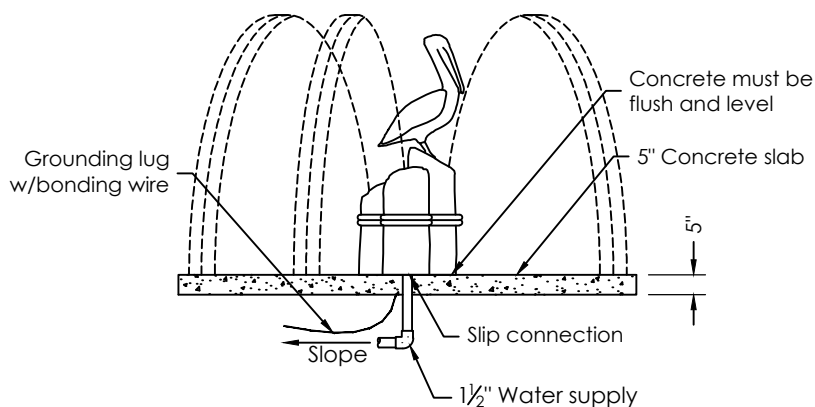
Connection Detail



Construction Details

Built with internal stainless steel bar and expanded mesh, sprayed GFRP sculpted concrete. Theme painted and Clear Coat. Surface mount to concrete pad. Included grounding lug and mounting anchors.

Elevation



Design Details

SandPier w/Pelican - Approximately 2' x 2' x 5' H
(3) Triple arch jets from top

DATA

Flow Rate: 9 GPM
Pressure: 5 PSI
Supply Line: 1 1/2 inch Pipe

Not for Construction



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SEAPIER W/PELICAN

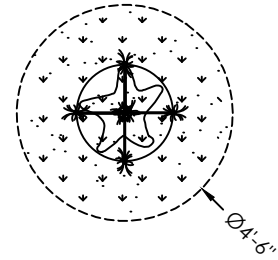
DRAWN BY	P.J.	SCALE	1/4" = 1' - 0"	DATE	3/17/21
REVISED BY	NCS	REVISION LETTER	B	REVISION DATE	2/10/2025

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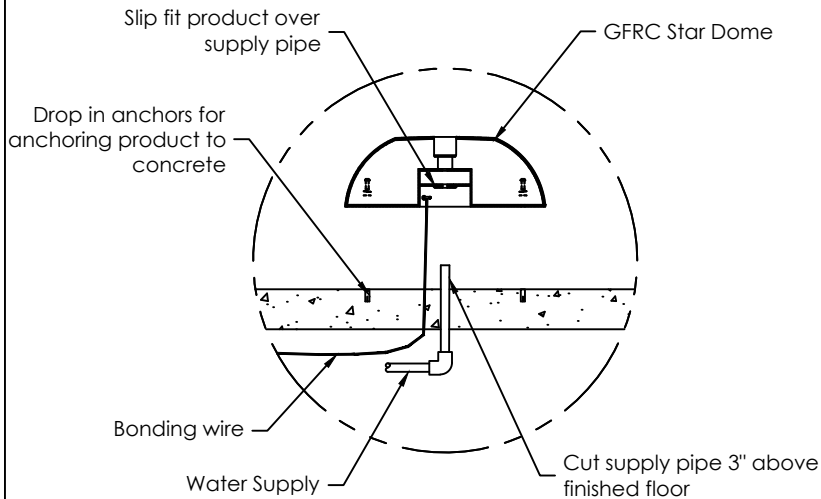
TOP VIEW



SPLASH ZONE



Connection Detail



Splash Zone-Not to Scale

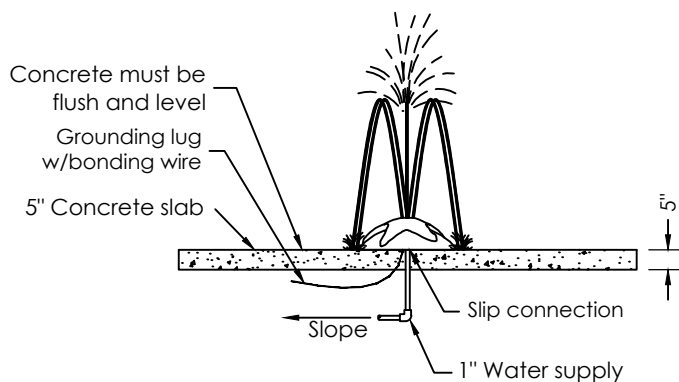
Splash Zone Notes:

Splash zones are approximate, actual splash may vary based on various environmental conditions, flow rates, slope of splash pad and submergence depth.

Construction Details

Built with internal stainless steel armature, Solid pour GFRC concrete. Theme painted and Clear Coat. Surface mount to concrete pad. Included grounding lug and mounting anchors.

Elevation



Design Details

Star Dome - Approximately 24" diameter x 8" H
Single Sea Crawler spray from center of StarDome

DATA

Flow Rate: 5 GPM
Pressure: 3 PSI
Supply Line: 1" Pipe

****Not for Construction****



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STAR DOME

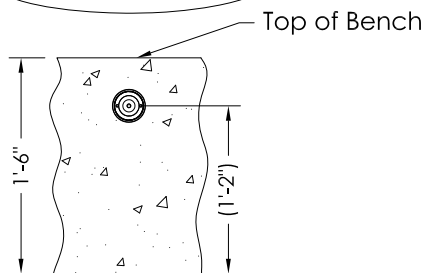
DRAWN BY	P.J.	SCALE	1/4" = 1'-0"	DATE	5/17/23
REVISED BY	NCS	REVISION LETTER	B	REVISION DATE	2/10/2025

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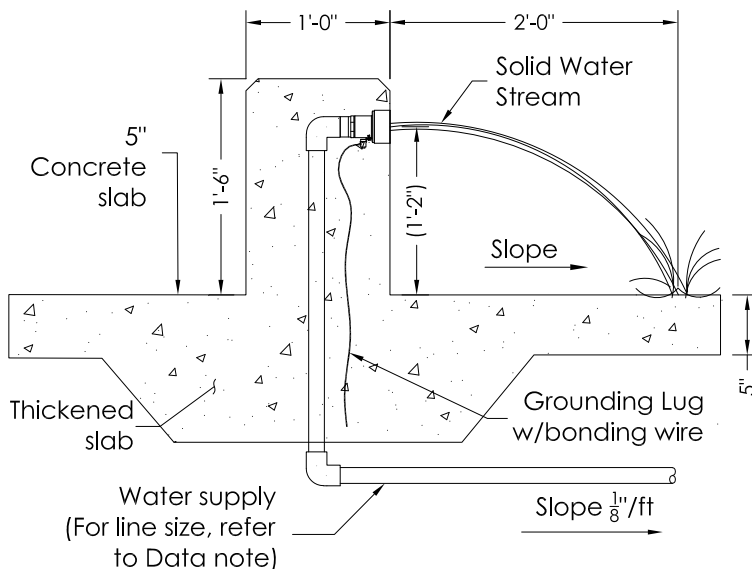
NOTES

1. Valve must be installed on supply line to regulate flow.
2. Supply line size to be based on designed flow rate for structure.
3. Underground plumbing to be designed for winterization.
4. Consult local electrical inspector for grounding.
5. Side Wall Stream is designed to be encapsulated in a 6" minimum thick concrete wall.
6. Product may require a strainer on the water feed line. Consult with manufacturer.
7. Do not exceed 20 feet per second velocity.
8. Product specifications are subject to change.

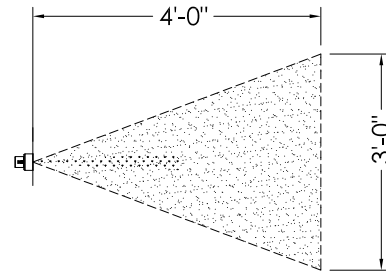
FRONT VIEW



SIDE VIEW



SPLASH ZONE



Splash Zone-Not to Scale

Splash Zone Notes:

Splash zones are approximate, actual splash may vary based on various environmental conditions, flow rates, slope of splash pad, submergence depth and wind.

PRODUCT OPTIONS

Structure Nozzle:

Stainless Steel Fabrication
(see specification for details)

DATA

High Flow: 10 GPM
Low Flow: 5GPM
Ultra Low Flow: 1GPM
Pressure: 3 PSI
Supply Line: 1" Pipe
Installation: Cast into concrete wall

Not for Construction



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SIDE WALL STREAM

DRAWN BY JLS

SCALE 3/4"=1'-0"

DATE 2/6/20

REVISED BY DAB

REVISION LETTER B

REVISION DATE 2/13/25

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NOTES

1. Valve must be installed on supply line to regulate flow.
2. Ground spray is designed to be encapsulated in concrete pad.
3. Supply line is based on the designated flow rates for structure.
4. Underground plumbing to be designed for winterization.
5. Consult local electrical inspector for grounding.
6. Product may require a strainer on the water feed line. Consult with manufacturer.
7. Do not exceed 20 feet per second velocity.
8. Product specifications are subject to change.

PRODUCT OPTIONS

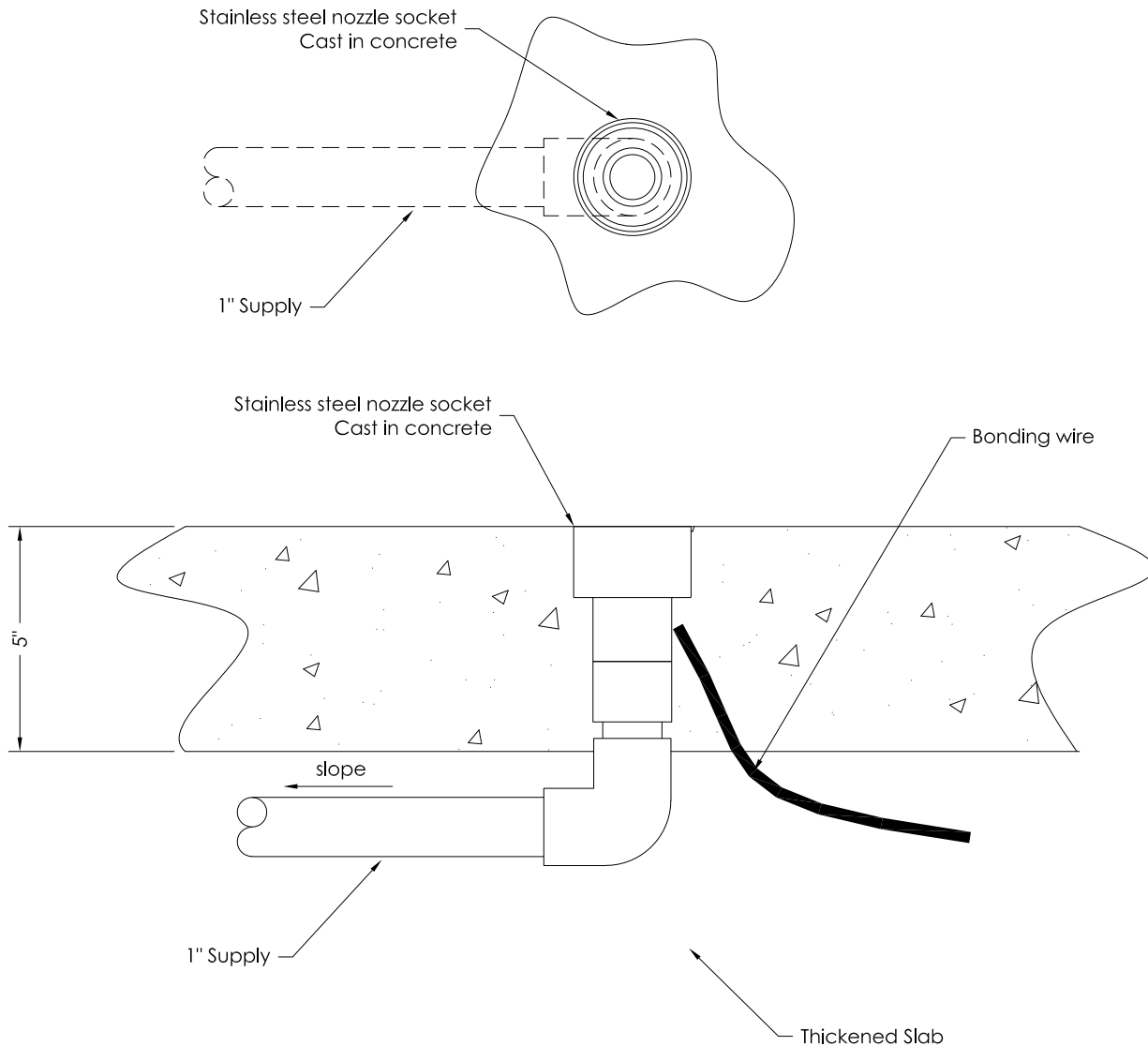
Structure Pod:

Stainless Steel Fabrication
(see specification for details)

DATA

Installation:
Supply Line:

Cast In Concrete
1" Pipe



****Not for Construction****



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CAST-IN SST NOZZLE SOCKET

DRAWN BY	CTS	SCALE	NTS	DATE	1/11/19
REVISED BY	DAB	REVISION LETTER	B	REVISION DATE	2/13/25

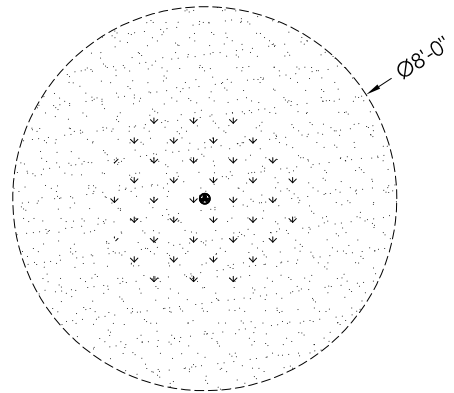
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NOTES

1. Product may require a strainer on the water feed line.
Consult with manufacturer.
2. Do not exceed 20 feet per second velocity.
3. Product specifications are subject to change.



SPLASH ZONE

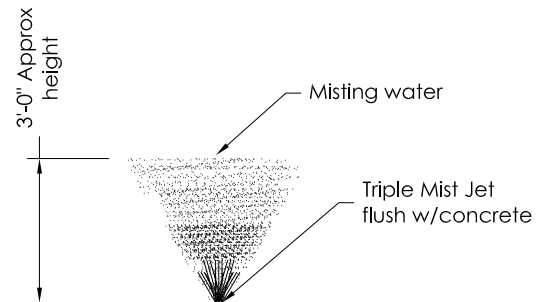


Splash Zone-Not to Scale

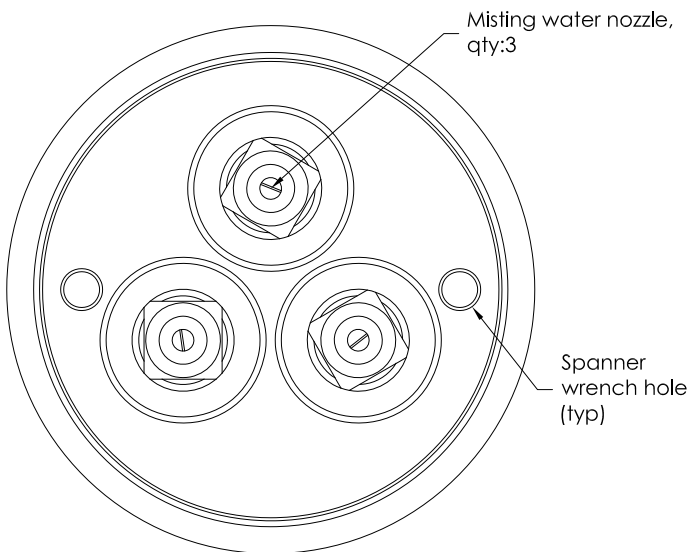
Splash Zone Notes:

Splash zones are approximate, actual splash may vary based on various environmental conditions, flow rates, slope of splash pad, submergence depth and wind.

WATER EFFECT



TOP VIEW



See mounting options

PRODUCT OPTIONS

Structure:

Stainless Steel
(see specification for details)

DATA

Flow: 3 GPM (3 ft. high)
Pressure: 15 PSI

****Not for Construction****



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TRIPLE MIST JET SST

DRAWN BY	P.J.	SCALE	NTS	DATE	2/2/21
REVISED BY	DAB	REVISION LETTER	B	REVISION DATE	2/14/25

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NOTES

1. Valve must be installed on supply line to regulate flow.
2. Ground spray is designed to be encapsulated in concrete pad.
3. Supply line is based on the designated flow rates for structure.
4. Underground plumbing to be designed for winterization.
5. Consult local electrical inspector for grounding.
6. Product may require a strainer on the water feed line. Consult with manufacturer.
7. Do not exceed 20 feet per second velocity.
8. Product specifications are subject to change.

PRODUCT OPTIONS

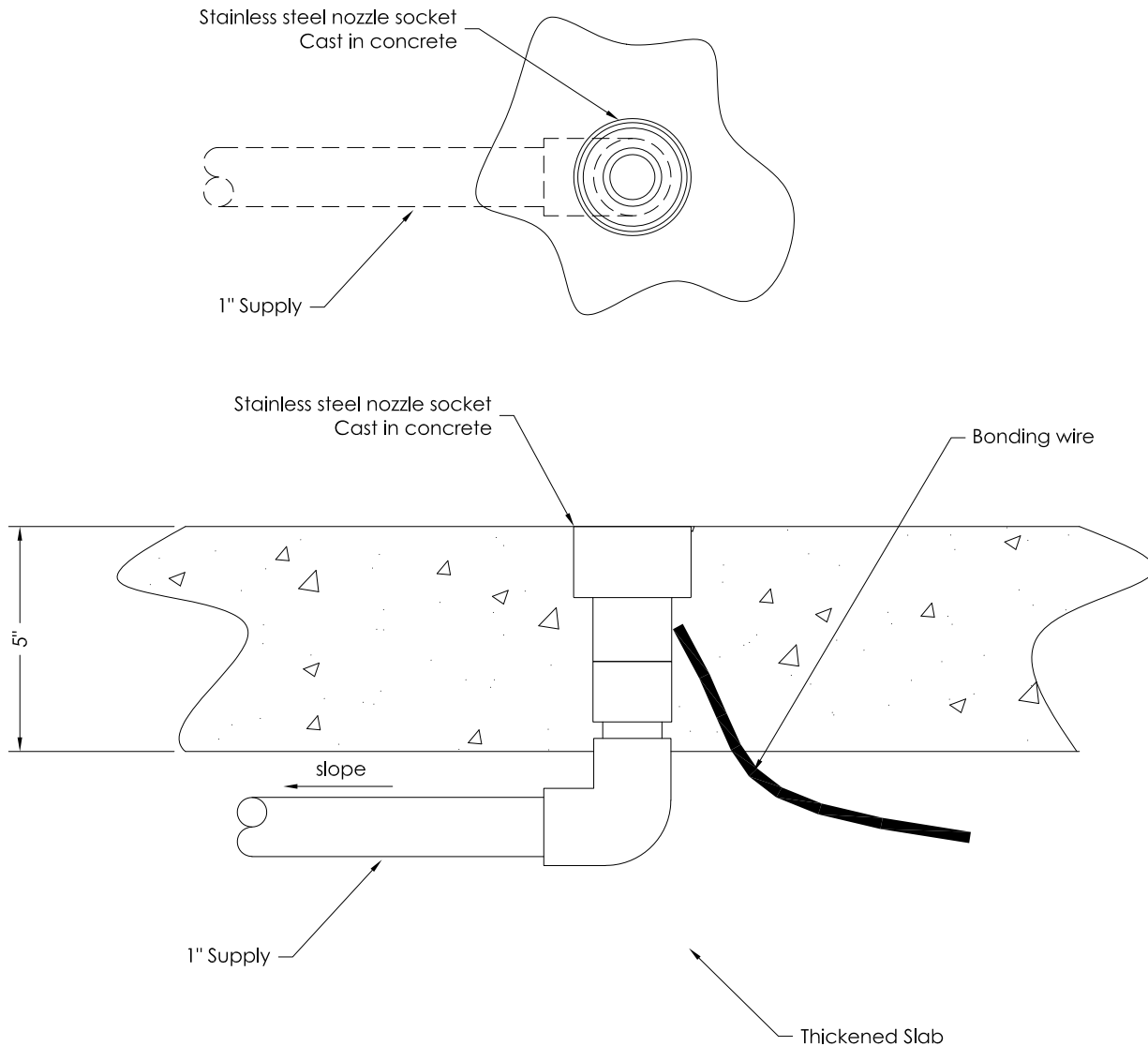
Structure Pod:

Stainless Steel Fabrication
(see specification for details)

DATA

Installation:
Supply Line:

Cast In Concrete
1" Pipe



****Not for Construction****



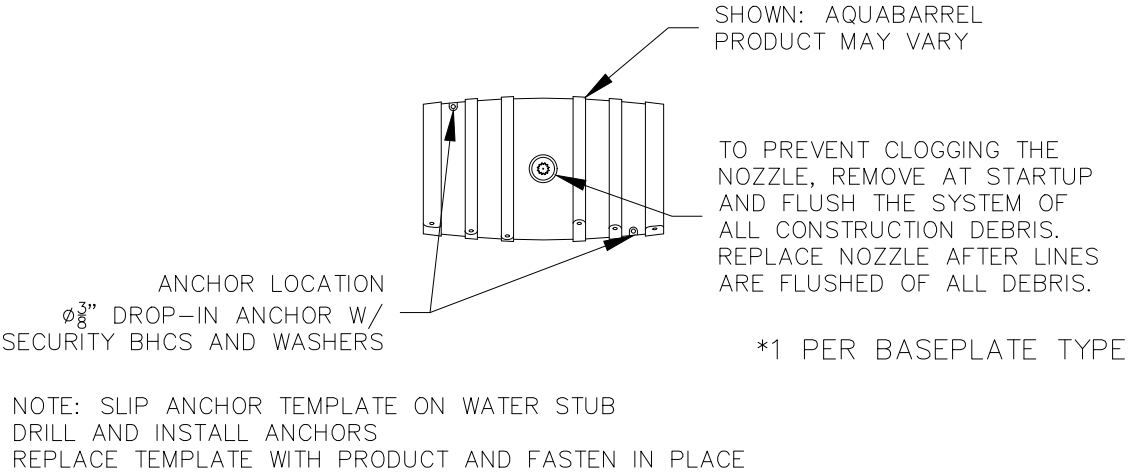
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CAST-IN SST NOZZLE SOCKET

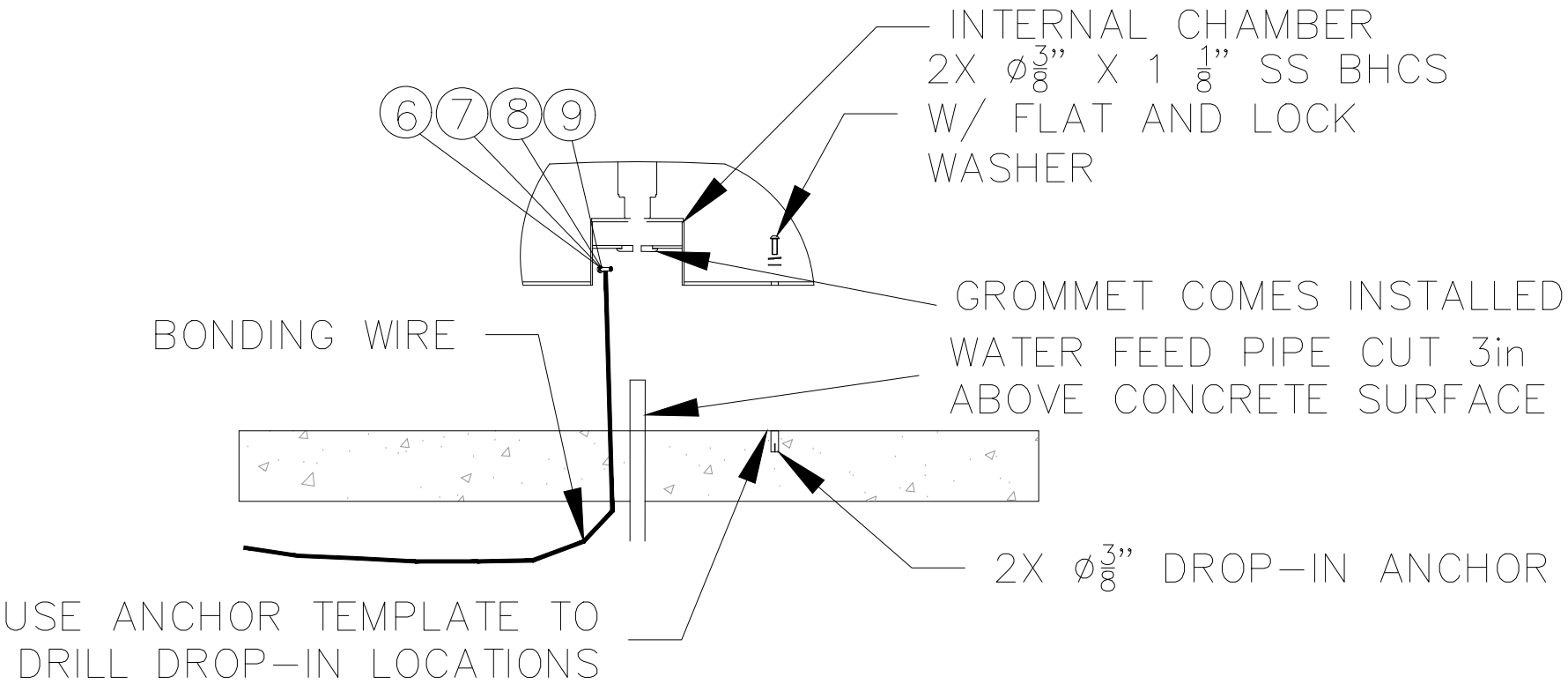
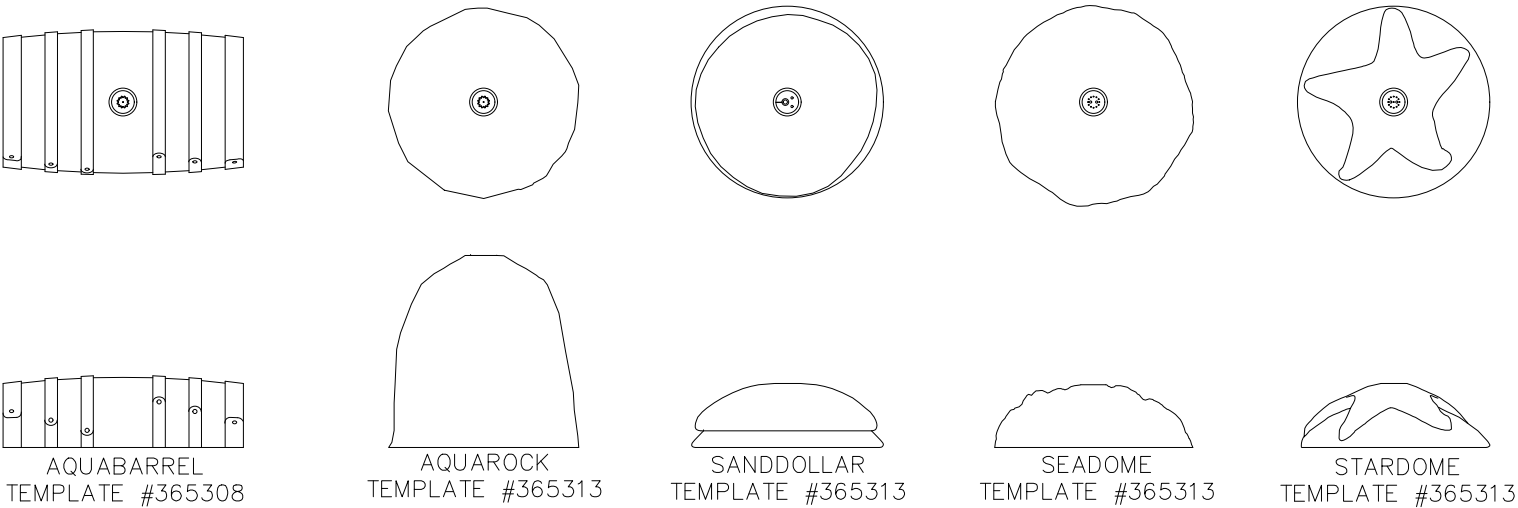
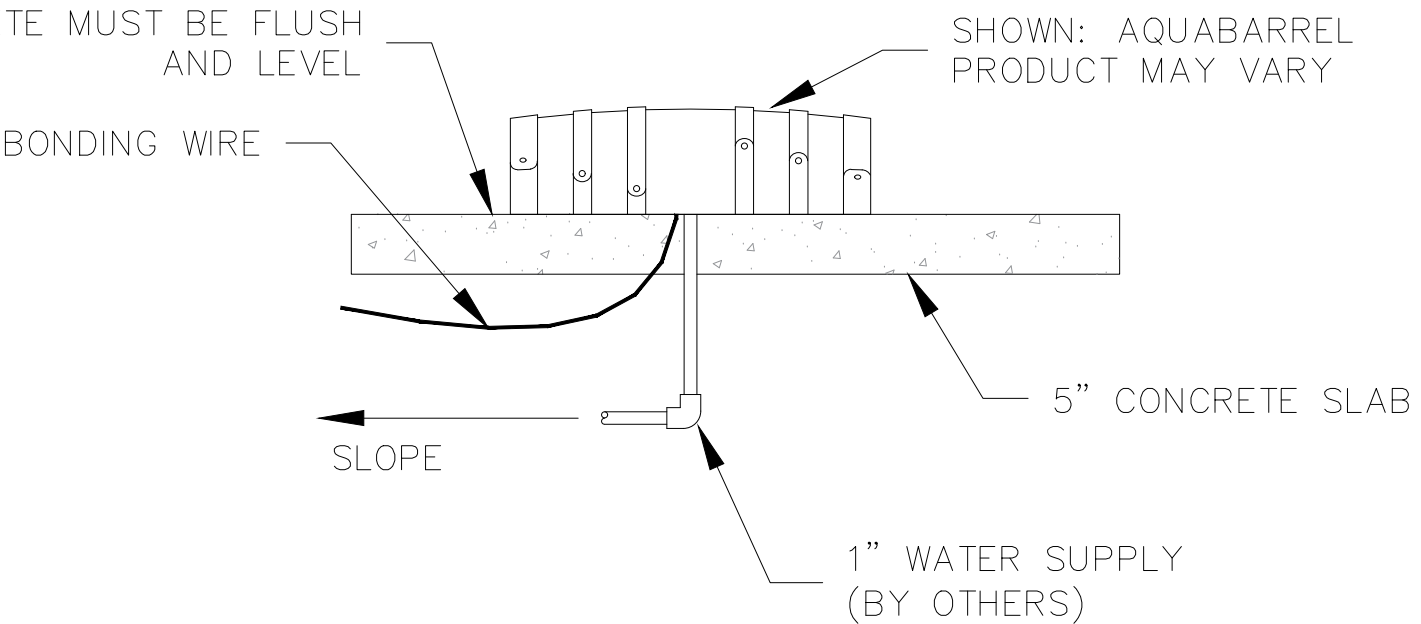
DRAWN BY	CTS	SCALE	NTS	DATE	1/11/19
REVISED BY	DAB	REVISION LETTER	B	REVISION DATE	2/13/25

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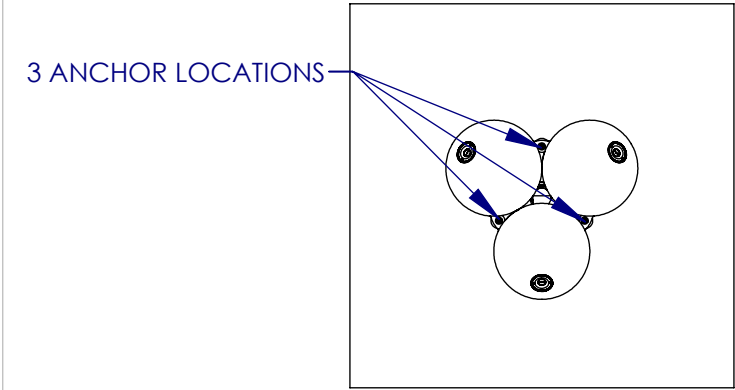
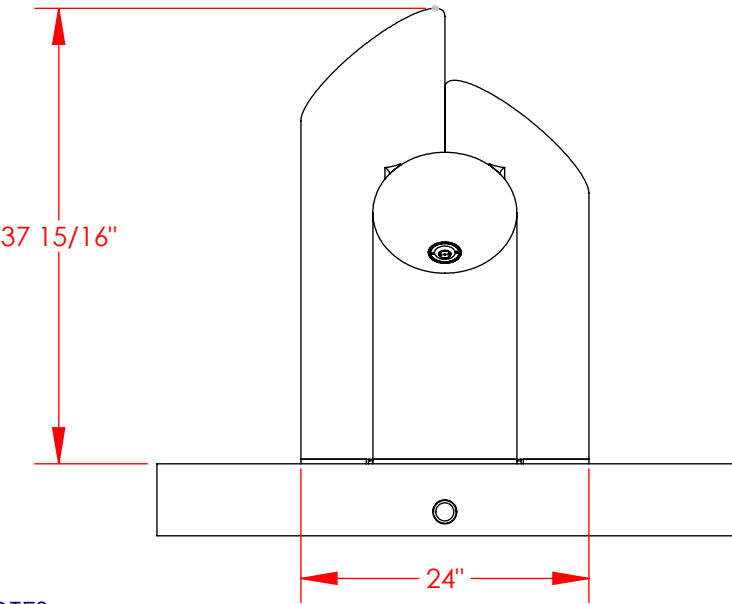
- NOTES:
1. USE PROVIDED POLYPRO TEMPLATE TO DRILL ANCHOR LOCATIONS BEFORE PRODUCT PLACEMENT
 2. REMOVE TEMPLATE BEFORE FINAL PRODUCT INSTALLATION
 3. REFER TO DOC AQ100600 FOR ANCHOR DETAILS
 4. 5in MIN CONCRETE THICKNESS, SOME STRUCTURES MAY REQUIRE THICKENED SLAB UNDER STRUCTURE
 5. VERIFY LOCAL CODES FOR TYPE, THICKNESS, AND REINFORCEMENT REQUIREMENTS FOR CONCRETE SLAB, CONCRETE TO BE RATED FOR 4000 PSI MINIMUM
 6. CONCRETE MOUNTING SURFACE TO BE FLAT, SOME STRUCTURES ALSO REQUIRE LEVEL SURFACE
 7. FOLLOW MANUFACTURERS INSTRUCTIONS FOR INSTALLATION OF ANCHOR HARDWARE
 8. BOND IN ACCORDANCE WITH NEC ARTICLE 680
 9. A VALVE MUST BE INSTALLED ON THE SUPPLY LINE TO REGULATE FLOW
 10. UNDERGROUND PLUMBING TO BE DESIGNED FOR WINTERIZATION
 11. WINTERIZATION TO BE PERFORMED BY A TRAINED TECHNICIAN FAMILIAR WITH PROPER WINTERIZATION PROCEDURES
 12. TO PREVENT DAMAGE OR PERSONAL INJURY, REMOVAL OF THE NOZZLE ASSEMBLIES IS REQUIRED DURING STARTUP AND WINTERIZATION PROCEDURES
 13. USE ANTI-SIEZE LUBRICANT ON STAINLESS STEEL FASTENERS AND THREADED NOZZLES
 14. INSPECT REGULARLY FOR SIGNS OF DAMAGE OR VANDALISM
 15. INSPECT REGULARLY FOR LOOSE OR MISSING FASTENERS
 16. SPRAY EFFECT MAY VARY BASED ON ENVIRONMENTAL CONDITIONS, FLOW RATES, SLOPE OF PAD, AND SUBMERGENCE DEPTH
 17. PRODUCT SPECIFICATIONS SUBJECT TO CHANGE
 18. SOME PRODUCTS HAVE WEEP HOLES TO PREVENT WATER ENTRAPMENT AND STAGNATION WHEN NOT IN OPERATION



ITEM	DESCRIPTION	PART #	QTY:
1	GFRC ASSEMBLY	VARIES	1
2	$\varnothing \frac{3}{8}$ " SS DROP-IN ANCHOR	AQ300027	2
3	$\varnothing \frac{3}{8}$ " X $1 \frac{1}{8}$ " SS SECURITY BHCS	127547	2
4	$\varnothing \frac{3}{8}$ " FLAT WASHER	AQ300285	2
5	$\varnothing \frac{3}{8}$ " LOCK WASHER	AQ300308	2
6	0.25 FLAT WASHER 18-8 SS	AQ300290	2
7	0.25-20 FHN NUT 18-8 SS	AQ300291	1
8	COPPER SET SCREW GROUNDING LUG	AQ300151	1
9	0.25 LOCK WASHER 18-8 SS	AQ300292	1
9	ANCHOR TEMPLATE	VARIES	1

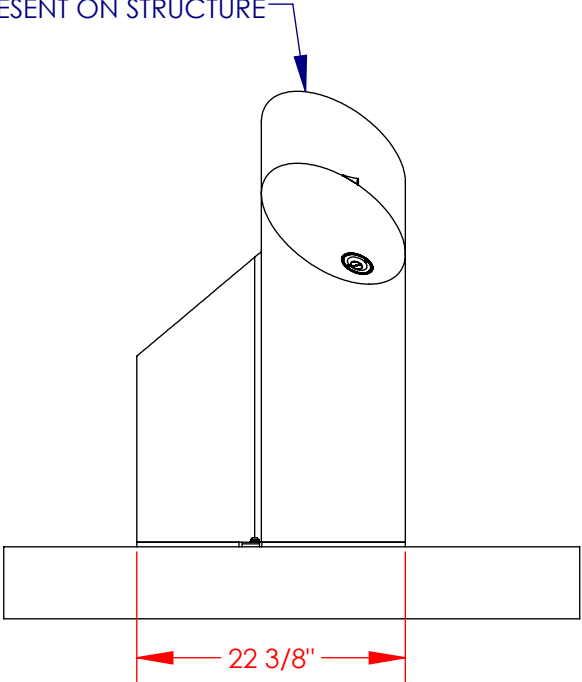


REVISION HISTORY			
REV	REV DESC	DATE	BY
A	RELEASED	2/26/2024	CMR
B	REMOVED NOZZLE PARTS & GROUNDING HARDWARE FROM BOM	6/9/2025	NCS

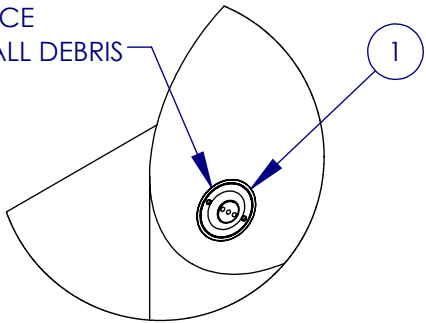


- NOTES:
1. USE PROVIDED POLYPRO TEMPLATE TO DRILL ANCHOR LOCATIONS BEFORE PRODUCT PLACEMENT
 2. CONCRETE IN VIEWS FOR REFERENCE
 3. 5in MIN CONCRETE THICKNESS, SOME STRUCTURES MAY REQUIRE THICKENED SLAB UNDER STRUCTURE
 4. VERIFY LOCAL CODES FOR TYPE, THICKNESS, AND REINFORCEMENT REQUIREMENTS FOR CONCRETE SLAB, CONCRETE TO BE RATED FOR 4000 PSI MINIMUM
 5. CONCRETE MOUNTING SURFACE TO BE FLAT, SOME STRUCTURES ALSO REQUIRE LEVEL SURFACE
 6. FOLLOW MANUFACTURERS INSTRUCTIONS FOR INSTALLATION OF ANCHOR HARDWARE
 7. BOND IN ACCORDANCE WITH NEC ARTICLE 680
 8. A VALVE MUST BE INSTALLED ON THE SUPPLY LINE TO REGULATE FLOW
 9. UNDERGROUND PLUMBING TO BE DESIGNED FOR WINTERIZATION
 10. WINTERIZATION TO BE PERFORMED BY A TRAINED TECHNICIAN FAMILIAR WITH PROPER WINTERIZATION PROCEDURES
 11. TO PREVENT DAMAGE OR PERSONAL INJURY, REMOVAL OF THE NOZZLE ASSEMBLIES IS REQUIRED DURING STARTUP AND WINTERIZATION PROCEDURES
 12. USE ANTI-SIEZE LUBRICANT ON STAINLESS STEEL FASTENERS AND THREADED NOZZLES
 13. INSPECT REGULARLY FOR SIGNS OF DAMAGE OR VANDALISM
 14. INSPECT REGULARLY FOR LOOSE OR MISSING FASTENERS
 15. SPRAY EFFECT MAY VARY BASED ON ENVIRONMENTAL CONDITIONS, FLOW RATES, SLOE OF PAD, AND SUBMERGENCE DEPTH
 16. PRODUCT SPECIFICATIONS SUBJECT TO CHANGE
 17. SOME PRODUCTS HAVE WEEP HOLES TO PREVENT WATER ENTRAPMENT AND STAGNATION WHEN NOT IN OPERATION

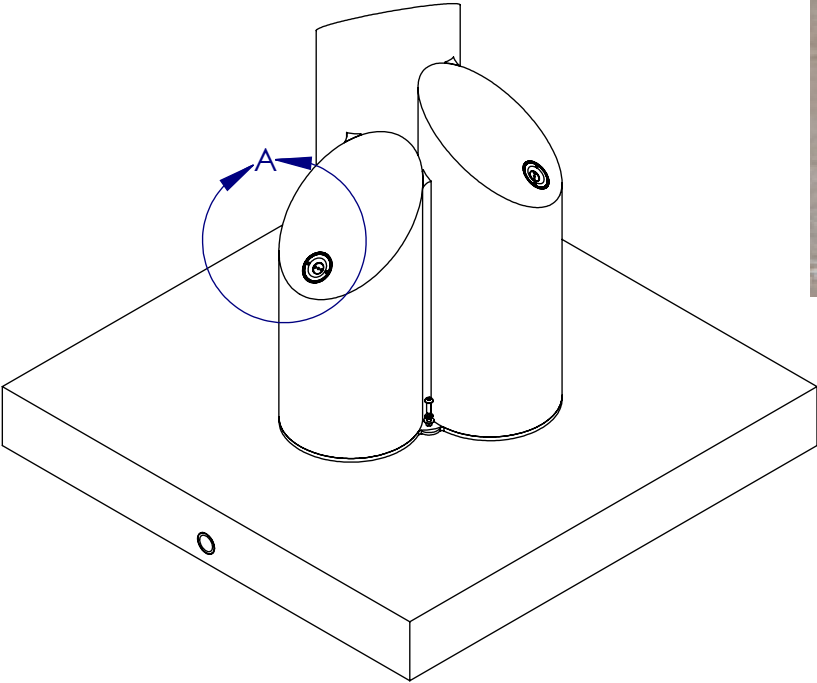
PELICAN IS NOT IN DRAWING VIEWS BUT WILL BE PRESENT ON STRUCTURE



TO PREVENT CLOGGING THE NOZZLE, REMOVE AT STARTUP AND FLUSH THE SYSTEM OF ALL CONSTRUCTION DEBRIS. REPLACE NOZZLE AFTER LINES ARE FLUSHED OF ALL DEBRIS



DETAIL A
SCALE 1 : 8



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	340515	SeaPier with Pelican GFRG Assembly	1
2	127547	3/8-16 X 1 1/8 BHCS W/ PIN	3
3	AQ300285	3/8in X 7/8in FLAT WASHER SS	3
4	AQ300308	.375in 18-8 SST LOCK WASHER	3
5	AQ300027	0.375in SS DROP-IN ANCHOR	3
6	365389	SeaPier Anchor Template	1

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FRACTIONS ± 1/32"
DECIMALS ± .015
WHOLE ANGLES ± .5°
DECIMAL ANGLES ± .25°

DATE
02/26/2024

DWG FILE
298709

CHECKED
CHK BY

DRAWN
CR

SCALE
AS NOTED

SHEET TITLE
SeaPier with Pelican

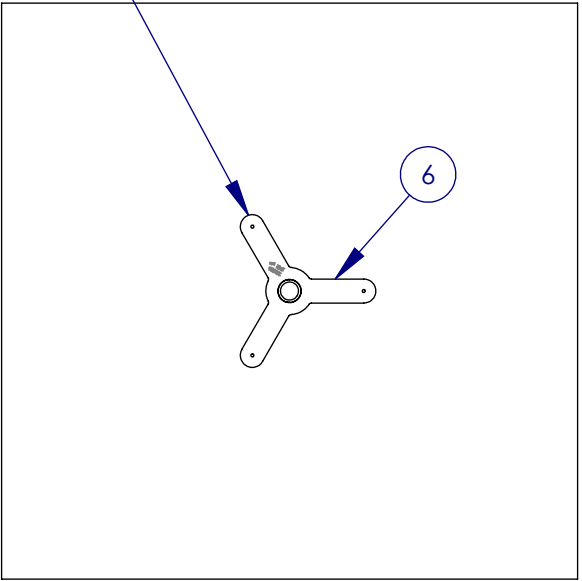
PART NO
298709-B

1
OF
2

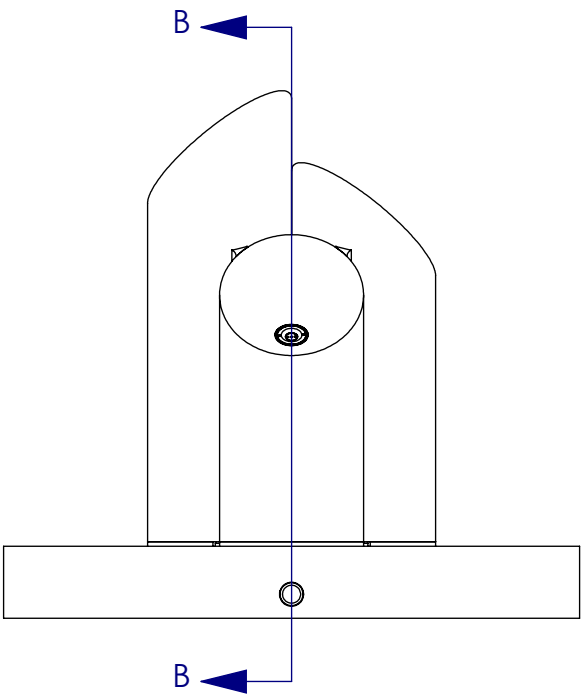
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USE PROVIDED POLYPRO TEMPLATE TO
DRILL ANCHOR LOCATIONS BEFORE
PRODUCT PLACEMENT



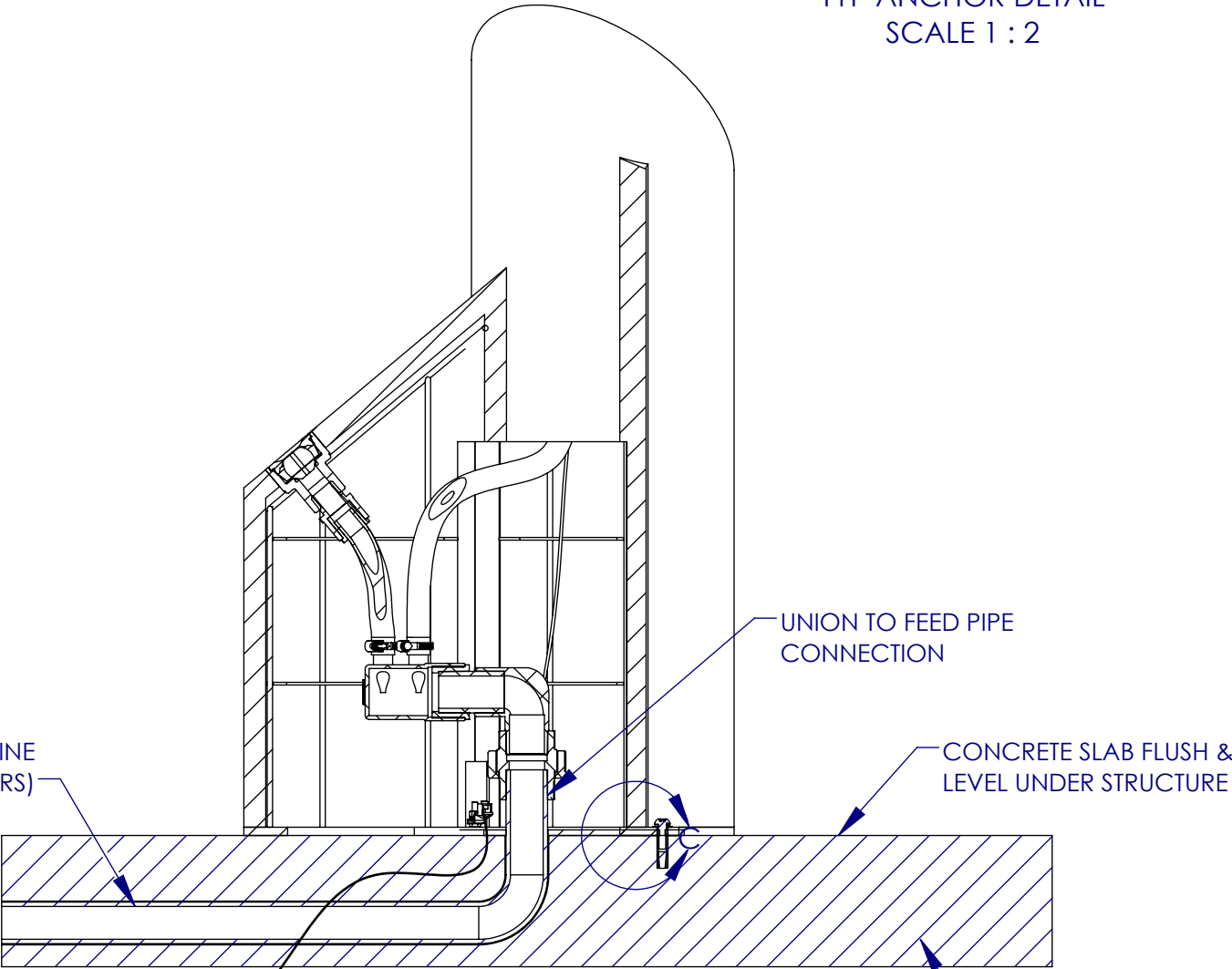
TEMPLATE VIEW
SCALE 1:16



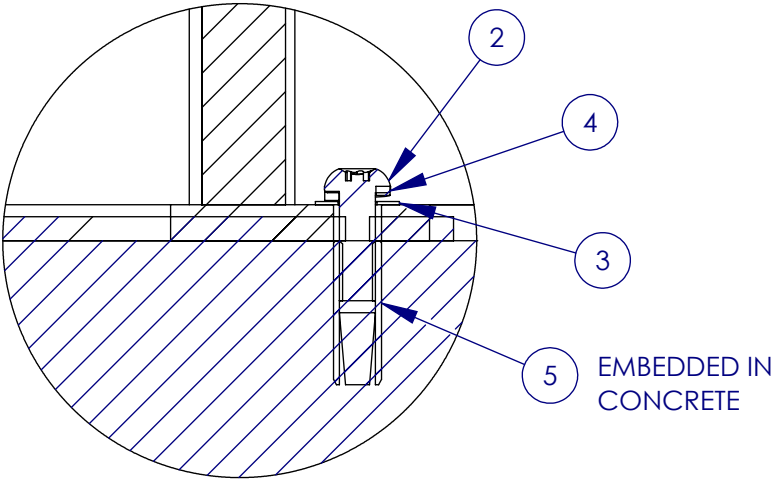
1-1/2" WATER SUPPLY LINE
(BY OTHERS)

BOND PRODUCT
TO GROUND

SECTION B-B
SCALE 1 : 8



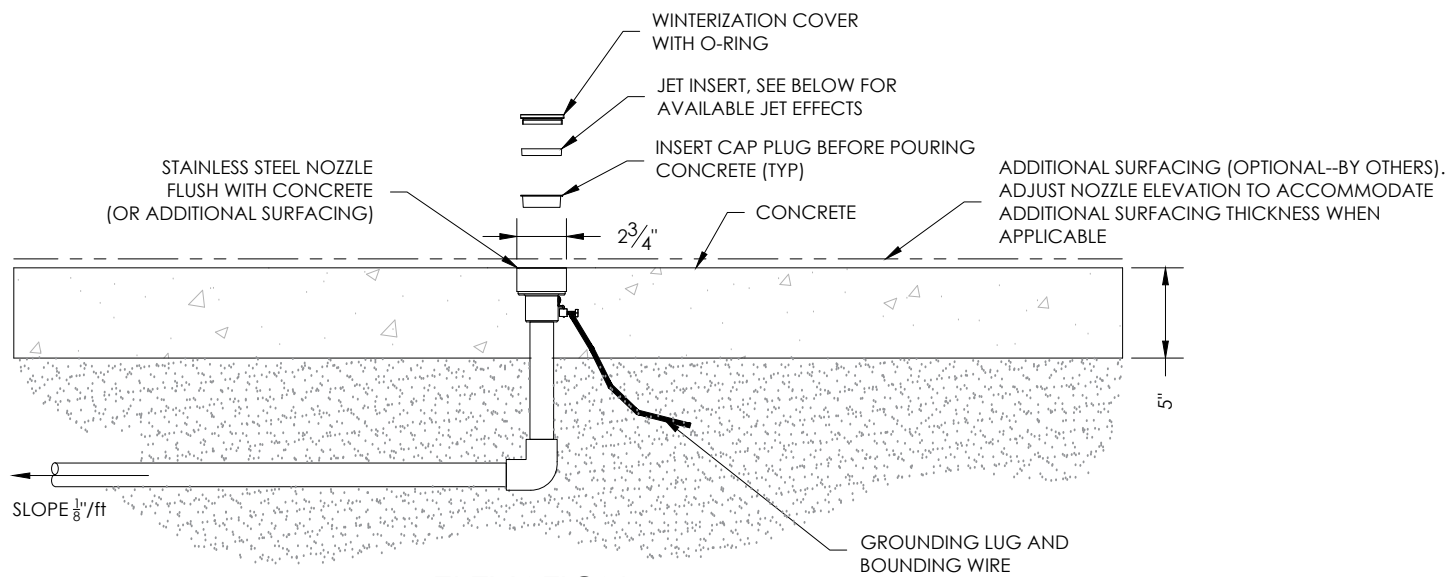
DETAIL C
TYP ANCHOR DETAIL
SCALE 1 : 2



EMBEDDED IN
CONCRETE

NOTES
1. SCALE 1:24 EXCPET WHERE NOTED

PUCK NOZZLE INSTALLATION

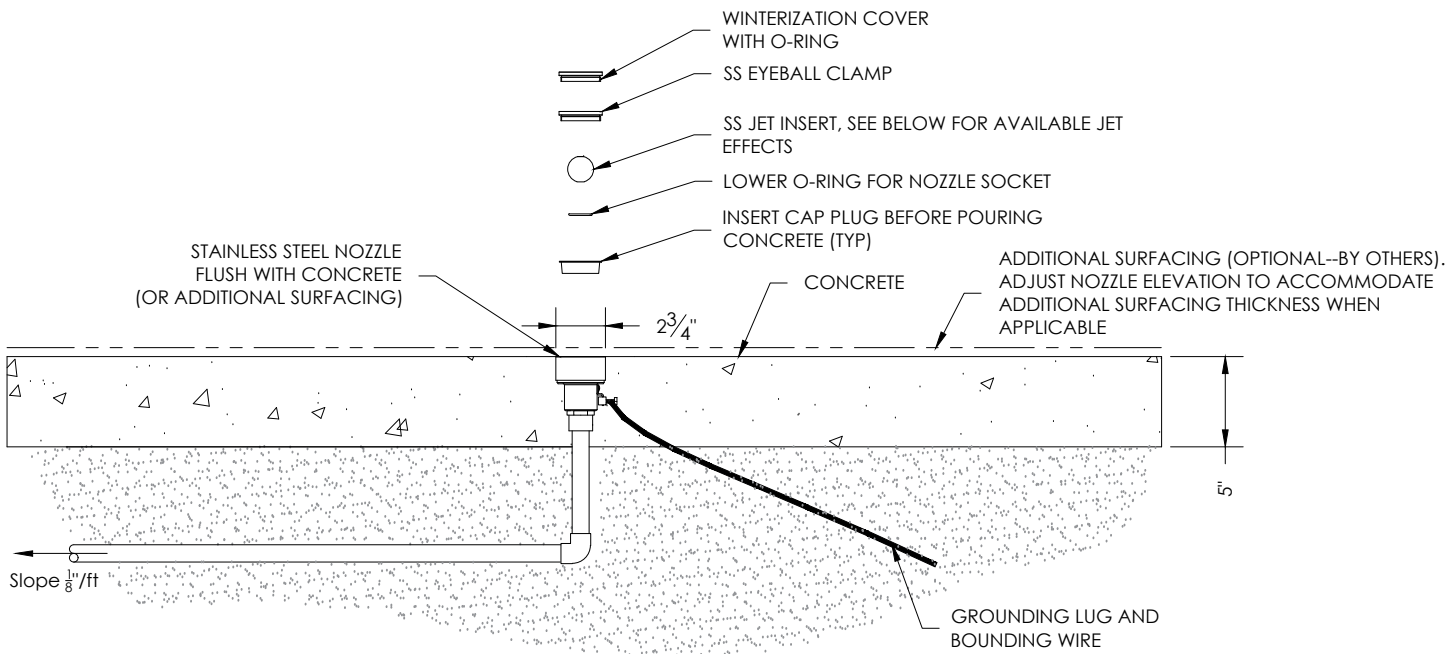


ELEVATION

1 1/4" = 1'-0"

- JET EFFECTS
- SEA CRAWLER
 - JUNIOR WATER JEWEL
 - MINI PILLAR
 - CROWN JET
 - BUBBLER
 - TRIPLE MIST NOZZLE
 - GROUND FUNNEL
 - FUNNEL TWIST
 - ROOSTER SPRAY

EYEBALL NOZZLE INSTALLATION

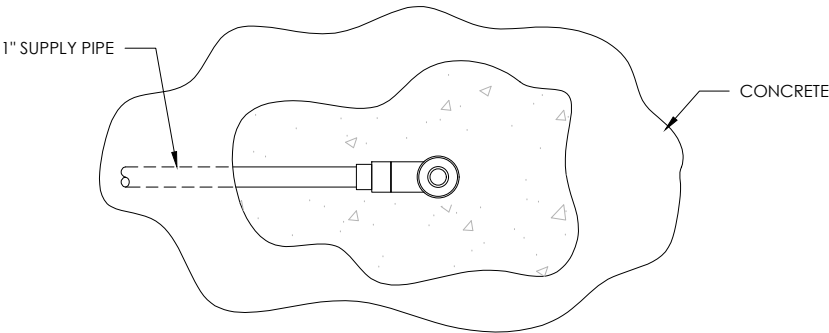


ELEVATION

1 1/4" = 1'-0"

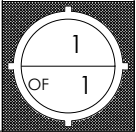
- JET EFFECTS
- ARCH JET
 - STREAM JET
 - TRIPLE ARCH JET

- NOTES:
- 5in MIN CONCRETE THICKNESS, SOME STRUCTURES MAY REQUIRE THICKENED SLAB UNDER STRUCTURE
 - VERIFY LOCAL CODES FOR TYPE, THICKNESS, AND REINFORCEMENT REQUIREMENTS FOR CONCRETE SLAB, CONCRETE TO BE RATED FOR 4000 PSI MINIMUM
 - CONCRETE MOUNTING SURFACE TO BE FLAT, SOME STRUCTURES ALSO REQUIRE LEVEL SURFACE
 - FOLLOW MANUFACTURERS INSTRUCTIONS FOR INSTALLATION OF ANCHOR HARDWARE
 - BOND IN ACCORDANCE WITH NEC ARTICLE 680
 - A VALVE MUST BE INSTALLED ON THE SUPPLY LINE TO REGULATE FLOW
 - UNDERGROUND PLUMBING TO BE DESIGNED FOR WINTERIZATION
 - WINTERIZATION TO BE PERFORMED BY A TRAINED TECHNICIAN FAMILIAR WITH PROPER WINTERIZATION PROCEDURES
 - TO PREVENT DAMAGE OR PERSONAL INJURY, REMOVAL OF THE NOZZLE ASSEMBLIES IS REQUIRED DURING STARTUP AND WINTERIZATION PROCEDURES
 - USE ANTI-SIEZE LUBRICANT ON STAINLESS STEEL FASTENERS AND THREADED NOZZLE PUCKS
 - USE PIPE SEALANT ON PIPE FITTINGS
 - INSPECT REGULARLY FOR SIGNS OF DAMAGE OR VANDALISM
 - INSPECT REGULARLY FOR LOOSE OR MISSING FASTENERS
 - SPRAY EFFECT MAY VARY BASED ON ENVIRONMENTAL CONDITIONS, FLOW RATES, SLOPE OF PAD, AND SUBMERGENCE DEPTH
 - PRODUCT SPECIFICATIONS SUBJECT TO CHANGE
 - SOME PRODUCTS HAVE WEEP HOLES TO PREVENT WATER ENTRAPMENT AND STAGNATION WHEN NOT IN OPERATION
 - PRODUCT HOOKUPS AND ASSOCIATED MATERIALS--WATER SUPPLY, DRAINAGE, ELECTRICAL, AND BONDING--ARE BY OTHERS



PLAN VIEW

1" = 1'-0"

NO.		REVISION	DATE
A		REVISED CONCRETE CALL OUT	5/1/2020
B		ADDED AVAILABLE WATER EFFECTS	10/28/21
C		ADDED NEW NOZZLE WATER EFFECTS	2/9/2023
D		ADD ADDITIONAL SURFACING DETAIL IMPROVE INSTALL NOTES (ECO-0113256)	3/10/2024
1101 McKinley Pkwy Delcino, MN 55328 888-438-6574 763-972-5200 aquatix.playtix.com			
			
by landscape structures			
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SCALE	DRAWN	CHECKED	DWG. FILE
1 1/2" = 1'-0"	CTS		AQ 100805
SHEET TITLE			
STAINLESS STEEL GROUND SPRAY POD CAST IN INSTALLATION DRAWING			
JOB NO. AQ100805			
			



General Installation Guidelines

- Safety First! Always use personal protective equipment such as, but not limited to, eye protection, respirator, protective clothing, sturdy footwear and fall protection when installing this equipment.
- Please thoroughly read and understand the installation instructions before beginning installation. Please call Aquatix at 763-972-4660 if you have any questions or concerns about installing this equipment. Or you can email us at aquatixsupport@playlsi.com.
- Always use caution when handling and uncrating structure to avoid personal injury or damage to product.
- Protect all finished surfaces from damage during assembly and erection.
- Use caution and wear appropriate personal protective equipment when drilling holes in concrete for anchoring stud installation. Follow all manufacturer instructions when using epoxy kit included with structure.
- Use caution and wear proper personal protective equipment when working on ladders or scaffolding during installation to avoid personal injury or damage to equipment.
- To prevent equipment damage or personal injury, removal of the nozzle assembly of all above ground structures and ground spray effects is required during both the start-up and winterization procedure.

Failure to observe the above precautions could result in serious bodily injury and/or damage to property and equipment

Structure:

Stainless Steel Fabrication
(see specification for details)

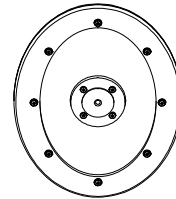
Acrylic Accents
(see specification for details)

Skirt
Fiberglass Fabrication
(see specification for details)

Collar
Urethane
(see specification for details)

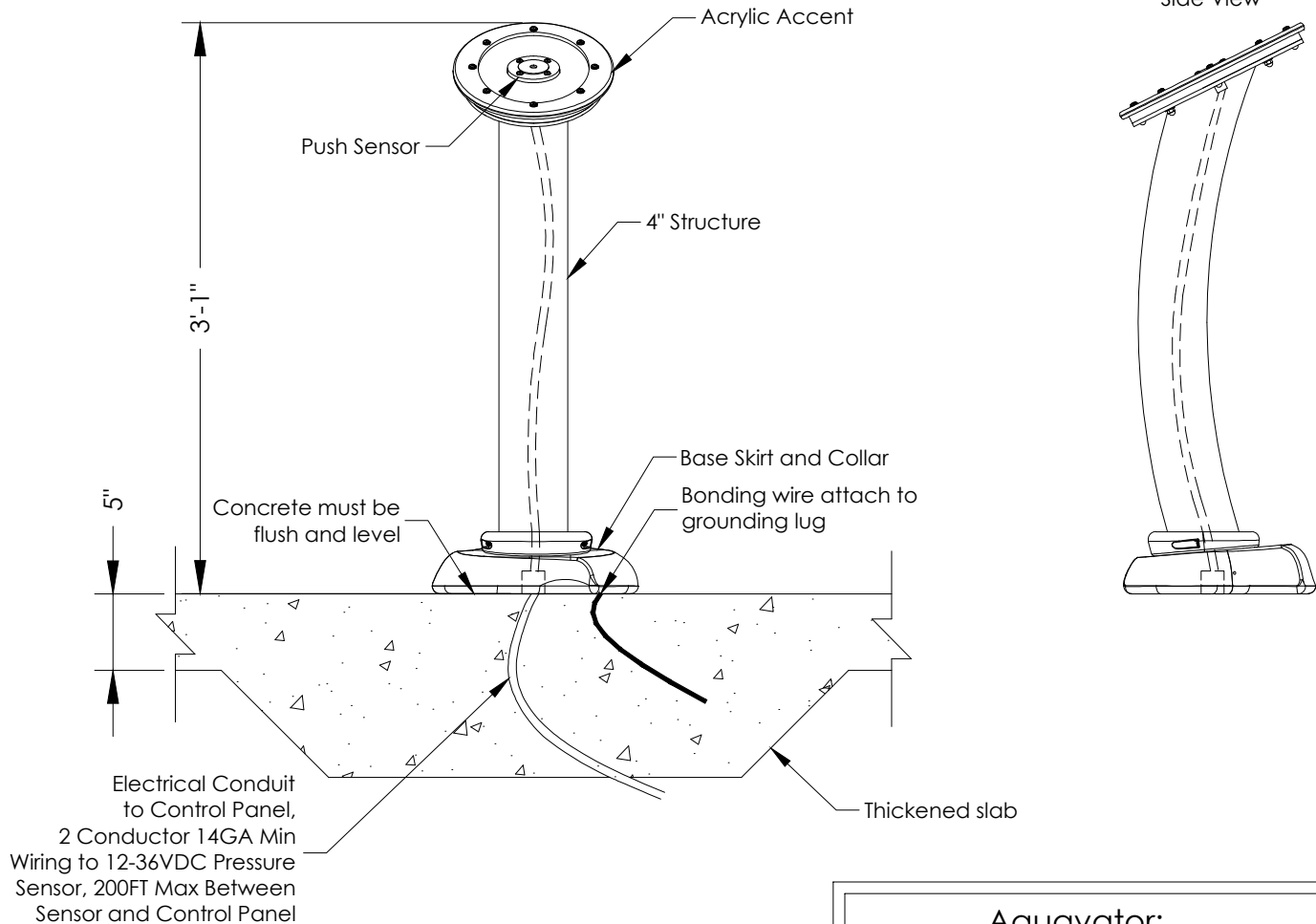
Aquavator Data:

Recommended Distance From Aquavator(s) to
Control Panel 50'



Top View

Side View



Aquavator:

Model No.	Description
AQ100798	Aquavator

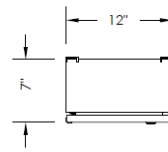
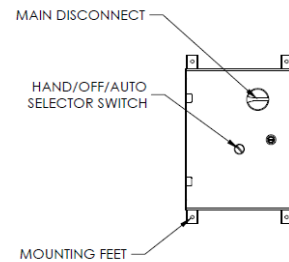
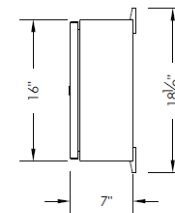


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AQUAVATOR

DRAWN BY	P.J.	SCALE	1/4" = 1'-0"	DATE	1/10/22
REVISED BY	NCS	REVISION LETTER	C	REVISION DATE	2/6/26

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* Please note that panel sizing can vary per project

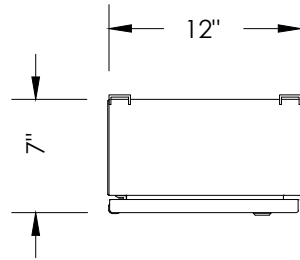
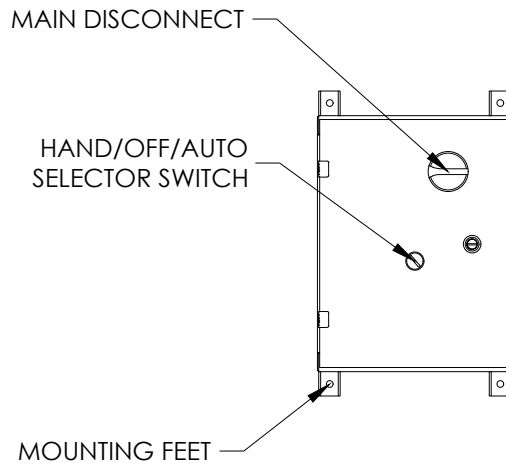
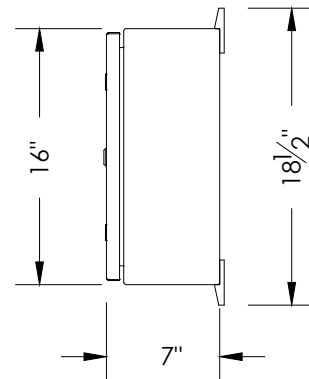
Control Panel- On/Off

Control Panel- On/Off to be a UL listed control panel consisting of a programmable control system that will set hours of operation, duration of system run time, and activate water flow via a touch enabled activation device.

May consist of:

- Required power: 120V 1Ph/60hz
- Time clock controls to set hours of operation and set duration time of activated devices
- Dry contact to control a pump
- Activation Bollard relay switches
- All NEMA rated components
- Steel NEMA 4 enclosure
- * Clearance around control panel required per code





ON/OFF CONTROL PANEL NOTES:

- REQUIRED POWER: 110V, 15A W/GFCI
- INPUT FOR A 2 WIRE, 24VDC ACTIVATION BOLLARD
- OUTPUT TO CONTROL:
 - (QTY: 1) 24VDC 6W SOLENOID VALVE
 - (QTY: 1) DRY CONTACT TO CONTROL A PUMP
- INCLUDES ADJUSTABLE TIMECLOCK FOR HOURS OF OPERATION AND TIMER FOR RUN TIME DURATION.
- POWDERCOATED, STEEL NEMA 4 ENCLOSURE
- NOTE: CLEARANCE AROUND CONTROL PANEL REQUIRED PER CODE

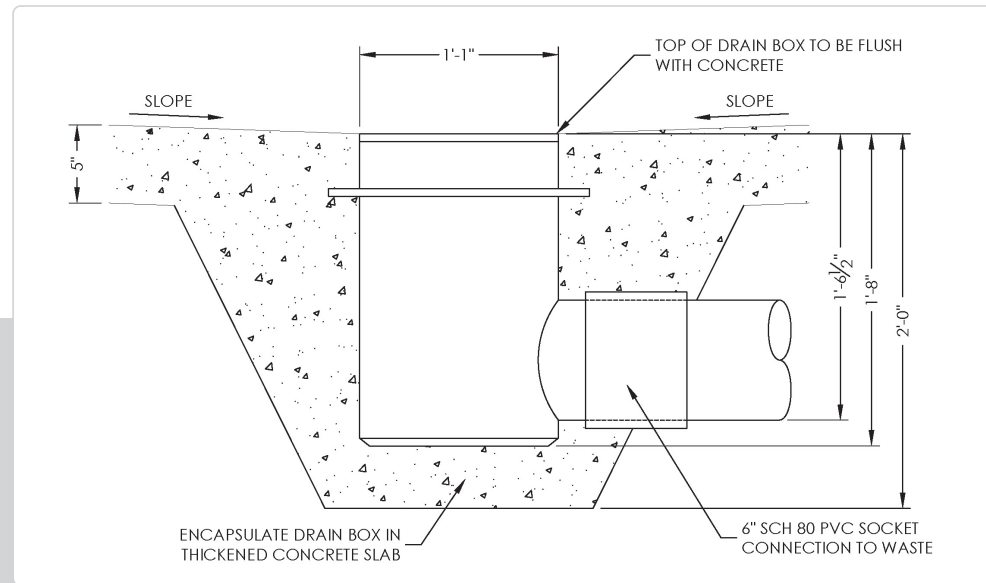


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ON/OFF CONTROL PANEL

DRAWN BY	P.J.B.	SCALE	1" = 1'-0"	DATE	2/14/23
REVISED BY	P.J.B.	REVISION LETTER	C	REVISION DATE	11/13/25

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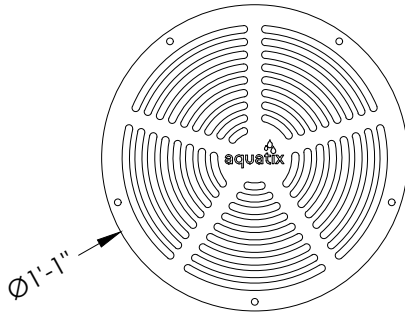
Drain Box

Drain Box to consist of a 13" diameter PVC sump and HDPE grate top. Each collector box has a nominal capacity of 120 gpm gravity supply to waste outlet.

May consist of:

- Structural plastic grating
- 13 inch sump
- Removable grate cover
- Foot friendly grate, flush mounted
- Drain grate to be blue

Top View



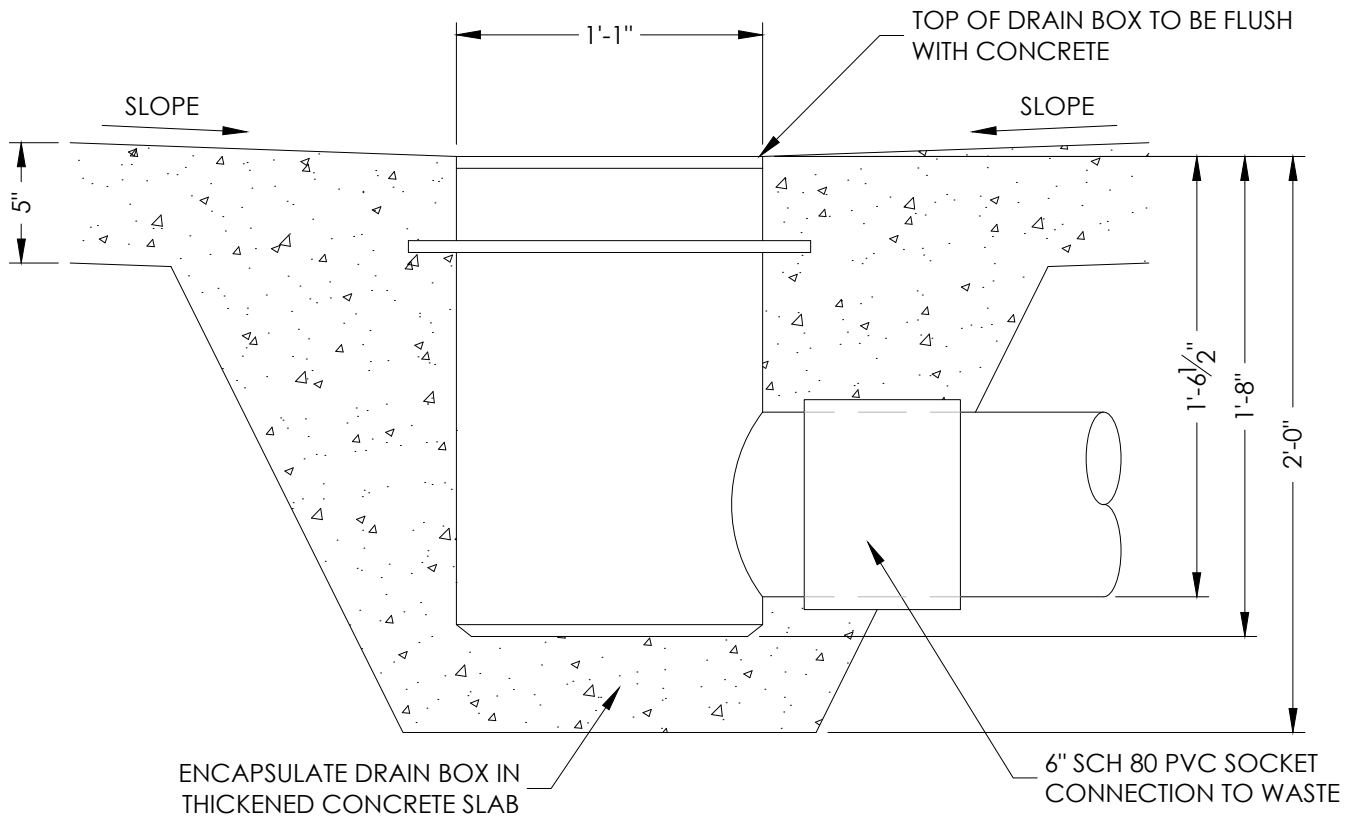
Drain Box Data:

Max 120 gpm Gravity Flow Per Unit

5/16" max slot width

Note:

-Above information is preliminary. Exact number of collector boxes needed for splash pad design based on total feature flow rate, size of splash pad, drainage needs for splash pad layout, and elevation/distance of collector box(s) to waste.



Drain Box:

Model No.

AQ100087

Max. Gravity
Flow Rate: (Per Box)

120 gpm

Note:

-120gpm MAXIMUM drainage is based on a 1/4" per foot slope from 6" collector box drainage line to waste.



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DRAIN BOX

DRAWN
BY P.J.

REVISED
BY NCS

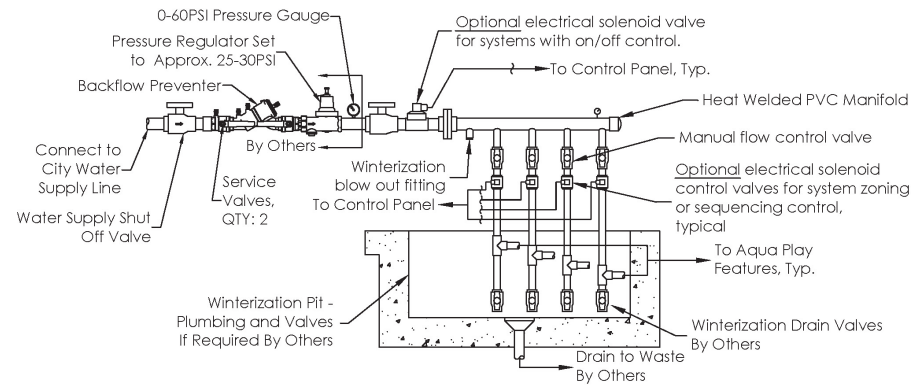
SCALE 1 1/2" = 1'-0"

REVISION
LETTER B

DATE 2/3/21

REVISION
DATE 2/6/26

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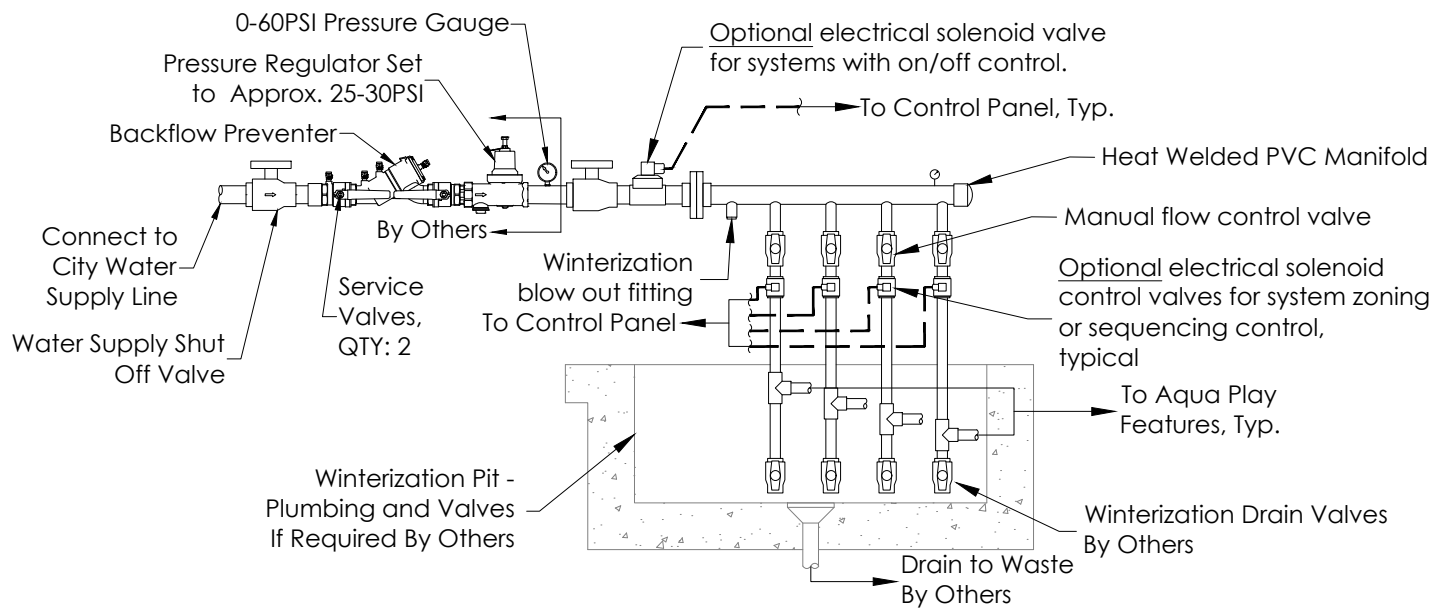


Domestic Distribution Manifold - PVC

Distribution Manifolds are pre-plumbed water delivery systems from feature pumping system to water play features. Standard distribution manifolds consist of manual flow control valves that regulate water flow levels to each water element for on/off control systems. When creating water play zones or sequencing water play activities, standard distribution manifolds can be upgraded with electric valves or solenoid valves.

May Consist of:

- Schedule 80 Gas Welded PVC prefabricated manifold
- Manual flow control valves
- Electrical solenoid valves
- Winterization blow out
- Pressure gauge



Note:

- Configuration of manifold to be project specific.
- All discharge lines are supplied with manual ball valves to regulate flow.
- If system is designed for zone or sequencing, electrical activation valves will be added and controlled by PLC in control panel.
- To avoid erosion of copper supply line pipe, velocities should not exceed 8 feet per second.
- All plumbing lines and valving shall be installed per local codes and regulations

WARNING: NOT INTENDED FOR USE WITH COMPRESSED AIR OR GAS.

THIS PRODUCT IS ONLY TO BE USED FOR ITS INTENDED PURPOSE

Distribution Sizing Chart:

Max. Feature Flow Rate:	Water Supply Line**
20 gpm	1"
43 gpm	1 1/2"
75 gpm	2"
166 gpm	3"

** Note: Water supply line flow rates are based on 20 to 30 psi.



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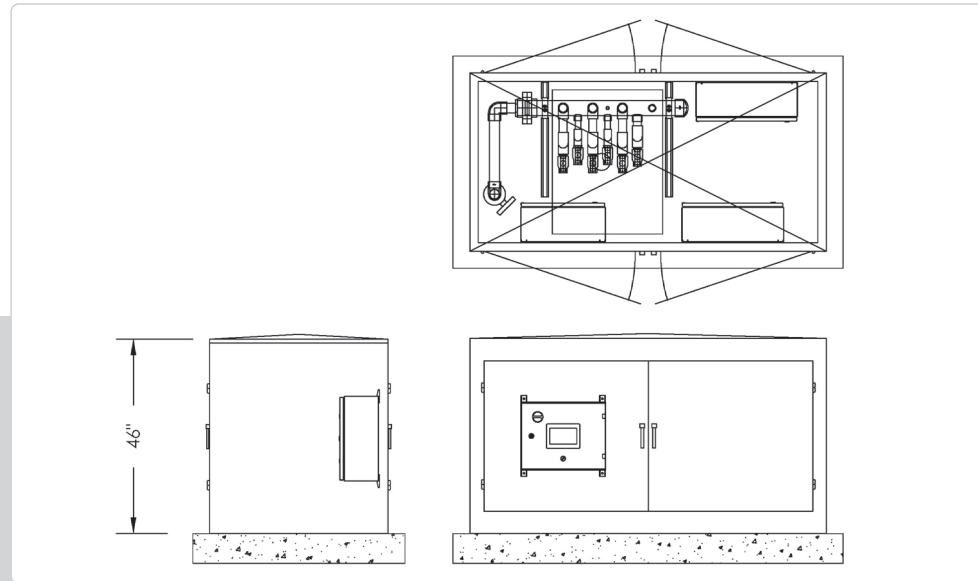
DOMESTIC SYSTEM DISTRIBUTION MANIFOLD (PVC)

DRAWN BY	KML	SCALE	3/4" = 1'-0"	DATE	9/21/16
REVISIED BY	NCS	REVISION LETTER	B	REVISION DATE	2/6/26

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Domestic Aboveground Mechanical Enclosure to be a safe, lockable enclosure that will be directly mounted to a concrete support pad next to water play area.



May Consist of:

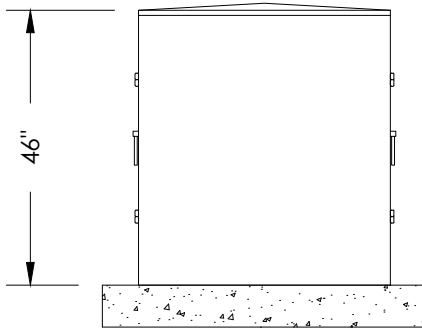
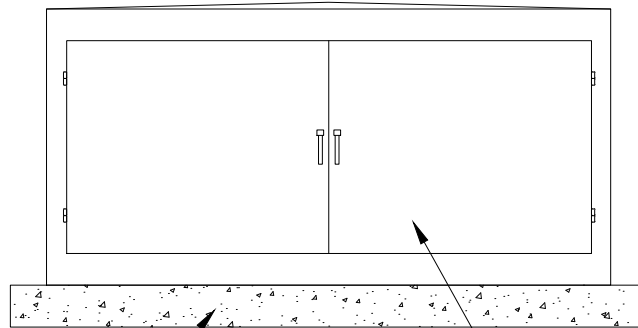
- Domestic mechanical system enclosure
- Made of 14GA Galvannealed Steel Material
- Powder Coated Utility Green
- Lockable access doors for servicing equipment systems.
- Must be installed on a concrete support pad (by others) with stainless steel anchorage hardware

Domestic Above-Ground Mechanical Enclosure

ANCHOR TO CONCRETE
THRU INTERNAL MOUNTING
FLANGE

SEE NOTE BELOW

42"



CONCRETE SLAB, BY OTHERS

LOCKABLE DOUBLE
DOORS ON EACH
SIDE

DOMESTIC ENCLOSURE NOTES:

- 14GA GALVANEAELED STEEL STRUCTURE WITH GREEN POWDERCOAT FINISH
- 54", 84" AND 118" AVAILABLE LENGTHS
- ACCESS DOORS ON BOTH SIDES OF ENCLOSURE
- INNER SWING OUT DOOR FOR CONTROL PANEL

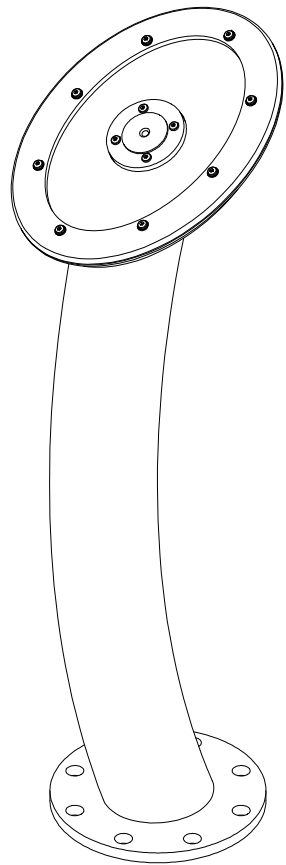


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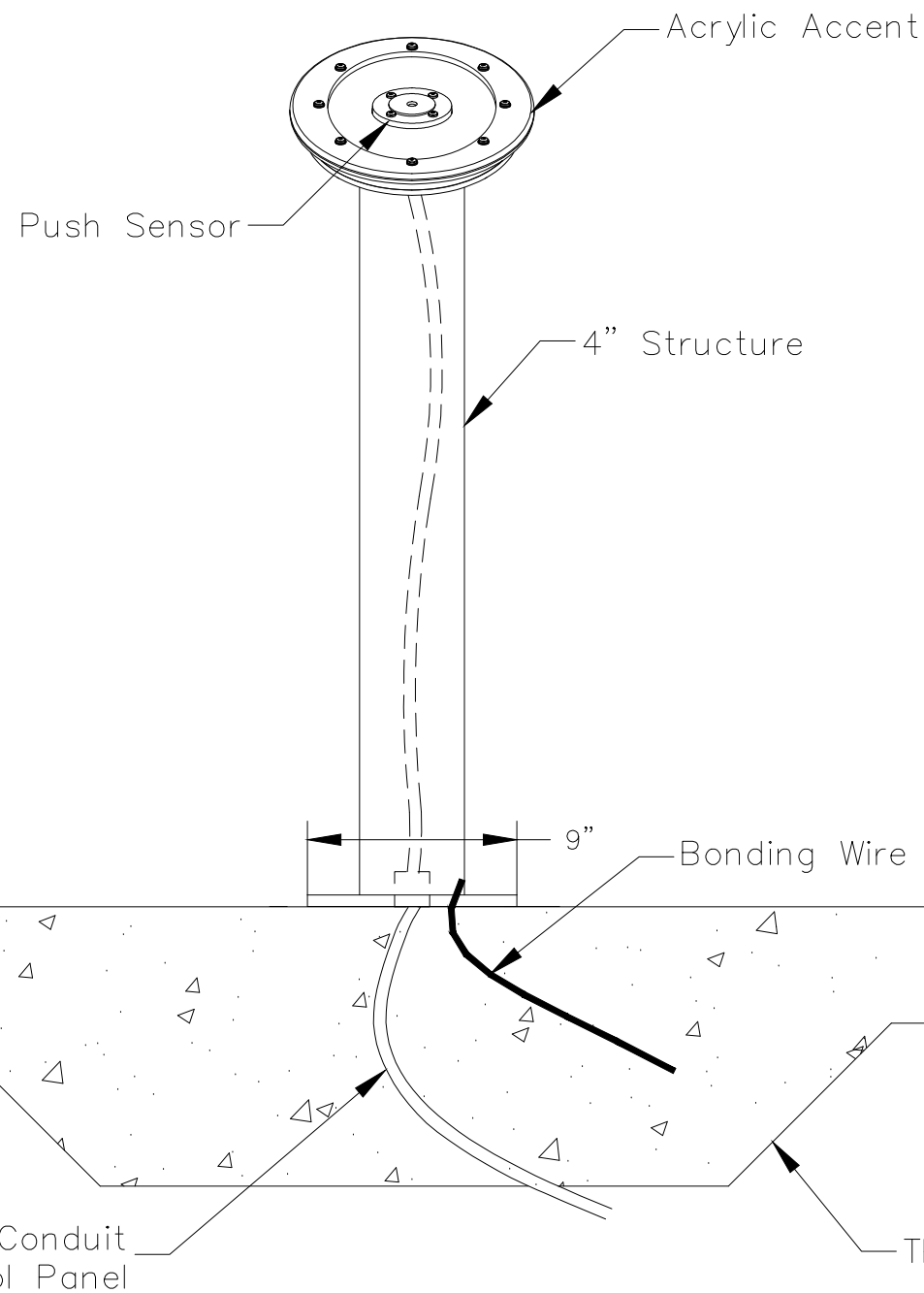
Domestic Above-Ground Enclosure

DRAWN BY	P.J.	SCALE	N.T.S	DATE	9/29/22
REVISED BY	NCS	REVISION LETTER	B	REVISION DATE	2/11/26

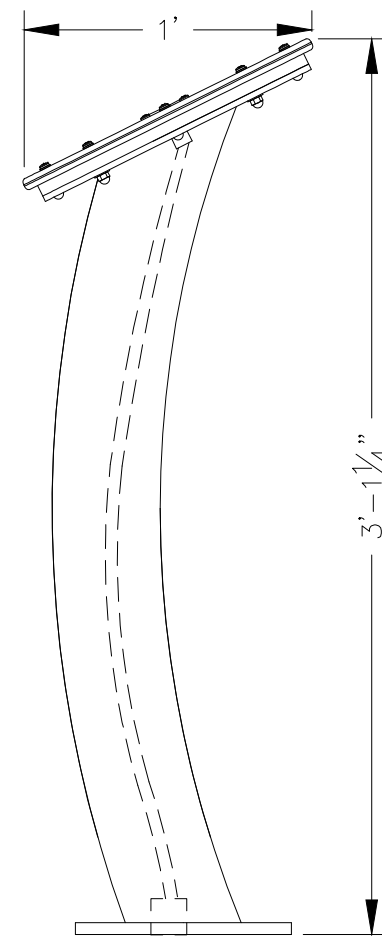
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FRONT VIEW



SIDE VIEW

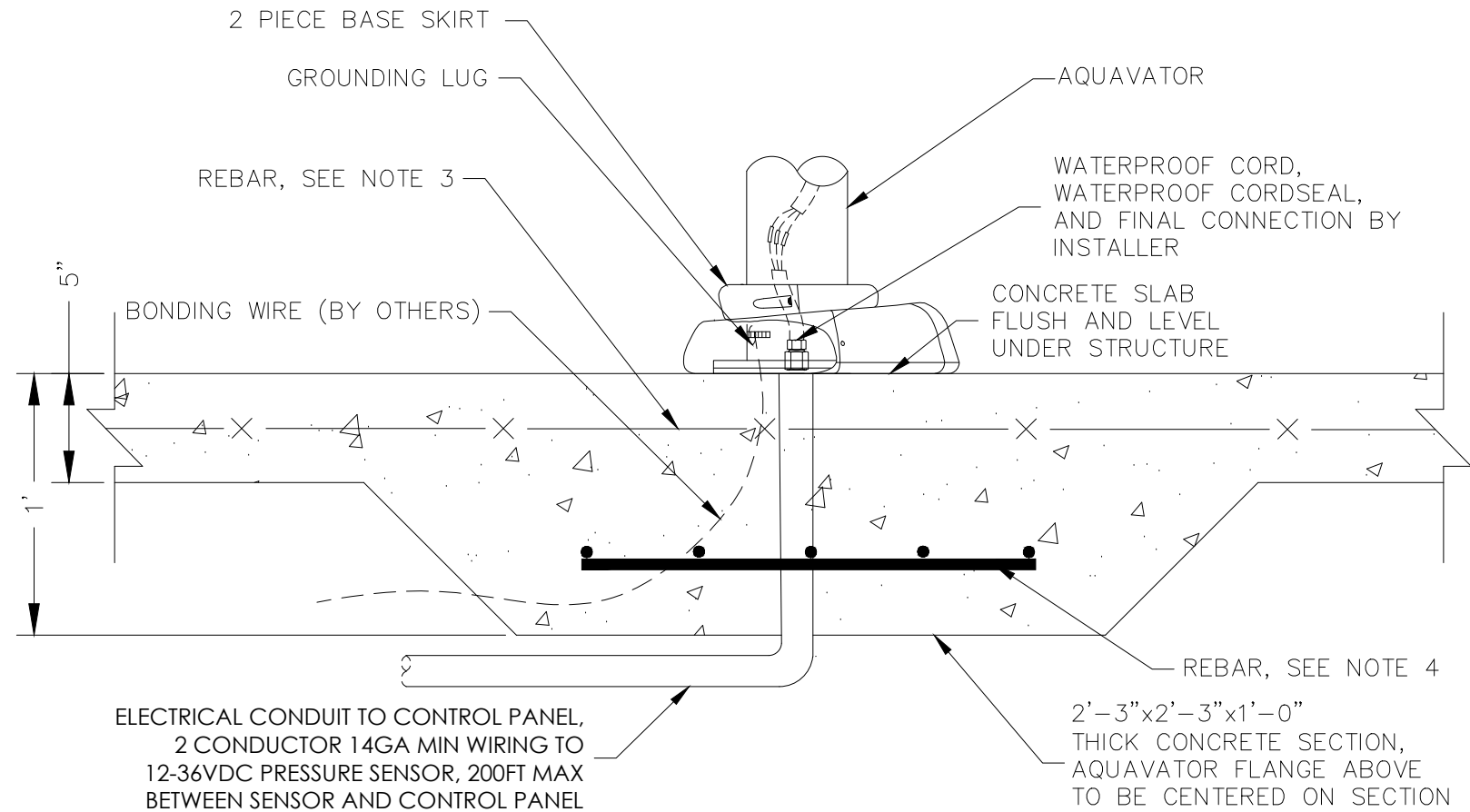


ITEM	DESCRIPTION	PART #	QTY.
1	AQUAVATOR ASSEMBLY	AQ200963	1

NOTES:

1. INSTALL STRUCTURE TO SITE USING INSTALLATION KIT
2. SEE PAGE 2/2 FOR INSTALLATION DETAILS

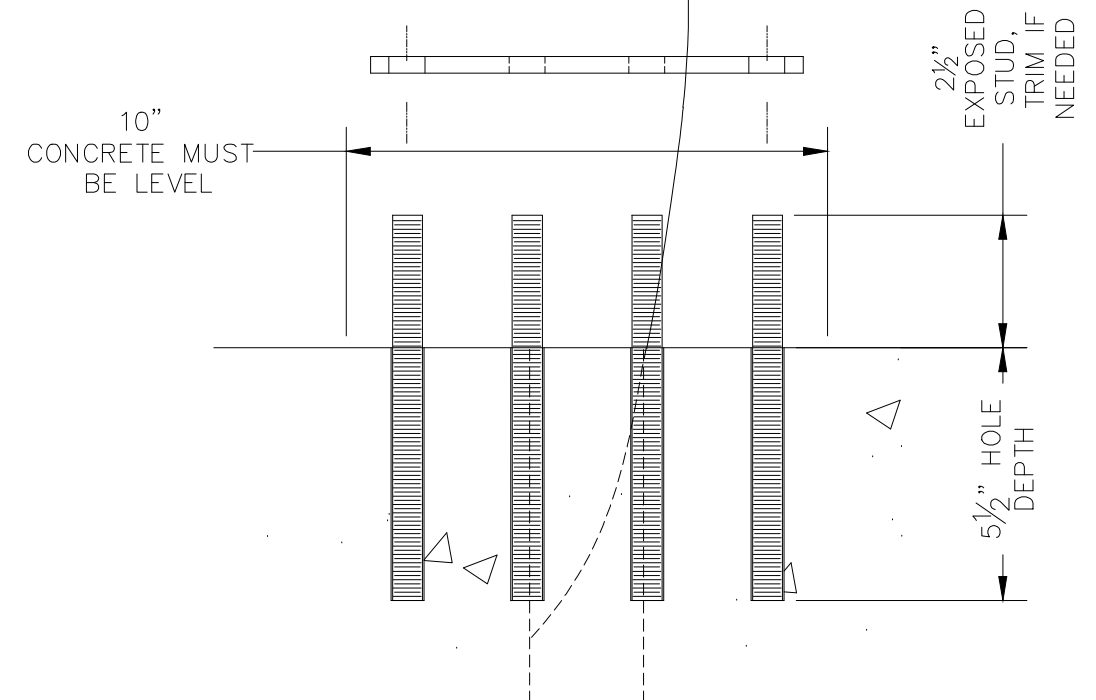
NO.	REVISION	DATE
B	UPDATED DETAILS TO MATCH NEW 4" FLANGE EPOXY ANCHOR DETAIL	5/21/24
C	ADDED TO INSTALL DETAILS. - NCS	7/24/25
1101 McKinley Pkwy Delano, MN 55328 888-438-6574 763-972-5200 aquatix.playlsi.com		
		
by landscape structures		
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SEE VIEWS	DRAWN CTS	CHECKED AQ100658
	DWG. FILE AQ100658	DATE 3/23/17
JOB NO. AQ100658		
SHEET TITLE AQUAVATOR INSTALLATION DRAWING		
1 OF 2		



STRUCTURE INSTALLATION

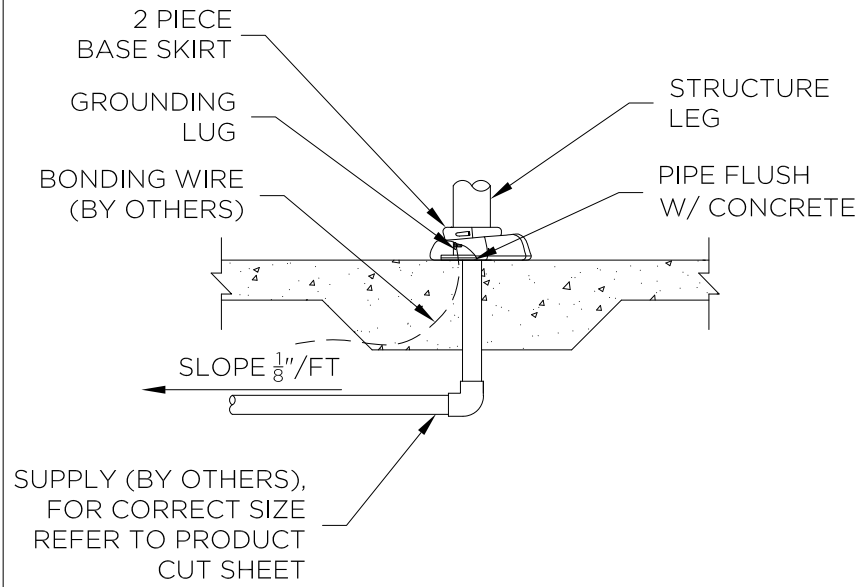
NOTES:

- THICKEN CONCRETE SLAB UNDER STRUCTURE.
- VERIFY LOCAL CODES FOR TYPE, THICKNESS & REINFORCEMENT REQUIREMENTS FOR CONCRETE SLAB.
- RECOMMENDED SLAB REINFORCEMENT: #4 BARS AT 12" O.C. EA. WAY OR EQ. WWM (W6 ON 4"x4" SPACING OR W10 ON 6"x6" SPACING)
- RECOMMENDED SLAB REINFORCEMENT: #4 BARS AT 6" O.C. EA. WAY 3 INCH CLEARANCE BOTTOM.
- CONCRETE TO BE RATED FOR 4000 PSI MINIMUM BEFORE INSTALLING STRUCTURE. APPROX. 28 DAYS OF CURING TO REACH RATE.
- CONCRETE MOUNTING SURFACE FOR STRUCTURE INSTALLATION NEEDS TO BE LEVEL AND FLAT.
- AFTER MARKING HOLE LOCATIONS FOR ANCHOR STUDS, REMOVE STRUCTURE BEFORE DRILLING AND INSTALLING ANCHOR STUDS, AND VACUUM OUT HOLES TO REMOVE DEBRIS.
- REFER TO MANUFACTURER'S INSTRUCTIONS FOR EPOXY ANCHOR INSTALLATION AND CURING TIMES.
- USE 'ANTI-SEIZE LUBRICANT' ON ALL STAINLESS STEEL THREADED FASTENERS.
- USE LOC-TITE ONLY WHEN/WHERE SPECIFIED.
- ANCHOR STUDS TO BE $\frac{5}{8}$ "-11 304 F593 SST.
- TORQUE SPECS FOR $\frac{5}{8}$ "-11 ANCHOR STUDS IN EPOXY: 47 FT.LB.
- BOND IN ACCORDANCE WITH NEC ARTICLE 680.
- PRODUCT SPECIFICATIONS SUBJECT TO CHANGE.
- ADJUST REBAR LOCATION AS REQUIRED DUE TO PIPING AND ELECTRICAL. MAX SPACING OF BARS NOT TO EXCEED AS SHOWN ON THIS PAGE.
- SPRAY EFFECT MAY VARY BASED ON VARIOUS ENVIRONMENTAL CONDITIONS, FLOW RATES, SLOPE OF SPLASH PAD, SUBMERGENCE DEPTH, AND WIND.
- UNDERGROUND PLUMBING TO BE DESIGNED FOR WINTERIZATION.
- WINTERIZATION TO BE PERFORMED BY A TRAINED TECHNICIAN FAMILIAR WITH PROPER WINTERIZATION PROCEDURES.
- TO PREVENT DAMAGE OR PERSONAL INJURY, REMOVAL OF THE NOZZLE ASSEMBLIES OF ALL ABOVE GROUND STRUCTURES AND GROUND SPRAY EFFECTS IS REQUIRED DURING START-UP AND WINTERIZATION PROCEDURES.
- SUPPLY LINE SIZE TO BE BASED ON DESIGNED FLOW RATE FOR STRUCTURE. SEE STRUCTURE INSTALLATION DRAWING FOR LINE SIZE.
- PRODUCT MAY REQUIRE STRAINER ON SUPPLY LINE. CONSULT WITH MANUFACTURER.



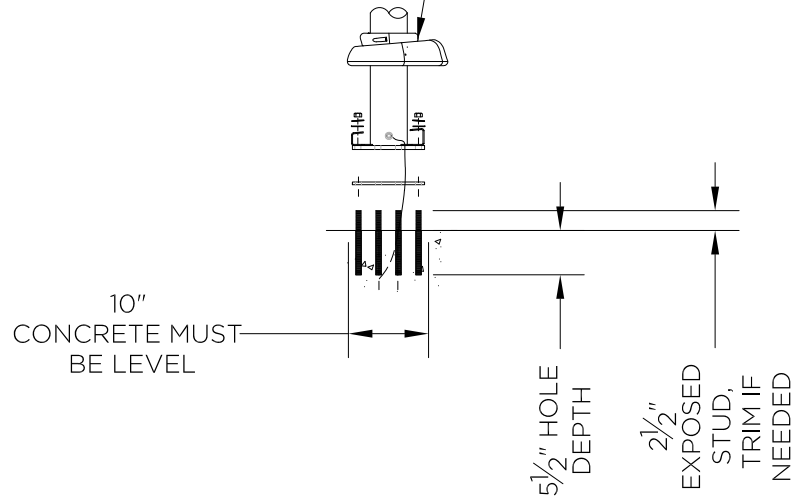
TYPICAL 4" SKIRT SHOWN, FOR ASSEMBLY AND INSTALLATION DETAIL SEE: AQ100649 & AQ100791

STRUCTURE
INSTALLATION

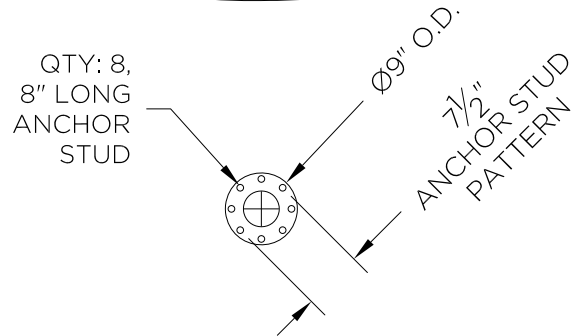


SUPPLY (BY OTHERS),
FOR CORRECT SIZE
REFER TO PRODUCT
CUT SHEET

TYPICAL 4" SKIRT SHOWN
FOR ASSEMBLY AND
INSTALLATION DETAIL
SEE: AQ100649 & AQ100791



4" FLANGE



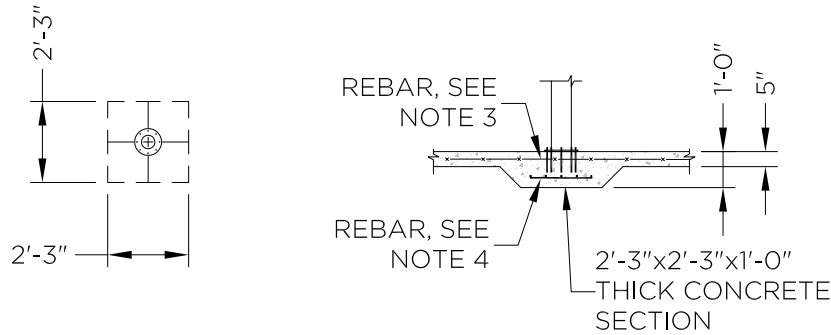
CONCRETE
DETAIL

USE THE FOLLOWING CONCRETE DETAIL IF IT IS NOT SPECIFIED ON FEATURE
INSTALLATION SHEET.

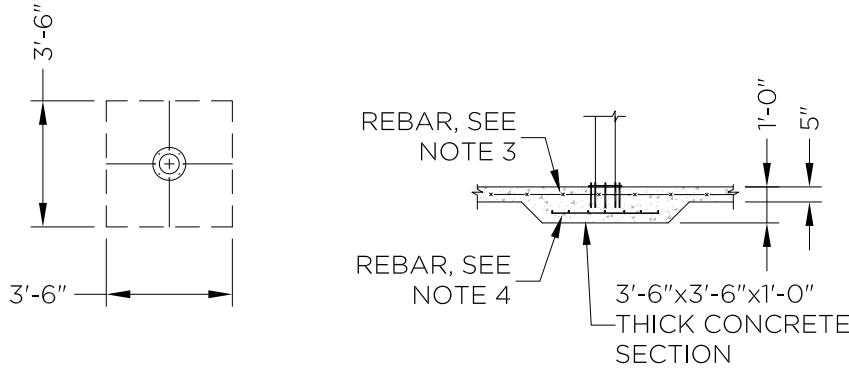
DETAILS APPLY TO SINGLE, DUAL AND MULTI LEG STRUCTURES. FOR DUAL/MULTI
STRUCTURES WITH DIFFERENT LEG HEIGHTS, USE HIGHEST LEG CONCRETE DETAIL
FOR ALL LEGS.

HEIGHT MEASUREMENT DOES NOT INCLUDE ACRYLIC.

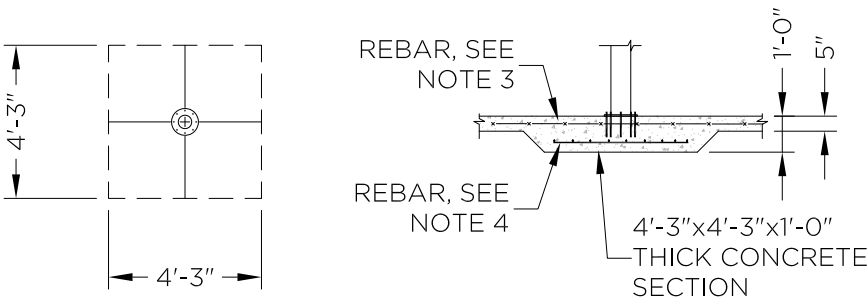
4" FLANGE SMALL STRUCTURE
SST/FRP STRUCTURE HEIGHT UNDER 8'



4" FLANGE MEDIUM STRUCTURE
SST/FRP STRUCTURE HEIGHT BETWEEN 8' AND UNDER 10'



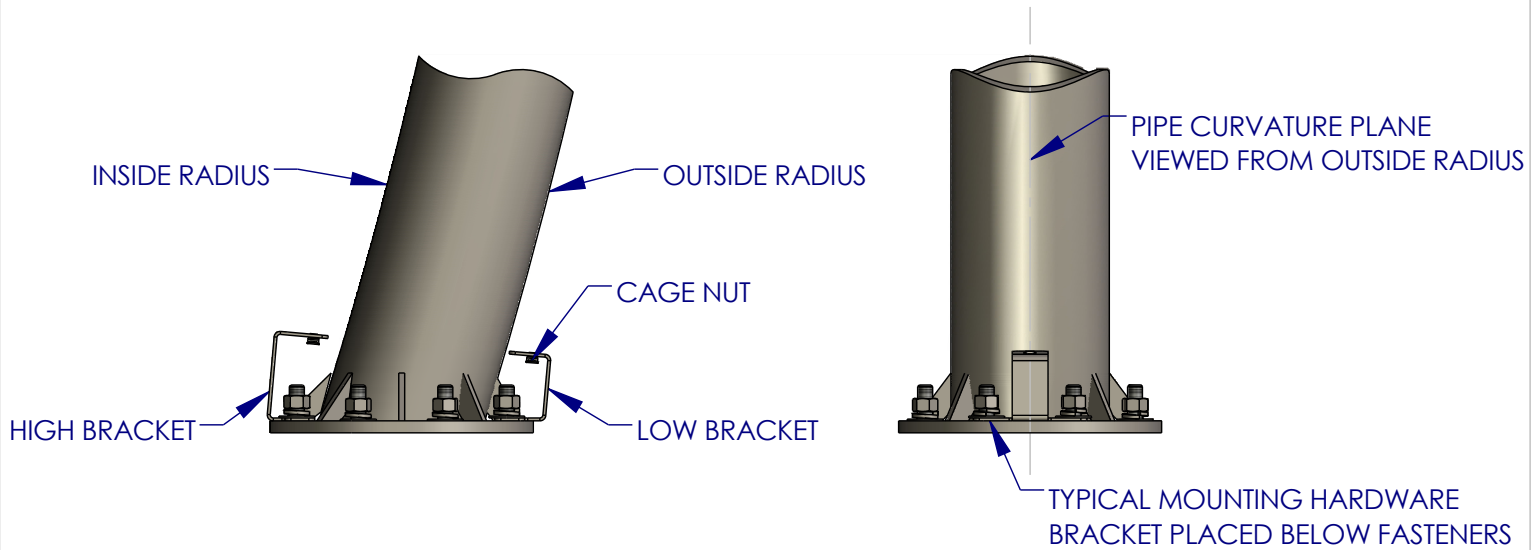
4" FLANGE LARGE STRUCTURE
SST/FRP STRUCTURE HEIGHT 10' AND ABOVE



NOTES:

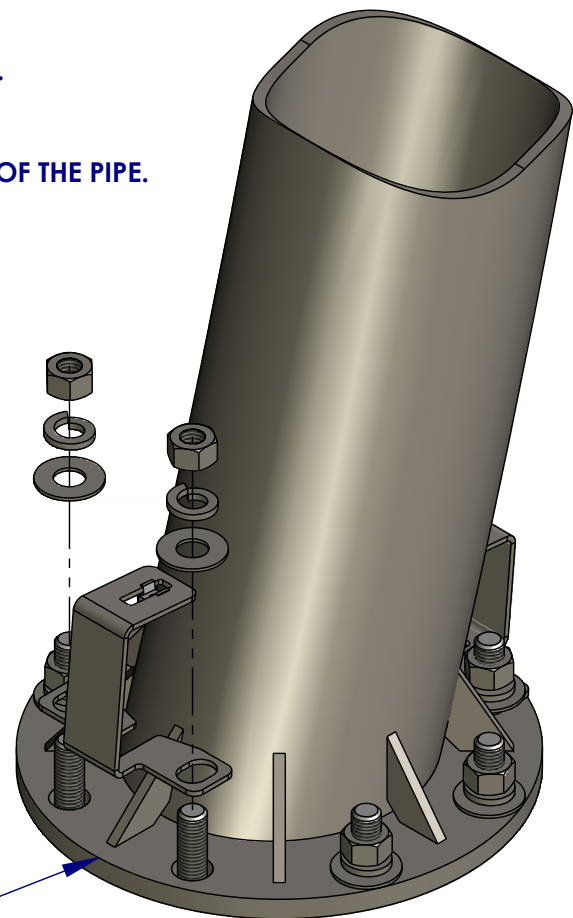
1. THICKEN CONCRETE SLAB UNDER STRUCTURE.
2. VERIFY LOCAL CODES FOR TYPE, THICKNESS & REINFORCEMENT REQUIREMENTS FOR CONCRETE SLAB.
3. RECOMMENDED SLAB REINFORCEMENT: #4 BARS AT 12" O.C. EA. WAY OR EQ. WWM (W6 ON 4"X4" SPACING OR W10 ON 6"X6" SPACING)
4. RECOMMENDED SLAB REINFORCEMENT: #4 BARS AT 6" O.C. EA. WAY 3 INCH CLEARANCE BOTTOM.
5. CONCRETE TO BE RATED FOR 4000 PSI MINIMUM BEFORE INSTALLING STRUCTURE. APPROX. 28 DAYS OF CURING TO REACH RATE.
6. CONCRETE MOUNTING SURFACE FOR STRUCTURE INSTALLATION NEEDS TO BE LEVEL AND FLAT.
7. AFTER MARKING HOLE LOCATIONS FOR ANCHOR STUDS, REMOVE STRUCTURE BEFORE DRILLING AND INSTALLING ANCHOR STUDS, AND VACUUM OUT HOLES TO REMOVE DEBRIS.
8. REFER TO MANUFACTURER'S INSTRUCTIONS FOR EPOXY ANCHOR INSTALLATION AND CURING TIMES.
9. USE 'ANTI-SEIZE LUBRICANT' ON ALL STAINLESS STEEL THREADED FASTENERS.
10. USE LOC-TITE ONLY WHEN/WHERE SPECIFIED.
11. ANCHOR STUDS TO BE 5/8"-11 304 F593 SST.
12. TORQUE SPECS FOR 5/8"-11 ANCHOR STUDS IN EPOXY: 47 FT.LB.
13. BOND IN ACCORDANCE WITH NEC ARTICLE 680.
14. PRODUCT SPECIFICATIONS SUBJECT TO CHANGE.
15. ADJUST REBAR LOCATION AS REQUIRED DUE TO PIPING AND ELECTRICAL. MAX SPACING OF BARS NOT TO EXCEED AS SHOWN ON THIS PAGE.
16. SPRAY EFFECT MAY VARY BASED ON VARIOUS ENVIRONMENTAL CONDITIONS, FLOW RATES, SLOPE OF SPLASH PAD, SUBMERGENCE DEPTH, AND WIND.
17. UNDERGROUND PLUMBING TO BE DESIGNED FOR WINTERIZATION.
18. WINTERIZATION TO BE PERFORMED BY A TRAINED TECHNICIAN FAMILIAR WITH PROPER WINTERIZATION PROCEDURES.
19. TO PREVENT DAMAGE OR PERSONAL INJURY, REMOVAL OF THE NOZZLE ASSEMBLIES OF ALL ABOVE GROUND STRUCTURES AND GROUND SPRAY EFFECTS IS REQUIRED DURING START-UP AND WINTERIZATION PROCEDURES.
20. SUPPLY LINE SIZE TO BE BASED ON DESIGNED FLOW RATE FOR STRUCTURE. SEE STRUCTURE INSTALLATION DRAWING FOR LINE SIZE.
21. PRODUCT MAY REQUIRE STRAINER ON SUPPLY LINE. CONSULT WITH MANUFACTURER.

TYPICAL SKIRT INSTALLATION



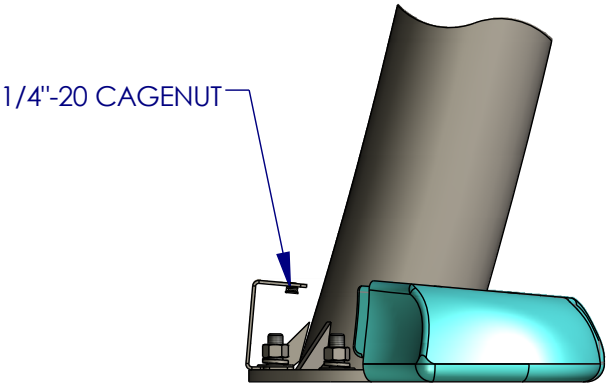
STEP 1:
LOW AND HIGH SKIRT BRACKETS MOUNTED WITH STRUCTURE.
HIGH BRACKET TO INSIDE RADIUS OF STRUCTURE.
LOW BRACKET TO OUTSIDE RADIUS OF STRUCTURE.
BOTH BRACKETS ARE MOUNTED IN PLANE WITH CURVATURE OF THE PIPE.
CAGE NUTS IN BRACKET SLOTS COME PRE-INSTALLED.

NOTE:
 TYPICAL MOUNTING FOR SKIRTS WITH COLLARS
 STRUCTURE MAY VARY WITH RADIUS AND GUSSETS
 STRUCTURE MAY VARY WITH CURVATURE PLANE



BRACKETS ALWAYS ALIGN TO CURVATURE
 AT THE FLANGE SURFACE WITH HIGH BRACKET
 ALIGNED TO THE INSIDE RADIUS OF STRUCTURE

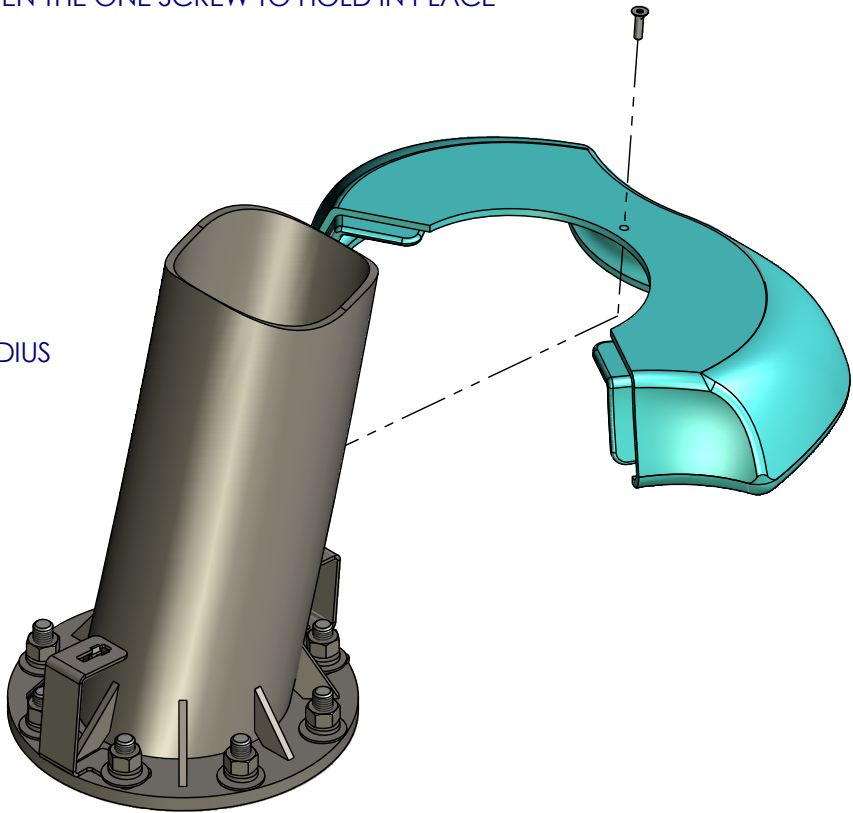
TYPICAL SKIRT INSTALLATION



STEP 2:
INSTALL LOW SIDE SKIRT HALF WITH 1X FLATHEAD SCREW.
PLACE SKIRT AROUND THE STRUCTURE BASE AND CENTER
WITH THE PIPE. AN EVEN GAP AROUND THE SKIRT CUTOUT IS IDEAL.
1/4\"-20 CAGE NUTS PRE-INSTALLED IN BRACKET SLOTS.

ONCE SKIRT IS CENTERED, TIGHTEN THE ONE SCREW TO HOLD IN PLACE

NOTE: LOW SIDE OF SKIRT
ALIGNED TO OUTSIDE BEND RADIUS
OF STRUCTURE.



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SCALE	DRAWN	CHECKED	DWG FILE	DATE
AS NOTED	MM	CHK BY	AQ100791	11/27/2018

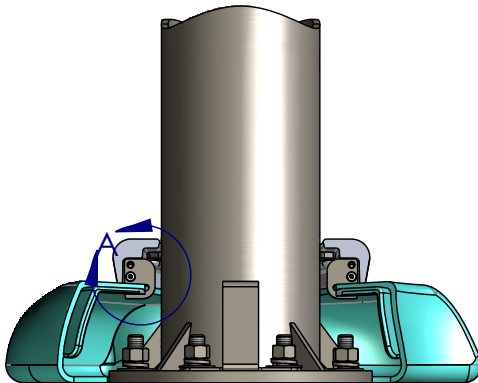
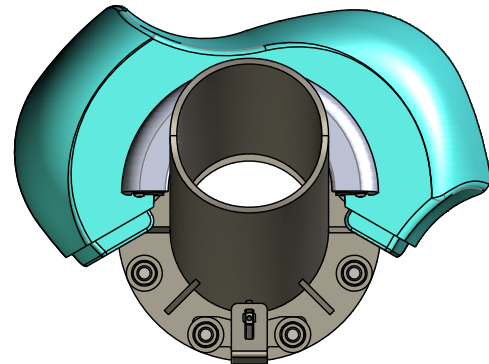
SHEET TITLE
TYPICAL NEW SKIRT INSTALLATION
INSTRUCTION

PART NO
AQ100791-A

2
OF
5

TYPICAL SKIRT INSTALLATION

SKIRT LOWER SIDE FULLY INSTALLED
AT THIS STEP



STEP 3:

INSTALL LOWER SKIRT COLLAR ON LOWER SKIRT HALF.

THIS COLLAR IS HELD IN PLACE BY TWO (PRE-INSTALLED) STAINLESS STEEL CLIPS.

THE CLIPS FIT AROUND THE LIP OF THE SKIRT HALF AS SEEN IN "DETAIL A".

IF THE CLIPS ARE TOO TIGHT DUE TO VARIATIONS IN FIBERGLASS, USE HAND TOOLS TO WIDEN GAP IN CLIP SLOT, TAKE CARE TO NOT DAMAGE WITH EXCESSIVE BENDING.

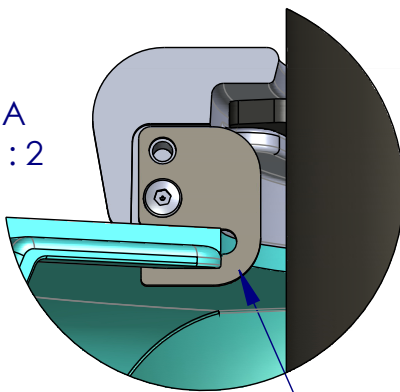
EPDM GASKET FITS IN COLLAR TO CLOSE GAP TO STRUCTURE. GASKET PRE-INSERTED IN COLLAR.

NOTE:

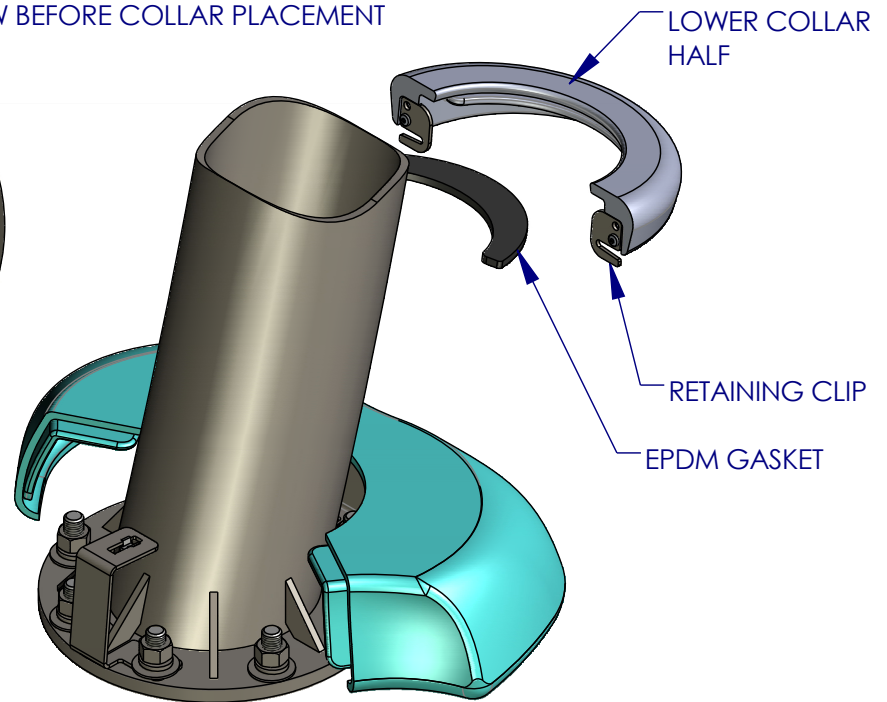
COLLAR SHOULD ROTATE AROUND STRUCTURE SLIGHTLY BUT NOT LIFT FROM THE SKIRT.

CRITICAL TO TIGHTEN THE LOWER SKIRT SCREW BEFORE COLLAR PLACEMENT

DETAIL A
SCALE 1 : 2



STAINLESS STEEL RETAINING CLIPS
GENTLY WIDEN SLOT IF NEEDED



TYPICAL SKIRT INSTALLATION

STEP 4:

INSTALL HIGH SIDE OF FIBERGLASS SKIRT.

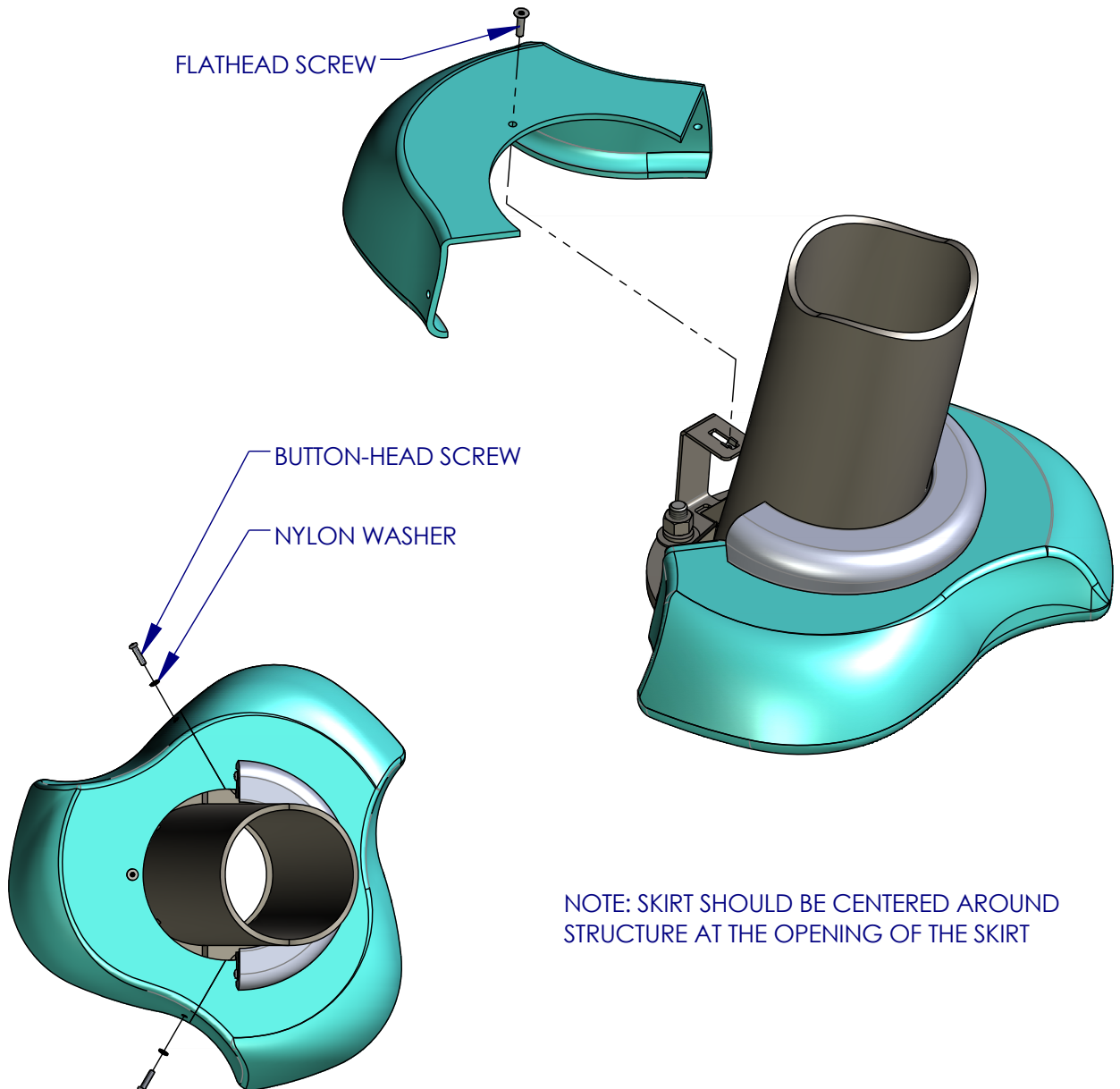
ONE 1/4"-20 FLATHEAD SCREW HOLDS THE SKIRT TO THE HIGH-SIDE BRACKET (LEAVE SLIGHTLY LOOSE).

TWO 1/4"-20 BUTTON-HEAD SCREWS WITH NYLON WASHERS BIND THE SKIRT HALFS TOGETHER.

THESE TWO OUTSIDE SCREWS SHOULD BE THE ONLY VISIBLE HARDWARE WHEN THE SKIRT IS INSTALLED.

ONCE ALL THREE SCREWS ARE IN, TIGHTEN THE OUTSIDE BUTTON-HEAD SCREWS BEFORE THE FLATHEAD.

FLATHEAD SHOULD BE JUST TIGHT ENOUGH TO PREVENT EXCESS MOVEMENT OF THE FIBERGLASS SKIRT.



TYPICAL SKIRT INSTALLATION

STEP 5:

HIGH-SIDE SKIRT COLLAR IS ATTACHED TO LOW-SIDE SKIRT COLLAR WITH TWO 1/4"-20 BUTTON HEAD SCREWS AND TWO 1/4" NYLON WASHERS.

AS SCREWS ARE TIGHTENED THEY WILL BRING THE COLLAR HALVES INTO ALIGNMENT.

NO GAPS SHOULD BE VISIBLE AFTER THE FASTENING.

TAKE CARE TO NOT DAMAGE THE PAINT WHILE TIGHTENING SCREWS IN COLLAR RECESSES.

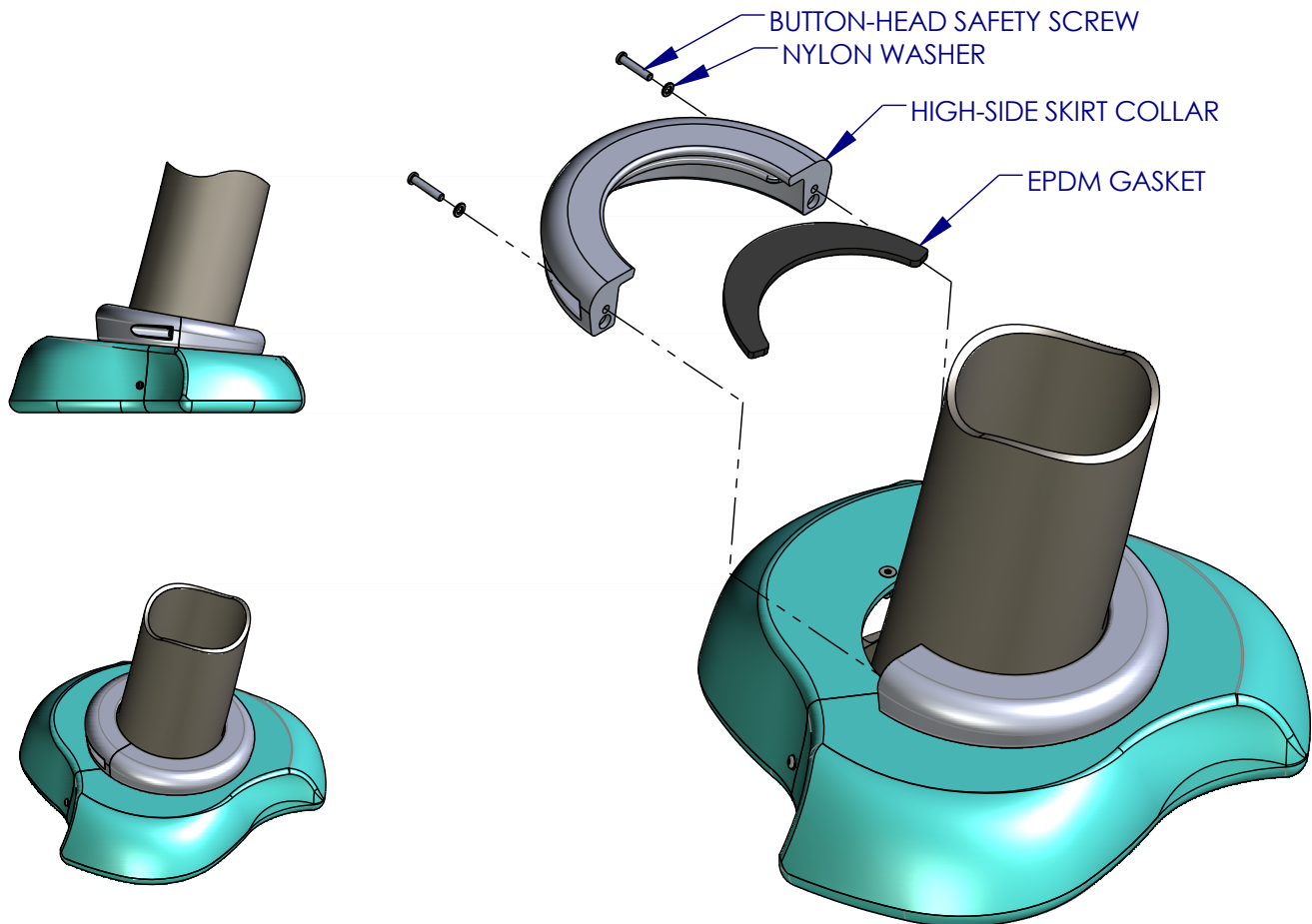
FIT EPDM GASKET INTO COLLAR HALF BEFORE INSTALLING.

ALL GAPS FROM COLLAR TO STRUCTURE WILL BE COVERED BY GASKET MATERIAL.

WHEN FULLY INSTALLED, SKIRT AND COLLAR SHOULD HAVE NONE, OR VERY LITTLE MOVEMENT.

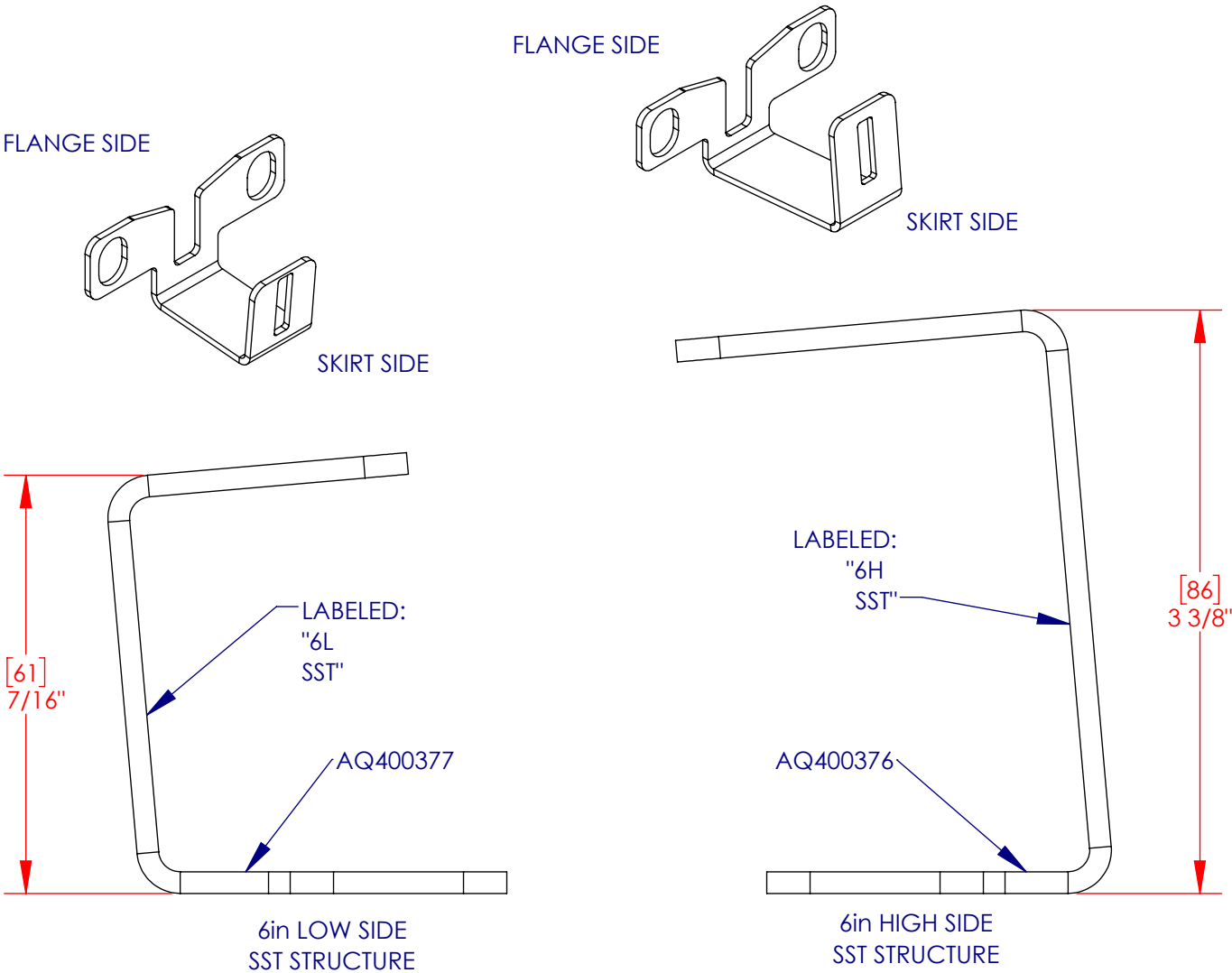
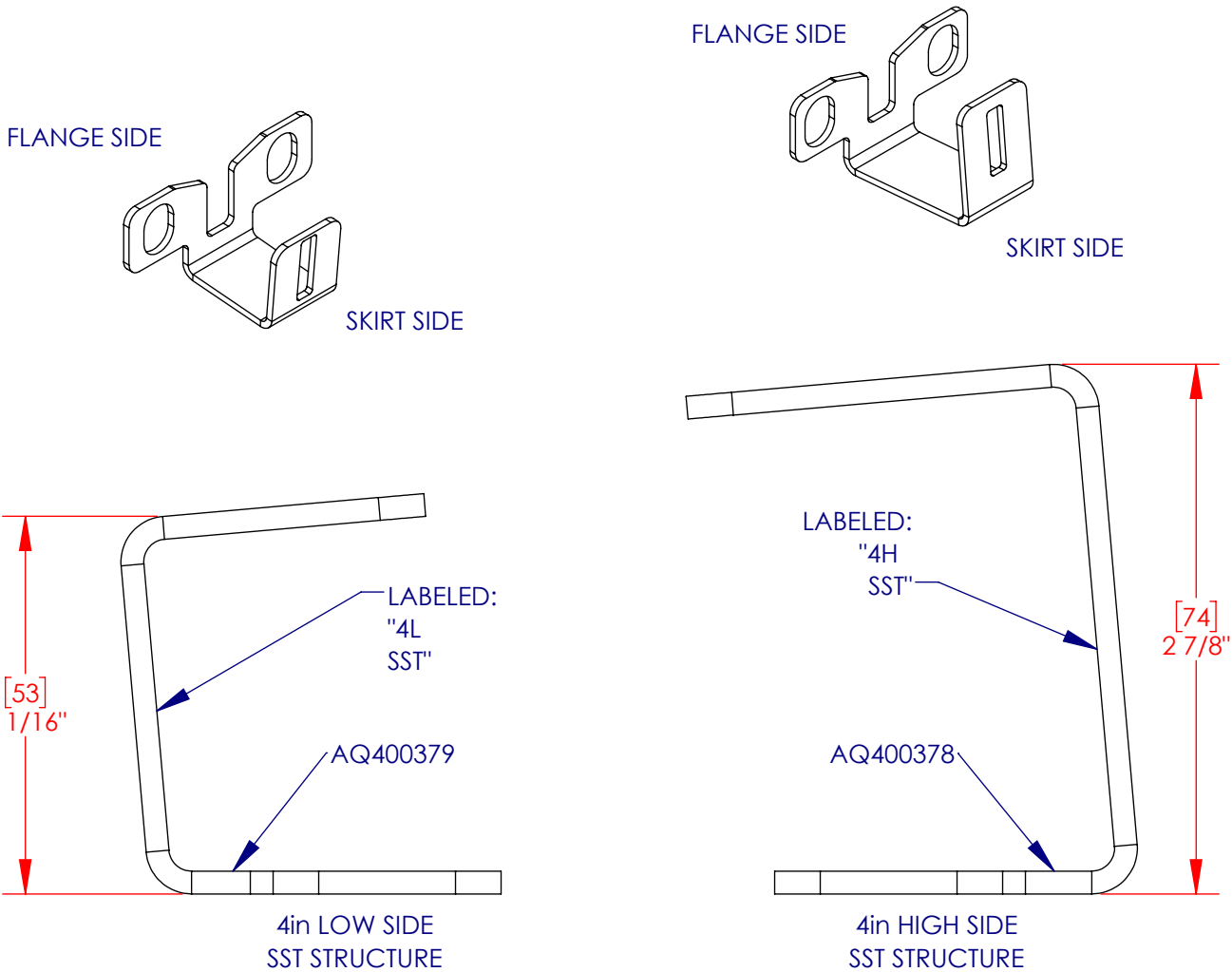
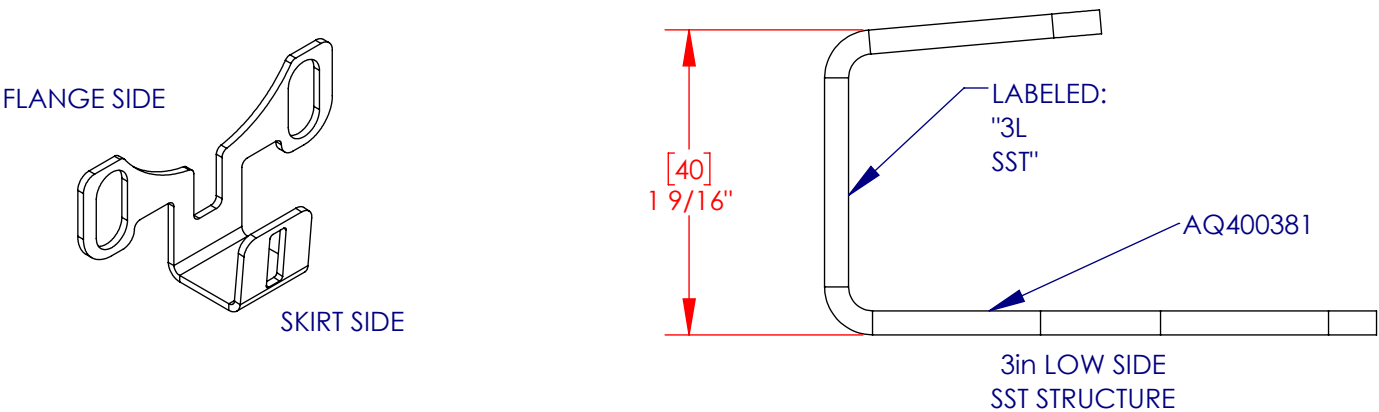
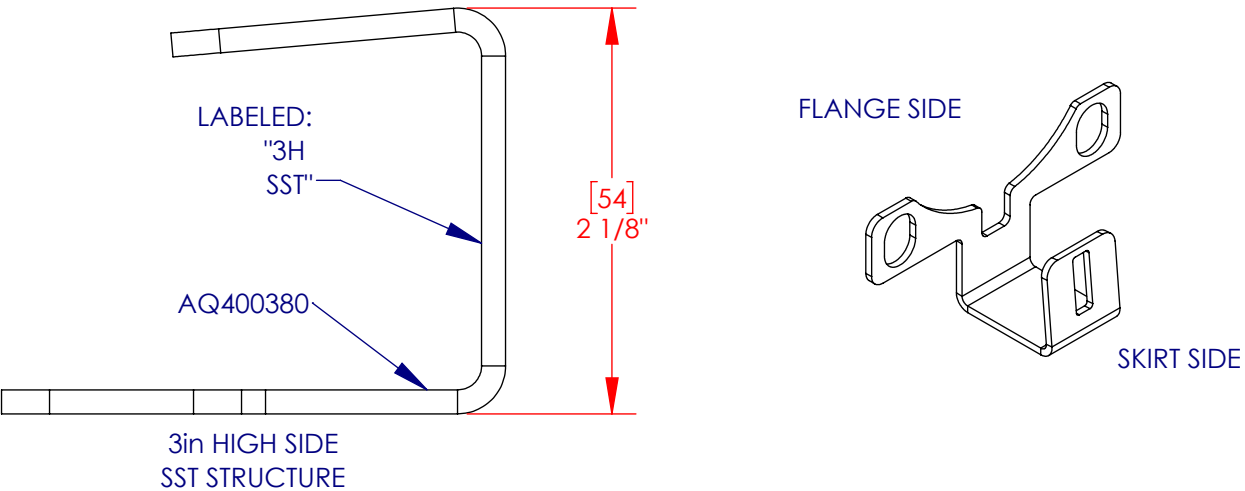
*HIGH COLLAR TO HIGH SKIRT HALF TO INSIDE RADIUS OF STRUCTURE

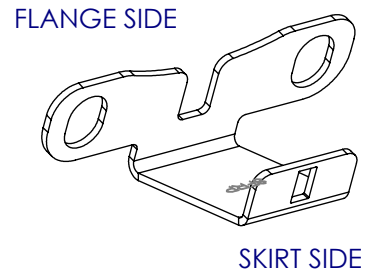
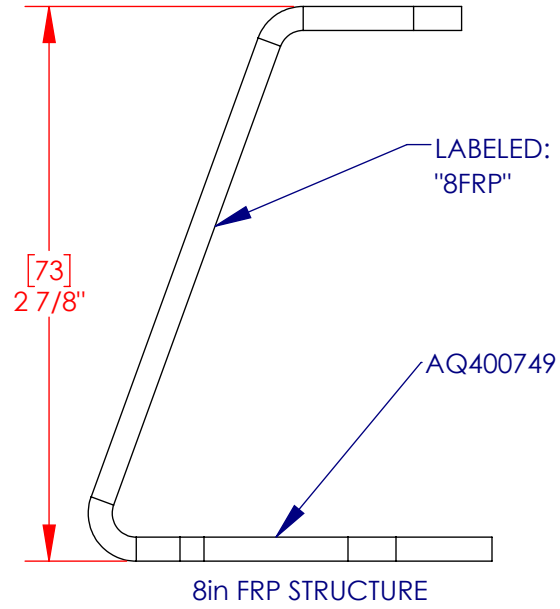
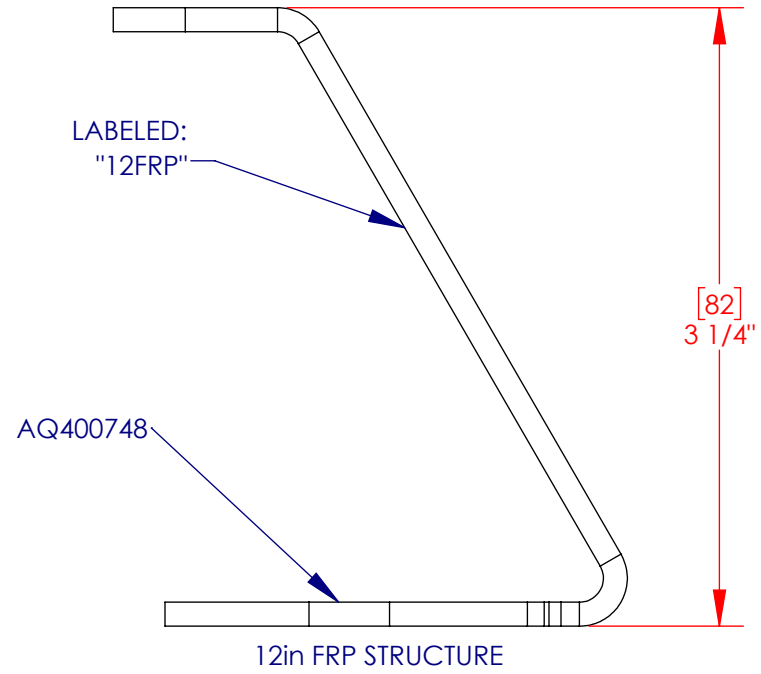
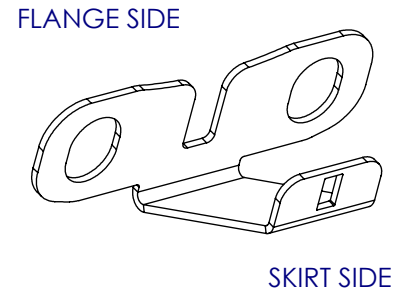
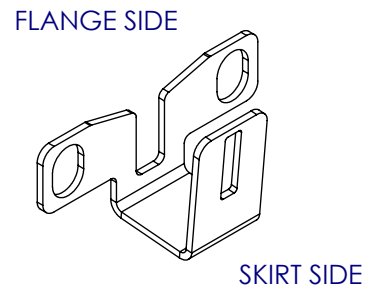
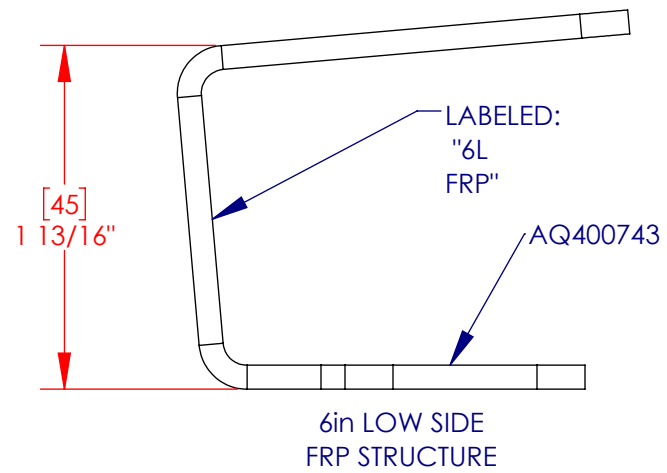
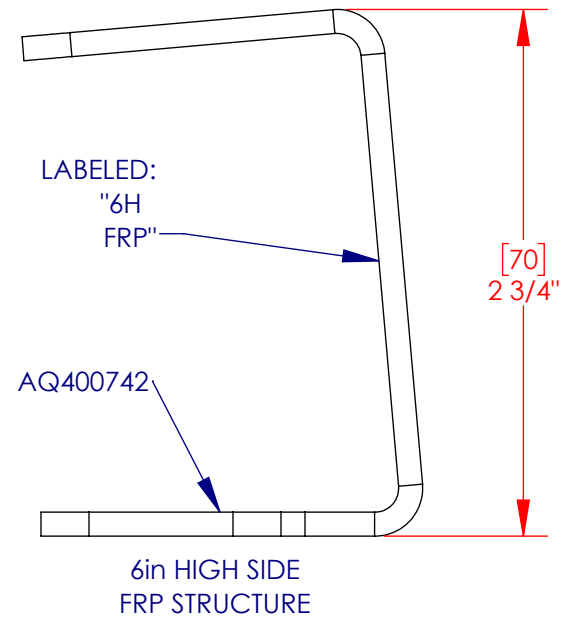
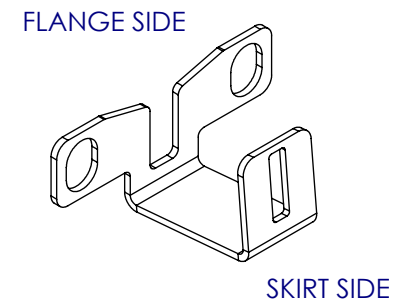
*LOW COLLAR TO LOW SKIRT HALF TO OUTSIDE RADIUS OF STRUCTURE



REVISION HISTORY			
REV	REV DESC	DATE	BY
A	RELEASED	9/29/2017	MCM
B	UPDATED TO CURRENT	10/12/2020	KMR
C	UPDATED TO CURRENT, ADDED PAGES 2 AND 3	3/4/2025	KMR

- NOTES:
- PAGE 1: SKIRT MOUNTING BRACKETS FOR 6in, 4in, AND 3in FLANGE SST STRUCTURES
 - PAGE 2: SKIRT MOUNTING BRACKETS FOR 6in, 8in, AND 12in FLANGE FRP STRUCTURES
 - PAGE 3: SKIRT MOUNTING BRACKETS FOR FlashFlood AND CanopyCluster PRODUCTS
 - ALL SIDE VIEWS ARE 1:1. USE ONLY FOR IDENTIFICATION. DIMENTIONS IN INCHES AND [MM]





NOTES:

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FRACTIONS $\pm 1/32"$
DECIMALS $\pm .015$
WHOLE ANGLES $\pm .5^\circ$
DECIMAL ANGLES $\pm .25^\circ$

DATE
09/29/2017

DWG FILE
AQ100678

CHECKED
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DRAWN
MCM

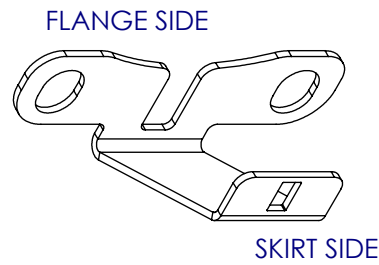
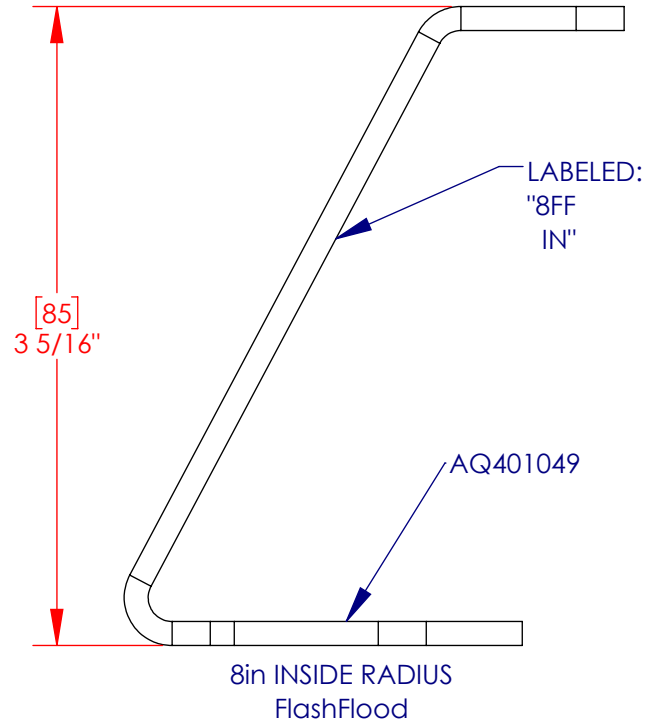
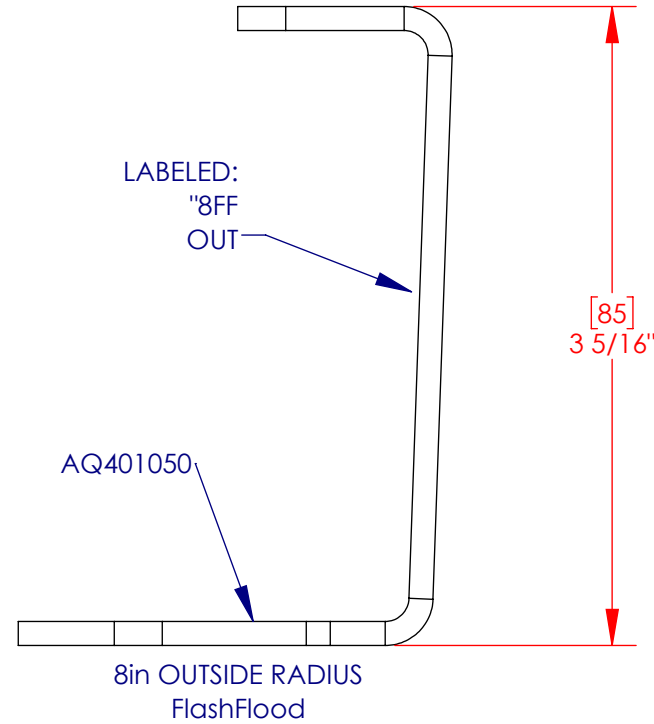
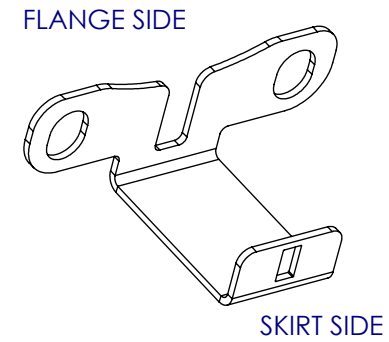
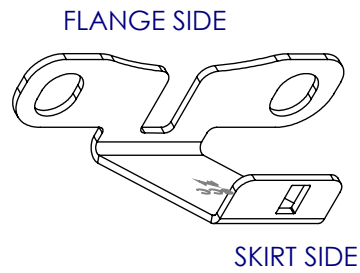
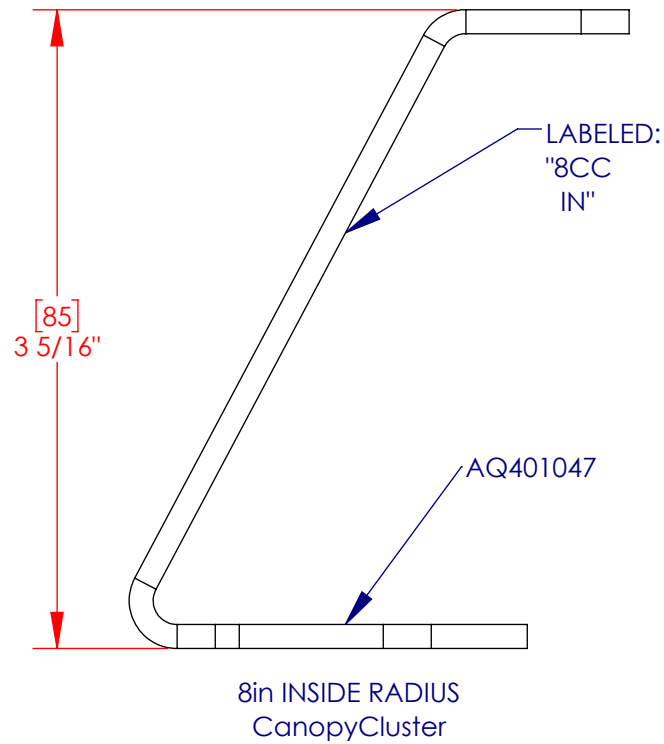
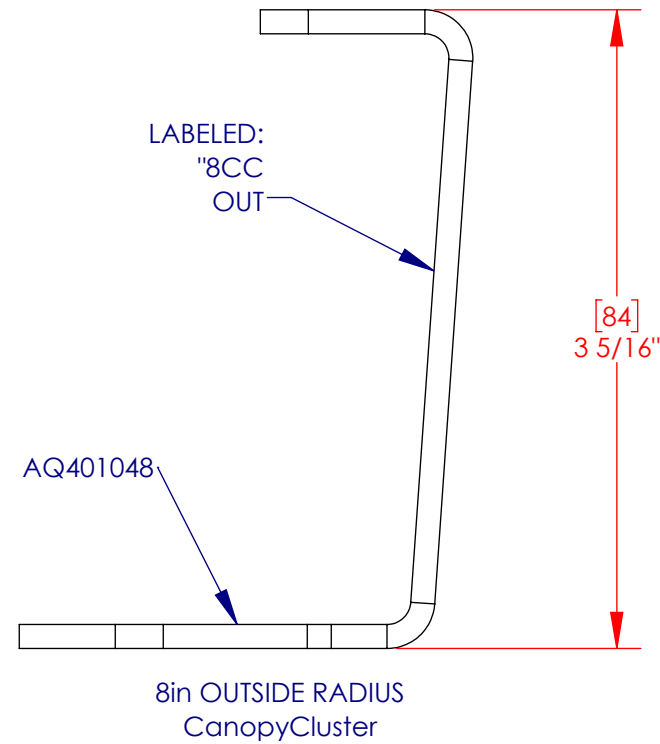
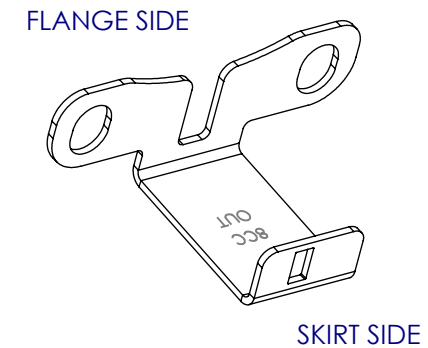
SCALE
AS NOTED

PART NO
AQ100678-C

2
OF
3

SKIRT BRACKET IDENTIFICATION
SHEET TITLE

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NOTES:

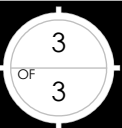
1. PAGE 1: SKIRT MOUNTING BRACKETS FOR 6in, 4in, AND 3in FLANGE SST STRUCTURES
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FRACTIONS ± 1/32"
DECIMALS ± .015
WHOLE ANGLES ± .5°
DECIMAL ANGLES ± .25°

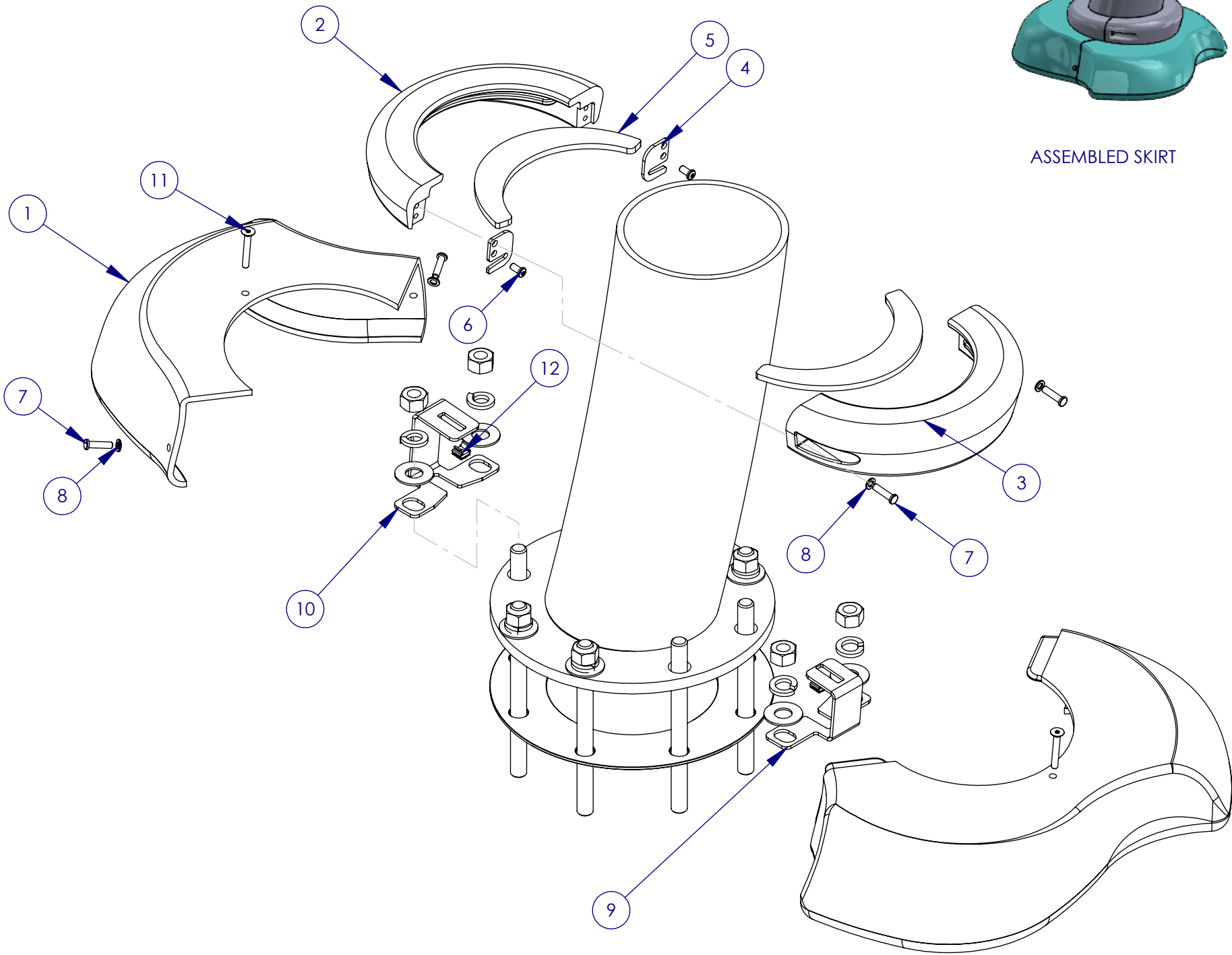
SCALE	DRAWN	CHECKED	DWG FILE	DATE
AS NOTED	MCM	CHK BY	AQ100678	09/29/2017

PART NO
AQ100678-C



SKIRT BRACKET IDENTIFICATION
SHEET TITLE

REVISION HISTORY			
REV	REV DESC	DATE	BY
A	CONVERTED DRAWING TO SW. UPDATED TABLE TO INCLUDE PARTS FOR SST AND FRP	5/30/24	DAB



ASSEMBLED SKIRT

ITEM	PART #	DESCRIPTION	QTY.
1	AQ402441	3in SKIRT SET	1
OR 1	AQ402440	4in SKIRT SET	1
OR 1	AQ402439	6in SKIRT SET	1
2	AQ400390	3in COLLAR LOW SIDE	1
OR 2	AQ400386	4in COLLAR LOW SIDE	1
OR 2	AQ400383	6in COLLAR LOW SIDE	1
3	AQ400389	3in COLLAR HIGH SIDE	1
OR 3	AQ400385	4in COLLAR HIGH SIDE	1
OR 3	AQ400382	6in COLLAR HIGH SIDE	1
4	AQ400387	SKIRT CLIP	2
5	AQ400552	3in RUBBER COLLAR INSERT	2
OR 5	AQ400551	4in RUBBER COLLAR INSERT	2
OR 5	AQ400550	6in RUBBER COLLAR INSERT	2
6	AQ300347	1/4-20 X .50in SST BHCS HEX SKT SECURITY SCREW	2
7	AQ300348	1/4-20 X 1.00in SST BHCS HEX SKT SECURITY SCREW	4
8	AQ300299	1/4" NYLON WASHER	4
9	AQ400381	3in SST FLANGE SKIRT LOW SIDE BRACKET	1
OR 9	AQ400379	4in SST FLANGE SKIRT LOW SIDE BRACKET	1
OR 9	AQ400377	6in SST FLANGE SKIRT LOW SIDE BRACKET	1
OR 9	AQ400743	6in FRP FLANGE SKIRT LOW SIDE BRACKET	1
10	AQ400380	3in SST FLANGE SKIRT HIGH SIDE BRACKET	1
OR 10	AQ300378	4in SST FLANGE SKIRT HIGH SIDE BRACKET	1
OR 10	AQ400376	6in SST FLANGE SKIRT HIGH SIDE BRACKET	1
OR 10	AQ400742	6in FRP FLANGE SKIRT HIGH SIDE BRACKET	1
11	321171	1/4-20 X 1.75 FLAT SSCS	2
12	AQ300393	0.25-20 CAGE NUT 0.125in HOLD SS	2

- NOTES:
- PRODUCT SPECIFICATIONS SUBJECT TO CHANGE
 - FOR CONCRETE DETAIL AND ANCHOR STUD INFORMATION REFER TO DOC:
345817: 3in FLANGE STRUCTURE EPOXY ANCHOR
345820: 4in FLANGE STRUCTURE EPOXY ANCHOR
345996: 6in FLANGE STRUCTURE EPOXY ANCHOR
 - FOR MORE DETAILS ON SKIRT INSTALLATION REFER TO DOC AQ100791

MOUNTING KIT	
3in	K800206
4in	K800222
6in	K800180

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FRACTIONS ± 1/32"
DECIMALS ± .015
WHOLE ANGLES ± .5°
DECIMAL ANGLES ± .25°

DATE: 05/30/2024
DWG FILE: AQ100649
CHECKED BY: DAB
SCALE: AS NOTED
PART NO: AQ100649-A

SKIRT INSTALL FOR 3IN, 4IN, 6IN FLANGE

1
OF
1

SECTION 31 2000

EARTHWORK

1.0 GENERAL

1.1 Description

A. The work consists of all work as called for by plans and/or proposal form and may include the following: rough and finish grading to approved grade stakes; excavation of organic or unstable soils; excavation of debris and rocks; excavation, stockpiling and redistribution of topsoil; placement of sand or gravel base; placing and grading supplemental topsoil; and all other grading and excavation operations. Unless otherwise called for in the plans and specifications, work shall conform to all applicable Soil Erosion and Sedimentation Control Regulations as enacted in the County, City/Village, Soil and Water Conservation District, etc. having jurisdiction over the project location.

1.2 Submittals

A. Contractor shall submit samples and information to the Owner's Representative on the location of the source for any proposed materials to be brought on site. Source shall be subject to approval before use.

1.3 Testing Agency Qualifications:

An independent testing agency qualified according to ASTM C1077 and ASTM E329 for the type of testing indicated, shall be engaged by the Owner. Contractor shall be responsible for coordinating with Owner and testing agency.

2.0 PRODUCTS

2.1 Fill Materials

- A. Fill and backfill materials shall be clean, porous, granular materials free of clay, rock or gravel larger than two inches (2") in any dimension, debris, frozen material, vegetation or other deleterious matter. Contractor shall be permitted to use material excavated as part of this project as backfill material provided that excavated material meets all other requirements herein and is free of trash and other debris. Sod **shall not** be used for fill.
- B. Fill material must be approved by the Owner's Representative before being placed. When suitable materials are not available from the excavation they shall be provided by the Contractor from off-site sources.

2.2 Topsoil

A. Topsoil is defined as follows: all topsoil shall be fertile, friable natural topsoil, typical for this locality. It shall not contain a mixture of subsoil or slag and shall be free of lumps, stones, plants or roots, stalks or other extraneous matter and shall not be used while in a frozen or muddy condition. Topsoil shall have an acidity range of pH 5.5 to pH 7.5 and shall contain not less than five percent nor more than twenty percent organic matter as determined by loss on ignition of moisture free sample dried at 100 degrees centigrade. Topsoil shall be classifiable as loam, silt loam, silty clay loam, or sandy clay loam, as determined from the Natural Resources Conservation Service - USDA triangular soil texture chart. Topsoil shall be used in the upper six inches (6") of all seeded areas.

2.3 Base Material

- A. Base materials shall conform to specified detail and shall be properly graded mixture of natural or crushed gravel, crushed stone, or natural processed sand that will readily compact to the required density and remain in that condition.

3.0 EXECUTION

3.1 Layout

- A. The corners of the designated areas, including separate paving, surfacing, and lawn, shall be determined by careful survey according to plans and details. Stakes shall be set indicating the exact position of these corners and the final elevation of the indicated area.
- B. Before any excavation or filling operation begins, approval of the location and the proposed elevation must be obtained from the Owner's Representative. If existing conditions are at variance with the drawings, the Owner's Representative shall be notified before proceeding with the work and adjustments made only as directed.
- C. Back-filling shall be done only after the Owner's Representative has inspected and approved sub-grade. Notice that the work is ready for inspection shall be given promptly, and 48 hours minimum shall be allowed for making necessary examinations. Failure to comply may require excavation to previous grade and the performance of back-filling operations again at no additional cost to the Owner.

3.2 Stripping Topsoil

- A. Prior to the stripping of topsoil, all areas within the grading limits containing existing debris shall be cleaned sufficiently to permit easy use of the topsoil free of unmanageable debris. Topsoil in areas that are to be graded shall be stripped to the depth designated and stockpiled in an area approved by the Owner's Representative. This is the first supply of topsoil to be used for spreading over disturbed or graded areas. The site shall be excavated to provide a sub-grade which shall be shaped to true and even lines so as to assure a uniform thickness of the base course or other surfacing installation. Excess material and debris generated from this work shall be hauled from the site at the Contractor's expense.

3.3 Unsatisfactory Materials

- A. Unsuitable materials or unstable bearing soil for structures and pavements shall be excavated to stable soil and replaced with an approved sand, gravel or soil and compacted as specified.

3.4 Excavation for Structures

- A. Excavation for all structures, paving, and site improvements shall be to the tolerances specified and shall extend sufficient distances from footing and foundations to permit placing and removal of forms, installation of services, and other construction operations and inspections.

3.5 Dewatering

- A. Site is to be maintained in dry condition in excavations and areas to be filled. Fill, topsoil, or sub-base shall not be placed in water or excessively damp conditions. It is the Contractor's responsibility to remove water and maintain dry conditions.

3.6 Placing Fill

- A. During grading and filling operations, all fill shall be placed in five inches (5"), or less layers and compacted by operating heavy track, or rubber tired equipment over it or with compaction equipment. Fill and backfill shall be so placed as to cause minimum disturbance to underlying soils. Material shall have the correct moisture content. Wet soil shall be disked or otherwise scarified to allow each layer to dry.
- B. Holes, pits and removed footings shall be filled and compacted to within six inches (6") of the surrounding grade with approved clean fill and then topped with six inches (6") compacted topsoil. Filling holes shall be considered incidental to the Contract.

3.7 Compaction

- A. Fill and sub-base material shall be compacted to not less than the 95% ASTM D1557 or Proctor Density. Compaction of topsoil in lawn areas shall be 85% of proctor density.

3.8 Grade Tolerance

- A. All earthwork shall be within one-half inch (1/2" or 0.042') of the elevations called for on the plans. All pavement grading shall be within one quarter inch (1/4" or 0.021') of the elevations called for in the plans. All grading shall drain uniformly to designated low points and all changes in elevation and transition areas shall be with gentle, rounded gradients. The grade tolerance allowed shall not create a situation where a walk or area becomes inaccessible per the Americans with Disabilities Act. If this occurs the work shall be removed at the cost of the Contractor and reinstalled to meet current ADA standards.

3.9 Field Quality Control

- A. Testing Agency: Owner will engage a qualified independent testing agency to perform field quality-control testing. Contractor shall be responsible for coordinating scheduling of testing agency.

END OF SECTION

SECTION 31 6200

DRIVEN TIMBER PILES

PART 1 GENERAL

1.1 DESCRIPTION

- A. This section specifies materials and installation required for the construction of impact driven foundation piles.

1.2 Reference Specifications: The following specifications are incorporated into the document:

1. Standard Specifications for Road and Bridge Construction" – Latest Edition - Illinois Department of Transportation
2. Section 512 Piling
3. Art. 507.08 Timber Structures
4. Art. 1007 Timber and Preservative Treatment
5. ASTM D25-12 Standard Specification for Round Timber Piles
6. Section 06 1000 Wood Construction

1.3 CONTRACT BASIS

- A. Contract price for piles will be part of the lump sum cost for the given structure.
 1. No payment will be made for withdrawn, broken or rejected piles, piles out of tolerance, or for portion of pile remaining above cutoff point.

1.4 TOLERANCES

- A. Install piling with a maximum variation of 3 inches off center of any pile from location shown. Piles shall not be out of plumb more than 2 percent. Top of any pile at elevation of cutoff shall be within 2 inches of the planar location indicated. Manipulation of piles to force them into position will not be permitted. Piles shall be checked for heave. Those found to have heaved shall be re-driven to the required tip elevation. Piles damaged or driven outside the above tolerances shall be replaced, or additional piles driven at locations specified by the Owner at no expense to the Owner.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A firm experienced in installing piles similar in material, design, and extent indicated for this Project, whose work has resulted in a history of successful in-service performance.
 1. The Installer provides a qualified professional engineer to prepare pile-driving records.
- B. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C1077 and ASTM E329 for the type of testing indicated, shall be engaged by the Owner. Contractor shall be responsible for coordinating with Owner and testing agency.
- C. Pre-installation Conference: Contractor shall conduct the conference at Project site prior to pile installation.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver piles to Project site in such quantities and at such times to ensure continuity of installation. Handle and store piles at Project site to prevent physical damage:
- B. Protect pile coatings and touch up damage to coatings before driving piles.

1.7 PROJECT CONDITIONS

- A. Protect structures, underground utilities, and other construction from damage caused by pile driving.

1.8 DESIGN MODIFICATIONS

- A. Where piles are installed exceeding specified tolerances for plumb or location, the foundation design will be analyzed by the Project Engineer and if necessary redesigned by the Project Engineer. The costs for analysis, redesign, and remediation shall be responsibility of Contractor.
- B. Additional piles and pile cap modifications necessitated by redesign shall be furnished and installed, at no additional cost to the Owner.

1.9 SUBMITTALS

- A. Submit in accordance with Section 01 1300
- B. Product Data: For each type of pile product, accessory, and paint indicated.
- C. Shop Drawings: Show fabrication and installation details for piles, including driving points, splices, field-cut holes, and pile caps.
 - 1. Include arrangement of static pile reaction frame, test and anchor piles, equipment, and instrumentation. Submit structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- D. Reports: Wave equation analysis report, driving of each pile, pile location plumbness, welding, and static pile test reports.
- E. Hammer: Include type, make, maximum rated energy, and rated energy per blow of hammer; weight of striking part of hammer; weight of drive cap; details, type, and structural properties of hammer cushion; and details of follower and jetting equipment.
- F. Certificates: Preservative treatment of timber piles. For each type of preservative-treated timber product include certification by treating plant stating type of preservative solution and pressure process used, net amount of preservative retained, and compliance with applicable standards. For waterborne-treated products include statement that moisture content of treated materials was reduced to levels indicated before shipment to Project site.
- G. Warranty of chemical treatment manufacturer for each type of treatment.

PART 2 PRODUCTS

2.1 PILES

- A. General: Piles shall be friction piles. Piles shall be treated timber piles. Submit details of type proposed for installation, showing cross-sections, end closures, and details of connections for approval by Owner before delivery of any material to project site.

- B. Timber Piles: Timber piles shall be in one piece with an approximate uniform taper from butt to tip and shall conform to all requirements of ASTM D25. Timber piles shall be unused, clean, and peeled round timber piles treated in accordance with American Wood Protection Association Standard (AWPA) T1 and U1. Piles shall be fresh-headed and shaped to fit driving head. Offered products should comply with applicable AWPA Standards. Identify treatment on each piece by the quality mark of an agency accredited by the Board of Review of the America Lumber Standard Committee.
1. Timber pile shoes shall be size and type most suitable for driving condition. Saw off tops of timber piles in a horizontal plane. Cutoffs and damaged pile surfaces shall be treated as specified in AWPA M4.
 2. Strapping: 32 mm (1.25 inch) wide, 0.78 mm (0.031 inch) thick, cold rolled, heat-treated steel; painted and waxed.
 3. Spud piles or bored holes may be used to penetrate highly resistant strata laying near surface.
 4. Contractor shall submit a signed certificate stating that preservative treatment of timber piles delivered to site complies with structural and environmental requirements. Certificate shall contain name and address of contractor, project locations, quantity of piles and date or dates of shipments, name of preservative used and retention in pounds per cubic foot of wood treated.
 5. Piles shall be minimum 8" – 10" butt piling with no more than 1" taper per 10 feet.

PART 3 EXECUTION

3.1 GENERAL

- A. Reports: Submit a report in quadruplicate (4 copies) to Owner, for each pile, detailing diameter or cross section, length, make and model of hammer, driving time, blows per minute, number of blows per 300 mm (blows per foot) in last 1500 mm (5 feet) of penetration, number of blows for each 25 mm (blows for each inch) during final 150 mm (6 inches) of penetration, and any other pertinent information.

3.2 DRIVING EQUIPMENT

- A. Pile Hammer: Air-, steam-, or diesel-powered type capable of developing ultimate pile capacity indicated considering length and weight of pile and character of subsurface material anticipated.
- B. Hammer Cushions and Driving Caps: Between hammer and top of pile, provide hammer cushion and steel driving cap recommended by hammer manufacturer for type of pile.
- C. Leads: Use fixed or rigid-type pile-driver leads that will hold full length of pile firmly in position and in axial alignment with hammer. Extend leads to within 24 inches of elevation at which pile enters ground.
- D. Hand auguring and/or water jetting are not permitted for piling installation on this project.

3.3 INSTALLATION

- A. Order of Driving: Install piles in such an order and with sufficient spacing to insure against distortion or injury to piles already in place.
1. Hammer capacity shall be not less than 9491 Newton meters (7000 foot pounds) energy per blow for timber piles.
 2. Before starting to drive piles, hammer data, including cap-block arrangement, weight and length of stroke of striking parts of hammer, number of operating blows per minute, piston area, and effective piston pressure to be maintained shall be submitted to Resident Engineer for approval.
 3. Do not start pile-driving operations until earthwork fills have been completed or excavations have reached an elevation of 6 to 12 inches above bottom of footing or pile cap.
 4. Provide a proper anvil and cushion to prevent pile butt damage.
 5. Cap or cushion block shall consist of one solid block of hardwood of proper shape and dimensions to fit hammer. Grain of the block shall be parallel to the axis of pile. If laminated materials are used, strength of such materials shall be equal to or greater than hardwood. Continuous or frequent introduction of materials to cushion the hammer blows will not be permitted.
 6. Do not use wood chips, small blocks, shavings, or similar materials to cushion hammer blow.
 7. No piles shall be driven through overburden without prior approval of Owner.
 8. Drilling, spudding, or jetting may be used only when approved by Owner and shall be performed at no additional cost to the Owner. Methods employed shall be subject to Owner's approval. Final 5 feet of pile penetration shall be obtained with hammer alone.
 9. Bridge contractor's structural engineer shall approve all required depths and any piles not driven to required depth. A minimum capacity per pile is to be established by the bridge contractor's structural engineer.
- B. If, during driving of any pile, previously driven piles show signs of heaving, redrive disturbed piles to their original driving resistance, at no additional cost to the Owner.
- C. Where the protective shell of treated wood is impaired at a point which after installation will be not less than 10 feet below the ground, make repairs in accordance with AWPAC M4 unless the pile is damaged to such extent that it is rejected.
- D. Withdraw damaged or defective piles and piles that exceed driving tolerances and install new piles within driving tolerances. Fill holes left by withdrawn piles as directed by Owner.
1. Rejected piles may be abandoned and cut off as directed by Owner.
 2. Leave rejected piles in place and install new piles in locations as directed by Owner.

3. Fill holes left by withdrawn piles that will not be filled by new piles using cohesionless soil material such as gravel, broken stone, and gravel-sand mixtures. Place and compact in lifts not exceeding 72 inches.

E. Cut off tops of piles by an approved method square with pile axis and at required elevations.

3.4 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing agency to perform field quality-control testing. Contractor shall be responsible for coordinating scheduling of testing agency.

B. High-strain dynamic monitoring shall be performed and reported during initial driving and during restriking on one .

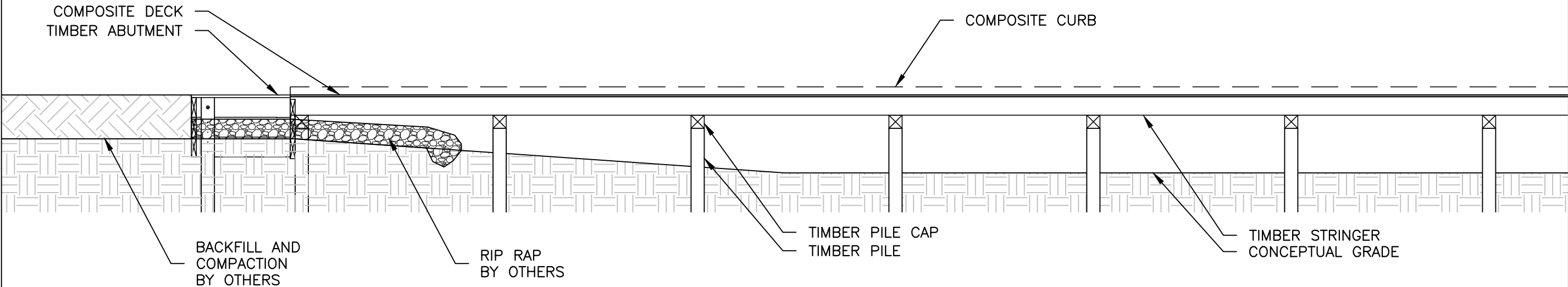
C. Low-strain integrity measurement shall be performed and reported for each pile.

3.5 DISPOSAL

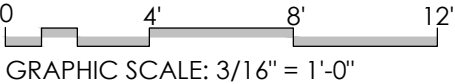
A. Remove withdrawn piles and cutoff sections of piles from site and legally dispose of them off Owner's property.

END OF SECTION

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 5. GROUND LEVEL ACCESS WITH EQUIPMENT IS REQUIRED FOR BOARDWALK CONSTRUCTION WITH COMPOSITE DECKING.



1 PROFILE - ELEVATIONS LAYOUT
SCALE: 3/16"=1'-0"



YORK

BRIDGE CONCEPTS

THE PREMIER BRIDGE COMPANY

2423 BRUNELLO TRACE LUTZ, FL 33558

WWW.YBC.COM800.226.4178

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CLIENT/CONTRACTOR:

ZEYN UZMAN, PE

31057 FAIRFIELD DR, WARREN, MI 48088

ENGINEER OF RECORD

PROJECT INFORMATION:

WING PARK

TIMBER PEDESTRIAN BRIDGE

LOADING: VEHICULAR= N/A PEDESTRIAN= 90 PSF (L/360)

PROJECT LOCATION: ELGIN, ILLINOIS

PROJECT NUMBER: 226-057

REV #	DATE	BY

DRAWN BY: V. FALZONE

DATE: 5/28/2026

PAGE NAME

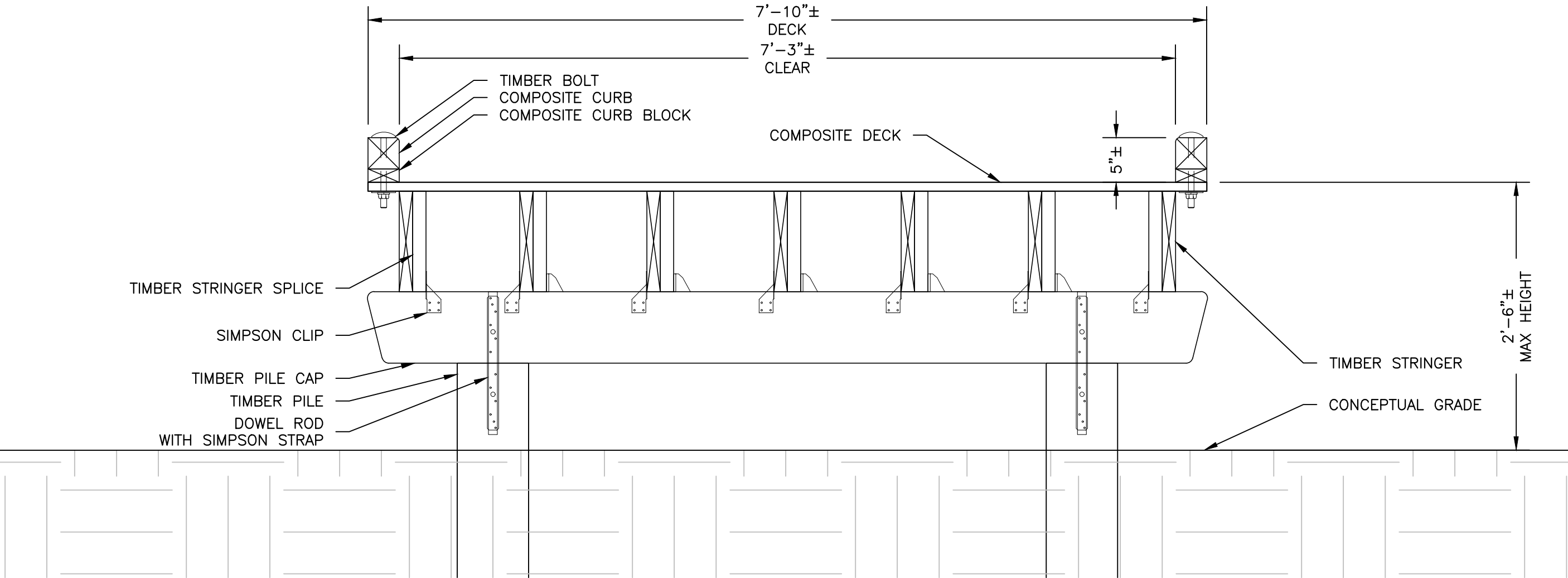
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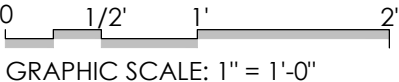
201-2

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5. GROUND LEVEL ACCESS WITH EQUIPMENT IS REQUIRED
FOR BOARDWALK CONSTRUCTION WITH COMPOSITE
DECKING.

SUBMISSION INDEX		
REV #	DATE	BY
DRAWN BY: V. FALZONE		
DATE: 5/28/2026		
PAGE NAME		
REPETITIVE BENT		
SHEET NO:		
301-2		



1 SECTION - REPETITIVE BENT
SCALE: 1"=1'-0"

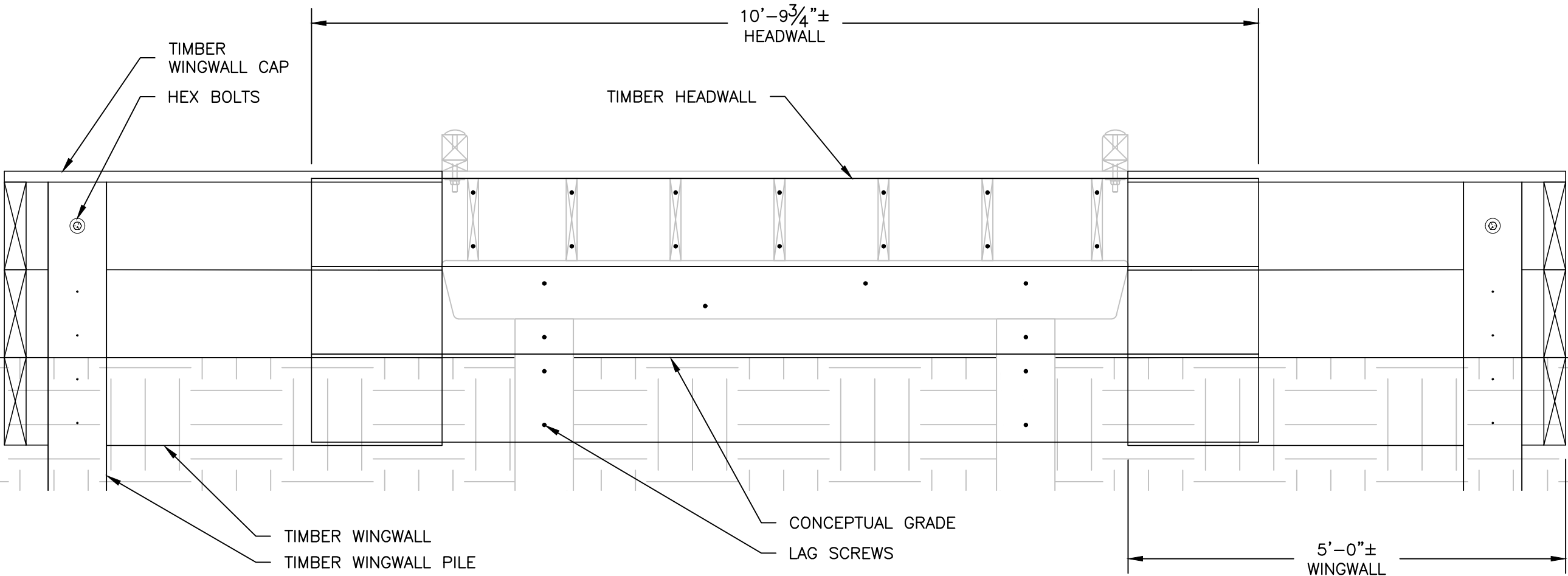


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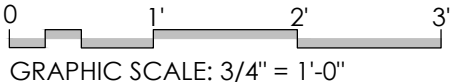
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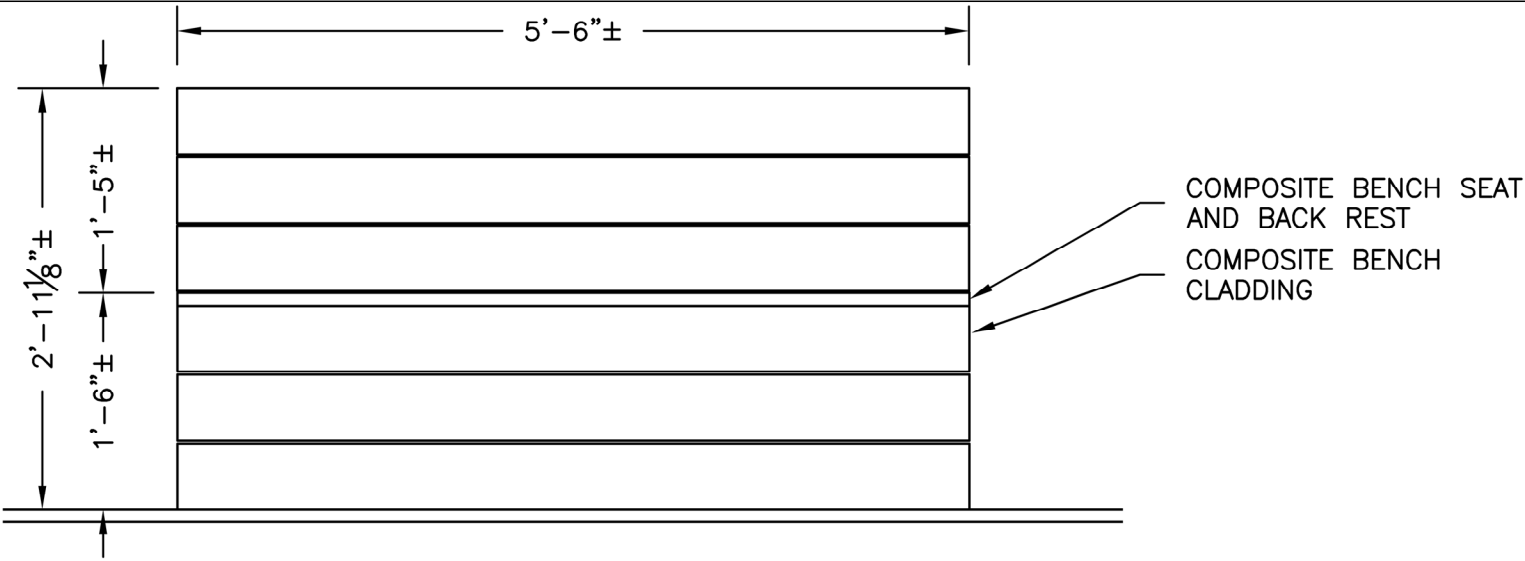
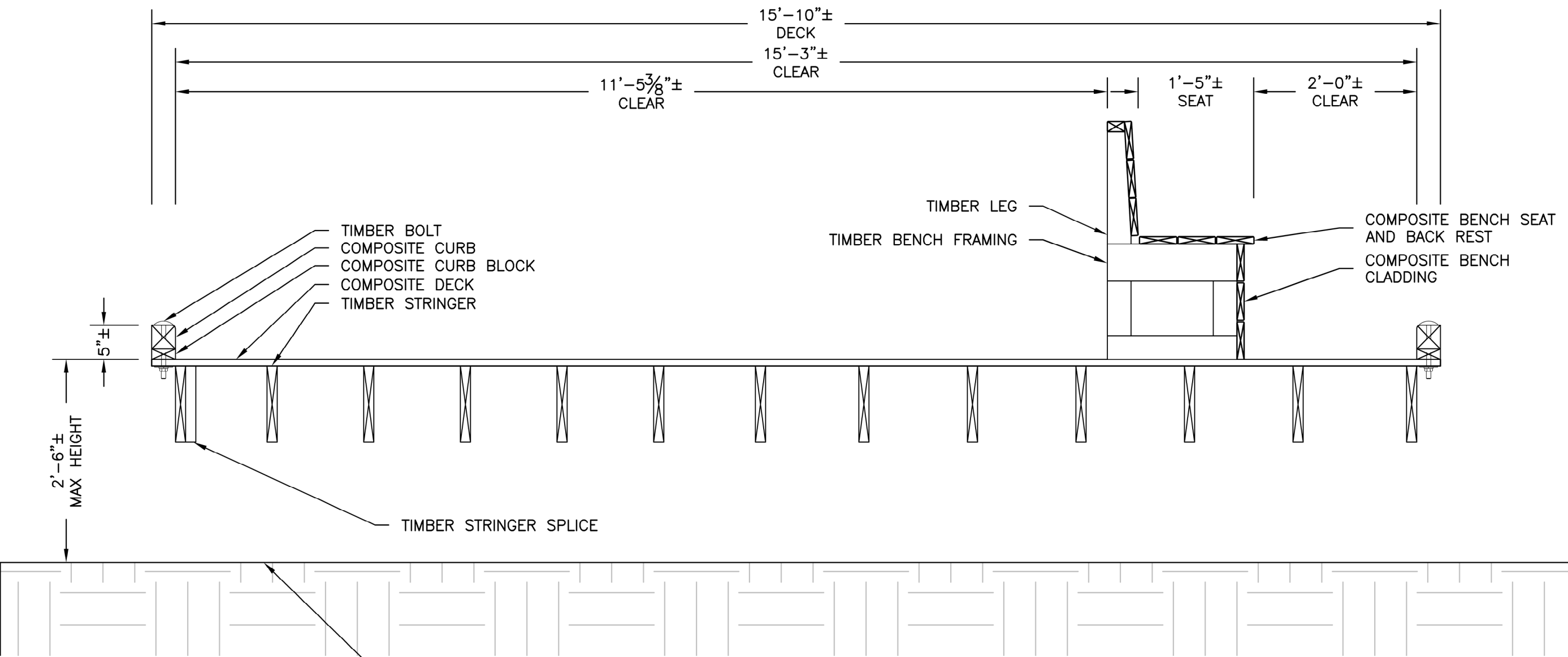
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SCALE: 3/4"=1'-0"



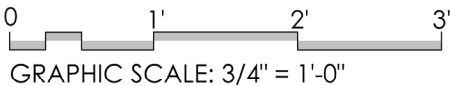
PROJECT INFORMATION:
WING PARK
TIMBER PEDESTRIAN BRIDGE
LOADING:
VEHICULAR= N/A
PEDESTRIAN= 90 PSF (L/360)
PROJECT LOCATION:
ELGIN, ILLINOIS
PROJECT NUMBER:
226-057

SUBMISSION INDEX		
REV #	DATE	BY
DRAWN BY: V. FALZONE		
DATE: 5/28/2026		
PAGE NAME		
REPETITIVE ABUTMENT		
SHEET NO:		
302-2		

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1 SECTION - REPETITIVE ABUTMENT
SCALE: 3/4"=1'-0"



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SUBMISSION INDEX		
REV #	DATE	BY

DRAWN BY: V. FALZONE
DATE: 6/4/2026
PAGE NAME
REPETITIVE ABUTMENT
SHEET NO:
303-2

SECTION 32 0117

ASPHALT CRACK REPAIR SYSTEM

1.0 GENERAL

1.1 Description

- A. This work consists of providing all labor, materials, tools and equipment necessary to perform surface preparation; crack repair, as required by IDOT, on an existing asphalt surface.

1.2 Required Submittals

- A. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
- B. Manufacturer's Project References are required prior to bid opening if a product other than those listed as pre-approved are submitted as an 'or-equal': Submit manufacturer's list of successfully completed asphalt crack repair projects, including project name, location, and date of application.
- C. Installer's Project References: Submit applicator's list of successfully completed asphalt crack repair projects, including project name, location, type and quantity of crack repair applied, and date of application.
- D. Warranty Documentation: Submit manufacturer's standard warranty. It is not to be less than one year from the date of project acceptance. All material and labor including any surface preparation or removals is to be included and non-prorated.

1.3 QUALITY ASSURANCE

- A. Manufacturer's Qualifications:
 - 1. Manufacturer regularly engaged, for past 5 years, in manufacture of Crack Repair systems for asphalt surfaces of similar type to that specified.

2.0 MATERIAL

- A. The Contractor shall provide certification that the sealant meets the requirements of IDOT standard specification 3723.
- B. The crack sealant compound shall be packages in sealed containers.
 - 1. Each container shall be clearly marked with the name of the manufacturer, the trade name of the sealant, the manufacturer's batch and lot number, the pouring temperature, and the safe heating temperature.
- C. A copy of the manufacturer's recommendations pertaining to the heating and application of the joint sealant material shall be submitted to the Engineer prior to the commencement of work.
 - 1. These recommendations shall be adhered to and followed by the Contractor.
- D. The temperature of the sealer in the field application equipment shall never exceed the safe heating temperature recommended by the manufacturer.
- E. Any given quantity of material shall not be heated at the pouring temperature for more than six (6) hours and shall never be reheated.
- F. Sealing shall not proceed if the temperature of the material has not reached or has fallen below the manufacturer's recommended minimum application temperature.
- G. Mixing of different manufacturer's brands or different types of sealant shall be prohibited.

3.0 EXECUTION

3.1 Weather Limitations

- A. Do not install when rain is imminent or if humidity is extremely high
- B. Do not install if asphalt is in any way damp

3.2 Surface Preparation

- A. Thoroughly remove dirt, dust, debris, oil, grease, vegetation, loose materials, and other contaminants from the surface which could adversely affect the installation of the crack repair system. The Surface shall then be power washed using a deck power washing unit or Hydro-Jet-Blaster. Wand washing will not be accepted.
- B. Routing:
 - 1. The routing equipment shall be mechanical and power driven, capable of following and cutting the cracks to the required dimensions without deviation from the crack or creating excessive spalling.
 - 2. Equipment designed to "plow" the cracks to dimension will not be permitted.
 - 3. Wet sawing will not be allowed. (3/4 X 3/4 inch routing)

3.3 Crack Filling

- A. The sealant shall be placed evenly and slightly recessed of the pavement.
- B. If the routing process results in spalled or rough edges the Engineer may require the material to be poured flush and squeegeed to fill in the rough edges.
- C. The applicator wands shall be returned to the machine and the joint sealant material recirculated immediately upon completion of each crack.
 - 1. Pour pots or similar devices shall not be used to apply the sealer.
- D. Lanes may be opened to traffic only after the sealer has set sufficiently so it will not pickup under traffic.
 - 1. In the case where traffic must be allowed on the freshly sealed joints (to exit or enter the highway at interchanges etc.) talc or other powder, not sand, may be applied to the sealer with care to avoid penetration of the powder into the sealer.
- E. Sealant material picked up or pulled out during construction shall be replaced at contractor expense

3.5 Protection of pavement surface

- A. It is the Contractor's responsibility to secure the repaired area from unauthorized access during the work. This may include the addition of temporary fence. Materials and labor for this work is considered incidental and will not be paid for separately.

3.4 Protection of Vegetation

- B. Protection of existing vegetation shall conform to other sections of these Specifications. Protected vegetation shall include all trees, shrubs, plants or other vegetation within or adjacent to the construction area.
- C. At no time shall any material or equipment be stored, nor any construction activity take place within the drip line of any tree, within or adjacent to the construction area, without the written approval of the Owner/Owner's Rep.

3.5 Restoration

- A. The Contractor shall be responsible for the restoration of adjacent turf or planting areas disturbed or damaged through the fulfillment of this Contract.
- B. Disturbed areas shall be restored by the placement of pulverized topsoil raked smooth and level with the finished pavement surface, free of any stones or debris. Seeding shall be as per landscape specification.

END OF SECTION

SECTION 32 1216

ASPHALT PAVING – VEHICULAR AND TRAILS

1.0 GENERAL

1.1 Description

- A. This work consists of providing all labor, material, tools and equipment necessary to construct new asphalt paths, parking lots, and/or roadways as shown on the plans.

1.2 Code and Regulations

- A. Materials and methods used in the fulfillment of this Contract shall conform to the State of Illinois Standard Specifications for Road and Bridge Construction, hereby referred to as "State Specifications", latest edition, and all supplemental specifications and provisions adopted prior to the date of the Invitation to Bid for this project.

1.3 Submittals

- A. Provide product data for each product specified
- B. Job-Mix Designs: For each job mix proposed.
 - 1. Job-mix design documentation shall include the amount of RAP material, by percentage of total mix, to be utilized.
 - 2. Job-mix design documentation shall clearly indicate source/origin of RAP material.
- C. Qualification Data: For IDOT qualified manufacturer.
- D. Material Certificates: For each paving material, from manufacturer
- E. Material Test Reports: For each paving material and mix.

2.0 MATERIALS

2.1 Crushed Aggregate Base

- A. CA-6 crushed aggregate, Class B, shall be placed, to a compacted depth as indicated on plans, as a base course. The aggregate shall be thoroughly dry, unyielding and free of screening and dirt before proceeding with priming and paving, in accordance with material and placement standards of Section 301 of the State Specifications.

2.2 Prime Coat

- A. The prime coat shall consist of cutback asphalt MC-30 in conformance with Section 406 of the IDOT Specifications. Bituminous prime coat shall be applied with the application rate being a minimum of 0.30 gallons per square yard. Priming shall be applied through the use of a pressurized distributor vehicle or hand sprayer, at a rate of 0.2 to 0.5 gallons per square yard. Excess prime showing on the surface after the curing period, shall be blotted with sand prior to placement of the asphalt. All work and materials shall conform to applicable provisions of Section 406 of the IDOT Standard Specifications.

2.3 Asphalt Binder Course

- A. The asphalt binder course shall be HMA Binder Course IL19.0, N50 Mix D conforming the IDOT Standard Specifications. All work and materials shall be performed in accordance with applicable provisions of the IDOT Standard Specifications. The minimum thickness of the completed bituminous binder course shall be as noted on plans measured at any point on the pavement surface.

2.4 Asphalt Surface Course

- A. The asphalt surface course shall be HMA Surface Course IL9.5, N50 Mix D constructed on previously placed bituminous binder course or compacted base, per plans. The minimum thickness of the finished bituminous surface course shall be as noted on plans measured at any point of the pavement surface per appropriate detail. The work and materials shall conform to applicable provisions of the IDOT Standard Specifications Section 406
 - 1. The bituminous material used in the surface mixture shall be asphaltic cement grade 85-100 or 120-150 as approved by the Owner's Representative.
- B. The finished surface shall be true, uniform in texture, free from ruts, depressions, cracks, tears and checks, in conformance with Section 406 of the State Specifications. When tested, water should not stand or pool twenty-four hours after flooding

3.0 EXECUTION

3.1 Field Conditions

- A. Do not apply asphalt materials if subgrade is wet or excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met.

3.2 Methods

- A. Construction methods shall follow specifications described herein.

3.3 Protection of Vegetation

- A. Protection of existing vegetation shall conform with Specification 01 2100 as contained in this Specifications document. Protected vegetation shall include all trees, shrubs, plants or other vegetation within or adjacent to the construction area.
- B. At no time shall any material or equipment be stored, nor any construction activity take place within the drip line of any tree, within or adjacent to the construction area, without the written approval of the Owner/Owner's representative.

3.4 Prime and Tack Coat

- A. All work shall be in accordance with the Standard Specifications. If asphaltic surface course is not applied the same day as binder course, the binder surface shall be tack coated prior to surface paving. Prior to placement of tack coat the surface shall be thoroughly cleaned and swept. Tack coat shall be applied at a rate of 0.08 gallons per square yard immediately prior to placement of asphaltic surface course.

3.5 Striping

Where applicable and indicated on plans: Striping will be done per specifications. No striping will commence until the seal coat to be striped has cured for at least 24 hours. Four (4) inch wide striping shall be neatly sprayed. No over spray permitted. Handicapped accessible parking spaces shall conform to IDOT and ADA standards. Follow existing striping and pavement markings. Paint curbs that have been previously painted.

3.6 Wheel stops

Where applicable and indicated on plans: wheel stops shall be installed or relocated with new rebar.

3.7 Restoration

- A. The Contractor shall be responsible for the restoration of adjacent turf or planting areas disturbed or damaged through the fulfillment of this Contract.
- B. Disturbed areas shall be restored by the placement of pulverized topsoil raked smooth and level with the finished pavement surface, free of any stones or debris. Seeding shall be as per landscape specification.

3.1 Testing

- A. Contractor shall coordinate with Owner for testing of asphalt courses. Owner or Owner's agent shall perform testing of asphalt courses.
- B. Both asphalt courses shall meet minimum 89% maximum density.

END OF SECTION

SECTION 32 1217
ASPHALT PAVING – SPORT COURTS

1.0 GENERAL

1.1 Description

- A. This work consists of providing all labor, material, tools and equipment necessary to install bituminous paving, prime, and tack coats for tennis, pickleball, and/or basketball court paving as shown on the drawings.

1.2 Code and Regulations

- A. Materials and methods used in the fulfillment of this Contract shall conform to the State of Illinois Standard Specifications for Road and Bridge Construction, latest edition, hereby referred to as "State Specifications" and all supplemental specifications and provisions adopted prior to the date of the Invitation to Bid for this project.

1.3 Submittals

- A. Provide product data for each product specified
- B. Job-Mix Designs: For each job mix proposed.
 - 1. Job-mix design documentation shall include the amount of RAP material, by percentage of total mix, to be utilized.
 - 2. Job-mix design documentation shall clearly indicate source/origin of RAP material.
- C. Qualification Data: For IDOT qualified asphalt manufacturer.
- D. Material Certificates: For each paving material, from manufacturer
- E. Material Test Reports: For each paving material and mix.
- F. Court Color Finish material product data, and color selection sheets for approval by Owner/Owner Rep.

2.0 MATERIALS

2.1 Crushed Aggregate Base

- A. CA-6 crushed aggregate, Class B, shall be placed, to a compacted depth as indicated on the plans as a base course. The aggregate shall be thoroughly dry, unyielding and free of screening and dirt before proceeding with priming and paving, in accordance with material and placement standards of Section 301 of the State Specifications.

2.2 Prime Coat

- A. The prime coat shall consist of cutback asphalt MC-30 in conformance with Section 406 of the State Specifications. Bituminous prime coat shall be applied with the application rate being a minimum of 0.30 gallons per square yard. Priming shall be applied through the use of a pressurized distributor vehicle or hand sprayer, at a rate of 0.2 to 0.5 gallons per square yard. Excess prime showing on the surface after the curing period, shall be blotted with sand prior to placement of the asphalt. All work and materials shall conform to applicable provisions of Section 406 of the IDOT Standard Specifications.

2.3 Asphalt Binder Course

- A. The bituminous concrete binder course shall be HMA binder Course IL19.0, N50 Mix D, conforming to Section 406 of the IDOT Standard Specifications. All work and materials shall be performed in accordance with applicable

provisions of Section 406 of the IDOT Standard Specifications. The minimum thickness of the completed bituminous binder course shall be as noted on the plans measured at any point on the pavement surface.

2.4 Asphalt Surface Course

- A. The bituminous surface course shall be HMA surface Course IL9.5, N50 Mix D conforming to Section 406 of the IDOT Standard Specifications. Class "B" (modified) constructed on previously placed bituminous binder course. The minimum thickness of the finished bituminous surface course shall be as shown on the plans as measured at any point of the pavement surface. The work and materials shall conform to applicable provisions of Section 406 of the Standard Specifications except as revised herein. The aggregate used in the preparation of the surface mixture shall conform to the following gradation:

Passing 1/2" sieve	100%
Passing #4 sieve	65% - 85%
Passing #10 sieve	50% - 65%
Passing #40 sieve	10% - 27%
Passing #200 sieve	5% - 7%

- B. No recycled material shall be allowed in surface course.

- C. The finished surface shall be true, uniform in texture, free from ruts, depressions, cracks, tears and checks, in conformance with Section 406 of the State Specifications. When tested, water should not stand or pool twenty-four hours after flooding
- D. The finished surface shall be true, uniform in texture, free from ruts, depressions, cracks, tears and checks, in conformance with Section 406 of the State Specifications. When tested, water should not stand or pool twenty-four hours after flooding

2.5 Caulk for Tennis Court

- A. As manufactured by: Nova Sports U.S.A. www.novasports.com or approved equal.
- B. Install per manufacturer recommendations:
1. Clean crack so that it is free of all vegetation and debris. Remove all lost pavement from crack.
 2. Install backer rod (must be wider than crack) into crack, top of rod 3/16" below surface or fill crack with clean sand to within 3/16" of surface
 3. Using a broad knife, squeegee rubber, or similar tool, fill crack to refusal with Novacaulk #1. It is important to exert some pressure when placing the Novacaulk into the void so that the material comes in contact with the walls of the crack.
 4. Allow the Novacaulk to set. (4 hours during ideal drying conditions - longer when damp or cool).
 5. Apply a coat of Novacaulk #2 over the crack. This coat should be thicker directly over the crack and taper to a feather edge. This application should be wider than the actual crack by 3 to 6 inches on both sides. Extremely wide cracks may need a second application of Novacaulk #2 and probably the repair should extend further out to the side. Novacaulk #2 is easily spread with a squeegee when first placed on the pavement. If, after a few minutes, it becomes difficult to spread smoothly, sprinkle a

few drops of water over the repair. This will make the material easier to smooth.

2.6 Color Finish materials for sport courts

A. Plexipave Systems by California Products Corp

www.californiasportsurfaces.com

Elite Sport Coating Systems www.ustenniscc.com

Laykold Systems by Laykold www.laykold.com

Duracourt Outdoor Coatings www.duracourt.net

Or other approved equal products

B. Plexipave Court Patch Binder. Mixed with 100 pounds of 60-80 mesh clean silica sand (dry), 3 gallons "Court Patch Binder" and 1 to 2 gallons Portland Cement (dry) – depending on humidity and temperature.

C. Plexipave Acrylic Resurfacer – Mixed with 55 gallons acrylic resurfacer, 20-40 gallons water, 600-800 pounds (60-mesh) sand.

D. Fortified Plexipave – Mixed with 30 gallons Plexipave Color Base, 20 gallons Plexichrome and 20 gallons water.

E Plexipave Textured Line Paint (white).

F. Colors for Pickleball or other applicable sport to be as indicated on plans.

3.0 EXECUTION

3.1 Methods

A. Construction methods shall follow the specifications described herein.

3.2 Protection of Vegetation

A. Protection of existing vegetation shall conform with Specification 01 2100 as contained in this Specifications document. Protected vegetation shall include all trees, shrubs, plants or other vegetation within or adjacent to the construction area.

B. At no time shall any material or equipment be stored, nor any construction activity take place within the drip line of any tree, within or adjacent to the construction area, without the written approval of the Owner/Owner's representative.

3.3 Restoration

A. The Contractor shall be responsible for the restoration of adjacent turf or planting areas disturbed or damaged through the fulfillment of this Contract.

B. Disturbed areas shall be restored by the placement of pulverized topsoil raked smooth and level with the finished pavement surface, free of any stones or debris. Seeding shall be as per landscape specification.

3.4 Prime and Tack Coat

A. All work shall be in accordance with the Standard Specifications. If asphaltic surface course is not applied the same day as binder course, the binder surface shall be tack coated prior to surface paving. Prior to placement of tack coat the surface shall be thoroughly cleaned and swept. Tack coat shall be applied at a rate of 0.08 gallons per square yard immediately prior to placement of asphaltic surface course.

3.5 Joints

A. Joints between successive day's work shall be constructed and treated as to ensure thorough and continuous bond between the old and new mixtures.

- B. Transverse construction joints shall be constructed by cutting the material back for its full depth so as to expose the full depth of the course. Where a header is used, the cutting may be omitted provided the joint conforms to the specified thickness. These joints shall be treated with tack coat material applied with a hose and spray nozzle attachment to fully coat the joint surface.
- C. Longitudinal joints shall be made by overlapping the screed on the previously laid material for a width of not more than two inches (2"), and depositing a sufficient amount of asphaltic mixture so that the finished joint will be smooth and tight. Binder course and surface course shall be placed with longitudinal joints at right angles to one another. Longitudinal joints in the surface course shall at no time be placed immediately over similar joints in the binder course beneath. A minimum distance of twelve inches (12") shall be permitted between the location of the joints in the binder course and the location of similar joints in the surface course above.
- D. All costs for furnishing and applying tack coat to butt joints as specified above shall be considered incidental.

3.6 Testing

- A. Contractor shall coordinate with Owner for testing of asphalt courses. Owner or Owner's agent shall perform testing of asphalt courses.
- B. Both asphalt courses shall meet minimum 94% maximum density.

3.7 Bituminous Paving

- A. Bituminous paving work shall include the construction of plant mixed asphaltic concrete pavement in the areas shown on the drawings. All work shall be performed in accordance with Section 406 of the Standard Specifications.
- B. Prior to commencement of paving operations, Contractor shall examine the finished pavement bed. Contractor shall notify Owner of any areas of suspected instability.
- C. Completed binder course shall not vary from the required grade more than one-fourth inch (1/4") in ten feet (10') when measured in any direction.
- D. Surface course finish shall be smooth with no pockets that will retain water and shall not vary more than one-eighth inch (1/8") under a ten foot (10') straight edge. Entire surface shall drain and shall be without flat areas.
- E. Allow surface course to cure for fifteen (15) days prior to application of color finish system. Verify cure time with manufacturer.

3.8 Expansion Joint Saw cuts at Tennis

- A. Saw cut finished asphalt surface one-half inch (1/2") wide at locations indicated on plans. Apply Nova Caulk at cleaned saw cut.

3.9 Color Finish System

- B. Prior to application of the color finish system, flood the court surface with water, preferably by rainfall, and allow to drain for forty-five (45) minutes. Any depressions holding water deeper than one-sixteenth inch (1/16") shall be marked to identify extent of such areas. Patch and level areas with color finish system materials per manufacturer's directions, as follows:
 - 1. Asphalt or acrylic resurfacer mixed with silica sand.
 - 2. For depressions deeper than one-sixteenth inch (1/16"), use Court Patch Binder mixed as indicated with Portland Cement, Silica Sand and water
- A. Continue flooding, marking, and patching operations until uniform surface is obtained. Due to minimum pitch of surface, water will not "rush" off the surface

nor will court dry off immediately. Some squeegee work may be necessary to accelerate drying time.

- B. Allow patched bituminous surface course to cure for five (5) days before application of color finish course.
- C. Net sleeves, fencing, and other court equipment shall be installed prior to color coat.

3.10 Color Finish Course

- A. Color finish course shall be applied by an experienced manufacturer approved applicator and in accordance with the manufacturer's printed instructions. The materials shall be applied using a soft rubber squeegee (spraying not permitted). Asphaltic emulsion is not an acceptable base coat.
 - B. Bituminous surface course and each coat of color finish course shall be thoroughly clean and dry to receive initial and subsequent coats of color finish course. Perform no work when rain is imminent or when the surface temperature is below or is likely to fall below 50° F. or above 140° F. during application work.
- 1.2 The color finish course consists of three (3) applications of "Plexipave Acrylic Texture Coat System" or approved equal. Control surface texture during application to provide a slow surface speed.
- A. Apply "Plexipave Acrylic Resurfacer" in a minimum of one coat to obtain a per coat application rate of 0.05 to 0.07 gallons per square yard based on undiluted material.
 - B. Finished surface shall be smooth, free of ridges, valleys, and tool marks.
 - C. Apply "Mineral Filled Fortified Plexipave Coat" in two (2) applications to obtain a total quantity of not less than application rate of 0.15 and no more than 0.23 gallons per square yard based on undiluted material.

3.11 Playing Lines

- A. Accurately locate and mark two inch (2") wide playing lines according to the court layouts shown on the Project Drawings.
- B. Mask edges and paint lines with white Plexicolor textured line paint in accordance with manufacturer's standard instructions. Use of traffic, oil, alkyd, or solvent vehicle type paint is prohibited. All paint line edges to be short and crisp. Spraying is prohibited.
- C. Do not commence painting playing lines until a minimum of 48 hours after completion of color finish course.

END OF SECTION 32 1216

SECTION 32 1236

SEAL COATING

1.0 GENERAL

1.1 Description

A. The work described in the specifications shall consist of the provision of all material, equipment, and labor necessary to complete the seal coating of Pathways as described herein. This recommended practice covers the application of Waterborne Acrylic Modified Alkyd Latex pavement sealer. This application serves as weather protection, beautification of surface, and aliphatic-solvent resistant sealer for bituminous pavements of parking lots and driveways.

1.2 Submittals

A. None

1.3 Incorporated Specifications

A. ASTM D8531

B. ASTM D6886

2.0 PRODUCTS & EQUIPMENT

2.1 Products

A. Waterborne Alkyd Latex pavement sealer, BIOSEALCOAT® or equal, will conform to the following requirements:

1. ASTM D8531

2. The Contractor and/or his supplier will provide a certification with delivery indicating compliance with the above requirements. Further, the certificate will indicate the non-volatiles (solids) content as determined by results of tests performed on the material loaded. All such certifications shall be subject to verification by testing samples of the emulsion received for use on the project. Costs of verification testing will be borne by the Owner.

3. Water used for surface preparation shall be potable. Water shall be provided by the Owner and available in a reasonable distance from the job site.

4. Sand will be washed and graded silica sand, free of all contaminants, and conforming to the following graduation:

Sieve Size	% Passing
#16	100
#20	85 to 100
#40	0 to 20
#100	0 to 50

2.2 Equipment

A. All tools and equipment necessary to perform the Contract in accordance with the specified terms and conditions, such as brushes, hand squeegees, pumps and hose equipment, storage tanks, mixing tanks, water distributors, power sweepers, blowers, barricades and applicator equipment shall be provided as required by the Contractor. All methods employed in performing the work and all equipment necessary for executing any part of the work shall be subject to approval by the Owner's representative before work is started, and whenever

found unsatisfactory will be changed or improved. All equipment will be kept clean and in working condition.

- B. Pressure distributors used on the job will have mechanical mixing devices incorporated in their construction to assure homogenous mixing of the Waterborne Alkyd Latex pavement sealer and required additives. The plumbing distribution system must be adequate to apply a uniform coating at the specified rates of application.
- C. Conventional riding applicator equipment used on the job will have two or more devices such as squeegees and/or drag broom assemblies to assure even distribution of the Waterborne Alkyd Latex pavement sealer and required additives.
- D. Mixing or agitating equipment may be either portable powered or a tank-type power mixer. In any case, mixers shall be of sufficient capacity to assure homogeneous mixing of the Waterborne Alkyd Latex pavement sealer and required additives, and to maintain complete suspension of mineral content until the emulsion system is applied to the pavement.

3.0 EXECUTION

3.1 Preparation of surfaces

- A. Thoroughly inspect the pavement for minor cracks and other imperfections. Review cracking with owner and verify extent of needed crack repair. Any cracks to be repaired as approved by owner shall follow SECTION 32 0117 – Asphalt Crack Repair System.
- B. Areas that have been subjected to fuel and oil spillage, that are not permanently damaged or softened, shall be wire brushed or scraped to remove any excess dirt and grease accumulations. Scrub and clean grease, oil, and gasoline spots with mild household soap and water.
- C. Immediately before application of sealer, clean the surface of all loose dust, dirt, leaves, and any other foreign materials by sweeping, blowing, or flushing with water, or any combination of the three.

3.2 Preparation of the Waterborne Alkyd Latex pavement sealer system

- A. Recommend mixture as follows:
 - 4 -7 lbs. of sand aggregate per 1 gallon of Waterborne Alkyd Latex pavement sealer
 - Note: DO NOT DILUTE.
- B. Aggregate shall be added at a slow uniform rate, after the mix has been mixed thoroughly before use. The mixer will be in operation during the addition of the sand to assure uniform dispersion and to prevent over-loading of the mixing device.
- C. Slow mixing shall be continuous from the time all materials are placed into the mixer until the slurry is applied by distributor truck or poured into the spreading equipment. During the entire mixing process, no breaking, segregating, or hardening of the emulsion nor balling, lumping, or swelling of the aggregate shall be permitted. The slurry shall be applied at a uniform rate to provide the desired amount. A sufficient amount of slurry shall be fed in the spreader box to keep a full supply against the full width of the squeegee, so that complete coverage of all surfaces voids and cracks is obtained.

3.3 Application

A. New asphalt surfaces, paving and patches should be allowed to cure a minimum of 4 weeks under ideal weather conditions (70°F) before applying Waterborne Alkyd Latex pavement sealer.

B. First Coat:

1. Application may be made by brushes, squeegees, or mechanical applicators capable of spraying coatings with sand. The type of application equipment is determined by the porosity of the substrate. If large amounts of the aggregate are exposed, use a brush or heavy nap roller. If the asphalt is smooth and in sound condition use squeegee, or spray. Ponding or puddling of product must be avoided. If ponding or puddling is found, back brush or roll these areas to remove excess product.
2. Coverage will depend on texture, porosity, and condition of the surface. A reasonable planning figure is roughly 160 square feet to the gallon for 2 coats at 5 wet mills.
3. Allow sealer to dry thoroughly before opening to traffic or applying a second coat. Dry time will vary based on temperature and humidity, but at least 4 hours at 77°F is normally needed before applying a second coat. Sheltered or shady areas may need more time. Heavy application over 5 mills will take considerably longer to dry.

C. Second Coat:

1. The surface for a second coat does not normally need to be dampened.
2. The second coat shall be applied at right angles to the first coat.
3. Allow the second coat to thoroughly dry (24 to 48 hours, if possible, under optimum conditions) before opening to traffic.

D. Job Formula:

1. A prime coat of Waterborne Alkyd Latex pavement sealer with 4 pounds of sand per gallon will be applied at a rate of 5 wet mills to 160sq. ft./ gal in the travel lanes and turning radii.
2. Finish coat will be Waterborne Alkyd Latex pavement sealer with 4 pounds of sand per gallon at a rate of 5 wet mills to 160sq. ft./ gal

E. Sealer will not be applied unless the air temperature is 50° F and rising and pavement temperature is 50° F and rising. Work will be completed so that there is a minimum of two hours of sunlight remaining after completing the day's work. Sealer will not be applied under rainy or wet conditions such as an overcast day with high humidity. Do not apply when temperature and humidity are near or below the dew point. UNDER NO CIRCUMSTANCES will work be performed under cold and/or wet conditions, nor will any Waterborne Alkyd Latex pavement sealer be used that has been subject to freezing weather. Temperature and surface shall not go below 50° F in the 24 hours following application.

F. The mixture shall be permitted to dry for a minimum of 24 hours after the final application before opening to traffic and shall be sufficiently cured to drive over without damage to the seal coat.

G. Upon completion of the work, the seal coat shall have no pin holes, bare spots, or cracks through which liquids or foreign matter could penetrate to the underlying pavement. The finished surface shall present a uniform texture.

3.4 Striping

Where applicable and indicated on plans: Striping will be done per specifications.

No striping will commence until the seal coat to be striped has cured for at least 24

hours. Four (4) inch wide striping shall be neatly sprayed. No over spray permitted. Handicapped accessible parking spaces shall conform to IDOT and ADA standards. Follow existing striping and pavement markings. Paint curbs that have been previously painted.

3.5 Wheel stops

Where applicable and indicated on plans: wheel stops shall be installed or relocated with new rebar.

END OF SECTION 32 1236

SECTION 32 1313 **CONCRETE PAVING**

1.0 GENERAL

1.1 Description

- A. This work shall consist of all labor, equipment and materials necessary for complete installation of concrete work: slabs, paving, curbs, footings, and concrete work as called for in the plans and details.
- B. All work, which is without a specification herein, shall be performed in accordance with the Standard Specifications for Road and Bridge Construction, latest edition adopted by the Illinois Department of Transportation.
- C. Requirements (materials, mixes, finishes) apply to concrete work specified in other sections, such as sidewalk paving and concrete curb.

1.2 Submittals

- A. Mix Design: Submit proposed mix design for approval.
- B. One copy of the delivery ticket shall be furnished to the Owner's Representative at the time the truck arrives at the job site.

1.3 Quality Assurance

- A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

- B. Testing: Owner shall employ a separate testing laboratory to perform initial field quality control testing. Contractor shall coordinate with owner for testing samples. The owner

- 1. Materials and installed work may require testing and retesting at any time during the progress of the Work. Allow free access to material stockpiles and facilities at all times. Retesting of rejected materials and installed Work shall be done at the Contractor's expense.
- 2. Three concrete test cylinders shall be taken for every 75 cu. yds. or less of each class of concrete placed each day.
- 3. One additional test cylinder shall be taken during cold weather and be cured on site under same conditions as concrete it represents.
- 4. One slump test shall be taken for each set of test cylinders taken.

1.

C. Standards:

- 1. ACI PRC-211.1 - Selecting Proportions for Normal-Density and High Density-Concrete - Guide 2022.
- 2. ADA Standards - 2010 ADA Standards for Accessible Design 2010.
- 3. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens 2021.
- 4. ASTM C42/C42M - Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete 2016.

5. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete 2010a (Reapproved 2016).
6. Mock-Ups: Provide mock-up as required to demonstrate quality of workmanship

D. Obtain materials from same source throughout.

2.0 MATERIALS

2.1 Crushed Aggregate Base

- A. CA-6 crushed aggregate, Type B, shall be placed, to a compacted depth as indicated on plans, as a base course. The aggregate shall be thoroughly dry, unyielding and free of screening and dirt before proceeding with priming and paving, in accordance with material and placement standards of IDOT State Specifications.

2.2 Concrete Materials

- A. The concrete shall be constructed of Portland Cement Concrete Type A, which shall have a minimum of six (6) bags of type one cement per cubic yard. Concrete shall meet ASTM C94.
- B. The coarse aggregate used shall contain a maximum of 2%, by volume, deleterious material (commonly called chert free aggregate) and the maximum size of the stone shall be three-quarter inch (3/4").
- C. Air content shall be not less than 5%, or more than 8%, and the slump shall not exceed four inches (4"). Fourteen (14) day compressive strength tests resulting in less than 3500 p.s.i. shall be cause for removal and replacement at Contractor's cost. Portland Cement shall conform to the requirements of the current ASTM Specifications for Air-Entraining Portland Cement.
- D. Do not change mix design without approval. Calcium chloride admixtures are not permitted.

2.3 Metal Reinforcing

- A. Metal shall be fabricated conforming to the most current standard of ASTM A616, Deformed Billet-Steel Bars for Concrete Reinforcement of the grades indicated on the drawings.
- B. Welded wire mesh or fabric shall conform to Specifications for Welded Steel Wire Fabric for Concrete Reinforcement ASTM 185-current year.
- C. Dowels (Concrete Pavement with Foot Traffic): Comply with IDOT Specifications, Article 1006.06.
- D. Dowels (Concrete Pavement with Vehicular Traffic): Comply with IDOT Specifications, Article 1006.11
- E. Tie wire: Annealed steel, minimum 16 gauge size.

2.4 Fiber Reinforcing

- A. Fiber reinforcing material to be SINTA F19 or approved equal, manufactured from 100% virgin polypropylene in a microfilament form and contain over 50 million individual fibers for each 1.0 lb/yd³ dosed. Product shall be engineered specifically for use in concrete, alkali resistant, non-absorptive and completely non-corrosive. Product shall comply with ASTM Designation C 1116 Standard Specification for Fiber-Reinforced Concrete and Shotcrete, Type III Synthetic Fiber-Reinforced Concrete or Shotcrete.

- B. Fibers shall be 20 mm (3/4 in.) multifilament polypropylene fibers as supplied by GCP Applied Technologies, Cambridge, MA 02140, or approved equal. Required dosage rate shall be as specified by the design engineer or architect. Product shall be used in strict accordance with the supplier's recommendations and within time as specified in ASTM C94. The fibers shall comply with ASTM Designation C1116 Type III 4.1.3 and with applicable building codes. Certification of compliance shall be made available on request. Standard ACI 302 procedures for placing, finishing and curing shall be followed when using SINTA F19

2.5 Additives

- A. Additives that have not been aforementioned within this specification shall not be used in any concrete without written approval from the Owner or Owner's Representative.

2.6 Forms

- A. Forms shall be of lumber with a minimum two-inch (2") nominal thickness and six-inch (6") nominal width or steel with equal rigidity. They shall be held securely in place by stakes, braces, or other means and shall not allow concrete leakage. Forms for curves shall be flexible or shall be curved forms conforming to radius of curves shown on drawings. The use of straight sections will not be permitted for curves. Forms shall be clean and those for surfaces to be exposed shall produce a smooth, even finish without fins or board marks.

2.7 Expansion Joint Material

- A. Slab Isolation Joint Filler: 1/2 inch thick, height equal to slab thickness, with removable top section that will form 1/2 inch deep sealant pocket after removal.
 - 1. Material: ASTM D1751, cellulose fiber.
 - 2. DECK-O-FOAM® polyethylene, closed-cell expansion joint filler where noted on drawings: ASTM D4819, Type II
- B. Expansion joint material shall meet the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, latest edition, Section 1054.00 Nonmetallic Water Seals. Approved filler shall be as described in Section 1054.02 Polyvinyl Chloride (PVC) Water Seal. All applicable sections shall apply for the above approved items.

3.0 EXECUTION

3.1 EXAMINATION

- A. Owner's testing agency shall verify compacted subgrade is acceptable and ready to support paving and imposed loads.
- B. Verify gradients and elevations of base are correct.
- C. Proceed only after unsatisfactory conditions have been corrected. Commencement of work in this section will be an indication of the acceptance of sub-grade and the Contractor will be held responsible for the satisfactory execution and results of the finished work.
- D. Owner's representative shall be notified a minimum of 24 hours prior to commencement of concreting operations.

3.2 Sub-grade

- A. Sub-grade or base shall be accurately graded and compacted as specified in Section 31 2000, EARTHWORK.
- B. The sub-grade or base shall be moistened just before the concrete is placed.

- C. Proofroll areas under drives and parking areas.
- D. Provide additional fill for soft spots and hollows. Areas of undercut shall be measured and reviewed by Owner's representative prior to removal.
- E. Level and Compact subgrade, to receive granular base for concrete work, to 95% Modified Proctor Density.

3.3 Concrete Mixing

- A. Concrete shall be mixed only as required for immediate use and any which has developed initial set shall not be used. Concrete, which has partially hardened, shall not be re-tempered or re-mixed. The use of a fractional sack of cement will not be permitted unless the fractional part is measured by weight. The mixer shall be cleaned thoroughly each time when out of operation for more than thirty minutes.
- B. Concrete mixes will be measured as described in the current Method Test for Consistency of Portland Cement Concrete of the ASTM Designation C-143. The concrete shall at times be of such consistency and workability, that it will puddle readily into corners and angles of the forms and around joint, dowels, tie bars and reinforcement without excessive spading, segregation or undue accumulation of water.
- C. The mixing of concrete in truck mixers in route from the batching plant to the site will not be allowed without prior approval. Mixing shall take place at the batching plant. The mixing shall be done on a level area, sloping not more than two percent in any direction.
- D. The concrete shall be discharged within a period of one hour after the introduction of the mixing water with the dry materials or within a period of 1-1/2 hours after the cement has been placed in contact with the aggregates. It shall be within the specified limits for consistency and air content and it shall not be segregated.

3.4 Forms

- A. The forms shall be set so that concrete slabs will have a slope of not less than one-quarter inch (1/4") per foot.
- B. Forms shall be held in line and grade by stake or braces at intervals to produce layout as specified in plans. Straight lines shall change to curve where line is tangent to curve.
- C. Forms shall be constructed in a manner that will permit their removal from exposed areas without damage to fresh concrete. Forms shall be of the full depth of the structure. Provide uniform bearing for all forms. The inside surface of the forms shall be oiled with a light, clear paraffin-base oil which will not discolor or otherwise injuriously affect the concrete as on walls or other exposed surfaces.
- D. All forming shall be approved by Owner or Owner's Representative before pouring concrete.
- E. Keyway, when specified in the construction joint, shall be a minimum of two inches high by four inches wide (2" x 4").

3.5 Reinforcement - Metal

- A. Concrete to be installed within the splash pad area shall be reinforced using steel reinforcement and all other areas to receive synthetic fiber reinforcement; refer to Drawings for exact locations.

- B. All steel reinforcement shall be placed midheight of slabs on grade except where otherwise indicated.
- C. When placed in the work, steel shall be free from dirt, rust, mill scale, paint, oil or other foreign material. Bars shall be placed with a variation in spacing between adjacent bars of not more than one-sixth of the spacing shown on the plans, and the clear distance from the near surface of the concrete and the reinforcement shall not vary from the distance shown on the plans by more than one-fourth the plan distance. Bars shall be tied at all intersections except where the spacing is less than one foot in each direction in which case every other intersection shall be tied. Supports for reinforcement which are to remain in the work shall be either precast concrete blocks of approved shape and dimensions or approved preformed steel bar-chairs.
- D. Bars shall not be spliced except as provided on the plans or as authorized by the Owner or Owner's Representative.
- E. All pipes which penetrate the existing concrete shall be in core drilled holes and then sealed by link-seal modular seals or approved equal. The existing concrete structure shall be reinforced according to the drawing before core drilling.
- F. Water stops shall be provided at all construction joints in walls and slabs that separate dry structures from liquid containing structures and/or ground water.
- G. Water stop shall be a minimum of four inches (4") long, ribbed center bulb synthetic rubber water stop.
- H. All concrete anchors shall be stainless steel expansion anchors, Hilti Kwik bolts or approved equal, unless noted otherwise. Installation shall be in accordance with the manufacturer's instructions.
- I. Drilling and grouting rebars into existing concrete shall use Hilti HIT HY150 adhesive or approved equal. Installation shall be in accordance with the manufacturer's instruction.
- J. Grout for baseplates and any openings in the concrete shall be by Symons Multipurpose non-shrink grout or approved equal.

3.6 Reinforcement - Fiber

- A. SINTA™ F19 fiber may be added to concrete at any point during the batching or mixing process. SINTA™ F19 may be added to the aggregate during weighing or charging, or to the central mixer or truck before, during, or after charging. The load must be mixed at high speed for 5 minutes, or 70 revolutions, after the addition of the SINTA™ F19 to ensure uniform distribution. The standard range of addition for SINTA™ F19 is ¾ to 3 lbs/yd (450 to 1800 g/m) of concrete. Typically, 1½ lbs/yd (900 g/m) of SINTA™ F19 provides excellent results. Higher addition rates may be used to produce concrete when special properties are required.

3.7 Placing Concrete

- A. The concrete shall be placed in one pour for the full depth of stated structure unless otherwise approved by the Owner or Owner's Representative. The concrete shall be placed in successive batches for the entire width of structure. It shall be struck off from 1/2" to 3/4" higher than the finished grade, tamped until all voids are removed and free mortar appears on the surface. Finally, it shall be thoroughly spaded along the edges, struck off to the proper grade, and finished to a plane, even surface with floats and trowels. The final troweling shall be done with steel trowel, leaving a smooth even surface.

- B. Do not break or interrupt successive pours such that cold joints occur

3.8 Consolidation

- A. Consolidation of the concrete in formwork and in slabs shall be accomplished by the use of hand-held internal type vibrators and shall be adequately powered to operate at a minimum frequency of 4500 cycles per minute. They shall be applied internally to the fresh concrete in a manner which will result in homogeneous mass without segregation.
- B. Hand spading, tapping the forms and other external vibration techniques shall be used only when permitted by the Owner's representative and will not be allowed as the sole means of consolidation of the concrete.
- C. At the beginning of the concrete placement, a spare vibrator shall be on the job site in addition to vibrators to be used during the placement.
- D. When concrete is placed in vertical forms, the vibrator shall slowly penetrate the newly placed concrete well into the concrete layer below. The vibrator shall penetrate the concrete at frequent regular spacings amply close together to ensure complete consolidation of the concrete.
- E. Use of a vibrator to aid in the lateral movement of the concrete in slabs or wall forms shall not be permitted under any circumstances.

3.9 Protection

- A. Protection of Concrete shall be performed in following manner:
 - 1. Protection Against Vandalism: The Contractor shall take all necessary precautions to ensure the protection of work against vandalism or graffiti. Any work, which is blemished in the finish, will be cause for rejection of flat work or curbing.
 - 2. Protection Against Rain: The Contractor shall take such precautions as are necessary to protect the concrete from damage.
 - 3. Hot Weather Limitations - Casting of concrete during hot weather shall be limited by the temperature at the time of placing. Concrete shall not be cast when the temperature is above 90° F. Care shall be taken to properly wet and protect all concrete placed indirect sun or in hot weather.
 - 4. Cold Weather Limitations - No concrete shall be placed unless the temperature of the air in the shade and away from artificial heat is at least 32° F and rising unless specifically approved. All concrete poured at less than 40° F, or at a time when within 24 hours of pouring concrete the temperature shall dip below 40° F shall be insulated. The Contractor shall be responsible for the concrete placed during cold weather and any concrete injured by frost action shall be removed and replaced at Contractors expense.

3.10 Curing

- A. Forms shall be left in place for a period of not less than 12 hours. Immediately after they have been removed, all porous or honeycomb areas thus uncovered shall be filled smooth with mortar consisting of one part cement and two parts fine aggregate. Also, the ends of all expansion joints shall be cut open to the full width of the expansion joint material.
- B. Placing concrete, once started, shall be a continuous operation. No portion of a walk, curb or paved area shall be partially poured except as shown for installation of joints.

3.11 Finishing

- A. Wall Finishes: As-cast and patched for concealed work; rubbed smooth, filled and cement paste coated for exposed work.
- B. Slab Finishes: Obtain sample approval before beginning work.
- C. Broom: After trowel finishing, roughen surface by fine brooming perpendicular to traffic direction for exposed exterior walks, steps and ramps.
 - 1. After the water sheen has disappeared, the surface shall be given a final finish by brushing with a whitewash brush. The brush shall be drawn across the sidewalk or structure at right angles to the edges of the walk or structure, with adjacent strokes slightly overlapping, producing a uniform, slightly roughened surface with parallel brush marks. Brush marks should be of a depth to produce a light broom finish.
- D. Edges on all concrete shall be rounded to a radius of one-quarter inch (1/4") with a finishing tool unless otherwise specified. All joints shall be rounded with a double edging tool having a radius of one-quarter inch (1/4") on each side and the surface shall then be brushed lightly to produce a slightly roughened surface and remove the finishing tool marks.
- E. The surface shall be divided by grooves called contraction joints constructed at right angles to the centerline of the sidewalk or structure. These joints shall extend to one-quarter inch (1/4") the depth of the sidewalk, shall be not less than one-eighth inch (1/8") and no more than one-quarter inch (1/4") in width, and shall be edged with a jointing or edging tool having one-quarter inch (1/4") radius. The joints shall be five feet (5') apart on sidewalks and ten feet apart on curbs unless otherwise specified.
- F. Expansion joints shall be placed between all separate pours, all structures and at thirty foot intervals on both sidewalks and curbs.
- G. Accessible curb ramps: The detectable warning used shall be from the as noted on plans. It is not acceptable to install two different detectable warning products adjacent to one another at any location. The detectable warning must cover full width of the ramp excluding side flares for a minimum unobstructed depth of 24" . The detectable warning shall comply with ADA Standards and the pattern to be continuous throughout the ramp width and side flares at each location.

3.12 Tolerances

- A. Plus 1/8" in 10' for grade, alignment, and straightness.
- B. Formed concrete having any dimension smaller or greater than required, and outside the specified tolerance limits, will be considered deficient in strength and subject to additional testing as herein specified.
- C. Formed concrete having any dimension greater than required will be rejected if the appearance or function of the structure is adversely affected, or if the larger dimensions interfere with other construction. Repair, or remove and replace rejected concrete as required to meet the construction conditions. When permitted, accomplish the removal of excessive material in a manner to maintain the strength of the section without affecting function and appearance.

1.2 Footings

- A. Concrete footings shall be sloped at the top to ensure drainage away from the embedded item (post or otherwise). All footings shall be constructed as

indicated on the detail drawings. All footings unspecified on drawings shall be according to the manufacturer's specifications of the product to be footed, but depth of all footings shall be a minimum of 42" below finished grade.

1.3 Testing

A. Plant Tests: Sufficient testing shall be done by the supplier to assure the quality and consistency of the mix produced. The field tests are not to be used as a gauge of this quality.

B. Field Tests

1. The CONTRACTOR shall inform the Owner's representative 24 hours in advance of any concrete pours, indicating the location and size of the pour.

2. Cylindrical Compression Tests: ASTM C39/C39M; for each test, mold and cure three concrete test cylinders. Obtain test samples for every 75 cu yd or less of each class of concrete placed each day.

a. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.

b. Perform one slump test for each set of test cylinders taken.

c. Test one specimen at 7 days, three at 14 days and one at 28 days if 14-day compressive strength has not yet been obtained.

d. A compressive-strength test shall be the average compressive strength from the specimens obtained from same composite sample and tested at age indicated.

e. Strength of each concrete mix will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.

f. If 14-day strength does not meet the above criteria and reached strength at 28-day then concrete can remain in place.

g. Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by the Owner's representative. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42/C42M or by other methods. If coring is performed, the section(s) of concrete cored will require removal & replacement and this removal & replacement of the section(s) will be done at the contractor's expense. It will be the contractor's responsibility to pay for this additional testing to the Testing and Inspecting agency.

END OF SECTION

SECTION 32 1723

PAINTED PAVEMENT MARKINGS

1.0 GENERAL

1.1 Description

A. This work shall consist of furnishing all labor, materials, tools, and equipment necessary for surface preparation and application of painted pavement markings per the plan, including clean-up and restoration of the location.

1.2 References

A. Work under this section shall be performed in accordance with Sections 703, 780 and 1095 of the "Standard Specification for Road and Bridge Construction", latest edition, as adopted by the State of Illinois Department of Transportation (IDOT), except as herein modified, and the Manual of Uniform Traffic Control Devices (MUTCD).

1.3 Submittals

A. The contractor shall submit to the Owner's Rep a certificate from the supplier indicating compliance with Article 1095.02 of the "Standard Specification for Road and Bridge Construction", latest edition, as adopted by the State of Illinois Department of Transportation (IDOT), except as herein modified.

2.0 MATERIALS

2.1 Paint

A. Paint materials shall meet the requirements of Article 1095.02 of the "Standard Specification for Road and Bridge Construction", latest edition, as adopted by the State of Illinois Department of Transportation (IDOT), except as herein modified.

B. Refer to the Drawings for paint color and location.

3.0 EXECUTION

3.1 Paint Pavement Markings

A. Work under this item shall be performed in accordance with Articles 780.01, 780.02, 780.03, 780.04, and 780.06 of the "Standard Specification for Road and Bridge Construction", latest edition, as adopted by the State of Illinois Department of Transportation (IDOT), except as herein modified.

1. Do not apply paint pavement markings until the layout and placement has been approved by the Owner/Owner's Rep.

2. The paint shall be applied with mechanical equipment to produce uniform straight line edges.

3. Rate of application shall be as per manufacturer's recommended rate, but in no case shall the rate of application be less than that specified in Article 780.06 of the "Standard Specification for Road and Bridge Construction", latest edition, as adopted by the State of Illinois Department of Transportation (IDOT), except as herein modified.

END OF SECTION 32 1723

SECTION 32 1813

ARTIFICIAL TURF - PLAYGROUND

1.0 GENERAL

1.1 Description

- A. Furnish all labor, materials, tools and equipment necessary to install, in place, all synthetic turf material as indicated on the plans and as specified herein. The installation of all new materials shall be performed in strict accordance with the manufacturer's installation instructions and in accordance with all approved shop drawings.

1.2 Reference Standards

A. ASTM Standard Test Methods:

- F 1292-04 "Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment
- D2859 Flammability Standard"
- F1951-99 Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment
- ANSI/ESD STM97.2-2016: "Standard for the Protection of Electrostatic Discharge Susceptible Items: Footwear/Flooring System-Voltage Measurement in Combination with a Person"

1.3 Quality Assurance

- A. Installer: Installation team shall be an established and experienced in the work of this section with a minimum of 5 years' experience. Site superintendent shall have at least 10 installations similar with this type.
- B. Manufacturer's Instructions: Comply with the manufacturer's applicable instructions and recommendations for installation to whatever extent these are more stringent or explicit than indicated in the contract documents.
- C. Materials: All supplied and installed materials and products will meet or exceed the minimum specifications designated in this section.
- D. Inspection: Inspect delivered field surface fabric and components if accepted immediately prior to installation. Any damaged or defective items shall be rejected. Installed artificial system shall be inspected for, but not limited to the following: acceptable seams, glue bonding, uniformity of product and color, surface bubbles, field markings, and field edge installation.
- E. Certification prior to work: The synthetic turf manufacturer and/or installation contractor shall perform an inspection of the stone base onto which the synthetic turf system is to be installed and to examine the finished surface for required compaction, permeability and grade tolerances.

1.4 Submittals

- A. Substitutions: Products are acceptable if in compliance with all requirements of these specifications. Submit alternate products to Owner's Representative for approval **prior** to bidding according to bid submittal requirements.
- B. Prior to installation, the following Laboratory test reports shall be submitted. The dates of independent laboratory test results shall be within the ten years previous to the award-of-contract date. Testing shall align with specified products. Any changes to materials or products require testing specific to updated product. Only test results from ASTM testing approved laboratories, F8

committee, or ANSI will be acceptable. Approved testing laboratories are TSI and Detroit Testing.

1. Impact Attenuation: ASTM F 1292.
 - A. G-max score. 200 score
 - B. Head injury criteria (HIC) score. 1000 score
2. Permeability: Product shall meet or exceed a coefficient of permeability of 30" per hour.
3. Flammability (PILL test)
4. Electrostatic Discharge: Product must have ANSI/ESD STM97.2 Electrostatic testing indicating that it is a 1,000 volts below the 2,000 volt limit for commercial applications with a wide variety of footwear.
- C. Following installation: Submit certified test reports from qualified independent testing agency indicating results of the Impact Attenuation ASTM 1292-04 meet or exceed the scores noted above at installation.
- D. Warranties: Product and maintenance warranties must be provided to owner prior to installation.
- E. Installer Qualifications: A list of ten similar sized project completed with a similar product within the last 5 years. List shall include names of project representatives and respective phone numbers.
- F. Product Verification: Delivery slip for each material shipment, including turf and infill material.
- G. Product: Submit the following:
 1. Submit one sample, minimum 1' x 1' in size
 2. A written guarantee from installer for the workmanship of the installation.
 3. Product warranty and guarantee from manufacturer warranting against all defects for a 15-year period.
 4. Impact attenuation (per fall height requirements), permeability and flammability test results from independent approved and certified testing laboratories
 5. The artificial grass installer/contractor will provide a maintenance procedure for the installed surface with the Owner.
 6. Electrostatic Discharge: Product must have ANSI/ESD STM97.2 electrostatic testing indicating that it is 1,000 volts below the 2,000-volt limit for commercial applications with a wide variety of footwear.
 7. PFAS Within Specified Limits: ASTM D7968: Standard Test Method for Determination of Polyfluorinated (PFAS) Compounds in Soil by Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS).
- H. Delivery, Storage, And Protection
- I. Deliver products to project site in wrapped condition.
- J. Store products under cover and elevated above grade.

1.5 Warranties

- A. The synthetic turf and safety padding installed under this contract will be warranted for a period of 15 years for materials and covers the surface for wear through, deterioration and UV degradation. The installer must submit written warranty. Contractor is responsible for registering warranty.
- B. When defective material or workmanship is discovered which will require repair or replacement, all such repair work or replacement work shall be done by the contractor at its own expense after written notification is given of such required repairs. However, if the contractor fails to comply with the requirements of the above guarantee within reasonable time after notification is given, the Owner shall proceed to have the repairs made by others at the

- contractor's expense.
- C. Any unsafe conditions that arise shall be secured and maintained by the installer until all required repairs or replacements have been completed.
- D. All resurfacing will conform in kind and quality to the specifications set forth in the plans and specifications and will be free of defects in workmanship and material.
- E. Installation warranty for two years shall also be provided.

2.0 PRODUCTS

2.1 Materials

- A. Basis of Design: Playground Grass Ultra as supplied by Forever Lawn, Inc.
 - 1. Blades: Primary blades are a slit film polyethylene with anti-microbial agent AlphaSan integrated into the primary yarn. An anti-static technology must also be integrated into the construction so as to not allow static charge build up. The secondary blade is a heat textured nylon monofilament. Tufting construction requires dual primaries in the same row.
 - 2. Weight: The product face weight shall be 48 oz or greater. With backing, the total weight of the product will be 103 oz or greater.
 - 3. Tufting: The tufting gauge will be 3/8" pile height 1 1/2" with a dual primaries, same row setup.
 - 4. Backing: The backing shall consist of a multi-layered, three parts.
 - A. First single layer (stabilized primary consisting of polyester, fiberglass, and polyurethane). It is 18 pic construction and 6 ounces.
 - B. Second layer is a minimum 40 ounce urethane layer.
 - C. Third layer is nonwoven, recycled, geotextile fleece.
 - 5. Seams: Primary seaming systems shall be a micromechanical seam, utilizing hook and loop technology.
 - 6. Safety pad underlayment system: Basis of Design: SafetyFoam Pro as supplied by Foreverlawn or equal.
 - i. Safety pad shall meet impact attenuation requirements for fall heights as noted by playground manufacturer and be IPEMA certified.
 - ii. Padding shall be interlocking system to stop lateral movement and eliminate gaps.
 - iii. Weather resistant panels engineered to provide vertical and horizontal drainage, resistant to mold, mildew and decay.
 - 7. Yarn color: Green
 - 8. Infill shall be Envirofill sand. Application rate dependent on fall-height requirements, follow manufacturer recommendation.

3.0 EXECUTION

3.1 Base Requirements

- A. The installation shall be performed in full compliance with approved Shop Drawings.
- B. The base shall be cleared, leveled and compacted at a depth per plans. The top of the base shall be angular "down to dust" 3/4" stone, leveled and compacted at a depth per plans.

3.2 Preparation

- A. The perimeter of the area shall be defined with a nailer board per plans.
- B. The entire surface shall be clean and free from any foreign and loose material.

3.3 Installation

- A. Safety Padding shall be installed interlocked together throughout the playground over the compacted stone.
- B. The turf shall be rolled out in sections, cut around the poles, and seamed together using the micromechanical seaming system.
- C. Turf shall be secured around the perimeter using 1" stainless steel staples to secure turf to the nailer boards. Staples shall be spaced every 3". Loose edges will not be accepted.
- D. Surfacing shall be free of wrinkles or gaps.
- E. Infill shall be spread evenly and raked in as necessary to provide even distribution across the entire playground.

3.4 Field quality control

- A. In Field Post-Installation Safety Inspection:
 - 1. Provide third-party inspection and testing of playground safety surfacing system within 30 days of installation. Contractor shall give the Owner/Owner's Rep 48 hours previous notice.
 - 2. Third-party testing company contact information and general liability certificate of insurance shall be provided to the Owner in advance of testing.
 - 3. Owner/Owner's Rep shall be on-site during play surface testing.
 - 4. Conduct inspection by National Recreation and Parks Association/National Playground Safety Institute (NRPA/NPSI) Certified Playground Safety Inspector (CPSI).
 - 5. Test shall be three "drops" per 1,000 s.f. minimum. More test drops shall be required to include drops on varying surface depths and on tiles and poured in place material where the 3 per 1,000sf does not include these site conditions.
 - 6. Determine compliance with ASTM F 1292 unless otherwise specified in this section.
 - 7. Provide written report of findings to Owner and Owner's Representative, with photographs of drop locations.
 - 8. If after installation inspection, the surface does not meet specifications, Contractor shall replace at no additional cost to the Owner. Patches will not be accepted unless approved by Owner. Contractor shall identify the limits of repair/replacement and solicit Owner's prior approval before proceeding.
 - 9. Retest affected area and seams. Additional testing shall be completed at no cost to the Owner. Contractor shall replace poured in place surfacing tiles and re-test as necessary until G-max and HIC scores are achieved as indicated in this section.
 - 10. Field quality testing costs to be incidental to the surfacing price.

END OF SECTION

SECTION 32 1813.1 **ARTIFICIAL TURF - BANDSHELL**

1.0 GENERAL

1.1 Description

- A. Furnish all labor, materials, tools and equipment necessary to install, in place, all synthetic turf material as indicated on the plans and as specified herein. The installation of all new materials shall be performed in strict accordance with the manufacturer's installation instructions and in accordance with all approved shop drawings.

1.2 Reference Standards

- A. ASTM Standard Test Methods:
 - D2859 - Flammability Standard
 - F1951-21 - Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment
 - ANSI/ESD STM97.2-2016 - "Standard for the Protection of Electrostatic Discharge Susceptible Items: Footwear/Flooring System-Voltage Measurement in Combination with a Person"

1.3 Quality Assurance

- A. Installer: Installation team shall be an established and experienced in the work of this section with a minimum of 5 years' experience. Site superintendent shall have at least 10 installations similar with this type.
- B. Manufacturer's Instructions: Comply with the manufacturer's applicable instructions and recommendations for installation to whatever extent these are more stringent or explicit than indicated in the contract documents.
- C. Materials: All supplied and installed materials and products will meet or exceed the minimum specifications designated in this section.
- D. Inspection: Inspect delivered field surface fabric and components if accepted immediately prior to installation. Any damaged or defective items shall be rejected. Installed artificial system shall be inspected for, but not limited to the following: acceptable seams, glue bonding, uniformity of product and color, surface bubbles, field markings, and field edge installation.
- E. Certification prior to work: The synthetic turf manufacturer and/or installation contractor shall perform an inspection of the stone base onto which the synthetic turf system is to be installed and to examine the finished surface for required compaction, permeability and grade tolerances.

1.4 Submittals

- A. Substitutions: Products are acceptable if in compliance with all requirements of these specifications. Submit alternate products to Owner's Representative for approval **prior** to bidding according to bid submittal requirements.
- B. Prior to installation, the following Laboratory test reports shall be submitted. The dates of independent laboratory test results shall be within the ten years previous to the award-of-contract date. Testing shall align with specified products. Any changes to materials or products require testing specific to updated product. Only test results from ASTM testing approved laboratories, F8 committee, or ANSI will be acceptable. Approved testing laboratories are TSI and Detroit Testing.

1. Permeability: Product shall meet or exceed a coefficient of permeability of 20" per hour.
2. Flammability (PILL test)
3. Electrostatic Discharge: Product must have ANSI/ESD STM97.2 Electrostatic testing indicating that it is a 1,000 volts below the 2,000 volt limit for commercial applications with a wide variety of footwear.
- C. Following installation: Submit certified test reports from qualified independent testing agency indicating results of the Impact Attenuation ASTM 1292-04 meet or exceed the scores noted above at installation.
- D. Warranties: Product and maintenance warranties must be provided to owner prior to installation.
- E. Installer Qualifications: A list of ten similar sized project completed with a similar product within the last 5 years. List shall include names of project representatives and respective phone numbers.
- F. Product Verification: Delivery slip for each material shipment, including turf and infill material.
- G. Product: Submit the following:
 1. Submit one sample, minimum 1' x 1' in size
 2. A written guarantee from installer for the workmanship of the installation.
 3. Product warranty and guarantee from manufacturer warranting against all defects for a 15-year period.
 4. Permeability and flammability test results from independent approved and certified testing laboratories
 5. The artificial grass installer/contractor will provide a maintenance procedure for the installed surface with the Owner.
 6. Electrostatic Discharge: Product must have ANSI/ESD STM97.2 electrostatic testing indicating that it is 1,000 volts below the 2,000-volt limit for commercial applications with a wide variety of footwear.
 7. PFAS Within Specified Limits: ASTM D7968: Standard Test Method for Determination of Polyfluorinated (PFAS) Compounds in Soil by Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS).
- H. Delivery, Storage, And Protection
- I. Deliver products to project site in wrapped condition.
- J. Store products under cover and elevated above grade.

1.5 Warranties

- A. The synthetic grass vendor shall submit its manufacturer's warranty, which warrants the usability of the synthetic grass system for its intended uses with the minimum characteristics:
 1. Provide limited coverage of materials for a minimum of fifteen (15) years from the date of substantial completion.
 2. Warrant that the materials installed meet or exceed the product specifications
 3. Be from a single source covering workmanship and all materials.
 4. Assure the availability of exact or substantially the same replacement.
 5. Include general wear and damage caused by UV degradation. The warranty may specifically exclude vandalism and Acts of God beyond the control of the manufacturer or installer.
- B. When defective material or workmanship is discovered which will require repair or replacement, all such repair work or replacement work shall be done by the contractor at its own expense after written notification is given of such required repairs. However, if the contractor fails to comply with the

requirements of the above guarantee within reasonable time after notification is given, the Owner shall proceed to have the repairs made by others at the contractor's expense.

- C. Any unsafe conditions that arise shall be secured and maintained by the installer until all required repairs or replacements have been completed.
- D. All resurfacing will conform in kind and quality to the specifications set forth in the plans and specifications and will be free of defects in workmanship and material.
- E. Installation warranty for two years shall also be provided.

2.0 PRODUCTS

2.1 Materials

- A. Basis of Design: Playground Grass Ultra as supplied by Forever Lawn, Inc.
 - 1. Blades: Primary blades are a slit film polyethylene with anti-microbial agent AlphaSan integrated into the primary yarn. An anti-static technology must also be integrated into the construction so as to not allow static charge build up. The secondary blade is a heat textured nylon monofilament. Tufting construction requires dual primaries in the same row.
 - 2. Weight: The product face weight shall be 48 oz or greater. With backing, the total weight of the product will be 103 oz or greater.
 - 3. Tufting: The tufting gauge will be 3/8" pile height 1 1/2" with a dual primaries, same row setup.
 - 4. Backing: The backing shall consist of a multi-layered, three parts.
 - A. First single layer (stabilized primary consisting of polyester, fiberglass, and polyurethane). It is 18 pic construction and 6 ounces.
 - B. Second layer is a minimum 40 ounce urethane layer.
 - C. Third layer is nonwoven, recycled, geotextile fleece.
 - 5. Seams: Primary seaming systems shall be a micromechanical seam, utilizing hook and loop technology.
 - 6. Yarn color: Green
 - 7. Infill shall be Envirofill sand. Application rate dependent on manufacturer recommendation.

3.0 EXECUTION

3.1 Base Requirements

- A. The installation shall be performed in full compliance with approved Shop Drawings.
- B. Existing ground cover shall be excavated to the depth established on the excavation plan. The subgrade shall also be compacted to a minimum of a 90% compaction rate.
- C. The base aggregate shall consist of two layers. The bottom layer will be a minimum of 3 inches of CA-7 clean, angular/fractured limestone (or equivalent), and the top layer will be a minimum of 1" of CA-16 clean, angular/fractured limestone (or equivalent). The drainage network and its existing elevations should not be disrupted through ground pressure from trucks, dozers, or by other means.
 - 1. Compact the CA-7 stone layer prior to applying the CA-16 stone layer. The 3/8" layer should be compacted after being installed.
 - 2. The free draining base course should be designed to meet local soil and weather conditions. It must be installed to minimum depth of 6" with

an overall compaction rate of 90%

D. The perimeter of the area shall be defined with a nailer board per plans.

E. The entire surface shall be clean and free from any foreign and loose material.

3.2 Installation

A. The turf shall be rolled out in sections, cut around the poles, and seamed together using the micromechanical seaming system. Seams shall be reinforced with specialty turf adhesive where necessary

B. Seams shall be rolled with a weighted roller to ensure adhesion.

C. Turf shall be secured around the perimeter using 1" galvanized steel staples to secure turf to the nailer boards. Staples shall be spaced every 3". Loose edges will not be accepted.

D. Surfacing shall be free of wrinkles or gaps.

E. After all seaming and securing is completed, the infill materials shall be applied evenly and raked in as necessary to provide even distribution across the entire area.

3.3 Closeout

A. The synthetic grass vendor must verify that a qualified representative has inspected the installation and that the finished synthetic surface conforms to the manufacturer's requirements.

B. If after installation inspection, the surface does not meet specifications, Contractor shall replace at no additional cost to the Owner. Patches will not be accepted unless approved by Owner. Contractor shall identify the limits of repair/replacement and solicit Owner's prior approval before proceeding.

C. Extra materials: Owner shall be given the option to retain and store excess materials such as turf and infill ordered for project, but not installed

3.4 Clean Up

A. Contractor shall provide the labor, supplies, and equipment as necessary for final cleaning of surfaces and installed items.

B. At the conclusion of the installation, surfaces, recessed areas, enclosures, etc. shall be cleaned as necessary to leave the completed area in a clean condition which is ready for immediate occupancy and use by the Owner.

END OF SECTION

SECTION 32 1817
SAFETY SURFACES: POURED-IN-PLACE

1.0 GENERAL

1.1 Description

- A. Safety surfacing consists of providing all material and labor necessary for complete installation of safety surfacing in playground areas. This shall include rubber poured-in-place (PIP) surfacing and rubber tile surfacing.
- B. All materials and installation shall conform to ASTM F1292 Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment and ASTM F2223 Standard Guide for ASTM Standards on Playground Surfacing. All materials shall have been tested according to the ASTM F1292 specifications and shall meet or exceed all requirements for height of equipment installed or height of existing equipment that is specified to remain.
- C. All materials shall meet ASTM F 1951 Standard Specification for Determination of Accessibility for Surface Systems Under and Around Playground Equipment. All materials shall have been tested according to the ASTM F1951 specifications and shall meet or exceed all requirements.

1.2 Submittals

- A. Sample of each color/color blend of the playground surface shall be submitted to the Owner's Representative for approval. These items shall be approved prior to ordering or delivery to the site.
- B. Prior to installation, the following test reports shall be submitted to the owner shall meet ASTM 3351. The dates of independent laboratory test results shall be within the five years previous to the award-of-contract date.
 - 1. Freeze Thaw: ASTM C67
 - 2. Manufacturers current IPEMA Certification
 - 3. Slip Resistance: ASTM D2047 and E303.
 - Dry – 1.0-.8,
 - Wet - .9-.6
 - 4. Tensile Strength: ASTM D412; 60-80 psi
 - 5. Elongation at Breakage: ASTM D412
 - 6. Tear Strength: ASTM D624; 140%
 - 7. Wear surface density (durability)
 - 8. Taber Abrasion: ASTM C501
 - 9. Flammability: ASTM D2859
- C. Following installation: Submit certified test reports from qualified independent testing agency indicating results of the following tests for the poured in place rubber surfacing system shall meet ASTM 3313:
 - 1. Impact Attenuation: ASTM F 1292.
 - a. G-max score.
 - b. Head injury criteria (HIC) score.
- D. Submit Manufacturer's Project References:
 - 1. Submit list of 10 successfully completed projects within the last 5 years.

Project name and location, contact and phone number, and type and quantity of poured-in-place playground safety surfacing furnished must be included.

E. Submit Installer's Project References:

1. Submit a list of ten (10) successful projects completed within the last five (5) years. Submittal shall include the name and location of each project, the name and number for a contact person and the type and quantity of PIP installed.

F. Submit manufacturer's maintenance and cleaning instructions.

G. Submit all warranty information:

1. Submit manufacturer's warranty to comply with this specification.
2. Submit installers warranty to comply with this specification.

H. **Submit installation depth plan**. Manufacturer submittal shall clearly indicate PIP (poured in place) thickness. The submittal shall also indicate where a change in thickness is located when it is in relation to play equipment and fall zones. The rubber thickness shall meet the required HIC (850) and G Max (150) as indicated in this specification and per ASTM standards – whichever is more stringent.

I. Submit results of Post-Installation Safety Inspection as described herein.

1.3 QUALITY ASSURANCE

A. Manufacturer's Qualifications:

1. Continuously engaged in manufacturing of playground poured-in-place playground safety surfacing of similar type to that specified, with a minimum of 10 years successful experience.
2. Furnished a minimum of 1,000,000 square feet of poured-in-place playground safety surfacing of similar type to that specified.

B. Installer's Qualifications:

1. List of at least 20 projects within the last five (5) years, totaling a minimum of fifty thousand (50,000) square feet of PIP similar to the type of surface specified herein.
2. A letter of Certification that the installer is approved by the PIP manufacturer to install the specified PIP system.
3. Documentation proving that the installers employ workers fully trained in the installation of the specified PIP system.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

B. Storage:

1. Store materials in accordance with manufacturer's instructions.
2. Store materials in a dry area at a minimum temperature of 50 degrees F (10 degrees C) for a minimum of 72 hours before installation.

C. Handling: Protect materials during handling and installation to prevent damage or contamination.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Poured-in-Place Surfacing:

1. Material Temperature: Ensure material temperature is a minimum of 50 degrees F (10 degrees C) at time of installation.

2. Air Temperature: Ensure air temperature is a minimum of 40 degrees F (4 degrees C) for a minimum of 24 hours before, during, and a minimum of 72 hours after installation. Follow manufacturer recommendations if warmer temperatures or longer time period of temperature is required. The manufacture shall document this in writing.

1.8 WARRANTY

A. Playground Safety Surfacing System:

1. Poured-in-Place Surfacing:
 - a. Materials and Workmanship: Poured-in-place playground safety surfacing shall be warranted for defects in materials and workmanship for 5 years from date of completed installation.
 - b. Performance: Poured-in-place playground safety surfacing shall be warranted to meet impact attenuation performance requirements of ASTM F1292 for 5 years from date of completed installation.
 - c. A written warranty shall be provided to the owner that lists the company responsible for honoring the warranty as well as contact information.
 - d. The warranty shall be for 100% of both materials and labor including removals and testing. **A prorated warranty will not meet this specification.**

2.0 MATERIALS

2.1 Poured-in-Place Rubber Surfacing PRE-APPROVED MANUFACTURERS.

Surface America, P.O. Box 157, Williamsville, NY 14231, 716.632.8324, www.surfaceamerica.com as represented by NuToys Leisure Products, 800.526.6197.

GT Impax by Gametime, 150 Playcore Drive SE, Fort Payne, AL 39567 800.235.2440 as represented by Cunningham Recreation, 2135 City Gate Lane, Suite 300, Naperville, IL 60563 www.cunninghamrec.com 800.438.2780.

Pro-Tech Surfacing, LLC P.O. Box 301 Sharon Center, OH 44274, 330.576.6058; as represented by Parkreation, 27 East Palatine Road, Prospect Heights, IL 60070, 800.677.6608.

PerfectPlay Poured-in-Place Playground Surfacing as manufactured by Perfect Turf LLC, 5540 Meadowbrook Court, Rolling Meadows, IL. 60008, 888.796.8873

2.2 POURED-IN-PLACE SURFACING

A. Poured-in-Place Surfacing:

1. Description: Dual-density, resilient, seamless, poured-in-place, playground safety surfacing.
2. Compliance: Meet or exceed CPSC guidelines for impact attenuation.
3. Material: SBR and EPDM rubber shreds and granules mixed with 100 percent solids, MDI polyurethane binding agent.
4. Base Course: Mixture of SBR shredded rubber and MDI polyurethane agent that is: Weather resistant, UV stabilized, flexible, nonhardening, 100 percent

solids polyurethane complying with requirements of authorities having jurisdiction for nontoxic and low VOC content.

- a. Binder-to-Rubber Ratio: 14 percent. +/- 2% and within minimum requirements.
- b. Compacted Density: 28 pcf. +/- 2% and within minimum requirements.
- c. Thickness: Sufficient to meet impact attenuation requirements of less than 150 gmax and less than 850 HIC
5. Wear Course: Mixture of EPDM or TPV rubber granules and **Aliphatic** binding agent.
 - a. Binder-to-Rubber Ratio: 18-25 percent.
 - b. Compacted Density: 50-60 pcf.
 - c. Thickness: 3/8 – 5/8 inch.
6. Total Thickness: As necessary to meet the impact attenuation requirements for each given Critical Fall Height as shown on drawings. In all cases the Gmax shall be less than 150 and the HIC shall be less than 850.
7. Colors: As indicated on the drawings
 - a. Granules on wear layer shall have full color through cross section, except where plans indicate a blending or color transition.
- B. Test Results (In field – post installation): Testing shall be conducted in accordance with ASTM 1292 AND 3313
 1. Impact Attenuation scores shall be:
 - a. Gmax Score: Less than 150.
 - b. Head Injury Criteria (HIC) Score: Less than 850.

2.3 Filter Fabric

Filter fabric shall be Tyvar Filter Fabric by Dupont or Geo-Textile fabric by Geo-Synthetics or approved equal.

3.0 EXECUTION

3.1 Subgrade

Surfacing shall be built on a prepared sub-grade as per appropriate detail. All stones, rocks, pieces of concrete, roots or any other debris shall be removed. The prepared sub-grade shall be clear, level and compacted. Any stumps or roots shall be removed to eighteen inches (18”) below finished grade.

3.2 Filter Fabric

Filter fabric shall cover 100% of sub-grade. At filter fabric seams, a six-inch (6”) overlap with pinning shall be installed.

3.3 Poured-in Place Rubber Surfacing Installation

1. Prepare subsurface in accordance with manufacturer's instructions to ensure proper support and drainage for poured-in-place playground safety surfacing.
2. Compacted, granular aggregate subsurface shall be as indicated in the drawings and per manufacturer's recommendations.
3. Variations in Elevation: Repair variations in elevation of completed subsurface greater than plus or minus 1/4 inch over 10 feet in any direction.
4. Sub-base of granular material shall be installed as per appropriate specification and detail.
5. Ensure prepared subsurface is dry and clean.

6. Install edges in accordance with manufacturer's instructions and as indicated on the Drawings.
7. Where color pattern is indicated, install cold seams between adjacent colored material. See Drawings.
8. Spread surface course evenly over primed base course to form a level layer of uniform density and consistency, applied at manufacturer's standard spreading rate in one continuous operation, and, except where color changes, with no cold seams. Seams or breaks in uniformly colored surfacing fields will not be accepted. Should a seam occur due to a uniformly colored surface area not being installed in a continuous operation, Contractor will be responsible for removing and reinstalling surface area at no cost to the Owner.
9. Surfacing shall be installed in two layers on two separate days allowing appropriate cure time between installation of rubber base and cap. All rubber and binder shall be mixed on-site just before use. Surface shall be screed with metal scree rods and troweled to meet desired depth. Surface shall be even and smooth with no deflection to create low or high spots. Surface edges shall be flush with edge of concrete walk and curb where surfaces meet. Surface must maintain a high level of porosity after installation. Installation shall be as per manufacturer's direction.

3.6 FIELD QUALITY CONTROL

A. In Field Post-Installation Safety Inspection:

1. Provide inspection and testing of playground safety surfacing system within 30 days of installation. Contractor shall give the Owner/Owner's Rep 48 hours prior notice.
2. Owner/Owner's Representative shall be on-site during play surface testing.
3. Test shall be three "drops" per 1,000 s.f. minimum. More test drops shall be required to include drops on varying surface depths on poured in place material where the 3 per 1,000sf does not include these site conditions.
4. Determine compliance with ASTM F1292 unless otherwise specified in this section.
5. Provide written report of findings to Owner/Owner's Representative, with photographs of drop locations.
6. If after testing, the surface does not meet specifications, Contractor shall replace failed areas at no additional cost to the Owner. Patches will not be accepted unless approved by Owner. Contractor shall identify the limits of repair/replacement and solicit Owner's prior approval before proceeding.
7. Retest affected area and seams. Additional testing shall be completed at no cost to the Owner. Contractor shall replace poured in place surface and re-test as necessary until G-max and HIC scores are achieved as indicated in this section.
8. In Field testing costs to be incidental to the surfacing price.

3.7 CLEANING

1. Clean playground safety surfacing system in accordance with manufacturer's instructions.

3.8 PROTECTION

1. Protect completed playground safety surfacing system from damage during construction.

2. Poured-in-Place Surfacing: Do not allow foot traffic on poured-in-place surfacing until a minimum of 80 percent cure is obtained (6 to 48 hours depending on temperature and humidity).
3. Protect the work and adjacent work against damage during progress of the work. Contractor will be responsible for the protection of the playground surfacing until final acceptance of work and will replace any playground surfacing that is damaged or vandalized during construction.

3.9 PIP REPAIR KIT(S)

1. Provide owner with one repair kit for each poured-in-place color that is used on the project. Kit to include top layer material and glue.

END OF SECTION

SECTION 32 1818 **SAND SURFACING**

1.0 GENERAL

1.1 Description

- A. The work consists of all labor, equipment and materials necessary for complete installation of sand volleyball court surfacing.
- B. Related Sections:
 - 1. 01 2100 - Site Preparation and Protection of Existing Facilities
 - 2. 31 2000 - Earthwork

1.2 Quality Assurance

- A. Installer: Installation team shall be an established and experienced in the work of this section.

1.3 Submittals

- A. Contractor shall submit a sample of material.
- B. Independent laboratory tests results indicating the particle size analysis and sand/silt/clay content of the material for approval from Owner's Representative. Tests shall be performed in accordance with ASTM F-1632.
- C. One copy of the delivery ticket shall be furnished to the Owner's Representative at the time the truck arrives at the job site.

2.0 PRODUCTS

2.1 Sand Surfacing

- A. Manufacturer: Victory Volleyball Sand as supplied by Waupaca Sand & Solutions, E3481 Royalton Street, Waupaca, WI 54981, Phone 715-258-8566, Email info@WaupacaSand.com, or equal.

B. Particle Size Specification

- 1. Total sand content shall be $\geq 95\%$
- 2. Total combined silt and clay content shall be $\leq 5\%$
- 3. Particle size distribution shall be as follows:

% Retained	mm	US Sieve
< 3%	Gravel 2.0	10
< 10%	V. Coarse 1.0	18
> 60% combined	Coarse 0.5	35
	Medium 0.25	60
< 20%	Fine 0.15	100
< 5%	V. Fine 0.05	270

C. Physical Properties

- 1. Sub-angular to sub-rounded
- 2. Naturally weathered
- 3. Free of any organic material

2.2 Filter Fabric

- A. Filter fabric shall be Typar Filter Fabric by Dupont or Geo-Textile fabric by Geo-Synthetics or approved equal.

3.0 EXECUTION

3.1 General

- A. Contractor shall verify that the sub base, drainage system, and net posts have been installed according to specifications and/or shop drawings, prior to placement of sand.

3.2 Installation

- A. Place sand in area excavated for court and level until finish grade elevation is achieved.
- B. Finished depth of sand shall be per plans.

3.3 Field Quality Control

- A. The entire court shall be checked for irregularities through visual observation and adjusted to meet the finished grade per the plans. The sand surfacing shall be level.

END OF SECTION

SECTION 32 3113 **CHAIN LINK FENCE**

1.0 GENERAL

1.1 Description

- A. Fence and gate installation shall consist of furnishing all labor materials, tools and equipment necessary to install fences and gates: fence sections, posts, fasteners, footings, and as called for in the plans and details.

1.2 Product Handling and Storage

- A. Contractor shall order and take delivery of all products and materials. Upon receipt, all materials shall be checked to ensure that no damages occurred during shipping or handling. Materials shall be stored in such a manner to ensure proper ventilation and drainage, and to protect against damage, weather, vandalism, and theft.

1.3 Incorporated Specifications

- A. All work shall also conform to the American with Disabilities Act standards as indicated in the plans and specifications. All work not conforming to said standards shall be removed and reinstalled at the contractor's expense.
- B. Standard of manufacture: comply with the most current version of the Chain Link Fence Manufacturer's Institute Product Manual.

2.0 MATERIALS

2.1 Scope

- A. This specification covers poly vinyl chloride (PVC) coated chain link fence materials, including chain link fabric, framework, fittings and components. For all components listed, the specification shall be the same for PVC, coated chain link. PVC shall be finished in solid black color coating.

2.2 Fabric

- A. Chain Link -Use chain link fabric as noted on the plans to obtain the required height requirement indicated on drawings. Chain link fabric mesh size and gauge shall be as noted on the plans. Fabric shall be knuckled at both selvages. Furnish one piece fabric width for fencing up to 12' high. Fencing of 20' height shall be two pieces.
- B. PVC Coating over galvanized steel or aluminum wire: ASTM F668, the wire gauge specified for PVC coated wire is that of the metallic coated steel core wire.
 - 1. Class 2B extruded and fused
 - 2. Color: Selected color (Black) shall be in compliance with ASTM F934
 - 3. Wire to have 75,000 psi (517 MPa) tensile strength.

2.3 Framework

- A. All line posts, terminal posts, top rails and intermediate rails, bottom rails, accessories and fittings shall be PVC coated as per plan and bid item.

2.4 Line Posts

- A. Shall be the following:
 - 1. 2-1/2" O.D. Schedule 40, ASTM A-1083, 3.65 pound/ L.F.

2.5 Gate Posts/Terminal Posts

- A. Gate and Terminal posts shall be 3" O.D. Schedule 40 ASTM A-1083 3.65 pound/LF or approved equal.

2.6 Top, Intermediate, and Bottom Rails

- A. Rails shall be fabricated from lengths 21 feet or longer to use the longest lengths available, with expansion type couplings, approximately 6" long for each joint. Provide means for attachment:

1. 1-5/8" O.D. Schedule 40, ASTM A-1043, 2.27 pounds/L.F.

2.7 Fabric Ties

- A. Fabric ties used to secure fabric to framework shall be 9-gauge extruded aluminum. If Fabric is PVC coated the ties shall be PVC coated per ASTM F668.

2.8 Hog Rings, Bolts, and Nuts

- A. The above components shall be PVC coated per specification and as noted on the plans.

2.9 Post Brace Assembly

- A. Provide per plan, an adjustable tension rod brace at gate posts and at both sides of corner and pull posts. Tension rod shall be min. 3/8" (0.375") diameter rod with an adjustable tightener.
- B. Provide per plan, a horizontal brace rail located at mid-height of the fabric. Use the same material as top rail.

2.10 Caps, Bands, and Connectors

- A. All caps, bands and connectors shall be made of galvanized pressed or cast steel, or aluminum alloy. If aluminum or PVC coated the coating shall be bonded and applied as stated in 2.3. Provide a weather tight closure cap designed to receive top rail.

2.11 Stretcher (Tension) Bars

- A. One-piece lengths 2 inches less than the full height of fabric with a minimum cross section of 3/16" x 3/4". Provide one stretcher bar for each end post, and 2 for each corner and pull post, except where fabric is integrally woven into post.

2.12 Gates

- A. Fabricate perimeter frames of gates from metal and finish to match fence framework. Assemble gate frames by welding. Provide security against removal or breakage connections. Paint or coat welds to match fence fabric.
- B. Install horizontal and vertical members to ensure proper gate operation and attachment of fabric, hardware and accessories.
- C. Provide same fabric as fence. Install fabric with Stretcher (Tension) bars at vertical edges as indicated on the plans. Attach tension bands to gate frame at not more than 12" on center.
- D. Swing gates: fabricate perimeter frames of minimum 1 7/8" O.D., SS 40 PVC coated pipe frame, braced with 1-5/8" O.D. SS 20 PVC coated pipe. trussed with 3/8" PVC coated rod with tension adjusting device, welded construction, filled with fabric to match fence.
- E. Swing gate hardware: provide hardware galvanized; PVC coated; ASTM F934 as follows:
 1. Hinges: size and material to suit gate size, non-lift—off-type, offset to permit 180 degrees gate opening. Provide three (3) hinges for each leaf over six (6) feet nominal height.
 2. If for standard chain link fence gate installation: Accessible latch: Forked type or plunger-bar type to permit operation from either side of gate, with padlock eye as integral part of latch. Keeper: Provide keeper which automatically engages gate leaf and holds it in open position until manually released. Double gates: Include locking device and padlock eyes as integral part of latch, permitting both gate leaves to be locked with single padlock.

3. If for tennis/pickleball fence gate installation: Accessible latch for gate in tennis fencing: provide Locinox swing gate latch, or approved equal, with round post adaptor and ADA type handle. Submit keys for lock to Owner/Owner's representative at close out.

2.13 Concrete Footings

- A. Concrete shall conform to the standard ASTM- C-94, 3500 p.s.i. at 28 days.

3.0 PART 3.0 - EXECUTION

3.1 General

- A. Installation shall conform to ASTM F-567 and as described in these specifications. Installation shall be made in a workmanlike manner by skilled mechanics, experienced in erection of this type of fence. The fence shall be erected on lines and to grades as provided by plans and approved by the Owners Representative. Do not begin installation and erection before final grading is completed.

3.2 Posts

- A. All posts shall be set in concrete footings in the ground. The diameter of the footings shall be a minimum of twelve inches (12") for line posts and a minimum of eighteen inches (18") for gate and corner posts. All footings shall slope away from the posts to assure proper drainage. Posts shall be set in footings to depth of 42" below finished grades in undisturbed or compacted soil.
- B. Excavation for footing holes shall be drilled or hand excavated with a post hole digger. Place post centered in hole and place concrete around posts and vibrate or tamp for consolidation. Check each post for vertical and top alignment and hold in position during finishing operations. Allow concrete to cure at least 75% of its maximum 28-day compressive strength but in no case sooner than three days after placement before rails, tension wires, and fabric is installed. Do not stretch tension fabric and wires.

3.3 Top/Intermediate and Bottom Rails

- A. Top rails shall be run continuously through posts caps, bending to radius for curved runs. Provide expansion couplings as recommended by fencing manufacturer.
- B. Intermediate rails shall be installed on all fencing 10' tall or greater continuous except at gate openings. On all 8' tall or greater fencing bottom rails shall be continuous except at gate openings. Intermediate rail shall be installed at Terminal Posts.

3.4 Brace Assemblies

- A. Install brace assemblies so posts are plumb when diagonal rod is under proper tension.

3.5 Fabric Connections

- A. The fabric shall be stretched to proper tension between terminal posts and securely fastened to framework members as covered in the material specifications. The bottom of the fabric shall be held as uniformly as is practical, one-half to three-quarter inches ($1/2'' - 3/4''$) above finished grade.
- B. The chain link fabric shall be securely fastened to all terminal posts using Three sixteenths inch by three-quarter inch ($3/16'' - 3/4''$) tension bars with heavy 11-gauge 1" wide pressed steel bands spaced approximately Twelve inches (12") apart. Bands to be equipped with three-eighths inch ($3/8''$) diameter carriage bolts and nuts. The fabric to be fastened to all line posts with heavy 6-gauge tie

wires approximately twelve inches (12") apart and to the top rail with 9-gauge tie wires on approximately twenty-four-inch (24") centers.

C. Install fabric on security side, net side of courts or field side of fence, and anchor to framework so that fabric remains in tension after pulling force is released.

3.6 Stretcher (Tension) Bars

A. Thread through stretcher bars to fabric four inches (4") on center and secure to posts with metal bands spaced twelve inches (12") on center.

3.7 Spacing of Posts

A. Maximum spacing between fence posts shall be 8'-0" set posts at a uniform interval.

3.8 Gates

A. Shall be of widths as indicated on the drawings and be full height panels with manufacturer's standard bracing system.

B. Center hold down socket shall be fitted with concrete collar lift rod and padlocking device.

C. All fittings, framework and fabric to be galvanized or aluminum coated except where PVC coated fencing is indicated.

D. Install gates plumb, level and secure for full opening without interference.

E. Install ground set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.

3.9 Tie Wires

A. Use U-shaped wire, conforming to diameter of pipe to which attached, clasp pipe and fabric firmly with ends twisted at least 2 full turns. Bend ends of wire to minimize hazard to persons or clothing.

B. Tie fabric to line posts, with wire ties spaced 12" o.c. Tie fabric to rails and bracers with wire ties spaced 24" o.c., Tie fabric to tension wires, with hog rings spaced 24" o.c.

3.10 Fasteners

A. Install nuts for tension bands and hardware bolts on side of fence opposite fabric side. Peen ends of bolts or score threads to prevent removal of nuts.

3.11 Cleaning

A. The contractor shall clean the job site of excess materials: top soil from post hole excavations may be scattered uniformly away from posts, unsuitable material including rocks and clay shall be removed from the site by the Contractor.

3.12 Protection of Work

A. It is the Contractor's responsibility to protect fence work from vandalism, defacement, and weather. Any work damaged will not be accepted and shall be removed and replaced at the Contractor's expense.

3.13 Restoration

A. The contractor shall be responsible for the restoration of adjacent turf or planting areas disturbed or damaged through the fulfillment of this contract. Disturbed areas shall be restored by the placement of pulverized topsoil raked smooth and level with the finished pavement surface or adjacent lawn area, free of any stones or debris, seeded with a grass seed mixture approved by the Owner's Representative. Contractor shall ensure no concrete debris or remnants from concrete trucks remain on site.

END OF SECTION

SECTION 32 3400

PREFABRICATED BRIDGE

1.0 GENERAL

1.1 DESCRIPTION

This work consists of fully engineered half through truss (no overhead bracing) bridge of steel construction and shall be regarded as minimum standards for design and fabrication. The work included under this item shall consist of design, fabricating, finishing and transporting the steel truss bridge superstructure including bearings.

1.2 CODES AND REGULATIONS

- A. Bridge shall be designed in compliance with the AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges, 2009 (AASHTO Ped). Calculations shall be in accordance with this document, and formulas shall reference the appropriate sections.
- B. Other Reference Codes, Specifications and Standards
 - AASHTO LRFD Bridge Design Specifications, 9th Edition, 2020 (AASHTO LRFD)
 - AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, First Edition, 2005 (AASHTO Signs)
 - AISC Steel Construction Manual, 15th Edition, 2017 (AISC)
 - ANSI/AISC 360-16 Specification for Structural Steel Buildings, 2016 (AISC 360)
 - American Welding Society, Structural Welding Code, D1.1, 2015 (AWS D1.1)
 - ASCE/SEI 7-10 Minimum Design Loads for Buildings and Other Structures, 2010 (ASCE 7)
 - Setra Technical Guide for Footbridges, 2006 (Setra)
 - ANSI/AWC NDC-2015 National Design Specification for Wood Construction, 2015 (NDS)
 - Tropical Timbers of the World, US Forest Products Laboratory
- C. The AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges shall control if any conflicting requirements occur with the Other Reference Documents and/or other local Codes.

1.3 QUALITY ASSURANCE

- A. Each Contractor is required to identify their intended supplier as part of the bid submittal. Qualified Bridge Manufacturers must have at least 5 years of experience fabricating these types of structures and shall have an up to date quality certification by AISC per Section 14.1 of these specifications. All suppliers shall fabricate their product utilizing a modern fabrication facility owned and operated by the Bridge Manufacturer that includes the use of CNC beam drilling machines, no brokers are allowed.

B. Pre-Approved Bridge Manufacturer:

Contech Engineered Solutions LLC

Nelson Brown

1-773-318-0522

E-mail: nelson.brown@conteches.com

C. Substitution requests need to follow the front end specifications.

D. AISC Certification - The bridge shall be fabricated in a shop owned by the Bridge Manufacturer. This facility shall have up to date quality certification by AISC as Certified Bridge Fabricator - Advanced (Major) with Fracture Critical Endorsement and Complex Coating Endorsement (P1-Enclosed or P2-Covered).

E. Certified Weld Inspector - The Bridge Manufacturer shall employ at least two Certified Weld Inspectors (CWI), with endorsement by AWS QC1. At least one CWI shall be present during the complete fabrication of the bridge. The CWI shall provide written documentation that the bridge has been fabricated in accordance with these specifications and the approved design drawings.

F. Documentation

- Material Certifications shall be available for review for all materials within the bridge. Traceability of heat numbers is required for all structural steel.
- Documentation showing the performance of all critical quality checks shall also be made available for review by the Engineer or Owner.

G. Non-Destructive Testing

- All welds within the structure, shall be visually inspected for conformance to size, under cut, profile and finish.
- All shop splices of main truss members shall be magnetic particle tested.

1.4 SUBMITTALS

- A. Qualified Bridge Manufacturers must have at least 5 years of experience fabricating these types of structures and shall have an up to date quality certification by AISC per Section 14.1 of these specifications. All suppliers shall fabricate their product utilizing a modern fabrication facility owned and operated by the Bridge Manufacturer that includes the use of CNC beam drilling machines, no brokers are allowed.
- B. Engineering drawings, 11x17 format, shall be prepared and submitted to the Contractor or Owner for their review after receipt of the order. Submittal drawings shall be unique drawings, prepared to illustrate the specific portion of the bridge being fabricated. All relative design information such as member size, ASTM/AASHTO material specification, dimensions necessary to fabricate and required welding shall be clearly shown on the drawings. Drawings shall have referenced details and sheet numbers. All drawings shall be stamped, signed and dated by the Bridge Manufacturer's Design Professional.
- C. Structural calculations for the design of the bridge superstructure shall be prepared by the Bridge Manufacturer and submitted for review after receipt of the order. Calculations shall include complete design, analysis and code checks for the controlling members, connectivity and support conditions, truss stability checks, deck design, deflection checks, bearings and all splices.

1.5 WARRANTY

- A. The Bridge Manufacturer shall warrant, at the time of delivery, that it has conveyed good title to its steel structure, free of liens and encumbrances created by the Bridge Manufacturer, and that its steel structure is free of defects in design, material and workmanship. This warranty shall be valid for a period of one (1) year from the earlier date of delivery or 60 days after final fabrication is complete. Paint, galvanizing and other special coatings, if warranted, shall be warranted by the coating manufacturer in accordance with their warranty provisions and are not covered under the Bridge Manufacturer's warranty.

2.0 PRODUCT INFORMATION

2.1 BRIDGE SYSTEM TYPE - TRUSS STYLE

- A. The truss style shall be a Connector®. The vertical trusses shall be designed such that the top and bottom chord members are parallel for the entire length of bridge. The interior verticals of the trusses shall be perpendicular to the top face of the bottom chord and the end verticals of the trusses shall be plumb. Trusses shall be laid out such that diagonals shall be at an angle of 30-degrees or more with respect to the bottom chord.

2.2 BRIDGE SYSTEM TYPE - DIAGONAL STYLE

- A. The vertical truss shall use a single-diagonal, Pratt configuration, where all the diagonals are in tension for gravity loads.

2.3 BRIDGE SYSTEM TYPE - FLOOR BEAM LOCATION

- A. The bridge shall utilize an underhung floor beam where the top face of the floor beam shall be welded to the bottom face of the bottom chord. The distance from the top of deck to the bottom of the floor beam shall be determined by the Bridge Manufacturer during final design.

2.4 BRIDGE GEOMETRY - SPAN LENGTH

- A. The bridge span length shall be 60'-0" (horizontal straight line dimension) and measured from end to end of the bridge truss, not including the end dam, any deck extension or bearing that extends beyond the end of the truss.

2.5 BRIDGE GEOMETRY - WIDTH

- A. The bridge width shall be 6'-0" and shall be as measured from the inside face of structural truss elements at the deck level.

2.6 BRIDGE GEOMETRY - TOP OF TRUSS HEIGHT ABOVE DECK

- A. The top of the top chord shall not be less than 4'-6" above the deck (measured from the high point of the deck). Note that this dimension may be exceeded due to truss height requirements for structural, deflection and vibration requirements.

2.7 BRIDGE GEOMETRY - LOWER STEEL CLEARANCE

- A. The maximum distance from the top of the deck (measured from the highest point of the deck) to the bottom of any steel member shall be -10 1/2".

2.8 BRIDGE GEOMETRY - TRUSS BAY SPACING

- A. The number of bays and the dimension of the panel points shall be determined by the Bridge Manufacturer.

2.9 BRIDGE GEOMETRY - CAMBER

- A. A single simple-span bridge shall have a vertical camber dimension at the mid-span equal to 1% of the bridge span length plus 100% of the anticipated full dead load deflection.

2.10 BRIDGE GEOMETRY - ELEVATION DIFFERENCE

- A. The top of the decks shall be at the same elevation at each end of the bridge.

2.11 STRUCTURAL DESIGN LOADS - DEAD LOAD

- A. The bridge structure shall be designed for the total bridge weight including the final deck system.

2.12 STRUCTURAL DESIGN LOADS - PEDESTRIAN LOAD (PL)

- A. The bridge structure shall be designed for a uniform pedestrian loading of 90 psf. This loading shall be patterned to produce the maximum load effects. Consideration of dynamic load allowance is not required with this loading.

2.13 STRUCTURAL DESIGN LOADS - VEHICLE LOAD (VL)

- A. Bridge to be for pedestrian use only.

2.14 STRUCTURAL DESIGN LOADS - WIND LOAD (WS)

- A. Pedestrian bridges shall be designed for wind loads as specified in AASHTO Signs, Articles 3.8 and 3.9. The loading shall be applied over the exposed area in front elevations of both trusses including all enclosures.
- B. In addition to the wind load specified above, a vertical uplift line load as specified in AASHTO LRFD Article 3.8.2 and determined as the force caused by a pressure of 20 psf over the full deck width, shall be applied concurrently. This loading shall be applied at the windward quarter point of the deck width

2.15 STRUCTURAL DESIGN LOADS - SEISMIC (EQ)

- A. The bridge structure shall be designed for seismic loading as specified in Section 3.10 of AASHTO LRFD. The transverse loads shall be calculated considering the transverse period of the bridge and longitudinal loads shall be calculated using a period of zero. A response modification factor of 0.8 shall be used for the calculation of forces applied to the bridge anchorage. A response modification factor of 1.0 shall be used for the calculation of bearing reactions. The transverse seismic load shall be applied to all the bearings and the longitudinal seismic load shall be applied to the fixed bearings only. The vertical bearing reactions shall be calculated using an overturning force on the bridge based on the center of gravity of the bridge times the transverse seismic load.

2.16 STRUCTURAL DESIGN LOADS - FATIGUE LOAD (FL)

- A. The fatigue loading shall be as specified in Section 11 of AASHTO Signs. The Natural Wind Gust specified in Article 11.7.1.2 and the Truck-Induced Gust specified in Article 11.7.1.3 of AASHTO Signs only need only be considered, as appropriate.

2.17 STRUCTURAL DESIGN LOADS - COMBINATION OF LOADS

- A. The load combinations and load factors to be used shall be as specified in AASHTO LRFD Table 3.4.1-1, with the following exceptions:
- Load combinations Strength II, Strength IV, and Strength V need not be considered.
 - The load factor for Fatigue I load combination shall be taken as 1.0, and Fatigue II load combination need not be considered.

2.18 STRUCTURAL DESIGN CRITERIA - MODELING

- A. The bridge shall be modeled and analyzed utilizing a three-dimensional computer software which shall account for moments induced in members due to joint fixity where applicable. Moments due to both truss deflection and joint eccentricity must be considered. All loads listed in Section 5 of these specifications shall be applied to the model and analyzed appropriately.

2.19 STRUCTURAL DESIGN CRITERIA – LATERAL FRAME AND MEMBER DESIGN

- A. The bridge shall be designed and proportioned such that appropriate lateral stiffness is provided locally and globally, to ensure that the structure is stable.
- B. For bridges without any overhead members (Half-Through Trusses), the vertical truss members, the floor beams and their connections shall be proportioned to resist a lateral force applied at the top of the truss verticals at the center of the top chord. This lateral force shall be applied as an additional load to the top of the vertical at the center of the top chord, creating a cantilever moment, which is then added to the forces obtained from the three-dimensional model. The magnitude of this lateral force shall not be less than $0.01/K$ times the average factored design compressive force in the two adjacent top chord members increased by a factor of safety of 1.33.
- C. The top chord shall be analyzed as a column with elastic lateral supports at the panel points, considering all moments due to in-plane and out-of-plane bending, along with moments due to eccentricities of the members.
- D. The U-Frame Stiffness of the verticals and floor beams shall be as specified in AASHTO Ped Article 7.1.2, assuming that the vertical and floor beam connection is rigid. This means that the following must be met:
- On H-Section floor beam connections, the floor beam width shall be at least 80% of the vertical face width in order to prevent any deformation due to tube wall plastification of the vertical member faces under service loads. The connection design will be checked at Strength I & Strength III load combinations.
 - On Underhung floor beam connections, the vertical width shall match the bottom chord width in order to transfer vertical moments through the walls of the bottom chord to the verticals with no deformation of the chord side walls due to sidewall yielding or crippling under service loads. The connection design will be checked at Strength I & Strength III load combinations.
 - The vertical and floor beam members shall not be connected to faces of the bottom chord at a 90-degrees to one another.
 - All fixed end moments in the floor beams and verticals due to floor beam rotations, in addition to the loads derived from a U-Frame analysis have been accounted for in the strength design of the connections.

- E. The vertical and floor beam members shall be proportioned such that the effective length factor, K, used in the design of the top chord shall not be greater than 2.0.
- F. The end verticals shall be designed as a simple cantilever to carry the loads obtained from the three-dimensional model, plus the cantilever moment due to a lateral load of 0.01 times the axial force in the end vertical, applied laterally at the top end of the end vertical at the center of the top chord.
- G. The floor beams shall be sized for the forces obtained from a simple span, pinned end analysis, or from the forces obtained from the three-dimensional model, whichever controls.
- H. The diagonals and brace diagonals shall be analyzed as pinned-end connection members.
- I. Interior verticals shall be analyzed as pinned-end connections unless longitudinal forces are applied to the verticals such as when the brace diagonals are connected to floor beams on an H-Section floor beam configuration. When longitudinal forces are applied to the verticals they shall be analyzed as fixed-end connections.
- J. All other members shall be analyzed as fixed-end connections.
- K. HSS member connections shall be evaluated per the requirements of AISC 360 Chapters J & K.

2.20 STRUCTURAL DESIGN CRITERIA – DEFLECTIONS

- A. The vertical deflection of the bridge due to the unfactored pedestrian live loading shall not exceed 1/360 of the span length.
- B. The horizontal deflection of the bridge under unfactored wind loading shall not exceed 1/360 of the span length.

2.21 STRUCTURAL DESIGN CRITERIA – FRACTURE

- A. The fracture toughness requirements and designation of Fracture Critical Member and Main Member designation are hereby waived for these structures.

2.22 STRUCTURAL DESIGN CRITERIA – VIBRATIONS

- A. Vibration of the structure shall not cause discomfort or concern to the users of the bridges. To assure this, the fundamental frequency (f) of the pedestrian bridge in the vertical direction, without live load, shall be greater than 3.0 hertz (Hz) to avoid the first harmonic. The fundamental frequency of the pedestrian bridge in the lateral direction, shall be greater than 1.3 Hz. If the fundamental frequency cannot satisfy these limitations, then the bridge should be proportioned such that either of the following criteria are satisfied:

$$f > 2.86 * \ln(180/W)$$

or

$$W > 180 * e^{(-0.35 * f)}$$

- B. Where W is the weight of the bridge in kips and f is the fundamental frequency in the vertical direction in Hz.
- C. For bridges longer than 85 ft and shorter than 125 ft the vertical and horizontal vibration must also meet the requirements for Bridge Class III with a Mean comfort level in accordance with Setra.

2.23 DECK SYSTEM

- A. Deck to be comprised of transverse wood thermoplastic composite lumber (WTCL) planks attached to longitudinal steel stringers that are attached to the floor beams.
- B. Acceptable trade name products are Trex, Timber Tech, or Tamko Evergrain.
- C. Deck planks shall be secured utilizing 5/16" flat head self-tapping screws. Each plank shall have enough screws to adequately secure the plank to the stringers. Screws shall have adequate edge distance to prevent splitting and cracking. The end edges of the deck planks shall include a cover plate or angle to hide the plank ends from the bridge user or be precision end cut such that the ends are all within 1/16" from plank to plank. Deck planks shall be placed with gaps per the product manufacture's recommendations.
- D. Deck planks shall be sized to support the loads specified in Section 5.0 of these specifications. The minimum nominal plank size shall be 2x6 with a maximum support spacing of 16" and no vehicular traffic is allowed access to the bridge.

2.24 MATERIALS OF CONSTRUCTION – STRUCTURAL STEEL

- A. All members of the truss and deck support system shall be fabricated from square or rectangular hollow structural shapes (HSS), with the exception that floor beams may be wide flange shapes. All open ends of end posts and floor support beams shall be capped. Drain holes shall be provided for all sections at the low point of the member that may become filled with water.
- B. All bridges shall be fabricated using A847 for HSS sections and A588 for structural shapes and plates.
- C. Minimum nominal thickness of primary hollow structural shapes shall be 1/4". Rolled shapes shall have a minimum thickness of 1/4".

2.25 MATERIALS OF CONSTRUCTION – FASTENERS

- A. Structural bolts used to field splice or connect all main members shall be ASTM F3125 Grade A325. The nuts for these structural bolts shall be ASTM A563. The Bridge Manufacturer shall determine the finish of the structural bolts. They will be either Type 3 (Weathering) or Type 1 (Hot-Dipped or Mechanically Galvanized) as specified by the Bridge Manufacturer.
- B. Bolts used for the connection of a wood rub rail shall be 18-8 or 316 Stainless Steel, 1/4" diameter carriage bolts.
- C. Screws for the attachment of wood deck shall be steel, 5/16" diameter, six lobe drive,

self-tapping screws. The screws shall have flat heads for the screws in the wood and round heads for the screws on the edge cover. The screws shall have a protective coating that will prevent corrosion due to contact with treated wood and environmental exposure.

- D. Self-drilling fasteners for attachment of the form decking shall be #14 x 1" zinc plated hex washer head Tek screws.
- E. Power Actuated fasteners shall be Hilti sheet metal nail X-ENP-19 fastener.
- F. Other miscellaneous fasteners shall be ASTM A307 zinc plated or galvanized, as determined by the Bridge Manufacturer.

2.25 FINISH

- A. For corrosion resistant high-strength low-alloy (weathering) steel no surface finish treatment is necessary. All exposed surfaces of structural steel to be cleaned in accordance with Steel Structures Painting Council Surface Preparation Specifications No. 7, SSPC -SP7 brush-off blast cleaning. Exposed surfaces of steel shall be defined as those surfaces seen from the deck or from the outside and bottom of the structure. All other surfaces to have standard mill finish. The steel will be allowed to form a protective weathering patina over time.

2.26 ATTACHMENTS – SAFETY RAILS

- A. Safety rail system shall be placed on the outside of the structure, spaced so as to prevent a 4" sphere from passing through the side truss for the full height of the side truss, or 54" , whichever is less. The top of the top chord may be considered the top of the rail system.
- B. Rail system shall be steel angles welded to the top chord and bottom chord placed on the outside of the truss with a maximum spacing of 4 inches or less. The pickets shall be capped on the top with a steel angle.

2.27 ATTACHMENTS – WELDERS

- A. Welders shall be qualified for each process and position used while fabricating the bridge. Qualification tests shall be in accordance with AWS D1.1. All weld qualifications and records shall be kept in accordance with the Fabricator's Quality Assurance Manual which has been approved and audited by AISC as the basis for certification.

2.28 ATTACHMENTS – SHOP SPLICES

- A. Shop splices for main truss members shall be full penetration welds all around the perimeter of the member. These shop splices shall be performed using a full perimeter backing plate. After welding of the shop splices, the weld shall be ground smooth to match the perimeter of the member. Grinding these welds smooth is required and will be grounds for rejection of the bridge upon delivery if not completed.
- B. Shop splices for all horizontal rail components to be located at the centerline of the truss verticals, each end welded to the truss vertical and seal welded together. Exposed surface of the seal welds as seen from the deck shall be ground smooth.

- C. Shop spliced for all horizontal stringers to be located at the centerline of the floor beams, each end welded to the floor beam and seal welded together.

2.29 ATTACHMENTS – BOLTED SPLICES

- A. For shipping purposes, the bridge may be fabricated in sections. Sections shall be field assembled using bolted connections. No field welding of members shall be allowed.
- B. The chord members of the bridge shall be bolted such that at least two faces of the member are bolted. This is to provide reasonable force distribution around the perimeter of the member. Bolted splices shall be designed and fabricated such that the head of the bolt and washer are the only item exposed. No through-bolting of the member is allowed. The nuts of the fastener cannot be welded to the internal splice plate and shall be held in plate with a nut capture system per Patent US 10,267,345 B2 or equal.
- C. The diagonals and brace diagonals shall be bolted utilizing a through-bolt system with plates on the exterior faces of the members. An internal stiffening plate is required to keep the member from crushing during the bolt tightening process.
- D. All bolted connections are considered to be pretensioned or slip-critical connections. All bolts are to be pretensioned per the requirements of section 8.2 of the Specification for Structural Joints Using High-Strength Bolts. Recommended tightening method of all structural bolts shall be Turn-of-the-Nut Pretensioning.

3.0 EXECUTION

3.1 Construction Methods

- A. Layout shall be staked for the approval of Owner's Representative before commencing construction.

3.2 Delivery

- A. Delivery shall be made via truck to a location nearest the site which is accessible to normal over-the-road equipment. All trucks delivering bridge materials will need to be unloaded at the time of arrival. If the erection Contractor needs special delivery or delivery is restricted, they shall notify the Bridge Manufacturer prior to bid date. This includes site issues which may prevent over-the-road equipment from accessing the site. Steerable dollies are not used in the cost provided by the Bridge Manufacturer. Determining the length of bridge section which can be delivered is the responsibility of the Contractor and shall be communicated to the Bridge Manufacturer prior to the bid date.

3.2 Installation & Lifting Procedures

- A. The Bridge Manufacturer will provide standard typical written procedures for lifting and splicing the bridge. All actual means, methods, equipment and sequence of erection used are the responsibility of the Contractor.
- B. Contractor to coordinate abutment with bridge manufacturer and confirm heights and locations prior to installation.

END OF SECTION

SECTION 32 9219

LAWN SEEDING

1.0 GENERAL

1.1 Description

- A. This work consists of complete construction of lawn areas including: finish grading, tilling, cleaning seed bed, seeding, blanket, fertilizing, weed control, and mowing.

1.2 Submittals

- A. Grower and/or supplier's product data sheet showing the percentages and most current grass seed varieties being used in the specified seed mix for Owner/Owner's Rep approval.
- B. One seed tag for each seed type used on the site shall be saved and delivered to the Owner.

2.0 MATERIALS

2.1 Seed

- A. Seed shall be delivered to the site in the original sacks as received from the producer, and each sack shall be tagged in accordance with the agricultural seed laws of the United States and the State of Illinois. Each sack shall be tagged showing the dealer's guarantee as to the year grown, percentage of purity, percentage of germination and the date of the test by which the percentages of purity and germination were determined. All seed sown shall have a date of test within six (6) months of the date of sowing.
- B. Any seed delivered prior to use shall be stored in such a manner that it will be protected from damage by heat, moisture, rodents, or other causes.
- C. **Lawn areas to be renovated** shall be seeded with a uniform seed mixture consisting of the species shown in this specification. The seeding mixtures shall be installed in locations designated on the plan and as directed by the owner's representative.
- D. Approved seed mix for areas to be renovated or an approved equal:

1. Field of Dreams Gameday Mixture by ConServ FS

- a. - 70% of Bluegrass using 23% each of three different varieties
- b. - 30% of Perennial Ryegrass using 15% each of two different varieties

2. Greenskeeper Premium Shady Mixture by ConServ FS

- a. - 40% of Creeping Red Fescue
- b. - 30% of Perennial Ryegrass
- c. - 20% of Chewings Fescue
- d. - 10% Bluegrass

3. Greenskeeper Drought Beater Mixture by ConServ FS

- a. - 100% of Tall Fescue using 33% each of three different varieties

2.2 Blanket

- A. Blanket shall be excelsior for slopes greater than 1:4 and straw based on slopes less than 1:4. Both shall be woven so as to prevent flyaway of fibers. Blanket shall be of consistent thickness, with fibers evenly distributed throughout the entire area of the blanket. The top and bottom of each blanket shall be covered with

photodegradable or biodegradable netting. Material shall not contain any weed seed or chemical additives. Blanket stakes shall be bio-degradable (not metal).

2.3 Fertilizer

A. Fertilizer shall be Nitrogen, Phosphorous and Potassium in the following mixes:

1. New Seeding Areas: 13-25-12 with 30% of nitrogen in slow release formula
2. Over-seed Areas: 22-3-11 with 50% of nitrogen in slow release formula

3.0 EXECUTION

3.1 Seeding Operations

- A. Remove all debris, including large stones, roots and construction materials. Fill all depressions in lawn area with topsoil prior to top dressing operations. No debris may be buried in pits on the site.
- B. Topsoil shall be applied at 6" depth. Topsoil may be blended with sand up to a ratio of 3 parts topsoil to 1 part sand to facilitate application. Contractor shall till; fine grade; remove all clumps, clay, sod clods, and undesirable materials. Seed bed shall be approved by Owner's representative before seeding.
- C. Seed shall be applied at the rates listed below for a dense stand with a Brillion, slit seeder, or other mechanical seeder. For new seeded areas, the entire seed bed area shall be covered with bio-degradable blanket. All seed areas must be completely and uniformly covered. Re-seed areas shall have no blanket applied.

3.2 Seeding Rates

A. Seed shall be applied at the following rates - except if dormant seeding is completed in late fall, then rates to be doubled:

Seed	Rate per 1000 square feet
Field of Dreams Athletic Mix	4.5 pounds
Field of Dreams Reseeder Mix (over seed in Spring)	2.5 pounds

3.3 Fertilizing

- A. NEW SEEDING AREAS: 1.5 pounds of nitrogen fertilizer shall be applied per 1,000 square feet of turf shall be applied at time of initial seeding. See 2.3 for fertilizer mix. It shall be applied evenly over the planting area.
- B. RESEEDED AREAS: 0.75 pounds of nitrogen per 1,000 square feet shall be applied at time of overseeding, unless another amount is specified on plan. See 2.3 for fertilizer mix.

3.4 Repairs

- A. The Contractor shall be responsible for the repair of any damage to existing lawns, which may result from his work, and such repairs shall be made swiftly in a thorough and workmanlike manner, with minimum inconvenience to the Owner and users of the site. Where lawn areas have been disturbed or damaged, the damaged lawn areas, ruts and depressions shall be cultivated, filled with topsoil, settled to proper grades and seeded. Repairs shall be made to the satisfaction of the Owner or Owner's representative.

3.5 Maintenance

- A. It is the responsibility of the Contractor to maintain all seeded lawn areas; this may include cultivation, reseeding, fertilizing, watering, mowing, and the control of

weeds until final acceptance has been granted. The Contractor shall mow the grass to a three -inch (3") height if it reaches a four-inch (4") height any time prior to final acceptance. The Owner's representative shall inspect the conditions of the stand to determine satisfaction or the need to improve the stand. Satisfaction is based on 95% coverage over the entire new seeding area and over-seed areas. Maintenance shall continue by the Contractor until acceptance has been granted.

3.6 Watering

- A. Watering must be started immediately after the seed is installed. Watering should begin as soon as an area large enough to put down a sprinkler is ready.
- B. Thoroughly soak the seed and the soil under the seed. It should be moist at least 2 inches deep. Corners shall be noted and may need to be hand watered to ensure full coverage.
- C. After the first watering, water enough to keep the soil under the seed moist, but not muddy. In cool weather this may mean watering only every 3 or 4 days. In very hot weather, you may have to water daily. **Do not allow the seed or soil underneath to dry out between watering.**
- D. In about two weeks the seed should have begun to knit to the soil underneath and the watering can be lessened to once or twice per week depending on the weather conditions.
- E. If an irrigation system is in place, it is the responsibility of the Contractor to ensure that the system is working and is covering all new seed areas. This responsibility continues until the site is turned over to the owner.
- F. Watering shall continue and be maintained by the contractor for at least 30 days beyond substantial completion. It is the contractor's responsibility to meet lawn establishment requirements – additional watering by contractor may be needed.

END OF SECTION

SECTION 32 9220

NATIVE PERMANENT SEEDING

1.1 GENERAL

1.1 Description

- A. This work consists of complete construction of native seed areas including: cleaning seed bed, seeding, fertilizing, erosion control blanket, straw blanket, weed control, and maintenance.

1.2 Schedule:

- 1. Permanent seed installation shall be performed immediately in areas where all work is complete. Seeding shall take place before June 10th or after November 1 unless alternate dates are approved by Owner.
- 2. Cover crop seed may be installed after these dates but must be mowed and bailed and reseeded with permanent matrix during approved time frame. Approval from the owner must be received before planting is started.

1.3 Submittals

- A. Seed mix proof of origin
- B. Seed tag stating: % Purity, % Weed, % Noxious Weed, % Germination, Origin Location, Test Date.
- C. Seed bed preparation material method in writing to the Owner's Representative a minimum one week prior to commencement for approval.

1.4 Quality Assurance

- A. Work shall be performed by those experienced in native seed installation. A minimum of 5 years of experience working on similar size and type of installation is required. A staff member must have a bachelor's degree in biology or a similar field.
- A. After installation, a person experienced in native seed maintenance with the ability to identify native plants and common weeds is required to be onsite to ensure performance standards.

2.1 MATERIALS

2.1 Seed Standards:

- A. All seed shall be healthy, and true to species and variety. All materials shall be provided by a certified nursery and shall be free of pests and disease.
- B. Seed shall be delivered to the site in the original sacks as received from the producer, and each sack shall be tagged in accordance with the agricultural seed laws of the United States and the State of Illinois. Each sack shall be tagged showing the dealer's guarantee as to the year grown, percentage of purity, percentage of germination and the date of the test by which the percentages of purity and germination were determined.
- C. Any seed delivered prior to use shall be stored in such a manner that it will be protected from damage by heat, moisture, rodents, or other causes.
- D. The seed mixes shall be supplied in pounds of Pure Live Seed (PLS) for grass species. Native grass and forb seed species will be local genotype and will be from a radius of 250 miles from the site.
- E. Proof of origin shall be presented to the Owner's Representative at the site prior to any plant installation. Seed will be specified as 'weed free' according to the association of Official Seed Analysis: Rules for Testing Seeds, Journal of Seed Technology, 1991.

F. The Seed Mixes shall consist of the species shown in this specification. The seeding mixtures shall be installed in locations designated on the plan and as directed by the owner's representative.

G. Shortgrass Prairie for Mesic Soils Seed Mix

BOTANICAL NAME	COMMON NAME	lb/acre
<i>Wildflowers/Forbs</i>		
<i>Allium cernuum</i>	Nodding Onion	6
<i>Amorpha canescens</i>	Leadplant	2.5
<i>Asclepius tuberosa</i>	Butterfly Weed	1.5
<i>Aster azureus</i>	Sky Blue Aster	1.5
<i>Aster laevis</i>	Smooth Blue Aster	2
<i>Aster novae-angliae</i>	New England Aster	0.5
<i>Chamaecrista fasciculata</i>	Partridge Pea	10
<i>Coreopsis palmata</i>	Prairie Coreopsis	6
<i>Dalea candida</i>	White Prairie Clover	4
<i>Dalea purpurea</i>	Purple Prairie Clover	3
<i>Echinacea pallida</i>	Pale Purple Coneflower	2.5
<i>Echinacea purpurea</i>	Purple Coneflower	6
<i>Eryngium yuccifolium</i>	Rattlesnake Master	3
<i>Heliopsis helianthoides</i>	Early Sunflower	10
<i>Liatris pycnostachya</i>	Prairie Blazing Star	2.5
<i>Monarda fistulosa</i>	Wild Bergamot	1.5
<i>Penstemon digitalis</i>	Foxglove Beard Tongue	0.5
<i>Potentilla arguta</i>	Prairie Cinquefoil	0.2
<i>Pycnanthemum virginianum</i>	Mountain Mint	0.2
<i>Ratibida pinnata</i>	Gray-headed Coneflower	4
<i>Rudbeckia subtomentosa</i>	Black Eyed-Susan	2.5
<i>Rudbeckia subtomentosa</i>	Sweet Black-Eyed Susan	2
<i>Silphium laciniatum</i>	Compass Plant	0.5
<i>Solidago speciosa</i>	Showy Goldenrod	1
<i>Tradescantia ohiensis</i>	Ohio Spiderwort	1.5
<i>Veronicastrum virginicum</i>	Culver's Root	0.1
	TOTAL	75
<i>Graminoids, or grasses, sedges, rushes, and other grasslike plants.</i>		
<i>Bouteloua curtipendula</i>	Side Oats Grama	42
<i>Carex bicknellii</i>	Copper-Shouldered Oval Sedge	1
<i>Elymus canadensis</i>	Canada Wild Rye	32
<i>Elymus virginicus</i>	Virginia Wild Rye	32
<i>Koeleria cristata (macrantha)</i>	June Grass	2
<i>Schizachyrium scoparium</i>	Little Bluestem	32
	TOTAL	141

H. Shortgrass Prairie for Dry Soils Seed Mix

BOTANICAL NAME	COMMON NAME	lb/acre
<i>Wildflowers/Forbs</i>		
<i>Agastache foeniculum</i>	Lavendar Hyssop	1
<i>Allium cernuum</i>	Nodding Onion	4
<i>Amorpha canescens</i>	Leadplant	2
<i>Asclepias tuberosa</i>	Butterfly Weed	2
<i>Aster azureus</i>	Sky Blue Aster	1.25
<i>Aster ericoides</i>	Heath Aster	0.1
<i>Aster laevis</i>	Smooth Blue Aster	1.25
<i>Chamaecrista fasciculata</i>	Partridge Pea	8
<i>Coreopsis lanceolata</i>	Lance-Leaf (Sand) Coreopsis	2.5
<i>Coreopsis palmata</i>	Prairie Coreopsis	2
<i>Dalea candida</i>	White Prairie Clover	3
<i>Dalea purpurea</i>	Purple Prairie Clover	2.5
<i>Echinacea pallida</i>	Pale Purple Coneflower	8
<i>Eryngium yuccifolium</i>	Rattlesnake Master	3
<i>Heliopsis helianthoides</i>	Early Sunflower	6
<i>Liatris aspera</i>	Rough Blazing Star	1
<i>Liatris cylindracea</i>	Dwarf Blazing Star	1
<i>Liatris perennis</i>	Wild Lupine	6
<i>Monarda fistulosa</i>	Wild Bergamot	2
<i>Monarda punctata</i>	Dotted Mint	0.25
<i>Potentilla arguta</i>	Prairie Cinquefoil	0.5
<i>Ratibida pinnata</i>	Gray-headed Coneflower	3
<i>Rudbeckia hirta</i>	Black-Eyed Susan	4
<i>Solidago rigida</i>	Stiff Goldenrod	0.7
<i>Solidago speciosa</i>	Showy Goldenrod	0.7
<i>Tradescantia ohiensis</i>	Ohio Spiderwort	0.75
<i>Verbena stricta</i>	Hoary Vervain	2
	TOTAL	68.5
<i>Graminoids, or grasses, sedges, rushes, and other grasslike plants.</i>		
<i>Bouteloua curtipendula</i>	Side Oats Gramma	16
<i>Bromus kalmii</i>	Prairie Brome	8
<i>Carex bicknellii</i>	Copper-Shouldered Oval Sedge	1.5
<i>Elymus canadensis</i>	Canada Wild Rye	1
<i>Koeleria cristata (macrantha)</i>	June Grass	2
<i>Schizachyrium scoparium</i>	Little Bluestem	3
<i>Sporobolus heterolepis</i>	Prairie Dropseed	0.25
	TOTAL	31.75

I. Wetland Emergent Seed Mix

BOTANICAL NAME	COMMON NAME	lb/acre
<i>Wildflowers/Forbs</i>		
<i>Alisma subcordatum</i>	Common Water Plantain	0.25
<i>Cephalanthus occidentalis</i>	Button Bush	0.25
<i>Hibiscus laevis</i>	Halberdleaf Rose Mallow	0.063
<i>Iris virginica shrevei</i>	Blue Flag Iris	0.25
<i>Pontederia cordata</i>	Pickernelweed	0.063
<i>Sagittaria latifolia</i>	Common Arrowhead	0.5
	TOTAL	1.376
<i>Graminoids, or grasses, sedges, rushes, and other grasslike plants.</i>		
<i>Acorus americanus</i>	Sweet Flag	5
<i>Acorus americanus</i>	River Bulrush	0.125
<i>Carex comosa</i>	Bristly Sedge	0.375
<i>Echinochloa crusgalli</i>	Barnyard Grass	2
<i>Eleocharis erythropoda</i>	Redroot Spike Rush	0.031
<i>Eleocharis obtusa</i>	Blunt Spike Rush	0.031
<i>Eleocharis palustris major</i>	Great Spike Rush	0.031
<i>Glyceria grandis</i>	Reed Manna Grass	0.125
<i>Juncus effusus</i>	Common Rush	0.125
<i>Juncus torreyi</i>	Torrey's Rush	0.188
<i>Leersia oryzoides</i>	Rice Cut Grass	0.5
<i>Schoenoplectus acutus</i>	Hard Stem Bulrush	0.063
<i>Schoenoplectus pungens</i>	Chairmakers Rush	0.125
<i>Schoenoplectus tabernaemontani</i>	Great Bulrush	0.25
<i>Sparganium eurycarpum</i>	Bur Reed	0.1
<i>Spartina pectinata</i>	Prairie Cord Grass	0.375
	TOTAL	9.444

J. Floodplain Seed Mix

BOTANICAL NAME	COMMON NAME	lb/acre
<i>Wildflowers/Forbs</i>		
<i>Alisma subcordatum</i>	Mud Plantain	1
<i>Asclepias incarnata</i>	Marsh (Red) Milkweed	3
<i>Aster novae-angliae</i>	New England Aster	1
<i>Aster puniceus</i>	Swamp Aster	1
<i>Eupatorium maculatum</i>	Spotted Joe Pye Weed	1
<i>Eupatorium perfoliatum</i>	Common Boneset	0.5
<i>Helenium autumnale</i>	Sneezeweed	0.3
<i>Helianthus grosseserratus</i>	Sawtooth Sunflower	0.5
<i>Liatris spicata</i>	Marsh Blazing Star	3
<i>Lobelia cardinalis</i>	Cardinal Flower	0.3
<i>Lobelia siphilitica</i>	Great Blue Lobelia	0.35
<i>Pycnanthemum virginianum</i>	Mountain Mint	0.5
<i>Rudbeckia laciniata</i>	Wild Golden Glow	3
<i>Silphium perfoliatum</i>	Cup Plant	4
<i>Solidago riddellii</i>	Riddell's Goldenrod	4
<i>Verbena hastata</i>	Blue Vervain	2
<i>Vernonia fasciculata</i>	Ironweed	4
<i>Zizia aurea</i>	Golden Alexanders	4
	TOTAL	33.45
<i>Graminoids, or grasses, sedges, rushes, and other grasslike plants.</i>		
<i>Bromus ciliatus</i>	Fringed Brome	24
<i>Carex vulpinoidea</i>	Brown Fox Sedge	4
<i>Elymus riparius</i>	River Bank Wild Rye	30
<i>Elymus virginicus</i>	Virginia Wild Rye	24
<i>Glyceria grandis</i>	Reed Manna Grass	2
<i>Leersia oryzoides</i>	Rice Cut Grass	2
<i>Scirpus atrovirens</i>	Dark-Green Bulrush	1
<i>Scirpus cyperinus</i>	Wool Grass	0.25
<i>Scirpus fluviatilis</i>	River Bulrush	3
<i>Scirpus validus</i>	Great Bulrush	0.3
<i>Spartina pectinata</i>	Prairie Cordgrass	4
	TOTAL	94.55

2.2 Equipment

- A. Install native seed with a no-till drill applicator specifically used for native seeding. Follow manufacturer's recommendations for drill calibrations to meet the needs of the proposed seed mix.
- B. Rangeland No-till drill or equal.

2.3 Fertilizer

- A. No fertilizer required.

3.1 EXECUTION

3.1 Bed Preparation

- A. For seeding over areas with vegetation, preparation shall include application of herbicide applied by a licensed herbicide applicator to effectively control weed species without damaging desirable vegetation. The seed bed shall be free of weeds, and seeding shall occur no less than 14 days after herbicide application. Area shall be mowed to a height that will not interfere with no-till drill and cuttings are to be removed.
- B. For bare earth seeding, CONTRACTOR shall remove clumps, stones, roots, and sticks prior to seedbed preparation activities. CONTRACTOR shall prepare the seedbed with a disk or unique rake (harrow) to reduce clod size to a maximum diameter of 1-inches and eliminate rivulets, gullies, crusting, and caking. The disk shall be in good condition with sound, unbroken blades and weighted as necessary to achieve a minimum 3-inch tillage depth.
 - 1. Following disking of all bare earth seeding areas, CONTRACTOR shall prepare the seedbed further with a unique rake or harrow to reduce clod size and create a smooth and level seedbed.
 - 2. Working wet soils shall not be conducted. Following these seedbed preparation activities, the ground surface shall have minimum compaction, be smooth and level, and be free of debris to promote good seed-soil contact.

3.2 Seeding Conditions

- A. Contractor shall examine the grade, verify the elevations and water levels, observe the conditions under which work is to be performed, and notify the Owner's representative of unsatisfactory conditions. Proceeding with the work constitutes acceptance of existing conditions, including current water levels and soil condition.
- B. Seeds shall not be sown until the seedbed has been approved by the Owner's representative.
- C. The Owner's representative shall be on site during seeding. The Contractor must notify the Owner's representative 48 hours in advance of seed installation.

3.3 Seeding Methods

- A. No seed shall be sown during high winds, rain events, or when the ground is not in a proper condition for seeding, nor shall seed be sown until the purity test has been completed for the seeds to be used, and shows that the seed meets the noxious weed seed requirements.
- B. Seed shall have soil contact and be no more than 1/4" deep into soil.
- C. Apply an erosion blanket at all seed areas with a slope greater than 5:1.

3.4 Species substitutions

- A. Prior to installation, the Owner's representative shall review any species substitutions and reserves the authority to deny use of any species if deemed inappropriate for the site. Any species substitutions and/or change in quantity shall be discussed and approved by Owner's representative during the pre-planting site meetings as specified below. CONTRACTOR shall plan on attending one (1) on-site pre-planting meetings in early spring (anticipated to be in April and/or early May) to evaluate hydrologic conditions and discuss overall plant installation approach. At the pre-planting meeting, CONTRACTOR shall provide a plant installation work plan that documents the anticipated plant

installation logistics, plant installation schedule (plant delivery schedule) and any proposed changes to plant species and/or quantities as a result of observed site conditions.

3.5 Notification and documentation

- A. The contractor shall notify Owner's representative at least two working days prior to seed installation and indicate the seed installation method to be used. After completion of seeding, CONTRACTOR shall provide the Owner's representative with copies of all seed receipts and labels, notated with the date of seed installation, seed origin, % PLS, and conditions under which the seeding was performed.

3.6 Repairs

- A. The Contractor shall be responsible for the repair of any damage to existing lawns and natural areas, which may result from his/her work, and such repairs shall be made swiftly in a thorough and workmanlike manner, with minimum inconvenience to the Owner and users of the site. Where areas have been disturbed or damaged, the damaged areas, ruts and depressions shall be cultivated, filled with topsoil, settled to proper grades and seeded. Repairs shall be made to the satisfaction of the Owner or Owner's representative.

3.7 Maintenance

- A. It is the responsibility of the Contractor to maintain all native seeded areas as part of the construction contract until final acceptance. Upon a final acceptance date, the 24 month natural area maintenance period will begin; work during both of these periods may include cultivation, reseeding, watering, mowing, and weed control.
- B. The Contractor may be required to mow the seeded areas when plants reach a twelve inch (12") height to control non-native species. The Owner's representative shall inspect the conditions of the stand to determine satisfaction or the need to improve the stand. The need for mowing and area shall be approved prior to contractor proceeding with work. Work shall be paid for on a per acre basis.
- C. Herbicide spot spraying may be required to control invasive species. Herbicide application shall be done per the weed control specification and included as part of seeding installation pay item.
- D. Maintenance shall continue by the Contractor until acceptance has been granted.

3.8 Performance standard

- A. See Section 32 9400 Natural Area Maintenance

END OF SECTION

SECTION 32 9300

LANDSCAPING

1.0 GENERAL

1.1 Description

- A. This work consists of supplying and installing plant materials; preparing and placing all topsoil, planting mix, fertilizer, mulch, and related items and furnishing and installing ground cover, perennials, annuals, shrubs, and trees. The Contractor shall be responsible for furnishing all materials, equipment, and labor necessary to complete the work and for maintenance in accordance with the plans and specifications.

1.2 Acceptance

- A. Acceptance of plant material shall be given by the Owner's Representative before plant material is installed and again after installation. Rejected plants shall be immediately removed from the site at the Contractor's expense.
- B. Final inspection of all plantings will be made at the conclusion of the work. The work will be accepted by the Owner upon the satisfactory completion of all work but exclusive of the replacement of plant materials. At the time of final acceptance of the project, all constructed areas must be free of weeds.

1.3 Guarantee Period

- A. The guarantee period for all planting shall begin at the date of written acceptance by the Owner or Owner's representative and shall continue for a period of twelve months.
- B. The Contractor shall replace as weather conditions permit, all plants 1/3 dead or more, and all plants not in a vigorous, thriving condition noted at the end of the guarantee period.
- C. Plants used for replacement shall be of the same size and variety specified in the plant list. Replacement plants shall be furnished, planted and mulched as specified herein and guaranteed for one year following the acceptance of the replacement work at no additional cost to the Owner.

1.4 Utility Responsibility

- A. The Contractor is responsible for damage to underground utilities. All locations shall be checked for the presence of utilities. Call JULIE (Joint Utilities Locating Information for Excavators) toll free at 1-800-892-0123.

2.0 MATERIAL

2.1 Planting Mix

- A. Planting mix shall be 80% topsoil, 10% mushroom compost, and 10% sand. The three shall be mixed thoroughly. Planting mix shall be free of weed seeds.

2.2 Topsoil

- A. Topsoil shall meet technical specification Section 31 2000, Earthwork.

2.3 Mulch

- A. Mulch shall be rough cut and shredded hardwoods cured for a minimum of one year; No color additive; No weeds.

2.4 Plant Material

- A. Plant materials shall be freshly dug vigorous plants of specimen quality, symmetrical, thickly branched, tightly knit plants, true to species and variety and conforming to the measurements specified in the plant list and complying with ANSI Z60.1-2014. All plants shall be free of disease, insect pests, eggs, larva, and shall have healthy, well-balanced root systems. Specified plants of the same species and variety shall be matched specimens from a single block source and shall not be pruned before delivery. Standards for measurement, branching and grading of plant material shall be in conformance with current codes and standards recommended by the American Association of Nurserymen, Inc., as stated in the American Standard for Nursery Stock
- B. Balled and burlapped (BB) plants shall be dug with firm natural balls of earth, with sufficient diameter and depth to include all fibrous and feeding roots. No plants moved with a ball will be accepted if the ball is cracked or broken before or during planting operations.
- C. All plants shall have been grown under climatic conditions similar to those in the locality of the project for at least two years. Plants shall have been transplanted or root pruned at least once in the past three years. No heeled-in plants or plants from cold storage will be accepted.
- D. Substitutions will not be permitted. If proof is submitted that specified plants or sizes are unobtainable, a proposal will be considered for the nearest equivalent size or variety.
- E. All plants shall conform to the measurements specified in the plant list; exceptions are as follows:
 - 1. When size substitutions are necessary, the contractor shall request approval from the Owner's Representative in writing. It is up to the Owner's Representative to approve in writing requested substitutions.

3.0 EXECUTION

3.1 Planting Operations

- A. Weather Conditions: Planting shall be done under favorable weather conditions or as authorized by the Owner's Representative.

3.2 Transportation and Delivery

- A. All plants that cannot be planted immediately on delivery shall be set standing upright on the ground or in a trench with the rootballs well covered with soil, manure or other acceptable material to prevent freezing, drying or over watering conditions. The Contractor shall notify the Owner's Representative at least 48 hours in advance of the anticipated delivery of any plant material for on-site approval.
- B. Plants transported to the site in open vehicles shall be covered with tarpaulins or other suitable covers securely fastened to the body of the vehicles and covered shipments shall be adequately ventilated to prevent overheating of the plants.
- C. All plants shall be kept moist, fresh and protected for the entire period during which the plants are being handled in transit or in temporary storage. No plant shall be so bound with rope or wired at any time as to damage the bark, break branches, or destroy the plant's natural shape.

3.3 Installation

- A. Prior to excavation, the Contractor will stake all trees and mark shrub locations and perennial bed locations for approval of the Owner's Representative. Whenever the Contractor is in doubt as to the proper location or spacing of plants, he shall request clarification. The Contractor is responsible for stripping sod from proposed planting areas and leveling soil according to drawings and specifications. This is considered incidental to the contract and will not be paid for separately. All planting pits shall be excavated to the full depth of the plant ball or container. The ball top shall be properly set to finished grade. All excavated material not used in the soil mixture or soil backfill shall be removed and legally disposed of off site.
- B. Excavation: The diameter of each planting pit shall be a minimum of twenty-four inches (24") greater than the diameter of the plant ball for trees and large shrubs and twelve inch (12") greater than diameter of small shrubs.
- C. Set plants in center of pits plumb and straight and at such a level that after settlement, the base of the plants will be at the finished grade. Set plants upright and faced to give the best appearance or relationship to each other or adjacent structures. Final placement of all plants are subject to approval from the Owner's Representative.
- D. When balled and burlapped trees are set, compact planting mixture around base of ball to fill all voids. All burlap, ropes and wires shall be removed from the sides and top of balls. No wire or wire baskets shall remain in the ground after planting.
- E. Immediately after the plant pit is back filled, a shallow basin slightly larger than pit shall be formed with a ridge of soil to facilitate watering. Strip sod from around the planting pit to form a six foot (6') diameter circle of bare ground around trees or to form a planting bed for shrubs as shown in the drawings.
- F. All non-turf soil surface in planting areas shall be mulched. Mulch shall be no less than three inches (3") deep, and no greater than four inches (4") deep. Mulch shall not come in contact with trunk of trees.

3.4 Pruning

- A. Each tree and shrub shall be pruned in accordance with standard horticultural practice to preserve the natural character of the plant and in the manner fitting its use in the landscape design.
 - 1. All dead wood or suckers and all broken or badly bruised branches shall be removed.
 - 2. Pruning shall be done with clean, sharp tools.
 - 3. Flowering trees shall be pruned only to remove dead and broken branches or branches that rub.

3.5 Watering and Maintenance

- A. At the time of planting, water is to be applied lightly until six inches (6") to eight inches (8") depth of wetness is met. Every effort shall be made to water from early morning to approximately one (1) hour before mid-day. Where watering systems exists, the Contractor shall utilize the systems in the manner they were intended.
- B. Contractor shall water plant material from the point when it is installed to thirty days after substantial completion is met for the entire project. Watering shall take place so that no less than 1" of water is applied to each plant within any seven day period.

- C. Prior to final acceptance of the project, the Contractor shall inspect the plantings throughout the growing season and take necessary steps to control insect and blight attack. The Contractor shall also inspect the plantings after severe storm and exercise all corrective measures required to maintain finished quality appearance and good plant vigor.
- D. No pesticides or herbicides shall be applied to any plant material without the approval of the Owner's Representative. Care shall be taken in watering plant material so as not to over water or in any way damage the plants. The Contractor is encouraged to monitor the soil moisture condition frequently and water when necessary to improve the percentage of plant survival. The Owner will not take over watering of plant material until thirty days after substantial completion of the project is met.

3.6 Tree Watering Bags

- A. Slow-Release Irrigation Tree Bag: UV-light-stabilized nylon-reinforced polyethylene sheet manufactured for drip irrigation of plants and emptying its water contents over an extended time period. Provide one bag for each new tree installed, incidental to contract. Contractor shall fill bags with water per manufacturer's recommendations based on tree caliper size and weather demands at the time of installation through 30 days beyond substantial completion.
- B. Tree bags as manufactured by DeWitt Dew Right, Treegator, or approved equal.

END OF SECTION

SECTION 32 9310

LANDSCAPE PLUG PLANTING

1.0 GENERAL

1.1 Description

The work covered by consists of providing all materials, equipment and labor, and performing all operations required to complete shore planting.

1.2 Existing Conditions

1. Existing Conditions: Bidders are responsible for examining the site before bidding and being aware of site location and conditions.
2. Removal of Exotic and Invasive species: The contractor is responsible for removing all exotic and non-native invasive species, as defined by the Illinois Department of Natural Resources, before excavation and planting begins. This work shall be done in accordance with the weed control specification. Contractor is also responsible for removal after planting according to maintenance and warranty of this specification.
3. Existing features: Contractor is responsible for locating, protecting all existing facilities, structures, services and utilities on, above, or under the surface of the area where construction operations are to be performed.

1.3 Submittals

1. Prior to planting the Contractor shall submit the following:
 - A. The source of all plant materials and species of the plugs including nursery name, phone number and contact.
 - B. Planting schedule including watering schedule

1.4 Experience

1. Contractor shall have previous experience with plug installation and shoreline restoration and management with a minimum of 5 projects of similar size and scope. References and project examples are to be submitted prior to contract award.

2.0 PRODUCTS

2.1 Materials

1. Plugs

- A. Standards: All plants shall be a minimum of the following:
 - i. Plugs shall be alive and in a vigorous growing condition as well as free of defects, disfiguring, sun scalding, diseases, insets or other forms of infections or infestations. Plants must have developed past the seedling stage when received, with true leaves present and no cotyledons
 - ii. All plugs shall be provided in plug trays a minimum of 2.25" wide and 4.5" deep unless otherwise approved. For all plugs or plant materials, cell or pot volume must be at least 2.00 cubic inches or larger, open-bottomed pots. Plugs shall be thoroughly rooted through the container.
 - iii. Wild collected plants will not be acceptable.

- iv. All plugs shall be true to species as specified in plant list. Any alternates must be approved by the Owner's Representative prior to ordering.
 - v. Plugs shall be inoculated with a Mycorrhizal mix.
 - vi. Plugs must arrive at planting site clearly and accurately labeled with common and botanical names.
- B. Source:
- i. All plants shall be obtained from an Illinois licensed nursery grower.
- C. Planting Times:
- i. April 1st – May 31st
 - ii. June 1st – November 1st with regular irrigation.
- D. Alternates:
- i. Species substitutions shall be approved by Owner's Representative and shall be determined by the wetland indicator status, genus of the substitution, successional status and coefficient of conservatism (C-Value).
- E. Plant List:
- i. The Seed Mixes shall consist of the species shown in this specification. The seeding mixtures shall be installed in locations designated on the plan and as directed by the owner's representative.
 - ii. **Shortgrass Prairie for Mesic Soils Plug Mix**

BOTANICAL NAME	COMMON NAME	QTY.
Wildflowers/Forbs		
<i>Allium cernuum</i>	Nodding Onion	16
<i>Amorpha canescens</i>	Leadplant	16
<i>Asclepias tuberosa</i>	Butterfly Weed	16
<i>Aster azureus</i>	Sky Blue Aster	16
<i>Aster laevis</i>	Smooth Blue Aster	16
<i>Aster novae-angliae</i>	New England Aster	16
<i>Dalea candida</i>	White Prairie Clover	16
<i>Dalea purpurea</i>	Purple Prairie Clover	16
<i>Echinacea purpurea</i>	Purple Coneflower	16
<i>Eryngium yuccifolium</i>	Rattlesnake Master	16
<i>Heliopsis helianthoides</i>	Early Sunflower	16
<i>Liatris pycnostachya</i>	Prairie Blazing Star	16
<i>Monarda fistulosa</i>	Wild Bergamot	16
<i>Penstemon digitalis</i>	Foxglove Beard Tongue	16
<i>Pycnanthemum virginicum</i>	Mountain Mint	16
<i>Ratibida pinnata</i>	Gray-headed Coneflower	16
<i>Rudbeckia hirta</i>	Black-Eyed Susan	16
<i>Rudbeckia subtomentosa</i>	Sweet Black-Eyed Susan	16
<i>Silphium laciniatum</i>	Compass Plant	16
<i>Tradescantia ohiensis</i>	Ohio Spiderwort	16
<i>Veronicastrum virginicum</i>	Culver's Root	16
	TOTAL	336
Graminoids, or grasses, sedges, rushes, and other grasslike plants.		
<i>Bouteloua curtipendula</i>	Side Oats Grama	64

<i>Carex bicknellii</i>	Copper-Shouldered Oval Sedge	64
<i>Elymus canadensis</i>	Canada Wild Rye	64
<i>Elymus virginicus</i>	Virginia Wild Rye	64
<i>Koeleria cristata</i>	June Grass	64
<i>Schizachyrium scoparium</i>	Little Bluestem	32
	TOTAL	352

iii. Shortgrass Prairie for Dry Soils Plug Mix

BOTANICAL NAME	COMMON NAME	QTY.
<i>Wildflowers/Forbs</i>		
<i>Agastache foeniculum</i>	Lavendar Hyssop	32
<i>Allium cernuum</i>	Nodding Onion	32
<i>Amorpha canescens</i>	Leadplant	32
<i>Asclepias tuberosa</i>	Butterfly Weed	32
<i>Aster azureus</i>	Sky Blue Aster	32
<i>Aster laevis</i>	Smooth Blue Aster	32
<i>Dalea candida</i>	White Prairie Clover	32
<i>Dalea purpurea</i>	Purple Prairie Clover	32
<i>Echinacea pallida</i>	Pale Purple Coneflower	32
<i>Eryngium yuccifolium</i>	Rattlesnake Master	32
<i>Heliopsis helianthoides</i>	Early Sunflower	32
<i>Liatris aspera</i>	Rough Blazing Star	32
<i>Monarda fistulosa</i>	Wild Bergamot	32
<i>Ratibida pinnata</i>	Gray-headed Coneflower	32
<i>Rudbeckia hirta</i>	Black-eyed Susan	32
<i>Solidago rigida</i>	Stiff Goldenrod	32
<i>Tradescantia ohiensis</i>	Ohio Spiderwort	32
<i>Verbena stricta</i>	Hoary Vervain	32
	TOTAL	576
<i>Graminoids, or grasses, sedges, rushes, and other grasslike plants.</i>		
<i>Bouteloua curtipendula</i>	Side Oats Grama	32
<i>Bromus kalmii</i>	Prairie Brome	96
<i>Carex bicknellii</i>	Copper-Shouldered Oval Sedge	96
<i>Elymus canadensis</i>	Canada Wild Rye	96
<i>Koeleria cristata</i>	June Grass	96
<i>Schizachyrium scoparium</i>	Little Bluestem	96
<i>Sporobolus heterolepis</i>	Prairie Dropseed	64
	TOTAL	576

iv. Wetland Emergent Plug Mix

BOTANICAL NAME	COMMON NAME	QTY.
<i>Wildflowers/Forbs</i>		
<i>Acorus calamus</i>	Sweet Flag	288
<i>Alisma subcordatum</i>	Common Water Plantain	288
<i>Iris virginica</i>	Blue Flag Iris	288

<i>Mimulus ringens</i>	Monkey Flower	256
<i>Sagittaria latifolia</i>	Broadleaf Arrowhead	256
<i>Sparganium eurycarpum</i>	Bur Reed	256
<i>Calamagrostis canadensis</i>	Blue Joint Grass	160
	TOTAL	1792
<i>Graminoids, or grasses, sedges, rushes, and other grasslike plants.</i>		
<i>Carex comosa</i>	Bristly Sedge	160
<i>Carex crinita</i>	Fringed Sedge	160
<i>Carex hystericina</i>	Porcupine Hedge	160
<i>Glyceria striata</i>	Fowl Manna Grass	160
<i>Juncus effusus</i>	Common Rush	160
<i>Scirpus acutus</i>	Hard-Stemmed Bulrush	160
<i>Scirpus atrovirens</i>	Dark-Green Bulrush	128
<i>Scirpus cyperinus</i>	Wool Grass	128
<i>Scirpus validus</i>	Great Bulrush	128
<i>Spartina pectinata</i>	Prairie Cordgrass	128
	TOTAL	1472

v. Floodplain Plug Mix

BOTANICAL NAME	COMMON NAME	QTY.
<i>Wildflowers/Forbs</i>		
<i>Alisma subcordatum</i>	Common Water Plantain	160
<i>Asclepias incarnata</i>	Marsh (Red) Milkweed	160
<i>Aster novae-angliae</i>	New England Aster	128
<i>Aster puniceus</i>	Swamp Aster	128
<i>Eupatorium maculatum</i>	Spotted Joe Pye Weed	128
<i>Eupatorium perfoliatum</i>	Common Boneset	128
<i>Helenium autumnale</i>	Sneezeweed	128
<i>Liatris spicata</i>	Marsh Blazing Star	128
<i>Lobelia cardinalis</i>	Cardinal Flower	128
<i>Lobelia siphilitica</i>	Great Blue Lobelia	128
<i>Pycnanthemum virginianum</i>	Mountain Mint	128
<i>Rudbeckia laciniata</i>	Wild Golden Glow	128
<i>Silphium perfoliatum</i>	Cup Plant	128
<i>Solidago riddellii</i>	Riddell's Goldenrod	128
<i>Verbena hastata</i>	Blue Vervain	128
<i>Vernonia fasciculata</i>	Ironweed	128
<i>Zizia aurea</i>	Golden Alexanders	128
	TOTAL	2240
<i>Graminoids, or grasses, sedges, rushes, and other grasslike plants.</i>		
<i>Bromus ciliatus</i>	Fringed Brome	288
<i>Carex vulpinoidea</i>	Brown Fox Sedge	288
<i>Elymus riparius</i>	River Bank Wild Rye	288
<i>Elymus virginicus</i>	Virginia Wild Rye	288
<i>Scirpus atrovirens</i>	Dark-Green Bulrush	288
<i>Scirpus cyperinus</i>	Wool Grass	288

<i>Scirpus validus</i>	Great Bulrush	288
<i>Spartina pectinata</i>	Prairie Cordgrass	256
	TOTAL	2272

2.2 Pre-Approved Vendors

1. Native Plugs

- A. Pizzo Native Plant Nursery, LLC
- B. Country Road Greenhouses, Inc.
Phone: [\(815\) 384-3311](tel:8153843311)
- C. J&J Transplant
Phone: [\(800\) 622-5055](tel:8006225055)

2.3 Topsoil

- 1. Any topsoil introduced to the site shall meet Specification 31 2000 – Earthwork.

3.0 EXECUTION

3.1 Site Preparation

- 1. Site shall be cleared and grubbed prior to any planting. At area where grading has disturbed lawn: Remove all lawn and weed clumps from soil. Remove all debris, including large stones, roots and construction materials. No debris may be buried in pits on the site. Fine grade. Seed bed shall be approved by Owner's Representative before seeding.
- 2. All woody species within planting area or interplanted boulder toe as noted on the plans shall be removed and grubbed and roots removed unless otherwise specified.

3.2 Site Grading

- 1. Shoreline shall be graded per details.
- 2. Shoreline regrading shall transition into existing grade smoothly.
- 3. Grades shall smoothly tie into proposed limestone outcropping to provide smooth transitions with slope.
- 4. No fill in the floodplain is allowed. Boulder toe shall be at or below floodplain elevations and grades adjusted as noted in the details. Grades shall meet back side of boulder toe smoothly.
- 5. Topsoil shall be interspersed in boulder toe in preparation for plug planting.

3.3 Plant installation

- 1. Plants shall be planted the same day they are delivered to the site if possible. Plants shall not become water stressed prior to planting. Contractor is responsible for insuring that plant material receives adequate water during all phases of the contract prior to planting as well as after planting.
- 2. The Contractor must notify the Owner's Representative 48 hours in advance of seed installation. Install prairie seed with a no-till drill applicator specifically used for prairie seeding. Seed shall have soil contact and be no more than 1/4" deep into soil. Apply straw blanket on all seeding areas.
- 3. Plugs shall be planted between boulders. Depth will be fixed so that the stem root interface shall be positioned slightly below normal ground. The stem-root interface

shall not be tightly closed around the plant and plants must remain erect after planting. Plugs shall be thoroughly watered after planting.

4. Wildlife exclusion fencing shall be installed at the time of plug planting and maintained until final acceptance.

3.4 Maintenance

1. Contractor shall maintain restoration area for one growing seasons. First growing season of fall planting is the following season. Spring planting season is same season.
2. Contractor shall spot spray invasive and woody species including but not limited to reed canary grass as necessary.
3. Hand pulling and/or mechanical removal of weed plants is acceptable so long as these operations do not promote weed propagation.
4. Maintenance shall continue by the Contractor until acceptance has been granted.

3.5 Final Acceptance

1. Contractor shall complete vegetation management activities to ensure the following performance criteria are met or exceeded.
2. Introduced (non-native) species shall not constitute more than three percent (3%) of any 800 square foot measured area. Introduced species shall include all those defined as such in Plants of the Chicago Region, 1994 edition, authored by F. Swink and G. Wilhelm.
3. None of the following herbaceous weeds shall be present within the restoration area: common reed (*Phragmites australis*), teasel (*Dipsaucus* spp.), purple loosestrife (*Lythrum salicaria*), reed canary grass (*Phalaris arundinacea*), non-native thistle (*Cirsium* and *Carduus* spp.), sweet clover (*Melilotus* spp.), sow thistle (*Sonchus* spp.), poison parsnip (*Pastinaca sativa*), garlic mustard (*Alliaria petiolata*), and other invasive weed species noted by the Owner.
4. By end of first growing season, plugs shall have a minimum of 20% survival within a minimum of three areas dispersed around the site, measured as 800 square foot areas.

END OF SECTION

SECTION 32 9400

NATURAL AREA MAINTENANCE

1.0 GENERAL

1.1 Summary

- A. This section includes the maintenance of the project's natural area plantings as well as the installed stone at dry river beds.
- B. Duration: The work is multi-year and the pay item unit duration is one year. The start date will begin one season after the final project acceptance date.
- C. Plant material specified on the plant list is the preferred plants for this area. Maintenance actions are intended to promote, preserve and replace these plants.

1.4. Quality Assurance

- A. BONDS: Performance and Payment bonds shall not be required for Year Two and Year Three of the items in this section.
- B. Project Manager: An individual shall be assigned as project manager and primary contact for the natural area maintenance. This individual shall be available during weekday daytime work hours and is to return calls/email within one working day.
- C. Contractor must demonstrate that the assigned employees can identify the Planting Plan Plants that are to be saved as well as the weed species that are to be eliminated.
- D. Individuals performing herbicide application for weed control on the site must have an up-to-date Commercial Pesticide license from the State of Illinois.
 - 1. Submittal: Provide license number and expiration date for on-site crew leaders.
- E. Action Log: The Owner shall be notified in writing of what work is performed within 48 hours of completion. When herbicide is applied, this shall include date, herbicide amount, concentration and product name.

2.0 PRODUCTS

- 2.1. Herbicides: Spot herbicide treatment per the manufacturer's specifications. All herbicides used must be a non-selective non-residual chemical. When water is present chemical in a form approved for use over water and in wetlands is to be selected.

3.0 EXECUTION

3.1. Inspection and Maintenance Schedule:

- A. During weed growing season of April 25 through October 1, Contractor to provide on-site inspection of planted area a minimum of once every two weeks. Notice of site visit is to be provided to Owner via email in advance of arrival. Inspections can be combined with weed control operations provided that trained personnel are on site and notice is provided to Owner.
- B. Submittal: Contractor is to provide a written action plan each year prior to April 15. This plan is to anticipate weeds that will be encountered and to list proposed maintenance actions. Maintenance activity prior to weeds setting seed and in some cases (as species require) prior to flowering or bolting is to be included in

the plan and in follow-up actions.

3.2. Maintenance

- A. Maintain and establish native vegetation by watering, weeding, rotary mowing, trimming, reseeding, and other operations.
- B. To reduce weed height and provide direct sunlight for establishing the planting plan species, cutting and/or rotary mowing is to be performed. Mowing heights and dates should be adjusted to maximize weed control and minimize damage to native species. The mower blade height should be set at a minimum, six (6) to eight (8) inches above grade. For areas not accessible with mowing equipment, the area may be cut to the minimum specified height with a string trimmer or equivalent.
- C. When pulling weeds, exposing large areas of bare soil is to be avoided.

3.3. Impacts to Non-Target species:

- A. In the event that the desirable plantings, shrubs or trees are damaged by the Contractor due to herbicide or mechanical methods, the Contractor is to provide replacement in kind including labor. Replacement includes watering and establishment of the replacement material.

3.4. Performance Criteria

- A. Invasive species include, but not limited to: *Typha angustifolia*, *Typha X glauca*, *Phragmites australis*, *Lythrum salicaria*, *Salix interior*, *Phalaris arundinacea*, *Cirsium arvense*, *Melilotus* sp., *Poa pratensis*, *Dipsacus* sp. As well as those on the State of Illinois Noxious weed list and those listed by www.invasive.org for Illinois.
- B. First year: 90% coverage of the cover crop shall be established within the first three months. There shall be no bare areas greater than 0.5 meters. By the end of the first complete growing season, at least 25% of the native planting areas, as measured by aerial coverage, shall consist of native/non-invasive species or those of what was planted in the above list.
- C. Second year: At least 50% of the native planting areas shall consist of native/non-invasive species or those of what was planted in the above list.
- D. Third year: By the end of the third growing season, no area throughout the native planting areas greater than 0.5 square meters shall be devoid of vegetation, as measured by aerial coverage, unless specified on approved plans. This standard does not apply to emergent and aquatic communities, which must achieve 50 percent cover. At least 75% of the buffer areas shall consist of native/non-invasive species or those of what was planted in the above list. None of the three most dominant species may be non-native or invasive or constitute greater than 25% aerial coverage. (individually or cumulatively) by the end of the third growing season, including but not limited to the following species: *Cirsium arvense* (Canada Thistle), *Dipsacus laciniatus* (Cut-leaved Teasel), *Dipsacus sylvestris* (Common Teasel), *Lythrum salicaria* (Purple Loosestrife), *Melilotus alba* (White Sweet Clover), *Phalaris arundinacea* (Reed Canary Grass), *Phragmites australis* (Giant Reed), *Polygonum cuspidatum* (*Fallopia japonica*, Japanese Knotweed), *Rhamnus cathartica* or *frangula* Buckthorn.

E. Chart of maintenance actions:

All 3 Years	<ol style="list-style-type: none"> 1. Provide site visits, Action Plan and required reports/notification 2. Cover crop is not to be considered a weed species. 3. Perform weed control via herbicide, rotary mowing and/or hand weeding 4. Water plants as necessary for establishment 5. Replace dead plants from the planting list with new plant of same size and species 6. Replace/Reset stone that becomes dislodged in order to maintain integrity of shoreline protection 7. Maintain wildlife control netting in an upright condition 8. Remove any debris, sediment, or other foreign material 9. Repair gullies, rills or other soil erosion.
Year One: additional items	<ol style="list-style-type: none"> 1. Maintain wildlife control netting in an upright condition
Year Two: additional items	<ol style="list-style-type: none"> 1. Remove wildlife control netting During the month of July
Year three: additional items	<ol style="list-style-type: none"> 1. By May 1st add mulch and ensure 3" depth in all areas

F. Year One through Three: Satisfactory performance by the end of the growing season shall consist of the criteria shown in the chart below:

	Vegetative Cover / Soil Stabilization	% Native Cover	None of the Four most dominant species are non-native or invasive
Year 1	Maintain erosion blanket in unvegetated areas	40%	Required
Year 2	No unvegetated areas >1m ²	50%	Required
Year 3	No unvegetated areas >1m ²	80%	Required

- 3.5. Owner Ability to Perform Work: Given the need for responsiveness to prevent weed species from bolting or setting seed, the Owner upon 7 day notice may have others perform the work needed to maintain the contract area. The cost charged by others may then be deducted in full, from the amount remaining on the contract.

END OF SECTION

SECTION 32 9450
NATURAL STONE

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work under this Section includes furnishing the labor, equipment, and materials necessary for the furnishing and placing of Contractor-supplied boulders and outcroppings.

1.2 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
 - a. Preparation instructions and recommendations.
 - b. Storage and handling requirements and recommendations.
 - c. Installation methods
- B. Photographs: Furnish sample of rock and a digital photo of each type of landscape boulder/outcropping stone is required. Any landscape boulder/outcropping that does not conform to the approved samples will not be accepted and shall be removed and replaced as indicated by the owner's representative.
- C. Sample Review: Contractor shall identify and submit sources for all landscape boulder/outcropping stone and shall coordinate with Owner's Representative on an in-person review at selected quarry/source. Furnish and sample of each size of stone specified. No material shall be delivered to the project site prior to approval.
- D. Delivery and Receipt: Give 48 hours notice of delivery to project site for approval by owner's representative. Any landscape boulder/outcropping that does not conform to the approved samples will not be accepted and shall be removed and replaced by the contractor at no additional cost to the owner as directed by the owner's representative.

1.3 QUALITY ASSURANCE

- A. Work shall be performed by those experienced in landscape boulder/outcropping installation. A minimum of 5 years of experience working on similar size and type of installation is required.
- B. Mock-Up: Provide a mock-up to verify selections made under sample submittals to demonstrate aesthetic effects and qualities of materials and execution.
 - a. Contractor to prepare mock-up for cut limestone seat wall on concrete pad, use wall J12 for length and radius of mock-up.

- b. Contractor to prepare multi-tier outcropping mock-up approximately 48 inches long by full height by full thickness, including backup. Multi-tier outcropping is to be sized per details. Stone size varies depending on where it is located within the park.
- C. Indicate outline of boulder/outcropping placement with chalk or temporary paint for large tiered areas where staking would not be effective.
- D. Stone that is chipped, uneven, or significantly differing in color or veining from the sample boards may be rejected by the owner's representative.
- E. Stones used in and around the playground are to be free of sharp or jagged edges. Gaps between stones to meet playground safety requirements. Stone dimensions per details.
- F. Cut limestone seat wall segments to fit together flush to create near seamless curves with gaps no larger than 1/4".

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Contractor shall furnish boulders, outcropping and cut seatwall stone similar in appearance, color, type, hardness and approximate size as shown on Drawings or specified in the Contract Documents. No evidence of drilling, scrapes, large flakes, or cracks shall be visible after the boulder is set in place.
- B. Boulders, Outcropping and Cut Seatwall stone shall be supplied by the following or approved equal:
 - i. Halquist Stone Company: Sussex, Wisconsin Ph: 1.800.255.8811
 - ii. Lurvey's Landscape Supply: Des Plaines, Illinois Ph: 1.847.299.8333
- C. Sizes to be as indicated on the drawings. Stone shall be of such shape as to form a stable formation in the required locations. Flat or needle shapes will not be accepted.
- D. Edges shall be rounded. No sharp edges will be allowed at outcropping, landscaping stone, or stone benches near the playground.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.

- B. If substrate preparation is the responsibility of another installer, notify Owner's representative of unsatisfactory preparation before proceeding.

3.2 STOCKPILING

- A. Stone shall be stockpiled according to size and stored in such a manner as to prevent scaring, breaking, chipping or other damage.

3.3 PREPARATION

- A. The Contractor shall coordinate with the Owner's representative prior to setting boulders/outcroppings to ensure desired face and orientation is achieved. Boulders/outcroppings shall be placed on site as directed by the Owner's representative.
- B. Contractor shall stake or mark all locations and sizes of boulders/outcroppings prior to final installation.
- C. The Contractor shall form a pocket for boulder/outcropping installation, ensuring that the boulder/outcropping is even and true to line, buried one-third to one-half ($1/3$ to $1/2$) of the boulder/outcropping depth, and in accordance with the Standard Detail, or as shown on the Drawings

3.4 INSTALLATION

- A. Excavate soil as required and place the boulders/outcroppings as shown on the plans and details. Care shall be taken as to not scar or damage boulders/outcroppings during excavation, movement, storage or placement. Damaged boulders/outcroppings shall be replaced with suitable boulders/outcroppings at contractor's expense.
- B. Boulders/outcroppings shall be placed with weathered side up and so as to conform to existing stable ground and shall not rock or shift once placed.
- C. Boulders/outcroppings shall be placed as to provide minimum of exposed rough or fractured edges.
- D. Protect surfaces of boulders/outcroppings set into or adjacent to concrete paving to remain free of concrete splashing or staining.
- E. Place boulders/outcroppings using slings or other suitable equipment to prevent marring of the rocks by equipment.
- F. Boulders/outcroppings shall be set to remain stable and in place after placement.
- G. Boulders adjacent to paving:

1. Set boulders such that top of boulder is flush with top of adjacent paving, where practicable.
2. No voids larger than 1/8" shall exist between the asphalt and boulder on any side, except where boulder is partially in paving and partially in soil.

H. Stacked outcropping stones:

1. Where outcropping stones are stacked on top of each other stones shall be mortared together to prevent movement.

I. Cut limestone seat walls are to be placed on concrete and shall be set so they do not rock or shift once placed.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 33 4100

EXTERIOR SEWER FACILITIES

1.0 GENERAL

1.1 Summary

- A. The work includes furnishing and installing certain portion of sewer including drains, frames and covers, and all pipe and accessories constructing concrete manholes, and testing of all sewer work; all as shown and specified.

1.2 Quality Control

- A. Sewer Work: Comply with all requirements and local codes and Standard Specifications for all Road and Bridge Construction, published by the Illinois Department of Transportation, latest edition.
- B. Illinois Standards: Standard Specifications for Water and Sewer Main Construction

1.3 Submittals

- A. Submit the following for review and action:
 - 1. Shop Drawings: Submit shop drawings for precast concrete manholes, and all other specified structures. Include frames, covers, and grates.
 - 2. Product Data: Provide data indicating pipe, pipe accessories, filter fabric, and structures that meet the specifications.
 - 3. Contractor shall submit to the Architect/Engineer before any materials are delivered, the name and brand of materials which he proposes to use, and none but accepted materials shall be delivered to the site.
 - 4. Samples for approval shall be submitted in advance to allow ample time for testing for quality and no work shall be done until the required approval has been given.
 - 5. Manufacturer's Certificates: Provide certification that products meet or exceed specified requirements.
 - 6. Manufacturer's Installation Instructions: Indicate special procedures required to install products specified.
 - 7. Permit: Submit three (3) copies of permit when received.
 - 8. Submit upon completion of project, a copy of Certificate of Approval from agency that issued permit.

2.0 PRODUCTS

2.1 Components

- A. General: All Material shall be delivered to the site of the work in sufficient quantities so that work, will not be delayed. Contractor shall submit to the Engineer before any materials are delivered, the name and brand of materials which is to be used and none but accepted materials shall be delivered to the site. Samples for approval shall be submitted in advance to allow ample time for testing for quality and no work shall be done until the required approval has been given.
- B. Concrete shall have a compressive strength of 4,000 PSI in 28 days. The slump shall be 4 inches max. The mixing water shall be clean and free from organic matter and other deleterious substances. Proportion of materials will be determined by the Engineer
 - 1. Ready-mixed concrete may be used, and if used, shall be mixed and delivered in accordance with ASTM C94.

2. Portland cement shall conform to ASTM C150, Type 1.
3. Aggregates shall be clean and well-graded from fine to coarse with a maximum size of 1 inch and shall conform to ASTM C33.
4. Forms, if required, shall be as approved.

2.2 Components for Sewer Work

- A. All components shall be subject to field inspection by the Owner and Owners representative. Any section of pipe or structure that is damaged by handling or is defective as determined by the Owner or owner's representative will be marked and returned to the manufacturer.
- B. All materials shall be delivered to the site of the work in sufficient quantities so that work, will not be delayed.
- C. Reinforcing steel where shown shall conform to either ASTM A615, grade 60 for steel bars or ASTM A 185 for welded wire fabric.
- D. Precast concrete blocks for manhole: ASTM C139 (Thickness 5", Height 7 $\frac{3}{4}$ ")
- E. Sewer Brick: ASTM C32, Grade MS
- F. Mortar: ASTM C270, Type N
- G. Hub-and-Spigot, Cast-Iron Soil Pipe and Fittings: ASTM A74 service and extra-heavy classes, and shall be coated with a heavy mastic or tar.
 1. Fittings used shall be cast iron drainage fittings of the same grade and coated in the same manner as the pipe specified above. All junctions shall be made with "Y" and 1/8 bend fittings.
 2. Joints shall be caulked with white oakum and shall be secured with molten caulking lead, not less than 1 inch deep.
- H. Extra Strength Vitrified Clay Pipe (ESVCP) and fitting: Extra strength, unglazed bell and spigot pipe. ASTM C 700. Flexible compression joints for vitrified clay pipe and fittings, ASTM C 425. Pipe must meet the requirements for Section 550 of the IDOT Standard Specifications for Road and Bridge Construction, latest edition.
- I. Reinforced Concrete Pipe; ASTM C 76 Class II unless otherwise indicated; reinforced concrete fittings, same strength as adjoining pipe, tongue-and-groove gasketed joints complying with ASTM C 443. Install in accordance with ACPA "Concrete Pipe Installation Manual"
- J. PVC Pipe for under drains shall meet the requirements shown on the plans and the PVC perforated subsurface drain pipe, SDR 35—ASTM D 3034.
- K. Cleanouts shall meet requirements of plans and have a ductile iron frame and cover for cleanout, ASTM A-536 and proof loaded as per AASHTO M306. Castings must be proof loaded as per AASHTO M306. All lids must be marked with a CO with raised capital letters. 2" high with $\frac{3}{4}$ " raised.
- L. Precast Concrete Manholes: Precast, reinforced concrete, of depth indicated, with provision for rubber gasket joints.
 1. Ballast: Increase thickness of precast concrete section or as concrete to base section, as required to prevent flotation.
 2. Base Section: 6-inch (150mm) minimum thickness for floor slab and 4-inch (100mm) minimum for thickness for walls and base riser section, and having a separate base slab or base section with integral floor.
 3. Riser section: 4-inch (100mm) minimum for thickness, 48-inch (1220mm) diameter and length to provide depth indicated.
 4. Top Section: Eccentric cone type, unless concentric one or flat-slab-top is indicated. Top of cone of size that matches grade rings.

5. Gasket: ASTM C 443 (ASTM C 478M), rubber.
 6. Grade Rings: include 2 or 3 reinforced concrete rings, of 6 to 9 inches (152 to 229 mm) total thickness, that match a 24 inch (610mm) diameter frame and cover.
 7. Steps: ASTM C 478 (ASTM C 478M) ductile iron, individual steps.
 8. Pipe Connection: ASTM C 923 (ASTM C 923M), resilient, of size required, for each pipe connecting to base section.
- M. Precast Concrete Catch Basin: Precast, reinforced concrete, of depth indicated, with provision for rubber gasket.
1. Base Section: 6-inch (150mm) minimum thickness; 4-inch (100mm) minimum thickness for walls and base riser section, and having a separate base slab or base section with integral floor.
 2. Riser Section: 4-inch (100mm) minimum thickness 48-inch (1220mm) diameter and length to provide depth indicated.
 3. Top Section: Eccentric cone type, unless concentric cone or flat slab is indicated. Top of cone of size that matches grade rings.
 4. Gasket: ASTM C 443 (ASTM C 478M), rubber.
 5. Grade Rings: include 2 or 3 reinforced concrete rings, of 6 to 9 inches (152 to 229 mm) total thickness, that match a 24 inch (610mm) diameter frame and cover. ASTM C478
 6. Steps: ASTM C 478 (ASTM C 478M) ductile iron, individual steps.
 7. Pipe Connection: ASTM C 923 (ASTM C 923M), resilient, of size required, for each pipe connecting to base section.
- N. Frames and Gates: Frames and grates for manholes shall be equal to No. 1420-A basin cover and frame, (see plan for solid or grated tops) all as manufactured by EAST JORDAN IRON WORKS, INC. All open grates located in paved walking paths shall comply with ADA requirements for openings.
- O. Plastic Underground Warning Tapes: Polyethylene plastic tape, 6 inches wide by 4 mils thick, solid green in color with continuously printed in black letters "CAUTION-SEWER LINE BURIED BELOW".
- P. Keep Catch Basin Free/Clean of Debris During Construction.

3.0 EXECUTION

3.1 Sewer Pipe Installation

- A. Before joining the pipe in the trench, the bell and spigot surface shall be wiped free of dust or other foreign matter. A lubricant or sealant as recommended by the pipe manufacturer shall be applied to the bell end spigot mating surface just before they are joined together.
- B. The spigot end shall be positioned into the bell end of the pipe previously laid and shall then be shoved home to compress the joints and to assure a tight fit between the interfaces.
- C. Sewer pipe shall be laid with bell end upgrade, all changes in direction shall be made with elbow and proper curved fittings, and junctions shall be made with "Y" branches. Where pipe enters manhole, it shall be properly centered in the opening and well-cemented with mortar.
- D. Seal ends of pipe at the locations as shown on plans, using an airtight plug or by other means acceptable to the project manager.
- E. When one pipe material is to join another pipe material and the change in pipe material will not occur at a manhole or catch basin, the dissimilar pipes must be joined using a "band-seal" adapter coupling.

- F. Inspect piping before installation to detect apparent defect. Mark defective materials with white paint and promptly remove from site.
- G. Lay piping beginning at low point of system, true to grades and alignment indicated, with unbroken continuity of invert.
- H. Place plugs in end of uncompleted conduit at end of day or wherever work stops.
- I. Flush lines between manholes if required to remove collected debris.
- J. Make joints between different type of pipe with standard manufactured adapters and fitting intended for that purpose.
- K. Close open ends of abandoned underground utilities which are indicated to remain in place. Provide sufficiently strong closures to withstand hydro-static or earth pressure which may result after ends of abandoned utilities have been closed. Close open ends of concrete or masonry utilities with not less than 8" thick brick masonry bulkheads.
- L. Inspect piping to determine whether line displacement or other damage has occurred.
- M. Make inspection after lines between structure locations have been installed and approximately 2-ft of backfill is in place and again at completion of project. If inspection indicates poor alignment, debris, displaced pipe, installation, or other defects, correct such defects, and re-inspect.
- N. Prior to the connection of sewer pipes to existing structure/sewer pipes, the structure shall be identified, cleaned and videotaped. This shall occur from the connection point of the sewer line or structure downstream including sewer lines/structures down to the city street sewer system connection or open water outfall. The contractor is responsible for all cleaning and videotaping at contractor's expense. This shall be included in the base bid. The cleaning and videotaping shall occur as soon as practical and any damaged pipe discovered during cleaning and videotaping shall be brought to the owner or owner's representative's attention immediately.
- O. Pavement sections requiring removal must be full panel sections and pavement anchors will be required for pavement restoration.

3.2 Manhole and Catch Basin Installation

- A. Place precast concrete section as indicated, where manholes or catch basin occur in pavements, set tops of frames and covers flush with finish surface. Elsewhere, set tops of 3" above finished surface, unless otherwise indicated.
- B. Install in accordance with ASTM C 891.
- C. Provide rubber joints gasket complying with ASTM C 443 or apply bituminous mastic coating

3.3 Connections

- A. Connection to new Sewers: make sewer service connections and downspout connections with service wyes or tees of the same type of material as the parent sewer.
- B. Connections to existing sewers: Make connections to existing conduits and structures so that finished work will conform as nearly as practicable to requirements specified for new work. Use tee or wye saddle on existing sewer and structures. Do not allow proposed sewer to extend more than 1 inch into parent sewer. If the exiting sewer pipe is cracked, broken or otherwise damaged by the contractor in making this circular opening, the contractor shall replace this section of pipe with a pipe equal to the pipe of the existing sewer.

The joint between the exiting storm sewer and the proposed storm sewer shall be completely sealed with brick and mortar.

3.4 Structures to be Adjusted

- A. General This work consists of adjusting existing catch basins, manholes, inlets, valve vaults, electric manholes or other structure to bring casting to the finished grade of the proposed improvements. Perform work in accordance with section 602 and 603 of IDOT Standard Specification except as modified herein.
- B. Construction requirements: Use brick and mortar or precast adjusting rings to adjust structures. Set adjustment bricks, rings, and structure frames in a full mortar bed. Shimming of the frame with wood and stones is not allowed. Use of partial bricks is not allowed.
- C. Timing: If adjustments are made in areas open to traffic, complete the adjustment in the same day as it is started.

3.5 Abandoned Sewers and Structures

- A. Existing manholes, catch basins and inlets designated to be removed at locations where the existing inlet and/or outlet pipes are to be abandoned, shall be removed for the full depth of the structure. If the abandoned pipes are not designated to be removed, the ends of the pipe at the structure shall be sealed with concrete or brick and mortar in a matter satisfactory to the Owner.

3.6 Sewer Pipe Crossing – Sewers and Water Mains

- A. Normal conditions: Water mains crossing house sewers, storm sewers or sanitary sewer crossing water mains shall be laid to provide a separation of at least 18 inches between the bottom of the water main and the top of the sewer. Unless the following unusual conditions exist:
- B. Subtext sewers passing over or under water mains should be constructed of materials and with joints that are equivalent to water main standards of construction.
- C. Construction of sewers crossing over water mains shall insure additional protection to the water main by providing:
 - 1. A vertical separate of at least 18 inches between the bottom of the sewer and top of the water main:
 - 2. Adequate structural support for the sewer to prevent excessive deflection of joints and settling on and breaking the water mains:
 - 3. That the length of above type sewer pipe be centered at the point of crossing so that the joints will be equidistant and as far as possible from the water main.

3.7 Drainage Structures to be Cleaned

- 1. General: clean existing manholes, catch basins, and inlets of all debris. Rod pipes within project limits and to the nearest drainage structure downstream to ensure proper flow and drainage within the sewer pipe
- 2. Sewer cleaning methods shall be washing with high pressure water (water jetting) or vacuum sewer jetting.

END OF SECTION

SECTION 33 4616 **UNDERDRAINAGE**

1.0 GENERAL

1.1 Summary

- A. This Section covers provision and installation of under drainage for the playground, landscaping, and spray pad areas

2.0 PRODUCTS

- A. General: Furnish drainage pipe complete with bends, reducers, adapters, couplings, collars, and joint materials as shown on plans.
- B. SDR 26 Polyvinyl Chloride Pipe: ASTM D 2729.
- C. SDR 26 Perforated Polyvinyl Chloride Pipe ASTM D 2729
- D. Provide clean out as shown on plans.
- E. Filter Fabric
 - 1. Manufacturer's standard nonwoven geotextile fabric of polypropylene or polyester fibers, or a combination of them. Use "3401 Geofabric" by Typar or approved equal.

2.1 Materials

- A. Backfill materials and their installation shall be as described in Section 31 2000 - Earthwork

3.0 EXECUTION

3.1 Inspection

- A. General: Examine subgrade surfaces to receive under drainage system to verify suitability. Do not begin installation until subsurface conditions are satisfactory to accept drainage system.

3.2 Installation

- A. Under Drainage System: Excavate for under drainage system after subgrade material has been compacted but before drainage fill course has been placed. Provide a clear horizontal distance between perforated drain pipe and trench wall on both sides not less than 4", unless otherwise shown. Grade bottom of trench excavations to required slope and compact to a firm, solid bed for drain system.
- B. Apply a minimum 4" layer of compacted bedding material below the perforated drain pipe, raising low areas and creating a firm base at the correct levels. Where unsatisfactory bearing soil occurs, excavate to a minimum depth of eight inches below the pipe invert and place compacted granular fill to reach invert levels.
- C. Overlay bedding with one layer of synthetic drainage fabric. Overlap fabric edges at least 4 inches.
- D. Laying Drain Pipe: Lay drain pipe on compacted bedding. Provide full bearing for each pipe section throughout its length to true grades and alignment, and continuous slope in direction of flow.
 - 1. Lay fabric wrapped perforated pipe with perforations down and joints tightly closed in accordance with pipe manufacturer's recommendations. Provide collars and couplings as required.
- E. Join and install PVC pipe as follows:
 - 1. Installation in accordance with ASTM D 2321.

- F. Testing Drain Lines: Test or check lines before backfilling to assure free flow. Remove obstructions, replace damaged components, and retest system until satisfactory. Owner must approve operation of system prior to covering it up.
- G. Washed Gravel: Place layer of washed gravel over drainage pipe and drainage fabric to depth indicated or, if not indicated, to a depth of not less than 4 inches around sides and 12 inches on top of drainage pipe.
- H. Fill to Grade: Apply fabric and backfill as required on plans.

END OF SECTION

June 30, 2025

Upland Design Ltd.
1229 N. North Branch Street, #220A
Chicago, Illinois 60642
ATTN: Liz Dafoe

**Re: Report of Geotechnical Investigation
Proposed Wing Park Improvements
8 Longwood Place
Elgin, Illinois
Pioneer Project No. 25-0196-151**

Dear Ms. Dafoe:

Pioneer Engineering & Environmental Services, LLC (Pioneer) was contracted to conduct a geotechnical investigation for the proposed park improvements located at Wing Park in Elgin, Illinois. The investigation was performed in general accordance with Pioneer Proposal No. 22018, dated May 2, 2025. The scope of the investigation included drilling, sampling, and laboratory testing of soil obtained in five (5) borings, five (5) single-ring infiltration tests and three (3) pavement cores in support of the proposed infiltration and pavement design of the project.

Project Overview

The Project Site consists of improvements at the northern and southern portions of the Wing Park property located at 8 Longwood Place (assumed from the nearby tennis court) in Elgin, Illinois. The project Site is currently developed with open fields with trees, a gazebo, a volleyball court, a tennis court, a parking lot, and various drive lanes and landscaping features (see attached sketch for park location with proposed boring and pavement core locations).

The proposed improvements are to include the installation of pavement and landscaping improvements.

Historical Site Information.

A cursory review of available historical aerial photos were made to help determine if the past history of the site, such as previous structures, may provide insight into the existing site subsurface conditions. Aerial photographs from 1946 to present were reviewed to help determine where foundations or floor slabs from previous site use might be located.

Aerial photographs indicate that prior to the earliest available aerial photographs from 1946, the Site was already developed with Wing Park and the Wing Park Golf Course. Between 1946 and 1953, the northeast corner of the park was converted from what appears to be a race track to baseball fields. The area to the west of Wing Park was developed between 1962 and 1972. Since 1972, the Site and surrounding area have remained relatively unchanged to present day.

Subsurface Investigation

Five (5) soil borings were performed for the current project (reference the attached Boring Location Diagram, Figure 1). The borings were located in the field using conventional taping procedures with aid from a GPS unit. The ground surface elevation at each boring location was interpolated from the Google Earth website. The borings were performed within the project area and were advanced to a depth of 15 feet below the existing ground surface. Five (5) single-ring infiltration tests were also performed at the Site at a depth of 4 feet below existing grade nearby each boring location. Three (3) pavement cores were performed per the client's direction, and granular subbase thickness recorded.

The borings were drilled with an ATV-mounted Geoprobe 3126GT drill rig using 3 ¼-inch diameter hollow stem augers (HSAs). Representative soil samples were obtained from each sampling interval using the split barrel sampling procedure performed in accordance with ASTM Standard D 1586, "Method for Penetration Test and Split Barrel Sampling of Soils". In the split barrel sampling procedure, a 140-pound hammer falls 30 inches and drives a two-inch outer diameter split barrel sampler 18 inches into the soil. The number of blows required to drive the barrel sampler the final 12 inches is the Standard Penetration Resistance (SPT N-value) for that interval. This test result indicates the soil's relative density and comparative consistency, and provides a basis for estimating the relative strength and compressibility of soil. Representative soil samples were obtained at 2.5-foot intervals to a depth of 15 feet.

The soil samples obtained from each interval were logged in the field according to their predominant geological characteristics. The field log was subsequently used to prepare the final boring logs that are included as an attachment to this report. Soil samples obtained from the drilling operations were identified by boring number and sampling depth, and brought to Pioneer's laboratory for further examination and testing. Upon completion of the drilling, the boreholes were backfilled with bentonite chips to the existing ground surface.

The soil samples were analyzed for physical soil parameters including moisture content and unconfined compressive strength. In addition, the soil was further classified in accordance with the Unified Soil Classification System. A natural moisture content test was performed for each sampling interval and/or stratum in accordance with ASTM Standard D 2216. Additional estimated unconfined compressive strength values for cohesive soil samples were obtained by using a spring-loaded pocket penetrometer and/or Rimac machine. The laboratory test data is included on the attached Boring Logs.

Subsurface Conditions

The following generalized soil profile was encountered in the borings.

Northern Borings B-1 and B-2 (lower elevation around 775 ft MSL):

- Surficial Topsoil. The borings encountered approximately 1.5 of Black Silty Clay Topsoil at the surface. The topsoil materials possess moisture contents ranging between 31.1 to 32.3 percent.
- Variable Fill. The topsoil is underlain variable black sand, silty clay and topsoil Fill extending to approximate depths of 3.0 to 3.5 feet below surface grade. This deposit possesses moisture contents of 12.4 to 20.4 percent.
- Medium Dense to Dense Sandy Gravel. The Fill is underlain by medium dense to dense Brown Sandy Gravel. These materials extend to the boring termination depth of 15 feet below existing grade. This stratum possesses Standard Penetration Test (SPT) N-values ranging from 20 to 58 blows per foot (bpf) and moisture contents of 8.6 to 12.5 percent.

Southern Borings B-3 to B-5 (higher elevation around 805 ft MSL):

- Surficial Topsoil. The borings encountered approximately 0.8 to 1.0 of Black Silty Clay Topsoil at the surface. The topsoil materials possess moisture contents ranging between 20.5 to 21.3 percent.
- Variable Fill (B-5 only). At B-5, the topsoil is underlain variable black sand and silty clay Fill extending to approximate depths of 3.0 feet below surface grade. This deposit possesses moisture contents of 21.6 percent.
- Medium Dense Clayey Sand. The surficial topsoil and Fill materials are underlain by medium dense Brown Clayey Sand trace gravel. These materials extend to an approximate depth of 5.5 feet below existing grade. This stratum possesses Standard Penetration Test (SPT) N-values ranging from 21 to 23 blows per foot (bpf) and moisture contents of 12.3 to 13.6 percent. This deposit also possesses unconfined compressive strengths of 2.0 to 5.2 tsf
- Hard Gray Silty Clay. In all borings, the Clayey Sand stratum is underlain by hard Gray Silty Clay extending to an approximate depth of 13.5 feet below existing surface grade. This deposit possesses unconfined compressive strengths of 3.2 to 7.4 tsf and moisture contents of 11.8 to 14.4 percent.
- Medium Dense Sand. The Silty Clay stratum is underlain by medium dense Brown Sand with trace gravel and silty clay. These materials extend to the boring termination depth of 15 feet below existing grade. This stratum possesses Standard Penetration Test (SPT) N-values ranging from 21 to 22 blows per foot (bpf) and moisture contents of 12.8 to 16.8 percent.

Groundwater Conditions. Groundwater was encountered in all the boring locations at the time of drilling within the depths explored. The results of the groundwater encountered are outlined in the following table:

Table 1: Groundwater Results

Boring	Depth During Drilling (Feet)	Elevation (MSL,Feet)	Depth 8 hrs After Drilling (Feet)	Elevation (MSL,Feet)
B-1	6.5	769.5	3.0	773.0
B-2	6.0	769.0	5.0	770.0
B-3	14.0	790.0	N/A	N/A
B-4	15.0	788.0	N/A	N/A
B-5	14.0	792.0	N/A	N/A

Seasonal and yearly fluctuations in the water table can be expected due to variations in precipitation, evaporation, and surface runoff. Also, it is likely that pockets of perched groundwater may occur after precipitation events.

The subsurface description is of a generalized nature to highlight the major subsurface stratification features and material characteristics. The boring logs included in the appendix should be reviewed for specific

information at individual boring locations. These records include soil descriptions, stratifications, penetration resistance, locations of the samples and laboratory test data. The stratifications shown on the boring logs represent the conditions only at the actual boring locations. Variations may occur and should be expected between boring locations. The stratifications represent the approximate boundary between subsurface materials and the actual transition may be gradual.

Infiltration Test Procedure and Results

Five (5) representative soil (bag) samples were obtained from the bottom of the infiltration test depths to verify the soil gradation at the invert level of the proposed structure. The samples were then returned to the lab to perform a Particle Size Distribution Test (-200 Wash) per ASTM D1140 on the soil sample directly beneath the infiltration zone for the test performed.

Infiltration Laboratory Testing. A Particle Size Distribution (-200 Wash) Test was performed per ASTM D1140 on the soil samples directly beneath the infiltration zone for the test performed. The results of the laboratory testing program are included on the Particle Size Distribution Test Results and are summarized below.

Table 2: Particle Size Distribution Test Results

Test Number	Soil Type (USDA)	Gravel (%)	Sand (%)	Silt/Clay (%)
I-1 (B-1) (4 ft)	Sandy Gravel (GW)	62.0	32.6	5.4
I-2 (B-2) (4 ft)	Sandy Gravel (GW)	51.2	40.7	8.1
I-3 (B-3) (4 ft)	Clayey Sand (SC)	19.0	65.9	15.1
I-4 (B-4) (4 ft)	Clayey Sand (SC)	1.9	79.0	19.1
I-5 (B-5) (4 ft)	Clayey Sand (SC)	11.5	72.8	15.7

Infiltration Testing. Infiltration testing was performed following the procedure for single-ring infiltration testing as described below.

Five (5) infiltration tests were conducted at test locations I-1 to I-5 at depths of approximately 4 feet below existing grade. The tests were performed by: (1) advancing a 12.5-inch diameter borehole at the locations listed above to a depth of approximately 4 to 5 feet below existing grade; (2) installing a 12-inch diameter casing; (3) filling the casing with water to saturate the soils below; and (4) measuring the steady-state rate at which the water level dropped within the casing through the saturated soils below. The water level was measured using a measuring tape and a stop watch. After the infiltration testing was completed, the casing was removed and the boring was backfilled with soil cuttings.

Infiltration Test Results. The measured results of the infiltration tests are presented in the attached Single-Ring Infiltrometer Infiltration Rate Determination sheets. A graph showing the cumulative amount of water infiltrated versus time is also attached. The calculations and test results are also shown on the determination sheet.

The graph of Infiltration (inches) versus time (minutes) is characterized by an initial steep infiltration rate followed by a moderate infiltration rate. The moderate or steady-state rate of infiltration rate is used for design purposes. The results are summarized as follows.

Table 3: Infiltration Test Results

Test Number	Soil Type (USDA)	Estimated Infiltration Rate Per Field Test (inches per hour)
I-1 (B-1) (4 ft)	Sandy Gravel (GW)	2.12
I-2 (B-2) (4 ft)	Sandy Gravel (GW)	1.61
I-3 (B-3) (4 ft)	Clayey Sand (SC)	0.19
I-4 (B-4) (4 ft)	Clayey Sand (SC)	0.01
I-5 (B-5) (4 ft)	Clayey Sand (SC)	0.01

Recommendations. The calculated field infiltration rate compares favorably to Design Infiltration Rates for USDA Textures (University of Wisconsin, Madison, 2006) of 1.63 inches per hour for Sandy Loam and 0.03 for Clay Loam. A Design Infiltration Rate of 1.61 inches per hour should be used for areas where the native Sandy Gravels (sandy Loam) is exposed at the base of the stormwater feature, and a value of 0.1 should be used where the Clayey Sand (clay loam) is encountered.

Conclusions and Recommendations

Site Preparation

Topsoil/Asphalt Pavement Removal. The surface cover of Topsoil should be stripped from the Site. The site generally exhibited 0.8 to 1.5 feet of a topsoil surface cover. Once removed, the site should then be proofrolled to identify soft or unstable soils. Areas that exhibit excessive rutting or deflection should be disked, dried and recompact. If unsuccessful, the unstable areas can be removed and replaced with Structural Fill.

Demolition. Current development plans do not consist of demolition. Based on the historic aerials, it appears that no previous existing structures were demolished throughout the Site. If former structures are encountered, concrete from the previous structures floor slabs and foundation walls/footings should be removed from the site or crushed and stockpiled for re-use in project earthwork. If properly sized (per IDOT CA-1, CA-6, or CA-7 gradation), the crushed concrete can be used as structural backfill.

Existing any footings and foundation walls exist, they should be removed below the proposed footings, but can generally be left in place unless they are in direct conflict with the new building components or if they are located within 2 feet of the design subgrade for floor slabs.

Any sanitary sewers or utilities leaving the site and not being reused should be plugged to ensure they do not become a conduit for lost soil below the floor slab. The plug should consist of a minimum 2-foot long section of non-shrink hydraulic cement or equivalent.

Foundation System

Design Criteria. If any proposed structures are planned, such as a gazebo or picnic shelter with a floor slab-on-grade, the following soil parameter recommendations can be used. For discussion purposes, it is assumed that the design bottom of frost-depth footings will be approximately 4 feet below existing surface grade.

Footing Support Soils. The following soil deposits were considered for support of the foundation system.

- The very tough to hard Brown Clayey Sand soils (B-3 through B-5 at the southern end of the project) encountered around a depth of 3.0 feet possesses excellent engineering qualities for the support of any proposed structures.
- The medium dense to dense Brown Sandy Gravel (B-1 and B-2 at the northern end of the project) encountered around a depth of 3.5 feet possesses excellent engineering qualities for the support of any proposed structures.

Continuous/Spread Footings. Pioneer believes conventional foundations of continuous footings for walls and spread footings for interior columns can be used to support the building loads. Frost-depth footings founded on the native soils described above can be dimensioned using a net allowable bearing capacity of 3,500 psf. The net allowable soil bearing pressure refers to that pressure which may be imposed on the foundation soils in excess of the final minimum surrounding overburden pressure.

Table 4: Summary of Bearing Capacity vs. Depth

Footing Type	Footing Bearing Depth Below Existing Grade	Allowable Bearing Capacity (psf)	Soil Type	Estimated Settlement (inches)
Frost-Depth Footings	4'-0" to 5'-0"	3,500*	Brown Sandy Clay (southern area) Or Brown Sandy Gravel (northern area)	1.0
* Note: any Fill soils encountered are considered unsuitable and should be removed if encountered.				

The net allowable soil bearing pressure refers to that pressure which may be imposed on the foundation soils in excess of the final minimum surrounding overburden pressure. Total settlement on the order of 1.0 inch, or less. Differential settlements ranging from 1/2 inch to 2/3 the total settlement are possible across the building area due to variations in subsurface conditions and foundation loadings.

Undercut/Replacement of Unsuitable Soil. The following should be used where unsuitable soil is encountered below the design footing subgrade and an undercut-replacement scheme is used for footing support. Any unsuitable soil such as Fill that is encountered at the design footing subgrade should be removed to the depth encountered and replaced with Structural Fill. Typical Structural Fill, such as 3-inch crushed limestone or concrete choked with 1-inch nominal granular material (IDOT CA-7 gradation), should be placed in 18-inch thick lifts and compacted by use of a vibratory compactor or through the force of a backhoe's bucket to seat

the stone. The width of the excavation should extend at least one foot horizontally beyond the perimeter of the footing on all sides for each one foot of vertical undercut below the bottom of the footing, thus providing for adequate lateral distribution of the foundation stresses.

An additional discussion of the placement and compaction of Structural Fill is included in the Earthwork Controls section of this report.

Additional Footing Design Criteria. All footings should be founded a minimum of 3.5 feet below final exterior grade to eliminate the effects of frost on footing behavior. Interior column footings below a heated building should be founded at least 2 feet below the final floor slab level. In order to prevent local bearing failure, isolated column footings should have a minimum lateral dimension of 24-inches and continuous footings should have a minimum width of 18-inches. If the foundations are constructed during winter months or if the footings will likely be subjected to freezing temperatures after construction is completed, then the footings should be protected from freezing.

In order to limit the effects of differential movement that may occur due to variations in the character of the supporting soils and variations in seasonal moisture contents, Pioneer recommends that the continuous footings be suitably reinforced to make them as rigid as practical.

Slab-On-Grade

Slab-On-Grade. Floor slabs constructed near existing surface grade will be located on the above noted native soils. The following procedures should be used for support and to help minimize settlement of the at-grade floor slabs.

Once the floor slab areas are excavated to the design subgrade, the exposed subgrade soil should be visually inspected for unsuitable soils. Topsoil and Fill, if encountered, containing a high content of organic material or wood debris should be removed to the depth encountered. If possible, the subgrade can also be proofrolled using a fully loaded dump truck. If encountered, old footings or foundation walls should be removed to a depth of 2 feet below slab design subgrade elevation.

All unsuitable soils should be replaced with compacted Structural Fill. Structural Fill should be an approved onsite cohesive soil or imported granular soil equivalent to an IDOT CA-6 or CA-7 gradation. Structural Fill should be placed and compacted in lifts with a maximum lift thickness of 8 inches. Each lift of IDOT CA-7 open graded granular soil should be compacted to a minimum of 75 percent of the relative density in accordance with ASTM Standards D 4253 and D 4254. If IDOT CA-6 granular material is used, the soil should be compacted to a minimum of 95 percent of the maximum density per ASTM D 1557 (Modified Proctor).

It should be noted that deep undercuts are to be anticipated at the location of B-4. This location's Fill soils are considered to exhibit high moistures and low strengths. Although not organic from the lab tests, this Fill material at B-4 is likely to lead to excessive settlement and should be removed and replaced with suitable Fill.

Assuming the floor slab subgrade is prepared as recommended, a modulus of subgrade reaction of 100 pounds per cubic inch (pci) should be used.

The floor slab should be supported by a minimum 6-inch thick granular base course of IDOT CA-7 crushed stone or equivalent. The base course will not only facilitate fine grading of the slab subgrade surface, but will also serve as a capillary cutoff layer, which would minimize the migration of moisture through the floor slab. The use of a vapor barrier beneath the floor slab is also recommended. A simple polyethylene membrane can generally be installed at a minimal cost, further minimizing the migration of moisture through the floor slab, which may damage sensitive floor coverings.

Floor slabs-on-grade should be isolated from the foundation system and contain the proper number of isolation and contraction joints to maintain the integrity of the slab should minor differential movements occur.

Lateral Earth Pressure

Temporary shoring may be required depending on the proximity to existing structures, utilities, and property lines. Shoring and permanent below grade structures (such as light poles), should be designed in accordance with the recommendations in this section.

The following table presents recommended values of earth pressure and friction coefficients based on our experience with soils in the area. Equivalent fluid pressures are frequently used for the calculation of lateral earth pressures for the "at-rest", "active" and "passive" conditions, and are also provided. Earth pressures are influenced by the structural design of the temporary shoring, methods of construction and the strength of the subgrade. The "at-rest" condition (K_0) assumes no wall rotation and is usually applicable for basement walls. The recommended design lateral earth pressures do not include a factor of safety and do not provide for possible hydrostatic pressure on the walls. If hydrostatic forces are included in the wall design, an additional 62 pcf should be added to the "active" and "at-rest" equivalent fluid pressures provided below. The temporary shoring should also be adequately braced to resist the lateral earth pressures and any short-time construction loads in addition to permanent surcharge loads.

If temporary shoring is not free to rotate or deflect at the top, possibly due to tiebacks or walers, Pioneer recommends designing temporary shoring for the "at-rest" lateral earth pressure condition using K_0 . Temporary shoring that is permitted to rotate and deflect at the top can be designed for the active lateral earth pressure condition using K_a .

Table 5: Estimated Lateral Pressure and Friction Parameters

EARTH PRESSURE CONDITIONS	COEFFICIENT FOR BACKFILL TYPE	EQUIVALENT FLUID PRESSURE (pcf/ft)	DRAINED FRICTION ANGLE (degrees)	MOIST UNIT WEIGHT (pcf)
Active (K_a)	Gravel – 0.27	Gravel – 32	Gravel – 35	Gravel – 120
	Sand – 0.35	Sand – 39	Sand – 29	Sand – 110
	Lean Clay – 0.36	Lean Clay – 45	Lean Clay – 28	Lean Clay – 125
At-Rest (K_0)	Gravel – 0.43	Gravel – 52	Gravel – 35	Gravel – 120
	Sand – 0.52	Sand – 57	Sand – 29	Sand – 110
	Lean Clay – 0.48	Lean Clay – 60	Lean Clay – 28	Lean Clay – 125
Passive (K_p)	Gravel – 3.69	Gravel – 443	Gravel – 35	Gravel – 120
	Sand – 2.88	Sand – 317	Sand – 29	Sand – 110
	Lean Clay – 2.77	Lean Clay – 346	Lean Clay – 28	Lean Clay – 125
FRICTION COEFFICIENTS				
Concrete placed on Granular Fill			Tan δ = 0.45	
Concrete placed on Sand			Tan δ = 0.35	
Concrete placed on Clay			Tan δ = 0.30	

Notes: The Equivalent Fluid Pressures in the table above are based on a moist, not submerged backfill.

Horizontal loads acting on a retaining wall are resisted by friction along the foundation base and by passive pressure against the footing face, which is perpendicular to the line of applied force. The passive pressures

on the toe of the retaining wall can be computed by assuming a passive pressure coefficient from the table above for granular backfill on the consideration that some friction angle will develop between the backfill and the outer face of the structure. Passive resistance should be considered only for soils below the 3.5-foot frost depth.

Pavement Design Considerations.

Pavement Core. Per the RFP, it was requested to perform pavement cores at select locations along the existing asphalt paved paths. The following table summarizes the results of the pavement core exploration, and the results along with pavement core photos can be found in the attachments.

Table 6: Summary of Pavement Cores

Core Location	Asphalt Thickness (inches)	Granular Subbase (inches)
C-1	2.75	8
C-2	1.38	7
C-3	2.00	7

Pavement Support. If any pavement areas are to be constructed, the following recommendations should be taken into consideration. The proposed pavement areas should be excavated to design subgrade to 2-feet outside the limits of the paved area. The exposed soil should be proofrolled and any topsoil or unstable soil removed to a depth of 2 feet below design subgrade as discussed in the Floor Slab section of the report. Pavement subgrade soil with moisture contents greater than 20 percent are typically unstable under construction traffic and will need to be dried/recompacted or excavated and replaced with Structural Fill.

Pavement Section. Pioneer recommends a flexible pavement section be designed according to the State of Illinois Department of Transportation, Division of Highways, Highway Design Manual using AASHTO-H-20 loading as a maximum. The AASTHO design method takes into consideration the structural design traffic, the subgrade support value, and the structural layer coefficients for each component of the pavement system. Local pavement design practices are presented in the IDOT publication "Pavement Design Procedure" dated August 31, 1995.

The following pavement sections are considered the minimum pavement sections to be used for this project and are typically recommended in local practice, and are in general accordance with IDOT's "Pavement Design Procedures", for similar structures. It is recommended that the completed site plan be analyzed to determine the most likely traffic patterns for heavy delivery trucks and garbage trucks. The recommended Heavy-Duty Pavement section should be used in these traffic corridors. For any loading dock areas planned, it is recommended to design using the Rigid, Heavy-Duty Pavement section.

Table 7: Pavement Section Recommendations

Pavement Material	Compacted Material Thickness (Inches)		
	Flexible Pavement (Light Duty)	Flexible Pavement (Heavy Duty)	Rigid Pavement (Heavy Duty)
Portland Cement Concrete	-	-	6
Bituminous Surface Coarse	1.5	2	-
Bituminous Binder Coarse	1.5	3	-
Type B Granular Base Coarse (IDOT CA-6)	10	12	6
Total Pavement Section Thickness	13	17	12.5

The bituminous concrete binder and surface courses should consist of fine, dense, graded aggregate, Class I as defined in the IDOT Standard Specifications for Road and Bridge Construction. All placement and compaction activities should meet the requirements of the IDOT Standard Specifications.

The design of pavements should incorporate provisions for drainage of both the pavement surface and the base course layer. Should standing water be allowed to accumulate on the pavement surface or within the base course, the sub-grade will soften and it is likely that the pavement will deteriorate. The base course should be protected from water inflow along drainage paths. The base course should extend beyond the edges of the pavement in low areas to allow any water that enters the base course a path for exit.

Groundwater Control and Excavation Stability

Groundwater was encountered in all of the boring locations during drilling within the explored depths. For excavations above the water table, pumps should be readily available to maintain relatively dry excavations in the event of water seepage. It should be noted that the sand and gravel soils encountered at the Site will allow free flowing water into excavation areas. The contractor should be experienced and knowledgeable in controlling groundwater in granular soils.

During rainy seasons and under normal conditions, surface runoff and seepage water that may accumulate overnight or momentarily in foundation excavations should be promptly removed through standard perimeter ditch, sump, and pump procedures. Water, as well as loosed or disturbed materials, should be removed from the base of excavations immediately prior to the placement of concrete.

Precautions should also be taken so that the foundation systems of existing structures and utilities are not undermined. If temporary shoring will not be used to brace the sides of the excavation, Pioneer recommends sloping the sides of the excavation in accordance with local ordinances and OSHA regulations. Materials removed from the excavation should not be stockpiled immediately adjacent to the excavation, since this surcharge load may cause a sudden collapse of the slope.

Earthwork Controls

Structural Fill should meet the following properties for use as floor slab support soils.

Table 8: Structural Fill Material Requirements

Fill Type	USCS Classification	Acceptable Location for Placement
Cohesive	CL, CL-ML	Below floor slabs and pavement
Granular	GW, GP, GM, GC SW, SP, SM, SC	Below floor slabs, pavement and foundations
Unsuitable	CH, MH, ML, OL, OH, PT	Non-structural areas

Structural Fill should be placed and compacted in accordance with the following requirements.

Table 9: Fill Placement and Compaction Requirements

Description	Requirement
Fill Lift Thickness	10 inches loose measurement when sheepsfoot or steel drum rollers are used 6 inches loose measurement when jumping jacks or plate compactors are used
Minimum Compaction Requirement Below Foundations and Slabs-on-Grade and Upper 12 Inches of Paved Areas	95% of the maximum dry density per ASTM D-1557 (Modified Proctor)
Minimum Compaction Requirement Below 12 Inches of Paved Areas and Landscaped Areas	90% of the maximum dry density per ASTM D 1557 (Modified Proctor)
Moisture Content of Cohesive Soils	-2% to +3 % of optimum moisture content per ASTM D 1557
Open-Graded Aggregate including IDOT CA-1 and CA-7 Gradations	Compact in 8-inch thick lifts loose measure to achieve stability through particle interlock

All subgrade surfaces should be protected during construction from deterioration or softening caused by frost or ponding of water. Water should not be allowed to stand in the excavations for a sustained period of time. All soft, loose, or disturbed soils should be removed to competent support materials. If the floor slab or pavement subgrade is prepared in the winter, exposed subgrade soils should be protected from freezing. Structural fill should not be placed on frozen soils.

Report Limitations

This geotechnical investigation report has been prepared to aid in the evaluation and design of this project. As a result, this report has provided generalized guidelines to be considered during the actual design and construction phases of the proposed building. The information provided in this report should be evaluated by, and the site improvements should be designed by a licensed structural engineer or architect. Should deviations from the noted subsurface conditions be encountered during construction, this information should be brought to Pioneer's attention. Pioneer would welcome the opportunity to provide field construction services for this project. The analysis and recommendations submitted in this report are based upon the data obtained from the soil borings performed at the locations indicated on the location diagram. It should be understood that this location was approximate, since the boring locations were not surveyed. This report does not reflect any variations that may occur between and beyond these borings.

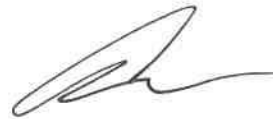
This report has been prepared for the sole use of the client identified in the report and cannot be relied upon by other persons or entities without Pioneer's permission. The observations and conclusions contained herein are limited by the scope and intent of the work mutually agreed upon by the client and Pioneer and the work actually performed. There are no warranties, implied or expressed, concerning the integrity of the areas and/or mediums not analytically tested.

Pioneer appreciates the opportunity to provide our services for this project. Please feel free to contact us if you have any questions or concerns.

Respectfully Submitted,
Pioneer Engineering & Environmental Services, LLC



Kevin Gosiewski
Geotechnical Project Manager



Alex Barlan, P.E.
Senior Geotechnical Engineer

Attachments: Boring Locations and Site Diagram (Figure 1)
 Boring Logs
 Infiltration and Sieve Test Results
 Pavement Core Log and Photos
 Soil Classification Chart





FIGURE 1
Soil Boring Location
& Site Diagram
Wing Park
Elgin, IL

Scaled:
1" = 300'
0' 300'

Drawn by:
M. S. Valadez

Job No.:
25-0196-151

Date:
June 2025

Checked by:
Kevin Gosiewski

Legend: Approximate Property Line

Geotechnical Soil Boring/
Infiltration Test Location

Pavement Core Location

PROJECT NAME Proposed Wing Park Improvements

PROJECT NUMBER 25-0196-151

DATE STARTED 05/28/2025 **COMPLETED** 05/28/2025

ADDRESS 8 Longwood Place - Elgin, Illinois

DRILLING COMPANY Pioneer

LOGGED BY JV

DRILLER GA

LATITUDE / LONGITUDE 42.054080, -88.303104

▽ **AT TIME OF DRILLING** 6.5 ft

▼ **24 HOURS** 3 ft

Elevation (ft)	Depth (ft)	Graphic Log	Visual Classification and Remarks	Samples						Lab			
				Sample Number	Sample Type	Sample Graphic	Blow Counts (N Value)	% Recovery	Vane Shear (tsf)	Qp-Pocket Penetrometer (tsf)	Qu-Unconfined Compressive Strength (tsf)	Moisture Content (%)	Dry Density (pcf)
776													
775			Black, Topsoil	1	Auger							30.30	
			FILL , black, sand, trace gravel and topsoil	2	SS		3-4-5	44				12.40	
			Brown, moist to wet, Sandy Gravel (GW)	3	SS		6-10-18	61				7.60	
770				4	SS		15-18-19	72				20.60	
				5	SS		11-19-21	56				8.60	
765				6	SS		10-18-31	72				9.80	
				7	SS		16-19-29	83				9.60	
760													
755													
750													

 At Time of Drilling (ATD)	 GW
 After Drilling (AD)	 Auger - Auger Sample
 Topsoil	 SS - Small Split Spoon

REMARKS
Elevation interpolated via Google Earth data

▽ At Time of Drilling (ATD)	 GW
▼ After Drilling (AD)	 Auger - Auger Sample
 Topsoil	 SS - Small Split Spoon

REMARKS

Elevation interpolated via Google Earth data.

REMARKS
Elevation interpolated via Google Earth data.

PROJECT NAME Proposed Wing Park Improvements

PROJECT NUMBER 25-0196-151

DATE STARTED 05/27/2025 **COMPLETED** 05/27/2025

ADDRESS 8 Longwood Place - Elgin, Illinois

DRILLING COMPANY Pioneer

LOGGED BY JV

DRILLER GA

LATITUDE / LONGITUDE 42.051714, -88.304636

▽ **AT TIME OF DRILLING** 14 ft

▼ **24 HOURS** N/A

Elevation (ft)	Depth (ft)	Graphic Log		Samples						Lab			
				Sample Number	Sample Type	Sample Graphic	Blow Counts (N Value)	% Recovery	Vane Shear (tsf)	Qp-Pocket Penetrometer (tsf)	Qu-Unconfined Compressive Strength (tsf)	Moisture Content (%)	Dry Density (pcf)
804			Visual Classification and Remarks										
800	5		Black, Topsoil 0.8	1	Auger							21.30	
			Brown, Silty Lean Clay (CL), little to some sand, trace gravel 3.0	2	SS		3-4-4	61		2.8	3.40	21.40	100.10
			Brown, Clayey Sand (SC), trace gravel 5.5	3	SS		5-10-12	72		3.8		12.50	
			Grayish brown, Silty Lean Clay (CL), trace to little sand, trace gravel 5.5	4	SS		4-9-11	89		4.5	3.20	12.50	124.40
795	10			5	SS		5-10-13	56		4.5	7.40	14.30	123.10
			6	SS		6-10-11	72	4.5		6.00	13.00	127.80	
790	15		14.0	7	SS		5-9-13	78				13.00	
			15.0										
785	20												
780	25												
775													

▽ At Time of Drilling (ATD)	 SC
 Topsoil	 Auger - Auger Sample
 CL	 SS - Small Split Spoon
 SP	-

REMARKS

Elevation interpolated via Google Earth data.

PROJECT NAME Proposed Wing Park Improvements

PROJECT NUMBER 25-0196-151

DATE STARTED 05/27/2025 **COMPLETED** 05/27/2025

ADDRESS 8 Longwood Place - Elgin, Illinois

DRILLING COMPANY Pioneer

LOGGED BY JV

DRILLER GA

LATITUDE / LONGITUDE 42.051074, -88.304687

 **AT TIME OF DRILLING** 15 ft

 **24 HOURS** N/A

Elevation (ft)	Depth (ft)	Graphic Log		Samples						Lab			
				Sample Number	Sample Type	Sample Graphic	Blow Counts (N Value)	% Recovery	Vane Shear (tsf)	Qp-Pocket Penetrometer (tsf)	Qu-Unconfined Compressive Strength (tsf)	Moisture Content (%)	Dry Density (PCF)
803			Visual Classification and Remarks										
			Black, Topsoil 0.8	1	Auger							21.00	
			Brown, Clayey Sand (SC), trace gravel	2	SS		3-3-2	56		2.0	1.20	20.10	112.60
800													
				3	SS		4-10-13	67		2.0		13.60	
	5												
			Grayish brown, Silty Lean Clay (CL), trace to little sand, trace gravel 5.5	4	SS		4-10-11	61		4.5	4.40	11.80	122.70
795													
				5	SS		5-9-13	89		4.5	4.50	14.40	123.70
	10												
				6	SS		5-10-12	89		4.0	6.90	13.70	127.90
790													
				7	SS		6-8-13	72		4.0		16.80	
	15		Grayish brown, Poorly Graded Sand (SP), trace to little gravel, trace silty clay 14.0 15.0										
785													
	20												
780													
	25												
775													

 At Time of Drilling (ATD)	 SP
 Topsoil	 Auger - Auger Sample
 SC	 SS - Small Split Spoon
 CL	-

REMARKS

Elevation interpolated via Google Earth data.

PROJECT NAME Proposed Wing Park Improvements

PROJECT NUMBER 25-0196-151

DATE STARTED 05/27/2025 **COMPLETED** 05/27/2025

ADDRESS 8 Longwood Place - Elgin, Illinois

DRILLING COMPANY Pioneer

LOGGED BY JV

DRILLER GA

LATITUDE / LONGITUDE 42.050345, -88.305218

 **AT TIME OF DRILLING** 14 ft

 **24 HOURS** N/A

Elevation (ft)	Depth (ft)	Graphic Log	Visual Classification and Remarks	Samples						Lab			
				Sample Number	Sample Type	Sample Graphic	Blow Counts (N Value)	% Recovery	Vane Shear (tsf)	Qp-Pocket Penetrometer (tsf)	Qu-Unconfined Compressive Strength (tsf)	Moisture Content (%)	Dry Density (PCF)
806													
805			Black, Topsoil 1.0	1	Auger							20.50	
			FILL , dark brown, black, silty clay, with sand, trace gravel 3.0	2	SS		3-4-3	50				21.60	
			Brown, Clayey Sand (SC), trace gravel 5.5	3	SS		4-9-12	61		4.5	5.20	12.30	123.60
800			Grayish brown, Silty Lean Clay (CL), trace to little gravel, trace sand 13.5	4	SS		4-10-10	61		4.5		13.20	119.90
795													
			Grayish brown, Poorly Graded Sand (SP), with gravel, trace silty clay 15.0	7	SS		7-8-13	72	4.5		13.50	126.20	
790													
785													
780													

 At Time of Drilling (ATD)	 SP
 Topsoil	 Auger - Auger Sample
 SC	 SS - Small Split Spoon
 CL	-

REMARKS

Elevation interpolated via Google Earth data.

Volume Rate = 0.785

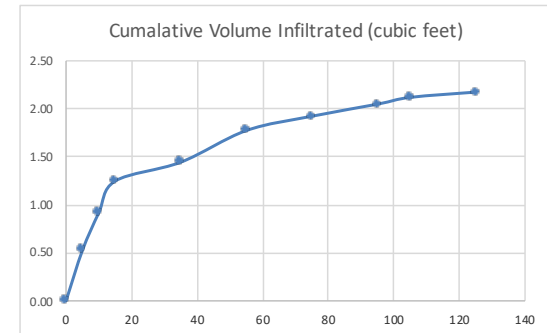
cubic feet / foot of drop

Totals:	2.77	0.00
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$$K = \frac{i_w L}{(z + L)}$$

2.12 in/hr

12-24-inches, average ht of water column



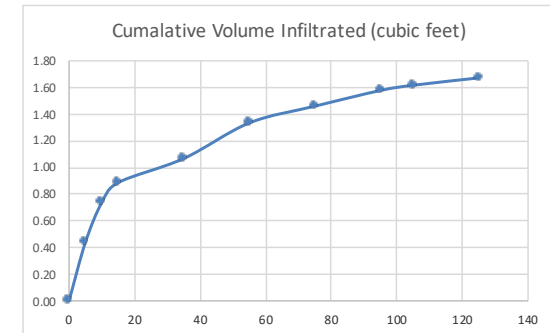
Volume Rate = 0.785

cubic feet / foot of drop

Totals:	2.13	0.00
---------	------	------

$$K = \frac{i_w L}{(z + L)}$$

Pi =	3.141592654	
r =	0.5 feet	radius of 12-inch diameter casing
n =	0.25	assumed in-situ soil permeability (use values of 0.2 to 0.3 typical)
i _n =	0.000128 feet per second	
z =	2 feet	12-24-inches, average ht of water column
Y _t =	2.13 feet	
I _w =	0.0000570 feet per second	
L =	3.79 feet	
K =	0.0000373 feet per second	
	1.61 in/hr	



Volume Rate = 0.785

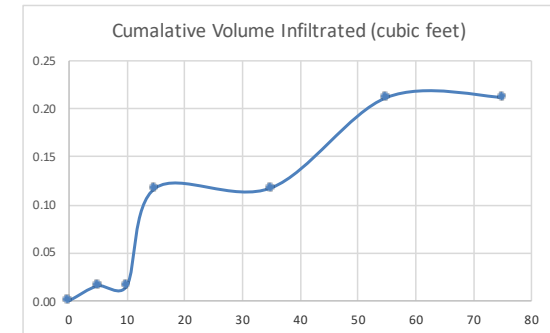
cubic feet / foot of drop

Totals:	0.27	0.00
---------	------	------

$$K = \frac{i_w L}{(z + L)}$$

0.19 in/hr

12-24-inches, average ht of water column



Volume Rate = 0.785

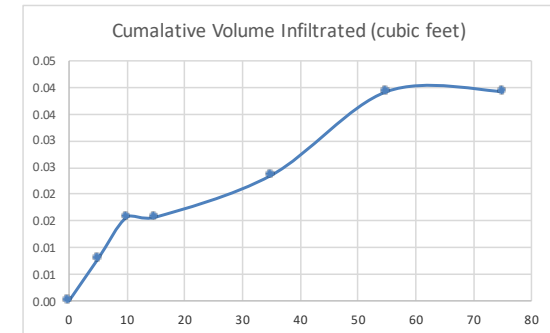
cubic feet / foot of drop

Totals:	0.05	0.00
---------	------	------

$$K = \frac{i_w L}{(z + L)}$$

0.01 in/hr

12-24-inches, average ht of water column



Volume Rate = 0.785

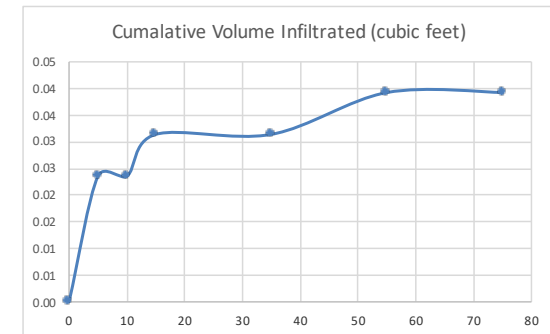
cubic feet / foot of drop

Totals:	0.05	0.00
---------	------	------

$$K = \frac{i_w L}{(z + L)}$$

0.00 in/hr

12-24-inches, average ht of water column



**Sieve Analysis Report**

Wing Park

Date of Report: June 24, 2025
Total Sample Wt (g): 447.6Project No.: 25-0196-151
Material Tested: Sand and GravelSample Number: I-1
Depth: 3.0-5.0 ft

Sieve Size	Weight of Sieve Sample	Cumulative Weight	Percent Retained	Percent Passing	Specifications
1.5"	0	0	0.00	100.00	N/A
1.0"	0	0	0.00	100.00	N/A
3/4"	35.9	35.9	8.02	91.98	N/A
1/2"	118.2	154.1	34.43	65.57	N/A
3/8"	46.1	200.2	44.73	55.27	N/A
#4	77.1	277.3	61.95	38.05	N/A
#8	0	277.3	61.95	38.05	N/A
#10	0	277.3	61.95	38.05	N/A
#16	63.8	341.1	76.21	23.79	N/A
#30	0	341.1	76.21	23.79	N/A
#40	36.7	377.8	84.41	15.59	N/A
#50	16.6	394.4	88.11	11.89	N/A
#100	17.9	412.3	92.11	7.89	N/A
#200	12.3	424.6	94.86	5.14	N/A
Pan	23.0	447.6	100.00		

Respectfully Submitted,
PIONEER ENGINEERING & ENVIRONMENTAL SERVICES, INC.

**Sieve Analysis Report**

Wing Park

Date of Report: June 24, 2025
Total Sample Wt (g): 512.2Project No.: 25-0196-151
Material Tested: Gravelly SandSample Number: I-2
Depth: 3.0-5.0 ft

Sieve Size	Weight of Sieve Sample	Cumulative Weight	Percent Retained	Percent Passing	Specifications
1.5"	0	0	0.00	100.00	N/A
1.0"	0	0	0.00	100.00	N/A
3/4"	41.8	41.8	8.16	91.84	N/A
1/2"	71.8	113.6	22.18	77.82	N/A
3/8"	56.6	170.2	33.23	66.77	N/A
#4	92.3	262.5	51.25	48.75	N/A
#8	0	262.5	51.25	48.75	N/A
#10	0	262.5	51.25	48.75	N/A
#16	91.8	354.3	69.17	30.83	N/A
#30	0	354.3	69.17	30.83	N/A
#40	51.3	405.6	79.19	20.81	N/A
#50	23.2	428.8	83.72	16.28	N/A
#100	24.8	453.6	88.56	11.44	N/A
#200	16.9	470.5	91.86	8.14	N/A
Pan	41.7	512.2	100.00		

Respectfully Submitted,
PIONEER ENGINEERING & ENVIRONMENTAL SERVICES, INC.



Sieve Analysis Report

Wing Park

Date of Report: June 24, 2025
Total Sample Wt (g): 195.2

Project No.: 25-0196-151
Material Tested: Sand

Sample Number: I-3
Depth: 3.0-5.0 ft

Sieve Size	Weight of Sieve Sample	Cumulative Weight	Percent Retained	Percent Passing	Specifications
1.5"	0	0	0.00	100.00	N/A
1.0"	0	0	0.00	100.00	N/A
3/4"	0	0	0.00	100.00	N/A
1/2"	8.9	8.9	4.56	95.44	N/A
3/8"	10.6	19.5	9.99	90.01	N/A
#4	17.6	37.1	19.01	80.99	N/A
#8	0	37.1	19.01	80.99	N/A
#10	0	37.1	19.01	80.99	N/A
#16	27.3	64.4	32.99	67.01	N/A
#30	0	64.4	32.99	67.01	N/A
#40	24.7	89.1	45.65	54.35	N/A
#50	14.2	103.3	52.92	47.08	N/A
#100	34.9	138.2	70.80	29.20	N/A
#200	27.5	165.7	84.89	15.11	N/A
Pan	29.5	195.2	100.00		

Respectfully Submitted,
PIONEER ENGINEERING & ENVIRONMENTAL SERVICES, INC.

**Sieve Analysis Report**

Wing Park

Date of Report: June 24, 2025
Total Sample Wt (g): 74.4Project No.: 25-0196-151
Material Tested: SandSample Number: I-4
Depth: 3.0-5.0 ft

Sieve Size	Weight of Sieve Sample	Cumulative Weight	Percent Retained	Percent Passing	Specifications
1.5"	0	0	0.00	100.00	N/A
1.0"	0	0	0.00	100.00	N/A
3/4"	0	0	0.00	100.00	N/A
1/2"	0	0	0.00	100.00	N/A
3/8"	0	0	0.00	100.00	N/A
#4	1.4	1.4	1.88	98.12	N/A
#8	0	1.4	1.88	98.12	N/A
#10	0	1.4	1.88	98.12	N/A
#16	8.8	10.2	13.71	86.29	N/A
#30	0	10.2	13.71	86.29	N/A
#40	10.2	20.4	27.42	72.58	N/A
#50	6.4	26.8	36.02	63.98	N/A
#100	16.4	43.2	58.06	41.94	N/A
#200	17.0	60.2	80.91	19.09	N/A
Pan	14.2	74.4	100.00		

Respectfully Submitted,
PIONEER ENGINEERING & ENVIRONMENTAL SERVICES, INC.

**Sieve Analysis Report**

Wing Park

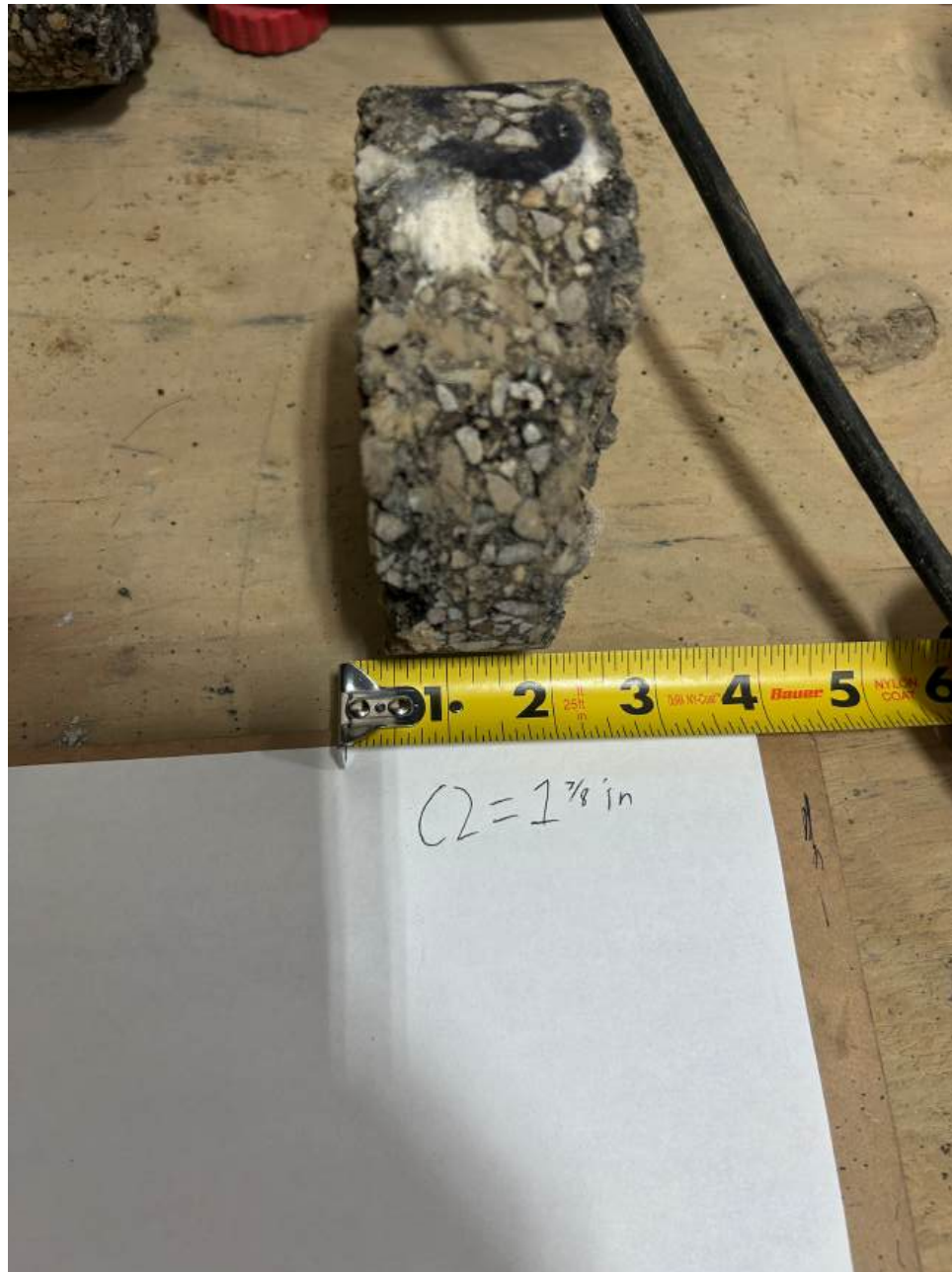
Date of Report: June 24, 2025
Total Sample Wt (g): 159.9Project No.: 25-0196-151
Material Tested: SandSample Number: I-5
Depth: 3.0-5.0 ft

Sieve Size	Weight of Sieve Sample	Cumulative Weight	Percent Retained	Percent Passing	Specifications
1.5"	0	0	0.00	100.00	N/A
1.0"	0	0	0.00	100.00	N/A
3/4"	0	0	0.00	100.00	N/A
1/2"	0	0	0.00	100.00	N/A
3/8"	2	2	1.25	98.75	N/A
#4	16.4	18.4	11.51	88.49	N/A
#8	0	18.4	11.51	88.49	N/A
#10	0	18.4	11.51	88.49	N/A
#16	25.8	44.2	27.64	72.36	N/A
#30	0	44.2	27.64	72.36	N/A
#40	18.9	63.1	39.46	60.54	N/A
#50	11.9	75	46.90	53.10	N/A
#100	31.6	106.6	66.67	33.33	N/A
#200	28.2	134.8	84.30	15.70	N/A
Pan	25.1	159.9	100.00		

Respectfully Submitted,
PIONEER ENGINEERING & ENVIRONMENTAL SERVICES, INC.



Boring C-1		
Depth (ft)	Asphalt (Inches)	Granular Subbase (inches)
Surface	2.75	8



Boring C-2		
Depth (ft)	Asphalt (Inches)	Granular Subbase (inches)
Surface	1.38	7



Boring C-3		
Depth (ft)	Asphalt (Inches)	Granular Subbase (inches)
Surface	2.00	7

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		(LITTLE OR NO FINES)		GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
		(APPRECIABLE AMOUNT OF FINES)		GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS	CLEAN SANDS		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		(LITTLE OR NO FINES)		SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES		SM	SILTY SANDS, SAND - SILT MIXTURES
		(APPRECIABLE AMOUNT OF FINES)		SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

Drilling and Sampling Abbreviations:

Sample/Drilling:

SS- Split Spoon Sampler
ST- Shelby Tube Sampler
RC- Rock Core: NX, BX, AX
HSA- Hollow Stem Auger

In-Situ Tests:

SPT-Standard Penetration Test
PMT-Pressuremeter Test
VS-Vane Shear
DCP-Dynamic Cone Penetrometer
Q_p-Estimated Unconfined Compressive Strength using Pocket Penetrometer
Q_u-Estimated Unconfined Compressive Strength using Rimac Tester

Correlation of Penetration Resistances to Soil Properties:

Relative Density- Sands, Silts

More than 50% retained onto the No. 200 sieve

Consistency of Cohesive Soils

More than 50% passing the No. 200 sieve

<u>SPT-N Value</u>	<u>Relative Density</u>	<u>Unconfined Compressive Strength Q_p, tsf</u>	<u>Consistency</u>
0-3	Very Loose	under 0.25	Very Soft
4-9	Loose	0.25-0.49	Soft
10-29	Medium Dense	0.50-0.99	Stiff
30-49	Dense	1.00-1.99	Tough
50-80	Very Dense	2.00-3.99	Very Tough
		4.00-8.00	Hard
		over 8.00	Very Hard

Gradation Description and Terminology:

<u>Major Component of Sample</u>	<u>Size Range</u>	<u>Description of Minor Components</u>	<u>Percent of Dry Weight</u>
Boulders	Over 12 inches	Trace	1-9
Cobbles	12 inches to 3 inches	Little	10-19
Gravel	3 inches to No. 4 sieve	Some	20-34
<i>Coarse</i>	<i>3 inches to ¾ inches</i>	And	35-50
<i>Fine</i>	<i>¾ inches to No. 4 sieve</i>		
Sand	No. 4 sieve to No. 200 sieve		
<i>Coarse</i>	<i>No. 4 sieve to No. 10 sieve</i>		
<i>Medium</i>	<i>No. 10 sieve to No. 40 sieve</i>		
<i>Fine</i>	<i>No. 40 sieve to No. 200 sieve</i>		
Silt/Clay	Passing No. 200 sieve		



Illinois Environmental Protection Agency

2520 West Iles Avenue • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

Uncontaminated Soil Certification
by Licensed Professional Engineer or Licensed Professional Geologist
for Use of Uncontaminated Soil as Fill in a CCDD or Uncontaminated Soil Fill Operation LPC-663

Revised in accordance with 35 Ill. Adm. Code 1100, as
amended by PCB R2012-009 (eff. Aug. 27, 2012)

This certification form is to be used by professional engineers and professional geologists to certify, pursuant to 35 Ill. Adm. Code 1100.205(a)(1)(B), that soil (i) is uncontaminated soil and (ii) is within a pH range of 6.26 to 9.0. If you have questions about this form, please telephone the Bureau of Land Permit Section at 217/524-3300.

This form may be completed online, saved locally, printed and signed, and submitted to prospective clean construction or demolition debris (CCDD) fill operations or uncontaminated soil fill operations.

I. Source Location Information

(Describe the location of the source of the uncontaminated soil)

Project Name: Wing Park Office Phone Number, if available: _____

Physical Site Location (address, including number and street):

8 Longwood Place

City: Elgin State: IL Zip Code: 60123

County: Kane Township: Elgin Township

Lat/Long of approximate center of site in decimal degrees (DD.ddddd) to five decimal places (e.g., 40.67890, -90.12345):

Latitude: 42.05029 Longitude: - 88.30515

(Decimal Degrees)

(-Decimal Degrees)

Identify how the lat/long data were determined:

☐ GPS ☐ Map Interpolation ☐ Photo Interpolation ☐ Survey ☒ Other

Google Earth

IEPA Site Number(s), if assigned: BOL: n/a BOW: n/a BOA: n/a

Approximate Start Date (mm/dd/yyyy): _____ Approximate End Date (mm/dd/yyyy): _____

Estimated Volume of debris (cu. Yd.): _____

II. Owner/Operator Information for Source Site

Site Owner

Name: _____

Street Address: _____

PO Box: _____

City: _____ State: _____

Zip Code: _____ Phone: _____

Contact: _____

Email, if available: _____

Site Operator

Name: _____

Street Address: _____

PO Box: _____

City: _____ State: _____

Zip Code: _____ Phone: _____

Contact: _____

Email, if available: _____

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed \$50,000 for the violation and an additional civil penalty of not to exceed \$10,000 for each day during which the violation continues (415 ILCS 5/42). This form has been approved by the Forms Management Center.

Uncontaminated Soil Certification**III. Basis for Certification and Attachments**

For each item listed below, reference the attachments to this form that provide the required information.

- a. A Description of the soil sample points and how they were determined to be sufficient in number and appropriately located 35 Ill. Adm. Code 1100.610(a):

See the attached LPC-663 Additional Information

- b. Analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to 35 Ill. Adm. Code Part 1100, Subpart F and that the soil pH is within the range of 6.25 to 9.0, including the documentation of chain of custody control, a copy of the lab analysis; the accreditation status of the laboratory performing the analysis; and certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the Agency's rules for the accreditation of environmental and the scope of the accreditation [35 Ill. Adm. Code 1100.201 (g), 1100.205(a), 1100.610]:

No targeted contaminants were detected at concentrations exceeding the MACs. A summary of the analytical testing is provided in Table Nos. 1 through 4. Copies of the laboratory analytical reports, including chain of custody control, accreditation status of the laboratory and certification of analysis is attached.

IV. Certification Statement, Signature and Seal of Licensed Professional Engineer or Licensed Professional Geologist

I, Nicole Andrade, P.E. (name of licensed professional engineer or geologist) certify under penalty of law that the information submitted, including but not limited to, all attachments and other information, is to the best of my knowledge and belief, true, accurate and complete. In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil. I also certify that the soil pH is within the range of 6.25 to 9.0. In addition, I certify that the soil has not been removed from the site as part of a cleanup or removal of contaminants. All necessary documentation is attached.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Company Name: Pioneer Engineering & Environmental Services, LLC

Street Address: 2753 West 31st Street

City: Chicago State: IL Zip Code: 60608

Phone: 773-938-3062

Nicole Andrade, P.E.

Printed Name:



Licensed Professional Engineer or
Licensed Professional Geologist Signature:

Jul 1, 2025

Date:



LPC-663 Additional Information

Date: July 1, 2025

RE: Wing Park
Elgin, Illinois
Pioneer Project No.: 25-0196-151

A cursory review of available historical aerial photographs indicates that the subject property has been utilized as a park since at least 1925, with various improvements including tennis courts, an aquatic center, a music venue, a parking lot and golf course.

On May 28, 2025, Pioneer advanced five soil borings associated with a geotechnical investigation. Two soil samples [B2 (0-3) and B5 (0-3)] representing the area scheduled for excavation were collected and submitted for analysis of volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PNAs), total RCRA 8 metals and pH. No contaminants were detected at concentrations exceeding the Maximum Allowable Concentrations (MACs) with the exception of total selenium, which was detected at 1.4 mg/kg. Considering that no other contaminants of concern (COCs) were detected at concentrations exceeding the MACs and that selenium is a naturally-occurring metal, Pioneer believes that the total selenium detection is related to variance in natural background concentrations. Therefore, the soil sample was further analyzed for selenium utilizing the synthetic precipitation leaching procedure, and the result was below laboratory detection limits and the Illinois EPA's most stringent Tier 1 Soil Remediation Objective (SRO). Based on the analytical results, the subject property's soils are believed to meet the the definition of uncontaminated soil in accordance with 35 IAC 1100.

TABLE NO. 1 Soil Sample Analytical Results: VOCs Wing Park / Elgin, IL			
Sample ID (Interval)	B2 (0-3)	B5 (0-3)	Maximum Allowable Concentrations
Collection Date	5/28/25	5/28/25	
1,1,1-Trichloroethane	<0.0016	<0.0019	2
1,1,2,2-Tetrachloroethane ⁽¹⁾	<0.0016	<0.0019	—
1,1,2-Trichloroethane	<0.0016	<0.0019	0.02
1,1-Dichloroethane	<0.0016	<0.0019	23
1,1-Dichloroethene	<0.0016	<0.0019	0.06
1,2-Dichloroethane	<0.0040	<0.0047	0.02
1,2-Dichloropropane	<0.0016	<0.0019	0.03
2-Butanone (MEK) ⁽¹⁾	<0.0040	<0.0047	—
2-Hexanone ⁽¹⁾	<0.0040	<0.0047	—
4-Methyl-2-pentanone (MIBK) ⁽¹⁾	<0.0040	<0.0047	—
Acetone	<0.016	<0.019	25
Benzene	<0.0016	<0.0019	0.03
Bromodichloromethane	<0.0016	<0.0019	0.6
Bromoform	<0.0016	<0.0019	0.8
Bromomethane (Methyl Bromide)	<0.0040	<0.0047	0.2
Carbon Disulfide	<0.0040	<0.0047	9
Carbon Tetrachloride	<0.0016	<0.0019	0.07
Chlorobenzene	<0.0016	<0.0019	1
Chloroethane ⁽¹⁾	<0.0040	<0.0047	—
Chloroform	<0.0016	<0.0019	0.3
Chloromethane ⁽¹⁾	<0.0040	<0.0047	—
cis-1,2-Dichloroethene	<0.0016	<0.0019	0.4
1,3-Dichloropropene (cis + trans)	<0.0016	<0.0019	0.005
Dibromochloromethane	<0.0016	<0.0019	0.4
Ethylbenzene	<0.0016	<0.0019	13
Methyl Tertiary-Butyl Ether	<0.0016	<0.0019	0.32
Methylene Chloride	<0.0040	<0.0047	0.02
Styrene	<0.0016	<0.0019	4
Tetrachloroethene	<0.0016	<0.0019	0.06
Toluene	<0.0016	<0.0019	12
Total Xylenes	<0.0032	<0.0038	5.6
trans-1,2-Dichloroethene	<0.0016	<0.0019	0.7
Trichloroethene	<0.0016	<0.0019	0.06
Vinyl Chloride	<0.0016	<0.0019	0.01

Notes: Results listed in mg/kg (parts per million)

"<" indicates not detected at stated detection limits

"—" indicates value not available

Maximum Allowable Concentrations (MACs) pursuant to 35 IAC 1100

(1) Non-TACO Chemical

TABLE NO. 2 Soil Sample Analytical Results: PNAs Wing Park / Elgin, IL			
Sample ID (Interval)	B2 (0-3)	B5 (0-3)	Maximum Allowable Concentrations
Collection Date	5/28/25	5/28/25	
Acenaphthene	<0.038	<0.037	570
Acenaphthylene	<0.038	<0.037	43 ⁽¹⁾
Anthracene	<0.038	<0.037	12,000
Benzo(a)anthracene	<0.038	0.037	0.9 ⁽²⁾ / 1.8 ⁽³⁾
Benzo(a)pyrene	0.048	0.064	0.98 ⁽²⁾ / 2.1 ⁽³⁾
Benzo(b)fluoranthene	0.057	0.073	0.9 ⁽²⁾ / 2.1 ⁽³⁾
Benzo(g,h,i)perylene	<0.038	<0.037	2,350 ⁽¹⁾
Benzo(k)fluoranthene	<0.038	<0.037	9
Chrysene	<0.038	0.048	88
Dibenzo(a,h)anthracene	<0.038	<0.037	0.15 ⁽²⁾ / 0.42 ⁽³⁾
Fluoranthene	0.051	0.087	3,100
Fluorene	<0.038	<0.037	560
Indeno(1,2,3-cd)pyrene	0.048	0.055	0.9 ⁽²⁾ / 1.6 ⁽³⁾
Naphthalene	<0.038	<0.037	1.8
Phenanthrene	<0.038	0.042	140 ⁽¹⁾
Pyrene	0.038	0.071	2,300

Notes: Results listed in mg/kg (parts per million)

"<" indicates not detected at stated detection limits

Maximum Allowable Concentrations (MACs) pursuant to 35 IAC 1100

(1) Listed value represents the most stringent Soil Remediation Objective for Non-TACO Chemicals provided by the IEPA Toxicity Assessment Unit (2016)

(2) Pursuant to 35 IAC 1100, the background concentration for a non-Metropolitan Statistical Area (non-MSA) provided in 35 IAC 742 (Appendix A, Table H) may be used if the receiving CCDD facility is located in a non-MSA county

(3) Pursuant to 35 IAC 1100, the background concentration for a populated area in an MSA county pursuant to 35 IAC 742 (Appendix A, Table H) may be used if the receiving CCDD facility is located in an MSA, excluding Chicago

TABLE NO. 3 Soil Sample Analytical Results: Total RCRA 8 Metals Wing Park / Elgin, IL			
Sample ID (Interval)	B2 (0-3)	B5 (0-3)	Maximum Allowable Concentrations ⁽¹⁾
Collection Date	5/28/25	5/28/25	
pH	6.96	7.08	6.25-9.0
Arsenic	4.1	9.8	13
Barium	86	160	1,500
Cadmium	0.89	<0.22	5.2
Chromium	20	16	21
Lead	23	42	107
Mercury	0.036	0.042	0.89
Selenium	<1.2	1.4 ⁽⁴⁾	1.3
Silver	0.64	4.2	4.4

Notes: Results listed in mg/kg (parts per million)

"<" indicates not detected at stated detection limits

Maximum Allowable Concentrations (MACs) pursuant to 35 IAC 1100

(1) For all RCRA metals except arsenic and elemental mercury, compliance verification may be determined by comparing soil sample extraction results (TCLP or SPLP) to the respective Tier 1 SRO for the Soil Component of Class I Groundwater Ingestion (35 IAC 742)

(2) MAC for elemental mercury; applies only where elemental mercury is a contaminant of concern

(3) MAC for ionic mercury; applies everywhere

(4) See SPLP Result, Table 4

TABLE NO. 4 Soil Sample Analytical Results: SPLP Selenium Wing Park / Elgin, IL		Tier 1 Soil Remediation Objectives (Tier 1 SROs)		Maximum Allowable Concentration to Meet Hazardous Characteristic ⁽¹⁾
Sample ID (Interval)	B5 (0-3)	Migration to Groundwater		
Collection Date	5/28/25	Class I	Class II	
Method	SPLP			
Selenium	<0.010	0.05	0.05	1

Notes: Results listed in mg/L (parts per million)

Tier 1 SROs pursuant to 35 IAC 742-Tiered Approach to Corrective Action Objectives (Appendix B, Table A)

"<" indicates not detected at stated detection limits

(1) Pursuant to 35 IAC 721.124 & 40 CFR 261.24; applies only to TCLP test results



ANALYTICAL REPORT

PREPARED FOR

Attn: Nicole Andrade
Pioneer Engineering & Environmental Srvc
2753 W 31st Street
Chicago, Illinois 60608

Generated 6/5/2025 3:13:06 PM

JOB DESCRIPTION

Wing Park, Elgin

JOB NUMBER

500-269093-1

Eurofins Chicago

Job Notes

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Case Narrative

Client: Pioneer Engineering & Environmental Srvc
Project: Wing Park, Elgin

Job ID: 500-269093-1

Job ID: 500-269093-1

Eurofins Chicago

Job Narrative 500-269093-1

Receipt

The samples were received on 5/29/2025 2:50 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.2°C.

GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 500-820172 was outside the method criteria for the following analyte(s): 1,2-Dichloroethane-d4 (Surr), 2-Butanone (MEK), Acetone, Chloroethane, Methylene Chloride, Toluene and Vinyl chloride. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC/MS Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Chicago

Detection Summary

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-1

Client Sample ID: B2 (0-3)

Lab Sample ID: 500-269093-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]pyrene	0.048		0.038		mg/Kg	1	✱	8270E	Total/NA
Benzo[b]fluoranthene	0.057		0.038		mg/Kg	1	✱	8270E	Total/NA
Fluoranthene	0.051		0.038		mg/Kg	1	✱	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	0.048		0.038		mg/Kg	1	✱	8270E	Total/NA
Pyrene	0.038		0.038		mg/Kg	1	✱	8270E	Total/NA
Arsenic	4.1		1.2		mg/Kg	1	✱	6010D	Total/NA
Barium	86		1.2		mg/Kg	1	✱	6010D	Total/NA
Cadmium	0.89		0.24		mg/Kg	1	✱	6010D	Total/NA
Chromium	20		1.2		mg/Kg	1	✱	6010D	Total/NA
Lead	23		0.59		mg/Kg	1	✱	6010D	Total/NA
Silver	0.64		0.59		mg/Kg	1	✱	6010D	Total/NA
Mercury	0.036		0.019		mg/Kg	1	✱	7471B	Total/NA
pH	6.96		0.20		SU	1		9045D	Total/NA

Client Sample ID: B5 (0-3)

Lab Sample ID: 500-269093-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	0.037		0.037		mg/Kg	1	✱	8270E	Total/NA
Benzo[a]pyrene	0.064		0.037		mg/Kg	1	✱	8270E	Total/NA
Benzo[b]fluoranthene	0.073		0.037		mg/Kg	1	✱	8270E	Total/NA
Chrysene	0.048		0.037		mg/Kg	1	✱	8270E	Total/NA
Fluoranthene	0.087		0.037		mg/Kg	1	✱	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	0.055		0.037		mg/Kg	1	✱	8270E	Total/NA
Phenanthrene	0.042		0.037		mg/Kg	1	✱	8270E	Total/NA
Pyrene	0.071		0.037		mg/Kg	1	✱	8270E	Total/NA
Arsenic	9.8		1.1		mg/Kg	1	✱	6010D	Total/NA
Barium	160		1.1		mg/Kg	1	✱	6010D	Total/NA
Chromium	16		1.1		mg/Kg	1	✱	6010D	Total/NA
Lead	42		0.56		mg/Kg	1	✱	6010D	Total/NA
Selenium	1.4		1.1		mg/Kg	1	✱	6010D	Total/NA
Silver	4.2		0.56		mg/Kg	1	✱	6010D	Total/NA
Mercury	0.042		0.019		mg/Kg	1	✱	7471B	Total/NA
pH	7.08		0.20		SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

Method Summary

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CHI
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET CHI
6010D	Metals (ICP)	SW846	EET CHI
7471B	Mercury (CVAA)	SW846	EET CHI
9045D	pH	SW846	EET CHI
Moisture	Percent Moisture	EPA	EET CHI
3050B	Preparation, Metals	SW846	EET CHI
3546	Microwave Extraction	SW846	EET CHI
5035	Closed System Purge and Trap	SW846	EET CHI
7471B	Preparation, Mercury	SW846	EET CHI

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CHI = Eurofins Chicago, 18410 Crossing Drive, Suite E, Tinley Park, IL 60487, TEL (708)534-5200

Sample Summary

Client: Pioneer Engineering & Environmental Svc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-269093-1	B2 (0-3)	Solid	05/28/25 09:30	05/29/25 14:50
500-269093-2	B5 (0-3)	Solid	05/28/25 12:43	05/29/25 14:50

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Client Sample Results

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-1

Client Sample ID: B2 (0-3)

Lab Sample ID: 500-269093-1

Date Collected: 05/28/25 09:30

Matrix: Solid

Date Received: 05/29/25 14:50

Percent Solids: 82.6

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
1,1,2,2-Tetrachloroethane	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
1,1,2-Trichloroethane	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
1,1-Dichloroethane	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
1,1-Dichloroethene	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
1,2-Dichloroethane	<0.0040		0.0040		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
1,2-Dichloropropane	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
2-Butanone (MEK)	<0.0040		0.0040		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
2-Hexanone	<0.0040		0.0040		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
4-Methyl-2-pentanone (MIBK)	<0.0040		0.0040		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Acetone	<0.016		0.016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Benzene	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Bromodichloromethane	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Bromoform	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Bromomethane	<0.0040		0.0040		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Carbon disulfide	<0.0040		0.0040		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Carbon tetrachloride	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Chlorobenzene	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Chloroethane	<0.0040		0.0040		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Chloroform	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Chloromethane	<0.0040		0.0040		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
cis-1,2-Dichloroethene	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
1,3-Dichloropropene, Total	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Dibromochloromethane	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Ethylbenzene	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Methyl tert-butyl ether	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Methylene Chloride	<0.0040		0.0040		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Styrene	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Tetrachloroethene	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Toluene	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Xylenes, Total	<0.0032		0.0032		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
trans-1,2-Dichloroethene	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Trichloroethene	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1
Vinyl chloride	<0.0016		0.0016		mg/Kg	☆	05/29/25 18:20	06/04/25 11:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	131		70 - 134	05/29/25 18:20	06/04/25 11:56	1
4-Bromofluorobenzene (Surr)	101		75 - 131	05/29/25 18:20	06/04/25 11:56	1
Dibromofluoromethane	112		75 - 126	05/29/25 18:20	06/04/25 11:56	1
Toluene-d8 (Surr)	95		75 - 124	05/29/25 18:20	06/04/25 11:56	1

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.038		0.038		mg/Kg	☆	05/30/25 07:35	05/30/25 22:23	1
Acenaphthylene	<0.038		0.038		mg/Kg	☆	05/30/25 07:35	05/30/25 22:23	1
Anthracene	<0.038		0.038		mg/Kg	☆	05/30/25 07:35	05/30/25 22:23	1
Benzo[a]anthracene	<0.038		0.038		mg/Kg	☆	05/30/25 07:35	05/30/25 22:23	1
Benzo[a]pyrene	0.048		0.038		mg/Kg	☆	05/30/25 07:35	05/30/25 22:23	1
Benzo[b]fluoranthene	0.057		0.038		mg/Kg	☆	05/30/25 07:35	05/30/25 22:23	1
Benzo[g,h,i]perylene	<0.038		0.038		mg/Kg	☆	05/30/25 07:35	05/30/25 22:23	1

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Client Sample Results

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-1

Client Sample ID: B2 (0-3)

Lab Sample ID: 500-269093-1

Date Collected: 05/28/25 09:30

Matrix: Solid

Date Received: 05/29/25 14:50

Percent Solids: 82.6

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	<0.038		0.038		mg/Kg	✱	05/30/25 07:35	05/30/25 22:23	1
Chrysene	<0.038		0.038		mg/Kg	✱	05/30/25 07:35	05/30/25 22:23	1
Dibenz(a,h)anthracene	<0.038		0.038		mg/Kg	✱	05/30/25 07:35	05/30/25 22:23	1
Fluoranthene	0.051		0.038		mg/Kg	✱	05/30/25 07:35	05/30/25 22:23	1
Fluorene	<0.038		0.038		mg/Kg	✱	05/30/25 07:35	05/30/25 22:23	1
Indeno[1,2,3-cd]pyrene	0.048		0.038		mg/Kg	✱	05/30/25 07:35	05/30/25 22:23	1
Naphthalene	<0.038		0.038		mg/Kg	✱	05/30/25 07:35	05/30/25 22:23	1
Phenanthrene	<0.038		0.038		mg/Kg	✱	05/30/25 07:35	05/30/25 22:23	1
Pyrene	0.038		0.038		mg/Kg	✱	05/30/25 07:35	05/30/25 22:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5 (Surr)	79		37 - 147				05/30/25 07:35	05/30/25 22:23	1
2-Fluorobiphenyl (Surr)	85		43 - 145				05/30/25 07:35	05/30/25 22:23	1
Terphenyl-d14 (Surr)	98		42 - 157				05/30/25 07:35	05/30/25 22:23	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.1		1.2		mg/Kg	✱	05/30/25 09:06	05/31/25 02:31	1
Barium	86		1.2		mg/Kg	✱	05/30/25 09:06	05/31/25 02:31	1
Cadmium	0.89		0.24		mg/Kg	✱	05/30/25 09:06	05/31/25 02:31	1
Chromium	20		1.2		mg/Kg	✱	05/30/25 09:06	05/31/25 02:31	1
Lead	23		0.59		mg/Kg	✱	05/30/25 09:06	05/31/25 02:31	1
Selenium	<1.2		1.2		mg/Kg	✱	05/30/25 09:06	06/02/25 21:43	1
Silver	0.64		0.59		mg/Kg	✱	05/30/25 09:06	05/31/25 02:31	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.036		0.019		mg/Kg	✱	06/02/25 14:35	06/03/25 10:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 9045D)	6.96		0.20		SU			06/02/25 11:25	1

Client Sample Results

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-1

Client Sample ID: B5 (0-3)

Lab Sample ID: 500-269093-2

Date Collected: 05/28/25 12:43

Matrix: Solid

Date Received: 05/29/25 14:50

Percent Solids: 84.0

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
1,1,2,2-Tetrachloroethane	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
1,1,2-Trichloroethane	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
1,1-Dichloroethane	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
1,1-Dichloroethene	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
1,2-Dichloroethane	<0.0047		0.0047		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
1,2-Dichloropropane	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
2-Butanone (MEK)	<0.0047		0.0047		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
2-Hexanone	<0.0047		0.0047		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
4-Methyl-2-pentanone (MIBK)	<0.0047		0.0047		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Acetone	<0.019		0.019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Benzene	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Bromodichloromethane	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Bromoform	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Bromomethane	<0.0047		0.0047		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Carbon disulfide	<0.0047		0.0047		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Carbon tetrachloride	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Chlorobenzene	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Chloroethane	<0.0047		0.0047		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Chloroform	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Chloromethane	<0.0047		0.0047		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
cis-1,2-Dichloroethene	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
1,3-Dichloropropene, Total	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Dibromochloromethane	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Ethylbenzene	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Methyl tert-butyl ether	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Methylene Chloride	<0.0047		0.0047		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Styrene	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Tetrachloroethene	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Toluene	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Xylenes, Total	<0.0038		0.0038		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
trans-1,2-Dichloroethene	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Trichloroethene	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1
Vinyl chloride	<0.0019		0.0019		mg/Kg	☆	05/29/25 18:20	06/04/25 12:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	134		70 - 134	05/29/25 18:20	06/04/25 12:21	1
4-Bromofluorobenzene (Surr)	102		75 - 131	05/29/25 18:20	06/04/25 12:21	1
Dibromofluoromethane	115		75 - 126	05/29/25 18:20	06/04/25 12:21	1
Toluene-d8 (Surr)	95		75 - 124	05/29/25 18:20	06/04/25 12:21	1

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.037		0.037		mg/Kg	☆	05/30/25 07:35	05/30/25 22:48	1
Acenaphthylene	<0.037		0.037		mg/Kg	☆	05/30/25 07:35	05/30/25 22:48	1
Anthracene	<0.037		0.037		mg/Kg	☆	05/30/25 07:35	05/30/25 22:48	1
Benzo[a]anthracene	0.037		0.037		mg/Kg	☆	05/30/25 07:35	05/30/25 22:48	1
Benzo[a]pyrene	0.064		0.037		mg/Kg	☆	05/30/25 07:35	05/30/25 22:48	1
Benzo[b]fluoranthene	0.073		0.037		mg/Kg	☆	05/30/25 07:35	05/30/25 22:48	1
Benzo[g,h,i]perylene	<0.037		0.037		mg/Kg	☆	05/30/25 07:35	05/30/25 22:48	1

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Client Sample Results

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-1

Client Sample ID: B5 (0-3)

Lab Sample ID: 500-269093-2

Date Collected: 05/28/25 12:43

Matrix: Solid

Date Received: 05/29/25 14:50

Percent Solids: 84.0

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	<0.037		0.037		mg/Kg	✱	05/30/25 07:35	05/30/25 22:48	1
Chrysene	0.048		0.037		mg/Kg	✱	05/30/25 07:35	05/30/25 22:48	1
Dibenz(a,h)anthracene	<0.037		0.037		mg/Kg	✱	05/30/25 07:35	05/30/25 22:48	1
Fluoranthene	0.087		0.037		mg/Kg	✱	05/30/25 07:35	05/30/25 22:48	1
Fluorene	<0.037		0.037		mg/Kg	✱	05/30/25 07:35	05/30/25 22:48	1
Indeno[1,2,3-cd]pyrene	0.055		0.037		mg/Kg	✱	05/30/25 07:35	05/30/25 22:48	1
Naphthalene	<0.037		0.037		mg/Kg	✱	05/30/25 07:35	05/30/25 22:48	1
Phenanthrene	0.042		0.037		mg/Kg	✱	05/30/25 07:35	05/30/25 22:48	1
Pyrene	0.071		0.037		mg/Kg	✱	05/30/25 07:35	05/30/25 22:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5 (Surr)	74		37 - 147				05/30/25 07:35	05/30/25 22:48	1
2-Fluorobiphenyl (Surr)	76		43 - 145				05/30/25 07:35	05/30/25 22:48	1
Terphenyl-d14 (Surr)	86		42 - 157				05/30/25 07:35	05/30/25 22:48	1

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.8		1.1		mg/Kg	✱	05/30/25 09:06	05/31/25 02:44	1
Barium	160		1.1		mg/Kg	✱	05/30/25 09:06	05/31/25 02:44	1
Cadmium	<0.22		0.22		mg/Kg	✱	05/30/25 09:06	05/31/25 02:44	1
Chromium	16		1.1		mg/Kg	✱	05/30/25 09:06	05/31/25 02:44	1
Lead	42		0.56		mg/Kg	✱	05/30/25 09:06	05/31/25 02:44	1
Selenium	1.4		1.1		mg/Kg	✱	05/30/25 09:06	06/02/25 21:56	1
Silver	4.2		0.56		mg/Kg	✱	05/30/25 09:06	05/31/25 02:44	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.042		0.019		mg/Kg	✱	06/02/25 14:35	06/03/25 10:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 9045D)	7.08		0.20		SU	—		06/02/25 11:27	1

Definitions/Glossary

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-1

GC/MS VOA

Analysis Batch: 820172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-269093-1	B2 (0-3)	Total/NA	Solid	8260D	820232
500-269093-2	B5 (0-3)	Total/NA	Solid	8260D	820232
MB 500-820172/7	Method Blank	Total/NA	Solid	8260D	
LCS 500-820172/4	Lab Control Sample	Total/NA	Solid	8260D	
LCSD 500-820172/5	Lab Control Sample Dup	Total/NA	Solid	8260D	

Prep Batch: 820232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-269093-1	B2 (0-3)	Total/NA	Solid	5035	
500-269093-2	B5 (0-3)	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 819594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-269093-1	B2 (0-3)	Total/NA	Solid	3546	
500-269093-2	B5 (0-3)	Total/NA	Solid	3546	
MB 500-819594/1-A	Method Blank	Total/NA	Solid	3546	
LCS 500-819594/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 819619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-819594/1-A	Method Blank	Total/NA	Solid	8270E	819594

Analysis Batch: 819731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-269093-1	B2 (0-3)	Total/NA	Solid	8270E	819594
500-269093-2	B5 (0-3)	Total/NA	Solid	8270E	819594
LCS 500-819594/2-A	Lab Control Sample	Total/NA	Solid	8270E	819594

Metals

Prep Batch: 819642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-269093-1	B2 (0-3)	Total/NA	Solid	3050B	
500-269093-2	B5 (0-3)	Total/NA	Solid	3050B	
MB 500-819642/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 500-819642/2-A	Lab Control Sample	Total/NA	Solid	3050B	

Analysis Batch: 819818

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-269093-1	B2 (0-3)	Total/NA	Solid	6010D	819642
500-269093-2	B5 (0-3)	Total/NA	Solid	6010D	819642
MB 500-819642/1-A	Method Blank	Total/NA	Solid	6010D	819642
LCS 500-819642/2-A	Lab Control Sample	Total/NA	Solid	6010D	819642

Prep Batch: 819890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-269093-1	B2 (0-3)	Total/NA	Solid	7471B	
500-269093-2	B5 (0-3)	Total/NA	Solid	7471B	
MB 500-819890/12-A	Method Blank	Total/NA	Solid	7471B	
LCS 500-819890/13-A	Lab Control Sample	Total/NA	Solid	7471B	

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QC Association Summary

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-1

Metals

Analysis Batch: 820024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-269093-1	B2 (0-3)	Total/NA	Solid	6010D	819642
500-269093-2	B5 (0-3)	Total/NA	Solid	6010D	819642
MB 500-819642/1-A	Method Blank	Total/NA	Solid	6010D	819642
LCS 500-819642/2-A	Lab Control Sample	Total/NA	Solid	6010D	819642

Analysis Batch: 820098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-269093-1	B2 (0-3)	Total/NA	Solid	7471B	819890
500-269093-2	B5 (0-3)	Total/NA	Solid	7471B	819890
MB 500-819890/12-A	Method Blank	Total/NA	Solid	7471B	819890
LCS 500-819890/13-A	Lab Control Sample	Total/NA	Solid	7471B	819890

General Chemistry

Analysis Batch: 819687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-269093-1	B2 (0-3)	Total/NA	Solid	Moisture	
500-269093-2	B5 (0-3)	Total/NA	Solid	Moisture	

Analysis Batch: 819903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-269093-1	B2 (0-3)	Total/NA	Solid	9045D	
500-269093-2	B5 (0-3)	Total/NA	Solid	9045D	
LCS 500-819903/50	Lab Control Sample	Total/NA	Solid	9045D	
LCSD 500-819903/51	Lab Control Sample Dup	Total/NA	Solid	9045D	

Surrogate Summary

Client: Pioneer Engineering & Environmental Svc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-134)	BFB (75-131)	DBFM (75-126)	TOL (75-124)
500-269093-1	B2 (0-3)	131	101	112	95
500-269093-2	B5 (0-3)	134	102	115	95
LCS 500-820172/4	Lab Control Sample	127	100	112	97
LCSD 500-820172/5	Lab Control Sample Dup	130	97	111	97
MB 500-820172/7	Method Blank	130	102	113	95

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane

TOL = Toluene-d8 (Surr)

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		NBZ (37-147)	FBP (43-145)	TPHL (42-157)
500-269093-1	B2 (0-3)	79	85	98
500-269093-2	B5 (0-3)	74	76	86
LCS 500-819594/2-A	Lab Control Sample	85	88	95
MB 500-819594/1-A	Method Blank	87	79	94

Surrogate Legend

NBZ = Nitrobenzene-d5 (Surr)

FBP = 2-Fluorobiphenyl (Surr)

TPHL = Terphenyl-d14 (Surr)

QC Sample Results

Client: Pioneer Engineering & Environmental Svc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 500-820172/7

Matrix: Solid

Analysis Batch: 820172

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
1,1,1,2-Tetrachloroethane	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
1,1,2-Trichloroethane	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
1,1-Dichloroethane	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
1,1-Dichloroethene	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
1,2-Dichloroethane	<0.0050		0.0050		mg/Kg			06/04/25 11:30	1
1,2-Dichloropropane	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
2-Butanone (MEK)	<0.0050		0.0050		mg/Kg			06/04/25 11:30	1
2-Hexanone	<0.0050		0.0050		mg/Kg			06/04/25 11:30	1
4-Methyl-2-pentanone (MIBK)	<0.0050		0.0050		mg/Kg			06/04/25 11:30	1
Acetone	<0.020		0.020		mg/Kg			06/04/25 11:30	1
Benzene	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
Bromodichloromethane	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
Bromoform	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
Bromomethane	<0.0050		0.0050		mg/Kg			06/04/25 11:30	1
Carbon disulfide	<0.0050		0.0050		mg/Kg			06/04/25 11:30	1
Carbon tetrachloride	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
Chlorobenzene	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
Chloroethane	<0.0050		0.0050		mg/Kg			06/04/25 11:30	1
Chloroform	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
Chloromethane	<0.0050		0.0050		mg/Kg			06/04/25 11:30	1
cis-1,2-Dichloroethene	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
1,3-Dichloropropene, Total	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
Dibromochloromethane	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
Ethylbenzene	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
Methyl tert-butyl ether	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
Methylene Chloride	<0.0050		0.0050		mg/Kg			06/04/25 11:30	1
Styrene	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
Tetrachloroethene	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
Toluene	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
Xylenes, Total	<0.0040		0.0040		mg/Kg			06/04/25 11:30	1
trans-1,2-Dichloroethene	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
Trichloroethene	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1
Vinyl chloride	<0.0020		0.0020		mg/Kg			06/04/25 11:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	130		70 - 134		06/04/25 11:30	1
4-Bromofluorobenzene (Surr)	102		75 - 131		06/04/25 11:30	1
Dibromofluoromethane	113		75 - 126		06/04/25 11:30	1
Toluene-d8 (Surr)	95		75 - 124		06/04/25 11:30	1

Lab Sample ID: LCS 500-820172/4

Matrix: Solid

Analysis Batch: 820172

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	0.0500	0.0636		mg/Kg		127	70 - 128
1,1,1,2-Tetrachloroethane	0.0500	0.0520		mg/Kg		104	70 - 122

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QC Sample Results

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 500-820172/4

Matrix: Solid

Analysis Batch: 820172

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,2-Trichloroethane	0.0500	0.0486		mg/Kg		97	70 - 125
1,1-Dichloroethane	0.0500	0.0579		mg/Kg		116	70 - 125
1,1-Dichloroethene	0.0500	0.0517		mg/Kg		103	70 - 120
1,2-Dichloroethane	0.0500	0.0647		mg/Kg		129	70 - 130
1,2-Dichloropropane	0.0500	0.0561		mg/Kg		112	70 - 125
2-Butanone (MEK)	0.0500	0.0523		mg/Kg		105	47 - 138
2-Hexanone	0.0500	0.0531		mg/Kg		106	48 - 146
4-Methyl-2-pentanone (MIBK)	0.0500	0.0551		mg/Kg		110	50 - 148
Acetone	0.0500	0.0509		mg/Kg		102	40 - 150
Benzene	0.0500	0.0517		mg/Kg		103	70 - 125
Bromodichloromethane	0.0500	0.0597		mg/Kg		119	67 - 129
Bromoform	0.0500	0.0589		mg/Kg		118	68 - 136
Bromomethane	0.0500	0.0535		mg/Kg		107	70 - 130
Carbon disulfide	0.0500	0.0510		mg/Kg		102	70 - 129
Carbon tetrachloride	0.0500	0.0615		mg/Kg		123	75 - 125
Chlorobenzene	0.0500	0.0484		mg/Kg		97	50 - 150
Chloroethane	0.0500	0.0509		mg/Kg		102	75 - 125
Chloroform	0.0500	0.0533		mg/Kg		107	57 - 135
Chloromethane	0.0500	0.0563		mg/Kg		113	70 - 125
cis-1,2-Dichloroethene	0.0500	0.0530		mg/Kg		106	70 - 125
cis-1,3-Dichloropropene	0.0500	0.0536		mg/Kg		107	70 - 125
Dibromochloromethane	0.0500	0.0563		mg/Kg		113	69 - 125
Ethylbenzene	0.0500	0.0523		mg/Kg		105	61 - 136
Methyl tert-butyl ether	0.0500	0.0542		mg/Kg		108	50 - 140
Methylene Chloride	0.0500	0.0494		mg/Kg		99	70 - 126
Styrene	0.0500	0.0544		mg/Kg		109	70 - 125
Tetrachloroethene	0.0500	0.0566		mg/Kg		113	70 - 124
Toluene	0.0500	0.0454		mg/Kg		91	70 - 125
Xylenes, Total	0.100	0.102		mg/Kg		102	53 - 147
trans-1,2-Dichloroethene	0.0500	0.0532		mg/Kg		106	70 - 125
trans-1,3-Dichloropropene	0.0500	0.0545		mg/Kg		109	70 - 125
Trichloroethene	0.0500	0.0550		mg/Kg		110	70 - 125
Vinyl chloride	0.0500	0.0517		mg/Kg		103	70 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	127		70 - 134
4-Bromofluorobenzene (Surr)	100		75 - 131
Dibromofluoromethane	112		75 - 126
Toluene-d8 (Surr)	97		75 - 124

Lab Sample ID: LCSD 500-820172/5

Matrix: Solid

Analysis Batch: 820172

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	0.0500	0.0543		mg/Kg		109	70 - 128	16	30
1,1,2,2-Tetrachloroethane	0.0500	0.0466		mg/Kg		93	70 - 122	11	30
1,1,2-Trichloroethane	0.0500	0.0452		mg/Kg		90	70 - 125	7	30

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QC Sample Results

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 500-820172/5

Matrix: Solid

Analysis Batch: 820172

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethane	0.0500	0.0510		mg/Kg		102	70 - 125	13	30
1,1-Dichloroethene	0.0500	0.0458		mg/Kg		92	70 - 120	12	30
1,2-Dichloroethane	0.0500	0.0564		mg/Kg		113	70 - 130	14	30
1,2-Dichloropropane	0.0500	0.0493		mg/Kg		99	70 - 125	13	30
2-Butanone (MEK)	0.0500	0.0475		mg/Kg		95	47 - 138	10	30
2-Hexanone	0.0500	0.0499		mg/Kg		100	48 - 146	6	30
4-Methyl-2-pentanone (MIBK)	0.0500	0.0523		mg/Kg		105	50 - 148	5	30
Acetone	0.0500	0.0475		mg/Kg		95	40 - 150	7	30
Benzene	0.0500	0.0447		mg/Kg		89	70 - 125	14	30
Bromodichloromethane	0.0500	0.0513		mg/Kg		103	67 - 129	15	30
Bromoform	0.0500	0.0532		mg/Kg		106	68 - 136	10	30
Bromomethane	0.0500	0.0479		mg/Kg		96	70 - 130	11	30
Carbon disulfide	0.0500	0.0436		mg/Kg		87	70 - 129	16	30
Carbon tetrachloride	0.0500	0.0540		mg/Kg		108	75 - 125	13	30
Chlorobenzene	0.0500	0.0437		mg/Kg		87	50 - 150	10	30
Chloroethane	0.0500	0.0445		mg/Kg		89	75 - 125	13	30
Chloroform	0.0500	0.0476		mg/Kg		95	57 - 135	11	30
Chloromethane	0.0500	0.0464		mg/Kg		93	70 - 125	19	30
cis-1,2-Dichloroethene	0.0500	0.0457		mg/Kg		91	70 - 125	15	30
cis-1,3-Dichloropropene	0.0500	0.0472		mg/Kg		94	70 - 125	13	30
Dibromochloromethane	0.0500	0.0506		mg/Kg		101	69 - 125	11	30
Ethylbenzene	0.0500	0.0484		mg/Kg		97	61 - 136	8	30
Methyl tert-butyl ether	0.0500	0.0478		mg/Kg		96	50 - 140	13	30
Methylene Chloride	0.0500	0.0429		mg/Kg		86	70 - 126	14	30
Styrene	0.0500	0.0486		mg/Kg		97	70 - 125	11	30
Tetrachloroethene	0.0500	0.0498		mg/Kg		100	70 - 124	13	30
Toluene	0.0500	0.0400		mg/Kg		80	70 - 125	12	30
Xylenes, Total	0.100	0.0938		mg/Kg		94	53 - 147	9	30
trans-1,2-Dichloroethene	0.0500	0.0451		mg/Kg		90	70 - 125	17	30
trans-1,3-Dichloropropene	0.0500	0.0487		mg/Kg		97	70 - 125	11	30
Trichloroethene	0.0500	0.0473		mg/Kg		95	70 - 125	15	30
Vinyl chloride	0.0500	0.0431		mg/Kg		86	70 - 125	18	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	130		70 - 134
4-Bromofluorobenzene (Surr)	97		75 - 131
Dibromofluoromethane	111		75 - 126
Toluene-d8 (Surr)	97		75 - 124

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-819594/1-A

Matrix: Solid

Analysis Batch: 819619

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 819594

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.033		0.033		mg/Kg		05/30/25 07:35	05/30/25 14:22	1
Acenaphthylene	<0.033		0.033		mg/Kg		05/30/25 07:35	05/30/25 14:22	1
Anthracene	<0.033		0.033		mg/Kg		05/30/25 07:35	05/30/25 14:22	1

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QC Sample Results

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-819594/1-A

Matrix: Solid

Analysis Batch: 819619

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 819594

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	<0.033		0.033		mg/Kg		05/30/25 07:35	05/30/25 14:22	1
Benzo[a]pyrene	<0.033		0.033		mg/Kg		05/30/25 07:35	05/30/25 14:22	1
Benzo[b]fluoranthene	<0.033		0.033		mg/Kg		05/30/25 07:35	05/30/25 14:22	1
Benzo[g,h,i]perylene	<0.033		0.033		mg/Kg		05/30/25 07:35	05/30/25 14:22	1
Benzo[k]fluoranthene	<0.033		0.033		mg/Kg		05/30/25 07:35	05/30/25 14:22	1
Chrysene	<0.033		0.033		mg/Kg		05/30/25 07:35	05/30/25 14:22	1
Dibenz(a,h)anthracene	<0.033		0.033		mg/Kg		05/30/25 07:35	05/30/25 14:22	1
Fluoranthene	<0.033		0.033		mg/Kg		05/30/25 07:35	05/30/25 14:22	1
Fluorene	<0.033		0.033		mg/Kg		05/30/25 07:35	05/30/25 14:22	1
Indeno[1,2,3-cd]pyrene	<0.033		0.033		mg/Kg		05/30/25 07:35	05/30/25 14:22	1
Naphthalene	<0.033		0.033		mg/Kg		05/30/25 07:35	05/30/25 14:22	1
Phenanthrene	<0.033		0.033		mg/Kg		05/30/25 07:35	05/30/25 14:22	1
Pyrene	<0.033		0.033		mg/Kg		05/30/25 07:35	05/30/25 14:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5 (Surr)	87		37 - 147	05/30/25 07:35	05/30/25 14:22	1
2-Fluorobiphenyl (Surr)	79		43 - 145	05/30/25 07:35	05/30/25 14:22	1
Terphenyl-d14 (Surr)	94		42 - 157	05/30/25 07:35	05/30/25 14:22	1

Lab Sample ID: LCS 500-819594/2-A

Matrix: Solid

Analysis Batch: 819731

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 819594

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	3.33	2.68		mg/Kg		81	63 - 109
Acenaphthylene	3.33	2.89		mg/Kg		87	61 - 115
Anthracene	3.33	3.08		mg/Kg		92	68 - 120
Benzo[a]anthracene	3.33	2.81		mg/Kg		84	70 - 121
Benzo[a]pyrene	3.33	2.83		mg/Kg		85	73 - 132
Benzo[b]fluoranthene	3.33	2.75		mg/Kg		83	68 - 123
Benzo[g,h,i]perylene	3.33	2.98		mg/Kg		89	65 - 126
Benzo[k]fluoranthene	3.33	3.17		mg/Kg		95	64 - 128
Chrysene	3.33	2.99		mg/Kg		90	70 - 123
Dibenz(a,h)anthracene	3.33	3.04		mg/Kg		91	66 - 125
Fluoranthene	3.33	3.02		mg/Kg		90	66 - 123
Fluorene	3.33	2.77		mg/Kg		83	62 - 113
Indeno[1,2,3-cd]pyrene	3.33	2.95		mg/Kg		88	66 - 131
Naphthalene	3.33	2.68		mg/Kg		80	54 - 98
Phenanthrene	3.33	2.93		mg/Kg		88	65 - 115
Pyrene	3.33	2.99		mg/Kg		90	71 - 128

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5 (Surr)	85		37 - 147
2-Fluorobiphenyl (Surr)	88		43 - 145
Terphenyl-d14 (Surr)	95		42 - 157

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QC Sample Results

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-1

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 500-819642/1-A

Matrix: Solid

Analysis Batch: 819818

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 819642

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<1.0		1.0		mg/Kg		05/30/25 09:06	05/31/25 00:25	1
Barium	<1.0		1.0		mg/Kg		05/30/25 09:06	05/31/25 00:25	1
Cadmium	<0.20		0.20		mg/Kg		05/30/25 09:06	05/31/25 00:25	1
Chromium	<1.0		1.0		mg/Kg		05/30/25 09:06	05/31/25 00:25	1
Lead	<0.50		0.50		mg/Kg		05/30/25 09:06	05/31/25 00:25	1
Silver	<0.50		0.50		mg/Kg		05/30/25 09:06	05/31/25 00:25	1

Lab Sample ID: MB 500-819642/1-A

Matrix: Solid

Analysis Batch: 820024

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 819642

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<1.0		1.0		mg/Kg		05/30/25 09:06	06/02/25 11:49	1

Lab Sample ID: LCS 500-819642/2-A

Matrix: Solid

Analysis Batch: 819818

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 819642

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	10.0	9.23		mg/Kg		92	80 - 120
Barium	200	188		mg/Kg		94	80 - 120
Cadmium	5.00	4.49		mg/Kg		90	80 - 120
Chromium	20.0	20.6		mg/Kg		103	80 - 120
Lead	10.0	10.2		mg/Kg		102	80 - 120
Silver	5.00	4.54		mg/Kg		91	80 - 120

Lab Sample ID: LCS 500-819642/2-A

Matrix: Solid

Analysis Batch: 820024

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 819642

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	10.0	9.02		mg/Kg		90	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 500-819890/12-A

Matrix: Solid

Analysis Batch: 820098

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 819890

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.017		0.017		mg/Kg		06/02/25 14:35	06/03/25 09:57	1

Lab Sample ID: LCS 500-819890/13-A

Matrix: Solid

Analysis Batch: 820098

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 819890

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.167	0.159		mg/Kg		96	80 - 120

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Lab Chronicle

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-1

Client Sample ID: B2 (0-3)

Date Collected: 05/28/25 09:30

Date Received: 05/29/25 14:50

Lab Sample ID: 500-269093-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9045D		1	819903	RB	EET CHI	06/02/25 11:25
Total/NA	Analysis	Moisture		1	819687	RB	EET CHI	05/30/25 11:37

Client Sample ID: B2 (0-3)

Date Collected: 05/28/25 09:30

Date Received: 05/29/25 14:50

Lab Sample ID: 500-269093-1

Matrix: Solid

Percent Solids: 82.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			820232	OP	EET CHI	05/29/25 18:20
Total/NA	Analysis	8260D		1	820172	MM	EET CHI	06/04/25 11:56
Total/NA	Prep	3546			819594	SC	EET CHI	05/30/25 07:35
Total/NA	Analysis	8270E		1	819731	H7CM	EET CHI	05/30/25 22:23
Total/NA	Prep	3050B			819642	BDE	EET CHI	05/30/25 09:06 - 05/30/25 15:06 ¹
Total/NA	Analysis	6010D		1	819818	SJ	EET CHI	05/31/25 02:31
Total/NA	Prep	3050B			819642	BDE	EET CHI	05/30/25 09:06 - 05/30/25 15:06 ¹
Total/NA	Analysis	6010D		1	820024	S1Z	EET CHI	06/02/25 21:43
Total/NA	Prep	7471B			819890	MJG	EET CHI	06/02/25 14:35
Total/NA	Analysis	7471B		1	820098	MJG	EET CHI	06/03/25 10:44

Client Sample ID: B5 (0-3)

Date Collected: 05/28/25 12:43

Date Received: 05/29/25 14:50

Lab Sample ID: 500-269093-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	9045D		1	819903	RB	EET CHI	06/02/25 11:27
Total/NA	Analysis	Moisture		1	819687	RB	EET CHI	05/30/25 11:37

Client Sample ID: B5 (0-3)

Date Collected: 05/28/25 12:43

Date Received: 05/29/25 14:50

Lab Sample ID: 500-269093-2

Matrix: Solid

Percent Solids: 84.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			820232	OP	EET CHI	05/29/25 18:20
Total/NA	Analysis	8260D		1	820172	MM	EET CHI	06/04/25 12:21
Total/NA	Prep	3546			819594	SC	EET CHI	05/30/25 07:35
Total/NA	Analysis	8270E		1	819731	H7CM	EET CHI	05/30/25 22:48
Total/NA	Prep	3050B			819642	BDE	EET CHI	05/30/25 09:06 - 05/30/25 15:06 ¹
Total/NA	Analysis	6010D		1	819818	SJ	EET CHI	05/31/25 02:44
Total/NA	Prep	3050B			819642	BDE	EET CHI	05/30/25 09:06 - 05/30/25 15:06 ¹
Total/NA	Analysis	6010D		1	820024	S1Z	EET CHI	06/02/25 21:56
Total/NA	Prep	7471B			819890	MJG	EET CHI	06/02/25 14:35
Total/NA	Analysis	7471B		1	820098	MJG	EET CHI	06/03/25 10:46

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CHI = Eurofins Chicago, 18410 Crossing Drive, Suite E, Tinley Park, IL 60487, TEL (708)534-5200

Eurofins Chicago

Accreditation/Certification Summary

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-1

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	100201	05-31-26

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

TAL-8210

Login Sample Receipt Checklist

Client: Pioneer Engineering & Environmental Srvc

Job Number: 500-269093-1

Login Number: 269093

List Source: Eurofins Chicago

List Number: 1

Creator: Scott, Sherri L

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Nicole Andrade
Pioneer Engineering & Environmental Srvc
2753 W 31st Street
Chicago, Illinois 60608

Generated 6/11/2025 5:39:18 PM

JOB DESCRIPTION

Wing Park, Elgin

JOB NUMBER

500-269093-2

Eurofins Chicago

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

Authorization



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Authorized for release by
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Case Narrative

Client: Pioneer Engineering & Environmental Svc
Project: Wing Park, Elgin

Job ID: 500-269093-2

Job ID: 500-269093-2

Eurofins Chicago

Job Narrative 500-269093-2

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 5/29/2025 2:50 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.2°C.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Chicago

Detection Summary

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-2

Client Sample ID: B5 (0-3) Lab Sample ID: 500-269093-2

No Detections.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Pioneer Engineering & Environmental Svc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-2

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	EET CHI
1312	Synthetic Precipitation Leaching Procedure -East	SW846	EET CHI
3010A	Preparation, Total Metals	SW846	EET CHI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CHI = Eurofins Chicago, 18410 Crossing Drive, Suite E, Tinley Park, IL 60487, TEL (708)534-5200

Sample Summary

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-269093-2	B5 (0-3)	Solid	05/28/25 12:43	05/29/25 14:50

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-2

Client Sample ID: B5 (0-3)
Date Collected: 05/28/25 12:43
Date Received: 05/29/25 14:50

Lab Sample ID: 500-269093-2
Matrix: Solid

Method: SW846 6010D - Metals (ICP) - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.010		0.010		mg/L		06/10/25 13:18	06/11/25 11:09	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Definitions/Glossary

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-2

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-2

Metals

Leach Batch: 820796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-269093-2	B5 (0-3)	SPLP East	Solid	1312	
LB 500-820796/1-B	Method Blank	SPLP East	Solid	1312	
500-269093-2 MS	B5 (0-3)	SPLP East	Solid	1312	
500-269093-2 DU	B5 (0-3)	SPLP East	Solid	1312	

Prep Batch: 821025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-269093-2	B5 (0-3)	SPLP East	Solid	3010A	820796
LB 500-820796/1-B	Method Blank	SPLP East	Solid	3010A	820796
LCS 500-821025/2-A	Lab Control Sample	Total/NA	Solid	3010A	
500-269093-2 MS	B5 (0-3)	SPLP East	Solid	3010A	820796
500-269093-2 DU	B5 (0-3)	SPLP East	Solid	3010A	820796

Analysis Batch: 821228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-269093-2	B5 (0-3)	SPLP East	Solid	6010D	821025
LB 500-820796/1-B	Method Blank	SPLP East	Solid	6010D	821025
LCS 500-821025/2-A	Lab Control Sample	Total/NA	Solid	6010D	821025
500-269093-2 MS	B5 (0-3)	SPLP East	Solid	6010D	821025
500-269093-2 DU	B5 (0-3)	SPLP East	Solid	6010D	821025

QC Sample Results

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-2

Method: 6010D - Metals (ICP)

Lab Sample ID: LCS 500-821025/2-A

Matrix: Solid

Analysis Batch: 821228

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 821025

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.0905		mg/L		90	80 - 120

Lab Sample ID: LB 500-820796/1-B

Matrix: Solid

Analysis Batch: 821228

Client Sample ID: Method Blank

Prep Type: SPLP East

Prep Batch: 821025

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.010		0.010		mg/L		06/10/25 13:18	06/11/25 11:00	1

Lab Sample ID: 500-269093-2 MS

Matrix: Solid

Analysis Batch: 821228

Client Sample ID: B5 (0-3)

Prep Type: SPLP East

Prep Batch: 821025

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	<0.010		0.100	0.0894		mg/L		89	75 - 125

Lab Sample ID: 500-269093-2 DU

Matrix: Solid

Analysis Batch: 821228

Client Sample ID: B5 (0-3)

Prep Type: SPLP East

Prep Batch: 821025

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Selenium	<0.010		<0.010		mg/L		NC	20

Lab Chronicle

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-2

Client Sample ID: B5 (0-3)
Date Collected: 05/28/25 12:43
Date Received: 05/29/25 14:50

Lab Sample ID: 500-269093-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
SPLP East	Leach	1312			820796	TJ	EET CHI	06/09/25 13:35 - 06/10/25 07:35 ¹
SPLP East	Prep	3010A			821025	RN	EET CHI	06/10/25 13:18 - 06/10/25 19:18 ¹
SPLP East	Analysis	6010D		1	821228	S1Z	EET CHI	06/11/25 11:09

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:
EET CHI = Eurofins Chicago, 18410 Crossing Drive, Suite E, Tinley Park, IL 60487, TEL (708)534-5200

Accreditation/Certification Summary

Client: Pioneer Engineering & Environmental Srvc
Project/Site: Wing Park, Elgin

Job ID: 500-269093-2

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	100201	05-31-26

1
2
3
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13
14

Regulatory Program: ☐ DW ☒ NPDES ☐ RCRA ☒ Other

Login Sample Receipt Checklist

Client: Pioneer Engineering & Environmental Srvc

Job Number: 500-269093-2

Login Number: 269093

List Source: Eurofins Chicago

List Number: 1

Creator: Scott, Sherri L

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Eurofins Chicago



FIGURE 1
Soil Boring Location
& Site Diagram
Wing Park
Elgin, IL

Scaled:
1" = 300'
0' 300'

Drawn by:
M. S. Valadez

Job No.:
25-0196-151

Date:
June 2025

Checked by:
Kevin Gosiewski

Legend: Approximate Property Line

Geotechnical Soil Boring/
Infiltration Test Location

Pavement Core Location

July 1, 2026

Upland Design Ltd.
1229 N. North Branch Street, #220A
Chicago, Illinois 60642
ATTN: Liz Dafoe

**Re: Report of Supplemental Geotechnical Investigation
Proposed Wing Park Improvements: New Tyler Creek Bridge
1030 Wing Street
Elgin, Illinois
Pioneer Project No. 25-0196-152**

Dear Ms. Dafoe:

Pioneer Engineering & Environmental Services, LLC (Pioneer) was contracted to conduct a supplemental geotechnical investigation for the proposed park improvements located at Wing Park in Elgin, Illinois. The initial investigation was performed in general accordance with Pioneer Proposal No. 22018, dated May 2, 2025. The scope of the initial investigation included drilling, sampling, and laboratory testing of soil obtained in five (5) borings, five (5) single-ring infiltration tests and three (3) pavement cores in support of the proposed infiltration and pavement design of the project.

The Supplemental investigation was performed in general accordance with Pioneer Proposal No. 22983, revised and dated February 26, 2026. The scope of the supplemental investigation included drilling, sampling, and laboratory testing of soil obtained in two (2) soil borings in support of the proposed foundation design of the project. Boring data from the initial investigation will be used as supplement to the current investigation if applicable; however, this scope of work only pertains to the proposed Tyler Creek Bridge and adjacent pavement.

Project Overview

The Project Site is located north of the existing water park/aquatic center with an address of 1030 Wing Street in Elgin, Illinois. The Site is bordered by a residential neighborhood to the west, wooded areas to the north, park drives and amphitheater to the east, and the aquatic center to the south.

The current improvement project consists of building a new bridge over Tyler Creek. The proposed new bridge is located east of the previously demolished bridge. Proposed plans were not available during the creation of this report, and some assumptions were made so that the design team can progress with plans. If further information is needed, Pioneer is available to discuss potential designs and additional reporting services if needed.

Historical Site Information.

A cursory review of available historical aerial photos were made to help determine if the past history of the site, such as previous structures, may provide insight into the existing site subsurface conditions. Aerial photographs from 1946 to present were reviewed to help determine where foundations or floor slabs from previous site use might be located.

Aerial photographs indicate that prior to the earliest available aerial photographs from 1946, the Site was already developed with Wing Park and the Wing Park Golf Course. Between 1946 and 1953, the northeast corner of the park was converted from what appears to be a race track to baseball fields. The area to the west of Wing Park was developed between 1962 and 1972. Since 1972, the Site and surrounding area have remained relatively unchanged to present day.

Subsurface Investigation

Two (2) soil borings were performed for the current supplemental project (reference the attached Boring Location Diagram, Figure 1). The borings were located in the field using conventional taping procedures with aid from a GPS unit. The ground surface elevation at each boring location was interpolated from the Google Earth website. The borings were performed within the project area and were advanced to a depth of 40 feet below the existing ground surface.

The borings were drilled with an ATV-mounted Geoprobe 7822DT drill rig using 3 1/4-inch diameter hollow stem augers (HSAs). Representative soil samples were obtained from each sampling interval using the split barrel sampling procedure performed in accordance with ASTM Standard D 1586, "Method for Penetration Test and Split Barrel Sampling of Soils". In the split barrel sampling procedure, a 140-pound hammer falls 30 inches and drives a two-inch outer diameter split barrel sampler 18 inches into the soil. The number of blows required to drive the barrel sampler the final 12 inches is the Standard Penetration Resistance (SPT N-value) for that interval. This test result indicates the soil's relative density and comparative consistency, and provides a basis for estimating the relative strength and compressibility of soil. Representative soil samples were obtained at 2.5-foot intervals to a depth of 15 feet and 5-foot intervals thereafter to boring termination.

The soil samples obtained from each interval were logged in the field according to their predominant geological characteristics. The field log was subsequently used to prepare the final boring logs that are included as an attachment to this report. Soil samples obtained from the drilling operations were identified by boring number and sampling depth, and brought to Pioneer's laboratory for further examination and testing. Upon completion of the drilling, the boreholes were backfilled with bentonite chips to the existing ground surface.

The soil samples were analyzed for physical soil parameters including moisture content and unconfined compressive strength. In addition, the soil was further classified in accordance with the Unified Soil Classification System. A natural moisture content test was performed for each sampling interval and/or stratum in accordance with ASTM Standard D 2216. Additional estimated unconfined compressive strength values for cohesive soil samples were obtained by using a spring-loaded pocket penetrometer and/or Rimac machine. The laboratory test data is included on the attached Boring Logs.

Subsurface Conditions

The following generalized soil profile was encountered in the borings.

- Surficial Materials. Boring B-6 encountered approximately 3 inches of Sand and Gravel Fill Materials at the surface. Boring B-7 encountered 4 inches of Dark Brown Clayey Topsoil at the surface. The surface materials possess moisture contents of 3.7 percent in B-6 and 16.4 percent in B-7.
- Hard Brown Silty Clay. The sand and gravel fill in B-6 is underlain by a layer of hard, Brown Silty Clay extending to a depth of 3 feet below surface grade. This deposit possesses an unconfined compressive strength of 4.5 tons per square foot (tsf) and a moisture content of 10.7 percent.
- Medium Dense Brown Sand and Gravel. The surficial topsoil in B-7 and Brown Silty Clay in B-6 are underlain by medium dense Brown Sand and Gravel soils with trace to little amounts of silty clay. In

Boring B-7 at an approximate depth of 4 feet below grade, the driller notes a silty clay seam within the sand and gravel soils. This stratum extends to an approximate depth of 8 feet below surface grade. This deposit possesses Standard Penetration Test (SPT) N-values of 14 to 24 blows per foot (bpf) and moisture contents of 8.0 to 12.2 percent.

- *Tough to Very Tough Gray Silty Clay.* The brown sand and gravel deposit is underlain by tough to very tough Gray Silty Clay soils extending to an approximate depth of 17 feet below surface grade. This deposit possesses unconfined compressive strengths ranging from 1.5 to 3.1 tsf and moisture contents of 17.0 to 22.5 percent.
- *Medium Dense to Dense Gray Sand and Gravel.* The Gray Silty Clay is underlain by medium dense to dense Gray Sand and Gravel soils with little amounts of clay, extending to an approximate depth of 27 feet below surface grade. This deposit is encountered in a wet condition and possesses SPT N-values ranging from 18 to 31 bpf and moisture contents of 17.1 to 20.7 percent.
- *Dense Gray Gravel.* At an approximate depth of 27 feet, the sand and gravel transitions to Dense Gray Gravel with little amounts of sand and trace amounts of clay. This stratum extends to the boring termination depth of 40 feet below the existing surface grade. This deposit possesses SPT N-values ranging from 34 to 42 bpf and moisture contents of 4.2 to 12.1 percent. As an exception, the gravel in B-6 at a depth of 28.5 to 30 feet possesses a SPT N-value of 29 bpf.

Groundwater Conditions. Groundwater was encountered in both boring locations at depths of 17 to 18 feet below surface grade at the time of drilling. Based on the coloration change of the soils to gray in the Silty Clay soils, the long-term groundwater is estimated at a depth of 8 feet from the existing surface grade. As a note, the borings were performed next to Tyler Creek and the groundwater elevation will be influenced by the creek during precipitation events.

Seasonal and yearly fluctuations in the water table can be expected due to variations in precipitation, evaporation, and surface runoff. Also, it is likely that pockets of perched groundwater may occur after precipitation events.

The subsurface description is of a generalized nature to highlight the major subsurface stratification features and material characteristics. The boring logs included in the appendix should be reviewed for specific information at individual boring locations. These records include soil descriptions, stratifications, penetration resistance, locations of the samples and laboratory test data. The stratifications shown on the boring logs represent the conditions only at the actual boring locations. Variations may occur and should be expected between boring locations. The stratifications represent the approximate boundary between subsurface materials and the actual transition may be gradual.

Conclusions and Recommendations

Site Preparation

Topsoil/Gravel Fill Removal. The surface cover of Topsoil and Gravel Fill should be stripped from the Site. The site generally exhibited 3 to 4 inches of topsoil or gravel fill surface cover. Once removed, the site should then be proofrolled to identify soft or unstable soils. Areas that exhibit excessive rutting or deflection should be disked, dried and recompacted. If unsuccessful, the unstable areas can be removed and replaced with Structural Fill.

Demolition. Current development plans do not consist of demolition, as the previously existing bridge has already been demolished.

Foundation System

Design Criteria. The proposed development is to include the construction of a new bridge across Tyler Creek. The following soil parameter recommendations can be used. For discussion purposes, it is assumed that the design bottom of frost-depth footings will be approximately 4 to 12 feet below existing surface grade.

Footing Support Soils. The following soil deposits were considered for support of the foundation system.

- The medium dense Brown Sand and Gravel soils extending to a depth of 8 feet possesses adequate engineering qualities for the support of the bridge foundation.
- The tough to very tough Gray Silty Clay soils extending to a depth of 17 feet in the borings possesses adequate engineering qualities for the support of the bridge foundation.
- The dense Gray Sand and Gravel encountered to the boring termination depth of 40 feet possesses excellent engineering qualities for the support of any proposed structures.

Continuous/Spread Footings. Pioneer believes conventional foundations consisting of spread footings for the bridge abutments is a feasible option for the design of the bridge. Frost-depth footings founded on the native soils described above can be dimensioned using the net allowable bearing capacities per the table below. The net allowable bearing capacity of the upper stratum of Silty Clay has potential to be increased, but this will require undercuts up to the underlying very tough Silty Clay stratum below and inspection verification in the field.

The underlying deeper Sand and Gravel soils have an allowable bearing capacity of 4,000 psf; however, due to the granular nature of the soils and proximity to the creek, construction activities may be difficult and will likely require a cofferdam. This stratum of medium dense Sand and Gravel also has potential to increase the net allowable bearing pressure, but this is highly dependent on the final dimensions of the abutment footings.

The net allowable soil bearing pressure refers to that pressure which may be imposed on the foundation soils in excess of the final minimum surrounding overburden pressure.

Table 1: Summary of Bearing Capacity vs. Depth

Footing Bearing Depth Below Existing Grade	Allowable Bearing Capacity (psf)	Soil Type	Estimated Settlement (Inches)
3'-6" to 7'-6"	3,000	Med. Dense Sand and Gravel*	1.0
8'-0" to 10'-6"	3,000	Tough Gray Silty Clay	1.0
11'-0" to 17'-0"	4,000	Very Tough Gray Silty Clay	1.0
17'-6" to 27'-6"	4,000	Med. Dense Sand and Gravel*	1.0
*Note: Due to granular materials at bearing depth, upon excavation and releasing of the overburden pressures, the sandy soils may become a loose state. The native granular soils should be compacted before footings are formed. Alternatively, a 1-foot undercut and replacement with Structural Fill can be performed in the event that water is encountered.			

The net allowable soil bearing pressure refers to that pressure which may be imposed on the foundation soils in excess of the final minimum surrounding overburden pressure. Total settlement on the order of 1.0 inch, or less. Differential settlements ranging from 1/2 inch to 2/3 the total settlement are possible across the building area due to variations in subsurface conditions and foundation loadings.

Due to the nature of the structure and the variable soil strata exhibiting differing net allowable bearing pressures, it is highly recommended that footing inspections be performed during excavation activities and before footings are performed. Pioneer can provide these Construction Materials Testing (CMT) services if desired.

Undercut/Replacement of Unsuitable Soil. The following should be used where unsuitable soil is encountered below the design footing subgrade and an undercut-replacement scheme is used for footing support. Any unsuitable soil such as Fill that is encountered at the design footing subgrade should be removed to the depth encountered and replaced with Structural Fill. Typical Structural Fill, such as 3-inch crushed limestone or concrete choked with 1-inch nominal granular material (IDOT CA-7 gradation), should be placed in 18-inch thick lifts and compacted by use of a vibratory compactor or through the force of a backhoe's bucket to seat the stone. The width of the excavation should extend at least one foot horizontally beyond the perimeter of the footing on all sides for each one foot of vertical undercut below the bottom of the footing, thus providing for adequate lateral distribution of the foundation stresses.

An additional discussion of the placement and compaction of Structural Fill is included in the Earthwork Controls section of this report.

Additional Footing Design Criteria. All footings should be founded a minimum of 3.5 feet below final exterior grade to eliminate the effects of frost on footing behavior. Interior column footings below a heated building should be founded at least 2 feet below the final floor slab level. In order to prevent local bearing failure, isolated column footings should have a minimum lateral dimension of 24-inches and continuous footings should have a minimum width of 18-inches. If the foundations are constructed during winter months or if the footings will likely be subjected to freezing temperatures after construction is completed, then the footings should be protected from freezing.

In order to limit the effects of differential movement that may occur due to variations in the character of the supporting soils and variations in seasonal moisture contents, Pioneer recommends that the continuous footings be suitably reinforced to make them as rigid as practical.

Lateral Earth Pressure

Temporary shoring may be required depending on the proximity to existing structures, utilities, and property lines. Shoring and permanent below grade structures such as abutment walls and foundations, should be designed in accordance with the recommendations in this section.

The following table presents recommended values of earth pressure and friction coefficients based on our experience with soils in the area. Equivalent fluid pressures are frequently used for the calculation of lateral earth pressures for the "at-rest", "active" and "passive" conditions, and are also provided. Earth pressures are influenced by the structural design of the temporary shoring, methods of construction and the strength of the subgrade. The "at-rest" condition (K_0) assumes no wall rotation. The recommended design lateral earth pressures do not include a factor of safety and do not provide for possible hydrostatic pressure on the walls. If hydrostatic forces are included in the wall design, an additional 62 pcf should be added to the "active" and "at-rest" equivalent fluid pressures provided below. The temporary shoring should also be adequately braced to resist the lateral earth pressures and any short-time construction loads in addition to permanent surcharge loads.

If temporary shoring is not free to rotate or deflect at the top, possibly due to tiebacks or walers, Pioneer recommends designing temporary shoring for the “at-rest” lateral earth pressure condition using K_0 . Temporary shoring that is permitted to rotate and deflect at the top can be designed for the active lateral earth pressure condition using K_a .

Table 2: Estimated Lateral Pressure and Friction Parameters

EARTH PRESSURE CONDITIONS	COEFFICIENT FOR BACKFILL TYPE	EQUIVALENT FLUID PRESSURE (pcf/ft)	DRAINED FRICTION ANGLE (degrees)	MOIST UNIT WEIGHT (pcf)
Active (K_a)	Gravel – 0.27	Gravel – 32	Gravel – 35	Gravel – 120
	Sand – 0.35	Sand – 39	Sand – 29	Sand – 110
	Lean Clay – 0.36	Lean Clay – 45	Lean Clay – 28	Lean Clay – 125
At-Rest (K_0)	Gravel – 0.43	Gravel – 52	Gravel – 35	Gravel – 120
	Sand – 0.52	Sand – 57	Sand – 29	Sand – 110
	Lean Clay – 0.48	Lean Clay – 60	Lean Clay – 28	Lean Clay – 125
Passive (K_p)	Gravel – 3.69	Gravel – 443	Gravel – 35	Gravel – 120
	Sand – 2.88	Sand – 317	Sand – 29	Sand – 110
	Lean Clay – 2.77	Lean Clay – 346	Lean Clay – 28	Lean Clay – 125
FRICTION COEFFICIENTS				
Concrete placed on Granular Fill			Tan δ = 0.45	
Concrete placed on Sand			Tan δ = 0.35	
Concrete placed on Clay			Tan δ = 0.30	

Notes: The Equivalent Fluid Pressures in the table above are based on a moist, not submerged backfill.

Horizontal loads acting on a retaining wall are resisted by friction along the foundation base and by passive pressure against the footing face, which is perpendicular to the line of applied force. The passive pressures on the toe of the retaining wall can be computed by assuming a passive pressure coefficient from the table above for granular backfill on the consideration that some friction angle will develop between the backfill and the outer face of the structure. Passive resistance should be considered only for soils below the 3.5-foot frost depth.

Seismic Design

The Site Classification is based on the upper 100 feet of the site profile defined by a weighted average value of either shear wave velocity, standard penetration resistance, or undrained shear strength in accordance with ASCE 7-22 and the International Building Code (IBC).

Based on the soil properties encountered at the site and as described on the boring log, it is our opinion that the Seismic Site Classification is D (“Stiff Soil”) as detailed in the table below. Subsurface explorations at the site were extended to a maximum depth of 40 feet below existing grade and data from other projects were used to estimate the soil properties below this depth.

Table 3: Seismic Site Class

Description	Type	Value
Site Classification	Stiff Soil	D
Seismic Design Category	SDC	B
MCE _R Ground Motion (0.2 Sec Period)	S _S	0.15
MCE _R Ground Motion (1.0 Sec Period)	S ₁	0.069
Mean MCE _G Peak Ground Acceleration	PGA _M	0.082

Based on a Seismic Design Category of B, a liquefaction or seismic response analysis is not required at the site.

Pavement Design Considerations.

Pavement Support. If any pavement areas are to be constructed, the following recommendations should be taken into consideration. The proposed pavement areas should be excavated to design subgrade to 2-feet outside the limits of the paved area. The exposed soil should be proofrolled and any topsoil or unstable soil removed to a depth of 2 feet below design subgrade as discussed in the Floor Slab section of the report. Pavement subgrade soil with moisture contents greater than 20 percent are typically unstable under construction traffic and will need to be dried/recompacted or excavated and replaced with Structural Fill.

Pavement Section. Pioneer recommends a flexible pavement section be designed according to the State of Illinois Department of Transportation, Division of Highways, Highway Design Manual using AASHTO-H-20 loading as a maximum. The AASTHO design method takes into consideration the structural design traffic, the subgrade support value, and the structural layer coefficients for each component of the pavement system. Local pavement design practices are presented in the IDOT publication "Pavement Design Procedure" dated August 31, 1995.

The following pavement sections are considered the minimum pavement sections to be used for this project and are typically recommended in local practice, and are in general accordance with IDOT's "Pavement Design Procedures", for similar structures. It is recommended that the completed site plan be analyzed to determine the most likely traffic patterns for heavy delivery trucks and garbage trucks. The recommended Heavy-Duty Pavement section should be used in these traffic corridors. For any loading dock areas planned, it is recommended to design using the Rigid, Heavy-Duty Pavement section.

Table 4: Pavement Section Recommendations

Pavement Material	Compacted Material Thickness (Inches)		
	Flexible Pavement (Light Duty)	Flexible Pavement (Heavy Duty)	Rigid Pavement (Heavy Duty)
Portland Cement Concrete	-	-	6
Bituminous Surface Coarse	1.5	2	-
Bituminous Binder Coarse	1.5	3	-
Type B Granular Base Coarse (IDOT CA-6)	10	12	6
Total Pavement Section Thickness	13	17	12.5

The bituminous concrete binder and surface courses should consist of fine, dense, graded aggregate, Class I as defined in the IDOT Standard Specifications for Road and Bridge Construction. All placement and compaction activities should meet the requirements of the IDOT Standard Specifications.

The design of pavements should incorporate provisions for drainage of both the pavement surface and the base course layer. Should standing water be allowed to accumulate on the pavement surface or within the base course, the sub-grade will soften and it is likely that the pavement will deteriorate. The base course should be protected from water inflow along drainage paths. The base course should extend beyond the edges of the pavement in low areas to allow any water that enters the base course a path for exit.

Groundwater Control and Excavation Stability

Groundwater was encountered in all of the boring locations during drilling within the explored depths. Since the construction will be in the vicinity of Tyler Creek, fluctuations in groundwater should be expected as the groundwater elevation will be influenced by the creek's water elevation. For excavations above the water table, pumps should be readily available to maintain relatively dry excavations in the event of water seepage. It should be noted that the sand and gravel soils encountered at the Site will allow free flowing water into excavation areas.

The contractor should be experienced and knowledgeable in controlling groundwater in granular soils. As previously noted, the deeper the foundations are designed, the more likely that a cofferdam will be required to construct the abutments in the dry. It is highly recommended that the contractor be aware of the soil conditions in comparison to the design plans so that appropriate measures can be taken to construct the bridge foundation system.

During rainy seasons and under normal conditions, surface runoff and seepage water that may accumulate overnight or momentarily in foundation excavations should be promptly removed through standard perimeter ditch, sump, and pump procedures. Water, as well as loosed or disturbed materials, should be removed from the base of excavations immediately prior to the placement of concrete.

Precautions should also be taken so that the foundation systems of existing structures and utilities are not undermined. If temporary shoring will not be used to brace the sides of the excavation, Pioneer recommends sloping the sides of the excavation in accordance with local ordinances and OSHA regulations. Materials removed from the excavation should not be stockpiled immediately adjacent to the excavation, since this surcharge load may cause a sudden collapse of the slope.

Earthwork Controls

Structural Fill should meet the following properties for use as floor slab support soils.

Table 5: Structural Fill Material Requirements

Fill Type	USCS Classification	Acceptable Location for Placement
Cohesive	CL, CL-ML	Below floor slabs and pavement
Granular	GW, GP, GM, GC SW, SP, SM, SC	Below floor slabs, pavement and foundations
Unsuitable	CH, MH, ML, OL, OH, PT	Non-structural areas

Structural Fill should be placed and compacted in accordance with the following requirements.

Table 6: Fill Placement and Compaction Requirements

Description	Requirement
Fill Lift Thickness	10 inches loose measurement when sheepsfoot or steel drum rollers are used 6 inches loose measurement when jumping jacks or plate compactors are used
Minimum Compaction Requirement Below Foundations and Slabs-on-Grade and Upper 12 Inches of Paved Areas	95% of the maximum dry density per ASTM D-1557 (Modified Proctor)
Minimum Compaction Requirement Below 12 Inches of Paved Areas and Landscaped Areas	90% of the maximum dry density per ASTM D 1557 (Modified Proctor)
Moisture Content of Cohesive Soils	-2% to +3 % of optimum moisture content per ASTM D 1557
Open-Graded Aggregate including IDOT CA-1 and CA-7 Gradations	Compact in 8-inch thick lifts loose measure to achieve stability through particle interlock

All subgrade surfaces should be protected during construction from deterioration or softening caused by frost or ponding of water. Water should not be allowed to stand in the excavations for a sustained period of time. All soft, loose, or disturbed soils should be removed to competent support materials. If the floor slab or pavement subgrade is prepared in the winter, exposed subgrade soils should be protected from freezing. Structural fill should not be placed on frozen soils.

Report Limitations

This geotechnical investigation report has been prepared to aid in the evaluation and design of this project. As a result, this report has provided generalized guidelines to be considered during the actual design and construction phases of the proposed building. The information provided in this report should be evaluated by, and the site improvements should be designed by a licensed structural engineer or architect. Should deviations from the noted subsurface conditions be encountered during construction, this information should be brought to Pioneer's attention. Pioneer would welcome the opportunity to provide field construction services for this project. The analysis and recommendations submitted in this report are based upon the data obtained from the soil borings performed at the locations indicated on the location diagram. It should be understood that this location was approximate, since the boring locations were not surveyed. This report does not reflect any variations that may occur between and beyond these borings.

This report has been prepared for the sole use of the client identified in the report and cannot be relied upon by other persons or entities without Pioneer's permission. The observations and conclusions contained herein are limited by the scope and intent of the work mutually agreed upon by the client and Pioneer and the work actually performed. There are no warranties, implied or expressed, concerning the integrity of the areas and/or mediums not analytically tested.

Pioneer appreciates the opportunity to provide our services for this project. Please feel free to contact us if you have any questions or concerns.

Respectfully Submitted,
Pioneer Engineering & Environmental Services, LLC



Kevin Gosiewski
Geotechnical Project Manager



Alex Barlan, P.E.
Senior Geotechnical Engineer

Attachments: Boring Locations and Site Diagram (Figure 1)
Boring Logs
Soil Classification Chart





TYLER CREEK

AQUATIC CENTER

TYLER CREEK

SUBJECT PROPERTY

Legend: Approximate Property Line



Geotechnical Soil Boring/
Infiltration Test Location

Scale: 1" = 60'

0' 60'

Drawn by:
M. S. Valadez

Job No.:

Date:

April 2026

Checked by:
Kevin Gosiewski

25-0196-152

FIGURE 1
Soil Boring Locations
& Site Diagram
Wing Park
Elgin, IL

CLIENT Upland Design, Ltd.

PROJECT DESCRIPTION Proposed Tyler Creek Bridge

PROJECT NUMBER 25-0196-151/152

PROJECT LOCATION 1030 Wing Street - Elgin, Illinois

DATE STARTED 04/09/2026 **COMPLETED** 04/09/2026

GROUND ELEVATION 765.00' **ELEVATION DATUM** MSL

CONTRACTOR Pioneer **DRILLER** GA

RIG TYPE Geoprobe 7822DT

LATITUDE 42.05427271077326 **LONGITUDE** -88.305053179731

▽ **AT TIME OF DRILLING** 18'

LOGGED BY OL **CHECKED BY** KG

▼ **AFTER DRILLING** N/A

METHOD Auger

SAMPLER TYPE Split Spoon

Elevation (ft)	Depth (ft)	Graphic Log	Visual Classification and Remarks	Samples						Lab				
				Sample Number	Sample Type	Sample Graphic	Blow Counts (N Value)	% Recovery	Vane Shear (psf)	Qp-Pocket Penetrometer (tsf)	Qu-Unconfined Compressive Strength (tsf)	Moisture Content (%)	Dry Density (pcf)	
765														
			3" Sand and Gravel 0.25	1	Auger								3.7	
			Brown, Silty Clay , little gravel, trace sand (CL)	2	SS		6-7-5 (12)	50		4.5			10.7	
			3											
			Brown, Sand and Gravel , trace to little clay, moist (GP)	3	SS		5-9-10 (19)	50					8.0	
760	5													
			8											
			Gray, Silty Clay , trace sand and gravel (CL)	4	SS		7-10-13 (23)	72					11.7	
755	10			5	SS		1-1-2 (3)	72		1.5	2.6	17.0	116.9	
				6	SS		10-11-9 (20)	78		2.25	2.6	21.8	105.4	
750	15			7	SS		7-8-8 (16)	67		2.0	2.7	21.8	109.2	
			17											
			Gray, Sand and Gravel , little clay, wet (GP)	8	SS		9-10-8 (18)	28					17.1	
745	20													
				9	SS		13-15-16 (31)	33					20.6	
740	25													
			27											
			Gray, Gravel , little sand, trace clay, wet (GP)	10	SS		11-14-15 (29)	33					4.2	
735	30													

 At Time of Drilling (ATD)	 GP
 CL	 Auger - Auger Sample
 GP	 SS - Small Split Spoon

REMARKS

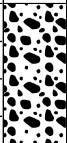
Elevation interpolated via Google Earth data

▽ At Time of Drilling (ATD)	 GP
 CL	 Auger - Auger Sample
 GP	 SS - Small Split Spoon

REMARKS

Elevation interpolated via Google Earth data.

CLIENT <u>Upland Design, Ltd.</u>		PROJECT DESCRIPTION <u>Proposed Tyler Creek Bridge</u>	
PROJECT NUMBER <u>25-0196-151/152</u>		PROJECT LOCATION <u>1030 Wing Street - Elgin, Illinois</u>	
DATE STARTED <u>04/09/2026</u>	COMPLETED <u>04/09/2026</u>	GROUND ELEVATION <u>765.00'</u>	ELEVATION DATUM <u>MSL</u>
CONTRACTOR <u>Pioneer</u>	DRILLER <u>GA</u>	RIG TYPE <u>Geoprobe 7822DT</u>	
LATITUDE <u>42.05427271077326</u>	LONGITUDE <u>-88.305053179731</u>	AT TIME OF DRILLING <u>18'</u>	
LOGGED BY <u>OL</u>	CHECKED BY <u>KG</u>	AFTER DRILLING <u>N/A</u>	
METHOD <u>Auger</u>		SAMPLER TYPE <u>Split Spoon</u>	

Elevation (ft)	Depth (ft)	Graphic Log		Samples						Lab			
				Sample Number	Sample Type	Sample Graphic	Blow Counts (N Value)	% Recovery	Vane Shear (psf)	Qp-Pocket Penetrometer (tsf)	Qu-Unconfined Compressive Strength (tsf)	Moisture Content (%)	Dry Density (pcf)
730	35		Gray, Gravel , little sand, trace clay, wet (GP)	11	SS		13-16-20 (36)	39				9.5	
725			40		12	SS		14-19-23 (42)				33	



CLIENT Upland Design, Ltd.

PROJECT DESCRIPTION Proposed Tyler Creek Bridge

PROJECT NUMBER 25-0196-151/152

PROJECT LOCATION 1030 Wing Street - Elgin, Illinois

DATE STARTED 04/09/2026 **COMPLETED** 04/09/2026

GROUND ELEVATION 764.00' ELEVATION DATUM MSL

CONTRACTOR Pioneer **DRILLER** GA

RIG TYPE Geoprobe 7822DT

LATITUDE 42.05435612171083 **LONGITUDE** -88.305048041331

▽ **AT TIME OF DRILLING 17'**

LOGGED BY OL **CHECKED BY** KG

▼ AFTER DRILLING N/A

METHOD Auger

SAMPLER TYPE Split Spoon

Elevation (ft)	Depth (ft)	Graphic Log	Visual Classification and Remarks	Samples						Lab					
				Sample Number	Sample Type	Sample Graphic	Blow Counts (N Value)	% Recovery	Vane Shear (psf)	Qp-Pocket Penetrometer (tsf)	Qu-Unconfined Compressive Strength (tsf)	Moisture Content (%)	Dry Density (pcf)		
764															
			4" Dark Brown Clayey Topsoil 0.33	1	Auger									16.4	
			Brown, Sand and Gravel (GP)	2	SS		7-8-6 (14)	50						9.1	
760															
	5		Driller notes silty clay seam	3	SS		6-9-8 (17)	44						12.2	
				4	SS		9-13-11 (24)	56						9.3	
755			Gray, Silty Clay , trace sand and gravel (CL) 8	5	SS		3-2-4 (6)	67			1.5			17.6	
	10														
				6	SS		5-7-9 (16)	72			2.0	3.1	22.0	108.0	
750															
	15			7	SS		6-8-7 (15)	78			2.0	2.6	22.5	107.5	

CLIENT <u>Upland Design, Ltd.</u> PROJECT NUMBER <u>25-0196-151/152</u> DATE STARTED <u>04/09/2026</u> COMPLETED <u>04/09/2026</u> CONTRACTOR <u>Pioneer</u> DRILLER <u>GA</u> LATITUDE <u>42.05435612171083</u> LONGITUDE <u>-88.305048041331</u> LOGGED BY <u>OL</u> CHECKED BY <u>KG</u> METHOD <u>Auger</u>	PROJECT DESCRIPTION <u>Proposed Tyler Creek Bridge</u> PROJECT LOCATION <u>1030 Wing Street - Elgin, Illinois</u> GROUND ELEVATION <u>764.00'</u> ELEVATION DATUM <u>MSL</u> RIG TYPE <u>Geoprobe 7822DT</u> <div style="display: flex; justify-content: space-between;"> <div> AT TIME OF DRILLING <u>17'</u> AFTER DRILLING <u>N/A</u> </div> <div> SAMPLER TYPE <u>Split Spoon</u> </div> </div>
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Elevation (ft)	Depth (ft)	Graphic Log		Samples						Lab		
				Sample Number	Sample Type	Sample Graphic	Blow Counts (N Value)	% Recovery	Vane Shear (psf)	Qp-Pocket Penetrometer (tsf)	Qu-Unconfined Compressive Strength (tsf)	Moisture Content (%)
730	35		Gray, Gravel , little sand, trace clay, wet (GP)									
			11	SS		13-17-20 (37)	28				12.1	
725												
			40	12	SS		14-15-19 (34)	28				10.3

End of boring at 40'

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		(LITTLE OR NO FINES)		GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
		(APPRECIABLE AMOUNT OF FINES)		GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS	CLEAN SANDS		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		(LITTLE OR NO FINES)		SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES		SM	SILTY SANDS, SAND - SILT MIXTURES
		(APPRECIABLE AMOUNT OF FINES)		SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

Drilling and Sampling Abbreviations:

Sample/Drilling:

SS- Split Spoon Sampler
ST- Shelby Tube Sampler
RC- Rock Core: NX, BX, AX
HSA- Hollow Stem Auger

In-Situ Tests:

SPT-Standard Penetration Test
PMT-Pressuremeter Test
VS-Vane Shear
DCP-Dynamic Cone Penetrometer
Q_p-Estimated Unconfined Compressive Strength using Pocket Penetrometer
Q_u-Estimated Unconfined Compressive Strength using Rimac Tester

Correlation of Penetration Resistances to Soil Properties:

Relative Density- Sands, Silts

More than 50% retained onto the No. 200 sieve

Consistency of Cohesive Soils

More than 50% passing the No. 200 sieve

<u>SPT-N Value</u>	<u>Relative Density</u>	<u>Unconfined Compressive Strength Q_p, tsf</u>	<u>Consistency</u>
0-3	Very Loose	under 0.25	Very Soft
4-9	Loose	0.25-0.49	Soft
10-29	Medium Dense	0.50-0.99	Stiff
30-49	Dense	1.00-1.99	Tough
50-80	Very Dense	2.00-3.99	Very Tough
		4.00-8.00	Hard
		over 8.00	Very Hard

Gradation Description and Terminology:

<u>Major Component of Sample</u>	<u>Size Range</u>	<u>Description of Minor Components</u>	<u>Percent of Dry Weight</u>
Boulders	Over 12 inches	Trace	1-9
Cobbles	12 inches to 3 inches	Little	10-19
Gravel	3 inches to No. 4 sieve	Some	20-34
<i>Coarse</i>	<i>3 inches to ¾ inches</i>	And	35-50
<i>Fine</i>	<i>¾ inches to No. 4 sieve</i>		
Sand	No. 4 sieve to No. 200 sieve		
<i>Coarse</i>	<i>No. 4 sieve to No. 10 sieve</i>		
<i>Medium</i>	<i>No. 10 sieve to No. 40 sieve</i>		
<i>Fine</i>	<i>No. 40 sieve to No. 200 sieve</i>		
Silt/Clay	Passing No. 200 sieve		